

# MAGNETIC DRIVEN 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 magnetic driven, rotating positive displacement pumps, external gear type.

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

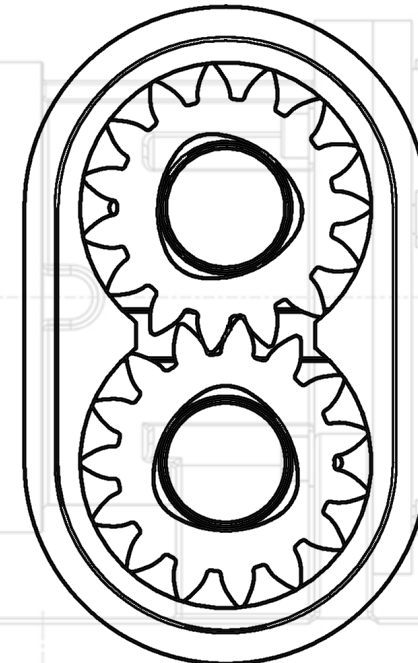
The pump housing is made of chemical resistant solid block plastics like PP, PVC, PVDF or PTFE.

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.

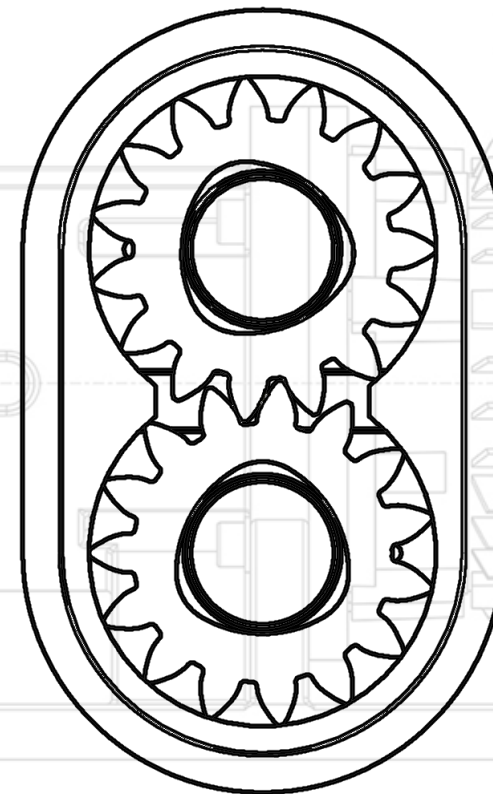
Pumps for potentially explosive areas in zone 1 and 2 are available.



# Series: **TEF-MAG™**

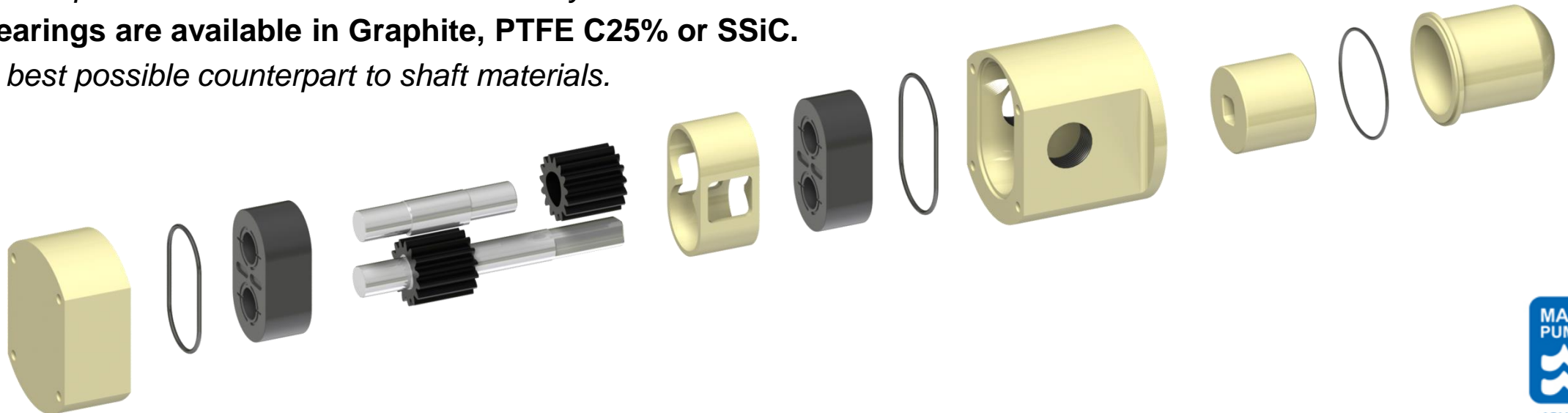
## **PERFORMANCE**

- Capacity flow up to 4,5 m<sup>3</sup>/h
- Drive speed regulation 1 – 60 Hz
- 10 bar differential pressure
- 16 bar maximum design pressure
- 65°C maximum liquid temperature
- NPSHR 0.60 m of H<sub>2</sub>O
- Different pump sizes: TM200, TM1500 and TM 3500
- Nearby pulseless flow
- Up to 10 minutes dry run capabilities
- ATEX version available (Ex II2G ck T60°C)



# 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.**
  - *excellent range of materials and availability.*
  - *no need for expensive high alloys prone to corrosion damage.*
- **External gears are made of a PTFE / Carbon compound.**
  - *self-lubricating effect, low-wear, low friction, best chemical resistance*
- **Shafts are made of alumina ceramic Al<sub>2</sub>O<sub>3</sub> >99% or sintered silicon carbide SSiC.**
  - *best possible chemical resistance and very low wear.*
- **Bearings are available in Graphite, PTFE C25% or SSiC.**
  - *best possible counterpart to shaft materials.*

