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GEAR PUMPS

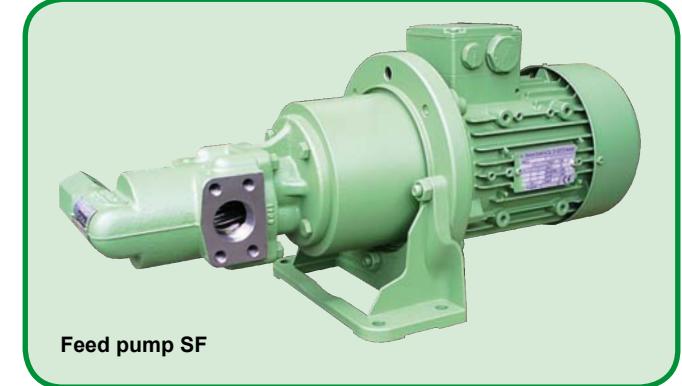
THE FEED PUMP TYPE SF

The variants of the feed pump SF

- Type SF
- pulsation-free pumping delivery
 - clockwise or counter-clockwise rotation
 - compact construction
 - easy to assemble and to detach
 - several sealing types
 - electrical heating possible

- Type SF ATEX
- application in explosive locations acc. to EC-Directives 94/9/EC (ATEX 95)
 - area 1 + 21 with temperature control
 - area 2 + 22 with/without temperature control
 - high degree of safety in potentially explosive atmospheres

- Type SF...M magnetic coupling
- hermetically closed
 - even at high temperatures and with media difficult to seal
 - application acc. to ATEX possible



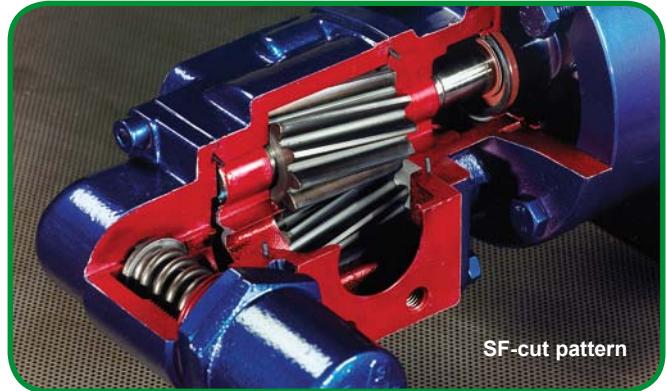
Feed pump SF



Feed pump SF ATEX



Feed pump SF...M



SF-cut pattern

old oil • fixing agent • bitumen • brake fluid • diesel oil • printing inks • emulsions colours • fats • transmission lubricant glycol • resins • fuel oil • hydraulic oil isocyanate • cocoa butter • cocoa mass refrigeration oil • glue • engine oil • paraffins • vegetable oil • polyglycol oil • polyol lubricating oil • cutting oil • heavy oil • turbine oil • waxes • heat transfer oil • plasticizer oil • drawing oil • and many more

Reference technical data

Feeding capacity 2 - 1,000 cm³ / turn

Max. speed 1.800 min⁻¹

(Higher speeds possible depending on application.)

Inlet pressure -0.4 to 10 bar

Differential pressure up to 25 bar

Viscosity range 5 to 50,000 mm²/s

Temperature range -40°C to +250°C

Depending on the application and variating according to the pump size. Please contact us - we will advise you!

Main features

Gear pumps of the series SF are particularly suitable for the transport of media that do neither contain solids nor chemically attack the pump materials while ensuring a minimum lubricity.

The standard version is delivered with rotation „clockwise“. Simply turn the pump housing by 180° which – even retroactively – allows a changing of the rotational direction. This also changes the direction of the flow.

Upon request we supply the pumps with an adjustable pressure relief valve built in the housing for short-term protection against pressure spikes.

In addition to the direct installation of the pumps the execution of the mounting flange and shaft end also permit many variations of the aggregate assembly.

