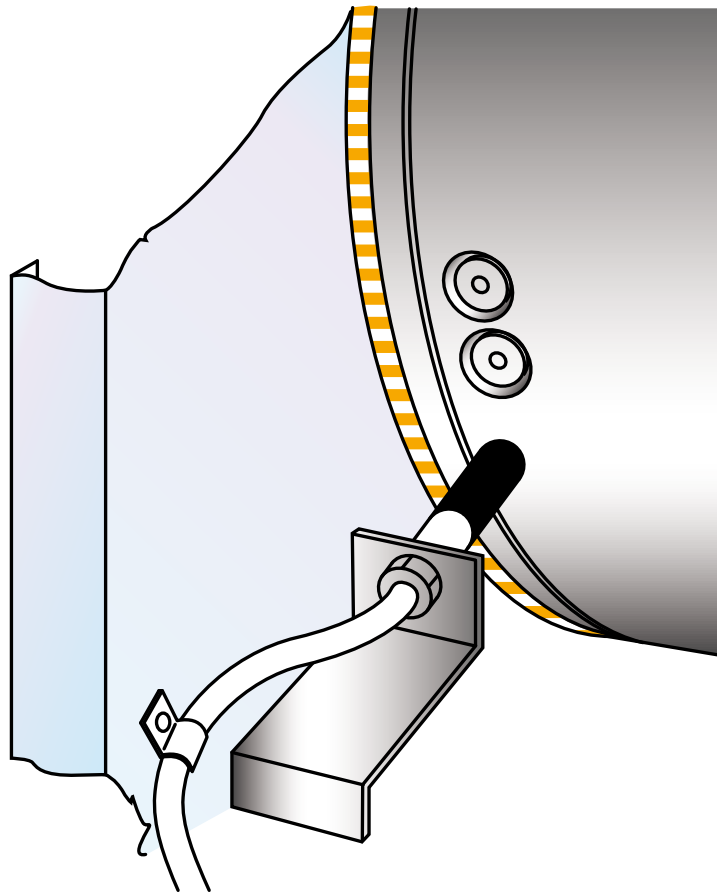


ECONOVENT® - Rotary Heat Exchanger

Instruction for Speed detector PUMZ -20

Mounting and Electrical Installation



PUMZ-20 speed detector

Mounting and Electrical Installation

Delivery

If the heat exchanger has been ordered with a speed detector, the parts shown in Fig.3 will be fitted at the factory. The alarm relay shown in Fig. 1 is delivered separately.

PUMZ-20-2-1 alarm relay

For constant speed only.

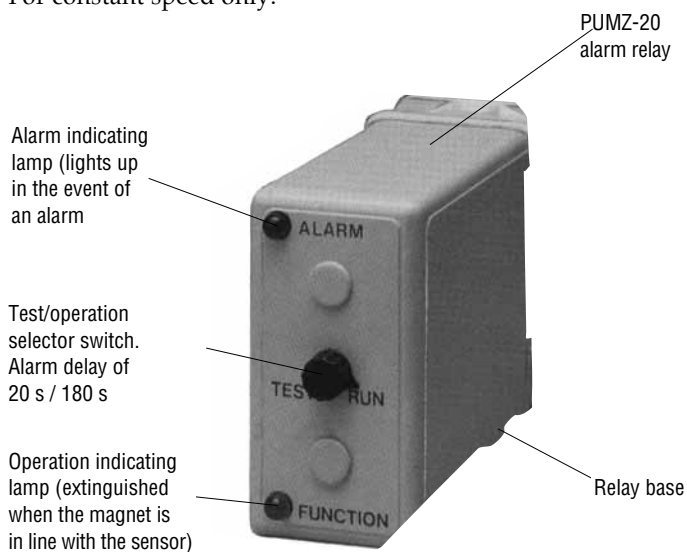


Fig. 1

PUMZ-20-b-c magnet and speed sensor

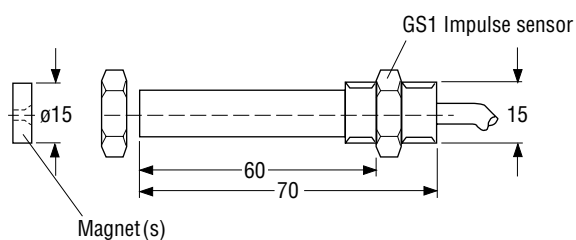


Fig. 2

The delivery includes an angle bracket, screws for the bracket and the magnets.

