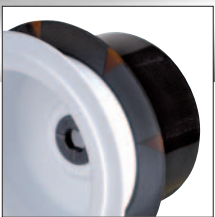


Richter Magnetic Drive Process Pumps

ISO/DIN, ASME/ANSI

Corrosive, solids-laden and high-purity fluids



Temperatures to
150 °C (300 °F)

Lining PFA/PTFE

Pure SSiC sleeve
bearing system

SAFEGLIDE® PLUS
dry-run optimization



RICHTER
Process Pumps & Valves



Lined magnetic drive process pumps

Fields of application

Corrosive, environmentally critical and high-purity fluids in the chemical, pharmaceutical, petrochemical, semiconductor, pulp, metal, food processing and waste disposal/recycling industries.

The RMI (ISO/DIN) and RMA (ASME/ANSI) series were developed

- for use with media where stainless steel and conventional plastics such as PE, PP etc. do not have sufficient corrosion resistance
- as an alternative to
 - pumps made of expensive long-lead-time metals (Alloy C, titanium, nickel, etc.)
 - mechanical seal pumps
 - full plastic pumps
 - metal pumps with double mechanical seals and liquid sealing or quenching systems
 - and stainless steel magnetic drive pumps.

Design

Sealless, fluoroplastic-lined, mag-drive centrifugal pumps. Dimensions and delivery data to ISO/EN 22858/ISO 2858 and ASME/ANSI B73.3. Close-coupled and frame-mounted designs. No dynamic seal. Eddy-current-free.

- Frame-mounted ISO/DIN RMI/F... ASME/ANSI RMA/F...
- Close-coupled ISO/DIN RMI-B/F... ASME/ANSI RMA-B/F...
- Lining: Perfluoroalkoxy (PFA)
- ATEX and Clean Air Act (TA Luft) conformity

Operating range

	50 Hz operation	60 Hz operation
RMI	0.1-120 m ³ /h* 0.4-530 USgpm* up to 70 m (230 ft) LC*	0.1-130 m ³ /h* 0.4-570 USgpm* up to 100 m (330 ft) LC*
RMA	0.1-150 m ³ /h* 0.4-660 USgpm* up to 110 m (360 ft) LC*	0.1-180 m ³ /h* 0.4-750 USgpm* up to 155 m (500 ft) LC*

- Temp. -30 °C to 150 °C* (-20 °F to 300 °F)*; up to 20 bar (290 psi)
- Capability of handling solids-laden fluids depending on shape, hardness and size of the solids. Consult factory.

* For higher temperatures and flow rates, see Richter series MNK (ISO/DIN) and MNKA (ASME/ANSI).

Features and benefits

The handling of highly corrosive, high-purity or environmentally critical fluids calls for truly reliable and safe pumps – without compromises on quality, material and efficiency. The RMI and RMA series excel through

- ① **Virgin PFA lining without fillers – perfect lining quality with even lining thickness**
 - **Highest chemical resistance**, well above ETFE (e.g. Tefzel®) and PVDF
 - Temperatures up to 150 °C (300 °F)
 - **Full FDA conformity**
 - Neutral to pure and high-purity fluids in pharmaceutical, fine chemical and semiconductor applications
 - Superb permeation resistance
 - Wall thickness of at least **3 to 5 mm (0.1 to 0.2 inch)**.
 - **Vacuum-proof anchored housing lining:** Richter exclusively uses the “**TM transfer moulding process**” (not the so-called roto-moulding process). Indexing drillings on casting outside guarantee uniform lining thickness: important for high permeation resistance.
- ② **SAFEGLIDE® PLUS optional**
 - **Optimised dry-run capability.** As a result, dry-running is possible for 30-60 minutes. The proprietary surface impregnation is extremely wear and chemical-resistant. Supplied with more than 20,000 Richter pumps.
- ③ **Capable of handling fluids containing solids**
 - **Solids restriction rings in the housing and rotor** prevent critical solid particles from entering the can area.
- ④ **High efficiency and low NPSHr impeller design**
 - Smooth running even under critical load conditions
 - Axially thrust-optimised rotating unit
 - The **shaft made of SSiC** is optimally supported in the can and in the spider without any shaft deflection.
 - The large space between the SSiC sleeve bearings provides reliable distribution of the radial forces.
- ⑤ **Minimum life cycle costs and ease of maintenance**
 - High efficiency design, no energy-wasting eddy currents
 - Universal corrosion resistance provides high flexibility
 - Virtually maintenance-free
 - Double “back pull-out” design for easy maintenance without releasing system pressure
 - Few components only: a service-friendly pump

