Technibel

UNE AVANCE DANS L'AIR DU TEMPS

HYDRONIC SYSTEMS

Catalogue 2013

THE COMPANY

Originally founded in 1958 near Lyon, France, in 1992 TECHNIBEL joined the Argoclima group (based near Milan), a leader in the air-conditioning, heating and air treatment industry.

RENEWABLE ENERGIES

Research and Development

The Research Centre and Laboratories in France and Italy work in close partnership, using the most advanced technology to design new and environmentally-friendly products for personal comfort.

Sustainable Development

Our aim is to offer an increasing amount of products and systems which help to reduce energy consumption (fossil fuels and electricity) and greenhouse gas emissions. This is the case for appliances using R410A or R407C, with DC Inverter technology, and for air/water pumps with very high coefficients of performance.
Together we contribute to the achievement of national targets.

NF Pompe à chaleur
AFNOR CERTIFICATION : NF 414

Certified characteristics:
- Heating capacity
- Coefficient of performance (COP)
- Declared sound power level

NF Label

Means that the technical features of the products conform to NF-PAC requirements, and that the entire quality system implemented during their manufacture has been assessed and verified on the basis of these requirements (www.certita.org).
This provides the end user with a guarantee of quality and performance.

Check in the catalogue which model is conform to NF-PAC

Production

The products made by our group are manufactured in Italy, France.

The facilities at Gallarate (Italy) and Reyrieux (France) cover a total area of 82,000 m², 50,000 m² of which is under cover. Manufacturing can be transferred between the two sites in order to fully satisfy our customers and to minimise delivery times. Each product is subjected to stringent checks and testing, carried out using sophisticated equipment under the supervision of the Product Quality department.

Quality

In July 2010, TECHNIBEL obtained certification renewal in accordance with the standard EN ISO 9001: 2008. Meeting the requirements of our customers and performing to our usual high standards are the two main objectives of our company.

TÜV SÜD

CSQ

(Production at Gallarate)

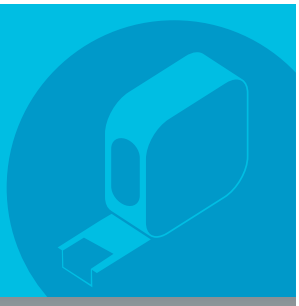
The certifications are available on request.

CONTENTS

Hydronic Systems

Residential solutions with air/water heat pumps

Guide to selection



ON/OFF SYSTEMS

Heating	Domestic Hot Water	Boiler	Heating and Cooling	Max. T° of water generated	Applications	Single-unit heat pump ON/OFF	Electric heating module
EXISTING INSTALLATIONS							
					▾ Boiler integration		
•	(1)	•		65°C	1 radiator zone	PHTJ	-
•	(1)	•		65°C	1 underfloor heating zone	PHTJ	-
•	(1)	•		65°C	2 mixed zones: underfloor heating + radiators	PHTJ	-
•	(1)	•		60°C	1 radiator zone	PHT	-
•	(1)	•		60°C	1 underfloor heating zone	PHT	-
•	(1)	•		60°C	2 mixed zones: underfloor heating + radiators	PHT	-
•	(1)	•		55°C	1 radiator zone	PHRT	-
•	(1)	•	•	55°C	1 underfloor heating/cooling zone	PHRT	-
•	(1)	•	•	55°C	2 mixed zones: underfloor heating/cooling + radiators	PHRT	-
•	(1)	•	•	55°C	2 underfloor heating/cooling zones	PHRT	-
					▾ Boiler replacement		
•	•			65°C		PHTJ	MCE 8/10/12
•	•			60°C		PHT	MCE 8/10
NEW INSTALLATIONS							
					▾ 1 radiator zone		
•	•			65°C		PHTJ	MCE 8/10/12
•	•			60°C		PHT	MCE 8/10
•	•			55°C		PHRT	MCE 8/10
					▾ 1 underfloor heating/cooling zone		
•			•	40°C		PHR	MCE 8/10
					▾ 2 underfloor heating/cooling zones		
•			•	40°C		PHR	MCE 8/10/12
					▾ Mixed: underfloor heating/cooling + terminal units		
•			•	55°C		PHRT	MCE 8/10
					▾ Mixed: underfloor heating + low temperature radiators		
•				55°C		PHRT	MCED 8/10
					▾ 1 terminal unit zone		
•			•	55°C		PHRT	MCE 8/10

(1) From boiler

INVERTER systems

Heating	Domestic hot water	Boiler	Heating and Cooling	Max. T° of water generated	Applications	AQUASET-S split inverter heat pump	AQUASET single-unit inverter heat pump	Integrated electric heating
EXISTING INSTALLATIONS								
					▾ Boiler integration			
•	(1)	•		55°C	1 radiator zone		PHIE / PHRIE	
•	(1)	•		55°C	1 underfloor heating zone		PHIE / PHRIE	
•	(1)	•	•	55°C	1 underfloor heating/cooling zone		PHRIE	
NEUF								
					▾ 1 radiator zone			
•	•			55°C		iSeries™	PHIE / PHRIE	•
•	•			50°C		AQUASET-S 6 AQUASET-S 11/14/16/21/24 (GRFP+HKE)		•
					▾ 1 underfloor heating zone			
•				55°C		iSeries™	PHIE / PHRIE	•
•				50°C		iSeries™ / PSHRIA		•
					▾ 1 underfloor heating/cooling zone			
•			•	55°C		iSeries™	PHRIE	•
•			•	50°C		iSeries™ / PSHRIA		•
					▾ 2 underfloor heating zones			
•				55°C		iSeries™	PHIE / PHRIE	•
•				50°C		iSeries™ / PSHRIA		•
					▾ 2 underfloor heating/cooling zones			
•			•	55°C		iSeries™	PHRIE 9/12/15/ 17/19/25/30	•
•			•	50°C		iSeries™ / PSHRIA		•
					▾ Mixed: underfloor heating/cooling + terminal units			
•			•	55°C		iSeries™	PHRIE	•
•			•	50°C		iSeries™ / PSHRIA		•
					▾ Mixed: underfloor heating/cooling + low temperature radiators			
•				55°C		iSeries™	PHIE / PHRIE	•
•				50°C		iSeries™ / PSHRIA		•
					▾ 1 terminal unit zone			
•			•	55°C		iSeries™	PHRIE	•
•			•	50°C		iSeries™ / PSHRIA		•

(1) From boiler

New products

Air/Water Heat Pumps
Split INVERTER
Heating (or reversible)

AQUASET-S range

AQUASET-S - PSHRI-iSERIES

Aquaset S

DC INVERTER
iSERIES

GR9Fi 50 R5 GR9Fi 65 R5

HK

GR9Fi 80 R5 GR9Fi 110 R5

Applications

Refer to the circuit diagrams

- **Floor or radiators**
- **2 zones**
- **Terminal units**

A TECHNIBEL exclusive :

With a single outdoors unit you can hook up to the HK hydronic unit for air/water applications, and at the same time, to an air/air indoors unit.

Example : underfloor heating/cooling in one zone and direct expansion indoors unit in a second zone.

Benefits

- Split models with cooling connections
- Models 5 - 13 kW in heating
- Defrost without downtime
- High low temperature performance
- Exceptional power variation, 10 to 130%
- Long cooling circuit connections
- Very low running noise
- Integration with 2-stage heating element
- Complete hydronic unit included in indoors unit

Complete range of accessories

MODELS	AQUASET-S 6	9	11	13
Inside Unit	HKBER57I		HKCER57I	HKDER57I
Outside Unit	GR9FI50R5I	GR9FI65R5I	GR9FI80R5I	GR9FI110R5I
▼ Heating capacity	(conditions NF PAC)			
Heating +7°C/35°C floor (kW) (Min /Nom / Max)	0,95 / 5,24 / 5,92	1,82 /8,22 / 9,33	1,70 / 9,70 / 10,80	1,90 / 11,77 / 13,22
COP +7°C/+35°C floor	4,22	4,14	4,06	(*)
Heating -7°C/35°C floor (kW) (Nom / Max)	3,80 / 3,95	5,21 / 5,41	5,89 / 6,20	7,06 / 7,43
COP -7°C/+35°C floor Nominal	2,37	2,80	2,59	(*)
Heating +7°C/45°C LT radiators Nom/Max (kW)	4,93 / 5,50	7,29 / 7,60	8,01 / 9,10	9,50 / 10,82
COP +7°C/+45°C LT radiators Nominal	3,31	3,25	3,36	(*)
Heating -7°C/45°C LT radiators (kW) Nom/Max	3,21 / 3,38	4,72 / 4,95	5,70 / 6,10	6,76 / 7,26
COP -7°C/+45°C LT radiators Nominal	1,83	2,20	2,35	(*)
OUTDOOR UNIT				
▼ Cooling specifications				
Distance min / max UI/ UE (m)	3 / 20	3 / 35	3 / 50	(**)
R410A refrigerant charge (kg)	1,3	2,7	3	(**)
Additional gas per metre (gr)	15	15	15	(**)
Number of fittings	2	3	4	4
External gas-fluid fittings	3/8" - 1/4"	1/2" - 1/4"	1/2" - 1/4"	1/2" - 1/4"
HK gas-fluid fittings	1/2" - 1/4"			
▼ Electrical specifications and connections				
Power 50 Hz with GND	230 V			
Startup current (A)	3	3	3	(**)
Maximum draw (A)	7,8	12	15	(**)
Thermal cutout rating (A)	10	16	20	(**)
Shielded cable (mm^2)	Shielded 3 x 0.5	Shielded 3 x 0.5	Shielded 3 x 0.5	Shielded 3 x 0.5
Single/three-phase cable (1) (mm^2)	3G1.5	3G2.5	3G2.5	(**)
▼ Physical specifications				
Dimensions - H x L x D (mm)	630 x 895 x 345	735 x 1 030 x 400	835 x 1 190 x 400	1 070 x 1 190 x 400
Net weight (kg)	39	64	73	90
INDOOR UNIT				
▼ Electrical specifications and connections (1)				
2 stage supplementary heating element (kW)	4 or 6			(**)
Power 50 Hz with GND	230 V			(**)
Maximum draw (A)	27			(**)
Thermal cutout rating (A)	32			(**)
Power cord (1)	3G6			(**)
▼ Circuit specifications and connections				
Expansion tank capacity (l)	6			(**)
Nominal head (+7°C/35°C) (m^3/h)	0.92	1.42	1.64	(**)
Pressure available at nominal head (kPa)	68	62	60	(**)
Circuit connections	3/4" M	3/4" M	3/4" M	(**)
▼ Physical specifications				
Dimensions - H x L x D mm	826 x 527 x 284			(**)
Net weight kg	41			(**)
▼ Running noise				
Sound power - EN12102 (dB(A)) (UE/UI)	58 / 42	64 / 42	67 / 42	(**)
Sound pressure (dB(A)) (2) (UE/UI)	30 / 38	36 / 38	39 / 38	(**)
▼ Operating range				
Operating range in heating	-20°C/+35°C			
Water temperature range (heating)	+25°C/+50°C	+25°C/+55°C		

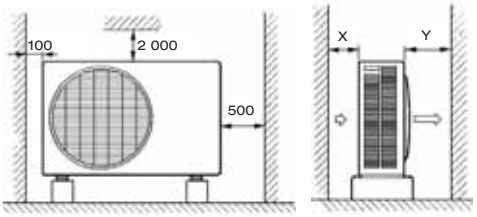
Filter included in heat pump for assembly at time of installation

(1) Indicative data, must be checked in relation to the installation conditions and legal requirements

(2) Sound pressure: appliance installed outdoors (free sound field), on a reflective surface, at a distance of 10m.

Installation clearances

(Refer to the installation manual for full information)



Lengths mm

	X	Y
Aquaset-S 6	100	500

Air/Water Heat Pumps
Split INVERTER
Medium temperature

AQUASET-S range

AQUASET-S - PSHRIA

Aquaset S

DC INVERTER

Applications

Refer to the circuit diagrams on pages 30 to 34

- **Heating and Cooling**
- **New installation and restructuring**
- **Max. temperature of hot water generated in Heating mode: 50°C**
- **COP of 4**
- **Power varies from 32 to 130% of the nominal power**
- **Integrated electric module**
- **Heating mode operation from -20°C to +35°C**
- **Cooling mode operation from +10°C to +43°C**

- **Refrigerant: R 410 A**
- **The best COP values on the market**
- **Compact appliances: 1390 x 340 x 1380 mm**
- **Quality components:**
  Twin rotary DC Inverter compressor with sound insulation - High-efficiency heat exchanger with fins for R 410 A - Helicoidal fan motor - Plate heat exchanger in AISI 316 stainless steel with heat insulation, ...
- **Hydronic module**
  3-speed circulation pump - Expansion tank - Safety valve - Air vent - Manometer - Hydraulic filter
- **Control system functions: There are 2 parts:**
- **Monitoring/control assembly, with INVERTER technology, for the thermodynamic circuit which can be used:**
  - to activate the compressor at various speeds,
  - to activate the fan at various speeds,
  - to activate the electronic regulator and the cycle inversion valve.
- **System monitoring/control assembly. Integrated into the heat pump, can be used:**
  - to activate thermodynamic heating with permanent monitoring of the power requirements of the system,
  - toactivate the integrated electric heating module,
  - to activate the heat pump circulation pump (with anti-freeze and anti-seize functions),
  - to manage system alarms through event logging.
- **Integrated electric module:**
  - 4 or 6 kW (1st step of 2 or 4 kW ; 2nd step of 2 kW)
  - heat protection and water pressure switch
- **Other advantages:**
  - Easy access to components
  - Dividing panel between the fan and the machinery compartment
  - Control panel can be removed for a wider opening
  - Stringent manufacturing inspections: helium waterproofing test, electric and dielectric test, hydraulic test, etc...

- Regulation of INVERTER technology with electronic regulator
- water flow rate sensor
- proportional "four seasons" regulation
- low pressure switch
- high pressure switch
- water filter (to be connected)
- Hydraulic equipment
- electric module
- system control box and outdoor temperature sensor

HEATIING SYSTEM WITH 1 LOW TEMPERATURE RADIATOR ZONE WITH OR WITHOUT DOMESTIC HOT WATER GENERATION
UNDERFLOOR HEATING/COOLING SYSTEM (1 ZONE OR 2 ZONES)
MIXED UNDERFLOOR HEATING/COOLING AND TERMINAL UNIT SYSTEM
MIXED UNDERFLOOR HEATING AND LOW TEMPERATURE RADIATOR SYSTEM
SYSTEM WITH TERMINAL UNITS

		369 R5/7	489 R5/7	609 R5/7	709 R7	909 R7
	Indoor Units 230/1/50 (-400/3N/50)	HKE369R57I	HKE489R57I	HKE609R57I	HKE709R7I	HKE909R7I
	Outdoor Units 230/1/50	GRFP369R5I	GRFP489R5I	GRFP609R5I	-	-
	Outdoor Units 400/3N/50	-	-	GRFP609R7I	GRFP709R7I	GRFP909R7I
		Mono	Mono	Mono/Tri		
	Conditions: temperature of water at inlet/outlet 30/35°C and temperature of air at inlet 7/6°C (DB/WB); net values; NF PAC; ref. Tax credit					
	Nominal min./max. heating capacity (kW)	10,3 (4,2-13,6)	13,5 (4,2-14,8)	15,3 (4,2-17,4)	20,1 (5,9-21,6)	23,1 (8,2-27)
	Nominal power consumption (kW)	2,635 / 2,60	3,43 / 3,43	3,98 / 3,92	5,15	5,89
	COP	3,91 / 3,97	3,94 / 3,94	3,84 / 3,90	3,90	3,92
	Nominal water flow rate (m3/h)	1,8	2,3	2,65	3,41	4,07
	Available head for pump (kPa)	45	42	40	59	56
HEATING	Conditions: temperature of water at inlet/outlet */35°C and temperature of air at inlet -7/-8°C (DB/WB); net values; NF PAC					
HEATING	Nominal min./max. heating capacity (kW)	5,78 / **7,58**	7,7 / 7,9 / **9,34**	8,7 / **10,44**	11,9 / **13**	12,4 / **14**
HEATING	Nominal power consumption (kW)	2,51 / 2,48	3,21 / 3,18	3,78 / 3,73	4,96	5,17
HEATING	COP	2,3 / 2,33	2,4 / 2,48	2,3 / 2,33	2,4	2,4
HEATING	Conditions: temperature of water at inlet/outlet 40/45°C and temperature of air at inlet 7/6°C (DB/WB); net values; NF PAC					
HEATING	Nominal min./max. heating capacity (kW)	**9,5**	**12,9**	**14,2**	**19,4**	**22**
HEATING	Nominal power consumption (kW)	3,17 / 3,12	4,17 / 4,11	4,7 / 4,64	6,14	6,98
HEATING	COP	3 / 3,04	3,09 / 3,14	3,02 / 3,06	3,16	3,15
HEATING	Nominal water flow rate (m3/h)	1,65	2,17	2,46	3,38	3,83
HEATING	Available head for pump (kPa))	47	43	41	60	60
HEATING	Conditions: temperature of water at inlet/outlet */45°C and temperature of air at inlet -7/-8°C (DB/WB); net values; NF PAC					
HEATING	Nominal min./max. heating capacity (kW)	5,1 / **6,98**	7,2 / **7,97**	8,1 / **9,15**	10,9 / **12,4**	13,2 / **13,7**
HEATING	Nominal power consumption (kW)	2,83 / 2,79	3,69 / 3,64	4,38 / 4,31	5,65	6,6
HEATING	COP	1,8 / 1,83	1,95 / 1,98	1,85 / 1,88	1,93	2
COOLING	Conditions: temperature of water at inlet/outlet 23/18°C and temperature of air at inlet 35°C (DB); gross values; Eurovent					
COOLING	Nominal cooling capacity (kW) / EER	**9,4** / 3,70	**13,4** / 3,69	**15,6** / 3,39	**18,75** / 3,50	**24,7** / 3,60
COOLING	Nominal power consumption (kW)	2,54	3,63	4,6	5,36	6,86
COOLING	Nominal water flow rate (m3/h)	1,72	2,30	2,7	3,21	4,21
COOLING	Available head for pump (kPa)	46	42	40	63	53
COOLING	Conditions: temperature of water at inlet/outlet 12/7°C and temperature of air at inlet 35°C (DB/WB); gross values; Eurovent					
COOLING	Nominal cooling capacity (kW) / EER	**6,7** / 2,65	**9,7** / 2,84	**10,6** / 2,51	**12,9** / 2,63	**16,8** / 2,63
COOLING	Nominal power consumption (kW)	2,525	3,42	4,23	4,9	6,39
COOLING	Nominal water flow rate (m3/h)	1,15	1,67	1,83	2,22	2,9
COOLING	Available head for pump (kPa)	50	47	45	84	77
	Complementary Electric Heating (kW)	4 o 6	4 o 6	6 / 6 o 9	8 o 12	8 o 12
	Refrigerant Type	R 410 A	R 410 A	R 410 A	R 410 A	R 410 A
	No. of refrigerant circuits / No. of compressors	1/1	1/1	1/1	1/1	1/1
	Start-up intensity (A)	3	3	3	3	3
	Expansion tank capacity (l)	6	6	6	8	8
	Ø of male hydraulic connection	1''	1''	1''	1''1/4	1''1/4
	Refrigerant charge (kg)	3,6 / 3,4	3,6 / 3,4	3,6 / 3,4	5,3	6,5
	Gas connection diameter			**3/8''-5/8''**		
	Min.pipes lenght		**3 meters**		**5 meters**	
	Max pipes lenght			**10 meters (30 with additional charge)**		
	Sound power level (dBA)	70 / 46	72 / 46	73 / 46	71 / 48	71 / 48
	Sound pressure level* (dBA)	42 / 42	44 / 42	45 / 42	43 / 44	43 / 44
	Volume min./max. system water (l)	50/200	65/200	75/200	110/270	110/270
	Weight O.U./I.U. (kg)	90 / 42	95 / 43	95 / 44	118 / 57	128 / 60
	Dimensions I.U. H x L x P (mm)	826 x 527 x 284	826 x 527 x 284	826 x 527 x 284	926 x 587 x 360	926 x 587 x 360
	Dimensions O.U. H x L x P (mm)	1330 x 940 x 410	1330 x 940 x 410	1330 x 940 x 410	1526 x 940 x 340	1526 x 940 x 340

* Sound pressure: this level corresponds to that of a unit installed outdoors (free sound field), on a reflective surface, with the measurement taken at a distance of 10 m.

