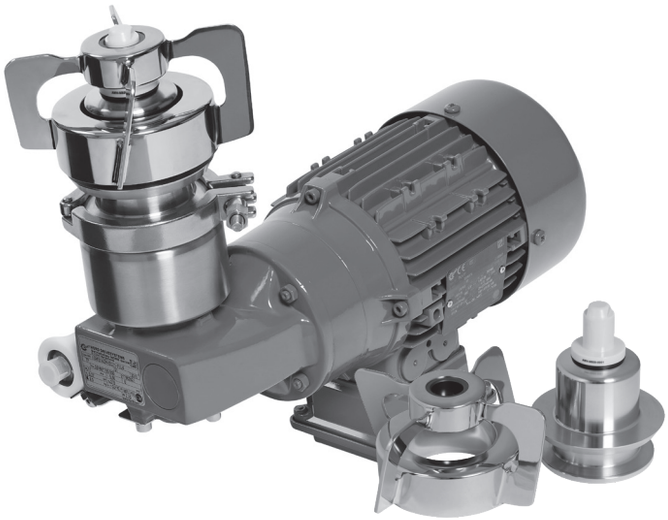
Product Description VPureMix® Magnetic Coupled Mixer

VPureMix® Magnetic Coupled Mixers for demanding and high-quality Processes



The VPureMix® magnetic coupled mixers were specially designed for applications with the most stringent demands in terms of safety and sterility.
A magnetic coupling eliminates the risks of conventional shaft penetration, such as leakage and contamination, and thus guarantees the highest level of product safety.
The optional magnetic field sensor also contributes to increasing process reliability, since the speed and direction of rotation can be continuously monitored, recorded and adjusted.

The mixing head of the VPureMix® magnetic coupled mixer is characterized by its open design, which allows for an optimal product flow and simplifies the cleaning and sterilization processes. The mixing head is mounted on high-performance ceramic made of zirconium dioxide (ZrO2) and silicon carbide (SSiC), which eliminates vibrations, and also ensures extremely low shear forces and smooth, short-term dry running.

Applications

Pharmaceutical and biotechnological applications:

- API and vaccine production
- Reserve and media production
- Plasma fractionation
- Bioreactors
- Process tanks in upstream and downstream areas
- Storage tanks
- and much more.

Food & beverage applications:

- Dairy products
- Breweries
- Soft drink and fruit juice production
- and much more.

Model Overview

Type	VPureMix® LS30	VPureMix® LS50	VPureMix® LS100	VPureMix® LS500	VPureMix® LS1000	VPureMix® LS2000	VPureMix® LS5000	VPureMix® LS10000	VPureMix® LS20000
Mixing volume* [L]	3 - 35	35 - 70	70 - 200	200 - 700	700 - 1,100	1,100 - 2,300	2,300 - 6,000	6,000 - 13,000	13,000 - 22,000
Voltage [V]	230/400	230/400	230/400	230/400	230/400	230/400	230/400	230/400	230/400
Nominal frequency [Hz]	50	50	50	50	50	50	50	50	50
Speed range [rpm]**	50 - 490	50 - 490	50 - 490	50 - 490	50 - 490	50 - 490	50 - 490	50 - 450	35 - 350
Motor power [kW]	0.12	0.12	0.12	0.37	0.55	0.75	1.5	2.2	2.2
Motor ratio	5	5	5	5	5	5	5	5	7.5
Mixing head diameter [mm]	82	96	120	142	160	184	190	225	273

* Mixing volume with dynamic viscosity of 1 mPa·s and density of 1,000 kg/m^3
** Speed control in the mentioned speed range only possible by means of frequency converter. Frequency range about 9-90 Hz

