



Alfa Laval LeviMag® UltraPure

Mixers

Introduction

The Alfa Laval LeviMag® UltraPure is an aseptic magnetic mixer that uses a patented levitating impeller and advanced design to mix down to the last drop and maximize product yield.

Compact, energy-efficient and easy to maintain, it provides dry-running capabilities and efficient mixing at low speeds, which ensures gentle product treatment, as well as at high speeds for high-intensity mixing. This provides greater process flexibility to handle a wide range of fluid types and mixing duties.

Its open design and low-speed rotation during cleaning contribute to no dead zones, effective residue removal and minimize contamination risks from wear particles. All this contributes to fast return on investment and maximum product yield in tanks ranging in size between 30 litres and 40,000 litres.

It is supplied with Alfa Laval Q-doc, a comprehensive documentation package that provides full transparency of the entire supply chain and helps make the validation process easy.

Applications

Alfa Laval LeviMag UltraPure offers effective mixing for multiple processes, such as those involving serums, vaccines, plasma fractions, bacteria and cell cultures, and APIs, in the biotechnology, pharmaceutical and other industries with demanding sterile or high-purity applications.

Benefits

- · Maximum process efficiency, minimal product loss
- Optimal flow with higher efficiency and less energy consumption
- Mixing down to the last drop for maximum yield due to low agitation and dry-running capability
- · Optimized Cleaning-in-Place (CIP) due to full drainability
- Minimized downtime due to ease of maintenance

Standard design

The Alfa Laval LeviMag UltraPure consists of a detachable drive unit, levitating impeller unit with radial blades, seals, ceramic bearings and magnetic coupling, weld plate and connections. It is available in five sizes, with mixing speeds ranging from 10 rpm up to 800 rpm.

Working principle

An impeller with radial blades installed inside the tank rotates due to the torque from the magnetic coupling. The rotation of the impeller mixes the fluid inside the tank. The unique design of the Alfa Laval magnetic coupling ensures the levitation of the impeller at all times. This enables dry-running and complete drainability of process fluids from the tank possible. This ensures highly efficient mixing down to the last drop and, subsequently, maximum yield. It also enables the free flow of CIP liquid and steam around all parts of the mixer, thereby ensuring thorough cleaning. Impeller levitation also eliminates axial wear.



Available versions

- Impeller with male/female bearing
- Impeller complete, with drive unit
- Impeller prepared for Speed Sensor
- ATEX version (Cat. II -/2G Ex h IIC T4 -/Gb)
- SS 316L as standard, Special Alloys EN 1.4529 or EN 2.4602 available on request.

Drive unit versions

- Painted (fan ventilated)
- Clean room finish, Sealed Surface Conversion Treatment (smooth, closed, none fan ventilated)
- Extended console for insulated tanks

Motor efficiency

- IE4 (standard)
- Premium (CUS for US)

Safety class

- No requirements (IE4, Premium)
- Eex-de IIC T4 (on ATEX version)
- Class I div.I, group D T4

