



BY JOHNSON CONTROLS

Enthalpy probes (Optional) for Rooftop ACTIVA 017 / 175

Options and Accessories, Installation manual

Ref.: N-40435_EN 0913



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Enthalpy probes (Optional)

1.1 General information

Allows for the fitting of enthalpy probes in installations requiring enthalpy control of the return and outdoor air through the economiser.

1.2 General dimensions

Enthalpy probe

Measurements in mm.

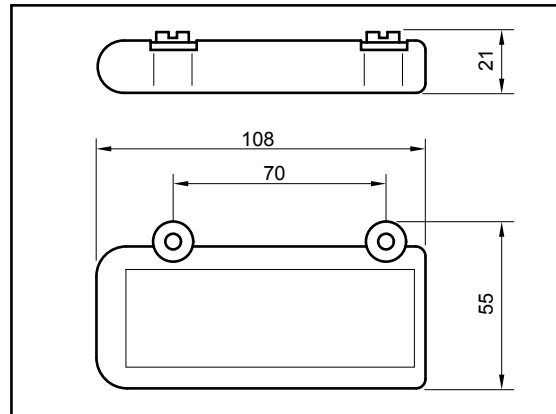
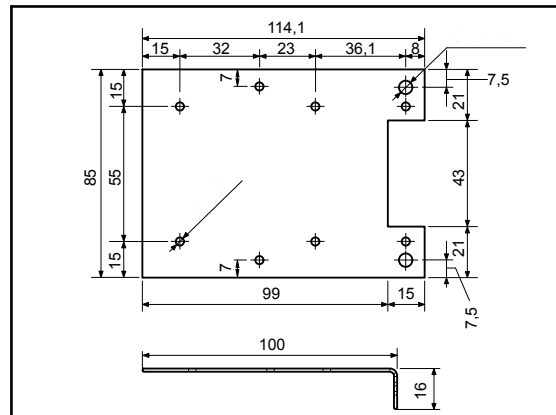


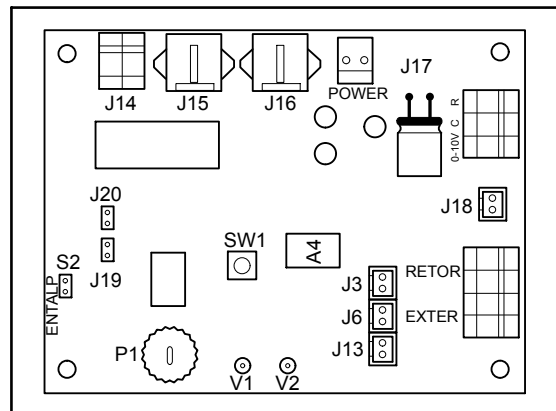
Plate support

Measurements in mm.

Used only in the models AR - 045 / 090



Economiser control board



1.3 Technical specifications

This accessory includes the following components:

1. Enthalpy probes (C7400A).
2. Plate supports for the probes (for models AR - 045 / 090).
3. Connection cables for the probes.
4. Securing flanges, cables and bolts.

1.4 Assembly

The enthalpy probes are installed on the economiser side.

Fit one enthalpy probe in the holes made on the return side and another on the outside using the screws supplied.

Pass the red and white wires from the economiser control board to the probes and connect them according to the wiring diagram.

Place the ENTALP jumper on control board A4.

Disconnect outside probe **B17** and keep return probe **B15** connected.

The enthalpy probes must be located so that their terminals + (red wire) and S (white wire) are on the right and the two small sensor deflectors are at the top.

1.5 Operation

Favourable conditions in enthalpy mode are when the outside enthalpy is at least 5% below the return enthalpy and the outside temperature is below 20 °C.

1.6 Installation

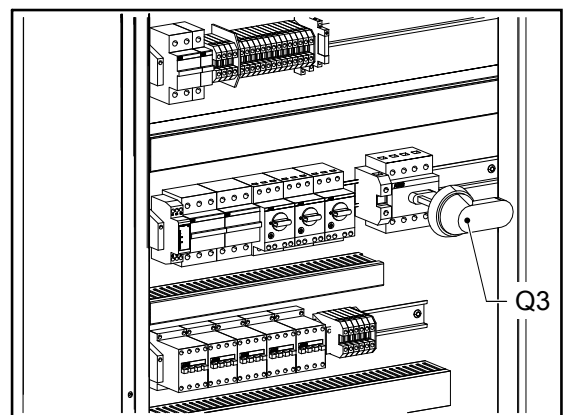


NOTE

Bear in mind the current regulations in the country where the equipment is to be installed. On all accounts, the national regulations established must be respected.