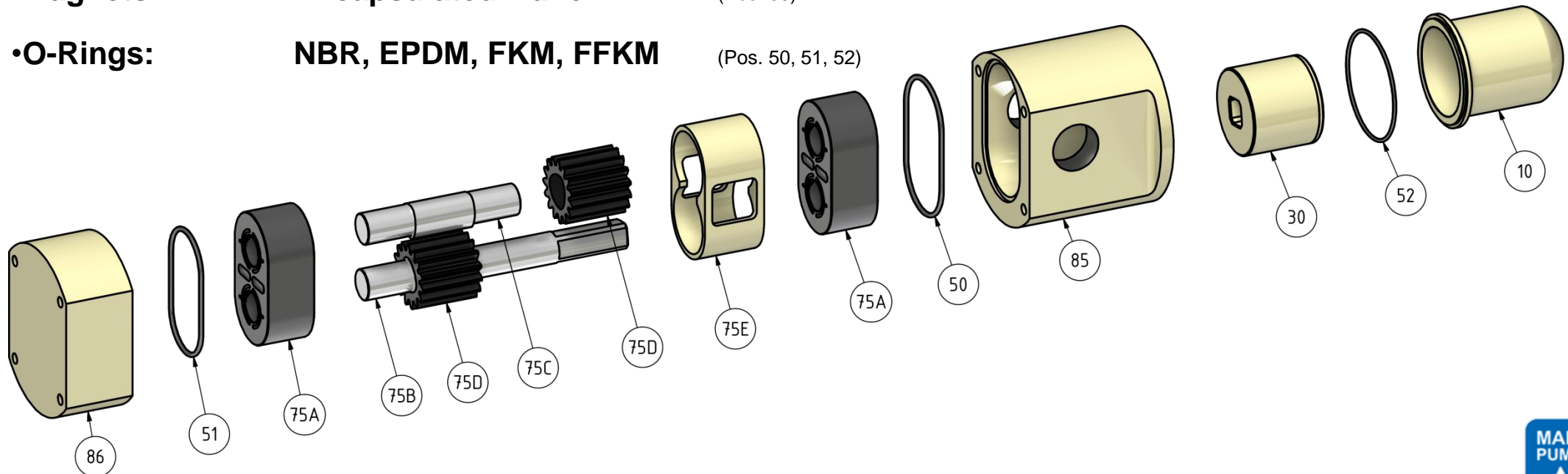




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## **AVAILABLE MATERIALS**

- **Housings:** Polypropylene, PVC, PVDF, conductive PTFE (Pos. 86, 85, 10)
- **Gears:** PTFE C25% (Pos. 75D)
- **Shafts:** Alumina ceramic Al<sub>2</sub>O<sub>3</sub> >99%, SSiC (Pos. 75B, 75C)
- **Bearings:** Carbon Graphite, PTFE C25%, SSiC (Pos. 75A)
- **Magnets:** Encapsulated NdFeB (Pos. 30)
- **O-Rings:** NBR, EPDM, FKM, FFKM (Pos. 50, 51, 52)



Custom made pumps or materials are available upon request, please ask our technical staff.

Contact: [konstruktion@march-pumpen.com](mailto:konstruktion@march-pumpen.com)

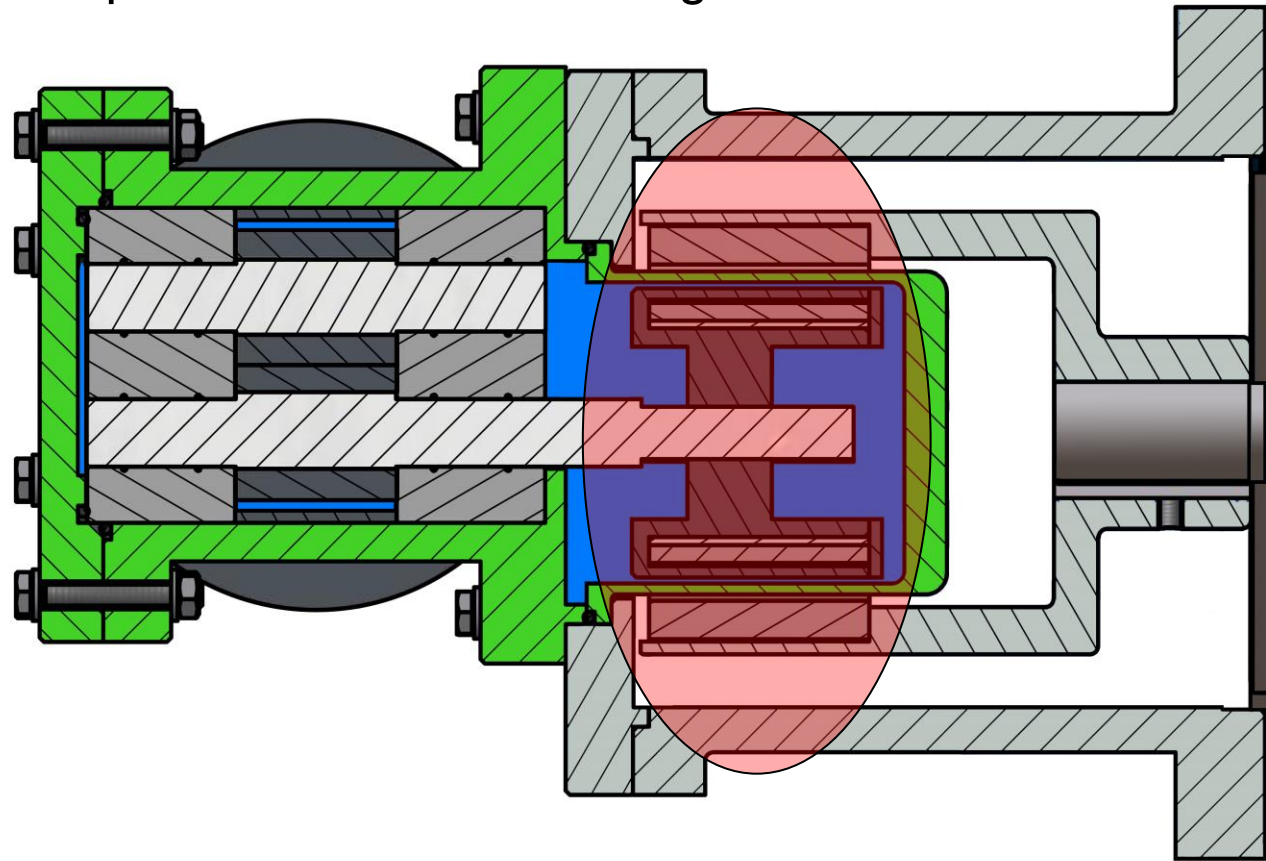
Series: **TEF-MAG™**

## **LEAK-FREE, MAGNETIC COUPLED**

**TEF-MAG™** Series pumps are magnetic driven, 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 an usage in ATEX areas.