Accessories

- · Weld plates
- Speed Sensor
- Inspection & Service tools
- Installation tools

TECHNICAL DATA

Internals:	
Product Wetted Surface finish:	Ra <0.38 µm Mech. polished and Electropolished (Acc. to ASME BPE SF4)
Working pressure:	-1 to 7 bar(g)
Impeller diameters:	100, 150, 200, 250 & 300 mm Standard or prepared for speed sensor
Versions:	Standard or prepared for speed sensor
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Weld Plate:	
Size WP50:	For impeller size 100 & 150 mm
Size WP81:	For impeller size 200, 250 & 300 mm
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Drive Unit:	
Motor, IE4 (standard):	
Integrated Permanent Magnet Synchron Motor (IPMSM) which has to	be operated with a frequency inverter for IE4 motors.
The frequency converter (not Alfa Laval supply) must be ordered for the	e voltage available at the place of operation.
Efficiency class:	IE4_
Enclosure / Motor protection:	IP66
Configuration:	Blue
Nominal Power:	1.1 kW
Nominal Voltage and frequency (from frequency converter):	Output 217 VAC, connected in delta, 70 Hz, 2100 RPM
Nominal Current:	3.59 A
Configuration:	Clean room, WP50
Nominal Power:	0,75 kW
Nominal Voltage and frequency (from frequency converter):	Output 199 VAC, connected in delta, 70 Hz, 2100 RPM
Nominal Current:	2.53 A
Configuration:	Clean room, WP81
Nominal Power:	1.1 kW
Nominal Voltage and frequency (from frequency converter):	Output 195 VAC, connected in delta, 70 Hz, 2100 RPM
Nominal Current:	3.61 A
Country Code:	All (one type covers all)
Motor, option Premium/CUS:	
Efficiency class:	Premium
Enclosure / Motor Protection:	IP66
Enclosure / Wotor Frotestion.	
Configuration:	Blue, WP50
Nominal Power:	0.37kW
Nominal Voltage and frequency (from frequency converter):	Output 265 VAC, connected in delta, 60 Hz
Nominal Current:	1.40 A
Configuration:	Blue, WP81
Nominal Power:	0.75kW
Nominal Voltage and frequency (from frequency converter):	Output 265 VAC, connected in delta, 60 Hz
Nominal Current:	2.72 A
Country Code:	US/CA_
Motor, option ATEX:	
Efficiency class:	IE1 (WP50), IE2 (WP81)
Enclosure / Motor Protection:	<u>IP66</u>
Safety class:	II2G Ex de IIC T4
Configuration:	Blue, WP50
Nominal Power:	0.25kW
Nominal Voltage and frequency (from frequency converter):	Output 230 VAC, connected in delta, 50 Hz
Nominal Current:	1.30 A
Configuration:	Blue, WP81
Nominal Power:	0.75kW
Nominal Voltage and frequency (from frequency converter):	Output 230 VAC, connected in delta, 50 Hz
Nominal Current:	2.94 A
Country Code:	EU + Not specific
Ocurry Codo.	LO + NOL Specific

