



New-Generation Centrifugal Compressor 910-41-1CMΠ with Active Magnetic Bearing and Integrally-Machined Axial – Radial Impellers with 3D Blades

Centrifugal Compressor 910-41-1CMΠ is one of the recent REP Holding developments featuring higher capacity and efficiency. The compressor design employs integrally-machined axial – radial impellers with 3D blades, the active magnetic bearing system and dry gas dynamic seals. Rep Holding established in-house production of electric drives and magnetic bearings under S2M (SKF) licenses.

Compressor 910-41-1CMΠ configuration

- Barrel type casing
- 4 compression stages (3 out of them with axial – radial impellers)
- Volute outlet chamber
- Dry gas dynamic seals
- Active magnetic bearing

Compressor 910-41-1CMΠ technical characteristics

Value description	UOM	Nominal mode	Additional mode
Capacity referred to 20°C and 0.1013 MPa	MMNCMD	13,0	16,4
Capacity referred to initial conditions	m3/min	910	1015
Final gas pressure, abs., at the discharge branch pipe outlet	MPa	2,058	2,058
Pressure ratio		2,2	1,96
Power consumed by compressor	MW	15,2	18,4
Compressor rotor speed	rpm	5150	5150
Polytropic efficiency, no less than		0,820	0,725

Integrally-machined axial – radial impellers with 3D blades are innovative high-technology flow path elements shaped to significantly increase compressor efficiency (by 5%), reliability and operational life. Integrally-machined axial – radial impellers also provide an expanded range of capacity and head characteristics, as well as reduced mass and overall dimensions of the design.

Compressor 910-41-1CMΠ main advantages

- Active magnetic bearing system and dry gas dynamic seals
- Standardized assemblies and parts
- Reduced operational costs and the amount of additional equipment
- Improved reliability of the design
- Twofold operational life increase
- Higher efficiency due to no mechanical losses
- Unique capacity in the 16 MW power rating with final pressure no less than 3.0 MPa

Compressor 910-41-1 CMΠ is designed for compression and transportation of associated gas. It is applied in assembly with gas-pumping units at booster compressor stations of the gas producing industry.

■ **Russian components**

■ **Up to 80% elements substitutability**

■ **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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