Technical Data VPureMix® Magnetic Coupled Mixer

Technical Parameters

Mixing head with female bearing:	Mixing head:	Shape: Impeller
		Number of mixing blades: 4
		Material: 1.4435 (AISI 316L), delta ferrite content ≤ 1%
		Surface: polished and electro-polished Ra ≤ 0.5 µm (20 µin)
	Female bearing:	Material: Silicon carbide SSiC
		Surface: Ra ≤ 0.5 µm
	Working temperature:	0 °C/32 °F to 150 °C/302 °F
Male bearing with gasket:	Male bearing:	Material: Zirconium dioxide ZrO_2 (Mg-PSZ), base 1.4435
		Surface: Ra ≤ 0.5 µm
		Working temperature: 0 °C/32 °F to 150 °C/302 °F
	Gasket:	Shape: O-ring
		Material: EPDM (standard); FKM; FFKM, VMQ (optional)
Tank plate	Material:	1.4435 (AISI 316L), delta ferrite content ≤ 1%
	Surface:	polished and electro-polished Ra ≤ 0.4 µm (16 µin)
	Design pressure:	-1 bar/-14 psi to 7 bar/ 101.5 psi
	Design temperature:	-80 °C/176 °F to 200 °C/392 °F
Drive unit:	Worm gear IEC motor for frequency converter operation	
	Motor type:	Three-phase asynchronous motor
	Transmission:	Universal SMI worm gear unit
	Voltage:	230/400 V AC
	Frequency:	50 Hz
	Protection type:	IP66
	Efficiency class:	IE3
	Thermal motor protection:	PTC thermistor, 3x155 °C
	Paint:	RAL 4008 signal violet
Magnetic field sensor (optional):	Function:	Speed and direction of rotation query
	Connection:	Plug connector, M12x1
Area of application:	Viscosity range:	1 to 800 cP
	pH range:	1 to 14

Available certificates and measurement protocols for components in contact with the product:

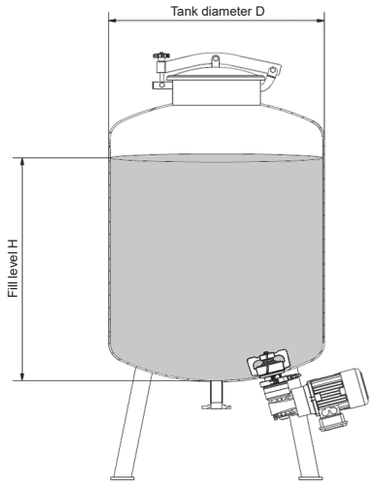
Acceptance test certificate according to DIN EN 10204-3.1 and restamping certificate
Male bearing and female bearing: Biocompatibility according to USP Class VI
O-ring elastomers: FDA, USP Class VI, 3-A Sanitary Standard
Measurement protocols of delta ferrite content
Measurement protocols of surface roughness

