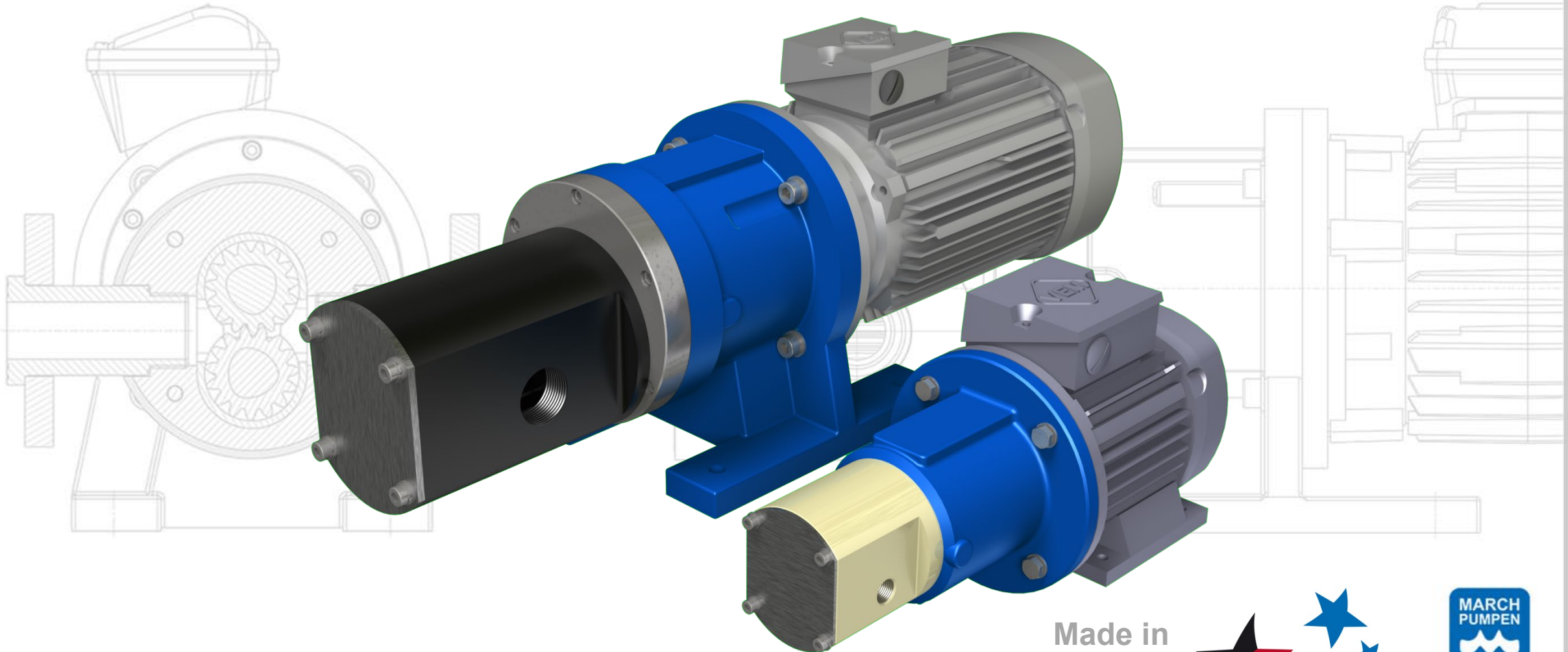


MAGNETICALLY COUPLED GEAR PUMP

Series: **TEF-MAG®**

corrosion resistant, non-metallic gear pump for harshest industrial applications



Made in
Germany



Series: **TEF-MAG®**

PRODUCT DESCRIPTION

MARCH Series TEF-MAG® pumps are magnetically coupled, rotating positive displacement pumps, external gear type.

Gear pumps generate low flows with middle to high discharge pressures and approximately no pulsation.

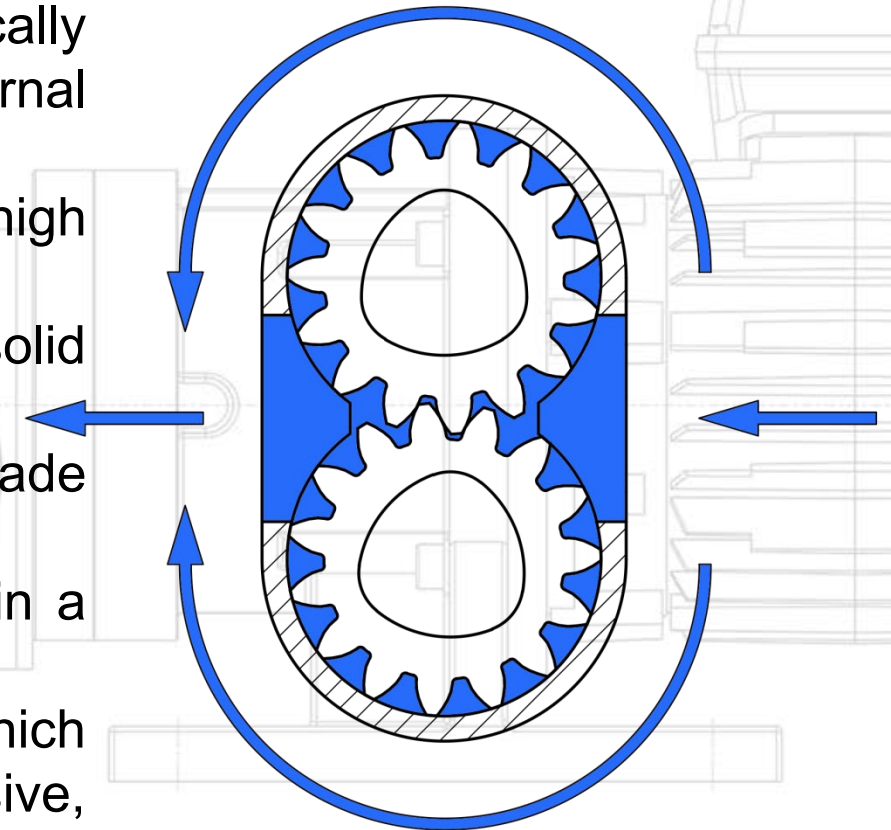
The pump housing is made of chemical resistant solid block plastics like PP, PVC or PVDF.

The hydraulic parts, gears, shafts and bearings are made of non-metallic materials also.

The power transmission of drive and pump happens in a contactless way with strong permanent magnets.

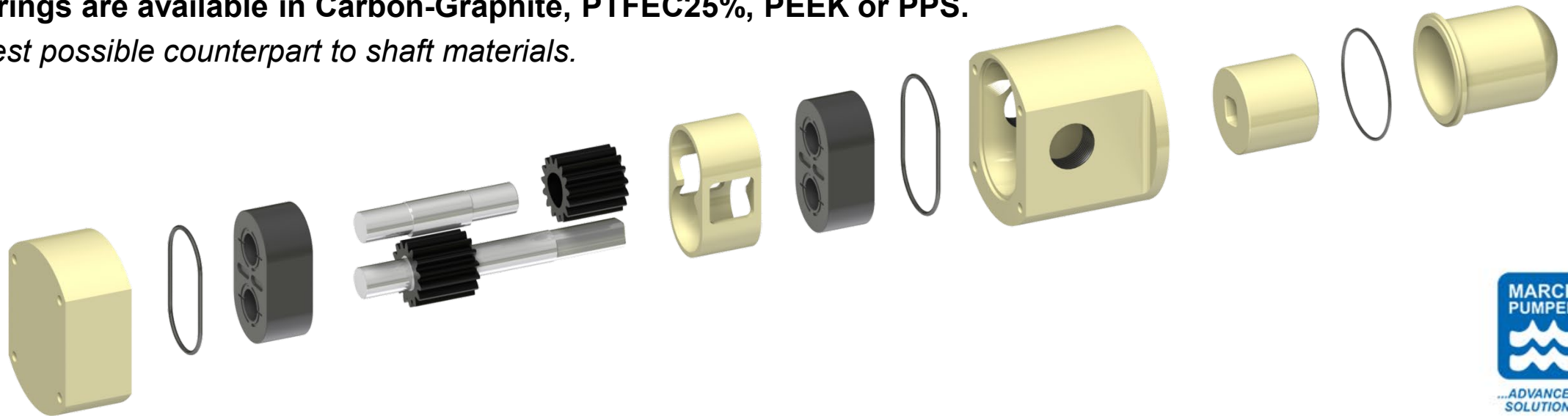
So the pump is able to work without any shaft seals, which guarantees safe supplies without any leakage of corrosive, toxic and explosive fluids.

