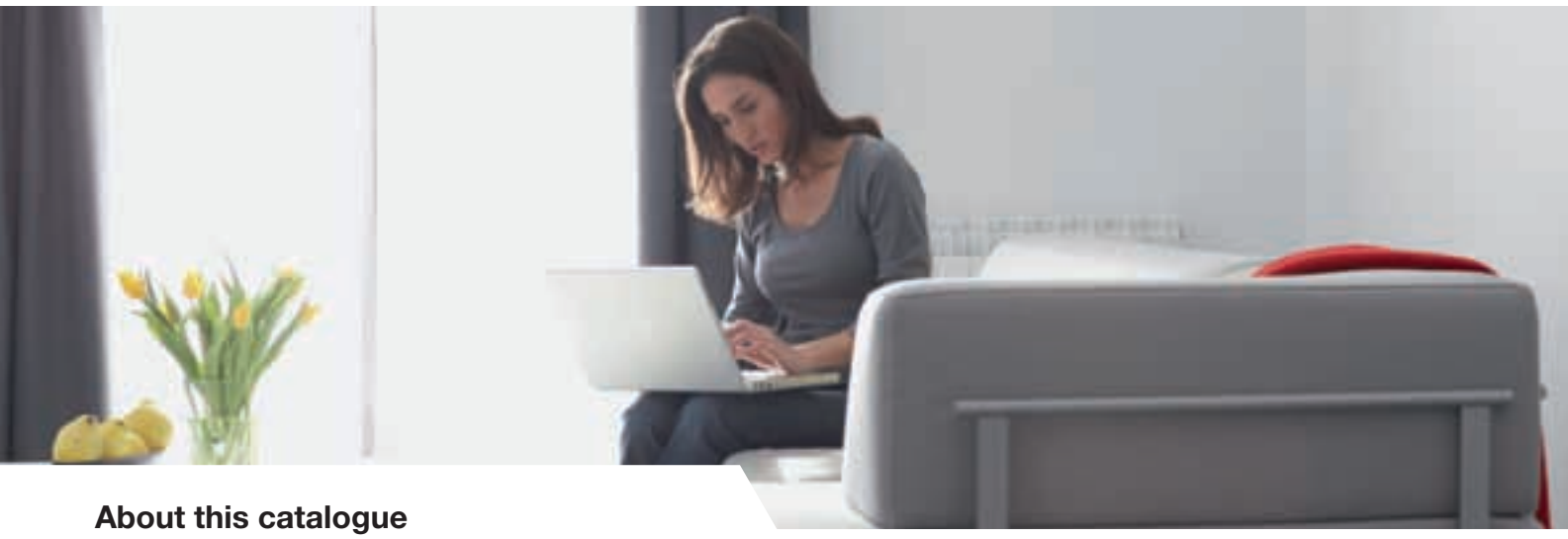
MITSUBISHI ELECTRIC
Changes for the Better

LIVING ENVIRONMENT SYSTEMS

Air Conditioning and Ventilation Products

Single and Multi-Split Systems, VRF and Lossnay

Price list 2012/2013 for specialist trade companies and planners



About this catalogue

Mitsubishi Electric Europe B.V. is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products described herein at any time and without prior notification or public announcement.

Colours of illustrations of all units are not binding since they cannot be represented realistically due to the printing process.

The delivery of all products is subject to the General Conditions of Sale of Mitsubishi Electric Europe B.V., which are available on request.

This print product has been manufactured in Germany using environmentally sound materials and production methods.

All prices stated here are quoted as our gross list prices plus value added tax and shall apply in Germany.

eco Changes **for a greener tomorrow**

Eco Changes ist das Umwelt-Statement der Mitsubishi Electric Gruppe und bringt ihre Einstellung zum Umwelt-Management zum Ausdruck. Durch seine vielfältigen Geschäftsbereiche trägt Mitsubishi Electric zur Verwirklichung einer ökologisch orientierten Gesellschaft bei.

Contents

M-SERIES

M-Series / Contents

Advantages and application areas

Room air conditioning units for an optimal comfort climate
With our M-Series, you can cool or heat small to medium-sized rooms with high energy efficiency. These advanced systems can be installed as single or multi-split solutions in homes, small offices or doctor's practices where they are appreciated for their unobtrusiveness. Their compact dimensions, restrained design and extra-quiet operation create the conditions for a pleasant atmosphere.

The system variants
- Capacity range from 1.5 kW to 15.5 kW for cooling only or for cooling and heating.
- Single split or multi-split arrangement of 2 to 8 indoor units.
- Easy-to-install indoor units in the form of ceiling cassettes or in ceiling suspended, ceiling concealed ducted, wall mounted or floor standing versions.
- Energy-saving outdoor units in the form of inverter heat pumps.
- Voltage supply 230 V, 1 phase, 50 Hz and 380 - 415 V, 3 phases, 50 Hz.

Advantages at a glance

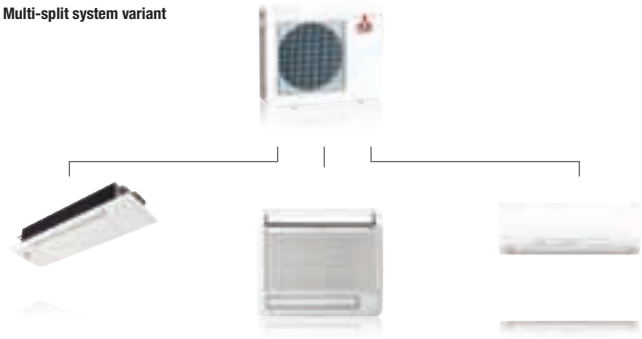
Design
- All indoor units have a pure white colour (nearly RAL 9010). The wall mounted units feature a modern flat panel design.

Extra-quiet operation
- The noise-optimised indoor units are barely audible when in operation.
- When cooling in sleep mode at only 19 dB(A), the MSZ-GE22/25/35VA wall mounted unit ensure a good night's rest with a gentle flow of air.

Highest energy efficiency
- Energy-saving inverter technology: The inverter systems operate absolutely efficiently thanks to their stepless capacity adjustment. Only the cooling/heating capacity that is actually needed is made available.
- The energy-saving rotary piston compressors provide for minimum noise and vibration emissions.

New seal of quality for room air conditioning units
The professional association „Fachverband Gebäude-Klima e.V (FGK)" has awarded all split units with heat pump functions by Mitsubishi Electric the new seal of quality for room air conditioning units. The most important award criteria include:
- Highest energy efficiency – only inverter units may be labelled with the seal of quality
- Guaranteed availability of replacement parts within two working days, replacement parts must be available for at least ten years
- Comprehensive range of training, planning support and complete documentation
- Guaranteed compliance with technical data in catalogues, performance data according to EN 14511

Multi-split system variant



Qualitätssiegel Raumklimageräte
zum Heizen und Kühlen
• Service
• Hygiene
• Energieeffizienz
Gemäß STATUS-REPORT 26
des Fachverbandes Gebäude-Klima e. V.

Application in computer and equipment rooms

- The application of room air conditioning units in computer and equipment rooms demands special care in design. In computer and equipment rooms, mainly sensible capacity needs to be dissipated. This means that the air conditioning units are designed according to their sensible cooling capacity and not as to their overall cooling capacity, as stated in this catalogue. The sensible cooling capacities can be found in our planning manuals. Please observe the operating limits in cooling mode.

Installation and retrofitting made easy

- The compact dimensions of the indoor and outdoor units allow for a flexible installation.
- The inverter multi-split systems can be retrofitted and extended at any time. As a basis, you will need two indoor units that can, at a later time, be extended to up to eight indoor units.

Endless combinations

You would like to air-condition a room in order to enhance home comfort or to create a pleasant working atmosphere? With the broad range of air conditioning systems from Mitsubishi Electric, this is an easily performed task. Our M-series and Mr. Slim are versatile air conditioning systems. In their development, we placed the focus on three aspects: Noticeably comfortable room climate; economical in energy consumption and highly versatile in terms of planning and installation.

The new A-control in all M-series inverters and Mr. Slim units offers you extensive opportunities for combinations exceeding the type series. For instance, you can combine the outdoor units of the M-series with Mr. Slim indoor units and thus benefit from the advantages of both series. A description of the Mr. Slim units can be found in our Mr. Slim product catalogue.

Easy cleaning and maintenance

Quick Clean Set

The optional Quick Clean Set makes cleaning even more simple; the heat exchanger can easily be cleaned using a vacuum cleaner.

Healthy room climate with hygiene test seal

With its M-series, Mitsubishi Electric has been offering a product that is tested by an independent hygiene institute and awarded a certificate since 2004 already. The MSZ-GE, MSZ-FD and SLZ-KA indoor units as well as their structurally identical follow-up models meet the requirements of the VDI 6022 guidelines, pages 1 and 3 – for a reliable and healthy room climate.

M-series outdoor unit SUZ

Mr. Slim ceiling cassette PLA

Quick Clean Set

Hygiene test seal

Functions: Technology

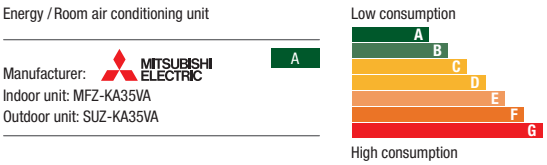
New seal of quality for split units

Mitsubishi Electric has been awarded the new seal of quality for room air conditioning units by the professional association „Fachverband Gebäude-Klima“ (FGK). The new seal is to provide more transparency when reviewing the standards applicable to air conditioning units in order to support the end consumer in making a decision in favour of high-quality and advanced split air conditioning units.

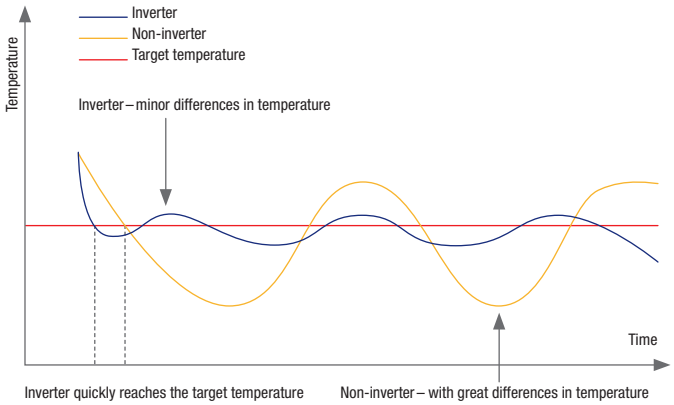
Energy-saving inverter technology

The inverter systems operate absolutely efficiently thanks to their stepless capacity adjustment. Only the cooling/heating capacity that is actually needed is made available.

The M-series stands out due to its very high energy efficiency

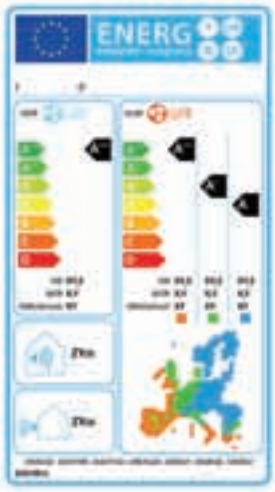


The inverter technology ensures a constant room temperature at minimum energy consumption



Information on the ErP directive

As of 1 January 2013, the new EU regulation „Ecodesign Directive 2009/125/EC“ for room air conditioning units with a cooling capacity of up to 12 kW will enter into force in order to support the ecodesign of energy-related products and to reduce the CO_2 emissions by 20 % until 2020 by setting high energy efficiency requirements.
Mitsubishi Electric already meets the high new standards today, which is why the premium wall mounted unit MSZ-EF25/35 received the highest energy efficiency class A+++, for instance. In this edition of our product catalogue, you will still find the EER/COP data whilst the new SEER/SCOP data that are based on four values measured during partial load operation of the room air conditioning units up to 12 kW will be included in the autumn/winter releases. You can tell that our very energy-saving M-series inverters are already fulfilling the requirements of the new ErP directive by means of the „ErP ready“ symbol.



Functions: Replace Technology

Easy replacement of old R22 or R407C systems with Replace Technology

All inverter systems of the M-series have been fitted with the Replace Technology by Mitsubishi Electric as standard, which allows an easy re-use of existing R22 and R407C pipelines.*

Replacing an existing old system with a modern R410A system does neither require flushing the pipeline nor any comprehensive construction work. The pipeline that has already been installed in the building can be re-used; only the indoor and outdoor units must be replaced. Additional costs arising from necessary drywall construction work, fire protection measures as well as wall and roof ducts can also be saved.

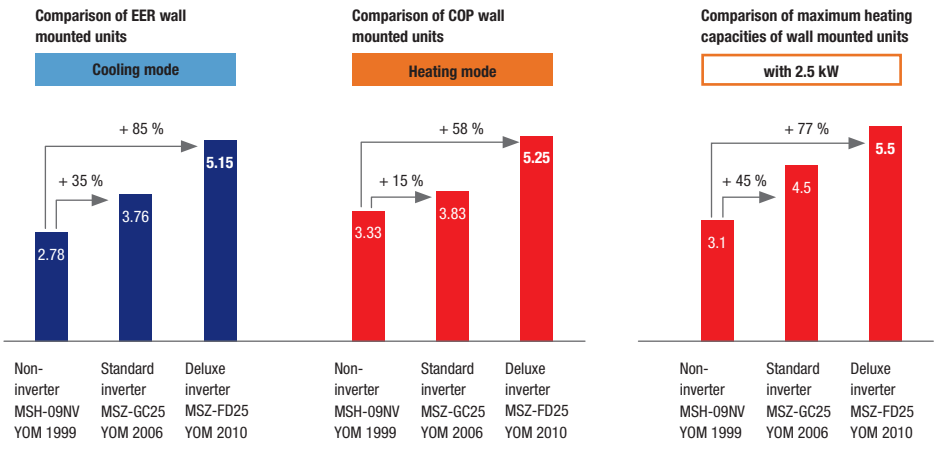
This reduces the installation expenditure to a minimum in terms of costs and time. The investment costs for the new air conditioning system will amortize within a very short time due to the high efficiency and the high energy saving potential.

Mitsubishi Electric has developed a special refrigerant oil, the HAB oil (Hard Alky Benzene), which ensures an optimal lubrication of the compressor – despite contamination by mineral oils as in old R22 systems or by ester oils in R407C/R410A systems. The M-series inverters use this special refrigerant machine oil that stands out due to its high chemical resistance. An acid formation due to remaining R22 and mineral oil residues is excluded. The properties of the HAB oil are very similar to those of mineral oil. The remaining mineral oil is absorbed by the HAB oil without affecting the lubricating properties. Apart from the pipelines, the control lines between the indoor and outdoor unit can also still be used.**

By switching to an R410A air conditioning system with advanced inverter technology, the legal requirements are complied with and an important contribution is made for the reduction of CO_2 emissions. The operator is provided with an energy-saving system offering many benefits such as modern unit designs, silent and safe operation as well as enhanced functionality. If, for instance, ten-year old non-inverter systems are replaced with a new system, the operating costs can almost be halved. Instead of using a conventional heating system, the new and more cost-efficient air conditioning system can be used for heating during the transition periods. Systems consisting of several single split systems can be replaced with an MXZ multi-split system – this way, the functions of several outdoor units are combined in one single outdoor unit.

* Information on the compatibility of existing pipeline diameters and of the new units can be found in our M-series planning documents.
** Please consider the corresponding notes in the M-series planning documents.

The Replace Technology has been integrated into all inverter outdoor units – for an easy and cost-efficient replacement of old air conditioning systems using R22 or R407C.



Functions: Installation / Maintenance

Fresh air connection

Fresh outside air can be lead into the room via the connection that is fitted as standard. The air volume can be up to 10 % of the nominal air volume of the respective unit. A booster fan is required for supplying the outside air.

Winter control down to -15 °C

Due to the integrated winter control, cooling operation down to -15 °C is possible. The speed of the outdoor unit fan is automatically reduced in order to keep the condensation pressure stable.

Winter control down to -10 °C

Due to the integrated winter control, cooling operation down to -10 °C is possible. The speed of the outdoor unit fan is automatically reduced in order to keep the condensation pressure stable.

Heat pump operation

With the heat pump function, the rooms can be heated in an energy-saving manner. High levels of efficiency even at low temperatures provide for a low energy consumption. In many cases, conventional heating systems can be replaced with heat pumps.

Restart after power failure

When the voltage is switched back on, the units will automatically start using the last selected settings. This ensures a high operational reliability.

Pre-charged with R410A

In order to ensure an easy installation, the outdoor units have already been charged with refrigerant for a pipe length of up to 30 m (depending on the unit).

Drain pump

Units provided with this symbol have already been fitted with an integrated drain pump as standard for an easy condensate drainage. The delivery height is depending on the indoor unit type.

Quick Clean Body

This special housing design enables an interior cleaning of the unit that requires hardly any effort. The air outlets can easily be flapped open sideways, thus offering access to the heat exchanger, fan roll and drain pan.

Quick Clean Body

Functions: Comfort

Econo Cool

Save extra energy with the Econo Cool function: In cooling mode, the set temperature is automatically raised by 2 °C. A special fan programme then ensures that the room climate stays constant and agreeable although cooling capacity is minimized.

	Without Econo Cool	With Econo Cool
External temperature	35 °C	35 °C
Set target value	25 °C	27 °C
Felt temperature	30 °C	29.3 °C

On/Off timer

The On/Off timer can be used to programme a fixed switch-on time and switch-off time.

Weekly timer

The weekly timer can be used to programme up to 4 individual switching points for each day. The unit can be flexibly switched on or off. In addition, a temperature can be preset for every switching point. This way, it is possible to control the unit in an energy-saving way and in accordance with demand.

Protection against cooling down

In heating mode, the minimum temperature that can be set is 10 °C. This ensures an economical operation in unused rooms. In addition, it prevents the rooms from cooling down too much.

I SAVE

The I-Save function can be used to save the personal comfort climate. By pressing the I-Save button, the unit is set to the operating mode preferred by the user.

Silent

The super-quiet mode offers extremely low operating noise, for example during the night.

I FEEL

The „I Feel“ fuzzy logic control saves the most comfortable temperature setting. If the „too warm“ or „too cold“ button on the remote control is pressed, the system will add the setting to the memory and automatically take the value into account at the next start of the unit.

Functions: Air quality

Vertical swing

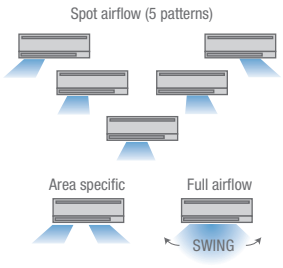
The air outlet flap swings back and forth and thus supplies even large-scale rooms with conditioned air.

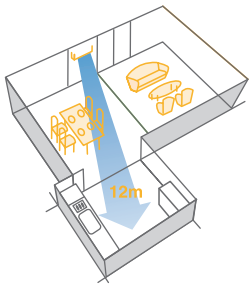
Horizontal swing

With the horizontal swing function, a pleasant air distribution in the room is achieved. The air outlet flap moves up and down supplying all areas of the room with conditioned air.

Wide & Long

The unit is able to achieve airflow ranges of up to 12 m and can therefore also be used to air condition large rooms. The vertical air outlet angle can be set to 7 different directions.





Plasma Duo filter

The deluxe wall mounted unit MSZ-FD comes with innovative Plasma Duo filter technology. With this technology, very effective air cleaning and odour neutralisation are achieved.

Air cleaning with plasma enzyme filters
Thanks to plasma ionisation and electrostatically charged filters, even the tiniest particles, e.g. pollen, bacteria and other allergens, are separated.

Odour neutralisation with plasma odour filters
The plasma odour filter has a surface area of about 300 m^2. Thanks to its special geometry, odours are effectively eliminated from the room air.

Catechin filter

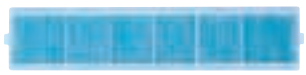
The catechin coating of this filter stands out due to its very good odour-neutralising properties. Unpleasant odours in the room air are effectively eliminated. The filter also has an anti-bacterial effect and renders viruses in the room air harmless.

Automatic fan control

The automatic fan control ensures an optimal air volume according to the required capacity. Shortly after being switched on, when a lot of capacity is required, the unit will automatically switch to a high level. If the temperature approaches the desired value, the air volume is automatically reduced.

Anti-allergy enzyme filter

The unique anti-allergy enzyme filters have an extremely high separation rate. Even the tiniest particles with a size of 0.01 micrometres are intercepted. To this end, the filters are coated with an enzyme that renders the allergens harmless. These filters make a big contribution to healthy and clean room air.



Anti-allergy enzyme filter

Nano platinum filter

The nano platinum technology uses a new generation of air-cleaning filters. Due to a special coating, an extremely high air cleaning function is achieved. Odours, bacteria and allergens are effectively separated. Even if the filter is washed, the effect is fully preserved.

Nano platinum filter

INVERTER

Overview of inverter indoor units

● Inverter cooling or heating

■ Page reference

Capacity code	15	20	22	25	35	42	50	60	71	80
Cooling capacity (kW)	1.5	2.3	2.2	2.5	3.5	4.2	5.0	6.0	7.1	8.0
Heating capacity (kW)	1.7	2.5	3.3	3.0	4.0	5.4	5.8	7.0	8.1	9.4

Premium wall mounted units
MSZ-EF

18-19

Wall mounted units
MSZ-GE

24-27

Wall mounted
units MSZ-SF

22-23

Deluxe wall mounted units
MSZ-FD

Deluxe wall mounted units in silver
design MSZ-FD(S)

20-21

1-way ceiling cassettes
MLZ-KA

30-31

4-way ceiling cassettes
SLZ-KA

32-33

Floor standing units
MFZ-KA

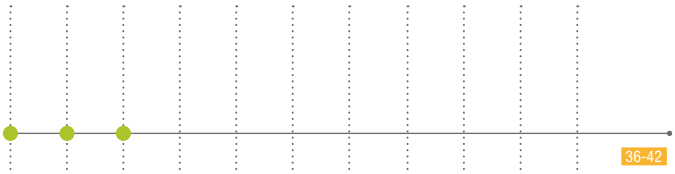
28-29

Ceiling concealed ducted units
SEZ-KD

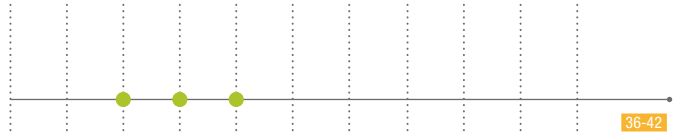
34-35

Overview of multi-split outdoor units

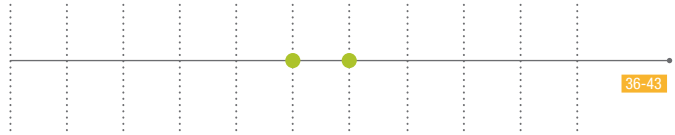
2	2	2	3	3	4	4	5	6	8	8	Max. number of indoor units
3.0	4.0	5.2	5.4	6.8	7.1	8.0	10.0	12.0	14.0	15.5	Cooling capacity (kW)
3.5	4.5	6.4	6.8	8.6	8.6	9.4	11.0	14.0	16.0	18.0	Heating capacity (kW)



MXZ-2C30VA, MXZ-2C40VA, MXZ-2C52VA



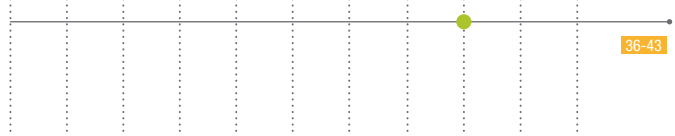
MXZ-3C54VA, MXZ-3C68VA



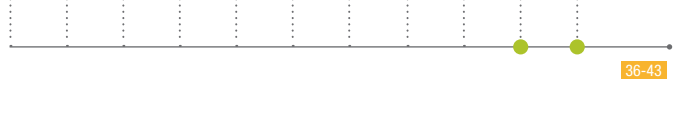
MXZ-4C71VA

MXZ-4C80VA

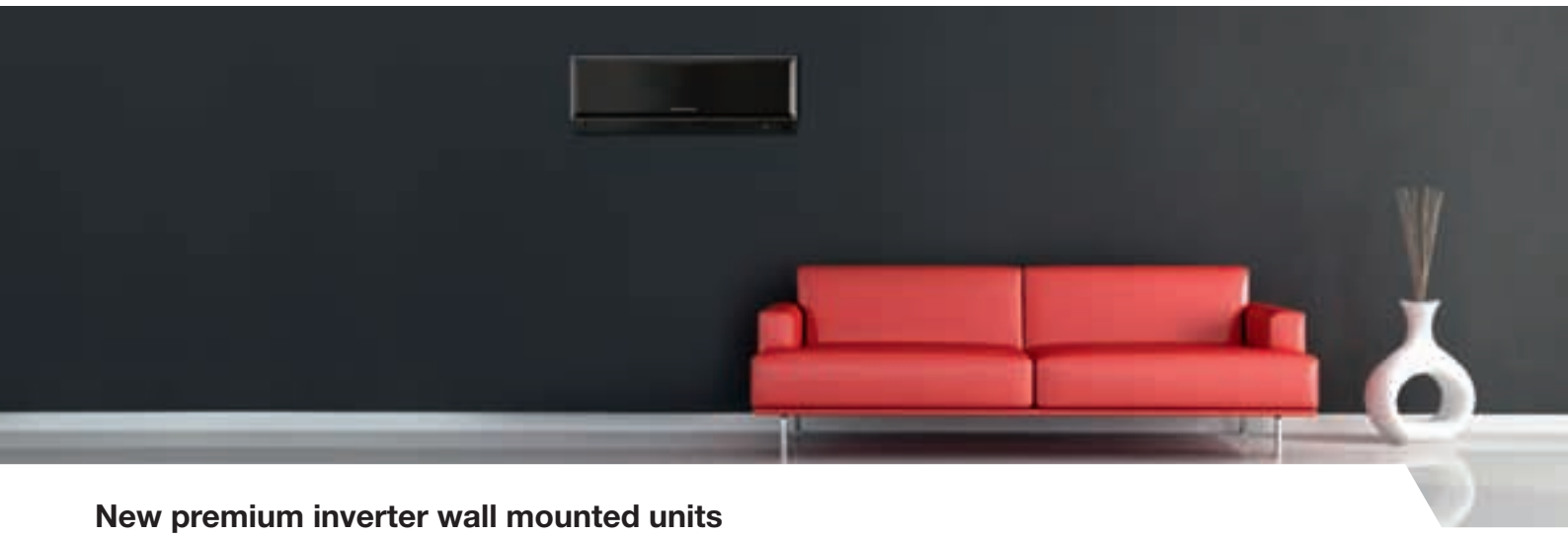
MXZ-5C100VA



MXZ-6C120VA



MXZ-8B140VA/YA
MXZ-8B160VA/YA



New premium inverter wall mounted units

The premium wall mounted unit ZEN combines highest levels of energy efficiency with a perfect design. „ZEN“ represents the commitment to offering a particularly silent and comfortable unit, which can blend into any environment due to its consistently clear and elegant design.

Fit for an ecological future
The room air conditioning units already meet the criteria for the energy efficiency classes A++ and A+++ in cooling and heating mode (depending on the model) stipulated by the new Ecodesign Directive.

Awarded with the iF product design award
The premium wall mounted model has been awarded the iF product design award 2011. This design award is one of the most renowned and oldest design awards worldwide. The jury of international experts picked 993 winners of the iF product design award this year from the 2756 submissions. The iF product design award was awarded for the 57th time.

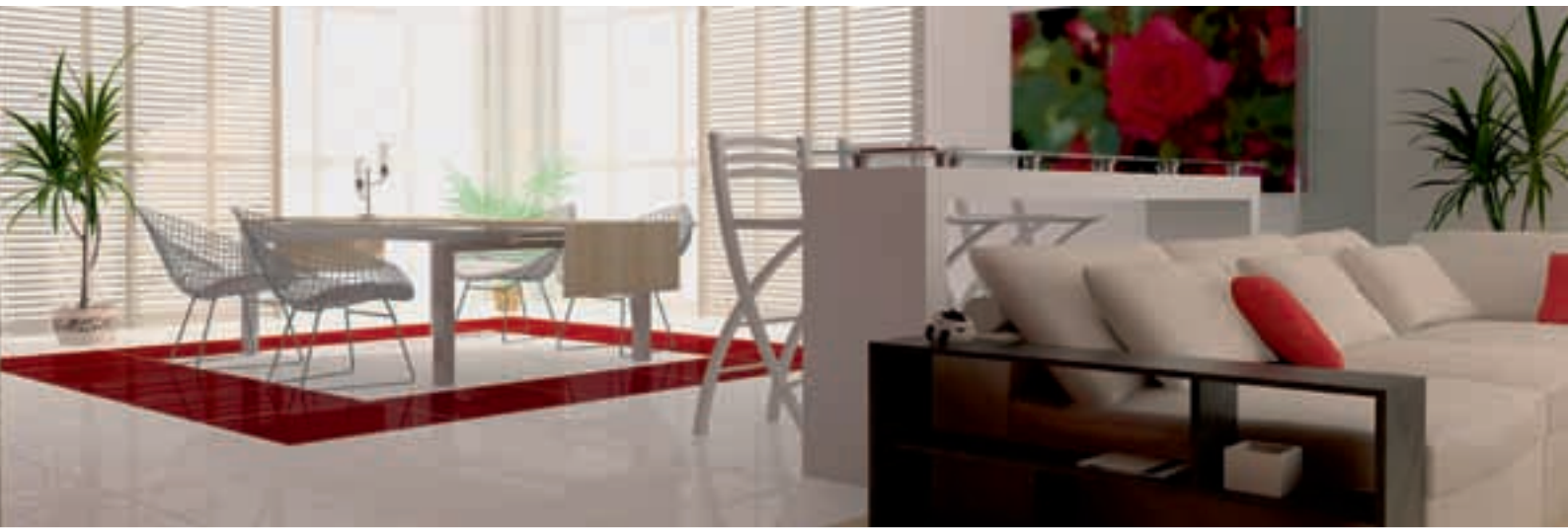
The criteria applied by the jury included quality of design, workmanship, choice of materials, degree of innovation, environmental friendliness, functionality, ergonomics, intuitive use, safety, brand values and aspects of universal design.

The premium wall mounted unit was able to convince the jury in all areas.

MSZ-EF22-50VEB

MSZ-EF22-50VES

MSZ-EF22-50VEW



Combinations with MXZ outdoor units

The units can also be connected to the multi-split inverter outdoor units of the MXZ series. Please note the possible connections that are listed in the accompanying table.

Outdoor unit / Indoor unit	Connectable to										
	MXZ-2C30VA	MXZ-2C40VA	MXZ-2C52VA	MXZ-3C54VA	MXZ-3C68VA	MXZ-4C71VA	MXZ-4C80VA	MXZ-5C100VA	MXZ-6C120VA	MXZ-8B140VA/YA	MXZ-8B160VA/YA
MSZ-EF22VE	•	•	•	•	•	•	•	•	•	•	•
MSZ-EF25VE	•	•	•	•	•	•	•	•	•	•	•
MSZ-EF35VE	–	•	•	•	•	•	•	•	•	•	•
MSZ-EF42VE	–	–	•	•	•	•	•	•	•	•	•
MSZ-EF50VE	–	–	•	•	•	•	•	•	•	•	•

closed

open

MSZ-EF22–50VEB | MSZ-EF22–50VES | MSZ-EF22–50VEW | MUZ-EF25–42VE

Premium wall mounted units

Split inverter / Cooling and heating

AUTO | I SAVE | Weekly | SWING | Econo Cool | Low-temperature Cooling | Low-temperature Heating | Auto Restart | Pre-charged | ErP Ecodesign | Certified Quality | INVERTER | REUSE PIPING

MSZ inverter premium wall mounted units, cooling / heating

Designation of indoor units		MSZ-EF22VE W/B/S	MSZ-EF25VE W/B/S	MSZ-EF35VE W/B/S	MSZ-EF42VE W/B/S	MSZ-EF50VE W/B/S
Cooling capacity (kW)		2,2	2,5 (1,2–3,4)	3,5 (1,4–4,0)	4,2 (0,9–4,6)	5,0 (1,4–5,4)
Heating capacity (kW)		3,3	3,2 (1,1–4,2)	4,0 (1,8–5,5)	5,4 (1,4–6,3)	5,8 (1,6–7,5)
EER	Cooling	–	4,59	3,85	3,28	3,21
COP	Heating	–	4,57	4,19	3,7	3,71
Energy efficiency class Cooling/Heating		A/A	A/A	A/A	A/A	A/A
Airflow in cooling mode (m^3/h)	Low	240	240	240	240	240
	High	498	498	498	534	558
Sound pressure level dB(A)	Low	21	21	21	28	30
	High	36	36	36	39	40
Dimensions (mm)	Width	895	895	895	895	895
	Depth	195	195	195	195	195
	Height	299	299	299	299	299
Weight (kg)		11,5	11,5	11,5	11,5	11,5
Operating current (A)		0,14	0,14	0,14	0,14	0,18
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50

MUZ inverter outdoor units, cooling / heating

Designation of outdoor units		Multi Split MXZ	MUZ-EF25VE	MUZ-EF35VE	MUZ-EF42VE	MUZ-EF50VE
Power consumption incl. Indoor unit (kW)	Cooling	–	0,545	0,910	1,280	1,560
	Heating	–	0,700	0,955	1,460	1,565
Airflow (m^3/h)		–	1806	1806	1806	2868
Sound pressure level Cooling/Heating dB(A)		–	47 / 48	49 / 50	50 / 51	52 / 52
Dimensions (mm)	Width	–	800	800	800	840
	Depth	–	285	285	285	330
	Height	–	550	550	550	880
Weight (kg)		–	30	35	35	54
Total pipe length (m)		–	20	20	20	30
Max. height difference (m)		–	12	12	12	15
Refrigerant quantity (kg)		–	0,8	1,15	1,15	1,45
Refrigerant pipe size (mm)	fl.	–	6	6	6	6
	s.	–	10	10	10	12
Voltage supply (V, phase, Hz)		–	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		–	2,9	4,2	5,7	6,9
recomm. Fuse size (A)		–	10	10	10	16

* Pre-charged for pipe length of 7 m, see page 44 for longer lengths

Sound pressure level of the indoor unit measured 1 m in front of and 0.8 m below the unit in cooling mode

▶ **The MSZ-EE22VE has been designed for multi-split operation.**
For information on the outdoor units, see page 38.

if design award
The premium wall mounted units MSZ-EF have been awarded the iF product design award 2011.

Accessories

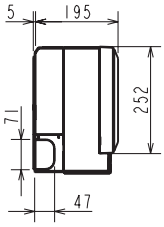
Designation of accessory art. no.	Designation of accessory	Quantity
MAC-2320FT	Anti-allergy enzyme filter	10
MAC-093SS-E	Quick Clean Kit	1

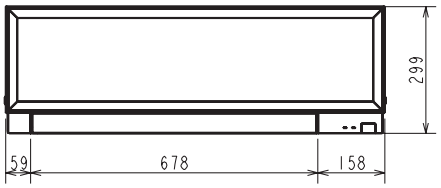
Quick Clean Kit

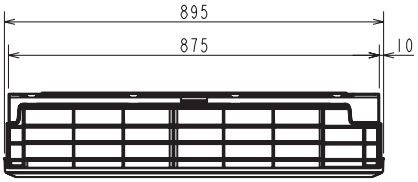
Dimension Drawings

MSZ inverter premium wall mounted units, cooling / heating

MSZ-EF22–50VE W/B/S

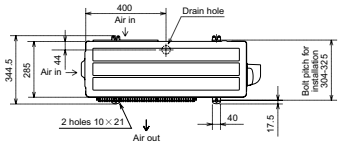


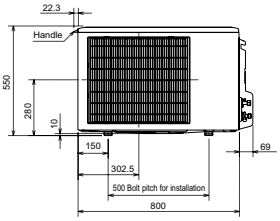


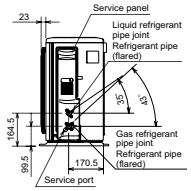


MUZ inverter outdoor units, cooling / heating

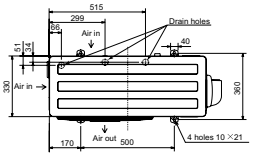
MUZ-EF25–42VE

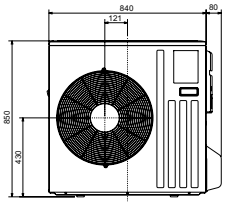


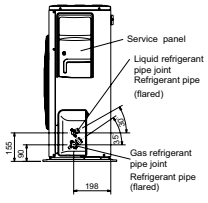




MUZ-EF50VE







MSZ-FD25–50VAS | MSZ-FD25–50VA | MUZ-FD25–35VA | MUZ-FD50VA

Wall mounted units Deluxe

Split inverter / Cooling and heating

Econo Cool | ON/OFF | SWING | AUTO | Plasma-Duo | Low-temperature Cooling (-10 °C) | Low-temperature Heating (-15 °C) | Quick Clean Body | Auto Restart | R 410A Pre-charged | ErP Ecodesign | Certified Quality | INVERTER | Reuse Piping

MSZ inverter wall mounted units Deluxe, cooling / heating

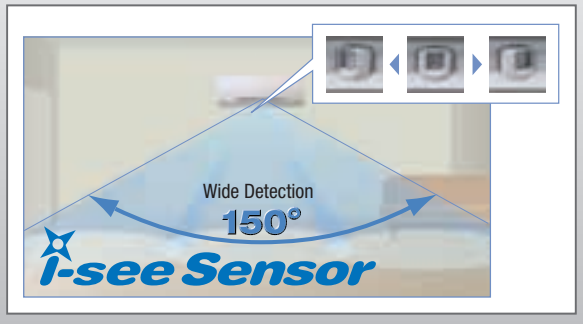
Designation of indoor units		MSZ-FD25VA	MSZ-FD35VA	MSZ-FD50VA
Cooling capacity (kW)		2,5 (1,1–3,5)	3,5 (1,1–4,0)	5,0 (1,5–5,8)
Heating capacity (kW)		3,2 (1,5–5,5)	4,0 (1,5–6,3)	5,8 (1,5–7,8)
EER	Cooling	5,15	4,12	3,33
COP	Heating	5,25	4,62	3,74
Energy efficiency class Cooling/Heating		A / A	A / A	A / A
Airflow in cooling mode (m^3/h)	Low	270	282	330
	Medium	402	402	534
	High	552	552	672
Sound pressure level dB(A)	Low	20	21	27
	High	36	36	43
Dimensions (mm)	Width	798	798	798
	Depth	257	257	257
	Height	295	295	295
Weight (kg)		12	12	12
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240,1,50
Operating current (A)	Cooling	0,25	0,27	0,53
	Heating	0,30	0,32	0,53

MUZ inverter outdoor units, cooling / heating

Designation of outdoor units		MUZ-FD25VA	MUZ-FD35VA	MUZ-FD50VA
Power consumption incl. Indoor unit (kW)	Cooling	0,485	0,850	1,50
	Heating	0,610	0,865	1,55
Airflow (m^3/h)	Low	1086	1086	1680
	High	1872	1872	2940
Sound pressure level dB(A)		46	47	54
Dimensions (mm)	Width	800	800	840
	Depth	285	285	330
	Height	550	550	850
Weight (kg)		36	36	55
Total pipe length (m)		20	20	20
Max. height difference (m)		12	12	12
Refrigerant quantity (kg)*		1,15	1,15	1,55
Refrigerant pipe size Ø (mm)	fl.	6	6	6
	s.	10	10	12
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240,1,50
Operating current (A)	Cooling	2,4	3,9	6,7
	Heating	2,9	4,0	6,9
recomm. Fuse size (A)		10	10	16

* Pre-charged for pipe length of 7 m, see page 44 for longer lengths

Sound pressure level of the indoor unit measured 1 m in front of and 0.8 m below the unit in cooling mode



i-see sensor
The innovative i-see sensor measures the temperature in the floor area and, in connection with the automatic fan control, minimises temperature stratifications. Due to the better temperature distribution, the compressor running time and the energy consumption are reduced.

Accessories

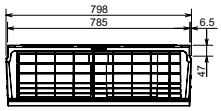
Designation of accessory art. no.	Designation of accessory	Quantity
MAC-417FT-E	Anti-allergy enzyme filter	10
MAC-307FT-E	Plasma odour filters	10
MAC-093SS-E	Quick Clean Kit	1
PAN-20/25VAS	Front panel in silver design	1

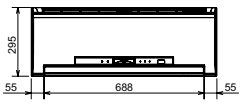
Quick Clean Kit

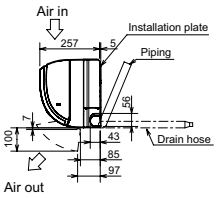
Dimension Drawings

MSZ inverter wall mounted units Deluxe, cooling / heating

MSZ-FD25 – 50VA

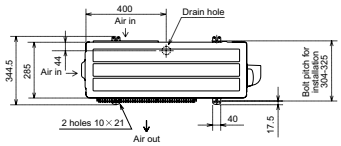


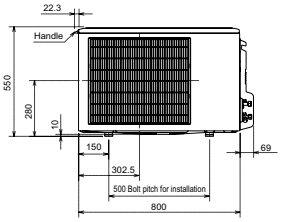


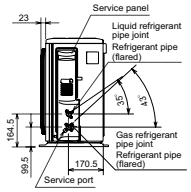


MUZ inverter outdoor units, cooling / heating

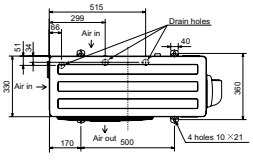
MUZ-FD25 – 35VA

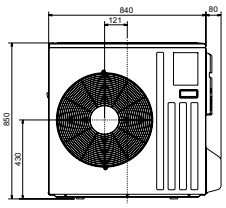


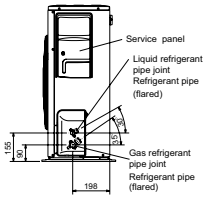


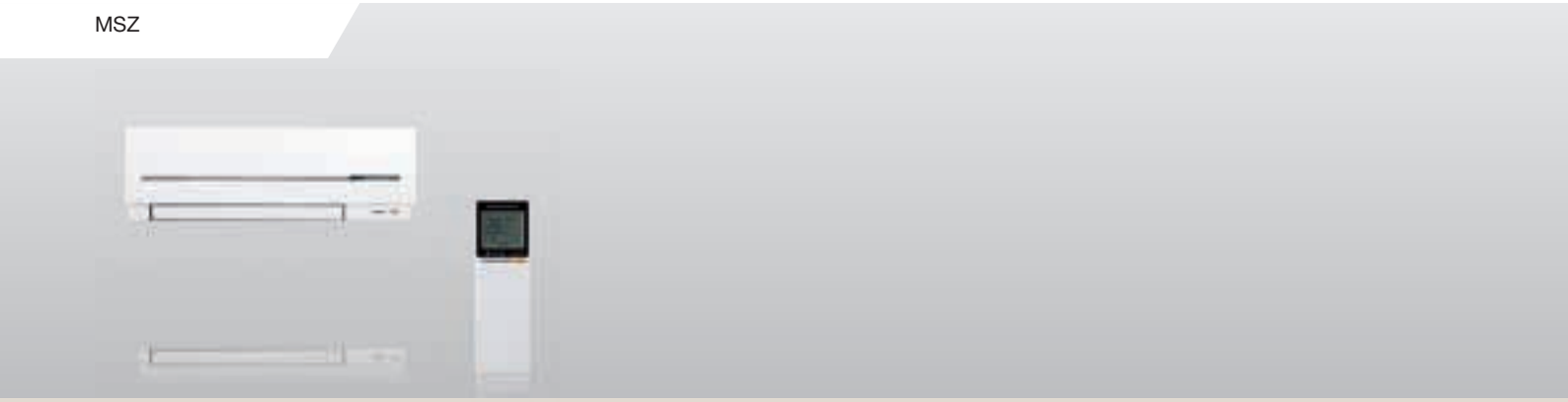


MUZ-FD50VA









MSZ-SF15–20VA

Compact wall mounted units

Multi-split inverter / Cooling and heating

Econo Cool | Weekly | I SAVE | Low-heating Set Point | SWING | AUTO | Auto Restart | ErP Ecodesign | Certified Quality | INVERTER

Compact MSZ inverter wall mounted units, cooling / heating

Designation of indoor units		MSZ-SF15VA	MSZ-SF20VA
Cooling capacity (kW)		1,5 (0,8–2,1)	2,0 (0,9–2,8)
Heating capacity (kW)		1,7 (0,9–2,4)	2,2 (0,8–3,9)
Airflow in cooling mode (m^3/h)	Low	210	210
	High	330	330
Sound pressure level dB(A)	Low	21	21
	High	35	35
Dimensions (mm)	Width	760	760
	Depth	168	168
	Height	250	250
Weight (kg)		7,7	7,7
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,17	0,19

Sound pressure level measured 1 m in front of and 0.8 m below the unit in cooling mode

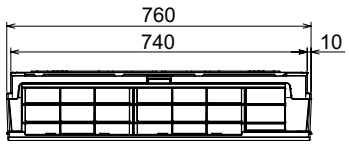
▶ **The MSZ-SF wall mounted units have been designed for multi-split operation with MXZ outdoor units only.**

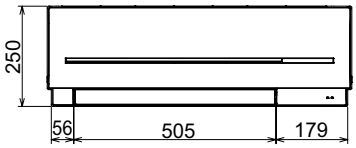
Easy to integrate
Due to their especially compact dimensions, the wall mounted units can be integrated into the existing surroundings in a very easy and cost-effective way.

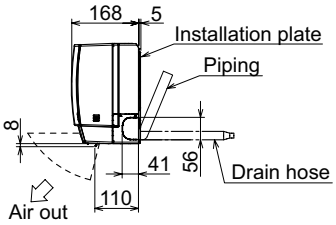
Dimension Drawings

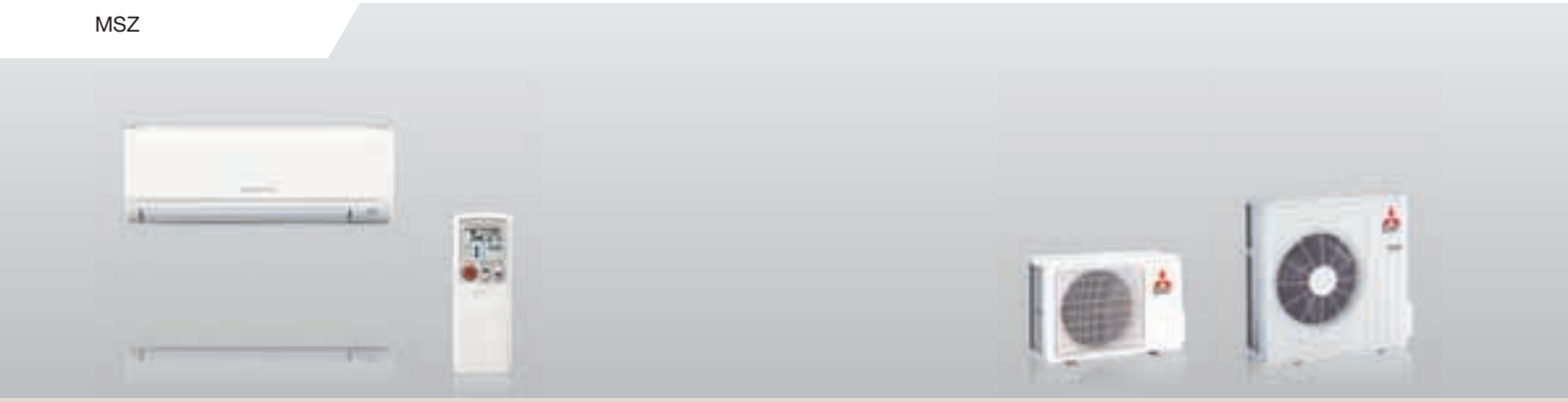
Compact MSZ inverter wall mounted units, cooling / heating

MSZ-SF15–20VA









MSZ-GE22–50VA | MUZ-GE25–42VA | MUZ-GE50VA

Wall mounted units

Split inverter / Cooling and heating

Econo Cool | ON/OFF | I SAVE | Silent | Low-heating Set Point | SWING | AUTO | Catechin | Low-temperature Cooling | Low-temperature Heating | Quick Clean Body | Auto Restart | Pre-charged

ErP Ecodesign | Certified Quality | INVERTER | REUSE PIPING

MSZ inverter wall mounted units, cooling / heating

Designation of indoor units		MSZ-GE22VA	MSZ-GE25VA	MSZ-GE35VA	MSZ-GE42VA	MSZ-GE50VA
Cooling capacity (kW)		2,2	2,5 (1,1–3,5)	3,5 (1,1–4,0)	4,2 (0,9–4,8)	5,0 (1,4–5,5)
Heating capacity (kW)		3,3	3,2 (1,3–4,0)	4,0 (1,6–5,3)	5,4 (1,4–6,0)	5,8 (1,4–7,3)
EER	Cooling	–	4,59	4,05	3,46	3,3
COP	Heating	–	4,57	4,19	3,7	3,71
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A	A / A
Airflow in cooling mode (m^3/h)	Low	246	246	246	348	390
	High	690	546	546	624	714
Sound pressure level dB(A)	Low	19	19	19	26	28
	High	42	36	36	40	44
Dimensions (mm)	Width	798	798	798	798	798
	Depth	232	232	232	232	232
	Height	295	295	295	295	295
Weight (kg)		10	10	10	10	10
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,22	0,22	0,29	0,29	0,39

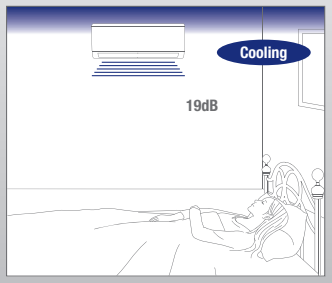
MUZ inverter outdoor units, cooling / heating

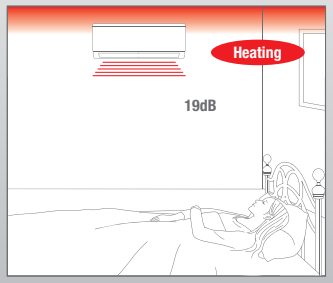
Designation of outdoor units		Multi Split MXZ	MUZ-GE25VA	MUZ-GE35VA	MUZ-GE42VA	MUZ-GE50VA
Power consumption incl. Indoor unit (kW)	Cooling	–	0,545	0,865	1,215	1,515
	Heating	–	0,700	0,955	1,46	1,565
Airflow (m^3/h)		–	1956	2178	2178	2940
Sound pressure level dB(A)		–	47	47	50	54
Dimensions (mm)	Width	–	800	800	800	840
	Depth	–	285	285	285	330
	Height	–	550	550	550	850
Weight (kg)		–	30	33	36	54
Total pipe length (m)		–	20	20	20	30
Max. height difference (m)		–	12	12	12	15
Refrigerant quantity (kg)		–	0,8	1,15	1,15	1,55
Refrigerant pipe size Ø (mm)	fl.	–	6	6	6	6
	s.	–	10	10	10	12
Voltage supply (V, phase, Hz)		–	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		–	2,9	4,2	5,6	6,8
recomm. Fuse size (A)		–	10	10	10	16

* Pre-charged for pipe length of 7 m, see page 44 for longer lengths

Sound pressure level of the indoor unit measured 1 m in front of and 0.8 m below the unit in cooling mode

▶ **The MSZ-GE22VA has been designed for multi-split operation.**
For information on the outdoor units, see page 38.





Extra-quiet comfort climate
With a sound pressure level of only 19 dB(A) at a distance of 1 m, the wall mounted units in the unit sizes 22, 25 and 35 are one of the quietest of their kind.

Accessories

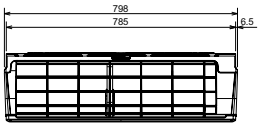
Designation of accessory art. no.	Designation of accessory	Quantity
MAC-408FT-E	Anti-allergy enzyme filter	10
MAC-093SS-E	Quick Clean Kit	1

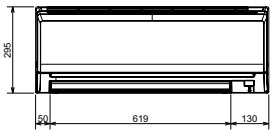
Quick Clean Kit

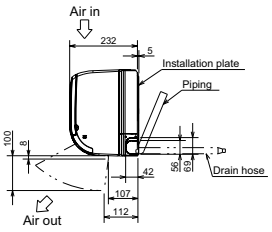
Dimension Drawings

MSZ inverter wall mounted units, cooling / heating

MSZ-GE22–50VA

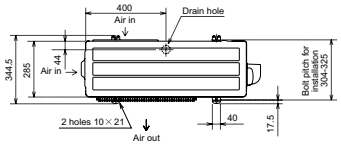


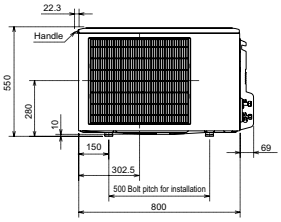


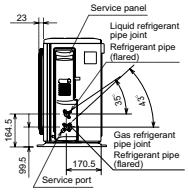


MUZ inverter outdoor units, cooling / heating

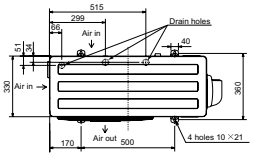
MUZ-GE25–42VA

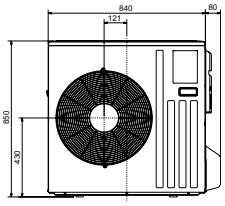


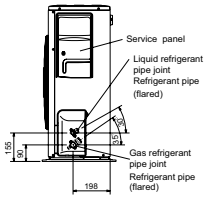


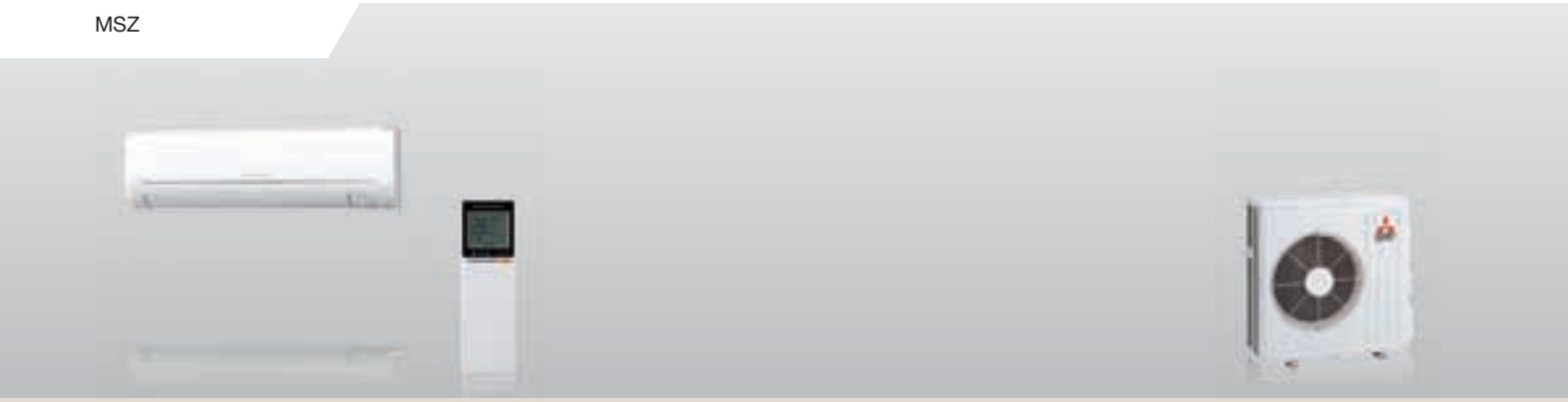


MUZ-GE50VA







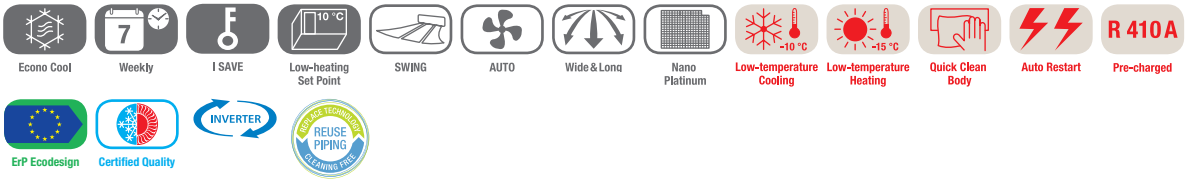


MSZ-GE60–71VA

MUZ-GE60/71VA

Wall mounted units

Split inverter / Cooling and heating



MSZ inverter wall mounted units, cooling / heating

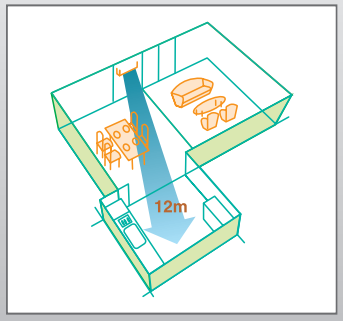
Designation of indoor units		MSZ-GE60VA	MSZ-GE71VA
Cooling capacity (kW)		6,0 (1,5–7,5)	7,1 (2,4–8,7)
Heating capacity (kW)		6,8 (2,0–9,3)	8,1 (2,2–9,9)
EER	Cooling	3,4	3,33
COP	Heating	3,84	3,83
Energy efficiency class Cooling/Heating		A / A	A / A
Airflow in cooling mode (m³/h)	Low	588	582
	High	1098	1068
Sound pressure level dB(A)	Low	29	30
	High	49	49
Dimensions (mm)	Width	1100	1100
	Depth	232	232
	Height	325	325
Weight (kg)		16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,35	0,51

MUZ inverter outdoor units, cooling / heating

Designation of outdoor units		MUZ-GE60VA	MUZ-GE71VA
Power consumption incl. Indoor unit (kW)	Cooling	1,76	2,13
	Heating	1,77	2,11
Airflow (m³/h)		3492	3426
Sound pressure level Cooling/Heating dB(A)		54 / 55	54 / 55
Dimensions (mm)	Width	840	840
	Depth	330	330
	Height	880	880
Weight (kg)		50	53
Total pipe length (m)		30	30
Max. height difference (m)		15	15
Refrigerant quantity (kg)		1,55	1,9
Refrigerant pipe size Ø (mm)	fl.	6	10
	s.	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50
Operating current (A)		7,8	9,3
recomm. Fuse size (A)		20	20

* Pre-charged for pipe length of 7 m, see page 44 for longer lengths

Sound pressure level of the indoor unit measured 1 m in front of and 0.8 m below the unit in cooling mode



Large airflow ranges
The units can achieve an airflow range of up to 12 m. This is ideal to supply large-scale rooms or remote areas with conditioned air.

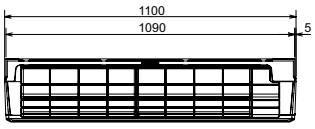
Accessories

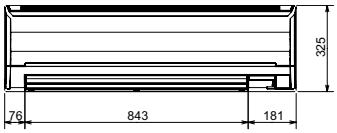
Designation of accessory art. no.	Designation of accessory	Quantity
MAC-2310FT	Anti-allergy enzyme filter	10

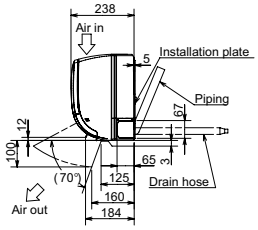
Dimension Drawings

MSZ inverter wall mounted units, cooling / heating

MSZ-GE60–71VA

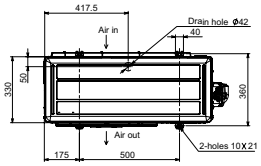


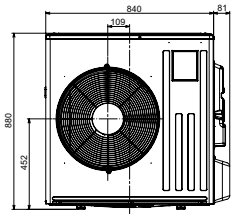


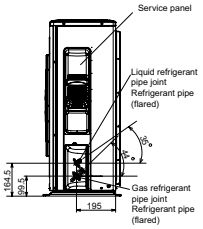


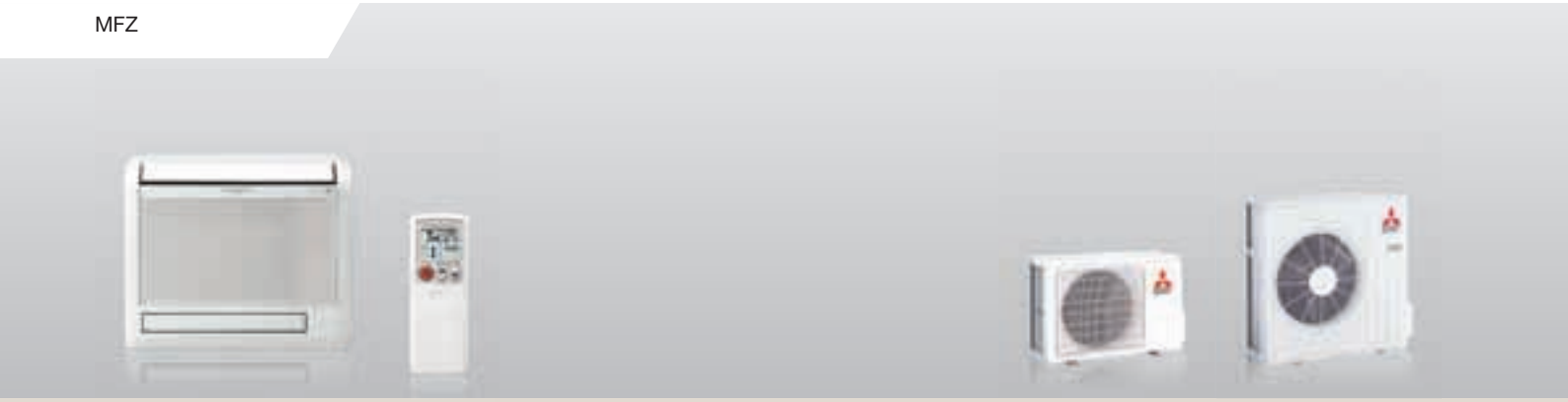
MUZ inverter outdoor units, cooling / heating

MUZ-GE60–71VA









MFZ-KA25–50VA

SUZ-KA25–35VA

SUZ-KA50VA

Floor standing units

Split inverter / Cooling and heating

Econo Cool | ON/OFF | I SAVE | SWING | AUTO | Anti-allergy | Catechin | Low-temperature (-10 °C) | Low-temperature Heating (-15 °C) | Auto Restart | Pre-charged (R 410A) | ErP Ecodesign | Certified Quality | INVERTER | REFRIGERANT REUSE PIPING CLEANING FREE

MFZ inverter floor standing units, cooling / heating

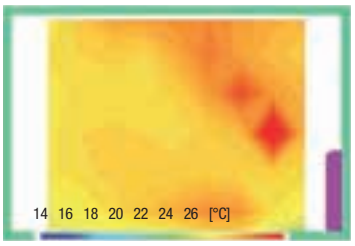
Designation of indoor units		MFZ-KA25VA	MFZ-KA35VA	MFZ-KA50VA
Cooling capacity (kW)		2,5 (0,9–3,4)	3,5 (0,9–3,9)	4,8 (0,9–5,4)
Heating capacity (kW)		3,4 (0,9–5,1)	4,0 (0,9–6,2)	6,0 (0,9–7,9)
EER	Cooling	4,31	3,21	3,10
COP	Heating	4,07	3,64	3,23
Energy efficiency class Cooling/Heating		A / A	A / A	B / C
Airflow in cooling mode (m^3/h)	Low	288	300	426
	High	522	546	642
Sound pressure level dB(A)	Low	22	23	32
	High	37	38	43
Dimensions (mm)	Width	700	700	700
	Depth	200	200	200
	Height	600	600	600
Weight (kg)		14	14	14
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,27	0,35	0,38

SUZ inverter outdoor units, cooling / heating

Designation of outdoor units		SUZ-KA25VA	SUZ-KA35VA	SUZ-KA50VA
Power consumption incl. Indoor unit (kW)	Cooling	0,58	1,09	1,55
	Heating	0,83	1,108	1,86
Airflow (m^3/h)		1900	1900	2940
Sound pressure level Cooling/Heating dB(A)		46 / 46	47 / 48	53 / 55
Dimensions (mm)	Width	800	800	840
	Depth	285	285	330
	Height	550	550	850
Weight (kg)		33	37	53
Total pipe length (m)		20	20	30
Max. height difference (m)		12	12	30
Refrigerant quantity (kg)*		0,9	1,05	1,6
Refrigerant pipe size Ø (mm)	fl.	6	6	6
	s.	10	10	12
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		3,4	4,9	7,4
recomm. Fuse size (A)		10	16	25

* Pre-charged for pipe length of 7 m, see page 44 for longer lengths

Sound pressure level beim Innengerät gemessen in 1 m Height und 1 m vor dem Gerät



Two air outlets
The two air outlets at the top and bottom ensure a comfortable air conditioning. In heating mode, the lower air outlet prevents cold floors. In cooling operation, the air outlet below is additionally opened after the unit is switched on in order to reach the set temperature very fast

Accessories

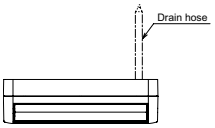
Designation of accessory art. no.	Designation of accessory	Quantity
MAC-415FT-E	Anti-allergy enzyme filter	10
MAC-093SS-E	Quick Clean Kit	1

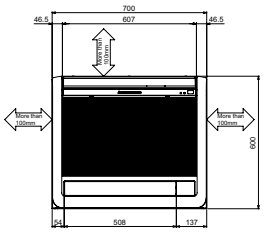
Quick Clean Kit

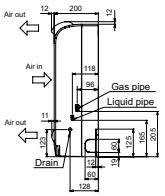
Dimension Drawings

MFZ inverter floor standing units, cooling / heating

MFZ-KA25 – 50VA

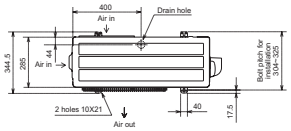


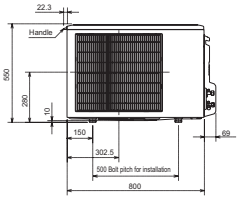


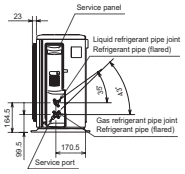


SUZ inverter outdoor units, cooling / heating

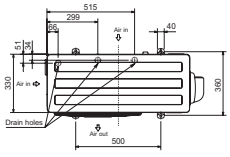
SUZ-KA25 – 35VA

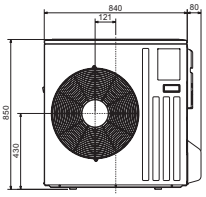


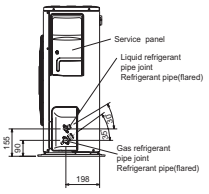


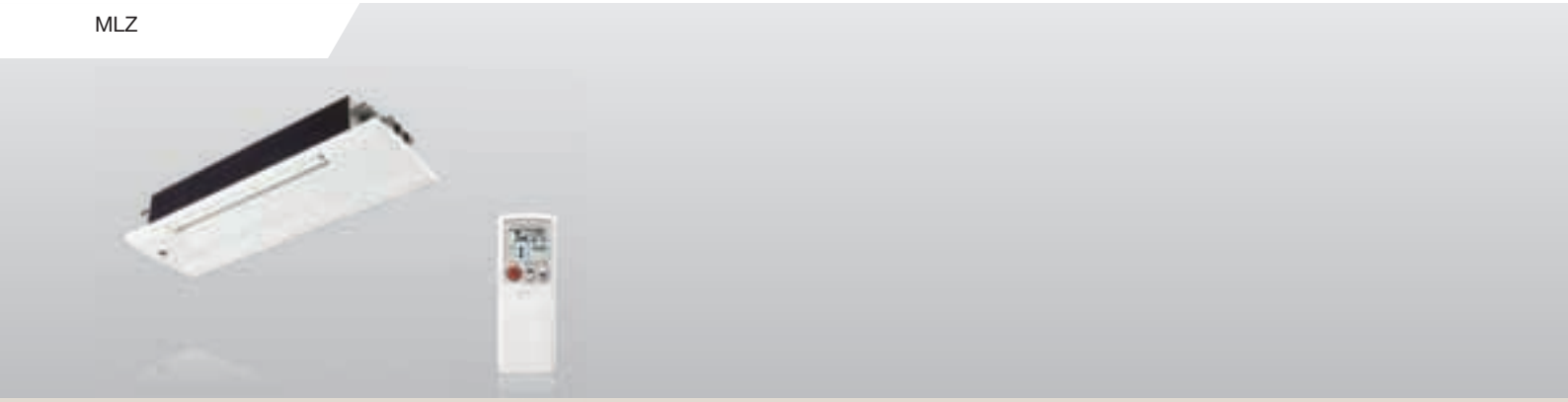


SUZ-KA50VA









MLZ-KA25–50VA

1-way ceiling cassettes

Multi-split inverter / Cooling and heating

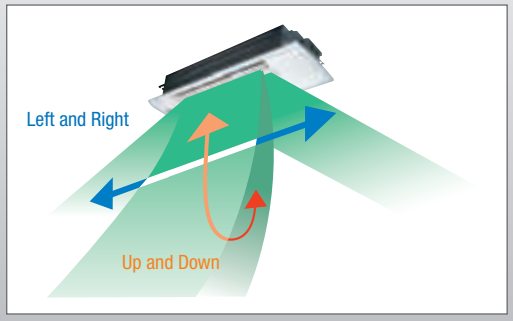
MLZ 1-way ceiling cassettes, cooling / heating

Designation of indoor units		MLZ-KA25VA	MLZ-KA35VA	MLZ-KA50VA
Grille		MLP-440W	MLP-440W	MLP-440W
Cooling capacity (kW)		2,5	3,5	5,0
Heating capacity (kW)		3,3	4,0	6,0
Airflow in cooling mode (m^3/h)	Low	432	438	498
	High	528	564	684
Sound pressure level dB(A)	Low	29	31	34
	High	35	38	43
Dimensions (mm)*	Width	1102	1102	1102
	Depth	360	360	360
	Height	180	180	180
Dimensions (grille) (mm)**	Width	1200	1200	1200
	Depth	414	414	414
	Height	34	34	34
Weight (kg)		15	15	15
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50

* Required installation height
** Visible height of grille

Sound pressure level of the indoor unit measured centrically at a distance of 1.5 m below the unit in cooling mode

▶ **The 1-way ceiling cassettes have been designed for multi-split operation only. For a description of the multi-split MXZ outdoor units, please refer to page 38.**



3D airflow
By means of the innovative 3D air flap control, the airflow can be directed to all directions (left/right/up/down) via remote control. This way, areas which are normally not reached by the airflow can also be conditioned.

Accessories

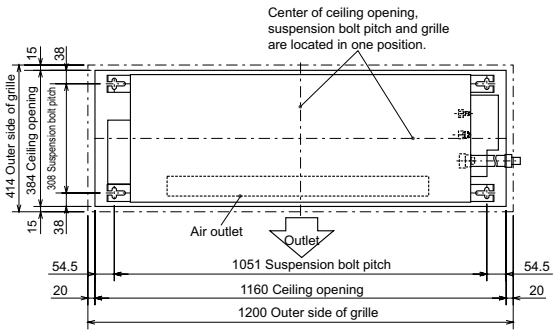
Designation of accessory art. no.	Designation of accessory	Quantity
MAC-171FT-E	Anti-allergy enzyme filter	5
MAC-3004CF-E	Catechin filters	5

Dimension Drawings

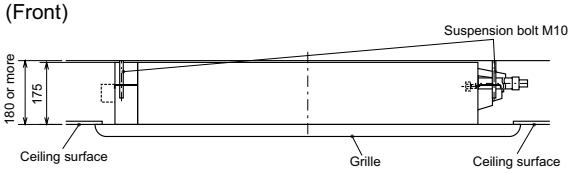
MLZ 1-way ceiling cassettes, cooling / heating

MLZ-KA25–50VA

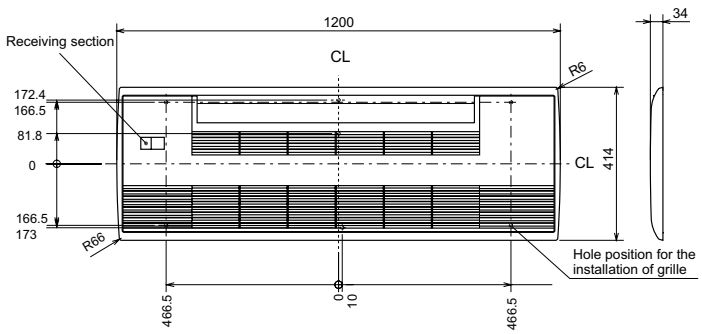
(Top)

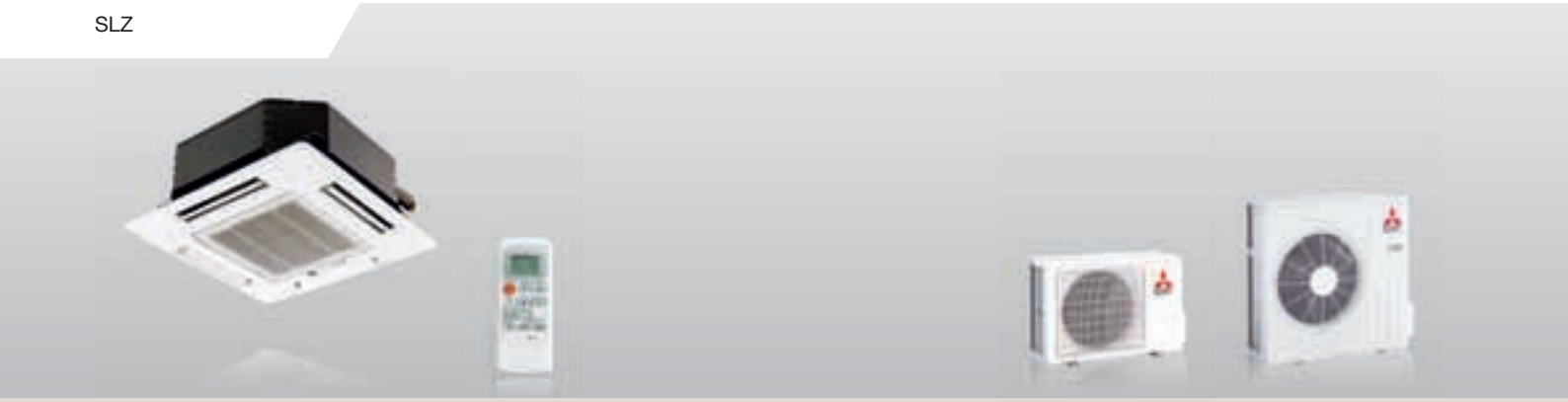


(Front)



Grille (MLP-440W)

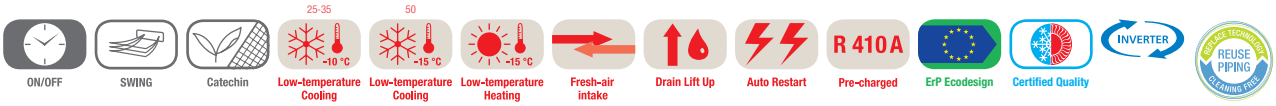




SLZ-KA25–50VAL | SUZ-KA25–35VA | SUZ-KA50VA

4-way ceiling cassettes

Split inverter / European ceiling grid dimensions / Cooling and heating



ON/OFF | SWING | Catechin | Low-temperature Cooling | Low-temperature Cooling | Low-temperature Heating | Fresh-air intake | Drain Lift Up | Auto Restart | Pre-charged | ErP Ecodesign | Certified Quality

SLZ 4-way ceiling cassettes, cooling / heating

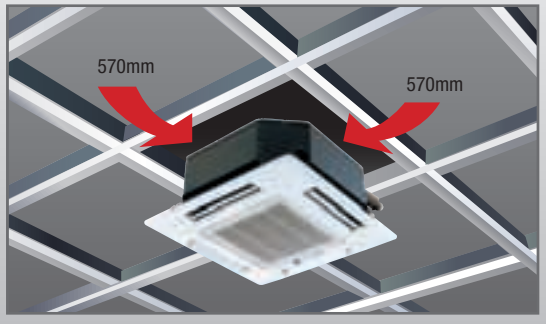
Designation of indoor units		SLZ-KA25VAL	SLZ-KA35VAL	SLZ-KA50VAL
Grille		SLP-2ALW	SLP-2ALW	SLP-2ALW
Cooling capacity (kW)		2,5 (0,9–3,2)	3,5 (1,0–3,9)	4,6 (1,1–5,2)
Heating capacity (kW)		3,2 (0,9–4,5)	4,0 (0,9–5,0)	5,0 (0,9–6,5)
EER	Cooling	3,68	3,30	3,01
COP	Heating	3,76	3,64	3,23
Energy efficiency class Cooling/Heating		A / A	A / A	B / C
Airflow in cooling mode (m^3/h)	Low	480	480	480
	Medium	540	540	540
	High	600	660	660
Sound pressure level dB(A)	Low	28	29	30
	High	37	38	39
Weight (incl. grille) (kg)		16,5 (19,5)	16,5 (19,5)	16,5 (19,5)
Dimensions (mm)*	Width	570	570	570
	Depth	570	570	570
	Height	235	235	235
Dimensions (grille) (mm)**	Width	650	650	650
	Depth	650	650	650
	Height	20	20	20
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,4	0,6	0,62

SUZ inverter outdoor units, cooling / heating

Designation of outdoor units		SUZ-KA25VA	SUZ-KA35VA	SUZ-KA50VA
Power consumption incl. Indoor unit (kW)	Cooling	0,68	1,06	1,53
	Heating	0,85	1,13	1,55
Airflow (m^3/h)		2058	2004	2940
Sound pressure level Cooling/Heating dB(A)		46 / 46	47 / 48	53 / 55
Dimensions (mm)	Width	800	800	840
	Depth	285	285	330
	Height	550	550	850
Weight (kg)		33	37	53
Total pipe length (m)		20	20	30
Max. height difference (m)		12	12	30
Refrigerant quantity (kg)***		0,9	1,05	1,6
Refrigerant pipe size Ø (mm)	fl.	6	6	6
	s.	10	10	12
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		3,5	4,9	8,0
recomm. Fuse size (A)		10	16	20

* Required installation height
** Visible height of grille
*** Pre-charged for pipe length of 7 m, see page 44 for longer lengths

Sound pressure level of the indoor unit measured centrically at a distance of 1.5 m below the unit in cooling mode



Dimensions compliant with European ceiling grid dimensions
The European ceiling grid dimensions allow for an easy installation in existing suspended ceilings as per standardised grid dimensions. The required installation height is only 235 mm.