The optimum integration with minimal tolerances of

the pinions and gear wheels cause an extremely smooth running. The use of gear wheels with 12 teeth reduces the delivery flow pulsation. This is an important contribution to noise reduction.

The shaft journals are mounted in composite bearing bushings, which allow a high continuous duty, and ensure long service life.

To accommodate radial and axial forces all pump sizes can be equipped with an antifriction bearing at the driving end.

In supplement to the standard program, we offer a variety of special designs.

Applications

General machine construction, system engineering, chemical industry, dyestuff industry, filtration, foil manufacture, gear construction, engine construction, paper machines, marine engineering, engineering of lubricating systems, turbine construction, compressors, machine tools, cement systems and many more.

Constructions

casing parts:	grey cast iron, nodular iron
pinion shafts (SF 2+3):	case hardening steel hardened, helical-toothed, profile-grinded gear teeth
shafts (SF 4-10):	case hardening steel hardened
gear wheels (SF 4-10):	nodular iron ionitrided, helical-toothed
bearings:	composite slide bearings, bronze
shaft seal:	radial shaft seal, mechanical seal or magnetic coupling
pump body seal:	O-Ring NBR (Perbunan®) O-Ring FKM (Viton®) O-Ring PTFE (Teflon®)
Other materials, seals and special designs on request.	

Use in the ATEX-range



We deliver gear pumps according to **EC-Directives 94/9/EC (ATEX 95)**.

Area 1 + 21 devices that ensure a high level of security and are designed for use in atmospheres that are likely to be explosive. **Shaft seal with temperature control**. Area 2 + 22 devices that ensure a normal level of security and are designed for use in atmospheres that are rarely, and if so, only for a short time potentially explosive. **Shaft seal according to application with/without temperature control**.

Classification of variants

Construction types

SF	standard design
D	pressure relief valve (DBV)
F	base
VL	lantern according to VDMA
VLM	lantern with motor according to VDMA
VLMF	lantern w. motor and motor base acc. to VDMA
VLFM	lantern w. base and motor acc. to VDMA

Shaft seals

R	radial shaft seal (WDR)
G	mechanical seal (GLRD)
GGK	double mechanical seal with support bearing and quench recipient
KR	ball bearing with radial shaft seal
M	magnetic coupling

