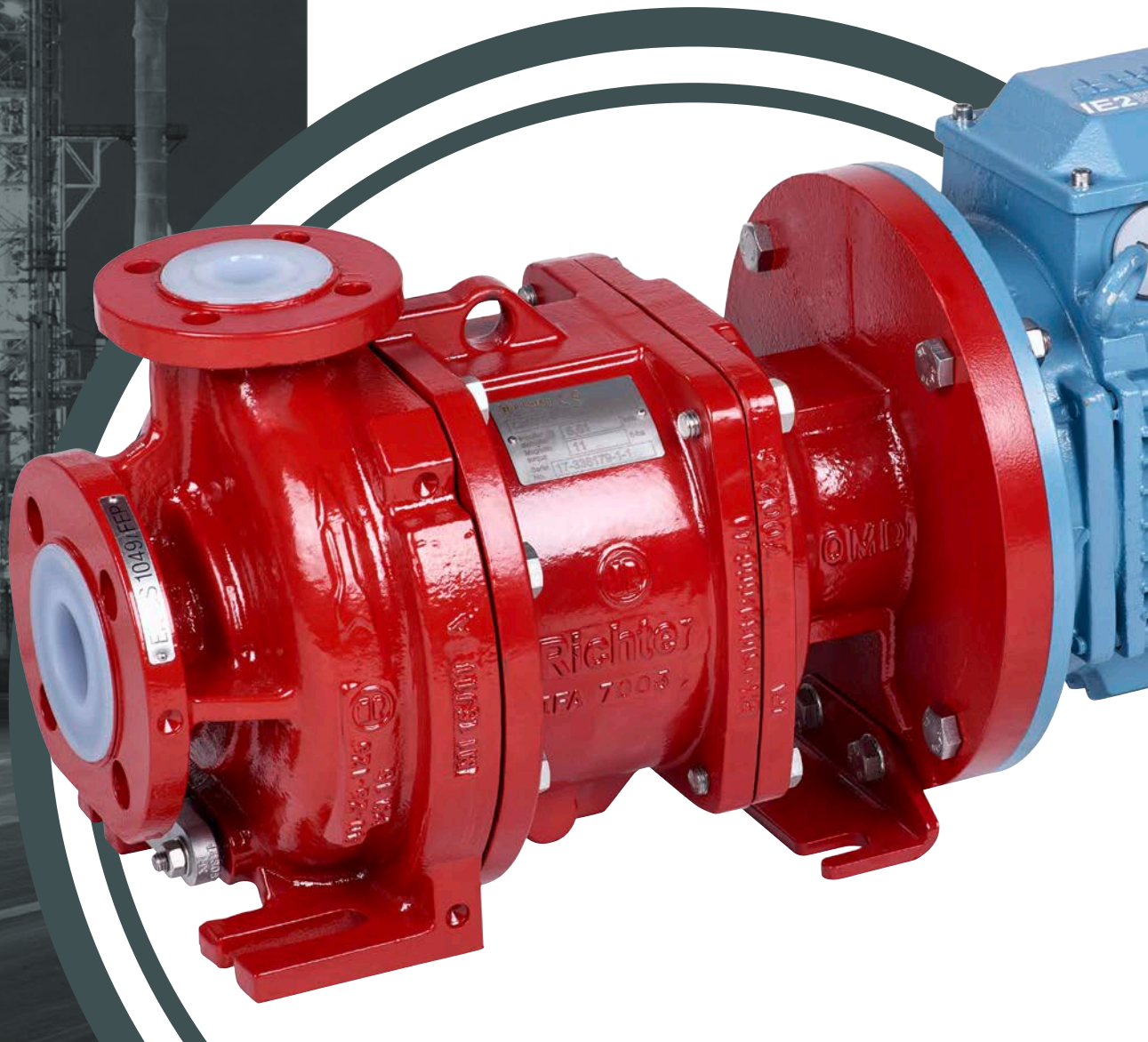
RICHTER
Process Pumps & Valves

QMD

FLUOROPLASTIC LINED MAG-DRIVE PUMPS

FOR CORROSIVE, HIGH-PURITY FLUIDS

- *RELIABILITY AND QUALITY*
- *SUPERIOR CORROSION RESISTANCE*
- *EASY MAINTENANCE*
- *LOWER OPERATING COSTS*



RICHTER FLUOROPLASTIC LINED MAG-DRIVE PROCESS PUMPS

FIELDS OF APPLICATION

Chemical

Incl. applications CA, ECH, ClO_2, various acids ($HCl/H_2SO_4/HNO_3/H_3PO_4$ etc.) producing, trichloroethylene, tetrachloroethylene, bromine, methane Chloride, aniline, silicon and polysilicon, etc.

Pharma API

API production

Fine + specialty chemicals

High-purity and WFI water

Aromes production

Electrical Component

Semi-conductor ultrapure medium

HF application

Electrolyte in Battery application

Etching for circuit board

Silicon

Paper and pulp Industry

ClO_2 preparation

Pulping and slurrying

Water Treatment

Waste water disposal

Sea water desalination

Power plant NaClO adding

Metal Industry

Zinc, Copper acid washing

TiO_2 production

Magnesium HCL Dryer

Petrochemical

Hydrogen sulphide (H_2S) recycling

Sulfuric acid recycling (SAR)

Agrochemical

Herbicide

Glyphosate

Fertilizer

Pesticide

Contamination Control

Desulfurization and Denigration

Chemical waste

DESIGN

Sealless, fluoroplastic-lined, mag-drive centrifugal pumps.

Designed to ISO 2858 (GB 5662), ISO 5199 (GB/T 5656), ISO 15783 (GB/T 25140) dimensional standards and requirements;

- Close-coupled and frame-mounted designs.
- No dynamic seal.
- Eddy-current-free.