⑥ **Sturdy design for dimensional stability even at high temperatures**

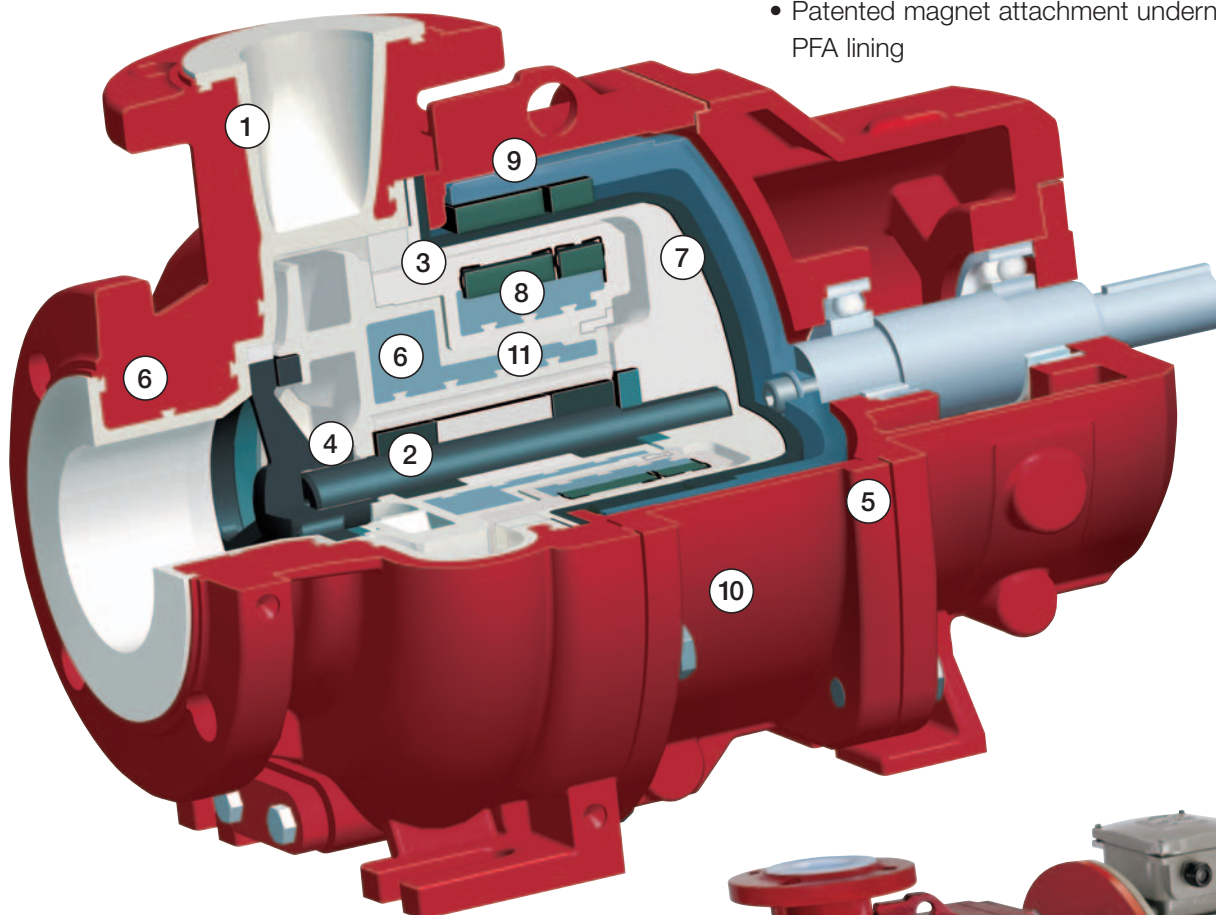
- Full-surface ductile cast iron EN-JS 1049/ASTM A395 absorbs pipework forces and eliminates need for expansion joints
- Impeller magnet assembly with large metal core
- Highest grade SSiC silicon carbide sleeve bearing system

⑦ **Non-metallic double can system**

- Wetted: thick-walled virgin PTFE
- Pressure-bearing: carbon-fibre, with high safety reserves
- No eddy currents: no heating of fluid, no energy waste
- Integral flow breakers prevent abrasive circulation in the can

⑧ **High-performance NdFeB (neodymium iron boron) and SmCo (samarium cobalt) permanent magnets**

- Consistent magnetic energy density even at high operating temperatures
- Patented magnet attachment underneath the PFA lining



⑨ **Drive magnet assembly with safety ring**

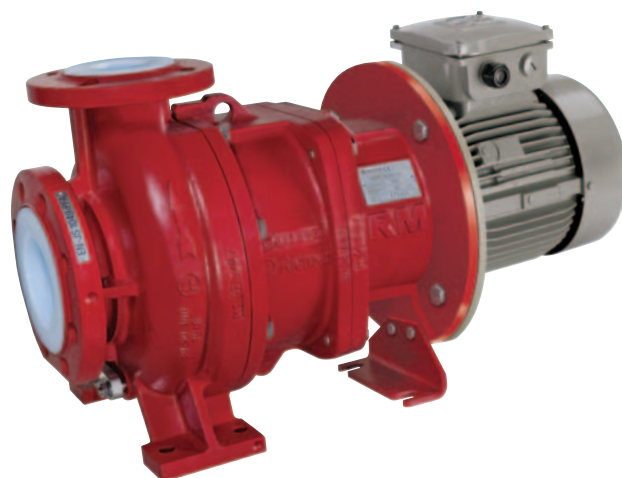
- In event of rolling bearing failure the can will be reliably protected from damage by a possibly tumbling drive magnet assembly

⑩ **High-quality external corrosion protection**

- Thick outside epoxy coating
- SS screws, other grades optional

⑪ **Impeller/magnet assembly in two pieces**

- In case of torque adjustment or wear the wetted rotor components can be replaced individually. This enhances cost-efficiency.
- Completely homogenous PFA lining, no weldings.



Close-coupled pumps RMI-B, RMA-B

All sizes are available both in compact close-coupled design for a flange motor and in frame-mounted design.

Quality and reliability count when difficult fluids are to be handled

SAFEGSLIDE® PLUS dry-run-optimised silicon carbide (SSiC) bearing system

SSiC and SAFEGSLIDE® PLUS are extremely corrosion and abrasion resistant. The SSiC radial sleeve bearings are positively locked in the impeller/magnet assembly and rotate on the SSiC shaft. The SSiC impeller thrust ring absorbs possible axial thrust.

SAFEGSLIDE® PLUS is a most valuable option and offers unique dry-run properties. It protects against dry-run damage for a reasonable period should lubricating fluid be missing!

Carbon graphite sleeve bearings are not offered due to fast wearing.



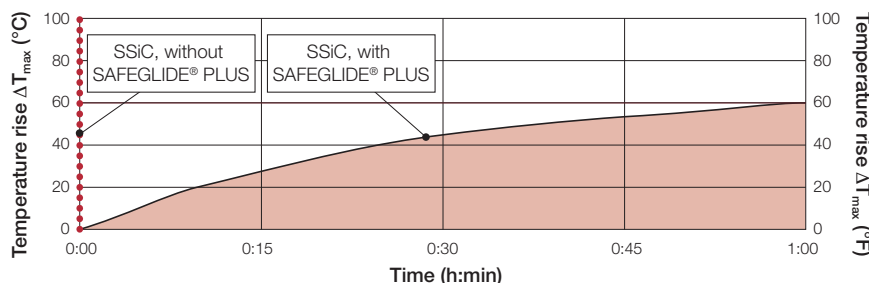
Non-metallic double can

The integral flow breakers prevent the fluid from unwanted circulation. This is of advantage especially with fluids containing abrasive solids.

Virgin PFA and PTFE fluoroplastic lining, no fillers

Any filler – be it e.g. graphite, glass powder or carbon fibre – has a negative impact on the overall chemical and permeation resistance of fluoroplastics against corrosive chemicals and on the inertness versus high-purity and valuable fluids. Fillers are usually compounded in for dimensional stability of the liner or component at higher temperatures or pressures.