Pumps for potentially explosive areas in zone 1 and 2 are available.



CORROSION RESISTANT DESIGN

- **All wetted pump parts are completely non-metallic.**
 - *best possible resistance against corrosive chemicals.*
- **Pump housings are made of machined solid block plastic materials, PP, PVC or PVDF.**
 - *excellent range of materials and availability.*
 - *no need for expensive high alloys prone to corrosion damage.*
- **External gears are made of PEEK, PVDF, PPS or PTFE compounds.**
 - *self-lubricating effect, low-wear, low friction, best chemical resistance*
- **Shafts are made of alumina ceramic Al₂O₃ >99% or sintered silicon carbide SiC.**
 - *best possible chemical resistance and very low wear.*
- **Bearings are available in Carbon-Graphite, PTFE25%, PEEK or PPS.**
 - *best possible counterpart to shaft materials.*



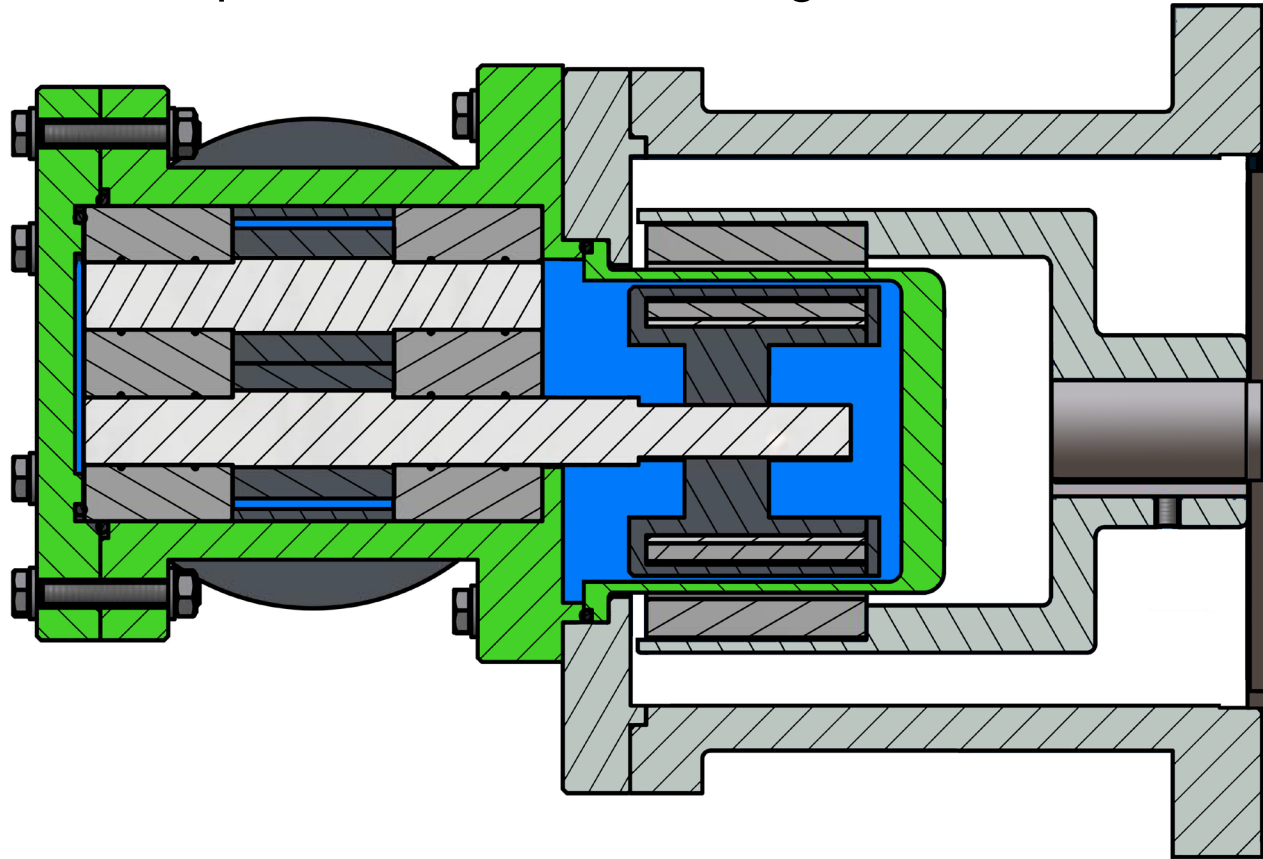
Series: **TEF-MAG®**

LEAK-FREE, MAGNETIC COUPLED

TEF-MAG® Series pumps are magnetically coupled, meaning there is no mechanical seal with contacting seal faces that are prone to wear and leakage.

Zero leakage, no emissions of hazardous or regulated chemicals.

A non-metallic containment can eliminates energy loss and heat rise due to magnetic losses common in metallic pumps.



Series: **TEF-MAG®**

APPLICATIONS

TEF-MAG® Series pumps are built for use in the harshest industrial environments. Designed to be structurally rugged with corrosion-resistant materials, the **TEF-MAG®** is an ideal fit for many medium to highly corrosive liquids used in the chemical processing, petro- and oleochemical industries and environment engineering. Conductive materials are available also, for usage in harzardous ATEX areas. FDA compliant materials are also available upon request.



Series: **TEF-MAG®**

APPLICATIONS

HIGH HEAD / LOW FLOW APPLICATIONS

- Chemical waste water treatment or water treatment, such as precipitation, flocculation, coagulation, chlorination, neutralization.
- Metering of highly corrosive catalysts in Bio-Diesel-Production -Plants
- Linear metering applications and transfer of alkalines and pickling agents in surface finishing
- Self-priming suction out of subgrounded tanks of solvents, corrosives, toxic, explosive or environmentally threatening liquids.

- Sulfuric Acid
- Sodium Hydroxide
- Sodium Hypochlorite
- Feric(III)-chloride
- Aluminim Slats
- Hydrochlorit Acid
- Hydrofluoric Acid

- Fatty Acids
- Nitic Acid
- Phosphoric Acid
- Formic Acid
- Boric Acid
- Urea
- Acetic Acid

- Hexafluorosilic Acid
- Sodium Hydroxide
- Sodium Disphosphate
- Chluordioxide
- Chluoros
- Toluene
- and so on...

Series: **TEF-MAG®**

ADVANTAGES

No need for...

- Pulsation dampeners
- Expensive steel alloys like Hastelloy C, Duplex or Titan

Potential for savings...