# 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 environmental threatening liquids.

- **Sulfuric Acid**

- **Sodium Hydroxide**

- **Sodium Hypochlorite**

- **Ferri(III)-chloride**

- **Aluminum Slats**

- **Hydrochloric Acid**

- **Hydrofluoric Acid**

- **Fatty Acids**

- **Nitric Acid**

- **Phosphoric Acid**

- **Formic Acid**

- **Boric Acid**

- **Urea**

- **Acetic Acid**

- **Hexafluorosilicic Acid**

- **Sodium Hydroxide**

- **Sodium Disphosphate**

- **Chlorine Dioxide**

- **Chloroform**

- **Toluene**

- **and so on...**

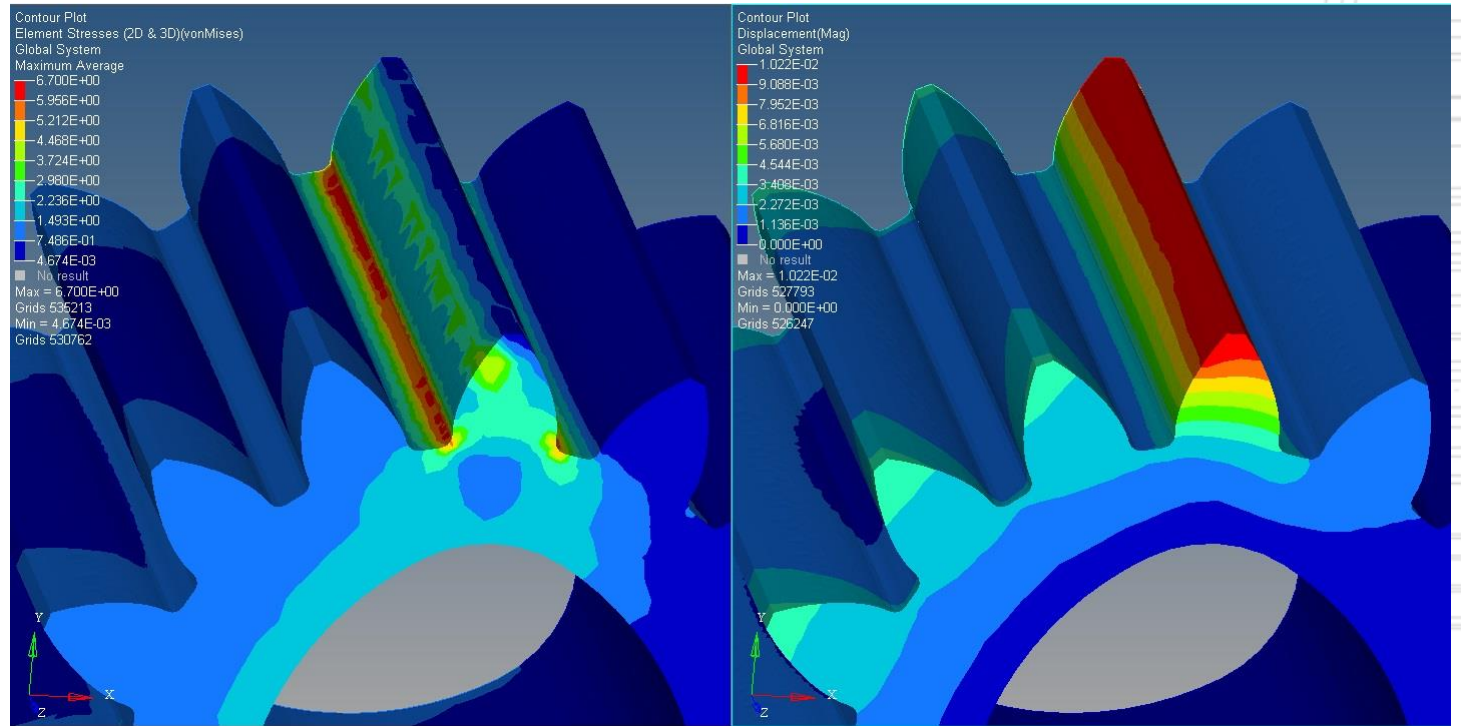


...ADVANCED SOLUTIONS...