Accessories

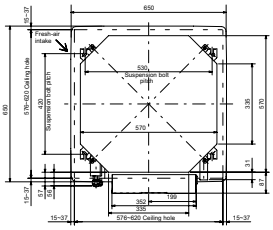
Designation of accessory art. no.	Designation of accessory	Quantity
PAR-21MAA	Standard cable remote control	1
PAR-30MAA	Cable remote control Deluxe	1
PAC-SH29TC-E	Connecting plug for cable remote control	1

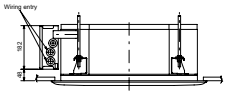
PAR-30MAA

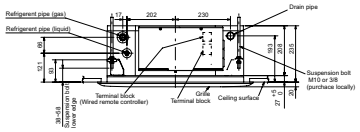
Dimension Drawings

SLZ 4-way ceiling cassettes, cooling / heating

SLZ-KA25–50VA

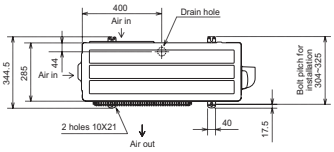


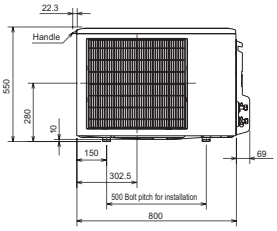


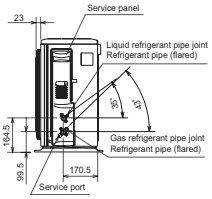


SUZ inverter outdoor units, cooling / heating

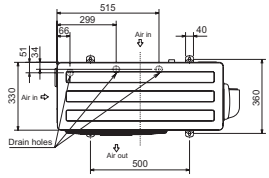
SUZ-KA25–35VA

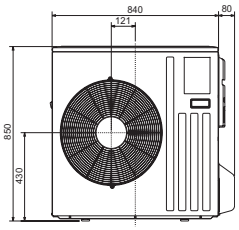


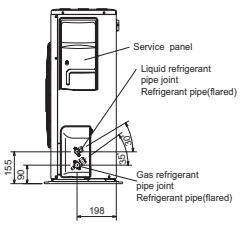


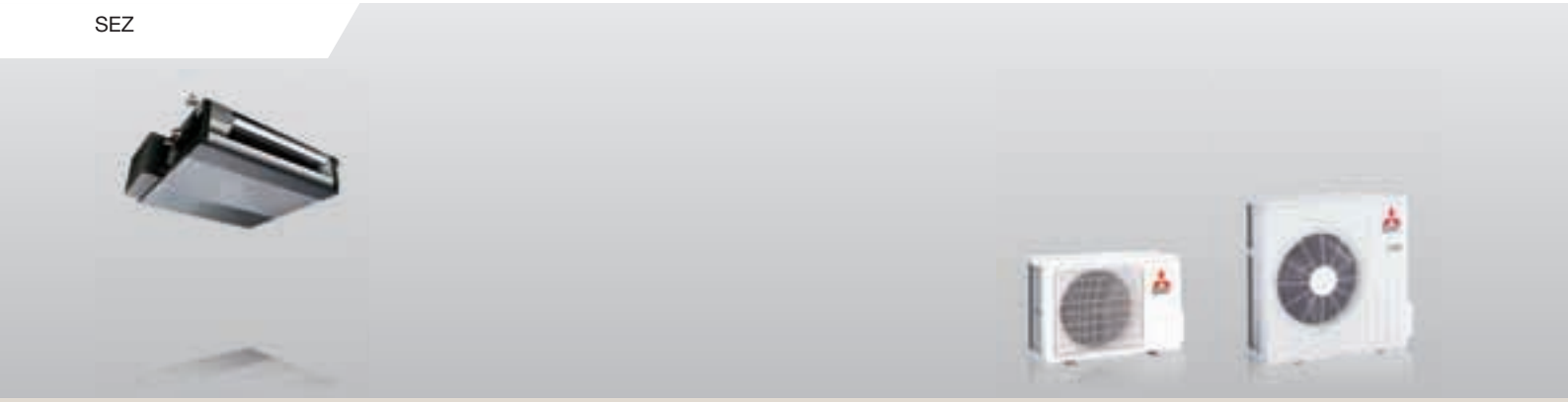


SUZ-KA50VA





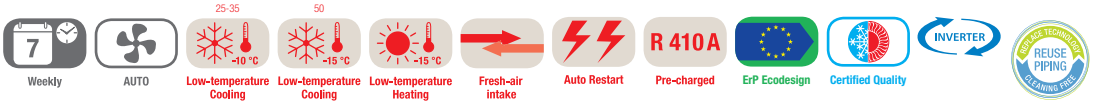




SEZ-KD25–71VA | SUZ-KA25–35VA | SUZ-KA50–71VA

Ceiling concealed ducted units

Split inverter / Cooling and heating



SEZ ceiling concealed ducted units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		SEZ-KD25VAQ	SEZ-KD35VAQ	SEZ-KD50VAQ	SEZ-KD60VAQ	SEZ-KD71VAQ
Cooling capacity (kW)		2,5 (0,9–3,2)	3,7 (1,0–3,9)	5,1 (1,1–5,6)	5,6 (1,1–6,3)	7,1 (0,9–8,3)
Heating capacity (kW)		3,0 (0,9–4,5)	4,2 (0,9–5,0)	6,4 (1,1–7,2)	7,4 (0,9–8,0)	8,1 (0,9–10,4)
EER	Cooling	3,33	3,39	3,11	3,01	3,01
COP	Heating	3,61	3,72	3,54	3,51	3,72
Energy efficiency class Cooling/Heating		A / A	A / A	B / B	B / B	B / A
Airflow in cooling mode (m^3/h)	Low	330	420	600	720	720
	High	540	660	900	1080	1200
Static pressure (Pa)		5–50	5–50	5–50	5–50	5–50
Sound pressure level dB(A)	Low	23	23	30	30	30
	High	30	33	37	38	40
Dimensions (mm)	Width	839	1039	1039	1239	1239
	Depth	700	700	700	700	700
	Height	200	200	200	200	200
Weight (kg)		18,0	21,0	23,0	27,0	27,0
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,40	0,59	0,68	0,95	0,60

SUZ inverter outdoor units, cooling / heating

Designation of outdoor units		SUZ-KA25VA	SUZ-KA35VA	SUZ-KA50VA	SUZ-KA60VA	SUZ-KA71VA
Power consumption incl. Indoor unit (kW)	Cooling	0,75	1,09	1,64	1,86	2,36
	Heating	0,83	1,13	1,81	2,11	2,18
Airflow (m^3/h)		2058	2004	2940	2940	3006
Sound pressure level Cooling/Heating dB(A)		46 / 46	47 / 48	53 / 55	53 / 55	55 / 55
Dimensions (mm)	Width	800	800	840	840	840
	Depth	285	285	330	330	330
	Height	550	550	850	850	880
Weight (kg)		33	37	53	53	53
Total pipe length (m)		20	20	30	30	30
Max. height difference (m)		12	12	30	30	30
Refrigerant quantity (kg)*		0,9	1,05	1,6	1,8	2,0
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6	10
	s.	10	10	12	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		3,5	4,9	8,0	9,0	10,0
recomm. Fuse size (A)		10	10	20	20	20

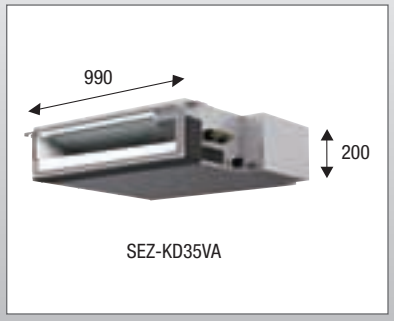
* Pre-charged for pipe length of 7 m, see page 44 for longer lengths

Sound pressure level of the indoor unit measured centrically at a distance of 1.5 m below the unit at static pressure of 15 Pa

Accessories

PAR-30MAA

Designation of accessory art. no.	Designation of accessory	Quantity
PAR-30MAA	Cable remote control Deluxe	1
PAR-21MAA	Cable remote control	1
PAR-SA9CA-E	Infrared remote control (receiver)	1
PAR-SL97A-E	Infrared remote control (transmitter)	1
PAC-KE07DM-E	Drain pump	1



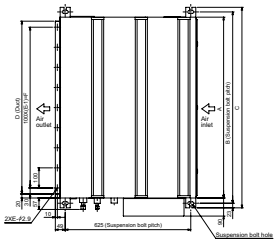
SEZ-KD35VA

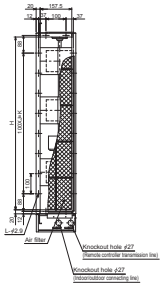
Compact dimensions
Ceiling concealed ducted units in compact design: Unit height 200 mm only. Can easily be integrated into suspended ceilings even in confined spaces.

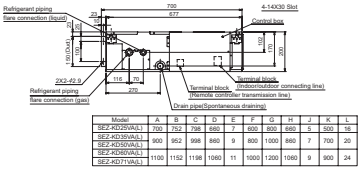
Dimension Drawings

SEZ ceiling concealed ducted units, cooling / heating

SEZ-KD25~71VA



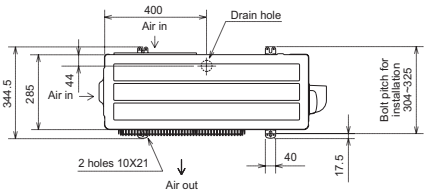


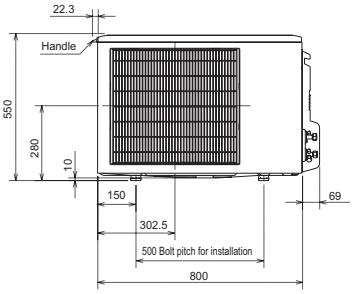


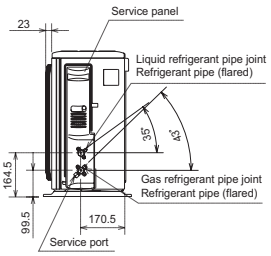
Model	A	B	C	D	E	F	G	H	J	K	L
SEZ-KD25VA(L)	700	752	798	660	7	600	800	660	5	500	16
SEZ-KD35VA(L)	900	952	998	860	9	800	1000	860	7	700	20
SEZ-KD50VA(L)											
SEZ-KD60VA(L)	1100	1152	1198	1060	11	1000	1200	1060	9	900	24
SEZ-KD71VA(L)											

SUZ inverter outdoor units, cooling / heating

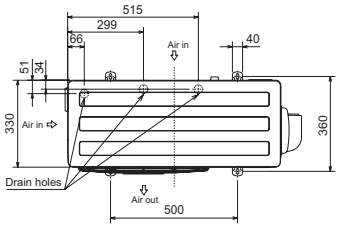
SUZ-KA25~35VA

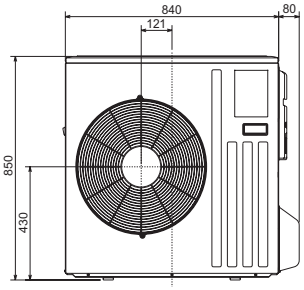


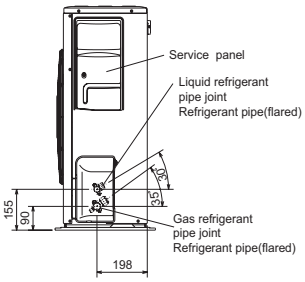




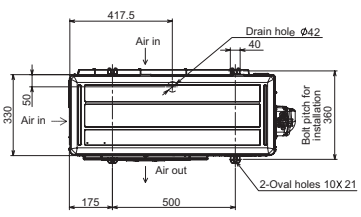
SUZ-KA50~60VA

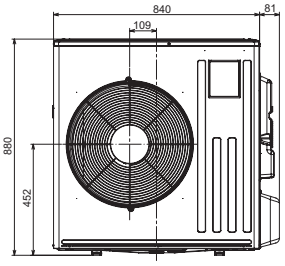


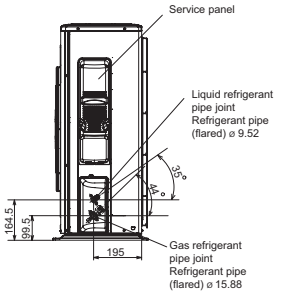




SUZ-KA71VA







Overview of possible combinations

MXZ multi-split inverter with indoor units

The indoor units are selected according to the rooms to be air conditioned and depending on the individual room conditions.

The appropriate multi-split outdoor unit is then determined based on the number of indoor units and the required capacity.

Step 1: Model selection of indoor units for every room.

Wall mounted units

Floor standing unit

Ceiling cassettes

Ceiling concealed ducted unit

Ceiling suspended unit

Step 2: Selection of outdoor unit according to the number of indoor units and the required capacity.

for 2 indoor units

MXZ-2C30VA
MXZ-2C40VA
MXZ-2C52VA

for up to 3 indoor units

MXZ-3C54VA
MXZ-3C68VA

for up to 4 indoor units

MXZ-4C71VA

MXZ-4C80VA

for up to 5 indoor units

MXZ-5C100VA

for up to 6 indoor units

MXZ-6C120VB

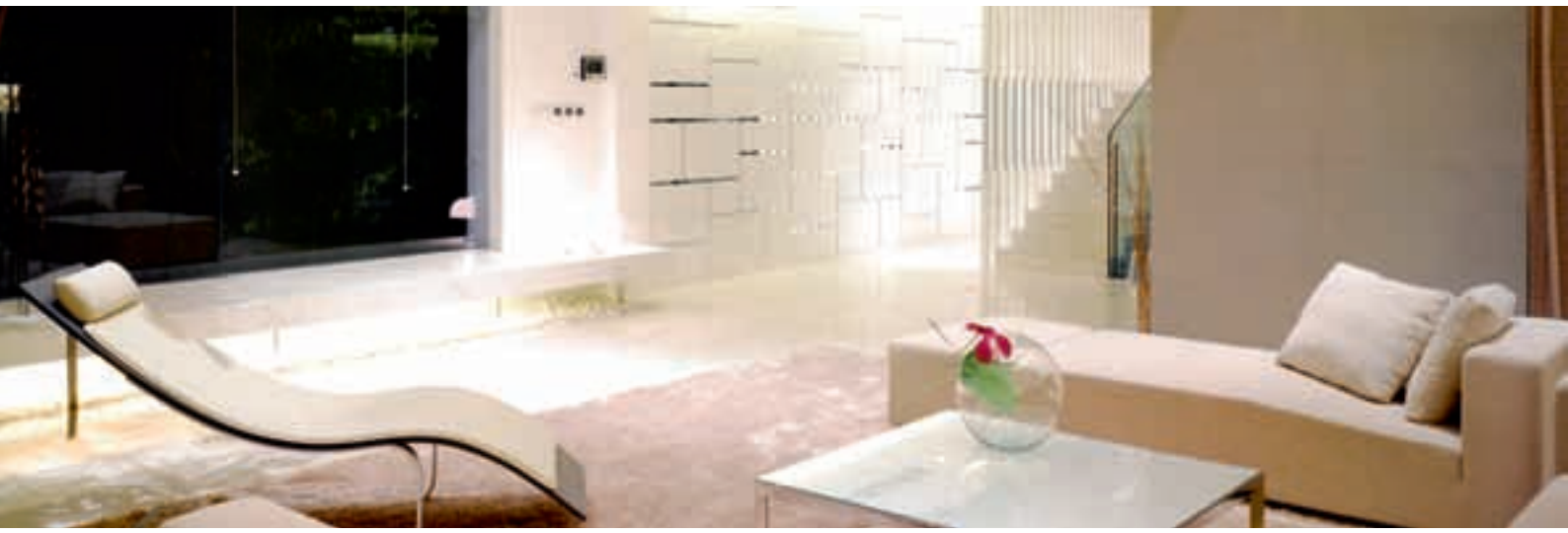
for up to 8 indoor units

MXZ-8B140VA/YA
MXZ-8B160VA/YA

Distribution boxes

PAC-AK31BC
PAC-AK52BC

For the capacity tables, please refer to the document „MXZ combination table“



Connectable capacity classes of the indoor units

Type outdoor unit	Capacity class	Wall mounted units	Floor standing units	Ceiling cassettes	Ducted units	Ceiling suspended units
up to 8 indoor units **MXZ-8B160VA** **MXZ-8B160YA**	15.5 kW, 1 phase 15.5 kW, 3 phases	MSZ-SF15/20, MSZ-FD25/35/50 MSZ-GE22/25/35/42/50/60/71 MSZ-EF22/25/35/42/50	MFZ-KA25/35/50	MLZ-KA25/35/50 SLZ-KA25/35/50 PLA-RP35/50/60/71	SEZ-KD25/35/50/60/71	–
up to 8 indoor units **MXZ-8B140VA** **MXZ-8B140YA**	14.0 kW, 1 phase 14.0 kW, 3 phases	MSZ-SF15/20, MSZ-FD25/35/50 MSZ-GE22/25/35/42/50/60/71 MSZ-EF22/25/35/42/50	MFZ-KA25/35/50	MLZ-KA25/35/50 SLZ-KA25/35/50 PLA-RP35/50/60/71	SEZ-KD25/35/50/60/71	–
up to 6 indoor units **MXZ-6C120VA**	12.0 kW, 1 phase	MSZ-SF15/20, MSZ-FD25/35/50 MSZ-GE22/25/35/42/50/60/71 MSZ-EF22/25/35/42/50	MFZ-KA25/35/50	MLZ-KA25/35/50 SLZ-KA25/35/50 PLA-RP50/60/71	SEZ-KD25/35/50/60/71	PCA-RP50/60/71KA
up to 5 indoor units **MXZ-5C100VA**	10.0 kW, 1 phase	MSZ-SF15/20, MSZ-FD25/35/50 MSZ-GE22/25/35/42/50/60/71 MSZ-EF22/25/35/42/50	MFZ-KA25/35/50	MLZ-KA25/35/50 SLZ-KA25/35/50 PLA-RP50/60/71	SEZ-KD25/35/50/60/71	PCA-RP50/60/71KA
up to 4 indoor units **MXZ-4C80VA**	8.0 kW, 1 phase	MSZ-SF15/20, MSZ-FD25/35/50 MSZ-GE22/25/35/42/50/60/71 MSZ-EF22/25/35/42/50	MFZ-KA25/35/50	MLZ-KA25/35/50 SLZ-KA25/35/50 PLA-RP50/60/71	SEZ-KD25/35/50/60/71	PCA-RP50/60/71KA
up to 4 indoor units **MXZ-4C71VA**	7.1 kW, 1 phase	MSZ-SF15/20, MSZ-FD25/35/50 MSZ-GE22/25/35/42/50/60 MSZ-EF22/25/35/42/50	MFZ-KA25/35/50	MLZ-KA25/35/50 SLZ-KA25/35/50 PLA-RP50/60	SEZ-KD25/35/50/60	PCA-RP50/60KA
up to 3 indoor units **MXZ-3C68VA**	6.8 kW, 1 phase	MSZ-SF15/20, MSZ-FD25/35/50 MSZ-GE22/25/35/42/50/60 MSZ-EF22/25/35/42/50	MFZ-KA25/35/50	MLZ-KA25/35/50 SLZ-KA25/35/50 PLA-RP50/60	SEZ-KD25/35/50/60	PCA-RP50/60KA
up to 3 indoor units **MXZ-3C54VA**	5.4 kW, 1 phase	MSZ-SF15/20, MSZ-FD25/35/50 MSZ-GE22/25/35/42/50 MSZ-EF22/25/35/42/50	MFZ-KA25/35/50	MLZ-KA25/35/50 SLZ-KA25/35/50 PLA-RP50	SEZ-KD25/35/50	PCA-RP50KA
up to 2 indoor units **MXZ-2C52VA**	5.2 kW, 1 phase	MSZ-SF15/20, MSZ-FD25/35 MSZ-GE22/25/35/42/50 MSZ-EF22/25/35/42/50	MFZ-KA25/35	MLZ-KA25/35 SLZ-KA25/35	SEZ-KD25/35	–
up to 2 indoor units **MXZ-2C40VA**	4.0 kW, 1 phase	MSZ-SF15/20, MSZ-FD25/35 MSZ-GE22/25/35 MSZ-EF22/25/35	MFZ-KA25/35	MLZ-KA25/35 SLZ-KA25/35	SEZ-KD25/35	–
up to 2 indoor units **MXZ-2C30VA**	3.0 kW, 1 phase	MSZ-SF15/20, MSZ-FD25 MSZ-GE22/25 MSZ-EF22/25	MFZ-KA25	MLZ-KA25 SLZ-KA25	SEZ-KD25	–

MXZ-2C30-52VA MXZ-3C54/68VA

Multi-split inverter

for 1 to 3 indoor units / Cooling and heating

Low-temperature Cooling · Auto Restart · Low-temperature Heating · Pre-charged · ErP Ecodesign · Certified Quality

MXZ multi-split inverter outdoor units, cooling / heating

Designation of outdoor units		MXZ-2C30VA	MXZ-2C40VA	MXZ-2C52VA	MXZ-3C54VA	MXZ-3C68VA
Cooling capacity (kW)		3,0 (1,1–4,0)	4,0 (1,1–4,5)	5,2 (1,1–6,0)	5,4 (2,9–6,8)	6,8 (2,9–8,4)
Heating capacity (kW)		4,0 (1,1–4,5)	4,5 (1,0–5,0)	6,4 (1,0–7,2)	6,8 (2,6–9,0)	8,6 (2,6–10,6)
EER	Cooling	4,97	3,85	3,51	4,30	3,69
COP	Heating	5,06	4,69	3,86	4,56	4,06
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A	A / A
Airflow (m^3/h)		1950	1860	1860	2525	2580
Sound pressure level Cooling/Heating dB(A)		46 / 47	47 / 48	49 / 50	46 / 48	48 / 52
Dimensions (mm)	Width	800	800	800	840	840
	Depth	285	285	285	330	330
	Height	550	550	550	710	710
Weight (kg)		34	40	40	57	57
Total pipe length (m)*		20	30	30	50	50
Max. height difference (m)		10	15 / 10**	15 / 10**	15 / 10**	15 / 10**
Refrigerant pipe size Ø (mm)	fl.	2x6	2x6	2x6	3x6	3x6
	s.	2x10	2x10	2x10	3x10	3x10
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Power consumption (kW)	Cooling	0,595	1,03	1,48	1,25	1,84
	Heating	0,79	0,95	1,65	1,49	2,11
Operating current Cooling/Heating (A)		2,87 / 3,6	4,0 / 3,98	6,75 / 7,64	5,23 / 6,43	7,8 / 9,0
Max. Operating current (A)		8,0	10,2	10,2	16,4	16,4
recomm. Fuse size (A)		10	16	16	25	25
Connectable indoor units (number)		1–2	1–2	1–2	1–3	1–3

* Refrigerant volumes for the max. pipe lengths, see page 44

** 15 m if the outdoor unit is located below; 10 m if the outdoor unit is located above the indoor units

▶ **The multi-split systems operate in either cooling or heating mode.**

MXZ-4C71VA MXZ-4C80VA-5C100VA MXZ-6C120VA

Multi-split inverter

for 1 to 6 indoor units / Cooling and heating

Low-temperature Cooling · Low-temperature Heating · Auto Restart · Pre-charged · ErP Ecodesign · Certified Quality · INVERTER · REUSE PIPING

MXZ multi-split inverter outdoor units, cooling / heating

Designation of outdoor units		MXZ-4C71VA	MXZ-4C80VA	MXZ-5C100VA	MXZ-6C120VA
Cooling capacity (kW)		7,1 (3,7–8,8)	8,0 (3,7–9,2)	10,0 (3,7–11,0)	12,0 (3,9–13,5)
Heating capacity (kW)		8,6 (3,4–10,7)	9,4 (3,4–11,6)	12,0 (3,4–14,0)	14,0 (4,0–16,5)
EER	Cooling	4,02	3,86	3,44	3,32
COP	Heating	4,79	4,65	4,07	4,03
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A
Airflow (m^3/h)		2525	2530	3396	4194
Sound pressure level Cooling/Heating dB(A)		48 / 50	46 / 48	51 / 54	55 / 57
Dimensions (mm)	Width	840	900	900	900
	Depth	330	320	320	320
	Height	710	900	900	1070
Weight (kg)		56	67	68	88
Total pipe length (m)*		60	70	80	80
Max. height difference (m)		15 / 10**	15 / 10**	15 / 10**	15 / 10**
Refrigerant pipe size Ø (mm)	fl.	4x6	4x6	5x6	6x6
	s.	1x12 / 3x10	1x12 / 3x10	1x12 / 4x10	1x12 / 5x10
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Power consumption (kW)	Cooling	1,76	2,07	2,94	3,61
	Heating	1,79	2,02	2,90	3,47
Operating current Cooling/Heating (A)		7,38 / 7,49	8,59 / 8,48	12,3 / 12,45	15,85 / 15,24
Max. Operating current (A)		16,4	17,4	18,4	27,0
recomm. Fuse size (A)		25	25	25	32
Connectable indoor units (number)		1–4	1–4	1–5	1–6

* Refrigerant volumes for the max. pipe lengths, see page 44

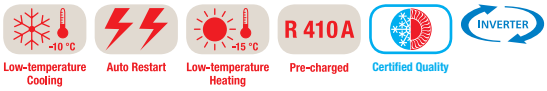
** 15 m if the outdoor unit is located below; 10 m if the outdoor unit is located above the indoor units

▶ **The multi-split systems of the MXZ series operate in either cooling or heating mode.**

MXZ-8B140/160VA/YA

Multi-split inverter

for 2 to 8 indoor units / Cooling and heating



MXZ multi-split inverter outdoor unit

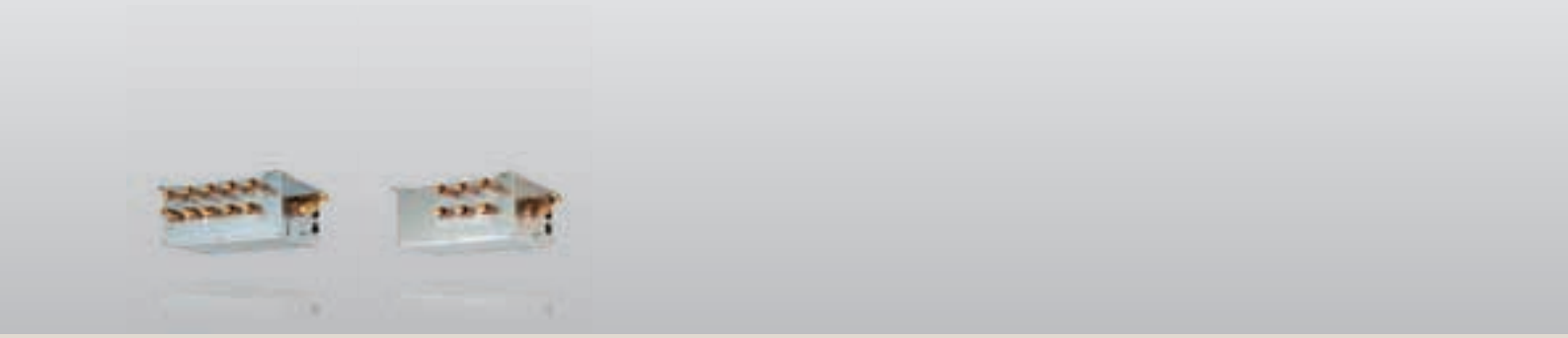
Designation Außengerät		MXZ-8B140VA	MXZ-8B140YA	MXZ-8B160VA	MXZ-8B160YA
Cooling capacity (kW)		14,0	14,0	15,5	15,5
Heating capacity (kW)		16,0	16,0	18,0	18,0
EER	Cooling	3,52	3,52	3,21	3,21
COP	Heating	3,91	3,91	3,61	3,61
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A
Airflow (m^3/h)		6000	6000	6360	6360
Sound pressure level Cooling/Heating dB(A)		50 / 52	50 / 52	51 / 54	51 / 54
Dimensions (mm)	Width	950	950	950	950
	Depth	330	330	330	330
	Height	1350	1350	1350	1350
Weight (kg)		128	128	129	139
Total pipe length (m)		115	115	115	115
Max. pipe length distributor/indoor units (m)		60	60	60	60
Max. height difference indoor units/distributor (m)		12 / 15	12 / 15	12 / 15	12 / 15
Refrigerant quantity (kg)*		8,5	8,5	8,5	8,5
Refrigerant pipe size Ø (mm)	fl.	10	10	10	10
	s.	16	16	16	16
Refrigeration connections to the indoor units Ø (mm)	fl.	3x6 / 5x6	3x6 / 5x6	3x6 / 5x6	3x6 / 5x6
	s.	3x10 / 4x10 + 1x12	3x10 / 4x10 + 1x12	3x10 / 4x10 + 1x12	3x10 / 4x10 + 1x12
Voltage supply (V, phase, Hz)		220–240, 1, 50	380–415, 3+N, 50	220–240, 1, 50	380–415, 3+N, 50
Power consumption (kW)	Cooling	3,79	3,79	4,64	4,64
	Heating	3,90	3,90	4,8	4,80
Operating current (A)	Cooling	16,55	–	–	–
	Heating	17,05	–	–	–
recomm. Fuse size (A)		40	25	40	25
Connectable indoor units (number/typ)		2–8 / 15–71	2–8 / 15–71	2–8 / 15–71	2–8 / 15–71

* Refrigerant volumes for pipe length of over 40 m, see also page 44

Accessories

Designation of accessory art. no.	Designation of accessory	Quantity
PAC-SG61DS-E	Drain set	1
PAC-SG64DP-E	Drain pan	1
PAC-SG59SG-E	Air baffle (2 of them are required)	1
PAC-SH63AG-E	Wind protection panel (2 of them are required)	1

- **The multi-split systems of the MXZ series operate in either cooling or heating mode. At least 2 indoor units need to be connected.**
- **Required branch boxes PAC-AK31/52BC, see page 41**



PAC-AK52BC PAC-AK31BC

Multi-split branch boxes
for MXZ-8B

Advantages

- The branch boxes PAC-AK31BC and PAC-AK52BC can also be installed outside the building in case an indoor installation is not possible. An optionally available weatherproof cover is required for outdoor installation
- A customary tee can be used to connect the two branch boxes

Branch boxes for MXZ-8B outdoor units

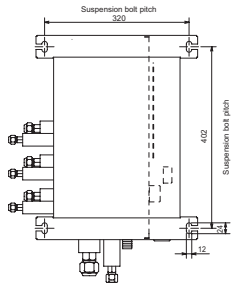
Designation of branch boxes		PAC-AK31BC	PAC-AK52BC
Dimensions (mm)	Width	450	450
	Depth	280	280
	Height	198	198
Weight (kg)		8,1	9,3
Connectable indoor units (number)		1 – 3	1 – 5

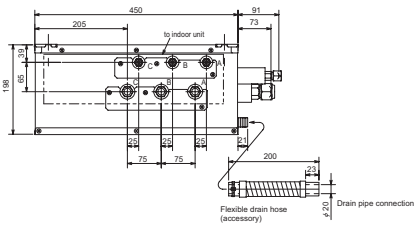
Accessories

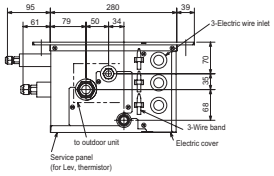
Designation of accessory art. no.	Designation of accessory	Quantity
PAC-AK350CVR-E	Protective cover for outside installation of branch boxes	1

Dimension Drawings
Branch boxes for MXZ-8B outdoor units

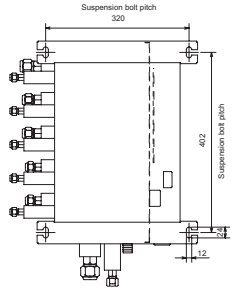
PAC-AK31BC

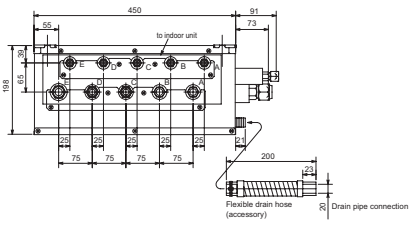


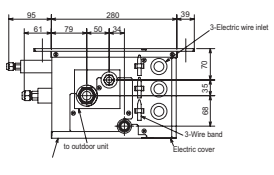




PAC-AK52BC

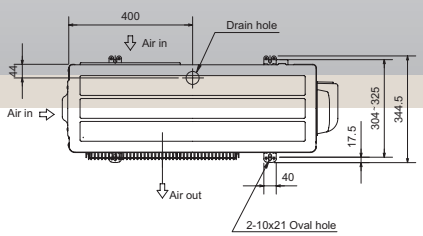


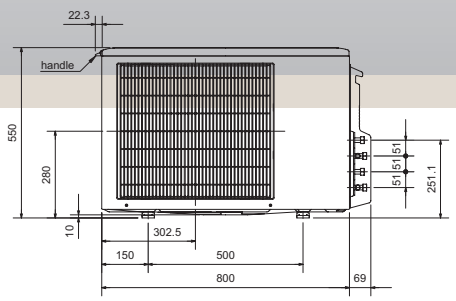


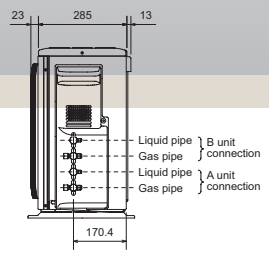


MXZ dimension drawings

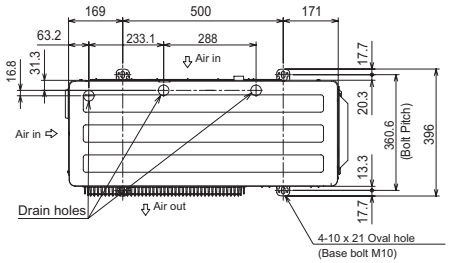
MXZ-2C30/40/52 VA

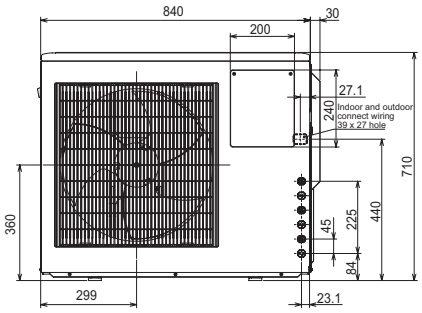


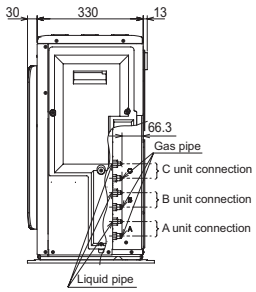




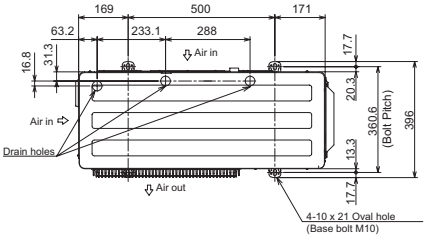
MXZ-3C54/68 VA

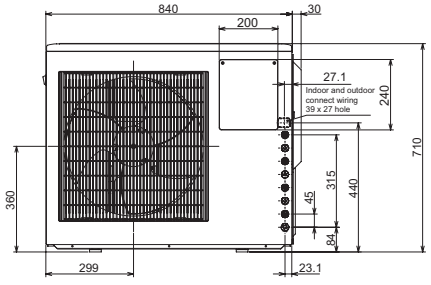


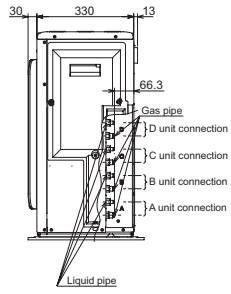




MXZ-4C71 VA

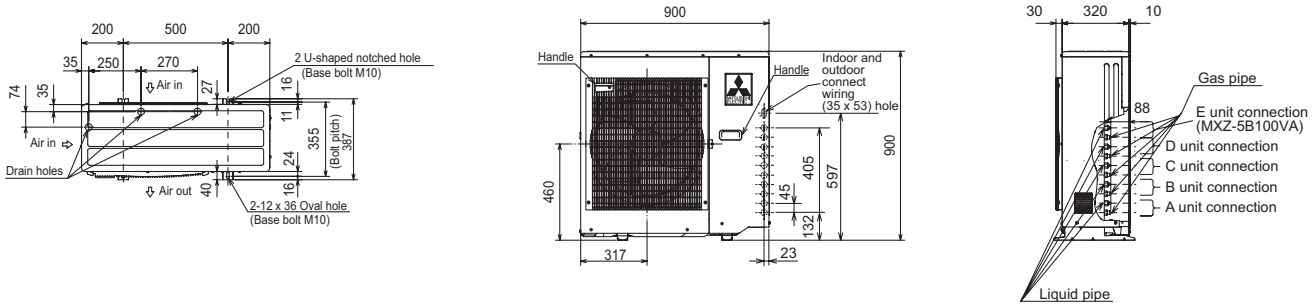




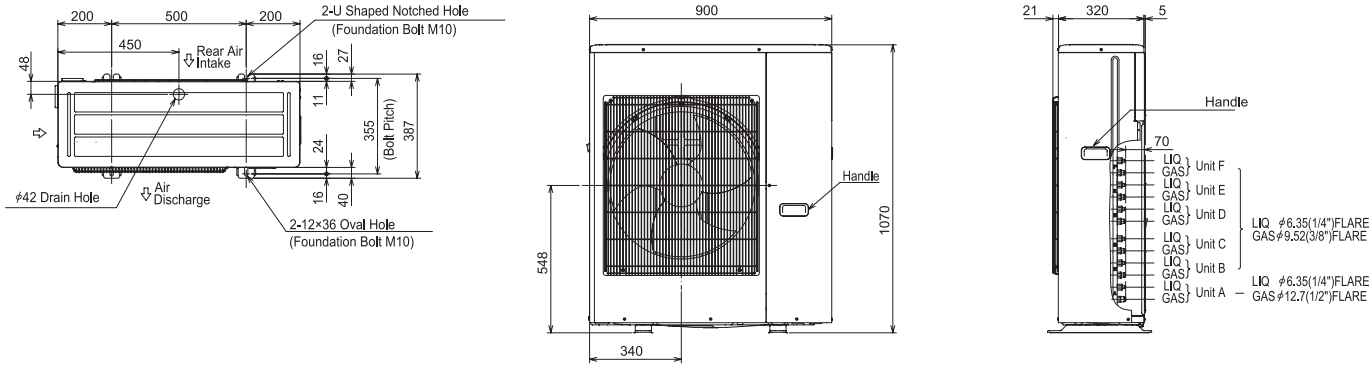


MXZ dimension drawings

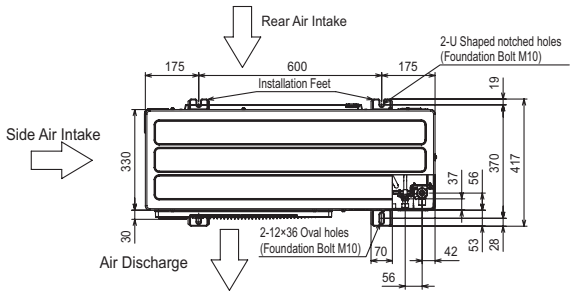
MXZ-4C80/5C100 VA

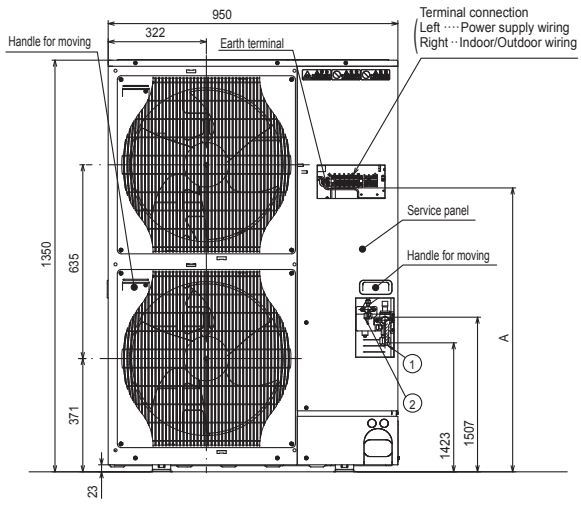


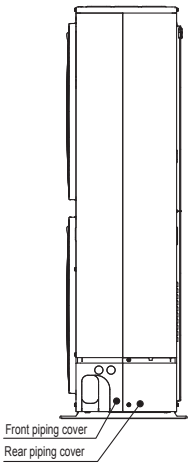
MXZ-6C120 VA



MXZ-8B140VA/YA, MXZ-8B160VA/YA







Refrigerant volumes
Inverter outdoor units

Refrigerant volumes with R410A

- The single split outdoor units have been pre-charged for a pipe length of 7 m (one way length).
- The multi-split outdoor units have been pre-charged with refrigerant for up to 20 m and/or 60 m.
- Longer pipe lengths require the refrigerant volumes according to the table below.

MUZ-FD25/35/50VA, MUZ-GE25/35/42/50/60/71VA, MUZ-EF25/35/42/50VE

Outdoor units	Refrigerant volume (one way) in kg					
	7 m	10 m	15 m	20 m	25 m	30 m
MUZ-FD25/35VA	1,150*	1,300	1,450	1,600	–	–
MUZ-FD50VA	1,550*	1,640	1,790	1,940	2,090	2,240
MUZ-GE25VA	0,800*	0,890	1,040	1,190	–	–
MUZ-GE35VA	1,150*	1,240	1,390	1,540	–	–
MUZ-GE42VA	1,150*	1,240	1,390	1,540	–	–
MUZ-GE50VA	1,550*	1,610	1,710	1,810	1,910	2,010
MUZ-GE60VA	1,550*	1,610	1,710	1,810	1,910	2,010
MUZ-GE71VA	1,900*	2,065	2,340	2,815	2,890	3,165
MUZ-EF25VE	0,800*	0,890	1,040	1,190	–	–
MUZ-EF35VE	1,150*	1,240	1,390	1,540	–	–
MUZ-EF42VE	1,150*	1,240	1,390	1,540	–	–
MUZ-EF50VE	1,550*	1,610	1,710	1,810	1,910	2,010

SUZ-KA25/35/50/60/71VA

Outdoor units	Refrigerant volume (one way) in kg					
	7 m	10 m	15 m	20 m	25 m	30 m
SUZ-KA25VA	0,900*	1,050	1,200	1,350	–	–
SUZ-KA35VA	1,050*	1,200	1,350	1,500	–	–
SUZ-KA50VA	1,600*	1,660	1,760	1,860	1,960	2,060
SUZ-KA60VA	1,800*	1,860	1,960	2,060	2,160	2,260
SUZ-KA71VA	2,000*	2,165	2,440	2,715	2,990	3,265

MXZ-2C30/40/52VA, MXZ-3C54/68VA, MXZ-4C71/80VA, MXZ-5C100VA, MXZ-6C120VA

Outdoor units	Refrigerant volume (one way) in kg						
	20 m	30 m	40 m	50 m	60 m	70 m	80 m
MXZ-2C30VA	1,150*	–	–	–	–	–	–
MXZ-2C40VA	1,300*	1,500	–	–	–	–	–
MXZ-2C52VA	1,300*	1,500	–	–	–	–	–
MXZ-3C54VA	–	–	2,700*	2,900	–	–	–
MXZ-3C68VA	–	–	2,700*	2,900	3,100	–	–
MXZ-4C71VA	–	–	2,700*	2,900	3,100	–	–
MXZ-4C80VA	–	–	3,500*	3,700	3,900	4,100	–
MXZ-5C100VA	–	–	4,000*	4,200	4,400	4,600	4,800
MXZ-6C120VA	–	–	–	–	5,000*	5,200	5,400

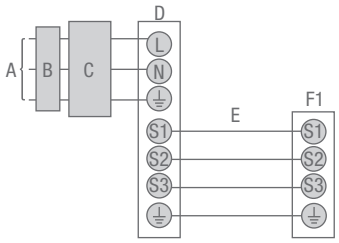
MXZ-8B140VA/YA, MXZ-8B160VA/YA

Outdoor units	Refrigerant volume (one way) in kg				
	40 m	41–50 m	51–70 m	71–90 m	91–115 m
MXZ-8B	8.5*	9.1	9.9	10.7	11.7

* Pre-charged refrigerant volume

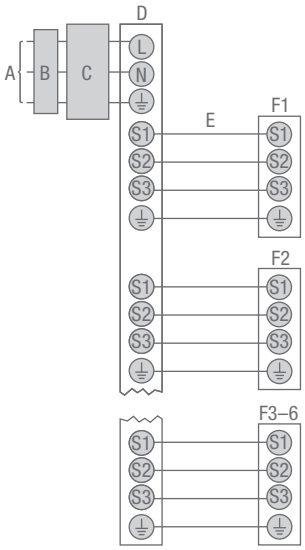
Electrical connection diagram M-series inverter systems

Electrical connection diagram M-series single split inverter



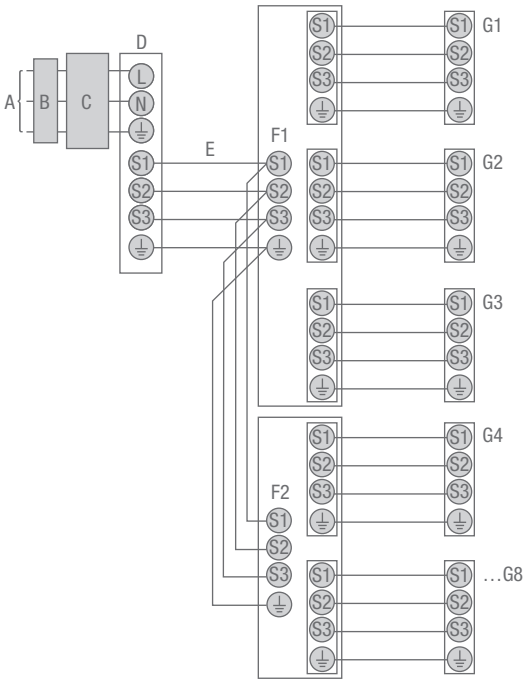
A Voltage supply of the outdoor unit
B Ground-fault circuit interrupter
C Fuse
D Outdoor unit
E Connection cable outdoor unit-indoor unit
F Indoor unit

Electrical connection diagram MXZ multi-split inverter 2 – 6 indoor units



A Voltage supply of the outdoor unit
B Ground-fault circuit interrupter
C Fuse
D Outdoor unit
E Connection cable outdoor unit-indoor unit
F1–F6 Indoor unit no. 1 to no. 6

Electrical connection diagram MXZ multi-split inverter 8 indoor units



A Voltage supply of the outdoor unit
B Ground-fault circuit interrupter
C Fuse
D Outdoor unit
E Connection cable outdoor unit-indoor unit
F1–F2 Branch boxes PAC-AK31/51
G1–G8 Indoor units 1–8

Notes:

1. The size of the electrical cable must comply with the corresponding local and national legal requirements.
2. A flexible cable with a polychloroprene coating (according to 60245 IEC 57) is to be selected as cable for the power supply and for the connection to the indoor and outdoor system.
3. An earth line that is longer than the other cables is to be installed.

MAC-397IF-E MAC-399IF-E ME-AC/KNX1 PAR-30MAA

Optional interfaces

Inverter

The new M-series inverter generation is supplied with the new A-control. The advantage of the A-control is that it enables an extended communication between the indoor and outdoor unit. This way, error messages of the indoor unit can also be displayed on the outdoor unit and vice versa. Furthermore, the indoor units can be equipped with optional interfaces. Three interfaces are available for this purpose:

1. MAC-399IF-E interface for the integration of the M-series inverter indoor units in a City Multi bus system (M-Net)
The M-series inverters can also be controlled via this optional interface via the City Multi M-Net data bus. The following City Multi remote controls, system controls, system timer or central remote controls can be connected to the MAC-399IF:

Central control AG-150A, GB-50A
PAC-YT40ANRA
PAR-F27MEA

It is also possible to operate the M-series inverters by means of one of the above-mentioned City Multi controls without connecting them to a City Multi bus system. In this case, an additional power supply unit for the voltage supply (optional PAC-SC-51KUA) is required.

2. MAC-397IF-E interface for the connection of M-series inverter indoor units
The following external activations are possible:
- Remote ON / OFF
- Output of an operating or error message (only one output possible)
- Blocking function of the ON/OFF function on the local remote control
- Change of the operating mode cooling/heating
- Change of the setpoint temperature
- Connection of a cable remote control PAR-21MAA or PAR-30MAA

3. ME-AC/KNX1 interface for integration of the M-series inverter indoor units into a building system technology based on EIB (TP)
The M-series inverters can also be controlled via this optional interface directly, via the „European Installation Bus“ EIB. This way, the indoor units can be variably operated via the increasingly popular worldwide EIB standard and also by means of the switches based on EIB (TP) that can easily be integrated into the internal EIB installation. Since the power supply of the interface is fed through the M-series indoor unit, an external power source for the ME-AC/KNX1 interface is not required.

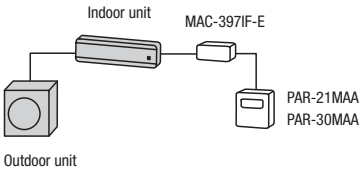
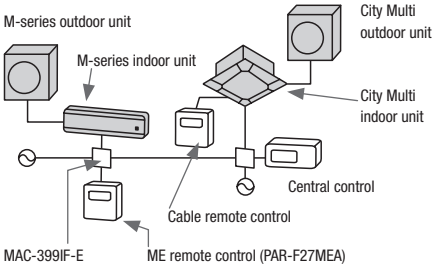
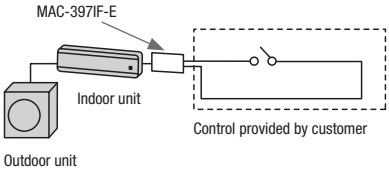
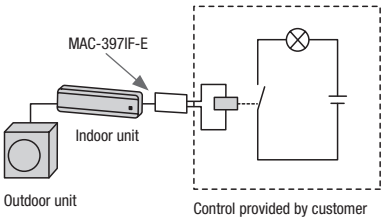
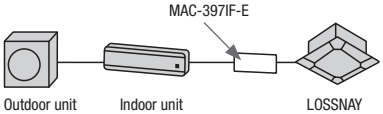
The following functions are supported by the EIB interface:

- Remote ON / OFF
- Mode selection heating/cooling/ventilation
- Defining a setpoint temperature
- Pre-selection of fan levels

Depending on the type of the existing EIB system, it is possible that some functions are not available or only partly available.

Device designation	MAC-399IF-E	MAC-397IF-E	PAR-21MAA	PAR-30MAA	ME-AC/KNX1

Overview of control systems
Inverter

System	System example	Connection	Functions	Required accessories
Cable remote control Operation of the air conditioning unit via cable remote control with integrated weekly timer.		A cable remote control can be connected via an interface.	Mode change Setting of target temperature Setting of fan levels Airflow direction Weekly timer operation	**MAC-397IF-E** Interface **PAR-21MAA** Cable remote control **PAR-30MAA** Deluxe cable remote control
Central remote control M-Net Air conditioning unit can be integrated in M-Net and operated by City Multi control units.		M-Net integration via interface	• Individual on/off switching as well as central switch-off possible. • Mode, fan level, temperature, airflow direction and timer can be individually controlled.	**MAC-399IF-E** M-NET interface **Central control** **City Multi**
ON / OFF remote control via external contact provided by customer (can be combined with operating message).		The interface is connected to the air conditioning unit and the external contact is linked to the interface.	• ON/OFF remote control	**MAC-397IF-E** Interface **Potential-free contact** (to be provided by customer)
Operating/error message Status of air conditioning unit can be displayed (can be combined with On/Off control).		The interface is connected to the indoor unit and provides a 12 V signal which can be externally processed.	• For external display of operation (ON / OFF) or fault of the air conditioning unit (only one of the two functions can be selected).	**MAC-397IF-E** Interface **Parts for displaying the operating status** (to be provided by customer, e.g. relay 12 VDC, signal lamp)
Control of a LOSSNAY ventilation unit		A LOSSNAY unit can be connected to the indoor unit via the interface.	• When switching on the air conditioning unit, the LOSSNAY is started.	**MAC-397IF-E** Interface **Cable connection to LOSSNAY** (to be provided by customer)

For additional information, please refer to the Mitsubishi Electric manuals.

General conditions

Application area

Inverter units

Cooling	Indoor:	21–32 °C	(dry)
		15–23 °C	(wet)
	Outdoor:	-10–46 °C	(dry)
		-15–43 °C	(dry)
		for SUZ-KA50/60/71	
Heating	Indoor:	20–27 °C	(dry)
	Outdoor:	-15–24 °C	(dry)
		-16–18 °C	(wet)

Please take into account the application area at low outside temperatures and adjust the cooling capacity according to the planning documents!

Measuring conditions of the Mitsubishi Electric air conditioning units

Cooling	Indoor:	27 °C	(dry)
		19 °C	(wet)
	Outdoor:	35 °C	(dry)
		24 °C	(wet)
Heating	Indoor:	20 °C	(dry)
	Outdoor:	7 °C	(dry)
		6 °C	(wet)

Refrigerant pipe length one way 5 m, ΔH = 0 m. Sound pressure level measured in the free field, measuring point for outdoor unit at a distance of 1 m and at a height of 1 m in front of the unit. For indoor units, depending on the unit type, refer to technical data.

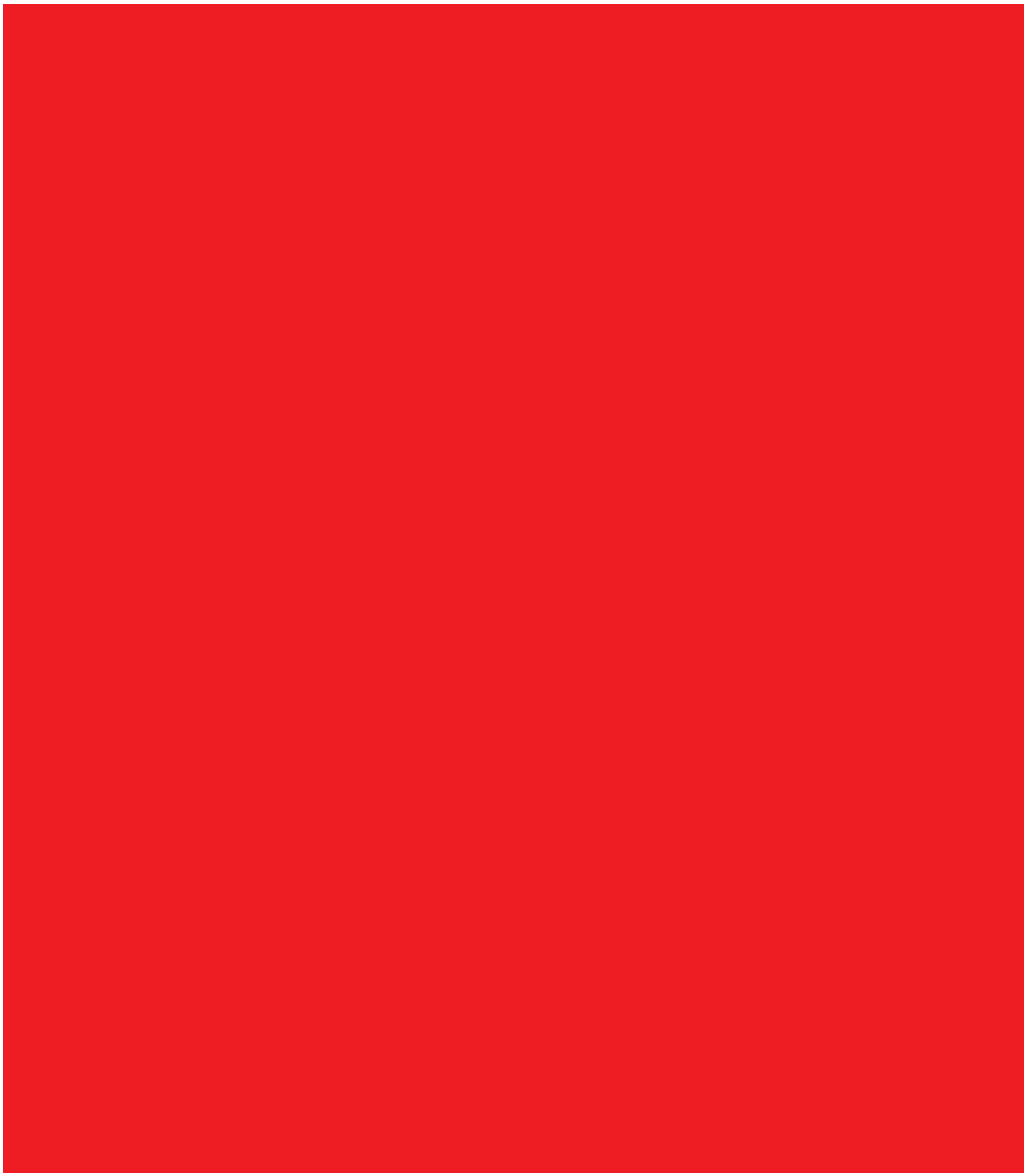
Type code

Split indoor unit

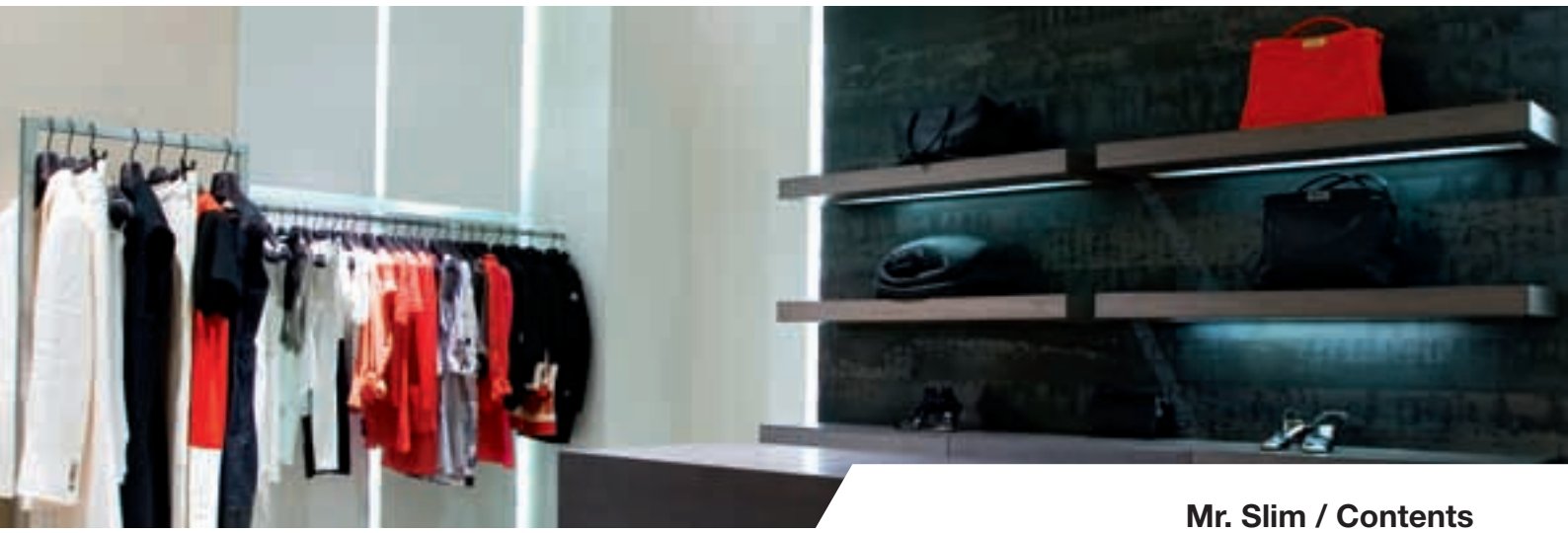
M Series
M = M-series, S = S-series
S Model
S = wall mounted unit, F = floor standing unit
E = ceiling concealed ducted unit, L = ceiling cassette
Z Inverter heat pump
G Design
G = standard, F = deluxe, S = compact, E = premium
E Generation
A = basic model, B, C, D, … follow-up models
25 Cooling capacity = 2.5 kW
V 230 V, 50 Hz
A R410A and new A-control

Multi-split outdoor unit

M Series
X X = multi-split, U = outdoor unit
Z Inverter heat pump
3 Number of max. connectable indoor units
A Generation
A = basic model, B, C, D, … follow-up models
54 Cooling capacity = 5.4 kW
V 230 V, 50 Hz
A R410A and new A-control



MR. SLIM



Mr. Slim / Contents

Advantages and application areas

The series for commercial applications
The air conditioning units of the Mr. Slim series are ideal for medium-sized rooms and can be installed as single split or multi-split parallel combinations. The Mr. Slim series is synonymous with extra energy-efficient and powerful air conditioning units that effortlessly blend into sophisticated surroundings. For instance, Mr. Slim air conditioning systems are used in doctor's practices, computer server rooms, offices, shops and restaurants. For these applications in particular, extra-quiet operation, high operational reliability and low energy consumption are of great importance.

The system variants
- Capacity range from 3.5 kW to 44.0 kW for cooling and heating
- Single split or multi-split parallel arrangement of two, three or four indoor units
- Easy-to-install indoor units in the form of ceiling cassettes or in ceiling suspended, ceiling concealed ducted, wall mounted or floor standing versions.
- Energy-efficient outdoor units with heat pump function optionally as standard inverters, powerful power inverters and heating-optimised Zubadan inverters
- Voltage supply 230 V, 1 phase, 50 Hz or 400 V, 3 phases, 50 Hz
- The Mr. Slim air conditioning units can be combined with the Lossnay heat recovery ventilation units. This way, you are provided with an optimal system combining air conditioning and ventilation.

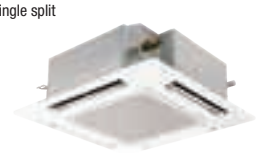
Advantages at a glance

Standard features:
- Long-life high-efficiency filters
- Drain pump fitted as standard on all ceiling cassettes
- The outdoor units are pre-charged with the refrigerant R410A at the factory.

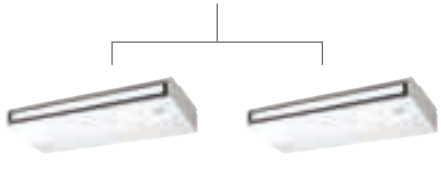
Heating function
Even at low outside temperatures, high coefficients of performance (COP) ensure low energy consumption. In many cases, conventional heating systems can be completely replaced by heat pump systems.

New seal of quality for room air conditioning units
The professional association „Fachverband Gebäude-Klima e.V (FGK)" has awarded all split units with heat pump functions by Mitsubishi Electric the new seal of quality for room air conditioning units. The most important award criteria include:
- Highest energy efficiency – only inverter units may be labelled with the seal of quality
- Guaranteed availability of replacement parts within two working days, replacement parts must be available for at least ten years
- Comprehensive range of training, planning support and complete documentation
- Guaranteed compliance with technical data in catalogues, performance data according to EN 14511

Single split



Parallel-Multi Split



Qualitätssiegel Raumklimageräte
zum Heizen und Kühlen
• Service
• Hygiene
• Energieeffizienz
Gemäß STATUS-REPORT 26
des Fachverbandes Gebäude-Klima e. V.

Extra-quiet operation

- Noise-optimised indoor units starting at 27 decibels – very quiet in operation
- Smooth-running outdoor units make additional sound insulation unnecessary, even in densely built-up residential and commercial areas. The LOW NOISE function reduces noise by 3 dB(A). This amounts to half of the subjectively perceived noise level.

High sensible cooling capacity

- The high sensible cooling capacity of the indoor units ensures effective room cooling without dehumidifying the room excessively.

Special functions

- Automatic switch-over between cooling and heating mode on all heat pumps
- The winter control ensures that even with an outside temperature of -15 °C (if set up in a wind-protected position) cooling still continues. This is important, for example, for IT/ equipment rooms from which heat has to be discharged all year round.

Installation and maintenance made easy

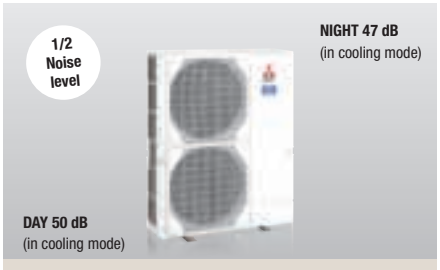
- For the indoor unit up to size P140, no separate supply line is necessary. The voltage supply and data communication from the outdoor to the indoor unit is provided via a four-wire cable.
- A pipe length of up to 120 m can be achieved with the outdoor units PUHZ-RP200/250YKA.

A-CONTROL

The new A-CONTROL enables direct communication between the indoor and outdoor units. Up to 180 service parameters and error messages can be conveniently read off the remote control on the indoor unit (Easy Maintenance function, optional).
Optionally available with a central control (via LonWorks® or central remote control) connected to the building management system.

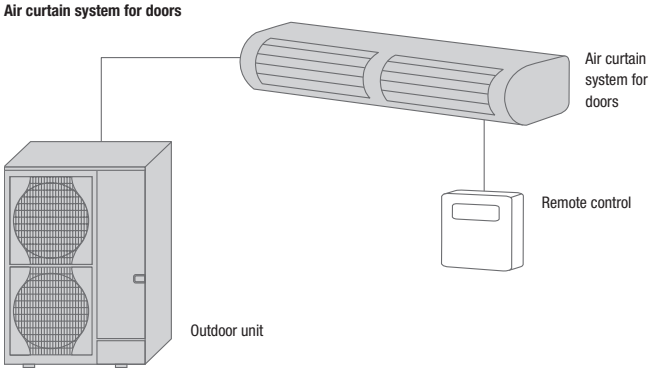
Connection to air curtain systems for doors

The power inverters can also be used for operating air curtain systems for doors. To this end, the external air curtain system communicates with the inverter outdoor units via a new interface from Mitsubishi Electric.



„Low Noise“ function

Air curtain system for doors



Functions: Comfort / Air quality

On/Off timer

The On/Off timer can be used to programme a fixed switch-on time and switch-off time.

Weekly timer

With the weekly timer of the remote controls PAR-21MAA and PAR-30MAA, up to 8 switching points can be set for each day. The unit can be flexibly switched on or off. In addition, a temperature can be preset for every switching point. This way, it is possible to control the unit in accordance with demand.

Automatic fan control

The automatic fan control ensures an optimal air volume according to the required capacity. Shortly after being switched on, when a lot of capacity is required, the unit will automatically switch to a high level. If the temperature approaches the desired value, the air volume is automatically reduced.

Horizontal swing

With the horizontal swing function, a pleasant air distribution in the room is achieved. The air outlet flap moves up and down supplying all areas of the room with conditioned air.

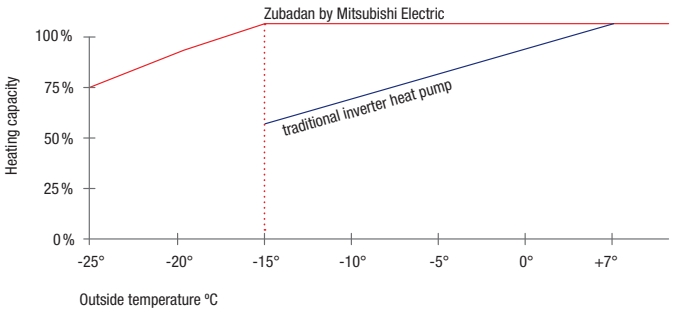
Functions: Technology

Zubadan inverter

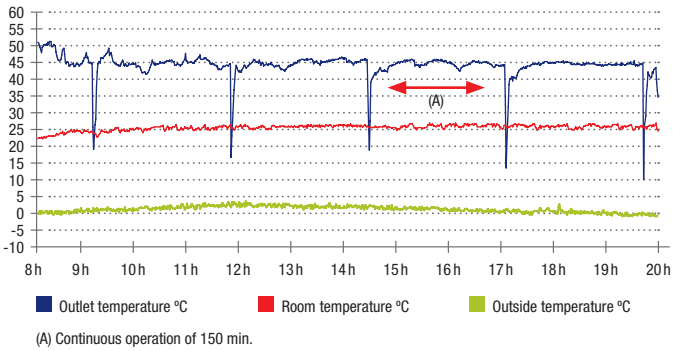
With the patented Zubadan inverter technology, a sufficient heating capacity is also provided at low outside temperatures. The full capacity is made available at up to -15 °C and the application range has been extended to -25 °C. This makes over-dimensioning the units for heating operation no longer necessary.

In addition, the units stand out due to their optimised defrosting characteristics. The intervals between the defrosting phases can be up to 150 minutes long and the defrosting phase itself was reduced by 50 % in comparison to traditional units.

Zubadan capacity



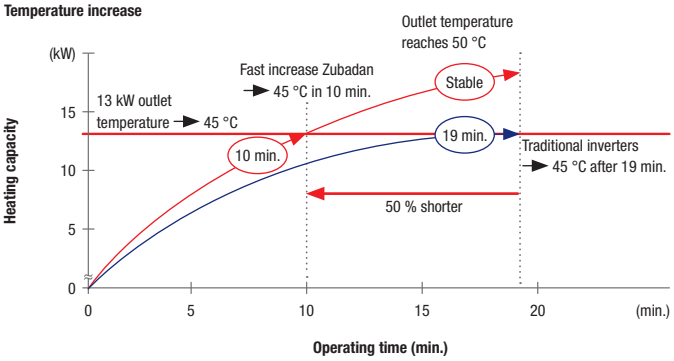
Defrosting characteristics



(A) Continuous operation of 150 min.

The defrosting phase now only takes 3 minutes on average and the time period between the defrosting phases can be up to 150 minutes long.

Temperature increase



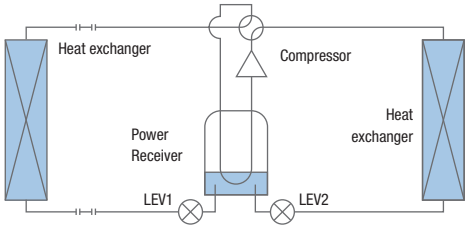
With the Zubadan technology, the heating time is reduced by 50 %. The full heating capacity is already available shortly after switch-on.

Functions: Technology

Power inverter

The outdoor units of the power inverter series offer a particularly energy-efficient operation. Due to a special power receiver for cooling down the refrigerant and two individually controlled expansion valves, the units operate in their optimum range regardless of the operating mode they are in. This is also reflected in the energy efficiency classes of the units. 25 of 31 unit combinations have received the energy efficiency rating „A“.

In addition, low noise levels and long pipeline with lengths of up to 100 m ensure flexible installation possibilities.

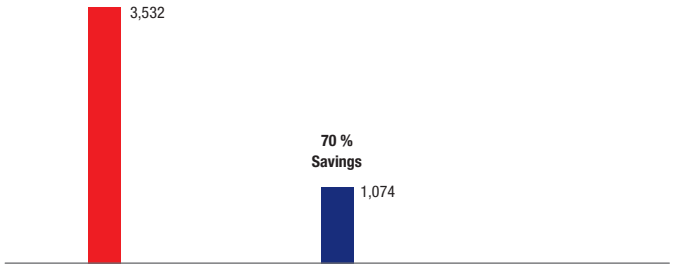


The power receiver and the two expansion valves ensure the highest possible efficiency.

Standard inverter

The outdoor units of the standard inverter series offer an attractive entry into the inverter technology.
Thanks to the capacity control, only the capacity that is actually needed is made available. This provides for considerable energy savings compared to traditional non-inverter systems.

Energy consumption comparison (in kWh)



Information on the ErP directive

As of 1 January 2013, the new EU regulation „Ecodesign Directive 2009/125/EC“ for room air conditioning units with a cooling capacity of up to 12 kW will enter into force in order to support the ecodesign of energy-related products and to reduce the CO_2 emissions by 20 % until 2020 by setting high energy efficiency requirements.
Mitsubishi Electric already meets the high new standards today thanks to its advanced inverter technology. In this edition of our product catalogue, you will still find the EER/COP data whilst the new SEER/SCOP data that are based on four values measured during partial load operation of the room air conditioning units up to 12 kW will be included in the autumn/winter releases. You can tell that our very energy-saving Mr. Slim inverters are already fulfilling the requirements of the new ErP directive by means of the „ErP ready“ symbol.

New seal of quality for split units

Mitsubishi Electric has been awarded the new seal of quality for split air conditioning units by the professional association „Fachverband Gebäude-Klima“ (FGK). The new seal is to provide more transparency when reviewing the standards applicable to air conditioning units in order to support operators in making a decision in favour of high-quality and advanced split systems.

Functions: Replace Technology

2000

Mitsubishi Electric is one of the first companies to convert its product range to R407C or even R410A early on.

2010

On 1 January 2010, a general ban on the use of the refrigerant R22 was introduced by the EU regulation 1005/2009 due to its ozone-depleting effect. Existing cooling or air conditioning systems may only be refilled with recycled R22.

2015

As of 1 January 2015, even the recycled refrigerant R22 may no longer be used.

Three good reasons to replace old R22 split air conditioning systems

1. **The advantages of state-of-the-art air conditioning technology**
   In recent years, air conditioning technology has advanced significantly with regard to energy efficiency, range of uses and convenience: Compared to outdated R22 systems, modern split systems cool and heat more effectively and more quietly while consuming considerably less energy, all thanks to the CFC-free refrigerant R410A.

2. **Major need for refurbishment**
   Around a million split air conditioning systems across Europe need to be replaced sometime in the future. Expired warranties, high operating and maintenance costs, unsatisfactory comfort conditions and decreasing operating reliability all call for prompt refurbishment and investment in new air conditioning systems.

3. **Use of R22 banned under law**
   Since 1 January 2010, it has been illegal to produce or stock virgin R22. Recycled R22 may only be used in refrigerant circuits for servicing and maintenance purposes.

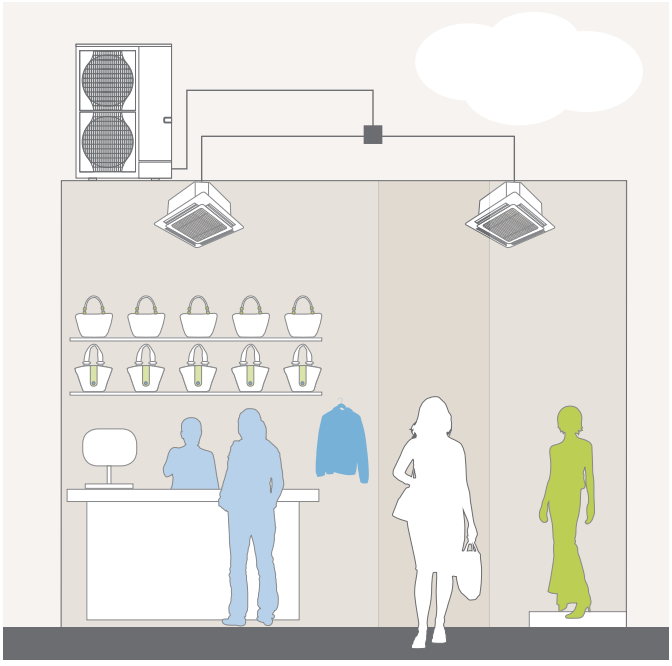
Functions: Replace Technology

Example for air conditioning in shops

		Old R22 unit	New R410A unit		
Cooling capacity	kW	50	50		
Power consumption	kW	22.73	13.89		
COP		2.2	3.6		
Operating hours	h	2.000	2.000	Savings	Savings (%)
Annual energy consumption	kWh	45,454.55	27,777.78	1,7676.77 kWh	39 %
Energy costs/year	EUR	8,181.82	5,000.00	3,181.82 EUR	39 %
CO_2 emissions	kg/a	24,590.91	15,027.78	9,563.13 kg	39 %

Example for server air conditioning

		Old R22 unit	New R410A unit		
Cooling capacity	kW	12.5	12.5		
Power consumption	kW	5.68	3.66		
COP		2.2	3.41		
Operating hours	h	8.000	8.000	Savings	Savings (%)
Annual energy consumption	kWh	45,440.00	29,280.00	16,160 kWh	35 %
Energy costs/year	EUR	8,179.00	5,270.00	2,909 EUR	35 %
CO_2 emissions	kg/a	28,172.00	18,153.00	10,019 kg	35 %



Example in a shop
A special scroll compressor enables the existing pipeline network to be re-used in split systems up to 100 metres long.

Replace Technology with scroll compressors

Mitsubishi Electric has developed a new scroll compressor for larger air conditioning systems with pipeline lengths of up to 100 metres, a type of system mostly used in commercial applications. The compressor‘s special coating makes it possible to re-use old R22 pipelines. Degradation may occur during a compressor process which uses high hot gas temperatures as a result of impurities due to mineral oil residues. The new compressor coating ensures there is less friction heat. This prevents old mineral oil from decomposing and producing aggressive substances. All standard inverters, power inverters and Zubadan units are fitted with this new technology as standard.

Functions: Installation / Maintenance

Fresh air connection

Fresh outside air can be lead into the room via the connection that is fitted as standard. The air volume can be up to 10 % of the nominal air volume of the respective unit. A booster fan is required for supplying the outside air.

Winter control down to -15 °C

Due to the integrated winter control, cooling operation down to -15 °C is possible. The speed of the outdoor unit fan is automatically reduced in order to keep the condensation pressure stable. If the outdoor unit is exposed to strong wind, a wind protecting panel is required that is available as accessory.

Winter control down to -10 °C

Due to the integrated winter control, cooling operation down to -10 °C is possible. The speed of the outdoor unit fan is automatically reduced in order to keep the condensation pressure stable. If the outdoor unit is exposed to strong wind, a wind protecting panel is required that is available as accessory.

Refrigerant volume check function

With the automatic refrigerant volume check function, the system can easily be checked for leaks. This function can be activated via the cable remote control.

Note: Only possible with cable remote control PAR-21MAA and PAR-30MAA

Restart after power failure

When the voltage is switched back on, the units will automatically start using the last selected settings. This ensures a high operational reliability.

Pre-charged with R410A

In order to ensure an easy installation, the outdoor units have already been charged with refrigerant for a pipe length of up to 30 m (depending on the unit).

Functions: Installation / Maintenance

Redundancy function

Especially in computer and equipment rooms, two systems are often operated in redundant arrangement.

With the redundancy function, you can now share operating time between the two systems and facilitate automatic back-up. No accessory parts are needed for this function, just the remote control PAR-21MAA or PAR-30MAA.

The following functions can be activated:

Alternation: The systems automatically change operation in defined intervals of 1 to 28 days. This way, both systems achieve the same operating times.

Backup: Should a system have a failure, the second system starts up automatically.

Join In: If the set target temperature is exceeded by a certain settable value, the second system automatically starts up. When the target temperature is reached, the second system stops running again. The Join In function is only available for cooling mode.

Note: These functions are only available for P-series outdoor units up to a size of 140 and not for multi-split applications.

Heat pump operation

With the heat pump function, the rooms can be heated in an energy-saving manner. High levels of efficiency even at low temperatures provide for a low energy consumption. In many cases, conventional heating systems can be replaced with heat pumps.

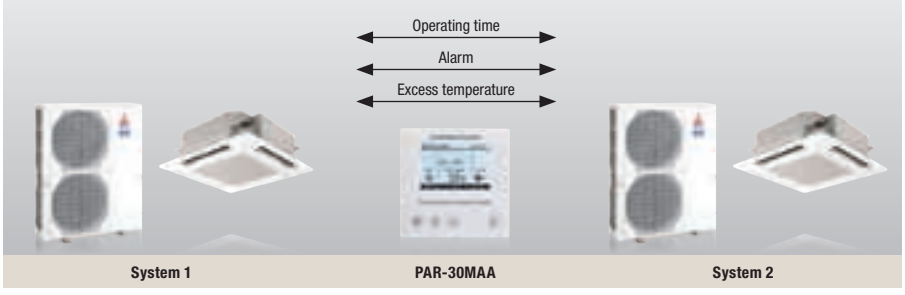
Drain pump

Units provided with this symbol have already been fitted with an integrated drain pump as standard for an easy condensate drainage. The delivery height is depending on the indoor unit type.

Multi split

Depending on the unit size, up to 4 indoor units can be connected to one outdoor unit. This also enables optimal air conditioning of large rooms or shops.
Please note the approved combinations. Only one climate zone can be supplied.

The redundancy function



Application in computer and equipment rooms

The units of the Mr. Slim series are ideal for air conditioning computer and equipment rooms.

High sensible cooling capacity
Due to extensive heat exchangers and large air volumes, the units achieve high sensible cooling capacities. This way, reliable air conditioning is ensured even at a low levels of humidity in the room.

In order to achieve particularly high sensible cooling capacities, the following combinations of power inverter outdoor units and ceiling suspended units are available:

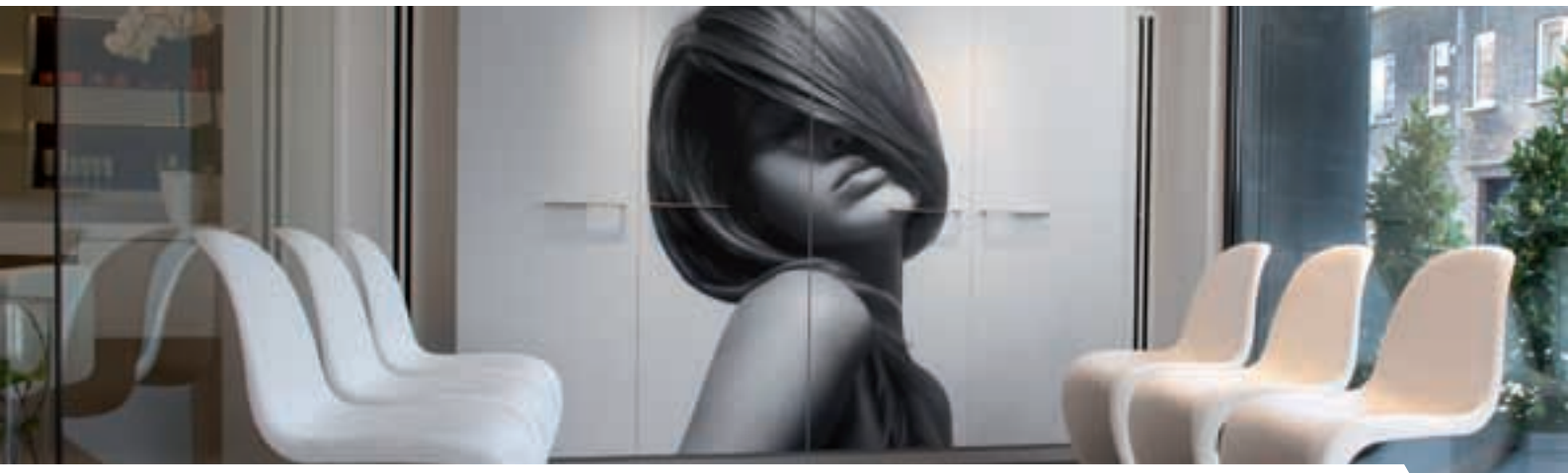
Rated cooling capacity	**7.1 kW**	**10.0 kW**	**12.5 kW**
Indoor unit	PCA-RP100KA	PCA-RP140KA	PCA-RP140KA
Outdoor unit	PUHZ-RP71VHA	PUHZ-RP100YKA	PUHZ-RP125YKA
Sensible capacity	95 %	86 %	79 %
Effective sensible cooling capacity	**6.7 kW**	**8.6 kW**	**9.9 kW**

Measuring conditions: Outside temperature 35 °C, room temperature 22 °C, relative humidity 45 %

Redundancy function
The redundancy function ensures a safe air conditioning even in the event of a system failure.

Control and monitoring
The operating status of the systems can be monitored at any time via external inputs and outputs. For more details on the control options, please refer to page 87.