Technical Data VPureMix® Magnetic Coupled Mixer

Selection Guide

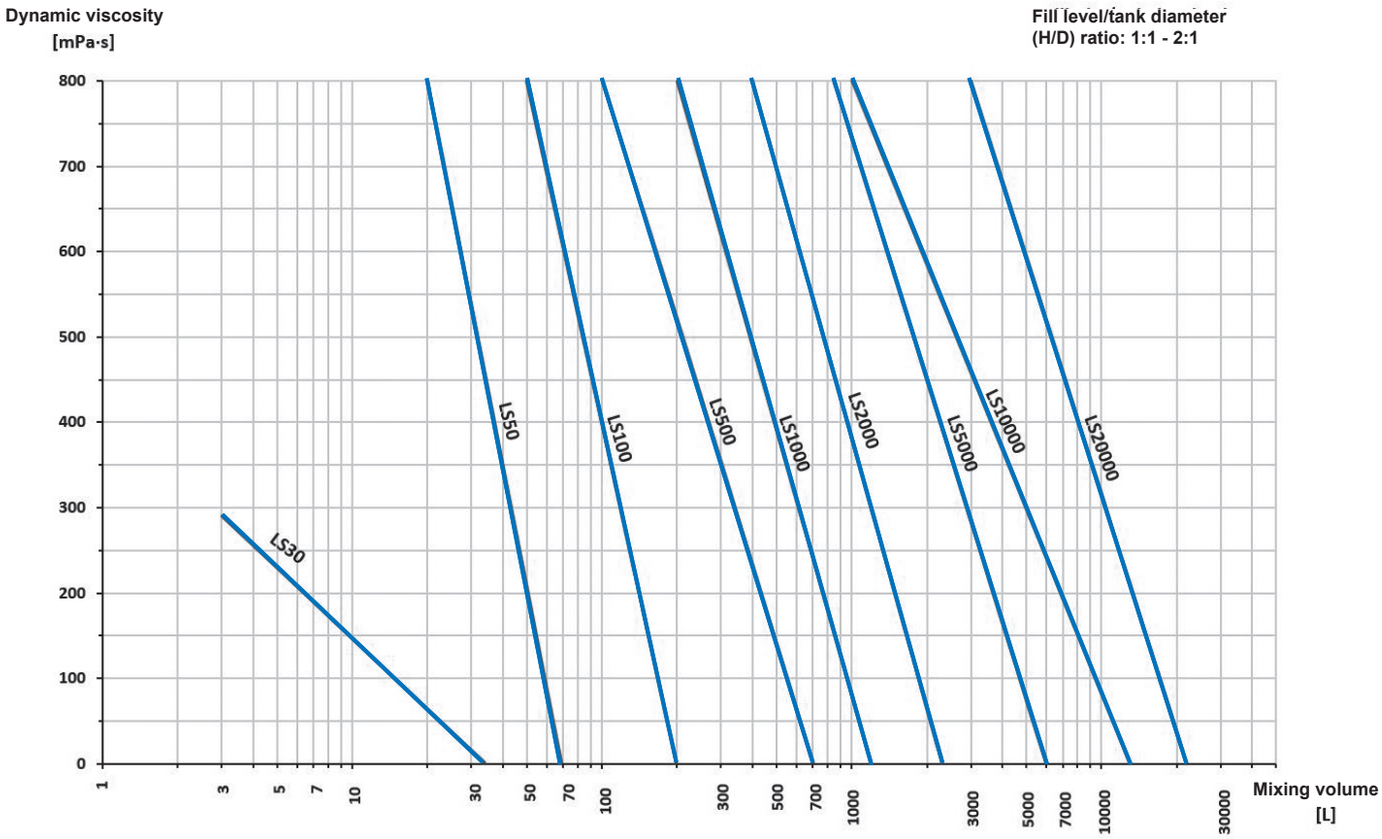
VPureMix® and VPureMix® ATEX magnetic coupled mixers can be used for mixing processes of low and medium viscosity media with a dynamic viscosity of 1 to 800 mPa-s depending on the mixing volume (3 to 22,000 L).

To ensure an optimal mixing process, a ratio between fill level and tank diameter of 1:1 to 2:1 is recommended.



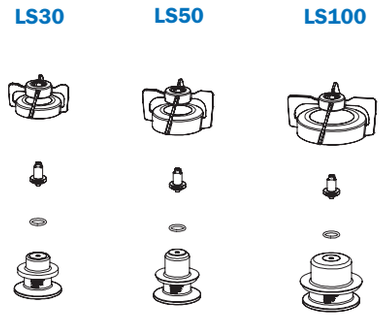
As a selection guide, use the dynamic viscosity mixing volume diagram and the VPureMix® Configurator on www.awh.eu.

The VPureMix® Configurator enables you to calculate the right magnetic coupled mixer for your project by entering the mixing volume, the dynamic viscosity of the stirring medium and the intensity of the stirring process. Our software will not only help you to identify the appropriate magnetic coupled mixer, but also to optimize the tank diameter.



