

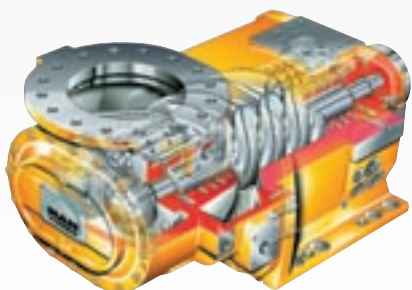
**First Oil Free
Process-Gas Screw Compressor Unit
for 50 bar Discharge Pressure**



Project history

In March 2000 MAN TURBO booked the order for a process-gas screw compressor unit from Fluor Daniel, NL, to be installed in the new desulphuring unit at the Ruhr Oel refinery in Gelsenkirchen, Germany. With 50.5 bar abs the unit has to handle a discharge pressure as high as never reached worldwide before with an oil-free screw compressor. In the meantime the compressor unit had been successfully commissioned and put into operation at the customer's plant.

Before a screw compressor unit built by MAN TURBO for a refinery in Spain, which is in operation since 1988 with a discharge pressure of 46.5 bar abs, has been the world record holder.



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Product Information

The screw compressor type CP128 is driven by an electric motor and the unit is built as a packaged unit, with the oil system integrated into the machine base frame. Double dry gas seals on the shaft ends of the rotors assure that the compressor is gas tight during operation. The compressor casing is designed for a pressure of 55 bar g and has been hydrostatic tested at 82 bar g.

Customer benefits

For the light hydrogen rich gas with a molecular weight varying between 3 and 4 kg/kmol a positive displacement compressor is the ideal solution. In the past only reciprocating type compressors have been used for similar applications. Due to the higher reliability, the oil free screw compressor offers an economical benefit over a reciprocating compressor, as no spare unit is needed. With lower plot area required the foundation and installation costs are less for a screw compressor. While a screw compressor requires more energy than a reciprocating, its higher utility cost is offset by much lower maintenance costs.

Leading technology - Powered by experience

MAN TURBO offers the most comprehensive turbomachinery product range in the world.

Incorporating 200 years of technological achievements we supply state-of-the-art products and services for every industrial process.

Tailor-made solutions by MAN TURBO are based on a unique spectrum of compressors and turbines - from single machines to total train capability.



Product line:

- Compressors (axial, centrifugal, pipeline, gear type, isotherm, process-gas screw)
- Vacuum blower
- Expanders
- Gas turbines
- Steam turbines
- Turbolog® control and monitoring system

After sales service.

Project Data

Screw Compressor Unit	
Type:	CP128
Gas:	Hydrogen Mixed Gas
Volume flow [m ³ /h]:	1,200
Suction pressure [bar (a)]:	35.7
Discharge pressure [bar (a)]:	50.5
Speed [rpm]:	14,470
Driver power [kW]:	820