



ARBO
Pompen en Filters b.v.



ARBO Chemical pumps

DIN-EN 22585 - ISO 2858 with mechanical seal

Product group 1.0



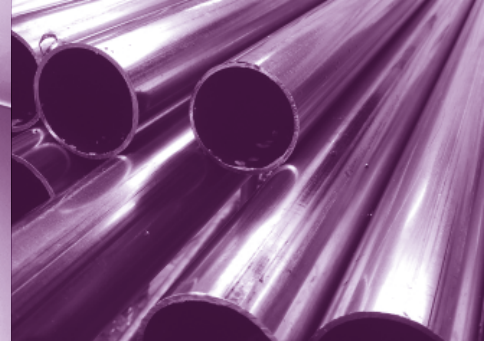


ARBO Chemical pumps

DIN-EN 22585-ISO 2558

with mechanical seal

- ✓ For all applications where metal pumps suffer from corrosion.
- ✓ Interchangeable with metal pumps thanks to normalized connections.
- ✓ Machined completely from solid blocks of plastic.
- ✓ No metal parts in the liquid – extremely corrosion resistant.
- ✓ No injection molding or welding involved – no chemical cracking!
- ✓ The highest chemical resistance.
- ✓ Close (KR) and long (TK) coupled configurations.
- ✓ Horizontal or vertical mounting.
- ✓ Special configurations for abrasive liquids.
- ✓ For plastic pumps unique new hydraulic
 - Very smooth operation and low noise level.
 - Increased efficiency
 - Lower NPSHr – improved suction capabilities.
 - Reduced clogging.
 - Direction independent impeller fixation.
 - Particles up to Ø 3 mm without damage.
 - Flow rates (Q) up to 500 m³/h.
 - Flow rates (H) up to 90 m.



Compact series KR SealPro up to 50 m³/h

This series is close-coupled. The pump is mounted directly to the motor flange by means of a plastic bracket. This compact execution is perfectly suited as stationary pump or for use in machines.



Compact series KR Chemical standard up to 500 m³/h

Again this series is close-coupled, but the bracket is made of metal for maximum stability. This compact execution, thanks to a reduced number of wear parts compared with conventional long-coupled pumps, requires less maintenance and related expenses. It is optional available in a vertical execution Model KRV.

Long coupled series TK Chemical standard up to 500 m³/h

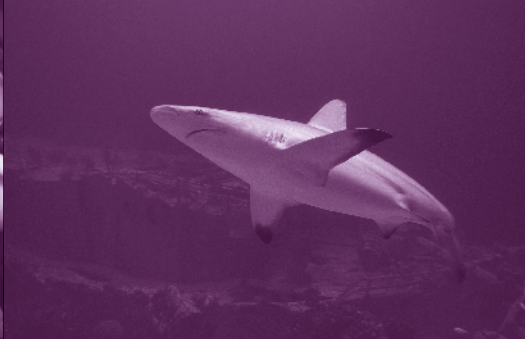
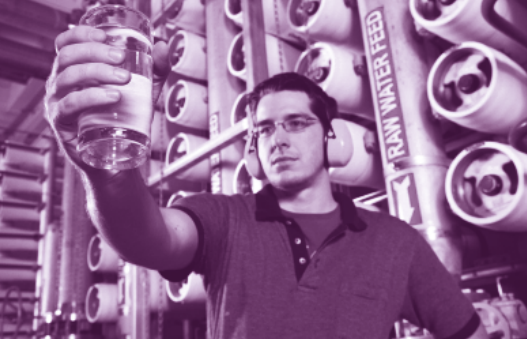
This configuration consists of a bare shaft pump, fully assembled with a standard motor and flexible coupling on a normalized glass fiber-reinforced polyester base plate according DIN 24.259. Thanks to the design according to the "back pull out" system, the total mechanical part of the pump can be removed without disassembling the piping or motor. Therefore it is easy to open the pump for cleaning, inspection or maintenance. The alignment is not disturbed and no unnecessary work or costs is created.



Construction

All parts that come in contact with the liquid are machined from solid blocks of plastic. Thanks to a special production method and the lack of welds, there is no risk for chemical cracking, a major advantage compared to injection molded pumps. PP is the standard material and covers a wide range of duties. For highly abrasive liquids (high percentage of solids), on request impellers or housing parts of RCH-1000/HMPE (High Modulus Polyethylene) can be supplied. For extremely corrosive mixtures at higher temperatures even a fully PTFE pump is possible. Although the pump shaft is not in direct contact with the liquid, it is protected by a replaceable plastic shaft sleeve. The gaskets are standard made of EPDM but may be ordered in Viton or Viton/ PTFE-covered.

