ITT RICHTER CHEMIE-TECHNIK

Chemical Peripheral Pumps with Magnetic Drive

The Answer to Corrosion

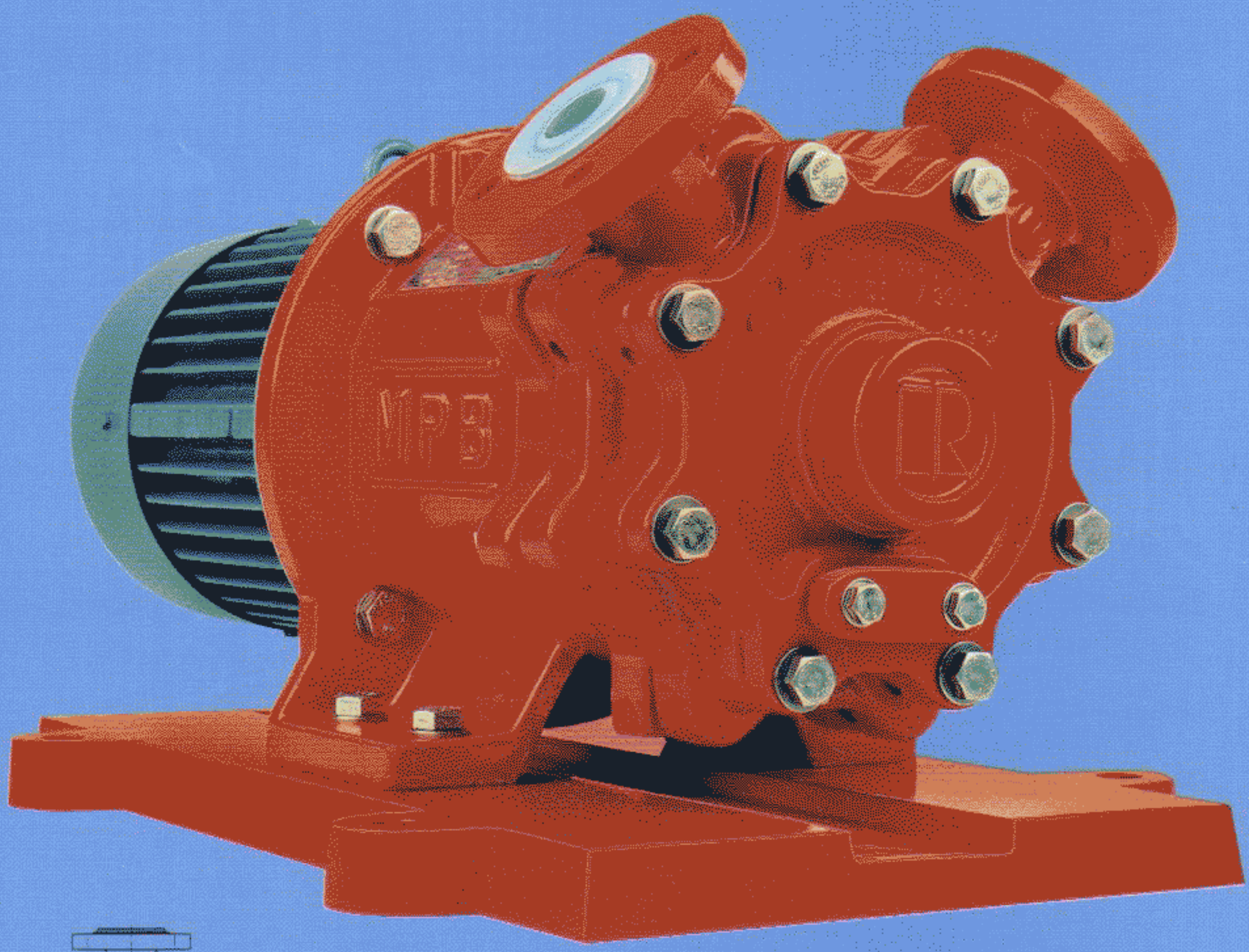
Type MPB

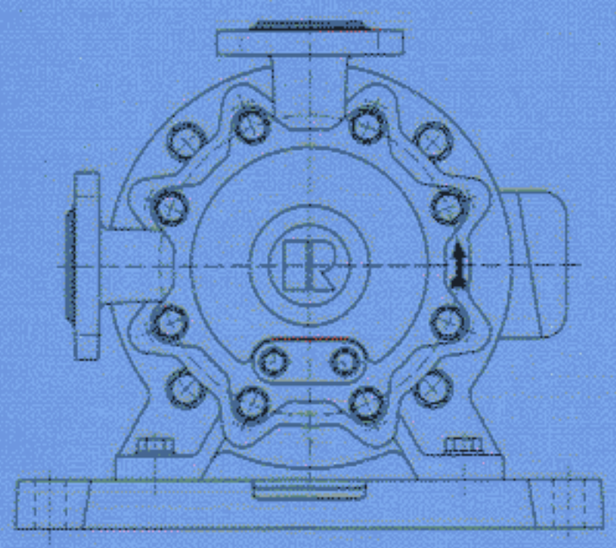
Innovative
PTFE peripheral impeller

- long-life, heavy-duty design
- very easy to maintain
- high efficiency

Flow rates:

- 0,05–4 m^3/h, 0,2–16 gpm
- max. 115 m LC head
- handles up to 30% gas





Materials:
PFA/PTFE · SiC

Robust, reliable, very easy to maintain:
The new Richter peripheral pump type MPB

