



New-Generation Centrifugal Compressor 285-61-1CMΠ with Active Magnetic Bearing and Extended Operational Life

Centrifugal Compressor 285-61-1CMΠ is one of the recent REP Holding developments. The compressor design employs the active magnetic bearing system and dry gas dynamic seals. The active magnetic bearing provides rotor contactless rotation in the controlled magnetic field. Absence of friction and oil elements increases the life time of the bearing parts, the unit efficiency, reduces operating costs. Rep Holding established in-house production of electric drives and magnetic bearings under S2M (SKF) licenses.

Compressor 285-61-1CMΠ configuration

- Barrel type casing
- Six compression stages
- Volute outlet chamber
- Dry gas dynamic seals
- Active magnetic bearing

Compressor 285-61-1CMΠ technical characteristics

Value description	UOM	Nominal mode	Additional mode
Capacity referred to 20°C and 0.1013 MPa	MMNCMD	21,30	26,93
Capacity referred to initial conditions	m3/min	283,0	318,0
Final gas pressure, abs., at the discharge branch pipe outlet	MPa	10,35	10,35
Pressure ratio		2,2	1,953
Power consumed by compressor	MW	23,75	26,70
Compressor rotor speed	rpm	4900	4900
Polytropic efficiency, no less than		0,825	0,780
Gas density referred to 20°C and 0.1013 MPa	kg/m3	0,763	0,763

Compressor 285-61-1CMΠ is designed for compression and transportation of natural gas. It is applied in assembly with gas-pumping units at booster compressor stations of the gas producing industry.

Compressor 285-61-1CMΠ main advantages

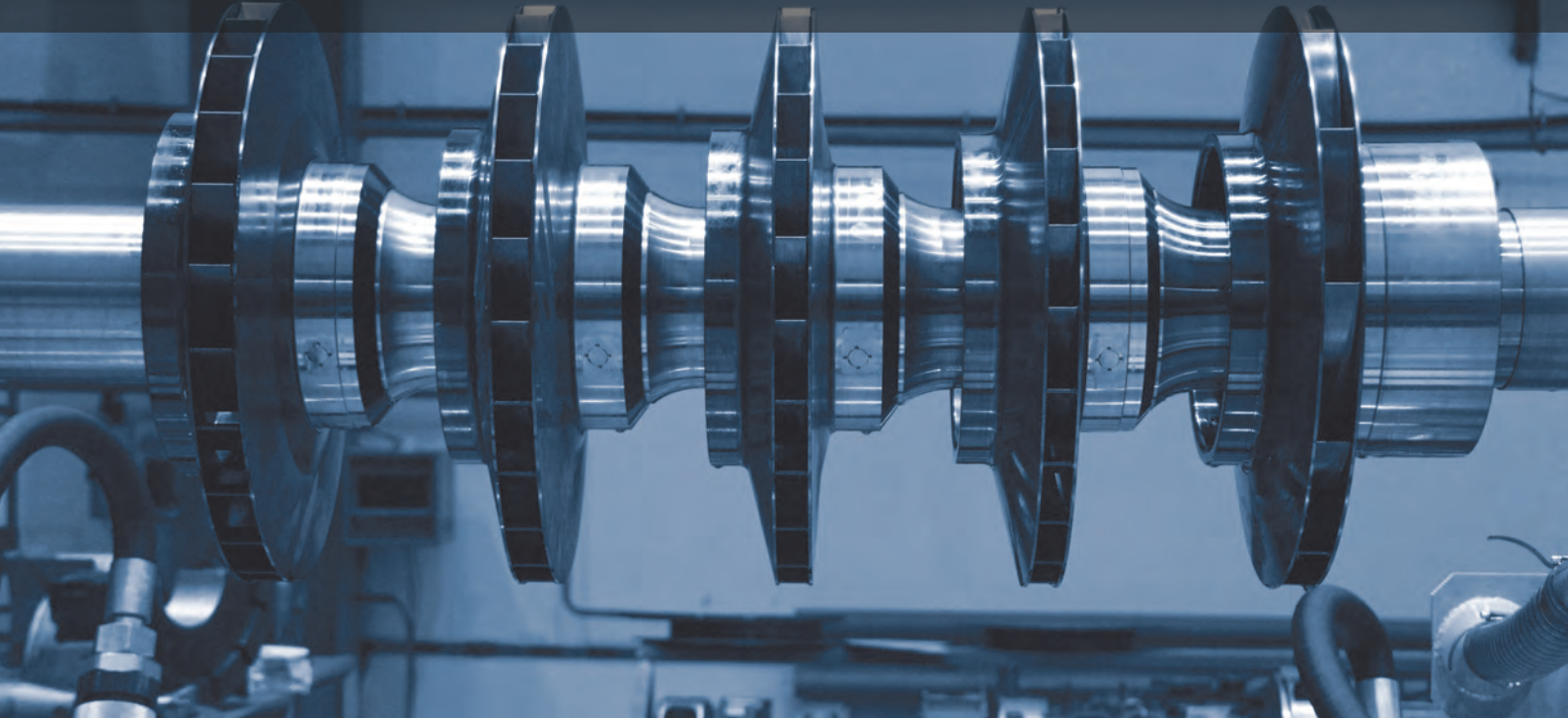
- “Dry” version (dry gas dynamic seals and active magnetic bearing system)
- Twofold operational life increase
- Higher efficiency due to no mechanical losses
- Assemblies and parts commonality (up to 80% elements substitutability)
- Universal compression casing accommodating replaceable flow passages with pressure ratio from 1.5 to 4.0
- Reduced operational costs
- Improved reliability of the design
- Reduced amount of additional equipment

■ Russian components

■ Higher efficiency

■ Energy losses reduction by 200 kW

■ Improved environmental performance



REP Holding is a leading Russian power engineering holding, designer, manufacturer and supplier of new generation power equipment.

The supplied equipment is widely used for upgrading the gas transportation system, in the construction of up-to-date power units and power plants, for small-scale power generation, in the LNG market and in some other industries.

REP Holding incorporates a large industrial enterprise of Saint-Petersburg - Nevskiy Zavod. It provides strong foundation for engineering and production of high quality competitive products. REP Holding also includes its own Engineering Center which carries out R&D activities and innovative development.

Since 2019 REP Holding is incorporated in Gazprom Energoholding Group.

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