Flange connection — Standard design as per alternatively ASME B16.5 Cl. 150

- Frame-mounted — QMD/F
- Close-coupled — QMD-B/F
- Lining: — Perfluoroethylenepropylene (FEP)

OPERATING RANGE

Capacity:	Q up to 125 m^3/h
Heads:	H up to 65 m
Operating pressures:	P up to 16 bar
Operating temperature:	T -10°C to 100°C

*For higher temperatures, flow rates and more application-specific options, please Consult factory.

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 mag-drive pumps of the QMD series excel through:

1 FEP lining – Perfect lining quality with even lining thickness

- High chemical resistance, well above ETFE (e.g. Tefzel®) and PVDF
- 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
- 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 Axially thrust-optimised rotating unit:

Smooth running even under critical load conditions

- The large space between the SSiC sleeve bearings provides reliable distribution of the radial forces
- Closed impeller design

3 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 for simplified service

RICHTER FLUOROPLASTIC LINED MAG-DRIVE PROCESS PUMPS

4 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 FEP lining

5 High-quality external corrosion protection

- Thick outside epoxy coating
- SS screws, other grades available.

6 Sturdy design for dimensional stability

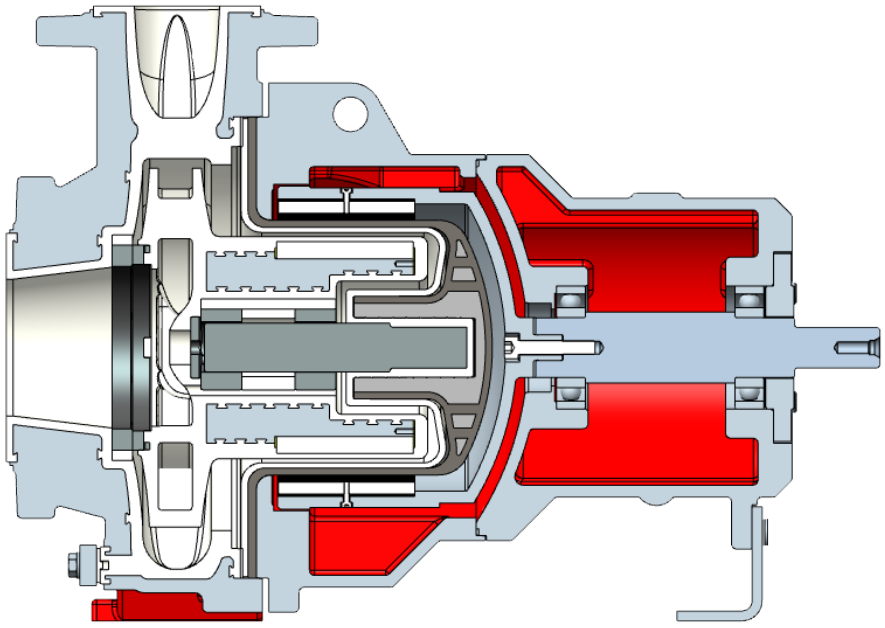
- Full-surface ductile cast iron EN-JS 1030 absorbs pipework forces and eliminates need for expansion joints
- Highest grade SSiC silicon carbide sleeve bearing system