Important!

Units up to and including size 240 have only one magnet whereas the larger sizes have two magnets.

Fitting

(applicable when the speed detector is ordered afterwards)

- Fit the magnet(s) included in the delivery to the rim plates of the rotor. On the larger sizes, locate the 2 magnets 5 mm apart, in line along the periphery of the rotor, see Fig. 3. Fitting sequence: Remove the lower inspection cover, turn the rotor which has the largest radial run-out. Secure the magnet in position adjacent to the right-hand clamping strap. Ensure that magnetic pulse sensor GS2 is well clear of the clamping strap joints.
- Fit the impulse sensor to the mounting bracket and locate the bracket to the casing partition (see Fig. 4). Locate the mounting bracket so that the distance between the sensor and the magnet will not exceed 3-5 mm (see Fig. 3). Secure the mounting bracket in the cross piece by means of two self-threading screws.
- Now check the distance between the pulse sensor and the magnet(s) (up to 3-5 mm). Adjust if necessary.

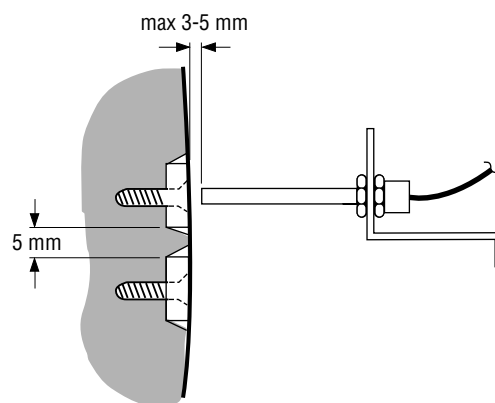


Fig. 3

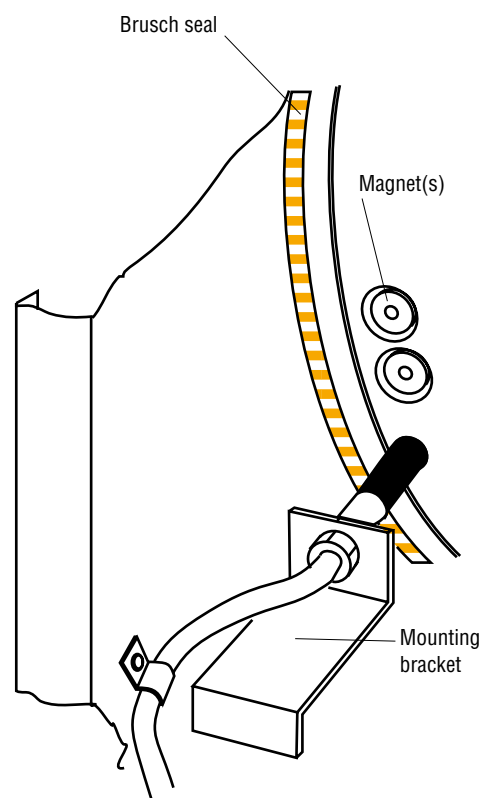


Fig. 4

PUMZ-20 speed detector

Mounting and Electrical Installation

Electrical installation and operation

(the electrical installation work should be carried out by an authorized electrician)

Constant speed - relay

A alarm will be initiated if the time between two pulses is longer than 3 min. (even if the magnet has stopped opposite the pulse sensor). The alarm will be interlocked if the logic input of the relay is closed.

The alarm will be reset automatically when the time between pulses has decreased to less than 3 min.

Alarm relay with operation indicating lamp (green), alarm lamp (red) and one pair of potential-free change-over contacts. The relay is mounted on a base. The contact rating for a resistive load is 5 A at 220 V.

Activation pulse duration: at least 0.02 s.

Alarm outputs:

1-4 circuit closed

- A) When the relay is energized (< 3 min. between pulses)
- B) If the logic input is closed
- C) After the power supply has been switched on (3 min.) 1-3 circuit closed
- A) In the event of an alarm (> 3 min. between pulses)
- B) On a loss in power supply

Auxiliary contacts in the drive motor contactor, which interlock the alarm when the heat exchanger is not running. Alternative connection of the same control signal as that used for the speed controller (a control signal below 4 V interlocks the alarm).