Temperature rise during dry-running of conventional SSiC plain bearing bushes in lined magnetic drive pumps, 2900 rpm



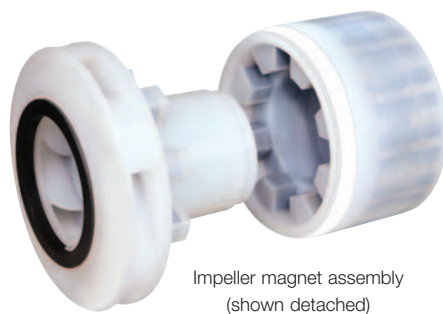
The metal core used in Richter pumps is the more reliable solution and also provides more flexibility as pumps lined with virgin PFA can also operate as multi-purpose pumps with higher temperature ranges.

2-piece impeller/magnet assembly

Large-dimensioned, metal-reinforced plain bearing engagement safely transmits the torque from magnet rotor to impeller. Exactly die-moulded geometries ensure a simple and durable assembly of magnet rotor and impeller by means of a jaw-type clutch design, fixed by a retaining ring, with easy dismantling.

No O-rings, no threads, no keyways needed.

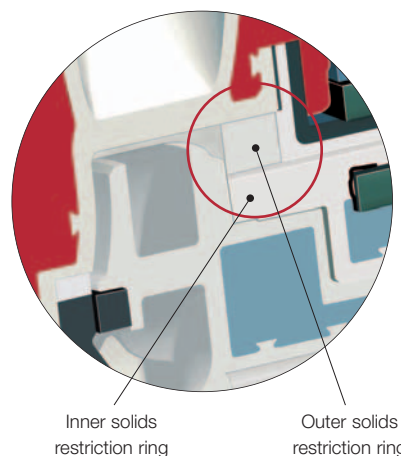
2-piece design also for economical reasons: magnet coupling torque can be adjusted to changing demands by exchanging the magnet rotor and reusing the impeller. Even the impeller can be replaced individually.



Solids restriction rings

Richter lined pumps can handle solids-laden fluids even with a higher share of contents. The allowable share of solids very much depends on the particle size, shape and hardness. Here Richter has long experience and recommends a case-by-case validation plain bearing engagement.

The solids restriction rings act as barrier to larger solid contents in the fluid to prevent them entering the can chamber. The inner solids restriction ring is integrally moulded into the magnet rotor as a standard feature. The outer solids restriction ring is made of PTFE and replaceable. Other solids restriction ring materials on request.



Parts and materials

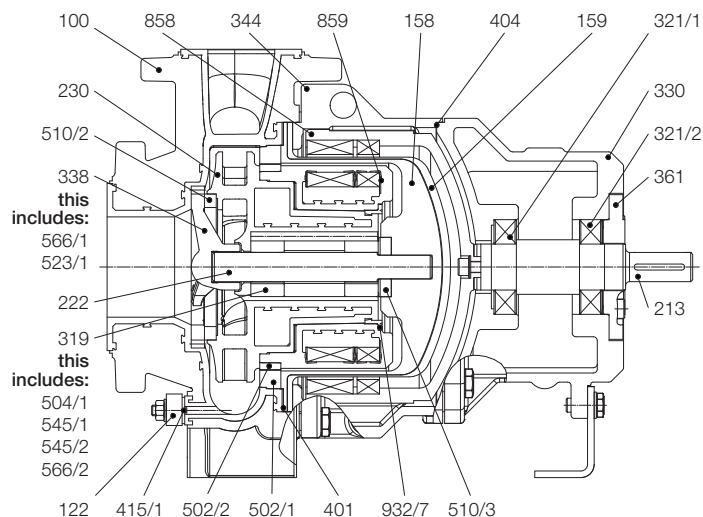


Fig.: Frame-mounted pump RMI with grease lubrication

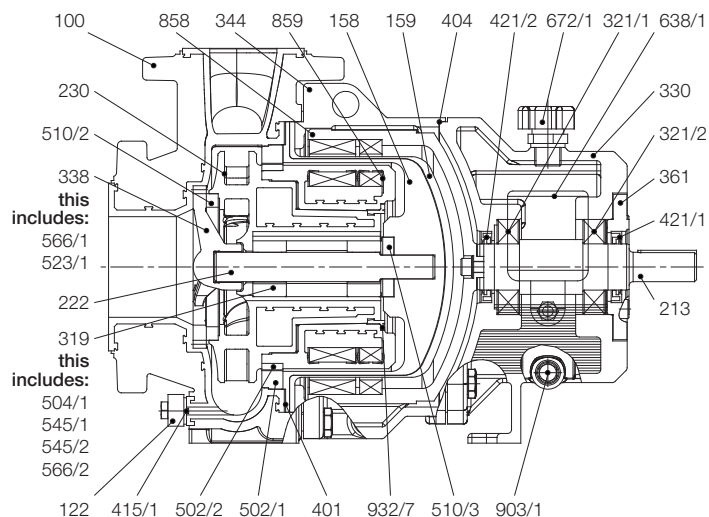


Fig.: Frame-mounted pump RMA with oil bath lubrication

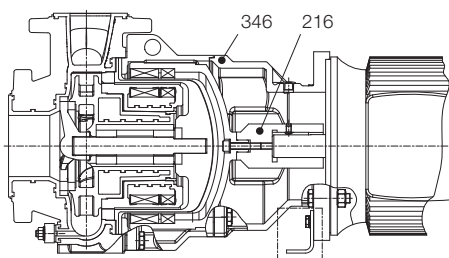


Fig.: Close-coupled pump RMI-B

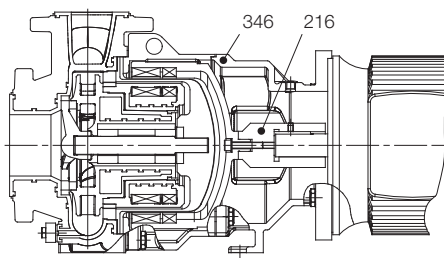
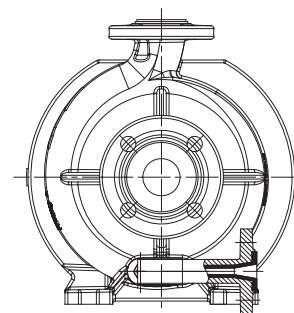
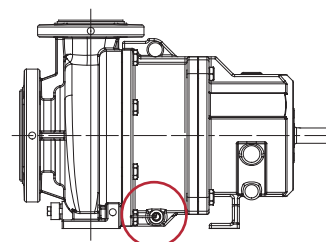


