Technibel Climatisation

TECHNICAL INSTRUCTIONS

MPW

WALL TERMINAL UNIT

	Cooling	Heating
MPW 1	**1.24 kW**	**1.72 kW**
MPW 2	**1.67 kW**	**2.38 kW**
MPW 3	**3.17 kW**	**4.50 kW**
MPW 4	**3.67 kW**	**5.50 kW**

CE MARKING

This product marked CE conforms to the essential requirements of the Directives :
- Low voltage no. 2006/95/EC,
- Electromagnetic Compatibility no. 89/336 EEC, modified 92/31 and 93/68 EEC.

SUMMARY

1 - Presentation 2
2 - Technical characteristics 3
3 - Physical characteristics 4
4 - Description 4
5 - Accessories 5

1 - PRESENTATION

1.1 - UTILISATION

- Units intended for climate control in buildings and the comfort of people.
- Do not place the device in rooms with high humidity or exposed to projections of water.

1.2 - FUNCTIONS

- Cooling or heating by means of a 2-pipe water coil.
- Ventilation with filtration (built-in filter).
- Heating by electric element (model BE).

1.3 - APPLICATIONS

- These units, derived directly from direct expansion models, are characterized by:
  - attractiveness,
  - compactness (using unused spaces),
  - a low sound level.

1.4 - MODELS

- "2-pipe" for all sizes, with wire or infrared remote control: MPW B 5B and MPW B 5X.
- "2-pipe + electric heating" (with electric heating element) for MPW 1 with wire remote control only: MPW 1 BE 5B.

2 - TECHNICAL CHARACTERISTICS

2.1 - NOMINAL CONDITIONS

Model				MPW 1 B	MPW 1 BE	MPW 2 B	MPW 3 B	MPW 4 B
Total cooling capacity	(**1**)	HS	**kW**	1.24	1.24	1.67	3.17	3.67
		MS	**kW**	---	---	---	2.53	3.14
		LS	**kW**	0.8	0.8	0.96	1.91	2.62
Sensible cooling capacity	(**1**)	HS	**kW**	0.94	0.94	1.3	2.56	3.01
		MS	**kW**	---	---	---	1.89	2.50
		LS	**kW**	0.58	0.58	0.74	1.53	2.12
Heating capacity	(**2**)	HS	**kW**	1.72	1.72	2.38	4.50	5.50
		MS	**kW**	---	---	---	3.50	4.50
		LS	**kW**	1.11	1.11	1.49	2.70	3.70
Electric heating capacity			**kW**	---	0.5	---	---	---
Air flow rate		HS	**m^3/h**	220	220	270	510	710
			m^3/s	0.061	0.061	0.075	0.142	0.197
		MS	**m^3/h**	---	---	---	400	580
			m^3/s	---	---	---	0.111	0.161
		LS	**m^3/h**	150	150	180	320	470
			m^3/s	0.042	0.042	0.05	0.089	0.131
Water flow rate in cooling		HS	**l/h**	215	215	290	545	630
		MS	**l/h**	---	---	---	435	540
		LS	**l/h**	135	135	165	330	450
Pressure drop on water in cooling	(**1**)	HS	**kPa**	16.1	16.1	27.2	29.4	35.1
in the appliance		MS	**kPa**	---	---	---	19.1	26
(10 kPa = 1 m WG)		LS	**kPa**	5.8	5.8	9.7	10.3	18.2
Pressure drop on water in heating	(**2**)	HS	**kPa**	15.3	15.3	26.2	27.5	31.8
Power supply			**V/f/Hz**	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Max. power consumption			**kW**	0.025	0.525	0.025	0.075	0.080
Max. current consumption			**A**	0.11	2.3	0.11	0.33	0.36
Hydraulic connection				1/2" Gaz female	1/2" Gaz female	1/2" Gaz female	1/2" Gaz female	1/2" Gaz female
Sound power level		HS	**dB(A)**	41	41	45	58	59
		MS	**dB(A)**	---	---	---	52	53
		LS	**dB(A)**	32	32	35	46	48
Calculed sound pressure		HS	**dB(A)**	32	32	36	49	50
(at 2 m indoors)		MS	**dB(A)**	---	---	---	43	44
		LS	**dB(A)**	23	23	26	37	39

(**1**) Air inlet: 27°C (DB) / 19°C (WB); water: inlet at 7°C, outlet at 12°C.

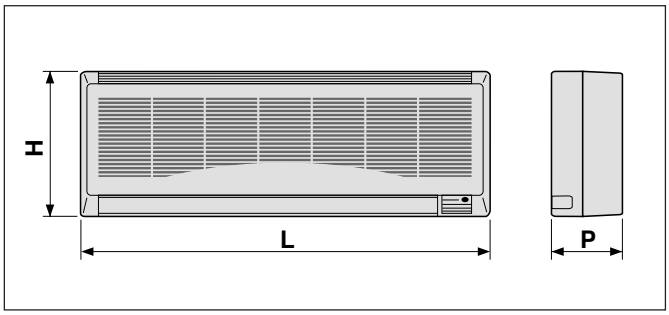
(**2**) Air inlet: 20°C; water inlet: 50°C (same flow-rate as under other conditions (**1**)).