7 Non-metallic double can system

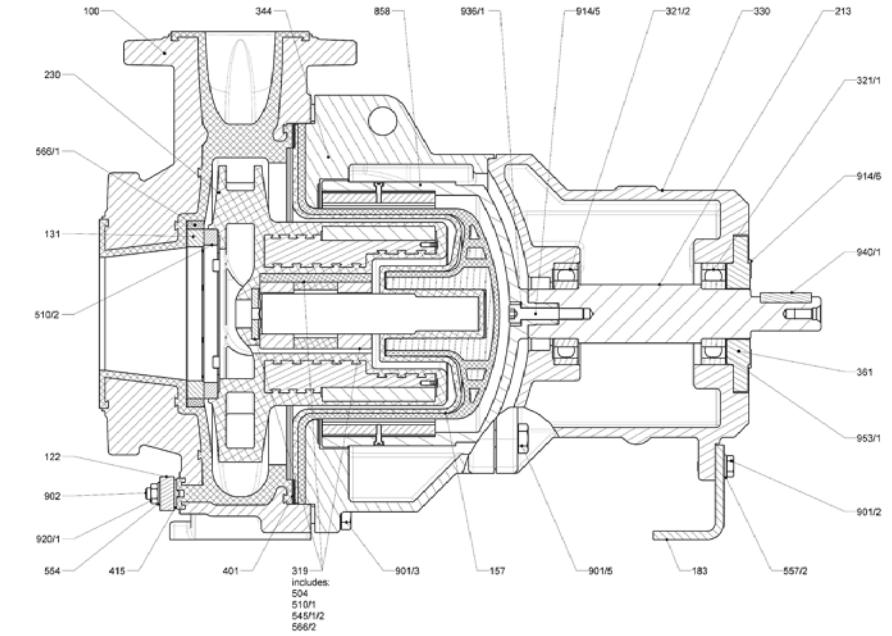
- Wetted: thick-walled FEP
- Pressure-bearing: Plastic glass fiber enhanced Can, with high safety reserves
- No eddy currents: no heating of fluid, no energy waste