Fig.: Close-coupled pump RMA-B

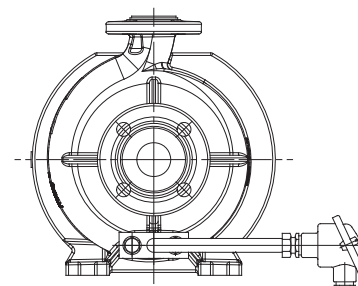
Additional options



Housing drain connection



Can leak sensor in lantern chamber



Temperature monitoring

Parts and materials

Item.	Designation	Material
100	Housing	Ductile iron EN-JS 1049/ASTM A395, PFA lining
122	Blind cover	Steel
158	Can insert	PTFE
159	Can	Carbon-fibre-reinforced plastic (CFRP)
213	Drive shaft	Steel
216	Hollow drive shaft	Steel
222	Shaft	SSiC pure silicon carbide, optionally with SAFEGLIDE® PLUS
230	Impeller	PFA (core ductile iron 0.7040)
319	Impeller bearings	For materials, see relevant item
321/x	Radial ball bearing	Oil bath lubrication, long-life grease optional
330	Bearing pedestal	Ductile iron EN-JS 1049/ASTM A395
338	Shaft spider	SSiC pure silicon carbide
344	Lantern	Ductile iron EN-JS 1049/ASTM A395
346	Adapter	Ductile iron EN-JS 1049/ASTM A395
361	Rear bearing cover	Steel
401	Housing gasket	PTFE
404	Bearing pedestal gasket	PTFE
415/1	Centering gasket	PTFE
421/x	Radial shaft seal	
502/1	Outer solids restriction ring	PTFE, optional
502/2	Inner solids restriction ring	PFA, integral to impeller # 230 (optionally replaceable PTFE)
504/x	Distance ring	PTFE
510/2	Front thrust ring	SSiC pure silicon carbide, optionally with SAFEGLIDE® PLUS
510/3	Rear thrust ring	SSiC pure silicon carbide
523/1	Shaft sleeve	PTFE
545/x	Bearing sleeve	SSiC pure silicon carbide, optionally with SAFEGLIDE® PLUS
566/x	Anti-torsion insert	PTFE
638/1	Constant level oiler	(only with oil bath lubrication)
672/1	Venting/filling plug	Plastic (only with oil bath lubrication)
858	Drive magnet assembly	Ductile iron, NdFeB permanent magnets
859	Inner magnet assembly	Steel/PFA, SmCo permanent magnets
903/1	Screw plug	Stainless steel (1.4301)
932/7	Circlip	PTFE

Performance curves RMI, RMI-B (ISO/DIN)

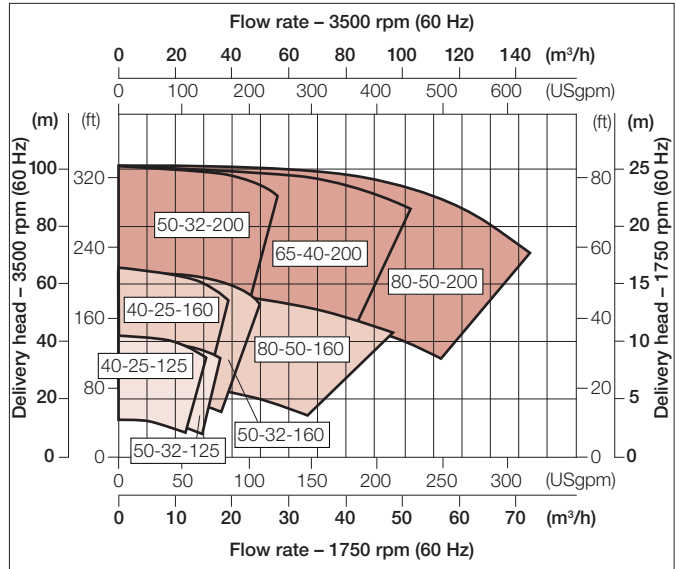
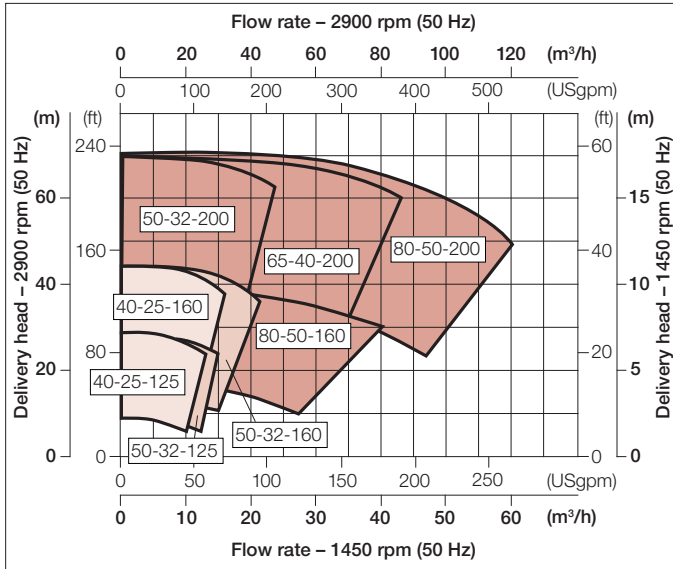
Richter magnetic drive pumps

RMI and RMI-B are available for performance ranges of up to

- 120 m³/h (530 USgpm) and 70 m (230 ft) LC at 2900 rpm
- 130 m³/h (570 USgpm) and 100 m (330 ft) LC at 3500 rpm

The good hydraulics, the can system free of eddy currents, the almost maintenance-free design and the overall good value for money make the RMI/RMI-B series be one of the most economic pumps of its kind. 8 well graduated pump sizes from

