

Nessie® Low speed high torque motor type MVM 160



Applications

The MVM-motor is a new low-speed-high-torque water hydraulics motor designed according to the vane motor principle. The motor is hydraulically balanced to enable a high starting torque and smooth operation at even very low speed.

The motor operates on ordinary tap water, i.e. without any additives (EU-drinking water Directive 80/778).

Advantages

- Corrosion resistant surfaces
- Simple speed control
- Smooth running at low speed
- High starting torque
- Hygienic surfaces
- Washable with cleaning agents approved for the food industry
- Free wheeling in both directions

Variants

The vane motor is designed to run in one direction and is thus available in both CW and CCW versions.

The motor is as standard made of stainless steel (AISI 304, W. no. 1.4301)

Two different flange types: 100A2W and 82,5A2 are available.

Application examples

- Food industry, e.g. conveyor belts and mixers
- Paper industry
- Chemical and pharmaceutical industry
- Marine industry
- Mining industry

Technical data

Geometric displacement	cm ³ /rev	160
Max. speed	min ⁻¹	200
Min. speed	min ⁻¹	15
Max. water flow	l/min	36
Max. torque (continuous) ¹⁾	Nm	100
Starting torque at 50 bar	Nm	80
Max. inlet pressure (intermittend)	bar	50
Max. pressure drop (continuous)	bar	50
Max. pressure drop (intermittend)	bar	50
Pressure loss at 200 min ⁻¹	bar	3
Starting pressure	bar	10
Max. return pressure	bar	50
Max. return line pressure (case pressure)	bar	2
Max. pressure in drain line	bar	2
Max. drain flow at 50 bar	l/min	1
Max. power at 200 rpm	kW	2.5
Max. internal leakage at 50 bar	l/min	3
Max. radial load	N	500
Max. axial load	N	0
Weight	kg	17.5

The vane motor is designed for one primary direction in a CW and a CCW version, respectively. In emergencies, however, and then only for a very short period, the motor may reverse in the secondary direction.
¹⁾ Maximum torque reduced by 5% at maximum radial force.

Filtration

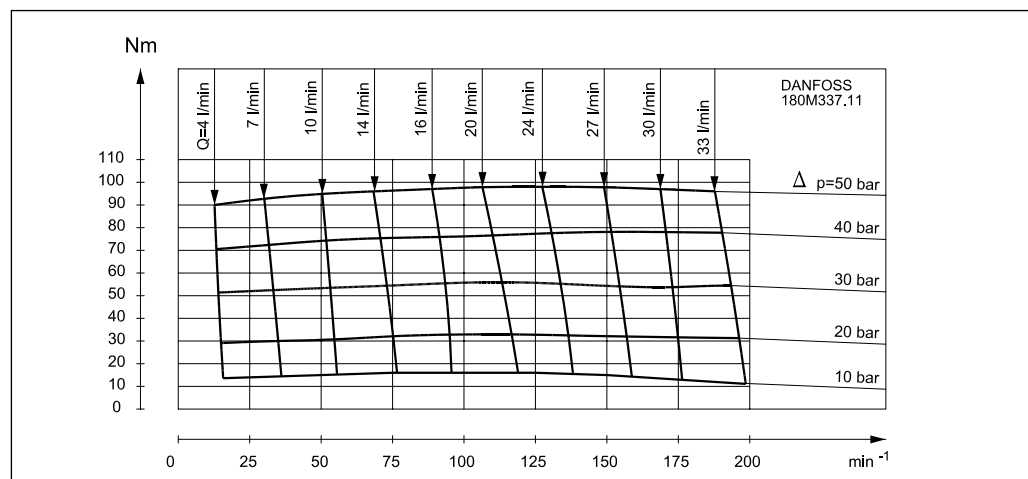
The water supplied to the motor must be filtered down to 10 µm absolute ($\beta_{10} > 5000$).

For further information, please contact the Danfoss sales department for water hydraulics.

Code numbers

Type	Direction of rotation	Flange	Code no.
MVM 160	CCW	100A2W	180F3000
MVM 160	CW	100A2W	180F3001
MVM 160	CCW	82.5A2	180F3002
MVM 160	CW	82.5A2	180F3003