1. Disconnect the power supply to the air conditioning unit.

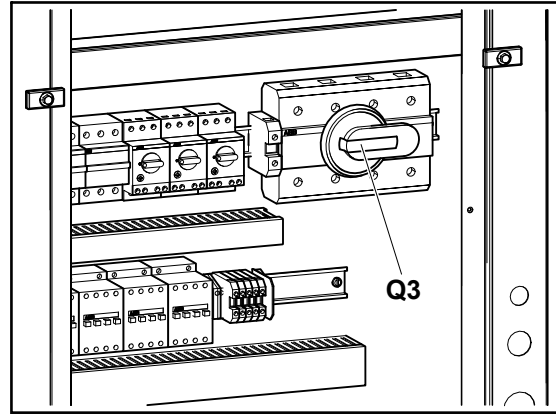
Models 017 / 040



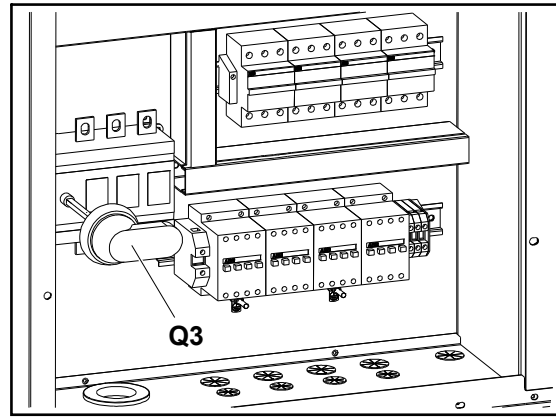
1 Enthalpy probes (Optional)

