



## 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	m <sup>3</sup> /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/m <sup>3</sup>	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

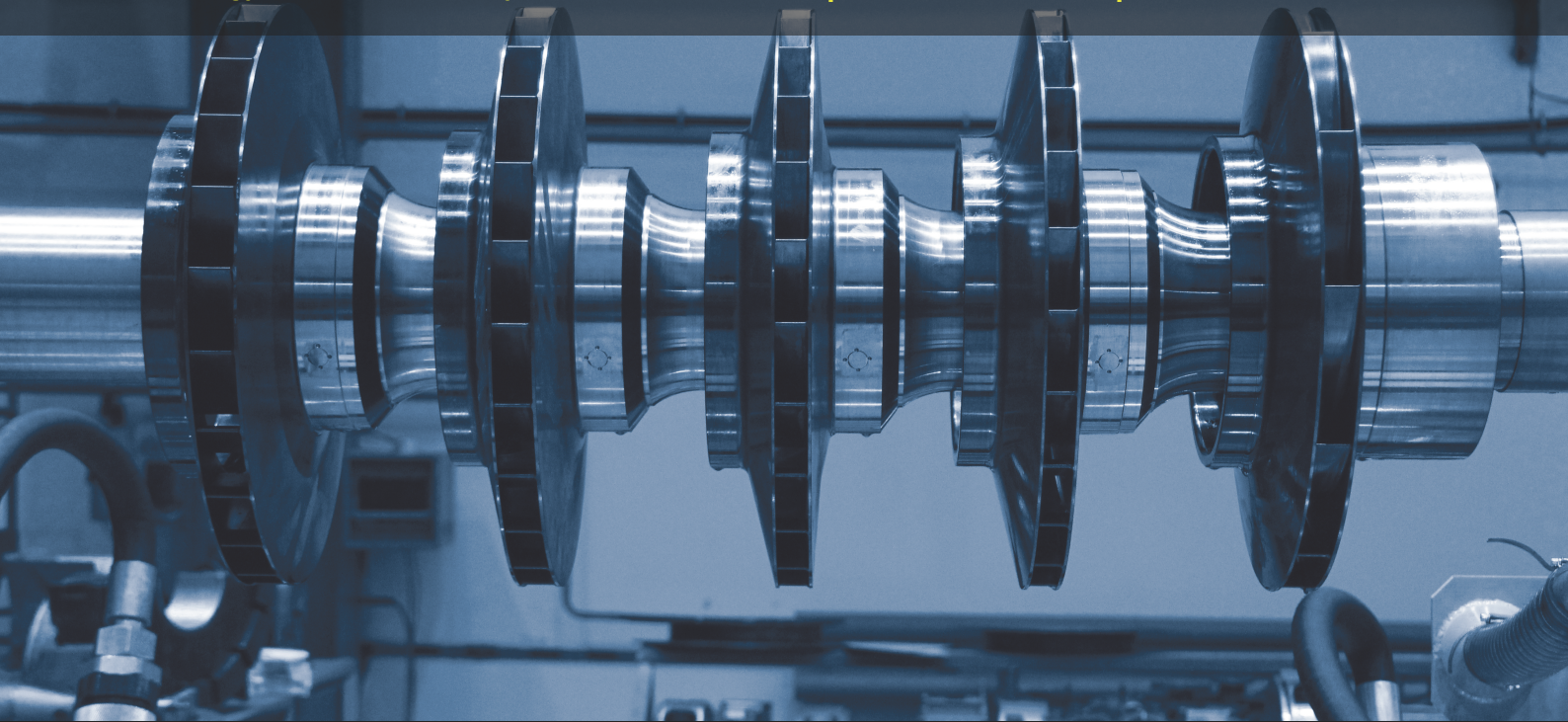
- “Dry” version (dry gas dynamic seals and active magnetic bearing system)
- Twofold operational life increase
- Higher efficiency due to no mechanical losses
- Assemblies and parts commonality (up to 80% elements substitutability)
- Universal compression casing accommodating replaceable flow passages 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 Russian power engineering Company, a designer, manufacturer and supplier of new generation power equipment. REP Holding provides engineering design, manufacturing and package supply of power and electrical equipment for oil & gas, metallurgical and chemical industry, power generation and integrated power grid. REP Holding incorporates production, research-engineering and service enterprises such as “Nevsky Zavod” and “Electropult”, two of the largest St. Petersburg facilities, and Power Machine Building and Electrotechnics R&D Institute.

JSC “REP Holding”

51, let.AF. Obukhovskoy Oborony pr.,  
Saint-Petersburg 192029 Russia

Tel.: +7 (812) 372 58 80, +7 (812) 372 58 81

Fax: +7 (812) 412 64 84

[www.reph.ru](http://www.reph.ru)