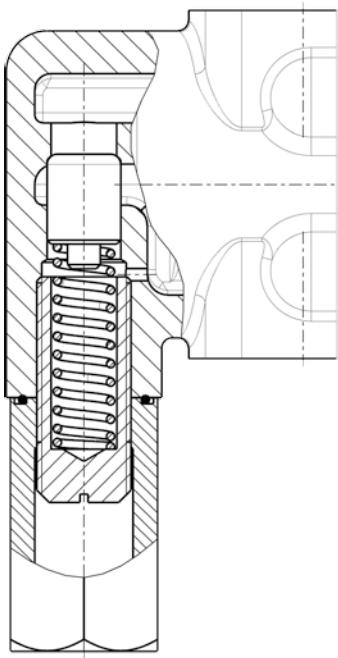
Ordering example

SF 4/63 RD-VLFM

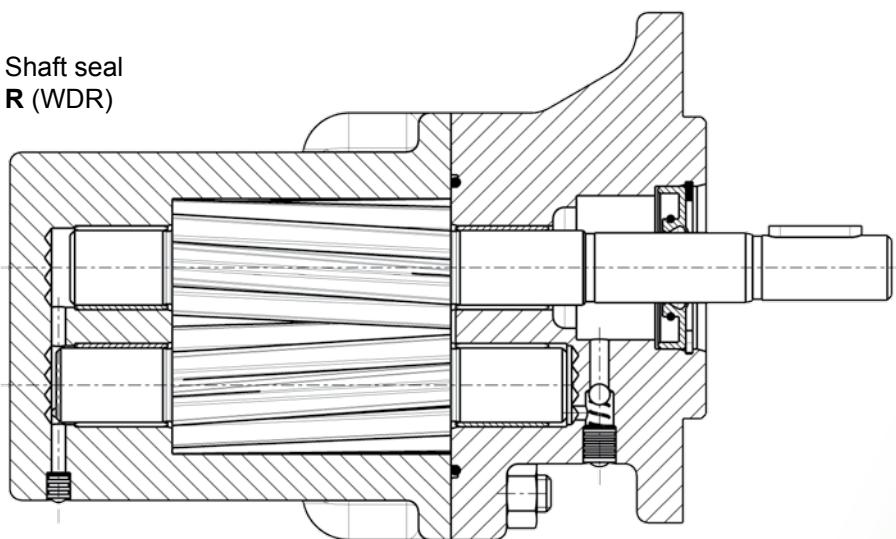
SF	pump type
4	size
63	geometric displacement (cm ³)
R	radial shaft seal
D	pressure relief valve
VLF	lantern with base
M	drive motor

Details in section

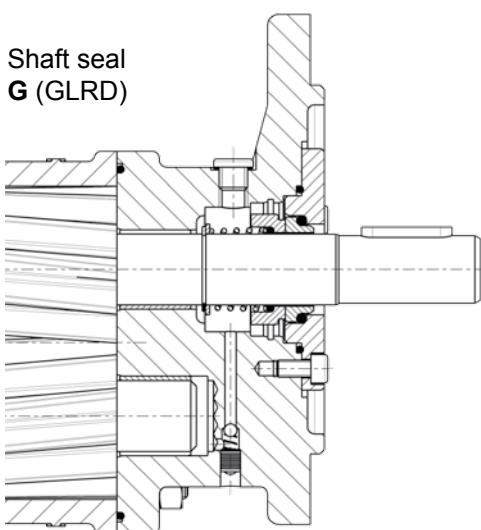
Optional pressure relief valve **DBV**



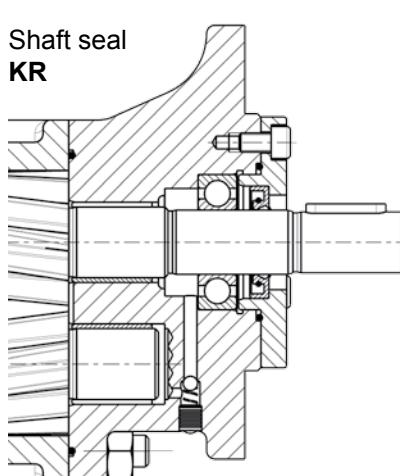
Shaft seal
R (WDR)



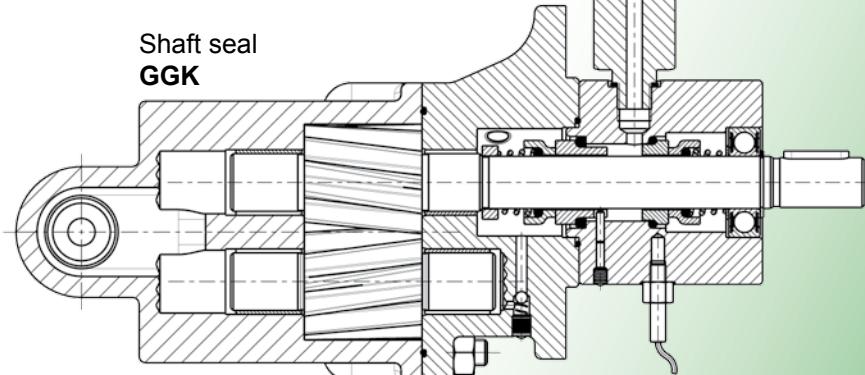
Shaft seal
G (GLRD)



