

MOPICO –
_____ motor pipeline compressor



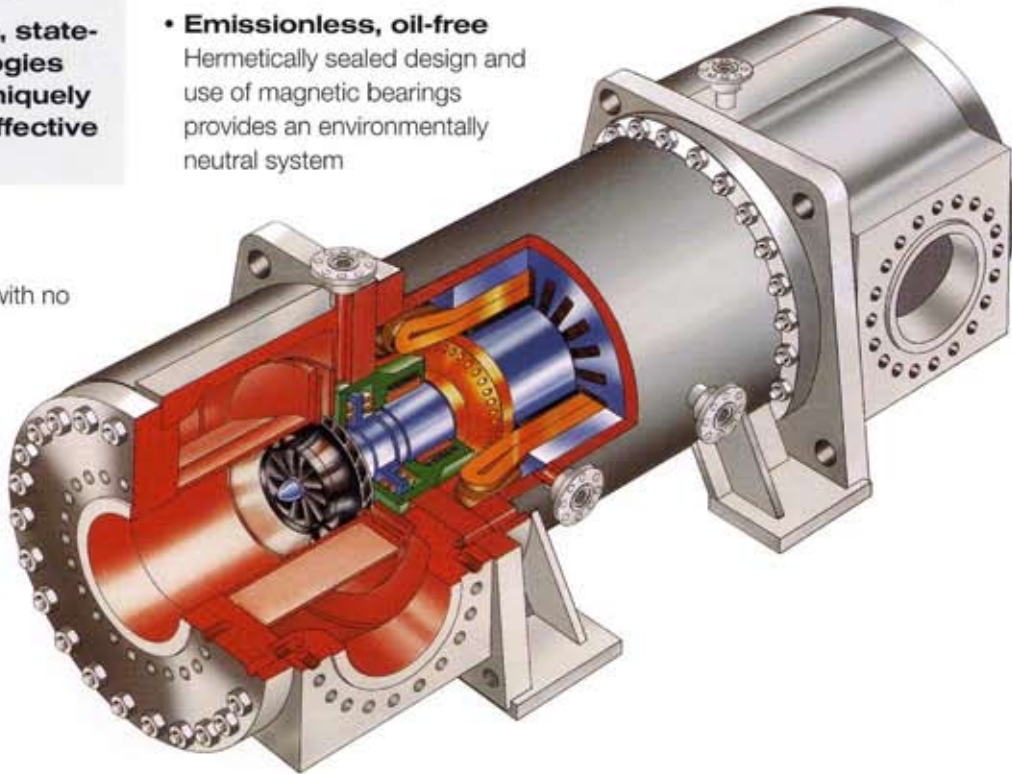
MOPICO – a unique concept for simple solutions to your pipeline compression requirements

Industrially proven, state-of-the-art technologies engineered to a uniquely simple and cost-effective concept

- **Low energy consumption**
Variable speed electric drive ensures highest efficiency from full to minimum load
- **Widest operating range**
Compressor series and parallel operating mode provides widest possible operating range
- **Emissionless, oil-free**
Hermetically sealed design and use of magnetic bearings provides an environmentally neutral system

- **Minimum maintenance costs**
Contact-free magnetic bearings and the elimination of gears, couplings and shaft seals result in a largely maintenance-free system

- **Low capital cost**
Simple, compact units with no local auxiliary systems



Simple, robust design

The single rotating element comprises a laminated motor with two shaft ends onto each of which a single impeller is mounted.

Low noise

The use of magnetic bearings with automatic balancing system allows high-speed, wear-free operation with virtually no vibration and the lowest noise level.

High-efficiency motor

The high-frequency, squirrel-cage induction motor is cooled by the working gas. High-pressure cooling enhances the motor efficiency.



The simplicity

and compactness of the MOPICO concept allows for an equally simple and cost-effective installation. In the absence of complex and space consuming auxiliary systems, MOPICO can be installed in standard, functional industrial housings.

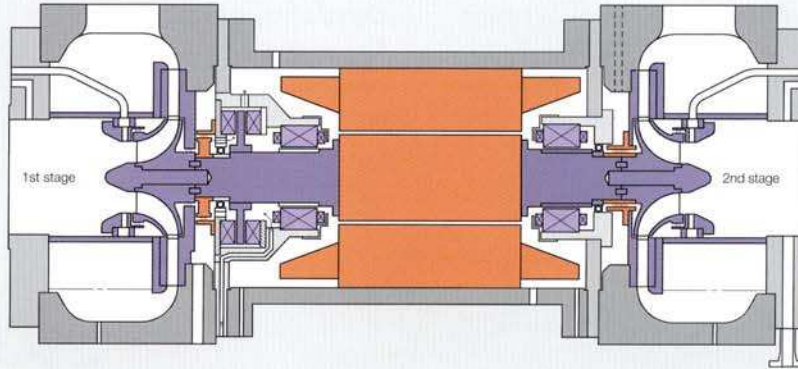


The variable frequency drive, together with the magnetic bearing controls and unit panel are located in a separate utility building.