Enclosure / Motor Protection: Enclosure / Motor Protection: Blue, WP Nominal Power: Onfiguration: Output 208-330 VAC, connected in diethar, Nominal Power: Output 208-330 VAC, connected in diethar, 161-7-7-8. Output 208-330 VAC, connected in diethar, 161-7-7-8. Output 208-330 VAC, connected in diethar, 161-7-7-8. Output 208-330 VAC, connected in delta, 80. Nominal Current: 2.1 - 2.0 Configuration: Output 230 VAC, connected in delta, 80. Nominal Current: 1.1 1 1 Nominal Voltage and frequency (from frequency converter): Output 230 VAC, connected in delta, 80. Nominal Current: 4.4 Country Code: Countr	Motor, option LV Explosion Proof Motor:	Dromium
Safety class: Class Div1 Group	Efficiency class:	Premium IP66
Description		
Nominal Power. Output 208-230 VAC, connected in delta, 60 Nominal Current: Configuration: Stew WPP Nominal Power. 1.1.1 Nominal Power. Output 230 VAC, connected in delta, 60 PMPI; Country Code: USA Gear: Country Code: USA Gear: High efficiency helical bevel right angle gearbox. Lubricant: Food compatible. Food compatible. Food compatible. Surface finish drive unit, standard: Surface finish drive unit, clean Room option: Sealed Surface Conversion Treatment, Smooth Body (no finish drive unit, Clean Room option: Console/flange: Standard height or option for extended height for insulated tanks. Attachment, Size WPP61 Attachment, Size WP961 Physical. DATA Materials: Impelier and Weld plate: Impelier and Weld plate: Impelier and Weld plate: Impelier size (2 according to Dilit 12944 (NSFANS) 51-205) Make Boaring: Permanent Bond Surface (not but pl): Fermite bearing: Salican control, Planted: Ca according to Dilit 12944 (NSFANS) 51-205 Make Boaring: Permanent Bond Surface (not but pl): Complex (Planted: Ca according to Dilit 12944 (NSFANS) 51-205 Make Boaring: Permanent Bond Surface (not but pl): Complex (Planted: Ca according to Dilit 12944 (NSFANS) 51-205 Make Boaring: Permanent Bond Surface (not but pl): Complex (Planted: Ca according to Dilit 12944 (NSFANS) 51-205 Make Boaring: Permanent Bond Surface (not but pl): Complex (Planted: Ca according to Dilit 12944 (NSFANS) 51-205 Make Spaning: Permanent Bond Surface (not but pl): Complex (Planted: Ca according to Dilit 12944 (NSFANS) 51-205 Make Spaning: Permanent Bond Surface (not but pl): Complex (Planted: Ca according to Dilit 12944 (NSFANS) 51-205 Make Spaning: Permanent Bond Surface (not but pl): Complex (Planted: Ca according to Dilit 12944 (NSFANS) 51-205 Make Spaning: Permanent Bond Surface (not but pl): Complex (Planted: Ca according to Dilit 1	Salety class.	Olass i Divi Group D
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Maximum mounting angle acc. to horizontal: Surface finish drive unit, standard: Surface finish drive unit, standard: Surface finish drive unit, Clean Room option: Sealed Surface Conversion Treatment, Smooth Body (no finite	Lubricant:	Food compatible of
Motor may not point down wan. Surface finish drive unit, standard: Painted Blue RAL 50 Surface finish drive unit, Clean Room option: Sealed Surface Conversion Treatment, Smooth Body (no finish drive unit, Clean Room option: Sealed Surface Conversion Treatment, Smooth Body (no finish drive unit, Clean Room option: Sealed Surface Conversion Treatment, Smooth Body (no finish drive unit, Clean Room option: Sealed Surface Conversion Treatment, Smooth Body (no finish drive unit, Clean Room option: Sealed Surface Conversion Treatment, Smooth Body (no finish	Maximum mounting angle acc. to horizontal:	0° - 45° (Different angle intervals based on configuration - Note
Surface finish drive unit, Clean Room option: Console/flange: Standard height or option for extended height for insulated tanks. Attachment, Size WP50: Clamp connect Attachment, Size WP50: Clamp connect Attachment, Size WP81 Flange-bott connect PHYSICAL DATA Materials: Impeller and Weld plate: AISI316L (UNS S31603), Optionally: EN 1.4529 or EN 2.46 Drive Rotor, shaft and console/flange: Gear motor, Planted: Gear motor, Planted: Permanent Bond Surface (insd tupHi) - compl. w. FDA Title 21 CFR 175.3 Male Bearing: Fermanent Bond Surface (insd tupHi) - compl. w. FDA Title 21 CFR 175.3 Male Bearing: Silicium Carbide (EN 127: Seals: FEP/FF Gearbox oil: USDA Temperatures: During product Mixing, media: During product Mixing, media: Max. 90 During product Mixing, media: Max. 90 During SIP (max. 10 RPM): Max. 155 Max. speed: Impeller size 100 Boo RPM (81 tippleller size 150 Impeller size 150 480 RPM (83 tippleller size 150 Impeller size 200 480 RPM (83 tipple) Light Article Attachment, Smooth Body (no file) Clamp conversion Treatment, Smooth Body (no file) Alax SPM (83 tippleller size 100 Impeller size 200 480 RPM (83 tippleller size 100 Impeller size 100 ARD RPM (83 tippleller size 100 ARD RPM (83 tippleller size 100 ARD RPM (84 tippleler size 100 ARD RPM (84	<u> </u>	Motor may not point down wards
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Standard height or option for extended height for insulated tanks.	Surface finish drive unit, Clean Room option:	Sealed Surface Conversion Treatment, Smooth Body (no fan
Standard height or option for extended height for insulated tanks.	Console/flange:	
Attachment, Size WP50: Clamp connect Attachment, Size WP81 Flange-bolt connect PHYSICAL DATA Materials: Impeller and Weld plate: AISI316L (UNS S31603), Optionally: EN 1.4529 or EN 2.46 Drive Rotor, shaft and console/flange: AISI304 (UNS S3040) Gear motor, Painted: C2 according to DIN 12944 (NSF/ANSI 51-200) Gear motor, Clean room: Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.3 Male Bearing: Zirconia YT. Female bearing: Sillicium Carbide (EN 127*) Seals: Seals: Sillicium Carbide (EN 127*) Gearbox oil: USDA Temperatures: During product Mixing, media: Max. 90 During product Mixing, media: Max. 90 During SIP (max. 50 RPM): Max. 150 Max		
Attachment, Size WP81 Flange-bolt connection PHYSICAL DATA Materials: Impeller and Weld plate: AISI316L (UNS S31603), Optionally: EN 1.4529 or EN 2.46 Drive Rotor, shaft and console/flange: AISI304 (UNS S3040 Gear motor, Painted: C2 according to DIN 12944 (NSF/ANSI 51-200) Gear motor, Clean room: Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.3 Male Bearing: Sillicium Carbide (EN 1275) Seals: Sillicium Carbide (EN 1275) Seals: Sillicium Carbide (EN 1275) Gearbox oil: USDA Temperatures: During product Mixing, media: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 Impeller size 150 A80 RPM (81.51 Impeller size 150 A80 RPM (81.51 Impeller size 150 A80 RPM (81.51 Impeller size 200 A80 RPM (81.51 Impeller size 200 A80 RPM (83.51 Impell		Clamp connection