OPERATING LIMITS

HEATING	T Outdoor Air	- 20°C(WB) / + 35°C (WB)	COOLING	T Outdoor Air	+10°C (DB) / + 43°C (DB)
	T Max. water outlet	+ 50°C		T Max. water outlet	+ 20°C
	T Min. water outlet	+ 25°C		T Min. water outlet	+ 5°C

Air/Water Heat Pumps
Single-unit INVERTER
Heating (or reversible)

AQUASET range

AQUASET-PHIE/PHRIE

Aquaset DC INVERTER

AQUASET 6 e 9

AQUASET 11 e 14

AQUASET 16

AQUASET 20 e 24

Applications

Refer to the circuit diagrams on pages 30 to 34

- **Floor or radiators**
- **Heating with boiler integration**
- **2 zones**
- **Terminal units**

Air/Water Heat Pumps
Single-unit INVERTER
Heating (or reversible)

AQUASET range

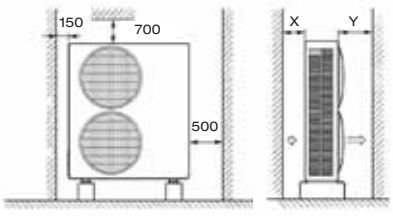
Benefits

- AQUASET models 6 - 11 heating only (cooling option)
- The largest inverter range on the market
- The highest COP on the market
- Exceptional power modulation, 30 to 140 %
- Advanced Digital Hybrid (ADH) inverter
- High performance at low temperatures:
  55°C to -10°C outdoors temperature
- Class A water circulation pump
- Very low running noise, with super quiet mode
- 2 stage power heating elements included
- Full water circuit equipment

Complete range of accessories

Installation clearances

(Refer to the installation manual for full information)



Distances in mm

	X	Y
Aquaset 6 e 9	200	1 000
Aquaset 11 e 14	250	1 000
Aquaset 16	250	1 000
Aquaset 20 e 24	300	1 000

Air/Water Heat Pumps
Single-unit INVERTER
Heating (or reversible)

AQUASET range

	AQUASET				
MODELS	**6**	**9**	**11**	**11 TRI**	**14**
Model codes, heating only	PHIE095F	PHIE125F	PHIE155F	-	-
Reversible model codes	PHRIE095F	PHRIE125F	PHRIE155F	PHRIE157F	PHRIE175F
▼ Heating capacity	(conditions NF PAC)				
Heating +7°C/35°C floor Min/Nom/Max (kW)	1,65 / 5,30 / 9,0	1,89 / 8,21 / 10,6	4,77 / 10,50 / 17,0	4,77 / 10,45 / 16,95	5,30 / 13,6 / 18,0
COP +7°C/+35°C floor Nominal	5	4,61	5	4,86	4,67
Heating -7°C/35°C floor Nom/Max (kW)	3,31 / 5,57	5,14 / 6,36	6,50 / 10,6	6,45 / 10,55	8,1 / 11,10
COP -7°C/+35°C floor Nominal	2,83	3,06	2,81	2,73	2,7
Heating +7°C/45°C LT radiators Nom/Max (kW)	4,90 / 8,5	7,70 / 9,95	9,8 / 13,85	9,75 / 13,8	12,45 / 14,65
COP +7°C/+45°C LT radiators Nominal	3,68	3,58	3,86	3,76	3,47
Heating -7°C/45°C LT radiators Max (kW)	5,25	6,16	9,00	8,95	9,30
COP -7°C/+45°C LT radiators Nominal	2,31	2,37	2,25	2,21	2,22
Heating +7°C/55°C radiators Nom/Max (kW)	5,80 / 6,68	7,19 / 7,90	9,35 / 11,30	9,30 / 11,25	12,18 / 12,18
COP +7°C/+55°C radiators Nominal	2,71	2,82	3,06	2,99	2,80
Heating -7°C/55°C radiators (kW)	3,88	5,29	7,30	7,25	7,40
COP -7°C/+55°C radiators Nominal	1,70	1,85	1,83	1,79	1,76
2 stage supplementary heating element (kW)	3 ou 4,5		4 ou 6		
▼ Cooling capacity	(PHRIE models only)				
Cooling +18°/23°C - 35°C floor max (kW)	5,64	7,45	11,5	11,5	13
EER	3,36	2,76	3,59	3,59	2,99
Cooling +7°/12°C - 35°C terminal units max (kW)	4,14	6,67	8,20	8,20	10,20
EER	2,56	2,44	2,62	2,62	2,55
▼ Circuit specifications and connections					
Expansion tank capacity (l)	4	4	6	6	6
Nominal water flow rate (+7°C/35°C) (m^3/h)	0,92	1,45	1,84	1,84	2,32
Available head for pump (kPa)	59	51	45	45	52
Hydraulic connections	3/4"M	3/4"M	1"M	1"M	1"M
▼ Electrical specifications and connections					
Power 50 Hz	230 V	230 V	230 V	400 V+N	230 V
Startup current (A)	3	3	3	3	3
Max current draw with heating element (A)	31,3	36,9	46,1	20	48,6
Thermal cutout rating (A)	40	40	50	25	50
Power cord cross section (1)	3G 6 mm^2	3G 6 mm^2	3G 10 mm^2	5G 4 mm^2	3G 10 mm^2
▼ Running noise					
Sound power per EN12102 (dB(A))	67 - 65 (2)	67 - 65 (2)	70 - 66 (2)	70 - 66 (2)	72 - 68 (2)
Sound pressure level at 10 m (dB(A)) (3)	39 - 37 (2)	39 - 37 (2)	42 - 38 (2)	42 - 38 (2)	44 - 40 (2)
▼ Operating range					
Operating range in heating, air temperature	-20°C/+35°C				
Operating range in cooling, air temperature	+10°C/+43°C				
Water temperature range (heating)	+25°C / +55°C				
Water temperature range (cooling)	+5°C / +25°C	+5°C / +25°C	+7°C / +25°C	+7°C / +25°C	+7°C / +25°C
▼ General specifications					
Dimensions H x L x D (mm)	835 x 1 270 x 390	835 x 1 270 x 390	1 335 x 1 270 x 390	1 335 x 1 270 x 390	1 335 x 1 270 x 390
Net weight (kg)	90	93	143	142	144
R410A refrigerant charge (kg)	1,8	1,9	3,5	3,5	3,8

(1) Indicative data, must be checked against the installation conditions and legal requirements **(2)** Sound power in quiet operating mode, which limits power output to the nominal power rating **(3)** Sound pressure: unit outdoors on a reflective surface at a distance of 10m.

Air/Water Heat Pumps
Single-unit INVERTER
Heating (or reversible)

AQUASET range

	AQUASET				
MODELS	**14 TRI**	**16**	**16 TRI**	**20**	**24**
Reversible model codes	PHRIE177F	PHRIE195F	PHRIE197F	PHRIE257F	PHRIE307F
▼ Heating capacity	(conditions NF PAC)				
Heating +7°C/35°C floor Min/Nom/Max (kW)	5,20 / 13,55 / 17,95	5,31 / 15,70 / 20,25	5,31 / 15,65 / 20,2	5,4 / 19,9 / 23,9	6,9 / 23,5 / 25,4
COP +7°C/+35°C floor Nominal	4,58	4,47	4,4	4,61	4,64
Heating -7°C/35°C floor Nom/Max (kW)	7,95 / 11,15	9,20 / 12,25	9,15 / 12,2	10,70 / 13,4	11,40 / 15,89
COP -7°C/+35°C floor Nominal	2,66	2,81	2,76	2,67	2,71
Heating +7°C/45°C LT radiators Nom/Max (kW)	12,40 / 14,60	14,90 / 16,65	14,85 / 16,60	18,45 / 23,10	21,50 / 23,20
COP +7°C/+45°C LT radiators Nominal	3,41	3,55	3,49	3,55	3,62
Heating -7°C/45°C LT radiators Max (kW)	9,25	10,15	10,1	12,18	14,90
COP -7°C/+45°C LT radiators Nominal	2,18	2,09	2,06	2,08	2,16
Heating +7°C/55°C radiators Nom/Max (kW)	12,13 / 12,13	12,35 / 12,50	12,30 / 12,45	17,95 / 18,40	20,00 / 21,50
COP +7°C/+55°C radiators Nominal	2,78	3,00	2,95	2,98	2,89
Heating -7°C/55°C radiators (kW)	7,45	7,7	7,65	10,8	13,8
COP -7°C/+55°C radiators Nominal	1,75	1,77	1,74	1,63	1,72
2 stage supplementary heating element (kW)	4 ou 6			6 ou 9	
▼ Cooling capacity					
Cooling +18°/23°C - 35°C floor max (kW)	13	13,33	13,33	23,80	24,50
EER	3,18	2,70	2,70	3,27	2,85
Cooling +7°/12°C - 35°C terminal units max (kW)	9,70	11,36	11,36	14,70	20,80
EER	2,45	2,40	2,40	2,60	2,38
▼ Circuit specifications and connections					
Expansion tank capacity (l)	6			8	
Nominal water flow rate (+7°C/35°C) (m^3/h)	2,32	2,60	2,60	3,50	4,09
Available head for pump (kPa)	52	46	46	48	81
Hydraulic connections	1"M	1"M	1"M	1"1/4 M	1"1/4 M
▼ Electrical specifications and connections					
Power 50 Hz	400 V+N	230 V	400 V+N	400 V+N	400 V+N
Startup current (A)	3	3	3	3	3
Max current draw with heating element (A)	20,7	52,7	19,7	25,7	29,5
Thermal cutout rating (A)	25	63	25	32	32
Power cord cross section (1)	5G 4 mm^2	3G 16 mm^2	5G 4 mm^2	5G 6 mm^2	5G 6 mm^2
▼ Running noise					
Sound power per EN12102 (dB(A))	72 - 68 (2)	73 / 69 (2)	73 / 69 (2)	72 / 68 (2)	72 / 68 (2)
Sound pressure level at 10 m (dB(A)) (3)	44 - 40 (2)	45 - 41 (2)	45 - 41 (2)	44 - 40 (2)	44 - 40 (2)
▼ Operating range					
Operating range in heating, air temperature	-20°C/+35°C				
Operating range in cooling, air temperature	+10°C/+43°C				
Water temperature range (heating)	+25°C / +55°C				
Water temperature range (cooling)	+7°C / +25°C	+5°C / +25°C	+5°C / +25°C	+5°C / +25°C	+5°C / +25°C
▼ General specifications					
Dimensions H x L x D (mm)	1 335 x 1 270 x 390	1 335 x 1 440 x 390		1 535 x 1 440 x 390	
Net weight (kg)	144	151	150	177	180
R410A refrigerant charge (kg)	3,8	4,2	4,2	5,8	6,5

(1) Indicative data, must be checked against the installation conditions and legal requirements **(2)** Sound power in quiet operating mode, which limits power output to the nominal power rating **(3)** Sound pressure: unit outdoors on a reflective surface at a distance of 10m.

Air/Water Heat Pumps
Single-unit ON/OFF
High temperature

AQUASET range

AQUASET-PHTJ

PHTJ 14/19

Applications

Refer to the circuit diagrams on pages 30 to 34

- **Heating**
- **To -16°C outdoors temperature**
- **Max T delivery water: 65°C**
- **Intermediate re-injection scroll compressor**

- **Refrigerant: R 407 C**
- **The best COP values on the market**
- **Silent operation**
- **Compact appliances: 1190x340x1235 mm**
- **Quality components:**

  Scroll compressor with intermediate reinjection, with sound insulation - High efficiency air heat exchanger with copper pipes and inorganic hydrophilic aluminium - Helicoidal fan - Heat exchanger with AISI 316 stainless steel plates and heat insulation,...

- **Integrated hydronic module:**

  3-speed circulation pump - air vent - manometer - hydraulic filter

- **Control system functions:**

  - Automatic control of circulation pump (anti-freeze function, anti-seize function)
  - Defrosting regulation in accordance with the outdoor temperature
  - Alarm management through event logging
  - External communication via serial interface (Modbus protocol)

- **Other advantages:**
  - Easy access to components
  - Keypad / display on front panel
  - Dividing panel between the fan and the machinery compartment
  - Control panel can be removed for a wider opening
  - Stringent manufacturing inspections: cooling circuit waterproofing test, electric/hydraulic test, etc...

- **Standard equipment**
  - single-phase start-up kit (PHTJ 14 mono)
  - water flow rate control
  - low pressure switch
  - high pressure switch
  - water filter (to be connected)
  - integrated hydronic module
  - defrosting heating element

BOILER BACK-UP SOLUTION
BOILER REPLACEMENT SOLUTION/HEATING WITH 1 RADIATOR ZONE

		AQUASET		
Model		PHTJ 14	PHTJ 14	PHTJ 19
Code	230/1/50	PHTJ 145 V	-	-
	400/3N/50	-	PHTJ 147 V	PHTJ 197 V
HEATING	Conditions: temperature of water at inlet/outlet 40/45°C and temperature of air at inlet 7/6°C (DB/WB); net values			
	Heating capacity (kW)	**14,3**	**14,1**	**20,7**
	Power consumption (kW)	4,54	4,34	6,97
	COP	3,15	3,25	2,97
	Conditions: temperature of water at inlet/outlet */55°C and temperature of air at inlet -7/-8°C (BS/BU); net values			
	Heating capacity (kW)	8,6	8,4	12,7
	Power consumption (kW)	5,04	4,75	7,47
	COP	1,71	1,82	1,70
	Conditions: temperature of water at inlet/outlet 47/55°C and temperature of air at inlet 7/6°C (BS/BU); net values			
	Heating capacity (kW)	13,65	13,8	20,4
	Power consumption (kW)	5,25	4,98	7,55
	COP	2,60	2,77	2,70
	Conditions: temperature of water at inlet/outlet 55/65°C and temperature of air at inlet 7/6°C (DB/WB); net values			
	Heating capacity (kW)	13	13,2	20,1
	Power consumption (kW)	6,30	5,86	9,00
	COP	2,06	2,25	2,2
	Conditions: temperature of water at inlet/outlet 30/35°C and temperature of air at inlet 7/6°C (DB/WB); net values			
	COP	**3,8**	**4,02**	**3,41**
	Water flow rate (m3/h) for generated water temp. of 47/55°C	1,55	1,55	2,30
	Available head for pump (kPa)	90	90	88
	Type of refrigerant	R 407 C	R 407 C	R 407 C
	No. of cooling circuits	1	1	1
	No. of compressors	1	1	1
	Expansion tank capacity (l)			
	Ø of male hydraulic connection	1"	1"	1"
	Sound power level/Sound pressure* (dBA)	71,5/43,5	71,5/43,5	73,5/45,5
	Minimum water volume (system) (l)	45	45	65
	Length (mm)	1 190	1 190	1 190
	Depth (mm)	340	340	340
	Height (mm)	1 235	1 235	1 235
	Weight (kg)	141	141	145

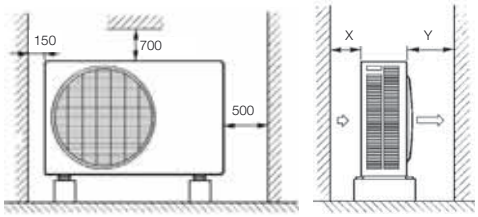
* Sound pressure: appliance installed outdoors (free sound field), on a reflective surface, at a distance of 10 m.

OPERATING LIMITS

HEATING	T outdoor air	- 16°C (DB) / + 43°C (DB)
	Max. T of water generated	+ 65°C
	Min. T of water generated	+ 30°C

Installation clearances

(Refer to the installation manual for full information)



minimum dimensions

	X	Y
PHTJ 14 - 19	250	1000

Air/Water Heat Pumps
Single-unit ON/OFF
High temperature

AQUASET range

AQUASET-PHT

PHT 13/16

Applications

Refer to the circuit diagrams on pages 30 to 34

- **Heating**
- **To -16°C outdoors temperature**
- **Max T delivery water: 60°C**
- **Intermediate re-injection scroll compressor**

- **Refrigerant: R 407 C**
- **The best COP values on the market**
- **Silent operation**
- **Compact appliances: 1190 x 340 x 1235 mm**
- **Quality components:**
  High pressure Scroll compressor with sound insulation - High efficiency air heat exchanger with copper pipes and inorganic hydrophilic aluminium fins - Helicoidal fan - Heat exchanger with AISI 316 stainless steel plates and heat insulation,...
- **Integrated hydronic module:**
  3-speed circulation pump - air vent - manometer - hydraulic filter
- **Control system functions:**
  - Reduction of minimum volume of water in the system
  - Automatic control of circulation pump (anti-freeze function, anti-seize function)
  - Defrosting regulation in accordance with the outdoor temperature
  - Alarm management through event logging
  - External communication via serial interface (Modbus protocol)

- **Other advantages:**
  - Easy access to components
  - Keypad / display on front panel
  - Dividing panel between the fan and the machinery compartment
  - Control panel can be removed for a wider opening
  - Stringent manufacturing inspections: cooling circuit waterproofing test, electric/hydraulic test, etc...