Function diagram

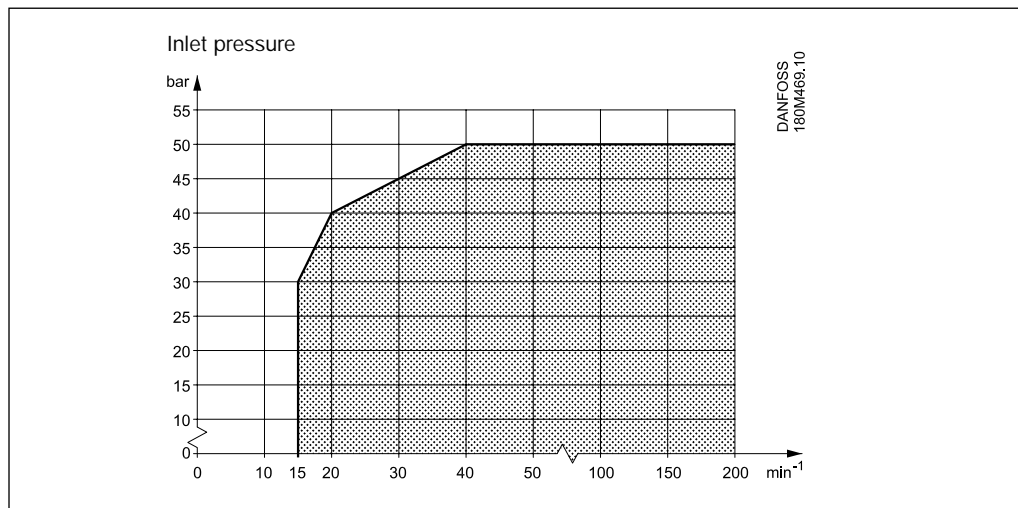


Service life

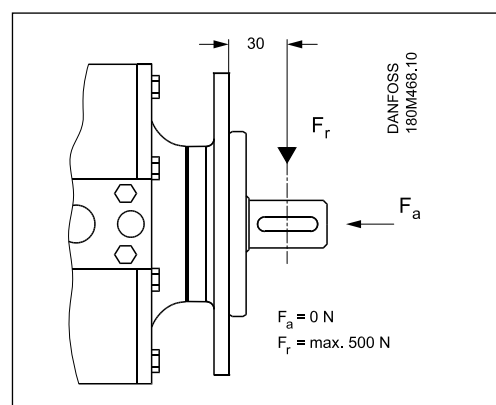
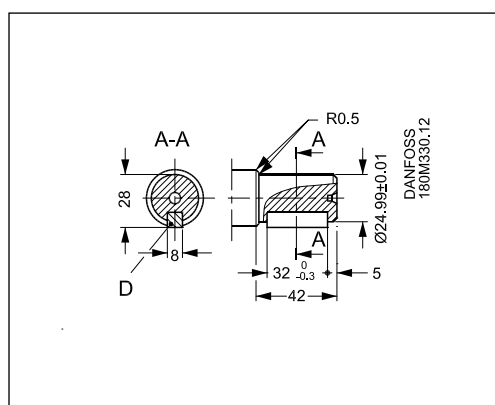
Service life for normal operation is 8000 hours.

Service life is reduced if the motor:

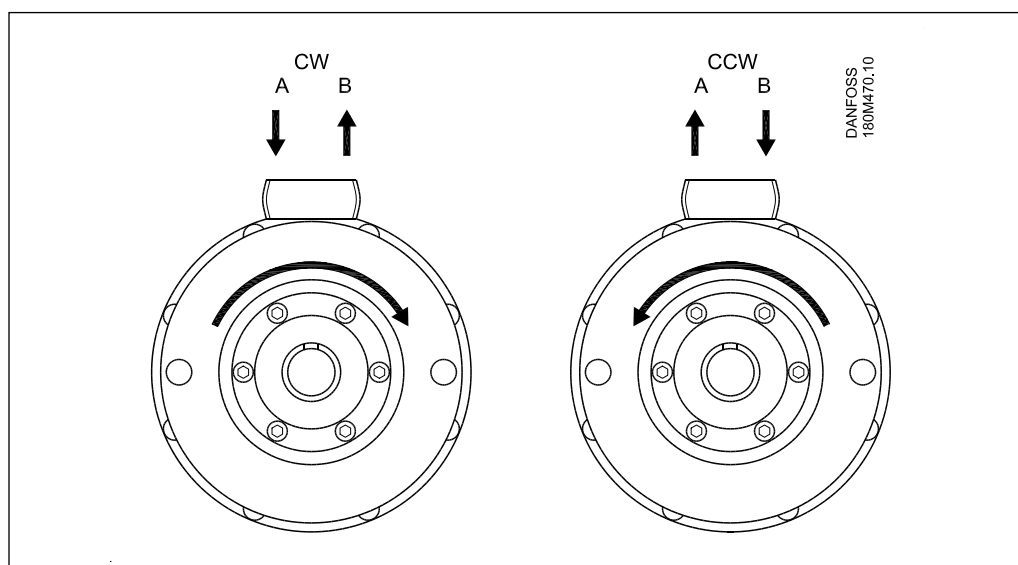
- operates with frequent start/stops
- operates outside the shaded area in the diagram below