Materials of construction	min.	max.
Polypropylene (PP)	0°C	+ 80°C
High Modulus Polyethylene (HMPE)	- 50°C	+ 80°C
Polyvinylidenfluoride (PVDF)	- 30°C	+120°C
Polytetrafluorethene (PTFE)	- 40°C	+140°C
PP/PVDF/PE-EL = conductive plastics for ATEX-applications.		



Impeller

This series of pumps is equipped with a newly designed HiEff impeller with pressure-release. It is fixed onto the shaft independently from the direction of rotation. These impellers are particularly suitable for the transport or circulation of (high viscosity) liquids, with maximum efficiency. Solid particles up to \varnothing 3mm may pass through the pump without damage.

Mechanical seal

The most critical part of a centrifugal pump is without any doubt the shaft seal. For that reason high care was given to the development of this part. ARBO produces a single, by the medium flushed, rotating shaft seal. In the liquid zone, there are exclusively high performance plastics or silicon carbide parts. The pressure element ensures the correct shaft sealing and is located outside the liquid zone. It is entirely coated with plastic or made of Hastelloy for maximum durability. The static seal ring is mounted flexible in order to compensate for eventual pressure waves.



Optional, the seal box can be provided with a connection for electronic seal damage detection.

There is a variety of seal options for system pressures depending on type of 1.5 – 10 Bar.

The ARBO single seal TGS1 can be executed in double flushed execution at an very attractive price. Besides superior ARBO seals alternatively normalised seals can be installed with minor construction modifications only.



For double seals we advise to use so called Liquid Seal Monitors. These devices can be mounted to the pump units in order to adjust and monitor the correct flow and pressure of the flushing liquid. As flushing liquid, normal clear water may be used or an external flushing liquid unit to provide one or more pumps in a closed circuit with a little water consumption only.



Motors

All motors are according NEN-EN-IEC 10072-1 DIN 42673 NEN 3321 standard, 2-, 4- or 6-pole for 230/400 V (up to 2.2 kW) or 400/690 V/ 50 or 60 Hz, IP55, ISO class F. Other protection classes against dust and or humidity on request.

Paint system

These pumps are often used in corrosive environments. Therefore all metallic parts are coated according NEN-EN-ISO 12944-5 category C3 suitable for outdoor installation. Other painting categories and colours on request.

Dry running

Obviously, no fluid pump was designed to run without liquid. Still, in practice this may occur sometimes. Thanks to the smart seal design, dry running will cause limited damage only. The shaft seal and sleeve only will get overheated after some minutes and those can be replaced in a very simple way. The relatively expensive impeller and the other housing parts will remain intact!

Self priming configuration

Selfpriming configuration" de test wijzigen in "Centrifugal pumps are normal priming. It means that the installation needs to be in such a way that the suction is flooded. Self priming capabilities can be created.



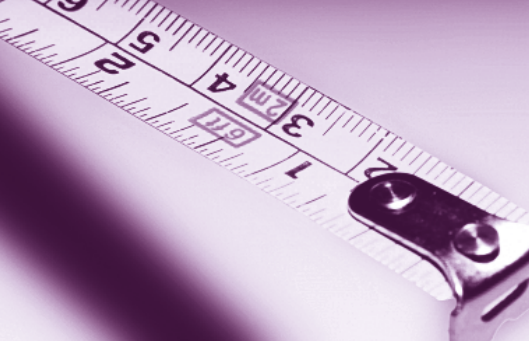
Short lead times

The ARBO pumps feature a high degree of standardization. Thanks to the modular construction and a extensive stock of parts, your specific pump may be assembled relatively fast.

