

3.2 Liquid-Ring Pumps

The Liquid-Ring Pumps from Alfa Laval are the premium choices to pump liquids containing air or gases.



PD Sheets

MR-166S, -185S, -200S, -300 Liquid-Ring Pump 3.2.766

Performance Curves

MR Liquid-Ring Pump - 50 Hz/60 Hz 3.2.768

Ordering Leaflets

MR-166S, -185S, -200S, -300S 3.2.769

The Choice for Air and Gas Applications

MR-166S, -185S, -200S, -300 Liquid-Ring Pump

Application

MR is a liquid-ring pump specially designed for pumping liquids containing air or gas.
 The pump is for use in food, chemical, pharmaceutical and similar industries.
 The pump is mainly used for CIP-return application.

Standard design

All product wetted parts, i.e. pump casing, casing cover and impeller are made of acid-resistant steel AISI 316L. Seals are made of EPDM rubber.
 Cap nuts, legs, leg brackets and shroud are made of stainless steel AISI 304. The shroud has noise absorbing lining inside.
 MR-166S, 185S and 200S: Adaptor is in cast iron which is zinc coated and laquered making it highly corrosion resistant.

Shaft seal

On MR-166S, -185S and 200S, the mechanical single seals have stationary seal rings of acid-resistant steel AISI 329 and rotating seal rings of carbon.
 The MR-300 has mechanical single seal with stationary seal rings of carbon and rotating seal rings of acid-resistant steel AISI 329.



TECHNICAL DATA

Motor

Standard foot-flanged motor acc. to IEC metric standard 4 pol = 1500/1800 rpm. at 50/60 Hz.
 IP55 (with drain holes with labyrinth plug), insulation class F.

Motor sizes

50 Hz	60 Hz
2.2 kW (166S)	2.6 kW (166S)
5.5 kW (MR-185S)	6.3 kW (MR-185S)
7.5, 11 kW (MR-200S)	8.6, 12.5 kW (MR-200S)
15, 18.5 kW (MR-300)	17, 21, 25 kW (MR-300)

OPERATING DATA

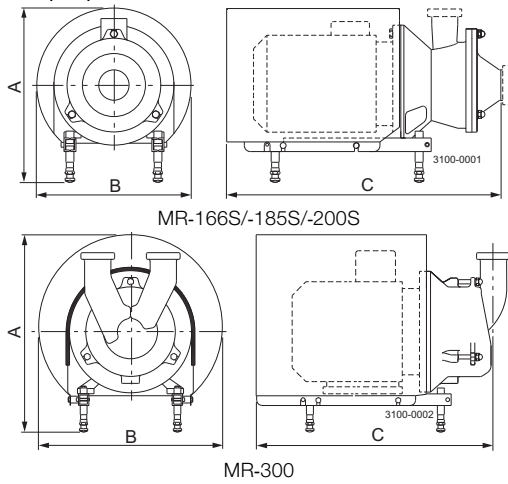
Pressure

Max. inlet pressure: 400 kPa (4 bar).

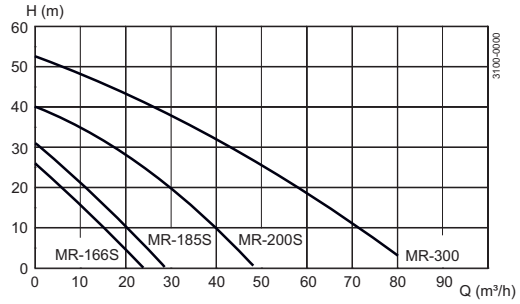
Temperature

Temperature range: -10°C to +140°C (EPDM).

Dimensions (mm)



Volumetric flow MR-166S, -185S, -200S and -300



Motor	kW	MR-166S		MR-185S/200S		MR-300	
		min.	max.	min.	max.	min.	max.
A	15kW	357	469	380	513	486	603
A	18.5kW	357	469	380	513	486	603
B		323		383		485	
C		278		300		334	

Options

- A. Other voltage and frequency.
- B. Flameproof motors (EEXE and EEXD).
- C. Pump without shroud and legs.
- D. Pump without shroud.
- E. Adaptor in stainless steel AISI 304 (MR-185S and MR-200S only).
- F. Noise reduction valve.
- G. Product wetted seals of Nitrile (NBR) or Fluorinated rubber (FPM).
- H. Stationary seal ring with sealing surface of Silicon Carbide (MR-185S and MR-200S only).
- I. Rotating seal ring of Silicon Carbide (MR-185S and MR-200S only).

Ordering

Please state the following when ordering:

- Pump type.
- Voltage and frequency.
- Connections.
- Flow rate, pressure and temperature.
- Density and viscosity of product.
- Options.

Note!

For further information, see also instruction IM70719 and M70733.