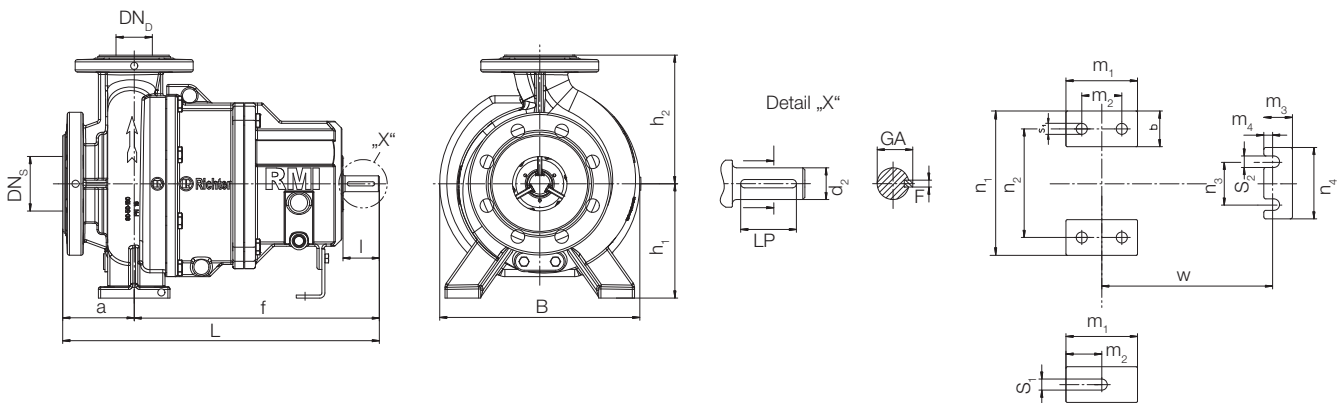
40-25-125 to 80-50-200 allow for a tailor-made pump selection. Flow rates and delivery heads outside this performance range can be covered by the Richter magnetic drive pump series MNK/MNKA up to 600 m³/h (2650 USgpm).



Dimensions and weights

for frame-mounted and close-coupled pumps with IEC and NEMA motors

Frame-mounted pump RMI



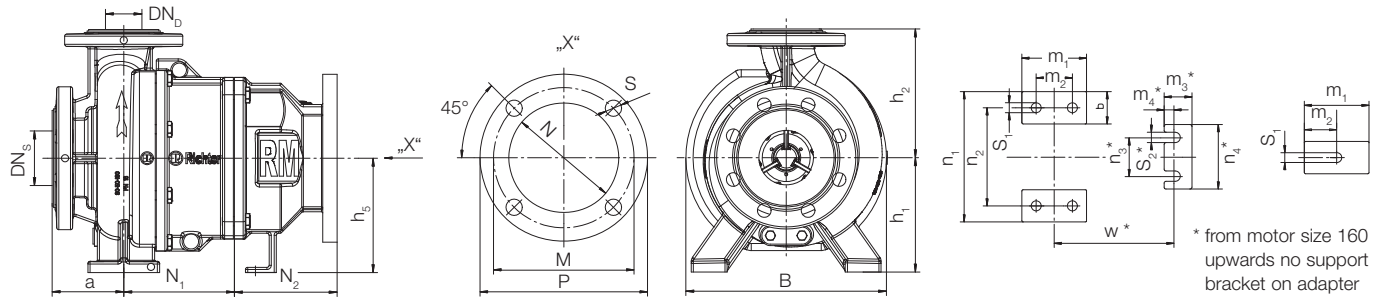
Pump dimensions in mm (inch)

Gr.	Pump size	DN _S	DN _D	a	B	d ₂	f	h ₁	h ₂	L	I	GA	F	LP	Weight kg (lbs)
1.1	40-25-125	40 (1.57)	25 (0.98)	80 (3.15)	240 (9.45)	24 (0.94)	385 (15.16)	112 (4.41)	140 (5.51)	465 (18.31)	50 (1.97)	27 (1.06)	8 (0.31)	36 (1.42)	41 (90)
	50-32-125	50 (1.97)	32 (1.26)												42 (93)
1.2	40-25-160	40 (1.57)	25 (0.98)	80 (3.15)	280 (11.02)	24 (0.94)	385 (15.16)	132 (5.2)	160 (6.3)	465 (18.31)	50 (1.97)	27 (1.06)	8 (0.31)	36 (1.42)	57 (126)
	50-32-160	50 (1.97)	32 (1.26)												58 (128)
	80-50-160	80 (3.15)	50 (1.97)	100 (3.94)				160 (6.3)	180 (7.09)						65 (144)
1.3	50-32-200	50 (1.97)	32 (1.26)	80 (3.15)	330 (13)	24 (0.94)	385 (15.16)	160 (6.3)	180 (7.09)	465 (18.31)	50 (1.97)	27 (1.06)	8 (0.31)	36 (1.42)	91 (201)
	65-40-200	65 (2.56)	40 (1.57)	100 (3.94)					485 (19.1)	93 (206)					
	80-50-200	80 (3.15)	50 (1.97)						200 (7.87)	95 (210)					

Pump feet dimensions in mm (inch)

Gr.	Pump size	b	m ₁	m ₂	m ₃	m ₄	n ₁	n ₂	n ₃	n ₄	S ₁	S ₂	w
1.1	40-25-125	50 (1.97)	94 (3.7)	50 (1.97)	50 (1.97)	19 (0.75)	190 (7.5)	140 (5.51)	110 (4.33)	145 (5.71)	14 (0.55)	14.5 (0.57)	285 (11.2)
	14.5 (0.57)												
1.2	40-25-160	50 (1.97)	100 (3.94)	70 (2.76)	50 (1.97)	19 (0.75)	240 (9.45)	190 (7.5)	110 (4.33)	145 (5.71)	14.5 (0.57)	14.5 (0.57)	285 (11.2)
	265 (10.43)												
	80-50-160						240 (9.45)	190 (7.5)	110 (4.33)	145 (5.71)	14.5 (0.57)	14.5 (0.57)	285 (11.2)
1.3	50-32-200	50 (1.97)	100 (3.94)	70 (2.76)	50 (1.97)	19 (0.75)	240 (9.45)	190 (7.5)	110 (4.33)	145 (5.71)	14.5 (0.57)	14.5 (0.57)	285 (11.2)
	265 (10.43)												
	65-40-200						240 (9.45)	190 (7.5)	110 (4.33)	145 (5.71)	14.5 (0.57)	14.5 (0.57)	285 (11.2)
80-50-200	265 (10.43)	212 (8.35)	110 (4.33)	145 (5.71)	14.5 (0.57)	14.5 (0.57)	285 (11.2)						

Close-coupled pump RMI-B



Pump dimensions in mm (inch)

