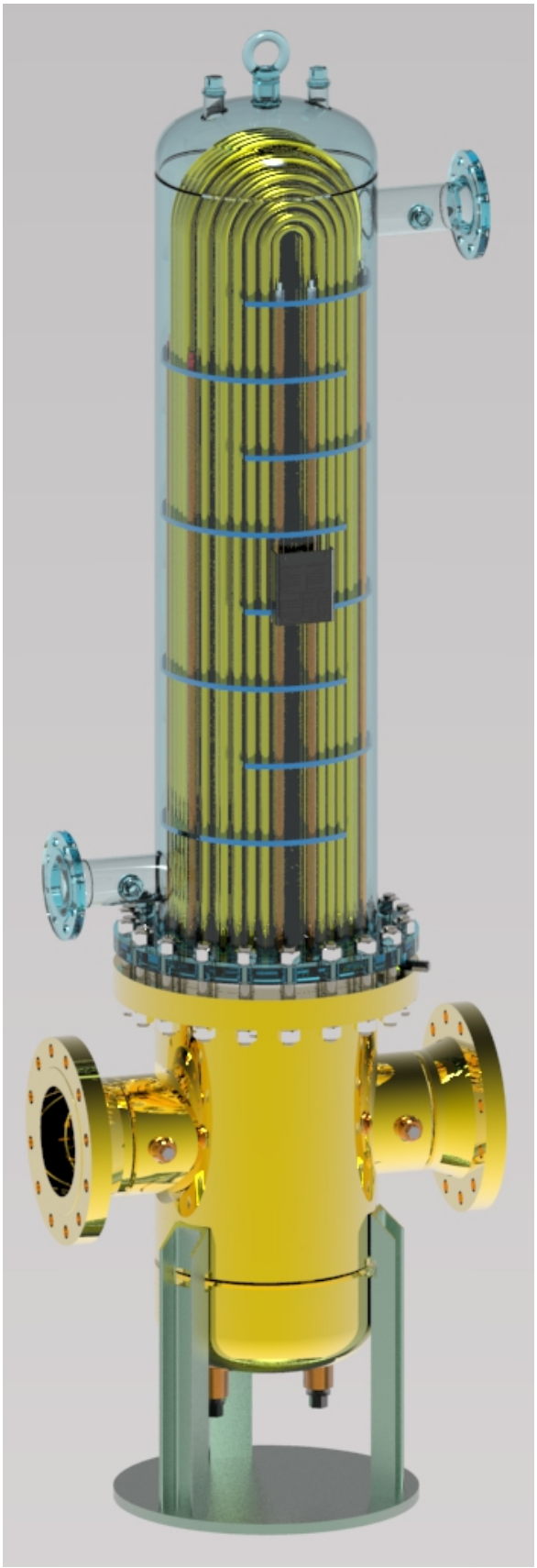

BASIC CHARACTERISTICS

Heat Exchanger

Gas heater / heat exchanger is an apparatus (device) in which the heat is delivered (performed transition) from one medium to another. They can be made so that the media are touching each other and are separated by a partition, the pipe wall, etc. that prevent their direct contact.

Heat exchange surface is derived from the tube so these heat exchangers are called tubular heat exchangers.

Depending on which process is primary, i.e. whether we want the main medium heated or cooled, heat exchangers are divided into heaters and refrigerators.

The materials used for the production of heat exchangers are usually steel. Can be non alloyed, low alloyed, high alloyed steel and cast steel. Pipes for producing heat exchanger is made of aluminum and its alloys, copper and its alloys as well as carbon, low alloy and high alloy steel. Gas heater / heat exchanger is protected with anti-corrosive influence of surface corrosion, aggressive influence of the atmosphere, condensation, etc., according to the procedure for anticorrosion protection.

PRODUCT GENERAL DESCRIPTION

Heat Exchanger

Tubular gas heaters / Heat exchangers are recuperators, i.e. surface heat apparatus in which the heat flow through the walls of the tube does not change depending on the time.

Tubular heat exchangers can be of a different design and performance, in various shapes and mounting positions. May be separable and inseparable. Can be horizontal or vertical. They can be single and attached to a battery of two or more heat exchangers.

They can be self-standing, stand on legs or leaning on the supports welded to the mantle heat exchanger at vertical heat exchangers or lying on saddle supports at horizontal heat exchanger.

SCOPE OF WORK

Heat Exchanger

In the process of reduction of gas pressure "Joule-Thomson" effect, the gas temperature drop is significant (about 0,5° C per bar pressure reduction). This lowering of temperature of the gas can damage the equipment due to the formation of ice crystals formed from water vapor in the gas. In particular, at first instance of the station, gas must be heated prior to reduction of pressure because this effect occurs especially when large differences inlet and outlet pressure. It is recommended that, after the reduction of gas pressure, gas temperature must be below 5°C.

One of the best methods for gas heating in reducing station is the use of heat exchangers with hot water or saturated steam as the heat transfer fluid carriers.

Tubular heat exchanger is apparatus in which the heat is delivered from one medium to another. Heat exchange surface is derived from the tube so these exchangers are called tube heat exchangers.

APPLICABLE DIRECTIVES

Heat Exchanger

For Heat Exchanger applied directive is PED 97/23 ED. According to directive PED 97/23 EC Heat Exchanger are pressurized equipment (see table below).

Table 1

Term	PRESSURIZED EQUIPMENT
Definition	Devices with an operational function whose central units are exposed to pressure!
Explanation / Amendment	**-Operational function:** Some additional function beside pressure suport. **-Central unit exposed to pressure:** Cover that holds the fluid uned pressure (PS>0,5); V>0
Article	1
Paragraph	2.1.4

PACKING AND TRANSPORT

Heat Exchanger

Heat Exchanger is packing on pallets. Pallets can be made of wood or plastic. With setting on pallet all parts of Heat Exchanger are closed with plastic cups to avoid entry of dirt, moisture, small animals, etc. After this operation together with the pallet Heat Exchanger are wrapping PVC foil and tightening with plastic tape to avoid damaging the parts.

Product packed at this way is transporting to the costumer. After delivery of the product, visual inspection is done to determine whether there has been damage during transportation of the product.