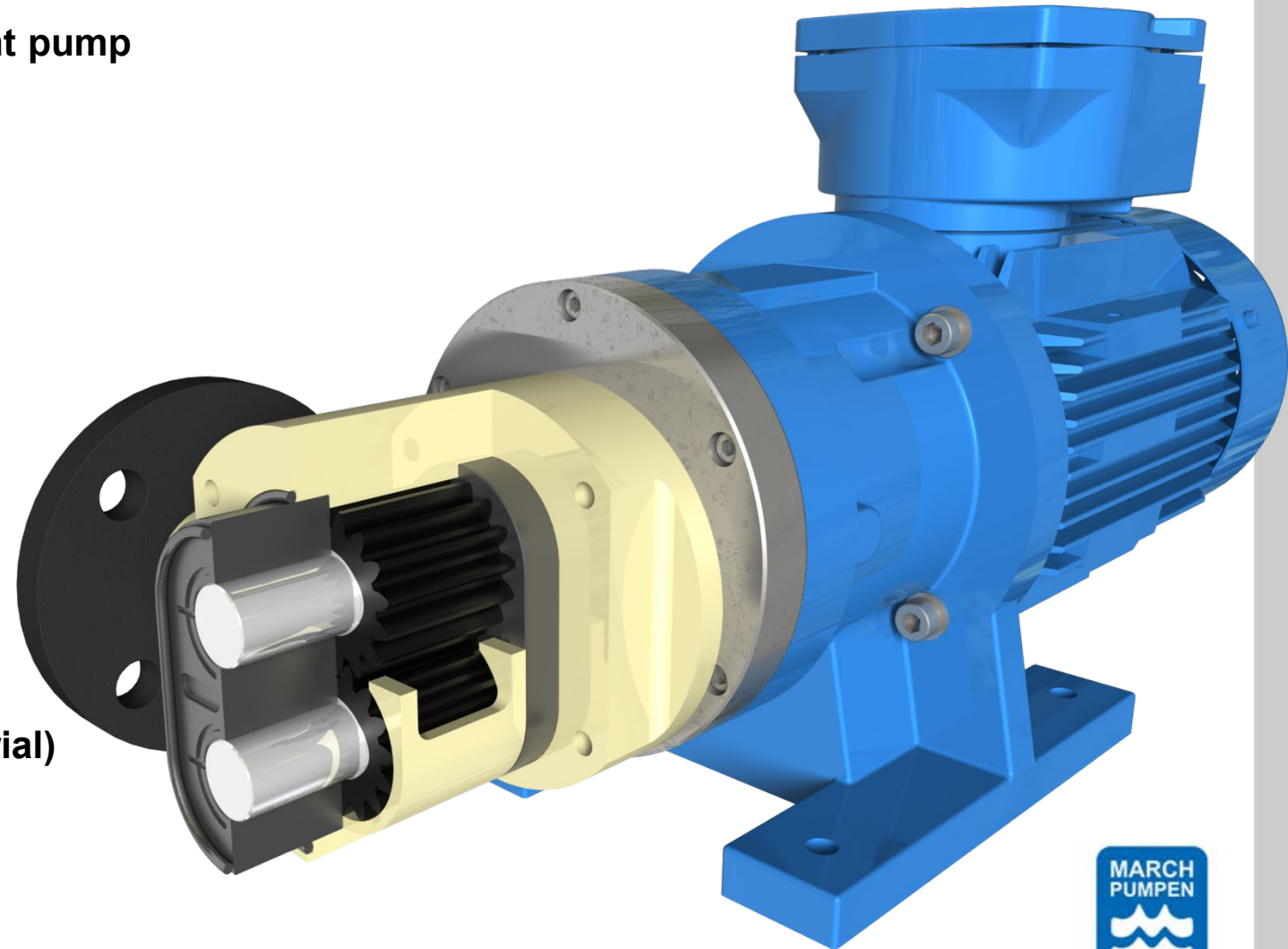
- Low maintenance and personnel costs
- Long service life
- Few spare and wear parts, good availability, short lead times
- Optimum efficiency through frequency converter control
- Damage prevention through pump monitoring



Series: **TEF-MAG®**

DESIGN FEATURES

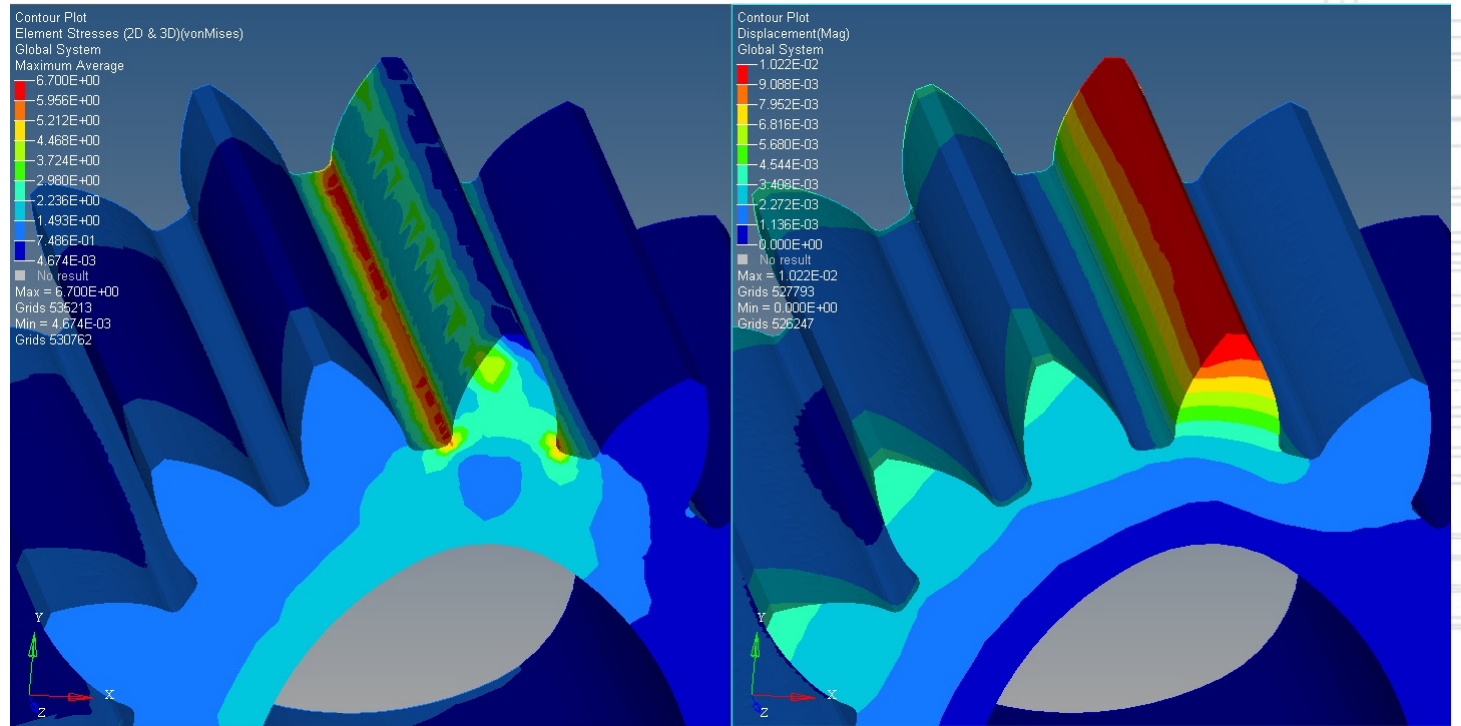
- Volumetric, rotary positive displacement pump
- External Gear Pump
- Wetted parts completely non-metallic
- Chemical resistant
- Magnetically coupled
- Low flow
- High head
- Nearby pulsation free
- Self-priming (wet)
- Dry running capable (depends on material)
- Most suitable for VFD



Series: **TEF-MAG®**

MADE IN GERMANY

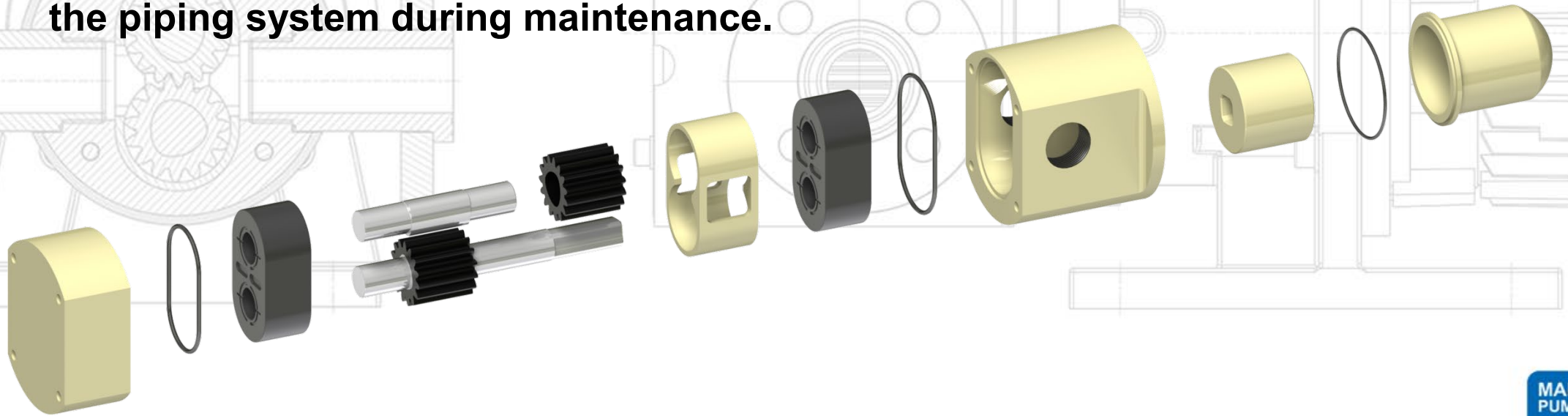
- Research and development
- 3D CAD construction
- FEM and CFD analysis
- Materials and sub-suppliers
- Assembly and test
- 100% made in Germany



Series: **TEF-MAG®**

SIMPLE DESIGN

- **Easy wet-end assembly**
- **5 wear parts only (Gears 2x, Bearings 2x, Gear Liner)**
- **Assembling or maintenance requires no special tools**
- **Changing kit-spares take 5 minutes only**
No time wasted in assembly of small standard parts
- **Pump design allows, that the pump must not be disassembled from the piping system during maintenance.**



Series: **TEF-MAG®**

AVAILABLE MATERIALS

- **Housings:** PP, PVC, PVDF, PVDF-EL
- **Gears:** PTFEC25%, PEEK, PVDF, PPS
- **Shafts:** Al₂O₃ >99%, SSiC
- **Bearings:** Carbon-Graphite, PTFE C25%, PEEK, PPS
- **Magnets:** NdFeB Permanentmagnet
- **O-Rings:** NBR, EPDM, FKM, FFKM

Other materials available upon request!

