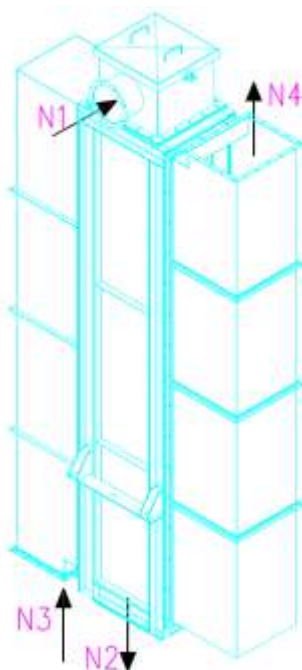


## References – Flue gas coolers, Heat exchangers (HEX)

### Flue gas cooler



Flue gas cooler with input and output channels, Myjava, Slovak Republic, 2010, main dimensions 3 550 x 5 901 x 900 mm, weight 1 180 kg, gas flow 1 650 Nm<sup>3</sup>/h, Temperature input 240-280 °C, output 150 °C, Tube heat exchanger with tubes D 44,5x4 mm, material carbon steel



Flue gas cooler, Lednicke Rovne, Slovak Republic, 2007, 18 000 Nm<sup>3</sup>/h, 360 °C, 750 kW, 6 bar(g), material carbon steel



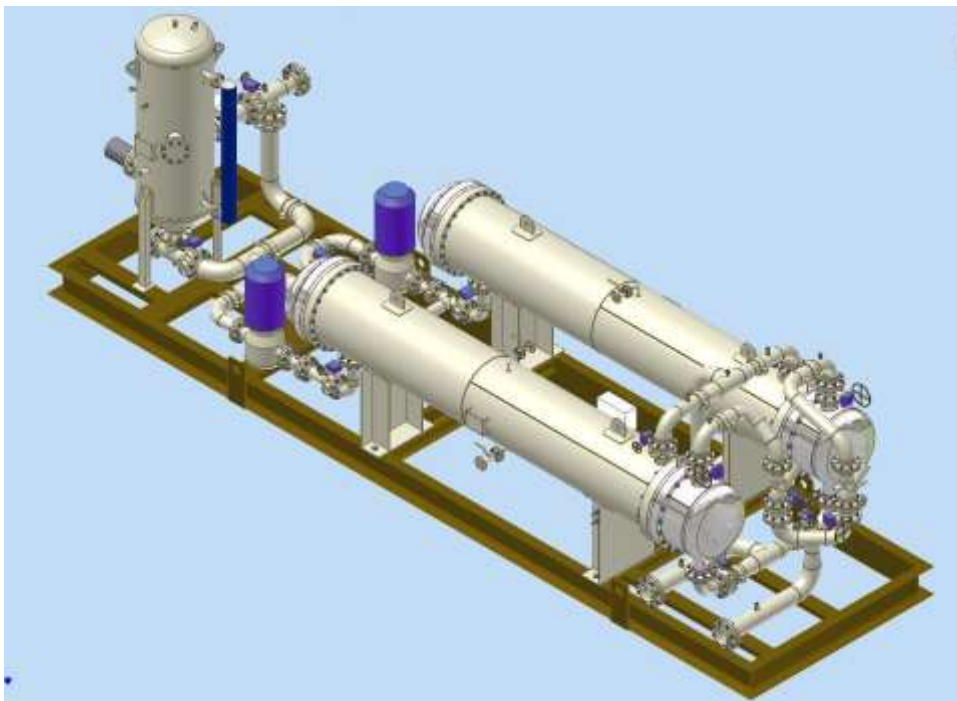
Flue gas cooler input / output chamber (Žirany SK, 2005), cooling fluid water, 4 pcs, 8105 Nm<sup>3</sup>/h, flue gas temperature 355/160 °C, water temperature 70/90 °C, exchanged heat 606 kW, 3 bar(g), tubes OD 44,5 mm, material carbon steel, 3200 kg



Water / air cooler, Enakijevo Ukraine 2008, air temperature 160/45 °C, material 1.4301, Al, carbon steel, 18 000 kg

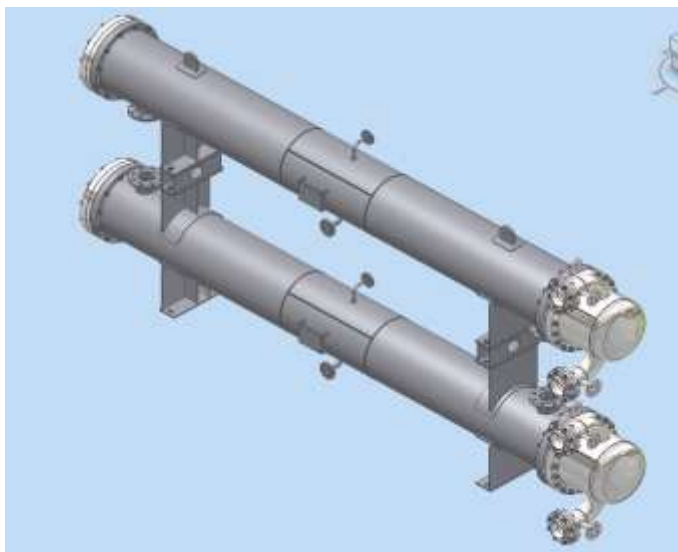


Air intercooler, air after cooler - Magnitogorsk Russia, 2007  
Fluids - air / water, temperature 165/223 – 40 °C, pressure 1,3 – 11 bar(g), 1.4301, Al, P265GH, 27 300 kg,