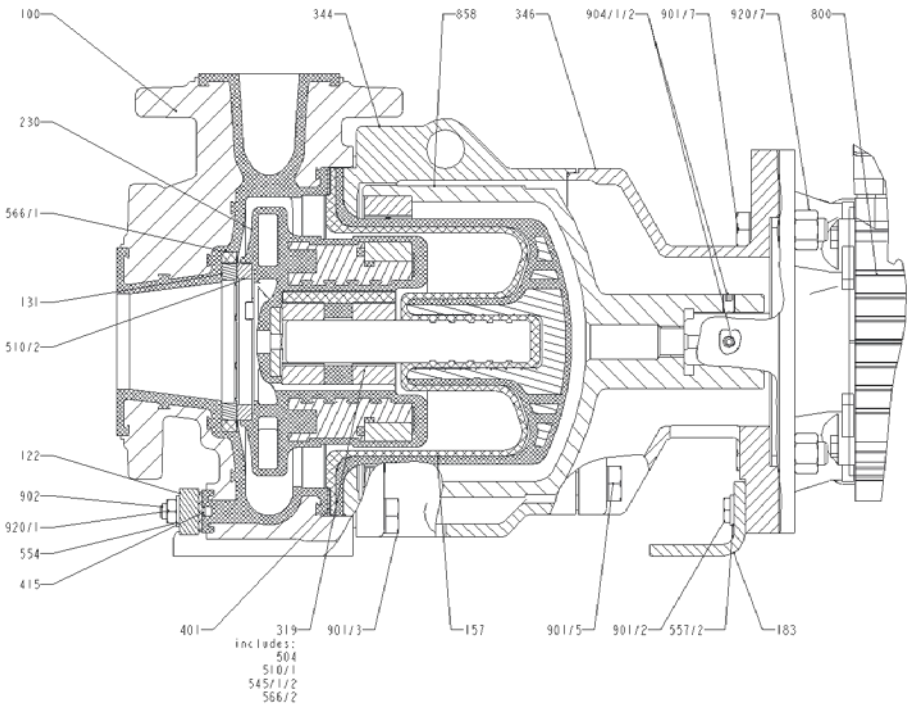
8 Drive magnet assembly with safety ring

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



PARTS AND MATERIALS



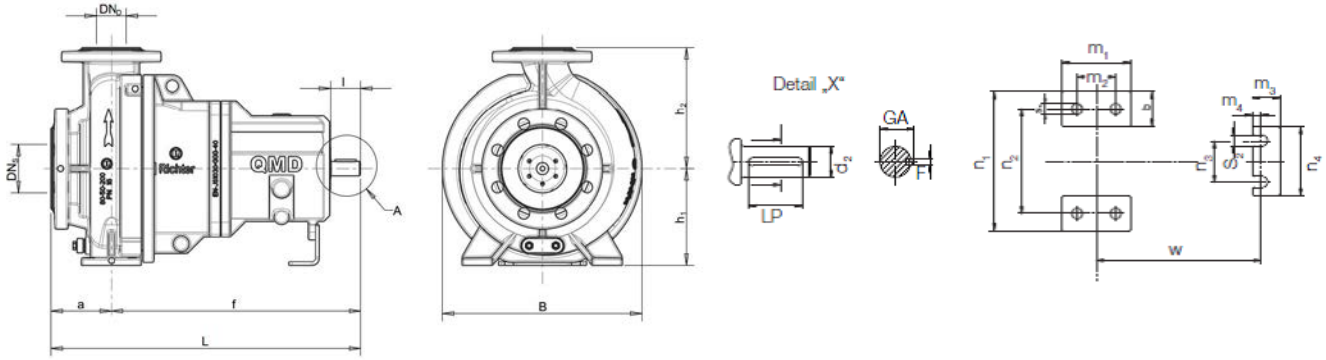


Parts and materials

Items	Designation	Material
100	Housing	Ductile iron EN-JS 1049/ ASTM A395, FEP lining
122	Blind cover	Steel
131	Inlet ring	SSIC
157	Can assembly	Enhanced Plastic / FEP lining / SSIC shaft
183	Support bracket	Steel
213 *	Drive shaft	Steel
230	Impeller	FEP (core Steel/SmCo permanent magnets)
319	Impeller bearing	
504	Distance ring	PTFE
510/1	Thrust ring	SSIC
545/x	Bearing bush	SSIC
566/2	Anti-torsion insert	PTFE
321/x *	Radial ball bearing	Long-life grease
330 *	Bearing pedestal	Ductile iron EN-JS 1030
346 **	Adapter	Ductile iron EN-JS 1030
344	Lantern	Ductile iron EN-JS 1030
361	Rear bearing cover	Steel
401	Housing gasket	PTFE
415	Centering gasket	PTFE
510/2	Thrust ring	SSIC
566/1	Anti-torsion insert	PTFE
858	Drive magnet assembly	WCB, NdFeB permanent magnets

* QMD only (N/A for QMD-B)
** QMD-B (N/A for QMD)