# Series: **TEF-MAG™** **MADE IN GERMANY**

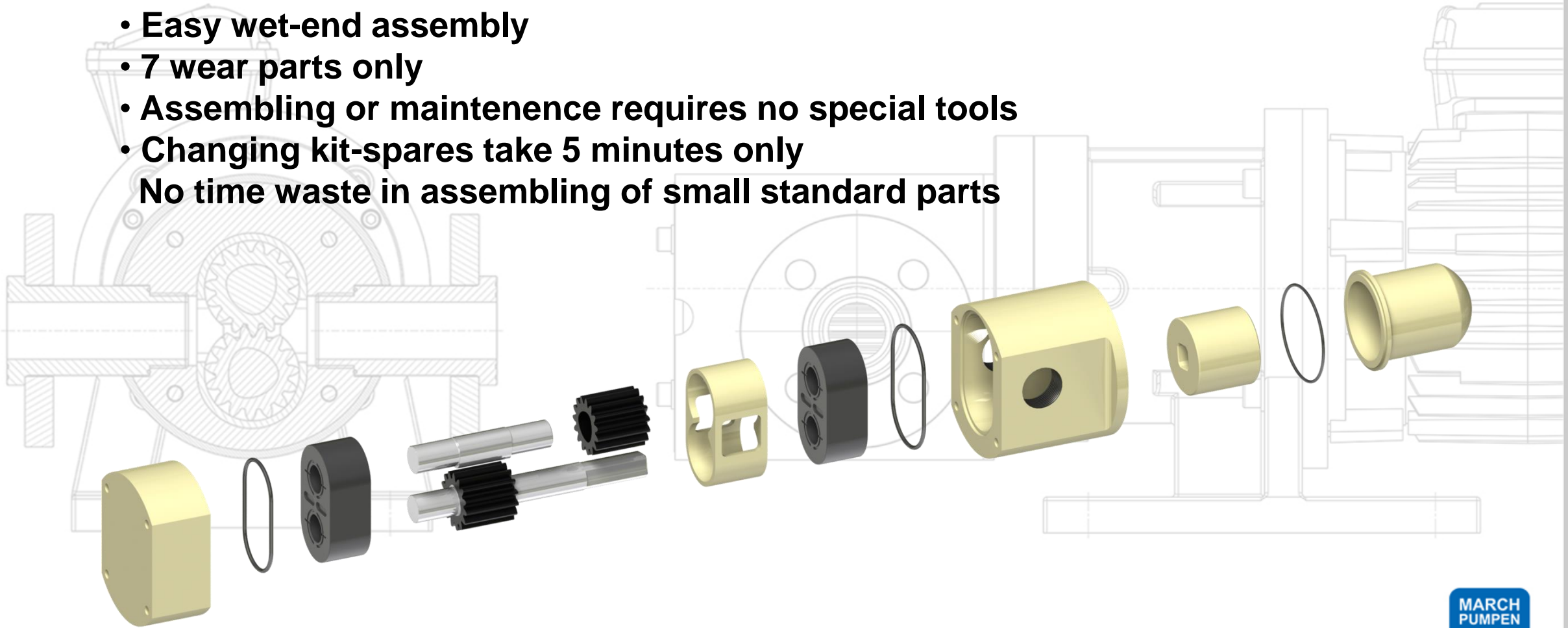
- Research and development
- 3D CAD construction
- FEM and CFD analysis
- Materials and sub-suppliers
- Assembly and test
- 100% made in Germany



# Series: **TEF-MAG™**

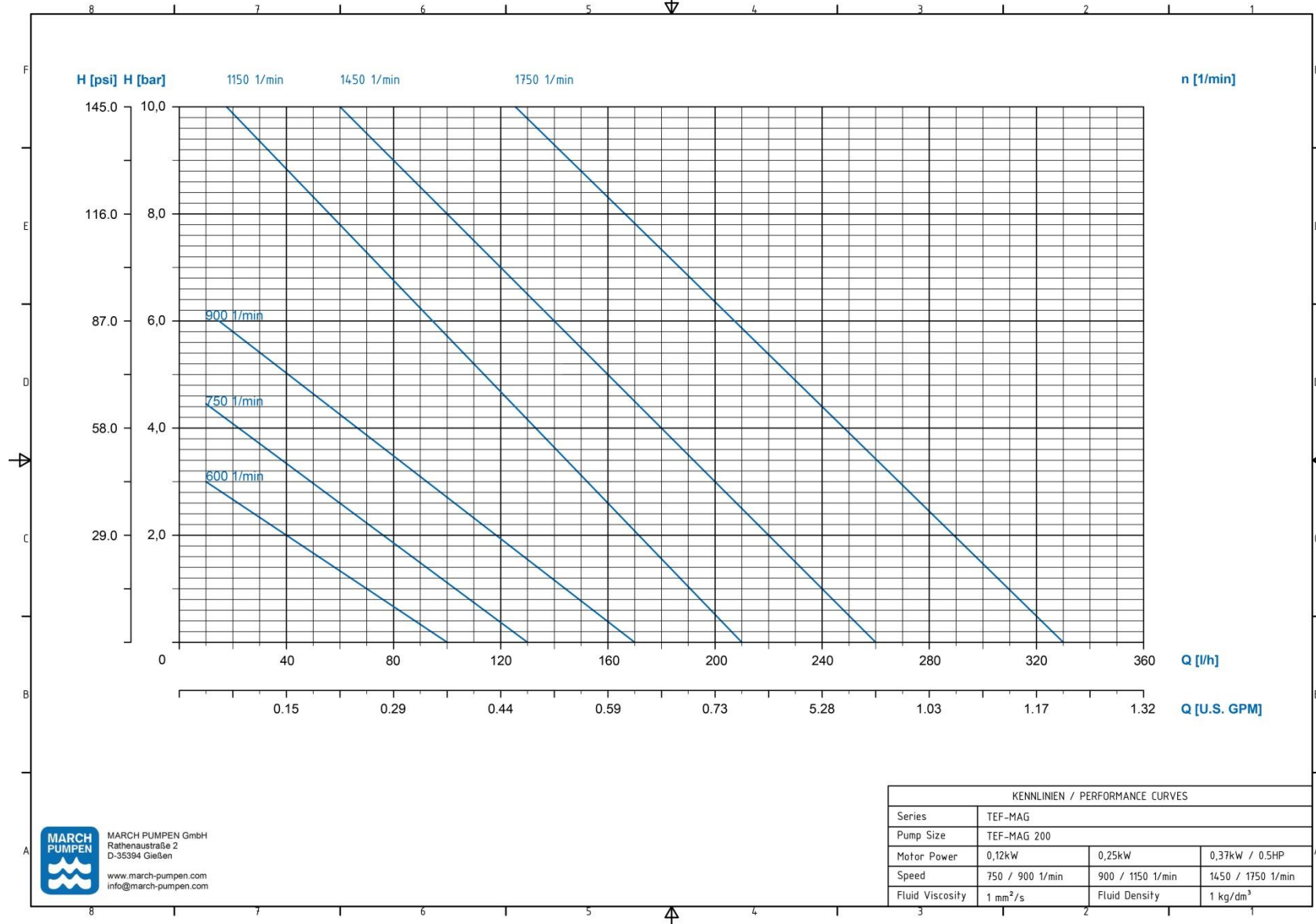
## **SIMPLE DESIGN**

- **Easy wet-end assembly**
  - **7 wear parts only**
  - **Assembling or maintenance requires no special tools**
  - **Changing kit-spares take 5 minutes only**
- No time waste in assembling of small standard parts**



