

INDIREKT WATERBATH-HEATER

TYPE VH

adequate for all gases acc. to "DVGW Arbeitsblatt" (work sheet) G260
and for all non-aggressive special gases

WATERBATH HEATER TYPE VH

CHARACTERISTICS

- » Decentralized application
- » Optimal load case design
- » Stream-optimized design
- » Vibration-optimized design

OPTIONS FOR HP-TUBE-BUNDLE

- » Customer-specific design codes
e.g. ASME, EN 13445, SVTI, AS1210 PD5500, etc.
- » Design according to TEMA
- » Customer-specific acceptance test
- » Customer-specific testings
- » Application for sour gas (NACE)
- » Design for low temperature up to -50 ° C
- » Design pressure up to 300 bar
- » Customer-specific nozzle arrangement
- » Water shell design as pressure vessel
- » Water tank for hot water > 100 ° C

ACCESSORIES ON DEMAND

- » Gas-temperature control with bypass actuator
- » Temperature monitoring with remote transmission
- » BUS / Ethernet connection
- » Protective cabinet for pressure reduction
- » Steel construction, operating platform, ladder, etc.

QUALITY MANAGEMENT

- » DIN EN ISO 9001 certified
- "Our apparatuses are according to AD 2000 regulations and CE-certified according to EC / PED 2014/68 / EU. The examination is carried out by authorized third party experts (TÜV, etc.)
- » Test and material are prepared by the experts according to the design specification.
- » The burner control is based on the safety concept according to DIN EN 746-2.

PROCESS CALCULATIONS

Our heat exchanger calculations are based on the theoretical foundations of 'VDI Wärmeatlas' and the HEDH (Heat Exchanger Design Book).

GENERAL

Indirect water bath heaters type VH are heat exchangers (heat exchangers) which can heat the gas decentrally if no hot water treatment (for example, a boiler system) is available.

The heating of the gas is necessary in order to counteract the Joule-Thomson effect during pressure reduction or to provide a defined gas temperature for the following system components.

The most common applications are: Probes of gas fields, pipeline: to GDRM and compressor stations, cavern storage, power stations

The design is carried out as a steel-welded construction in a horizontal design.

FUNCTION

An indirect water bath heater is a combined heat exchanger equipped with a (HD) high-pressure tube bundle (natural gas pre-heating) and a burner firing unit (water pre-heating). The two sections are strictly separated from one another for safety reasons. The natural circulation of the water (natural convection) results from the combustion unit arranged at the bottom and the above HD bundle.

WATER-PRE-HEATING

In the combustion unit, water is heated by combustion energy. For this purpose, fuel gas is fired from the main gas stream for firing. The unit consists of a flame pipe, the return chamber and the recirculating smoke gas pipes. The flue gas collecting chamber is provided with a chimney that can be dismantled for transportation reasons. The combustion unit contains a sound-insulated enclosure. The combustion efficiency is approx. 92%.

The water shell is designed atmospherically by default and is provided with a dome as a water-side expansion volume. At the same time, the dome serves as an inspection opening for the visual inspection of the tube bundles.

NATURAL GAS PRE-HEATING

The gas-transporting HP-tube bundle is located above the burner chamber in the water bath. The preheated water warms the gas. The HP-tube bundle consists of the external gas inlet and outlet chamber with the corresponding nozzles, as well as the internal heat transfer tubes.

BURNER

The firing is carried out by the use of a gas fan burner. These are used because of their excellent combustion values at high emission requirements.

FUEL GAS PRESSURE REDUCTION

By default, a pressure reduction is provided for the combustion gas. This is carried out in one or two stages for corresponding operating data and is equipped with safety shut-off valves (SAV) based thereon. A safety blow-off valve (SBV) is provided after each pressure reduction stage.

REGULATION

The complete heater unit is monitored with an electrical / electronic control system suitable for the gas blower burner and can be coupled to the higher-level control system.

DESIGN DATA (STANDARD)

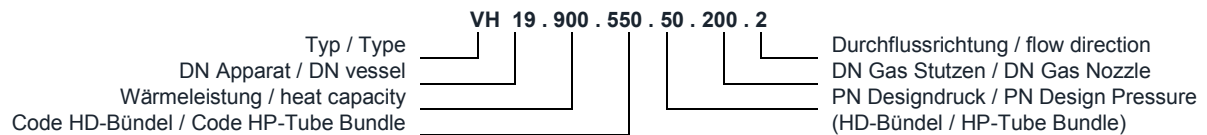
| | |
|--|-----------------|
| Design Code | AD 2000 + CE |
| Design Pressure | custom |
| Design Temperature | -10 / + 100 ° C |
| Shell Material | Carbon Steel |
| Preliminary and Structural Inspection | TPI expert |
| Material Certificates | EN 10204 / 3.1 |

| | |
|--|----------------------|
| Radiographic Examination | acc. code |
| Dye Penetrant | acc. code |
| US-Test | on demand |
| Water side: Pressure Test | p x 1,43 |
| Leak Testing | FAT @ 6 bar g |
| EC / PED 2014/68 / EU Corrosion Allowance | CE certified 1 mm |

TECHNICAL SPECIFICATIONS FOR CUSTOMER REQUEST / ORDER:

| Design Daten: | | | |
|---------------------------|-----------------------------------|--|-------------------------------|
| Auslegungsvorschrift | <input type="checkbox"/> AD 2000 | <input type="checkbox"/> ASME | <input type="checkbox"/> TEMA |
| Tests / Optionen | <input type="checkbox"/> CE / PED | <input type="checkbox"/> U-Stamp | <input type="checkbox"/> NACE |
| Auslegungsdruck | PN | bar | Korrosionszuschlag c_2 |
| Auslegungstemperatur | DT | - / + | °C |
| Berechnungsdaten: | | in den Rohren | |
| Medium | <input type="checkbox"/> Erdgas | <input type="checkbox"/> Bitte angeben | Medium |
| Dichte (Gasanalyse) | ρ_{ni} | kg/m ³ | Dichte |
| Volumenstrom | V_i | Nm ³ /h / SCFM | Designdruck |
| Eintrittsdruck | P_i | bar | Prüfdruck |
| Austrittsdruck n.d.R | P_{ad} | bar | |
| Eintrittstemperatur | ϑ_{ei} | °C | |
| Austrittstemperatur n.d.R | ϑ_{ad} | °C | |
| Wärmeleistung | Q | Berechnungswert | kW |
| Rohrbündel ziehbar | <input type="checkbox"/> ja | <input type="checkbox"/> nein | |

TYPE-CODE DESCRIPTION, EXAMPLE:



P&ID:

In process

CONTACT

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