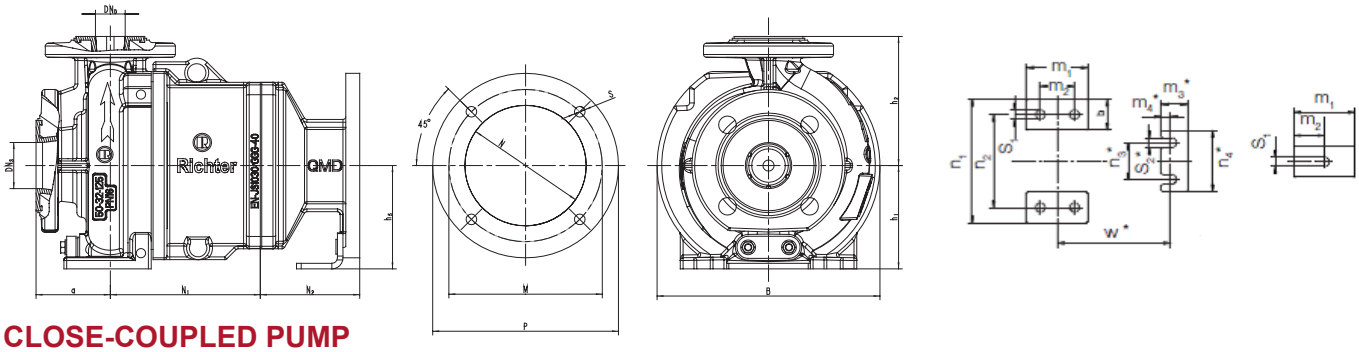
DIMENSIONS AND WEIGHTS



FRAME MOUNTED PUMP

PUMP DIMENSIONS IN MM														
Gruppe group groupe	Pumpengröße Pump size Taille de pompe	DNS [mm]	DND [mm]	a [mm]	B [mm]	d_2 [mm]	f [mm]	h_1 [mm]	h_2 [mm]	L [mm]	l [mm]	GA [mm]	F [mm]	LP [mm]
1.2	40-25-160	40	25	80	280	24	385	132	160	465	50	27	8	36
	50-32-160	50	32											
	80-50-160	80	50	100				160	180					
1.3	50-32-200	50	32	80	330	24	385	160	180	465	50	27	8	36
	65-40-200	65	40	100						485				
	80-50-200	80	50						200					

PUMP DIMENSIONS IN MM													
Gruppe group groupe	Pumpengröße Pump size Taille de pompe	b [mm]	m_1 [mm]	m_2 [mm]	m_3 [mm]	m_4 [mm]	n_1 [mm]	n_2 [mm]	n_3 [mm]	n_4 [mm]	S_1 [mm]	S_2 [mm]	w [mm]
1.2	40-25-160	50	100	70	50	19	240	190	110	145	14.5	14.5	285
	50-32-160												
	80-50-160						265	212					
1.3	50-32-200	50	100	70	50	19	240	190	110	145	14.5	14.5	285
	65-40-200						265	212					
	80-50-200												