- **Standard equipment**
  - water flow rate control
  - low pressure switch
  - high pressure switch
  - water filter (to be connected)
  - integrated hydronic module

BOILER REPLACEMENT SOLUTION/HEATING WITH 1 RADIATOR ZONE
BOILER BACK-UP

		AQUASET	
Model		PHT 13	PHT 16
Code	400/3N/50	PHT 137 V	PHT 167 V
	Conditions: temperature of water at inlet/outlet 40/45°C and temperature of air at inlet 7/6°C (DB/WB); net values		
HEATING	Heating capacity (kW)	**12,3**	**15,4**
HEATING	Power consumption (kW)	4,09	5,13
HEATING	COP	3,01	3
	Conditions: temperature of water at inlet/outlet */45°C and temperature of air at inlet -7/-8°C (BS/BU); net values		
HEATING	Heating capacity (kW)	7,35	9,3
HEATING	Power consumption (kW)	4,13	5,22
HEATING	COP	1,78	1,79
	Conditions: temperature of water at inlet/outlet 47/55°C and temperature of air at inlet 7/6°C (BS/BU); net values		
HEATING	Heating capacity (kW)	11,8	14
HEATING	Power consumption (kW)	4,82	6,03
HEATING	COP	2,45	2,32
	Conditions: temperature of water at inlet/outlet 30/35°C and temperature of air at inlet 7/6°C (DB/WB); net values		
HEATING	COP	**3,67**	**3,41**
HEATING	Water flow rate (m3/h) for generated water temp. of 45°C	2,09	2,7
HEATING	Available head for pump (kPa)	50	68
HEATING	Type of refrigerant	R 407 C	R 407 C
HEATING	No. of cooling circuits	1	1
HEATING	No. of compressors	1	1
HEATING	Expansion tank capacity (l)		
HEATING	Ø of male hydraulic connection	1"	1"
HEATING	Sound power level/Sound pressure* (dBA)	68,5/40,5	69,5/41,5
HEATING	Minimum water volume (system) (l)	50	60
HEATING	Length (mm)	1 190	1 190
HEATING	Depth (mm)	340	340
HEATING	Height (mm)	1 235	1 235
HEATING	Weight (kg)	135	147

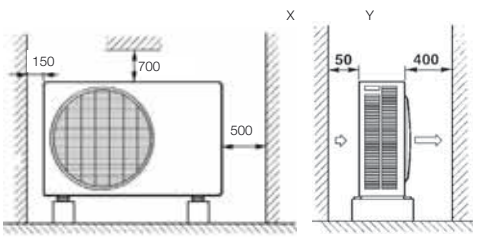
* Sound pressure: appliance installed outdoors (free sound field), on a reflective surface, at a distance of 10 m.

OPERATING LIMITS

HEATING	T outdoor air	- 16°C (DB) / + 43°C (DB)
	Max. T of water generated	+ 60°C
	Min. T of water generated	+ 30°C

Installation clearances

(Refer to the installation manual for full information)



minimum dimensions

	X	Y
PHT 13-16	250	1 000

Air/Water Heat Pumps
Single-unit ON/OFF
Medium temperature

AQUASET range

AQUASET-PHRT

PHRT 12/16/18

PHRT 7/9

Applications

Refer to the circuit diagrams on pages 30 to 34

- **Heating and cooling**
- **To -16°C outdoors temperature and + 43°C in cooling**
- **Max T delivery water: 55°C**

- **Refrigerant: R 410 A**
- **The best COP values on the market**
- **The lowest sound levels on the market**
- **Limited size:**

  1 190 x 340 x 735 mm
  1 190 x 340 x 1 235 mm

- **Quality components:**

Scroll compressor with sound insulation - High efficiency air heat exchanger with copper pipes and inorganic hydrophilic aluminium fins - Helicoidal fan - Heat exchanger with AISI 316 stainless steel plates and heat insulation,...

- **Integrated hydronic module:**

3-speed circulation pump - expansion tank - safety valve - air vent - manometer - hydraulic filter

- **Control system functions:**
  - Reduction of minimum volume of water in the system
  - Regulation of condensation pressure
  - Automatic control of circulation pump (anti-freeze function, anti-seize function)
  - Defrosting regulation in accordance with the outdoor temperature
  - Alarm management through event logging
  - External communication via serial interface (Modbus protocol)

- **Other advantages:**
  - Easier access to components
  - Keypad / display on front panel
  - Dividing panel between the fan and the machinery compartment
  - Control panel can be removed for a wider opening
  - Stringent manufacturing inspections: cooling circuit waterproofing test, electric/hydraulic test, etc...

- **Standard equipment**
  - Single-phase start-up kit (PHRT 7/9/2 mono)
  - water flow rate control
  - proportional "four seasons" regulation
  - LP switch and HP switch
  - water filter (to be connected)
  - integrated hydronic module

BOILER BACK-UP SOLUTION
TERMINAL UNIT SOLUTION
MIXED SOLUTION WITH UNDERFLOOR HEATING/COOLING AND 1 TERMINAL UNIT ZONE

			AQUASET				
Models			PHRT 7	PHRT 9	PHRT 12	PHRT 16	PHRT 18
Code		230/1/50	PHRT 075 F	PHRT 095 F	PHRT 125 F	-	-
		400/3N/50	-	PHRT 097 F	PHRT 127 F	PHRT 167 F	PHRT 187 F
				Mono/Tri	Mono/Tri		
HEATING	Conditions: temperature of water at inlet/outlet 40/45°C and temperature of air at inlet 7/6°C (DB/WB); net values; NF PAC						
	Heating capacity (kW)		**7,2**	**9,17 / 9,2**	**10,5 / 12,4**	**15**	**19,4**
	Power consumption (kW)		2,65	3,19 / 3,19	3,62 / 4,06	4,92	6,42
	COP		2,72	2,87 / 2,88	2,9 / 3,05	3,05	3,02
	Conditions: temperature of water at inlet/outlet */45°C and temperature of air at inlet -7/-8°C (DB/WB); net values; NF PAC						
	Heating capacity (kW)		**4,6**	**5 / 5,05**	**5,88 / 6,8**	**8,51**	**12**
	Power consumption (kW)		2,87	3,23 / 3,23	3,77 / 4,25	5,38	6,6
	COP		1,6	1,55 / 1,56	1,56 / 1,6	1,58	1,74
	Conditions: temperature of water at inlet/outlet */55°C and temperature of air at inlet 7/6°C (DB/WB); net values; NF PAC						
	Heating capacity (kW)		**6**	**8,25 / 8,3**	**9,38 / 11,7**	**13,6**	
	Power consumption (kW)		3,04	3,75 / 3,75	4,04 / 4,73	5,96	
	COP		1,97	2,17 / 2,21	2,32 / 2,47	2,28	
	Conditions: temperature of water at inlet/outlet 40/45°C and temperature of air at inlet 7/6°C (DB/WB); gross values; Eurovent						
	Heating capacity (kW)		**7,25**	**9,24 / 9,27**	**10,65 / 12,5**	**15,2**	**19,6**
	Power consumption (kW)		2,56	3,12 / 3,1	3,48 / 4,1	4,83	6,32
	COP		2,83	2,96 / 2,99	3,06 / 3,05	3,15	3,1
	Conditions: temperature of water at inlet/outlet 30/35°C and temperature of air at inlet 7/6°C (DB/WB); net values						
	COP		**3,33**	**3,41 / 3,44**	**3,66 / 3,84**	**3,94**	**3,7**
	Water flow rate (m3/h)		1,19	1,58 / 1,55	1,87 / 2,16	2,7	3,38
	Available head for pump (kPa)		57	47 / 47	66 / 53	68	59
COOLING	Conditions: temperature of water at inlet/outlet 12/7°C and temperature of air at inlet 35°C (DB/WB); gross values; Eurovent						
	Heating capacity (kW)		**5,90**	**7,10 / 7,10**	**8,56 / 9,00**	**11,40**	**15,9**
	Power consumption (kW)		2,55	3,14 / 3,09	3,33 / 3,73	4,98	6,97
	EER		2,31	2,26 / 2,30	2,57 / 2,41	2,29	2,28
	Water flow rate (m3/h)		1,01	1,22 / 1,22	1,48 / 1,51	1,98	2,7
	Available head for pump	(kPa)	64	59 / 59	82 / 80	84	78
	Type of refrigerant		R 410 A	R 410 A	R 410 A	R 410 A	R 410 A
	No. of cooling circuits		1	1	1	1	1
	No. of compressors		1	1	1	1	1
	Expansion tank capacity (l)		2	2	2	2	2
	Ø of male hydraulic connection		3/4”	3/4”	1”	1”	1”
	Sound power level/Sound pressure* (dBA)		65/37	65/37	67/39	68/40	73/45
	Min./max. system water volume	(l)	30/60	40/90	50/90	60/90	60/90
	Length	(mm)	1 190	1 190	1 190	1 190	1 190
	Depth	(mm)	340	340	340	340	340
	Height	(mm)	735	735	1 235	1 235	1 235
	Weight	(kg)	98	98	128	133	138

* Sound pressure: appliance installed outdoors (free sound field), on a reflective surface, at a distance of 10 m.

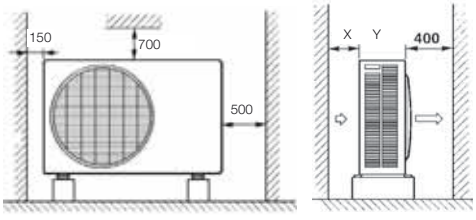
OPERATING LIMITS

HEATING
- T outdoor air PHRT 7-9-12-16: - 16°C (DB) / + 43°C (DB)
- T outdoor air PHRT 18: - 10°C (DB) / + 20°C (DB)
- Max. T of water generated PHRT 7-9-12-16: + 55°C
- Min. T of water generated PHRT 18: + 50°C
- Min. T of water generated PHRT 18: + 25°C

COOLING
- T outdoor air: + 10°C (DB) / + 43°C (DB)
- Max. T of water generated PHRT 7-9-12-16: + 20°C
- Max. T of water generated PHRT 18: + 25°C
- Min. T of water generated: + 5°C

Installation clearances

(Refer to the installation manual for full information)



minimum dimensions

	X	Y
PHRT 7-9	150	1 000
PHRT 12 - 16 - 18	250	1 000

Air/Water Heat Pumps
Single-unit ON/OFF
Low temperature

AQUASET range

WATER | GAS R410A | T° ext. -16 °C | T° Max. Water outlet 40 °C

AQUASET-PHR

PHR 11/15/17

Applications

Refer to the circuit diagrams

- **Heating and cooling**
- **Nominal water temperature 30/35°C in Heating mode (18/23°C in Cooling mode)**
- **Operating limits: T outdoor air: - 16°C in Heating mode (+43°C in Cooling mode)**
  Max. T of water generated: + 40°C in Heating mode

- **Refrigerant: R 410 A**
- **The best COP values on the market**
- **The lowest sound levels on the market**
- **Limited size:**
  1 190 x 340 x 1 235 mm
- **Quality components:**
  Scroll compressor with sound insulation - High efficiency air heat exchanger with copper pipes and inorganic hydrophilic aluminium fins - Helicoidal fan - Heat exchanger with AISI 316 stainless steel plates and heat insulation,...
- **Integrated hydronic module:**
  3-speed circulation pump - expansion tank - safety valve - air vent - manometer - hydraulic filter
- **Control system functions:**
  - Reduction of minimum volume of water in the system
  - Automatic control of circulation pump (anti-freeze function, anti-seize function)
  - Defrosting regulation in accordance with the outdoor temperature
  - Alarm management through event logging
  - External communication via serial interface (Modbus protocol)
- **Other advantages:**
  - Easy access to components
  - Keypad / display on front panel
  - Dividing panel between the fan and the machinery compartment
  - Control panel can be removed for a wider opening
  - Stringent manufacturing inspections: cooling circuit water-proofing test, electric/hydraulic test, etc...

Standard equipment

- Single-phase start-up kit (PHR 11 mono)
- water flow rate control
- proportional "four seasons" regulation
- low pressure switch
- high pressure switch
- water filter (to be connected)
- integrated hydronic module

UNDERFLOOR HEATING/COOLING SOLUTION (1 ZONE OR 2 ZONES)

Models		PHR 11	PHR 15	PHR 17
Code	230/1/50	PHR 115 F	-	-
	400/3N/50	PHR 117 F	PHR 157 F	PHR 177 F
		Mono/Tri		
HEATING	Conditions: temperature of water at inlet/outlet 30/35°C and temperature of air at inlet 7/6°C (DB/WB); net values; NF PAC			
	Heating capacity (kW)	**11,2 / 11,1**	**14,3**	**16,8**
	Power consumption (kW)	2,85 / 2,7	3,64	4,57
	COP	3,93 / 4,11	3,93	3,68
	Conditions: temperature of water at inlet/outlet */35°C and temperature of air at inlet -7/-8°C (DB/WB); net values; NF PAC			
	Heating capacity (kW)	**6,65 / 6,5**	**7,63**	**9,07**
	Power consumption (kW)	3,17 / 2,9	3,71	4,51
	COP	2,1 / 2,24	2,11	2,01
	Conditions: temperature of water at inlet/outlet 30/35°C and temperature of air at inlet 7/6°C (DB/WB); gross values; Eurovent			
	Heating capacity (kW)	**11,25 / 11,2**	**14,5**	**17**
	Power consumption (kW)	2,7 / 2,56	3,51	4,47
	COP	**4,17 / 4,38**	**4,13**	**3,8**
	Water flow rate (m3/h)	1,91	2,48	2,81
	Available head for pump (kPa)	55	65	76
COOLING	Conditions: temperature of water at inlet/outlet 23/18°C and temperature of air at inlet 35°C (DB/WB); gross values; Eurovent			
	Heating capacity (kW)	**9,45 / 9,5**	**14,6**	**16,5**
	Power consumption (kW)	3,33 / 3,12	4,37	6
	EER	2,84 / 3,04	3,34	2,75
	Water flow rate (m3/h)	1,62	2,48	2,74
	Available head for pump (kPa)	72	65	79
	Type of refrigerant	R 410 A	R 410 A	R 410 A
	No. of cooling circuits	1	1	1
	No. of compressors	1	1	1
	Expansion tank capacity (l)	2	2	2
	Ø of male hydraulic connection	1"	1"	1"
	Sound power level/Sound pressure* (dBA)	67/39	68/40	68/40
	Min./max. system water volume (l)	40/200	50/200	60/200
	Length (mm)	1 190	1 190	1 190
	Depth (mm)	340	340	340
	Height (mm)	1 235	1 235	1 235
	Weight (kg)	113	127	131

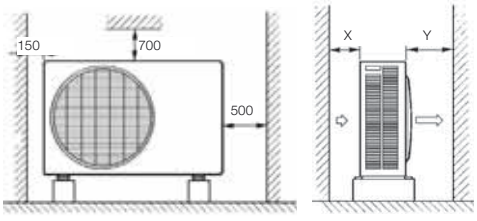
* Sound pressure: appliance installed outdoors (free sound field), on a reflective surface, at a distance of 10 m.

OPERATING LIMITS

HEATING	T outdoor air	- 16°C (DB) / + 20°C (DB)	COOLING	T outdoor air PHR 11	0°C (DB) / + 43°C (DB)
	Max. T of water generated	+ 40°C		T outdoor air PHR 15	- 3°C (DB) / + 43°C (DB)
	Min. T of water generated	+ 25°C		T outdoor air PHR 17	- 7°C (DB) / + 43°C (DB)
				Max. T of water generated	+ 25°C
				Min. T of water generated	+ 5°C (except PHR 6 : + 10°C)

Installation clearances

(Refer to the installation manual for full information)



minimum dimensions

	X	Y
PHR 11 - 15 - 17	250	1 000

ACCESSORIES

Remote control keypad and display

Defrosting heating element kit

MCE(D) connection kit

Hydraulic connection hoses

These are essential in order to prevent noise transmission caused by compressor and circulation pump vibration.

MCE 8/10/12

		MCE(D) 8	MCE(D) 10	MCE(D) 12	M2ZP / M2ZM
Length	(mm)	260	260	260	750
Height	(mm)	425	475	425	660
Depth	(mm)	226	226	226	300
Weight	(kg)	9	10	10	40

M2ZM / M2ZP

Mixing valve

		Mixing valve	Storage or mixing tank	
			35 l	70 l
Length	(mm)	480	500	670
Diameter	(mm)	80	300	350
Weight of tank when empty	(kg)	1,6	15,5	24

Storage or mixing tank

ACCESSORIES

Dirt separator for heat pump circuit

Additional boiler valve

Control unit

Room sensor

Electrical regulation box

Water Flow Valve

Hygro-thermostat

DHW tank

Applications
Circuit diagrams

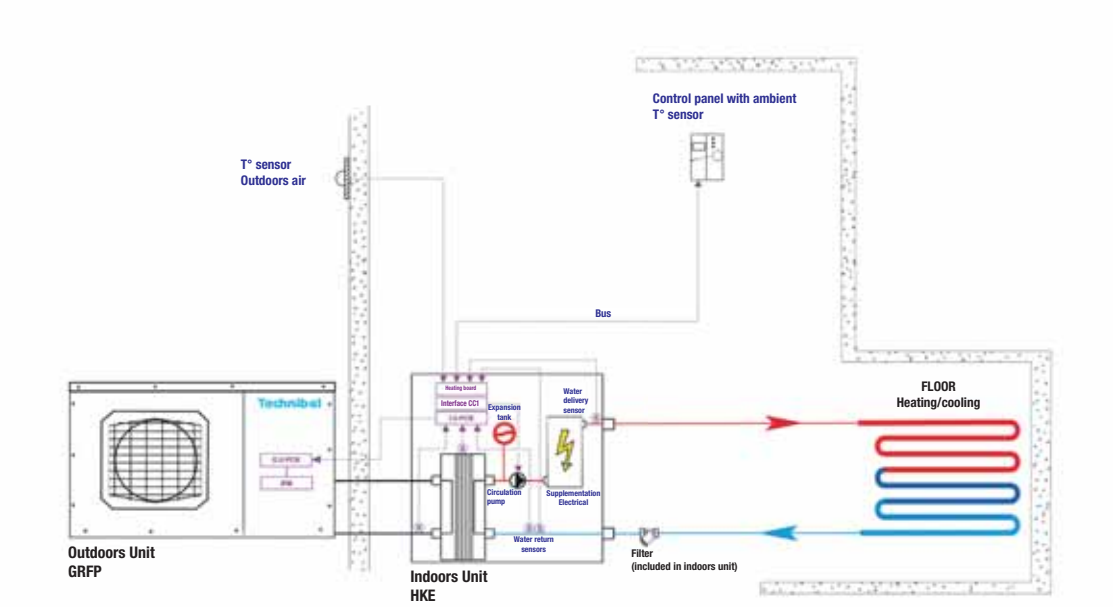
We give below the water circuit diagrams for some of the applications possible with our systems.