Overview VPureMix® Magnetic Coupled Mixer

VPureMix® LS30, LS50, LS100

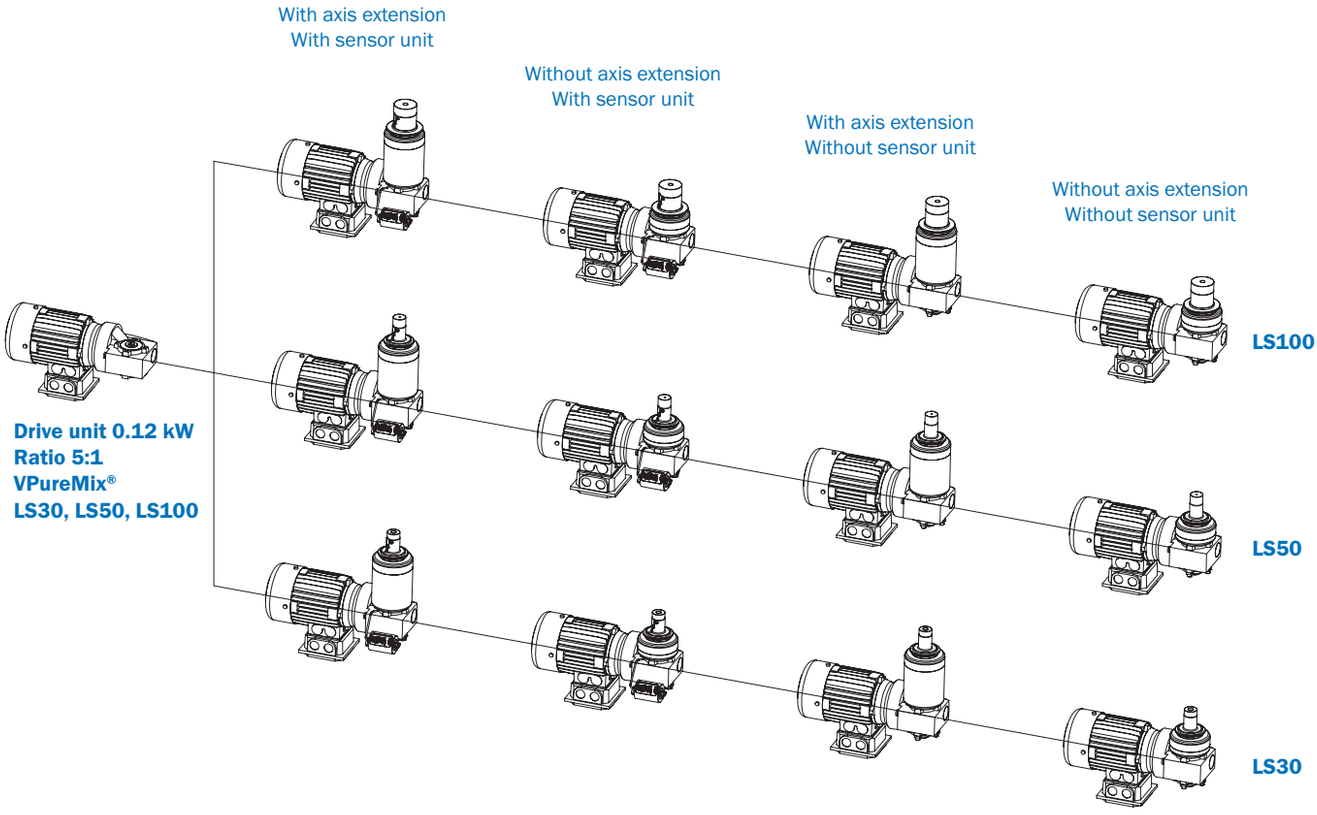


Mixing head with female bearing

Male bearing Ø 12mm

O-ring gasket: EPDM (standard)
FKM, FFKM, VMQ (optional)