INVERTER



Overview / Indoor units

● Inverter cooling and heating

■ Page reference

Capacity code	35	50	60	71	100	125	140	200	250	400	500
Cooling capacity (kW)	3.5	5.0	6.0	7.1	10.0	12.5	14.0	19.0	22.0	38.0	44.0
Heating capacity (kW)	4.0	4.5	7.0	8.0	11.0	14.0	16.0	22.4	27.0	44.8	54.0

4-way ceiling cassette
PLA-RP BA

64-66

Ceiling suspended unit
PCA-RP KAQ

67-68

Stainless steel ceiling suspended unit
PCA-RP HAQ

69-70

Wall mounted unit
PKA-RP HAL

71-73

Wall mounted unit PKA-RP KAL

71-73

Floor mounted unit
PSA-RP GA

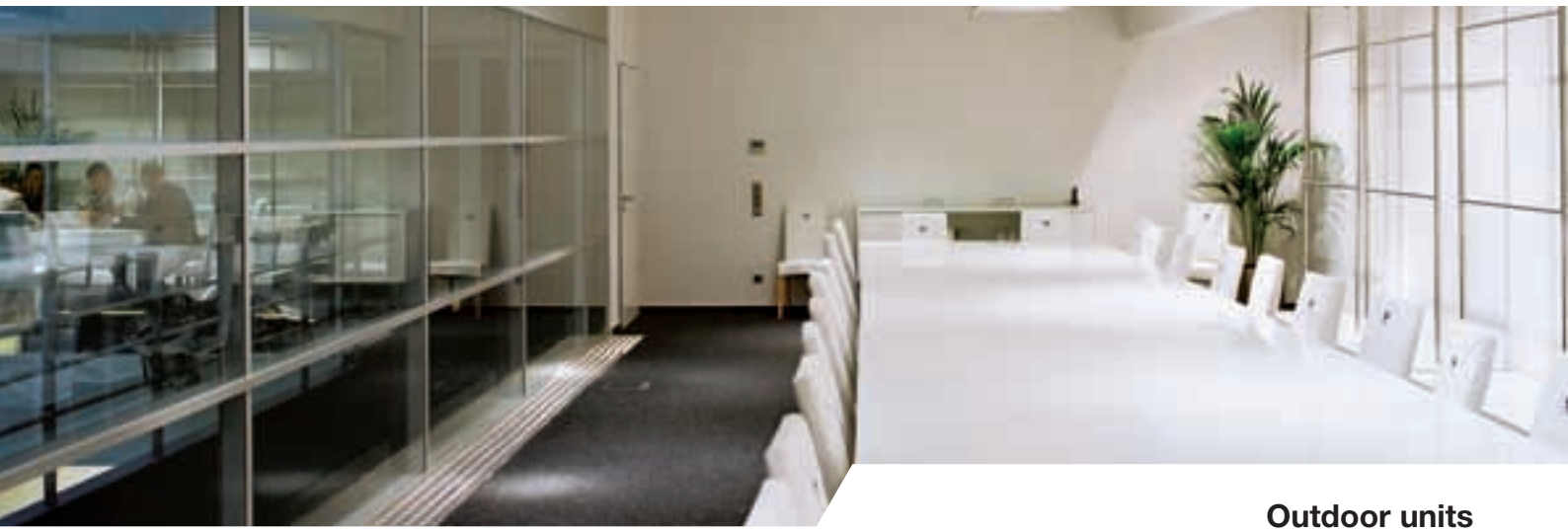
74-75

Ceiling concealed ducted unit
PEAD-RP JAQ

76-78

Ceiling concealed ducted unit,
high pressure PEA-RP GAQ

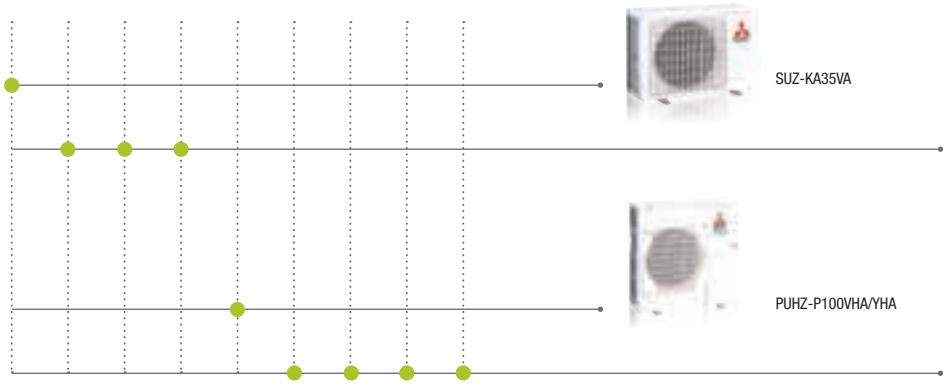
79-80



Outdoor units

35	50	60	71	100	125	140	200	250	
3.5	5.0	6.0	7.1	10.0	12.5	14.0	19.0	22.0	Cooling capacity (kW)
4.0	4.5	7.0	8.0	11.0	14.0	16.0	22.4	27.0	Heating capacity (kW)

Standard inverter SUZ-KA, PUHZ-P



SUZ-KA35VA

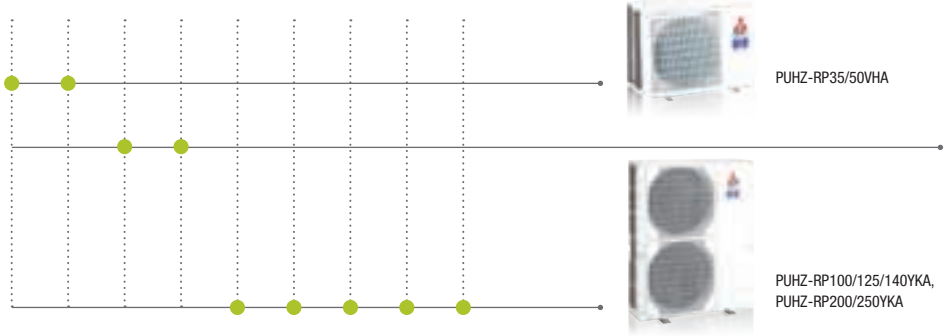
SUZ-KA50/60/71VA

PUHZ-P100VHA/YHA

STANDARD INVERTER

PUHZ-P125/140VHA/YHA
PUHZ-P200/250YHA

Power inverter PUHZ-RP



PUHZ-RP35/50VHA

POWER INVERTER

PUHZ-RP60/71VHA

PUHZ-RP100/125/140YKA,
PUHZ-RP200/250YKA

Zubadan inverter PUHZ-HRP

VHA: 230 V, 1 phase, 50 Hz / YHA: 400 V, 3 phases, 50 Hz

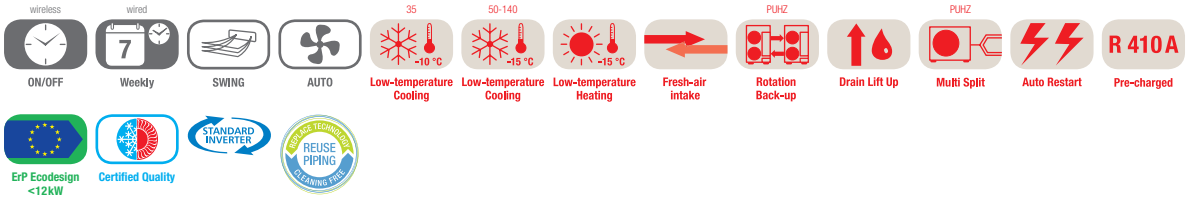
ZUBADAN

PUHZ-HRP71/100VHA,
PUHZ-HRP100/125YHA

PLA-RP | SUZ-KA35VA | SUZ-KA50/60/71VA | PUHZ-P100VHA/YHA | PUHZ-P125/140VHA/YHA

4-way ceiling cassettes

Single split / standard inverter / Cooling and heating



PLA-RP 4-way ceiling cassettes, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PLA-RP35BA	PLA-RP50BA	PLA-RP60BA	PLA-RP71BA	PLA-RP100BA	PLA-RP125BA	PLA-RP140BA
Cooling capacity (kW)		3,6 (1,0-3,9)	5,5 (1,1-5,6)	6,1 (1,1-6,3)	7,1 (0,9-8,1)	9,4 (4,9-11,2)	12,3 (5,5-14,0)	13,6 (5,5-15,0)
Heating capacity (kW)		4,1 (0,9-5,0)	5,9 (1,1-7,2)	6,9 (0,9-8,0)	8,0 (0,9-10,2)	11,2 (4,5-12,5)	14,0 (5,0-16,0)	16,0 (5,0-18,0)
EER	Cooling	3,30	3,22	3,26	3,49	3,01	3,01	2,61
COP	Heating	3,94	3,66	3,50	3,69	3,48	3,48	3,21
Energy efficiency class Cooling/Heating		A / A	A / A	A / B	A / A	B / B	B / B	D / C
Airflow (m³/h)	Low	660	720	720	840	1200	1320	1440
	Medium 1	720	840	840	960	1380	1500	1560
	Medium 2	780	960	960	1080	1560	1680	1740
	High	900	1080	1080	1260	1800	1860	1920
Sound pressure level dB(A)	Low	27	28	28	28	32	34	36
	High	31	32	32	34	40	41	44
Weight (incl. grille) (kg)		22 (28)	22 (28)	23 (29)	23 (29)	25 (31)	25 (31)	27 (33)
Dimensions (grille) (mm)*	Width	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)
	Depth	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)
	Height	258 (35)	258 (35)	258 (35)	258 (35)	298 (35)	298 (35)	298 (35)
Voltage supply (V, phase, Hz)		220-240, 1, 50	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50
Operating current (A)		0,22	0,36	0,36	0,51	1,0	1,0	1,07

* Visible height of grille

** Grille PLP-6BA, remote control not included in scope of delivery

Sound pressure level of the indoor unit measured centrically at a distance of 1.5 m below the unit

Standard inverter, cooling / heating

Designation of outdoor units 230V		SUZ-KA35VA	SUZ-KA50VA	SUZ-KA60VA	SUZ-KA71VA	PUHZ-P100VHA	PUHZ-P125VHA	PUHZ-P140VHA
Designation of outdoor units 400V		–	–	–	–	PUHZ-P100YHA	PUHZ-P125YHA	PUHZ-P140YHA
Power consumption incl. Indoor unit (kW)	Cooling	1,09	1,71	1,87	2,04	3,12	4,09	5,21
	Heating	1,11	1,82	2,11	2,17	3,28	4,11	4,98
Airflow (m³/h)		2004	2940	2940	3006	3600	6000	6000
Sound pressure level Cooling/Heating dB(A)		47 / 48	53 / 55	53 / 55	55 / 55	50 / 54	51 / 55	52 / 56
Dimensions (mm)	Width	800	840	840	840	950	950	950
	Depth	285	330	330	330	330	330	330
	Height	550	850	850	880	943	1350	1350
Weight (kg)		37	53	53	53	75	99	123
Total pipe length (m)		20	30	30	30	50	50	50
Max. height difference (m)		12	30	30	30	30	30	30
Refrigerant quantity (kg)*		1,05	1,6	1,8	2,0	3,0	4,5	4,5
Refrigerant pipe size Ø (mm)	fl.	6	6	6	10	10	10	10
	s.	10	12	16	16	16	16	16
Voltage supply 230 V (V, Phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Spannungsversorgung 400V (V, Phase, Hz)		–	–	–	–	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current 230V Cooling/Heating (A)		4,77 / 4,97	7,0 / 6,6	8,71 / 10,11	10,81 / 10,41	12,26 / 12,62	17,37 / 16,74	22,48 / 21,31
Operating current 400V Cooling/Heating (A)		–	–	–	–	4,78 / 5,05	6,18 / 6,09	7,92 / 7,58
recomm. Fuse size 230V (A)		10	20	20	20	32	32	40
recomm. Fuse size 400V (A)		–	–	–	–	16	16	16

* Refrigerant pre-charging carried out ex works (one way) SUZ: 7 m, PUHZ-P100: 20 m, PUHZ-P125/140: 30 m pipe length

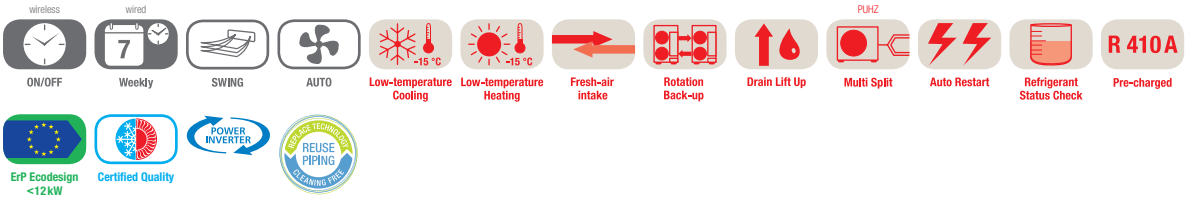
Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control
PLP-6BALM	Grille inklusive Infrared remote control

PUHZ-RP35/50VHA | PUHZ-RP60/71VHA | PUHZ-RP100-140VKA/YKA | PAR-30MAA | PLA-RP

4-way ceiling cassettes

Single split / power inverter / Cooling and heating



PLA-RP 4-way ceiling cassettes, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PLA-RP35BA	PLA-RP50BA	PLA-RP60BA	PLA-RP71BA	PLA-RP100BA	PLA-RP125BA	PLA-RP140BA
Cooling capacity (kW)		3,6 (1,6–4,5)	5,0 (2,3–5,6)	6,0 (2,7–6,7)	7,1 (3,3–8,1)	10,0 (4,9–11,4)	12,5 (5,5–14,0)	14,0 (5,5–15,3)
Heating capacity (kW)		4,1 (1,6–5,2)	6,0 (2,5–7,3)	7,0 (2,8–8,2)	8,0 (3,5–10,2)	11,2 (4,5–14,0)	14,0 (5,0–16,0)	16,0 (5,0–18,0)
EER	Cooling	3,36	3,23	3,75	3,74	4,18	3,41	3,21
COP	Heating	3,66	3,61	3,85	4,21	4,61	4,0	3,7
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A	A / A	A / A	A / A
Airflow (m^3/h)	Low	660	720	720	840	1200	1320	1440
	Medium 1	720	840	840	960	1380	1500	1560
	Medium 2	780	960	960	1080	1560	1680	1740
	High	900	1080	1080	1260	1800	1860	1920
Sound pressure level dB(A)	Low	27	28	28	28	32	34	36
	High	31	32	32	34	40	41	44
Weight (incl. grille) (kg)		22 (28)	22 (28)	23 (29)	23 (29)	25 (31)	25 (31)	27 (33)
Dimensions (grille) (mm)*	Width	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)
	Depth	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)
	Height	258 (35)	258 (35)	258 (35)	258 (35)	298 (35)	298 (35)	298 (35)
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,22	0,36	0,36	0,51	1,0	1,0	1,07

* Visible height of grille

** Grille PLP-6BA, remote control not included in scope of delivery

Sound pressure level of the indoor unit measured centrically at a distance of 1.5 m below the unit

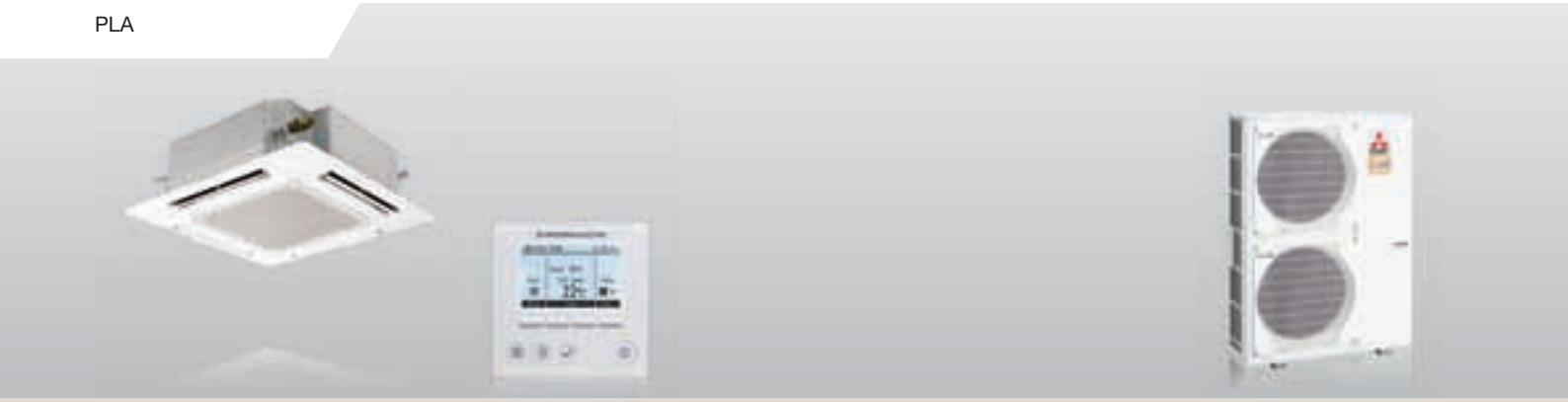
Power inverter, cooling / heating

Designation of outdoor units		PUHZ-RP35VHA	PUHZ-RP50VHA	PUHZ-RP60VHA	PUHZ-RP71VHA	PUHZ-RP100YKA	PUHZ-RP125YKA	PUHZ-RP140YKA
Power consumption incl. Indoor unit (kW)	Cooling	1,07	1,55	1,6	1,90	2,39	3,67	4,36
	Heating	1,12	1,66	1,82	1,90	2,43	3,5	4,32
Airflow (m^3/h)		2100	2100	3300	3600	6600	7200	7200
Sound pressure level Cooling/Heating dB(A)		44 / 46	44 / 46	47 / 48	47 / 48	49 / 51	50 / 52	50 / 52
Dimensions (mm)	Width	800	800	950	950	1050	1050	1050
	Depth	300	300	330	330	330	330	330
	Height	600	600	943	943	1338	1338	1338
Weight (kg)		42	42	67	67	124	126	132
Total pipe length (m)		50	50	50	50	75	75	75
Max. height difference (m)		30	30	30	30	30	30	30
Refrigerant quantity (kg)*		2,2	2,5	3,5	3,5	5,0	5,0	5,0
Refrigerant pipe size Ø (mm)	fl.	6	6	10	10	10	10	10
	s.	12	12	16	16	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current Cooling/Heating (A)		4,0 / 4,23	6,2 / 6,47	8,71 / 10,11	8,0 / 9,74	3,8 / 4,33	4,9 / 5,41	6,5 / 6,37
recomm. Fuse size (A)		16	16	25	25	16	16	16

* pre-charged for 30 m pipe length (one way) ex works

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control
PLP-6BALM	Grille inklusive Infrared remote control



PLA-RP | PAR-30MAA | PUHZ-HRP71-125VHA/YHA

4-way ceiling cassettes

Single split / Zubadan inverter / Cooling and heating

ON/OFF | Weekly | SWING | AUTO | Low-temperature Cooling | Low-temperature Heating | Fresh-air intake | Rotation Back-up | Drain Lift Up | Multi Split | Auto Restart | Refrigerant Status Check | Pre-charged

ErP Ecodesign <12kW | Certified Quality

PLA-RP 4-way ceiling cassettes, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PLA-RP71BA	PLA-RP100BA	PLA-RP100BA	PLA-RP125BA
Cooling capacity (kW)		7,1 (4,9–8,1)	10,0 (4,9–11,4)	10,0 (4,9–11,4)	12,5 (5,5–14,0)
Heating capacity (kW)		8,0 (4,5–10,2)	11,2 (14,0–4,5)	11,2 (4,5–11,2)	14,0 (5,0–16,0)
Heating capacity up to -15 °C (kW)		8,0	11,2	11,2	14,0
EER	Cooling	3,66	4,1	4,00	3,30
COP	Heating	4,21	4,41	4,31	3,92
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A
Airflow (m³/h)	Low	840	1200	1200	1320
	Medium 1	960	1380	1380	1500
	Medium 2	1080	1560	1560	1680
	High	1260	1800	1800	1860
Sound pressure level dB(A)	Low	28	32	32	34
	High	34	40	40	41
Weight (incl. grille) (kg)		23 (29)	25 (31)	25 (31)	25 (31)
Dimensions (grille) (mm)*	Width	840 (950)	840 (950)	840 (950)	840 (950)
	Depth	840 (950)	840 (950)	840 (950)	840 (950)
	Height	258 (35)	298 (35)	298 (35)	298 (35)
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,51	1,0	1,0	1,0

* Visible height of grille

** Grille PLP-6BA, remote control not included in scope of delivery

Sound pressure level of the indoor unit measured at a distance of 1.5 m below the unit

Zubadan inverter, cooling / heating

Designation of outdoor units		PUHZ-HRP71VHA	PUHZ-HRP100VHA	PUHZ-HRP100YHA	PUHZ-HRP125YHA
Power consumption incl. Indoor	Cooling	1,94	2,44	2,5	3,79
unit (kW)	Heating	1,9	2,54	2,6	3,57
Airflow (m³/h)		6000	6000	6000	6000
Sound pressure level Cooling/Heating dB(A)		51 / 52	51 / 52	51 / 52	51 / 52
Dimensions (mm)	Width	950	950	950	950
	Depth	330	330	330	330
	Height	1350	1350	1350	1350
Weight (kg)		120	135	135	135
Total pipe length (m)		75	75	75	75
Max. height difference (m)		30	30	30	30
Refrigerant quantity (kg)*		5,5	5,5	5,5	5,5
Refrigerant pipe size Ø (mm)	fl.	10	10	10	10
	s.	16	16	16	16
Voltage supply (V, phase, Hz)		230, 1, 50	230, 1, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)	Cooling	8,09	11,1	3,69	4,92
	Heating	8,94	11,28	3,74	4,91
recomm. Fuse size (A)		32	40	16	16

* pre-charged for 30 m pipe length (one way) ex works

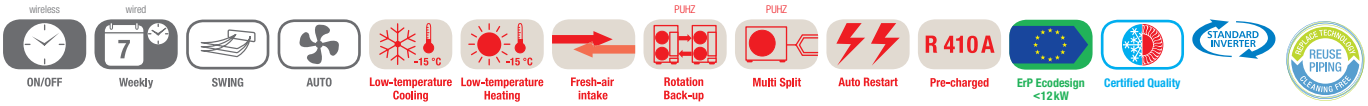
Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control
PLP-6BALM	Grille inklusive Infrared remote control

SUZ-KA50-71VA | PUHZ-P100VHA/YHA | PUHZ-P125/140VHA/YHA | PAR-30MAA | PCA-RP

Ceiling suspended units

Single split / standard inverter / Cooling and heating



PCA-RP ceiling suspended units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PCA-RP50KAQ	PCA-RP60KAQ	PCA-RP71KAQ	PCA-RP100KAQ	PCA-RP125KAQ	PCA-RP140KAQ
Cooling capacity (kW)		5,0 (1,1–5,6)	5,7 (1,1–6,3)	7,1 (0,9–8,1)	9,4 (4,9–11,2)	12,3 (5,5–14,0)	13,6 (5,5–15,0)
Heating capacity (kW)		5,5 (0,9–6,6)	6,9 (0,9–8,0)	7,9 (0,9–10,2)	11,2 (4,5–12,5)	14,0 (5,0–16,0)	16,0 (5,0–18,0)
EER	Cooling	3,01	3,22	3,45	3,00	3,01	2,81
COP	Heating	3,22	3,42	4,03	3,41	3,40	3,41
Energy efficiency class Cooling/Heating		B / C	A / B	A / A	C / B	B / C	C / B
Airflow (m³/h)	Low	600	900	960	1320	1380	1440
	Medium 1	780	960	1080	1440	1500	1560
	Medium 2	660	1020	1020	1560	1620	1740
	High	900	1140	1200	1680	1740	1920
Sound pressure level dB(A)	Low	32	33	35	37	39	41
	High	40	40	41	43	45	48
Dimensions (mm)	Width	960	1280	1280	1600	1600	1600
	Depth	680	680	680	680	680	680
	Height	230	230	230	230	230	230
Weight (kg)		25	32	32	36	38	39
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,37	0,39	0,42	0,65	0,76	0,9

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

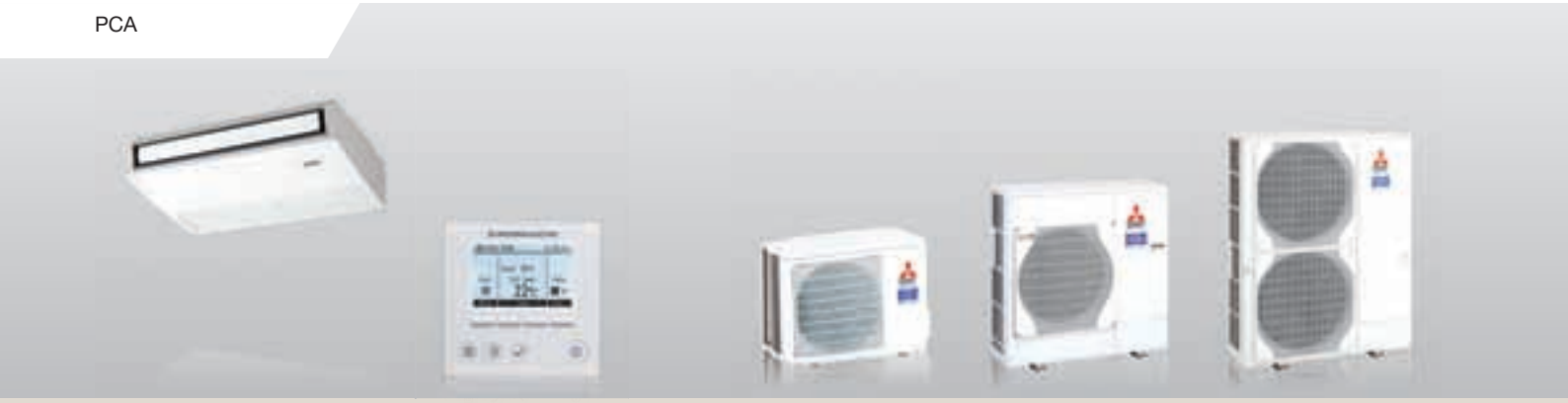
Standard inverter, cooling / heating

Designation of outdoor units 230V		SUZ-KA50VA	SUZ-KA60VA	SUZ-KA71VA	PUHZ-P100VHA	PUHZ-P125VHA	PUHZ-P140VHA
Designation of outdoor units 400V		–	–	–	PUHZ-P100YHA	PUHZ-P125YHA	PUHZ-P140YHA
Power consumption incl. Indoor unit (kW)	Cooling	1,66	1,77	2,06	3,13	4,09	4,84
	Heating	1,71	2,02	1,96	3,28	4,12	4,69
Airflow (m³/h)		2940	2940	3006	3600	6000	6000
Sound pressure level Cooling/Heating dB(A)		53 / 55	53 / 55	55 / 55	50 / 54	51 / 55	52 / 56
Dimensions (mm)	Width	840	840	840	950	950	950
	Depth	330	330	330	330	330	330
	Height	850	850	880	943	1350	1350
Weight (kg)		53	53	53	75	99	123
Total pipe length (m)		30	30	30	50	50	50
Max. height difference (m)		30	30	30	30	30	30
Refrigerant quantity (kg)*		1,6	1,8	2,0	3,0	4,5	4,5
Refrigerant pipe size Ø (mm)	fl.	6	6	10	10	10	10
	s.	12	16	16	16	16	16
Voltage supply 230 V (V, Phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Spannungsversorgung 400V (V, Phase, Hz)		–	–	–	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current 230V Cooling/Heating (A)		7,0 / 6,6	8,71 / 10,11	10,81 / 10,41	12,26 / 12,62	17,37 / 16,74	22,48 / 21,31
Operating current 400V Cooling/Heating (A)		–	–	–	4,78 / 5,05	6,18 / 6,09	7,92 / 7,58
recomm. Fuse size 230V (A)		20	20	20	32	32	40
recomm. Fuse size 400V (A)		–	–	–	16	16	16

* Refrigerant pre-charging carried out ex works (one way) SUZ: 7 m, PUHZ-P100: 20 m, PUHZ-P125/140: 30 m pipe length

Remote controls

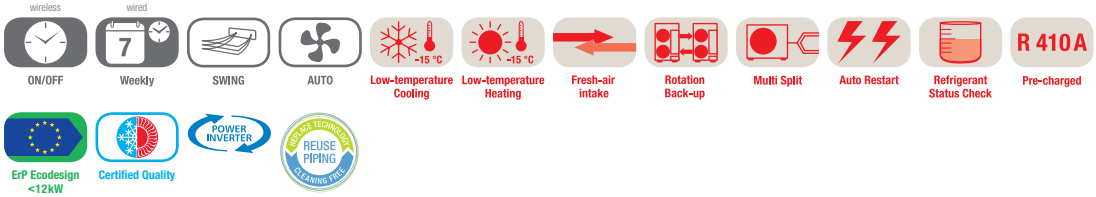
Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control
PAR-SL94B-E	Infrared remote control



PCA-RP | PAR-30MAA | PUHZ-RP50VHA | PUHZ-RP60/71VHA | PUHZ-RP100-140YKA

Ceiling suspended units

Single split / power inverter / Cooling and heating



PCA-RP ceiling suspended units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PCA-RP50KAQ	PCA-RP60KAQ	PCA-RP71KAQ	PCA-RP100KAQ	PCA-RP125KAQ	PCA-RP140KAQ
Cooling capacity (kW)		5,0 (2,3–5,6)	6,0 (2,7–6,7)	7,1 (3,3–8,1)	10,0 (4,9–11,4)	12,5 (5,5–14,0)	14,0 (6,2–15,3)
Heating capacity (kW)		5,5 (2,5–6,6)	7,0 (2,8–8,2)	8,0 (3,5–10,2)	11,2 (4,5–14,0)	14,0 (5,0–16,0)	16,0 (5,7–18,0)
EER	Cooling	3,21	4,00	3,62	3,80	3,22	3,21
COP	Heating	3,62	3,61	3,50	3,71	3,61	3,61
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A	A / A	A / A
Airflow (m³/h)	Low	600	900	960	1320	1380	1440
	Medium 1	780	960	1080	1440	1500	1560
	Medium 2	660	1020	1020	1560	1620	1740
	High	900	1140	1200	1680	1740	1920
Sound pressure level dB(A)	Low	32	33	35	37	39	41
	High	40	40	41	43	45	48
Dimensions (mm)	Width	960	1280	1280	1600	1600	1600
	Depth	680	680	680	680	680	680
	Height	230	230	230	230	230	230
Weight (kg)		25	32	32	36	38	39
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,37	0,39	0,42	0,65	0,76	0,9

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

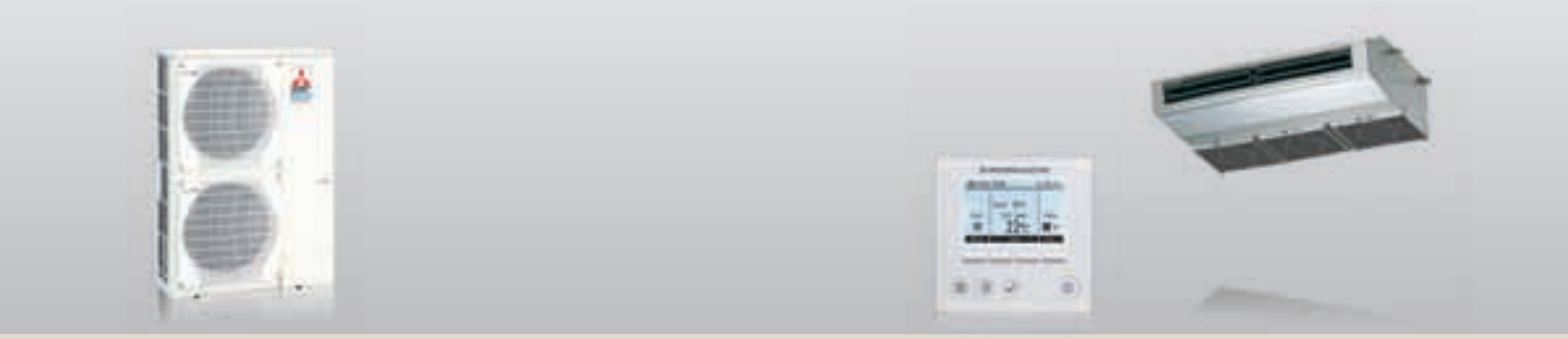
Power inverter, cooling / heating

Designation of outdoor units		PUHZ-RP50VHA	PUHZ-RP60VHA	PUHZ-RP71VHA	PUHZ-RP100YKA	PUHZ-RP125YKA	PUHZ-RP140YKA
Power consumption incl. Indoor unit (kW)	Cooling	1,67	1,63	2,14	2,63	3,88	4,36
	Heating	1,71	2,03	2,23	3,02	3,88	4,43
Airflow (m³/h)		2100	3300	3600	6600	7200	7200
Sound pressure level Cooling/Heating dB(A)		44 / 46	47 / 48	47 / 48	49 / 51	50 / 52	50 / 52
Dimensions (mm)	Width	800	950	950	1050	1050	1050
	Depth	300	330	330	330	330	330
	Height	600	943	943	1338	1338	1338
Weight (kg)		42	67	67	124	126	132
Total pipe length (m)		50	50	50	75	75	75
Max. height difference (m)		30	30	30	30	30	30
Refrigerant quantity (kg)*		2,5	3,5	3,5	5,0	5,0	5,0
Refrigerant pipe size Ø (mm)	fl.	6	10	10	10	10	10
	s.	12	16	16	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current Cooling/Heating (A)		6,2 / 6,47	8,71 / 10,11	8,0 / 9,74	3,8 / 4,33	4,9 / 5,41	6,5 / 6,37
recomm. Fuse size (A)		16	25	25	16	16	16

* pre-charged for 30 m pipe length (one way) ex works

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control
PAR-SL94B-E	Infrared remote control



PUHZ-P125VHA/YHA | PAR-30MAA | PCA-RP

Stainless steel ceiling suspended unit

Single split / standard inverter / Cooling and heating

Weekly | Low-temperature Cooling | Low-temperature Heating | Fresh-air intake | Rotation Back-up | Multi Split | Auto Restart | R 410A Pre-charged | Certified Quality | Standard Inverter | Reuse Piping

PCA-RP stainless steel ceiling suspended unit, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PCA-RP125HAQ
Cooling capacity (kW)		12,3 (5,5 – 14,0)
Heating capacity (kW)		13,8 (5,0 – 16,0)
EER	Cooling	2,81
COP	Heating	3,21
Energy efficiency class Cooling/Heating		C / C
Airflow (m³/h)	Low	1800
	High	2280
Sound pressure level dB(A)	Low	44
	High	50
Dimensions (mm)	Width	1520
	Depth	650
	Height	280
Weight (kg)		56
Voltage supply (V, phase, Hz)		220 – 240, 1, 50
Operating current (A)		1,01

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

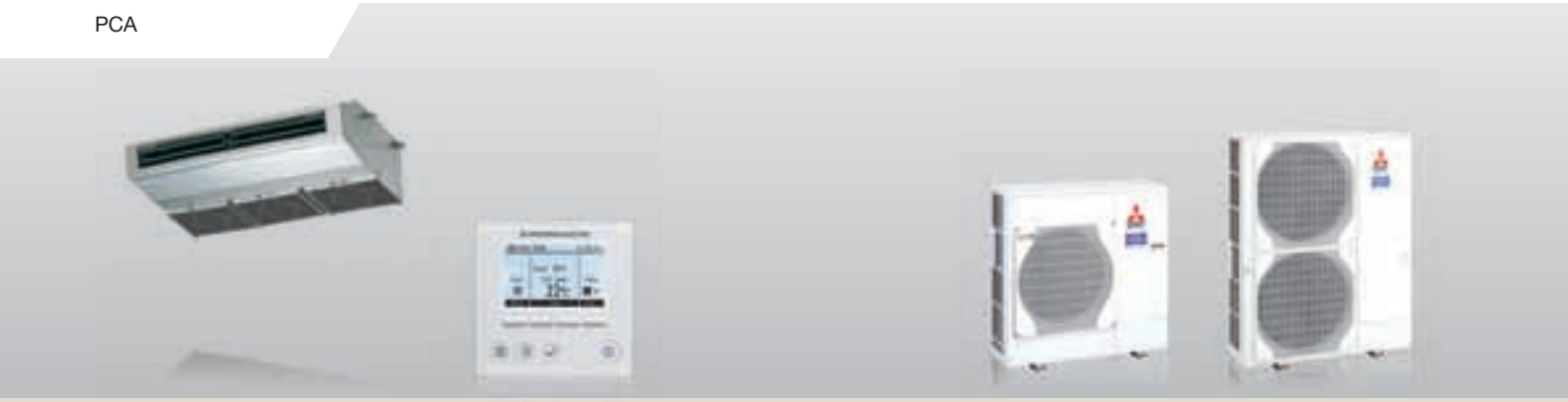
Standard inverter, cooling / heating

Designation Außengerät 230V		PUHZ-P125VHA
Designation Außengerät 400V		PUHZ-P125YHA
Power consumption incl. Indoor unit (kW)	Cooling	4,38
	Heating	4,30
Airflow (m³/h)		6000
Sound pressure level Cooling/Heating dB(A)		51 / 55
Dimensions (mm)	Width	950
	Depth	330
	Height	1350
Weight (kg)		99
Total pipe length (m)		50
Max. height difference (m)		30
Refrigerant quantity (kg)*		4,5
Refrigerant pipe size Ø (mm)	fl.	10
	s.	16
Voltage supply 230 V (V, Phase, Hz)		220 – 240, 1, 50
Spannungsversorgung 400V (V, Phase, Hz)		380 – 415, 3+N, 50
Operating current 230V Cooling/Heating (A)		17,37 / 16,74
Operating current 400V Cooling/Heating (A)		6,18 / 6,09
recomm. Fuse size 230V (A)		32
recomm. Fuse size 400V (A)		16

* pre-charged for 30 m pipe length (one way) ex works

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control



PCA-RP | PAR-30MAA | PUHZ-RP71VHA | PUHZ-RP125VKA/YKA

Stainless steel ceiling suspended units

Single split / power inverter / Cooling and heating

Weekly | Low-temperature Cooling | Low-temperature Heating | Fresh-air intake | Rotation Back-up | Multi Split | Auto Restart | Refrigerant Status Check | Pre-charged | Certified Quality

PCA-RP stainless steel ceiling suspended units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PCA-RP71HAQ	PCA-RP125HAQ
Cooling capacity (kW)		7,1 (3,3–8,1)	12,5 (5,5–14,0)
Heating capacity (kW)		7,6 (3,5–10,2)	13,8 (5,0–16,0)
EER	Cooling	3,21	3,22
COP	Heating	3,41	3,41
Energy efficiency class Cooling/Heating		A / B	A / B
Airflow (m³/h)	Low	1020	1800
	High	1140	2280
Sound pressure level dB(A)	Low	34	44
	High	38	50
Dimensions (mm)	Width	1136	1520
	Depth	650	650
	Height	280	280
Weight (kg)		41	56
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,53	1,01

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

Power inverter, cooling / heating

Designation of outdoor units		PUHZ-RP71VHA	PUHZ-RP125YKA
Power consumption incl. Indoor unit (kW)	Cooling	2,21	3,88
	Heating	2,23	4,05
Airflow (m³/h)		3600	7200
Sound pressure level Cooling/Heating dB(A)		47 / 48	50 / 52
Dimensions (mm)	Width	950	1050
	Depth	330	330
	Height	943	1338
Weight (kg)		67	126
Total pipe length (m)		50	75
Max. height difference (m)		30	30
Refrigerant quantity (kg)*		3,5	5,0
Refrigerant pipe size Ø (mm)	fl.	10	10
	s.	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	380 – 415, 3+N, 50
Operating current Cooling/Heating (A)		8,0 / 9,74	4,9 / 5,41
recomm. Fuse size (A)		25	16

* pre-charged for 30 m pipe length (one way) ex works

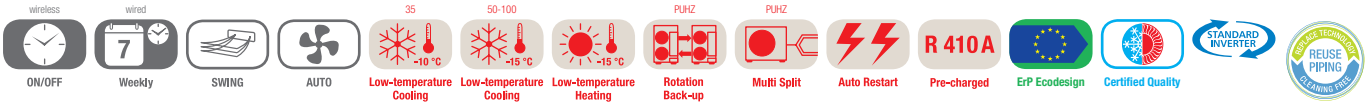
Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control

SUZ-KA35VA | SUZ-KA50/60VA | PUHZ-P100VHA/YHA | PAR-SL97A-E | PKA-RP-KAL | PKA-RP-HAL

Wall mounted units

Single split / standard inverter / Cooling and heating



PKA-RP wall mounted units, cooling / heating, infrared remote control included in scope of delivery

Designation of indoor units		PKA-RP35HAL	PKA-RP50HAL	PKA-RP60KAL	PKA-RP100KAL
Cooling capacity (kW)		3,5 (1,0–3,9)	4,9 (1,1–5,6)	5,5 (1,1–6,3)	9,4 (4,9–11,2)
Heating capacity (kW)		4,0 (0,9–5,0)	5,0 (0,9–7,1)	6,9 (0,9–8,0)	11,2 (4,5–12,5)
EER	Cooling	3,3	3,01	2,91	3,01
COP	Heating	3,61	3,22	3,36	3,21
Energy efficiency class Cooling/Heating		A / A	B / C	C / C	B / C
Airflow (m³/h)	Low	540	540	1080	1200
	Medium	630	630	1200	1380
	High	720	720	1320	1560
Sound pressure level dB(A)	Low	36	36	39	41
	High	43	43	45	49
Dimensions (mm)	Width	898	898	1170	1170
	Depth	249	249	295	295
	Height	295	295	365	365
Weight (kg)		13	13	21	21
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,40	0,4	0,43	0,57

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

Standard inverter, cooling / heating

Designation of outdoor units 230V		SUZ-KA35VA	SUZ-KA50VA	SUZ-KA60VA	PUHZ-P100VHA
Designation of outdoor units 400V		–	–	–	PUHZ-P100YHA
Power consumption incl. Indoor unit (kW)	Cooling	1,06	1,63	1,89	3,12
	Heating	1,11	1,55	2,05	3,49
Airflow (m³/h)		2004	2940	2940	3600
Sound pressure level Cooling/Heating dB(A)		47 / 48	51 / 55	51 / 55	50 / 54
Dimensions (mm)	Width	800	840	840	950
	Depth	285	330	330	330
	Height	550	850	850	943
Weight (kg)		37	53	53	75
Total pipe length (m)		20	30	30	50
Max. height difference (m)		12	30	30	30
Refrigerant quantity (kg)*		1,05	1,6	1,8	3,0
Refrigerant pipe size Ø (mm)	fl.	6	6	6	10
	s.	10	12	16	16
Voltage supply 230 V (V, Phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Spannungsversorgung 400V (V, Phase, Hz)		–	–	–	380 – 415, 3+N, 50
Operating current 230V Cooling/Heating (A)		4,77 / 4,97	7,0 / 6,6	8,71 / 10,11	12,26 / 12,62
Operating current 400V Cooling/Heating (A)		–	–	–	4,78 / 5,05
recomm. Fuse size 230V (A)		10	20	20	32
recomm. Fuse size 400V (A)		–	–	–	16

* Refrigerant pre-charging carried out ex works (one way) SUZ: 7 m, PUHZ-P100: 20 m, PUHZ-P125/140: 30 m pipe length

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-21MAA	Standard cable remote control
PAR-30MAA	Cable remote control Deluxe
PAC-SH29TC-E	Connecting plug for cable remote control

PKA-RP-HAL | PKA-RP-KAL | PAR-SL97A-E | PUHZ-RP35/50VHA | PUHZ-RP60/71VHA | PUHZ-RP100VKA/YKA

Wall mounted units

Single split / power inverter / Cooling and heating

PKA-RP wall mounted units, cooling / heating, infrared remote control included in scope of delivery

Designation of indoor units		PKA-RP35HAL	PKA-RP50HAL	PKA-RP60KAL	PKA-RP71KAL	PKA-RP100KAL
Cooling capacity (kW)		3,6 (1,6–4,5)	4,6 (2,3–5,6)	6,0 (2,7–6,7)	7,1 (3,3–8,1)	10,0 (4,9–11,4)
Heating capacity (kW)		4,1 (1,6–5,2)	5,0 (2,5–7,3)	7,0 (2,8–8,2)	7,6 (3,5–10,2)	11,2 (4,5–14,0)
EER	Cooling	3,67	3,22	3,90	3,62	3,45
COP	Heating	3,63	3,62	3,98	3,76	3,61
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A	A / A
Airflow (m³/h)	Low	540	540	1080	1080	1200
	Medium	630	630	1200	1200	1380
	High	720	720	1320	1320	1560
Sound pressure level dB(A)	Low	36	36	39	39	41
	High	43	43	45	45	49
Dimensions (mm)	Width	898	898	1170	1170	1170
	Depth	249	249	295	295	295
	Height	295	295	365	365	365
Weight (kg)		13	13	21	21	21
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,40	0,4	0,43	0,43	0,57

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

Power inverter, cooling / heating

Designation of outdoor units		PUHZ-RP35VHA	PUHZ-RP50VHA	PUHZ-RP60VHA	PUHZ-RP71VHA	PUHZ-RP100YKA
Power consumption incl. Indoor unit (kW)	Cooling	1,03	1,63	1,55	1,98	2,93
	Heating	1,27	1,4	2,01	2,23	3,25
Airflow (m³/h)		2100	2100	3300	3600	6600
Sound pressure level Cooling/Heating dB(A)		44 / 46	44 / 46	47 / 48	47 / 48	49 / 51
Dimensions (mm)	Width	800	800	950	950	1050
	Depth	300	300	330	330	330
	Height	600	600	943	943	1338
Weight (kg)		42	42	67	67	124
Total pipe length (m)		50	50	50	50	75
Max. height difference (m)		30	30	30	30	30
Refrigerant quantity (kg)*		2,2	2,5	3,5	3,5	5,0
Refrigerant pipe size Ø (mm)	fl.	6	6	10	10	10
	s.	12	12	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	380 – 415, 3+N, 50
Operating current Cooling/Heating (A)		4,0 / 4,23	6,2 / 6,47	8,71 / 10,11	8,0 / 9,74	3,8 / 4,33
recomm. Fuse size (A)		16	16	25	25	16

* pre-charged for 30 m pipe length (one way) ex works

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-21MAA	Standard cable remote control
PAR-30MAA	Cable remote control Deluxe
PAC-SH29TC-E	Connecting plug for cable remote control

PUHZ-HRP100VHA/YHA

PAR-SL97A-E PKA-RP KAL

Wall mounted units

Single split / Zubadan inverter / Cooling and heating

wireless wired

ON/OFF Weekly SWING AUTO Low-temperature Cooling Low-temperature Heating Multi Split Auto Restart Refrigerant Status Check Pre-charged ErP Ecodesign Certified Quality

R 410A

ZUBADAN

REUSE PIPING

PKA-RP wall mounted units, cooling / heating, infrared remote control included in scope of delivery

Designation of indoor units		PKA-RP100KAL	PKA-RP100KAL
Cooling capacity (kW)		10,0 (4,9–11,4)	10,0 (4,9–11,4)
Heizleistung		11,2 (4,5–14,0)	11,2 (4,5–14,0)
Heating capacity up to -15 °C (kW)		11,2	11,2
EER	Cooling	3,41	3,41
COP	Heating	3,61	3,61
Energy efficiency class Cooling/Heating		A / A	A / A
Airflow (m³/h)	Low	1200	1200
	Medium	1380	1380
	High	1560	1560
Sound pressure level dB(A)	Low	41	41
	High	49	49
Dimensions (mm)	Width	1170	1170
	Depth	295	295
	Height	365	365
Weight (kg)		21	21
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,57	0,57

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

Zubadan inverter, cooling / heating

Designation of outdoor units		PUHZ-HRP100VHA	PUHZ-HRP100YHA
Power consumption incl. Indoor unit (kW)	Cooling	2,93	2,93
	Heating	3,1	3,1
Airflow (m³/h)		6000	6000
Sound pressure level Cooling/Heating dB(A)		51 / 52	51 / 52
Dimensions (mm)	Width	950	950
	Depth	330	330
	Height	1350	1350
Weight (kg)		135	135
Total pipe length (m)		75	75
Max. height difference (m)		30	30
Refrigerant quantity (kg)*		5,5	5,5
Refrigerant pipe size Ø (mm)	fl.	10	10
	s.	16	16
Voltage supply (V, phase, Hz)		230, 1, 50	380 – 415, 3+N, 50
Operating current (A)	Cooling	11,1	3,69
	Heating	11,28	3,74
recomm. Fuse size (A)		40	16

* pre-charged for 30 m pipe length (one way) ex works

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-21MAA	Standard cable remote control
PAR-30MAA	Cable remote control Deluxe
PAC-SH29TC-E	Connecting plug for cable remote control

PSA-RP71-140GA

PUHZ-P100VHA/YHA

PUHZ-P125/140VHA/YHA

Floor mounted units

Single split / standard inverter / Cooling and heating

Weekly · Low-temperature Cooling · Low-temperature Heating · Multi Split · Auto Restart · Pre-charged · ErP Ecodesign <12kW · Certified Quality

PSA-RP floor mounted units, cooling / heating, cable remote control integrated in the unit

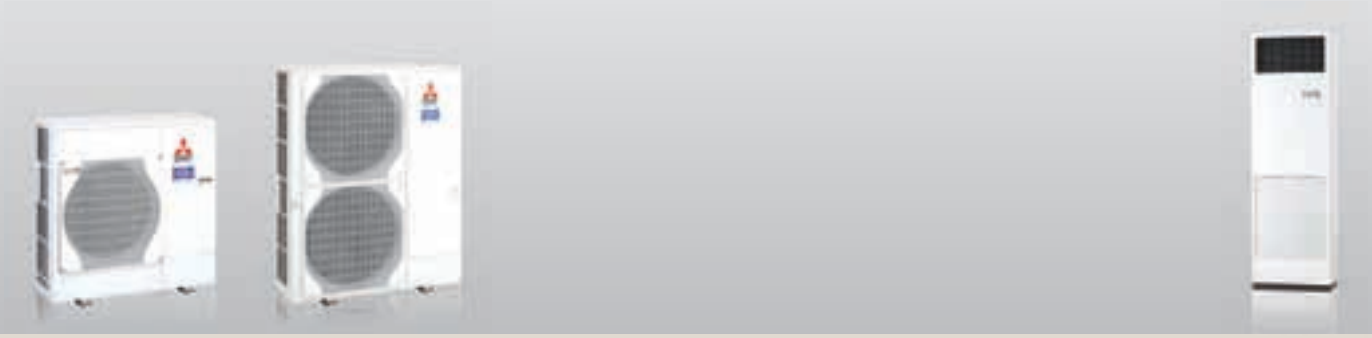
Designation of indoor units		PSA-RP100GA	PSA-RP125GA	PSA-RP140GA
Cooling capacity (kW)		9,4 (4,9–11,2)	12,3 (5,5–14,0)	13,6 (5,5–15,0)
Heating capacity (kW)		11,2 (4,5–12,5)	14,0 (5,0–16,0)	16,0 (5,0–18,0)
EER	Cooling	3,01	2,81	2,41
COP	Heating	3,41	2,81	2,81
Energy efficiency class Cooling/Heating		B / B	C / D	E / D
Airflow (m³/h)	Low	1440	1560	1620
	High	1860	1980	2100
Sound pressure level dB(A)	Low	44	46	47
	High	49	51	52
Dimensions (mm)	Width	600	600	600
	Depth	350	350	350
	Height	1900	1900	1900
Weight (kg)		51	51	53
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		1,06	1,23	1,59

Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

Standard inverter, cooling / heating

Designation of outdoor units 230V		PUHZ-P100VHA	PUHZ-P125VHA	PUHZ-P140VHA
Designation of outdoor units 400V		PUHZ-P100YHA	PUHZ-P125YHA	PUHZ-P140YHA
Power consumption incl. Indoor unit (kW)	Cooling	3,12	4,38	5,64
	Heating	3,28	4,98	5,69
Airflow (m³/h)		3600	6000	6000
Sound pressure level Cooling/Heating dB(A)		50 / 54	51 / 55	52 / 56
Dimensions (mm)	Width	950	950	950
	Depth	330	330	330
	Height	943	1350	1350
Weight (kg)		75	99	123
Total pipe length (m)		50	50	50
Max. height difference (m)		30	30	30
Refrigerant quantity (kg)*		3,0	4,5	4,5
Refrigerant pipe size Ø (mm)	fl.	10	10	10
	s.	16	16	16
Voltage supply 230 V (V, Phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Spannungsversorgung 400V (V, Phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current 230V Cooling/Heating (A)		12,26 / 12,62	17,37 / 16,74	22,48 / 21,31
Operating current 400V Cooling/Heating (A)		4,78 / 5,05	6,18 / 6,09	7,92 / 7,58
recomm. Fuse size 230V (A)		32	32	40
recomm. Fuse size 400V (A)		16	16	16

* Pre-charged for 30 m pipe length (one way) ex works, PUHZ-P100VHA pre-charged for 20 m pipe length



PUHZ-RP71VHA PUHZ-RP100-140VKA/YKA PSA-RP71-140GA

Floor mounted units

Single split / power inverter / Cooling and heating

Weekly · Low-temperature Cooling · Low-temperature Heating · Multi Split · Auto Restart · Refrigerant Status Check · Pre-charged · ErP Ecodesign <12kW · Certified Quality

PSA-RP floor mounted units, cooling / heating, cable remote control integrated in the unit

Designation of indoor units		PSA-RP71GA	PSA-RP100GA	PSA-RP125GA	PSA-RP140GA
Cooling capacity (kW)		7,1 (3,3–8,1)	10,0 (4,9–11,4)	12,4 (5,5–14,0)	13,8 (5,5–15,3)
Heating capacity (kW)		7,6 (3,5–10,2)	11,2 (4,5–14,0)	14,0 (5,0–16,0)	16,0 (5,0–18,0)
EER	Cooling	3,23	3,34	3,01	2,81
COP	Heating	3,41	3,41	3,41	3,22
Energy efficiency class Cooling/Heating		A / B	A / B	B / B	C / C
Airflow (m³/h)	Low	900	1440	1560	1620
	High	1080	1860	1980	2100
Sound pressure level dB(A)	Low	40	44	46	47
	High	45	49	51	52
Dimensions (mm)	Width	600	600	600	600
	Depth	270	350	350	350
	Height	1900	1900	1900	1900
Weight (kg)		43	51	51	53
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		0,66	1,06	1,23	1,59

Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

Power inverter, cooling / heating

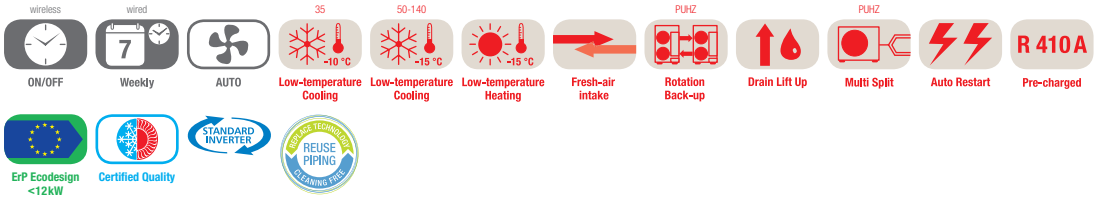
Designation of outdoor units		PUHZ-RP71VHA	PUHZ-RP100YKA	PUHZ-RP125YKA	PUHZ-RP140YKA
Power consumption incl. Indoor unit (kW)	Cooling	2,2	2,99	4,12	4,91
	Heating	2,23	3,28	4,11	4,97
Airflow (m³/h)		3600	6600	7200	7200
Sound pressure level Cooling/Heating dB(A)		47 / 48	49 / 51	50 / 52	50 / 52
Dimensions (mm)	Width	950	1050	1050	1050
	Depth	330	330	330	330
	Height	943	1338	1338	1338
Weight (kg)		67	124	126	132
Total pipe length (m)		50	75	75	75
Max. height difference (m)		30	30	30	30
Refrigerant quantity (kg)*		3,5	5,0	5,0	5,0
Refrigerant pipe size Ø (mm)	fl.	10	10	10	10
	s.	16	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current Cooling/Heating (A)		8,0 / 9,74	3,8 / 4,33	4,9 / 5,41	6,5 / 6,37
recomm. Fuse size (A)		25	16	16	16

* pre-charged for 30 m pipe length (one way) ex works

PEAD-RP | SUZ-KA35VA | SUZ-KA50-71VA | PUHZ-P100VHA/YHA | PUHZ-P125/140VHA/YHA

Ceiling concealed ducted units

Single split / standard inverter / Cooling and heating



PEAD-RP ceiling concealed ducted units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PEAD-RP35JAQ	PEAD-RP50JAQ	PEAD-RP60JAQ	PEAD-RP71JAQ	PEAD-RP100JAQ	PEAD-RP125JAQ	PEAD-RP140JAQ
Cooling capacity (kW)		3,6 (1,0–3,9)	4,9 (1,1–5,6)	6,0 (1,1–6,3)	7,1 (0,9–8,1)	9,4 (4,9–11,2)	12,3 (5,5–14,0)	13,6 (5,5–15,0)
Heating capacity (kW)		4,1 (0,9–5,0)	5,9 (1,1–7,2)	7,0 (0,9–8,0)	8,0 (0,9–10,2)	11,2 (4,5–12,5)	14,0 (5,0–16,0)	16,0 (5,0–18,0)
EER	Cooling	3,21	2,82	2,81	3,38	3,09	2,84	2,66
COP	Heating	3,63	3,49	3,38	3,92	3,50	3,41	3,21
Energy efficiency class Cooling/Heating		A / A	C / B	C / C	C / C	B / B	C / B	D / C
Airflow (m³/h)	Low	600	720	870	1050	1440	1770	1920
	High	840	1020	1260	1500	2040	2520	2760
Static pressure (Pa)		35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150
Sound pressure level dB(A)	Low	23	26	25	26	29	33	34
	High	30	35	33	34	38	40	43
Dimensions (mm)	Width	900	900	1100	1100	1400	1400	1600
	Depth	732	732	732	732	732	732	732
	Height	250	250	250	250	250	250	250
Weight (kg)		26	28	53	33	41	43	47
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		1,07	1,39	1,62	1,97	2,65	2,76	2,78

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

Standard inverter, cooling / heating

Designation of outdoor units 230V		SUZ-KA35VA	SUZ-KA50VA	SUZ-KA60VA	SUZ-KA71VA	PUHZ-P100VHA	PUHZ-P125VHA	PUHZ-P140VHA
Designation of outdoor units 400V		–	–	–	–	PUHZ-P100YHA	PUHZ-P125YHA	PUHZ-P140YHA
Power consumption incl. Indoor unit (kW)	Cooling	1,12	1,74	2,05	2,10	3,12	4,38	5,21
	Heating	1,13	1,69	2,07	2,04	3,28	4,11	4,98
Airflow (m³/h)		2004	2940	2940	3006	3600	6000	6000
Sound pressure level Cooling/Heating dB(A)		47 / 48	53 / 55	53 / 55	55 / 55	50 / 54	51 / 55	52 / 56
Dimensions (mm)	Width	800	840	840	840	950	950	950
	Depth	285	330	330	330	330	330	330
	Height	550	850	850	880	943	1350	1350
Weight (kg)		37	53	53	53	75	99	123
Total pipe length (m)		20	30	30	30	50	50	50
Max. height difference (m)		12	30	30	30	30	30	30
Refrigerant quantity (kg)*		1,05	1,6	1,8	2,0	3,0	4,5	4,5
Refrigerant pipe size Ø (mm)	fl.	6	6	6	10	10	10	10
	s.	10	12	16	16	16	16	16
Voltage supply 230 V (V, Phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Spannungsversorgung 400V (V, Phase, Hz)		–	–	–	–	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current 230V Cooling/Heating (A)		4,77 / 4,97	7,0 / 6,6	8,71 / 10,11	10,81 / 10,41	12,26 / 12,62	17,37 / 16,74	22,48 / 21,31
Operating current 400V Cooling/Heating (A)		–	–	–	–	4,78 / 5,05	6,18 / 6,09	7,92 / 7,58
recomm. Fuse size 230V (A)		10	20	20	20	32	32	40
recomm. Fuse size 400V (A)		–	–	–	–	16	16	16

* Refrigerant pre-charging carried out ex works (one way) SUZ: 7 m, PUHZ-P100: 20 m, PUHZ-P125/140: 30 m pipe length

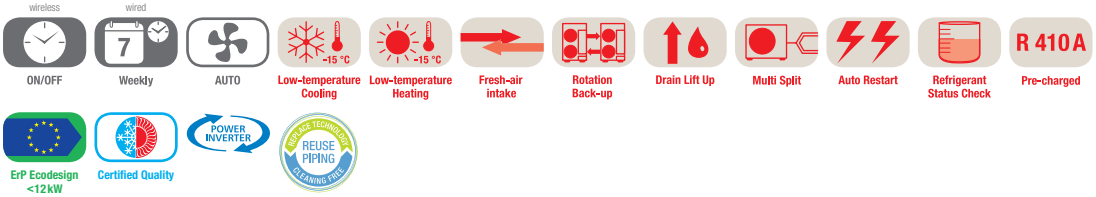
Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control
PAR-SA9-CA-E	Infrared remote control (receiver)
PAR-SL97A-E	Infrared remote control (transmitter)

PUHZ-RP35/50VHA | PUHZ-RP60/71VHA | PUHZ-RP100-140YKA | PAR-30MAA | PEAD-RP

Ceiling concealed ducted units

Single split / power inverter / Cooling and heating



PEAD-RP ceiling concealed ducted units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PEAD-RP35JAQ	PEAD-RP50JAQ	PEAD-RP60JAQ	PEAD-RP71JAQ	PEAD-RP100JAQ	PEAD-RP125JAQ	PEAD-RP140JAQ
Cooling capacity (kW)		3,6 (1,6–4,5)	4,9 (2,3–5,6)	6,0 (2,7–6,7)	7,1 (3,3–8,1)	10,0 (4,9–11,4)	12,5 (5,5–14,0)	14,0 (6,2–15,3)
Heating capacity (kW)		4,1 (1,6–5,2)	6,0 (2,5–7,3)	7,0 (2,8–8,2)	8,0 (3,5–10,2)	11,2 (4,5–14,0)	14,0 (5,0–16,0)	16,0 (5,7–18,0)
EER	Cooling	3,53	3,23	3,75	3,50	3,61	3,24	3,21
COP	Heating	3,73	3,85	4,00	4,00	4,12	4,00	3,96
Energy efficiency class Cooling/Heating		A / A	A / A	A / A	A / A	A / A	A / A	A / A
Airflow (m³/h)	Low	600	720	870	1050	1440	1770	1920
	High	840	1020	1260	1500	2040	2520	2760
Static pressure (Pa)		35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150
Sound pressure level dB(A)	Low	23	26	25	26	29	33	34
	High	30	35	33	34	38	40	43
Dimensions (mm)	Width	900	900	1100	1100	1400	1400	1600
	Depth	732	732	732	732	732	732	732
	Height	250	250	250	250	250	250	250
Weight (kg)		26	28	53	33	41	43	47
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		1,07	1,39	1,62	1,97	2,65	2,76	2,78

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

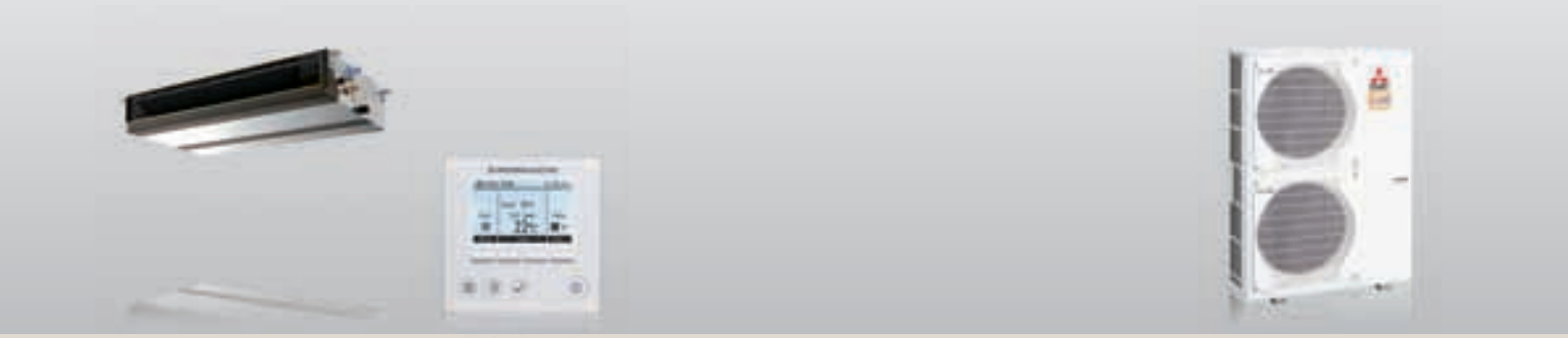
Power inverter, cooling / heating

Designation of outdoor units		PUHZ-RP35VHA	PUHZ-RP50VHA	PUHZ-RP60VHA	PUHZ-RP71VHA	PUHZ-RP100YKA	PUHZ-RP125YKA	PUHZ-RP140YKA
Power consumption incl. Indoor unit (kW)	Cooling	1,12	1,52	1,68	2,15	3,08	3,89	4,65
	Heating	1,2	1,65	1,77	2,34	3,23	3,88	4,69
Airflow (m³/h)		2100	2100	3300	3600	6600	7200	7200
Sound pressure level Cooling/Heating dB(A)		44 / 46	44 / 46	47 / 48	47 / 48	49 / 51	50 / 52	50 / 52
Dimensions (mm)	Width	800	800	950	950	1050	1050	1050
	Depth	300	300	330	330	330	330	330
	Height	600	600	943	943	1338	1338	1338
Weight (kg)		42	42	67	67	124	126	132
Total pipe length (m)		50	50	50	50	75	75	75
Max. height difference (m)		30	30	30	30	30	30	30
Refrigerant quantity (kg)*		2,2	2,5	3,5	3,5	5,0	5,0	5,0
Refrigerant pipe size Ø (mm)	fl.	6	6	10	10	10	10	10
	s.	12	12	16	16	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current Cooling/Heating (A)		4,0 / 4,23	6,2 / 6,47	8,71 / 10,11	8,0 / 9,74	3,8 / 4,33	4,9 / 5,41	6,5 / 6,37
recomm. Fuse size (A)		16	16	25	25	16	16	16

* pre-charged for 30 m pipe length (one way) ex works

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control
PAR-SA9-CA-E	Infrared remote control (receiver)
PAR-SL97A-E	Infrared remote control (transmitter)



PEAD-RP | PAR-30MAA | PUHZ-HRP71-125VHA/YHA

Ceiling concealed ducted units

Single split / Zubadan inverter / Cooling and heating

wireless | wired

ON/OFF | Weekly | AUTO | Low-temperature Cooling | Low-temperature Heating | Fresh-air intake | Rotation Back-up | Drain Lift Up | Multi Split | Auto Restart | Refrigerant Status Check | Pre-charged

ErP Ecodesign <12kW | Certified Quality | ZUBADAN | REUSE PIPING

PEAD-RP ceiling concealed ducted units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PEAD-RP71JAQ	PEAD-RP100JAQ	PEAD-RP100JAQ	PEAD-RP125JAQ
Cooling capacity (kW)		7,1 (3,3–8,1)	10,0 (4,9–11,4)	10,0 (4,9–11,4)	12,5 (5,5–14,0)
Heating capacity (kW)		8,0 (3,5–10,2)	11,2 (4,5–14,0)	11,2 (4,5–14,0)	14,0 (5,0–16,0)
Heating capacity up to -15 °C (kW)		8,0	11,2	11,2	14,0
EER	Cooling	3,30	3,27	3,21	3,21
COP	Heating	3,42	3,61	3,61	3,61
Energy efficiency class Cooling/Heating		A / B	A / A	A / A	A / A
Airflow (m³/h)	Low	1050	1440	1440	1770
	High	1500	2040	2040	2520
Static pressure (Pa)		35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150
Sound pressure level dB(A)	Low	26	29	29	33
	High	34	38	38	40
Dimensions (mm)	Width	1100	1400	1400	1400
	Depth	732	732	732	732
	Height	250	250	250	250
Weight (kg)		33	41	41	43
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Operating current (A)		1,97	2,65	2,65	2,76

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

Zubadan inverter, cooling / heating

Designation of outdoor units		PUHZ-HRP71VHA	PUHZ-HRP100VHA	PUHZ-HRP100YHA	PUHZ-HRP125YHA
Power consumption incl. Indoor unit (kW)	Cooling	2,15	3,06	3,06	3,89
	Heating	2,34	3,1	3,1	3,88
Airflow (m³/h)		6000	6000	6000	6000
Sound pressure level Cooling/Heating dB(A)		51 / 52	51 / 52	51 / 52	51 / 52
Dimensions (mm)	Width	950	950	950	950
	Depth	330	330	330	330
	Height	1350	1350	1350	1350
Weight (kg)		120	135	135	135
Total pipe length (m)		75	75	75	75
Max. height difference (m)		30	30	30	30
Refrigerant quantity (kg)*		5,5	5,5	5,5	5,5
Refrigerant pipe size Ø (mm)	fl.	10	10	10	10
	s.	16	16	16	16
Voltage supply (V, phase, Hz)		230, 1, 50	230, 1, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)	Cooling	8,09	11,1	3,69	4,92
	Heating	8,94	11,28	3,74	4,91
recomm. Fuse size (A)		32	40	16	16

* pre-charged for 30 m pipe length (one way) ex works

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control
PAR-SA9-CA-E	Infrared remote control (receiver)
PAR-SL97A-E	Infrared remote control (transmitter)

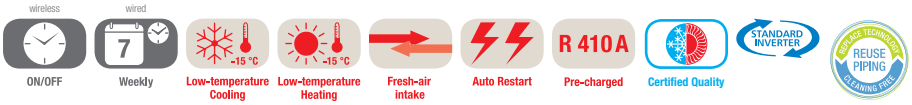
PUHZ-P200/250YHA

PAR-30MAAA

PEA-RP

Ceiling concealed ducted units high pressure

Single split / standard inverter / Cooling and heating



PEA-RP ceiling concealed ducted units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PEA-RP200GAQ	PEA-RP250GAQ	PEA-RP400GAQ	PEA-RP500GAQ
Cooling capacity (kW)		19,0 (9,0–22,4)	22,0 (11,2–28,0)	38,0 (18,0–44,8)	44,0 (22,4–56,0)
Heating capacity (kW)		22,4 (9,0–25,0)	27,0 (12,5–31,5)	44,8 (18,0–50,0)	54,0 (25,0–63,0)
Airflow (m³/h)		3900	4800	7200	9600
Static pressure (Pa)		150	150	150	150
Sound pressure level dB(A)		48–51	49–52	52	53
Dimensions (mm)	Width	1400	1600	1947	1947
	Depth	634	634	764	764
	Height	400	400	595	595
Weight (kg)		70	77	130	133
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)		2,0	2,3	3,8	5,4

Sound pressure level of the indoor unit measured at a distance of 1.5 m below the unit

Standard inverter, cooling / heating

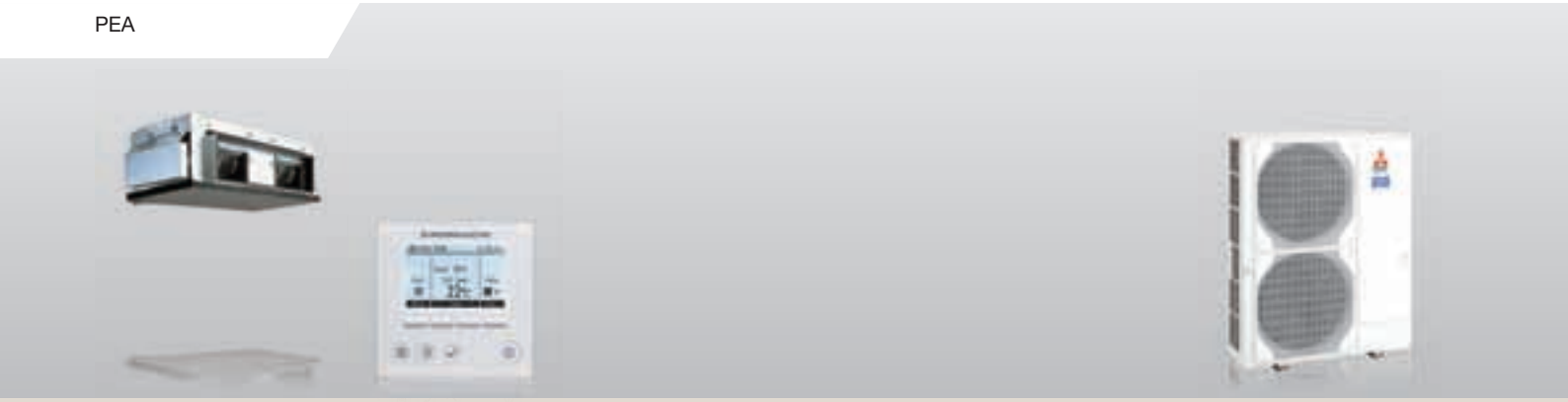
Designation of outdoor units		PUHZ-P200YHA	PUHZ-P250YHA	PUHZ-P200YHA x 2	PUHZ-P250YHA x 2
Power consumption incl. Indoor unit (kW)	Cooling	6,21 + 1,0	7,26 + 1,18	6,21x2 + 1,55	7,26x2 + 2,84
	Heating	6,36 + 1,0	7,29 + 1,18	6,36x2 + 1,55	7,29x2 + 2,84
Airflow (m³/h)		7800	7800	7800x2	7800x2
Sound pressure level dB(A)	Cooling	55	55	55	55
	Heating	59	59	59	59
Dimensions (mm)	Width	950	950	950x2	950x2
	Depth	330 + 30	330 + 30	330 + 30	330 + 30
	Height	1350	1350	1350	1350
Weight (kg)		129	129	129x2	129x2
Max. height difference (m)		30	30	30	30
Max. distance length (m)		70	70	70	70
Refrigerant quantity (kg)		5,8	7,1	5,8x2	7,1x2
Refrigerant pipe size Ø (mm)	fl.	10	12	10x2	12x2
	s.	22	22	22x2	22x2
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)	Cooling	9,9	11,6	9,9x2	11,6x2
	Heating	10,1	11,7	10,1x2	11,7x2
recomm. Fuse size (A)		32	32	32	32

* pre-charged for 30 m pipe length (one way) ex works

The indoor units RP400/RP500 are each operated with two identical standard inverters (2 x PUHZ-P200YHA or 2 x PUHZ-P250YHA)

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control



PEA-RP PAR-30MAA PUHZ-RP200/250YKA

Ceiling concealed ducted units high pressure

Single split / power inverter / Cooling and heating

PEA-RP ceiling concealed ducted units, cooling / heating, remote control not included in scope of delivery

Designation of indoor units		PEA-RP200GAQ	PEA-RP250GAQ	PEA-RP400GAQ	PEA-RP500GAQ
Cooling capacity (kW)		19,0 (9,0 – 22,4)	22,0 (11,2 – 28,0)	38,0 (18,0 – 44,8)	44,0 (22,4 – 56,0)
Heating capacity (kW)		22,4 (9,0 – 25,0)	27,0 (12,5 – 31,5)	44,8 (18,0 – 50,0)	54,0 (25,0 – 63,0)
Airflow (m^3/h)		3900	4800	7200	9600
Static pressure (Pa)		150	150	150	150
Sound pressure level dB(A)		48 – 51	49 – 52	52	53
Dimensions (mm)	Width	1400	1600	1947	1947
	Depth	634	634	764	764
	Height	400	400	595	595
Weight (kg)		70	77	130	133
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)		2,0	2,3	3,8	5,4

Sound pressure level of the indoor unit measured 1 m in front of and 1 m below the unit

Power inverter, cooling / heating

Designation of outdoor units		PUHZ-RP200YKA	PUHZ-RP250YKA	PUHZ-RP200YKA x 2	PUHZ-RP250YKA x 2
Power consumption incl. Indoor unit (kW)	Cooling	5,7 + 1,0	7,16 + 1,18	5,70 x 2 + 1,55	7,16 x 2 + 2,84
	Heating	5,5 + 1,0	7,02 + 1,18	5,50 x 2 + 1,55	7,02 x 2 + 2,84
Airflow (m^3/h)		8400	8400	8400 x 2	8400 x 2
Sound pressure level dB(A)	Cooling	58	58	58	58
	Heating	59	59	59	59
Dimensions (mm)	Width	1050	1050	1050 x 2	1050 x 2
	Depth	330	330	330	330
	Height	1338	1338	1338	1338
Weight (kg)		135	141	135 x 2	141 x 2
Total pipe length (m)		120	120	120	120
Max. height difference (m)		30	30	30	30
Refrigerant quantity (kg)*		7,1	7,7	7,1 x 2	7,7 x 2
Refrigerant pipe size Ø (mm)	fl.	10	12	10 x 2	12 x 2
	s.	22	22	22 x 2	22 x 2
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)	Cooling	9,1	11,5	9,1 x 2	11,5 x 2
	Heating	8,8	11,3	8,8 x 2	11,3 x 2
recomm. Fuse size (A)		32	32	32	32

* pre-charged for 30 m pipe length (one way) ex works

The indoor units RP400/RP500 are each operated with two identical power inverters (2 x PUHZ-P200YKA or 2 x PUHZ-P250YKA)

Remote controls

Designation of accessory art. no.	Designation of accessory
PAR-30MAA	Cable remote control Deluxe
PAR-21MAA	Cable remote control

Breathe in deeply

Our today‘s life and work take place in closed rooms for an average of 20 hours per day. The air quality in these rooms is often poor due to high levels of air humidity, mould formation and evaporations from construction and furnishing materials. However, the air quality can also be considerably affected by air that is too dry, electric smog and high carbon dioxide levels resulting from the air we breathe. This has a negative effect on the sense of wellbeing and the productive efficiency. Apart from fatigue and concentration problems, this may also result in severe impairments of health later on.

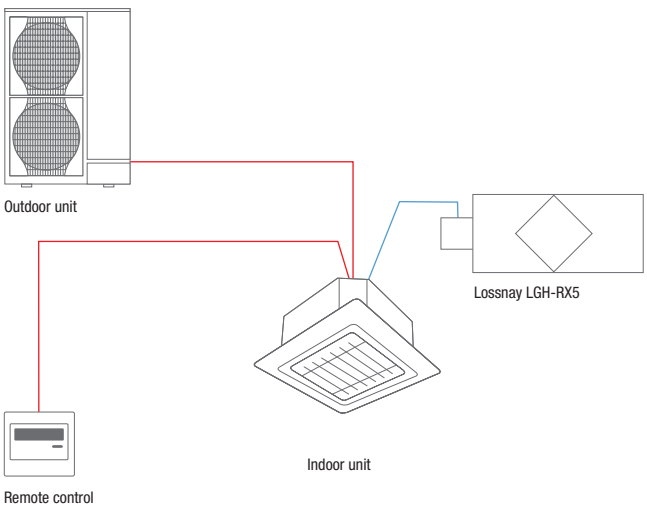
Poor air quality is a thing of the past

Due to this great number of negative factors, a regular ventilation of the rooms is required. However, with each ventilation process, valuable heat energy escapes to the outside. This is why, the insulation and and air impermeability of buildings is constantly improved in order to save energy costs and to comply with the legal requirements of the Energy Conservation Ordinance. In many modern office complexes and public buildings, the windows can also no longer be opened by hand. The removal of unwanted harmful substances is therefore drastically reduced.

As a consequence, a controlled ventilation with heat recovery has become a must in today‘s world. The Lossnay ventilation system by Mitsubishi Electric offers a modern solution for tight building envelopes. As valuable as an energy-efficient ventilation systems may be for the reasons mentioned above – a comprehensive indoor climate solution can only be achieved in combination with an efficient air conditioning system. Nowadays, state-of-the-art air conditioning systems offer both heating and cooling functions. And by using a ventilation system, valuable energy can be saved with regard to air conditioning technology. The Lossnay ventilation units and the air conditioning units of the Mr. Slim or City Multi series make an excellent team when facing the challenges related to air conditioning.

Efficiency dictating the trend for air conditioning and ventilation systems

The connection between room air conditioning systems and air conditioning technology allows for a versatile use with regard to the air conditioning and ventilation of modern buildings. Efficiency and the resulting low energy consumption in connection with high comfort have become the most important factors when choosing the right system. A step in the right direction in terms of sustainability and also towards the Mitsubishi Electric system solutions.

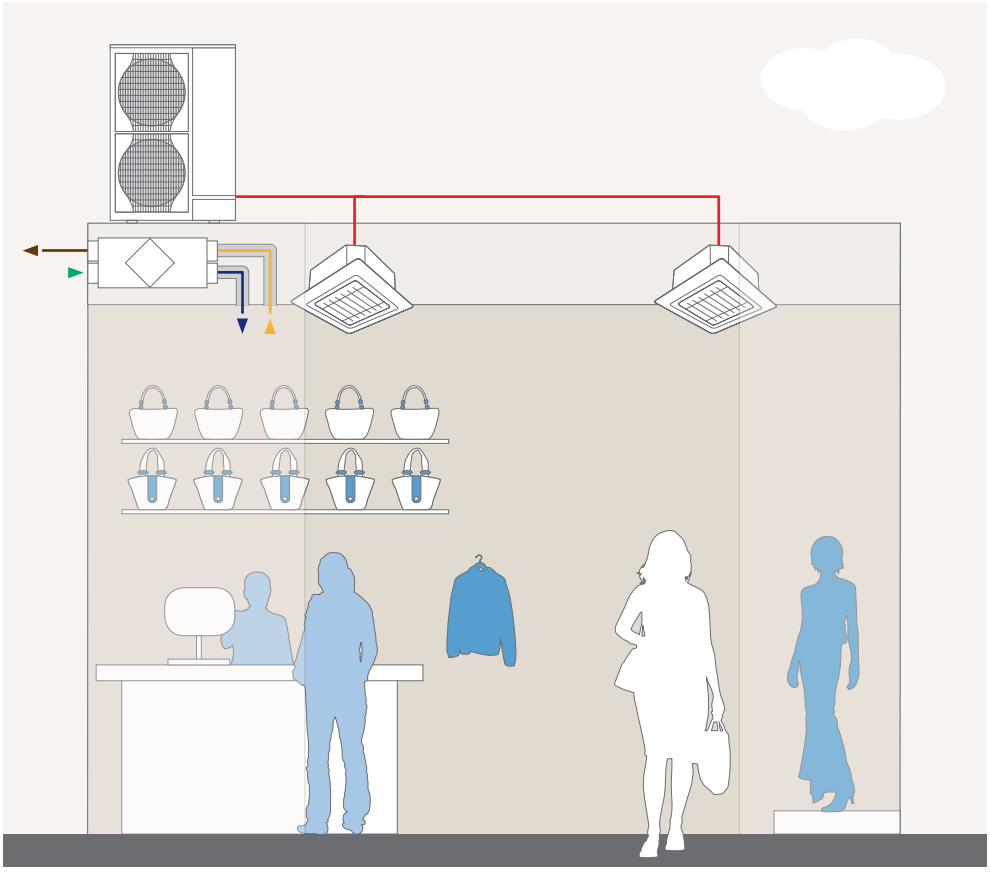


Air conditioning and ventilation: An ideal team

Fresh air to maintain high levels of performance
The supply of closed rooms with adequate quantities of fresh air is not only stipulated by DIN and the VDI – this supply of fresh air is also urgently required in order to increase human performance. In offices, shops, theatres or hospitals or wherever there are no windows available or a regular ventilation of the room cannot be achieved by using a window, this task is assumed by mechanical ventilation technology. Since this task needs to be fulfilled all year round, a conditioning of the supplied fresh air is indispensable. Single split inverters (Mr. Slim series) or VRF systems (City Multi series) are ideally suited for this purpose.