(for example: FDA compliant materials, non stated housing materials)

Series: **TEF-MAG®**

PERFORMANCE DATA

Volumetric flow: from 10 l/h up to 4,5 m³/h

Differential pressure, max.: 10 bar

Design pressure, max.: 16 bar

Temperature, max.: 65 °C

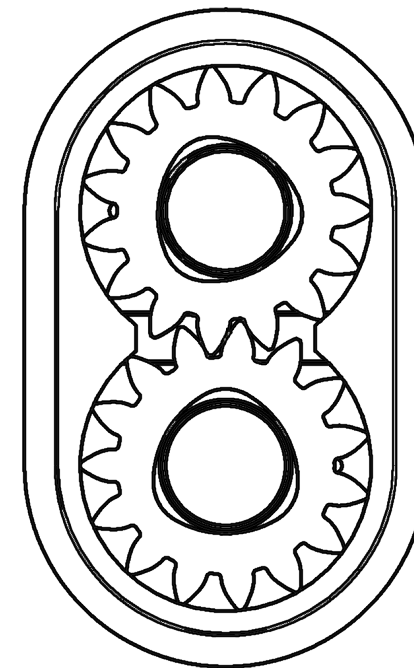
Self-priming (wet), max.: 8 meter

Different pump sizes: TM200, TM1500 und TM3500

Nearby pulsation free

Dry running capable (depends on materials)

ATEX Version erhältlich (Ex II2G ck Tx)



Series: **TEF-MAG**®

TEF-MAG 200

TEF-MAG 1500

TEF-MAG 3500

PERFORMANCE DATA

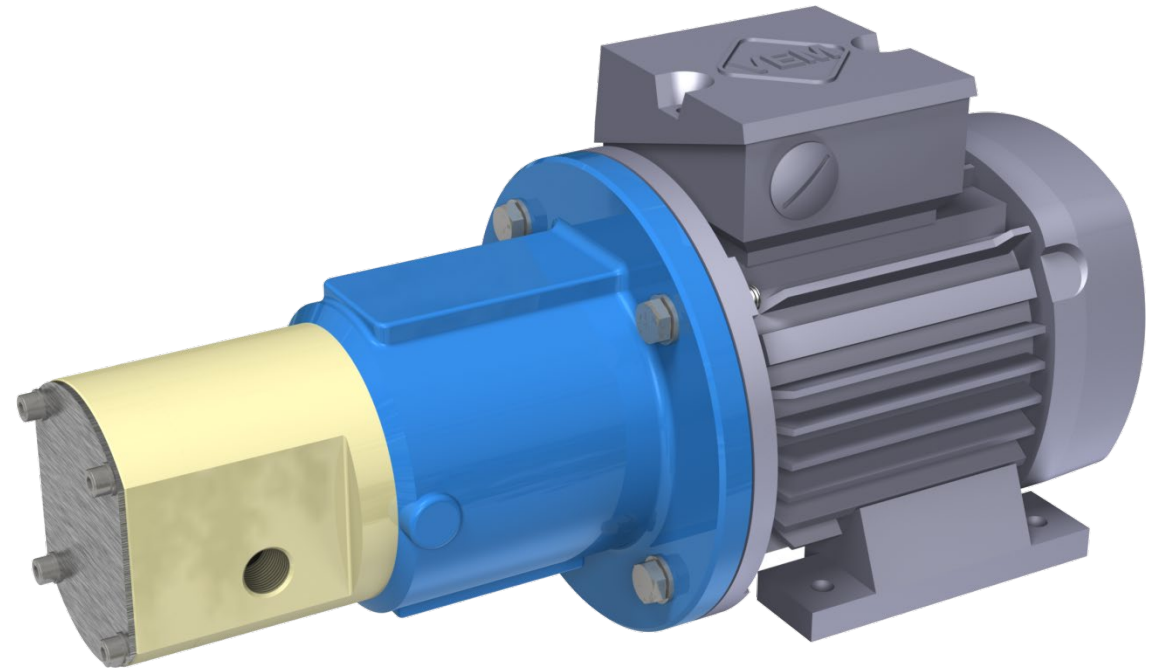
Nominal speed:	1450 1/min (50Hz) 1750 1/min (60Hz)
Nominal flow:	260 l/h (68.68 us gph) 330 l/h (87.18 us gph)
Discharge pressure, max.:	10 bar (145 psi)
Design pressure:	PN 16 bar (232 psi)
Temperature, max.:	65°C (149°F)
Density, max.:	1,9 kg/dm³
Viscosity, max.:	5000 cP

CONNECTIONS

Threaded:	G3/8" IG
Flanged:	DN15 PN10 ANSI 1/2"