Performance Curves

MR Liquid-Ring Pump - 50 Hz/60 Hz

	50 Hz			
Motor:	1500 rpm. synchron.			
Tolerance:	±5%			
Type:	166S	185S	200S	300
	(mm)	(mm)	(mm)	(mm)
Impeller,:	165	199	199	240
Pump inlet, Dia.:	51	76	76	76
Pump outlet, Dia.:	51	76	76	76

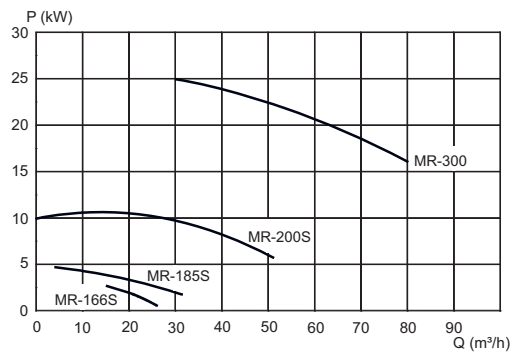
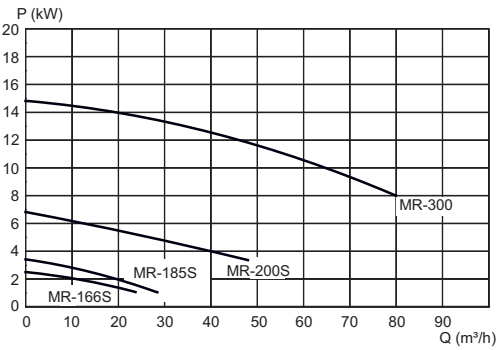
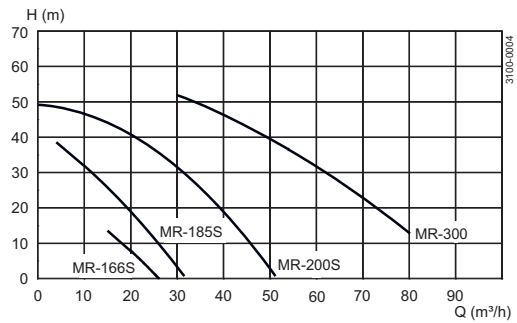
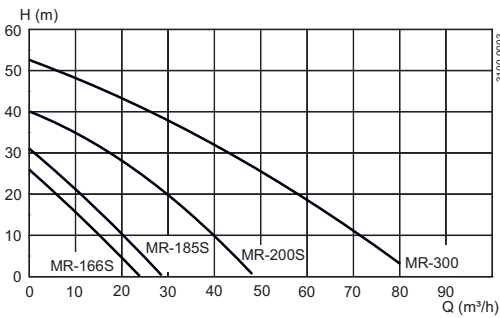
Performance data refer to water at 20°C.

	60 Hz			
Motor:	1800 rpm. synchron.			
Tolerance:	±8% for Q. ±6% for H.			
Type:	166S	185S	200S	300
	(mm)	(mm)	(mm)	(mm)
Impeller,:	165	199	199	240
Pump inlet, Dia.:	51	76	76	76

Performance data refer to water at 20°C.

DO NOT FORGET THE SAFETY FACTOR.

NOTE!
The curves refer to motor:
MR-166S: 2.5 kW, 1720 rpm. asynchr., 60 Hz.
MR-185S: 6.3 kW, 1740 rpm. asynchr., 60 Hz.
MR-200S: 8.6/12.5 kW, 1790 rpm. asynchr., 60 Hz.
MR-300: 25 kW, 1765 rpm. asynchr., 60 Hz.



Sanitary version with multi voltage motor, complete
unions, legs and shroud
Please state if 60 Hz
Product code: 5308

Seals: EPDM
Single shaft seal (SSS)

SMS Item No.	DIN Item No.	ISO (IDF) Item No.	BS Item No.	Impeller Dia. (mm)	Power	Power	RCPL EUR
					50 Hz. (kW)	60 Hz. (kW)	
MR-166S							
9612-9226-24	9613-2202-18	9612-9226-21	9612-9226-25	165	2.2	2.5	
MR-185S							
31438-0374-5	31438-0374-6	31438-0374-1	31438-0374-4	199	5.5	5.5	
MR-200S							
31438-0375-5	31438-0375-3	31438-0375-1	31438-0375-4	199	7.5	7.5	
MR-300							
31438-0370-2	31438-0370-3	31438-0368-1	31438-0368-5	240	15.0	16.5	
31438-0371-2	31438-0371-3	31438-0369-1	31438-0369-5	240	18.5	21.0	

The centrifugal pumps not mentioned in the code number sheets, should be ordered as below:

Item No.	RCPL EUR	Type	Options
31438-1000-2 31438-1000-4		MR-185S/MR-200S MR-300	
Please specify:			
Pump type, connection, motor size, voltage and frequency, shaft seal, material grades and version.			
			The following options are available as standard: Seals: NBR Seals: FPM Pump without shroud and legs, 2.2 kW. Pump without shroud and legs, 5.5-7.5 kW. Pump without shroud and legs, 11-18.5 kW. Pump without shroud, 2.2 kW. Pump without shroud, 5.5-7.5 kW. Pump without shroud, 11-18.5 kW.

NOTE! Noise reduction valve is only sold as a separate item.