# Series: TEF-MAG™

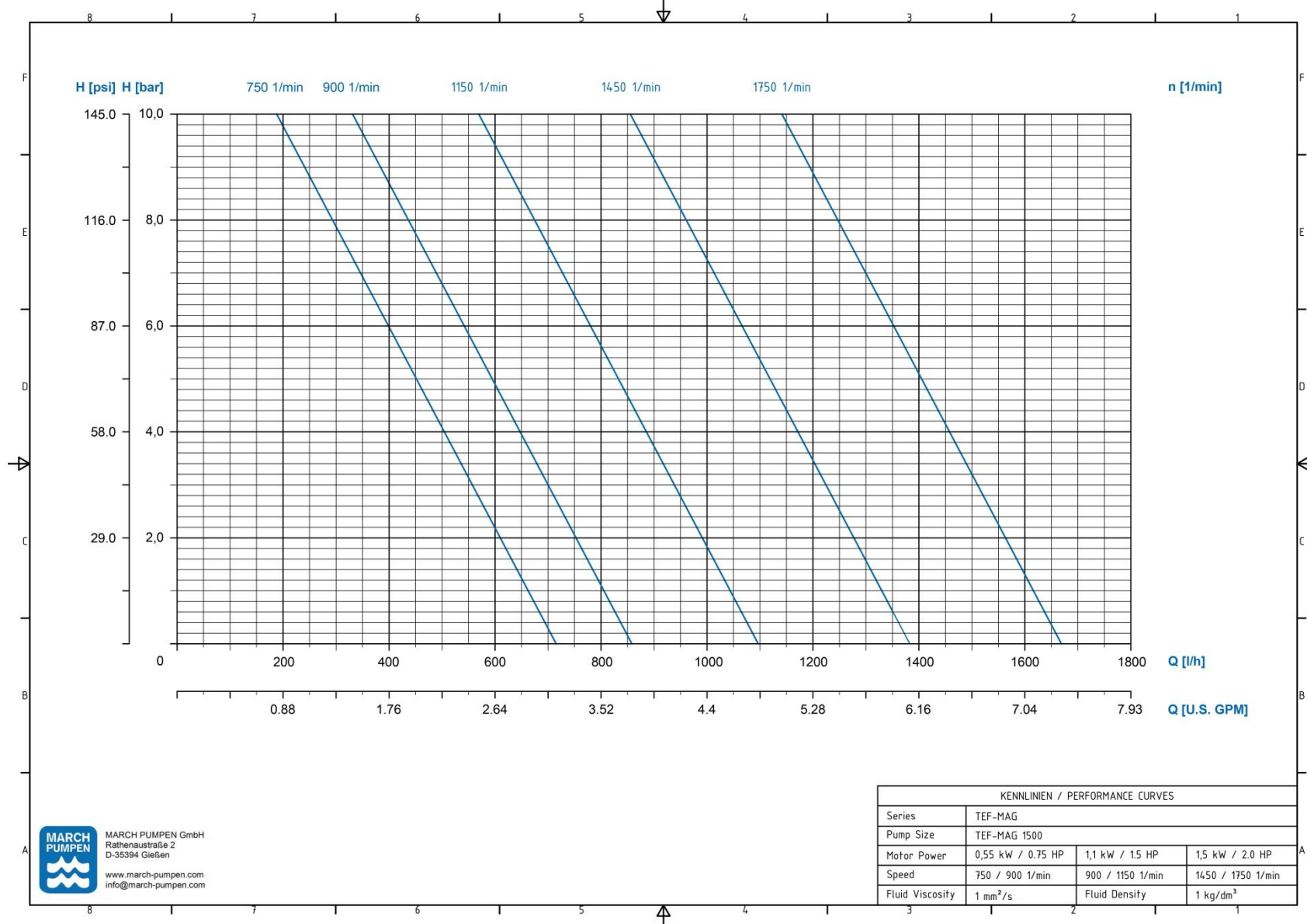
## PERFORMANCE CURVES TEF-MAG 200



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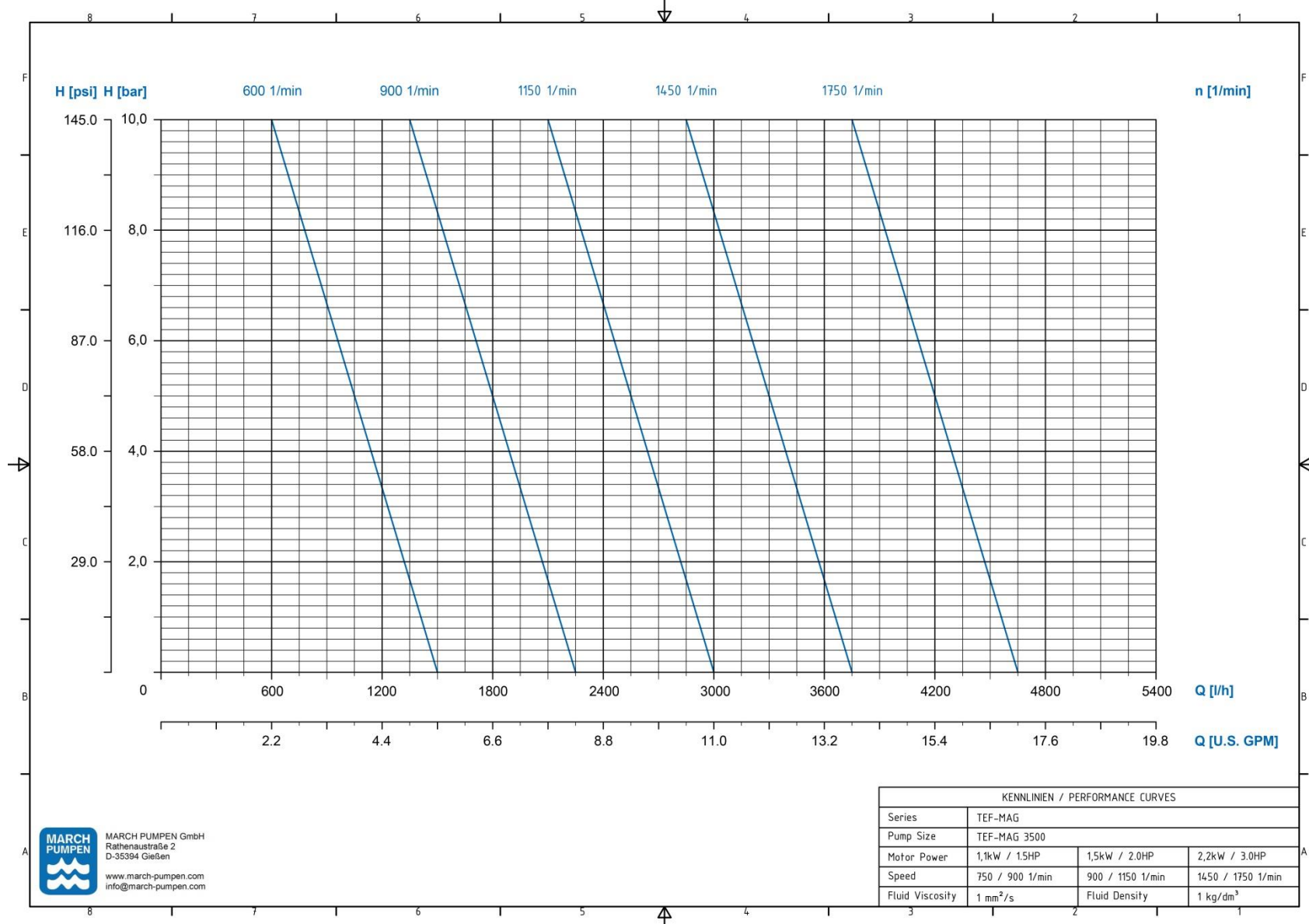
## PERFORMANCE CURVES TEF-MAG 1500