Gr.	Pump size	DN _s	DN _b	a	B	N ₁	h ₁	h ₂	Weight kg (lbs)
1.1	40-25-125	40 (1.57)	25 (0.98)	80 (3.15)	240 (9.45)	161 (6.34)	112 (4.41)	140 (5.51)	28 (62)
	50-32-125	50 (1.97)	32 (1.26)						29 (64)
1.2	40-25-160	40 (1.57)	25 (0.98)	80 (3.15)	280 (11.02)	153 (6.02)	132 (5.2)	160 (6.3)	40 (88)
	50-32-160	50 (1.97)	32 (1.26)						41 (91)
	80-50-160	80 (3.15)	50 (1.97)	100 (3.94)	160 (6.3)	180 (7.09)	48 (106)		
1.3	50-32-200	50 (1.97)	32 (1.26)	80 (3.15)	330 (13)	170 (6.69)	160 (6.3)	180 (7.09)	64 (144)
	65-40-200	65 (2.56)	40 (1.57)	100 (3.94)					66 (146)
	80-50-200	80 (3.15)	50 (1.97)	100 (3.94)	200 (7.78)	68 (150)			

Pump feet dimensions in mm (inch)

Gr.	Pump size	b	m ₁	m ₂	n ₁	n ₂	S ₁
1.1	40-25-125	50 (1.97)	94 (3.7)	50 (1.97)	190 (7.5)	140 (5.51)	14 (0.55)
	14.5 (0.57)						
1.2	40-25-160	50 (1.97)	100 (3.94)	70 (2.76)	240 (9.45)	190 (7.5)	14.5 (0.57)
	265 (10.43)						
	80-50-160			240 (9.45)	190 (7.5)	14.5 (0.57)	
1.3	50-32-200	50 (1.97)	100 (3.94)	70 (2.76)	240 (9.45)	190 (7.5)	14.5 (0.57)
	265 (10.43)						
	65-40-200			265 (10.43)	212 (8.35)	14.5 (0.57)	
80-50-200	265 (10.43)	212 (8.35)	14.5 (0.57)				

Adapter dimensions (IEC motors) in mm (inch)*

Gr.	IEC motor	N ₂	P	N	M	S	m ₃	m ₄	n ₃	n ₄	S ₂	w	h ₅					
1.1	80 B	107 (4.21)	200 (7.87)	130 (5.12)	165 (6.5)	11.5 (0.45)	50 (1.97)	19 (0.75)	110 (4.33)	145 (5.71)	14.5 (0.57)	219 (8.6)	112 (4.41)					
	90 S																	
	90 L																	
	100 L																	
	112 M																	
	132 S																	
1.2	80 B	115 (4.53)	200 (7.87)	130 (5.12)	165 (6.5)	11.5 (0.45)	43 (1.69)	14 (0.55)	0	100 (3.94)	16 (0.63)	184 (7.24)	132 (5.2)					
	90 S																	
	90 L																	
	100 L																	
	112 M						156 (6.14)	250 (9.84)	180 (7.09)	215 (8.46)	14 (0.55)	50 (1.97)	19 (0.75)	110 (4.33)	145 (5.71)	14.5 (0.57)	244 (9.61)	160 (6.3)
	132 S																	
	132 M						145 (5.71)	300 (11.81)	230 (9.06)	265 (10.43)	18 (0.71)	from motor size 160 no support bracket						
	160 M																	
160 L	175 (6.89)	350 (13.78)	250 (9.84)	300 (11.81)	18 (0.71)	from motor size 160 no support bracket												
180 M																		
1.3	100 L	184.5 (7.26)	250 (9.84)	180 (7.09)	215 (8.46)	14 (0.55)	50 (1.97)	19 (0.75)	110 (4.33)	145 (5.71)	14.5 (0.57)	300.5 (11.8)	160 (6.3)					
	112 M																	
	132 S																	
	132 M																	
	160 M	199 (7.83)	350 (13.78)	250 (9.84)	300 (11.81)	18 (0.71)	from motor size 160 no support bracket											
	160 L																	
	180 M																	
	200 L																	
225 S	400 (15.75)	300 (11.81)	350 (13.78)	from motor size 160 no support bracket														
225 M																		

* see page 9 for adapter dimensions in mm (inch) for NEMA motors

Performance curves RMA, RMA-B (ASME/ANSI)

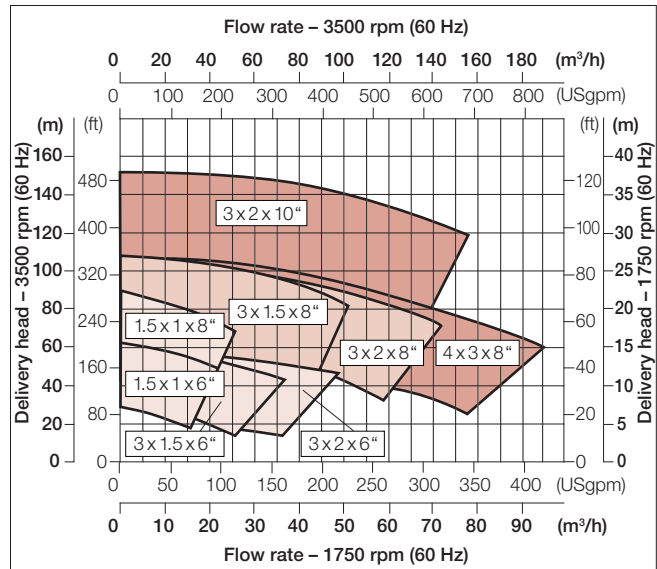
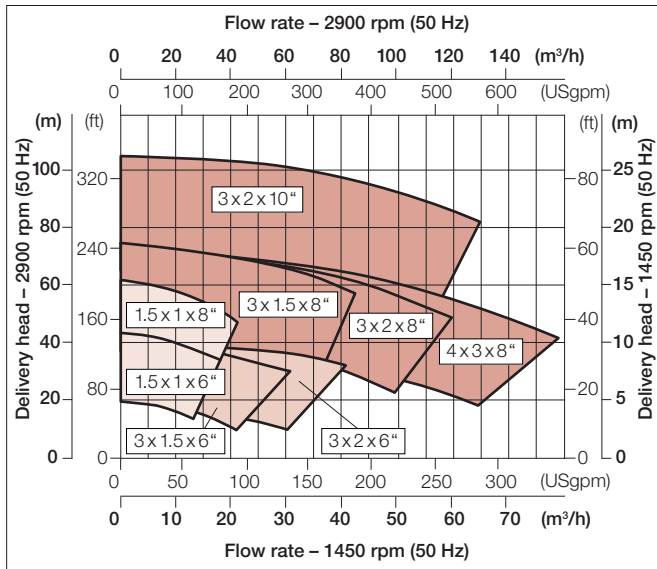
Richter magnetic drive pumps