The ultimate in conceptual simplicity

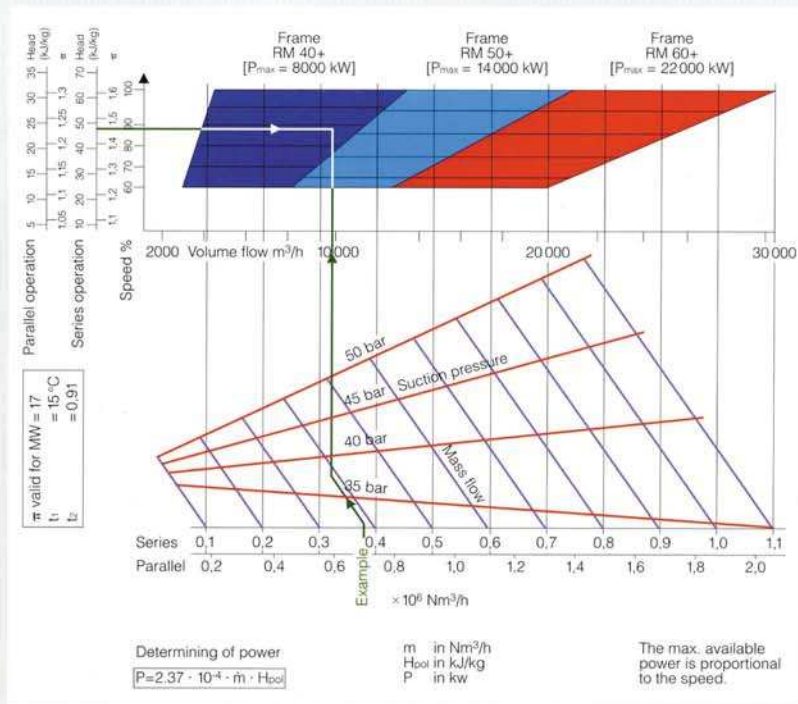
The cross section illustrates the simplicity of the concept:

- a single rotating element
- two radial and one axial bearing
- no couplings
- no gear box
- no shaft seals to atmosphere



Unit ratings

MOPICO is available in three basic frame sizes with motor power ratings up to 22 MW. Power requirements for specific projects are optimised within the three frame sizes by varying the active length of the motor rotor while maintaining the external geometry of the unit. A wide selection of standard impeller types with varying widths and diameters ensures optimum thermodynamic efficiencies.



The system

MOPICO is not a machine but an integrated, engineered system. The system comprises, as a minimum, the motor/compressor unit, the variable frequency drive, including the unit transformer and the unit/station controls.

The control system integrates the MOPICO system components and performs overall station control functions, such as valve sequencing and surge control. The system connects with the pipeline SCADA system for remote operation and monitoring. Key equipment performance and process data is trended and recorded and can be called up remotely through a standard computer link.

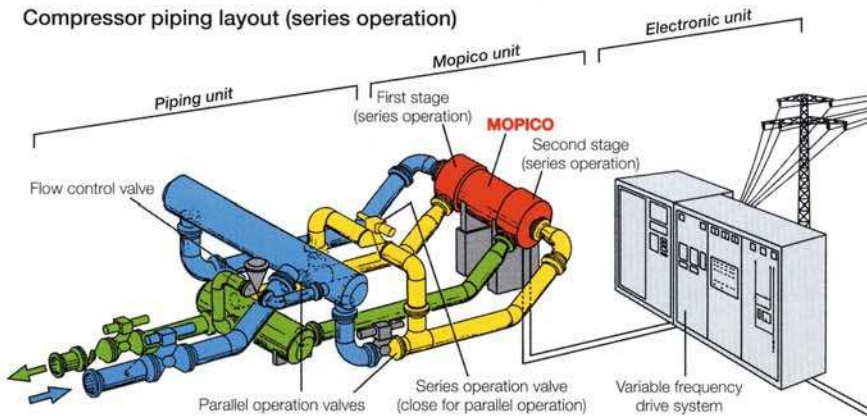


Operational reliability

The original prototype MOPICO was installed as an extension to an existing booster station in Alabama, USA, in 1991.

Numerous machines in various operating modes are now in operation in North America and Europe.

Compressor piping layout (series operation)



The system concept

provides for either single or two stage compression. By means of a dedicated pipe/valve system, the two impellers can be connected either in series or parallel. Change over from one mode to the other can be effected during operation by simply resetting three isolation valves. Motor cooling gas is bled after the 1st stage compressor and ducted into the motor area. Cooling gas exits the motor and is returned to the suction header.



Three MOPICOs connected in series in a booster station in Rutledge, near Baltimore, USA.

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