GS1 Impulse sensor

Max. sensing distance: 3-5 mm,

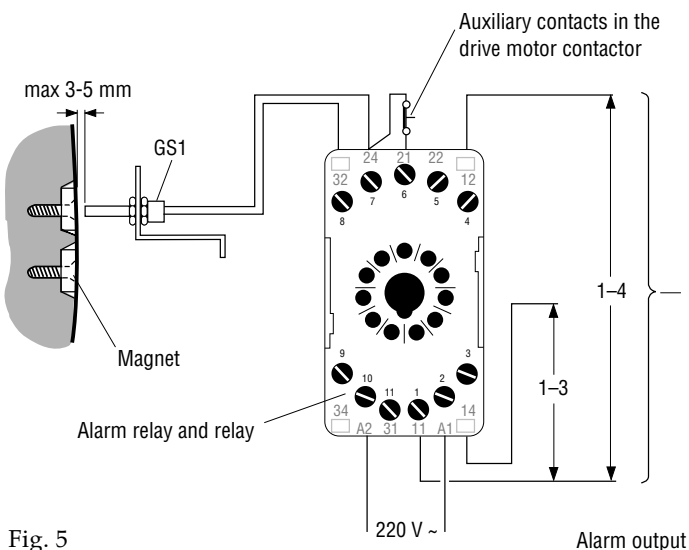


Fig. 5

Example of alarm interlock connection

The alarm is interlocked across the auxiliary contacts of the drive motor contactor.

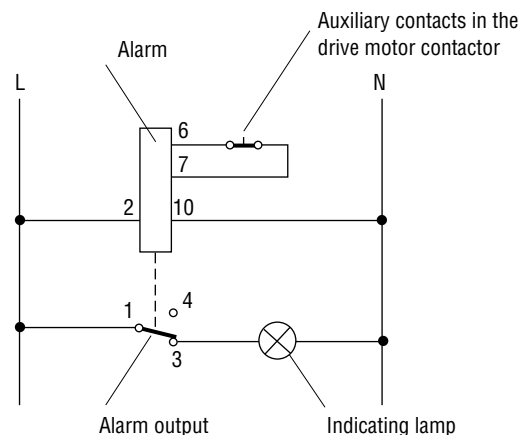


Fig. 6

Variable speed

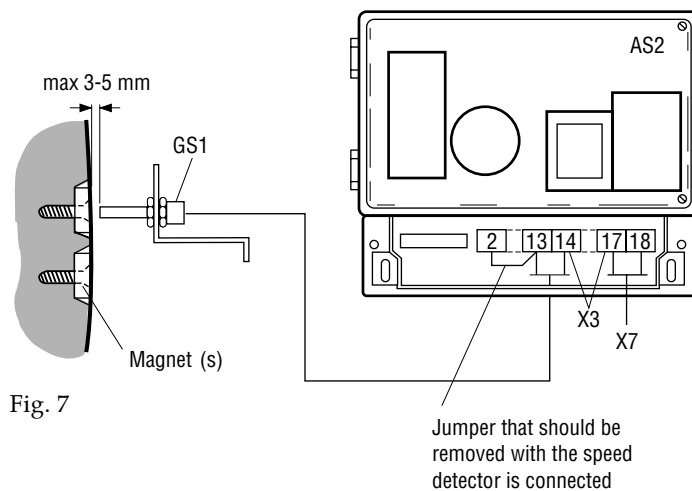


Fig. 7

AS2 Control unit (EMS)

Magnetic speed sensor

X3 Terminal blocks in the control unit

X7 Alarm connection. The contacts are potential-free and close when an alarm is initiated and when the power supply is lost. Contact rating: 5 A at 30 V.

Fit the pulse sensor and magnets as described on page 1.

Connect the magnetic speed sensor to the speed controller as shown in the diagram above.

Disconnect the jumper between terminals 2 and 13. An alarm will be initiated about 22 minutes after the last occasion when the magnet has passed the magnetic pulse sensor.

The alarm is interlocked when the heat exchanger is out of operation.

To reset the alarm, switch off the power supply to the speed controller for 2-3 seconds.

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