The construction of a peripheral pump is especially tailored to the delivery of low flow rates at high delivery heads: a range not economically covered by standard pumps.

The Richter MPB delivers 0,05 – 4 m^3/h (0,2–16 gpm) and achieves heads up to 115 m LC. It is hermetically tight and has a magnetic coupling power of 6 kW (at 2900 min^{-1}). 3500 min^{-1} on request.

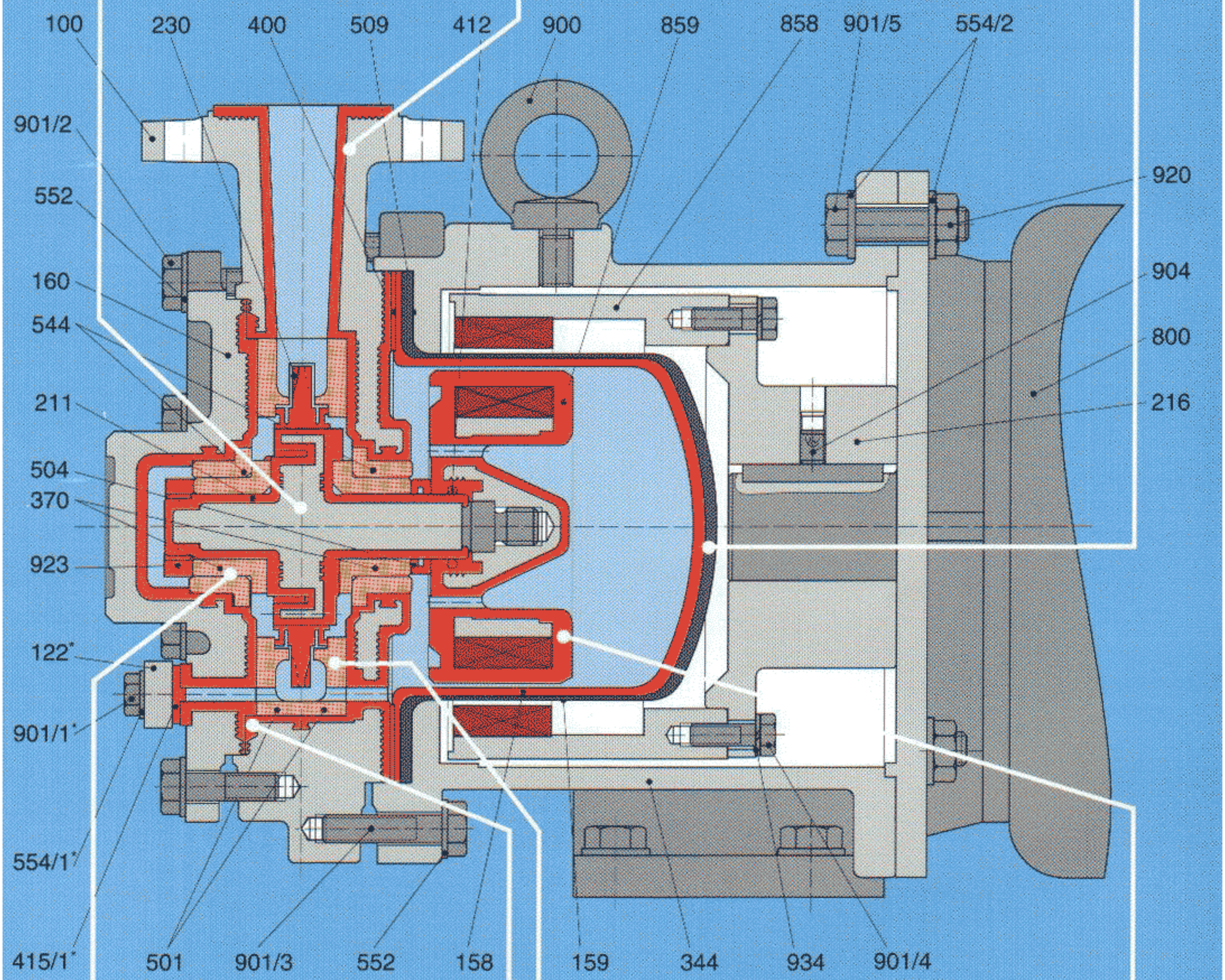
Operating range: from -60 to +150 °C (-80 to +300 °F) and from standstill-vacuum to 16 bar (235 psi), depending on the respective operating conditions and the equipment of the pump.