1.6 Installation

Models 045 / 090



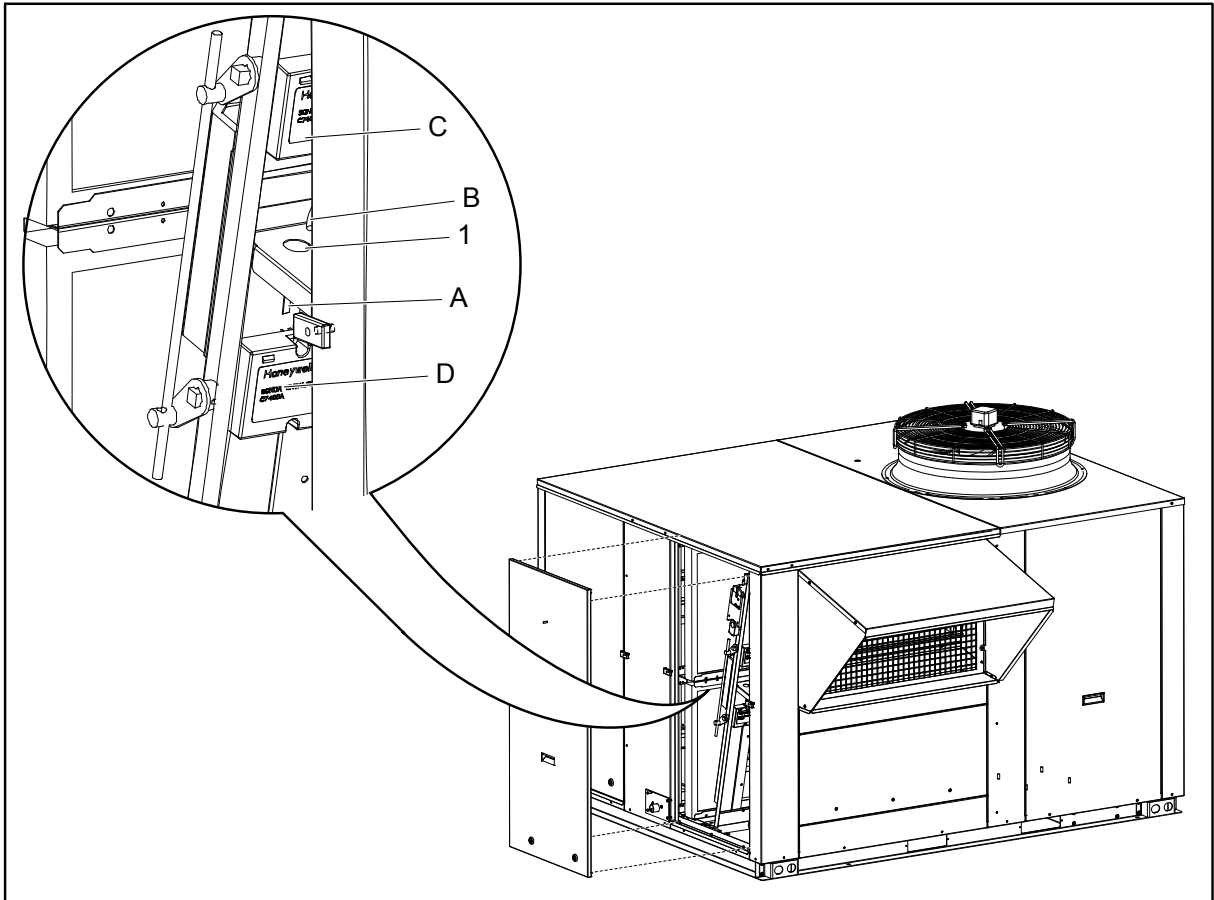
Models 100 / 175



2. Remove the economiser access panel.

3. Fit the enthalpy probes on the separator panel and connect the cables supplied according to the wiring diagram.

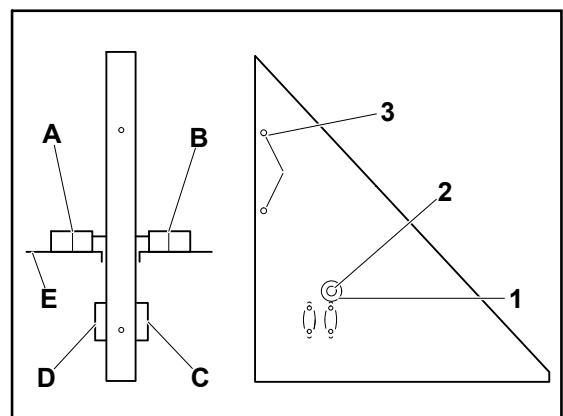
Models 017 / 040



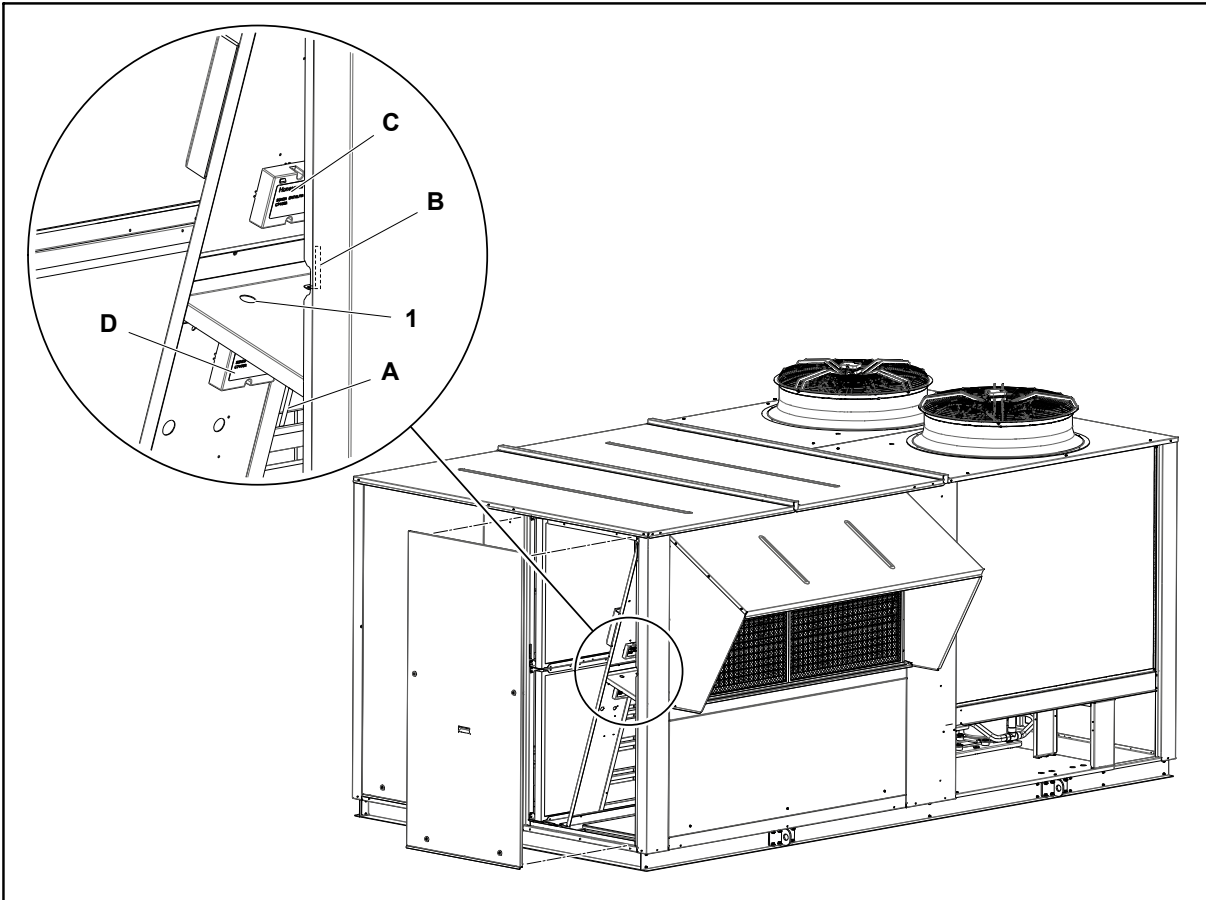
- A. Return temperature sensor
- B. Outside temperature sensor
- C. Optional enthalpy probe (OA), outdoor side
- D. Optional enthalpy probe (RA), return side
- 1. Bushing