Maintenance

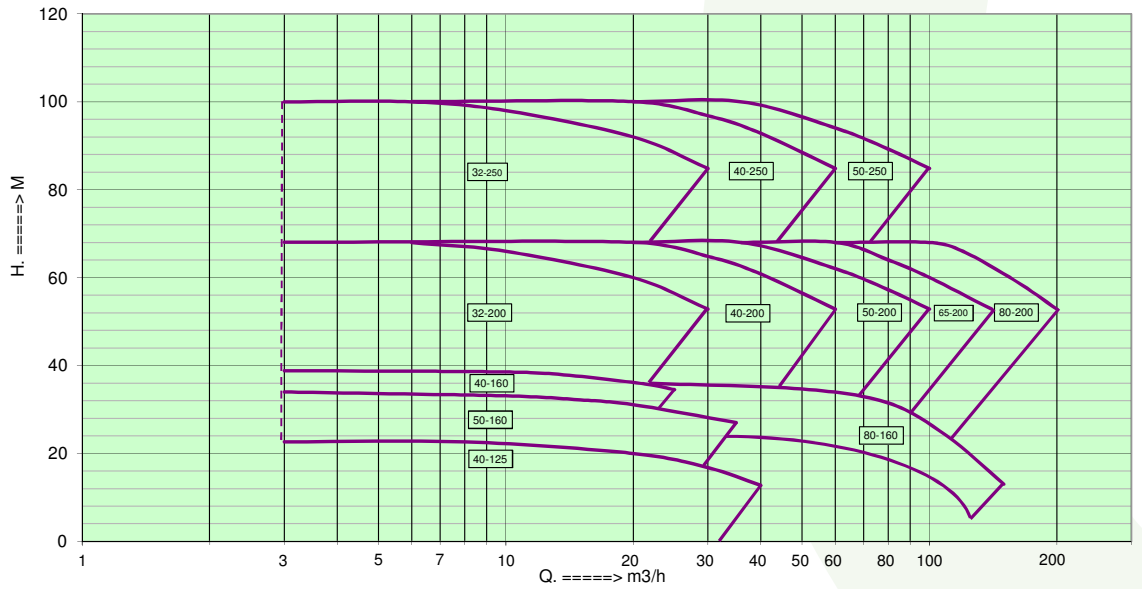
Thanks to the back pull-out system, there is no need to loosen the suction- and discharge piping. The maintenance is reduced to cleaning regularly and the replacement of shaft seal and motor bearings. At normal use, the life time of 30000 operating hours is no exception. Thanks to this, the pump is practically maintenance free!

All around, a multipurpose pump that, together with the variety of options, offers a solution for many applications up to 140°C.



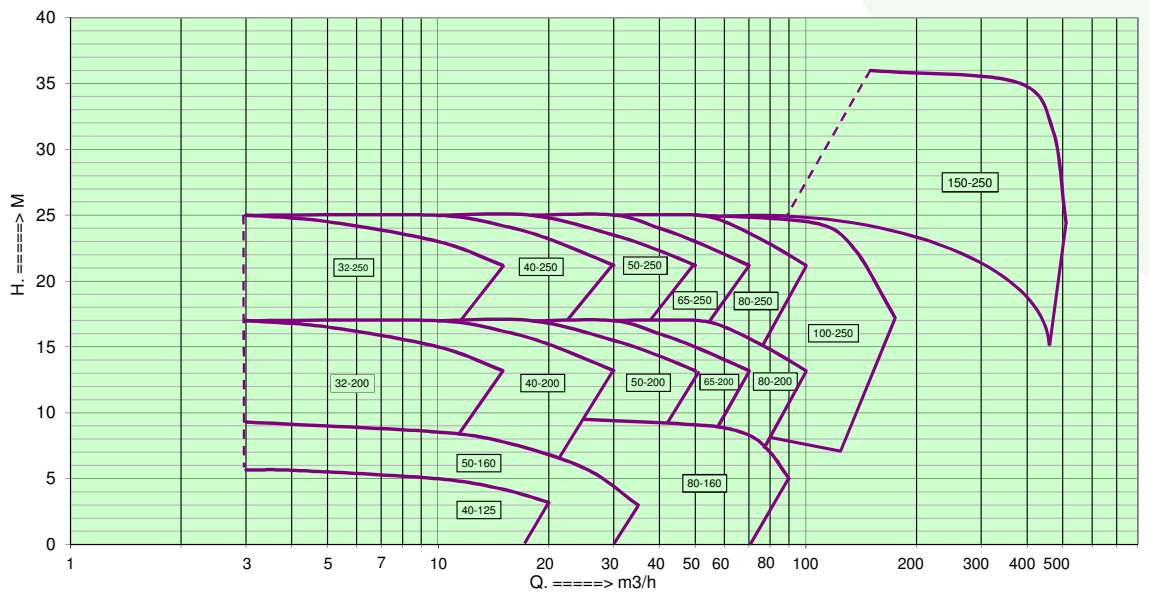
Performance curves 2-pole motors 50 Hz

$\rho = 1000 \text{ kg/m}^3$
 $T = 20^\circ\text{C}$
 $n = 2950 \text{ min}^{-1}$