It is essential to observe these layouts in installation to ensure good system operation.

More example circuit diagrams are available from our sales network.

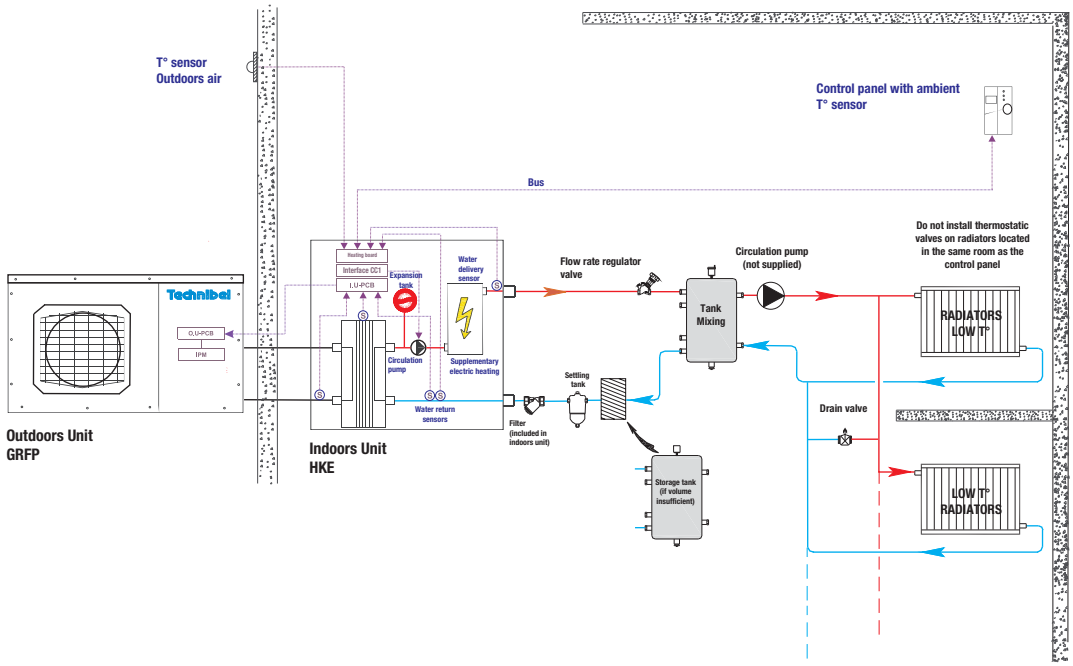
Application - 1 underfloor heating/cooling zone with optional electric radiators in zone 2

Example water circuit diagram



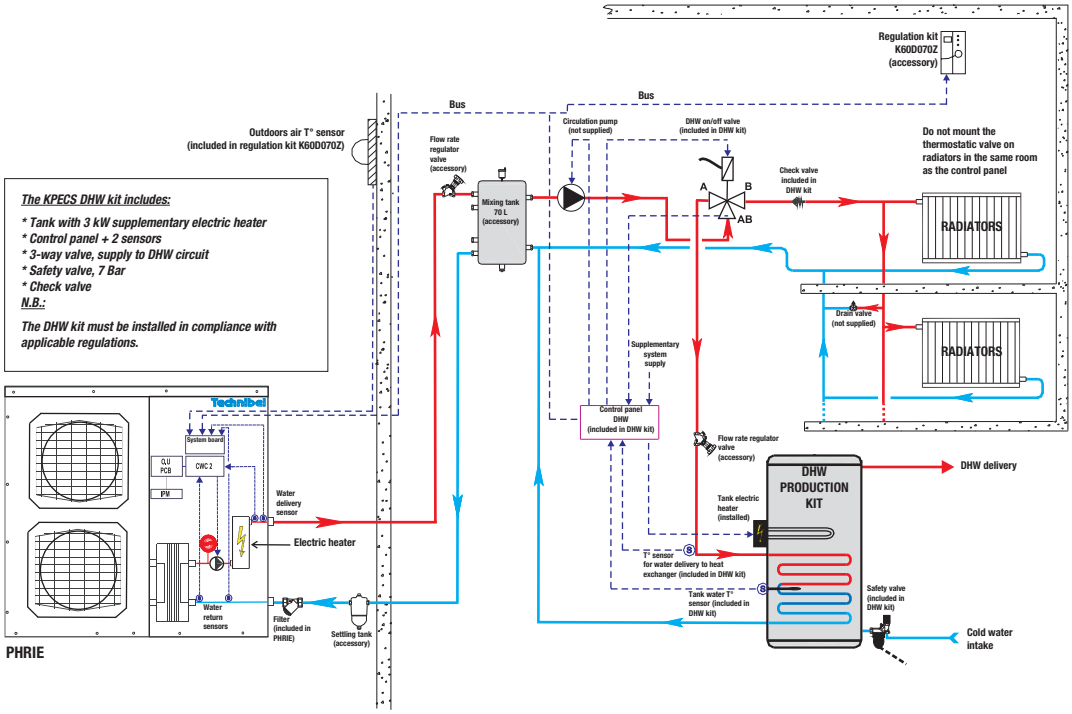
Application - 1 radiator zone

Example water circuit diagram



Application - 1 radiator zone with DHW production

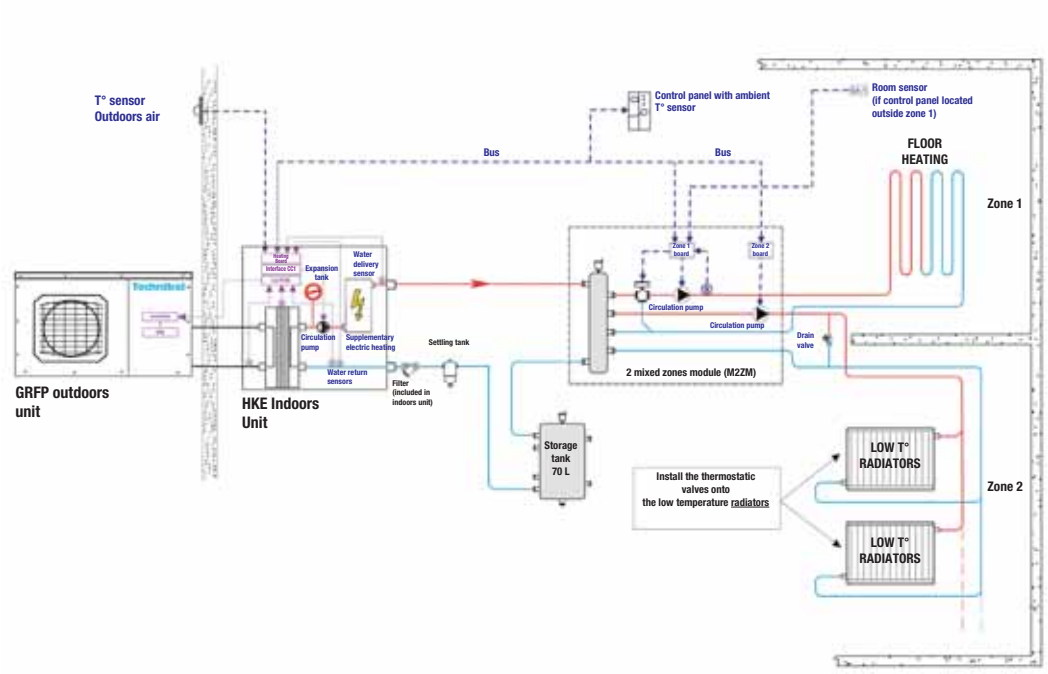
Example water circuit diagram



Applications
Circuit diagrams

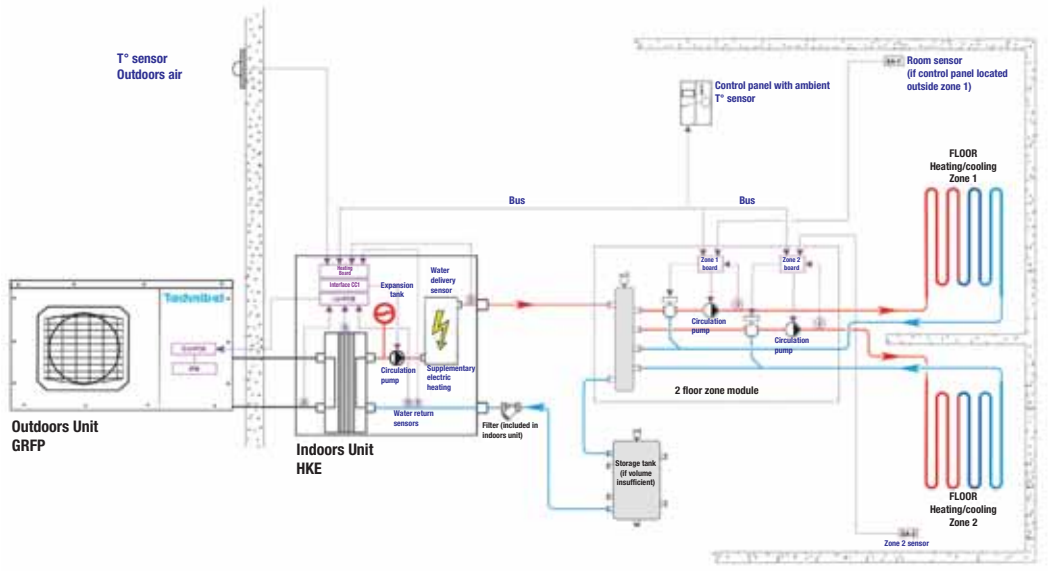
Application - mixed : 1 underfloor heating zone + 1 low temperature radiator zone

Example water circuit diagram



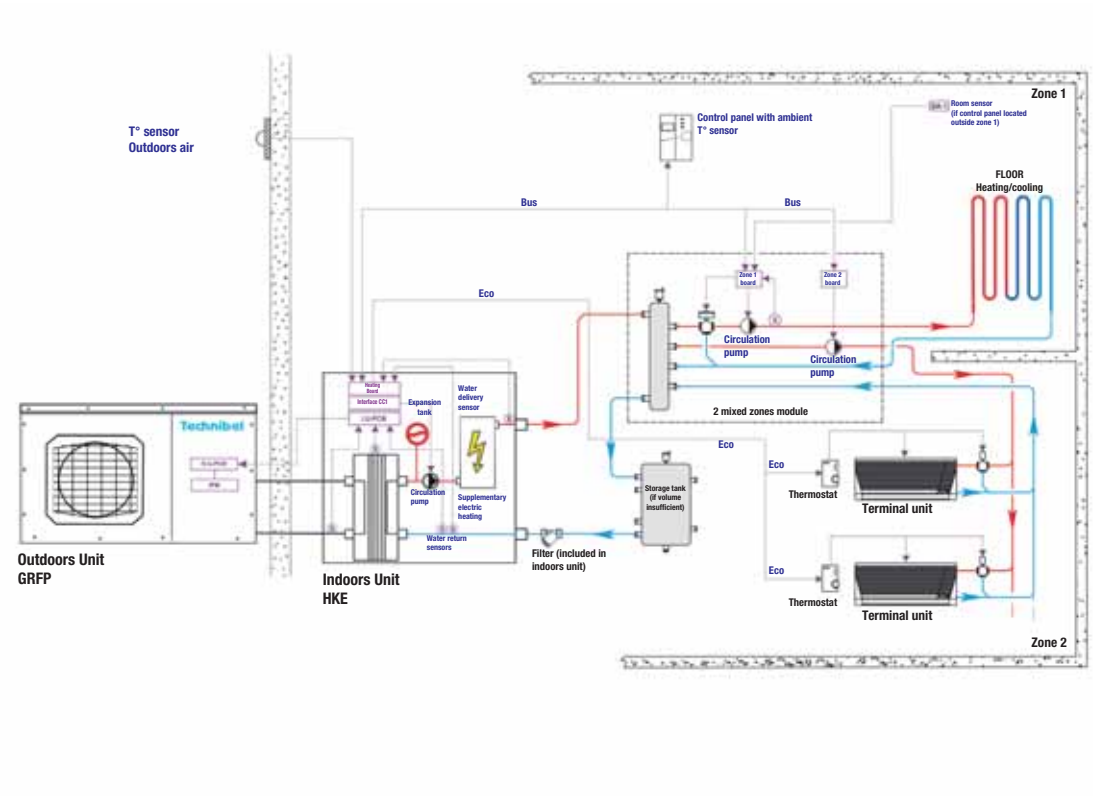
Application - 2 underfloor heating/cooling zone

Example water circuit diagram



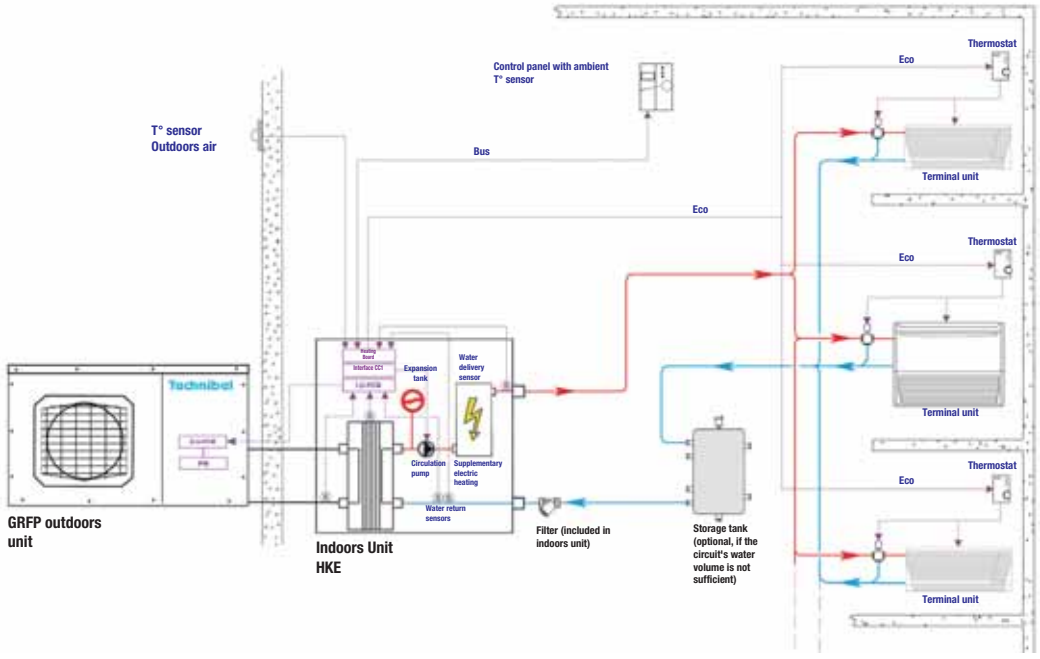
Application - mixed : 1 underfloor heating/cooling zone + 1 water terminal unit zone

Example water circuit diagram



Application - 1 water terminal unit zone

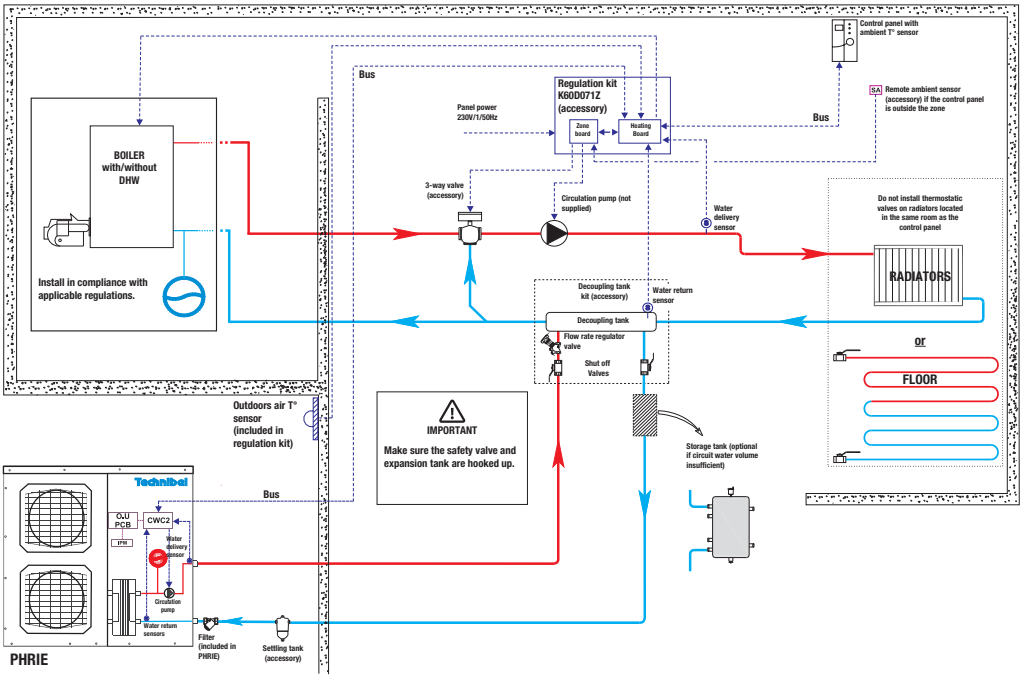
Example water circuit diagram



Applications
Circuit diagrams

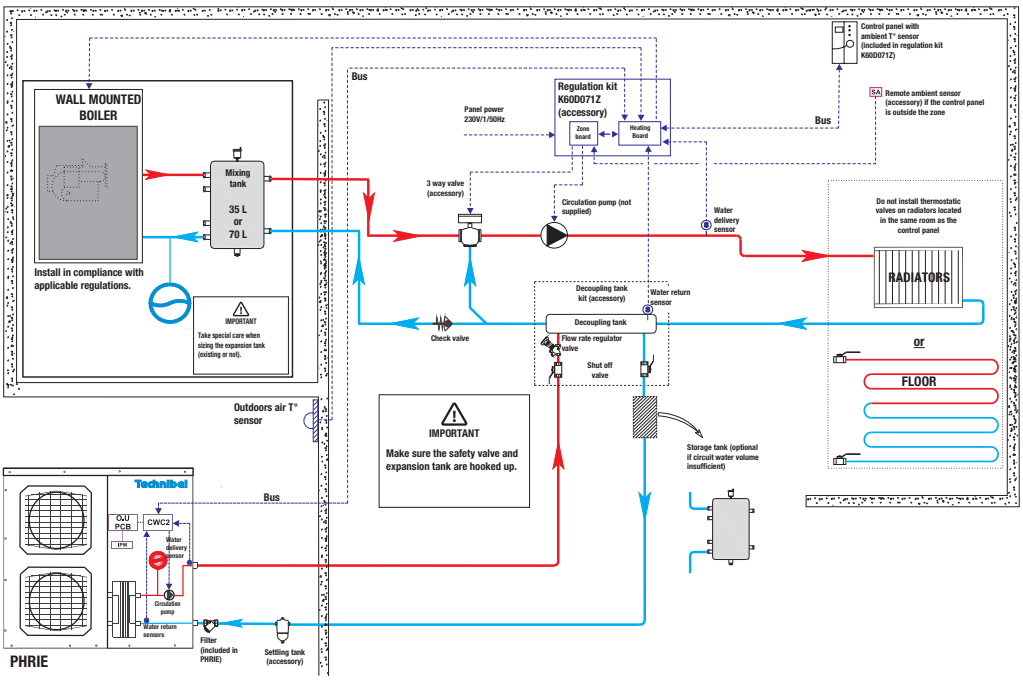
Application - Heat pump with boiler integration