RMA and RMA-B are available for performance ranges of up to

- 150 m³/h (660 USgpm) and 110 m (360 ft) LC at 2900 rpm
- 180 m³/h (750 USgpm) and 155 m (500 ft) LC at 3500 rpm

8 well graduated sizes from

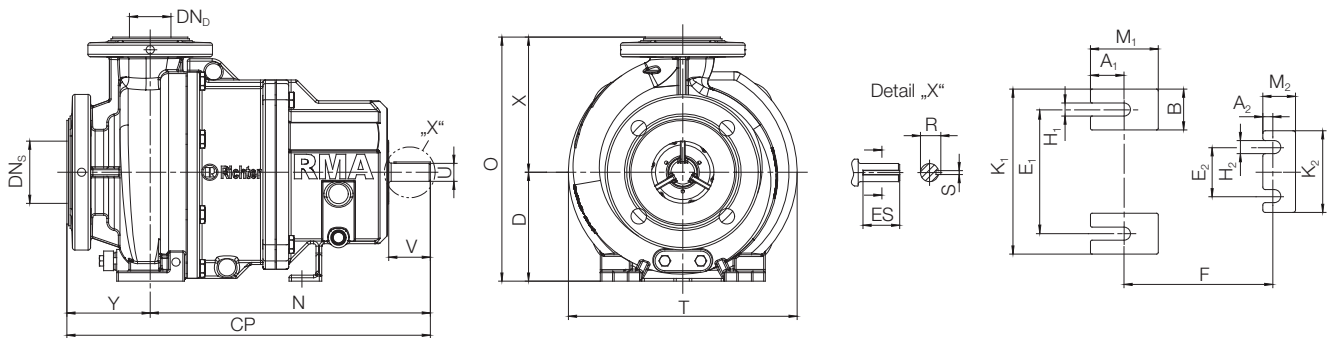
1,5x1x6" to 3x2x10" allow for a tailor-made pump selection.



Dimensions and weights

for frame-mounted and close-coupled pumps with IEC and NEMA motors

Frame-mounted pump RMA



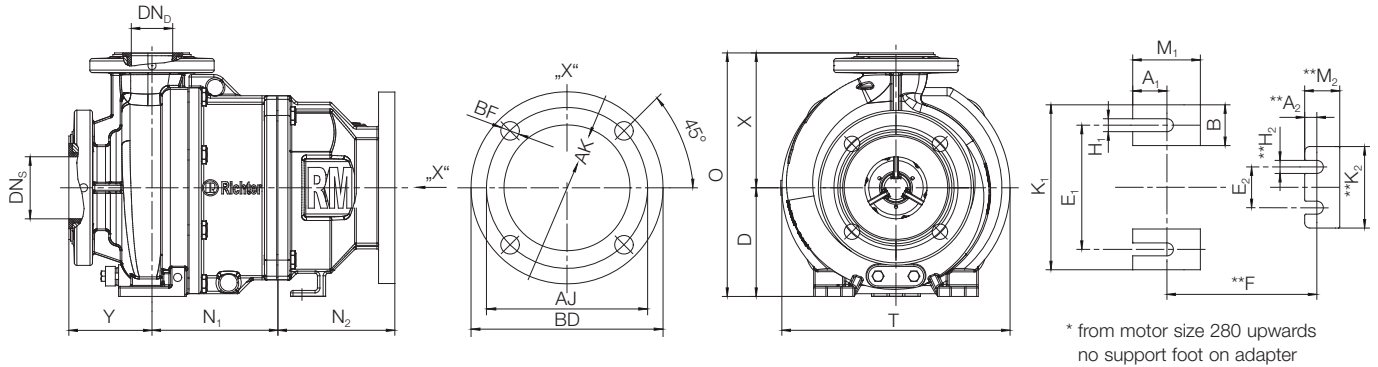
Pump dimensions in mm (inch)

Gr.	Pump size	DN _s	DN _b	Y	T	U	N	O	D	X	CP	V	R	S	ES	Weight kg (lbs)
1	1.5x1x6"	38.1 (1.5)	25.4 (1)	102 (4.02)	280 (11.02)	22.3 (0.87)	343 (13.5)	298 (11.75)	133 (5.25)	165 (6.5)	445 (17.52)	51 (2)	24.3 (0.96)	4.8 (0.19)	44.5 (1.75)	56 (124)
	3x1.5x6"	76.2 (3)	38.1 (1.5)													61 (135)
	3x2x6"	76.2 (3)	50.8 (2)													58 (128)
	1.5x1x8"	38.1 (1.5)	25.4 (1)													290 (11.4)
2	3x1.5x8"	76.2 (3)	38.1 (1.5)	102 (4.02)	330 (13)	28.6 (1.13)	495 (19.5)	425 (16.7)	210 (8.25)	216 (8.5)	597 (23.5)	82 (3.23)	31.4 (1.24)	6.35 (0.25)	57.2 (2.25)	95 (210)
	3x2x8"	76.2 (3)	50.8 (2)					450 (17.75)		242 (9.5)						100 (221)
	4x3x8"	101.6 (4)	76.2 (3)					490 (19.3)		280 (11.02)						106 (234)
	3x2x10"	76.2 (3)	50.8 (2)					450 (17.75)		242 (9.5)						113 (250)

Pump feet dimensions in mm (inch)

Gr.	Pump size	B	M ₁	A ₁	M ₂	A ₂	K ₁	E ₁	E ₂	K ₂	H ₁	H ₂	F
1	1.5x1x6"	50 (1.97)	78 (3.07)	36 (1.42)	43 (1.69)	14 (0.55)	202.4 (7.97)	152.4 (6)	0	100 (3.94)	16 (0.63)	16 (0.63)	184 (7.25)
	3x1.5x6"		83 (3.27)	41 (1.61)									
	3x2x6"		83 (3.27)	41 (1.61)									
	1.5x1x8"		78 (3.07)	36 (1.42)									
2	3x1.5x8"	50 (1.97)	83 (3.27)	41 (1.61)	54 (2.13)	25 (0.98)	298 (11.7)	248 (9.76)	184 (7.25)	220 (8.66)	16 (0.63)	16 (0.63)	318 (12.5)
	3x2x8"		90 (3.54)	45 (1.77)									
	4x3x8"		83 (3.27)	41 (1.61)									
	3x2x10"		83 (3.27)	41 (1.61)									