Ventilation plus air conditioning as ideal supplement
Today, the thermal loads in both existing and new buildings are higher: More lighting, the technical equipment, many people and a better building insulation result in significantly increased internal heat loads. The modern architecture with its large-scale glass facades additionally increases the external heat loads in the form of sun radiation. While the supply of fresh air plays an important role in this respect, controlling the room air via an efficient air conditioning system also plays a decisive part.

For more information on our Lossnay ventilation systems, please see page 206 onwards.



Combination of ventilation and air conditioning system in a shop:
Since a ventilation using windows is not possible in most shops, a controlled supply of fresh air is indispensable. In order to ensure optimal comfort to customers and salespersons and thereby extending the time the customers spent in the shop, a combined solution of air conditioning and ventilation system with integrated heat recovery is the best choice. The energy generated by the exhaust air is reused which considerably lowers the air conditioning costs.

Our system example:
Mr. Slim air conditioning units + Lossnay ventilation units LGH RX5

Air curtain for doors and heat pump

Combination with power inverter and Zubadan outdoor units

Advantages

The constantly open door of a salesroom places very high demands on the air conditioning and heating system. The task here is to prevent the exchange of conditioned room air with fresh air penetrating from outside. The technology of the air curtain for doors has proven extremely effective in this area. With a heated air jet in winter, they interrupt the flow in the entrance area, thus preventing the penetration of cold outside air, while in summer the heat is not able to overcome the air jet barrier. Air curtains for doors dramatically reduce the energy consumption of the heating and cooling system, as the salesroom heats up less fast in summer and does not cool down in winter.

Compared to conventional hot water heating for air curtains, the heat pump achieves better rates of efficiency. To this end, the air-to-air heat pump by Mitsubishi Electric, in connection with the Thermoscreens air curtains, exploits the heat energy stored in the ambient air. This way, it is possible to generate a heating capacity of 20 kW for the air curtain from an electric drive power of 5 kW for the heat pump.

Easy connection to heat pump

Mitsubishi Electric and the air curtain manufacturer Thermoscreens are offering an integrated overall system that equips entrance areas cost-effectively, conveniently and reliably. The air curtains for doors can easily be combined with the power inverter or Zubadan outdoor units. This mature overall solution also includes a control that makes use of Mitsubishi Electric circuit boards especially developed for this application.

High energy efficiency

- Very high efficiency of 80 to 90 %
- Saves up to 75 % of energy compared to traditional water-heated air curtain systems

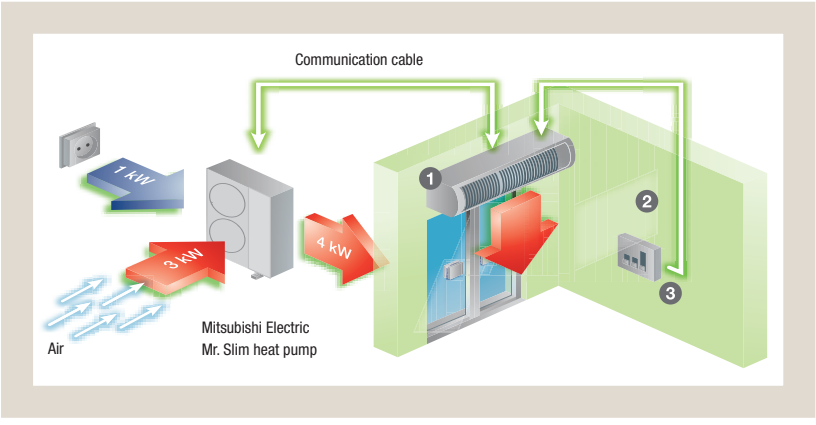
High system bandwidth

- 5 to 21.2 kW
- Freely suspended or ceiling-installed models
- Models optionally available in lengths of 1 m, 1.5 m and 2 m
- Air curtains are painted in the standard unit colour RAL 9010 (other RAL colours available upon request)

Fast installation

Thanks to to the plug-and-play installation, the connection work on site can be carried out quickly and easily – which also makes it ideal for retrofittings.

Connection of heat pump to air curtain for doors



1 Thermoscreens air curtain

2 Thermoscreens control unit

3 Air curtain on/off
Heating on/off
Heating auto/low/high

In the „Top Produkt Handel 2009" competition, the system was awarded the silver medal in the eco-friendliness category.

HP1000-2000 DXE | HP100-2000R DXE | PUHZ-RP71-200VKA/YKA | PUHZ-HRP71-200VHA/YKA

Air curtain systems for doors

Single split / power inverter and Zubadan

DXE air curtain systems for doors, freely suspended

Designation of indoor units		HP1000 DXE	HP1500 DXE	HP2000 DXE	HP2000 DXE
Cooling capacity (kW)		7,4	12,3	14,2	19,0
Heating capacity (kW)	High	8,3	13,8	15,9	21,9
COP	High	2,8	2,5	2,9	2,4
Air speed (m/s)		9,0	9,0	9,5	9,5
Airflow (m^3/h)		1310	2070	2590	2590
Sound pressure level dB(A)	High	48–58	48–58	48–58	48–58
Dimensions (mm)	Width	1300	1825	2350	2350
	Depth	468	468	468	468
	Height	306	306	306	306
Weight (kg)		46	67	84	84
Max. installation height (m)		3,8	3,8	3,8	3,8
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50*	380 – 415, 3+N, 50*	380 – 415, 3+N, 50*
Voltage supply 230 V (V, Phase, Hz)		220 – 240, 1, 50	220 – 240, 1, 50	220 – 240, 1, 50	220 – 240, 1, 50
Operating current (A)		7,3 (0,8)	12,1**	14,4***	14,4***
Outdoor unit power inverter 230V		PUHZ-RP71VHA	–	–	–
Outdoor unit power inverter 400V		–	PUHZ-RP140YKA	PUHZ-RP140YKA	PUHZ-RP200YKA
Outdoor unit Zubadan inverter		PUHZ-HRP71VHA	PUHZ-HRP125YHA	PUHZ-HRP125YHA	PUHZ-HRP200YKA

* Power supply when heating is deactivated 220-240 V, 1, 50 Hz
** Operating current when heating is deactivated 1.8 A
*** Operating current when heating is deactivated 2.7 A
**** Sound pressure level measured at a distance of 3 m
The technical data refer to a combination with power inverter outdoor units

DXE air curtain systems for doors, ceiling installation

Designation of indoor units		HP1000R DXE	HP1500R DXE	HP2000R DXE	HP2000R DXE
Cooling capacity (kW)		7,4	12,3	14,2	19,0
Heating capacity (kW)		8,3	13,2	15,7	21,3
COP		2,8	2,5	2,9	2,4
Air speed (m/s)		9,0	9,0	9,5	9,0
Airflow (m^3/h)		1310	2070	2590	2590
Sound pressure level dB(A)	High	48–58	48–58	48–58	48–58
Dimensions (mm)	Width	1250	1750	2340	2340
	Depth	485	485	485	485
	Height	348	348	348	348
Weight (kg)		52	75	93	93
Max. installation height (m)		3,8	3,8	3,8	3,8
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Voltage supply 230 V (V, Phase, Hz)		220 – 240, 1, 50	220 – 240, 1, 50	220 – 240, 1, 50	220 – 240, 1, 50
Operating current (A)		7,8 (1,3)	12,7 (1,8)	15,7 (2,7)	15,7 (2,7)
Outdoor unit power inverter 230V		PUHZ-RP71VHA	PUHZ-RP140VKA	PUHZ-RP140VKA	–
Outdoor unit power inverter 400V		–	PUHZ-RP140YKA	PUHZ-RP140YKA	PUHZ-RP200YKA
Outdoor unit Zubadan inverter		PUHZ-HRP71VHA	PUHZ-HRP125YHA	PUHZ-HRP125YHA	PUHZ-HRP200YKA

Connection kit PAC-IF011B-E

Heating and cooling operation

Connection kit PAC-IF011B-E for heat exchangers provided by the customer
With the connection kit, a large number of heat exchanger types can be used with Mr. Slim outdoor units of the P-series.

Possible applications:
- Ventilation units
- Heat pumps
- Air curtains for doors

The connection kit consists of the controller box including the special circuit board with microprocessor control as well as two temperature sensors. The controller box is integrated into the control of the Mr. Slim outdoor unit.

The following settings can be made via external signals (only for PUHZ-RP and PUHZ-HRP):
- Capacity settings in 8 stages from 30 % to 100 %
- Heating/cooling mode
- Compressor stop

Possible input signals for capacity target setting:
- 0–10 V
- 4–20 mA
- 1–5 V
- 0–10 kΩ
- Potential-free contacts

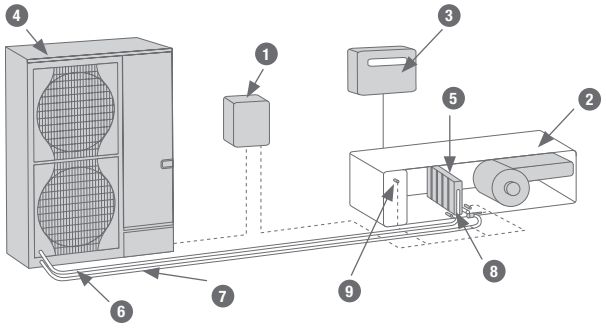
Output of all relevant operating data as a potential-free contact:
- Operation
- Alarm
- Compressor operation
- Defrost
- Cooling mode
- Heating mode

Alternatively, the PAC-IF011 can be used in return air controls. Together with the optional remote control PAR-21MAA, control is then effected on the basis of the set target temperature.

Optional accessories:
Cable remote control PAR-21MAA

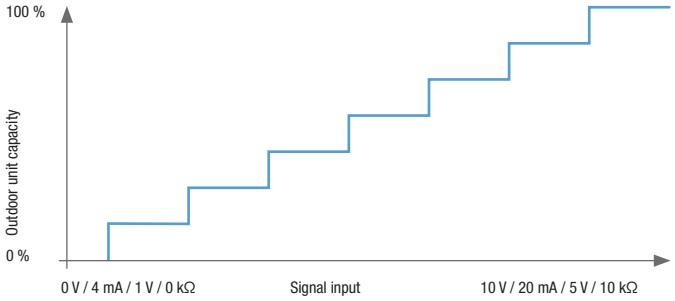
Please observe the relevant planning and installation notes during planning.

Use of connection kit with ventilation system



1 PAC-IF011 connection kit
2 Ventilation unit
3 Ventilation system control
4 Mr. Slim outdoor unit
5 Heat exchanger (provided by customer)
6 Intake line
7 Liquid line / injection line
8 Temperature sensor Injection line
9 Temperature sensor for return air / room air (optional)

Capacity settings in 8 stages for power inverter (PUHZ-RP) and Zubadan inverter (PUHZ-HRP) outdoor units.



Connection kit

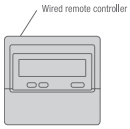
Type designation		PAC-IF011B-E
Cooling capacity min.–max.*	(kW)	3.6–28.0
Heating capacity min.–max.*	(kW)	4.1–31.5
Refrigerant		R410A
Dimensions controller box (mm)	Width	336
	Depth	69
	Height	278
Weight	(kg)	5
Temperature setting range Remote control	(°C)	14–30
Protection class		IP24
Voltage supply	V, phase, Hz	220–240, 1, 50

* Depending on the selected outdoor unit

Overview of outdoor units for applications with PAC-IF011B-E connection kit

	Cooling capacity (kW)	Heating capacity (kW)	Dimensions (mm)	Weight (kg)	Maximum line length (m)	Voltage supply (V, phase, Hz)
	Rated (min – max)	Rated (min – max)	Width x Depth x Height			
Zubadan inverter (capacity control via external signals or return air control)						
PUHZ-HRP71VHA	7.1 (3.3 – 8.19)	8.0 (3.5 – 10.2)	950 x 330 x 1350	120	75	220 – 240, 1, 50
PUHZ-HRP100VHA	10.0 (4.9 – 11.4)	11.2 (4.5 – 14.0)	950 x 330 x 1350	135	75	220 – 240, 1, 50
PUHZ-HRP100YHA	10.0 (4.9 – 11.4)	11.2 (4.5 – 14.0)	950 x 330 x 1350	135	75	380 – 415, 3, 50
PUHZ-HRP125YHA	12.5 (5.5 – 14.0)	14.0 (5.0 – 16.0)	950 x 330 x 1350	135	75	380 – 415, 3, 50
PUHZ-HRP200YKA	20.0 (8.8 – 22.0)	23.0 (9.0 – 25.0)	1050 x 330 x 1338	143	75	380 – 415, 3, 50
Power inverter (capacity control via external signals or return air control)						
PUHZ-RP35VHA	3.6 (1.6 – 4.5)	3.6 (1.6 – 4.9)	800 x 300 x 600	42	50	220 – 240, 1, 50
PUHZ-RP50VHA	5.0 (2.3 – 5.6)	6.0 (2.5 – 7.3)	800 x 300 x 600	42	50	220 – 240, 1, 50
PUHZ-RP60VHA	6.0 (2.7 – 6.7)	7.0 (2.8 – 8.2)	950 x 330 x 943	67	50	220 – 240, 1, 50
PUHZ-RP71VHA	7.1 (3.3 – 8.1)	8.0 (3.5 – 10.2)	950 x 330 x 943	67	50	220 – 240, 1, 50
PUHZ-RP100YKA	10.0 (4.9 – 1.4)	11.2 (4.5 – 14.0)	1050 x 330 x 1338	124	75	380 – 415, 3, 50
PUHZ-RP125YKA	12.5 (5.5 – 14.0)	14.0 (5.0 – 16.0)	1050 x 330 x 1338	126	75	380 – 415, 3, 50
PUHZ-RP140YKA	14.0 (6.2 – 15.3)	16.0 (5.7 – 18.0)	1050 x 330 x 1338	132	75	380 – 415, 3, 50
PUHZ-RP200YKA	19.0 (9.0 – 22.4)	22.4 (9.0 – 25.0)	1050 x 330 x 1338	135	100	380 – 415, 3, 50
PUHZ-RP250YKA	22.0 (11.2 – 28.0)	27.0 (12.5 – 31.5)	1050 x 330 x 1338	141	100	380 – 415, 3, 50
Standard inverter (only return air control, PAC-TH10 sensor set required as accessory)						
SUZ-KA35VA	3.6 (1.0 – 3.9)	4.1 (0.9 – 5.09)	800 x 285 x 550	37	20	220 – 240, 1, 50
SUZ-KA50VA	5.0 (1.1 – 5.6)	5.9 (1.1 – 7.2)	840 x 330 x 850	53	30	220 – 240, 1, 50
SUZ-KA60VA	6.0 (1.1 – 6.3)	7.0 (0.9 – 8.0)	840 x 330 x 850	53	30	220 – 240, 1, 50
SUZ-KA71VA	7.1 (0.9 – 8.1)	8.0 (0.9 – 10.2)	840 x 330 x 850	58	30	220 – 240, 1, 50
PUHZ-P100VHA	9.4 (4.9 – 11.2)	11.2 (4.5 – 12.5)	950 x 330 x 943	75	50	220 – 240, 1, 50
PUHZ-P100YHA	9.4 (4.9 – 11.2)	11.2 (4.5 – 12.5)	950 x 330 x 1350	75	50	380 – 415, 3, 50
PUHZ-P125VHA	12.3 (5.5 – 14.0)	14.0 (5.0 – 16.0)	950 x 330 x 1350	99	50	220 – 240, 1, 50
PUHZ-P125YHA	12.3 (5.5 – 14.0)	14.0 (5.0 – 16.0)	950 x 330 x 1350	99	50	380 – 415, 3, 50
PUHZ-P140VHA	13.6 (5.5 – 15.0)	16.0 (5.0 – 18.0)	950 x 330 x 1350	123	50	220 – 240, 1, 50
PUHZ-P140YHA	13.6 (5.5 – 15.0)	16.0 (5.0 – 18.0)	950 x 330 x 1350	123	50	380 – 415, 3, 50
PUHZ-P200YHA	19.0 (9.0 – 22.4)	22.4 (9.0 – 25.0)	950 x 330 x 1350	123	70	380 – 415, 3, 50
PUHZ-P250YHA	22.0 (11.2 – 28.0)	27.0 (12.5 – 31.5)	950 x 330 x 1350	123	70	380 – 415, 3, 50

Accessories for PAC-IF011B-E connection kit

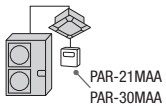
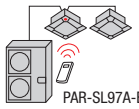
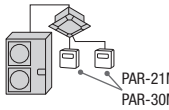
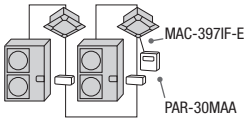
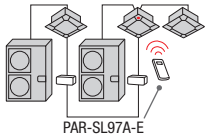
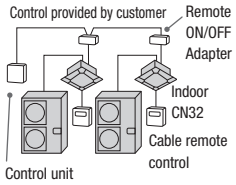
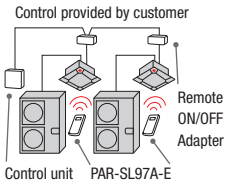
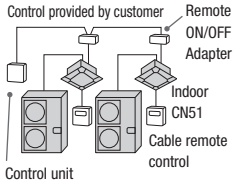
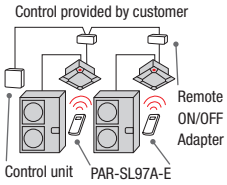
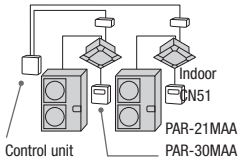
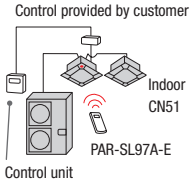
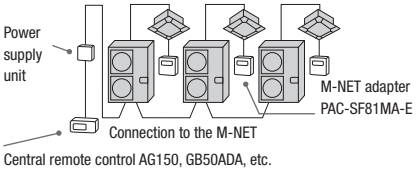
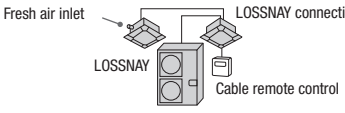
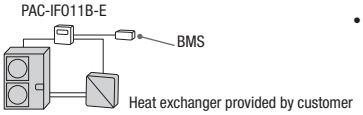


Cable remote control
The cable remote control is used to preset the target value for return air applications and as a service and diagnosis tool for parameter queries
PAR-21MAA standard cable remote control

Sensor set
The sensor set is required when using standard inverter outdoor units and is used to measure the inlet temperature of the heat exchanger (TH5). 1 sensor is required for each outdoor unit.
PAC-TH10 temperature sensor, scope of delivery includes two pieces

Overview of control systems

Inverter

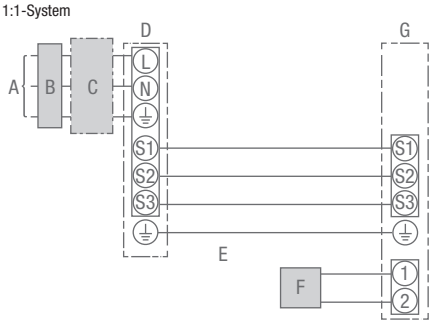
System	System example		Functions	Required accessories
	Cable remote control	Infrared remote control		
One remote control (standard)			• Cable or infrared remote control can be used optionally.	No accessories required
Two remote controls The air conditioning unit can be operated by two remote controls in different locations.			• Up to 2 remote controls can be connected to a group. • Cable and infrared remote controls can be used in combination.	Cable remote control: **PAR-21MAA/PAR-30MAA** Cable remote control kit: **PAR-21MAAT-E/PAC-SH29TC-E** Infrared remote control: **PAR-SL97A-E** Infrared remote control kit for PCA: **PAR-SL94B-E**
Group control One remote control can simultaneously control several systems. On the outdoor units, different refrigeration circuit addresses have to be set.			• One remote control can control up to 16 refrigeration circuits. • The outdoor units are controlled independently (on/off). • Up to 2 remote controls can be connected.	If an outdoor unit of the SUZ or MXZ type is used, one **MAC-397IF-E** is required per outdoor unit (for outdoor units of the P-series, no accessories are required)
Control with a DC 12V signal System can be remotely switched on/off. It is also possible to lock the remote control's On/Off function.			• When the remote control is locked, only the On/Off function is locked. All other settings remain accessible (temperature, fan levels etc.) • Control via external timer possible.	Adapter cable for remote on/off: **PAC-SE55RA-E** Control on customer-side
Control by means of pulse signal System can be remotely switched on/off.			• All settings are possible (temperature, fan levels etc.) • Control via external timer possible.	Adapter cable for remote on/off: **PAC-SA88HA-E** Control on customer-side
Operating message Operating status of the air conditioning unit can be displayed.			• Operating and error messages can be reported and processed externally (connection to building control system) • Potential-free contact.	Adapter cable for operating and error messages: **PAC-SA88HA-E** Remote On/Off adapter: **PAC-SF40RM** (only in conjunction with cable remote control) Control on customer-side
Central control Easy control of several systems via one central control unit.			• By installing an adapter in the outdoor unit, an M-Net system can be set up. • Integration in City Multi systems is possible.	M-Net adapter: **PAC-SF81MA-E** (for SUZ/MXZ outdoor units, see M-series)
Control of LOSSNAY ventilation unit			• When switching on the air conditioning unit, the LOSSNAY is started.	Slim-Lossnay connection cable (supplied with LOSSNAY)
Connection of heat exchanger provided by customer			• The capacity of the outdoor unit can be set externally. Alternatively, a return air control is also possible.	For capacity control: Connection kit: **PAC-IF011B-E** For return air control: Connection kit: **PAC-IF011B-E** Remote control: **PAR-21MAA/PAR-30MAA**

For additional information, please refer to the Mitsubishi Electric manuals.

Electrical connection diagram Mr. Slim inverter systems

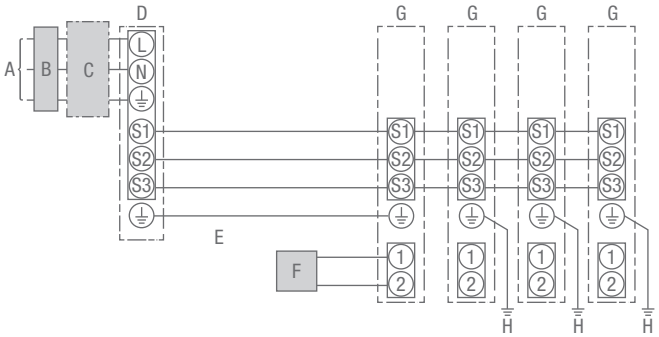
The voltage supply of the outdoor unit is depending on the unit type

1:1-System



A Voltage supply of the outdoor unit
B Ground-fault circuit interrupter
C Fuse
D Outdoor unit
E Connection line between indoor and outdoor unit
F Remote control
G Indoor unit (unit sizes 200 and 250 require separate voltage supply)

Multi-split system duo / trio / quattro



A Power supply connection of the outdoor system
B Ground-fault circuit interrupter
C Interrupter or circuit breaker
D Outdoor system
E Connection cable indoor system / outdoor system
F Remote control
G Indoor system
H Earthing line of the indoor unit

Specifications of the control lines between indoor and outdoor unit			
Number of wires and cross-section (mm²)	Indoor unit – Outdoor unit	*	4 x 1.5 mm²
	Remote control connection	**	2 x 0.3 mm²
Rated voltage of the electric circuit	Indoor unit – Outdoor unit	***	AC 230 V
	Indoor unit – Outdoor unit	***	DC24 V
	Remote control connection	***	DC12 V

* For systems of the sizes 35 – 140
max. 45 m
If 2.5 mm² are used, max. 50 m
If 2.5 mm² are used and S3 is separated, max. 80 m
For systems of the sizes 200 – 250
max. 18 m
If 2.5 mm² are used, max. 30 m
If 4 mm² are used and S3 is separated, max. 50 m
If 6 mm² are used and S3 is separated, max. 80 m

** The remote control accessory is provided with a 10-m-long electric cable.
Max. 500 m line length possible

*** The provided information does NOT always apply to the earth line.
S3 terminal has 24 V of direct current against terminal S2. Between the terminals S3 and S1, no electrical insulation is provided by the transformer or another electrical device.

Notes:

1. The size of the electrical cable must comply with the corresponding local and national legal requirements.
2. A flexible cable with a polychloroprene coating (according to 60245 IEC 57) is to be selected as cable for the power supply and for the connection to the indoor and outdoor system.
3. An earth line that is longer than the other cables is to be installed.

Refrigerant data

Refrigerant volumes R410A power inverter

The PUHZ-RP outdoor units have been pre-charged for a pipe length of 30 m (one way length). Longer pipe lengths require additional refrigerant volumes according to the adjacent table.

Outdoor units	Additional refrigerant volume (one way) in kg				
Pipe length (one way) /m	31 – 40	41 – 50	51 – 60	61 – 70	71 – 75
PUHZ-RP35VHA	0.2	0.4	–	–	–
PUHZ-RP50VHA	0.2	0.4	–	–	–
PUHZ-RP60VHA	0.6	1.2	–	–	–
PUHZ-RP71VHA	0.6	1.2	–	–	–
PUHZ-RP100V(Y)KA	0.6	1.2	1.8	2.4	2.4
PUHZ-RP125V(Y)KA	0.6	1.2	1.8	2.4	2.4
PUHZ-RP140V(Y)KA	0.6	1.2	1.8	2.4	2.4
PUHZ-RP200YKA	0.9	1.8	2.7	3.6	*
PUHZ-RP250YKA	1.2	2.4	3.6	4.8	*

*See planning manual for Mr. Slim

Correction factors R410A power inverter

Capacity class	Correction factors for cooling/heating capacity								
Pipe length (one way) /m	5	10	20	30	40	50	60	70	75
RP35	1.00/1.00	0,992/0,997	0,976/0,991	0,962/0,985	0,949/0,979	0,936/0,973	–/–	–/–	–/–
RP50	1.00/1.00	0,985/0,997	0,957/0,991	0,931/0,985	0,908/0,979	0,886/0,973	–/–	–/–	–/–
RP60	1.00/1.00	0,992/0,997	0,976/0,991	0,962/0,985	0,949/0,979	0,936/0,973	–/–	–/–	–/–
RP71	1.00/1.00	0,988/0,997	0,966/0,991	0,946/0,985	0,929/0,979	0,913/0,973	–/–	–/–	–/–
RP100	1.00/1.00	0,957/0,991	0,957/0,991	0,931/0,985	0,908/0,979	0,886/0,973	0,865/0,967	0,846/0,961	0,829/0,955
RP125	1.00/1.00	0,981/0,997	0,946/0,991	0,914/0,985	0,885/0,979	0,858/0,973	0,834/0,967	0,812/0,961	0,792/0,955
RP140	1.00/1.00	0,976/0,997	0,932/0,991	0,893/0,985	0,858/0,979	0,828/0,973	0,813/0,970	0,776/0,961	0,753/0,955
RP200	1.00/1.00	0,984/0,999	0,958/0,990	0,930/0,985	0,908/0,980	0,888/0,975	0,867/0,968	0,848/0,960	0,839/0,958
RP250	1.00/1.00	0,984/0,999	0,958/0,990	0,930/0,985	0,908/0,980	0,888/0,975	0,867/0,968	0,848/0,960	0,839/0,958

Refrigerant volumes R410A standard inverter

The PUHZ-P100VHA outdoor unit is pre-charged with 2.7 kg for a pipe length of 20 m (one way length). The PUHZ-125-250V(Y)HA outdoor units are pre-charged for 30 m. For longer pipe lengths, see table.

Outdoor units	Additional refrigerant volume (one way) in kg				
	21 – 30 m	31 – 40 m	41 – 50 m	51 – 60 m	61 – 70 m
PUHZ-P100VHA/YHA	0.6	1.2	1.8	–	–
PUHZ-P125VHA/YHA	–	0.6	1.2	–	–
PUHZ-P140VHA/YHA	–	0.6	1.2	–	–
PUHZ-P200YHA	–	0.9	1.8	2.7	3.6
PUHZ-P250YHA	–	1.2	2.4	3.6	4.8

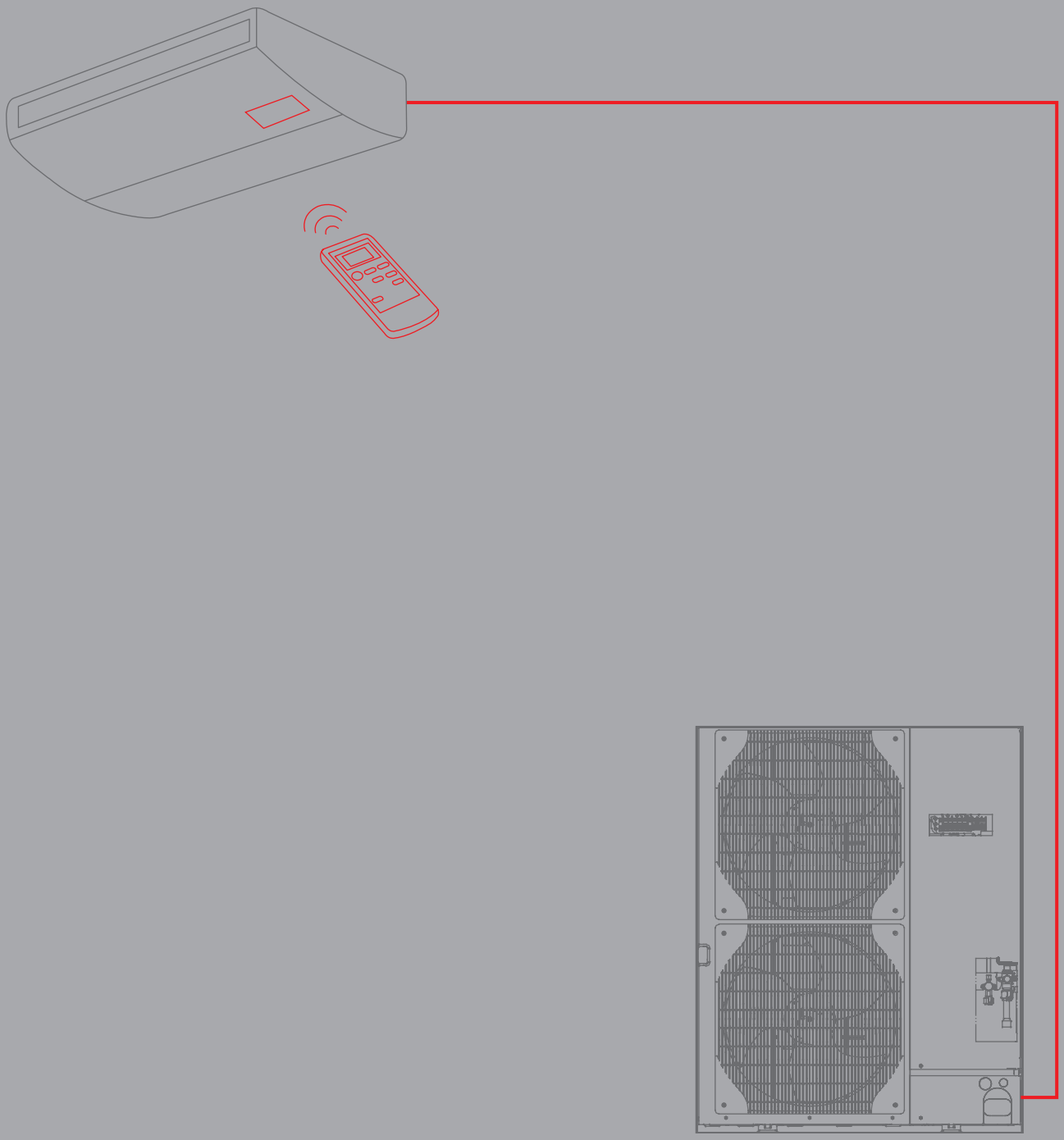
Refrigerant volumes R410A Zubadan inverter

Outdoor units	Additional refrigerant volume (one way) in kg				
	31 – 40 m	41 – 50 m	51 – 60 m	61 – 70 m	71 – 75 m
PUHZ-HRP71-125VHA/YHA	0.6	1.2	1.8	2.4	2.4

* Pre-charged refrigerant volume

Correction factors R410A Zubadan inverter

Capacity class	Pipe lengths (one way) m									
	5	10	20	30	40	50	55	60	70	75
PUHZ-HRP71VHA	1.00/1.00	0,988/0,997	0,966/0,991	0,946/0,985	0,929/0,979	0,913/0,973	0,905/0,970	0,897/0,967	0,876/0,961	0,870/0,955
PUHZ-HRP100VHA	1.00/1.00	0,985/0,997	0,957/0,991	0,931/0,985	0,908/0,979	0,886/0,973	0,876/0,970	0,865/0,967	0,846/0,961	0,829/0,955
PUHZ-HRP100YHA	1.00/1.00	0,985/0,997	0,957/0,991	0,931/0,985	0,908/0,979	0,886/0,973	0,876/0,970	0,865/0,967	0,846/0,961	0,829/0,955
PUHZ-HRP125YHA	1.00/1.00	0,981/0,997	0,946/0,991	0,914/0,985	0,885/0,979	0,858/0,973	0,845/0,970	0,834/0,967	0,812/0,961	0,792/0,955



MULTI-SPLIT OPERATION AND ACCESSORIES

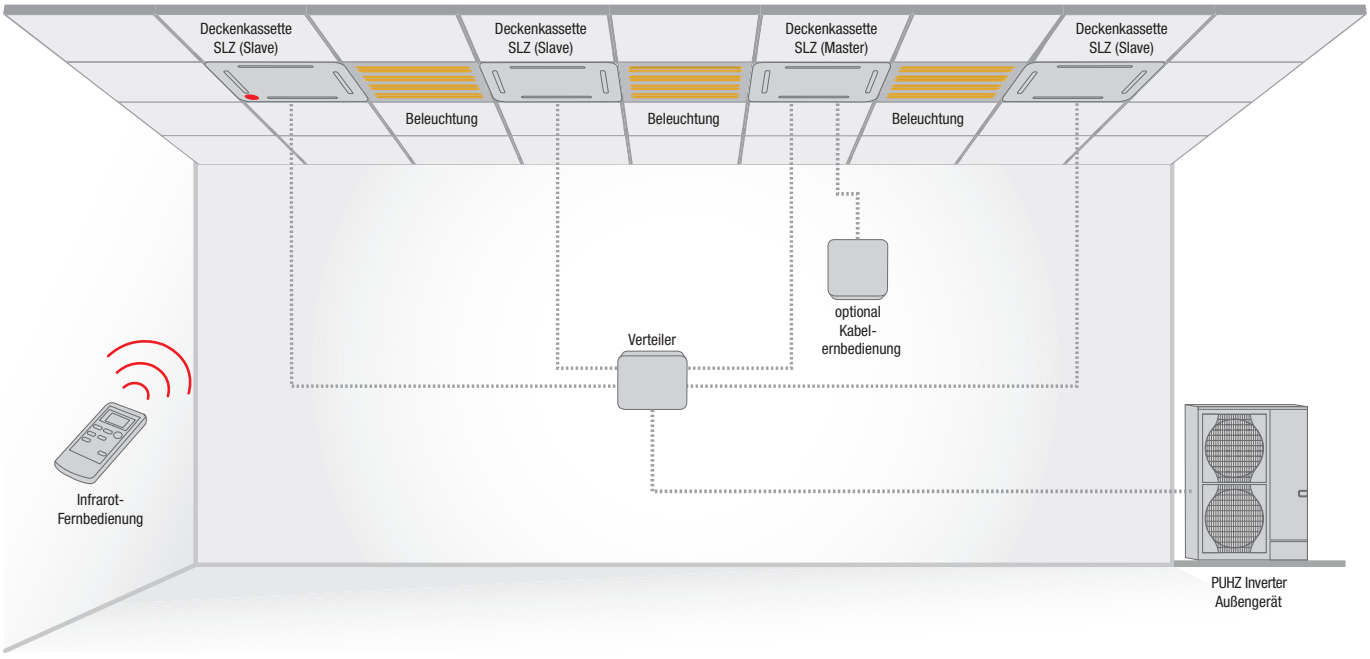
Multi-split simultaneous operation

Refrigerant distributor

Parallel operation for 2 to 4 indoor units (for one climate zone)

- Depending on the capacity, two (duo), three (trio) or four (quadro) indoor units can be connected to a Mr. Slim outdoor unit.
- It is possible to combine different indoor unit models. You only need a single remote control which is connected to the master unit and operates all other indoor units as well.
- The Mr. Slim series is particularly suited for large rooms, such as open-plan offices or retailing spaces forming a single climate zone. Since only the room temperature sensor in the master unit is active, the indoor units must be installed in a single room (in one climate zone).

Use of the multi-split distributor



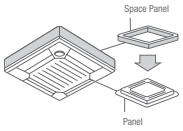
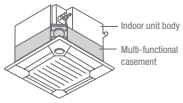
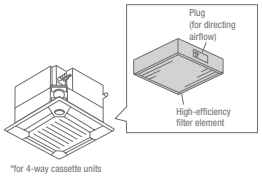
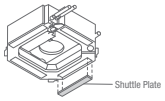
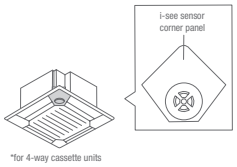
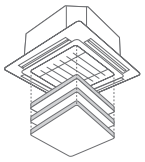
The multi-split combinations with outdoor units

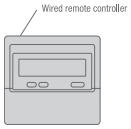
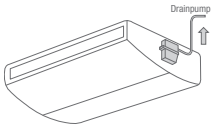
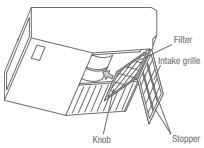
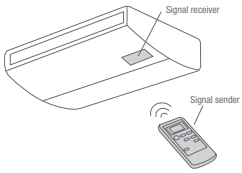
PUHZ-(R)P, PUHZ-HRP				
Capacity code	**Duo 50:50**	**Duo 50:50**	**Trio 33:33:33**	**Quadro 25:25:25:25**
71	35 + 35			
100	50 + 50			
125	60 + 60			
140	71 + 71		50 + 50 + 50	
200		100 + 100	60 + 60 + 60	50 + 50 + 50 +50
250		125 + 125	71 + 71 + 71	60 + 60 + 60 + 60
Distributor	MSDD-50TR-E	MSDD-50WR-E	MSDT-111R-E	MSDF-1111R-E

Selection of indoor units

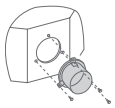
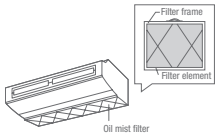
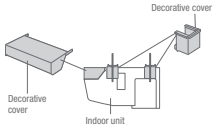
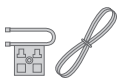
Type	Capacity code
4-way ceiling cassette in standard Euro grid dimensions SLZ-KA	35 to 50
4-way ceiling cassettes PLA-RP	35 to 125
Ceiling concealed ducted units PEAD-RP	35 to 125
Ceiling suspended units PCA-RP	50 to 125
Wall mounted units PKA-RP	35 to 100
Floor mounted units PSA-RP	71 to 125

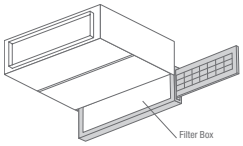
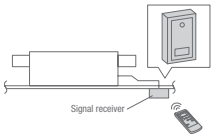
Unit accessories / Indoor units

Designation	Description
PLA-RP BA	**4-way ceiling cassettes**
	**Base grille** Allows for installation when only little free space is available in the ceiling. The required installation height is reduced by 40 mm.
PAC-SH48AS-E	for PLA-RP35-140BA
	**Outside air box incl. filter housing** Used to supply ceiling cassettes with outside air. The outside air volume can be up to 20 % of the nominal air volume. For installation between unit and grille, installation height 135 mm.
PAC-SH53TM-E	for PLA-RP35-140BA
	**High-efficiency filter element** High-efficiency filter element for use in outside air box PAC-SH53TM-E. The high-efficiency filter has a filter efficiency of 65 %, service life approx. 2,500 operating hours.
PAC-SH59KF-E	for PLA-RP35-140BA with outside air box PAC-SH53TM-E
	**Shutter plate** The shutter plates are installed in the air outlet opening of the indoor units, in order to close a maximum of 2 air outlets.
PAC-SH51SP-E	for PLA-RP35-140BA
	**i-see sensor** The i-see sensor measures the temperature in the floor area and, in connection with the automatic fan control, minimises temperature stratifications. Due to the better temperature distribution, the compressor running time and the energy consumption are reduced.
PAC-SA1ME-E	for PLA-RP35-140BA
	**Infrared receiver** The infrared receiver can be integrated into the grille. The PAR-LS97A remote control is required for operation.
PAR-SA9FA-E	for PLA-RP35-140BA
	**Filter lift panel** The filter can be lowered by up to 4 m by means of the remote control. Especially in high rooms, this enables an easy cleaning of the filter.
PLP-6BAJ	for PLA-RP35-140BA

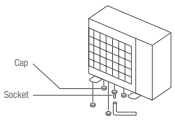
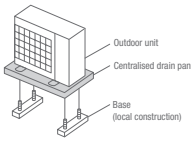
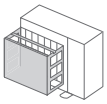
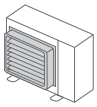
Designation	Description
PLA-RP BA	**4-way ceiling cassettes**
	**Infrared transmitter** Infrared remote control for operating the unit. The PAR-SA9FA-E receiver is additionally required.
PAR-SL97A-E	for PLA-RP35-140BA
	**Standard cable remote control** Cable remote control with weekly timer function and multi-language display.
PAR-21MAA	for PLA-RP35-140BA
	**Deluxe cable remote control** Deluxe cable remote control with background lighting and weekly timer function.
PAR-30MAA	for PLA-RP35-140BA
PCA-RP KAQ	**Ceiling suspended units**
	**Drain pump** The drain pump is integrated in the unit and drains the condensate in an upwards direction.
PAC-SH83DM-E	for PCA-RP50KAQ
PAC-SH85DM-E	for PCA-RP60KAQ
PAC-SH84DM-E	for PCA-RP71 – 140KAQ
	**High-efficiency filter element** High-efficiency filter element as replacement for the standard air filter. High-efficiency and standard filters cannot be operated simultaneously.
PAC-SH88KF-E	for PCA-RP50KAQ
PAC-SH89KF-E	for PCA-RP60/71KAQ
PAC-SH90KF-E	for PCA-RP100-140KAQ
	**Infrared remote control** The infrared remote control set consists of the infrared remote control (transmitter), a wall holder and the receiving part which is inserted into the label on the bottom side of the housing.
PAR-SL94B-E	for PCA-RP50-140KAQ

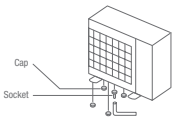
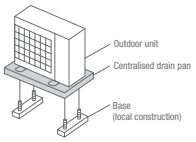
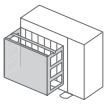
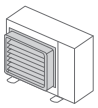
Unit accessories / Indoor units

Designation	Description
PCA-RP HA	**Stainless steel ceiling suspended units**
	**Round channel connection** Channel connection to fresh air supply, ø 200 mm.
PAC-SF28OF-E	for PCA-RP71/125HAQ
	**Replacement filter** Replacement filter for oil separation, package content 12 pieces.
PAC-SG38KF-E	for PCA-RP71-125HAQ
	**Decorative cover** For installation between the unit and the ceiling in order to prevent penetration of dust and contamination.
PAC-SF81KC-E	for PCA-RP71HAQ
PAC-SF82KC-E	for PCA-RP125HAQ
PKA-RP HAL/KAL	**Wall mounted units**
	**Drain pump** The drain pump is equipped with its own housing and is to be installed next to the wall mounted unit on the left-hand side since the intake nozzle of the pump is located there. The delivery height is 800 mm.
PAC-SH75DM-E	for PKA-RP35/50HAL
PAC-SH94DM-E	for PKA-RP60-100KAL
	**Connecting plug for cable remote control** Enables the connection of a cable remote control to the wall mounted units. The use of a cable remote control is required in order to operate the PAC-SF40RM-E adapter for remote monitoring
PAC-SH29TC-E	for PKA-RP35/50HAL, PKA-RP60-100KAL

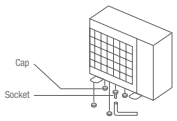
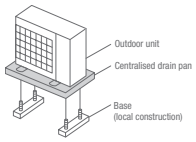
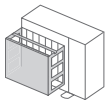
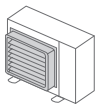
Designation	Description
PEAD-RP JAQ / PEA-RP GAQ	**Ceiling concealed ducted units**
	**Filter boxes** The filter boxes allow for removing the filters from the side or below even if a channel is connected to the suction side. The air filter included in the scope of delivery of the indoor unit is inserted into the filter box.
PAC-KE92TB-E	for PEAD-RP35/50JAQ
PAC-KE93TB-E	for PEAD-RP60/71JAQ
PAC-KE94TB-E	for PEAD-RP100/125JAQ
PAC-KE95TB-E	for PEAD-RP140JAQ
	**Infrared receiver** External infrared receiver for surface installation.
PAR-SA9-CA-E	for PEAD-RP35-140JAQ, PEA-RP200/250GAQ
	**Infrared transmitter** Infrared remote control for operating the unit. The PAR-SA9CA-E receiver is additionally required.
PAR-SL97A-E	for PEAD-RP35-140JAQ, PEA-RP200/250GAQ

Unit accessories / outdoor units

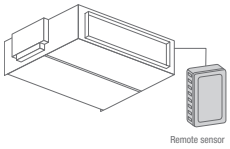
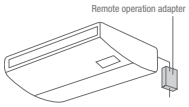
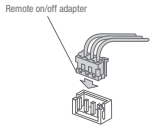
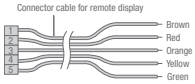
Designation	Description
PUHZ-P	**Standard inverter outdoor units**
	**Condensate drain** With the condensate drain set, the accumulated condensate can be discharged at a central point. The set consists of stopper, discharge, heat insulation and fixing material.
PAC-SG61DS-E	for PUHZ-P100-250
	**Drain pan** The accumulated condensate is collected and can be discharged centrally. This way, it is prevented that condensate drips down to the floor.
PAC-SG64DP-E	for PUHZ-P100-250
	**Wind protection panel** For cooling operation down to -15 °C
PAC-SH63AG-E	for PUHZ-P100-250 for PUHZ-P125-250, 2 pieces are required
	**Air baffle** With the air baffle, the exiting airflow can be diverted to the top, bottom or sideways.
PAC-SG59SG-E	for PUHZ-P100-250 for PUHZ-P125-250, 2 pieces are required

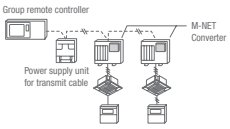
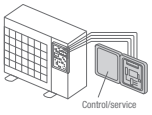
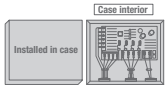
Designation	Description
PUHZ-RP	**Power inverter outdoor units**
	**Condensate drain** With the condensate drain set, the accumulated condensate can be discharged at a central point. The set consists of stopper, discharge, heat insulation and fixing material.
PAC-SG61DS-E	for PUHZ-RP35-250
	**Drain pan** The accumulated condensate is collected and can be discharged centrally. This way, it is prevented that condensate drips down to the floor.
PAC-SG63DP-E	for PUHZ-RP35/50
PAC-SG64DP-E	for PUHZ-RP60/71
PAC-SH97DP-E	for PUHZ-RP100-250
	**Wind protection panel** for cooling operation down to -15 °C
PAC-SG56AG-E	for PUHZ-RP35/50
PAC-SH63AG-E	for PUHZ-RP60/71
PAC-SH95AG-E	for PUHZ-RP100-250 2 pieces are required per outdoor unit
	**Air baffle** With the air baffle, the exiting airflow can be diverted to the top, bottom or sideways.
PAC-SG58SG-E	for PUHZ-RP35/50
PAC-SG59SG-E	for PUHZ-RP60/71
PAC-SH96SG-E	for PUHZ-RP100-250 2 pieces are required per outdoor unit

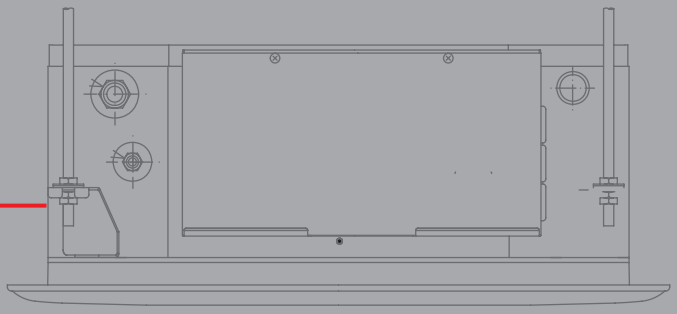
Unit accessories / outdoor units

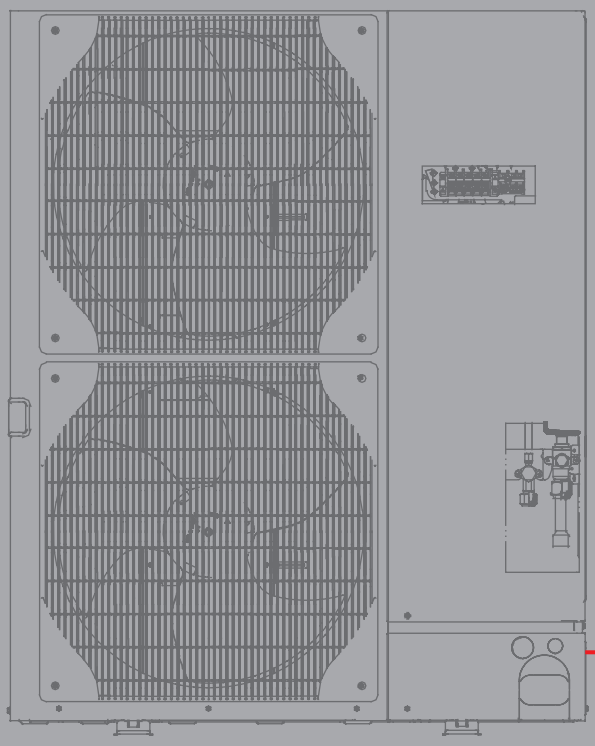
Designation	Description
PUHZ-HRP	**Zubadan inverter outdoor units**
	**Condensate drain** With the condensate drain set, the accumulated condensate can be discharged at a central point. The set consists of stopper, discharge, heat insulation and fixing material.
PAC-SG61DS-E	for PUHZ-HRP71-200
	**Drain pan** The accumulated condensate is collected and can be discharged centrally. This way, it is prevented that condensate drips down to the floor.
PAC-SG64DP-E	for PUHZ-HRP71-125
PAC-SH97DP-E	for PUHZ-HRP200
	**Wind protection panel** for cooling operation down to -15 °C
PAC-SH63AG-E	for PUHZ-HRP71-125 2 pieces are required per outdoor unit
	**Air baffle** With the air baffle, the exiting airflow can be diverted to the top, bottom or sideways.
PAC-SG59SG-E	for PUHZ-HRP71-125 2 pieces are required per outdoor unit
PAC-SH96SG-E	for PUHZ-HRP200 2 pieces are required per outdoor unit

Control accessories

Designation	Description
	Control accessories
	**External temperature sensor** The set consists of temperature sensor, connection cable 2-wire/12 m long and fixing material.
PAC-SE41TS-E	
	**Adapter for remote monitoring** Operation only for systems with cable remote control. Enables switching to remote ON/OFF switching (max. distance 10 m) and to remote monitoring (error/operating message as potential-free contact, max. distance 100 m). Switch for remote ON/OFF, display for error/operating message and cable material provided by the customer.
PAC-SF40RM-E	
	**Remote ON/OFF adapter** The remote ON/OFF adapter consists of a plug with cabling for setting up a remote ON/OFF circuit (length of cabling 2 m, can be extended to a max. of 10 m). Switch, relay, timer and cabling provided by customer.
PAC-SE55RA-E	
	**Cable for remote monitoring** For connection to the Mr. Slim indoor units. Fault and operating messages are output in form of a 12 V DC signal. This 12 V signal can be connected to a relay for further processing. The relay provided by the customer must have a capacity of max. 0.9 W.
PAC-SA88HA-E	

Designation	Description
	Control accessories
	**A/M Net converter** for all Mr. Slim outdoor units. The A/M Net converter enables data exchange between the Mr. Slim series with A-control and the City Multi series with M-Net data bus. This way, Mr. Slim air conditioning units can easily be integrated into the City Multi systems. One converter is required per Mr. Slim outdoor unit.
PAC-SF81MA-E	
	**Service display** for the outdoor units P35 to P140 and RP35 to RP140. The service display is required for displaying up to 40 operating parameters, e. g. operating current, hot gas temperature or operating time of the compressor.
PAC-SK52ST	
	**Interface** Interface for connection of external heat exchangers to Mr. Slim outdoor units. Please note the detailed description on page 85.
PAC-IF011B-E	

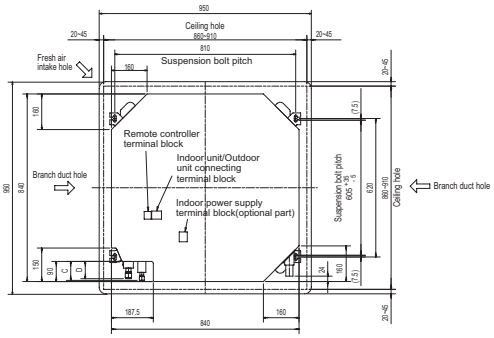


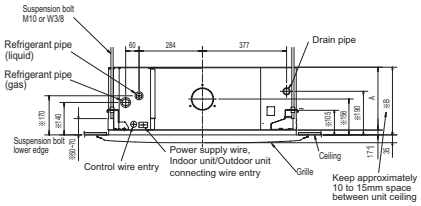


DIMENSIONS

Indoor units

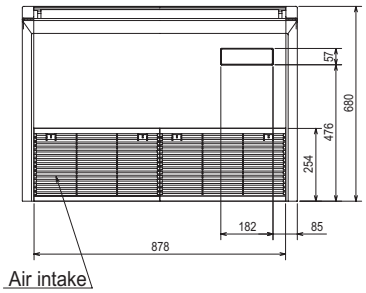
4-way ceiling cassettes PLA-RP35-140 BA

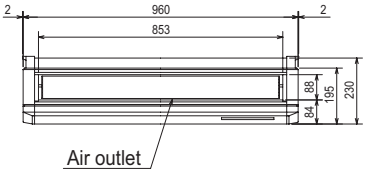


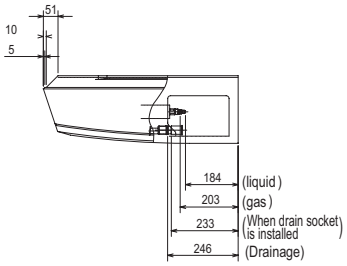


Models	A	B	C	D	E
PLA-RP35/50BA	241	258	80	74	400
PLA-RP60BA			87		
PLA-RP71BA PLA-RP71BA2			85	77	440
PLA-RP100,125BA PLA-RP125BA2 PLA-RP100BA3 PLA-RP140BA2	281	298			

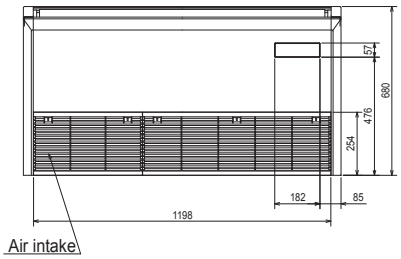
Ceiling suspended units PCA-RP50 KA

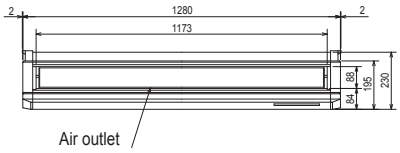


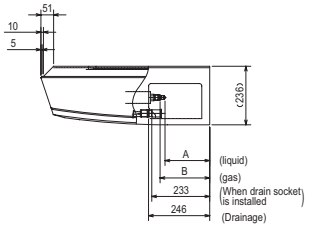




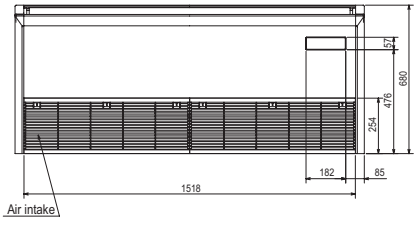
Ceiling suspended units PCA-RP60/71 KA

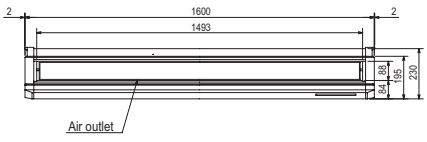


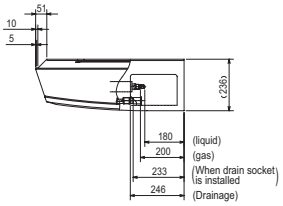




Ceiling suspended units PCA-RP125/140 KA

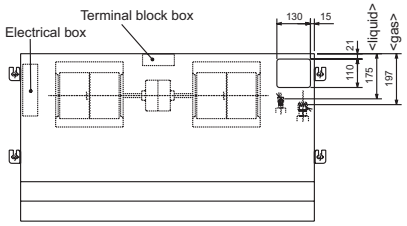


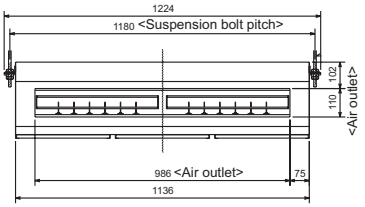


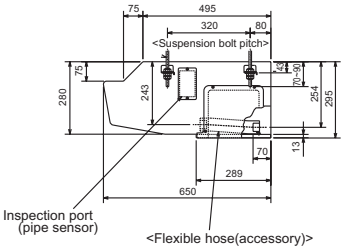


Indoor units

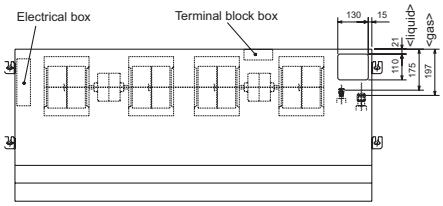
Stainless steel ceiling suspended units PCA-RP71 HA

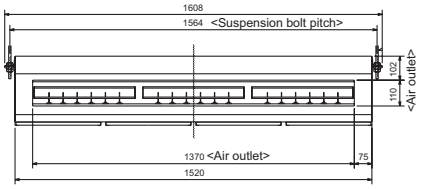


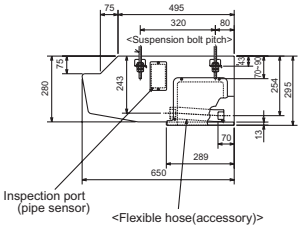




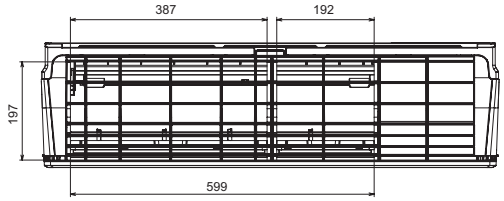
Stainless steel ceiling suspended units PCA-RP125 HA

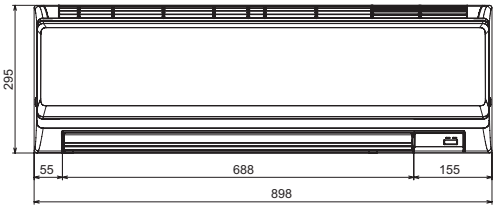


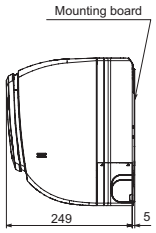




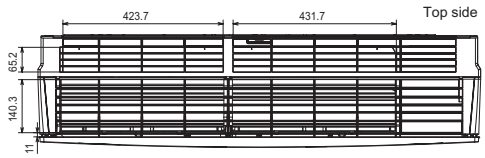
Wall mounted units PKA-RP35/50 HAL

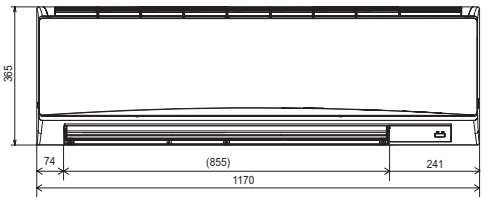


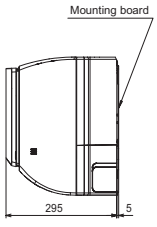




Wall mounted units PKA-RP60-100 KAL

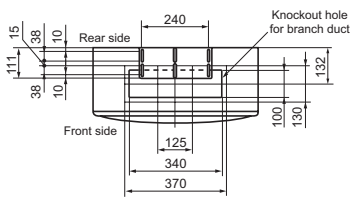


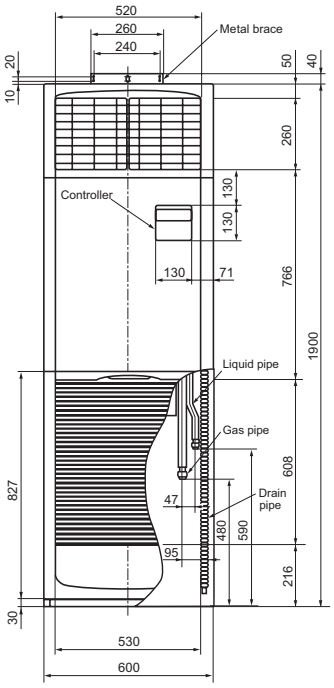


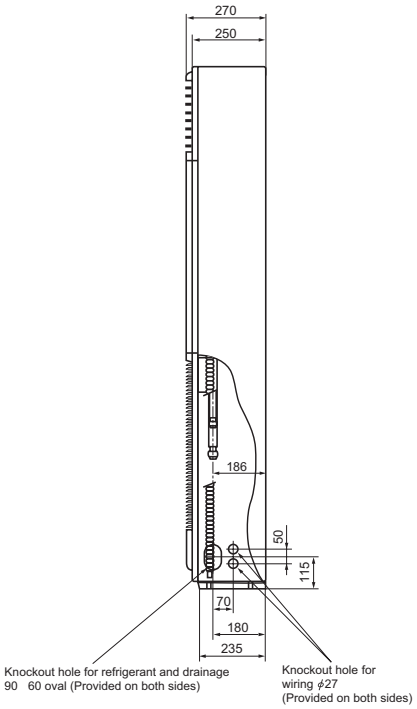


Indoor units

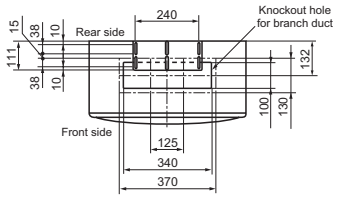
Floor mounted units PSA-RP71 GA

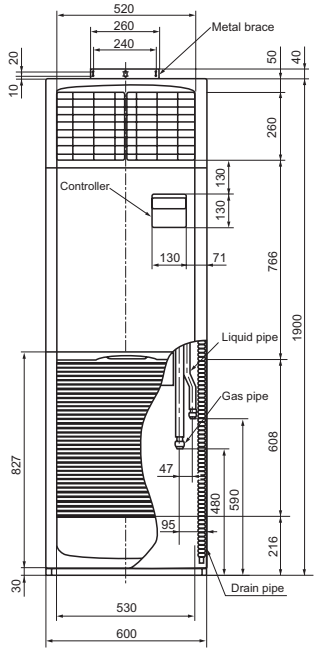


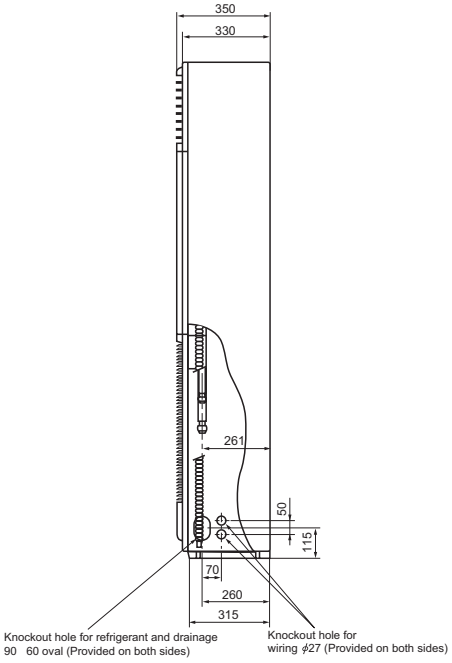




Floor mounted units PSA-RP100–140 GA

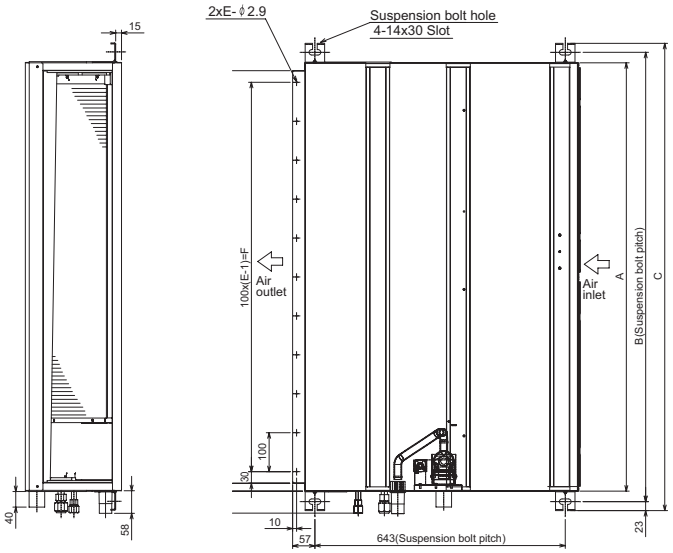


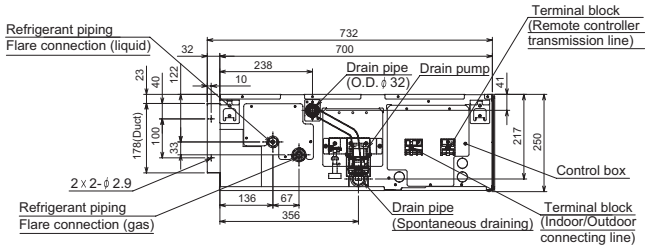




Indoor units

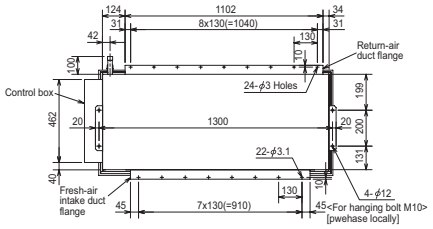
Ceiling concealed ducted units PEAD-RP35-140 JA

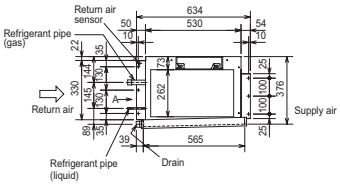


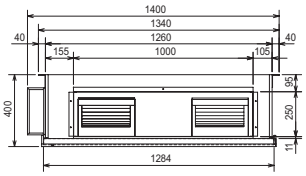


Model	A	B	C	D	E	F
PEAD-RP35,50JA	900	954	1000	860	9	800
PEAD-RP60,71JA	1100	1154	1200	1060	11	1000
PEAD-RP100,125JA	1400	1454	1500	1360	14	1300
PEAD-RP140JA	1600	1654	1700	1560	16	1500

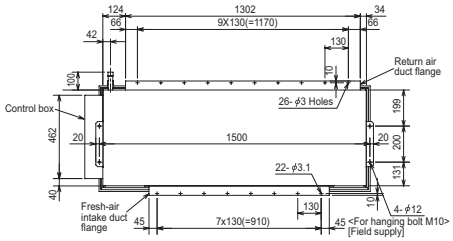
Ceiling concealed ducted units, high pressure PEA-RP200 GA

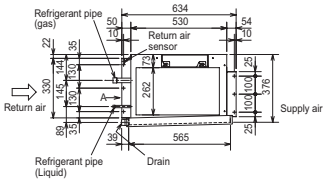


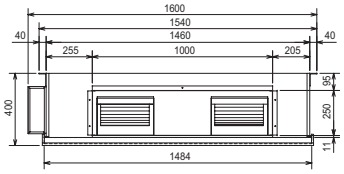




Ceiling concealed ducted units, high pressure PEA-RP250 GA

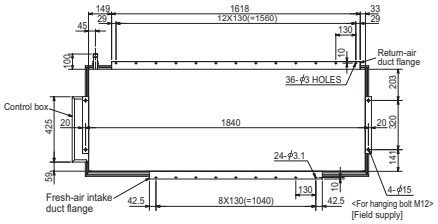


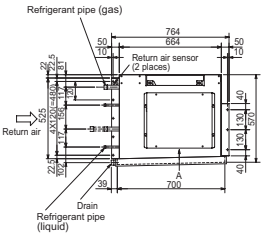


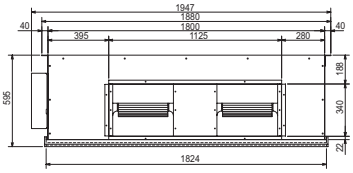


Indoor units

Ceiling concealed ducted units, high pressure PEA-RP 400/500 GA

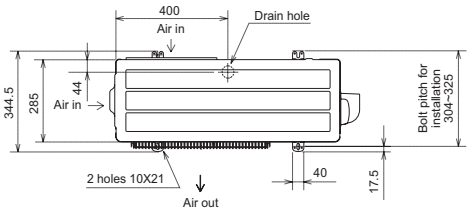


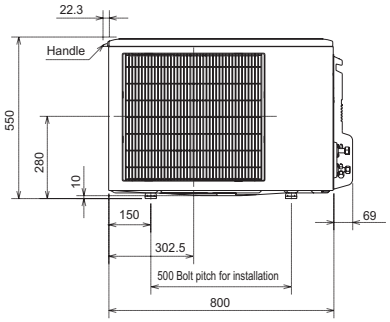


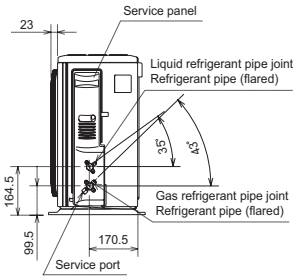


Outdoor units

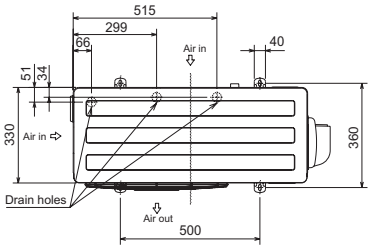
Outdoor units standard inverter, SUZ-KA25/35 VA

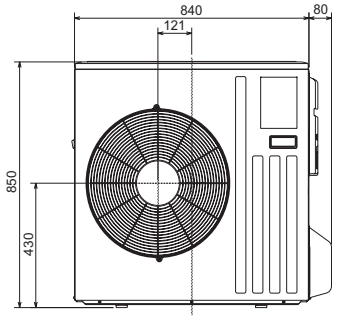


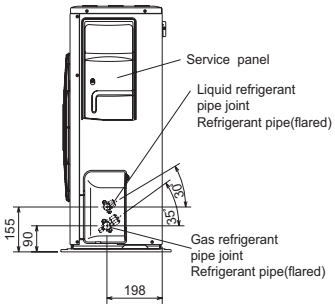




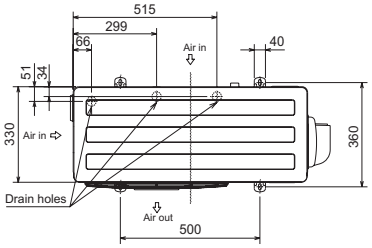
Outdoor units standard inverter, SUZ-KA50/60VA

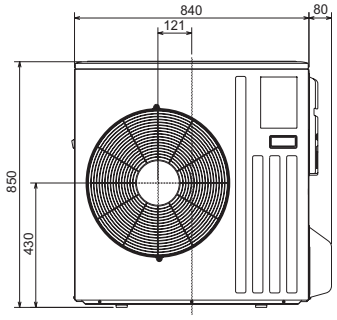


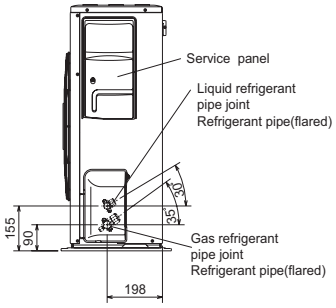




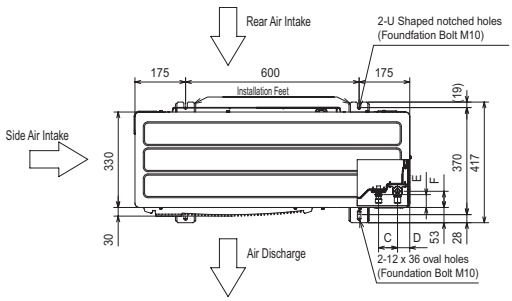
Outdoor units standard inverter, SUZ-KA71VA

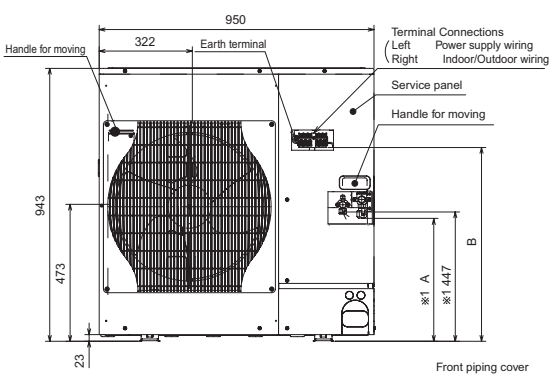


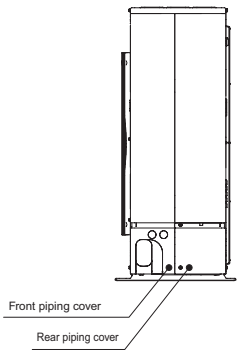




Outdoor units standard inverter, PUHZ-P100 VHA/YHA

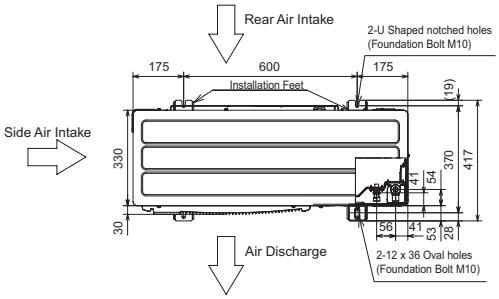


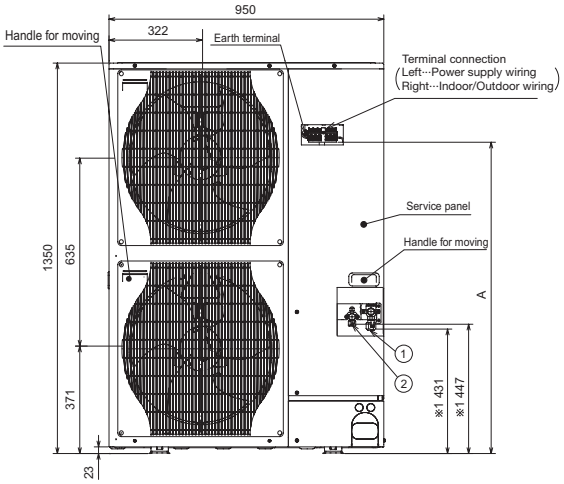


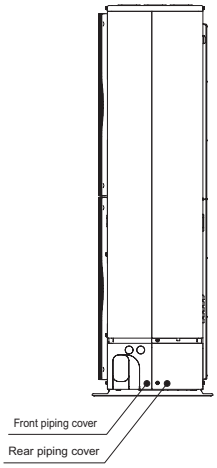


Outdoor units

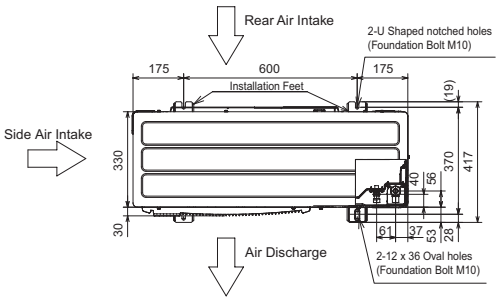
Outdoor units standard inverter, PUHZ-P125/140 VHA/YHA

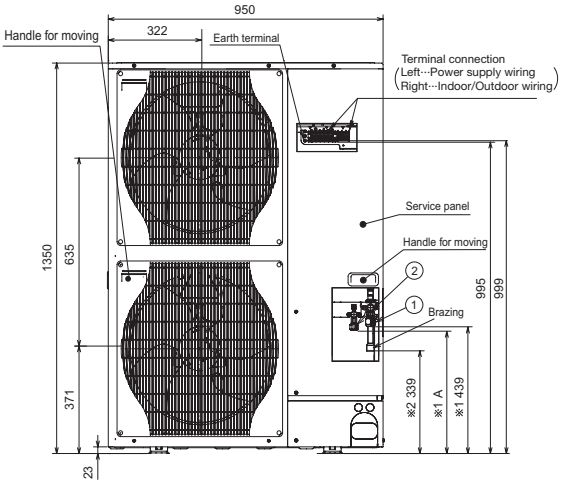


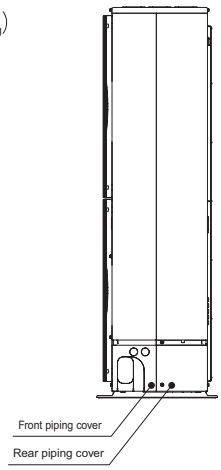




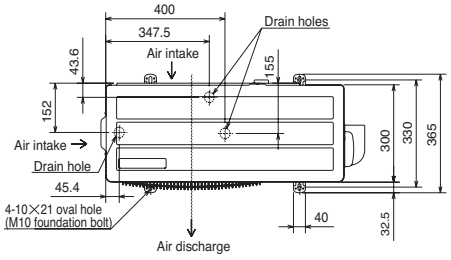
Outdoor units standard inverter, PUHZ-P200/250 YHA

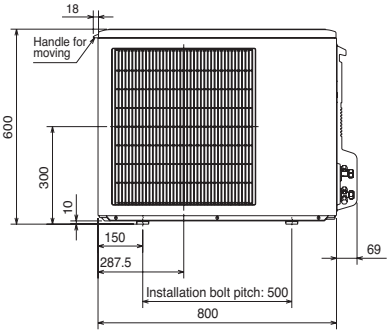


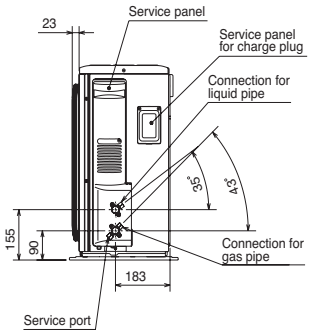




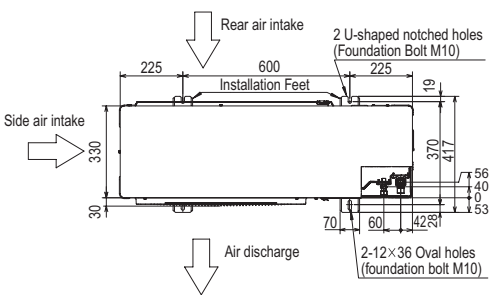
Outdoor units power inverter, PUHZ-RP35/50 VHA

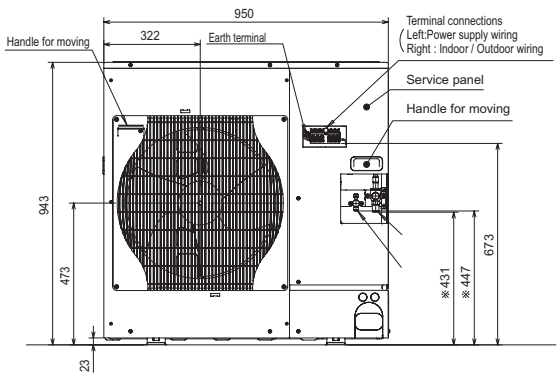


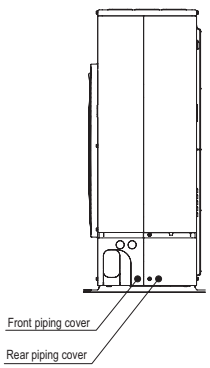




Outdoor units power inverter, PUHZ-RP60/71 VHA

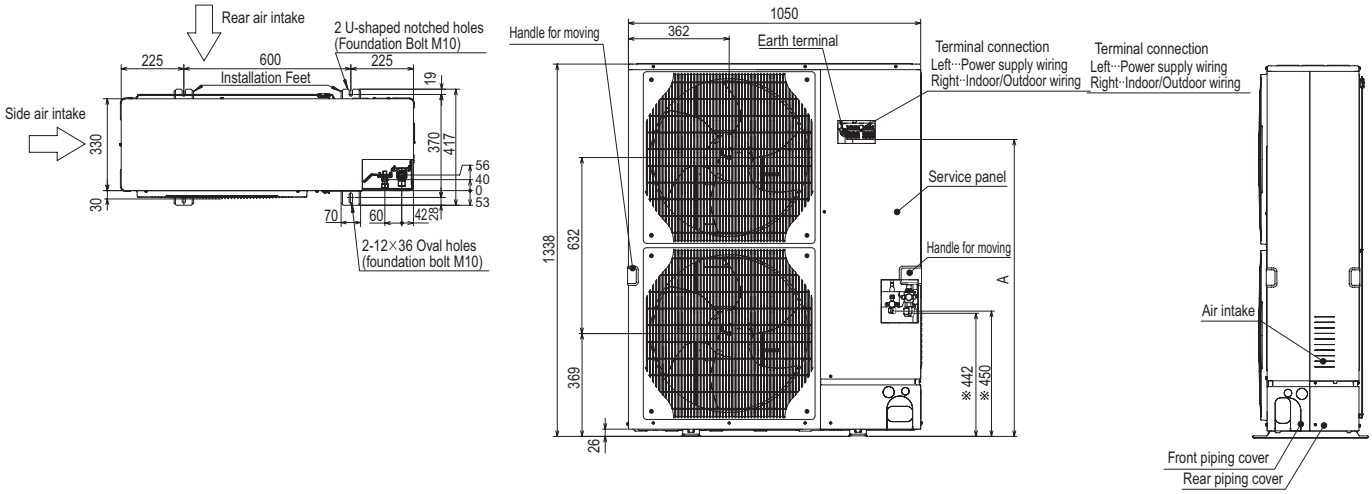




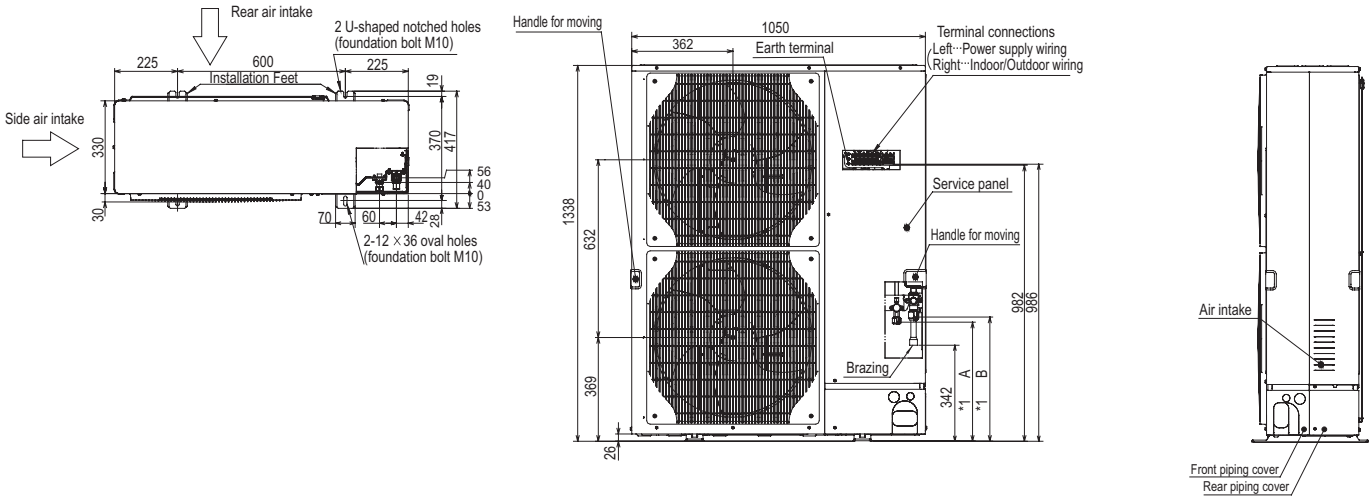


Outdoor units

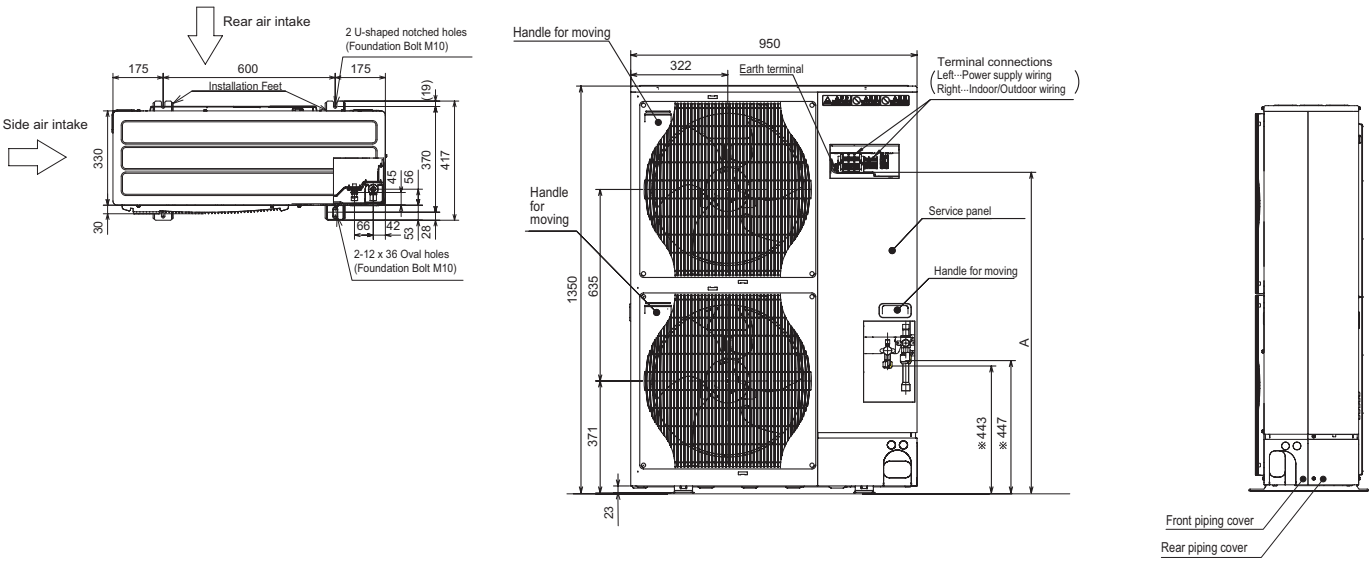
Outdoor units power inverter, PUHZ-RP100-140 YKA



Outdoor units power inverter, PUHZ-RP200/250 YKA



Outdoor units Zubadan inverter, PUHZ-HRP71-125 VHA/YHA



General conditions

Mr. Slim series

Guaranteed application area of the Mr. Slim series

Outdoor units SUZ-KA

Cooling	Indoor:	21–32 °C	(dry)
		15–23 °C	(wet)
	Outdoor:	-10–43 °C	(dry)
		-15–43 °C	(dry)
		for SUZ-KA50/60/71	
Heating	Indoor:	20–27 °C	(dry)
	Outdoor:	-9–21 °C	(dry)
		-10–15 °C	(wet)

Outdoor units PUHZ-P/RP

Cooling	Indoor:	19–35 °C	(dry)
		15–22.5 °C	(wet)
	Outdoor:	-15–46 °C	(dry)
Heating	Indoor:	17–28 °C	(dry)
	Outdoor:	-11–24 °C	(dry)
		-20–18 °C	(wet)

Outdoor units PUHZ-HRP

Cooling	Indoor:	19–32 °C	(dry)
		15–23 °C	(wet)
	Outdoor:	-15–46 °C	(dry)
Heating	Indoor:	17–28 °C	(dry)
	Outdoor:	-25–35 °C	(dry)
		-25–15 °C	(wet)

Measuring conditions of the Mitsubishi Electric air conditioning units

Cooling	Indoor:	27 °C	(dry)
		19 °C	(wet)
	Outdoor:	35 °C	(dry)
		24 °C	(wet)
Heating	Indoor:	20 °C	(dry)
	Outdoor:	7 °C	(dry)
		6 °C	(wet)

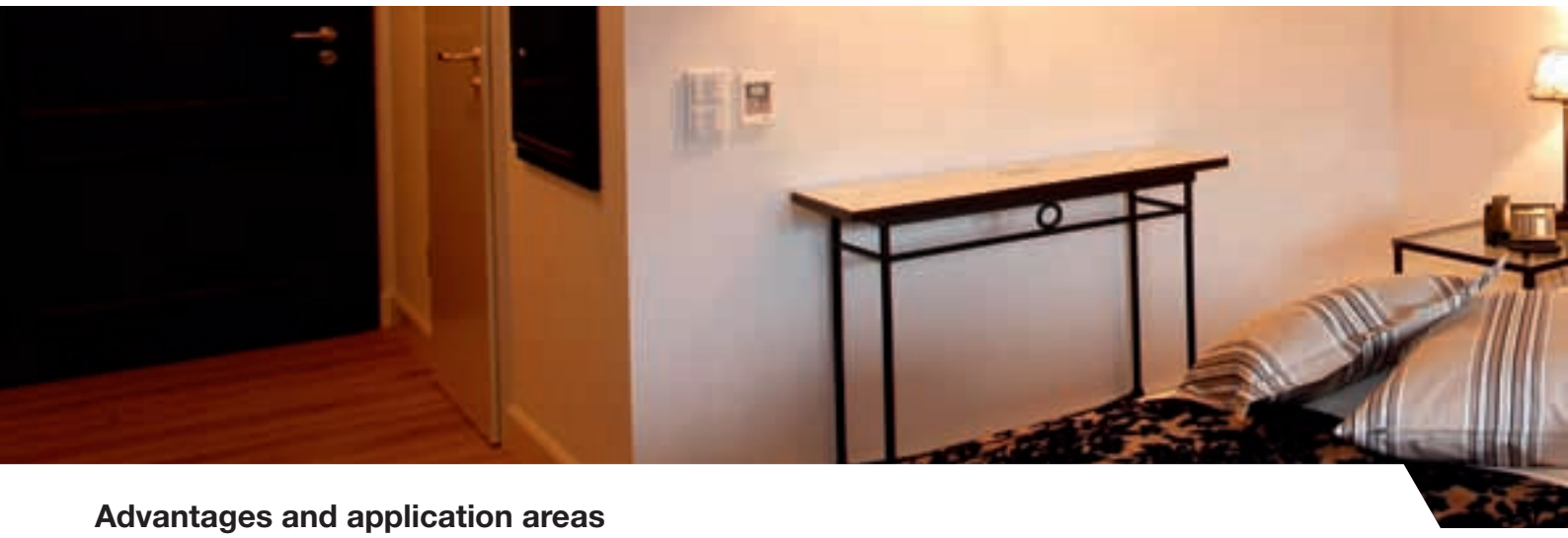
Refrigerant pipe length one way 5 m, ΔH = 0 m. Sound pressure level measured in the free field, measuring point for outdoor unit at a distance of 1 m and at a height of 1 m in front of the unit. For indoor units, depending on the unit type, refer to technical data.