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Drive Rotor, shaft and console/flange: AISI304 (UNS S3044) Gear motor, Painted: C2 according to DIN 12944 (NSF/ANSI 51-200) Gear motor, Clean room: Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.3 Male Bearing: Zirconia YT. Female bearing: Silicium Carbide (EN 1275) Seals: FEP/FR Gearbox oil: USDA Temperatures: During product Mixing, media: Max. 90 During product Mixing, media WFI: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 Head) Impeller size 150 480 RPM (48.5 Head) Impeller size 200 480 RPM (83 Head)		
Gear motor, Painted: C2 according to DIN 12944 (NSF/ANSI 51-2008) Gear motor, Clean room: Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.3 Male Bearing: Zirconia YT. Female bearing: Silicium Carbide (EN 1278) Seals: FEP/FF Gearbox oil: USDA Temperatures: During product Mixing, media: Max. 90 During product Mixing, media WFI: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 Mix) Impeller size 150 480 RPM (83 Mix) Impeller size 200 480 RPM (83 Mix)	· · · · · · · · · · · · · · · · · · ·	AISI316L (LINIS S31603) Optionally, EN 1 4529 or EN 2 4603
Gear motor, Clean room: Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.3 Male Bearing: Zirconia YT. Female bearing: Silicium Carbide (EN 1275) Seals: FEP/FF Gearbox oil: USDA Temperatures: During product Mixing, media: Max. 90 During product Mixing, media WFI: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Max. speed: Impeller size 150 480 RPM (83 Hz) Impeller size 200 480 RPM (83 Hz)	Drive Rotor shaft and console/flance:	AISI316L (UNS S31603), Optionally: EN 1.4529 or EN 2.4602
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Seals: FEP/FH Gearbox oil: USDA Temperatures: During product Mixing, media: Max. 90 During product Mixing, media WFI: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 H Impeller size 150 480 RPM (48.5 H Impeller size 200 480 RPM (83 H	Gear motor, Painted: Gear motor, Clean room:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300
Gearbox oil: USDA Temperatures: During product Mixing, media: Max. 90 During product Mixing, media WFI: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 H Impeller size 150 480 RPM (48.5 H Impeller size 200 480 RPM (83 H	Gear motor, Painted: Gear motor, Clean room: Male Bearing:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF
During product Mixing, media: Max. 90 During product Mixing, media WFI: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 Head) Impeller size 150 480 RPM (48.5 Head) Impeller size 200 480 RPM (83 Head)	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756
During product Mixing, media: Max. 90 During product Mixing, media WFI: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 Head) Impeller size 150 480 RPM (48.5 Head) Impeller size 200 480 RPM (83 Head)	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKN
During product Mixing, media WFI: Max. 90 During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 Head) Impeller size 150 480 RPM (48.5 Head) Impeller size 200 480 RPM (83 Head)	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKN
During CIP (max. 50 RPM): Max. 95 During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 Head) Impeller size 150 480 RPM (48.5 Head) Impeller size 200 480 RPM (83 Head)	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKN USDA H
During SIP (max. 10 RPM): Max. 125 During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 Homeller size 150 Impeller size 200 480 RPM (48.5 Homeller size 200	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures: During product Mixing, media:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKN USDA H1
During SIP (max. 0 RPM): Max. 150 Max. speed: Impeller size 100 800 RPM (81 Homeller size 150 Impeller size 200 480 RPM (48.5 Homeller size 200	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures: During product Mixing, media: During product Mixing, media WFI:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKN USDA H1
Impeller size 100 800 RPM (81 H Impeller size 150 480 RPM (48.5 H Impeller size 200 480 RPM (83 H	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures: During product Mixing, media: During product Mixing, media WFI: During CIP (max. 50 RPM):	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKN USDA H1
Impeller size 100 800 RPM (81 H Impeller size 150 480 RPM (48.5 H Impeller size 200 480 RPM (83 H	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures: During product Mixing, media: During Product Mixing, media WFI: During CIP (max. 50 RPM): During SIP (max. 10 RPM):	· · · · · ·
Impeller size 150 480 RPM (48.5 Here) Impeller size 200 480 RPM (83 Here)	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures: During product Mixing, media: During Product Mixing, media WFI: During CIP (max. 50 RPM): During SIP (max. 10 RPM): During SIP (max. 0 RPM):	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKN USDA H1 Max. 90°C Max. 95°C Max. 125°C
Impeller size 200 480 RPM (83 H	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures: During product Mixing, media: During product Mixing, media WFI: During CIP (max. 50 RPM): During SIP (max. 10 RPM): During SIP (max. 0 RPM): Max. speed:	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKM USDA H Max. 90°C Max. 95°C Max. 125°C
	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures: During product Mixing, media: During product Mixing, media WFI: During CIP (max. 50 RPM): During SIP (max. 10 RPM): During SIP (max. 0 RPM): Max. speed: Impeller size 100	AISI304 (UNS \$30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKM USDA H Max. 90°C Max. 90°C Max. 125°C Max. 150°C
	Gear motor, Painted: Gear motor, Clean room: Male Bearing: Female bearing: Seals: Gearbox oil: Temperatures: During product Mixing, media: During product Mixing, media WFI: During CIP (max. 50 RPM): During SIP (max. 10 RPM): During SIP (max. 0 RPM): Max. speed: Impeller size 100 Impeller size 150	AISI304 (UNS S30400 C2 according to DIN 12944 (NSF/ANSI 51-2009e Permanent Bond Surface (nsd tupH) - compl. w. FDA Title 21 CFR 175.300 Zirconia YTZF Silicium Carbide (EN 12756 FEP/FKM USDA H1 Max. 90°C Max. 95°C Max. 125°C Max. 150°C

