

ELECTRIC GAS PREHEATER type EP 02

09/2022

1. APPLICATION

The electric gas preheater is designed for heating natural gas (with a high methane content and hydrogen content of up to 20% by volume) in technological equipment, for example, gas pressure regulating stations according to EN 12186 and EN 12279. The working fluid is natural gas. Direct contact between gas and heating rods causes heat transmission.

The electric preheater is equipment intended for working in potentially explosive atmospheres, Zone 2 acc.to EN 60079-10-1. The preheater is certified by notified body acc. to Directive 2014/34/EU European Parliament and the Council (ATEX).

The electric preheater is pressure equipment within the meaning of Directive 2014/68/EU of the European Parliament and the Council.

The preheater is certified by a notified body.

The design calculation is according to EN 13445.

2. DESCRIPTION


The preheater consists of a tubular body equipped with flange branches for gas inlet and outlet. The preheater's upper part forms a flameproof enclosure (acc. to EN 60079-1) of the terminal board of the heating rods. The heating rods terminated with screw-type terminals to connect the power cable are fixed and sealed at the lower cover. The thermostat and the thermal fuse were placed in a cover that forms, together with the covering, the flameproof enclosure acc. to EN 60079-1. The welded-on piece for a pocket is welded on the body, and the indicating thermometer or Pt 100 flameproof temperature sensor can be inserted into the pocket.

The preheater has plates for fixing the body on the frame or struts. The placement of the grounding welded-on piece with a screw for protective bonding is under the gas outlet.

Disconnection of heating rods from the supply by the thermostat or thermal fuse must be done indirectly using a protective electrical device which is not part of the preheater. Such a device must be independent of the system that serves for preheater temperature regulation.

Welded-on piece with a plug for draining condensate or possible mechanical impurities is on the lower part of the preheater.



Technical parameters	EP 02
Electric input	2 kW
Supply voltage/current	230 V / 8,7 A
Specific marking of the preheater	 II 3 G Ex db IIA T3 Gc
Degree of protection	IP 54
Working environment	Zone 2 acc. to EN 60079-10-1 ed.2
Calculation temperature	+ 200 °C
Working temperature of wall	- 20 to + 50 °C
Ambient temperature range	- 20 to + 50 °C
Nominal gas pressure PN	40
Maximum allowable pressure	40 bar
Test pressure for strength/leakage	66 / 50 bar
Inlet and outlet flange	DN 25
Max. gas flow* for $v_{max}= 35$ m/s	50 m ³ /h
Weight (acc. to version)	~ 45kg

Terminal board	Flameproof enclosure of terminal board	Ex db IIA T3
	Ø terminal board supply cable	4,5 ÷ 8,5 mm
Thermostat and fuse	Flameproof enclosure of thermostat and fuse	Ex db IIA T3
	Thermostat nominal voltage/current	230 V / 1 A ~
	Fixed setting of thermostat switching off temperature	30 °C
	Fuse rated voltage /current	250 V / 10 A ~
	Nominal releasing temperature of fuse	72 °C
	Ø thermostat and fuse supply cable	4,5 ÷ 8,5 mm

* it is recommended $v_{max} = 20 \div 25$ m/s

The type number is determined as follows:

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Flanges:

C - flanges EN 1092-1: PN 40 - sealing rod type B1

S – special version (for example flanges ANSI B16.5 / 300 lbs / RF – longer installation length)

Version:

A - direct, left inlet, right outlet

B - direct, right inlet, left outlet

Inlet and outlet flange:

25 - DN 25

Nominal gas pressure:

040 - PN 40

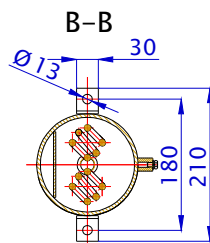
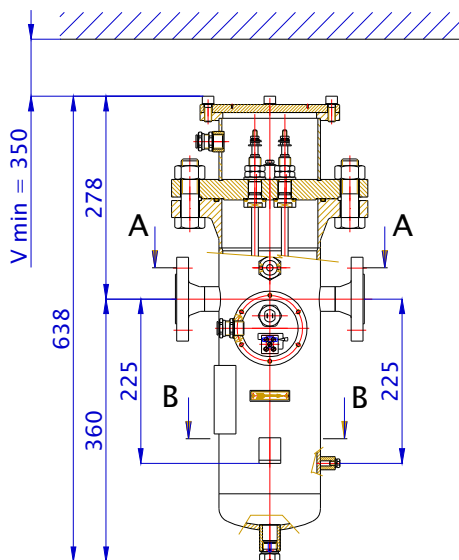
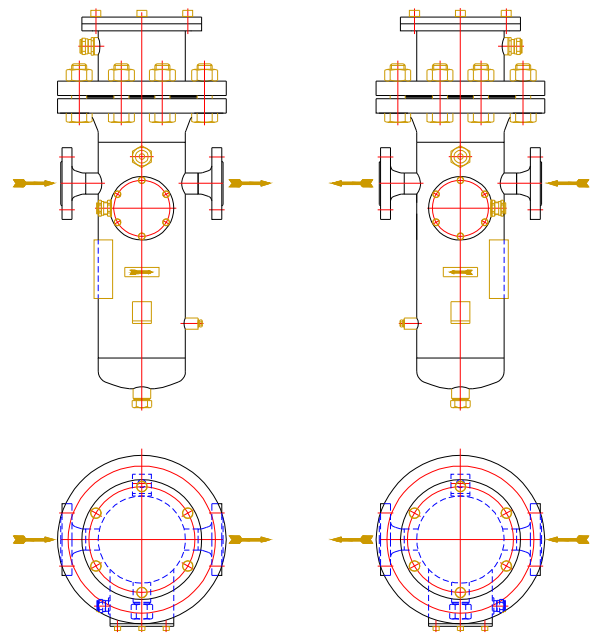
Installed electric input:

02 – installed el.input 2 kW

VERSION

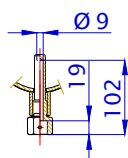
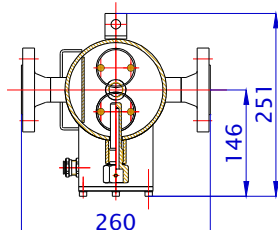
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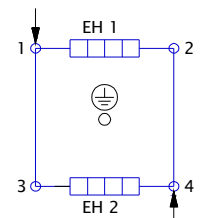
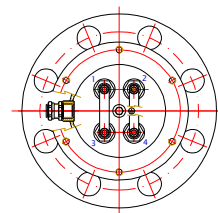


A-A

DETAIL OF A POCKET



SCHEME OF TERMINAL BOARD CONNECTION



Detailed data about electric gas preheater EP are given in document TPN, can be sent on your request.