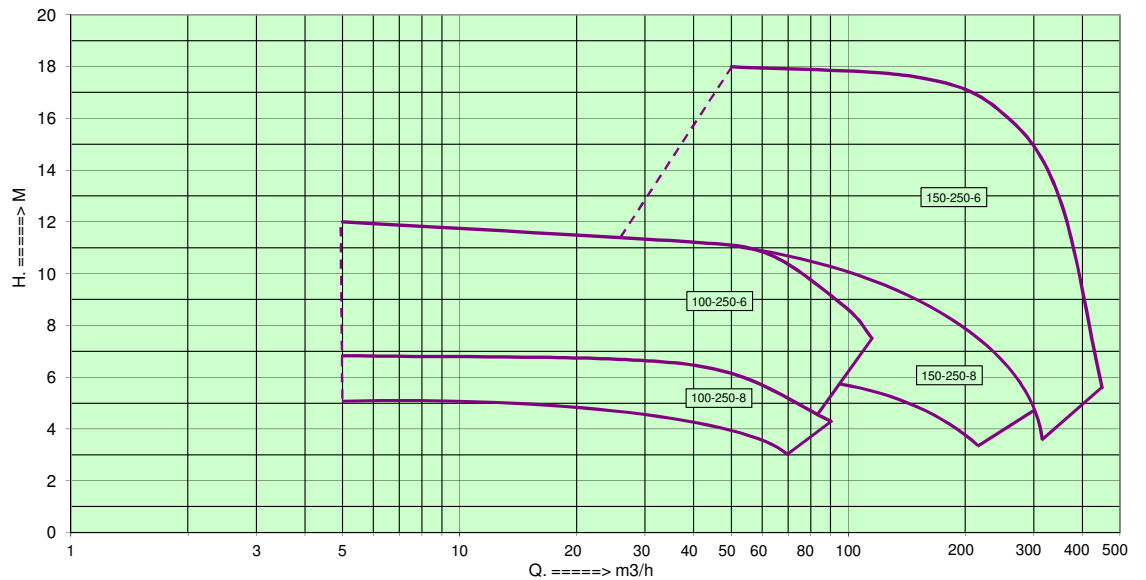
Performance curves 4-pole motors 50 Hz

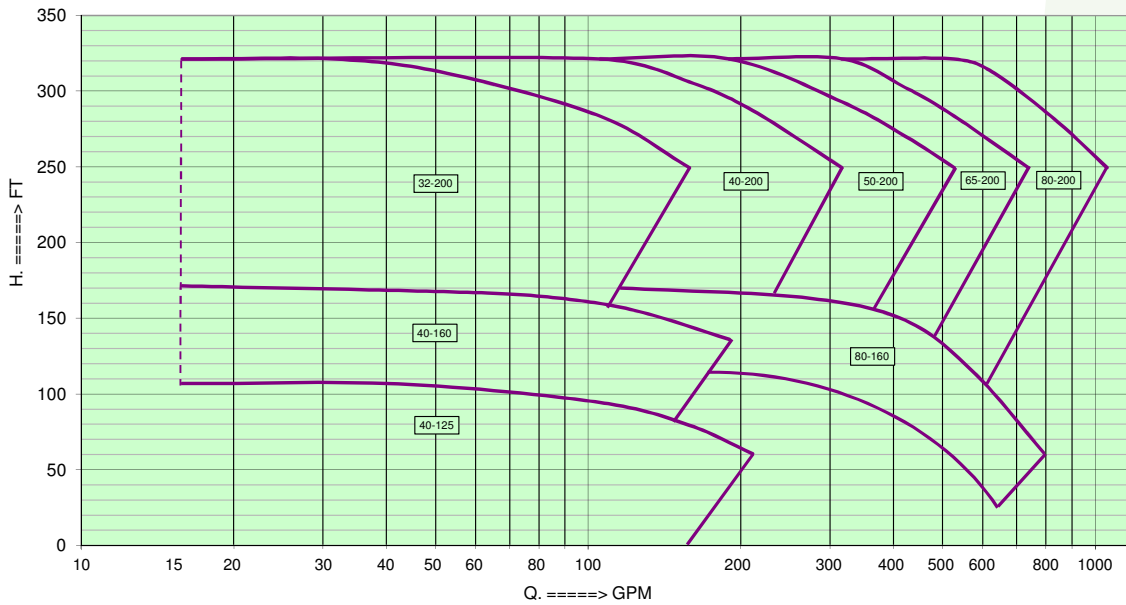
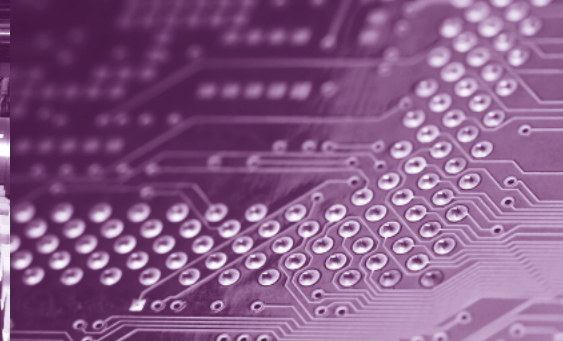
$\rho = 1000 \text{ kg/m}^3$
 $T = 20^\circ\text{C}$
 $n = 1450 \text{ min}^{-1}$