# Series: TEF-MAG™

## PERFORMANCE CURVES TEF-MAG 3500



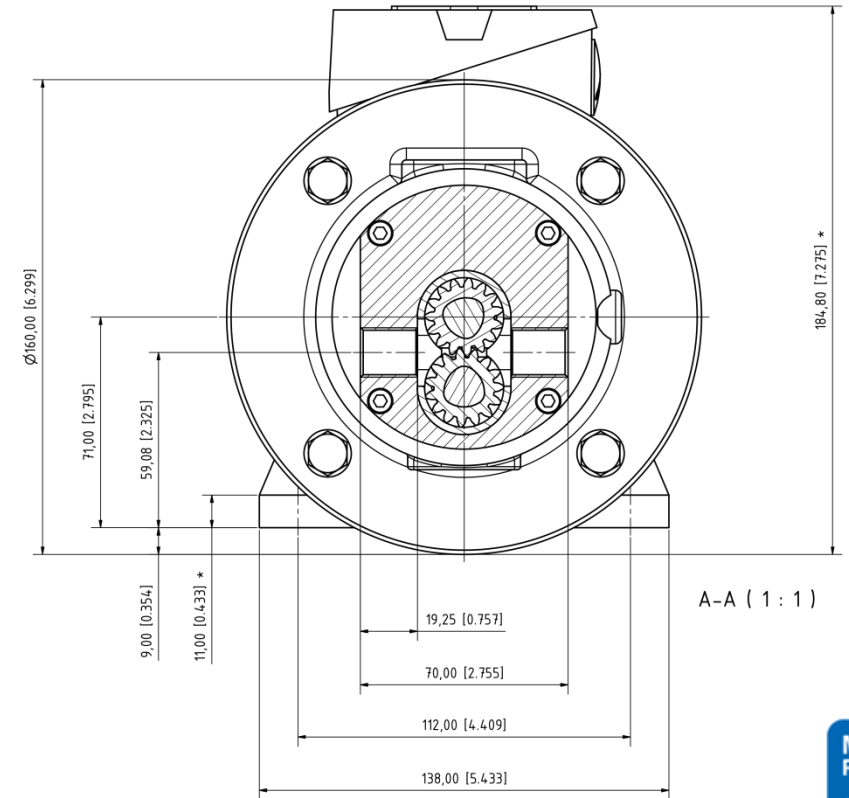
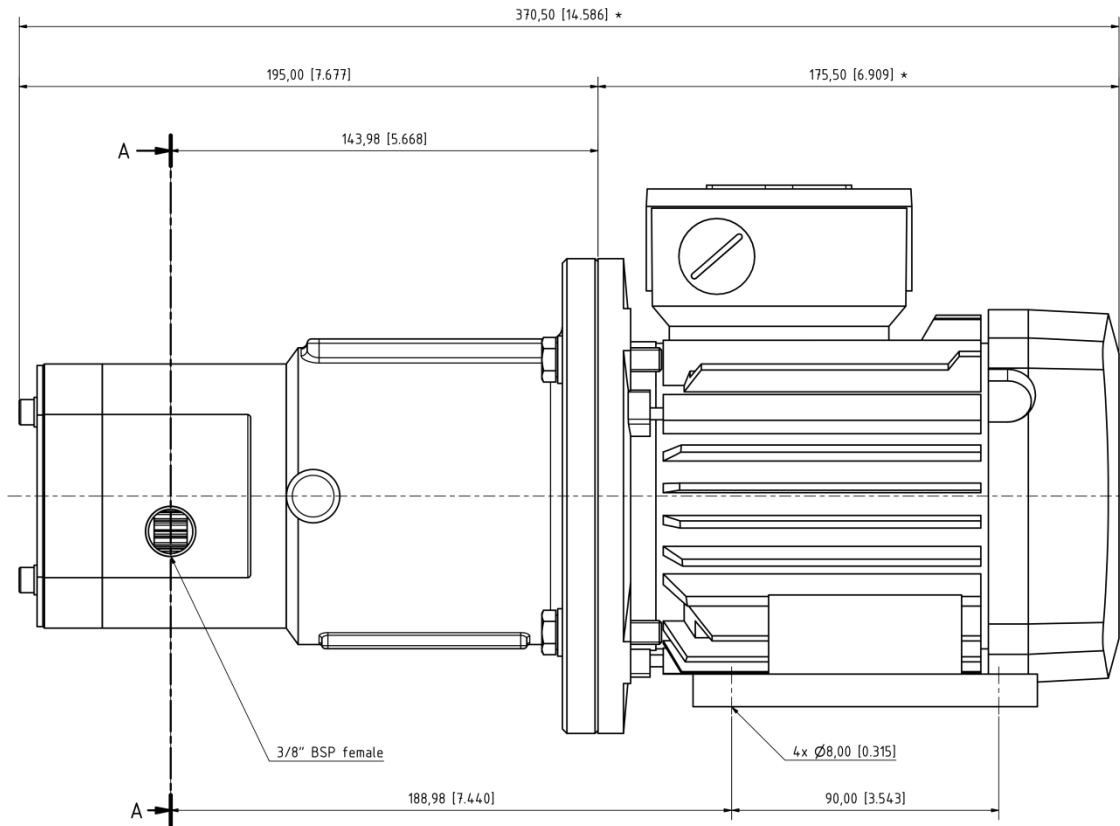
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