2.2 - OTHER CONDITIONS

- Consult us.
- **Operating limits:**
  - Minimum water inlet temperature : 4°C.
  - Maximum water inlet temperature : 60°C.
  - Maximum operating pressure of the hydraulic circuit: 16 bar.
  - Minimum air recirculation temperature : 5°C.
  - Maximum air recirculation temperature : 32°C.

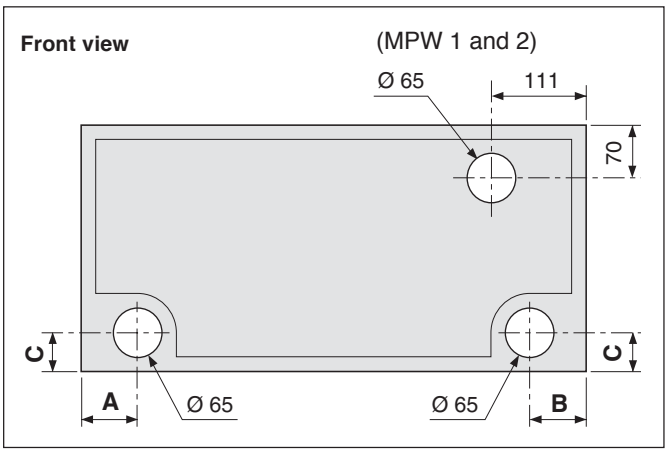
3 - PHYSICAL CHARACTERISTICS

• **Materials:**
- Wall metal support.
- Plastic body.
- Copper/aluminium exchanger.
- Copper piping.



			MPW 1 MPW 2	MPW 3 MPW 4
Overall dimensions	**L**	mm	805	995
	H	mm	270	285
	P	mm	177	237
	Weight	kg	8	12
Overall packed dimensions	**L**	mm	850	1070
	H	mm	330	360
	P	mm	245	290
	Weight	kg	10	15

• **Tubes may be configured for output at the rear of the unit.**



	MPW 1 MPW 2	MPW 3 MPW 4
A	50	135
B	90	135
C	41	45

4 - DESCRIPTION

Model		MPW 1 B	MPW 1 BE	MPW 2 B	MPW 3 B	MPW 4 B
Copper/aluminium thermal exchanger		●	●	●	●	●
Number of rows		2	2	2	2	2
Frontal surface area	**m²**	0.095	0.095	0.115	0.156	0.156
Water capacity	**litres**	0.3	0.3	0.39	0.8	0.8
Hydraulic connection		1/2" Gaz female	1/2" Gaz female	1/2" Gaz female	1/2" Gaz female	1/2" Gaz female
Electrical motor with internal thermal protection		●	●	●	●	●
Power supply	**230 V / 1 + Earth / 50 Hz**	●	●	●	●	●
Number of speeds		2	2	2	3	3
Capacitor	µf	0.6	0.6	1	0.8	1.5
Tangential fan		●	●	●	●	●
Air filter in class HB polypropylene (UL94) - Washable		●	●	●	●	●
Flexible connection tubes		●	●	●	●	●
Condensate drain pan expanded polystyrene, supplied with drainage hose		●	●	●	●	●
End fitting OD	**mm**	18	18	18	18	18
Power supply cable, length: 2.50 m		●	---	●	---	---
Wire remote control version		●	●	●	●	●
Infrared remote control version		●	---	●	●	●

5 - ACCESSORIES

5.1 - ACTIVE CARBON FILTER

- Code **397021909** for MPW 1 and 2.
- Code **397021910** for MPW 3 and 4.

5.2 - 3-WAY VALVE + BY-PASS

- Code **70600071**
  - 1/2" Gaz male.
  - KVS 1.6.
  - "On/Off" motor 230 VAC.
  - To be assembled outside the unit.

  Note: The valve is supplied without connection or tube.
- This valve kit can be mounted on all models **and is obligatory for cold water use**.
- If this valve is not installed, there is a risk of condensation forming on the machine when it is switched off by the thermostat.