200 RPM (34.5 Hz)

Impeller size 300

Speed sensor

(Accessory, can only be used for impeller configuration "prepared for speed sensor")

Alfa Laval Magnetic-Inductive Speed Sensor for LeviMag - the Magnetic inductive proximity sensor is actuated by magnetic fields and capable of detecting permanent magnets in the impeller through the non-magnetic tank material.

NAMUR ATEX category II 1G
<u> </u>
KEMA 02 ATEX 1090X
SIL2 (Low Demand Mode) acc. to IEC 61508
PL c acc. to ISO 13849-1 at HFT0
SIL3 (All Demand Mode) acc. to IEC 61508
PL e acc. to ISO 13849-1 with redundant
configuration HFT1
DC 2-wire, nom. 8.2 VDC
Acc. to DIN EN 60947-5-6 (NAMUR)
1 kHz
< 1,2 mA
< 2,1 mA
Cable 4 mm, 2 x 0,25 mm2, Blue, Lif9YYW,
PVC, 2m
IP67

Documentation:

As standard with UltraPure Q-Doc including:

- Compliance with Regulation (EC) No.: 1935/2004
- Compliance with (Ex/ATEX) directive 2014/34/EU (ATEX option, II -/2G Ex h IIC T4 -/Gb)
- Compliance to the EC Regulation for GMP
- 3.1 Material Certificates acc. to EN10204 (MTR) for all wetted parts
- Compliance to USP Class VI <88> for Zirconia YTZP and FEP/FKM seals
- Compliance to FDA CFR 21 (non-metallic parts) for elastomers, ceramics and gear oil.
- TSE (Transmissible Spongiform Encephalopathy) / ADI (Animal Derivative Ingredient) Declaration
- Surface finish compliance declaration