Models 045 / 090

- A. Return temperature sensor
- B. Outside temperature sensor
- C. Optional enthalpy probe (OA), outdoor side
- D. Optional enthalpy probe (RA), return side
- E. Support (models 045 / 090)
- 1. Bushing
- 2. Cable ducting hole
- 3. Holes for flanges



Models 100 / 175



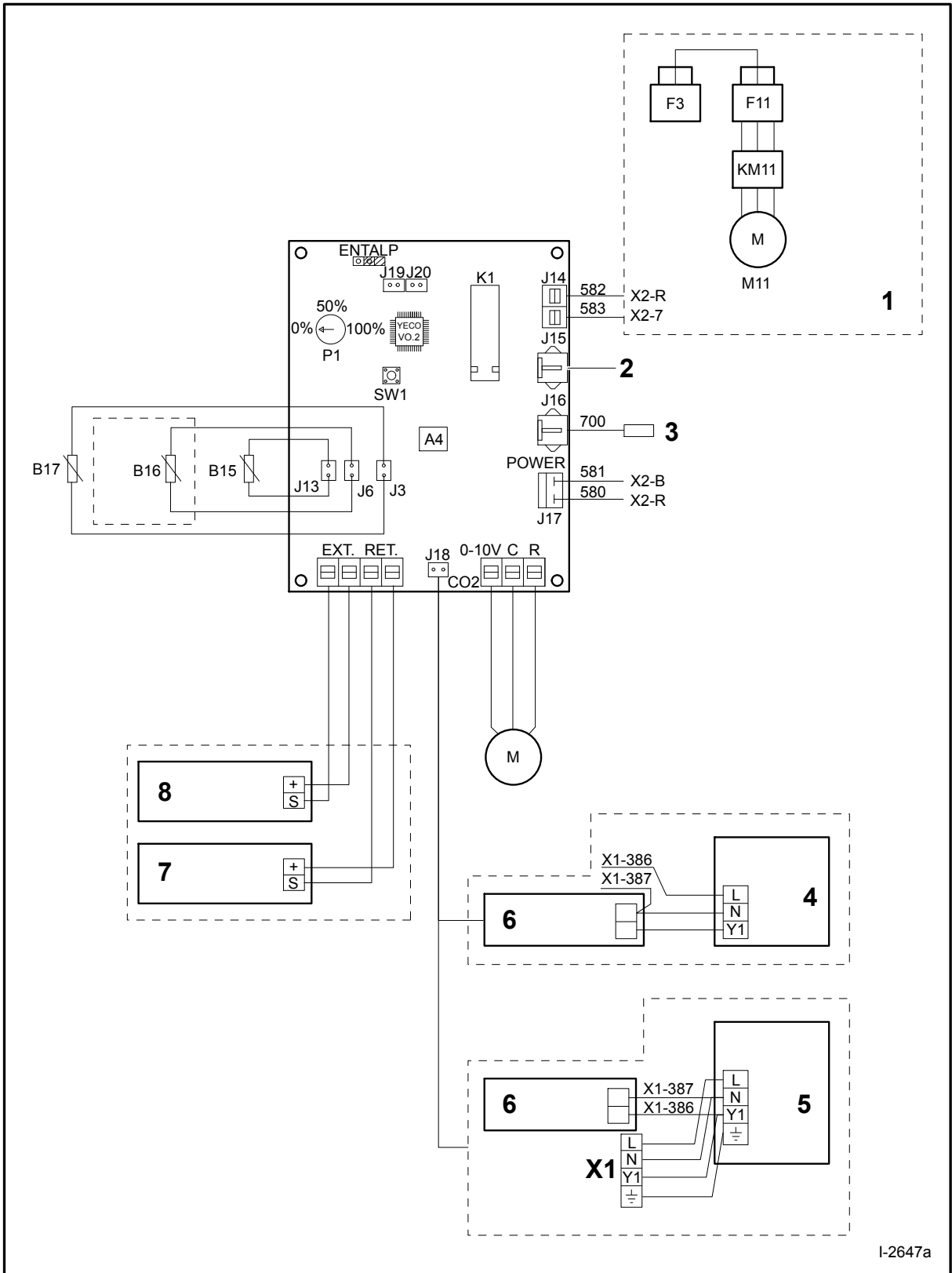
- A. Return temperature sensor
- B. Outside temperature sensor
- C. Optional enthalpy probe (OA), outdoor side
- D. Optional enthalpy probe (RA), return side
- 1. Bushing