Type code

P	P=P-series, S=S-series
U	U=outdoor unit, K=wall mounted unit, C=ceiling suspended unit, L=ceiling cassette, E=ceiling concealed ducted unit, S=floor mounted unit
H	Heat pump
Z	Inverter
RP	71 Capacity code in kilowatt (7.1 kW)
V	V=50 Hz, 230 V, 1 phase Y=50 Hz, 400 V, 3 phases
H	Generation
A	A-control

CITY MULTI VRF

City Multi VRF / Contents



Advantages and application areas

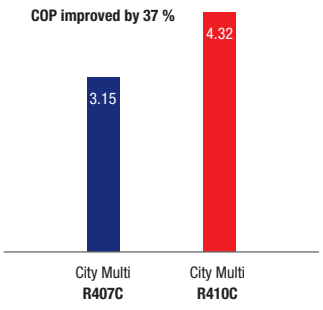
VRF systems for a modern and complex architecture
Die City Multi series is ideal for large and challenging buildings that call for custom solutions for air conditioning. The huge selection of indoor models and the large capacity range of the outdoor units ensure maximum creative scope at the planning and design stage. These advanced VRF systems are distinguished by superlative energy efficiency values and extremely high reliability and ensure optimum air-conditioned comfort in offices, shopping centres, hotels, hospitals and public buildings.

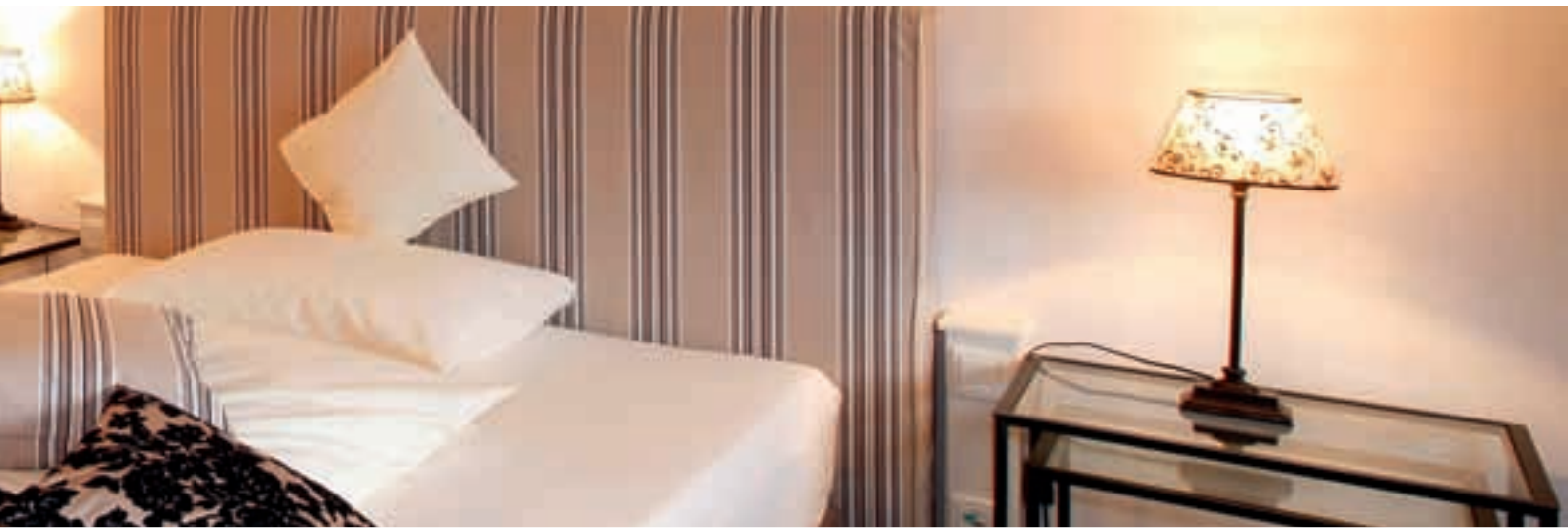
The system variants
- Large capacity range of the outdoor units: 11.2/12.5 kW to 140.0/156.5 kW in cooling/heating mode.
- Y-series for cooling or heating. Up to 50 indoor units can be connected to a single refrigerant circuit.
- R2-series for cooling and heating. The dual-pipe system for parallel cooling and heating is unique worldwide. Unlike the conventionally employed triple-pipe system, the third pipe is omitted on the Mitsubishi Electric R2 system. This simplifies installation and reduces costs considerably.
- The Y-series and R2-series are also available with water-cooled heat exchangers and in a high-COP version.
- PFD-series for reliable air conditioning of IT/equipment rooms.
- Indoor units are controlled via single (cable or infrared remote control), group, system and central remote controls.

Advantages at a glance:
- All system components of the City Multi series are designed for maximum efficiency and achieve exceptional COPs (coefficients of performance) in combination with the refrigerant R410A.
- Very low starting current thanks to full inverter technology
- DC compressor technology
- Energy savings of up to 50 % as a result of the heat recovery system (R2-series). The heat energy generated in cooling mode is used for parallel heating mode.
- The special design of the heat exchangers on the outdoor unit and the inverter-controlled capacitor fan ensure exceptional outdoor unit noise levels (44 dB (A) at a distance of 1 metre at night, 28 kW unit).
- All outdoor units are equipped with the coated Blue Fin heat exchanger, which provides protection from aggressive air. Thanks to a special pressing process, the fins are smooth and thus dirt-repellent.
- The operating range in heating mode is +15.5 °C to -20 °C. This means that monovalent City Multi systems can be put to use in very cold regions.
- To achieve exceptionally low indoor temperatures, the PEFY-P and PFFY-P indoor units have a special function for cooling rooms that require temperatures of up to 14°C.

Possible connections
The City Multi series can be supplementary connected to external control systems. For connection to building management systems, a variety of interfaces are available:
- LonWorks®
- OPC Server
- BACnet
- EIB
- Fidelio (hotel software)

- For combination with external ventilation systems, connection kits (PAC-AH) are required. All the advantages of the City Multi outdoor units are thus extended to the external systems and ensure optimum, energy-saving conditioned air.





Automatic refrigerant volume check
The City Multi outdoor units of the YJM series are equipped with an automatic refrigerant volume check function which can easily be started at the push of a button during maintenance. This way, the system is checked for leaks in an easy and fast manner. Checking the fill level is completed in 60 minutes.

200 % Indoor unit capacity
As a standard, the overall capacity of the connected indoor units may not exceed that of the outdoor units by more than 130 % (150 % for R2 systems). However, the connected load can be increased by means of a special software upon request – which is optimal for special solutions.

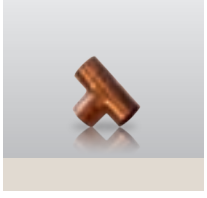
- 200 % for systems consisting of one module
- 160 % for systems consisting of two modules

New capacity class P15
With the ceiling concealed ducted unit PEFY-P15VMS1 as well as the wall mounted unit PKFY-P15-VBM-E, Mitsubishi Electric offers a unique capacity class with only 1.7 kW that has been specifically developed for small rooms with a low cooling load. Due to the demand-based design, the comfort and efficiency of the VRF system are increased. Within the connection limit of 130 %, up to 50 indoor units can be connected. This is made possible by the improvement of the minimum capacity, an optimised cooling circuit and a new inverter compressor with a minimum frequency of only 15 Hz.

Air outlet with Coanda effect
The 4-way and 2-way ceiling cassettes are provided with an air outlet with Coanda effect. The airflow is directed under the ceiling and thus provides for comfortable and draught-free air conditioning.

Flexible planning and installation
- Very long pipe lengths, only two pipes for refrigerant distribution (R2-series) and space-saving outdoor units simplify planning and subsequent installation.
- The outdoor units up to 50 kW are fully piped internally, thus eliminating the need for additional pipe fitting on the customer site.
- Savings of material costs by using inexpensive standard tees instead of expensive distributors, and even these are no longer necessary on the R2-Series thanks to the BC controller.
- Long pipe lengths of up to 1,000 m overall permit large creative scope when planning the system in large buildings.

New seal of quality for room air conditioning units
The professional association „Fachverband Gebäude-Klima e.V (FGK)“ has awarded all split units with heat pump functions by Mitsubishi Electric the new seal of quality for room air conditioning units. The most important award criteria include:
- Highest energy efficiency – only inverter units may be labelled with the seal of quality
- Guaranteed availability of replacement parts within two working days, replacement parts must be available for at least ten years
- Comprehensive range of training, planning support and complete documentation
- Guaranteed compliance with technical data in catalogues, performance data according to EN 14511



The Y-series standard tee is inexpensive and always fits.
For the R2-series, no distributors are necessary at all.

Qualitätssiegel Raumklimageräte
zum Heizen und Kühlen
• Service
• Hygiene
• Energieeffizienz
Gemäß STATUS-REPORT 26
des Fachverbandes Gebäude-Klima e. V.

Advantages and application areas

New water systems for City Multi VRF
With the new water modules for the supply of hot, cold and service water, Mitsubishi Electric sets a new standard for VRF systems. The modules are compatible with the City Multi series, which is more and more developing into a complete solution for modern building technology.

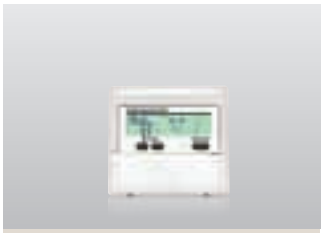
Complete solutions are the uprising trend in the field of building technology and Mitsubishi has once again proven that it knows the requirements of the market: Mitsubishi Electric is the first company on the market to present fully compatible systems for providing hot and cold water from 5 °C to 45 °C as well as hot water up to 70 °C. With these new water modules, Mitsubishi Electric extends the application area of the City Multi series even further – while setting a new milestone for VRF systems in the process.

Compatible with all components of the City Multi series
The modules of the new water system can be operated together with the standard indoor unit in a City Multi VRF system. In addition to the integration of air conditioning units via corresponding connection kits, the City Multi system can also provide solutions for hot and cold water supply of a building.

Endless range of applications
A heat exchange module, available in two capacities, is provided for hot and cold water supply. This module is suitable for floor heatings, ventilation systems, air curtains for doors, fan coils and many other applications. Due to its high flexibility, there are practically no limitations to the scope of applications.

Especially for the hot water supply up to 70 °C, we provide a booster module, which can achieve these high water temperatures by means of an additionally integrated cooling cycle based on the cascade principle. The booster cycle is powered by an extremely smoothly running inverter-controlled compressor. R134a is used as refrigerant. All units offer a large number of external inputs and outputs for selecting the mode of operation and for monitoring the operating status. The set value can be defined via an external 4-20 mA signal.

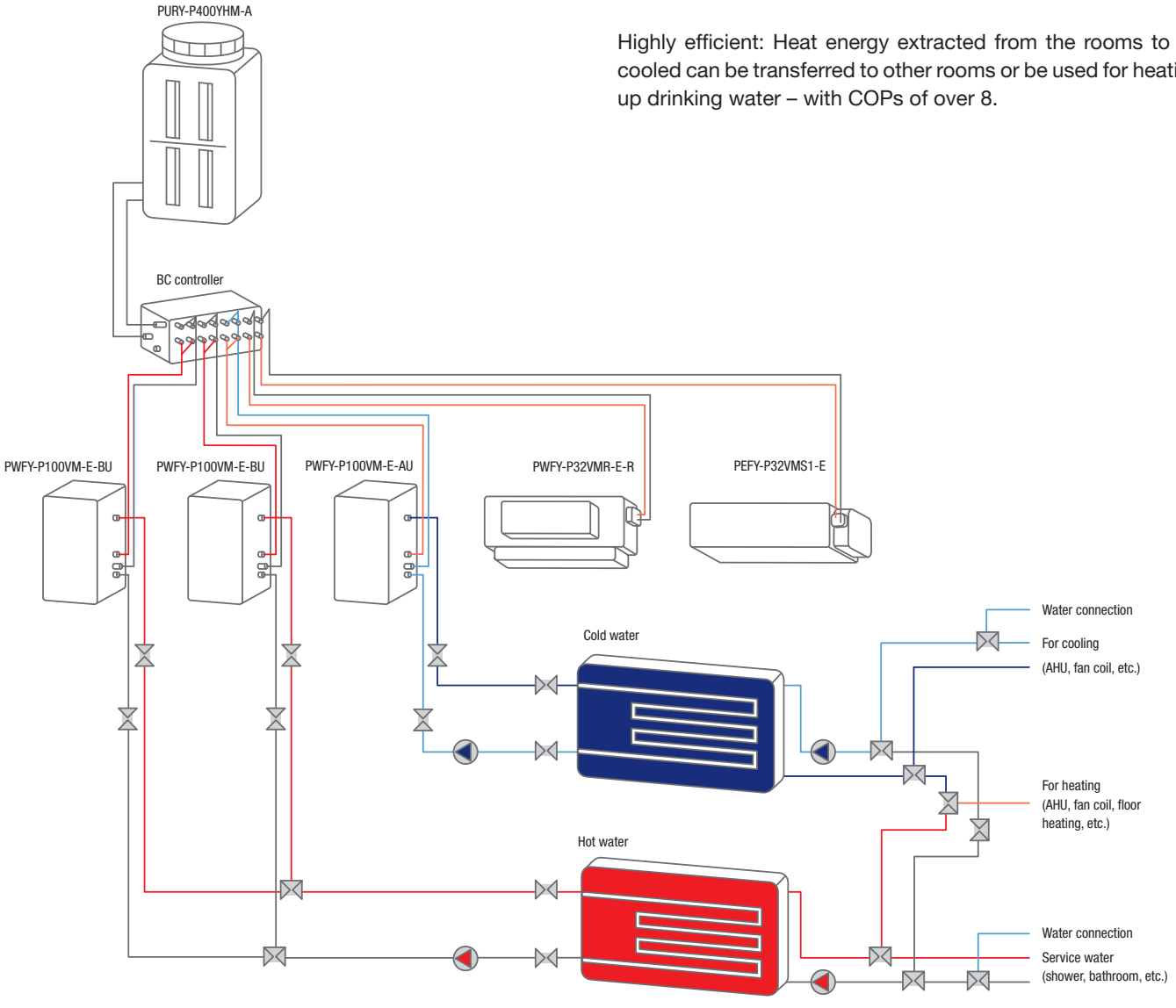
Intelligently designed accessories
The new PAR-W21MAA remote control, particularly designed for applications in water systems, is available as additional accessory. Firstly, the relevant set value can be defined and secondly, a heat curve can be entered. Thus, if heating is required, the water temperature can be automatically adjusted to the relevant outside temperature, which ensures an energy-efficient operation.



PAR-W21MAA

The universal solution – everything from a single source
The combination of the new water modules, for example with an R2 system and indoor units, enables the implementation of an entire project. The Mitsubishi Electric system can be used for any kind of application ranging from ventilation, over air conditioning of single rooms to heating up drinking water (up to 70 °C). Since the systems are perfectly compatible with each other and are connected in terms of control, there are no problems with regard to systems working against each other.

Highly efficient: Heat energy extracted from the rooms to be cooled can be transferred to other rooms or be used for heating up drinking water – with COPs of over 8.



Novelties

New City Multi outdoor unit generation YJM

With the new outdoor unit generation of the series YJM, the efficiency and performance of the City Multi series could be enhanced even further. Due to the use of the latest compressor and heat exchanger technology, the energy consumption is further reduced. The performance curve in heating mode has been optimised offering an even greater number of planning possibilities for heat pump applications.

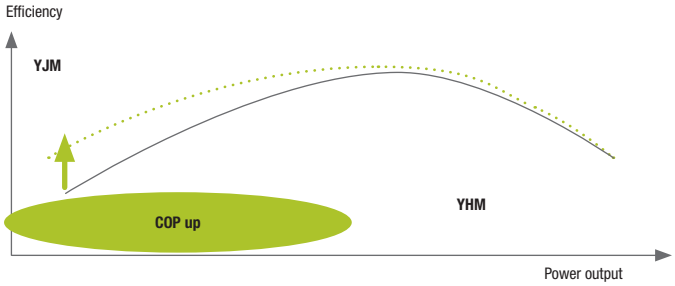
New high-efficiency heat exchanger

Specially designed heat exchange fins are used in order to create the greatest possible heat exchange surface. The special manufacturing of the fins provides for an improved heat exchange. Due to the special design, a better airflow is achieved in the outdoor unit which results in an optimal use of the heat exchanger.

New XL housing

With the new XL housing, the efficiency is further increased by using bigger heat exchangers. The airflow has been increased by 40 %. By using the extensive heat exchanger, this could be achieved while maintaining the same sound pressure level.

State-of-the-art compressor technology

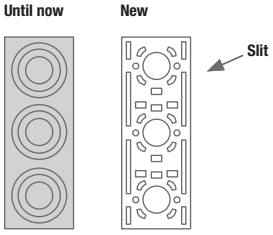


By using state-of-the-art compressor and motor technology, the efficiency of the partial load operation is further increased in particular. The drive motor is provided with a special winding technology developed by Mitsubishi Electric which results in a very compact design and highest levels of efficiency.

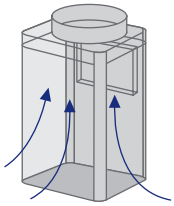
New XL module

XL modules with larger heat exchange surface

Improved heat exchanger

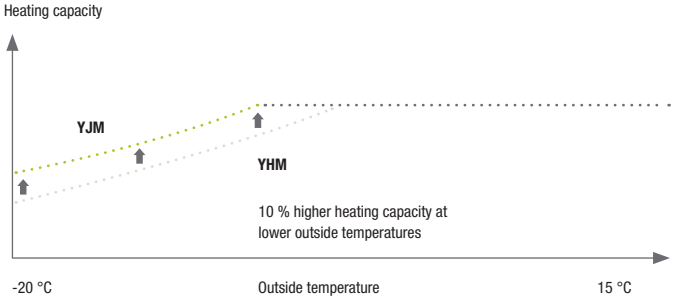


New fin structure for better heat exchange

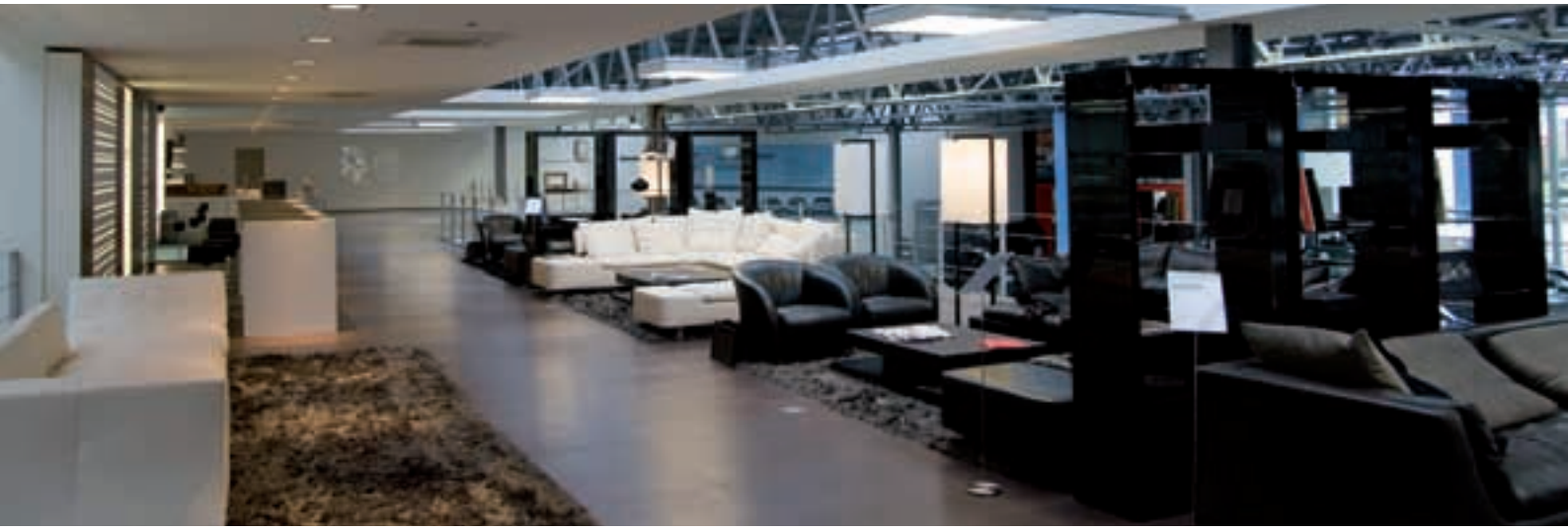


Improved airflow in outdoor unit for optimal use of heat exchanger

Increased heating capacity



The 10 % increase in heating capacity at low outside temperatures results in more planning possibilities for heat pump applications.

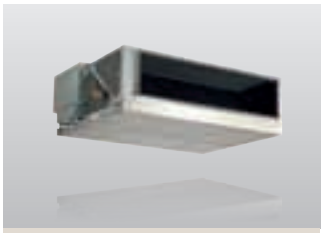


Extended capacity range of the R2-series
The capacity range of the R2-series with heat recovery was extended to a cooling capacity of up to 101 kW. This way, an even wider range of applications can be covered with the only VRF heat recovery system system on the market that only uses two pipes.

New ceiling concealed ducted units PEFY-P200/250VMHS
The new ceiling concealed ducted units are now equipped with an DC fan motor with a voltage supply of 230 V and three fan levels. Due to the voltage supply of 230 V, the electrical connection is made considerably easier. The external static pressure can be adjusted between 50 PA and 250 PA, as required.

New connection kit for cooling capacity of up to 56 kW
With the new connection kits for external heat exchangers, cooling capacities of up to 56.0 kW can be achieved with the unit size 500 via a heat exchanger. In heating mode, up to 63.0 kW are available. The new generation is also equipped with an 0 - 10 V signal input as standard, which can be used to preset the target value for the supply air controlled or return air controlled operation. The new connection kit can be connected to all outdoor units of the series PUHY/PURY/PQHY and PQRY (PAC-AH500M-J only to PUHY/PQHY)

Deluxe room remote control PAR-30MAA
The new room remote control PAR-30MAA sets new standards in terms of appearance and ease of use. The remote control is equipped with a backlit display with 255 x 160 pixels which ensures an easy and straightforward operation. A weekly timer function has already been integrated as standard. Special functions such as the night setback function and the possibility to limit the adjustable target value ensure an energy-efficient operation of the air conditioning system. The high-quality appearance is complemented by a surface in a glossy pure white colour.


PEFY-P200/250VMHS


PAC-AH500M-J


PAR-30MAA

Novelties

Easy Touch system remote control AT-50A
With the new system remote control AT-50A, up to 50 indoor units can be individually controlled via an easy-to-operate 5“ touch display.

The remote control has already been provided with some special functions as standard such as a high-performance weekly timer, night setback and limitation of the adjustable target value range of the individual indoor units. In order to ensure easy maintenance, the refrigerant volume check function can be activated by using the remote control.

Central remote control GB-50ADA
The new central remote control without display has now been provided with an integrated voltage supply for an especially easy installation. Up to 50 indoor units can be operated over the network. In addition, the scope of services has been further expanded. All special functions that were exclusive to the AG-150A until now are also available for the GB-50ADA.

These functions include, among others, the automatic refrigerant volume check function and the outside temperature dependent control.


System remote control AT-50A


GB-50ADA

INDOOR UNITS

Overview / Indoor units

● VRF indoor units
■ Page reference

A wide range of technically advanced and visually appealing indoor units enables a perfect integration into every room. The City Multi indoor units can be connected to both the Y-series and the R2-series.

Capacity code	P 15	P 20	P 25	P 32	P 40	P 50	P 63	P 71	P 80	P 100	P 125	P 140	P 200	P 250
Cooling capacity (kW)	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0	22.4	28.0
Heating capacity (kW)	1.9	2.5	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0	25.0	31.5

1-way ceiling cassette
PMFY-VBM-E
120

2-way ceiling cassette
PLFY-VLMD-E
121

4-way ceiling cassette in standard Euro grid dimensions
PLFY-VCM-E
122

123

4-way ceiling cassette with Coanda effect
PLFY-VBM-E

Wall mounted unit
PKFY-VBM-E*
PKFY-VHM-E
PKFY-VKM-E**
124

125

Ceiling suspended unit
PCFY-VKM-E

Floor standing unit design
PFFY-VKM-E
126

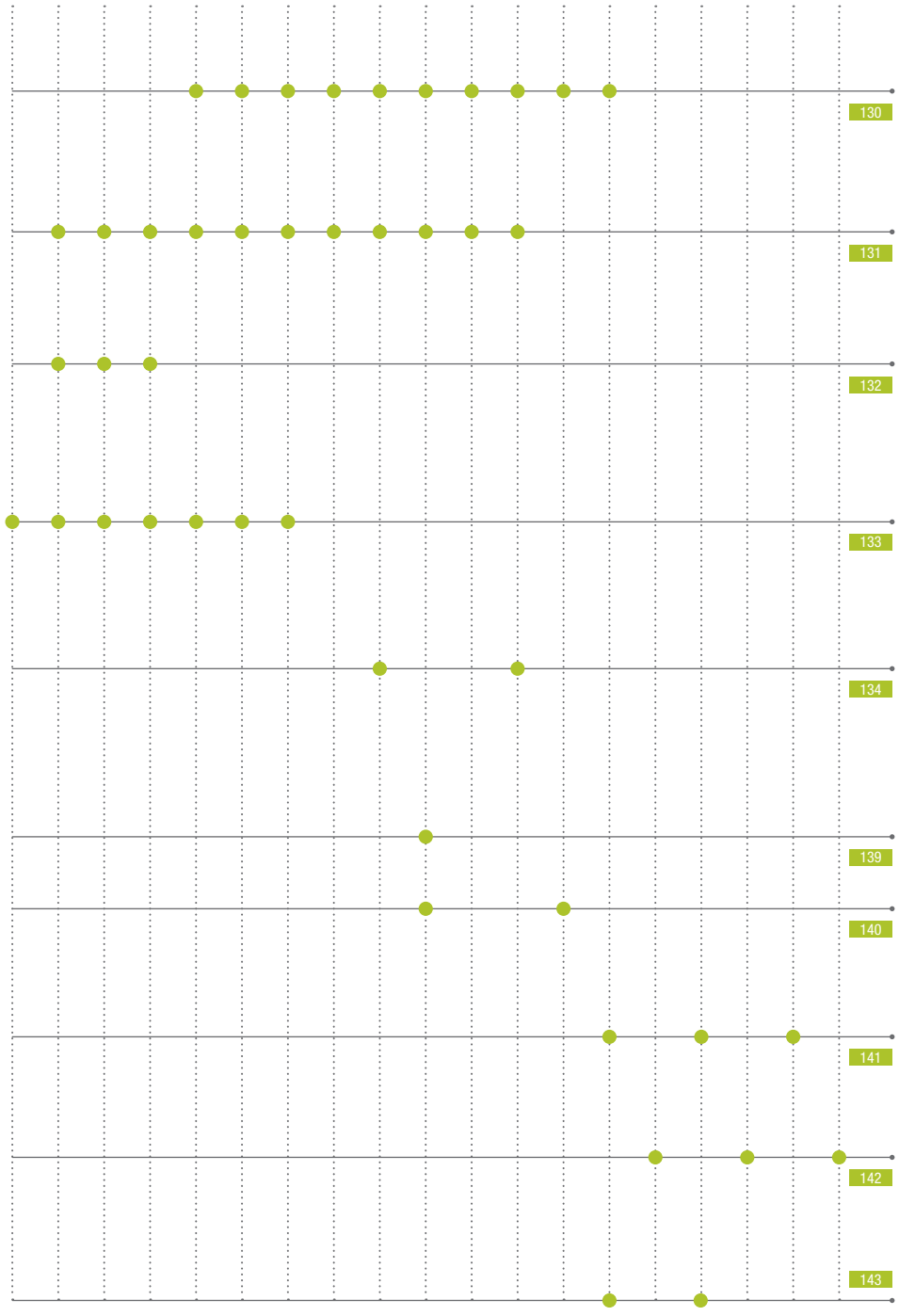
127

Floor standing unit with cover
PFFY-VLEM-E

Floor standing unit without cover
PFFY-VLRM-E
128

Floor standing unit with static pressure
PFFY-VLRMM-E
129

P 15	P 20	P 25	P 32	P 40	P 50	P 63	P 71	P 80	P 100	P 125	P 140	P 200	P 250	P 300	P 500	P 600	P 750	P 900	Capacity code
1.7	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0	22.4	28.0	28.0	56.0	56.0	71.0	80.0	Cooling capacity (kW)
1.9	2.5	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0	25.0	31.5	26.5	63.0	50.0	80.0	71.0	Heating capacity (kW)



Ceiling concealed ducted unit horizontal airflow, high static pressure
PEFY-VMH(S)-E

Ceiling concealed ducted unit variable airflow, medium static pressure
PEFY-VMA-E

Silent ceiling concealed ducted unit for hotel applications 20 dB (A)
PEFY-VMR-E-L/R

Ceiling concealed ducted unit extra slim design
PEFY-VMS1-E

Fresh air ceiling concealed ducted unit PEFY-VMH-E-F

Booster unit
PWFY-VM-E-BU

Water heat exchanger
PWFY-VM-E-AU

Industrial climatic chambers, circulating air operation
PFAV-VM-E

Industrial climatic chambers
Fresh air operation
PFAV-VM-E-F

Air conditioning system for IT rooms PFD-VM-E

PMFY-P20-40VBM-E

1-way ceiling cassettes

Advantages

Easy installation and fast service
All unit types have the same compact dimensions. With a weight of only 14 kg for the unit and 3 kg for the grille, the 1-way ceiling cassette is one of the lightest of its kind.

Quiet operation
The optimised airflow control system with four fan levels provides a sound pressure level of only 27 dB(A) for the smallest unit.

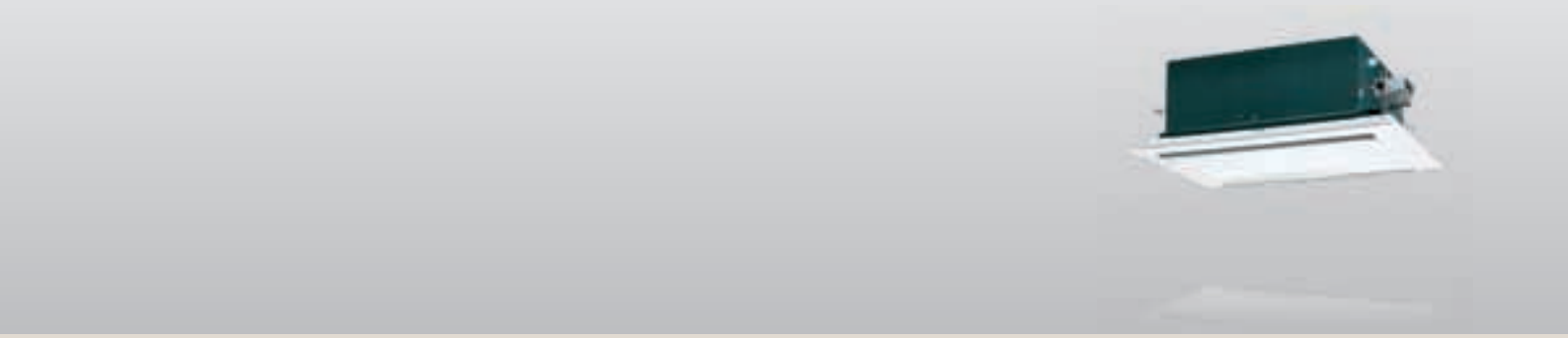
Drain pump
The fitted drain pump provides a delivery height of 600 mm.

Fresh air opening
The unit is provided with two pre-stamped fresh air openings.

PMFY 1-way ceiling cassettes

Device designation		PMFY-P20VBM-E	PMFY-P25VBM-E	PMFY-P32VBM-E	PMFY-P40VBM-E
Grille		PMP-40BMW	PMP-40BMW	PMP-40BMW	PMP-40BMW
Cooling capacity (kW)		2,2	2,8	3,6	4,5
Heating capacity (kW)		2,5	3,2	4,0	5,0
Airflow (m^3/h)	Low	390	438	438	462
	Medium 1	432	480	480	522
	Medium 2	480	516	516	582
	High	522	558	558	642
Sound pressure level Low/High dB(A)*		26 / 35	31 / 37	31 / 37	32 / 39
Weight (grille) (kg)		14 (3)	14 (3)	14 (3)	14 (3)
Dimensions (grille) (mm)**	Width	812 (1000)	812 (1000)	812 (1000)	812 (1000)
	Depth	395 (470)	395 (470)	395 (470)	395 (470)
	Height	230 (30)	230 (30)	230 (30)	230 (30)
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6
	s.	12	12	12	12
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,042	0,044	0,044	0,054
Operating current (A)		0,20	0,21	0,21	0,26

* Sound pressure level measured centrically at a distance of 1.5 m below the grille
** Required installation height, value given in the brackets refers to the visible height of the grille



PLFY-P20-125VLMD-E

2-way ceiling cassettes

Advantages

Compact dimensions
The ceiling cassette is ideal for use in suspended ceilings.

Drain pump
All units are equipped with a drain pump for a delivery height of 600 mm as standard.

Lightweight unit - easy mounting
The extremely low weight of 23 kg only (PLFY-P20-25VLMD-E) considerably simplifies mounting. A terminal strip on the outside of the casing simplifies installation.

Quiet operation
The optimised airflow system reduces the sound pressure level to only 27 dB(A) for the types P20 to 32.

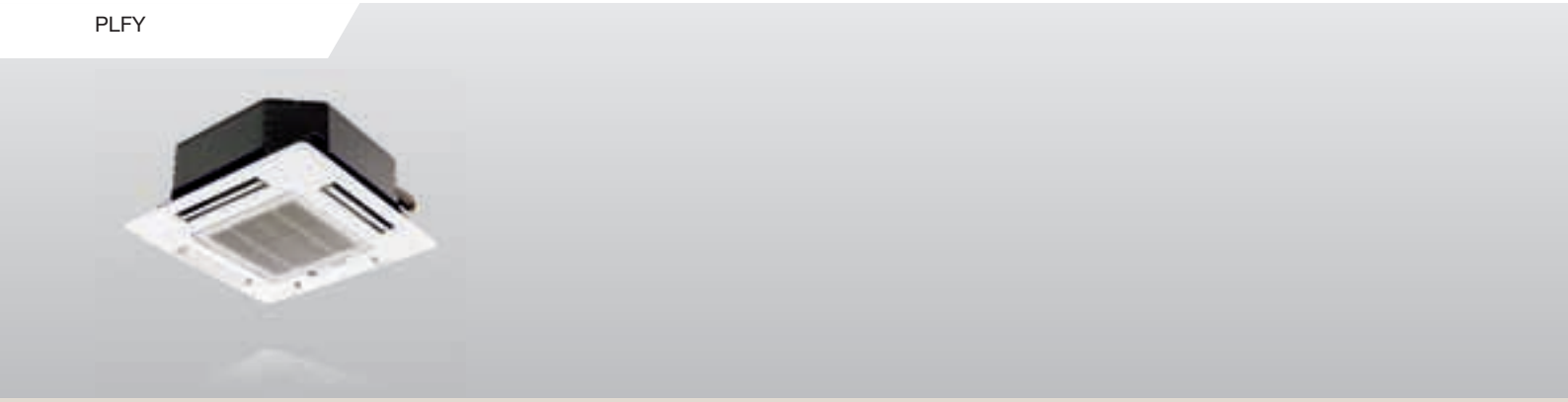
Fresh air openings
The ceiling cassette is provided with a pre-stamped fresh air opening (optional accessories required). A supply air channel opening is also available.

Accessories
See page 200 onwards

PLFY 2-way ceiling cassettes

Device designation		PLFY-P20VLMD-E	PLFY-P25VLMD-E	PLFY-P32VLMD-E	PLFY-P40VLMD-E	PLFY-P50VLMD-E	PLFY-P63VLMD-E	PLFY-P80VLMD-E	PLFY-P100VLMD-E	PLFY-P125VLMD-E
Grille		CMP-40VLW-C	CMP-40VLW-C	CMP-40VLW-C	CMP-40VLW-C	CMP-63VLW-C	CMP-63VLW-C	CMP-100VLW-C	CMP-100VLW-C	CMP-125VLW-C
Cooling capacity (kW)		2,2	2,8	3,6	4,5	5,6	7,1	9,0	11,2	14,0
Heating capacity (kW)		2,5	3,2	4,0	5,0	6,3	8,0	10,0	12,5	16,0
Airflow (m^3/h)	Low	390	390	390	420	540	600	930	1050	1140
	Medium 1	480	480	480	510	660	780	1110	1260	1620
	Medium 2	–	–	–	–	–	–	–	–	1800
	High	570	570	570	630	750	930	1320	1500	1980
Sound pressure level Low/High dB(A)*		26 / 33	26 / 33	26 / 33	28 / 36	30 / 37	31 / 39	32 / 39	35 / 42	39 / 46
Weight (grille) (kg)		23 (6,5)	23 (6,5)	24 (6,5)	24 (6,5)	27 (7,5)	28 (7,5)	44 (12,5)	47 (12,5)	56 (13)
Dimensions (grille) (mm)**	Width	776 (1080)	776 (1080)	776 (1080)	776 (1080)	946 (1250)	946 (1250)	1446 (1750)	1446 (1750)	1708 (2010)
	Depth	634 (710)	634 (710)	634 (710)	634 (710)	634 (710)	634 (710)	634 (710)	634 (710)	606 (710)
	Height	350 (20)	350 (20)	350 (20)	350 (20)	350 (20)	350 (20)	350 (20)	350 (20)	350 (20)
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6	6	10	10	10	10
	s.	12	12	12	12	12	16	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,075	0,075	0,075	0,085	0,086	0,105	0,156	0,186	0,280
Operating current (A)		0,37	0,37	0,37	0,42	0,43	0,51	0,74	0,88	1,35

* Sound pressure level measured centrically at a distance of 1.5 m below the grille
** Recommended installation height, value given in the brackets refers to the visible height of the grille



PLFY-P20-40VCM-E

4-way ceiling cassettes

European ceiling grid dimensions

Advantages

European ceiling grid dimensions
The compact dimensions of 570 x 570 mm simplify installation in existing suspended ceilings as per standardised Euro grid dimensions.

Minimum installation height
The required installation height is only 235 mm. Thus, these units can also be fitted in suspended ceilings of very low height.

Lightweight unit - easy mounting
The use of state-of-the-art materials ensures a max. weight of only 15.5-17.0 kg. Mounting is therefore significantly simplified.

Drain pump
The fitted drain pump provides a delivery height of 600 mm.

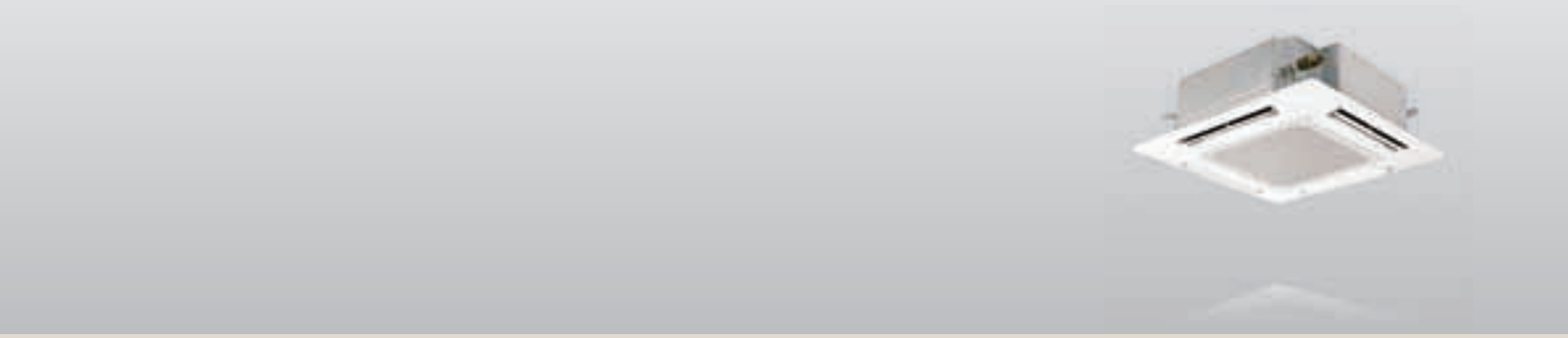
Fresh air connection as standard
The cassette for European ceiling grid dimensions is provided with a pre-stamped fresh air opening as standard. A supply air channel opening is also available.

Grille with optional infrared receiver
Grille SLP-2AAW for cable remote control. The infrared receiver is integrated into the SLP-2ALW grille. An additional receiver is therefore not required. The transmitter unit PAR-FL32MA-E is additionally available as remote control.

PLFY 4-way ceiling cassettes for European ceiling grid dimensions

Device designation		PLFY-P20VCM-E	PLFY-P25VCM-E	PLFY-P32VCM-E	PLFY-P40VCM-E
Grille for cable remote control		SLP-2AAW	SLP-2AAW	SLP-2AAW	SLP-2AAW
Grille for infrared remote control		SLP-2ALW	SLP-2ALW	SLP-2ALW	SLP-2ALW
Cooling capacity (kW)		2,2	2,8	3,6	4,5
Heating capacity (kW)		2,5	3,2	4,0	5,0
Airflow (m^3/h)	Low	480	480	480	480
	Medium	540	540	540	540
	High	600	660	660	660
Sound pressure level Low/High dB(A)*		28 / 35	28 / 37	29 / 38	30 / 39
Weight (grille) (kg)		15,5 (3)	15,5 (3)	17 (3)	17 (3)
Dimensions (grille) (mm)**	Width	570 (650)	570 (650)	570 (650)	570 (650)
	Depth	570 (650)	570 (650)	570 (650)	570 (650)
	Height	235 (20)	235 (20)	235 (20)	235 (20)
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6
	s.	12	12	12	12
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Power consumption (kW)	Cooling	0,05	0,05	0,06	0,06
	Heating	0,05	0,05	0,06	0,06
Operating current (A)		0,23	0,23	0,28	0,28

* Sound pressure level measured centrically at a distance of 1.5 m below the grille
** Required installation height, value given in the brackets refers to the visible height of the grille



PLFY-P32-125VBM-E

4-way ceiling cassettes

Advantages

Compact dimensions
Due to their low installation height, these units are ideal for use in suspended ceilings. Mounting is also simplified due to the light unit design.

Extremely low-noise operation
The PLFY-series features a very low-noise operation – only 27 dB(A) for the types P32 to P50. A turbo fan with a great diameter ensures this low sound pressure level. Impellers with a low aerodynamic drag play an important role for noise damping. The special fan control which steplessly accelerates the revolution speed when the thermostat is switched on or in dehumidification operation, prevents abrupt noises.

Flexible airflow regulation
Due to the micro-processor controlled fan operation a variety of airflow configurations is possible. Four fan levels can be set. By means of a switch on the unit's circuit board, the airflow can be adjusted To the respective ceiling height (up to 4.5 m). A pre-stamped fresh air opening provides for a direct fresh air connection.

Individual settings of the flaps
All 4 air flaps can be adjusted individually and conveniently via the remote control.

Automatic fan level
In auto-fan operation, the airflow automatically adjusts itself to the room requirements. This way, the correct quantity of conditioned air is always available (MA remote control required).

Coanda effect

Optional i-see sensor and filter lift

Accessories
See page 200 onwards

PLFY 4-way ceiling cassettes

Device designation		PLFY-P32VBM-E	PLFY-P40VBM-E	PLFY-P50VBM-E	PLFY-P63VBM-E	PLFY-P80VBM-E	PLFY-P100VBM-E	PLFY-P125VBM-E
Grille		PLP-6BA	PLP-6BA	PLP-6BA	PLP6BA	PLP-6BA	PLP-6BA	PLP-6BA
Cooling capacity (kW)		3,6	4,5	5,6	7,1	9,0	11,2	14,0
Heating capacity (kW)		4,0	5,0	6,3	8,0	10,0	12,5	16,0
Airflow (m^3/h)	Low	660	720	720	840	960	1260	1320
	Medium 1	720	780	780	900	1080	1440	1500
	Medium 2	780	840	840	960	1200	1620	1680
	High	840	960	960	1080	1320	1740	1800
Sound pressure level Low/High dB(A)*		26 / 31	26 / 31	26 / 31	27 / 32	29 / 37	33 / 41	34 / 43
Weight (grille) (kg)		22 (6)	22 (6)	22 (6)	24 (6)	24 (6)	32 (6)	32 (6)
Dimensions (grille) (mm)**	Width	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)
	Depth	840 (950)	840(950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)
	Height	258 (35)	258 (35)	258 (35)	258 (35)	258 (35)	298 (35)	298 (35)
Refrigerant pipe size Ø (mm)	fl.	6	6	6	10	10	10	10
	s.	12	12	12	16	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,03	0,04	0,04	0,05	0,07	0,15	0,16
Operating current (A)		0,22	0,29	0,29	0,36	0,51	1,0	1,07

* Sound pressure level measured centrically at a distance of 1.5 m below the grille
** Required installation height, value given in the brackets refers to the visible height of the grille

PKFY-P15-25VBM-E PKFY-P32-50VHM-E PKFY-P63-100VKM-E

Wall mounted units

Advantages

Quiet operation
Due to the optimisation of the airflow between heat exchanger, air roll and the four-level fan motor, a low operating noise is achieved.

Modern design
Due to the well-shaped unit design, the wall mounted units can be easily integrated in every work or living environment. The built-in flap positions itself in front of the outlet opening when the unit is switched off and offers an appealing appearance. All wall mounted units have a pure white colour and feature a modern flat panel design..

Easy installation and servicing
In order to simplify installation, all screws required for fixing are accessible from the front side of the wall mounted unit. All pipes, including the drain pipe, can be variably (from right, left, below or the rear) connected – providing more flexibility when laying the pipes and selecting the mounting location.

Infrared receiver
All wall mounted units are equipped with an infrared receiver as standard.

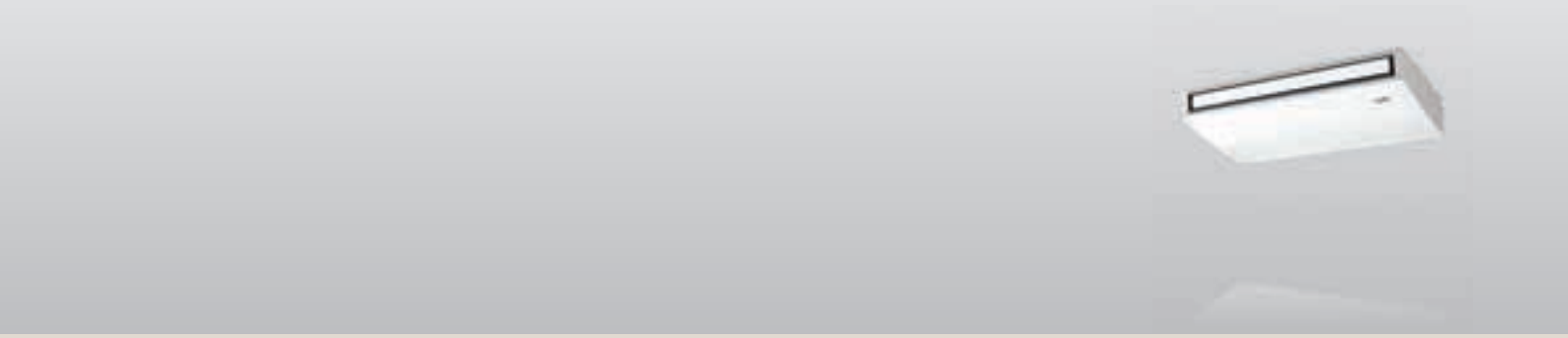
Optional drain pump
For the unit sizes P32 to P100A, an optional drain pump is available that is installed next to the unit and is adjusted to the indoor unit in terms of design and colour.

Accessories
See page 200 onwards

PKFY wall mounted units

Device designation		PKFY-P15VBM-E	PKFY-P20VBM-E	PKFY-P25VBM-E	PKFY-P32VHM-E	PKFY-P40VHM-E	PKFY-P50VHM-E	PKFY-P63VKM-E	PKFY-P100VKM-E
Cooling capacity (kW)		1,7	2,2	2,8	3,6	4,5	5,6	7,1	11,2
Heating capacity (kW)		1,9	2,5	3,2	4,0	5,0	6,3	8,0	12,5
Airflow (m^3/h)	Low	294	294	294	540	540	540	960	1200
	Medium 1	300	312	312	600	630	630	–	–
	Medium 2	312	336	336	–	–	–	–	–
	High	318	354	354	660	690	720	1200	1560
Sound pressure level Low/High dB(A)*		28 / 33	28 / 36	28 / 36	33 / 41	33 / 41	33 / 43	38 / 45	40 / 49
Dimensions (mm)	Width	815	815	815	898	898	898	1170	1170
	Depth	225	225	225	249	249	249	295	295
	Height	295	295	295	295	295	295	365	365
Weight (kg)		10	10	10	13	13	13	21	21
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6	6	6	10	10
	s.	12	12	12	12	12	12	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,04	0,04	0,04	0,04	0,04	0,04	0,05	0,08
Operating current (A)		0,2	0,20	0,20	0,4	0,4	0,4	0,37	0,58

* Sound pressure level measured 1 m in front of and 1 m below the unit



PCFY-P40-125VKM-E

Ceiling suspended units

Advantages

Extra slim and elegant
Due to their slim and elegant design, the ceiling suspended units unobtrusively fit in every interior.

Automatic outlet flap for even air distribution
Thanks to the design with a single air outlet, the outlet flap serves as seal when the unit is switched off. In operation, it automatically swings back and forth in order to distribute the outflowing air evenly in the room.

Extremely low noise – highest comfort
Optimised airflow control systems and the high-quality casing made of special plastics with high noise damping effect provide a low sound pressure level of only 29 dB(A) for all units.

Optimised airflow for the respective ceiling height
All units have four fan levels and are suitable for ceiling heights of up to 3.5 m. With a switch on the unit's circuit board, the airflow can be adjusted to the respective ceiling height.

Optional drain pump
The condensate can be moved to the left or right within the unit. The optional drain pump is integrated in the unit. The electrical connection is already on the circuit board.

Significantly simplified mounting
The mounting of the units is carried out sideways. For this purpose, the lateral casing parts are removed. The time required for mounting and adjusting the units is thus considerably shortened.

Accessories
See page 200 onwards

PCFY ceiling suspended units

Device designation		PCFY-P40VKM-E	PCFY-P63VKM-E	PCFY-P100VKM-E	PCFY-P125VKM-E
Cooling capacity (kW)		4,5	7,1	11,2	14,0
Heating capacity (kW)		5,0	8,0	12,5	16,0
Airflow (m^3/h)	Low	600	840	1260	1260
	Medium 1	660	900	1440	1440
	Medium 2	720	960	1560	1620
	High	780	1080	1680	1860
Sound pressure level Low/High dB(A)*		28 / 36	30 / 37	35 / 43	35 / 44
Dimensions (mm)	Width	960	1280	1600	1600
	Depth	680	680	680	680
	Height	230	230	230	230
Weight (kg)		24	32	36	38
Refrigerant pipe size Ø (mm)	fl.	6	10	10	10
	s.	12	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,04	0,05	0,09	0,11
Operating current (A)		0,28	0,33	0,65	0,76

* Sound pressure level measured 1 m in front of and 1 m below the unit

PFFY-P20-40VKM-E

Compact floor standing units

Design casing

Advantages

Particularly compact
The room-saving floor standing units with design casing only measure 70 cm in width, 20 cm in depth and 60 cm in height.

Double air outlet
These floor standing units are equipped with two air outlets: The top air outlet optionally (depending on the operating mode) leads cool or warm air into the room. The lower air outlet provides warm air and thus prevents cold floors.

Very low noise
Due to their optimised air outlet flaps, the new floor standing units offer a very low noise level. The PFFY-P20VKM-E has a noise level of only 27 dB(A).

Variable settings
The top air outlet can be set to 5 different positions via the remote control. Furthermore, a swing and automatic operating mode can be selected. In combination with the 4 fan levels, many individual settings are possible.

PFFY compact floor standing units

Device designation		PFFY-P20VKM-E	PFFY-P25VKM-E	PFFY-P32VKM-E	PFFY-P40VKM-E
Cooling capacity (kW)		2,2	2,8	3,6	4,5
Heating capacity (kW)		2,5	3,2	4,0	5,0
Airflow (m^3/h)	Low	354	366	366	480
	High	522	546	546	642
Sound pressure level Low/High dB(A)*		26 / 37	27 / 38	27 / 38	34 / 44
Dimensions (mm)	Width	700	700	700	700
	Depth	220	200	200	200
	Height	600	600	600	600
Weight (kg)		14	14	14	14
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6
	s.	12	12	12	12
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,025	0,025	0,025	0,025
Operating current (A)		0,12	0,12	0,12	0,12

* Sound pressure level measured 1 m in front of the unit and at a height of 1 m

PFFY-P20-63VLEM-E

Floor standing units
with cover

Advantages

Optimal use of the room
Due to the low installation height of only 220 mm, the floor standing units with robust cover perfectly fit in every room niche and offer state-of-the-art air conditioning technology.

The dehumidification function
All floor standing units feature a dehumidification function in order to stabilise humidity at changing room temperatures. A further cooling is prevented and the air is dehumidified in order to keep it fresh and invigorating.

Control
These units with cover provide the possibility to unobtrusively place the remote control below a flap in the cover. So visible mounting on the wall becomes unnecessary.

A fresh air connection provided by the customer is possible
In the lower area of the floor standing unit in front of the standard air filter, a fresh air connection provided by the customer is possible. An additional air filter is not required.

Cooling down to 14 °C
Cooling down of the room temperature to 14 °C is possible.

PFFY floor standing units with full cover

Device designation		PFFY-P20VLEM-E	PFFY-P25VLEM-E	PFFY-P32VLEM-E	PFFY-P40VLEM-E	PFFY-P50VLEM-E	PFFY-P63VLEM-E
Cooling capacity (kW)		2,2	2,8	3,6	4,5	5,6	7,1
Heating capacity (kW)		2,5	3,2	4,0	5,0	6,3	8,0
Airflow (m^3/h)	Low	330	330	420	540	720	720
	High	390	390	540	660	840	930
Sound pressure level Low/High dB(A)*		33 / 40	33 / 40	34 / 40	37 / 43	37 / 43	39 / 46
Dimensions (mm)	Width	1050	1050	1170	1170	1410	1410
	Depth	220	220	220	220	220	220
	Height	630	630	630	630	630	630
Weight (kg)		23	23	25	26	30	32
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6	6	10
	s.	12	12	12	12	12	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,04	0,04	0,06	0,065	0,085	0,10
Operating current (A)		0,19	0,19	0,29	0,32	0,40	0,46

* Sound pressure level measured 1 m in front of the unit and at a height of 1 m

PFFY-P20-63VLRM-E

Floor standing units
without cover

Advantages

Optimal use of the room
Due to the optional design without cover, state-of-the-art air conditioning technology fits almost invisibly in the respective room architecture. The air conditioning units with a depth of only 220 mm can be easily installed in the peripheral area of rooms and offer highest performance..

The dehumidification function
In addition, all floor standing units feature a dehumidification function in order to stabilise humidity at changing room temperatures. A further cooling is prevented and the air is dehumidified in order to keep it fresh and invigorating.

PFFY floor standing units without cover

Device designation		PFFY-P20VLRM-E	PFFY-P25VLRM-E	PFFY-P32VLRM-E	PFFY-P40VLRM-E	PFFY-P50VLRM-E	PFFY-P63VLRM-E
Cooling capacity (kW)		2,2	2,8	3,6	4,5	5,6	7,1
Heating capacity (kW)		2,5	3,2	4,0	5,0	6,3	8,0
Airflow (m^3/h)	Low	330	330	420	540	720	720
	High	390	390	540	660	840	930
Sound pressure level Low/High dB(A)*		33 / 40	33 / 40	34 / 40	37 / 43	37 / 43	39 / 46
Dimensions (mm)	Width	886	886	1006	1006	1246	1246
	Depth	220	220	220	220	220	220
	Height	639	639	639	639	639	639
Weight (kg)		18,5	18,5	20	21	25	27
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6	6	10
	s.	12	12	12	12	12	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,04	0,04	0,06	0,065	0,085	0,10
Operating current (A)		0,19	0,19	0,29	0,32	0,40	0,46

* Sound pressure level measured 1 m in front of the unit and at a height of 1 m

PFFY-P20-63VLRMM-E

Floor standing units
without cover, high pressure

Advantages

Optimal use of the room
Due to the optional design without cover, state-of-the-art air conditioning technology fits almost invisibly in the respective room architecture. The air conditioning units with a depth of only 220 mm can be easily installed in the peripheral area of rooms and offer highest performance..

The dehumidification function
In addition, all floor standing units feature a dehumidification function in order to stabilise humidity at changing room temperatures. A further cooling is prevented and the air is dehumidified in order to keep it fresh and invigorating.

High static pressure
Via the DIP switch, three different pressures can be conveniently set at the unit. This way, the unit can be adjusted to different installation situations.

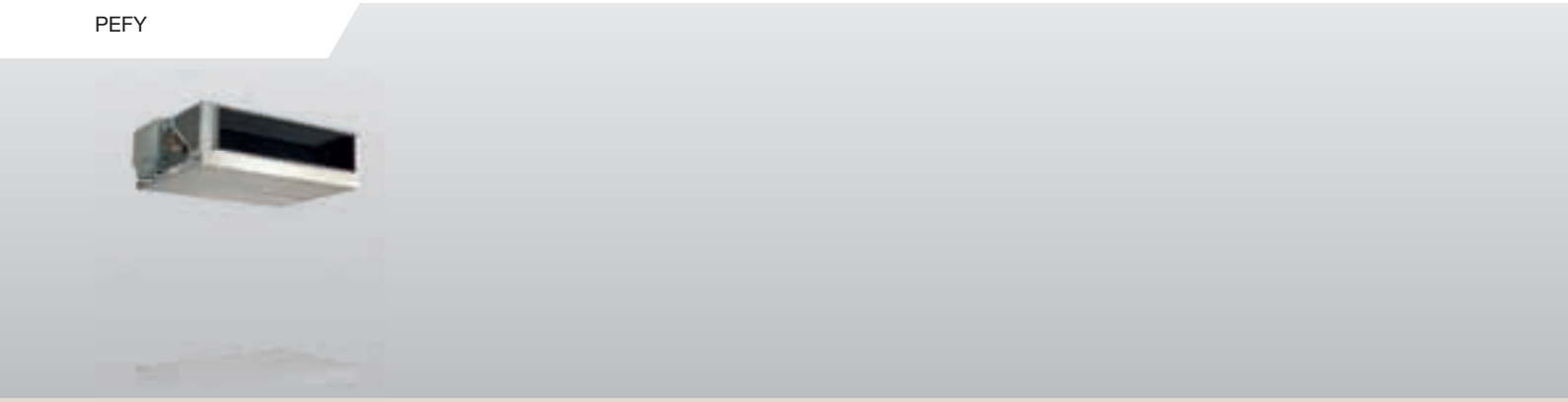
DC fan motor
The DC fan motors ensure a very efficient operation at high pressure and low sound pressure levels.

Super low-noise operation
Only 27 dB(A) for unit size 32.

PFFY floor standing units without cover

Device designation		PFFY-P20VLRMM-E	PFFY-P25VLRMM-E	PFFY-P32VLRMM-E	PFFY-P40VLRMM-E	PFFY-P50VLRMM-E	PFFY-P63VLRMM-E
Cooling capacity (kW)		2,2	2,8	3,6	4,5	5,6	7,1
Heating capacity (kW)		2,5	3,2	4,0	5,0	6,3	8,0
Airflow (m^3/h)	Low	270	270	390	480	600	660
	Medium	330	330	450	570	720	780
	High	390	390	540	660	840	930
Static pressure (Pa)		20/40/60	20/40/60	20/40/60	20/40/60	20/40/60	20/40/60
Sound pressure level Low/High dB(A)*		30 / 40	30 / 40	26 / 37	29 / 40	31 / 41	34 / 44
Dimensions (mm)	Width	886	886	1006	1006	1246	1246
	Depth	220	220	220	220	220	220
	Height	639	639	639	639	639	639
Weight (kg)		18,5	18,5	20,0	21,0	25,0	27,0
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6	6	10
	s.	12	12	12	12	12	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,04	0,04	0,04	0,05	0,05	0,07
Operating current (A)		0,34	0,34	0,38	0,43	0,48	0,59

* Sound pressure level measured 1 m in front of the unit and at a height of 1 m



PEFY-P40-250VMH-E

Ceiling concealed ducted units

high static pressure / horizontal airflow

Advantages

Highest flexibility

10 models with cooling capacities of 4.5 to 28.0 kW provide the ideal unit for every application.

High pressure

In case long air ducts need to be designed, the ceiling concealed ducted units type PEFY-VMH with a static pressure of 50 to 260 Pa are perfect.

Very service-friendly

Parts relevant to service such as fan roll and fan motor are easily accessible via a revision opening.

Optional drain pump

Accessories

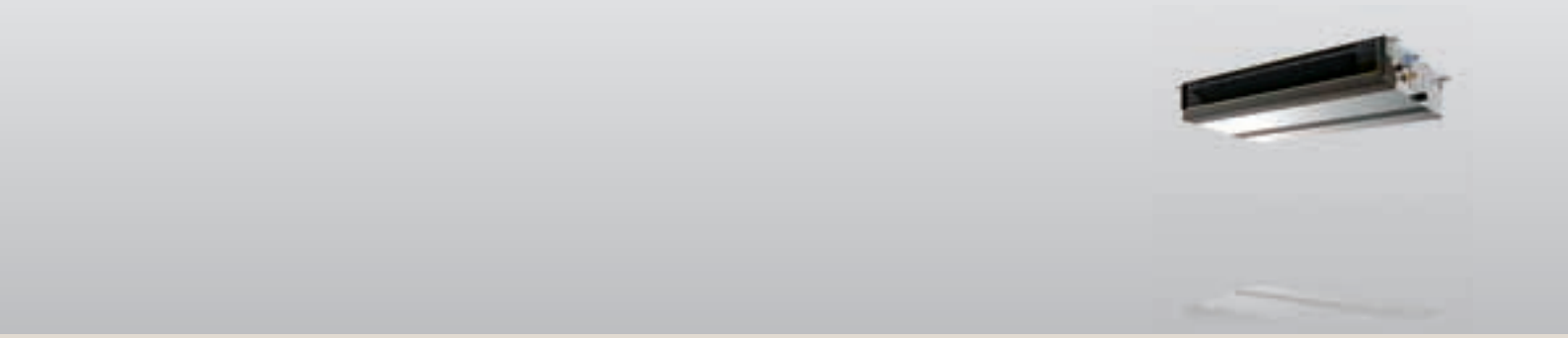
See page 200 onwards

PEFY ceiling concealed ducted units, high static pressure

Device designation		PEFY-P40VMH-E	PEFY-P50VMH-E	PEFY-P63VMH-E	PEFY-P71VMH-E	PEFY-P80VMH-E	PEFY-P100VMH-E	PEFY-P125VMH-E	PEFY-P140VMH-E	PEFY-P200VMHS-E	PEFY-P250VMHS-E
Cooling capacity (kW)		4,5	5,6	7,1	8,0	9,0	11,2	14,0	16,0	22,4	28,0
Heating capacity (kW)		5,0	6,3	8,0	9,0	10,0	12,5	16,0	18,0	25	31,5
Airflow (m^3/h)	Low	600	600	810	930	1080	1590	1590	1680	3000	3480
	Medium	–	–	–	–	–	–	–	–	3660	4260
	High	840	840	1140	1320	1500	2280	2280	2400	4320	5040
Static pressure (Pa)**		50/100/150/200	50/100/150/200	50/100/150/200	50/100/150/200	50/100/150/200	50/100/150/200	50/100/150/250	50/100/150/200	50/100/150/200/250	50/100/150/200/250
Sound pressure level Low/High dB(A)*		26 / 34	26 / 34	31 / 38	31 / 39	34 / 41	33 / 42	33 / 42	33 / 42	52	52
Dimensions (mm)	Width	750	750	750	1000	1000	1200	1200	1200	1250	1250
	Depth	900	900	900	900	900	900	900	900	1120	1120
	Height	380	380	380	380	380	380	380	380	470	470
Weight (kg)		44	45	45	50	50	70	70	70	98	98
Refrigerant pipe size Ø (mm)	fl.	6	6	10	10	10	10	10	10	10	10
	s.	12	12	16	16	16	16	18	16	22	22
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,19	0,19	0,24	0,26	0,32	0,48	0,48	0,48	0,99	1,23
Operating current (A)		0,88	0,88	1,12	1,20	1,47	2,34	2,34	2,35	–	–

* Sound pressure level measured centrically at a distance of 1.5 m below the unit

** Static pressure is depending on the voltage supply, can be adjusted via a DIP switch for the PEFY-P200/250VMHS units.



PEFY-P20-140VMA-E

Ceiling concealed ducted units
medium static pressure / variable airflow

Advantages

Low installation height – only 250 mm
The ceiling concealed ducted units also fulfil great performance demands, especially at lower installation heights in the suspended ceiling.

Extremely low-noise operation
With a sound pressure level of only 23 dB(A) (types P20-40), the PEFY-VMA-series is one of the quietest of its kind..

Filter as standard
for all PEFY-P VMA-E

With drain pump
The drain pump is already integrated in the unit.

Optimal adjustment due to variable airflow
The air intake can optionally take place from the rear (standard) or from below (provided by customer). Therefore, only the filter needs to be relocated from the back to the bottom of the unit.

Accessories
See page 200 onwards

PEFY ceiling concealed ducted units, medium static pressure

Device designation		PEFY-P20 VMA-E	PEFY-P25 VMA-E	PEFY-P32 VMA-E	PEFY-P40 VMA-E	PEFY-P50 VMA-E	PEFY-P63 VMA-E	PEFY-P71 VMA-E	PEFY-P80 VMA-E	PEFY-P100 VMA-E	PEFY-P125 VMA-E	PEFY-P140 VMA-E
Cooling capacity (kW)		2,2	2,8	3,6	4,5	5,6	7,1	8,0	9,0	11,2	14,0	16,0
Heating capacity (kW)		2,5	3,2	4,0	5,0	6,3	8,0	9,0	10,0	12,5	16,0	18,0
Airflow (m^3/h)	Low	360	360	450	600	720	810	870	870	1380	1680	1770
	Medium	450	450	540	720	870	960	1080	1080	1680	2040	2130
	High	510	510	630	840	1020	1140	1260	1260	1980	2400	2520
Static pressure (Pa)		35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150	35/50/70/ 100/150
Sound pressure level Low/High dB(A)*		22 / 26	22 / 26	22 / 29	22 / 30	24 / 32	24 / 33	25 / 34	25 / 34	27 / 37	31 / 40	32 / 42
Dimensions (mm)	Width	700	700	700	900	900	1100	1100	1100	1400	1400	1600
	Depth	732	732	732	732	732	732	732	732	732	732	732
	Height	250	250	250	250	250	250	250	250	250	250	250
Weight (kg)		23	23	23	26	26	32	32	32	42	42	46
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6	6	10	10	10	10	10	10
	s.	12	12	12	12	12	16	16	16	16	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,06	0,06	0,07	0,09	0,11	0,12	0,14	0,14	0,24	0,34	0,36
Operating current (A)		0,53	0,53	0,55	0,64	0,74	1,01	1,15	1,15	1,47	2,05	2,21

* Sound pressure level measured centrically at a distance of 1.5 m below the unit

PEFY-P20-32VMR-E-L

Ceiling concealed ducted units

Hotel applications

Advantages

Silent

The new ceiling concealed ducted unit was especially designed for the use in hotel rooms because the sound pressure level of 20 dB(A)* is almost silent.

Easy control

A contact is located on the indoor unit's circuit board (connector on CN32) as standard that can be directly controlled via the card reader. When a guest enters or leaves the room, the air conditioning system is switched on or off.

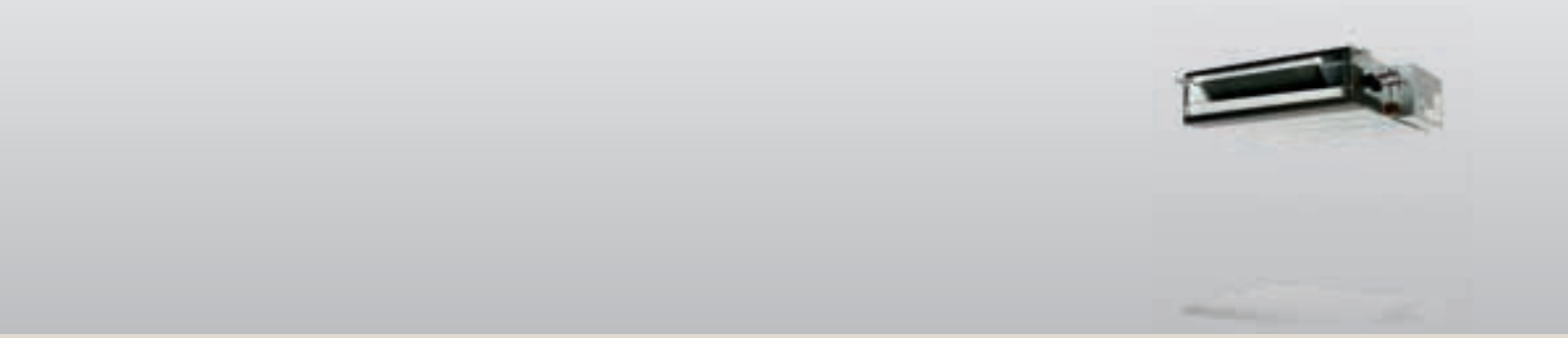
Optimal adjustment due to variable airflow

The air intake can optionally take place from the rear (standard) or from below (provided by customer). Therefore, only the filter needs to be relocated from the back to the bottom of the unit.