Close-coupled pump RMA-B



Pump dimensions in mm (inch)

Gr.	Pump size	DN _S	DN _D	D	N ₁	O	T	X	Y	Weig. kg (lbs)			
1	1.5x1x6"	38.1 (1.5)	25.4 (1)	(133) (5.25)	152.9 (6.02)	298 (11.75)	280 (11.02)	165 (6.5)	102 (4.02)	41 (91)			
	3x1.5x6"	76.2 (3)	38.1 (1.5)							43 (95)			
	3x2x6"	76.2 (3)	50.8 (2)							46 (102)			
	1.5x1x8"	38.1 (1.5)	25.4 (1)							290 (11.4)	44 (97)		
2	3x1.5x8"	76.2 (3)	38.1 (1.5)	210 (8.25)	169.9 (6.69)	425 (16.7)	330 (13)	216 (8.5)	102 (4.02)	65 (144)			
	3x2x8"	76.2 (3)	50.8 (2)							450 (17.75)	242 (9.5)	70 (155)	
	4x3x8"	101.6 (4)	76.2 (3)							490 (19.3)	280 (11.02)	76 (168)	
	3x2x10"	76.2 (3)	50.8 (2)							450 (17.75)	380 (15)	242 (9.5)	83 (183)
	3x2x10"	76.2 (3)	50.8 (2)							450 (17.75)	380 (15)	242 (9.5)	83 (183)

Adapter dimensions (NEMA motors) in mm (inch)*

Gr.	NEMA motor	N ₂	BD	AK	AJ	BF
1	140 TC	114.9 (4.52)	170 (6.7)	114.3 (4.5)	149.23 (5.88)	11.1 (7/16)
	180 TC	145 (5.71)	235 (9.25)	215.9 (8.5)	184.2 (7.25)	14.3 (9/16)
	210 TC					
	250 TC					
	280 TSC	145 (5.71)	285 (11.22)	266.7 (10.5)	228.6 (9)	
	320 TSC	155 (6.1)	355 (14)	317.5 (12.5)	279.4 (11)	17.5 (11/16)
2	180 TC	184.5 (7.26)	235 (9.25)	215.9 (8.5)	184.2 (7.25)	14.3 (9/16)
	210 TC					
	250 TC					
	280 TSC	285 (11.22)	266.7 (10.5)	228.6 (9)		
	320 TSC	190.5 (7.5)	355 (14)	317.5 (12.5)	279.4 (11)	17.5 (11/16)
	360 TSC					
400 TSC						

*see page 7 for adapter dimensions in mm (inch) for IEC motors

Pump feet dimensions in mm (inch)

Gr.	Pump size	B	M ₁	A ₁	M ₂	A ₂	K ₁	E ₁	E ₂	K ₂	H ₁	H ₂	F
1	1.5x1x6"	50 (1.97)	78 (3.07)	36 (1.42)	43 (1.69)	14 (0.55)	202.4 (7.97)	152.4 (6)	0	100 (3.94)	16 (0.63)	16 (0.63)	184 (7.24)
	3x1.5x6"		83 (3.27)	41 (1.61)									
	3x2x6"		83 (3.27)	41 (1.61)									
	1.5x1x8"		78 (3.07)	36 (1.42)									
2	3x1.5x8"	50 (1.97)	83 (3.27)	41 (1.61)	56 (2.2)	25 (0.98)	298 (11.7)	248 (9.76)	184 (7.24)	220 (8.66)	16 (0.63)	16 (0.63)	318 (12.5)
	3x2x8"		90 (3.54)	45 (1.77)									
	4x3x8"		83 (3.27)	41 (1.61)									
	3x2x10"		83 (3.27)	41 (1.61)									

Other Richter process pumps

Richter magnetic drive and mechanical seal pumps are used – just like Richter chemical shut-off, control and safety valves – in different chemical and related processes.

This pump range also includes more specialised designs. The plant operator can thus choose from Richter pumps even for very difficult applications.

Mechanical seal pumps

- to DIN/EN 22858/ISO 2858 up to 300 m³/h (1320 USgpm) and 90 m (300 ft) LC
- to ASME B73.1 up to 115 m³/h (300 ft) and 105 m (350 ft) LC

Self-priming pumps

for emptying containers and basins from the top. Suction height up to 6 m (20 ft) WC, suction back pressure up to 18 m (59 ft) LC. Up to 33 m³/h (145 US gpm) and 40 m (130 ft) LC at 2900 and 55 m (180 ft) at 3500 rpm.

Magnetic drive pumps

- to DIN/EN 22858/ISO 2858 up to 600 m³/h (2650 USgpm) and 90 m (300 ft) LC
- to ASME B73.3 up to 170 m³/h (750 USgpm) and 155 m (500 ft) LC

Vortex pumps

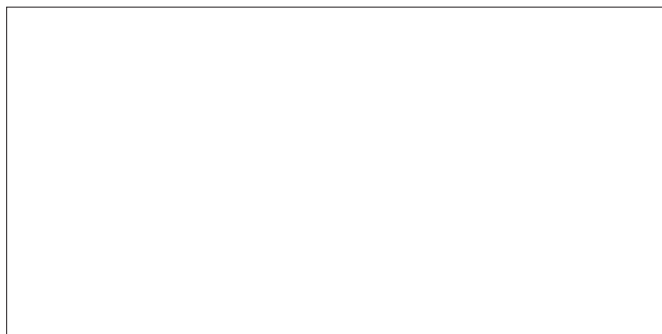
for media with solid contents and lumpy particles and media with higher gas contents. Up to 200 m³/h (880 USgpm) and 85 m (280 ft) LC at 2900 rpm and 120 m (395 ft) at 3500 rpm.

Peripheral pumps

for lower flow rates at high heads. Up to 0.1-5 m³/h (0.4-22 USgpm) and up to 100 m (330 ft) LC



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