PFA-lined shaft drives impeller with free axial adjustment

Housing and cover of ductile cast iron 0,7043, thick-walled PFA-lining

Eddy-current free double can
- inner can of PTFE
- outer can of carbon fibre reinforced plastic (CFRP)

Can monitoring on request



Plain bearings of pure SiC arranged on both sides of the impeller, dry-run improved Richter SAFEGLIDE version optional. Lubrication by forced circulation.

Static labyrinth seal and a near metallic contact for permanent tightness and dimensional accuracy

Ring channel of pure SiC.
Impeller of modified PTFE with resilient sealing lips on both sides (Patent applied for):
- no axial gap adjustment, thus fast and trouble-free pump assembly
- compensate for operation-related dimensional deviation, e.g. due to temperatures
- provide for a sliding seal with low friction and with dynamic contact pressure

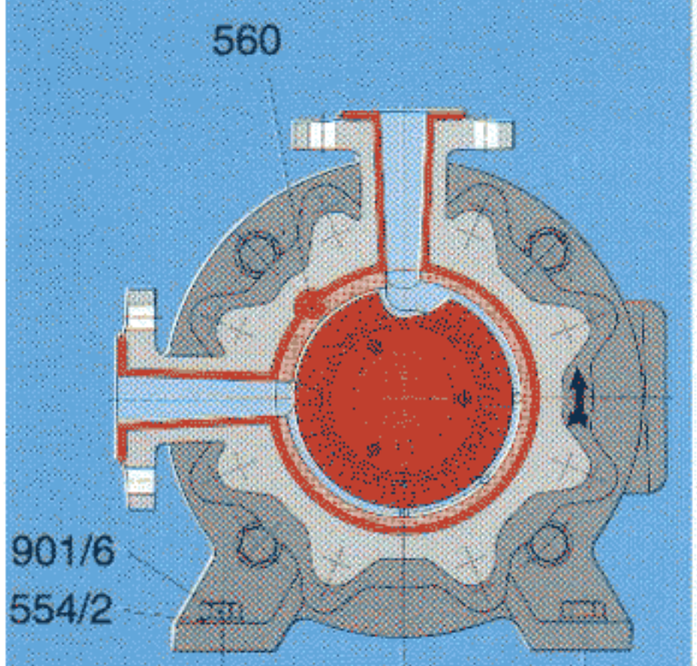
Magnetic coupling power rating of 6 kW at 2900 min^{-1}. High-performance permanent magnets

Almost universally corrosion resistant.
Solids-free media. Handles up to 30% entrained gas.

The problems of impeller sealing with common plastic peripheral pumps have been avoided:

- Designed for a high degree of efficiency, the integrated impeller sealing lips (Patent applied for) effect an unrivalled sealing between the PTFE impeller and the SiC ring channel wall.
  Highly-polished sliding surfaces of the ring channel provide low friction and low wear of the sealing lips.
- A further decisive advantage: The resilient sealing lips allow simple and fast assembly with no tight fits.
  (Such close, but hydraulically important gaps, previously resulted in premature wear in conventional peripheral pumps - particularly with fluctuating temperatures - and required high time expenditure for a precise assembly and maintenance).
  The sealing lips of the MPB impeller compensate for dimensional deviation caused e.g. by thermal fluctuations.