4. Disconnect outside probe **B17** (connector J3) and keep return probe **B15** of board A4 (economiser) connected (connector J13).
5. Place the ENTALP jumper (S2) on control board A4 to select operation with enthalpy probes.
6. Connect the power supply to the air conditioning unit.
7. Check that the green LED on board A4 remains lit and press the test button on the YKN2 Open board (A1) for more than three seconds to search for and configure accessories. When the accessories search and configuration process starts, the red LED on the board lights up and remains lit until the operation is completed. Once it has switched off, check that the green LED (V1) on board A4 is flashing to indicate that the accessory has been configured.
8. The outside temperature must be below 20 °C to check correct electrical operations. Otherwise, cool the outside probe connected to the YKN2 Open board (A1). Make a cold request from the thermostat or from the YKtool. Then cool the enthalpy probe on the outdoor side. The yellow LED (V2) must light up and the outdoor damper must open. Finally, cool the enthalpy probe on the return side. The yellow LED (V2) must turn off and the return damper must open. Incident 4, 1, 5 is indicated if the enthalpy probes are faulty.
9. Check that the cables are firmly secured to their connection terminals.

**CAUTION**

- *Loose connection terminals produce overheating of cables and terminals. The unit will work incorrectly and there is a risk of fire.*
- *Do not turn on the general switch on the unit or start the unit until all installation work has been completed.*

1.7 Wiring diagram



1.7 Wiring diagram

1.	F11	Optional <ul style="list-style-type: none"> • Reg. 2.5 A (017 - 022) • Reg. 5.5 A (032 - 040) • Reg. 1.4 A (045 - 060) 	<ul style="list-style-type: none"> • Reg. 3 A (075 - 090) • Reg. 3.2 A (100 - 125) • Reg. 4,7 A (150 - 175)
	KM11	A1 to X2-7 (Cable 583) A2 to X2-B	
	M11	Exhaust fan	
	X2-R	24 VAC Phase-R switching	
	X2-7	to A1 from KM11	
2.	Accessories		
3.	Accessories		
4.	Air quality probe, optional, fitted on return (inside machine)		
	L	Black	
	N	Blue	
	Y1	Brown	
5.	Air quality probe, optional, fitted on ambient (machine exterior)		
	L	Black	
	N	Blue	
	Y1	Brown	
	$\frac{\perp}{-}$	Yellow-Green	
6.	Air quality board (green)		
7.	Enthalpy probe C7400A return, optional		
	+	Red	
	S	White	
8.	Enthalpy probe C7400A outside, optional		
	+	Red	
	S	White	
B15	Return probe (black)		
B16	Supply probe, optional depending on model (yellow)		
B17	Indoor probe (white)		
M10	Damper		
	0-10 V	Grey	
	C	Black	
	R	Red	
X1	Cables to be installed on site (not supplied)		

Data and measurements subject to changes without prior notice.
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