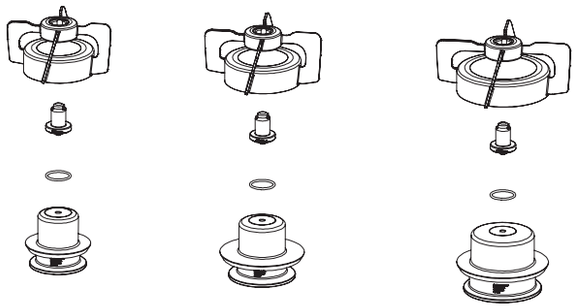
Tank plate



Overview VPureMix® Magnetic Coupled Mixer

VPureMix® LS500, LS1000, LS2000

LS500 **LS1000** **LS2000**

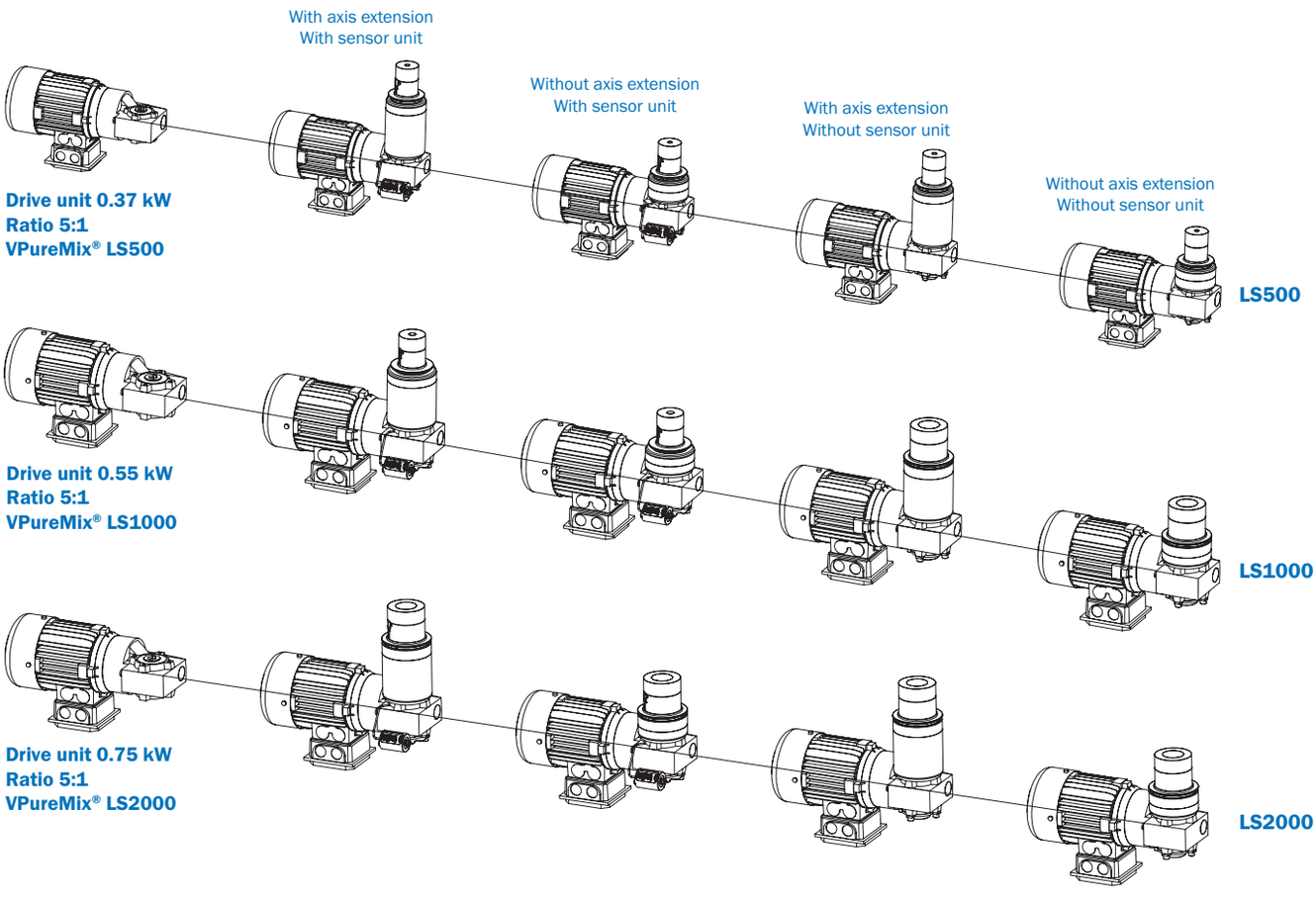


Mixing head with female bearing

Male bearing Ø 20 mm

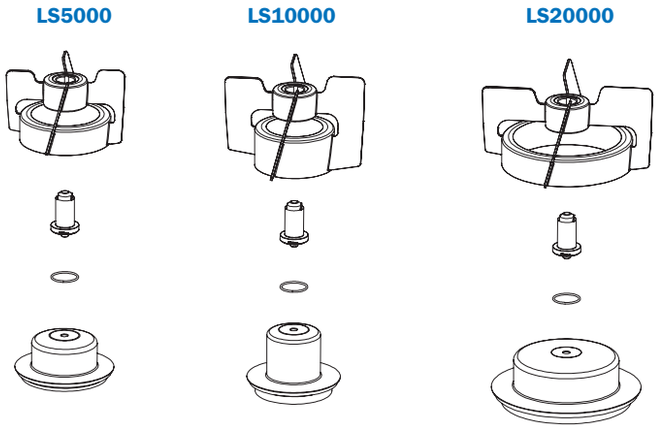
O-ring gasket: EPDM (standard)
FKM, FFKM, VMQ (optional)