Frontal view
profile through the flow chamber section



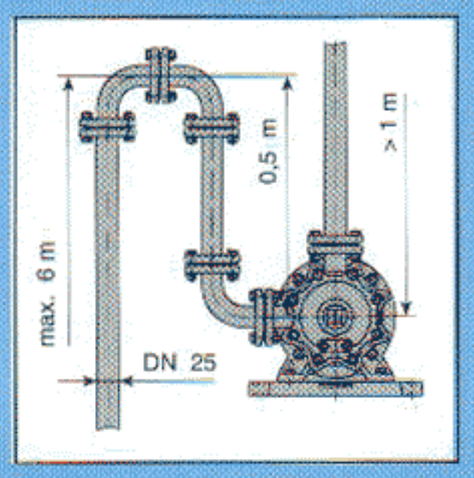
Variable nozzle position
„⌟“ or „⌄“

Further technical features:

- Symmetrical design of the flow-related components, thus no axial forces occur.
- Radial rubbing safety ring at the lantern and the drive magnet assembly protects the can unit against damage by a possibly wobbling drive magnet assembly in case of defect motor shaft bearing.
- Robust design meets the requirements of the chemical industry, metallic core of the shaft and of the inner magnet assembly (no brittle ceramic).
- Compact close-coupled construction, easy installation.
- Wide part interchangeability with the standardized magnetic drive pumps MNK/MNK-B 25-125 and 32-125 by using identical plain bearings, inner magnet assembly and can unit.

Self-priming capability:

- Self-priming up to max. 6 m (water, 20 °C), back pressure on pressure side admissible up to approx. 0,2 bar above atmospheric
- Pipe routing as per diagram generally guarantees adequate medium supply for priming and cooling. However, the operating conditions in each case are always to be checked by the supplier.



Components, materials

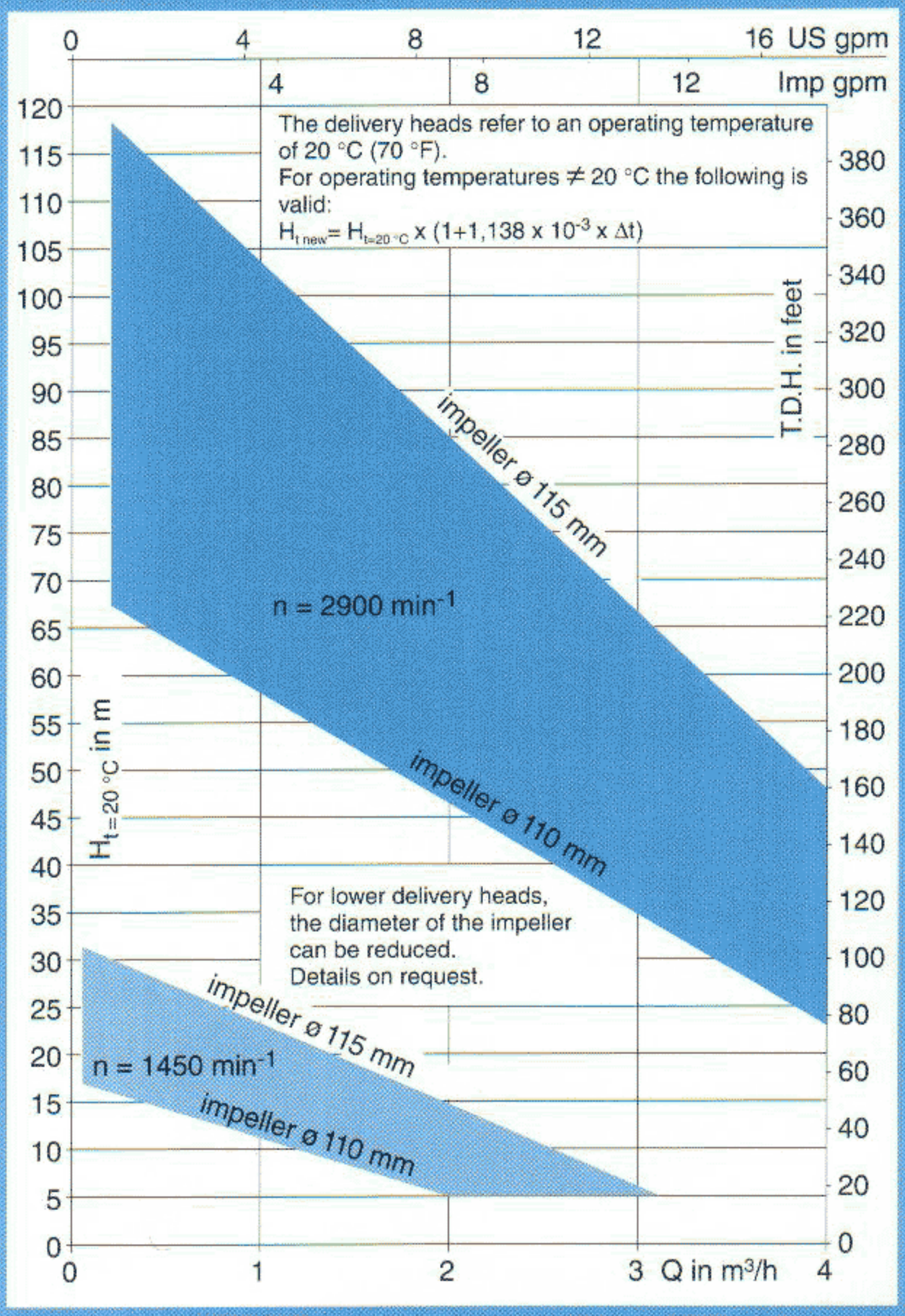
Item	Description		Standard
100	Housing	Lining Armouring	PFA Ductile cast iron 0.7043
122*	Cover flange		Sphäroguß 0.7043
158	Can insert		PTFE
159	Can		CFK (Carbon fibre reinforced plastic)
160	Back plate	Lining Armouring	PFA Ductile cast iron 0.7043
211	Pump shaft	Lining Core	PFA Stainless steel 1.4057
216	Hollow drive shaft		Steel 1.0501
230	Impeller		PTFE
244	Lantern		Ductile cast iron 0.7043
370	Bearing sleeve		SiC, SAFEGLIDE optional
400	Flat gasket		PTFE