Performance curves 6/8-pole motors 50 Hz

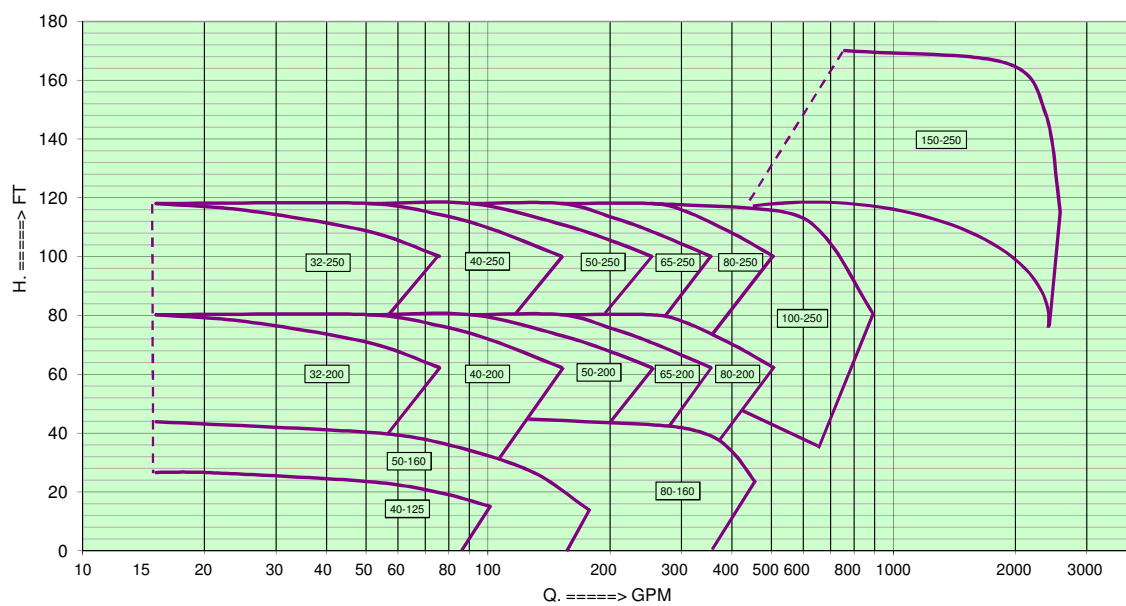
$\rho = 1000 \text{ kg/m}^3$
 $T = 20^\circ\text{C}$
 6-pole: $n = 970 \text{ min}^{-1}$
 8-pole: $n = 730 \text{ min}^{-1}$