PEFY ceiling concealed ducted units

Device designation		PEFY-P20VMR-E-L/R	PEFY-P25VMR-E-L/R	PEFY-P32VMR-E-L/R
Cooling capacity (kW)		2,2	2,8	3,6
Heating capacity (kW)		2,5	3,2	4,0
Airflow (m^3/h)	Low	288	288	288
	High	474	474	558
Static pressure (Pa)		5	5	5
Sound pressure level Low/High dB(A)*		19 / 30	19 / 30	19 / 33
Dimensions (mm)	Width	640	640	640
	Depth	580	580	580
	Height	292	292	292
Weight (kg)		18	18	18
Refrigerant pipe size Ø (mm)	fl.	6	6	6
	s.	12	12	12
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,06	0,06	0,07
Operating current (A)		0,29	0,29	0,34

* Sound pressure level measured centrically at a distance of 1.5 m below the unit



PEFY-P15-63VMS1-E

Ceiling concealed ducted units
Flat design

Advantages

Low installation height – only 200 mm
The ceiling concealed ducted units feature a low installation height. A height of only 200 mm is required for installation.

Sufficient pressure
The external static pressure is adjustable from 5 to 50 Pascal. Thus, the unit can be flexibly adjusted to the respective circumstances.

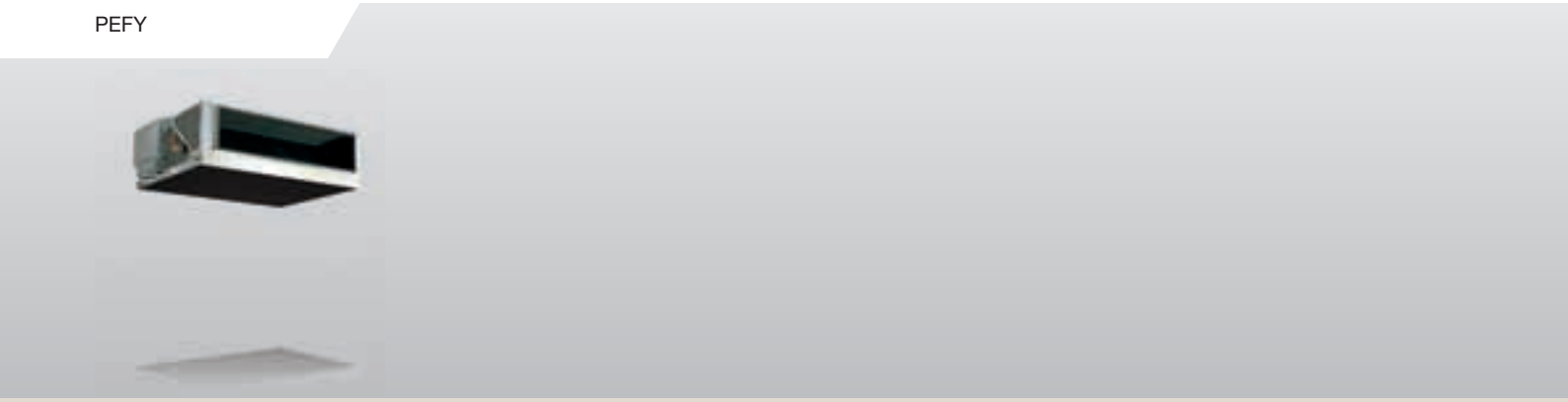
With drain pump
The drain pump is already integrated in the unit.

Extremely low-noise operation
Thanks to a new fan generation, the new ceiling concealed ducted units have a very low noise level despite their low installation height of 200 mm. The noise level is at 22 dB(A) for the small fan level (PEFY-P15/20/25VMS1-E).

PEFY ceiling concealed ducted units in flat design

Designation of indoor units		PEFY-P15VMS1-E	PEFY-P20VMS1-E	PEFY-P25VMS1-E	PEFY-P32VMS1-E	PEFY-P40VMS1-E	PEFY-P50VMS1-E	PEFY-P63VMS1-E
Cooling capacity (kW)		1,7	2,2	2,8	3,6	4,5	5,6	7,1
Heating capacity (kW)		1,9	2,5	3,2	4,0	5,0	6,3	8,0
Airflow (m^3/h)	Low	300	360	360	450	480	570	720
	High	420	480	480	600	660	780	990
Static pressure (Pa)		5/15/35/ 50	5/15/35/ 50	5/15/35/ 50	5/15/30/ 50	5/15/35/ 50	5/15/35/ 50	5/15/35/ 50
Sound pressure level Low/High dB(A)*		21 / 28	21 / 27	21 / 27	24 / 30	27 / 33	29 / 35	29 / 36
Dimensions (mm)	Width	839	839	839	839	1039	1039	1239
	Depth	700	700	700	700	700	700	700
	Height	200	200	200	200	200	200	200
Weight (kg)		19	19	19	20	24	24	28
Refrigerant pipe size Ø (mm)	fl.	6	6	6	6	6	6	10
	s.	12	12	12	12	12	12	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,05	0,06	0,06	0,07	0,09	0,11	0,12
Operating current (A)		0,42	0,28	0,28	0,33	0,42	0,52	0,57

* Sound pressure level measured centrically at a distance of 1.5 m below the unit



PEFY-P80-140VMH-E-F

Fresh air ceiling concealed ducted units

Advantages

Highest climate comfort with 100 % fresh air intake
These special ceiling concealed ducted units are designed in such a way that 100 % of the fresh air can be pre-conditioned. Thus, additional ventilation units for bringing fresh air into the building are not required. Temperature operating range (supplied outside air): heating -10 °C to 20 °C, cooling 21 °C to 43 °C. Due to the free-cooling/heating function, rooms can be cost-effectively air-conditioned in the transition period. Information on regulation and design can be provided upon request.

Maximum pressure – up to 240 Pa
In case long air ducts need to be designed, the ceiling concealed ducted units type PEFY-VMH-E-F with a static pressure of 50 to 240 Pa (at 230 V) are perfect.

Very service-friendly
Parts relevant to service such as fan roll and fan motor are easily accessible via a revision opening.

Extremely low-noise operation at high pressure
With a sound pressure level of only 33 dB(A) even at a pressure of up to 240 Pa, the PEFY-VMH-E-F series is one of the quietest of its kind.

Accessories
See page 200 onwards

PEFY 100% fresh air ceiling concealed ducted units

Device designation		PEFY-P80VMH-E-F	PEFY-P140VMH-E-F
Cooling capacity (kW)		9,0	16,0
Heating capacity (kW)		8,5	15,1
Airflow (m^3/h)		540	1080
Static pressure (Pa)**		50/130/170/220	50/130/220/240
Sound pressure level Low/High dB(A)*		32 / 45	33 / 45
Dimensions (mm)	Width	1000	1200
	Depth	900	900
	Height	380	380
Weight (kg)		50	70
Refrigerant pipe size Ø (mm)	fl.	10	10
	s.	16	16
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,16	0,29
Operating current (A)		0,67	1,24

* Sound pressure level measured centrically at a distance of 1.5 m below the unit
** Static pressure is depending on the voltage supply

Breathe in deeply

Our today‘s life and work take place in closed rooms for an average of 20 hours per day. The air quality in these rooms is often poor due to high levels of air humidity, mould formation and evaporations from construction and furnishing materials. However, the air quality can also be considerably affected by air that is too dry, electric smog and high carbon dioxide levels resulting from the air we breathe. This has a negative effect on the sense of wellbeing and the productive efficiency. Apart from fatigue and concentration problems, this may also result in severe impairments of health later on.

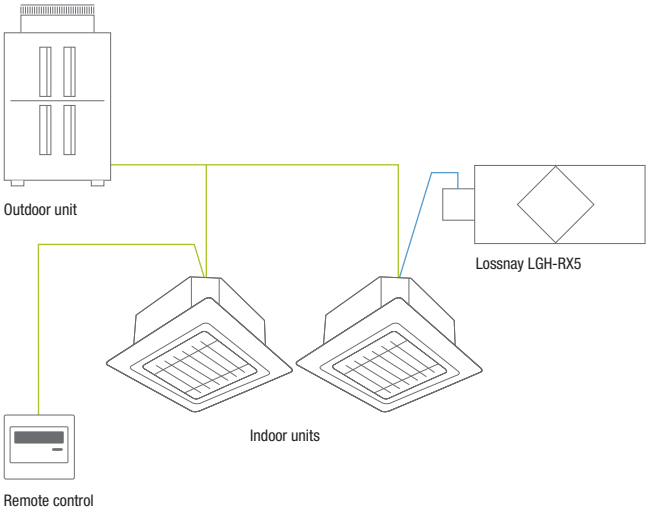
Poor air quality is a thing of the past

Due to this great number of negative factors, a regular ventilation of the rooms is required. However, with each ventilation process, valuable heat energy escapes to the outside. This is why, the insulation and and air impermeability of buildings is constantly improved in order to save energy costs and to comply with the legal requirements of the Energy Conservation Ordinance. In many modern office complexes and public buildings, the windows can also no longer be opened by hand. The removal of unwanted harmful substances is therefore drastically reduced.

As a consequence, a controlled ventilation with heat recovery has become a must in today‘s world. The Lossnay ventilation system by Mitsubishi Electric offers a modern solution for tight building envelopes. As valuable as an energy-efficient ventilation systems may be for the reasons mentioned above – a comprehensive indoor climate solution can only be achieved in combination with an efficient air conditioning system. Nowadays, state-of-the-art air conditioning systems offer both heating and cooling functions. And by using a ventilation system, valuable energy can be saved with regard to air conditioning technology. The Lossnay ventilation units and the air conditioning units of the Mr. Slim or City Multi series make an excellent team when facing the challenges related to air conditioning.

Efficiency dictating the trend for air conditioning and ventilation systems

The connection between room air conditioning systems and air conditioning technology allows for a versatile use with regard to the air conditioning and ventilation of modern buildings. Efficiency and the resulting low energy consumption in connection with high comfort have become the most important factors when choosing the right system. A step in the right direction in terms of sustainability and also towards the Mitsubishi Electric system solutions.

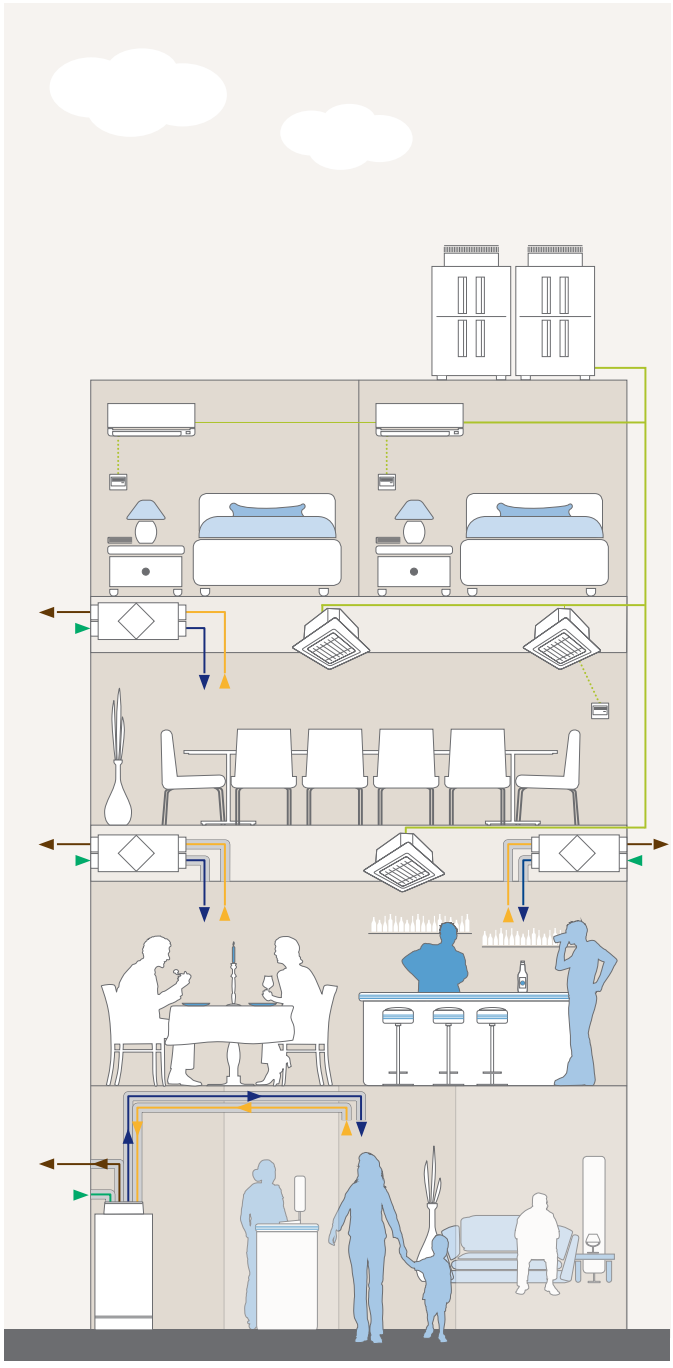


Air conditioning and ventilation: An ideal team

Fresh air to maintain high levels of performance
The supply of closed rooms with adequate quantities of fresh air is not only stipulated by DIN and the VDI – this supply of fresh air is also urgently required in order to increase human performance. In offices, shops, theatres or hospitals or wherever there are no windows available or a regular ventilation of the room cannot be achieved by using a window, this task is assumed by mechanical ventilation technology. Since this task needs to be fulfilled all year round, a conditioning of the supplied fresh air is indispensable. Single split inverters (Mr. Slim series) or VRF systems (City Multi series) are ideally suited for this purpose.

Ventilation plus air conditioning as ideal supplement
Today, the thermal loads in both existing and new buildings are higher: More lighting, the technical equipment, many people and a better building insulation result in significantly increased internal heat loads. The modern architecture with its large-scale glass facades additionally increases the external heat loads in the form of sun radiation. While the supply of fresh air plays an important role in this respect, controlling the room air via an efficient air conditioning system also plays a decisive part.

For more information on our Lossnay ventilation systems, please see page 206 onwards.



Combination of ventilation and air conditioning system in a hotel:
The different climate zones in a hotel represent a special challenge with regard to ventilation and air conditioning. It must be possible to control the individual guest rooms individually so that every guest can adjust the temperature to his/her individual comfort level.
A central control must be available for the entrance area, meeting and conference rooms and, apart from being optimally air conditioned, these areas must also be ventilated.

Our system example:
City Multi VRF air conditioning system + Lossnay ventilation systems
LGF-100GX-E and LGH RX5

Air curtain for doors

Combination with City Multi outdoor units

Advantages
The constantly open door of a salesroom places very high demands on the air conditioning and heating system. The task here is to prevent the exchange of conditioned room air with fresh air penetrating from outside. The technology of the air curtain for doors has proven extremely effective in this area. With a heated air jet in winter, they interrupt the flow in the entrance area, thus preventing the penetration of cold outside air, while in summer the heat is not able to overcome the air jet barrier. Air curtains for doors dramatically reduce the energy consumption of the heating and cooling system, as the sales or storage room heats up less fast in summer and does not cool down in winter.

Compared to conventional hot water heating for air curtains, the heat pump achieves better rates of efficiency. To this end, the air-to-air heat pump by Mitsubishi Electric, in connection with the Thermoscreens air curtains, exploits the heat energy stored in the ambient air. Compared to an electrical heating, only a third of the amount of electricity is required. Apart from providing highest levels of energy efficiency in cooling and heating mode, the system also makes a contribution to the protection of the environment thanks to reduced CO_2 emissions.

Easy connection to heat pump
Mitsubishi Electric and the air curtain manufacturer Thermoscreens are offering an integrated overall system that equips entrance areas cost-effectively, conveniently and reliably. The air curtains for doors can easily be combined with the VRF outdoor units. This mature overall solution also includes a control that makes use of Mitsubishi Electric circuit boards especially developed for this application.

High energy efficiency
- Very high efficiency of 80 to 90 %
- Saves up to 75 % of energy compared to traditional water-heated air curtain systems

High system bandwidth
- 5 to 21.2 kW
- Freely suspended or ceiling-installed models
- Models optionally available in lengths of 1 m, 1.5 m and 2 m
- Air curtains are painted in the standard unit colour RAL 9010 (other RAL colours available upon request)

Fast installation
- Thanks to to the plug-and-play installation, the connection work on site can be carried out quickly and easily – which also makes it ideal for retrofittings.

VRF HP1000-2000 DXE VRF HP1000-2000R DXE

Air curtains for doors, freely suspended

Advantages

Filter status display
Filter status display as standard

Energy-saving
Air curtains guarantee a stable room climate – which saves a lot of energy.

Clean room air
Air curtains keep away dust, vapours, insects and other environmental influences, the room air stays clean.

Comfortable climate
Air curtains provide for constant room temperatures creating a comfortable climate for the customers and the personnel

Prewired and ready for connection
The air curtains for doors come prewired and ready for connection, including the PAC-AH connection kit for the corresponding capacity. A cable remote control PAR-21MAA is required for commissioning and adjustment.

Air curtains for doors, freely suspended

Designation of air curtain		VRF HP1000 DXE	VRF HP1500 DXE	VRF HP2000 DXE
Capacity index		P100	P125	P140
Cooling capacity (kW)		7,4	11,8	14,0
Heating capacity (kW)		8,3	13,2	15,7
Air speed (m/s)		9,0	9,0	9,0
Airflow (m^3/h)		1310	2070	2590
Sound pressure level dB(A)*		48–58	48–58	48–58
Dimensions (mm)	Width	1300	1825	2350
	Depth	468	468	468
	Height	306	306	306
Weight (kg)		46	67	84
Max. installation height (m)		3,8	3,8	3,8
Voltage supply (V, phase, Hz)**		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)***		7,3 (0,8)	12,1 (1,2)	14,4 (1,4)

Air curtains for doors, ceiling installation

Designation of air curtain		VRF HP1000R DXE	VRF HP1500R DXE	VRF HP2000R DXE
Capacity index		P100	P125	P140
Cooling capacity (kW)		7,4	11,8	14,0
Heating capacity (kW)		8,3	13,2	15,7
Air speed (m/s)		9,0	9,0	9,0
Airflow (m^3/h)		1310	2070	2590
Sound pressure level dB(A)*		48–58	48–58	48–58
Dimensions (mm)	Width	1250	1750	2340
	Depth	485	485	485
	Height	348	348	348
Weight (kg)		52	75	75
Max. installation height (m)		3,8	3,8	3,8
Voltage supply (V, phase, Hz)**		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)***		7,8 (1,3)	12,7 (1,8)	15,7 (2,7)

* Sound pressure level measured at a distance of 3 m
** Power supply when electric back-up heater is deactivated 220-240 V, 1 Ph, 50 Hz
*** Values in brackets apply when back-up heater is deactivated

PWFY-P100VM-E-BU

Booster unit

Water heating up to 70 °C

Advantages

Warm water up to 70 °C

With the booster unit, water temperatures of up to 70 °C can be achieved in the primary circuit. Ideal for heating drinking water up to 65 °C.

Inverter-controlled compressor

The booster circuit is operated via an inverter-controlled R134a compressor.

Heat recovery

The R2 system recovers the heat generated in cooled down rooms and uses it for heating drinking water.

COP over 5

Due to the heat recovery, a system COP of 5.5 can be reached at a water temperature of 70 °C.

External control

The target value can be preset using a 4-20 mA signal from an external control. Contacts for switching on/off and changing the operating mode are available as standard.

Accessories

Cable remote control PAR-W21MAA

PWFY booster unit

Device designation		PWFY-P100VM-E-BU
Heating capacity (kW)		12,5
Sound pressure level dB(A)*		44
Dimensions (mm)	Width	450
	Depth	300
	Height	800
Weight (kg)		64
Refrigerant quantity (kg)		1,1
Refrigerant pipe size Ø (mm)	fl.	10
	s.	16
Voltage supply (V, phase, Hz)		220–240, 1, 50
Max. Power consumption (kW)		2,48
Max. Operating current (A)		11,12
Water volume flow rate (m^3/h)		0,6–2,15
Inlet water temperature °C		10–70
Outlet water temperature °C		to 70
Adjustable temperature range Heating °C		30–70
Temperature difference during operation (K)		5

* Sound pressure level measured 1 m in front of the unit and at a height of 1 m

▶ **The booster unit is only suited for connection to City Multi R2 systems for simultaneous cooling and heating operation.**

PWFY-P100-200VM-E-AU

Water heat exchanger

Hot and cold water supply

Advantages

Water heating up to 45 °C
With the heat exchanger unit, water temperatures of up to 45 °C can be achieved in heating mode. Ideal for supplying floor heatings or fan coils.

Water cooling down to 5 °C
In cooling mode, minimum water temperatures of 5 °C are possible.

Heat recovery
When connected to an R2 system, the heat generated in cooled rooms or cooled processes can be recovered and used for heating up water.

Four operating modes
Four operating modes provide an optimal adjustment to the specific requirements. Cooling, heating, ECO mode and frost protection mode are available.

ECO mode
In ECO mode, the target temperature is automatically adjusted to the outside temperature. The course of the heating curve can be individually adjusted.

External control
The target value can be preset using a 4-20 mA signal from an external control. Contacts for switching on/off and changing the operating mode are available as standard.

Can be connected to City Multi Y and R2 systems

Accessories
Cable remote control PAR-W21MAA

PWFY water heat exchanger

Device designation		PWFY-P100VM-E-AU	PWFY-P200VM-E-AU
Cooling capacity (kW)		11,2	22,4
Heating capacity (kW)		12,5	25,0
Sound pressure level dB(A)*		29	29
Dimensions (mm)	Width	450	450
	Depth	300	300
	Height	800	800
Weight (kg)		39	42
Refrigerant pipe size Ø (mm)	fl.	10	10
	s.	16	18
Voltage supply (V, phase, Hz)		220–240,1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,015	0,015
Operating current (A)		0,065	0,065
Water volume flow rate (m^3/h)		0,6–2,15	1,2–4,3
Inlet water temperature °C		10–40	10–40
Outlet water temperature °C		5–45	5–45
Adjustable temperature range Cooling °C		10–30	10–30
Adjustable temperature range Heating °C		30–45	30–45
Temperature difference during operation (K)		5	5

* Sound pressure level measured 1 m in front of the unit and at a height of 1 m

▶ **The water heat exchanger unit cannot be connected to outdoor units of the PUMY series.**

PFAV-P250VM-E PFAV-P500VM-E PFAV-P750VM-E

Industrial climatic chambers, circulating air operation

Upward outlet

Advantages

Large capacity range

Ideal for applications requiring a particularly high cooling or heating capacity.

Integrated remote control

The remote control PAR-21MAA is already integrated into the front grille as standard.

Flexible planning

Room-saving units and long pipe lengths provide room for flexible planning.

Energy-saving

The outdoor unit with full inverter compressor features a low starting current of only 8 A.

High static pressure possible

The customer can adjust the belt pulleys in order to achieve external pressures of up to 800 Pa. This also allows for supplying large duct networks with conditioned air.

PFAV industrial climatic chambers, circulating air operation

Device designation		PFAV-P250VM-E	PFAV-P500VM-E	PFAV-P750VM-E
Cooling capacity (kW)		25,0	50,0	71,0
Heating capacity (kW)		28,0	56,0	80,0
Airflow (m^3/h)		5600	10800	15600
Static pressure (Pa)		30	30	100
Sound pressure level dB(A)*		55	59	65
Dimensions (mm)	Width	1200	1420	1750
	Depth	485	635	1064
	Height	1748	1899	1860
Weight (kg)		156	265	459
Refrigerant pipe size Ø (mm)	fl.	10	16	18
	s.	22	28	35
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Max. Power consumption (kW)		0,82	2,37	4,3
Operating current (A)		3,4	6,2	10,9
Outdoor units	(Typ)	PUHY-P250YJM-A	PUHY-P500YSJM-A	PUHY-P750YSJM-A

* Sound pressure level measured at a distance of 1 m and at a height of 1.5 m in front of the unit

Delivery time upon request

▶ **The industrial climatic chambers of the PFAV-series may only be operated in 1:1 combination with the outdoor units indicated in the technical data. Putting them into operation in one system with the standard indoor units is not possible.**

PFAV-P300VM-E-F | PFAV-P600VM-E-F | PFAV-P900VM-E-F

Industrial climatic chambers, fresh air operation

Upward outlet

Advantages

High static pressure possible

The customer can adjust the belt pulleys in order to achieve external pressures of up to 800 Pa. This also allows for supplying large duct networks with conditioned air.

Large capacity range

Ideal for applications requiring a particularly high cooling or heating capacity.

Integrated remote control

The remote control PAR-21MAA is already integrated into the front grille as standard.

Energy-saving

The outdoor unit with full inverter compressor features a low starting current of only 8 A.

PFAV industrial climatic chambers, fresh air operation

Device designation		PFAV-P300VM-E-F	PFAV-P600VM-E-F	PFAV-P900VM-E-F
Cooling capacity (kW)		28,0	56,0	80,0
Heating capacity (kW)		26,5	50,0	71,0
Airflow (m^3/h)		2700	5400	7200
Static pressure (Pa)		80	110/170	210/330
Sound pressure level dB(A)*		48,5	50	57
Dimensions (mm)	Width	1200	1420	1750
	Depth	485	635	1064
	Height	1748	1899	1860
Weight (kg)		151	248	437
Refrigerant pipe size Ø (mm)	fl.	10	16	18
	s.	22	28	35
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Max. Power consumption (kW)		0,37	0,9	1,77
Operating current (A)		1,9	2,9	5,6
Outdoor units	(Typ)	PUHY-P250YJM-A	PUHY-P500YSJM-A	PUHY-P750YSJM-A

* Sound pressure level measured at a distance of 1 m and at a height of 1.5 m in front of the unit

Delivery time upon request

▶ **The industrial climatic chambers of the PFAV-series may only be operated in 1:1 combination with the outdoor units indicated in the technical data. Putting them into operation in one system with the standard indoor units is not possible.**

PFD-P250VM-E PFD-P500VM-E

Air conditioning systems for IT rooms

Advantages

Very high sensible cooling capacity
Due to the extensive heat exchanger, the sensible factor is 93 %. A post-humidification of the room air is not required.

Downflow
Air outlet downwards to the double floor.

Energy-saving
The outdoor unit with full inverter compressor features a low starting current of only 8 A.

Flexible planning
Room-saving units and long pipe lengths provide room for flexible planning.

Flexibility
The PFD units can be connected to the air and water-cooled outdoor units.

PFD indoor units

Device designation		PFD-P250VM-E	PFD-P500VM-E
Cooling capacity (kW)		28,0	56,0
Heating capacity (kW)		31,5	63,0
Airflow (m³/h)		9600	19200
Static pressure (Pa)		120	120
Sound pressure level dB(A)*		59	63
Dimensions (mm)	Width	1380	1980
	Depth	780	780
	Height	1950	1950
Weight (kg)		380	520
Refrigerant pipe size Ø (mm)	fl.	10	16
	s.	22	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50
Max. Power consumption (kW)		2,5	5,0
Operating current (A)		5,0	9,0
Outdoor units	(Typ)	PUHD-P250YJM-A oder PQHD-P250YHM-A	1 x PUHD-P500YSJM-A oder 2 x PUHD-P250YJM-A oder 2 x PQHD-P250YHM-A

PUHD outdoor units

Device designation		PQHD-P250YHM-A	PUHD-P250YJM-A	PUHD-P500YSJM-A
Cooling capacity (kW)		28,0	28,0	56,0
Heating capacity (kW)		31,5	31,5	63,0
Airflow (m³/h)		-	11100	22200
Sound pressure level dB(A)*		47	57	60
Dimensions (mm)	Width	880	920	1870
	Depth	550	760	760
	Height	1160	1710	1710
Weight (kg)		200	210	420
Total pipe length (m)		150	165	165
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		5,0	9,0	18,0
Refrigerant pipe size Ø (mm)	fl.	10 (12)**	10 (12)**	16
	s.	22	22	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415V, 50Hz, 3
Power consumption (kW)	Cooling	5,95	6,8	13,6
	Heating	5,8	6,6	13,2
Operating current (A)		10,5	10,9	21,8

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
** over 50 m

Connection kit

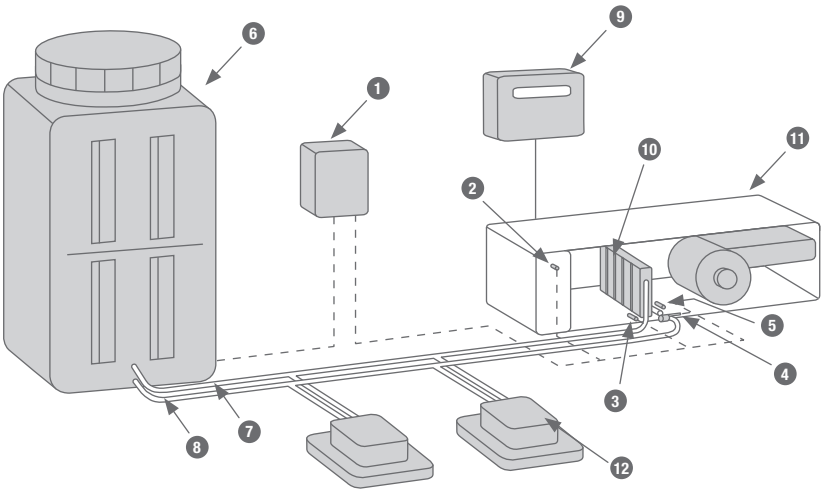
For heat exchangers in ventilation units

- The PAC-AH 125-500M-J connection kits are suitable for heating and cooling operation. When combined with a ventilation unit, they can be used to implement a return air or supply air control. The new supply air control function is made possible by additional temperature sensors and a new control system.
- Capacities of over 56 kW for cooling and/or 63.0 kW for heating can be achieved by using several connection kits on multi-circuit heat exchangers.
- The connection kit consists of the controller box including the standard circuit board with microprocessor control as well as four temperature sensors and is integrated into the City Multi M-Net data bus control-wise.
- The required electronic expansion valves (LEV) are additionally included in the scope of delivery in order to connect the external heat exchangers to the pipe system.

For your planning, please observe the notes provided in our planning and installation instructions.

- You can either choose the standard single remote controls or a superordinate system remote control (e. g. central control) to control unit operation. Furthermore, it is also possible to make use of the wide range of applications offered by the inputs and outputs.
- As standard, the connection kits PAC-AH125-500M-J are equipped with an 0 - 10 V input for presetting the target value.
- The PAC-AH125-500M-J connection kits have been designed for installation in closed rooms.

Connection to a ventilation system



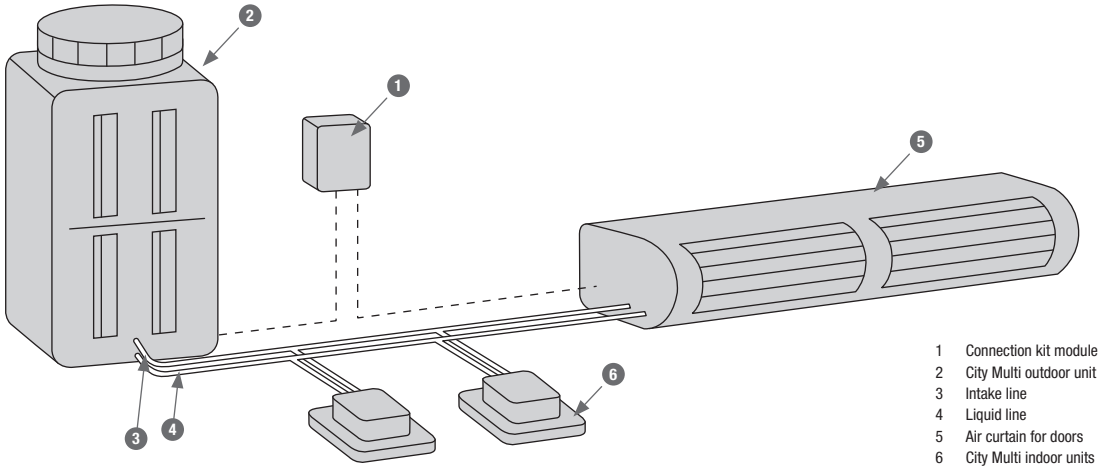
1–5 Connection kit module
6 City Multi outdoor unit
7 Intake line
8 Liquid line
9 Ventilation system control (provided by customer)
10 Heat exchanger (provided by customer)
11 Ventilation unit
12 City Multi indoor units

Technical details and information will be provided upon request.

PAC-AH125-500M-J

Connection to an air curtain for doors

Additional possible connections:
Air curtains for doors and other refrigerant-to-air heat exchangers can also be connected to the connection kit.



1 Connection kit module
2 City Multi outdoor unit
3 Intake line
4 Liquid line
5 Air curtain for doors
6 City Multi indoor units

Technical details and information will be provided upon request.

Device designation		PAC-AH125M-J		PAC-AH140M-J	PAC-AH250M-J		PAC-AH500M-J	
		Cooling / Heating		Cooling / Heating	Cooling / Heating		Cooling / Heating	
Capacity class*		P100	P125	P140	P200	P250	P400	P500
Cooling capacity min.–max.	(kW)	9.0–11.2	11.2–14.0	14.0–16.0	16.0–22.4	22.4–28.0	36.0–45.0	45.0–56.0
Heating capacity min.–max.	(kW)	10.0–12.5	12.5–16.0	16.0–18.0	18.0–25.0	25.0–31.5	40.0–50.0	50.0–63.0
Reference flow Use without indoor units	(m^3/h)	2.000	2.500	3.000	4.000	5.000	8.000	10.000
Reference flow Use with standard inverter units in the system	(m^3/h)	800	1.000	1.120	1.600	2.000	3.200	4.000
Air inlet temperature cooling	°C	15–24	15–24	15–24	15–24	15–24	15–24	15–24
Air inlet temperature heating supply air control	°C	-10–15 °C	-10–15 °C	-10–15 °C	-10–15 °C	-10–15 °C	-10–15 °C	-10–15 °C
Air inlet temperature heating return air control	°C	-10–20 °C	-10–20 °C	-10–20 °C	-10–20 °C	-10–20 °C	-10–20 °C	-10–20 °C
IP protection class		2X	2X	2X	2X	2X	2X	2X
Weight	kg	5	5	5	5	5	5	5
Dimensions of controller box	H x W x D	418 x 325 x 122	418 x 325 x 122	418 x 325 x 122	418 x 325 x 122	418 x 325 x 122	418 x 325 x 122	418 x 325 x 122
Refrigerant pipe size	mm	10/16	10/16	10/16	10/18	10/22	12/28	16/28
Voltage supply	V, phase, Hz	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50

* Adjustable via DIP switch

Possible combinations

	PAC-AH125M-J	PAC-AH140M-J	PAC-AH250M-J	PAC-AH500M-J
PUHY Standard P200–P1250	•	•	•	• (> P400)
PUHY High COP EP200–EP850	•	•	•	• (> EP400)
PUHY Zubadan HP200–HP500	•	•	•	• (> HP400)
PURY Standard P200–P900	•	•	•	
PURY High COP EP200–EP700	•	•	•	
PQHY WY P200–P900	•	•	•	• (> P400)
PQRY WR2 P200–P600	•	•	•	

Highest climate comfort / cooling or heating
Y-series

The Y-Series represents flexibility and highest climate comfort. The dual-pipe system for cooling or heating combines up to 50 indoor units of different designs in a single refrigerant circuit. A large selection of indoor units in connection with almost limitless control options offer solutions for all applications.

Each user can set the most comfortable room climate for him/her using the individual temperature regulation on every indoor unit.

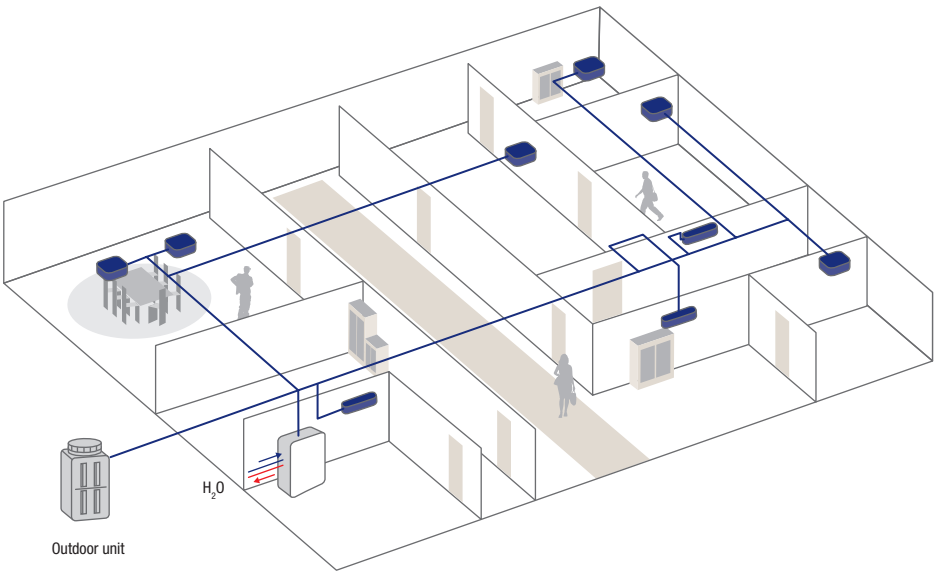
The outdoor units of the Y-series cover the cooling capacity range of 11.2 to 140.0 kW. The capacity range of all connected indoor units can vary from 50 to 130 %. For customised solutions, a connection index of 200 % is possible on request.

The product line also includes water-cooled WY outdoor units.

Standard and High COP series
The new YJM series stands out due to the following features:
- Compact dimensions. For the standard version of the VRF outdoor units, you only need little floor space for a space-saving installation.
- High energy efficiency. In cooling mode, a COP of up to 4.46 is possible ensuring a highly energy-conserving operation.

Zubadan technology for VRF outdoor units
100 % capacity at down to -15 °C
After the unique Zubadan technology has been successfully implemented for the Mr. Slim outdoor units, we are now offering a special VRF series that provides all the Zubadan advantages in the capacity range from 22.4 to 63.0 kW. Thanks to innovative technology, a constant heating capacity is achieved at down to -15 °C and the operating range in heating mode is extended to -25 °C. This way, a heating capacity of 100 % without any capacity losses is ensured even at very low temperatures.

All known City Multi indoor units can be connected to the City Multi Zubadan outdoor units. Up to 43 indoor units can be connected to the outdoor unit of the type PUHY-HP500.



PUHY-EP200YJM-A

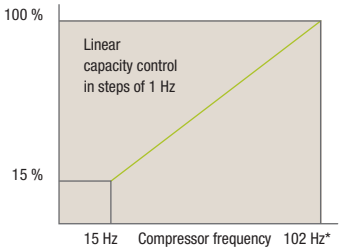
Inverter technology ensures energy-efficient operation
The compressor varies its speed depending on the demand of the indoor units and only produces the capacity that is actually needed.

If the inverter compressor is running in partial load operation, the system efficiency is significantly higher than that of a non-inverter system. Non-inverter systems can only output a capacity of 100 %, whereas this is only required for a few hours in the course of the year. Partial load operation makes up the biggest part of the operating time.

In addition, particularly low starting currents are achieved thanks to the City Multi inverter technology (max. 8A). Due to the exclusive use of inverter compressors, there are no current peaks occurring during operation.

All City Multi compressors are inverter-controlled. This ensures an optimal adjustment of the capacity to the current demand of the building.
The outdoor units consist of up to 3 modules with an inverter compressor for each module. This way, a very precise and stable room climate can be generated.

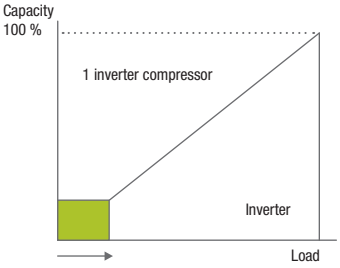
Cooling / heating capacity



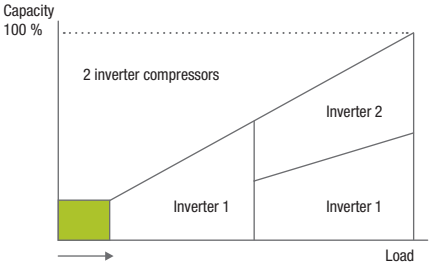
* maximum frequency is depending on the unit size

Stable operation and smooth temperature control

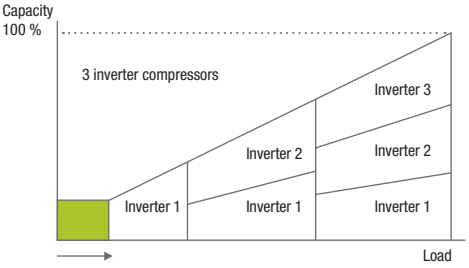
1 module



2 modules



3 modules



Unique 2-pipe system / simultaneous cooling and heating
R2-series

The R2-series was developed to promote energy-saving and eco-friendly systems in modern buildings. Airtight building envelopes that permit little air exchange call for modern and energy-efficient air conditioning. This means that surplus heat energy, from server rooms for instance, is transferred to rooms that are to be heated. This reasonable relocation of energy is ideal for buildings with large-scale façade glazing and building sides facing southwest.

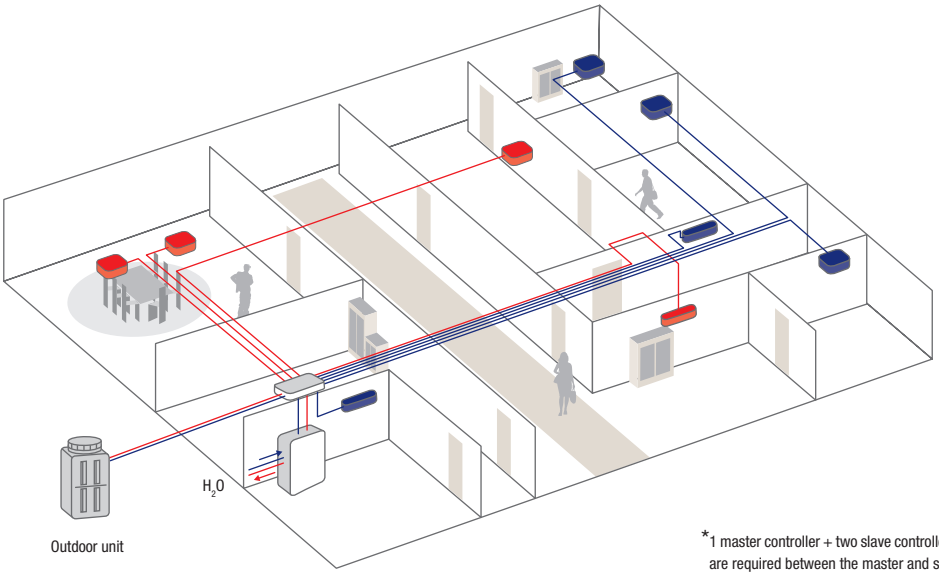
The R2-series is the only heat recovery system worldwide that permits simultaneous heating and cooling with only two pipes. With water-cooled WR2 systems in particular, the recovered heat is released into a water network and stored or used elsewhere in conjunction with other WR2 systems.

The central component of any R2 system is the BC controller. This is a refrigerant distributor which, together with the outdoor unit, forms a single refrigeration and control entity and thus permits heat recovery. By means of the BC controller, up to 50 indoor units can be connected to an outdoor unit, and with only 2 pipes*.
Thanks to the use of state-of-the-art inverter technology, the compressor frequency in the outdoor unit can be reduced to as low as 15 Hz. The capacity range of all connected indoor units can be from 50 to 150%. For customised solutions, a connection index of 200 % is possible on request.
As a result of the integrated fuzzy logic control, the room temperature of all indoor units can be adjusted precisely to the requirements of the particular user. In automatic mode, there is an automatic switchover between heating and cooling according to the individually set temperature – for more comfortable conditions with extremely simple control.

Advantages at a glance:
- Every indoor unit can be operated independently in heating and cooling mode.
- Up to 100 % heat recovery is possible.
- No refrigerant distributor necessary.

Efficiency and performance are thus ensured and already have a record of success going back 20 years.

R2-series as the Standard and High COP series
see also page 146



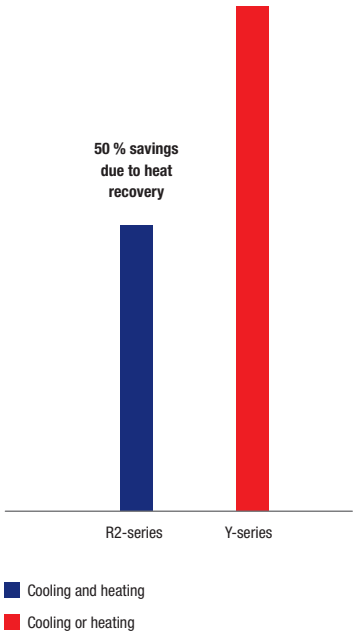
*1 master controller + two slave controllers maximum. As of 17 connected indoor units, at least two BC controllers are required between the master and slave if three pipes are used.

Principle of heat recovery

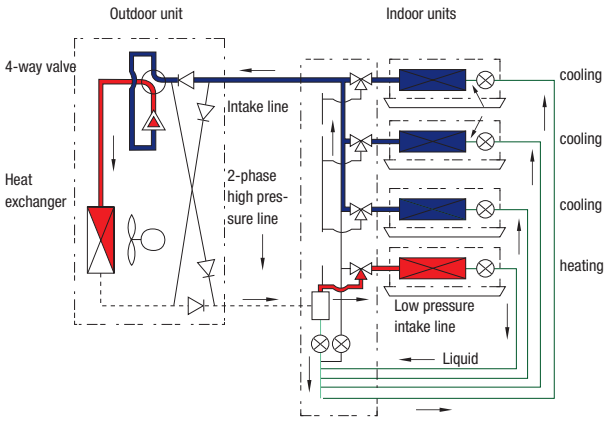
With the Mitsubishi Electric R2 system, the energy is moved within the building. The energy drawn from the rooms to be cooled does not escape to the outside air but is utilised for heating rooms with heat requirement.
Depending on the proportion between cooling and heating requirement, energy costs can be reduced by up to 50 % with this principle of heat recovery.

In optimally designed systems, system COPs of over 8 are possible.

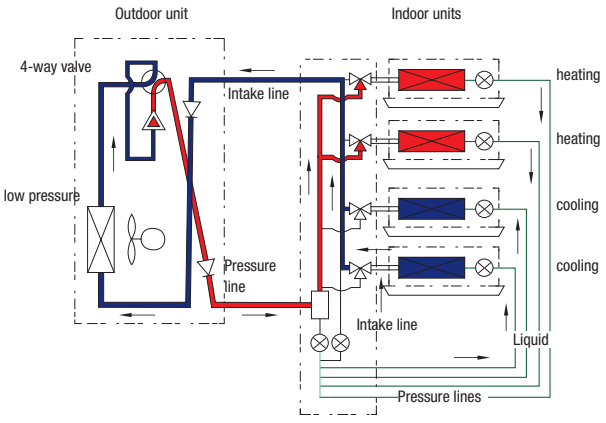
Comparison of energy costs – office building 10,000 m²



BC controller primarily in cooling operation



BC controller in heating or cooling operation with heat recovery



The BC controller

Core of the R2 systems

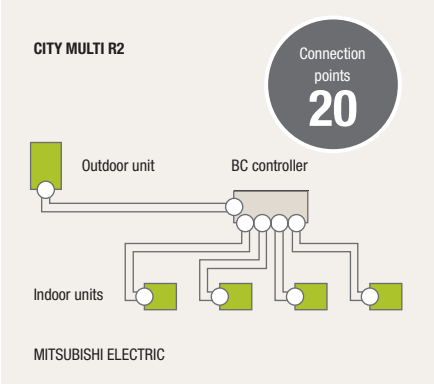
Installation of the BC controller

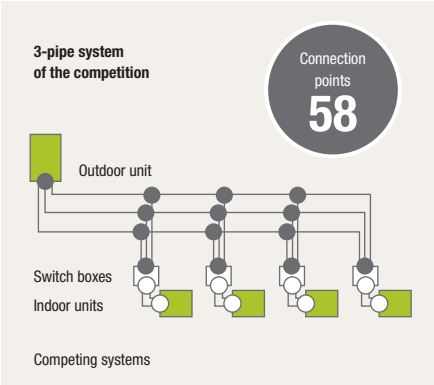
The compact BC controller connects several indoor units to an outdoor unit and distributes the refrigerant efficiently according to the heating operation (gaseous refrigerant) and cooling operation (liquid refrigerant).
Since all indoor units are directly connected to the BC controller, the R2-series does not require refrigerant distributors for the indoor units. This makes the installation extremely easy and potential leaks are excluded.

Cooling and heating simultaneously with 50 indoor units

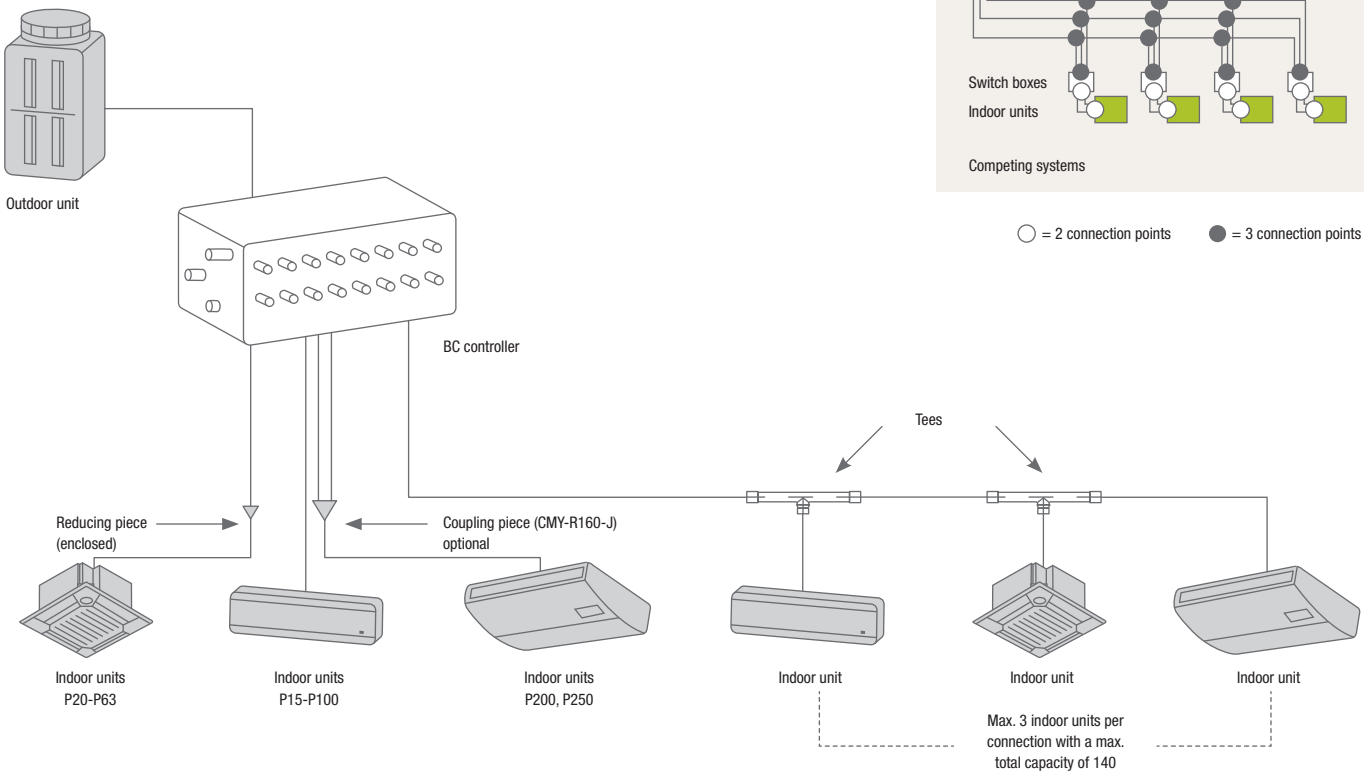
Up to three BC controllers (1x master, 2x slave) can be integrated into a cooling circuit. This way, up to 50 indoor units can be integrated into one refrigerant system.

Comparison of the connection points to be created in the system





○ = 2 connection points ● = 3 connection points



REPLACE OUTDOOR UNITS

Replace City Multi outdoor units

Replace Technology

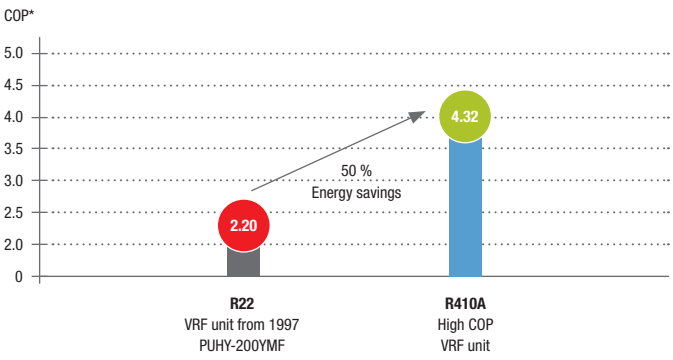
Advantages

- Capacity ranges: Y-series 22.4 kW to 113.0 kW cooling / heating capacity R2-series 22.4 kW to 37.5 kW cooling / heating capacity
- Minimum installation effort since the existing pipeline network including all fuses, communication and remote control lines can be re-used
- No additional costs for drywall construction work, paint work, wall and roof ducts or fire protection measures
- Investment costs can be reduced by up to 30 %
- Efficient air conditioning system for cooling and heating

But the advantages of the Replace City Multi system go beyond the easy and inexpensive installation. After the approximately two hour-long rinse operation, in which R410A is inserted into the system and all mineral oil residues, as well as R22 residues are completely removed through the rinse filter, the new VRF system can be commissioned as usual. In this respect, the silent and compact outdoor units stand out due to their very high COPs, which ensure low operating costs in the long term. Compared to old R22 systems, the new inverter-controlled City Multi VRF systems achieve an efficiency that is up to twice as high, which means that the operating costs are also almost being halved.

The pipe diameters have already been adjusted to the standard cross-sections of R22 systems. The Replace Technology can also be used for other makes of old VRF systems, because a corresponding compatibility to existing pipeline networks has been taken into account during the development of the Replace Multi outdoor units.

COP comparison (energy efficiency) of a City Multi 8 hp YHM-A system



* average COP cooling / heating

Reduction of the operating costs by 49 %

Old VRF system	New Replace Multi system
5 x PUHY-250YMF Average COP of 2.2 2,000 hours of all-out operation (1,700 heating, 300 cooling) Energy costs 0.18 EUR/kWh **Operating costs per year 24,850 EUR**	5 x PUHY-RP250JM-A Average COP of 4.32 2,000 hours of all-out operation (1,700 heating, 300 cooling) Energy costs 0.18 EUR/kWh **Operating costs per year 12,765 EUR**

Cost savings: 12,085 EUR

The principle of the Replace Technology

Three processes which continue to use existing pipelines
R22 systems use mineral oil. Operated at a higher pressure, R410A air conditioning systems, on the other hand, require high-grade synthetic oils.

As excess oil accumulates in pipelines and retains chlorine residues and humidity, this can lead to chemical reactions in synthetic oils, which will ultimately lead to compressor damage due to insufficient lubrication.

This is why, until now, pipelines also needed to be replaced – a somewhat costly process. With the Replace Technology, Mitsubishi Electric now offers the possibility to continue using existing pipeline networks.

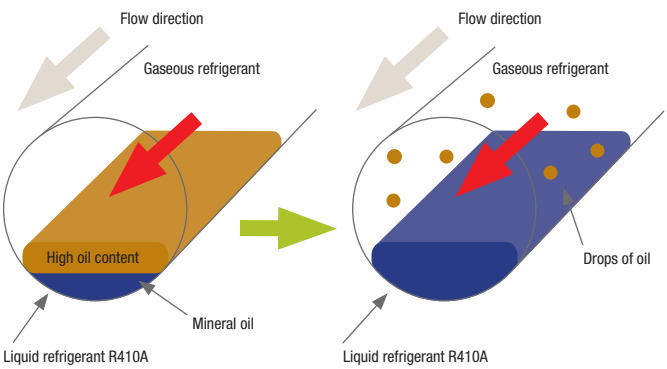
The three Replace processes

Replace Technology with two-phase R410A
VRF systems which feature many branches and a large number of connected indoor units may contain oil residues which are difficult to spot and eliminate. In its City Multi series, Mitsubishi Electric therefore offers a model range with a guaranteed replace function which automatically purges pipeline networks. The R410A is conveyed through the system in a two-phase flow pattern during an automatically launched purging operation, which lasts a maximum of two hours. During the process, it picks up all mineral residues, which are then separated from the refrigerant by a flush filter in the outdoor unit. The pipe dimensions in the Replace Multi VRF series have also been matched to the standard pipe diameters used in R22 systems in the corresponding performance class.

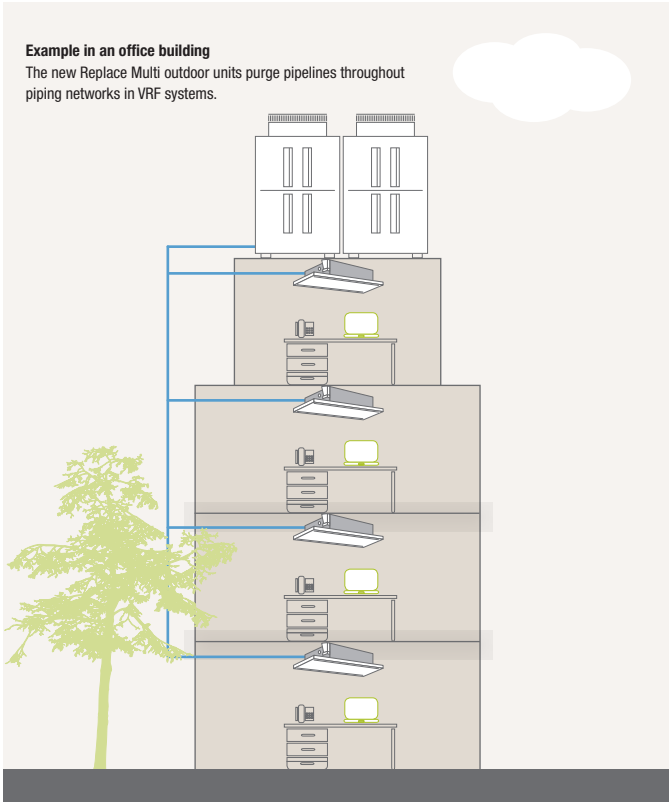
The purging process in Replace City Multi VRF outdoor units

At the start of the purging process
The mineral oil is removed on a liquid film with the 2-phase mix.

Towards the end of the purging process
Oil drops on the inside walls are conveyed to the outdoor unit by the gaseous refrigerant.



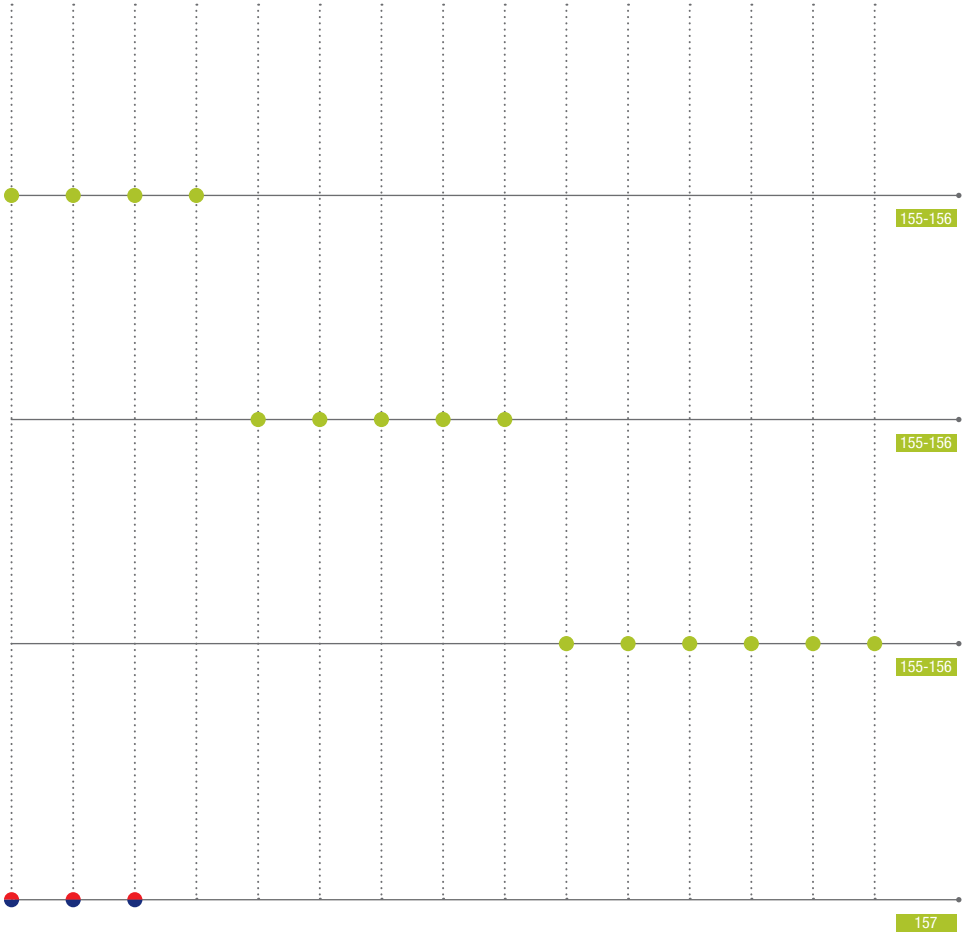
Example in an office building
The new Replace Multi outdoor units purge pipelines throughout piping networks in VRF systems.



Overview / Replace City Multi outdoor units

- Cooling or heating
- Cooling and heating
- Page reference

RP200	RP250	RP300	RP350	RP400	RP450	RP500	RP550	RP600	RP650	RP700	RP750	RP800	RP850	RP900	Capacity code
22.4	28.0	33.5	40.0	45.0	50.0	56.0	63.0	69.0	73.0	80.0	85.0	90.0	96.0	101.0	Cooling capacity (kW)
25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5	88.0	95.0	100.0	108.0	113.0	Heating capacity (kW)



Replace Y-series

PUHY-RP200-350YJM-A

PUHY-RP400-650YSJM-A

PUHY-RP700-900YSJM-A

Replace R2-series

PURY-RP200/250/300YJM-A

PUHY-RP200-350YJM PUHY-RP400-650YSJM

Replace City Multi VRF

Easy replacement of R22 VRF systems / Replace Y-series cooling or heating

Replace outdoor units RP200 to RP350, cooling or heating

Designation of outdoor units		PUHY-RP200YJM	PUHY-RP250YJM	PUHY-RP300YJM	PUHY-RP350YJM
Cooling capacity (kW)		22,4	28,0	33,5	40,0
Heating capacity (kW)		25,0	31,5	37,5	45,0
EER	Cooling	3,94	3,67	3,73	3,39
COP	Heating	4,39	4,36	3,98	3,57
Airflow (m^3/h)		11100	11100	11100	11100
Sound pressure level dB(A)*		56	57	59	60
Dimensions (mm)**	Width	920	920	920	920
	Depth	760	760	760	760
	Height	1710	1710	1710	1710
Weight (kg)		230	255	255	255
Total pipe length (m)***		300	300	300	300
Max. height difference (m)		50	50	50	50
Refrigerant quantity (kg)		6,5	9,0	9,0	9,0
Refrigerant pipe size Ø (mm)	fl.	12	12	12	16
	s.	28	28	28	35
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	5,68	7,63	8,98	11,79
	Heating	5,69	7,22	9,42	12,6
Operating current (A)	Cooling	9,5	13,9	15,8	20,7
	Heating	9,6	13,2	16,6	22,1
Max. power indoor units (kW)		29,12 (130%)	36,4 (130%)	43,55 (130%)	52,0 (130%)
Recomm. Fuse size (A)		30	30	30	40
Connectable indoor units (number/typ)		1 – 17 / 15 – 250	1 – 21 / 15 – 250	1 – 26 / 15 – 250	1 – 30 / 15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

Replace outdoor units RP400 to RP500, cooling or heating

Designation of outdoor units		PUHY-RP400YSJM	PUHY-RP450YSJM	PUHY-RP500YSJM
Single modules		RP200 + RP200	RP200 + RP250	RP250 + RP250
Required set of distributors		CMY-RP100VBK	CMY-RP100VBK	CMY-RP100VBK
Cooling capacity (kW)		45,0	50,0	56,0
Heating capacity (kW)		50,0	56,0	63,0
EER	Cooling	3,79	3,63	3,57
COP	Heating	4,39	4,37	4,36
Airflow (m^3/h)		22200	22200	22200
Sound pressure level dB(A)*		59	60	60
Dimensions (mm)**	Width	1870	1870	1870
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		460	485	510
Total pipe length (m)***		300	300	300
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		13	18,0	18,0
Refrigerant pipe size Ø (mm)	fl.	16	16	16
	s.	35	35	35
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	11,87	13,77	15,68
	Heating	11,38	12,81	14,44
Operating current (A)	Cooling	20,0	24,3	28,6
	Heating	19,2	22,6	26,4
Max. power indoor units (kW)		58,5 (130%)	65,0 (130%)	72,8 (130%)
Connectable indoor units (number/typ)		1 – 32 / 15 – 250	1 – 32 / 15 – 250	1 – 32 / 15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

PUHY-RP400-650YSJM PUHY-RP700-900YSJM

Replace City Multi VRF

Easy replacement of R22 VRF systems / Replace Y-series cooling or heating

Replace outdoor units RP550 to RP650, cooling or heating

Designation of outdoor units		PUHY-RP550YSJM	PUHY-RP600YSJM	PUHY-RP650YSJM
Single modules		RP250 + RP300	RP300 + RP300	RP300 + RP350
Required set of distributors		CMY-RP100VBK	CMY-RP100VBK	CMY-RP100VBK
Cooling capacity (kW)		63,0	69,0	73,0
Heating capacity (kW)		69,0	76,5	81,5
EER	Cooling	3,60	3,71	3,46
COP	Heating	4,15	3,98	3,75
Airflow (m³/h)		22200	22200	22200
Sound pressure level dB(A)*		61	62	62,5
Dimensions (mm)**	Width	1870	1870	1870
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		510	510	510
Total pipe length (m)***		300	300	300
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		18,0	18	18,0
Refrigerant pipe size Ø (mm)	fl.	16	18	18
	s.	35	35	42
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	17,5	18,60	21,01
	Heating	16,6	19,22	21,73
Operating current (A)	Cooling	31,3	33,6	37,1
	Heating	29,8	33,9	38,3
Max. power indoor units (kW)		81,9 (130%)	98,7 (130%)	94,9 (130%)
Connectable indoor units (number/typ)		1–32 / 15–250	1–32 / 15–250	1–32 / 15–250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
** By removing the base, the height can be reduced to 1650 mm
*** One way length

Replace outdoor units RP700 to RP900, cooling or heating

Designation of outdoor units		PUHY-RP700YSJM	PUHY-RP750YSJM	PUHY-RP800YSJM	PUHY-RP850YSJM	PUHY-RP900YSJM
Single modules		RP200 + 2 x RP250	3 x RP250	RP300 + 2 x RP250	RP250 + 2 x RP300	3 x RP300
Required set of distributors		CMY-RP200VBK	CMY-RP200VBK	CMY-RP200VBK	CMY-RP200VBK	CMY-RP200VBK
Cooling capacity (kW)		80,0	85,0	90,0	96,0	101,0
Heating capacity (kW)		88,0	95,0	100,0	108,0	113,0
EER	Cooling	3,60	3,52	3,53	3,54	3,57
COP	Heating	4,37	4,36	4,21	5,21	3,98
Airflow (m³/h)		33300	33300	33300	33300	33300
Sound pressure level dB(A)*		61,5	62	62,5	63,5	64
Dimensions (mm)**	Width	2820	2820	2820	2820	2820
	Depth	760	760	760	760	760
	Height	1710	1710	1710	1710	1710
Weight (kg)		740	765	765	765	765
Total pipe length (m)***		300	300	300	300	300
Max. height difference (m)		50	50	50	50	50
Refrigerant quantity (kg)		24,5	27,0	27,0	27,0	27,0
Refrigerant pipe size Ø (mm)	fl.	18	18	18	18	18
	s.	42	42	42	42	42
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	22,22	24,14	25,50	27,12	28,29
	Heating	20,13	21,79	23,75	26,47	28,39
Operating current (A)	Cooling	39,8	43,3	45,9	48,2	49,9
	Heating	36,0	39,8	42,9	47,2	50,1
Max. power indoor units (kW)		104,0 (130%)	110,5 (130%)	117,0 (130%)	124,8 (130%)	131,3 (130%)
Connectable indoor units (number/typ)		1–32 / 15–250	1–32 / 15–250	1–32 / 15–250	1–32 / 15–250	1–32 / 15–250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
** By removing the base, the height can be reduced to 1650 mm
*** One way length

PURY-RP200-300YJM

Replace City Multi VRF

Easy replacement of R22 VRF systems / Replace R2-series cooling and heating

Replace outdoor units RP200 to RP300, cooling and heating

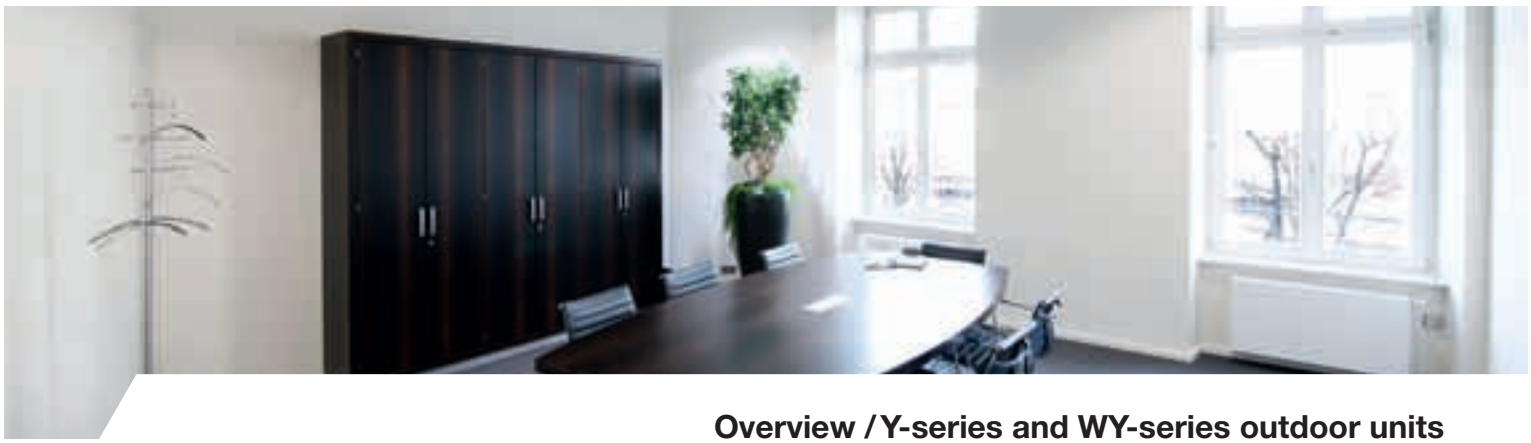
Designation of outdoor units		PURY-RP200YJM	PURY-RP250YJM	PURY-RP300YJM
Cooling capacity (kW)		22,4	28,0	33,5kW
Heating capacity (kW)		25,0	31,5	37,5kW
EER	Cooling	4,52	4,10	4,01
COP	Heating	4,54	4,36	4,31
Airflow (m^3/h)		13500	13500	13500
Sound pressure level dB(A)*		56	57	59
Dimensions (mm)**	Width	1220	1220	1220
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		275	290	290
Total pipe length (m)***		220	220	220
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		11,8	11,8	11,8
Refrigerant pipe size Ø (mm)	fl.	18	18	18
	s.	28	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	4,95	6,82	8,35
	Heating	5,51	7,22	8,70
Operating current (A)	Cooling	8,8	12,2	14,9
	Heating	9,8	13,0	16,0
Max. power indoor units (kW)		33,6 (150%)	42,0 (150%)	50,25 (150%)
Recomm. Fuse size (A)		25	25	32
Connectable indoor units (number/typ)		1 – 20 / 15 – 250	1 – 25 / 15 – 250	1 – 30 / 15 – 250

* Sound pressure level measured 1 m in front of the unit and at a height of 1 m

** By removing the base, the height can be reduced to 1650 mm

*** One way length

OUTDOOR UNITS



Overview / Y-series and WY-series outdoor units

P 100	P 125	P 140	P 200	P 250	P 300	P 350	P 400	P 450	P 500	P 550	P 600	P 650
11.2	14.0	15.5	22.4	28.0	33.5	40.0	45.0	50.0	56.0	63.0	69.0	73.0
12.5	16.0	18.0	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5

Capacity code
Cooling capacity (kW)
Heating capacity (kW)

Cooling or heating
Page reference

PUMY-P100/125/140YHMB

PUHY-P200-300YJM-A
High COP: PUHY-EP200YJM-A

PUHY-P350-400YJM-A
High COP: PUHY-EP250YJM-A

PUHY-P450YJM-A
High COP: PUHY-EP300YJM-A

PUHY-P500/550YSJM-A
High COP: PUHY-EP400YSJM-A

PUHY-P600/650YSJM-A
High COP: PUHY-EP450YSJM-A

High COP: PUHY-EP500YSJM-A

High COP: PUHY-EP600YSJM-A

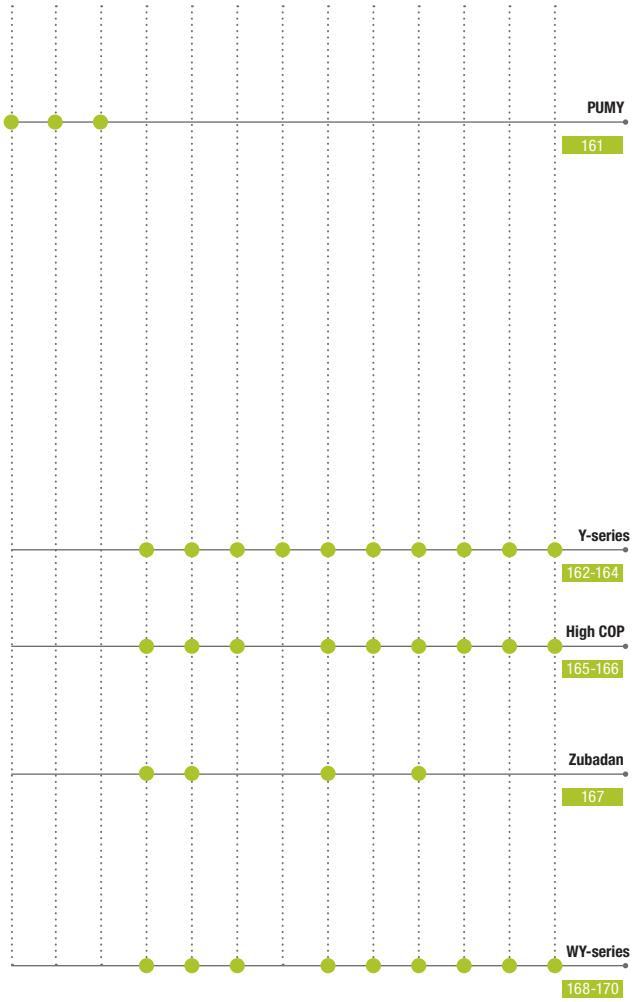
PUHY-HP200/250YHM-A

PUHY-HP400/500YSHM-A

PQHY-P200-300YHM-A

PQHY-P400-600YSHM-A

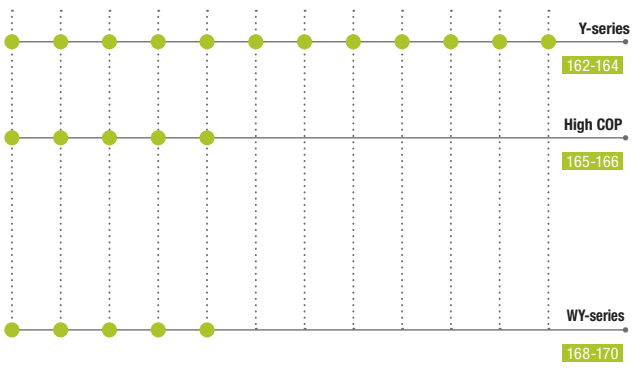
PQHY-P650-900YSHM-A



You can find the new Replace Multi outdoor units on page 154

P 700	P 750	P 800	P 850	P 900	P 950	P 1000	P 1050	P 1100	P 1150	P 1200	P 1250
80.0	85.0	90.0	96.0	101.0	108.0	113.0	118.0	124.0	130.0	136.0	140.0
88.0	95.0	100.0	108.0	113.0	119.5	127.0	132.0	140.0	145.0	150.0	156.5

Capacity code
Cooling capacity (kW)
Heating capacity (kW)



PUHY module combinations (E)P700 – (E)P1250

PQHY-P650-900YSHM-A

Overview / R2-series and WR2-series outdoor units

P 200	P 250	P 300	P 350	P 400	P 450	P 500	P 550	P 600	P 650	P 700	P 750	P 800	P850	P900
22.4	28.0	33.5	40.0	45.0	50.0	56.0	63.0	69.0	73.0	80.0	85.0	90.0	96.0	101.0
25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5	88.0	95.0	100.0	108.0	113.0

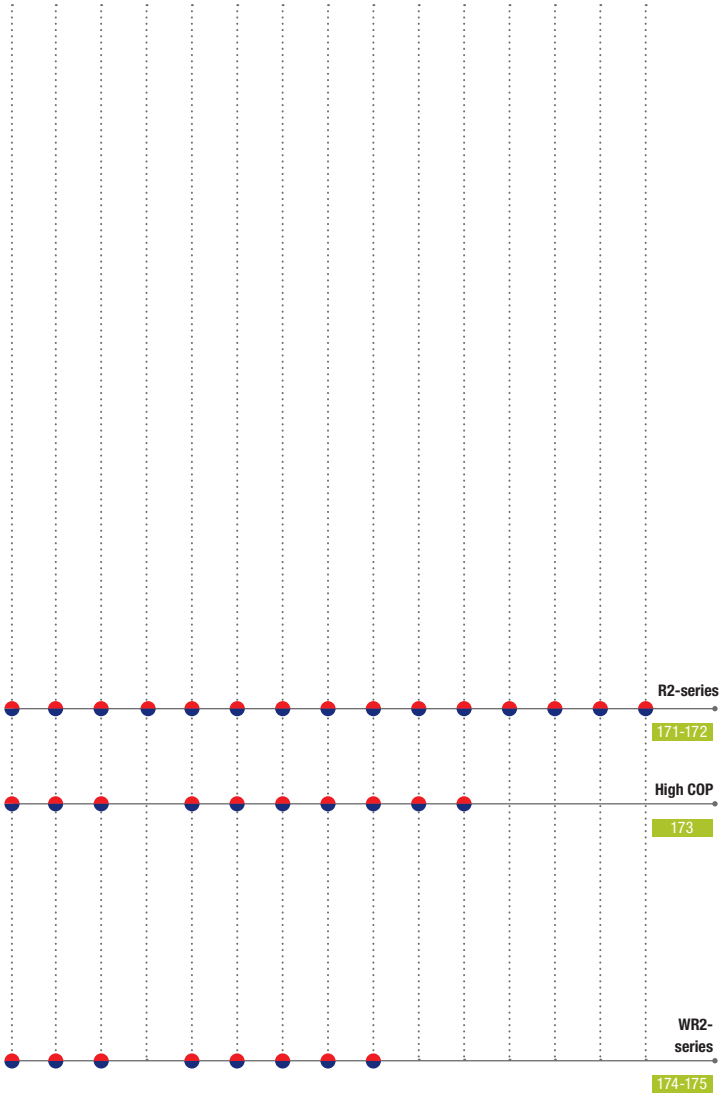
Capacity code

Cooling capacity (kW)

Heating capacity (kW)

Cooling and heating

Page reference



PURY-P200-300YJM-A
High COP: PURY-EP200YJM-A

PURY-P350-400YJM-A
High COP: PURY-EP250-300YJM-A

PURY-P450YJM-A
High COP: PURY-EP350YJM-A

PURY-P400-600YSJM-A
High COP: PURY-EP400YSJM-A

PURY-P650-700YSJM-A
High COP: PURY-EP450/500YSJM-A

PURY-P750-800YSJM-A
High COP: PURY-EP550/600YSJM-A

PURY-P850YSJM-A
High COP: PURY-EP650YSJM-A

PURY-P900YSJM-A
High COP: PURY-EP700YSJM-A

PQRY-P200-300Y M-A

PQRY-P400-600YSHM-A

You can find the new Replace Multi outdoor units on page 154

PUMY-P100-140YHMB

City Multi VRF

Y-series cooling or heating

PUMY outdoor units, cooling or heating in 400 V design

Device designation		PUMY-P100YHMB	PUMY-P125YHMB	PUMY-P140YHMB
Cooling capacity (kW)		11,2	14,0	15,5
Heating capacity (kW)		12,5	16,0	18,0
EER	Cooling	3,39	3,28	2,91
COP	Heating	3,44	3,73	3,38
Airflow (m^3/h)		6000	6000	6000
Sound pressure level dB(A)*		49	50	51
Dimensions (mm)	Width	950	950	950
	Depth	330 + 30	330 + 30	330 + 30
	Height	1350	1350	1350
Weight (kg)		140	140	140
Total pipe length (m)**		120	120	120
Max. height difference (m)***		50 (20)	50 (20)	50 (20)
Max. distance length (m)		80	80	80
Refrigerant quantity (kg)****		8,5	8,5	8,5
Refrigerant pipe size Ø (mm)	fl.	10	10	10
	s.	16	16	16
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	3,30	4,27	5,32
	Heating	3,63	4,29	5,32
Operating current (A)	Cooling	5,28	6,83	8,51
	Heating	5,81	6,87	8,51
Max. power indoor units (kW)		14,5 (130 %)	18,2 (130 %)	20,2 (130 %)
Connectable indoor units (number/typ)		1 – 8/15 – 125	1 – 10/15 – 140	1 – 12/15 – 140

* Sound pressure level measured at a distance of 1 m and at a height of 1.5 m in front of the unit

** One way length

*** 50 m for roof installation, 20 m for floor installation

**** Pre-charged with refrigerant R410A sufficient for a pipeline of 50 m (one way)

▶ **PUMY-P100/125/140YHMB für 8 bis 12 Innengeräte auch 1-phasig lieferbar (auf Anfrage)**

Compressor with Frame Compliance Mechanism (FCM).