Item	Description		Standard
412	O-ring		FFKM or equivalent
415/1*	Centering gasket		PTFE
501	Ring channel 2-piece		SiC
504	Transition ring		PTFE
509	Intermediate ring		PTFE
544	Bearing bush		SiC, SAFEGLIDE optional
560	Stud		PTFE
800	Motor		
858	Drive magnet assembly		Stahl 1.0306, Permanentmagnete
859	Inner magnet assembly	Lining Core	PFA Steel 1.0601
923	Bearing nut		PTFE
	Bolts, nuts, washers		Stainless steel

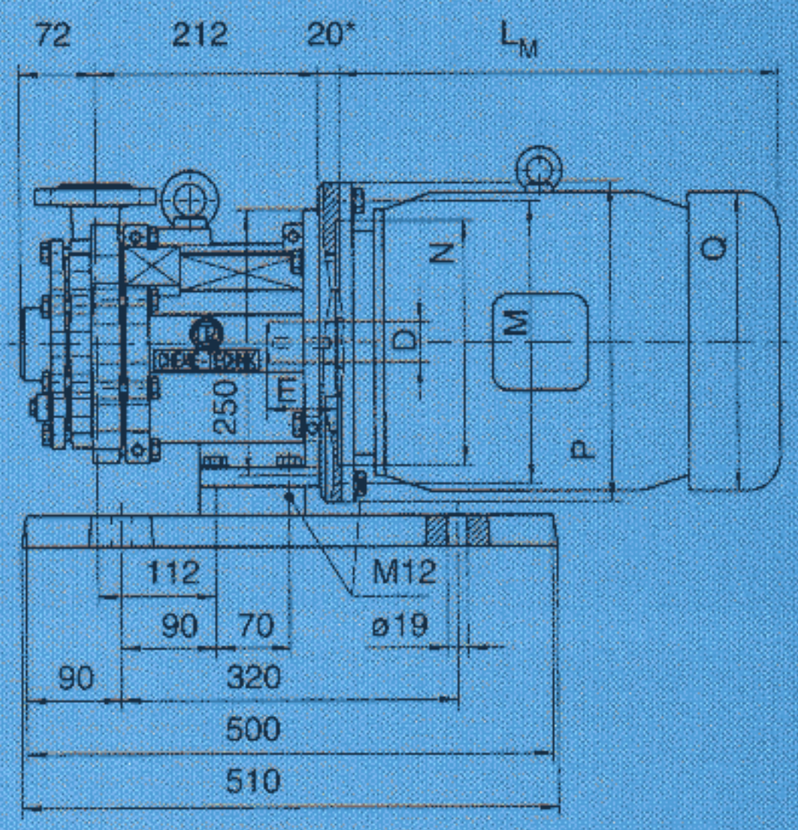
* Housing drain nozzle on request at extra cost

Flow rates: 0,05–4 m³/h (0,2–16 gpm), max. 115 m LC.
Dimensions: compact, fast installation.