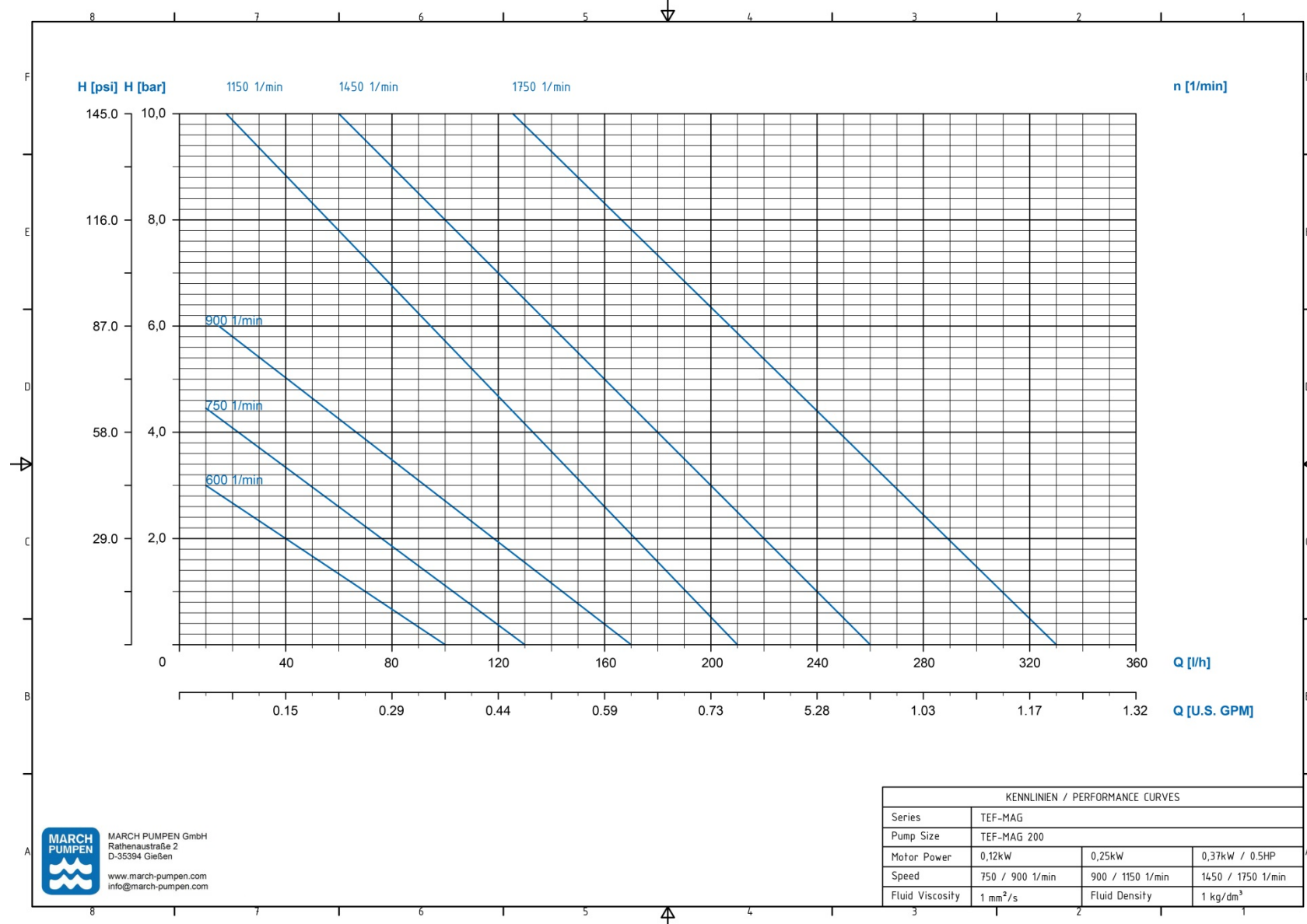
MOTOR ADAPTION

IEC:	Size 71 B35, 0,37 kW, 4-pole
NEMA:	Size 56C, 0.5HP, 4-pole



Series: TEF-MAG®

PERFORMANCE CURVES TEF-MAG 200

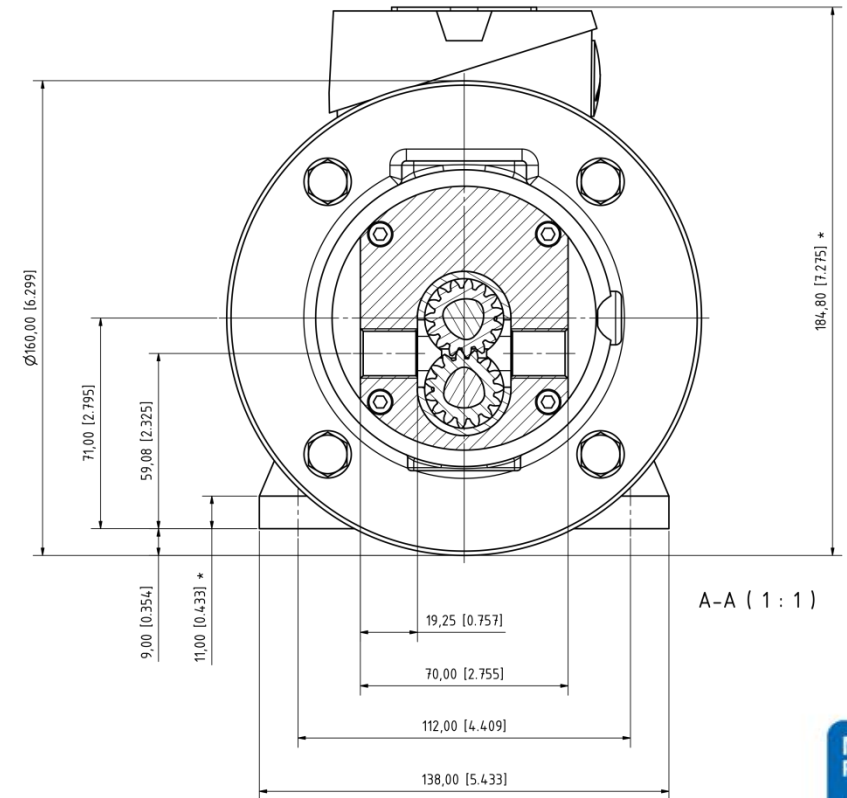
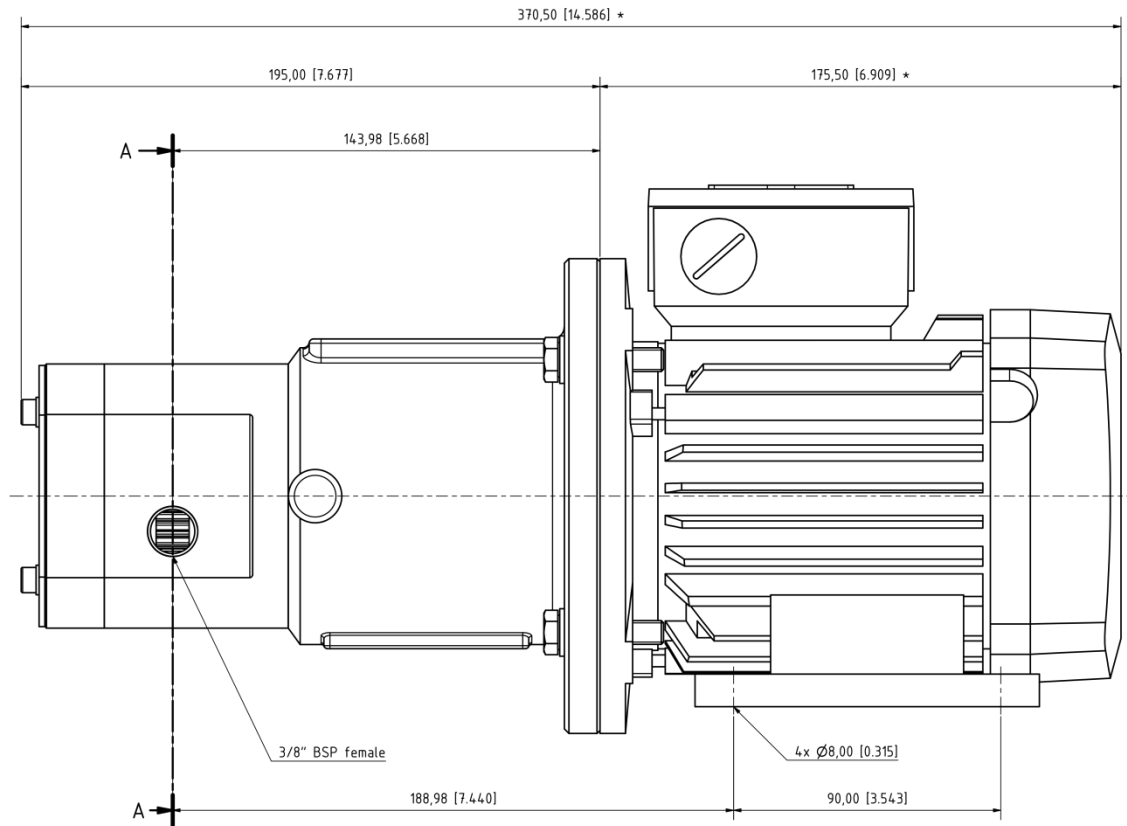


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Series: **TEF-MAG®**

DIMENSIONS TEF-MAG 200



Series: **TEF-MAG®**

TEF-MAG 200

TEF-MAG 1500

TEF-MAG 3500

PERFORMANCE DATA

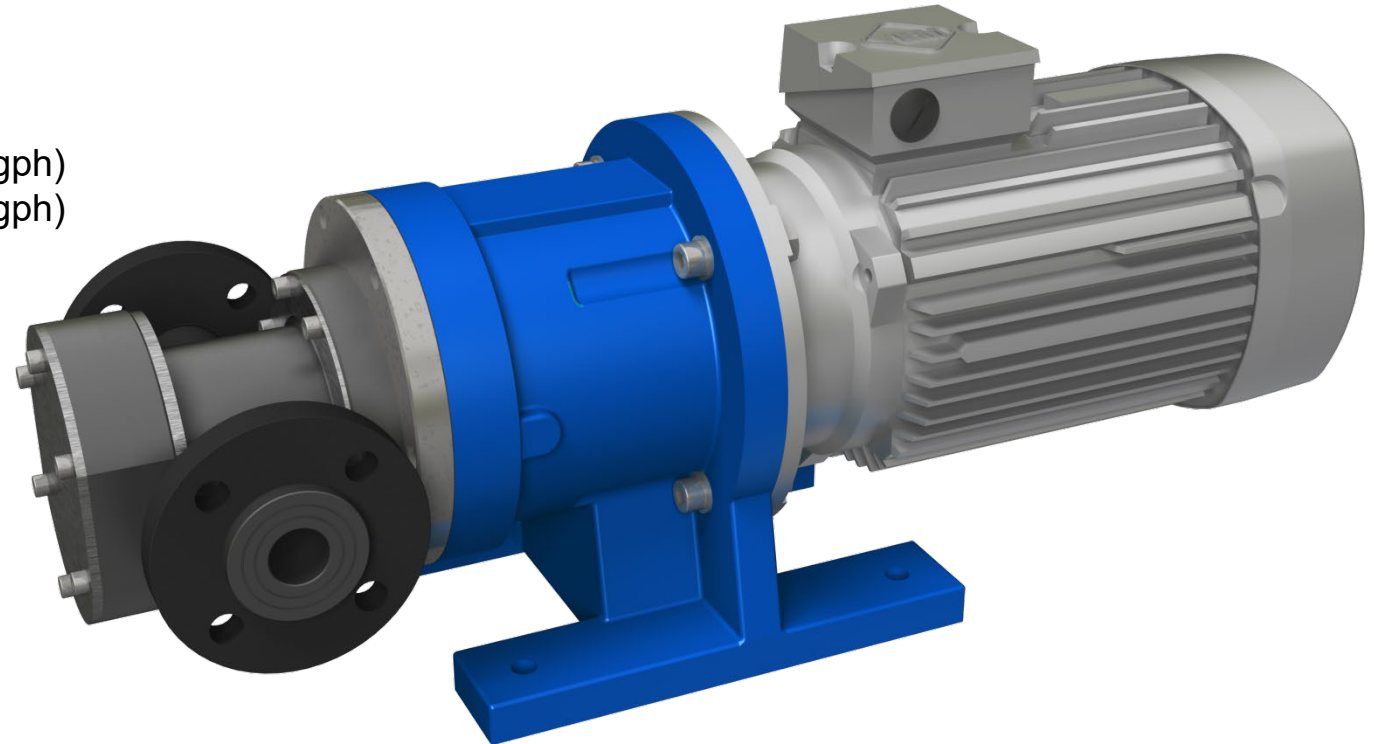
Nominal speed:	1450 1/min (50Hz) 1750 1/min (60Hz)
Nominal flow:	1350 l/h (356.63 us gph) 1650 l/h (435.88 us gph)
Discharge pressure, max.:	10 bar (145 psi)
Design pressure:	PN 16 bar (232 psi)
Temperature, max.:	65°C (149°F)
Density, max.:	1,9 kg/dm³
Viscosity, max.:	5000 cP