The highly efficient scroll compressor with the „Frame Compliance Mechanism“ has minimum compression and friction losses. This guarantees a high efficiency over the entire speed range. This technology received the JSRAE Award.

PUHY-P200-300YJM-A PUHY-P350-400YJM-A PUHY-P450YJM-A

City Multi VRF

Y-series cooling or heating

Y-series outdoor units P200 to 300, cooling or heating

Designation of outdoor units		PUHY-P200YJM-A	PUHY-P250YJM-A	PUHY-P300YJM-A
Cooling capacity (kW)		22,4	28,0	33,5
Heating capacity (kW)		25,0	31,5	37,5
EER	Cooling	3,98	3,78	3,72
COP	Heating	4,28	4,29	4,05
Airflow (m^3/h)		10200	10200	10200
Sound pressure level dB(A)*		56	58	59
Dimensions (mm)**	Width	920	920	920
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		190	200	215
Total pipe length (m)***		1000	1000	1000
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		6,5	8,0	8,0
Refrigerant pipe size Ø (mm)	fl.	10	10	10
	s.	18	22	22
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	5,62	7,40	9,00
	Heating	5,84	7,34	9,25
Operating current (A)	Cooling	9,4	12,4	15,1
	Heating	9,8	12,3	15,6
Max. power indoor units (kW)****		29,12 (130 %)	36,4 (130 %)	43,55 (130 %)
Recomm. Fuse size (A)		25	32	32
Connectable indoor units (number/typ)		1 – 17/15 – 250	1 – 21/15 – 250	1 – 26/15 – 250

Y-series outdoor units P350 to 450, cooling or heating

Designation of outdoor units		PUHY-P350YJM-A	PUHY-P400YJM-A	PUHY-P450YJM-A
Cooling capacity (kW)		40,0	45,0	50,0
Heating capacity (kW)		45,0	50,0	56,0
EER	Cooling	3,63	3,43	3,23
COP	Heating	4,02	3,90	3,83
Airflow (m^3/h)		12600	12600	22200
Sound pressure level dB(A)*		60	61	62
Dimensions (mm)**	Width	1220	1220	1750
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		250	245	290
Total pipe length (m)***		1000	1000	1000
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		11,5	11,5	11,8
Refrigerant pipe size Ø (mm)	fl.	12	12	16
	s.	28	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	11,01	13,11	15,47
	Heating	11,19	12,82	14,62
Operating current (A)	Cooling	18,5	22,1	26,1
	Heating	18,8	21,6	24,6
Max. power indoor units (kW)****		52,0 (130 %)	58,5 (130 %)	65,0 (130 %)
Recomm. Fuse size (A)		40	63	63
Connectable indoor units (number/typ)		1 – 30/15 – 250	1 – 34/15 – 250	1 – 39/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
** By removing the base, the height can be reduced to 1650 mm
*** One way length
**** Indoor unit capacity of 200 % is also optionally available

PUHY-P500-550YSJM-A PUHY-P900YSJM-A

City Multi VRF

Y-series cooling or heating

Y-series outdoor units P500 to 650, cooling or heating

Device designation		PUHY-P500YSJM-A	PUHY-P550YSJM-A	PUHY-P600YSJM-A	PUHY-P650YSJM-A
Single modules		2 x P250	P250 + P300	P250 + P350	P300 + P350
Required set of distributors		CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y100VBK2
Cooling capacity (kW)		56,0	63,0	69,0	73,0
Heating capacity (kW)		63,0	69,0	76,5	81,5
EER	Cooling	3,64	3,67	3,68	3,58
COP	Heating	4,19	4,09	4,05	3,98
Airflow (m³/h)		20400	20400	22800	22800
Sound pressure level dB(A)*		61,0	61,5	62,0	62,5
Dimensions (mm)**	Width	1870	1870	2170	2170
	Depth	760	760	760	760
	Height	1710	1710	1710	1710
Weight (kg)		400	415	450	465
Total pipe length (m)***		1000	1000	1000	1000
Max. height difference (m)		50	50	50	50
Refrigerant quantity (kg)		16,0	16,0	19,5	19,5
Refrigerant pipe size Ø (mm)	fl.	16	16	16	16
	s.	28	28	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	15,38	17,16	18,75	20,39
	Heating	15,03	16,87	18,88	20,47
Operating current (A)	Cooling	25,9	28,9	31,6	34,4
	Heating	25,3	28,4	31,8	34,5
Max. power indoor units (kW)****		72,8 (130 %)	81,9 (130 %)	89,7 (130 %)	94,9 (130 %)
Connectable indoor units (number/typ)		1 – 43/15 – 250	1 – 47/15 – 250	1 – 50/15 – 250	1 – 50/15 – 250

Y-series outdoor units P700 to 900, cooling or heating

Device designation		PUHY-P700YSJM-A	PUHY-P750YSJM-A	PUHY-P800YSJM-A	PUHY-P850YSJM-A	PUHY-P900YSJM-A
Single modules		2 x P350	P350 + P400	P350 + P450	P400 + P450	2 x P450
Required set of distributors		CMY-Y200VBK2	CMY-Y200VBK2	CMY-Y200VBK2	CMY-Y200VBK2	CMY-Y200VBK2
Cooling capacity (kW)		80,0	85,0	90,0	96,0	101,0
Heating capacity (kW)		88,0	95,0	100,0	108,0	113,0
EER	Cooling	3,56	3,44	3,32	3,24	3,15
COP	Heating	3,95	3,85	3,89	3,80	3,76
Airflow (m³/h)		25200	27000	34800	34800	44400
Sound pressure level dB(A)*		63,0	63,5	64,0	64,5	65,0
Dimensions (mm)**	Width	2470	2470	3000	3000	3530
	Depth	760	760	760	760	760
	Height	1710	1710	1710	1710	1710
Weight (kg)		500	500	540	540	580
Total pipe length (m)***		1000	1000	1000	1000	1000
Max. height difference (m)		50	50	50	50	50
Refrigerant quantity (kg)		23,0	23,0	23,3	23,3	23,6
Refrigerant pipe size Ø (mm)	fl.	18	18	18	18	18
	s.	35	35	35	42	42
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	22,47	24,70	27,10	29,62	32,06
	Heating	22,27	24,67	25,70	28,42	30,05
Operating current (A)	Cooling	37,9	41,6	45,7	50,0	54,1
	Heating	37,5	41,6	43,3	47,9	50,7
Max. power indoor units (kW)****		104,0 (130 %)	110,5 (130 %)	117,0 (130 %)	124,8 (130 %)	131,3 (130 %)
Connectable indoor units (number/typ)		1 – 50/15 – 250	1 – 50/15 – 250	1 – 50/15 – 250	1 – 50/15 – 250	1 – 50/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

**** Indoor unit capacity of 160 % is also optionally available

For the recommended fuse size, please refer to the stated single modules

PUHY-P950-1000YSJM-A PUHY-P1250YSJM-A

City Multi VRF

Y-series cooling or heating

Y-series outdoor units P950 to 1050, cooling or heating

Device designation		PUHY-P950YSJM-A	PUHY-P1000YSJM-A	PUHY-P1050YSJM-A
Single modules		P250 + P300 + P400	2 x P300 + P400	P300 + P350 + P400
Required set of distributors		CMY-Y300VBK2	CMY-Y300VBK2	CMY-Y300VBK2
Cooling capacity (kW)		108,0	113,0	118,0
Heating capacity (kW)		119,5	127,0	132,0
EER	Cooling	3,54	3,52	3,49
COP	Heating	3,98	3,83	3,87
Airflow (m³/h)		33000	33000	35400
Sound pressure level dB(A)*		64,5	64,5	65,0
Dimensions (mm)**	Width	3180	3180	3480
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		665	680	715
Total pipe length (m)***		1000	1000	1000
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		27,5	31	31,0
Refrigerant pipe size Ø (mm)	fl.	18	18	18
	s.	42	42	42
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	30,5	32,10	33,81
	Heating	30,02	33,15	34,10
Operating current (A)	Cooling	51,4	54,1	57,0
	Heating	50,6	55,9	57,5
Max. power indoor units (kW)		140,4 (130 %)	146,9 (130 %)	153,4 (130 %)
Connectable indoor units (number/typ)		1 - 50/15-250	2 - 50/15-250	2 - 50/15-250

Y-series outdoor units P1100 to 1250, cooling or heating

Device designation		PUHY-P1100YSJM-A	PUHY-P1150YSJM-A	PUHY-P1200YSJM-A	PUHY-P1250YSJM-A
Single modules		2 x P350 + P400	2 x P350 + P450	P350 + P400 + P450	P350 + 2 x P450
Required set of distributors		CMY-Y300VBK2	CMY-Y300VBK2	CMY-Y300VBK2	CMY-Y300VBK2
Cooling capacity (kW)		124,0	130,0	136,0	140,0
Heating capacity (kW)		140,0	145,0	150,0	156,5
EER	Cooling	3,47	3,39	3,33	3,26
COP	Heating	3,88	3,89	3,82	3,83
Airflow (m³/h)		37800	47400	47400	57000
Sound pressure level dB(A)*		65,0	65,5	66,0	66,0
Dimensions (mm)**	Width	3780	4310	4310	4840
	Depth	760	760	760	760
	Height	1710	1710	1710	1710
Weight (kg)		750	790	790	830
Total pipe length (m)***		1000	1000	1000	1000
Max. height difference (m)		50	50	50	50
Refrigerant quantity (kg)		34,5	34,5	34,5	35,1
Refrigerant pipe size Ø (mm)	fl.	18	18	18	18
	s.	42	42	42	42
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	35,73	38,34	40,84	42,94
	Heating	36,08	37,27	49,26	40,86
Operating current (A)	Cooling	60,3	64,7	68,9	72,4
	Heating	60,9	62,9	66,2	68,9
Max. power indoor units (kW)		161,2 (130 %)	169,0 (130 %)	176,8 (130 %)	182,0 (130 %)
Connectable indoor units (number/typ)		2 - 50/15-250	2 - 50/15-250	2 - 50/15-250	2 - 50/15-250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

For the recommended fuse size, please refer to the stated single modules

PUHY-EP200YJM-A PUHY-EP650YSJM-A

City Multi VRF

High COP / Y-series cooling or heating

Outdoor units high COP EP200 to 300, cooling or heating

Device designation		PUHY-EP200YJM-A	PUHY-EP250YJM-A	PUHY-EP300YJM-A
Cooling capacity (kW)		22,4	28,0	33,5
Heating capacity (kW)		25,0	31,5	37,5
EER	Cooling	4,40	4,16	4,17
COP	Heating	4,51	4,40	4,48
Airflow (m^3/h)		10200	12600	22200
Sound pressure level dB(A)*		57	60	61
Dimensions (mm)**	Width	920	1220	1750
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		200	250	290
Total pipe length (m)***		1000	1000	1000
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		8,0	11,5	11,8
Refrigerant pipe size Ø (mm)	fl.	10	10	10
	s.	18	22	22
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	5,09	6,73	8,03
	Heating	5,54	7,15	8,37
Operating current (A)	Cooling	8,5	11,3	13,5
	Heating	9,3	12,0	14,1
Max. power indoor units (kW)****		29,12 (130 %)	36,4 (130 %)	43,55 (130 %)
Recomm. Fuse size (A)		25	32	32
Connectable indoor units (number/typ)		1 – 17/15 – 250	1 – 21/15 – 250	1 – 26/15 – 250

Outdoor units high COP EP400 to 650, cooling or heating

Device designation		PUHY-EP400YSJM-A	PUHY-EP450YSJM-A	PUHY-EP500YSJM-A	PUHY-EP550YSJM-A	PUHY-EP600YSJM-A	PUHY-EP650YSJM-A
Single modules		2 x EP200	EP200 + EP250	EP200 + EP300	EP250 + EP300	2 x EP300	2 x EP200 + EP250
Required set of distributors		CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y300VBK2
Cooling capacity (kW)		45,0	50,0	56,0	63,0	69,0	73,0
Heating capacity (kW)		50,0	56,0	63,0	69,0	76,5	81,5
EER	Cooling	4,35	4,21	4,21	4,10	4,10	4,18
COP	Heating	4,38	4,34	4,41	4,37	4,42	4,39
Airflow (m^3/h)		20400	22800	32400	24800	44400	33000
Sound pressure level dB(A)*		60	62	62,5	63,5	64	63
Dimensions (mm)**	Width	1870	2170	2700	3000	3530	3180
	Depth	760	760	760	760	760	760
	Height	1710	1710	1710	1710	1710	1710
Weight (kg)		400	450	490	540	580	650
Total pipe length (m)***		1000	1000	1000	1000	1000	1000
Max. height difference (m)		50	50	50	50	50	50
Refrigerant quantity (kg)		16,0	19,5	19,8	23,3	23,6	27,5
Refrigerant pipe size Ø (mm)	fl.	12	16	16	16	16	16
	s.	28	28	28	28	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	10,34	11,87	13,30	15,36	16,82	17,46
	Heating	11,41	12,90	14,28	15,78	17,30	18,56
Operating current (A)	Cooling	17,4	20,0	22,4	25,9	28,3	29,4
	Heating	19,2	21,7	22,1	26,6	29,2	31,3
Max. power indoor units (kW)****		58,5 (130 %)	65,0 (130 %)	72,8 (130 %)	81,9 (130 %)	89,7 (130 %)	94,9 (130 %)
Connectable indoor units (number/typ)		1 – 35/15 – 250	1 – 39/15 – 250	1 – 43/15 – 250	1 – 47/15 – 250	1 – 50/15 – 250	1 – 50/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

**** Indoor unit capacity of 160 % is also optionally available

For the recommended fuse size, please refer to the stated single modules

PUHY-EP700YSJM-A PUHY-EP900YSJM-A

City Multi VRF

High COP / Y-series cooling or heating

Outdoor units high COP EP700 to 900, cooling or heating

Device designation		PUHY-EP700YSJM-A	PUHY-EP750YSJM-A	PUHY-EP800YSJM-A	PUHY-EP850YSJM-A	PUHY-EP900YSJM-A
Single modules		2 x EP200 + EP300	EP200 + EP250 + EP300	EP200 + 2 x EP300	EP250 + 2 x EP300	3 x EP300
Required set of distributors		CMY-Y300VBK2	CMY-Y300VBK2	CMY-Y300VBK2	CMY-Y300VBK2	CMY-Y300VBK2
Cooling capacity (kW)		80,0	85,0	90,0	96,0	101,0
Heating capacity (kW)		88,0	95,0	100,0	108,0	113,0
EER	Cooling	4,18	4,16	4,16	4,07	4,07
COP	Heating	4,40	4,33	4,39	4,38	4,43
Airflow (m^3/h)		42600	45000	54600	57000	66600
Sound pressure level dB(A)*		63,5	64,5	65,0	65,5	66,0
Dimensions (mm)**	Width	3710	4010	4540	4840	5370
	Depth	760	760	760	760	760
	Height	1710	1710	1710	1710	1710
Weight (kg)		690	740	780	830	870
Total pipe length (m)***		1000	1000	1000	1000	1000
Max. height difference (m)		50	50	50	50	50
Refrigerant quantity (kg)		27,8	32	31,6	35,1	35,4
Refrigerant pipe size Ø (mm)	fl.	16	18	18	18	18
	s.	28	35	35	42	42
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	19,13	20,43	21,63	23,58	24,81
	Heating	20,00	21,93	22,77	24,65	25,50
Operating current (A)	Cooling	32,2	34,4	36,5	39,8	41,8
	Heating	33,7	37,0	38,4	41,6	43,0
Max. power indoor units (kW)		104,0 (130 %)	110,5 (130 %)	117,0 (130 %)	124,8 (130 %)	131,3 (130 %)
Connectable indoor units (number/typ)		1 – 50/15 – 250	1 – 50/15 – 250	1 – 50/15 – 250	1 – 50/15 – 250	1 – 50/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

For the recommended fuse size, please refer to the stated single modules

PUHY-HP200-250YHM-A PUHY-HP400-500YSHM-A

City Multi VRF

100 % heating capacity up to -15 °C / ZUBADAN Y-series cooling or heating

ZUBADAN outdoor units HP200/250, cooling or heating

Device designation		PUHY-HP200YHM-A	PUHY-HP250YHM-A
Cooling capacity (kW)		22,4	28,0
Heating capacity (kW)		25,0	31,5
Heating capacity up to -15 °C (kW)		25,0	31,5
EER	Cooling	3,5	3,09
COP	Heating	3,83	3,52
Sound pressure level dB(A)*		56	57
Dimensions (mm)**	Width	920	920
	Depth	760	760
	Height	1710	1710
Weight (kg)		220	220
Total pipe length (m)***		300	300
Max. height difference (m)		50	50
Refrigerant quantity (kg)		9,0	9,0
Refrigerant pipe size Ø (mm)	fl.	12	12
	s.	18	22
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)	Cooling	10,2	14,5
	Heating	10,4	14,3
Recomm. Fuse size (A)		32	40
Connectable indoor units (number/typ)		1 – 17/15 – 250	1 – 21/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
** By removing the base, the height can be reduced to 1650 mm
*** One way length

ZUBADAN outdoor units HP400/500, cooling or heating

Device designation		PUHY-HP400YSHM-A	PUHY-HP500YSHM-A
Single modules		HP200 + HP200	HP250 + HP250
Required set of distributors		CMY-Y100VBK2	CMY-Y100VBK2
Cooling capacity (kW)		45,0	56,0
Heating capacity (kW)		50,0	63,0
Heating capacity up to -15 °C (kW)		50,0	63,0
EER	Cooling	3,49	3,08
COP	Heating	3,74	3,49
Sound pressure level dB(A)*		59	60
Dimensions (mm)**	Width	1870	1870
	Depth	760	760
	Height	1710	1710
Weight (kg)		440	440
Total pipe length (m)***		300	300
Max. height difference (m)		50	50
Refrigerant quantity (kg)		18	18
Refrigerant pipe size Ø (mm)	fl.	16	16
	s.	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50
Operating current (A)	Cooling	20,6	29,1
	Heating	21,4	28,9
Connectable indoor units (number/typ)		1 – 34/15 – 250	1 – 43/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
** By removing the base, the height can be reduced to 1650 mm
*** One way length
For the recommended fuse size, please refer to the stated single modules

▶ **The performance data refer to a combination with standard indoor units. When used in combination with PWFY water modules, please take into account the correction factors in the planning documents.**

PQHY-P200-300YHM-A PQHY-P400-600YSHM-A PQHY-P650-900YSHM-A

City Multi VRF / WY outdoor units cooling or heating

Water-cooled systems

Capacity range

Unit size	P 200	P 250	P 300	P 400	P 450	P 500	P 550	P 600	P 650	P 700	P 750	P 800	P 850	P 900
Cooling capacity (kW)	22.4	28.0	33.5	45.0	50.0	56.0	63.0	69.0	73.0	80.0	85.0	90.0	96.0	101.0
Heating capacity (kW)	25.0	31.5	37.5	50.0	56.0	63.0	69.0	76.5	81.5	88.0	95.0	100.0	108.0	113.0
Maximum number of indoor units	20	25	30	40	45	50	50	50	50	50	50	50	50	50

Improved efficiency in cooling and heating operation

The COP and EER values in cooling and heating operation are improved by up to 20 % due to the use of state-of-the-art compressor and heat exchanger technology.

Cooling water temperature range 45 °C to -5 °C

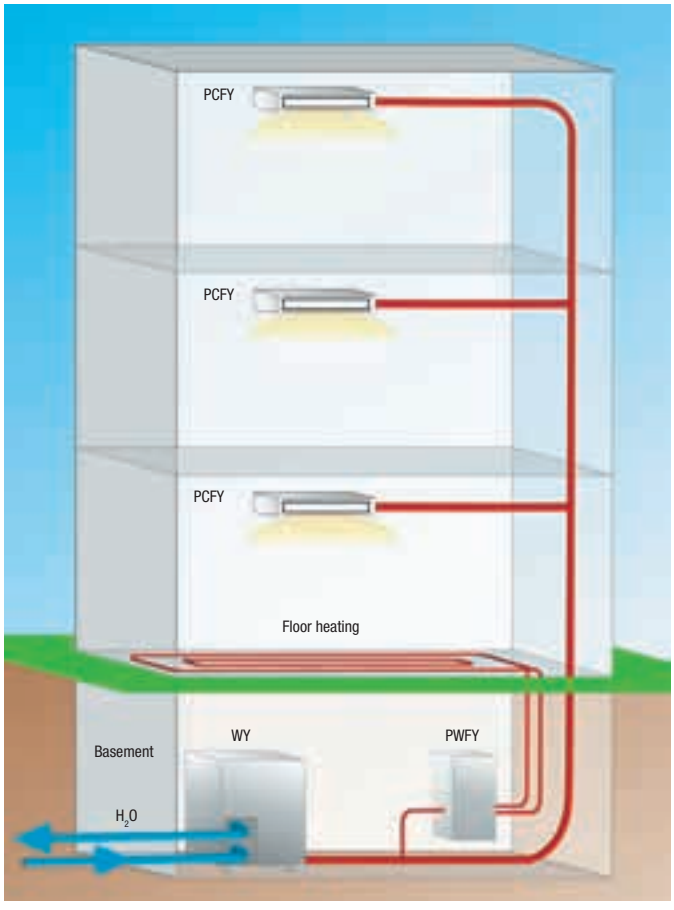
The admissible cooling water temperature range was lowered to -5 °C (special software required). The units are therefore also ideally suited for use as ground water pump or brine heat pump.

Compact design

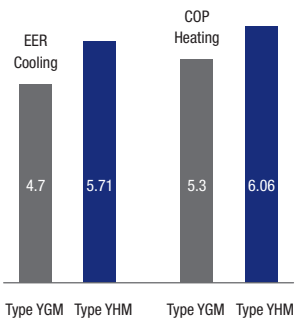
Thanks to consistent further development, the units are now 57 % more compact than the previous models.

Hot and cold water supply

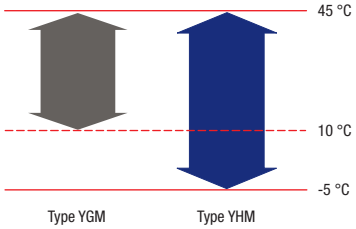
The PWFY water modules can also be connected to the WY-series of the generation YHM. In combination with the heat exchanger, a cold water supply up to 5 °C and a hot water supply up to 45 °C are thus possible. Ideal for connection to floor heatings or cooling ceilings.



Efficiency comparison 22.4 kW compressor unit



Cooling water temperature range



PQHY-P200-300YHM-A PQHY-P400-600YSHM-A

City Multi VRF

Water-cooled systems / WY-series cooling or heating

WY-series units P200 to P300, cooling or heating

Device designation		PQHY-P200YHM-A	PQHY-P250YHM-A	PQHY-P300YHM-A
Cooling capacity (kW)		22,4	28,0	33,5
Heating capacity (kW)		25,0	31,5	37,5
EER	Cooling	5,71	5,13	4,55
COP	Heating	6,06	5,43	4,6
Cooling water flow (m^3/h)		5,76	5,76	5,76
Pressure drop (cooling water) (kPa)		17	17	17
Sound pressure level dB(A)*		47	49	50
Dimensions (mm)	Width	880	880	880
	Depth	550	550	550
	Height	1160	1160	1160
Weight (kg)		200	200	200
Refrigerant quantity (kg)		5,0	5,0	5,0
Refrigerant pipe size Ø (mm)	fl.	10	10	10
	s.	18	22	22
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	3,92	5,45	7,36
	Heating	4,12	8,8	8,15
Operating current (A)		6,6	9,7	13,7
Max. power indoor units (%)		50–130	50–130	50–130
Connectable indoor units (number/typ)		1–17 / 15–250	1–21 / 15–250	1–26 / 15–250
Recomm. Fuse size (A)		25	25	25

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

WY-series units P400 to P600, cooling or heating

Device designation		PQHY-P400YSHM-A	PQHY-P450YSHM-A	PQHY-P500YSHM-A	PQHY-P550YSHM-A	PQHY-P600YSHM-A
Single modules		2 x P200	P250 + P200	P250 + P250	P300 + P250	P300 + P300
Required set of distributors		CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y100VBK2	CMY-Y100VBK2
Cooling capacity (kW)		45,0	50,0	56,0	63,0	69,0
Heating capacity (kW)		50,0	56,0	63,0	69,0	76,5
EER	Cooling	5,45	5,08	4,89	4,68	4,45
COP	Heating	5,78	5,37	5,2	4,70	4,46
Cooling water flow (m^3/h)		5,76 + 5,76	5,76 + 5,76	5,76 + 5,76	5,76 + 5,76	5,76 + 5,76
Pressure drop (cooling water) (kPa)		17 / 17	17 / 17	17 / 17	17 / 17	17 / 17
Sound pressure level dB(A)*		50	51	52	52,5	53
Dimensions (mm)	Width	1760	1760	1760	1760	1760
	Depth	550	550	550	550	550
	Height	1160	1160	1160	1160	1160
Weight (kg)		400	400	400	400	400
Refrigerant quantity (kg)		10,0	10,0	10,0	10,0	10,0
Refrigerant pipe size Ø (mm)	fl.	12	16	16	16	16
	s.	28	28	28	28	28
Voltage supply (V, phase, Hz)		380–415, 3, 50	380–415, 3, 50	380–415, 3, 50	380–415, 3, 50	380–415, 3, 50
Power consumption (kW)	Cooling	8,25	9,84	11,45	13,46	15,48
	Heating	8,65	10,42	12,1	14,65	17,12
Operating current (A)		14,6	17,5	20,4	24,7	28,9
Max. power indoor units (%)		50–130	50–130	50–130	50–130	50–130
Connectable indoor units (number/typ)		1–34 / 15–250	1–39 / 15–250	1–43 / 15–250	2–47 / 15–250	2–50 / 15–250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
For the recommended fuse size, please refer to the stated single modules

▶ **The units are not suitable for outside installation.**

PQHY-P650-900YSHM-A

City Multi VRF

Water-cooled systems / WY-series cooling or heating

WY-series units P650 to P750, cooling or heating

Device designation		PQHY-P650YSHM-A	PQHY-P700YSHM-A	PQHY-P750YSHM-A
Single modules		P250 + 2 x P200	P200 + P250 + P250	3 x P250
Required set of distributors		CMY-Y300VBK2	CMY-Y300VBK2	CMY-Y300VBK2
Cooling capacity (kW)		73,0	80,0	85,0
Heating capacity (kW)		81,5	88,0	95,0
EER	Cooling	5,22	5,13	4,94
COP	Heating	5,52	5,33	5,19
Cooling water flow (m³/h)		5,76 + 5,76 + 5,76	5,76 + 5,76 + 5,76	5,76 + 5,76 + 5,76
Pressure drop (cooling water) (Pa)		17 / 17 / 17	17 / 17 / 17	17 / 17 / 17
Sound pressure level dB(A)*		53	53,5	54
Dimensions (mm)	Width	2680	2680	2680
	Depth	550	550	550
	Height	1160	1160	1160
Weight (kg)		600	600	600
Total pipe length (m)		500	500	500
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		15,0	15,0	15,0
Refrigerant pipe size Ø (mm)	fl.	18	18	18
	s.	35	35	35
Voltage supply (V, phase, Hz)		380–415, 3, 50	380–415, 3, 50	380–415, 3, 50
Power consumption (kW)	Cooling	13,96	15,58	17,19
	Heating	14,74	16,51	18,27
Operating current (A)	Cooling	23,5	26,3	30,8
	Heating	24,8	27,8	29,0
Max. power indoor units (%)		50–130	50–130	50–130
Connectable indoor units (number/typ)		2–50/15–250	2–50/15–250	2–50/15–250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

WY-series, units P800 to P900, cooling or heating

Device designation		PQHY-P800YSHM-A	PQHY-P850YSHM-A	PQHY-P900YSHM-A
Single modules		P300 + P250 + P250	P300 + P300 + P250	3 x P300
Required set of distributors		CMY-Y300VBK2	CMY-Y300VBK2	CMY-Y300VBK2
Cooling capacity (kW)		90,0	96,0	101,0
Heating capacity (kW)		100,0	108,0	113,0
EER	Cooling	4,69	4,52	4,34
COP	Heating	4,82	4,65	4,40
Cooling water flow (m³/h)		5,76 + 5,76 + 5,76	5,76 + 5,76 + 5,76	5,76 + 5,76 + 5,76
Pressure drop (cooling water) (Pa)		17 / 17 / 17	17 / 17 / 17	17 / 17 / 17
Sound pressure level dB(A)		54	54,5	55
Dimensions (mm)	Width	2680	2680	2680
	Depth	550	550	550
	Height	1160	1160	1160
Weight (kg)		600	600	600
Total pipe length (m)		500	500	500
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		15,0	15,0	15,0
Refrigerant pipe size Ø (mm)	fl.	18	18	18
	s.	35	42	42
Voltage supply (V, phase, Hz)		380–415, 3, 50	380–415, 3, 50	380–415, 3, 50
Power consumption (kW)	Cooling	19,18	21,2	23,22
	Heating	20,74	23,21	25,67
Operating current (A)	Cooling	32,3	35,7	39,1
	Heating	35,0	39,1	43,3
Max. power indoor units (%)		50–130	50–130	50–130
Connectable indoor units (number/typ)		2–50/15–250	2–50/15–250	2–50/15–250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
For the recommended fuse size, please refer to the stated single modules

▶ **The units are not suitable for outside installation.**

PURY-P200-300YJM-A PURY-P350-400YJM-A PURY-P450YJM-A

City Multi VRF

R2-series cooling and heating

R2-series outdoor units P200 to 300, cooling and heating

Device designation		PURY-P200YJM-A	PURY-P250YJM-A	PURY-P300YJM-A
Cooling capacity (kW)		22,4	28,0	33,5
Heating capacity (kW)		25,0	31,5	37,5
EER	Cooling	4,32	3,97	3,86
COP	Heating	4,39	4,30	4,27
Airflow (m^3/h)		11100	11100	11100
Sound pressure level dB(A)*		56	57	59
Dimensions (mm)**	Width	920	920	920
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		240	240	245
Total pipe length (m)***		550	550	550
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		9,5	9,5	9,5
Refrigerant pipe size Ø (mm)	fl.	16	18	18
	s.	18	22	22
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	5,18	7,05	8,67
	Heating	5,69	7,32	8,78
Operating current (A)	Cooling	8,7	11,9	14,6
	Heating	9,6	12,3	14,8
Max. power indoor units (kW)****		33,6 (150 %)	42,0 (150 %)	50,25 (150 %)
Recomm. Fuse size (A)		25	32	32
Connectable indoor units (number/typ)		1 – 20/15 – 250	1 – 25/15 – 250	1 – 30/15 – 250

R2-series outdoor units P350 to 450, cooling and heating

Device designation		PURY-P350YJM-A	PURY-P400YJM-A	PURY-P450YJM-A
Cooling capacity (kW)		40,0	45,0	50,0
Heating capacity (kW)		45,0	50,0	56,0
EER	Cooling	3,53	3,32	3,45
COP	Heating	4,13	3,92	3,84
Airflow (m^3/h)		13500	13500	21600
Sound pressure level dB(A)*		60	61	62
Dimensions (mm)**	Width	1220	1220	1750
	Depth	760	760	760
	Height	1710	1710	1710
Weight (kg)		270	270	320
Total pipe length (m)***		600	600	600
Max. height difference (m)		50	50	50
Refrigerant quantity (kg)		11,8	11,8	11,8
Refrigerant pipe size Ø (mm)	fl.	18	22	22
	s.	28	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	11,33	13,55	14,49
	Heating	10,89	12,75	14,58
Operating current (A)	Cooling	19,1	22,8	24,4
	Heating	18,3	21,5	24,6
Max. power indoor units (kW)****		60,0 (150 %)	67,5 (150 %)	75,0 (150 %)
Recomm. Fuse size (A)		40	63	63
Connectable indoor units (number/typ)		1 – 35/15 – 250	1 – 40/15 – 250	1 – 45/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

**** Indoor unit capacity of 200 % is also optionally available

PURY-P400-600YSJM-A PURY-P900YSJM-A

City Multi VRF

R2-series cooling and heating

R2-series outdoor units P400 to 600, cooling and heating

Device designation		PURY-P400YSJM-A	PURY-P450YSJM-A	PURY-P500YSJM-A	PURY-P550YSJM-A	PURY-P600YSJM-A
Single modules		P200 + P200	P200 + P250	2 x P250	P250 + P300	2 x P300
Required set of distributors		CMY-R100VBK	CMY-R100VBK	CMY-R100VBK	CMY-R100VBK	CMY-R100VBK
Cooling capacity (kW)		45,0	50,0	56,0	63,0	69,0
Heating capacity (kW)		50,0	56,0	63,0	69,0	76,5
EER	Cooling	4,19	4,00	3,77	3,64	3,51
COP	Heating	4,30	4,21	4,17	4,07	4,01
Airflow (m^3/h)		22200	22200	22200	22200	22200
Sound pressure level dB(A)*		59	59,5	60	61	62
Dimensions (mm)**	Width	1870	1870	1870	1870	1870
	Depth	760	760	760	760	760
	Height	1710	1710	1710	1710	1710
Weight (kg)		480	480	480	485	490
Total pipe length (m)***		600	600	750	750	800
Max. height difference (m)		50	50	50	50	50
Refrigerant quantity (kg)		19,0	19,0	19,0	19,0	19,0
Refrigerant pipe size Ø (mm)	fl.	22	22	22	28	28
	s.	28	28	28	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	10,73	12,50	14,85	17,30	19,65
	Heating	11,62	13,30	15,10	16,95	19,07
Operating current (A)	Cooling	18,1	21,1	25,0	29,2	33,1
	Heating	19,6	22,4	25,4	28,6	32,1
Max. power indoor units (kW)****		67,5 (150 %)	75,0 (150 %)	84,0 (150 %)	94,5 (150 %)	103,5 (150 %)
Connectable indoor units (number/typ)		1 – 40/15 – 250	1 – 45/15 – 250	1 – 50/15 – 250	2 – 50/15 – 250	2 – 50/15 – 250

R2-series outdoor units P650 to 900, cooling and heating

Device designation		PURY-P650YSJM-A	PURY-P700YSJM-A	PURY-P750YSJM-A	PURY-P800YSJM-A	PURY-P850YSJM-A	PURY-P900YSJM-A
Single modules		P300 + P350	P300 + P400	P350 + P400	2 x P400	P400 + P450	2 x P450
Required set of distributors		CMY-R100VBK	CMY-R200VBK	CMY-R200VBK	CMY-R200VBK	CMY-R200XLVBK	CMY-R200XLVBK
Cooling capacity (kW)		73,0	80,0	85,0	90,0	96,0	101,0
Heating capacity (kW)		81,5	88,0	95,0	100,0	108,0	113,0
EER	Cooling	3,39	3,34	3,21	3,18	3,28	3,34
COP	Heating	3,98	3,94	3,95	3,84	3,80	3,76
Airflow (m^3/h)		24600	24600	27000	27000	35100	43200
Sound pressure level dB(A)*		62,5	63,0	63,5	64,0	64,5	65,0
Dimensions (mm)**	Width	2170	2170	2470	2470	3000	3530
	Depth	760	760	760	760	760	760
	Height	1710	1710	1710	1710	1710	1710
Weight (kg)		515	515	540	540	590	640
Total pipe length (m)***		800	950	950	950	950	950
Max. height difference (m)		50	50	50	50	50	50
Refrigerant quantity (kg)		21,3	21,3	23,6	23,6	23,6	23,6
Refrigerant pipe size Ø (mm)	fl.	28	28	28	28	28	28
	s.	28	35	35	35	42	42
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	21,53	23,95	26,47	28,30	29,26	30,23
	Heating	20,47	22,33	24,05	26,04	28,42	30,05
Operating current (A)	Cooling	36,3	40,4	44,6	47,7	49,3	51,0
	Heating	34,5	47,6	40,6	43,9	47,9	50,7
Max. power indoor units (kW)****		109,5 (150 %)	120,0 (150 %)	127,5 (150 %)	135,0 (150 %)	144,0 (150 %)	151,5 (150 %)
Connectable indoor units (number/typ)		2 – 50/15 – 250	2 – 50/15 – 250	2 – 50/15 – 250	2 – 50/15 – 250	2 – 50/15 – 250	2 – 50/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

**** Indoor unit capacity of 160 % is also optionally available

For the recommended fuse size, please refer to the stated single modules

PURY-EP200YJM-A PURY-EP700YSJM-A

City Multi VRF

High COP / R2-series cooling and heating

Outdoor units high COP EP200 to 350, cooling and heating

Device designation		PURY-EP200YJM-A	PURY-EP250YJM-A	PURY-EP300YJM-A	PURY-EP350YJM-A
Cooling capacity (kW)		22,4	28,0	33,5	40,0
Heating capacity (kW)		25,0	31,5	37,5	45,0
EER	Cooling	4,41	4,14	4,06	3,89
COP	Heating	4,49	4,40	4,36	4,25
Airflow (m^3/h)		11100	13500	13500	21600
Sound pressure level dB(A)*		57,0	60	60,0	61,0
Dimensions (mm)**	Width	920	1220	1220	1750
	Depth	760	760	760	760
	Height	1710	1710	1710	1710
Weight (kg)		240	270	270	320
Total pipe length (m)***		600	600	600	600
Max. height difference (m)		50	50	50	50
Refrigerant quantity (kg)		9,5	11,8	11,8	11,8
Refrigerant pipe size Ø (mm)	fl.	16	18	18	18
	s.	18	22	22	22
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	5,07	6,76	8,25	10,28
	Heating	5,57	7,15	8,60	10,58
Operating current (A)	Cooling	8,5	11,4	13,9	17,3
	Heating	9,5	12,0	14,5	17,8
Max. power indoor units (kW)****		33,6 (150 %)	42,0 (150 %)	50,25 (150 %)	60 (150 %)
Recomm. Fuse size (A)		25	32	32	40
Connectable indoor units (number/typ)		1 – 20/15 – 250	1 -25/15 – 25	1 – 30/15 – 250	1 – 35/15 – 250

Outdoor units high COP EP400 to 700, cooling and heating

Device designation		PURY-EP400YSJM-A	PURY-EP450YSJM-A	PURY-EP500YSJM-A	PURY-EP550YSJM-A	PURY-EP600YSJM-A	PURY-EP650YSJM-A	PURY-EP700YSJM-A
Single modules		2 x EP200	EP200 + EP250	EP200 + EP300	EP250 + EP300	2 x EP300	EP300 + EP350	2 x EP350
Required set of distributors		CMY-R100VBK	CMY-R100VBK	CMY-R100VBK	CMY-R100VBK	CMY-R100VBK	CMY-R100XLVBK	CMY-R100XLVBK
Cooling capacity (kW)		45,0	50,0	56,0	63,0	69,0	73,0	80,0
Heating capacity (kW)		50,0	56,0	63,0	69,0	76,5	81,5	88,0
EER	Cooling	4,32	4,17	4,11	4,09	4,09	3,84	3,77
COP	Heating	4,40	4,35	4,38	4,33	4,40	4,13	3,99
Airflow (m^3/h)		22200	24600	24600	27000	27000	35100	43200
Sound pressure level dB(A)*		60,0	62,0	62,0	63,0	63,0	63,5	64,0
Dimensions (mm)**	Width	1870	2170	2170	2470	2470	3000	3530
	Depth	760	760	760	760	760	760	760
	Height	1710	1710	1710	1710	1710	1710	1710
Weight (kg)		480	500	510	540	540	590	640
Total pipe length (m)***		750	750	750	750	800	800	800
Max. height difference (m)		50	50	50	50	50	50	50
Refrigerant quantity (kg)		19,0	21,3	21,3	23,6	23,6	23,6	23,6
Refrigerant pipe size Ø (mm)	fl.	22	22	22	28	28	28	28
	s.	28	28	28	28	28	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	10,41	11,99	13,62	15,40	16,87	19,01	21,22
	Heating	11,36	12,87	14,38	15,93	17,38	19,73	22,05
Operating current (A)	Cooling	17,5	20,2	22,9	25,9	28,4	32,0	35,8
	Heating	19,1	21,7	24,2	26,8	29,3	33,3	37,2
Max. power indoor units (kW)****		67,5 (150 %)	75,0 (150 %)	84,0 (150 %)	94,5 (150 %)	103,5 (150 %)	109,5 (150 %)	120,0 (150 %)
Connectable indoor units (number/typ)		1 – 40/15 – 250	1 – 45/15 – 250	1 – 50/15 – 250	2 – 50/15 – 250	2 – 50/15 – 250	2 – 50/15 – 250	2 – 50/15 – 250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

** By removing the base, the height can be reduced to 1650 mm

*** One way length

**** Indoor unit capacity of 160 % is also optionally available

For the recommended fuse size, please refer to the stated single modules

PQRY-P200/250YHM-A

PQRY-P300-600YSHM-A

City Multi VRF / WR2 outdoor units cooling and heating

Water-cooled systems

Unit size	P 200	P 250	P 300	P 400	P 450	P 500	P 550	P 600
Cooling capacity (kW)	22.4	28.0	33.5	45.0	50.0	56.0	63.0	69.0
Heating capacity (kW)	25.0	31.5	37.5	50.0	56.0	63.0	69.0	76.5
Maximum number of indoor units	20	25	30	40	45	50	50	50

The modular system enables achieving even higher capacities by combining several units.

Improved efficiency in cooling and heating operation

The COP and EER values in cooling and heating operation are improved by up to 20 % due to the use of state-of-the-art compressor and heat exchanger technology.

Cooling water temperature range 45 °C to -5 °C

The admissible cooling water temperature range was lowered to -5 °C (special software required). The units are therefore also ideally suited for use as ground water pump or brine heat pump.

Compact design

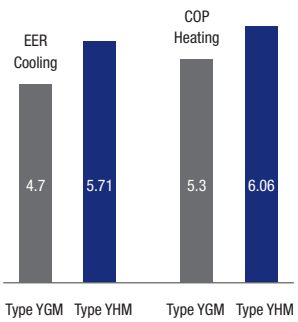
Thanks to consistent further development, the units are now 57 % more compact than the previous models.

Water heating up to 70 °C

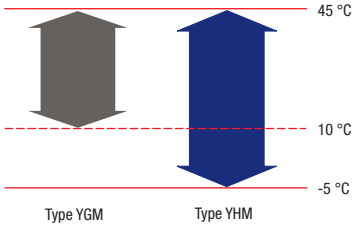
The PWFY water modules can also be connected to the WR2-series of the generation YHM. With the booster module, a hot water supply of up to 70 °C is possible. Due to the heat recovery, the exhaust heat from cooled rooms is used for the hot water supply – a solution that provides unrivalled efficiency.

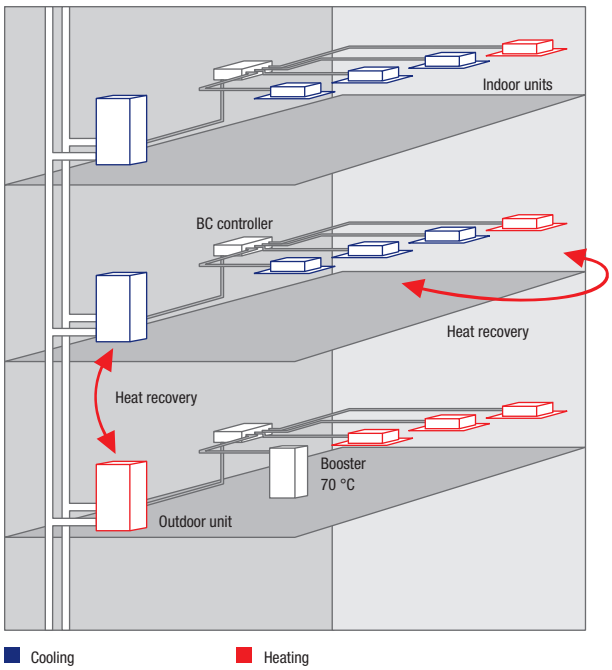
If several PQRY systems are installed in a building, the heat recovery allows for moving the energy within the building very efficiently. Within the PQRY system, between the individual indoor units in heating and cooling operation and via the water cycle between different PQRY systems of the building.

Efficiency comparison 22.4 kW compressor unit



Cooling water temperature range





PQRY-P200-300YHM-A PQRY-P300-600YSHM-A

City Multi VRF

Water-cooled systems / WR2-series cooling and heating

WR2-series units P200 to P300, cooling and heating

Device designation		PQRY-P200YHM-A	PQRY-P250YHM-A	PQRY-P300YHM-A
Cooling capacity (kW)		22,4	28,0	33,5
Heating capacity (kW)		25,0	31,5	37,5
EER	Cooling	5,65	5,08	4,5
COP	Heating	6,06	5,43	4,6
Cooling water flow (m³/h)		5,76	5,76	5,76
Pressure drop (cooling water) (kPa)		17	17	17
Sound pressure level dB(A)*		47	49	50
Dimensions (mm)	Width	880	880	880
	Depth	550	550	550
	Height	1160	1160	1160
Weight (kg)		185	185	185
Refrigerant quantity (kg)		5,0	5,0	5,0
Refrigerant pipe size Ø (mm)	fl.	16	18	18
	s.	18	22	22
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	3,96	5,51	7,44
	Heating	4,12	5,8	8,15
Operating current (A)		6,9	9,7	13,7
Max. power indoor units (%)		50–150	50–150	50–150
Connectable indoor units (number/typ)		1–20 / 15–250	1–25 / 15–250	1–30 / 15–250
Recomm. Fuse size (A)		25	25	25

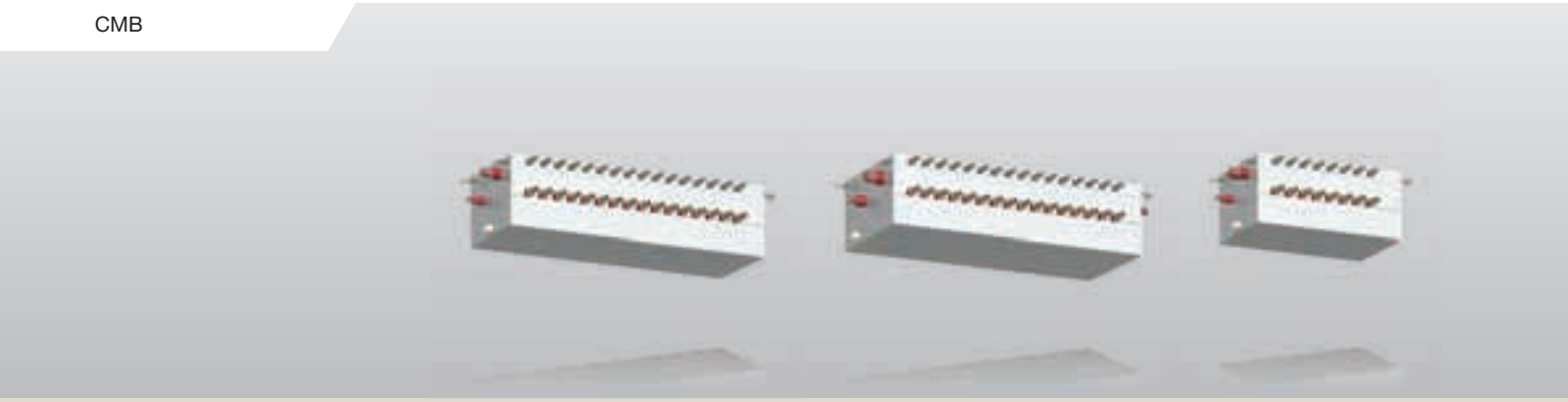
* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit

WR2-series units P400 to P600, cooling and heating

Device designation		PQRY-P400YSHM-A	PQRY-P450YSHM-A	PQRY-P500YSHM-A	PQRY-P550YSHM-A	PQRY-P600YSHM-A
Single modules		P200 + P200	P250 + P200	P250 + P250	P300 + P250	P300 + P300
Required set of distributors		CMY-Q100VBK	CMY-Q100VBK	CMY-Q100VBK	CMY-Q100VBK	CMY-Q100VBK
Cooling capacity (kW)		45,0	50,0	56,0	63,0	69,0
Heating capacity (kW)		50,0	56,0	63,0	69,0	76,5
EER	Cooling	5,4	5,03	4,84	4,63	4,41
COP	Heating	5,78	5,37	5,2	4,7	4,46
Cooling water flow (m³/h)		5,76 + 5,76	5,76 + 5,76	5,76 + 5,76	5,76 + 5,76	5,76 + 5,76
Pressure drop (cooling water) (kPa)		17 / 17	17 / 17	17 / 17	17 / 17	17 / 17
Sound pressure level dB(A)*		50	51	52	53	53
Dimensions (mm)	Width	1760	1760	1760	1760	1760
	Depth	550	550	550	550	550
	Height	1160	1160	1160	1160	1160
Weight (kg)		370	370	370	370	370
Refrigerant quantity (kg)		10,0	10,0	10,0	10,0	10,0
Refrigerant pipe size Ø (mm)	fl.	22	22	22	28	28
	s.	28	28	28	28	28
Voltage supply (V, phase, Hz)		380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50	380 – 415, 3+N, 50
Power consumption (kW)	Cooling	8,32	9,94	11,57	13,6	15,62
	Heating	8,65	10,42	12,0	14,65	17,12
Operating current (A)		14,6	17,5	20,4	24,7	28,9
Max. power indoor units (%)		50–150	50–150	50–150	50–150	50–150
Connectable indoor units (number/typ)		1–40 / 15–250	1–45 / 15–250	1–50 / 15–250	2–50 / 15–250	2–50 / 15–250

* Sound pressure level measured at a distance of 1 m and at a height of 1 m in front of the unit
For the recommended fuse size, please refer to the stated single modules

▶ **The units are not suitable for outside installation.**



BC-Controller | BC-Master-Controller | BC-Slave-Controller

City Multi VRF

R2-series cooling and heating

BC controller R2-series

Device designation		CMB-P104V-G1**	CMB-P105V-G1**	CMB-P106V-G1**	CMB-P108V-G1**	CMB-P1010V-G1**	CMB-P1013V-G1**	CMB-P1016V-G1**
Dimensions (mm)	Width	648	648	648	648	648	1098	1098
	Depth	432	432	432	432	432	432	432
	Height	284	284	284	284	284	284	284
Weight (kg)		24	27	29	34	39	47	54
Refrigerant pipe size außen BC-	fl.	18	18	18	18	18	18	18
Controller an Außengerät Ø (mm)	s.	22	22	22	22	22	22	22
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,076	0,093	0,110	0,144	0,177	0,228	0,279
Operating current (A)		0,34	0,41	0,48	0,63	0,77	1,00	1,22
Connectable indoor units (number/typ) *		max. 4/15–250	max. 5/15–250	max. 6/15–250	max. 8/15–250	max. 10/15–250	max. 13/15–250	max. 16/15–250

Refrigerant distributor for simultaneous cooling and heating operation with heat recovery

* for indoor units with a capacity of 140, one connection is sufficient, if 140 is exceeded, two connections are to be used

** Connectable to outdoor units PURY-(E)P200-350YJM-A

BC master controller R2-series

Device designation		CMB-P108V-GA1***	CMB-P1010V-GA1***	CMB-P1013V-GA1***	CMB-P1016V-GA1***	CMB-P1016V-HA1**
Dimensions (mm)	Width	1110	1110	1110	1110	1110
	Depth	520	520	520	520	520
	Height	289	289	289	289	289
Weight (kg)		44	49	57	64	73
Refrigerant pipe size außen BC-	fl.	22	22	22	22	22
Controller an Außengerät Ø (mm)	s.	28	28	28	28	28
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,144	0,177	0,228	0,279	0,312
Operating current (A)		0,63	0,77	1,00	1,22	1,30
Connectable indoor units (number/typ) *		max. 8/15–250	max. 10/15–250	max. 13/15–250	max. 16/15–250	max. 16/15–250

* for indoor units with a capacity of 140, one connection is sufficient, if 140 is exceeded, two connections are to be used

** Only for outdoor units in the unit sizes 700-900

*** Only for outdoor units in the unit sizes 200-650

BC slave-controller R2-series

Device designation		CMB-P104V-GB1	CMB-P108V-GB1	CMB-P1016V-HB1
Dimensions (mm)	Width	648	648	1098
	Depth	432	432	432
	Height	284	284	284
Weight (kg)		22	32	57
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Max. Power consumption (kW)		0,068	0,135	0,301
Operating current (A)		0,30	0,59	1,26
Connectable indoor units (number/typ) *		max. 4/15–250	max. 8/15–250	max. 16/15–250

Slave controller cannot be operated alone. It is used to extend the number of connections of the master controller. A maximum of two slave controllers can be connected to a master controller.

* for indoor units with a capacity of 140, one connection is sufficient, if 140 is exceeded, two connections are to be used

CMB-PW202V-J

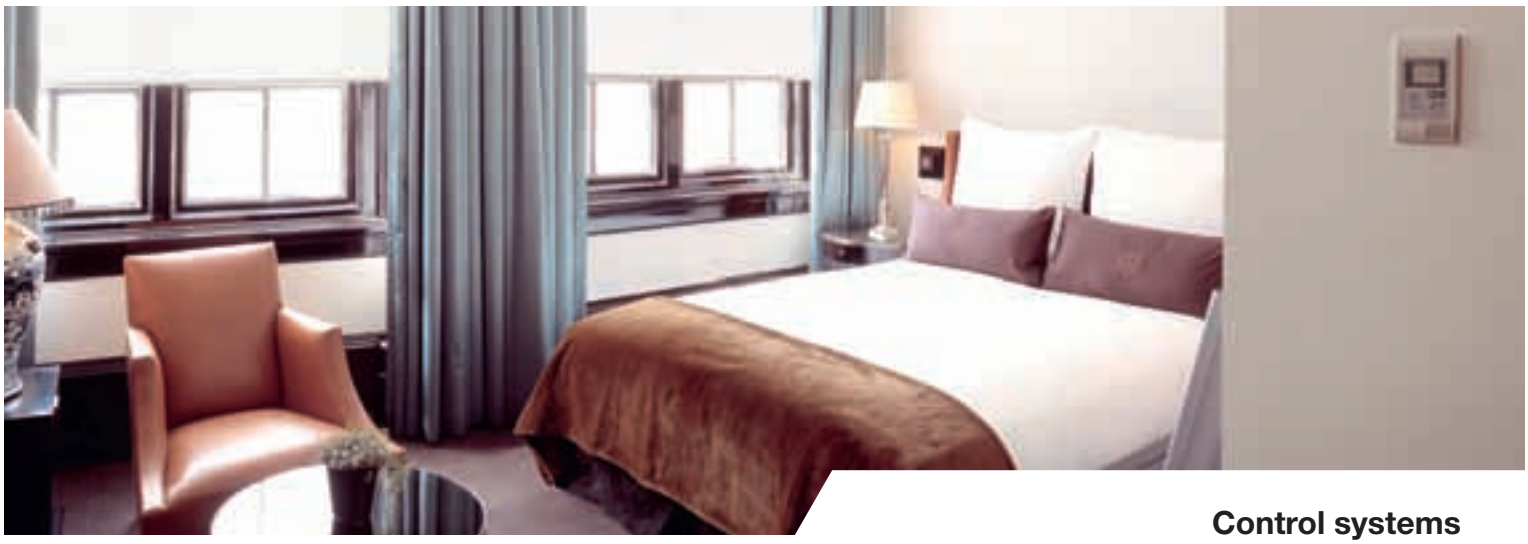
City Multi VRF

R2-series cooling and heating

WCB controller R2-series

Device designation		CMB-PW202V-J
Dimensions (mm)	Width	648
	Depth	432
	Height	284
Weight (kg)		20
Voltage supply (V, phase, Hz)		220-240, 1, 50
Max. Power consumption (kW)		0,076
Operating current (A)		0,34
Outdoor units	(Typ)	PURY-(E)P200-350YJM-A, PQRY-P200-300YHM-A

REMOTE CONTROLS



Control systems

An intelligent air conditioning system saves energy and protects the environment

The remote controls or control screens represent the interface between the air-conditioning system and the user. It is not only about simply switching the system on and off; with an intelligent and optimally adjusted control system, the use of energy and the costs can be reduced.

Mitsubishi Electric offers a wide range of remote controls that provide an optimal control of your air conditioning systems. In this brochure, the various remote controls and control systems as well as their application areas are introduced.

The advantages of an intelligent control

Every type of remote control is able to take over control and monitoring functions for a group of indoor units. This way, the system automatically adjusts to changes of the room and ambient conditions, thus, saving energy and costs.

Depending on the installed air conditioning system, not only the desired temperature but also the fan level, the airflow direction and the dehumidifying functions can be set for every room. The timer function offers an additional possibility to automate the switching operations even more, e.g. by adjusting the system to the business hours of rooms to be air conditioned. A control by other sections of the building control system is also possible, which also applies to a joint control.

The energy requirements of every room can be separately recorded in order to apportion the room-related costs accordingly.

The remote controls are equipped with an easy-to-read display and can easily be operated via buttons, touch screen or Windows user interfaces.

The right control system for your application

The controls must match the air conditioning system. Be it in shops, offices or large hotels – every project requires an individual control. In order to provide you with an optimum selection, we have listed some application examples for orientation.

Office building

Local remote controls	Group remote controls	Central controls	Notes
PAR-30MAA PAR-21MAA PAR-F27MEA	AT-50A	TG 2000 AG-150A	The PAR platform is suitable for systems that require little to medium control. For larger office applications, personnel is normally available to operate the air conditioning system, which means that the control elements must be kept simple. The user-friendly control panels AG-150A or AT-50A with colour touchscreen are ideally suited for this purpose or you can also use the PC software-based system TG-2000A with graphic display.

Hotels

Local remote controls	Group remote controls	Central controls	Notes
PAC-SE51CRA PAC-YT51CRB	AT-50A	AG-150A GB-50ADA TG-2000A MICROS Fidelio® MITSUBISHI ELECTRIC PLC interface	Hotel applications require the interface to key systems and window contacts. The MICROS Fidelio®MITSUBISHI ELECTRIC PLC interface has been developed for the control of the City Multi indoor units and can be combined with the MICROS Fidelio® hotel booking system*.

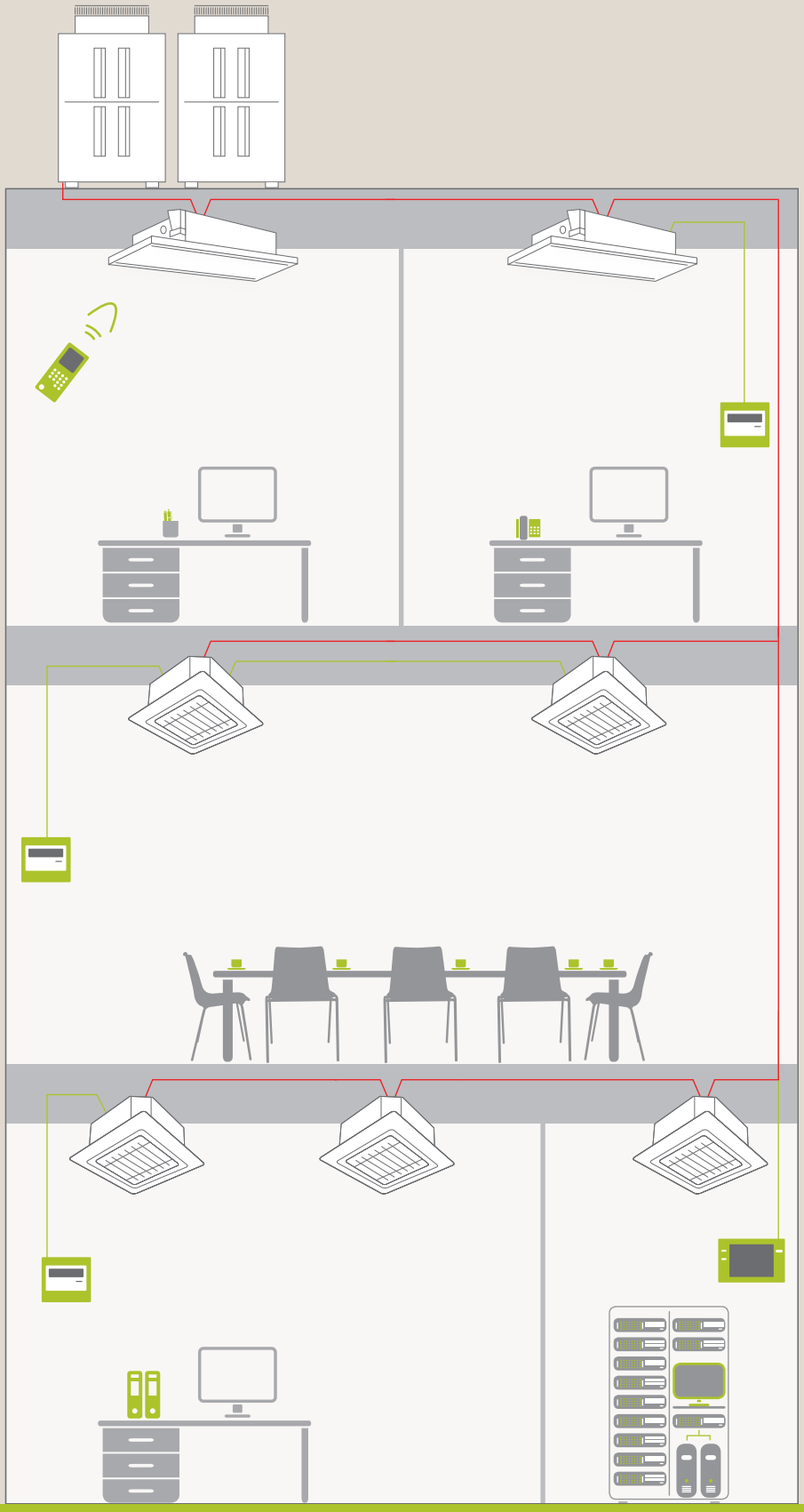
* The hotel management software FIDELIO plays a leading role worldwide and is used in almost every major hotel. The trouble-free communication of the air conditioning system with Mitsubishi Electric's FIDELIO software is enabled by means of a PLC with a direct FIAS interface (Micros Fidelio Interface Protocol and Application Specification).

Retail store chains

Local remote controls	Group remote controls	Central controls	Notes
PAR 30MAA PAR-21MAA PAR-F27MEA	AT-50A	TG-2000A ISDN router AG-150A GB-50ADA	Shops of retail store chains are mostly managed centrally from the main office or by management service providers. In this case, the remote access to the air conditioning system is of particular importance. It must also be possible to combine other sections of the building control system with the air conditioning system.

Leisure facilities

Local remote controls	Group remote controls	Central controls	Notes
PAR-30MAA PAR-21MAA PAR-F27MEA	AT-50A	AG-150A GB-50ADA TG-2000A	The AT-50A platform is suitable for systems requiring little to medium control, applications that have higher control requirements can best be implemented with the AG-150A control panel or the PC software based TG-2000A.



Local remote control
Individual indoor units can be directly controlled by the user.

page 182 onwards ▶

Group remote controls
Comfortable control of several local remote controls that can be divided into groups.

page 188 onwards ▶

Central controls / Remote controls
Effective control of the entire building from a central point.

page 192 onwards ▶

PAR-30MAA

PAR-30MAA

Cable remote control

The compact MA remote control PAR-30MAA offers all of the required control functions needed for the local operation of an air conditioning unit in the smallest space. The MA remote control also sets new standards in terms of optics. It is provided with a backlit display which ensures an easy and straightforward operation.

The simply structured display shows the status of the air conditioning unit at a glance and uses clear, large and easy-to-read characters. All functions of the remote control can be executed in a menu-driven way by only using a few buttons, the most important buttons have been enlarged in order to avoid operating errors.

Wide range of special functions

Two display modes are available for the display module – „Full“ and „Basic“. In „Full“ mode, all of the available information is shown on the display. In „Basic“ mode, only the most important settings are presented to you at a glance and in compact form. If 4-way ceiling cassettes with the new filter lift system have been integrated into your system, you can also operate these by using the PAR-30MAA.

Highlights

- The MA remote control is directly connected to the indoor unit, the group formation is done by wiring the indoor units.
- Modern design, flat construction for wall installation.
- All inputs are made by using four function keys that are arranged below the fully graphical display with background lighting.
- Thanks to three additional buttons for the most important functions, operation is made easy and fast. With the big On/Off button, you can start and stop the air conditioning unit with the settings that were last selected.
- Thanks to German menus, operability is simplified.

Technical data	PAR-30MAA
Type	MA cable remote controls
Dimensions W x H x D (mm)	120 x 120 x 19

PAR-21MAA

PAR-W21MAA

PAR-21MAA / PAR-W21MAA

MA cable remote controls

The MA remote control PAR-21MAA for standard air conditioning units of the City Multi and Mr. Slim series is directly connected to the indoor unit, group formation is made possible by means of a transfer cable. All functions required for an efficient and fast operation of your air conditioning units are already included in the PAR-21MAA.

A well-structured display and clearly labelled buttons simplify operation. In the event of a fault, the unit address of the affected unit and an error code are displayed.

The MA remote control can be mounted to a wall and be connected using a 2-wire cable. A room temperature sensor is integrated and can be used optionally.

Highlights

- Control of an individual indoor unit or of a group with up to 16 indoor units
- Easy-to-read display with clear symbols
- Menus in German
- Ease-to-use keypad
- Direct control with the On/Off button and setting of the room temperature on the front plate.
- All remaining function keys are located behind a protective cover.
- Comprehensive timer function; Permanent On/Off daily timer, weekly timer, switch-off timer
- All control functions can be locked. Optionally ON/OFF can be unlocked.
- Temperature setting in steps of 1 °C

The PAR-W21MAA model is a local MA remote control that was especially developed for the PWFY booster and heat exchanger units for cold and hot water supply. The functions aimed at hot water and heating operation have already been integrated into the PAR-W21MAA. Please note that this model is not suitable for the control of standard air conditioning units.

Special functions for heating or hot water applications

Frost protection mode, individually adjustable heating curves, presetting of water temperature ranges and locking of certain operating modes.
In heating ECO mode, the heating can be outside temperature-controlled. This way, valuable energy can be saved. By using the analogue outside temperature sensor, the ambient temperature is recorded and adjusted to the flow temperature.

Highlights

- Individual control of one hot water unit
- Clear and easy-to-read display
- Visually appealing, modern design
- Menus in German
- On/Off button on the front plate for direct control, starting and stopping operation with the settings that were last selected. All remaining function keys are located behind a protective cover.
- Comprehensive timer function; Permanent On/Off daily timer, switch-off times function and the possibility to lock all operating functions. Optionally ON/OFF can be unlocked.
- Temperature setting in steps of 1 °C

Technical data	PAR-21MAA	PAR-W21MAA
Type	MA cable remote control for standard applications	MA cable remote control for hot water applications
Dimensions W x H x D (mm)	130 x 120 x 18	130 x 120 x 18

PAR-F27 MEA

PAR-F27 MEA

ME cable remote control

The standard cable remote control PAR-F27MEA is connected to the City Multi data bus system M-NET. The remote control and the indoor unit are assigned to each other by means of unit addresses. The group formation of the indoor units to be controlled can also be done by means of addressing.

A well-structured display and clearly labelled buttons simplify operation. In the event of a fault, the unit address of the affected unit and an error code are displayed.

The ME remote control can be mounted to a wall and be connected using a 2-wire cable. A room temperature sensor is integrated and can be used optionally.

Highlights

- Control of an individual indoor unit or of a group with up to 16 indoor units
- Easy-to-read display with clear symbols
- Ease-to-use keypad
- Direct control with the On/Off button and setting of the room temperature on the front plate.
- All remaining function keys are located behind a protective cover.
- Comprehensive timer function; Permanent On/Off daily timer, switch-off timer
- All control functions can be locked.
- Optionally ON/OFF can be unlocked.
- Temperature setting in steps of 1 °C

Technical data	PAR-F27MEA
Type	M-Net cable remote control
Dimensions W x H x D (mm)	130 x 120 x 18

PAC-YT51CRB

PAC-YT51CRB / PAC-SE51CRA

Hotel cable remote controls

In order to simplify the system operation, in particular with regard to hotel applications, the control options on these remote controls were limited to start/stop, change of the room temperature and fan level. The model PA CYT51CRB is additionally equipped with a mode button for operating mode selection. A room temperature sensor has already been integrated into both remote controls.

Special functions

- A hotel remote control can be used to control all types of Mitsubishi Electric indoor units
- Control of an individual indoor unit or of a group with up to 16 indoor units
- PAC-YT51CRB: MA remote control; manual group formation by means of transfer cable
- PAC-SE51CRA: ME remote control; with operating mode selection, group formation by means of M-NET data bus; without operating mode selection

Notices

- The hotel remote controls have been designed as in-wall remote controls.
- Since these models do not have an operating mode selection (PAC-SE51CRA), a test operating mode, a self-diagnosis function or other setting functions, they should always be used in combination with PAR-F27MEA or another superordinate control.

Technical data	PAC-YT51CRB	PAC-SE51CRA
Type	MA cable remote control	M-Net cable remote control
Dimensions W x H x D (mm)	70 x 120 x 41	70 x 120 x 41


PAR-FL32MA


PAR-FA32MA


PAR-SA9FA-E

PAR-FL32MA (transmitter) / PAR-FA32MA (receiver)

Infrared remote controls

PAR-FL32MA infrared remote control

The elegantly shaped remote control with a flat design is equipped with a clearly laid out, easy-to-read LCD display and resistant rubber buttons. In order to equip an air conditioning unit with an infrared remote control, you require both the PAR-FL32MA remote control and the appropriate receiver PAR-FA32MA or PAR-SA9FA-E if 4-way ceiling cassettes are to be used.

Special features

- For control of an individual indoor unit or of a group with up to 16 indoor units.
- MA version: The group formation is made possible by means of a transfer cable between the indoor units.
- With a practical holder for wall installation.

PAR-FA32MA infrared receiver unit with operating display

The infrared receiver for surface installation is suitable for all types of City Multi indoor units. It should ideally be mounted directly at the indoor unit.

Special features

- Fault messages are indicated by flashing signals on the receiver unit.
- Connection cable and installation material included.

Technical data	PAR-FL32MA	PAR-FA32MA	PAR-SA9FA-E
Type	Infrared remote control	Infrared receiver	Infrared receiver for 4-way ceiling cassettes
Dimensions W x H x D (mm)	58 x 159 x 19	70 x 120 x 22.5	Only for installation in PLFY-VBM-E

Function overview of local remote controls

Function	Description	PAR-30MAA		PAR-(W)21MAA		PAR-F27MEA		PAC-YT51CRB		PAC-SE51CRA		PAR-FL32MA	
		Op.	Disp.	Op.	Disp.	Op.	Disp.	Op.	Disp.	Op.	Disp.	Op.	Disp.
On/Off	Starts or stops operation of a group/indoor unit	•	•	•	•	•	•	•	•	•	•	•	•
Selection of operating mode	Cooling/air dehumidification/automatic mode/ventilation/heating functions are depending on the indoor unit, automatic mode only available for (W)R2	•	•	•	•	•	•	•	•		•	•	•
Temperature specification	Specification of room temperature: Cooling/air dehumidification: 19 – 30 °C Heating: 17 – 28 °C Auto: 19 – 28 °C	•	•	•	•	•	•	•	•	•	•	•	•
Fan level	4 levels: Lo-Mi1-Mi2-Hi 2 levels: Lo-Hi	•	•	•	•	•	•	•	•	•	•	•	•
Limitation of the temperature specification	Limits the setting range	•	•	•	•	•	•				•		
Vertical airflow directions	Airflow angle: 100 °C / 80 °C / 60 °C / 40 °C and swing	•	•	•	•	•	•					•	•
Lateral airflow directions	Only available for PLA-RP-BA, PLFY-P-VBM-E and PLFY-P-VCM-E	•	•	•	•								
Timer programmes	ON/OFF can be programmed	Week		Week		Day						Day	
Lock/release functions	Lock start/stop/room temperature/operating mode and filter reset so that these functions can only be controlled by a superordinate control system	•	•		•		•		•		•		•
Recording of room temperature	Recording is carried out by the master indoor unit of a group	•	•		•		•						
Error code output	Displays a 4-digit error code and the unit address of the affected air conditioning unit		•		•		•		•		•		•
Test operation	Every indoor unit of the group can be switched to test operation	•	•	•	•	•	•		•		•	•	•
Emergency number in the event of a fault	In the event of a fault, the telephone number of the repair service can be displayed		•		•								
Language selection	8 languages possible	•	•	•	•								
Time	Display of the time		•		•								
Key lock	Lock all buttons of the remote control/ lock all buttons except the ON/OFF button	•	•	•	•	•	•						
Mr. Slim maintenance aid	Display of compressor parameters (current consumption/operating hours/ switch on/off cycles)/temperature sensor (heat exchanger, IG+AG/outlet (AG)/room air/filter life)	•	•	•	•								
Redundancy functions	Change between two equal systems/start of the second system if first one fails/start of the second system if first one is overloaded. Only for Mr. Slim application	•	•	•	•								
Compatibility	Compatible with	City Multi/Mr. Slim		City Multi/ Mr. Slim/M-series (with MAC-397IF)		City Multi		City Multi/ Mr. Slim/M-series (with MAC-397IF)		City Multi		City Multi/ Mr. Slim/M-series (with MAC-397IF)	
Dimensions	(W x D x H) mm	120 x 120 x 19		130 x 19 x 120		130 x 19 x 120		102 x 41 x 70		102 x 41 x 70		157 x 18 x 57	

PAC-YT40ANRA

PAC-YT40ANRA

On/Off remote control

The PAC-YT40ANRA model is the most simple and cost-effective solution among the group remote controls. The elegantly shaped controller can be connected to the M-NET data bus at any place by using only two cables and is suitable for e.g. a small to medium-sized system. With the On/Off remote control PAC-YT40ANRA, up to 16 groups with up to 50 indoor units can be switched on or off individually or altogether at the push of a button. It can be installed and operated centrally, for example in a central control room or at the hotel reception.

The robust keyboard can be labelled. Each of the 16 buttons has been provided with coloured LEDs in order to display the operating status of the units, i.e. ON, OFF or fault.

We recommend using a superordinate system control for group formation or group changes since no temperature or operating mode selection can be carried out when using the PAC-YT40ANRA.

Highlights

- ME remote control for integration into the M-NET data bus
- Switch 16 groups with up to 50 indoor units ON or OFF at the touch of a button
- Integration of external units possible
- Use of external input and output signals possible
- Surface-mounted version for on-wall installation
- No additional voltage supply required

Technical data	PAC-YT40ANRA
Type	Group remote control
Dimensions W x H x D (mm)	130 x 120 x 19

AT-50A

AT-50A

Group remote control with touchscreen

With just three buttons and a touch-sensitive LCD screen, the new group remote control AT-50A delivers the highest operating comfort in the smallest space. All functions for the control of up to 50 unit groups can be conveniently activated on the 5-inch colour screen by just touching the screen with your finger. Weekly timer, energy-saving functions and night setback are already included. Locking and releasing local remote controls or integrating units from external systems is also possible via I/O modules. The screen is equipped with a background lighting which is automatically switched off. In the event of a fault, the screen will remain lit until the fault has been removed. The group remote control AT-50A was developed for City Multi systems. Mr. Slim and M-series systems can also be connected and controlled via an adapter. Of course, the group remote control AT-50A also supports LOSSNAY ventilation systems – both in stand-alone operation as well as when coupled to the indoor units.

Highlights

- ME remote control for integration into the M-NET data bus
- Visualisation of the object on the fully graphical colour screen
- Extremely simple operation thanks to integrated touchscreen, two additional programmable function keys
- Flat construction and modern design
- Clear symbols in high-contrast colouring
- Adjustable clock for the comprehensive timer functions including summer and winter mode, entry of movable holidays or production stops is supported
- Surface installation
- External inputs / outputs
- Individual control of up to 50 indoor units.

Technical data	AT-50A	PAC-SC51KUA*
Type	System remote control	Voltage supply
Dimensions W x H x D (mm)	180 x 120 x 30	271 x 169 x 72

* Required if the AT-50A is integrated into the outdoor unit bus.

Screenshots AT-50A

Main menu
The well-structured main menu will logically guide you to all the functions. The menus for operational and limiting settings, the control panel menu and the system administration are highlighted in different colours.
In the bottom line of the menu, you will find the back key and, located on the right, the button for the screen cleaning function and the basis settings of this group remote control AT-50A.

Home screen
You are provided with an at-a-glance overview of all relevant operating states of your air conditioning units, which are broken down according to the rooms in this case. Each icon represents an air conditioning unit or a group that can be provided with a name.
Blue icons indicate that the air conditioning unit is switched on. Temperature and operating mode are additionally displayed. As you can see, air filter status, timer operation and Lossnay connection are also shown. Faults are highlighted in yellow and if the air conditioning unit is switched off, the icon will appear in grey.

Operating menu for air conditioning units
This menu corresponds to a local remote control. Here, the settings for the operation of the air conditioning unit and/or of the groups of air conditioning units are made. For ON/OFF, room temperature, operating mode (mode) and the airflow directions, just tap on the buttons using your finger until the desired setting appears. In the bottom line, separate function keys are available for a coupled Lossnay ventilation unit.

Operating menu for Lossnay ventilation units
With this menu, you are able to separately operate a Lossnay ventilation unit. Select the fan level and the operating mode that the ventilation unit is to use in stand-alone operation. The buttons for the timer settings and ON/OFF can be found in the lower part of the menu.

Function overview AT-50A

Function	Description
Touchscreen	High-resolution colour touchscreen, screen diagonal of 5 inch, horizontal format
Function keys	1 On/Off, 2 programmable function keys
Max. number of controllable indoor units	Max. 50 indoor units/groups
On/Off	On/Off switching for every individual group On/Off switching for all groups/units with the On/Off button on the front
Operating modes	Switching between cooling/drying/automatic mode/fan/heating, depending on the capabilities of the indoor units Automatic mode only possible in R2/WR2 systems
Target room temperature	Target room temperature for each group can be adjusted in the following ranges, depending on the capabilities of the indoor units: Cooling/drying: 19 – 30 °C Heating: 17 – 28 °C Automatic mode: 19 – 28 °C
Fan levels	Fan for each group can be adjusted in up to 4 levels, depending on the capabilities of the indoor units
Airflow direction	Airflow angle for each group, up to 4 positions and Auto Swing can be set, depending on the capabilities of the indoor units
Timer function	Daily and weekly timer with 16 switching operations per day
Locking/releasing of local remote controls	Locking and releasing of the individual remote control functions (On/Off, target temperature, operating mode and filter symbol Off) can be individually activated.
Display of actual room temperature	The measured room temperature can be displayed for every group.
Fault messages	Displayed as 4-digit error code and with the corresponding unit address. Up to 64 of the faults that occurred most recently are saved.
Test operation	Enables the test operation for each individual unit within the group
Coupled operation with ventilation units	Enables each group to engage in coupled operation with one Lossnay ventilation unit per group
External inputs and outputs	Connection terminals available for: Inputs: On/Off via continuous signal, EMERGENCY STOP via continuous signal Outputs: Operating status (On/Off), fault message/normal operation
Refrigerant volume check	Activates the automatic volume check function of the outdoor units for an easier maintenance
Voltage supply	30 V DC (via M-NET control lines or power supply unit)
Compatible with	City Multi VRF / Mr. Slim (with PAC-SF81MA-E) / M-series (with MAC-399IF)
Dimensions W x H x D (mm)	180 x 120 x 30

AG-150A

AG-150A with PAC-YG71CBL

PAC-YG50ECA

AG-150A / PAC-YG50ECA

Visual control system / expansion modules for AG-150A

AG-150A

Up to 50 indoor units or groups can be controlled as standard. With up to three optionally available expansion modules, a maximum of 150 components can be controlled with the central system control AG-150A.

Backlit liquid crystal display

The background lighting improves legibility and simplifies operation of the displayed air conditioning units. You can immediately tell whether an air conditioning unit is switched on or off. Operation at night and without light is possible. After a certain amount of time during which no entries have been made, the background lighting is automatically deactivated. If a fault occurs, the background lighting is automatically switched on again und indicates the fault this way.

Touch panel

On the high-resolution, touch sensitive 9-inch screen, you can operate the air conditioning unit by using your fingertip. An orange marking around a symbol signalises which air conditioning unit you have selected by tapping.

USB interface

An USB interface has been integrated on the left-hand side of the AG-150A behind a protective cover. Here, a configuration file, that was created on the PC beforehand, can be loaded.

Voltage supply

The external power supply unit PA-SC51KUA, which can also supply the M-NET control lines with operating voltage, for operation of the central control system.