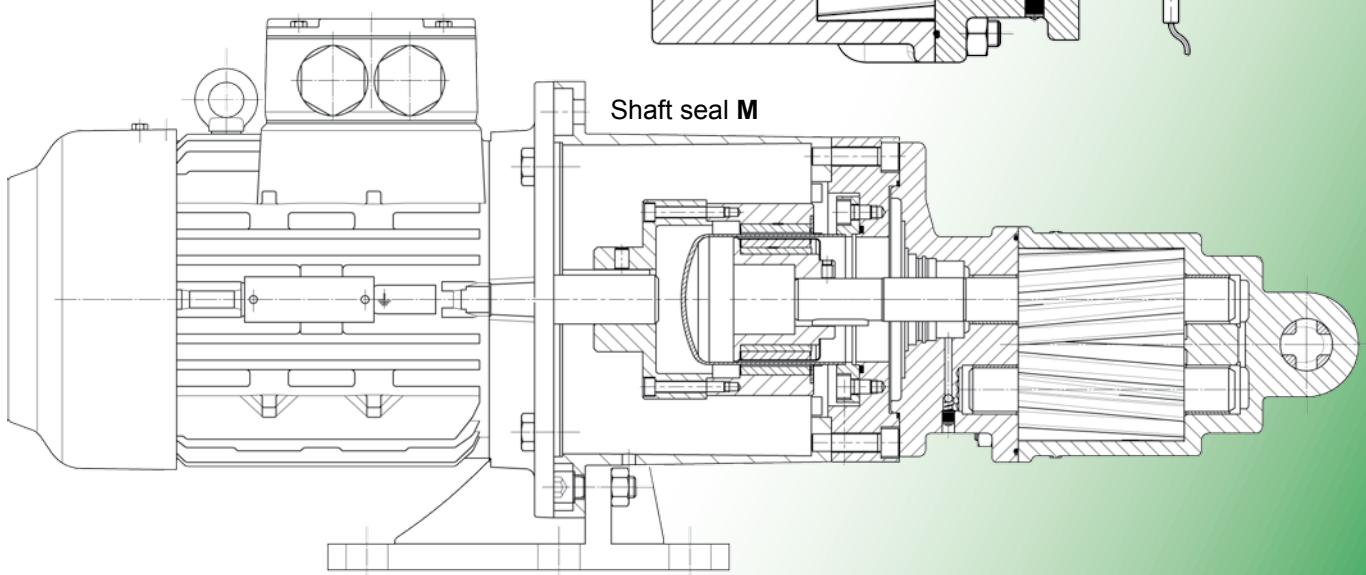
Shaft seal
KR



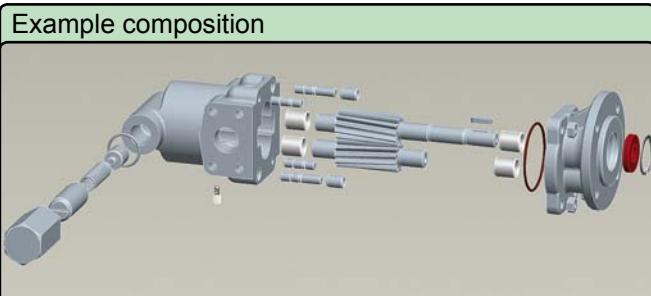
Shaft seal
GGK



Shaft seal **M**



Components overview

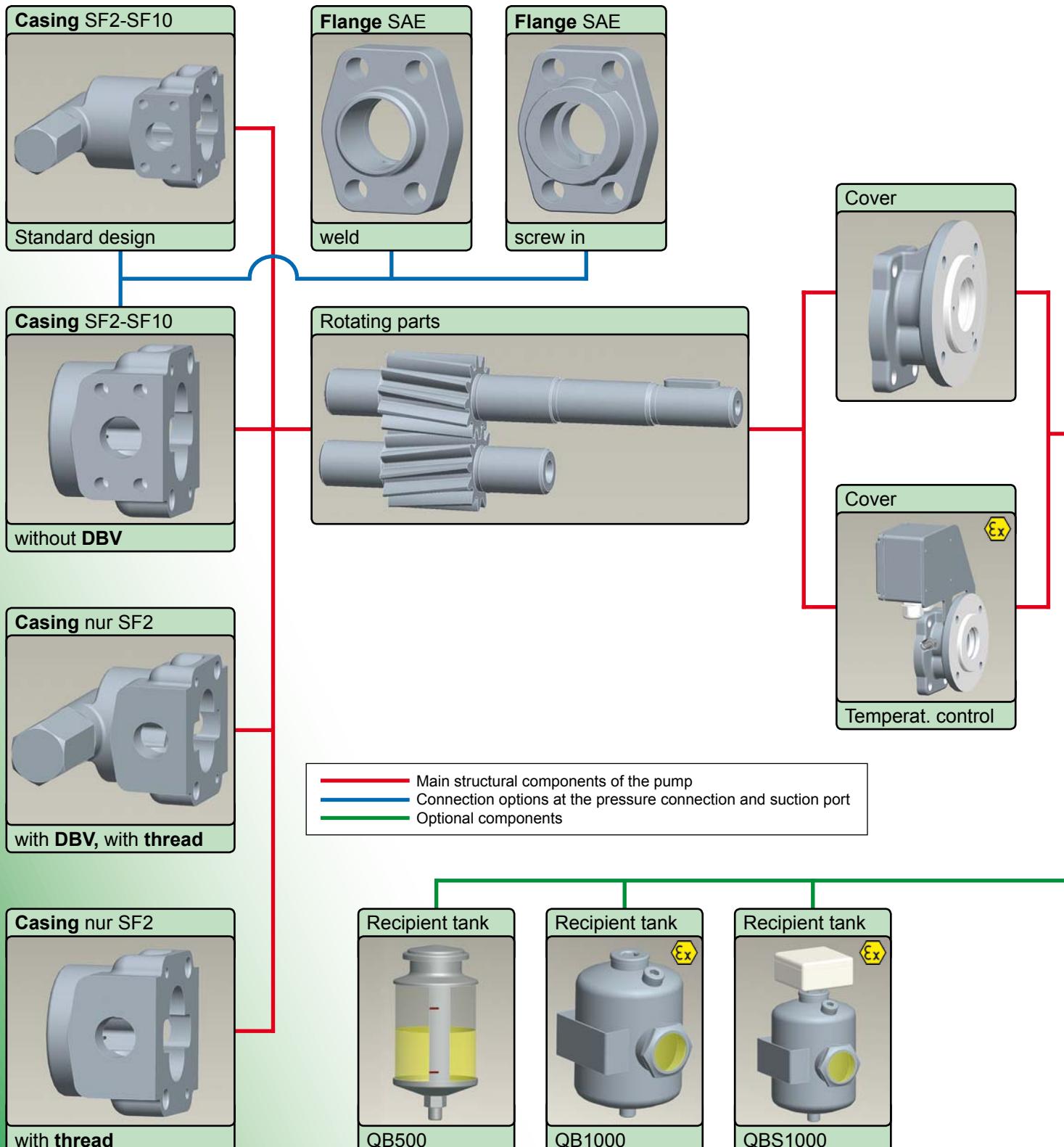


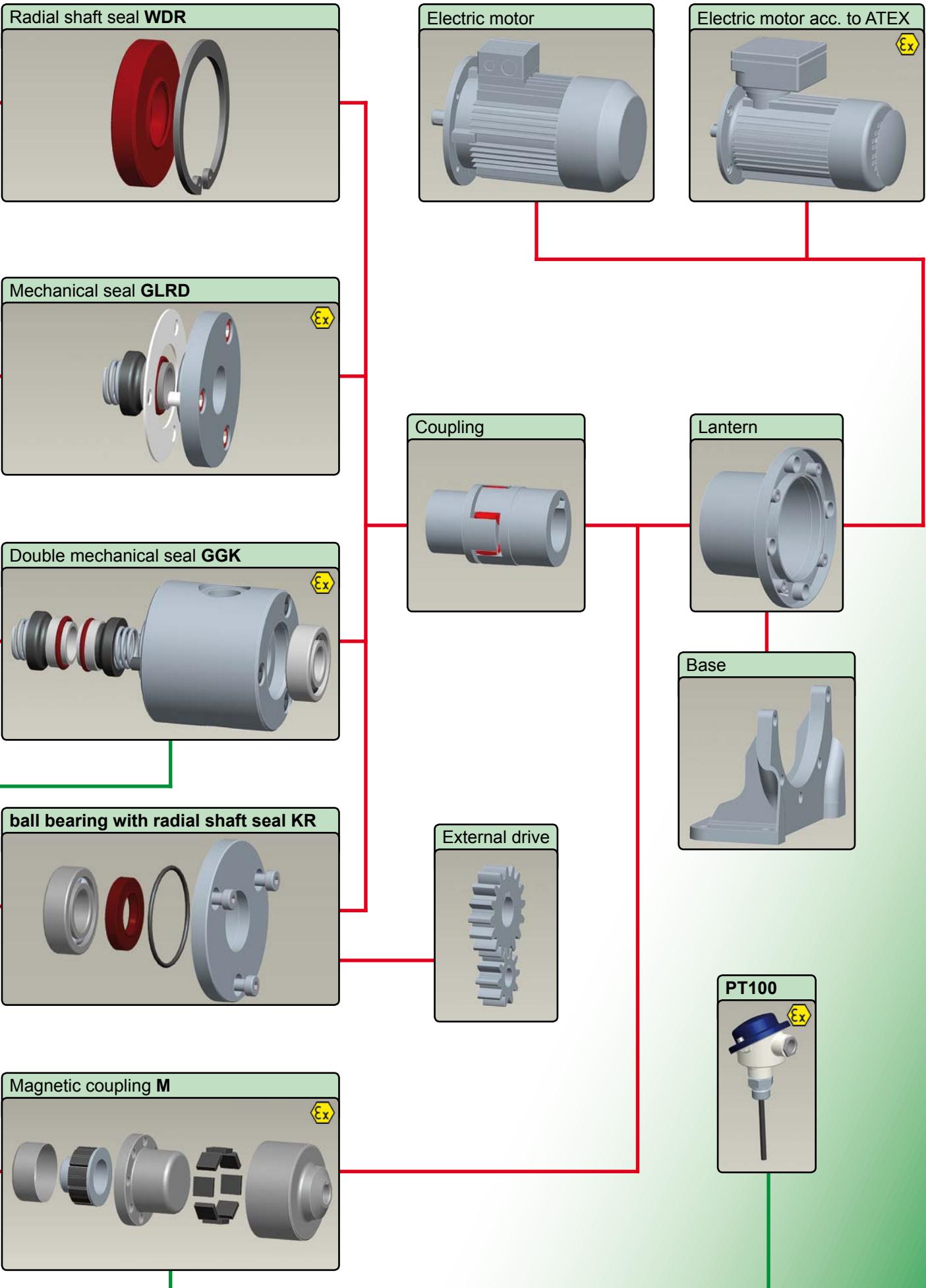
The parts of an SF pump presented in the components overview are to illustrate the variety of this type of pump.

For the sake of clarity, not all optional components are shown. Here we show the essential parts.

Gebr. Steimel is your partner for individual solutions. Talk to us without obligation if you are interested in a consultation on the standard components or even in a customized version besides the range shown here.

The marking of the ATEX-compliant assemblies made here is not sufficient for an aggregate compilation. ATEX units require advice.





Model examples

For general machine construction, engineering



e.g. lubricating pump in an oil supply system with filter and oil coolers



For the dyestuff and lacquer industry



e.g. binders pump (resins) according to ATEX with double GLRD (mechanical seal), quench recipient and temperature control



For the chemical industry, petrochemistry



e.g. solvent pump according to ATEX with magnetic coupling and temperature control



For the chocolate industry



e.g. feed pump in chocolate or cocoa mass systems



Gebr. Steimel GmbH & Co. Pumps and centrifuges

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