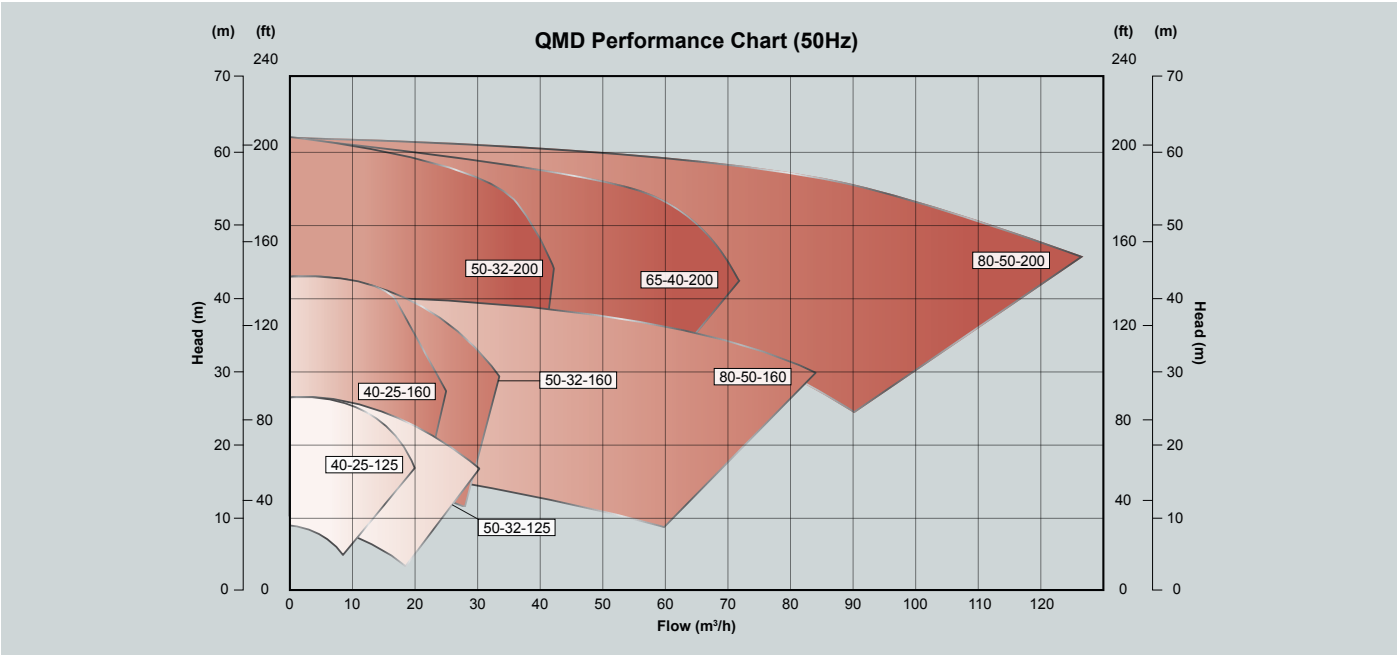
CLOSE-COUPLED PUMP

PUMP DIMENSIONS IN MM									
Gruppe group groupe	Pumpengröße Pump size Taille de pompe	DNS [mm]	DND [mm]	a [mm]	B [mm]	N_1 [mm]	h_1 [mm]	h_2 [mm]	Weight kg (lbs)
1.1	40-25-125	40	25	80	240	161	112	140	28 (62)
	50-32-125	50	32						29 (64)

PUMP FEET DIMENSIONS IN MM							
Gruppe group groupe	Pumpengröße Pump size Taille de pompe	b [mm]	m_1 [mm]	m_2 [mm]	n_1 [mm]	n_2 [mm]	S_1 [mm]
1.1	40-25-125	50	94	50	190	140	14
	50-32-125						14.5

ADAPTERABMESSUNG / ADAPTER DIMENSION													
Gruppe group groupe	IEC-Motor IEC-motor IEC-moteur	N2 [mm]	P [mm]	N [mm]	M [mm]	S [mm]	m_3 [mm]	m_4 [mm]	n_3 [mm]	n_4 [mm]	S_2 [mm]	w [mm]	h_5 [mm]
1.1	80 B	107	200	130	165	11.5	50	19	110	145	14.5	219	112
	90 S												
	90 L												
	100 L	112	250	180	215	14.5							132
	112 M												
	132 S		300	230	265								160
	132 M												

PERFORMANCE CURVES



OTHER RICHTER PROCESS PUMPS

Richter magnetic drive and mechanical seal pumps are – just like Richter chemical shut-off, control and safety valves – at home in a host of 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:

from ISO 2858 (GB 5662) up to 300 m³/h and 90 m

Mag-Drive Pumps:

from ISO 2858 (GB 5662) up to 600 m³/h and 90 m

Vortex Pumps:

from solids contents, lumpy particles and gas contents. Up to 200 m³/h and 120 m

Peripheral Pumps:

from lower flow rates at high heads. 0.1-5 m³/h and up to 100 m

Self-Priming Pumps:

from emptying containers and basins from the top, please Consult factory.

YOUR SAFETY IS OUR GOAL.
WORLDWIDE.

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