Example water circuit diagram



Application - Heat pump with supplementary wall-mounted boiler

Example water circuit diagram

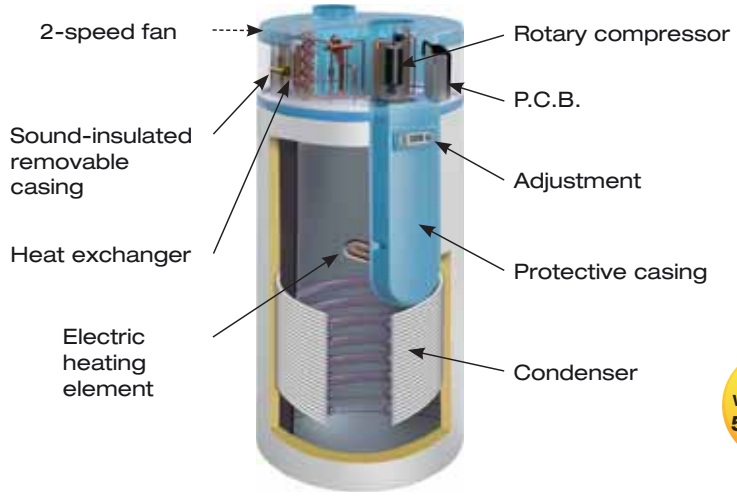


Heat pump for domestic hot water

Heat pump for domestic hot water

LIBERTY 300 - 300S

Liberty 300



TANK WARRANTY 5 YEARS

WARRANTY for other parts 2 YEARS

- **Thermodynamic water heater with integrated heat pump.**
- **Excellent COP: 3,7**
- **Cylinder capacity: 300 litres**
- **Max. temperature of hot water generated in Heating mode: 60°C**
- **Operation from - 5°C to + 35°C in thermodynamic mode (heat pump)**
- **Adjustable feet**

Benefits

- **Refrigerant fluid R 134 A**
- **COP: 3,7**
- **Low noise level: 36 dBA**
- **Limited height: 1,570 mm**
- **Quality components:**
  - Horizontal rotary compressor with sound insulation
  - High-efficiency heat exchanger
  - 2-speed pressure fan available
  - Knock-resistant coating
  - Electronic regulation is intuitive and simple (for users and assistance personnel alike)
  - Thermostatic regulator
  - Defrosting solenoid valve with hot gas
  - High-pressure switch
  - Temperature sensor for control and regulation
  - Integrated electric heating element with safety thermostat
  - Dryer filter
  - Protective anode.
- **Enamelled steel tank**
- **Rustproof magnesium anode**
- **Other advantages:**
  - Appliance can be ducted to recover heat from the air outdoors, up to 10 m of ducting can be used (flow and return)
  - The appliance is easy to transport and to install because it is not very tall
  - Adjustable feet
  - Pipe accessories

- **Regulation operating mode:**
  - "Eco" mode (Thermodynamic heating),
  - Turbo mode (forces the heating element for faster thermodynamic heating + heating element),
  - Day/Night hourly programming,
  - Holiday programming,
  - Load disconnection,
  - Dry contact for fan control (e.g. hygrostat),
  - Anti-Legionella cycle can be programmed.
- **Complementary 1.5 kW electric module functions:**
  - It begins operating to guarantee a minimum DHW temperature between 38°C and 43°C
  - It begins operating when the outdoor temperature is outside the operating interval,
  - It begins operating in the event of a malfunction,
  - It begins operating when the user selects Turbo mode.

Technibel UNE AVANCE DANS L'AIR DU TEMPS

MODEL		LIBERTY 300	LIBERTY 300S
Code		ECS300T5Z	ECS300SOLT5Z
Volume	litres	**300**	
D.H.W. temperature		between 15 and 60°C	
Sound pressure at 2 m	dBA	36	
Average heat pump power at 60°C*	kW	1,65	
Average heat pump consumption at 60°C*	kW	0,67	
COP		**3,7**	
Air flow rate - Speed 1/Speed 2	m3/h	300 / 450	
Compressor		rotary	
Refrigerant fluid		R 134 A	
Armoured electric heating element	kW	1,5	
Protection		16 A differential 30 mA	
Max. length of Flow / Return pipes	m	10	
Pipe connection diameter	mm	160	
Condensate connection diameter	mm	12/16	
Mains water connection diameter	inches	M 3/4	
Quantity of mixed water (l/1st hour)	litres	440	
Diameter	mm	700	
Height (without pipes)	mm	1.570	
Weight when empty	kg	107	

* in compliance with standard EN355-3

Accessories

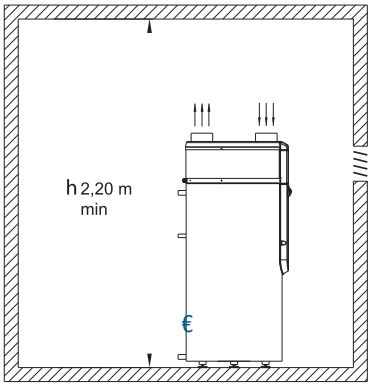
Type	Code
90° elbow - diameter 160 mm	K 70 N 135 T
Silencer with hose, diameter 160 mm	K 70 N 136 T

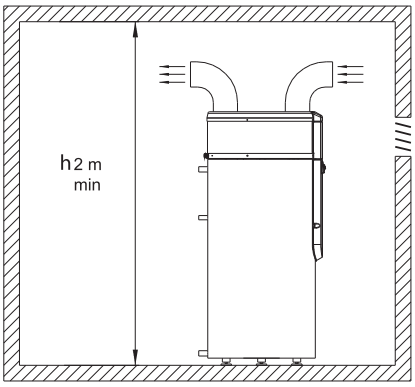
Heat pump for domestic hot water

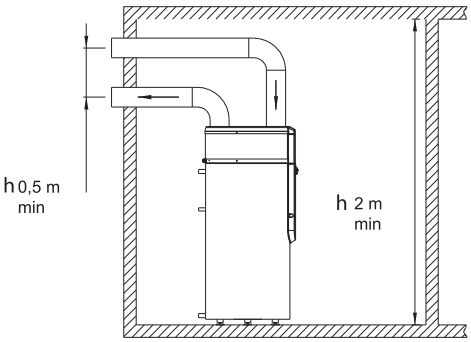
LIBERTY 300 - 300S

Installation

The thermodynamic water heater “LIBERTY 300” can be installed as a non-ducted unit in rooms with a surface area of > 20 m2, or can be ducted outdoors (see technical documentation for the various configurations).





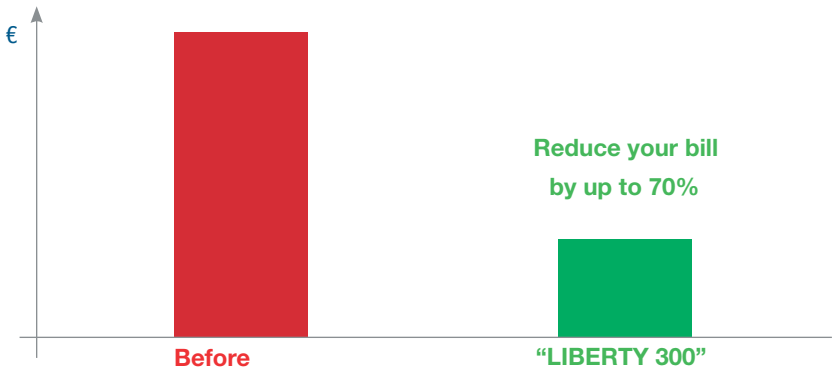


The thermodynamic water heater “LIBERTY 300” from Technibel can be used to complete heating systems fitted with a Technibel heat pump at any time

Reducing

Reducing emissions and saving money

Less CO2 and a saving of up to 70 “LIBERTY 300” from Technibel reduces your electricity bills.



Technibel
UNE AVANCE DANS L'AIR DU TEMPS

Cooling units and heat pumps

Benefits of the AQUASET-T range

AQUASET-T

The AQUASET-T range includes our HEAT PUMP and CHILLER products, renewed in 2012, intended for service sector and small commercial applications.

Eco-friendly solutions combining high energy efficiency with low running noise.

The AQUASET-T range includes:

12 chiller and 8 heat pump versions,

from 8 to 80 kW, with integrated hydronics module* for all models.

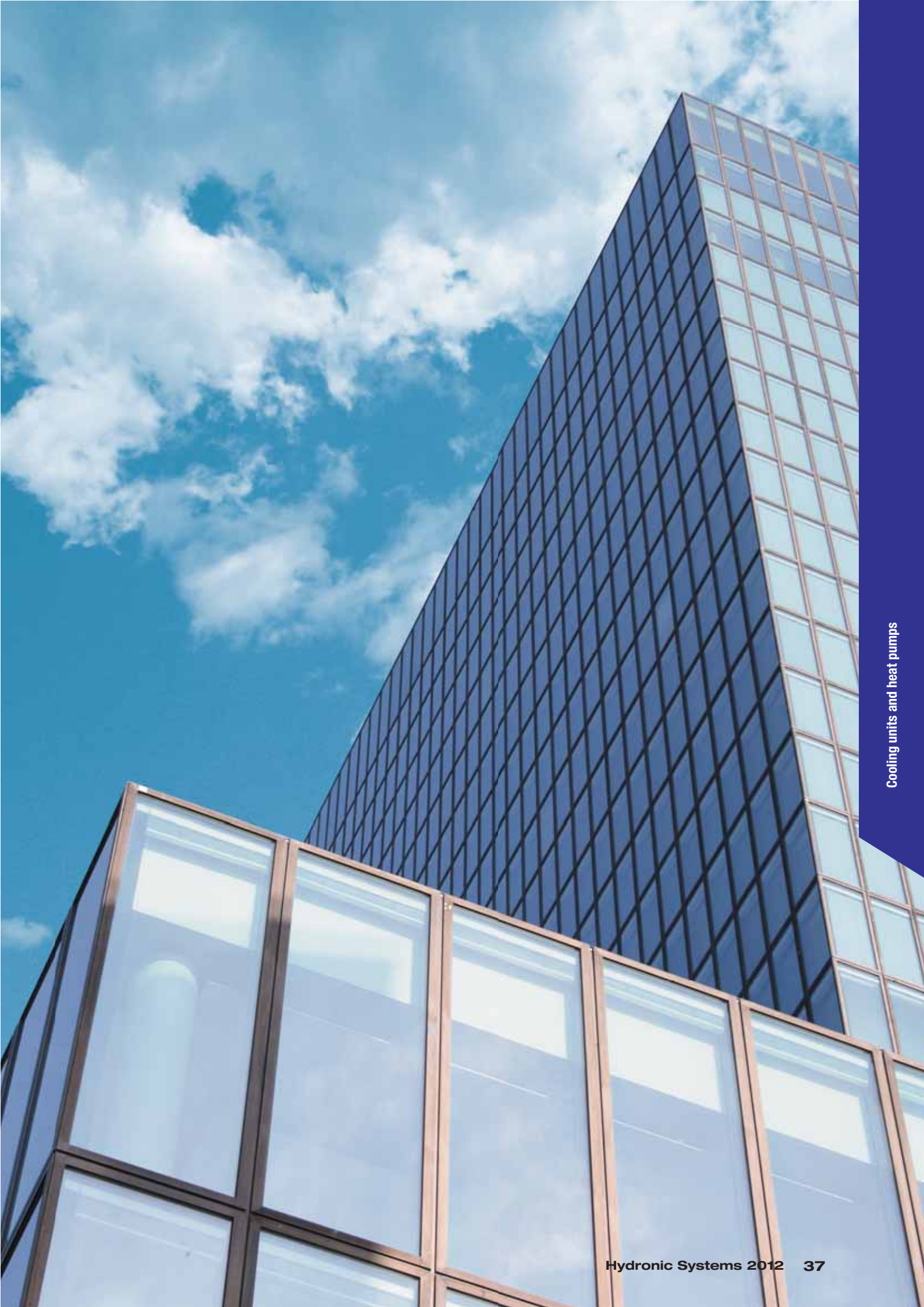
The operating range, **- 20° to + 43°C**, ensures optimal operation even in extreme conditions.

These latest generation units are capable of satisfying all service sector and small commercial applications, including:

- offices
- banks
- hotels
- tourist residences
- shops
- residential care centres

They offer unbeatable comfort and significant running cost savings.

*The integrated hydronics module in CHG units is composed of a water circulation pump and expansion tank, while CHGF and PHRF units add a storage pump to this configuration.



Air/water chiller

AQUASET-T range

WATER GAS R410A

CHG

CHG 8

Applications

- **Air conditioning**

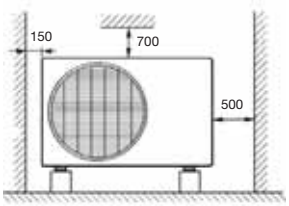
CHG 11/15/17

Benefits

- 8.1 kW to 16.30 kW
- Very low running noise
- Integrated hydronic module
- Water return temperature control
- Low water volume due to optimised self-adaptive operation
- Dynamic temperature setpoint
- Alarm reporting via no voltage contacts
- Remote control (accessory)
- RS 485 interface (accessory)

Installation clearances

(Refer to the installation manual for full information)



Distances in mm

	X	Y
CHG 8	150	1 000
CHG 11 - 15 - 17	250	1 000

Technibel
UNE AVANCE DANS L'AIR DU TEMPS

	CHG				
MODELS	**8**	**8 TRI**	**11 TRI**	**15 TRI**	**17 TRI**
CODES	CHG085F	CHG087F	CHG117F	CHG157F	CHG177F
▼ Cooling capacity					
Cooling +7°C/+12°C (kW)	8.1	8.1	11	13.7	16.3
EER	2.23	2.28	2.49	2.60	2.62
▼ Circuit specifications and connections					
Expansion tank capacity (l)	2	2	2	2	2
Nominal water flow rate (+7°C/35°C) (m^3/h)	1.4	1.4	1.91	2.34	2.81
Available head for pump (kPa)	42	42	55	68	75
Circuit water volume, min/max (l)	30/400	30/400	40/400	50/400	60/400
Hydraulic connections	3/4“ M	3/4“ M	1“ M	1“ M	1“ M
▼ Electrical specifications and connections					
Power 50 Hz	230 V	400 V+N	400 V+N	230 V	400 V+N
Startup current (A)	97 / 44 (1)	48	64	74	101
Max current draw with heating element (A)	23	9	12	14	17
Thermal cutout rating (A)	25	12	16	16	20
Power cord cross section (2)	3G 4 mm^2	5G 2.5 mm^2	5G 2.5 mm^2	5G 2.5 mm^2	5G 2.5 mm^2
▼ Running noise					
Sound power per EN12102 (dB(A))	65		67		
Sound pressure level at 10 m (dB(A)) (3)	37		39		
▼ Operating range					
Air temperature range	-10°C/+43°C		-7°C/+43°C	-10°C/+43°C	-4°C/+43°C
Water temperature range	+5°C/18°C				+5°C/20°C
▼ General specifications					
Dimensions H x L x D (mm)	735 x 1 190 x 340	735 x 1 190 x 340	1 235 x 340 x 1 190	1 235 x 340 x 1 190	1 235 x 340 x 1 190
Net weight (kg)	87	87	120	123	130
R410A refrigerant charge (kg)	1.8	1.8	3.6	3.3	2.8

(1) Startup current with single-phase starter kit (accessory) **(2)** Indicative data, must be checked against the installation conditions and legal requirements **(3)** Sound power in quiet operating mode, which limits power output to the nominal power rating **(3)** Sound pressure: unit outdoors on a reflective surface at a distance of 10m.

Accessories

Description	Code	Notes
Single-phase starter kit	70550004	Model CHG085F
Remote control	70250055	All models
RS 485 communication interface - MODBUS protocol	70250056	All models
Insulated tank 35 l	70600118	All models
Set of 2 hoses, dia. 3/4“ length 1 m	70600054	Size CHG 8
Set of 2 hoses, dia. 1“ length 1 m	70600055	Models CHG 11 - 17

Remote control

RS 485 interface

Air/water chiller

AQUASET-T range

WATER GAS R410A

CHGF

CHGF 20/24

CHGF da 28 a 40

CHGF da 55 a 76

Applications

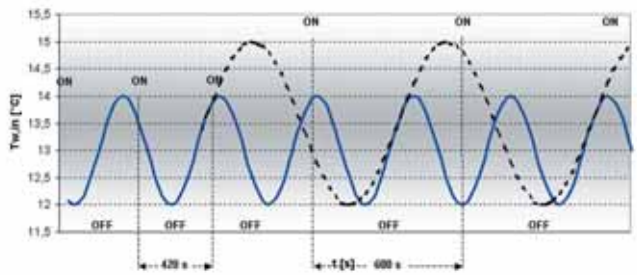
- **Air conditioning**

Benefits

- 20 kW to 76 kW
- Low running noise
- High energy efficiency
- Integrated hydronic module
- Water delivery/return temperature control
- Low water volume due to self-adaptive operation
- Dual pump (option) from size 28 (28 kW)
- Minimum water delivery temperature (0°C) with glycol
- Operation with ambient air temperature +47°C to -10°C

High level standard equipment:

- External master switch
- Soft starter
- Phase control
- Condensation pressure regulator
- Low temperature kit
- Storage tank



Self-adaptive curve

Technibel
UNE AVANCE DANS L'AIR DU TEMPS

	CHGF				
MODELS	**20**	**24**	**28**	**32**	**40**
Single pump codes	CHG207F	CHG247F	CHG287F	CHG327F	CHG407F
Dual pump codes	-	-	CHG287FB	CHG327FB	CHG407FB
▼ Cooling specifications					
Power +7°C/+12°C (kW) / 35°C ext.	19.61	23.80	28.10	31.52	39.67
EER	2.75	2.94	3.25	3.13	3.11
Number of compressors			1		
R410A refrigerant charge (kg)	4.23	5.80	7.50	7.50	10.80
▼ Circuit specifications and connections					
Expansion tank capacity (l)	5			8	
Nominal water flow rate (+7°C/35°C) (m^3/h)	3.37	4.10	4.83	5.42	6.82
Available head for pump (kPa)	123	116	143	126	119
Storage tank capacity (l)	50			125	
Hydraulic connections	1“ 1/4 F				
▼ Electrical specifications and connections					
Power 50 Hz with GND	400V+N				
Startup current (A)	68	103	87	108	108
Max current draw with heating element (A)	26.2	27.6	35.5	36.5	42.5
Thermal cutout rating (A)	32	32	40	40	50
Power cord cross section (1)	5G 10 mm^2	5G 10 mm^2	5G 16 mm^2	5G 16 mm^2	5G 25 mm^2
▼ Running noise					
Sound power per EN12102 (dBA)	71	72	73	73	75
Sound pressure level at 10 m (dBA) (2)	43	44	45	45	47
▼ Operating range					
Air temperature range	+47°C /-10°C				
Water delivery temperature, max/min	+16°C /+5°C (0°C with glycol)				
Δ Exchanger water temperature, min/max	+3°C/+8°C				
▼ General specifications					
Dimensions H x L x D (mm)	1 300 x 1 565 x 600		1 485 x 1 990 x 950		
Net weight (kg)	250	270	350	350	370

(1) Indicative data, must be checked against the installation conditions and legal requirements **(3)** Sound power in quiet operating mode, which limits power output to the nominal power rating **(2)** Sound pressure: unit outdoors on a reflective surface at a distance of 10m.