Tank plate



Overview VPureMix® Magnetic Coupled Mixer

VPureMix® LS5000, LS10000, LS20000

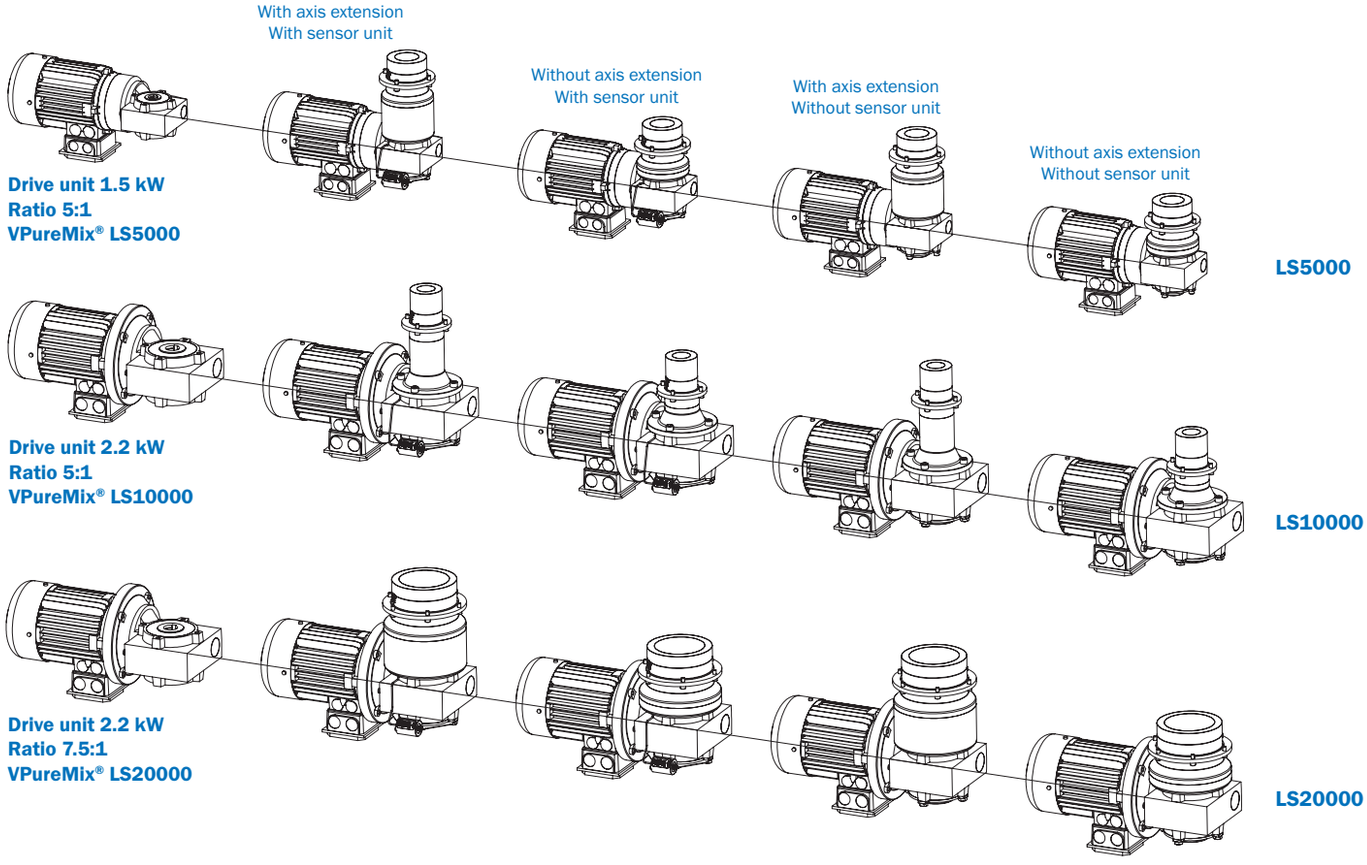


Mixing head with female bearing

Male bearing Ø 30 mm

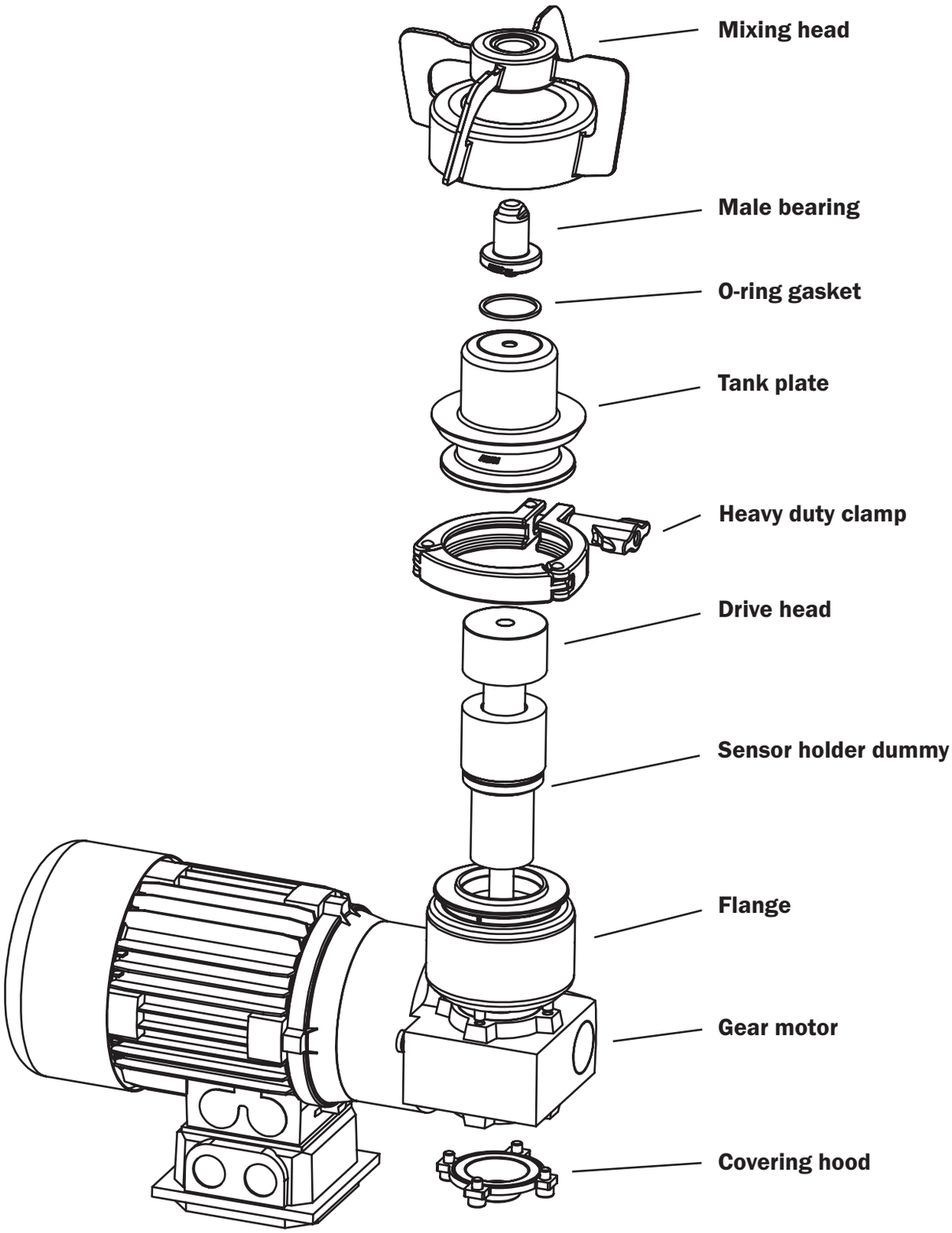
O-ring gasket: EPDM (standard)
FKM, FFKM, VMQ (optional)

Tank plate



Configuration Examples VPureMix®

VPureMix® LS500 without Axis Extension, without Sensor Unit



Configuration Examples VPureMix®

VPureMix® LS5000 without Axis Extension, with Sensor Unit