CONNECTIONS

Threaded:	G1" IG
Flanged:	DN25 PN16 ANSI 1"

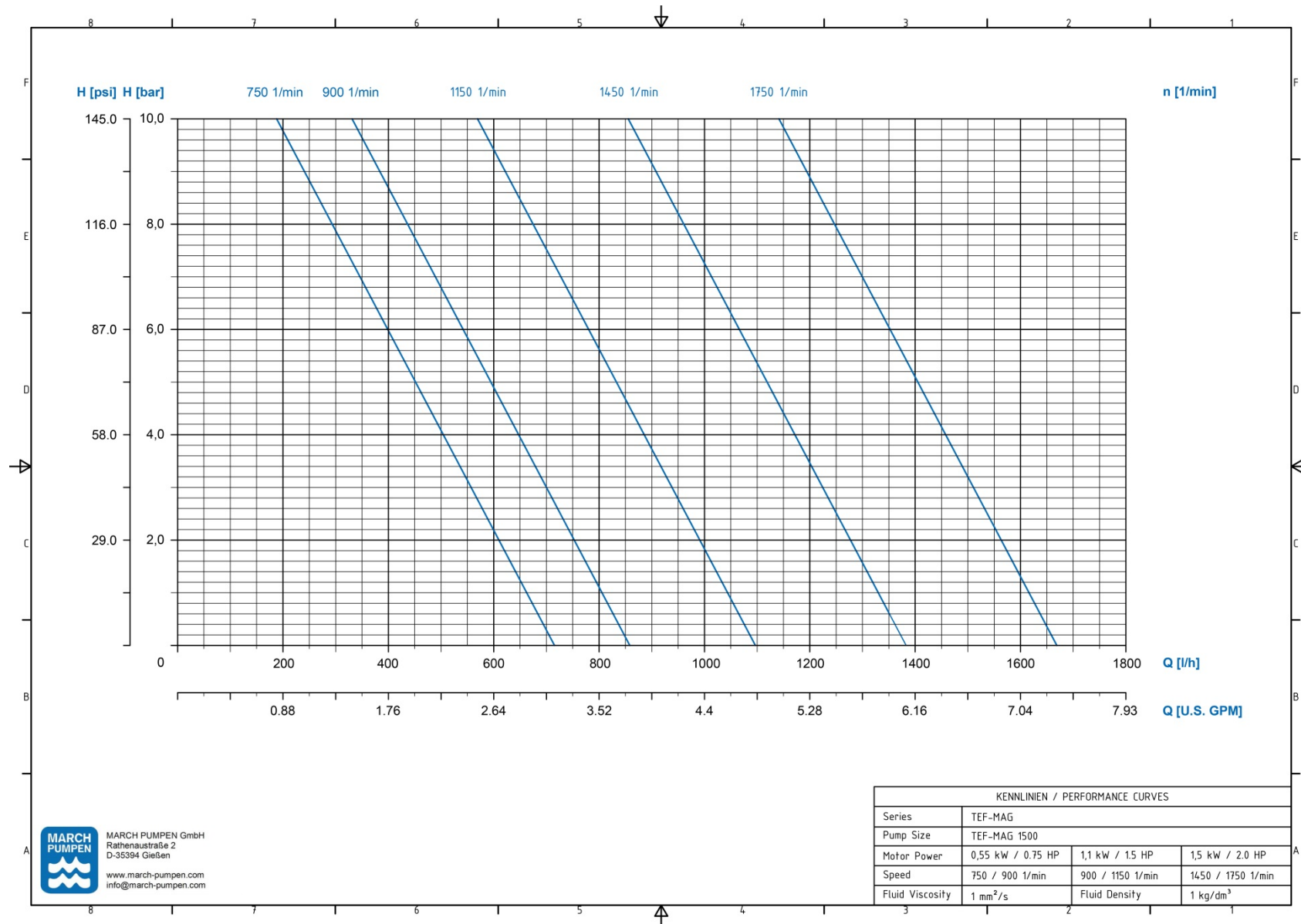
MOTOR ADAPTION

IEC:	Size 90 B5, 1,5kW, 4-pole Size 100 B5, 2,2/3,0kW, 4-pole
NEMA:	Size 143/145TC, 1.0/1.5/2.0HP, 4-pole