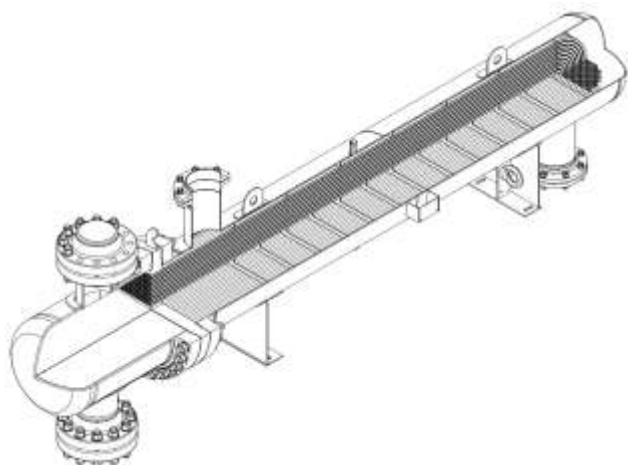


Skid - water cooling unit for hydrogen compressor Kstovo, Russia, 2009, flow 62 m<sup>3</sup>water /h





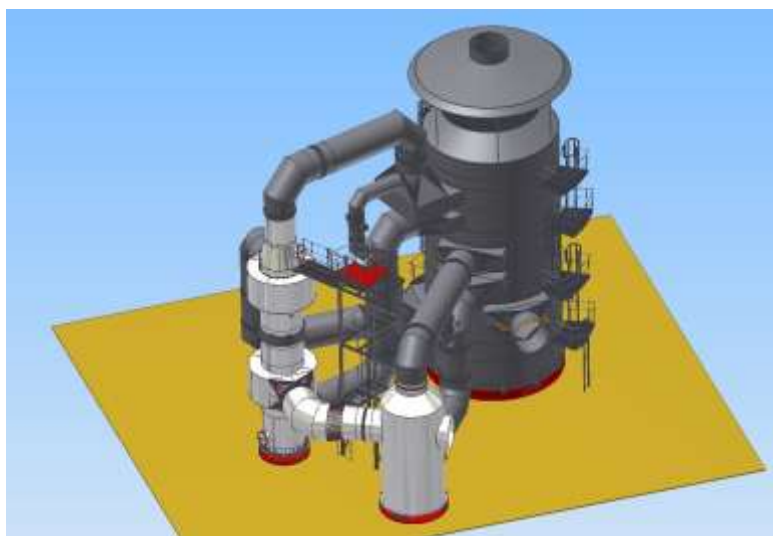
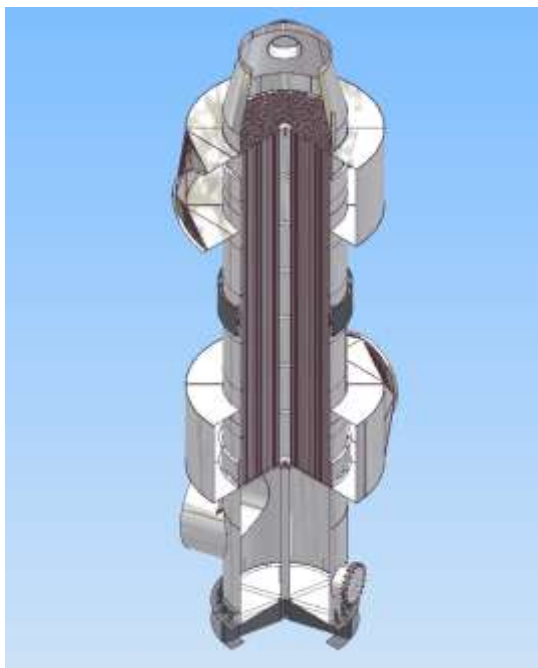
Oil / water coolers, 2000-2011, 80 – 500 kW, 90/45°C, 6-8 bar(g), stainless steel, carbon steel



Bypass cooler Kremencuk, Ukraine, 2011, Fluids hydrogen, methane, 54/6 bar (g), 135/25 °C, 2 MW, 3 000 kg, carbon steel



Low temperature heat exchanger, Chart Inc. USA, 2010, +150/-196 °C, 220/16 bar(g), AISI 321, fluid CH<sub>4</sub>, N<sub>2</sub>, acc. to ASME Code Sect. VIII Div.1



Heat exchangers VT1 (2011), VT2 (2002) for H<sub>2</sub>SO<sub>4</sub> unit, Temperatures 620-380 °C, Pressure 0,3 bar (g), Stainless steel, (1.4541), CS (15Mo3, P265GH) , 34 t (VT1) 28 t (VT2)



General view of H<sub>2</sub>SO<sub>4</sub> unit



Heat exchangers VT1, VT2