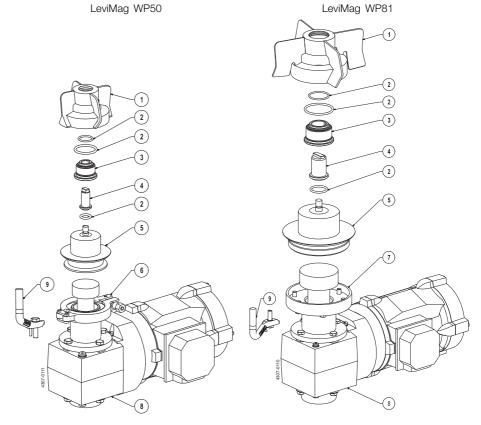
Options:

- Surface roughness measurements included
- Weld Log included

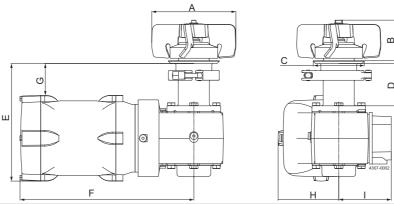
Build up:

Impeller
 Seals
 Female Bearing
 Male Bearing
 Weld Plate
 Clamp ring connection (WP50 only)
 Flange-Bolt Connection (WP81 only)
 Drive unit

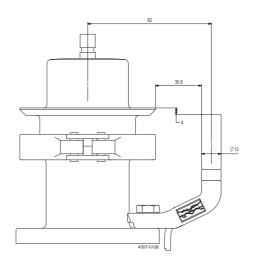
9. Speed Sensor (Accessory)



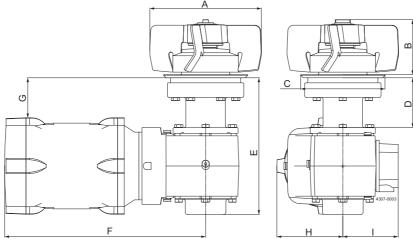
Dimensions: LeviMag WP50



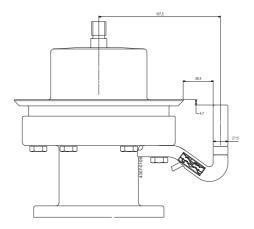
		4		-				
Model	Size WP50 - Ø100 impeller				_			
	Standard console	Extended console	Standard console	Extended console	Standard console	Extended console	Standard console	Extended console
Configuration	Height + Painted	Height + Painted	Height + Clean	Height + Clean	Height + Painted	Height + Painted	Height + Clean	Height + Clean
	Gear Motor	Gear Motor	Room Gear Motor	Room Gear Motor	Gear Motor	Gear Motor	Room Gear Motor	Room Gear Motor
Α	Ø100	Ø100	Ø100	Ø100	Ø150	Ø150	Ø150	Ø150
В	72	72	72	72	72	72	72	72
C	Ø 90	Ø 90	Ø 90	Ø 90	Ø 90	Ø 90	Ø 90	Ø 90
D	75	125	75	125	75	125	75	125
E IE4	215	265	209	259	215	265	209	259
F IE4	340	340	308	308	340	340	308	308
G IE4	50	100	57	107	50	100	57	107
H IE4	114	114	108	108	114	114	108	108
I IE4	111	111	93	93	111	111	93	93
E Premium/CUS	202	252	-	-	202	252	-	-
F Premium/CUS	318	318	-	-	318	318	-	-
G Premium/CUS	63	113	-	-	63	113	-	-
H Premium/CUS	105	105	-	-	105	105	-	-
I Premium/CUS	94	94	-	-	94	94	-	-
E ATEX	202	252	-	-	202	252	-	-
F ATEX	373	373	-	-	373	373	-	-
G ATEX	62	112	-	-	62	112	-	-
H ATEX	105	105	-	-	105	105	-	-
I ATEX	119	119	-	-	119	119	-	-
E LV Explosion Proof	223	273	_	-	223	273	_	=
F LV Explosion Proof	520	520	-	-	520	520	-	-
G LV Explosion Proof	45	95	-	-	45	95	-	-
H LV Explosion Proof	123	123	-	-	123	1123	-	-
I LV Explosion Proof	142	142	-	-	142	142	-	-



