



Control unit for smaller rotating heat exchangers

Emotron EMX-P



Safe and reliable operation

- No tuning
- Less wear– soft start/soft stop
- Less temperature oscillation– large speed range
- Automatic purging operation
- Rotation monitor with external rotation sensor
- Full control of speed with tachometer feedback
- Selectable types of speed control
- Linearization function – control signal contra rotor efficiency
- Control inputs have common galvanic insulation from the mains supply

Emotron EMX-P is a small and flexible control unit specially adapted for speed regulation of smaller rotary heat exchangers. A motor with gear and tachometer from Panasonic or Oriental Motor (25 W or 40 W and max 0.7A) are intended to be connected to the control unit. Both the motor and the control unit are easily placed inside the heat exchanger housing.

EMX-P offers many functions that ensure safe and reliable operation. The control unit uses a new technology that provides more effective control with smaller losses and higher torque. Greater speed range gives better recovery and therefore less temperature oscillation. In addition,

the control unit's built-in soft start and soft stop function ensures less equipment wear. During intermittent operation start-up is adaptive to provide a fast and smooth start. Automatic blow clean operation is another built-in function. When the control signal drops below a certain value, the heat exchanger's rotor rotates approximately 30 degrees every 10 minutes to keep it clean. The system can easily be supplied with a rotation monitor that triggers an alarm if the belt comes off, for example. If the motor is equipped with overload protection (e.g. Panasonic) an alarm is also triggered when the protection trips.

EMX-P enables the type of speed control to be selected. In continuous operation, the speed is varied down to 1/25 of the maximum speed, whilst continuous operation with intermittent operation during low control signals, the speed is varied down to 1/50 of the maximum speed. An integrated linearization function provides a linear function between the control signal and the rotor's efficiency, instead of the speed being proportional to the control signal. This provides better conditions for stable temperature control.

Operation indication occurs via two LEDs and an output relay with change-over contact. The relay changes-over when the rotation monitor activates the alarm, in the event of a network power failure and in the event of an overload.

CG also supplies complete drive systems with control units and motors for rotating heat exchangers with a rotor diameter of up to 5.5 metres. Contact us for further information.

Technical data

Part number/designation	01-3090-00/Emotron EMX-P10*
Purging clean operation	Built-in function
Soft start/stop	Built-in function
Indication	Operation status, alarm
Motor	Connection for motor with gear and tachometer **
Alarm output	Change-over contact, max 5 A, 230 VAC, AC1
Mains voltage	230 VAC +/-15 % , 50/60 Hz
Current	Max 0.7 A
Control signal	0-10 V, 2-10 V, 0-20 mA, 4-20 mA
Protection class	IP54 in enclosed version, with appropriate glands. IP00 in circuit card version
Weight	0.4 kg, enclosed version
Dimensions W x H x D	122 x 120 x 55 mm excl. glands ***
Ambient temperature	-30 – +40 °C
Speed range, operation choice	1:25 during continuous operation. 1:50 during combination of continuous operation and intermittent operation
Rotation monitor	See accessories
EMC, Emission	EN50081-1
EMC, Immunity	EN50082-2

*) EMX-P replaces previous control unit SP1500 that is no longer available.

**) For 25 W or 40 W (max 0.7 A) motors, there are built-in motor capacitors of 1.5 µF or 2.3 µF in the control unit .

The tachometer must produce 12 pulses per motor revolution and be of the 12- or 24-volt type. Other motor options on request.
Also see user instructions for EMX-P.

***) The product is supplied without glands. Recommended glands are Skintop M12 and M16 or similar.

Accessories

Rotation sensor with magnet M12 x 75 mm	P/N 01-2184-00
Rotation sensor with magnet M12 x 35 mm	P/N 01-3549-00

Documentation

User instructions, Swedish	P/N 01-3092-00
User instructions, English	P/N 01-3092-01
User instructions, German	P/N 01-3092-02
User instructions, Finnish	P/N 01-3092-03 (pdf file only)