



PAREX

Water Bath Vaporisers / Gas Heaters



In PAREX vaporisers and gas heaters thermal energy is transferred to the process fluid by means of a water or water-glycol stream that flows along the heat exchanger tubes. An inlet manifold distributes the process fluid along multiple parallel ways in order to achieve a low pressure drop of the process fluid. The multiple heat exchanger paths recombine in a collector connected to the outlet flange of the heat exchanger.

The water flow through the PAREX heater is maintained either by a circulation pump (closed loop or open loop) or by a steam injector device (PAREX D).

PAREX heaters are provided with a pressure-less bath vessel – except for the classical shell and tube design PAREX H (/en/vaporisers-heaters-for-cryogenic-liquefied-gases/vaporisers-heated-by-recovered-energy-or-steam/parex-h/) version. The water bath vessel consists of stainless steel plates, enforced with structural elements. Internally the water vessel is equipped with guiding plates that provide for a sufficient flow velocity of the heat transfer medium along the heat exchanger tubes, making sure that there is no

significant ice formation on the heat exchanger surfaces especially close to the inlet of the cryogenic process fluid.

In order to facilitate easy inspection and testing the heat exchanger is usually attached to the water bath top lid, so it can be removed easily from the water vessel. In the unlikely case of a heat exchanger defect the water bath is protected against overpressure by a carefully designed overflow opening that prevents an unpermissible pressure increase in the water bath.



Unless agreed otherwise, PAREX heaters are provided with a thermal insulation.

Application

- high capacity gas supplies or back-up solutions
- filling facilities for industrial gases
- supply at low to medium pressure with high throughput

Major design features

- stainless vaporiser / gas heater unit for cryogenic liquids and industrial gases with circulating water-based heat transfer fluid
- facility supplied skid-mounted, available also for mobile applications, on truck chassis or in ISO-container enclosure
- parallel tube type stainless steel heat exchanger (monel registers available on request)
- compact design; small footprint relative to capacity
- control for manual, semi-automatic or fully automated operation available
- water bath for direct energy supply or with secondary water loop including circulation pump and plate heat exchanger

PAREX family design variants

- PAREX – „passive“ heat exchanger for external hot water supply
- PAREX D – steam-heated water bath with injector
- PAREX G (/en/vaporisers-heaters-for-cryogenic-liquefied-gases/parex-g/) – skid unit including boiler for energy supply by liquid or gaseous fuel

- PAREX H (/en/vaporisers-heaters-for-cryogenic-liquefied-gases/vaporisers-heated-by-recovered-energy-or-steam/parex-h/) – shell & tube „passive“ heat exchanger for integration into pressurised external water loop
- PAREX E (/en/vaporisers-heaters-for-cryogenic-liquefied-gases/e-heaters/) – skid unit with electric heater elements and water circulation

Performance Features

- performance independent of weather conditions
- steady performance during continuous operation
- gas temperature and pressure control available

Technical Data

media	all industrial gases with a low boiling point, including fuel gases
heat carrier	water / water-glycol
process fluid inlet temperature	-269°C to -25°C
outlet temperature	0 to 30°C below water bath temperature
operating pressure range	1 to 500 bar (higher pressure per request)
capacity	up to 30.000 Nm ³ /h (higher flow rate per request)
connections	flanges EN 1092-1 or metal-to-metal threaded connections (others available upon request)
materials	Pressurised parts: 1.4541, 1.4571 / 2.4360 Frame: S235JR hot-dip galvanised / 1.4301

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