LeviMag WP81



		4		- 1		-	4					
Model		Size WP81 -	Ø200 impeller		_	Size WP81 -	Ø250 impeller			Size WP81 -	Ø300 impeller	
	Standard	Extended	Standard	Extended	Standard	Extended	Standard	Extended	Standard	Extended	Standard	Extended
	console	console	console	console	console	console	console	console	console	console	console	console
Configuration	Height +	Height +	Height +	Height +	Height +	Height +	Height +	Height +	Height +	Height +	Height +	Height +
•	Painted Gear	•	Clean Room	Clean Room	Painted Gear	Painted Gear	Clean Room	Clean Room	Painted Gear	•	Clean Room	Clean Room
	Motor	Motor	Gear Motor	Gear Motor	Motor	Motor	Gear Motor	Gear Motor	Motor	Motor	Gear Motor	Gear Motor
A	Ø 200	Ø200	Ø200	Ø200	Ø250	Ø250	Ø250	Ø250	Ø300	Ø300	Ø300	Ø300
B	98	98	98	98	98	98	98	98	98	98	98	98
C	Ø149	Ø149	Ø149	Ø149	Ø149	Ø149	Ø149	Ø149	Ø149	Ø149	Ø149	Ø149
D	89	139	89	139	89	139	89	139	89	139	89	139
E IE4	243	293	243	293	243	293	243	293	243	293	243	293
F IE4	354	354	357	357	354	354	357	357	354	354	357	357
G IE4	74	124	70	120	74	124	70	120	74	124	70	120
H IE4	114	114	117	117	114	114	117	117	114	114	117	117
I IE4	111	111	98	98	111	111	98	98	111	111	98	98
E Premium/CUS	243	293	-	-	243	293	-	-	243	293	-	
F Premium/CUS	354	354	•	•	354	354	•	•	354	354		-
G Premium/CUS	78	128	•	-	78	128	•	•	78	128	•	
H Premium/CUS	110	110	-	-	110	110	-	-	110	110	-	
I Premium/CUS	112	112	•	•	112	112	•	•	112	112		-
E ATEX	294	344	-	-	294	344	-	-	294	344	-	-
F ATEX	418	418	-	-	418	418	-	-	418	418	-	-
G ATEX	77	127	•	•	77	127	•	•	77	127		-
H ATEX	110	110	•		110	110	-		110	110	•	-
I ATEX	144	144	-	-	144	144		-	144	144	-	
E LV Explosion Proof	248	298	-	-	248	298	-		248	298	-	
F LV Explosion Proof	534	534	•	•	534	534	-	•	534	534	-	-
G LV Explosion Proof	69	119	-	-	69	119	-	-	69	119	-	
H LV Explosion Proof	123	123	•	•	123	123	-	•	123	123	-	-
I LV Explosion Proof	142	142	-	-	142	142	-	-	142	142	-	-



Machine Selection:

LeviMag UltraPure can be sized and configurated in Alfa Laval configurator.

Selection of size can also be done by use of the below selection charts.

Needed information for selection of size:

- Media Viscosity
- Tank Volume
- Tank diameter and tank bottom shape.
- Duty (see below Duty Levels)

Duty Level	Duty	Description
1	Keep media homogenous	Keeping fluids homogenous & low gradient heat transfer
0	Mild blanding	Simple blending of miscible fluids & high gradient heat transfer, no specific request to mixing time, create
2 Mild blending	willa blerialing	suspension if deposit velocity is below 0.015 m/s
3	Mixing	Mixing of fluids, relative low mixing time, create suspension if deposit velocity is below 0.03 m/s
4	Powerful mixing	Dissolving solids, very low mixing time, create suspension if deposit velocity is below 0.06 m/s.