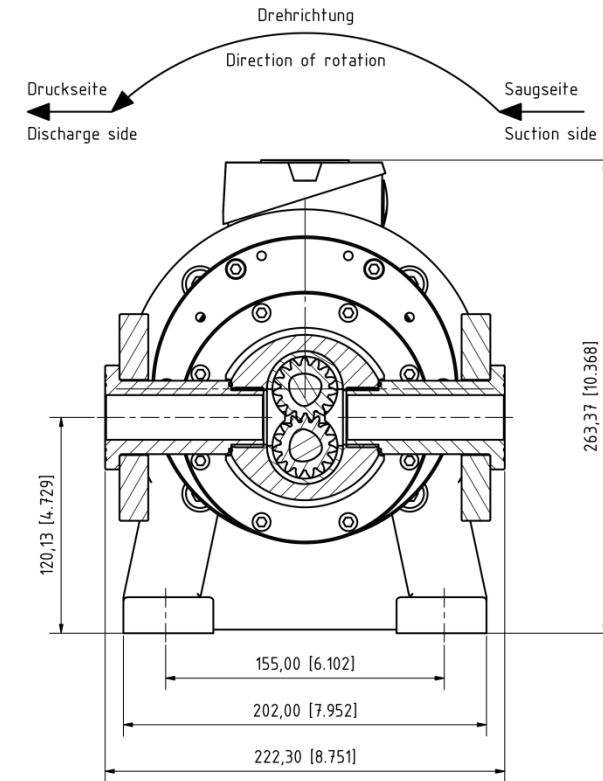
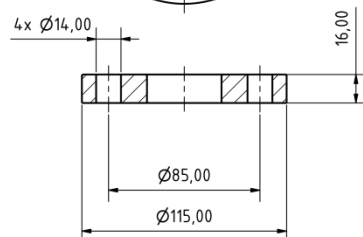
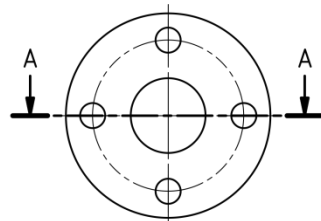
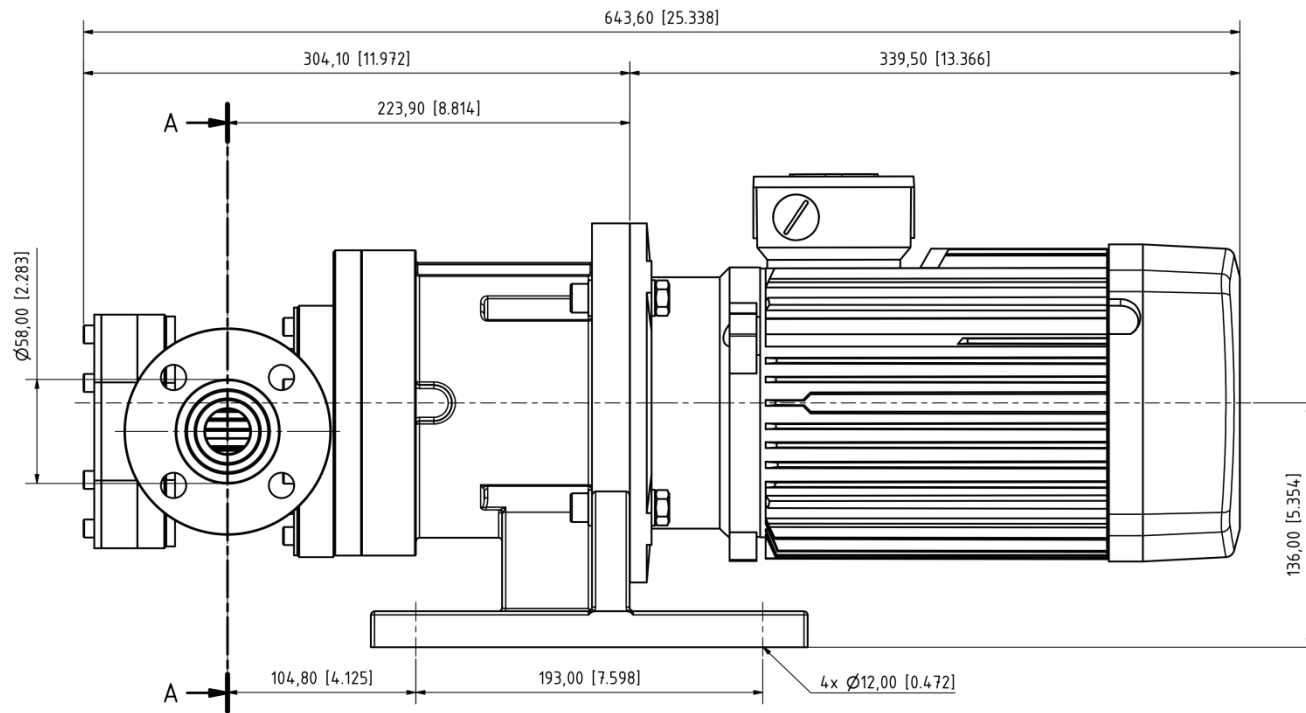
## DIMENSIONS TEF-MAG 200