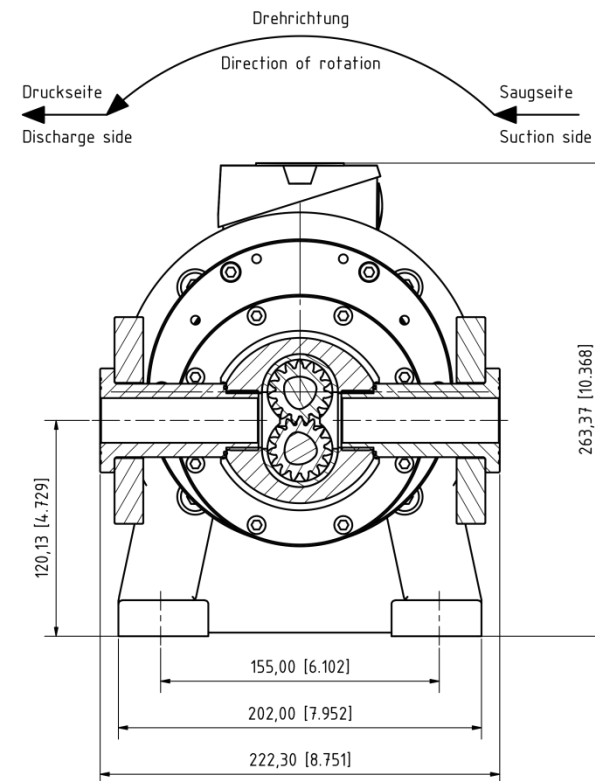
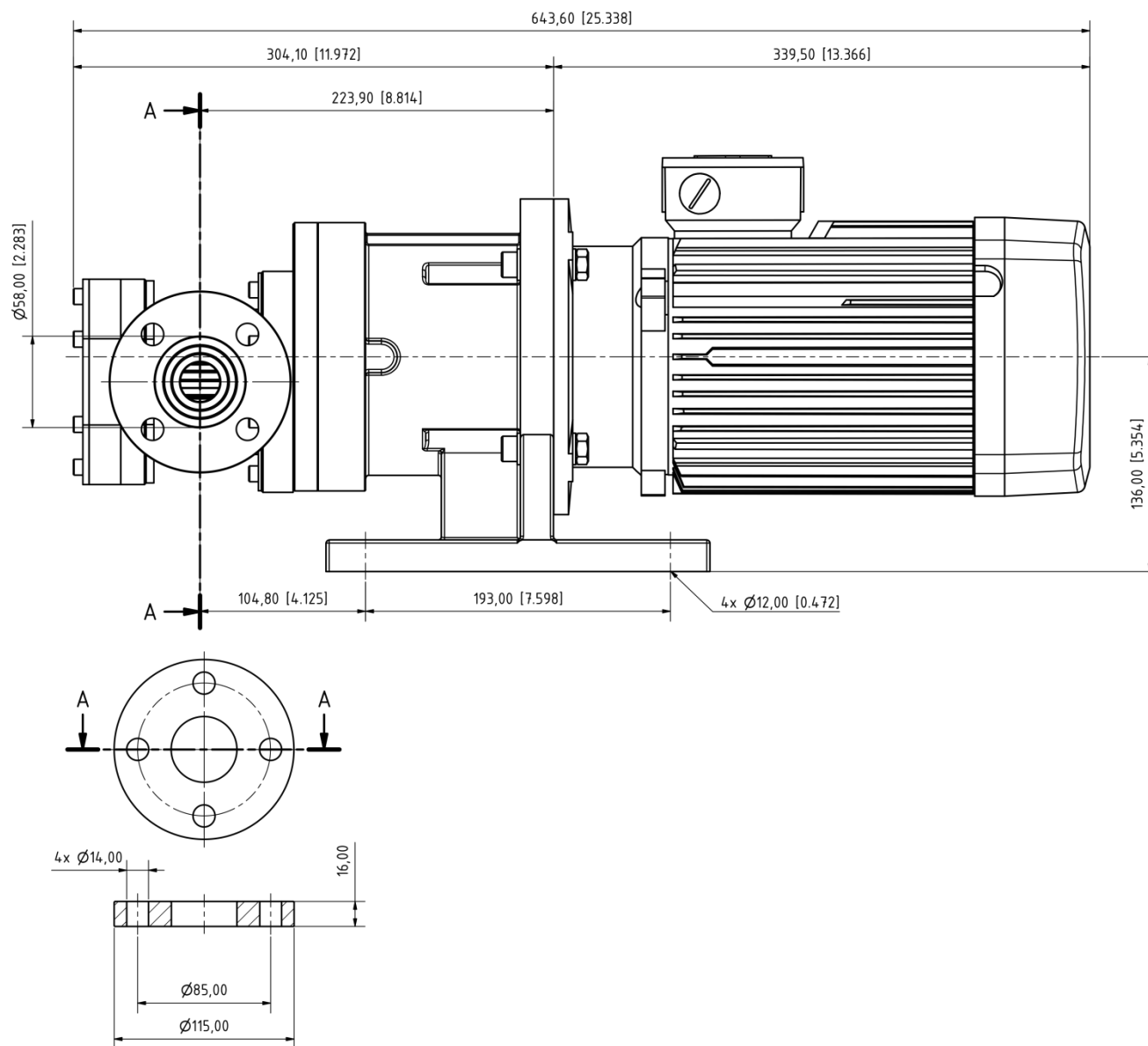
Series: TEF-MAG®

PERFORMANCE CURVES TEF-MAG 1500



Series: **TEF-MAG®**

DIMENSIONS TEF-MAG 1500



Series: **TEF-MAG®**

TEF-MAG 200

TEF-MAG 1500

TEF-MAG 3500

PERFORMANCE DATA

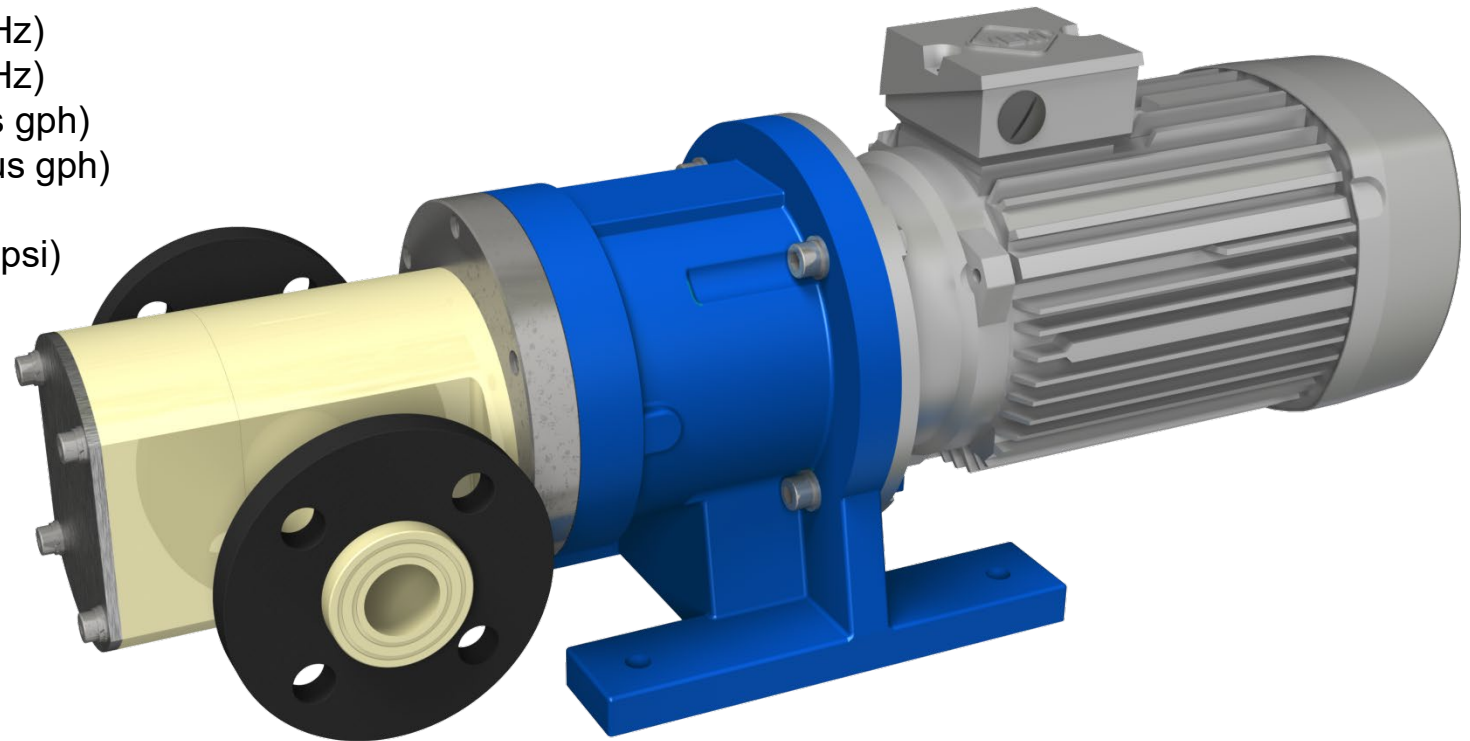
Nominal speed:	1450 1/min (50Hz) 1750 1/min (60Hz)
Nominal flow:	3650 l/h (965 us gph) 4650 l/h (1228 us gph)
Discharge pressure, max.:	10 bar (145 psi)
Design pressure:	PN 16 bar (232 psi)
Temperature, max.:	65°C (149°F)
Density, max.:	1,9 kg/dm³
Viscosity, max.:	5000 cP

CONNECTIONS

Threaded:	G1 1/4" IG
Flanged:	DN32 PN16 ANSI 1 1/4"