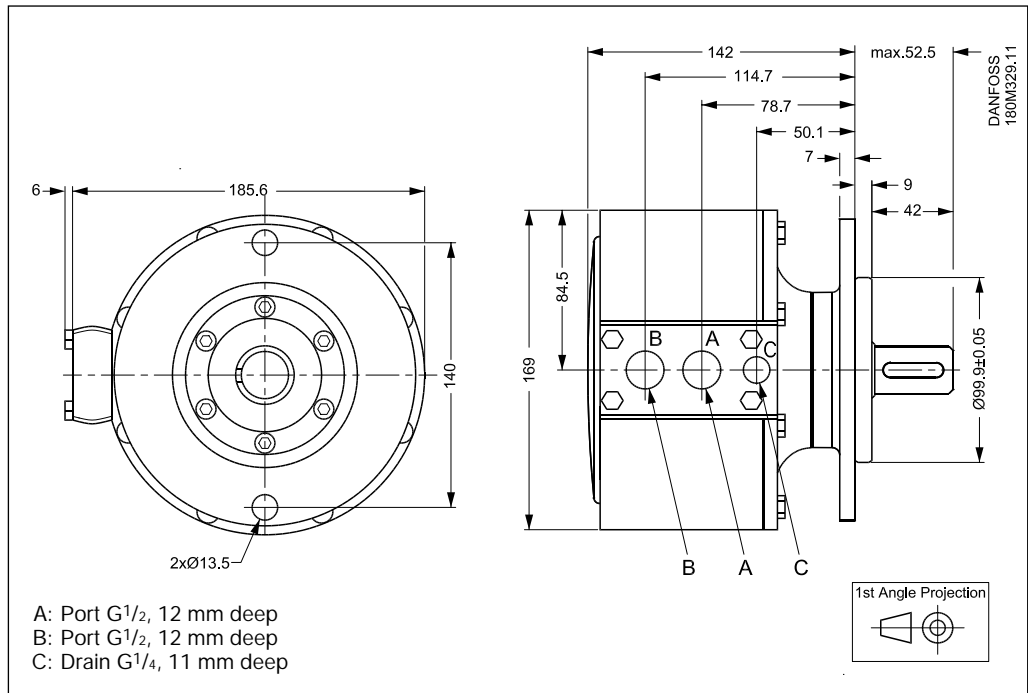
Shaft diameter and axial load



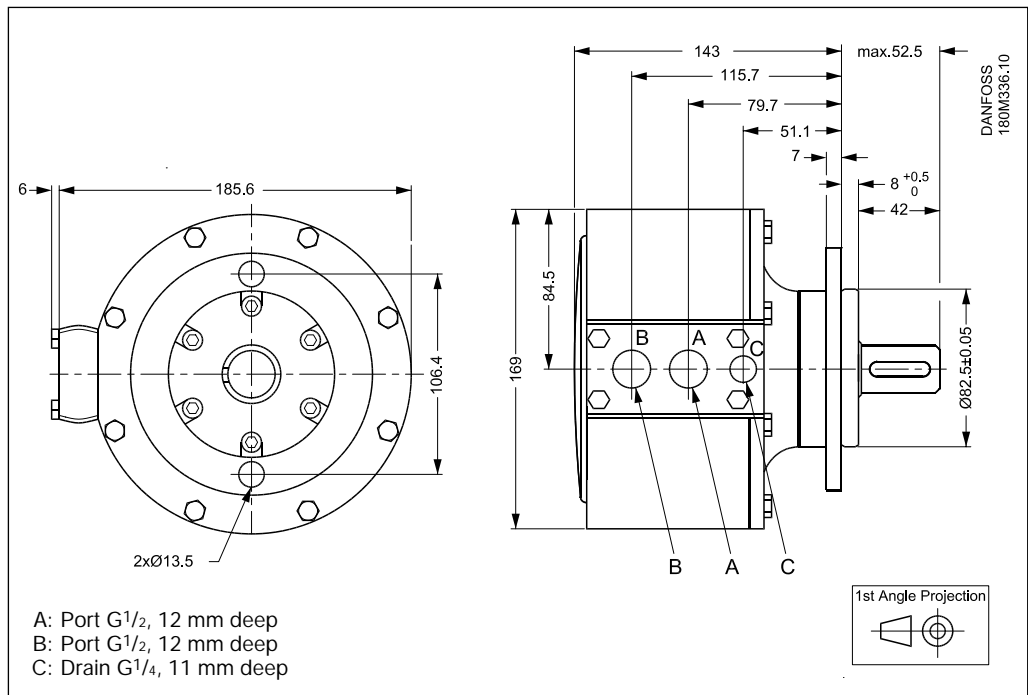
Direction of rotation



Dimensions (mm)
MVM 160 with
100A2W flange



Dimensions (mm)
MVM 160 with
82.5A2 flange



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