Air/water chiller

AQUASET-T range

MODELS	CHGF 55	CHGF 70	CHGF 76
Single pump codes	CHG557F	CHG707F	CHG767F
Dual pump codes	CHG557FB	CHG707FB	CHG767FB
▼ Cooling specifications			
Power +7°C/+12°C (kW) / 35°C ext.	54.60	69.80	76.10
EER	2.98	2.96	2.77
Number of compressors		2	
R410A refrigerant charge (kg)	11.00	16.00	16.00
▼ Circuit specifications and connections			
Expansion tank capacity (l)		8	
Nominal water flow rate (+7°C/35°C) (m^3/h)	9.4	12	13.1
Available head for pump (kPa)	135	129	115
Storage tank capacity (l)	125	125	125
Hydraulic connections		2" F	
▼ Electrical specifications and connections			
Power 50 Hz with GND		400V+N	
Startup current (A)	117	136	154
Max current draw with heating element (A)	48	57	69
Thermal cutout rating (A)	63	63	80
Power cord cross section (1)	5G 25 mm^2	5G 35 mm^2	5G 35 mm^2
▼ Running noise			
Sound power per EN12102 (dBA)	81	81	81
Sound pressure level at 10 m (dBA) (2)	53	53	53
▼ Operating range			
Air temperature range		+47°C /-10°C	
Water delivery temperature, max/min		+16°C /+5°C (0°C with glycol)	
Δ Exchanger water temperature, min/max		+3°C/+8°C	
▼ General specifications			
Dimensions H x L x D (mm)		1 735 x 2 091 x 1 183	
Net weight (kg)	657	762	842

(1) Indicative data, must be checked against the installation conditions and legal requirements **(3)** Sound power in quiet operating mode, which limits power output to the nominal power rating **(2)** Sound pressure: unit outdoors on a reflective surface at a distance of 10m.

Accessories

Description	Code	Notes
Simplified remote control	70250078	On/Off, mode change, alarm indicator
Remote display	70250079	Keypad included, 3 m cable, power supply and RS 485 card
RS 485 communication interface - MODBUS protocol	70250080	For applications without keypad
RS 485 communication interface - MODBUS protocol	70250081	For applications with keypad and screen code 70250079
HP/LP pressure gauges	70970008	All models
Battery protection grille	70600041	Sizes 20 and 24
Battery protection grille	70600042	Sizes 28 - 40
Battery protection grille	70600043	Sizes 55 - 76
Set of vibration damping mounts	70600035	All models - Thickness 25 mm - 100 x 100 mm

Remote display

AQUASET-T range

WATER GAS R410A

PHRF

PHRF 23/27

PHRF 32 à 46

PHRF 60 à 85

Applications

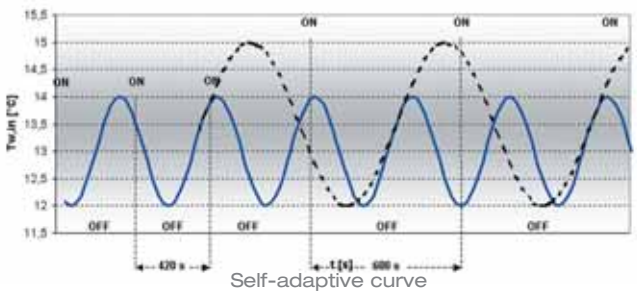
- **Air conditioning**

Benefits

- 23 kW to 85 kW
- Low running noise
- High energy efficiency
- Integrated hydronic module
- Water delivery/return temperature control
- Low water volume due to optimised self-adaptive operation
- Dual pump (option) from size 32 (32 kW)
- Operation with ambient air temperature +47°C to -10°C

High level standard equipment:

- External master switch
- Soft starter
- Phase control
- Condensation pressure regulator
- Low temperature kit
- Storage tank



Self-adaptive curve

Heat pumps
Air/Water

AQUASET-T range

MODELS	PHRF 23	27	32	40	46
Single pump codes	PHR237F	PHR277F	PHR327F	PHR407F	PHR467F
Dual pump codes	-	-	PHR327FB	PHR407FB	PHR467FB
▼ Heating capacity					
Power 45°C/40°C (kW) / +7°C ext.	22.96	27.15	31.37	39.28	45.17
COP +7°C/+45°C (kW)	3.21	3.35	3.43	3.39	3.44
Power 45°C/40°C (kW) / -5°C ext.	18.02	20.27	22.77	29.45	33.31
COP -5°C/+45°C (kW)	2.5	2.55	2.56	2.6	2.5
▼ Cooling capacity					
Power +7°C/+12°C (kW) / 35°C ext.	19.22	23.32	27.54	34.30	38.88
EER	2.70	2.88	3.18	2.98	3.04
Number of compressors			1		
R410A refrigerant charge (kg)	4.23	5.80	7.50	7.80	10.80
▼ Circuit specifications and connections					
Expansion tank capacity (l)	5			8	
Nominal water flow rate in cooling (+7°C/35°C) (m^3/h)	3.37	4.10	4.83	5.42	6.82
Available head for pump (kPa)	123	116	143	130	119
Storage tank capacity (l)	50			125	
Hydraulic connections	1“ 1/4 F				
▼ Circuit specifications and connections					
Power 50 Hz with GND	400V+N				
Startup current with soft start (A)	68	103	86	105	106
Max current draw with heating element (A)	26.2	27.6	35.5	41.5	42.5
Thermal cutout rating (A)	32	32	40	50	50
Power cord cross section (1)	5G 10 mm^2	5G 10 mm^2	5G 16 mm^2	5G 25 mm^2	5G 25 mm^2
▼ Running noise					
Sound power per EN12102 (dBA)	71	72	73	73	75
Sound pressure level at 10 m (dBA) (2)	43	44	45	45	47
▼ Operating range					
Air temperature range	+47°C /-10°C				
Water delivery temperature, max/min, in cooling mode	+16°C /+5°C				
Water delivery temperature, max/min, in heating mode	+53°C/+25°C				
Δ water temperature, min/max	+3°C/+8°C				
▼ General specifications					
Dimensions H x L x D (mm)	1 300 x 1 565 x 600		1 485 x 1 990 x 950		
Net weight (kg)	263	285	380	400	400

(1) Indicative data, must be checked against the installation conditions and legal requirements **(2)** Sound pressure: unit outdoors on a reflective surface at a distance of 10m.

MODELS	PHRF 60	PHRF 77	PHRF 85
Single pump codes	PHR607F	PHR777F	PHR857F
Dual pump codes	PHR607FB	PHR777FB	PHR857FB
▼ Heating capacity			
Power 45°C/40°C (kW) / +7°C ext.	59.91	77.02	84.76
COP +7°C/+45°C (kW)	3.24	3.29	3.14
Power 45°C/40°C (kW) / -5°C ext.	43.87	57.6	63.6
COP -5°C/+45°C (kW)	2.5	2.57	2.5
▼ Cooling capacity			
Power +7°C/+12°C (kW) / 35°C ext.	54.60	69.80	76.10
EER	2.98	2.96	2.77
Number of compressors		2	
R410A refrigerant charge (kg)	13.20	19.50	19.50
▼ Circuit specifications and connections			
Expansion tank capacity (l)		8	
Nominal water flow rate in cooling (+7°C/35°C) (m^3/h)	9.4	12.0	13.1
Available head for pump (kPa)	135	129	115
Storage tank capacity (l)	125	125	125
Hydraulic connections		2“ F	
▼ Circuit specifications and connections			
Power 50 Hz with GND		400V+N	
Startup current with soft start (A)	117	136	154
Max current draw with heating element (A)	48	57	69
Thermal cutout rating (A)	63	63	80
Power cord cross section (1)	5G 25 mm^2	5G 35 mm^2	5G 35 mm^2
▼ Running noise			
Sound power per EN12102 (dBA)	81	81	81
Sound pressure level at 10 m (dBA) (2)	53	53	53
▼ Operating range			
Air temperature range		+47°C /-10°C	
Water delivery temperature, max/min, in cooling mode		+16°C /+5°C	
Water delivery temperature, max/min, in heating mode		+53°C/+25°C	
Δ water temperature, min/max		+3°C/+8°C	
▼ General specifications			
Dimensions H x L x D (mm)		1 735 x 2 091 x 1 183	
Net weight (kg)	662	767	847

(1) Indicative data, must be checked against the installation conditions and legal requirements **(2)** Sound pressure: unit outdoors on a reflective surface at a distance of 10m.

Accessories

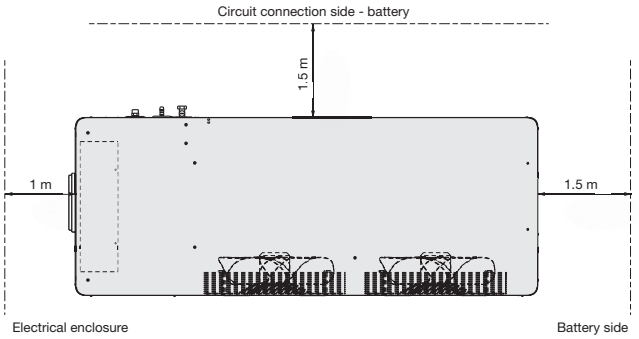
Description	Code	Notes
Simplified remote control	70250078	On/Off, mode change, alarm indicator
Remote display	70250079	Keypad included, 3 m cable, power supply and RS 485 card
RS 485 communication interface - MODBUS protocol	70250080	For applications without keypad
RS 485 communication interface - MODBUS protocol	70250081	For applications with keypad and screen code 70250079
HP/LP pressure gauges	70970008	All models
Battery protection grille	70600041	Sizes 23 and 27
Battery protection grille	70600042	Sizes 32 - 46
Battery protection grille	70600043	Sizes 60 - 85
Set of vibration damping mounts	70600035	All models - Thickness 25 mm - 100 x 100 mm

Remote display

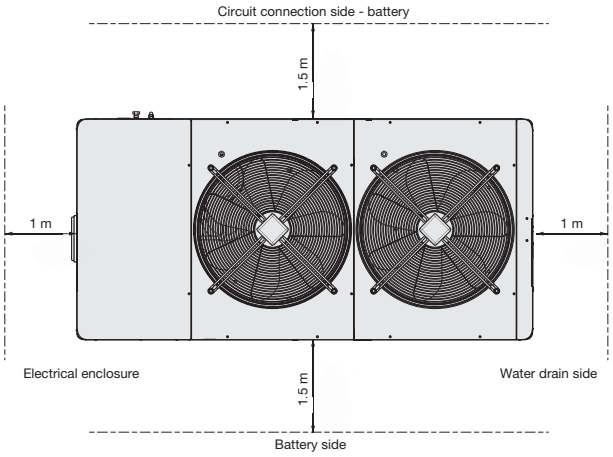
Heat pumps
Air/Water

AQUASET-T range

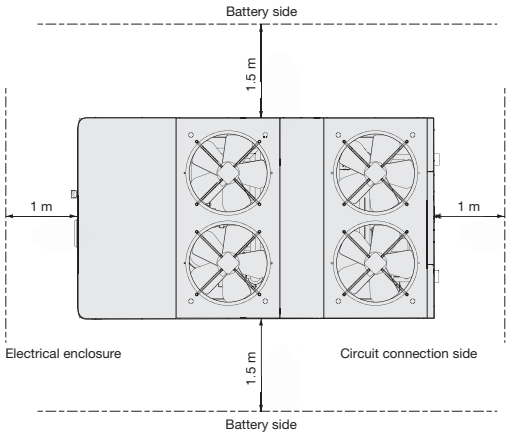
CHGF 20/24 - PHRF 23/27



CHGF 28 - 40 - PHRF 32 - 46



CHGF 55 - 76 - PHRF 60 - 85



Terminal units

Wall mounted models

MPW

These models are particularly recommended for rooms in which the floor has to be kept clear, or where water is distributed via a false ceiling.

The active carbon filter, available as an optional extra, deodorises the air in the room. It supplements the standard filter, which captures dust

- **Elegant design**
- **5 models, 4 power levels**
- **Compact appliances**
- **Range with infrared remote control as standard**
- **Identical appearance of all models**

Functions

- Cooling or heating by means of a water heat exchanger with 2 pipes
- Fan with integrated filter.

Mandatory accessories

- 3-way valve kit

Type	Model	Code
Active carbon filter (2 pieces)	MPW 1 / 2 B5B/B5X	397021909
	MPW 3 / 4 B5B/B5X	397021910
Remote control with manual switching RAB 30 Valve adjustment	MPW 1 / 2 / 3 / 4 B5B MPW 1 BE5B*	70250076
Remote control with automatic switching RCC 10 Valve adjustment	MPW 1 / 2 / 3 / 4 B5B	70250051
Remote control with automatic switching RCC 20 Valve adjustment (valve mandatory with electric heating)	MPW 1 BE5B	70250052
Room temperature sensor for RCC (Automatic switching)	MPW 1 / 2 / 3 / 4 B5B MPW 1 BE5B	70250053
Remote room temperature sensor, in casing, for RCC	MPW 1 / 2 / 3 / 4 B5B MPW 1 BE5B	70250054
3-way valve + by-pass – motorised 230 V/1/50 Hz ON/OFF operation – 1/2" M connection – Kvs 1.6 (to be fitted outside the appliance during installation work)	All	70600071

* For cooling-only systems 2 pipes with valve + electric heating element

Model		MPW 1	MPW 1 BE	MPW 2	MPW 3	MPW 4
Type		2 pipes	2 pipes + E	2 pipes	2 pipes	2 pipes
Codes - Models with remote control		MPW 1 B5X	-	MPW 2B5X	MPW 3B5X	MPW 4B5X
Codes - Models without remote control		MPW 1 B5B	MPW 1BE5B	MPW 2B5B	MPW 3B5B	MPW 4B5B
Total cooling capacity (kW)(1) BV/MV/AV		0,80 / - / 1,24	0,80 / - / 1,24	0,96 / - / 1,67	1,91 / 2,53 / 3,17	2,62 / 3,14 / 3,67
Sensible cooling capacity (kW)(1)	BV/MV/AV	0,58 / - / 0,94	0,58 / - / 0,94	0,74 / - / 1,3	1,53 / 1,89 / 2,56	2,12 / 2,50 / 3,01
Heating capacity (kW) (2)	BV/MV/AV	1,11 / - / 1,72	1,11 / - / 1,72	1,49 / - / 2,38	2,70 / 3,50 / 4,50	3,70 / 4,50 / 5,50
Heating capacity with electric heating element (kW)		-	0,5	-	-	-
Air flow rate (m3/s-m3/h)	BV	0,042 - 150	0,042 - 150	0,05 - 180	0,089 - 320	0,131 - 470
	MV	-	-	-	0,111 - 400	0,161 - 580
	AV	0,061 - 220	0,061 - 220	0,075 - 270	0,142 - 510	0,197 - 710
Water flow rate in cooling mode (l/h) (1)	AV	215	215	290	545	630
Pressure drop in cooling mode (kPa)(1)	AV	16,1	16,1	27,2	20,0	27,0
Pressure drop in heating mode (kPa)(2)	AV	15,3	15,3	26,2	19,0	26,0
Electricity supply (V/ph/Hz)		230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power consumption (kW)	AV	0,025	0,525	0,025	0,075	0,08
Total current (A)	AV	0,11	2,3	0,11	0,33	0,36
Hydraulic connection		1/2" G female	1/2" G female	1/2" G female	1/2" G female	1/2" G female
Sound power level (dBA)	BV/MV/AV	32 / - / 41	32 / - / 41	35 / - / 45	46 / 52 / 58	48 / 53 / 59
Sound pressure level (dBA)at a distance of 2 m indoors	BV/MV/AV	23 / - / 32	23 / - / 32	26 / - / 36	37 / 43 / 49	39 / 44 / 50

10 kPa = 1mCE

The sound pressure levels of TECHNIBEL products conform to European standard EN 12102

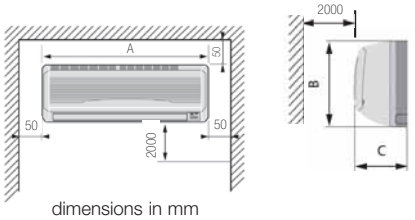
Nominal conditions

(1) Air inlet 27°C (DB) / 19°C (WB)
Water inlet 7°C
Water outlet 12°C

(2) Air inlet 20°C
Water inlet 50°C (same water flow rate as for conditions in (1))
Max. T of water generated 60°C

Installation clearances

(Refer to the installation manual for full information)



dimensions in mm

	A (mm)	B(mm)	C(mm)	Weight(Kg)
MPW 1	805	270	215	8
MPW 2	805	270	215	8
MPW 3	995	285	240	11
MPW 4	995	285	240	11

Floor / ceiling model

KPSW

The attractive and slimline KPSW models can be installed as floor-standing or ceiling-mounted units, to offer uniform installation throughout every building.

The active carbon filter, available as an optional extra, deodorises the air in the room. It supplements the standard filter, which captures dust.