5.3 - REMOTE CONTROLS (for the wire remote control version)

Model	MPW B	MPW BE	
		2-pipe Cooling + electric heating	2-pipe Heating/Cooling + electric heating
70250076 Manual remote control	●	● (*)	---
70250051 RCC 10 automatic remote control for 2-pipe units	●	---	---
70250052 RCC 20 automatic remote control for 2-pipe units + electrical resistance	---	● (*)	●
70250053 Change/over sensor with bracket for RCC	●	●	●
70250054 Air temperature sensor in box for RCC	●	●	●

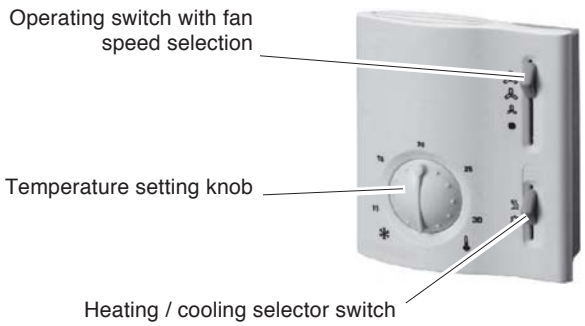
Note: "On-Off" action on valve, 230 VAC (accessory) or action on ventilation.

(*) **Caution:** The configuration "2-pipe Cooling + Electric heating" requires a valve.

A - MANUAL REMOTE CONTROL

- Code **70250076**.
- The operating mode is selected **manually** by a switch on the front of the control unit.

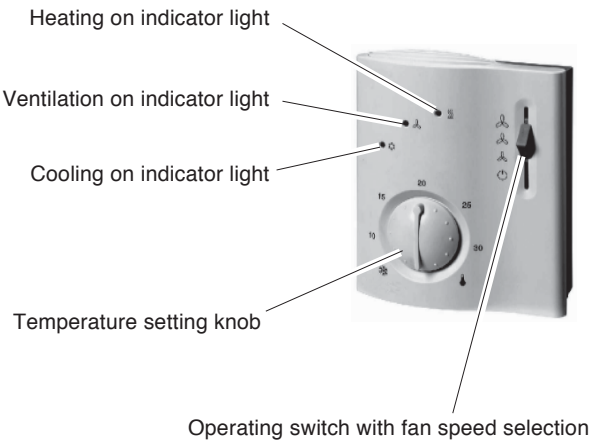
- Technology : electromechanic.
- Power supply : 230 Vac
- Set-point adjustment range: 8 / 30°C (possibility of mechanical limitation by jumpers on the knob)
- "On-Off" action
- Control differential : ≤1^{K}
- Operating temperature : 0 / 50°C
- Relative humidity : < 95%
- Protection class : cl. II
- IP : 30
- Colour : White RAL 9003



B - AUTOMATIC REMOTE CONTROLS

- **Type RCC 10 - code 70250051 and type RCC 20 - code 70250052**.
- Selection of the operating mode is done **automatically**.
- **For the 2-pipe units** capable of heating and cooling operation, a change-over sensor must be connected (accessory, code 70250053) to the installation on the water piping.
  This change-over sensor can be replaced by a potential-free contact (not supplied), the closing of which causes changeover to cooling mode.
- There is a possibility to connect a remote air temperature sensor, bare (accessory, code 70250053) or box mounted (accessory, code 70250054).
- Permanent or slaved ventilation.
- Mode change is possible (Eco or Stand-by) by an external potential-free contact (not supplied).

• Technology	: electronic.
• Power supply	: 230 Vac
• Set-point adjustment range (possibility of mechanical limitation by jumpers on the knob)	: 8 / 30°C
• "On-Off" action	
• Heating differential	: adjustable 1 or 4^K
• Cooling differential	: adjustable 0.5 or 2^K
• Neutral zone (on RCC 20)	: adjustable 2 or 5^K
• Setpoint in "Eco" mode	: 16°C in heating mode 28°C in cooling mode
• Setpoint in "Standby"	: 8°C in heating mode
• Operating temperature	: 0 / 50°C
• Relative humidity	: < 95%
• Protection class	: cl. II
• IP	: 30
• Colour	: White RAL 9003



C - TEMPERATURE SENSOR (BARE)

- Code **70250053**.
- For RCC type remote control.
- Use:
  - change over sensor (equipped with a tube retaining clip) for "2-tube" appliances may operate in heating and cooling mode.
- Thermistance type CTN 3 kΩ at 25°C.
- IP 65 - protection class: cl. II.

D - BOX-MOUNTED AIR TEMPERATURE SENSOR

- Code **70250054**.
- For RCC remote controls.
- Enables the control unit to be placed outside the room to be air conditioned.
- Thermistance type CTN 3 kΩ at 25°C.
- The unit is mounted in a box similar to the remote control (IP 30 - protection class: cl. II - colour: white RAL 9003).

Due to our policy of continuous development, our products are liable to modification whitout notice.

Technibel
R.D. 28 Reyrieux BP 131 01601 Trévoux CEDEX France
Phone 33 4 74 00 92 92 - Fax 33 4 74 00 42 000
R.C.S. Bourg-en-Bresse B 759 200 728