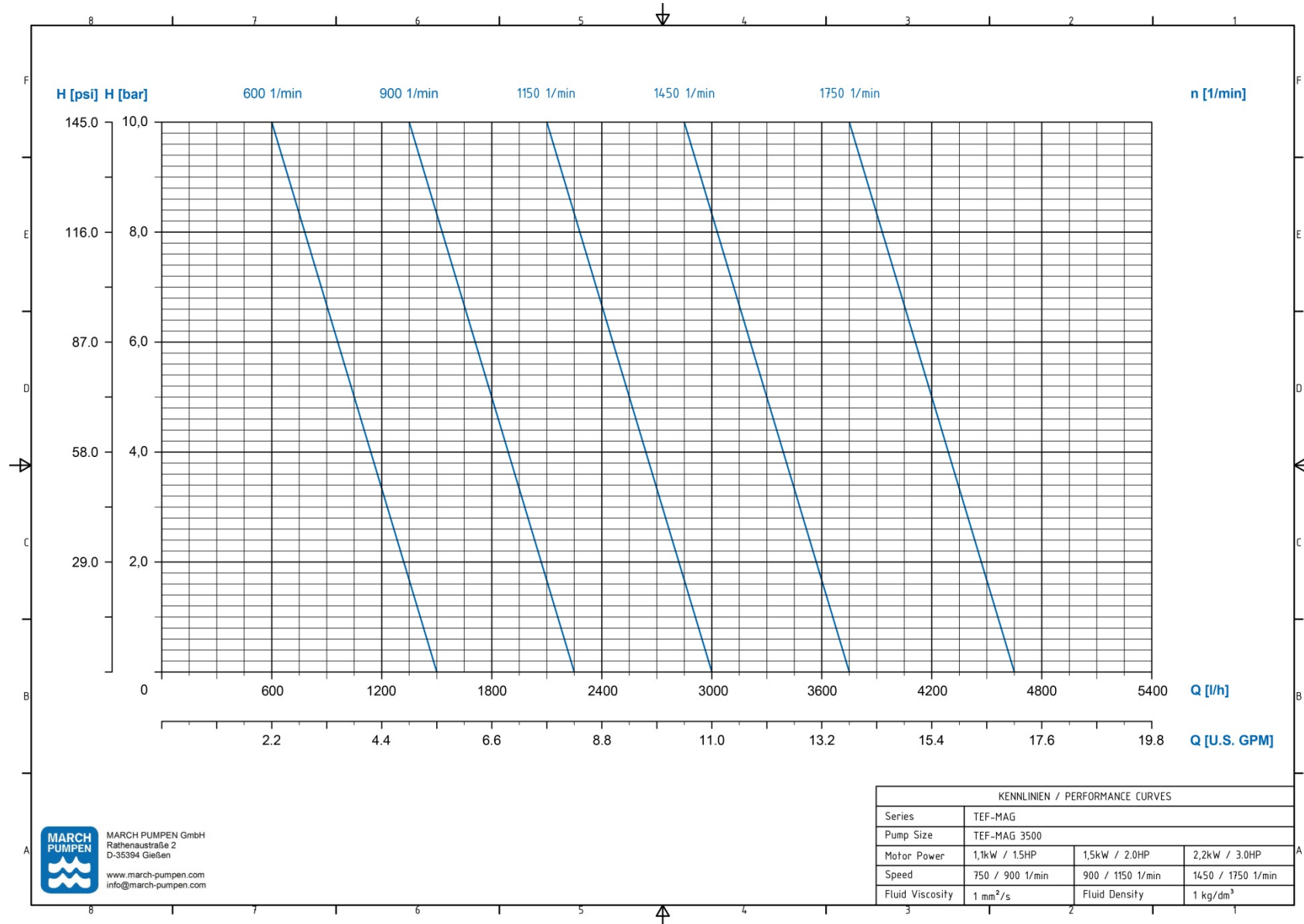
MOTOR ADAPTION

IEC:	Size 90 B5, 1,5kW, 4-pole Size 100 B5, 2,2/3,0kW, 4-pole
NEMA:	Size 143/145TC, 1.0/1.5/2.0HP, 4-pole



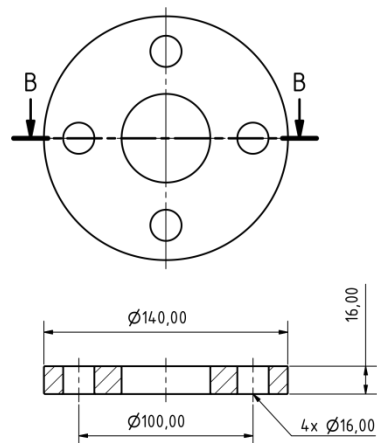
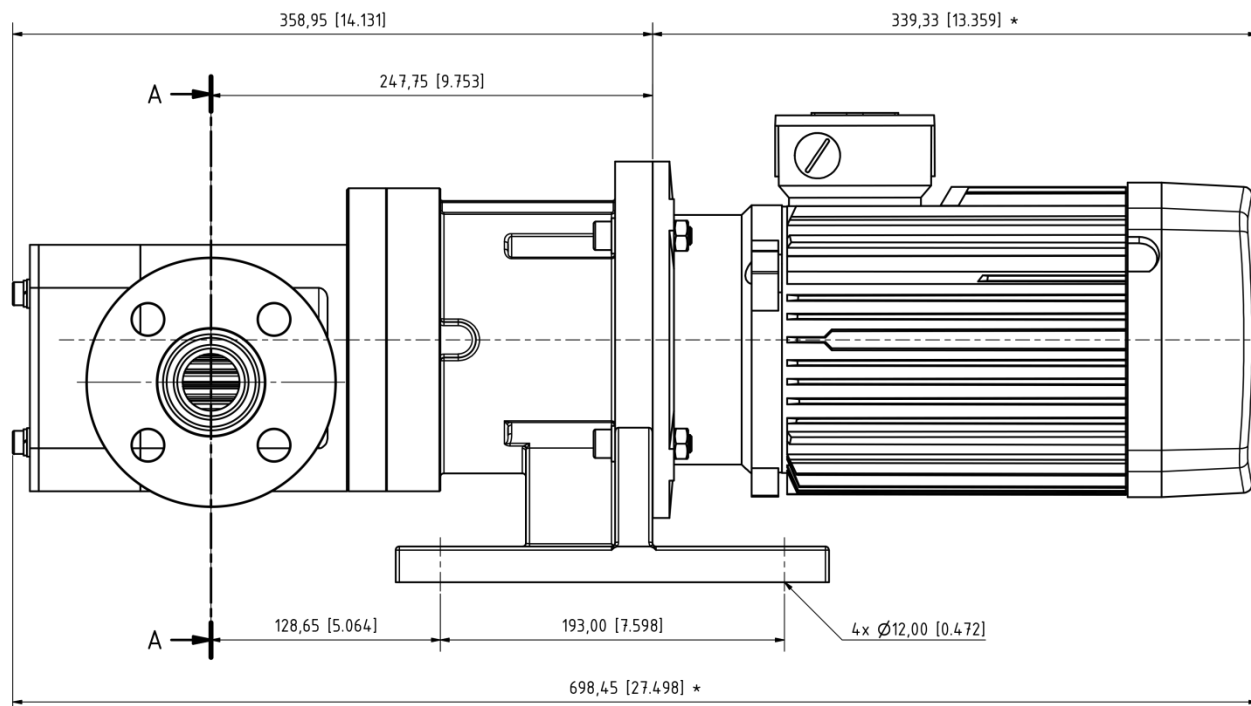
Series: TEF-MAG®

PERFORMANCE CURVES TEF-MAG 3500



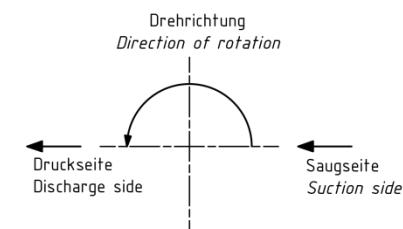
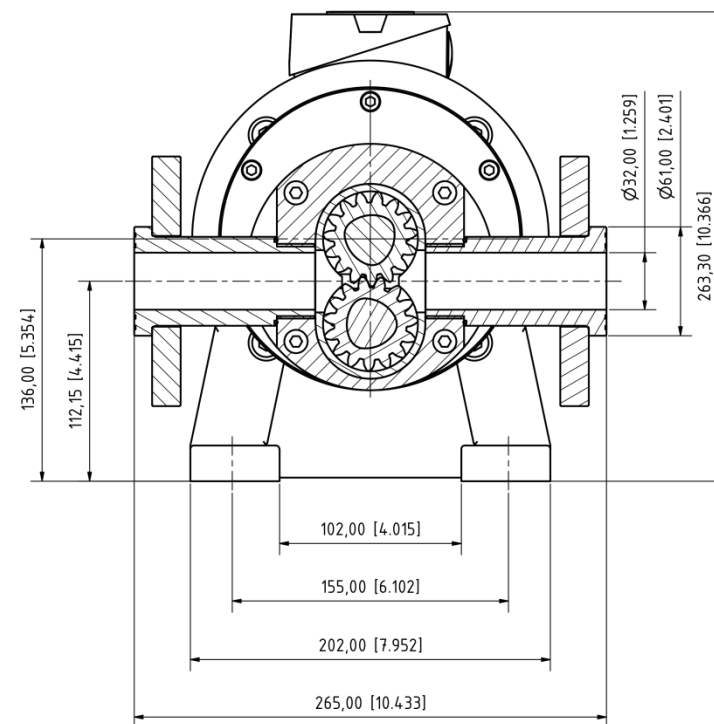
Series: **TEF-MAG®**

DIMENSIONS TEF-MAG 3500



B-B (1 : 2)

A-A (1 : 2)



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