- **3 power levels**
- **Visually appealing and silent**
- **Range with infrared remote control as standard**

Functions

- Cooling or heating by means of a water heat exchanger with 2 pipes
- Fan with integrated filter.

Mandatory accessories

- 3-way valve kit

Type		Model	Code
Active carbon filter		KPSW 2/3/4 B5B/B5X	397021907
Kit with 2 insulated hoses	length 1,250 mm	KPSW 2/3/4 B5B/B5X	70600059
hydraulic connection	length 550 mm	KPSW 2/3/4 B5B/B5X	70600060
Remote control with manual switching RAB 30 Fan or valve adjustment		KPSW 2/3/4 B5B	70250076
Remote control with automatic switching RCC 10 Fan or valve adjustment		KPSW 2/3/4 B5B	70250051
Room temperature sensor for RCC (change over or air intake)		KPSW 2/3/4 B5B	70250053
Remote temperature sensor, in casing, for RCC		KPSW 2/3/4 B5B	70250054
3-way valve + by-pass – motorised 230 V/1/50 Hz On/Off operation – connection 1/2“ M – Kvs 1.6 (to be fitted outside the appliance during installation work)		All	70600071

Model		KPSW 2	KPSW 3	KPSW 4
		KPSW		
Type		2 pipes	2 pipes	2 pipes
Codes - Models with remote control		KPSW 2 B5X	KPSW 3 B5X	KPSW 4 B5X
Codes - Models without remote control		KPSW 2 B5B	KPSW 3 B5B	KPSW 4 B5B
Total cooling capacity (kW)(1) BV/MV/AV		1,07 / 1,80/ 2,40	1,13 / 2,40 / 3,19	1,77 / 3,00 / 3,60
Sensible cooling capacity (kW)(1)	BV/MV/AV	0,93 / 1,50 / 1,97	0,95 / 1,80 / 2,47	1,48 / 2,50 / 3,06
Heating capacity (kW) (2) BV/MV/AV		1,84 / 2,70 / 3,48	2,05 / 3,40 / 4,07	2,40 / 4,30 / 5,30
Air flow rate (m3/s-m3/h)	BV	0,056/200	0,058/210	0,092/330
	MV	0,083/300	0,119/430	0,158/570
	AV	0,115/415	0,144/520	0,188/675
Water flow rate in cooling mode (l/h)	AV	420	550	617
Pressure drop in cooling mode (kPa)(1)	AV	21	26,6	26
Pressure drop in heating mode (kPa)(2)	AV	13	23,7	23
Electricity supply (V/ph/Hz)		230/1/50	230/1/50	230/1/50
Total power consumption (kW)	AV	0,034	0,046	0,080
Total current (A)	AV	0,16	0,23	0,40
Hydraulic connection		1/2" G male	1/2" G male	1/2" G male
Sound power level (dBA)	BV/MV/AV	35 / 43 / 48	35 / 45 / 50	40 / 51 / 54
Sound pressure level (dBA)at a distance of 2 m indoors	BV/MV/AV	27 / 35 /40	27 / 37 /42	32 / 43 / 46

The sound pressure levels of TECHNIBEL products conform to European standard EN 12102

10 kPa = 1mCE

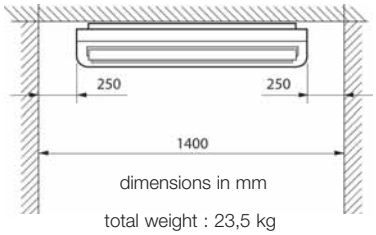
Nominal conditions

(1) Air inlet 27°C (DB) / 19°C (WB)
Water inlet 7°C
Water outlet 12°C

(2) Air inlet 20°C
Water inlet 50°C (same water flow rate as for conditions in (1))
Max. T of water generated 60°C

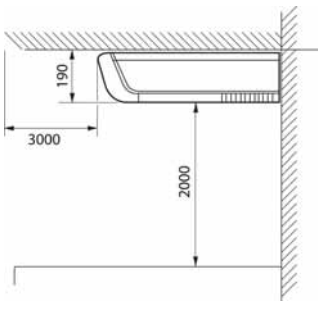
Installation clearances

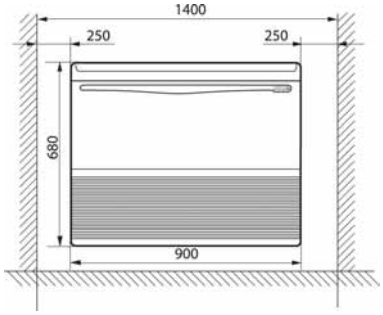
(Refer to the installation manual for full information)



dimensions in mm

total weight : 23,5 kg





Cassette model

CWX 3/5
(600 X 600)

- 2 power levels, 6 models
- 2 models with infrared remote control as standard

CWX 3 and 5 cassette models are chilled water terminal units designed for climate control in offices, warehouses and hotels.

They can be installed in false ceilings to hide the feed piping, thus leaving the wall space completely clear. The CWX 3 BE and CWX 5 BE models are fitted with an electric heating element.

This cassette model is particularly discreet: in fact, its dimensions (600 x 600) match those of the panels used in false ceilings.

These cassette models are supplied as standard with an air vent on the coil and a condensate drain pump.

A pre-drilled hole (Ø 70 mm) is provided for the connection of a fresh air inlet.

Functions

- Cooling or heating for systems with 2/4 pipes.
- Fan with integrated filter (filter can be regenerated).

Mandatory accessories

- 3-way valve kit

		CWX 3/5					
Model		CWX 3 B	CWX 3 BE	CWX 3 BW	CWX 5 B	CWX 5 BE	CWX 5 BW
Type		2 pipes	2 pipes + E	4 pipes	2 pipes	2 pipes + E	4 pipes
Codes - Models with remote control		CWX 3 B5X	-	-	CWX 5 B5X	-	-
Grille codes - Models with remote control		K 70 N 129 T	-	-	K 70 N 129 T	-	-
Codes - Models without remote control		CWX 3 B5B	CWX 3 BE5B	CWX 3 BW5B	CWX 5 B5B	CWX 5 BE5B	CWX 5 BW5B
Grille codes - Models without remote control		K 70 N 090 T	K 70 N 090 T	K 70 N 090 T	K 70 N 090 T	K 70 N 090 T	K 70 N090 T
Total cooling capacity (kW)(1)	BV/MV/AV	2,15/2,35/2,60	1,72/1,88/2,08	1,72/1,88/2,08	3,60/4,10/4,70	3,24/3,69/4,23	2,88/3,28/3,76
Sensible cooling capacity (kW) (1)	BV/MV/AV	1,91/2,09/2,31	1,53/1,67/1,85	1,53/1,67/1,85	2,80/3,21/3,72	2,52/2,89/3,35	2,24/2,56/2,98
Heating capacity (kW) (2)	BV/MV/AV	2,83/3,11/3,49	2,4/2,64/2,96	-	4,35/4,85/5,70	3,92/4,37/5,13	-
Heating capacity with electric heating element (kW)		-	1,25	-	-	2,50	-
Heating capacity additional coil (kW) (3)	BV/MV/AV	-	-	1,22/1,34/1,51	-	-	1,78/1,98/2,33
Air flow rate	(m3/s) BV/MV/AV	0,11/0,128/0,144	0,11/0,128/0,144	0,11/0,128/0,144	0,147/0,175/0,208	0,147/0,175/0,208	0,147/0,175/0,208
	(m3/h)	400/460/520	400/460/520	400/460/520	530/630/750	530/630/750	530/630/750
Water flow rate in cooling mode (l/h) (1)	AV	447	358	358	790	728	647
Water flow rate - additional coil (l/h) (3)	AV	-	-	108	-	-	167
Pressure drop in cooling mode (kPa)(1)	AV	22	22	22	42	42	42
Pressure drop in heating mode (kPa)(2)	AV	18	18	-	33	33	-
Water pressure drop additional coil (kPa) (3)	AV	-	-	18	-	-	32
Electricity supply (V/ph/Hz)		230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Max. power consumption (kW)	AV	0,060	1,310	0,060	0,090	2,590	0,090
Max. total current (A)	AV	0,25	5,70	0,25	0,40	11,30	0,40
Hydraulic connection		1/2" G fem.	1/2" G fem.	1/2" G fem.	1/2" G fem.	1/2" G fem.	1/2" G fem.
Sound power level (dBA)	BV/MV/AV	40 / 43 / 46	40 / 43 / 46	40 / 43 / 46	48 / 51 / 56	48 / 51 / 56	48 / 51 / 56
Sound pressure level (dBA) (4)	BV/MV/AV	31 / 34 / 37	31 / 34 / 37	31 / 34 / 37	39 / 42 / 47	39 / 42 / 47	39/42 / 47

The sound pressure levels of TECHNIBEL products conform to European standard EN 12102

Nominal conditions
(1) Air inlet 27°C (DB) / 19°C (WB)
Water inlet 7°C
Water outlet 12°C

(2) Air inlet 20°C
Water inlet 50°C / same water flow rate (1) (2 pipes)

(3) Air inlet 20°C
Water inlet 70°C (4 pipes)
Water outlet 60°C (4 pipes)

(4) indoors, at a distance of 2 m

Cassette model

CWX 6/8/10

- **3 power levels**
- **3 models with infrared remote control as standard**

CWX 6, 8 and 10 cassette models are chilled water terminal units designed for climate control in offices, warehouses and hotels.

They can be installed in false ceilings to hide the feed piping, thus leaving the wall space completely clear.

These cassette models are supplied as standard with an air vent on the coil and a condensate drain pump.

Functions

- Cooling or heating for systems with 2 pipes.
- Fan with integrated filter (filter can be regenerated).

Mandatory accessories

- 3-way valve kit

			CWX 6/8/10		
Model			CWX 6	CWX 8	CWX 10
Type			2 tubi	2 tubi	2 tubi
Codes - Models with remote control			CWX 6 B5X	CWX 8 B5X	CWX 10 B5X
Grille codes - Models with remote control			K 70 N 130 T	K 70 N 131 T	K 70 N 131 T
Codes - Models without remote control			CWX 6 B5B	CWX 8 B5B	CWX 10 B5B
Grille codes - Models without remote control			K 70 N 094 T	K 70 N 095 T	K 70 N 095 T
Total cooling capacity (kW)(1)		BV/MV/AV	4,20 / 5,00 / 6,00	5,50 / 6,50 / 8,00	6,23 / 8,09 / 9,92
Sensible cooling capacity (kW)(1)		BV/MV/AV	3,20/ 3,80 / 4,70	4,10 / 5,40 / 6,40	4,62 / 6,22 / 7,90
Heating capacity (kW) (2)		BV/MV/AV	5,40 / 6,40 / 7,70	6,28 / 8,52 / 9,42	7,34 / 9,53 / 11,69
Air flow rate	(m3/s)	BV/MV/AV	0,233 / 0,294 / 0,361	0,231 / 0,303 / 0,353	0,339 / 0,472 / 0,631
	(m3/h)		850 / 1060 / 1300	830 / 1090 / 1270	1200 / 1700 / 2300
Water flow rate in cooling mode (l/h) (1)		AV	1030	1380	1700
Pressure drop in cooling mode (kPa)(1)			30	41	63
Pressure drop in heating mode (kPa)(2)			27	39	60
Electricity supply (V/ph/Hz)			230/1/50	230/1/50	230/1/50
Max. power consumption (kW)		AV	0,120	0,120	0,180
Max. total current (A)		AV	0,5	0,5	0,8
Hydraulic connection			3/4" G fem.	3/4" G fem.	3/4" G fem.
Sound power level (dBA)		BV/MV/AV	40 / 44 / 51	37 / 46 / 50	43 / 49 / 57
Sound pressure level (dBA) (3)		BV/MV/AV	31 / 35 / 42	28 / 37 / 41	34 / 40 / 48

The sound pressure levels of TECHNIBEL products conform to European standard EN 12102

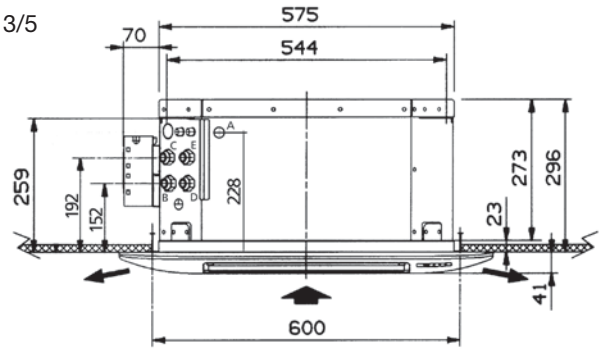
Nominal conditions

(1) Air inlet 27°C (DB) / 19°C (WB)
Water inlet 7°C
Water outlet 12°C

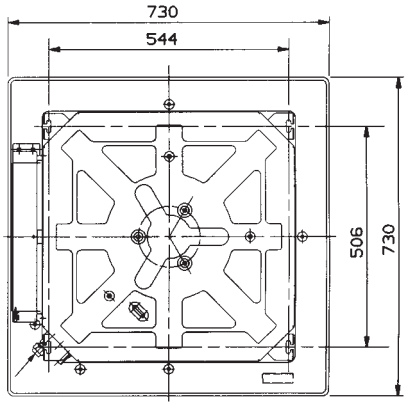
(2) Air inlet 20°C
Water 50°C / same water flow rate (1)

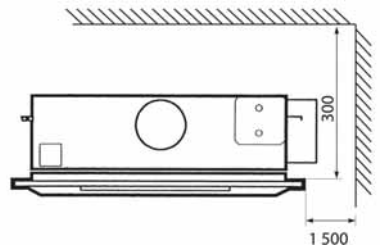
(3) indoors, at a distance of 2 m

CWX 3/5



dimensions in mm





A	Condensate connection:	: Ø 10 mm
B	Main coil water inlet:	: 1/2" (female)
C	Main coil water outlet:	: 1/2" (female)
D	Additional coil water inlet:	: 1/2" (female)
E	Additional coil water outlet:	: 1/2" (female)

Weight when empty: 18 kg CWX 3
20 kg CWX 5
Grille: 3 kg

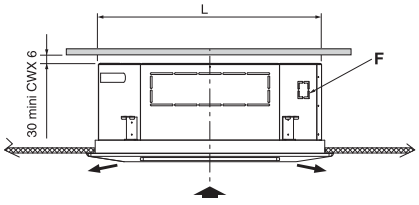
Maximum condensate pump head: 200 mm

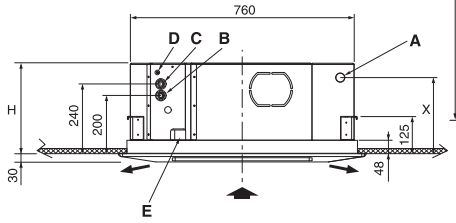
CWX 6/8/10

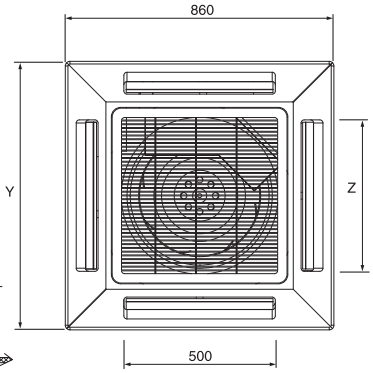
	L	H	X	Y	Z
CWX 6	760	310	260	860	500
CWX 8/10	1 050	340	290	1 150	750

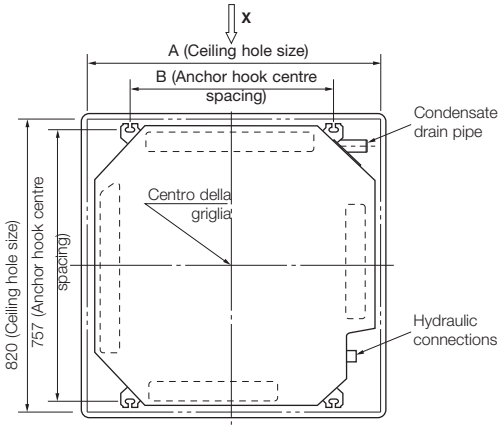
	CWX 6	CWX 8/10
Unit	23 kg	29 kg
Panel/grille assembly	5 kg	7 kg

	A	B
CWX 6	820	566
CWX 8/10	1 110	853









A	Condensate connection: Ø 32 mm outdoor
B	Water inlet: 3/4" gas female
C	Water outlet: 3/4" gas female
D	Coil air vent
E	Electrical wiring passage
F	Fresh air inlet: 60 mm x 55 mm

Maximum condensate pump head: 250 mm

ACCESSORIES

Type		Model	Code
Remote control with manual switching RAB 30			
Adjustment via 1 Cooling valve or 2 valves		CWX 3/5/6/8/10 B5B - CWX 3/5 BW5B	70250076
Adjustment via 1 Cooling valve + electric heating element		CWX 3/5 BE5B	70250076
Remote control with automatic switching RCC 10		CWX 3/5/6/8/10 B5B	70250051
Valve adjustment			
Remote control with automatic switching RCC 20		CWX 3/5 BE5B/BW5B	70250052
Valve(s) adjustment			
Room temperature sensor, for RCC			
- for change over		CWX 3/5/6/8/10 B5B - CWX 3/5 BE5B	70250053
- for air intake		All	70250053
Remote room temperature sensor,		All	70250054
in casing, for RCC			
3-way valve + by-pass	Cassette with 2 pipes 1/2"	CWX 3/5 B5B/BE5B/B5X	70600088
motorised 230 V/1/50 Hz	3/4”	CWX 6/8/10 B5B/B5X	70600089
On/Off operation	Cassette with 4 pipes 1/2”	CWX 3/5 BW5B	70600088 x 2
(to be fitted outside the appliance			
during installation work)			

Ventilconvettori

TWN

Functions common to all models

- Cooling or heating by means of a water heat exchanger with 2 pipes
- Fan with integrated filter

- **Rounded and harmonious lines**
- **7 power levels**
- **5 types of installation**

TWN fan coil terminal units are available in 7 sizes for the 2-pipe version, each designed to suit 5 types of installation:

TWN - CV: vertical model with casing

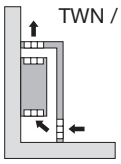
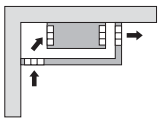
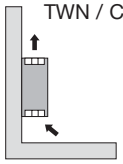
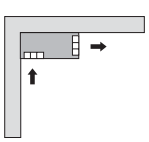
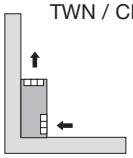
TWN - CH: model with front grille, for vertical or horizontal installation

TWN - NC: recessed model, for vertical or horizontal installation

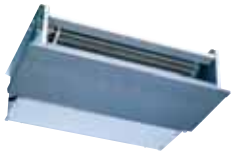
The factory-fitted options and the accessories make it possible to extend the range of models with 2 pipes + electric heating element and the range of models with 4 pipes.