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Series: **TEF-MAG™**

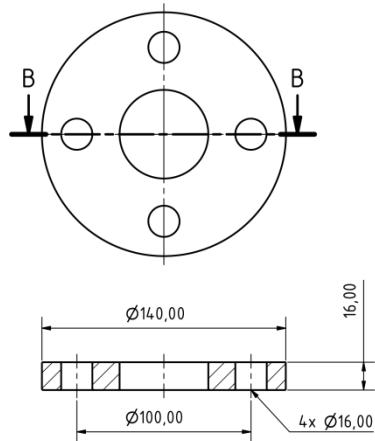
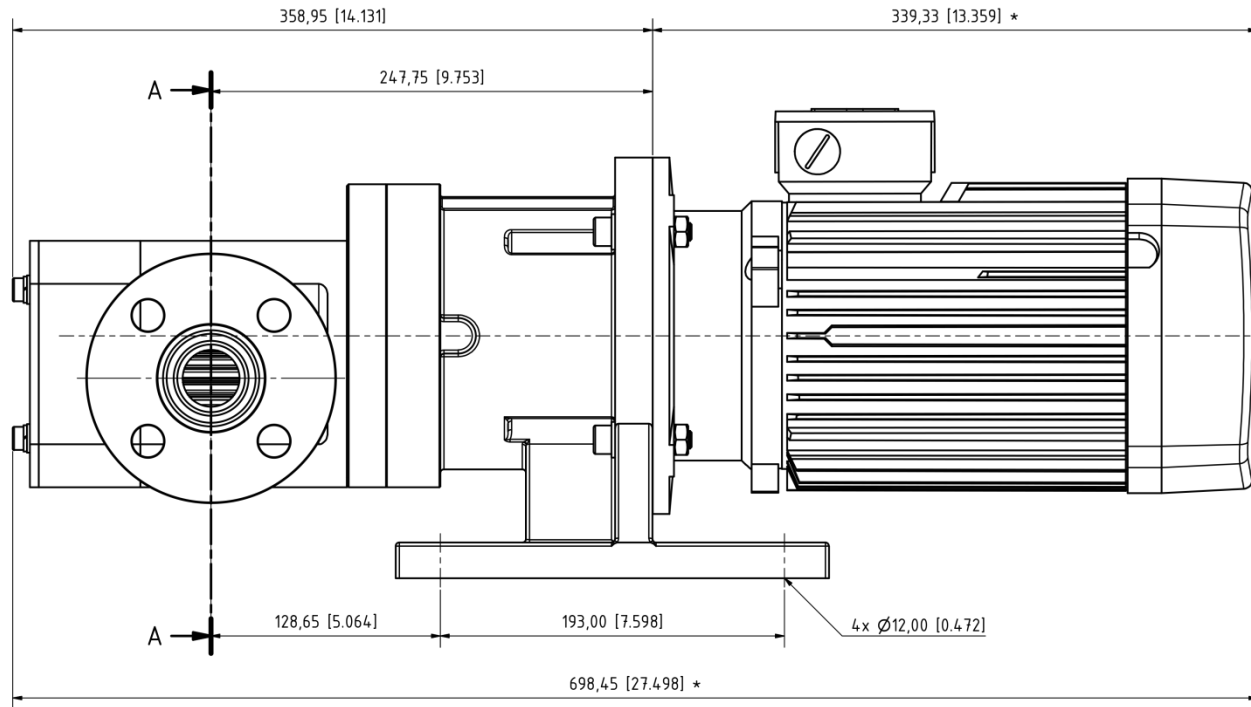
# DIMENSIONS TEF-MAG 1500



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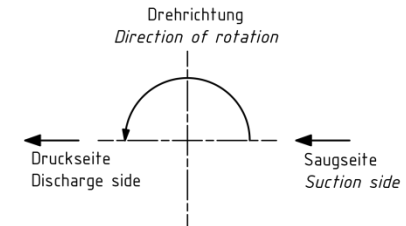
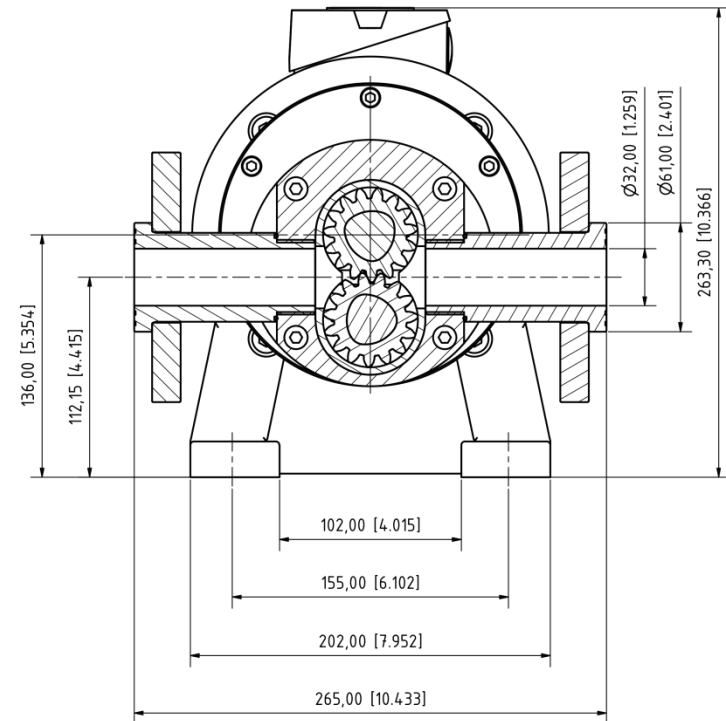
# Series: TEF-MAG™

## DIMENSIONS TEF-MAG 1500 & 3500



B-B ( 1 : 2 )

A-A ( 1 : 2 )



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