Elegant housing for wall installation

For the AG-150A, an optional housing (PAC-YG85KTB) is available for surface installation in whose upper part the central system control can be inserted. In the lower part of the housing, the power supply unit can be integrated and hidden behind the cover.

Highlights

- Fully graphical touch panel with colour display for operation at the touch of a fingertip
- Easy-to-understand symbols indicate the unit status at a glance
- Fit for the future due to M-NET, Ethernet and UBS inferfaces as well as terminals for external signals
- Modern design in high-gloss look, also available in black
- For installation in the wall, with optional housing a surface installation is also possible

PAC-YG50ECA

With these expansion modules for the M-NET data bus, the number of controllable indoor units at the central system control AG-150A can be increased to up to 150.

Highlights

- Each expansion module allows you to connect 50 indoor units or groups to the central system control AG-150A. When the maximum of three admissible expansion modules is used, up to 150 indoor units or groups can be managed by one AG-150A.
- The connection is made via the Ethernet to which the AG-150A is also connected. The expansion modules do therefore not have to be installed directly next to the central system control but can also be mounted further away.

Technical data	AG-150A	PAC-SC51KUA
Type	Central remote control	Voltage supply
Dimensions W x H x D (mm)	300 x 175 x 62	271 x 169 x 72

Optional accessories	
Type	**Description**
PAC-YG50ECA	Expansion module for control of up to 150 indoor units. For 51 – 100 indoor units, 2 pieces required, for 101 – 150 indoor units, 3 pieces required.
PAC-YG71CBL	Frame in black design
PAC-YG63MCA-J	Analogue input module
PAC-YG83UTB	Wall installation housing
PAC-YG81TB	Housing for surface installation (only AG-150A)
PAC-YG85KTB	Housing for surface installation (AG-150A + PAC-SC51KUA)
BTR-232B	Router according to ME specifications + setup, required as per selected option

GB-50ADA WEB

GB-50ADA WEB

Central system control with web functionality

The central system control GB-50ADA is ideally suited for both small and large systems since up to 50 air conditioning units can be operated with a single GB-50ADA. In addition, a maximum of 40 central system controls can be combined into an integrated system in order to control and monitor up to 2,000 indoor units in large buildings. This way, a simple and central operation of complex systems is achieved.
All functions for the control and monitoring of all Mitsubishi Electric air conditioning unit models are included in the GB-50ADA. To this end, external signals can be used and external units jointly operated (separate accessories required).

Power supply unit integrated
The integrated power supply unit does not only supply the system control, but can also supply the control lines of the M-NET data bus with the required operating voltage.

Web functionality
The GB-50ADA is not provided with an own display unit. Conveniently control and monitor the air conditioning units by using the standard web browser Microsoft Internet Explorer® (as of version 5) on your PC, which is connected to your local network.

Highlights
- A GB-50ADA can control up to 50 indoor units or groups.
- The compact system control is not equipped with a display unit, the installation takes place „behind the scenes“.
- Comfortably operate your air conditioning units on your PC – thanks to the integrated web server functionality.
- The visually appealing user interface is easy to understand and you quickly learn how to use it.
- Clear symbols provide you with an at-a-glance overview of the unit status.
- Passwords protect the hacker-proof software that is not based on Windows but is a proprietary development of Mitsubishi Electric instead.
- Ideal for use in combination with TG-2000A.

Technical data	GB-50ADA WEB
Type	Central remote control with web function
Dimensions W x H x D (mm)	250 x 217 x 97

Function overview AG-150A / GB-50ADA WEB

Function	Description	
Display unit	High-resolution colour touchscreen, screen diagonal of 9 inch, horizontal format (only for AG-150A)	
Max. number of controllable indoor units	Max. 50 indoor units / groups	
Expansion options	With up to three PAC-YG50ECA expansion modules for a maximum of 150 indoor units / groups (only for AG-150A)	
On/Off	On/off switching for each group separately or for all groups collectively	
Operating modes	Switching between cooling/dehumidifying/automatic mode/fan/heating, depending on the capabilities of the indoor units Automatic mode only possible in R2/WR2 systems	
Target room temperature	Target room temperature for each group can be adjusted in the following ranges, depending on the capabilities of the indoor units: • Cooling/dehumidifying: 19 – 30 °C • Heating: 17 – 28 °C • Automatic mode: 19 – 28 °C	
Fan level	Depending on the unit, up to 4 levels and automatic mode can be activated.	
Airflow direction	Airflow angle can be set to 4 stages and Auto Swing (depending on the unit)	
Timer function	Yearly or weekly timer. Night setback (12 °C) optional	
Locking / releasing of local remote controls	Locking and releasing of the individual remote control functions (On/Off, target temperature, operating mode and filter symbol Off) can be individually activated.	
Display of actual room temperature	The measured room temperature can be displayed for every group.	
Fault messages	Displayed as 4-digit error code and with the corresponding unit address. Up to 64 of the faults that occurred most recently are saved.	
Test operation	Enables the test operation for each individual unit within the group	
Coupled operation with ventilation units	Enables each group to engage in coupled operation with one Lossnay ventilation unit per group	
Limiting the temperatures in the browser	The setting range can be individually limited for every single unit (e.g. 23 ºC to 25 ºC)	
Web server functionality	The central system controls AG-150A and GB-50ADA can also optionally be operated by using a standard web browser if the system control and the PC are connected to a local network. The administrator can set up, limit, block or allow the access of the users.	
Automatic adjustment of the target temperature	AG-150A and GB-50ADA change the target temperature depending on the outside temperature. This function is only available in cooling mode. To this end, a sensor input module PAC-YG63MCA and a PT100 sensor are required (PT100 sensor not included in scope of delivery)	
Load shedding circuit	Activates the energy-saving functions if the current consumption is too high.	
Energy-saving functions	Various energy saving functions (optional) for indoor units, groups or the complete system can be activated.	
Optimised start of operation	Already before the programmed timer setting is reached, the air conditioning system is started with a partial load that is slowly increased until the actual start of operation in order to then achieve the target state. This helps to save energy. To this end, a sensor input module PAC-YG63MCA and a PT100 sensor are required (PT100 sensor not included in scope of delivery).	
Password protection	Access to the AG-150A and GB-50ADA can be protected by a password. If the background lighting of the LCD monitor goes out, the user will be prompted to enter the password the next time he/she tries to gain access.	
Night setback	The capacity can be lowered if the rooms are not used or during the night hours. The system keeps the temperature in the rooms constant, e.g. in heating operation at 16 – 19 °C, and thus prevents the rooms from cooling down. In daily operation, the system heats the rooms back up to 20 – 22 °C (only for AG-150A).	
External inputs and outputs	Connection terminals available for	Inputs: On/Off via continuous signal, EMERGENCY STOP via continuous signal Outputs: Operating status (On / Off), fault message / error-free operation
Refrigerant volume check	Activates the automatic volume check function of the outdoor units for a simplified maintenance	
Voltage supply	AG-150A: 12 V DC (power supply unit PAC-SC51KUA required) GB-50ADA: 100 – 240 V AC; 0.4 / 0.3 A; 50 / 60 Hz (power supply unit integrated)	
Voltage supply for M-NET control lines	GB-50ADA can supply the M-NET control lines with operating voltage (equivalent voltage supply: 6)	
Dimensions W x H x D (mm)	AG-150A: 300 x 175 x 62 GB-50ADA: 250 x 130 x 38	
Compatible with	City Multi VRF / Mr. Slim (with PAC-SF81MA-E / M-series (with MAC-399IF)	
Optional: ME router	Router according to ME specifications + setup, required as per selected option	

Extension of the software functions by means of activation codes
AG-150A / GB-50ADA WEB

Web monitor
Activates the web server functionality of the central remote control. This enables an easy and direct operation by means of the standard browser „Internet Explorer TM“ without requiring additional software.

Annual Schedule, Weekly Schedule
Upon activation, the timer functions of the weekly and yearly timer are considerably expanded, which enables an even more individual adjustment to the local requirements.

Sending Error Mail
System information, e.g. faults, room temperature curves, can automatically be sent to different users electronically via e-mail (additional hardware may be required). SMS via external service provider possible.

Personal Web
This function allows you to set up virtual remote controls. By using the Internet Explorer, these virtual remote controls can be called up on the standard PC monitor of the respective user.

Maintenance Tool
Enables access via the network by using the Mitsubishi Electric maintenance tool software. Operating data of the units and systems can be visualised.*

Maintenance Tool Advance
Enables access via the network in order to visualise advanced unit and system parameters*

BACnet
This function allows you to communicate the information related to the air conditioning systems to the building control system that is based on the BACnet protocol via an additional interface.

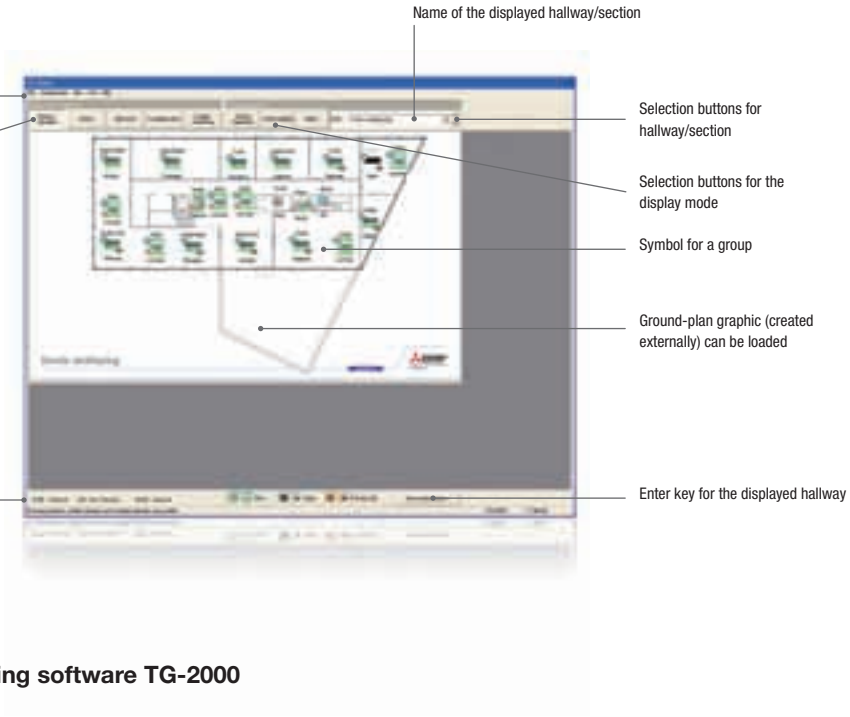
PLC for General Equipments
Extension of the ranges of functions of the GB-50ADA and AG-150A using a Mitsubishi Electric PLC for controlling external units provided by the customer, for example fan motors. Additional installations provided by the customer may be required.

Energy Management License Pack
Enables the transfer of energy-displaying and energy-saving information and functions. This way, it is also possible to implement a load shedding circuit. (Depending on the application, TG2000 or additional equipment required.)

Interlock control
Integration of functions of the central remote controls AG-150A and GB-50ADA into the auxiliary controller PACYG66DCA. This way, external units can be switched on/off via the timer of the central control, for instance. To this end, the corresponding activation codes, e. g. Annual Schedule, must be activated.

*PC with network access and maintenance tool software separately required

Display screen for a hallway section



Cool

Room 4a

This symbol, for example, indicates that the indoor unit with the designation Room 4a is in cooling mode (Cool), that it is switched on (green) and that the locale remote control is locked.

TG-2000A

Multi-functional, fully graphical operating software TG-2000

The central remote control becomes the building management system

The optionally available software TG-2000 is used to provide your central remote control AG-150A or GB-50ADA with access to existing building management systems. With its additional useful functions and the possibility to export data, the AG-150A or GB-50ADA can be integrated into the existing building management system without any problems. You only require a standard PC by MELCO, a LAN network or a telephone connection.

Saving energy made easy

For peak load limitation, individual indoor units or groups can be programmed in such a way that their use of energy is optimised. This can be done by changing the target value, changing the operating mode or switching the units off. You can set a night setback for times of less visitor traffic.

Central climate management

Individual units are simply connected via a network or telephone lines and operated and monitored centrally. This saves working time and therefore costs.

The software allows you to prepare a regular energy cost allocation for each individual customer. Simply export the accumulated data to your IT department for further processing.

2000 indoor units? No problem!

The operating software TG-2000 allows you to integrate up to 40 GB-50ADA remote controls with 50 air conditioning units each into one network. This means that by using only a single PC, you can individually operate 2000 air conditioning units with a few mouse clicks.

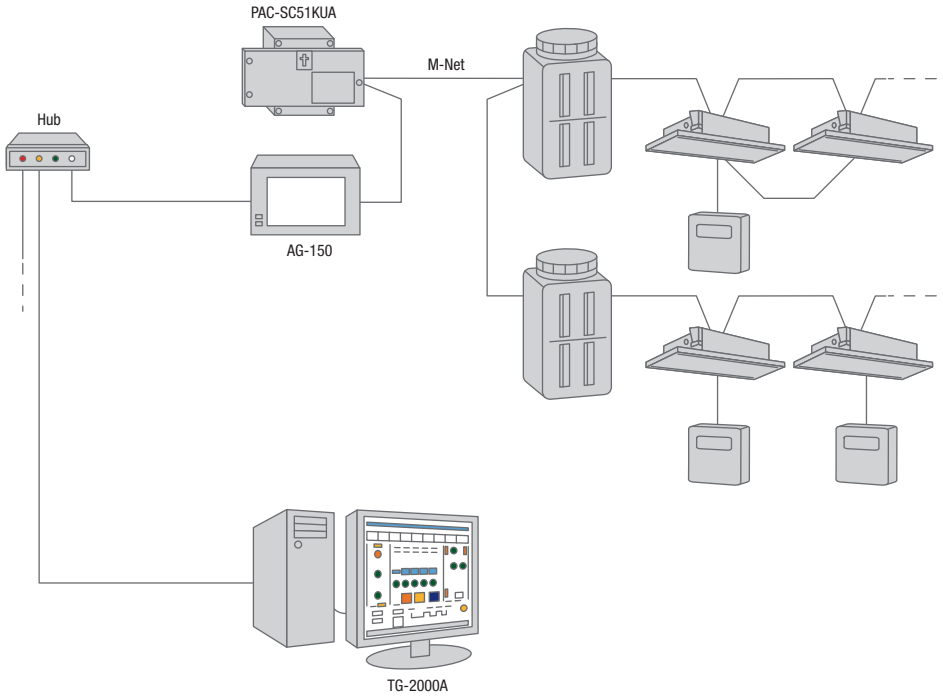
Integration of external systems

Many other building technology systems that are working together with the air conditioning system, for example the lighting, can also be managed by the TG-2000, while the energy consumption can be recorded for the cost settlement.

Controlling and visualising

Simply start the software and the system data will automatically be imported and displayed graphically. This way, the data are always kept up to date.

The easy-to-understand and easily identifiable symbols provide you with information on the operating status and other important details at the first glance already.



TG2000 PC-based software working in connection with the AG-150A / GB-50ADA controller

Functions	Description
Operating system	Pentium III, CPU 1000 Mhz, 256 MB RAM, at least 6 GB. LAN 10/100 Mbit/s Windows Professional 2000 SP4 or Windows Professional XP SP2 or Windows Vista
max. number of controllable indoor units	2000 indoor units, 50 indoor units per AG-150A/GB-50ADA
Components of the software	The software package is divided into two main areas: System and control settings: System settings: Password protection, system configuration and group/block settings, printer setup. Control settings: Normal operation, monitoring and control functions as described below.
On/Off	Display of operating status (On/Off) for each individual group, data is displayed on the selected screen (hallway, block, everything)
Operating mode	Display of operating mode (cooling, heating, fan, drying, automatic mode) for each individual group, data is displayed on the selected screen (hallway, block, everything)
Target room temperature	Display of target temperature for each individual group, data is displayed on the selected screen (hallway, block, everything) For heating and cooling, the setting range can be limited.
Fan levels	Display of set fan level for each individual group, data is displayed on the selected screen (hallway, block, everything)
Locking and releasing	Airflow angle: 100° – 80° – 60° – 40° and Auto Swing
Timer function	Yearly or weekly timer, night setback (12 °C) integrated
Locking and releasing	Display of status of the local remote controls (locked/released) for each individual group, data is displayed on the selected screen (hallway, block, everything)
Fault messages	The faults that did occur are saved for each indoor unit and can be exported and printed. Error lists can be called up, viewed, sorted by date or error removal, deleted or printed individually or for the entire system.
Room temperature display	Room temperature can be displayed in groups, measured at the master indoor unit of a group
Timer functions	Display of timer status for each individual group, data is displayed on the selected screen (hallway, block, everything)
Energy-saving functions	Display of timer status for each individual group, data is displayed on the selected screen (hallway, block, everything)
Consumption data	The following data can be saved: Actual and target room temperature, operating mode, On/Off switching cycles, el. power consumption per group, indoor unit or measuring device; Saved data can be sent via e-mail and allocated in order to visually simplify the arrangement and the locations of the air conditioning units in the systems. Group, indoor unit or measuring device; The saved data can be sent via e-mail.
Graphical representation	The entire system can graphically be divided into screens, and a ground-plan graphic (bitmap) can be assigned to each screen in order to visually simplify the arrangement and the locations of the air conditioning units in the system.
E-mail function	The following information can automatically be sent via e-mail on a regular basis: Energy consumption data, energy-saving data, temperature curves, error lists


PAC-YG60MCA-J


PAC-YG63MCA-J


PAC-YG66MCA-J

Control accessories

The manifold functions of the central controls GB-50ADA and AG-150A can be extended with the input and output modules PAC-YG. The modules are integrated into the M-Net bus system and require at least one M-Net indoor unit address per module.

During planning, it must be taken into account that the total of indoor units, Lossnay heat exchangers and PAC-YG modules in one M-Net system may not exceed 50. Every PAC-YG module requires an uninterruptible 24 V DC power supply to be provided by the customer. For installation in dry surroundings (inside buildings).

PAC-YG60 MCA-J Pulse input module

- Recording of different counter types like current, gas, water or heat quantities is possible
- Recording of the counter readings of the impulse counters
- Recording of energy consumption and individual cost accounting in connection with a central control and the operating software TG2000
- Counter readings are displayed in the web display of the GB-50A

PAC-YG63 MCA-J Analogue input module

- Automatic sending of e-mails containing the recorded data in connection with AG-150 or GB-50PRO possible (if applicable router as per ME specifications required).
- When leaving the target range, an alarm is activated in form of a potential-free contact
- In connection with a central control, there is the additional possibility to send an alarm e-mail when leaving the target range (if applicable router as per ME specifications required)
- Recording of temperature and humidity sensors
- 2 inputs per module, one is suitable for the direct connection of a PT100 temperature sensor.
- Possible signal inputs: 0–10 V, 4–20 mA, 1–5 V
- Recording of measured values for temperature and/or humidity

PAC-YG63 MCA-J PRO

- Same functions as PAC-YG63MCA-J
- When leaving the target range, countermeasures will be initiated, e.g. switching on another indoor unit in the M-Net bus system
- M-Net interlock function, e.g. setting the temperature target value for the indoor unit depending on the external sensor (e.g. outside temperature)

PAC-YG66 DCA-J Digital input/output module

- Control of external systems such as lighting systems, jalousies, ventilation systems, external fans, pumps etc.
- Up to 6 outputs and 6 inputs per module
- External systems can be controlled (On/Off)
- The operating status of the external systems is recorded (on/off, operation/alarm)

PAC-YG66 DCA-J PRO

- Same functions as PAC-YG66MCA-J
- M-Net interlock function, e.g. starting of certain indoor units by means of an external contact

Module designation	PAC-YG60MCA-J	PAC-YG63MCA-J	PAC-YG63 Pro	PAC-YG66DCA-J	PAC-YG66 Pro
Dimensions (mm) Height x Width x Length	120/200/45	120/200/45	120/200/45	120/200/45	120/200/45
Weight (kg)	0.6	0.6	0.6	0.6	0.6

Maintenance tool | L-MAP02-E | BAC-HD150 | BACNET interface

Control accessories

BAC-HD150
BACnet™ interface

- For control of up to 50 indoor units (up to 150 indoor units with PAY-YG50ECA expansion controllers). All functions of the indoor units can be controlled via the BACnet™ protocol. All relevant system parameters such as operating status and mode are displayed.

L-MAP02-E
LonWorks® interface

- Easy connection of City Multi systems to building control technology via LonWorks® interface L-MAP02-E.
- One LonWorks® interface is required for 50 indoor units.
- For more detailed information on our LonWorks® interface, please refer to the brochure „Controls and remotes“.

CMS-MNG-E*
Maintenance tool

- The easiest and most cost-effective way to monitor, maintain and operate City Multi systems is the maintenance tool by Mitsubishi Electric.
- All relevant system parameters and error messages can be displayed, saved or changed using the computer*.
- In combination with a modem, a remote data transmission is possible.
- The maintenance tool consists of an interface box, adapter and software programme; an USB cable is additionally required. Plug form PC: USB type A. Plug form CMS-MNG-E: USB type B

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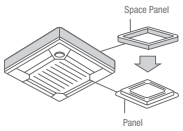
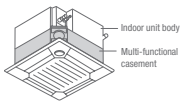
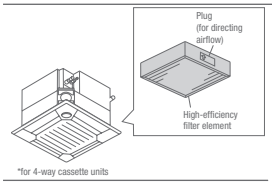
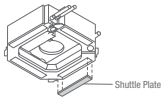
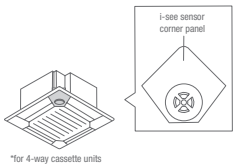
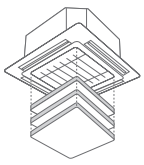
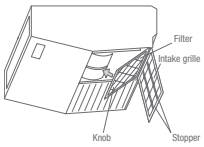
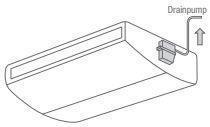
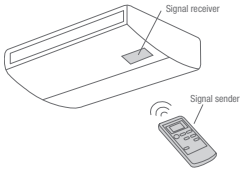
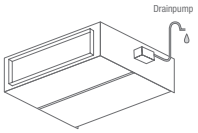
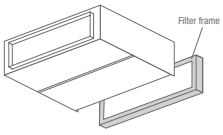
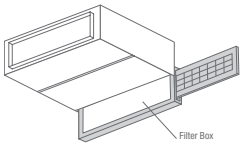
* for Windows 2000 or Windows XP, minimum Celeron 1 GHz, minimum 512 MB RAM, available disk space 1 GB, USB port, serial port

Accessories indoor units

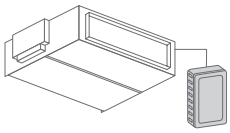
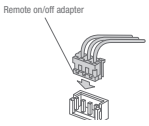
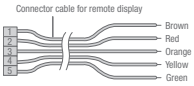
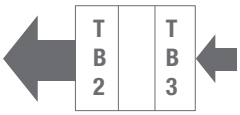
Designation	Description
PLFY-P-VBM-E	**4-way ceiling cassettes**
	**Base grille** Allows for installation when only little free space is available in the ceiling. The required installation height is reduced by 40 mm.
PAC-SH48AS-E	for PLFY-P32-140VBM-E
	**Outside air box incl. filter housing** Used to supply ceiling cassettes with outside air. The outside air volume can be up to 20 % of the nominal air volume. For installation between unit and grille, installation height 135 mm.
PAC-SH53TM-E	for PLFY-P32-140VBM-E
	**High-efficiency filter element** High-efficiency filter element for use in outside air box PAC-SH53TM-E. The high-efficiency filter has a filter efficiency of 65 %, service life approx. 2,500 operating hours.
PAC-SH59KF-E	for PLFY-P32-140VBM-E with outside air box PAC-SH53TM-E
	**Shutter plate** The shutter plates are installed in the air outlet opening of the indoor units, in order to close a maximum of 2 air outlets.
PAC-SH51SP-E	for PLFY-P32-140VBM-E
	**i-see sensor** The i-see sensor measures the temperature in the floor area and, in connection with the automatic fan control, minimises temperature stratifications. Due to the better temperature distribution, the compressor running time and the energy consumption are reduced.
PAC-SA1ME-E	for PLFY-P32-140VBM-E
	**Infrared receiver for integration into the grille** The infrared receiver can be integrated into the grille. The PAR-LS97A remote control is required for operation.
PAR-SA9FA-E	for PLFY-P32-140VBM-E
	**Filter lift panel** The filter can be lowered by up to 4 m by means of the remote control. Especially in high rooms, this enables an easy cleaning of the filter.
PLP-6BAJ	for PLFY-P32-140VBM-E

Designation	Description
PCFY-P VKM-E	**Ceiling suspended units**
	**High-efficiency filter element** High-efficiency filter element as replacement for the standard air filter. High-efficiency and standard filters cannot be operated simultaneously.
PAC-SH88KF-E	for PCFY-P40VKM-E
PAC-SH89KF-E	for PCFY-P63VKM-E
PAC-SH90KF-E	for PCFY-P100/125VKM-E
	**Drain pump** The drain pump is integrated in the unit and drains the condensate in an upwards direction. The delivery height is 600 mm.
PAC-SH83DM-E	for PCFY-P40VKM-E
PAC-SH85DM-E	for PCFY-P63-125VKM-E
	**Infrared remote control** The infrared remote control set consists of the infrared remote control (transmitter), a wall holder and the receiving part which is inserted into the label on the bottom side of the housing.
PAR-SL94B-E	for PCFY-P40-125VKM-E
PEFY-P VMH(S)-E/VMH-E-F	**Ceiling concealed ducted units**
	**Drain pump** Drain pump for installation in the units.
PAC-KE04DM-F	PEFY-P 40-250VMH(S)-E, PEFY-P80/140VMH-E-F
	**Long-life filter element** The filter frame PAC-KE TB-F is required when using the filter elements.
PAC-KE86LAF	for PEFY-P40-63VMH-E
PAC-KE88LAF	for PEFY-P71/80VMH-E, PEFY-P80VMH-E-F
PAC-KE89LAF	for PEFY-P100-140VHM-E, PEFY-P140VMH-E-F
PAC-KE85LAF	for PEFY-P200/250VMH(S)-E
	**Filter frame** The filter frame is required when using the long-life filters.
PAC-KE63TB-F	for PEFY-P40-63VMH-E
PAC-KE80TB-F	for PEFY-P71/80VMH-E, PEFY-P80VMH-E-F
PAC-KE140TB-F	for PEFY-P100-140VHM-E, PEFY-P140VMH-E-F
PAC-KE250TB-F	for PEFY-P200/250VMH(S)-E
PEFY-P VMA-E	**Ceiling concealed ducted units**
	**Filter boxes** The filter boxes allow for removing the filters from the side or below even if a channel is connected to the suction side. The air filter included in the scope of delivery of the indoor unit is inserted into the filter box.
PAC-KE91TB-E	for PEFY-P20-32VMA
PAC-KE92TB-E	for PEFY-P40/50VMA
PAC-KE93TB-E	for PEFY-P63-80VMA
PAC-KE94TB-E	for PEFY-P100/125VMA
PAC-KE95TB-E	for PEFY-P140VMA

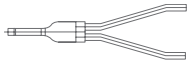
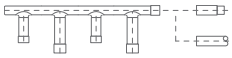
Accessories indoor units

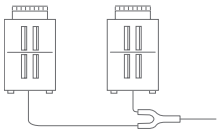
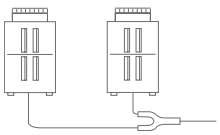
Designation	Description
PKFY-P VHM/VKM	**Wall mounted units**
	**Drain pump** The drain pump is equipped with its own housing and is to be installed next to the wall mounted unit on the left-hand side since the intake nozzle of the pump is located there. The delivery height is 800 mm.
PAC-SH75DM-E	Drain pump for PKFY-P32-50VHM-E
PAC-SH94DM-E	Drain pump for PKFY-P63/100VKM-E

Control accessories

Designation	Description
Control accessories	
	**External temperature sensor** The set consists of temperature sensor, connection cable 2-wire/12 m long and fixing material.
PAC-SE41TS-E	
	**Remote On/Off adapter** The remote ON/OFF adapter consists of a plug with cabling for setting up a remote ON/OFF circuit (length of cabling 2 m, can be extended to a max. of 10 m). Switch, relay, timer and cabling provided by customer.
PAC-SE55RA-E	
	**Cable for remote monitoring** Fault and operating messages are output in form of a 12 V DC signal. This 12 V signal can be connected to a relay for further processing. The relay provided by the customer must have a capacity of max. 0.9 W.
PAC-SA88HA-E	1 piece
PAC-725AD	10 pieces
	**Signal transmission amplifier** For amplifying the signal of the M-NET data bus in widely branching bus networks.
PAC-SF46EPA-F	
	**EIB interfaces** EIB interface for 15 units, only in combination with GB-50ADA or AG150-A.
ME-AC/KNX15	
	**EIB interfaces** EIB interface for 100 units, only in combination with GB-50ADA or AG150-A.
ME-AC/KNX100	

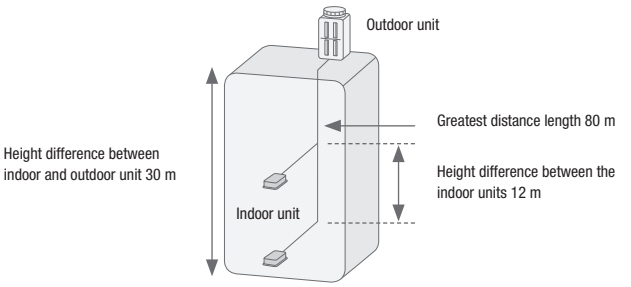
Refrigerant accessories

Designation	Description
Coupling piece BC controller	
	**Coupling piece for BC controller** Indoor units of the sizes 100-250 occupy 2 outlets on the BC controller. With the coupling piece, 2 outlets can be precisely brought together.
CMY-R160-J1	Coupling piece for all BC controllers with soldered joints
Refrigerant tees	
	**Refrigerant tees** The refrigerant tees consist of tees for intake and liquid lines as well as of various adapter pieces for several cross-sections.
CMY-Y102S-G2	Tees 18/10
CMY-Y102L-G2	Tees 22/12
CMY-Y202-G2	Tees 22/16
CMY-Y302-G2	Tees 35/18
Refrigerant branching	
	**Refrigerant branching** With the refrigerant branchings, up to 10 indoor units can be connected in a simple manner.
CMY-Y104-G	for 4 outlets
CMY-Y108-G	for 8 outlets
CMY-Y1010-G	for 10 outlets
Alternatively, customary tees can be used.	

Designation	Description
Distributor set for Y outdoor units	
	**Distributor set for Y outdoor units** The distributor sets ensure an optimal refrigerant and oil distribution between the outdoor units. For outdoor units, only distributor sets provided by Mitsubishi Electric may be used.
CMY-Y100VBK2	for PUHY systems P500-650, EP400-600
CMY-Y200VBK2	for PUHY systems P700-900
CMY-Y300VBK2	for PUHY systems P950-1250, EP650-900
Distributor set for R2 outdoor units	
	**Distributor set for R2 outdoor units** The distributor sets ensure an optimal refrigerant and oil distribution between the outdoor units. For outdoor units, only distributor sets provided by Mitsubishi Electric may be used.
CMY-R100VBK	for PURY systems P400-650, EP400-600
CMY-R200VBK	for PURY systems P700-800, EP400-600
CMY-R100XLVBK	for PURY systems P850-900, EP600-700

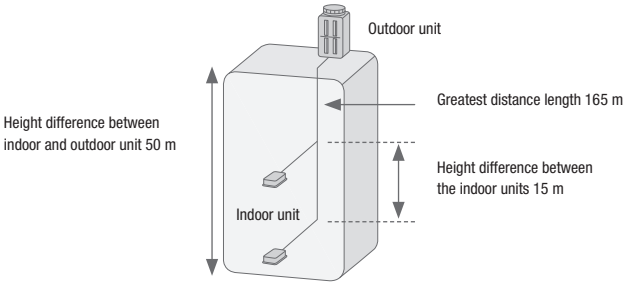
PUMY

Overall length of the pipes	120 m
Greatest distance length	80 m
Greatest distance length after the first branching	30 m
Admissible height difference between ...	
Indoor unit and outdoor unit (for roof installation)	50 m
Indoor unit and outdoor unit (for floor installation)	20 m
Indoor units	12 m



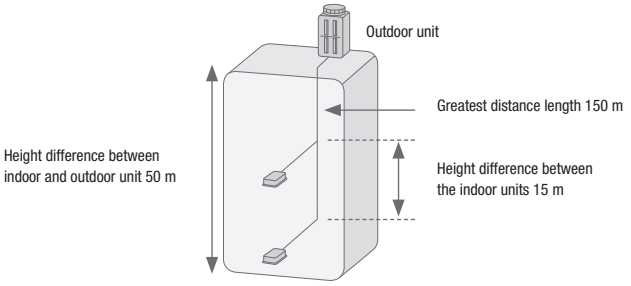
Y-series PUHY-P / PUHY EP

Overall length of the pipes	1000 m
Greatest distance length	165 m
Greatest equivalent distance length	190 m
Greatest distance length after the first branching	40 m
Admissible height difference between ...	
Indoor unit and outdoor unit (for roof installation)	50 m*
Indoor unit and outdoor unit (for floor installation)	40 m*
Indoor units	15 m



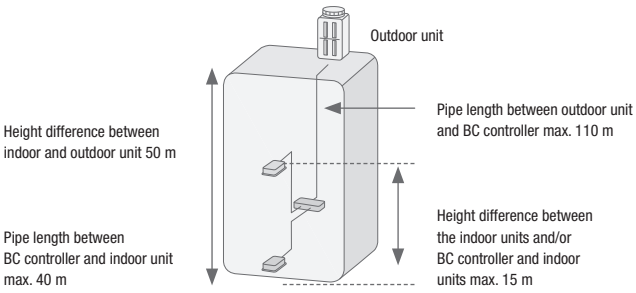
Zubadan Y-series PUHY-HP

Overall length of the pipes	300 m
Greatest distance length	150 m
Greatest equivalent distance length	175 m
Greatest distance length after the first branching	40 m
Admissible height difference between ...	
Indoor unit and outdoor unit (for roof installation)	50 m*
Indoor unit and outdoor unit (for floor installation)	40 m*
Indoor units	15 m



R2-series

Overall length of the pipes	max. 950 m**
Greatest distance length	165 m
Greatest equivalent distance length	190 m
Between outdoor unit and BC controller	110 m
Between BC controller and indoor unit	40 m
Admissible height difference between ...	
Indoor unit and outdoor unit (for roof installation)	50 m*
Indoor unit and outdoor unit (for floor installation)	40 m*
Indoor unit and BC controller	15 m***
Master controller and slave controller	15 m
Indoor units	15 m***



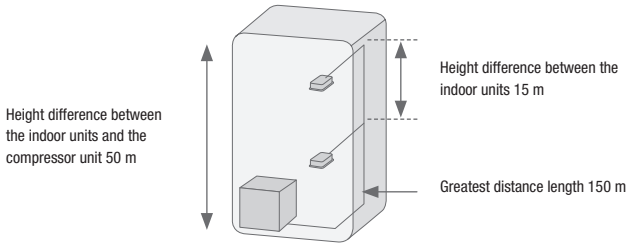
* For certain unit sizes, height differences of up to 90 m are possible. Please contact your specialist dealer for further information.

** Depending on the sizes of the outdoor unit and the distance between outdoor unit and BC controller

*** Max. 10 m for indoor units of the types 200 and 250.

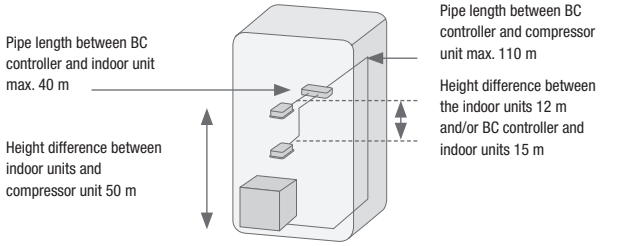
WY-series PQHY-P

Overall length of pipes	300 m
Greatest distance length	150 m
Greatest distance length after the first branching	175 m
Admissible height difference between ...	
Indoor unit and PQHY (PQHY above iE)	50 m
Indoor unit and PQHY (PQHY below iE)	40 m
Indoor units	15 m



WR2-series PQRY-P

Overall length of the pipes	300 m
Greatest distance length	150 m
Greatest equivalent distance length	175 m
Admissible height difference between ...	
Indoor unit and PQRY (PQRY above iE)	50 m
Indoor unit and PQRY (PQRY below iE)	40 m
Indoor unit and BC controller	15 m
Master controller and slave controller	15 m
Indoor units	15 m*



* Max. 10 m for indoor units of the types 200 and 250.

General conditions

Guaranteed application area of the City Multi VRF series

Cooling	Indoor:	15–24 °C	(wet)
	Outdoor:	-15–43 °C	(dry) if set up in a wind-protected position
	Outdoor WR2 and WY:	10–45 °C	Cooling water temperature
		-5–45 °C	upon request
Heating	Y-series		
	Indoor:	15–27 °C	(dry)
	Outdoor:	-20–15.5 °C	(wet)
		-25–15.5 °C	for Zubadan VRF
	R2-series		
	Indoor:	15–27 °C	(dry)
	Outdoor:	-20–15.5 °C	(wet)
	Outdoor WR2:	10–45 °C	Cooling water temperature

Measuring conditions of the Mitsubishi Electric air conditioning units

Cooling	Indoor:	27 °C	(dry)
		19 °C	(wet)
	Outdoor:	35 °C	(dry)
		24 °C	(wet)
	Outdoor WR2:	30 °C	Cooling water temperature
Heating	Indoor	20 °C	(dry)
	Outdoor:	7 °C	(dry)
		6 °C	(wet)
	Outdoor WR2 and WY:	20 °C	Cooling water temperature

Refrigerant pipe length 7.5 m (one way), ΔH = 0 m. Sound pressure level measured in the free field, measuring point for outdoor unit at a distance of 1 m and at a height of 1 m in front of the unit. For indoor units, depending on the unit type, refer to technical data.

Lossnay

Advantages

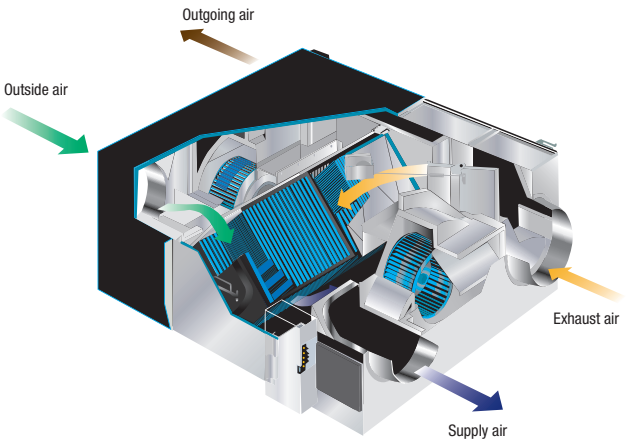
100 % fresh air with maximum heat recovery
The highly advanced Lossnay ventilation units operate with a high-performance heat recovery system. Used air is removed and replaced with supply air at the same time. This means energy savings of up to 70%, because virtually all the available cooling/heating energy is transferred to the fresh air. Particularly in buildings with a tight building envelope and no possibility to exchange air through windows, the Lossnay systems provide an efficient inflow of fresh air.

The special very thin structure of the paper cross-flow heat exchanger allows an exchange of the sensitive and latent heat proportion and a transfer to the fresh air so that the fresh air reaches the room pre-conditioned. This increases comfort and saves considerable energy costs.

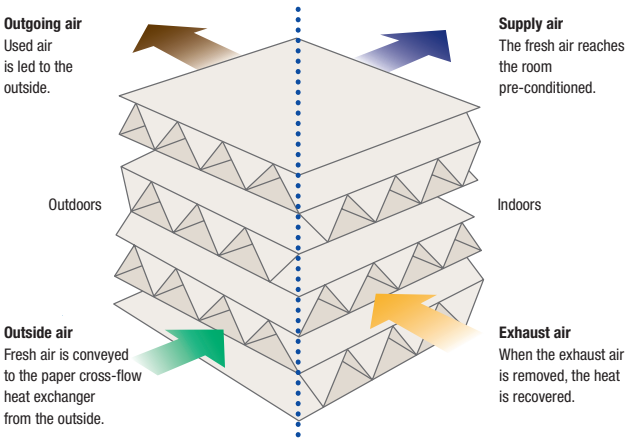
Low installation costs and simple maintenance
- The installation costs are significantly reduced since the energy requirements of the air conditioning units are minimized due to the high rate of heat recovery.
- In addition, the supply air fed into the room is humidified/dehumidified.
- Lossnay ventilation units can be employed in all modern buildings and create a healthy living and working environment.
- The series of ceiling concealed ducted units offers a wide range of models with an airflow rate of 150 to 2,000 m³/h.

Connection to City Multi VRF and Mr. Slim systems
The high-performance City Multi VRF and Mr. Slim air conditioning systems can easily and very efficiently be combined with the Lossnay LGH series. When planning the air conditioning system, lower capacity classes can be selected for the indoor and outdoor units. For connection to the data bus, no additional adapter is required, nor is there any need for an extra control.

The Lossnay principle



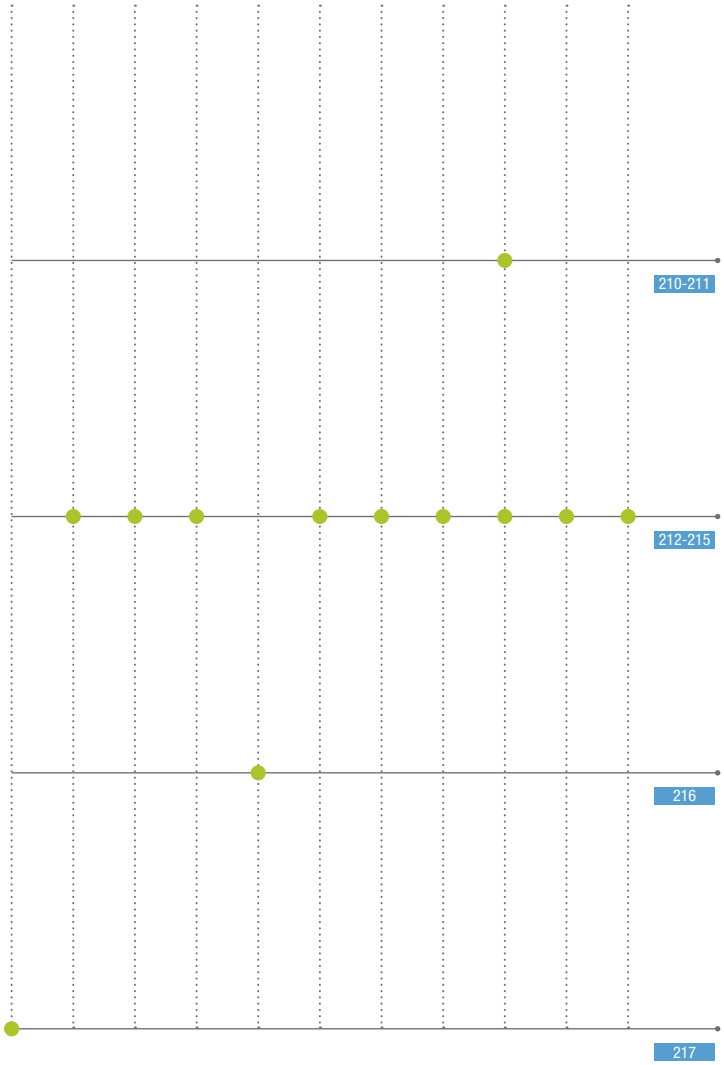
The structure of the paper cross-flow heat exchanger



Overview of Lossnay ventilation systems

- Lossnay ventilation systems
- Page reference

105 150 250 350 395 500 650 800 1000 1500 2500 Airflow m³/h



Floor mounted units
LGF hygienically tested

Ceiling concealed
ducted units
LGH RX5

Ceiling concealed
ducted units
LGH RSDC

Wall mounted unit VL

Heat and moisture recovery with the Lossnay heat exchanger

Every building requires fresh air in order to provide the persons inside of it with a healthy and comfortable environment. In most cases, however, the outside air is either too warm or too cold to be directly supplied to the building. Conditioning the outside air requires a lot of energy. Lossnay solves this problem by using an efficient heat recovery system. This way, the heating capacity and cooling capacity required for a building is reduced significantly.

Summer
Temperature difference between supply air and exhaust air: 1.7 °C

Supply air	LOSSNAY	Traditional ventilation system
Temperature (°C)	27.7	33
Humidity (%)	58	63
Recovered capacity (kW)	7.5	0

Outgoing air

Air conditioning unit

Exhaust air	
Temperature (°C)	26
Humidity (%)	50

Outside air	
Temperature (°C)	33
Humidity (%)	63

Winter
4 litres of water are recovered per hour.

Supply air	LOSSNAY	Traditional ventilation system
Temperature (°C)	16	0
Humidity (%)	46	50
Recovered capacity (kW)	8.2	0

Outgoing air

Air conditioning unit

Exhaust air	
Temperature (°C)	20
Humidity (%)	50

Outside air	
Temperature (°C)	0
Humidity (%)	50

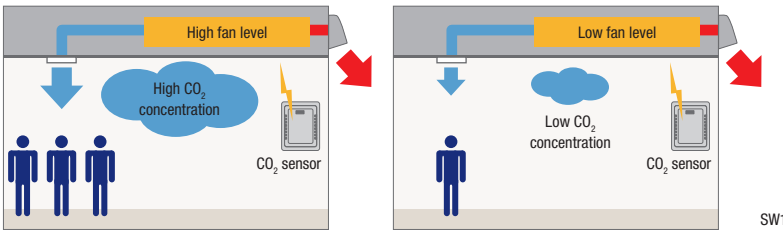
Compared to a traditional ventilation system, the Lossnay ventilation system does not only guarantee a supply of fresh air during summer, but also provides a temperature and humidity regulation that enables energy savings equal to 7.5 kW.

Due to the heat recovery function of the Lossnay heat exchanger, the energy of the exhaust air is recovered during winter so that only little additional heating capacity is required. This enables savings of 8.2 kW to be achieved.

Calculation method:
Supply air temperature °C = outside temperature °C – (outside temperature °C – room temperature °C) x heat recovery rate %

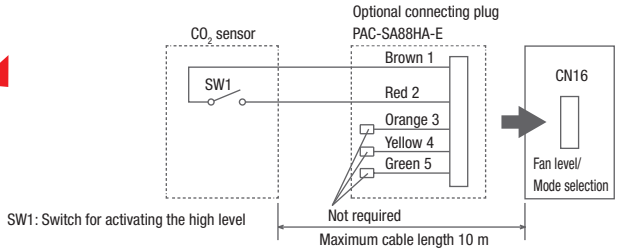
Calculation example for a LGH-100RX5 on a high fan level:
27.7 °C = 33 °C – (33 °C – 26 °C) x 76 %

CO_2 sensor



The Lossnay units of the LGH-RX5 and LGF-100GX series are fitted with a connection for a CO_2 sensor provided by the customer as standard.

The air volume can be adjusted via external contacts.
External activation of the high level:



If SW1 is closed, the Lossnay system switches to the high fan level and supplies the room with more fresh air. The CO_2 concentration is reduced.

Bypass free-cooling function and night time ventilation

Free-cooling function

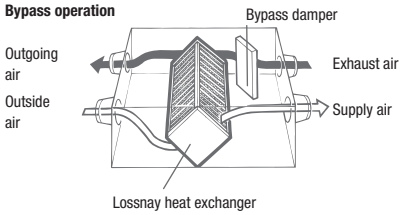
The bypass damper for the free-cooling function can be opened and closed by superordinate controls. This requires the optional PAC-SA88HA-E plug.
If the contact SW1 is closed, the Lossnay system switches to bypass operation regardless of the operating mode selected on the remote control.

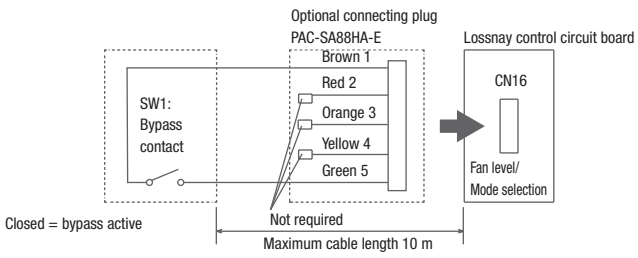
Automatic ventilation

The automatic function always ensures the optimum ventilation mode based on the condition of the room.

1. Reduced cooling load
If the outside temperature is below the room temperature, the building is supplied with cool outside air via the bypass function.
2. Night-time ventilation
With the bypass function, the warm air gathering within the building in the course of the day can be discharged during the night.
3. Cooling of office facilities
Fresh outside air can be used to cool offices that are being heated up by the equipment.

Bypass operation



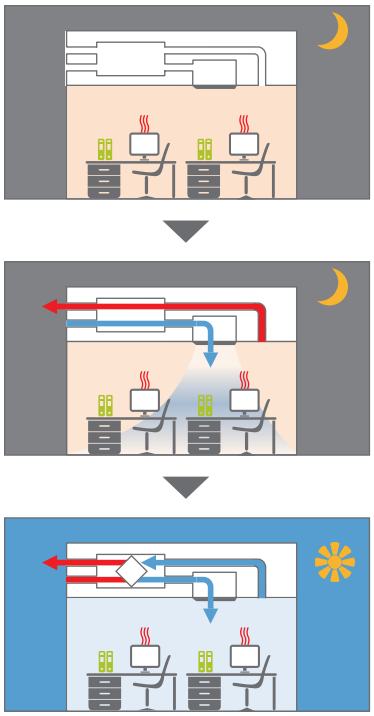


* At outside temperatures of below 8 °C, the Lossnay mode is automatically activated

Energy-saving night-time ventilation

In summer, the rooms can be supplied with cool outside air during the night. As a result, the energy consumption of the air conditioning units is considerably reduced.

Energy-saving night-time ventilation



** For further information, please refer to the technical documents.

LGF-100GX-E

Lossnay LGF-100GX
geprüft nach
VDI 6022*
*Bei Einhaltung der entsprechenden Rahmenbedingungen unter www.mitsubishi-les.de/Lossnay

Floor mounted unit in hygienic design
LGF-100GX-E

Advantages

- Humidifies or dehumidifies the fresh air led into the room
- Due to the heat exchange with the exhaust air, the supply air is either heated or cooled depending on the room conditions
- Unit housing in hygienic design, tested according to VDI6022. All components can easily be accessed and cleaned from the front.
- F7 filters are fitted as standard for return air and outside air.
- Free-cooling function can be controlled externally. Ideal for supplying the rooms with cool outside air during the night. This reduces the energy consumption of the air conditioning system even more.
- Connection for CO_2 sensor provided by the customer is available on the circuit board as standard. Via the CO_2 sensor, the quantity of fresh air can be adjusted to the requirements in the room.
- Can be connected directly to air conditioning units of the Mr. Slim series with A-control and to City Multi systems due to new control electronics

Floor mounted unit in hygienic design

Designation		LGF-100GX-E
Airflow (m^3/h)	Low	785
	High	995
	Extra high	995
Static pressure (Pa)	Low	119
	High	150
	Extra high	200
Sound pressure level dB(A)*	Low	44
	High	47
	Extra high	49
Efficiency (%)	Low	81
	High	80
	Extra high	80
Dimensions (mm)	Width	1760
	Depth	674
	Height	1055
Weight (kg)		164
Voltage supply (V, phase, Hz)		220–240, 1, 50
Duct size Ø (mm)		300

* Sound pressure level measured 1 m in front of the unit and at a height of 1 m

Accessories

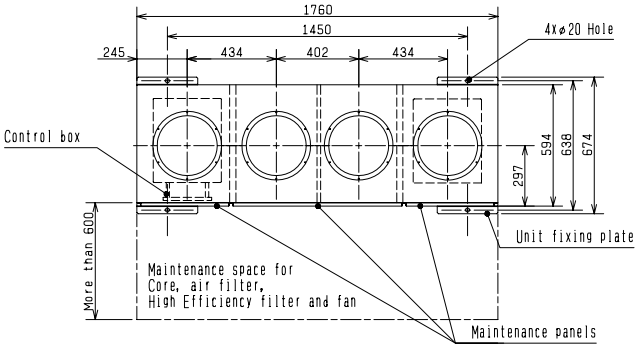
PZ-60DR-E

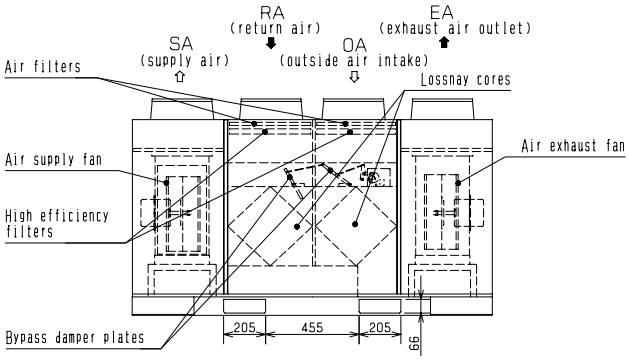
Designation of accessory art. no.	Designation of accessory	Quantity
PZ-60DR-E	Cable remote control for LGF-100GX-E	1

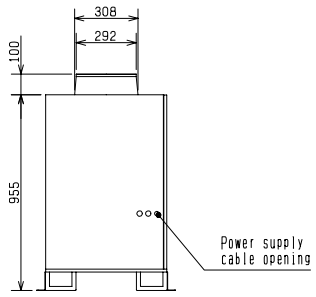
Dimension Drawings

Floor mounted unit in hygienic design

LGF-100GX-E







LGH-15-100RX5 / LGH-150-200RX5

Ceiling concealed ducted units
LGH series RX5

Advantages

- Connection for CO_2 sensor provided by the customer is available on the circuit board as standard. Via the CO_2 sensor, the quantity of fresh air can be adjusted to the requirements in the room.
- Thinnest paper strength of the heat exchanger, only 25 µm. Use of 98 % of the cooling/heating energy while exchanging fresh air
- Humidifies or dehumidifies the fresh air led into the room
- The supply and exhaust air channels are separated in order to prevent a mixing of used air and outside air
- Free-cooling function can be controlled externally. Ideal for supplying the rooms with cool outside air during the night. This reduces the energy consumption of the air conditioning system even more.
- Due to the heat exchange with the exhaust air, the supply air is either heated or cooled depending on the room conditions
- Minimum maintenance requirements
- Can be connected directly to air conditioning units of the Mr. Slim series with A-control and to City Multi systems due to new control electronics
- Optional special Lossnay remote control, see accessories

Air ceiling concealed ducted units

Designation		LGH-15RX5	LGH-25RX5	LGH-35RX5	LGH-50RX5	LGH-65RX5	LGH-80RX5	LGH-100RX5	LGH-150RX5	LGH-200RX5
Airflow (m^3/h)	Extra low	70	105	115	180	265	355	415	–	–
	Low	110	155	210	390	520	700	755	1300	1580
	High	150	250	350	500	650	800	1000	1500	2000
	Extra high	150	250	350	500	650	800	1000	1500	2000
Static pressure (Pa)*	Extra low	14	9	9	10	8	20	18	–	–
	Low	35	25	25	40	40	80	60	100	65
	High	65	60	75	65	60	120	110	135	90
	Extra high	100	85	160	155	110	150	170	175	150
Sound pressure level dB(A)**	Extra low	18	18	18	19	22	22	21	–	–
	Low	22,0	20	21,5	26,5	28,5	30	31	33,5	35,0
	High	24,0	25	28,5	30,5	32	32	34	36	37,0
	Extra high	26,0	26	32	33	34	33,5	36	38	39,5
Efficiency (%)	Extra low	85,5	83,5	88	86	86	87,5	87	–	–
	Low	84	81,5	85	81	80	80,5	83	81	83
	High	82	79	80	78	77	79	80	80	80
	Extra high	82	79	80	78	77	79	80	80	80
Dimensions (mm)	Width	782	782	921	1063	1001	1036	1263	1045	1272
	Depth	768	768	875	875	895	1010	1144	1144	1144
	Height	273	273	315	315	386	399	399	798	798
Weight (kg)		20	20	29	32	40	53	59	105	118
Voltage supply (V, phase, Hz)		220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50	220–240, 1, 50
Power consumption (W)	Extra low	30	36	58	80	120	125	175	–	–
	Low	53	56	105	175	248	315	350	630	715
	High	80	102	160	207	308	345	445	690	910
	Extra high	96	113	195	255	350	380	500	760	1035
Max. Operating current (A)		0,45	0,55	0,79	1,2	1,8	1,75	2,3	3,3	4,8
Duct size Ø (mm)		110	150	150	200	200	250	250	250/270	250/270

* At the stated airflows

** Sound pressure level measured centrically at a distance of 1.5 m below the unit

The data classified as low, high and extra high refer to the respective low, high and extra high fan level. In order to increase the static pressure, the extra high fan level can alternatively be activated with the DIP switch while the high level setting is activated

Accessories

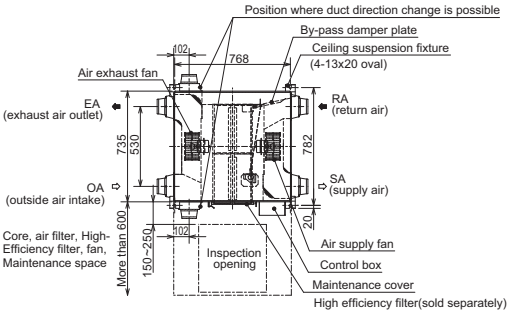
PZ-60DR-E

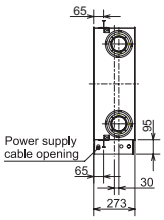
Designation of accessory art. no.	Designation of accessory	Quantity
PZ-60DR-E	Cable remote control for LGH-RX5	1
PZ-25RFM-E	Fine dust filter set (class EU-F7) for LGH-15/25RX5	2
PZ-35RFM-E	Fine dust filter set (class EU-F7) for LGH-35RX5	2
PZ-50RFM-E	Fine dust filter set (class EU-F7) for LGH-50RX5	2
PZ-65RFM-E	Fine dust filter set (class EU-F7) for LGH-65RX5	2
PZ-80RFM-E	Fine dust filter set (class EU-F7) for LGH-80/150RX5, 2 sets are required	2
PZ-100RFM-E	Fine dust filter set (class EU-F7) for LGH-100/200RX5, two sets are required	2

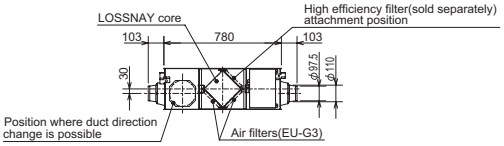
Dimension Drawings

Air ceiling concealed ducted units

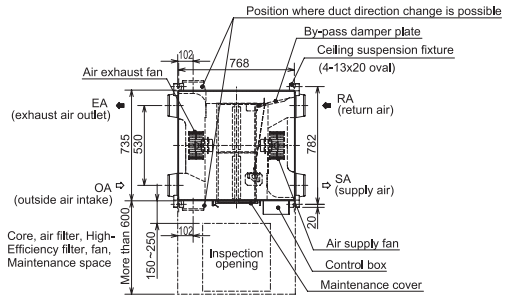
LGH-15RX5

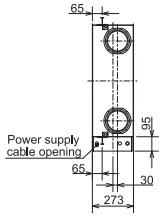


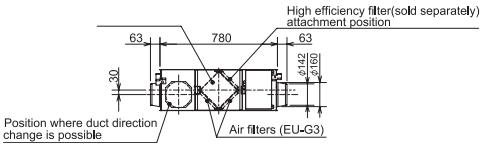




LGH-25RX5







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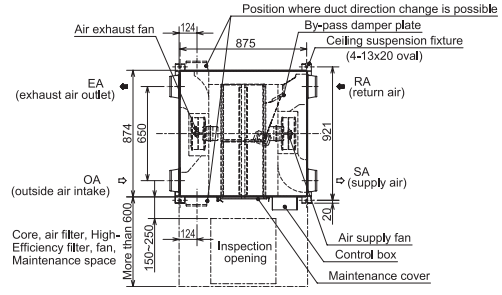
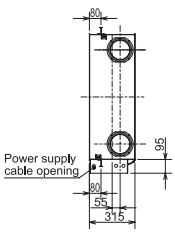
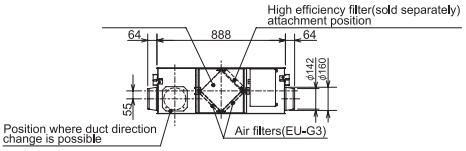
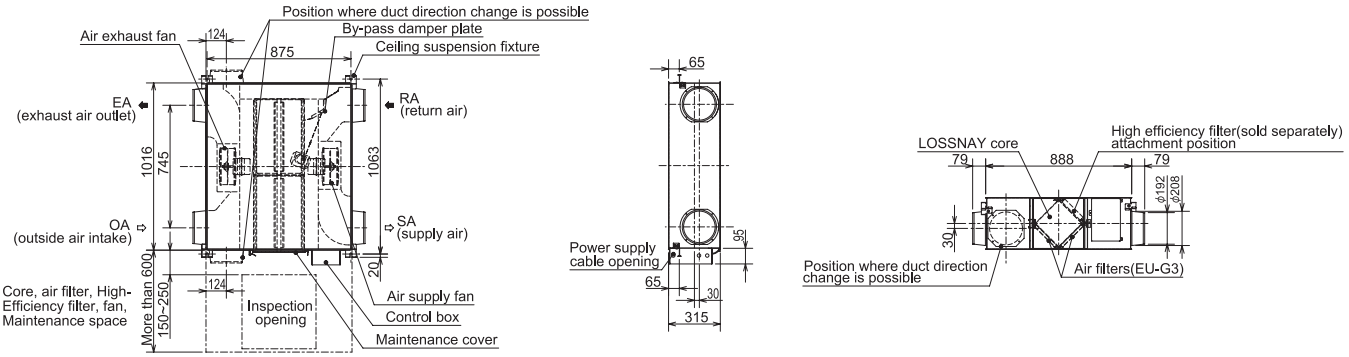






LGH-RX5

LGH50



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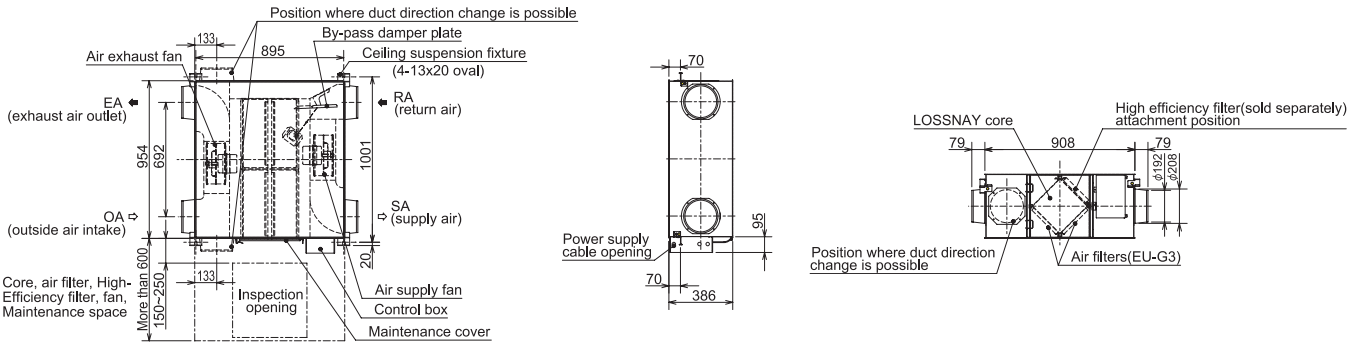

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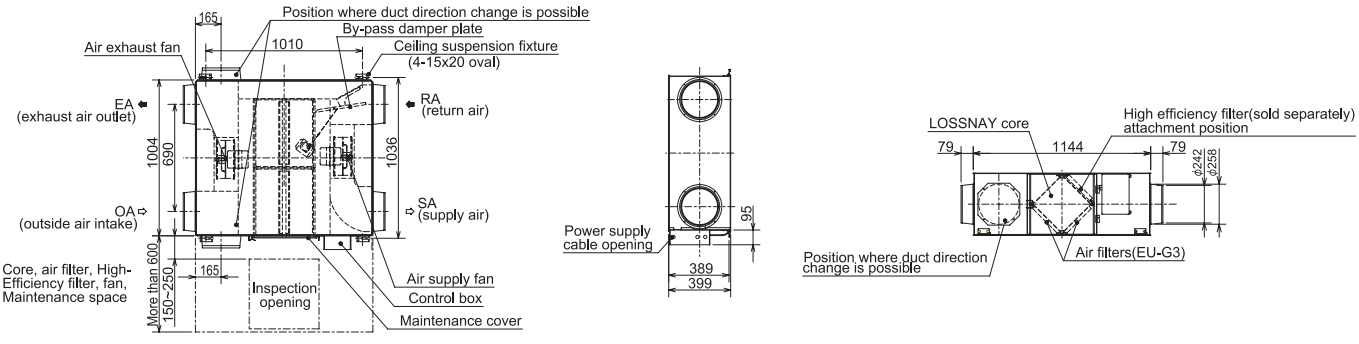

LGH-RX5

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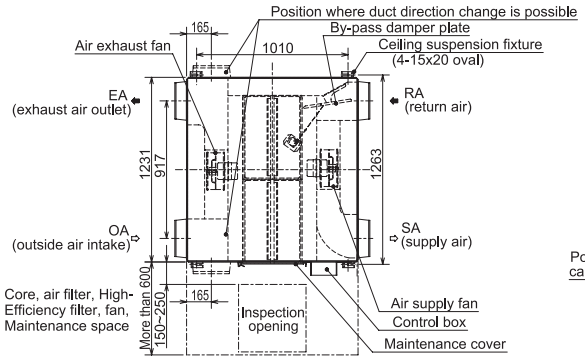

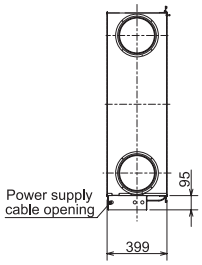

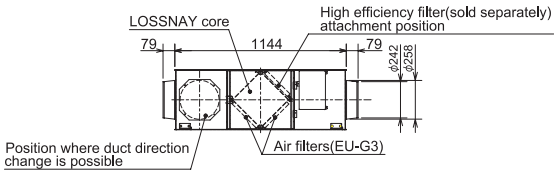

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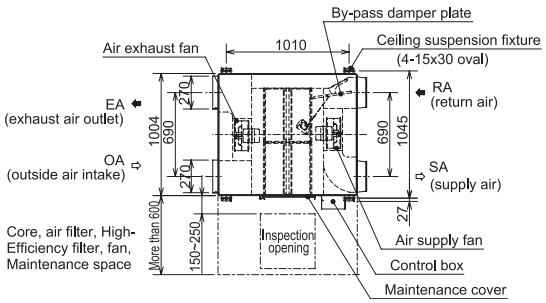

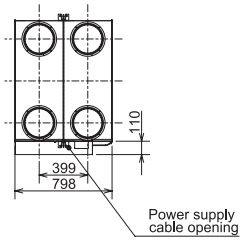

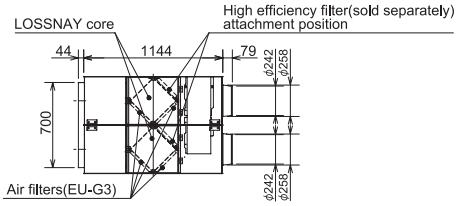

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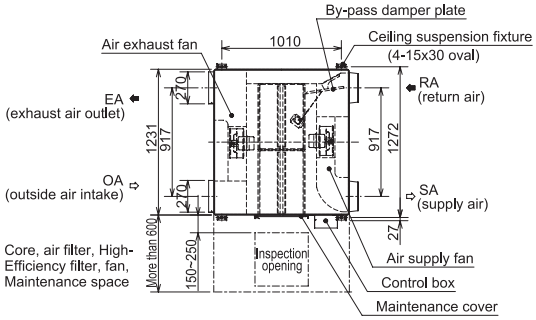
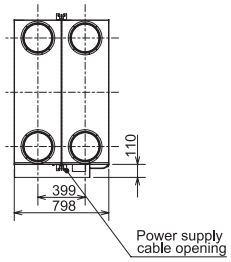
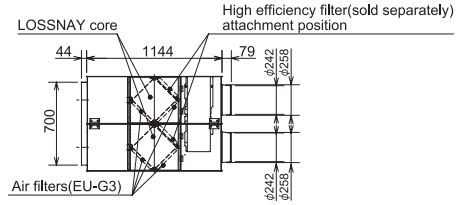






LGH-50RSDC-E

Ceiling concealed ducted unit

LGH-50RSDC-E with DC fan motor

Advantages

- Humidifies or dehumidifies the fresh air led into the room
- Due to the heat exchange with the exhaust air, the supply air is either heated or cooled depending on the room conditions
- Minimum maintenance requirements
- Fan motor as energy-saving brushless DC motor

Air ceiling concealed ducted unit

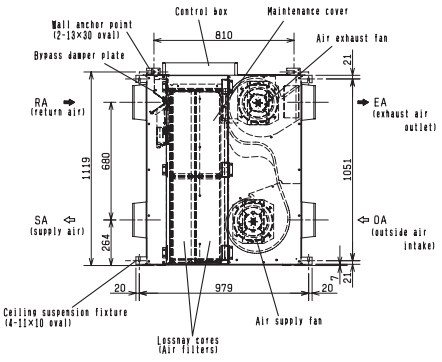
Designation		LGH-50RSDC-E
Airflow (m³/h)	Extra low	90
	Low	144
	Medium	215
	High	305
	Extra high	395
Static pressure (Pa)	Extra low	7
	Low	15
	Medium	30
	High	60
	Extra high	100
Sound pressure level dB(A)*	Extra low	18
	Low	18
	Medium	21
	High	26,5
	Extra high	31
Efficiency (%)	Extra low	84
	Low	82
	Medium	79
	High	75
	Extra high	71
Dimensions (mm)	Width	1119
	Depth	979
	Height	322
Weight (kg)		48
Voltage supply (V, phase, Hz)		220–240, 1, 50
Duct size Ø (mm)		200

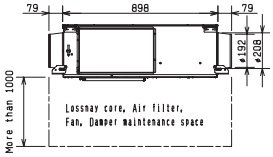
* Sound pressure level measured centrically at a distance of 1.5 m below the unit

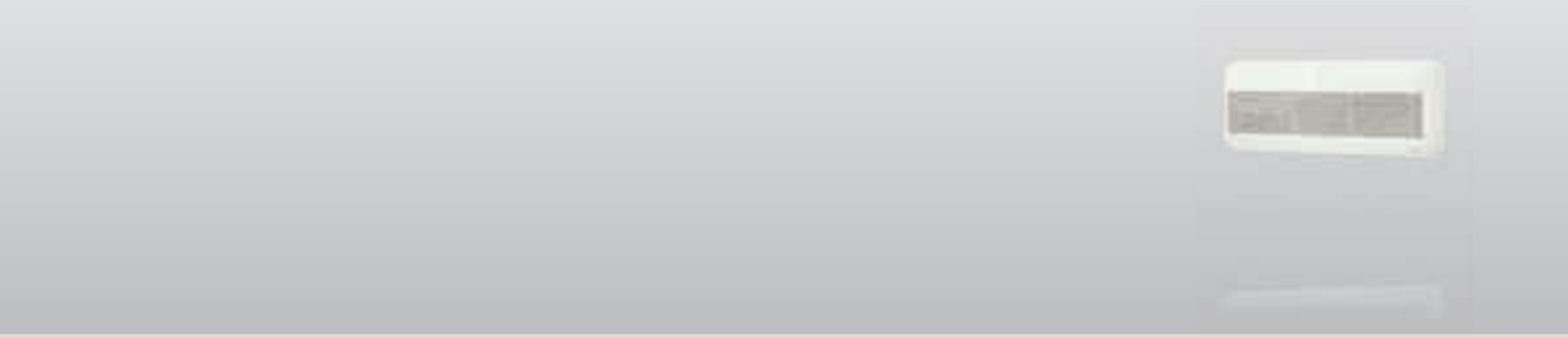
Dimension Drawings

Air ceiling concealed ducted unit

LGH-50RSDC-E







VL-100U-E

Wall mounted unit
Model VL-100U-E

Advantages

- To install the practical wall mounted unit, it is sufficient to drill two holes with a diameter of 75 mm
- The unit operates very quietly
- The ventilation can be set to two levels (high/low)
- The unit is turned on and off with a pull cord
- The equipment supplied includes supply and exhaust air pipes and flaps for protection from rainwater

Wall mounted unit

Device designation		VL-100U-E
Airflow (m³/h)	Low	65
	High	105
Sound pressure level dB(A)*	Low	29,5
	High	39,0
Efficiency (%)	Low	77
	High	70
Dimensions (mm)	Width	620
	Depth	168
	Height	265
Weight (kg)		6,5
Voltage supply (V, phase, Hz)		220–240, 1, 50
Power consumption (W)	Low	23
	High	26
Duct size Ø (mm)		2x75

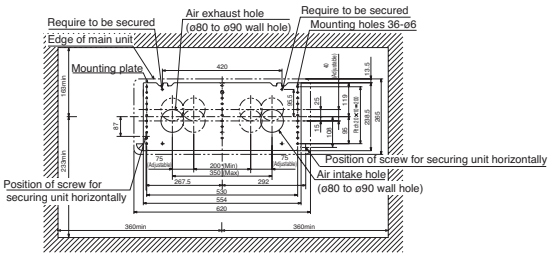
The data classified as low and high refer to the low and high fan level

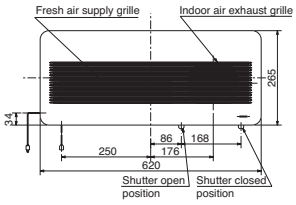
* Sound pressure level measured 1 m in front of and 0.8 m below the unit

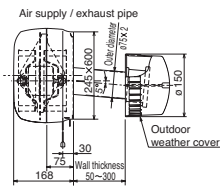
Dimension Drawings

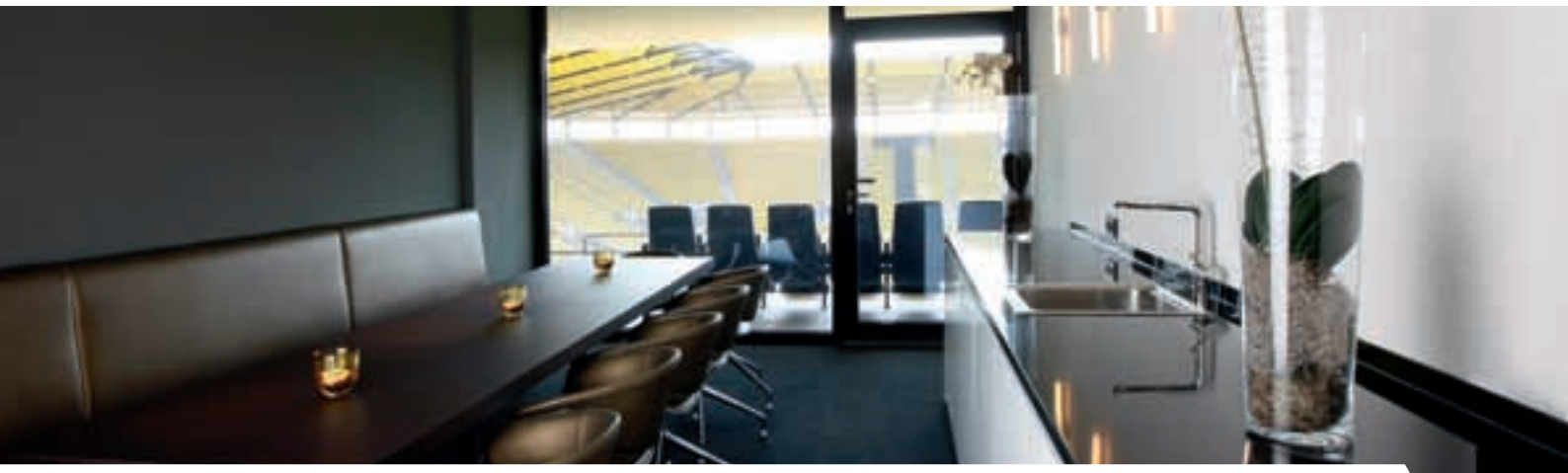
Wall mounted unit

VL-100U-E









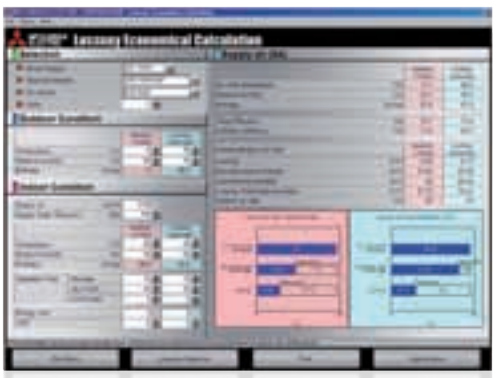
General conditions and design software

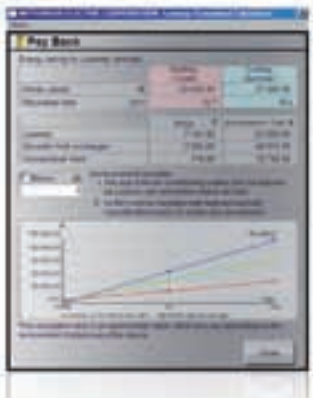
Operating conditions of the Lossnay ventilation systems

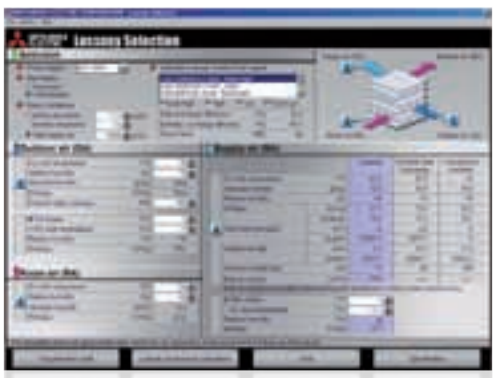
VL series	dry:	-10–40 °C
	wet:	60 % maximum
LGH/LGF series	dry:	-15–40 °C
	wet:	80 % maximum

Design and calculation software

A detailed design and calculation software is available for the ventilation systems of the Lossnay series.
The software can be used to design units as well as to determine efficiency and energy savings compared to traditional solutions.







About us

Comfort climate with a global brand
Mitsubishi Electric creates an atmosphere of well-being wherever people live and work. End consumers and people in trade and commerce know that this is achieved based on the highest technical standards: The air conditioning, ventilation and heat pump systems by Mitsubishi Electric are known throughout the world and have enjoyed an excellent reputation for decades.

Mitsubishi Electric stands for both experience and innovation: For more than 90 years, our company has been continuously setting new standards in HVAC technologies and has established itself as one of the leading manufacturers thanks to a comprehensive product range.

Future-oriented air conditioning technology
Mitsubishi Electric air conditioning systems cool, heat and filter the air of rooms in millions of buildings in both the residential and commercial sectors. Cutting-edge inverter technology and the use of the ozone neutral refrigerant R410A ensure the highest levels of energy efficiency and optimum air-conditioned comfort. Thanks to the great flexibility of the system, tailored solutions can be easily implemented, e.g. by means of long pipelines, easy-to-install indoor units and intelligent control systems.

Heating naturally with heat pumps
The scarcity of fossil fuels and the associated increases in oil and gas prices require alternative heating technologies based on renewable resources. With its unique Zubadan technology, Mitsubishi Electric offers tomorrow‘s heating systems today. Its highly efficient air-to-water heat pumps are, at the same time, a safe, advanced, and eco-friendly heating solution.

First-class services
We are dedicated to top class products. However, we do not consider this to be enough. We also want to provide first-class services because our aim is your and our joint success. This is why partners and customers of Mitsubishi Electric can benefit from an extensive range of services which we are constantly expanding. This includes:
- comprehensive planning and service manuals,
- tendering documents in diverse file formats,
- useful design software,
- practice-oriented training programmes,
- technical support on site,
- advertising support guaranteeing high sales and much more.

This way, Mitsubishi Electric provides for successful cooperation and a „good work climate“.

Active environmental protection: our 2021 environmental vision
Climate protection is an important global issue, which will play an active role in shaping our future.

Mitsubishi Electric has a long history of reducing CO_2 emissions using advanced technology and highly energy-efficient products. This tradition is set to continue into the future as a result of the company‘s Environmental Initiative 2021. As part of this initiative, we undertake to protect the climate on a long-term basis, with the aim of achieving a 30 % reduction in CO_2 emissions worldwide by 2021 by preserving our natural resources in production processes and product use, and through recycling. But that, of course, is not all because we shall also continue to devote ourselves to the development of further innovative products – for the sake of the environment.

Functions

Zubadan inverter

Power inverter

Standard inverter

Energy-saving inverter technology

Easy replacement of old R22 or
R407C systems with Replace Technology

ErP eco design

FGK seal of quality

Fresh air connection

Winter control down to -15 °C

Winter control down to -10 °C

Heat pump operation

Refrigerant volume check function

Restart after power failure

Pre-charged with R410A

Redundancy function

Drain pump

Multi split

Quick Clean Body

On/off timer

Weekly timer

Econo Cool

Protection against cooling down

I SAVE Silent I FEEL

Horizontal swing

Automatic fan control

Vertical swing

Wide & Long

Plasma Duo filter

Catechin filter

Anti-allergy enzyme filter

Nano platinum filter

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