- Painted sheet metal casing
- Synthetic filter
- Copper / aluminium coil, left-hand side connection (can be changed on site)

MODELLI

			Size	Code
Models without casing	 TWN / NC	 TWN / NC	02	TWN 02 NC 00T
			03	TWN 03 NC 00T
			04	TWN 04 NC 00T
			05	TWN 05 NC 00T
			06	TWN 06 NC 00T
			08	TWN 08 NC 00T
			11	TWN 11 NC 00T
Models with casing	 TWN / CV		02	TWN 02 CV 00T
			03	TWN 03 CV 00T
			04	TWN 04 CV 00T
			05	TWN 05 CV 00T
			06	TWN 06 CV 00T
			08	TWN 08 CV 00T
			11	TWN 11 CV 00T
	 TWN / CH	 TWN / CH	02	TWN 02 CH 00T
			03	TWN 03 CH 00T
			04	TWN 04 CH 00T
			05	TWN 05 CH 00T
			06	TWN 06 CH 00T
			08	TWN 08 CH 00T
			11	TWN 11 CH 00T






MODEL			TWN 02	03	04	05	06	08	11
Total cooling capacity (kW)		BV	1,45	1,76	2,51	3,17	3,97	4,49	6,97
	(1)	MV	1,81	2,38	3,27	3,87	5,27	6,78	8,77
		AV	2,09	2,93	4,33	4,77	6,71	8,71	10,95
Sensible cooling capacity (kW)		BV	1,05	1,26	1,80	2,32	2,84	3,25	5,12
	(1)	MV	1,31	1,70	2,45	2,92	3,83	4,94	6,46
		AV	1,51	2,11	3,15	3,65	4,91	6,38	8,07
Heating capacity (kW)		BV	1,79	2,28	3,29	4,24	4,77	5,65	8,90
2 pipes	(2)	MV	2,18	3,08	4,30	5,21	6,23	8,46	11,1
		AV	2,79	3,81	5,63	6,36	7,83	11,1	14,5
Electric heating element power (kW) (3)			1,5	1,6	2,0	2,0	3,0	3,0	-
Heating capacity (kW)		BV	1,79	2,3	3,47	4,04	5,69	6,12	8,82
4 pipes	(4)	MV	2,04	2,83	4,19	4,65	6,83	7,95	10,21
		AV	2,3	3,26	5,04	5,30	7,91	9,30	12,14
Air flow rate (m3/s-m3/h)		BV	0,058-211	0,067-241	0,100-361	0,130-470	0,158-570	0,178-642	0,280-1010
	(5)	MV	0,075-271	0,094-341	0,138-497	0,168-605	0,214-771	0,284-1022	0,366-1317
		AV	0,095-344	0,123-442	0,196-706	0,218-785	0,280-1011	0,387-1393	0,514-1850
Water flow rate in cooling mode (l/h)		BV	249	302	431	544	681	771	1 196
	(1)	MV	311	408	561	664	904	1 163	1 505
		AV	359	503	743	818	1 152	1 494	1 879
Water flow rate - additional coil (l/h)		BV	157	202	304	355	499	537	773
	(4)	MV	179	249	367	408	600	698	896
		AV	202	286	442	465	694	816	1 065
Max. static pressure (Pa) (10)		MV/AV	40/60	40/60	60/60	60/60	60/60	60/60	60/60
Pressure drop in cooling mode (kPa)		BV	7	5	5	7	5	6	14
	(1)	MV	10	8	8	10	8	12	21
		AV	13	11	12	14	12	19	31
Pressure drop in heating mode (kPA)		BV	5	4	4	6	4	5	12
2 pipes	(2)	MV	8	6	6	8	6	11	17
		AV	10	9	9	12	9	16	25
Pressure drop in heating mode (kPA)		BV	5	3	5	6	15	17	29
4 pipes	(4)	MV	6	4	7	8	21	27	37
		AV	8	5	10	10	27	36	50
Electricity consumption		(6) (W)	53	56	98	98	182	244	310
fan 230 V/1/50 Hz		(7) (A)	0,24	0,25	0,44	0,44	0,80	1,12	1,52
Connection	2 pipes		1/2" G Fem.	1/2" G Fem.	1/2" G Fem.	1/2" G Fem.	3/4" G Fem.	3/4" G Fem.	3/4" G Fem.
hydraulic	4 pipes	COOLING	1/2" G Fem.	1/2" G Fem.	1/2" G Fem.	1/2" G Fem.	3/4" G Fem.	3/4" G Fem.	3/4" G Fem.
		Heating	1/2" G Fem.	1/2" G Fem.	1/2" G Fem.	1/2" G Fem.	1/2" G Fem.	1/2" G Fem.	1/2" G Fem.
Sound power level (dBA) (8)		BV/MV/AV	36/44/50	33/41/47	35/43/52	43/49/56	47/54/61	49/59/66	60/64/71
Sound pressure level (dBA) (9)		BV/MV/AV	29/35/41	24/32/38	26/34/43	34/40/47	38/45/52	40/50/57	51/55/62

The sound pressure levels of TECHNIBEL products conform to European standard EN 12102

Fem. = female

Nominal conditions

(1) Air inlet 27°C (DB) / 19°C (WB)
Water 7°C / 12°C

(2) Air inlet 20°C
Water inlet 50°C, same water flow rate (1)

(3) As an optional extra, limited static pressure (consult technical features)
Operation prohibited for a system with 2 pipes (heating and cooling)

(4) Air inlet 20°C
Water 70°C / 60°C

(5) Measurements with direct air outlet (available pressure = 0 Pa)
T air inlet 20°C

(6) Total power consumption (high speed)

(7) Total power consumption (high speed)

(8) Test performed in compliance with standard ISO 3743

(9) indoors, at a distance of 2 m

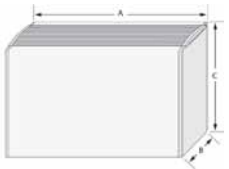
(10) BV operation is prohibited in applications which require static pressure.

ACCESSORIES OR FACTORY-FITTED OPTIONS

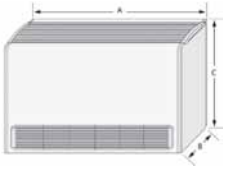
	Type	Model	Code for accessories	Code for factory-fitted options
controls on the unit	Speed selector switch (3) M/A*	CV - CH (vertical)	K 70 P 034 Z	K 70 P 034 M
	Fan regulation (3 speeds, M/A, electromechanical thermostat) Heating only or Cooling only	CV 2 pipes CH (vertical) 2 pipes	K 70 P 035 Z	K 70 P 035 M
	Fan regulation (3 speeds, M/A, electromechanical thermostat, manual switching)	CV 2 pipes CH (vertical) 2 pipes	K 70 P 036 Z	K 70 P 036 M
	Electronic regulation - LCD display for 1 valve or 2 valves or 1 valve + electric heating element - Auto switch	CV or CH (vertical) 2/4 pipes - 2 pipes cooling + E	K 70 P 090 Z	K 70 P 090 M
	Electronic regulation - LCD display for 1 valve or 2 valves or 1 valve + electric heating element - Auto switch - "Master-Slave" system	CV or CH (vertical) 2/4 pipes - 2 pipes cooling + E	K 70 P 091 Z	K 70 P 091 M
	Integrated assembly kit (cladding + air sensor)	K 70 P 090 Z/91 Z	K 70 P 092 Z	
	Remote water/air sensor	K 70 P 090 Z/91 Z	K 70 P 093 Z	
	Remote humidity sensor	K 70 P 091 Z	K 70 P 094 Z	
	Control panel for motorised damper	CV	K 70 P 040 Z	K 70 P 040 M
	3-way valve + by-pass kit, motorised 230 V/1/50 Hz On-Off operation, for system unit with 2 pipes (recommended accessory: auxiliary condensate basin) 1/2" G M - Kvs 1.7 3/4" G M - Kvs 2.8 3/4" G M - Kvs 2.8	Size 02 - 03 Size 04 - 05 Size 06 to 11	K 70 L 047 Z K 70 L 048 Z K 70 L 049 Z	K 70 L 047 M K 70 L 048 M K 70 L 049 M
	3-way valve + by-pass kit, motorised 230 V/1/50 Hz On-Off operation, for system unit with 4 pipes (recommended accessory: auxiliary condensate basin) 1/2" G M - Kvs 1.7 1/2" G M - Kvs 1.7	Size 02 to 05 Size 06 to 11	K 70 L 050 Z K 70 L 051Z	K 70 L 050 M K 70 L 051 Z
	Additional coil for system with 4 pipes	Size 02 Size 03 Size 04 - 05 Size 06 - 08 Size 11	K 70 B 009 Z K 70 B 010 Z K 70 B 011 Z K 70 B 012 Z K 70 B 013 Z	K 70 B 009 M K 70 B 010 M K 70 B 011 M K 70 B 012 M K 70 B 013 M
	Defrosting heating element kit 1.5 kW 1.6 kW 2.0 kW 3.0 kW	Size 02 Size 03 Size 04 - 05 Size 06 - 08	K 70 C 040 Z K 70 C 041 Z K 70 C 042 Z K 70 C 043 Z	K 70 C 040 M K 70 C 041 M K 70 C 042 M K 70 C 043 M

* The selector switch is not used for temperature control

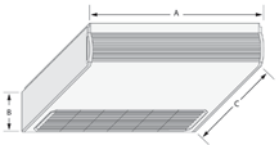
Units WITH CASING



TWN - CV
Vertical model

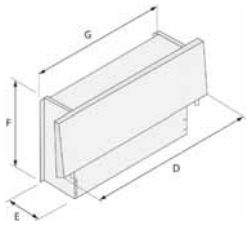


TWN - CH
Vertical model with front grille



TWN - CH
Horizontal model with front grille

Units WITHOUT CASING



TWN - NC
Horizontal or vertical model

	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
Size 02	774	226	564	584	224	535	498
Size 03	984	226	564	794	224	535	708
Size 04-05	1194	226	564	1004	224	535	918
Size 06 - 08	1404	251	564	1214	249	535	1128
Size 11	1614	251	564	1424	249	535	1338

ACCESSORIES SUPPLIED SEPARATELY

	Model	Code
Power interface kit for controlling 4 fan coil units with one control	all	K 70 P 095 Z
Control RAB 30 (for wall mounting): ON/OFF switch + manual control of 3 fan speeds, ON/OFF thermostat, local Summer/Winter switch. Valve or fan adjustment.	2 pipes 4 pipes	70250076
Electronic regulation, LCD display (for wall mounting)	2/4 pipes - 2 pipes cooling + E	K 70 P 090 Z
Electronic regulation, LCD display, "Master-Slave" system (for wall mounting)	2/4 pipes - 2 pipes cooling + E	K 70 P 091 Z
Remote water/air sensor	K 70 P 090 Z/91 Z	K 70 P 093 Z
Remote humidity sensor	K 70 P 091 Z	K 70 P 094 Z
Control RCC 20 (for wall mounting): ON/OFF switch + manual control of 3 fan speeds, ON/OFF thermostat, automatic Summer/Winter switch with change over sensor (accessory) or outdoor contact. Valve or fan adjustment.	2 pipes/2 pipes + E	70250052
Control RCC 10 (for wall mounting): ON/OFF switch + manual control of 3 fan speeds, ON/OFF thermostat, automatic Summer/Winter switch with change over sensor (accessory) or outdoor contact. Valve or fan adjustment.	2 pipes 2 pipes	70250051
Remote room temperature sensor in casing for 70250051-52		70250054
Room temperature sensor for 70250051-52		70250053
Control panel for motorised damper	CV - NC (vertical)	K 70 D 032 Z
Manual air damper for CV and NC vertical models	Size 02 Size 03 Size 04 - 05 Size 06 - 08	K 70 N 120 Z K 70 N 121 Z K 70 N 122 Z K 70 N 123 Z
Motorised air damper for CV and NC vertical models	Size 02 Size 03 Size 04 - 05 Size 06 - 08 Size 11	K 70 N 124 Z K 70 N 125 Z K 70 N 126 Z K 70 N 127 Z K 70 N 128 Z
Adjustable air discharge grille for CH, CV models with casing	Size 02 Size 03 Size 04 - 05 Size 06 - 08 Size 11	K 70 N 054 Z K 70 N 055 Z K 70 N 056 Z K 70 N 057 Z K 70 N 058 Z
Outdoor air intake grille	Size 02 Size 03 Size 04 - 05 Size 06 - 08	K 70 N 059 Z K 70 N 060 Z K 70 N 061 Z K 70 N 062 Z
Indoor air intake grille with filter for NC appliances without casing	Size 02 Size 03 Size 04 - 05 Size 06 - 08	K 70 N 063 Z K 70 N 064 Z K 70 N 065 Z K 70 N 066 Z
Discharge grille with double deflector for NC appliances without casing	Size 02 Size 03 Size 04-05 Size 06 - 08	K 70 N 067 Z K 70 N 068 Z K 70 N 069 Z K 70 N 070 Z
Painted panel closing off the rear for vertical installation of CH and CV	Size 02 Size 03 Size 04-05 Size 06 - 08 Size 11	K 70 J 070 Z K 70 J 071 Z K 70 J 072 Z K 70 J 073 Z K 70 J 074 Z
Painted panel closing off the rear for horizontal installation of CH	Size 02 Size 03 Size 04-05 Size 06 - 08 Size 11	K 70 J 075 Z K 70 J 076 Z K 70 J 077 Z K 70 J 078 Z K 70 J 079 Z
Support feet for CV models, height 100 mm	Size 02-05 Size 06-11	K 70 U 020 Z K 70 U 021 Z
Auxiliary condensate basin: Vertical models Horizontal models	CV, CH, NC CH, NC	K 70 L 045 Z K 70 L 046 Z

Accessories

Infrared remote control

For chilled water terminal units 2 pipes, type:
. Wall-mounted (MPW)
. Floor / Ceiling (KPSW)
. Cassette (CWX)

Main features

- Operating modes (depends on application):
  - Cooling
  - Heating
  - Dehumidification
  - Automatic
  - Fan only.
- Temperature interval can be set: between 10 and 32°C
- Automatic operation of the vertical deflectors
- 3 fan speeds, manual or automatic selection
- “On-Off” action of fan or valve (if installed)
- Remote control with address programming option (up to 4 addresses)
- “Forced mode” function in cooling and heating modes
- Protection against cold air draughts in heating mode
- Control of condensate pump for cassette units
- “I feel” function: option of choosing the temperature sensor on the unit or in the remote control
- “Night” function
- “Diagnosis” function for assistance with repair work.

Applications:

Regulation should be configured during the installation process for one of the following appliactions:

- 2 pipes, cooling only, fan regulation (original configuration)
  Modes: cooling - dehumidification
- 2 pipes, cooling only, valve regulation
  Modes: cooling - dehumidifcation - fan only
- 2 pipes, cooling/heating, fan regulation
  Modes: cooling - heating - dehumidification
- 2 pipes, cooling/heating, valve regulation
  Modes: cooling - heating - dehumidifcation - fan only
- 2 pipes, heating only, fan regulation
  Modes: heating
- 2 pipes, heating only, valve regulation
  Modes: heating - fan only
- 2 pipes, separate for cooling/heating, independent regulation of 2 valves
  Modes: cooling - heating - automatic - dehumidifcation - fan only.

Remote control with manual switching 70250076 (RAB 30)

Electromechanical thermostat with 3 fan speeds
Manual selection of the operating mode (heating/cooling)
For terminal units with 2 pipes, or 2 pipes + electric heating element, or 4 pipes

Main features

- Mains power voltage: 230 Vac 50/60 Hz
- Functions: On / Off + 3 fan speeds - Manual selection of operating mode (heating/cooling)
- Adjustment range: 8/30°C (option of mechanical limitation using jumpers on the knob)
- Regulation by means of On/Off valve control (or fan control in units with 2 pipes)
- Permanent or slaved fan
- Contact breaker capacity: 2 A inductive
- Differential: 1K maxi
- Electrical connections on the screw terminal block
- Operating temperature interval: 0/+50°C
- Relative humidity < 95%
- Protection degree: IP 30
- Colour: White RAL 9003

Remote controls with automatic switching 70250051 (RCC 10) e 70250052 (RCC 20)

Electronic thermostat with 3 fan speeds
Automatic selection of the operating mode (heating/cooling - via change over sensor or centralised operation)
70250051 : for terminal units with 2 pipes
70250052 : for terminal units with 2 pipes + electric heating element, or 4 pipes

Main features

- Mains power voltage: 230 Vac 50/60Hz
- Functions: On / Off + 3 fan speeds
  With integrated air sensor
  Water “change over” sensor inlet (accessory 70250053)
  Diverted air sensor inlet (accessories: air intake sensor 70250053, or sensor in casing 70250054)
- Adjustment range: 8/30°C (option of mechanical limitation using jumpers on the knob)
- Regulation by means of On/Off valve control (or fan control in units with 2 pipes)
- Permanent or slaved fan
- Contact breaker capacity: 2 A inductive for fan - 1 A inductive for valve/valves
- Differential in heating mode: adjustable 1 or 4 K
- Differential in cooling mode: adjustable 0.5 or 2 K
- Neutral zone (for RCC 20): adjustable 2 or 5 K
- Instruction in “Eco” mode: 16°C in heating mode, 28°C in cooling mode
- Instruction in “Standby”: 8°C in heating mode
- Electrical connections on the screw terminal block
- Operating temperature interval: 0/+50°C
- Relative humidity: < 95%
- Protection degree: IP 30
- Colour: White RAL 9003

Accessories

"Comfort" digital controls
K70 P 090 Z - K70 P 091 Z

For terminal units with 2 pipes, or 2 pipes + electric heating element, or 4 pipes

Option of installation on board the machine using the special assembly kit (K70 P 0 92 Z), or wall mounting
2 models:

"BASIC COMFORT"	**K70 P 090 Z**
"MEDIUM COMFORT"	**K70 P 091 Z**

Features common to both models

- Room temperature regulation via automatic or manual fan speed control
- ON/OFF operation control of the valve kit for systems with 2/4 pipes
- Electric heating element operation control (accessory)
- Manual or automatic Summer/Winter switching in accordance with the water temperature or air temperature
- Digital inputs for
  - remote Summer/Winter switching
  - outdoor enabling or disabling of fan coil operation, for example window contact, remote ON/OFF, motion sensor
  - remote temperature sensor for water or air (accessory)

Additional functions in the "MEDIUM COMFORT" model

- Option of managing and controlling a system with several fan coils, up to a maximum of 247 units.
- Dehumidification function with remote sensor (accessory)

Notes:

Notes:

Notes:

Notes:

702013315 - 04/2013

Technibel

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