Flow rates (for 1750 and 3500 min⁻¹: consult factory):

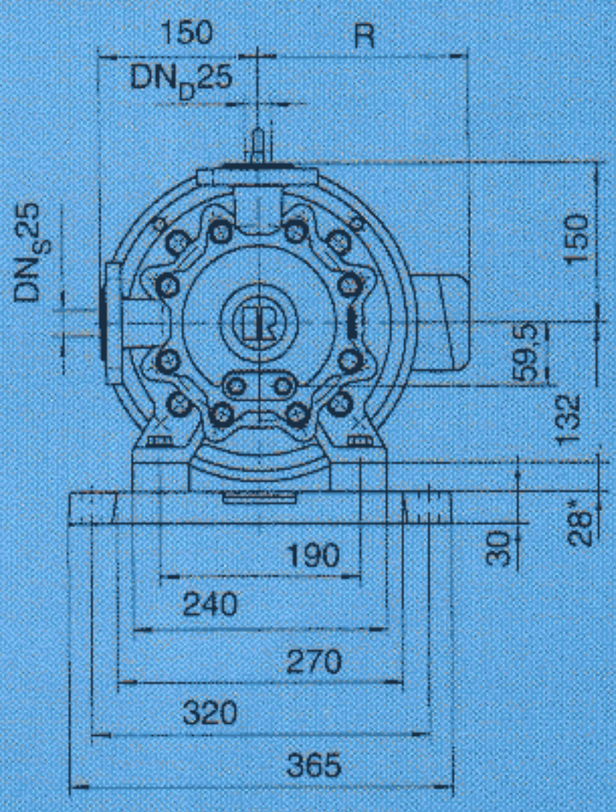


Pump dimensions (mm):

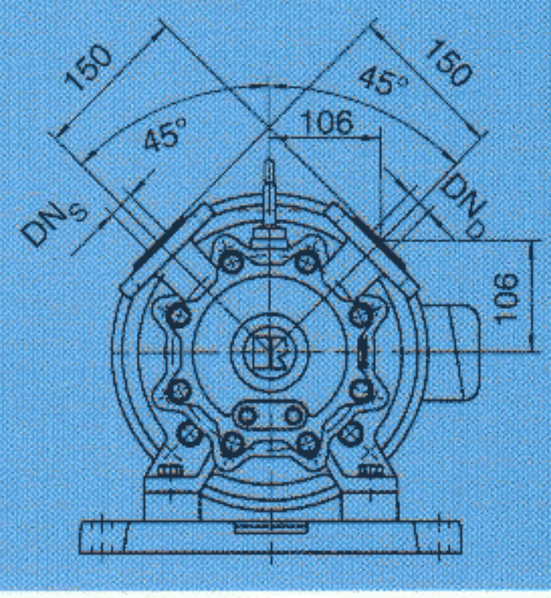


Flanges DN 25, drilled to ANSI B 16.10 (150 lbs), DIN 2533 (PN 16) etc.

Nozzle position „⌟"



Nozzle position „⌵"



Motor dimensions:

IEC-Motor	P [mm]	M [mm]	N [mm]	D [mm]	E [mm]	L_M [mm]	Q [mm]	R [mm]
100 L / B5	250	215	180	28	60	443	197	231
112 M / B5	250	215	180	28	60	460	220	254
132 S / B5	300*	265	230	38	80	507	260	271
132 S / B5 [1)]	250*	215	180	38	80	507	260	271
132 M / B5	300*	265	230	38	80	545	260	271
132 M / B5 [1)]	250*	215	180	38	80	545	260	271
1) Dimensions not according to DIN 42 677								

*Motor adapter piece and pads only required for motor size 132 (for flange ø P=250 mm without pads)

Weights: Pump (without motor) ca. 39 kg, baseplate ca. 16 kg, motor adaptor piece and pads (for motor size 132) ca. 8 kg

ITT Richter Chemie-Technik

ITT Richter Chemie-Technik GmbH
P.O. Box 10 06 09
D-47883 Kempen/Ndrh.

Telephone 0 21 52/1 46-0
Fax 0 21 52/1 46-1 90

Nr. 681.03.04.97