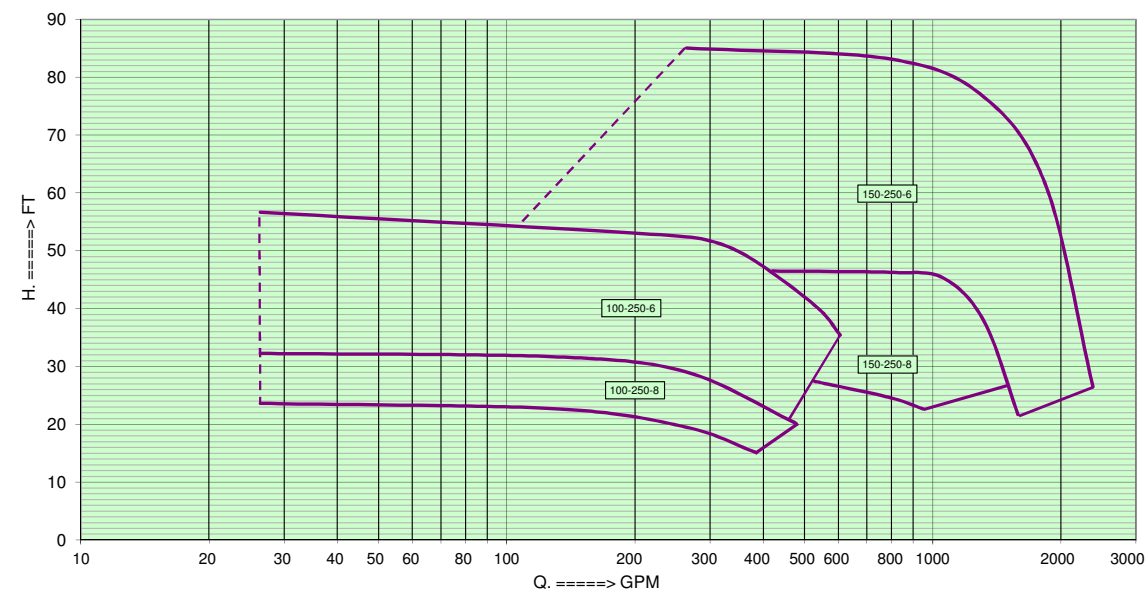
**Performance curves
2-pole motors 60 Hz**

$\rho = 1000 \text{ kg/m}^3$
 $T = 20^\circ\text{C}$
 $n = 3450 \text{ min}^{-1}$



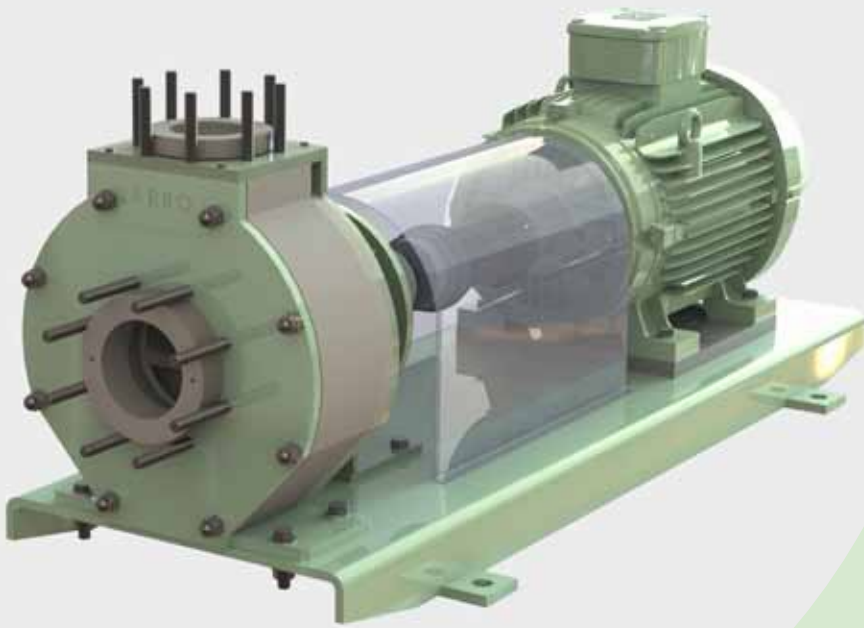
**Performance curves
4-pole motors 60 Hz**

$\rho = 1000 \text{ kg/m}^3$
 $T = 20^\circ\text{C}$
 $n = 1800 \text{ min}^{-1}$



**Performance curves
6/8-pole motors 60 Hz**

$\rho = 1000 \text{ kg/m}^3$
 $T = 20^\circ\text{C}$
 6-pole: $n = 1160 \text{ min}^{-1}$
 8-pole: $n = 880 \text{ min}^{-1}$



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