Preconditions for using the selection charts:

- Specific gravity of the media must be less than or equal to 1.1
- Liquid height must be equal to or lower than 2½ times the tank diameter
- if duty involves suspension of particles (see deposit velocity limits in the duty levels), the tank diameter D must be:

$$D \leq \sqrt[3]{\frac{V*4}{\pi}}$$

where V is the net. Volume.
- If preconditions are not fulfilled please contact Alfa Laval Global Technical Support

How to select:

- 1. Select duty
- 2. Check preconditions
- 3. Go to the chart for the chosen duty
- 4. Read out the point for the requested tank volume (X-axis) and viscosity (Y-axis)
- 5. Choose the curve to the right from the point
- 6. If physically possible a larger impeller size can always be chosen eg. to obtain a gentler product treatment (operating at lower speed)

Duty Level 1: Keep media homogenous Volume vs. vicosity

Viscosity [CP]

A B C C

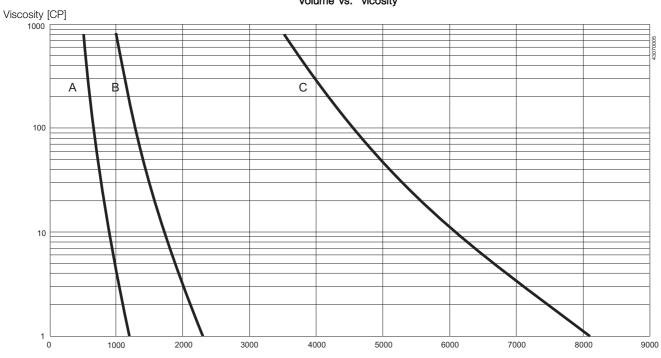
Net. Volume [liter]

A: LeviMag size 100 mm B: LeviMag size 150 mm

C: LeviMag size 200, 250 and 300 mm

Duty Level 2: Mild blending Volume vs. vicosity

 $10000 \ 12000 \ 14000 \ 16000 \ 18000 \ 20000 \ 22000 \ 24000 \ 26000 \ 28000 \ 30000 \ 32000 \ 34000 \ 36000 \ 38000 \ 40000 \ 4200$

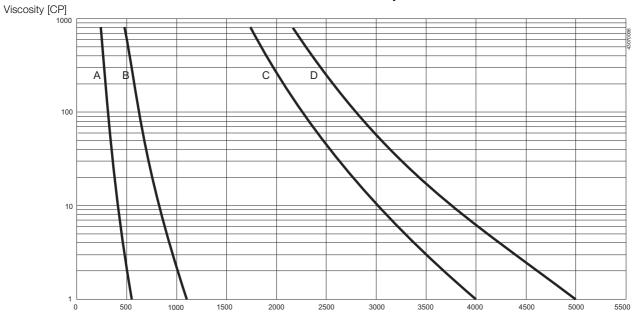


Net. Volume [liter]

A: LeviMag size 100 mm B: LeviMag size 150 mm

C: LeviMag size 200, 250 and 300 mm

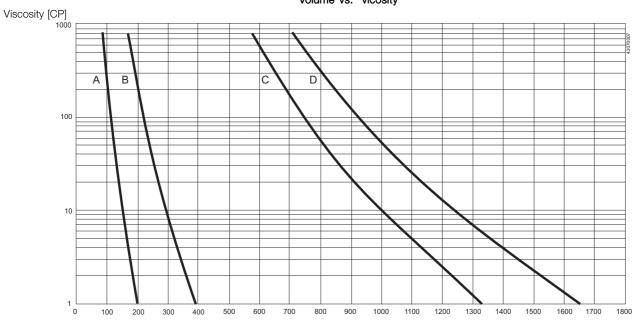
Duty Level 3: Mixing Volume vs. vicosity



Net. Volume [liter]

A: LeviMag size 100 mm
B: LeviMag size 150 mm
C: LeviMag size 200, 250 mm
D: LeviMag size 300 mm

Duty Level 4: Powerfull mixing Volume vs. vicosity



Net. Volume [liter]

A: LeviMag size 100 mm
B: LeviMag size 150 mm
C: LeviMag size 200, 250 mm
D: LeviMag size 300 mm

Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com to access the information direct.