Efficient Mixing and Agitation

Alfa Laval Top mounted agitators, type ALTB

Applications

Application	Typical examples
Maintain media homogeneous	Milk storage tanks, cream tanks, mixed product tanks, UHT product storage tanks, etc.
Mixing and Solutions (dissolves)	Fluid and fluid mixing, i.e. drinking yoghurt and fruit mix tanks, flavoured milk mix tanks, syrup mix tanks, etc.
Solid Dispersion	Powder protein + oil mix tanks, micro salt + milk product mix tanks, etc.
Suspension	Fluids with particles, i.e. juice tanks, crystallising tanks etc.
Heat transmission	Circulation of media in tanks with dimple jacket (cooling or heating)
Dairy Fermentation (break coagula + mixing)	Yoghurt tanks, cheese culture tanks, crème fraîche, etc.

TECHNICAL DATA

Motor
Motor size and speed as required for duty. As standard with IEC motor IP55, other types on request. As standard painted RAL5010.

Voltage and frequency
As standard for 3x380 to 420V, 50Hz - 3x440V to 480V, 60Hz. All motor voltages and frequencies are available.

Gears
Different gear types available according to configuration.

As standard filled with normal synthetic or mineral oil, optional: Food approved oil. As standard painted RAL5010.

ATEX - option
Agitators can be delivered approved for use in an ATEX environment with declaration of conformity.

Ordering
The following information is required to ensure correct sizing and configuration for ordering:
- Tank geometry
- Product properties
- Task of agitator
- Enquiry forms are available

PHYSICAL DESIGN

Materials
Available materials:

Steel parts:	AISI 316L (standard) AISI 304 AISI 904L SAF 2205 Other materials on request.
Seal rubber parts (O-rings or bellows):	EPDM FPM/FEP (only for stationary o-rings) FPM Other materials on request.
Mechanical seal parts:	Carbon Carbon (FDA) Silicon carbide
Wear bushings (bottom steady bearing):	PTFE (BS1P/BS1G) PVDF (BS2P)

Material certificate - option
3.1 Material certificates/FDA conformity statement according to 21 CFR177 on steel/elastomer parts in contact with media

Dimensions
Standard propeller diameter range: ø125 mm to 1900 mm. Specific dimensions on the drive unit and propeller(s) will depend on the actual configuration selected.

Standard design

The Alfa Laval range of top mounted propeller agitators with bottom steady bearing is designed to meet almost every customer requirement. Type ALTB agitators are characterised by having a shaft support inside the tank called a bottom steady bearing. Standard type ALTB agitators are less costly than agitators without internal shaft support. Due to their modular build, the agitators can be designed to suit every kind of application within hygienic industry. The modular construction is designed with the aim to meet both European and American standards and regulations, such as EHEDG, USDA, FDA, 3A etc.

Please note that Alfa Laval also offer other agitator solutions:

- Type ALT, top mounted agitators
- Type ALS, side mounted agitators
- Type ALB, bottom mounted agitators

For more information please see separate Product Data Sheets.

Configurable design

Type ALTB agitator design is fully configurable divided in the following elements:

- Drives (drive + shaft support + shaft diameter)
- Seal arrangements (oil trap + shaft seal type)
- Shaft (length)
- Energy Saving Foils (propeller type + surface finish)
- Bottom steady bearings (type + surface finish)
- Options

Each element has a broad range of different characteristics which make it possible to size the agitator for all applications and requirements. Type ALTB configuration, please see next page.

Advantageous and profitable design

Each configuration offers a number of advantages, which are shown in the examples below:

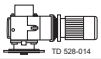
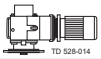
Operation features	Due to
Low energy consumption	the wide range of high efficiency propellers and drive units makes it possible to design for low operational costs
Gentle product treatment	the wide range of high efficiency propellers makes it possible to design for low shear operation

Hygienic features	Due to
Connections inside the tank (risk zones) can be avoided	propellers can be welded onto the shaft
Good drip off properties	no plane surfaces or grooves on internal parts
Easy cleaning	no interior shadow sides between the blades and smooth surfaces

Maintenance features	Due to
Easy bottom bearing replacement	wear bushings can be replaced without dismantling the agitator drive

BS1P

BS2P

Type ALTB	Configuration					Top mounted agitators with bottom steady bearing
Drives	 TD 528-014	 TD 528-014	 TD 528-015			
Shaft diameter = yy	**-ME-GR-yy**	**-ME-GW-yy**	**-ME-GP-yy**			
Description (power, speed and shaft diameter depending on application)	Right angle gear drive, shaft mounted in hollow shaft of gearbox (for very low head room applications)	Worm gear drive, shaft mounted in hollow shaft of gearbox (for very low head room applications)	Parallel shaft gearbox, shaft mounted in hollow shaft of gearbox			
Seal arrangements	 TD 528-009	 TD 528-010	 TD 528-011	 TD 528-012	 TD 528-013	
Description (lower flange and seal material depending on application)	**F-R-** Seal flange with O-ring seal against tank flange, drain, oil trap and shaft seal: radial seal for atmospheric tanks	**LF-R-** Lantern (spacer), seal flange with O-ring seal against tank flange, drain, oil trap and shaft seal: radial seal for atmospheric tanks	**LF-S-** Lantern (spacer), seal flange with O-ring seal against tank flange, drain, oil trap and shaft seal: single mechanical dry running seal for high/low pressure applications	**LF-D-** Lantern (spacer), seal flange with O-ring seal against tank flange, drain, oil trap and shaft seal: double mechanical seal for high pressure applications and aseptic use	**LF-DT-** Lantern (spacer), seal flange with O-ring seal against tank flange, drain, oil trap and shaft seal: double mechanical seal (tandem) for low pressure applications	
Shaft						
Length = llll	**-SIIII-**					
Description (material depending on application)	SS shaft, length according to application					
Energy Saving Foils						
Number =n Diameter =vvv (125 mm to 1900 mm)	 TD 528-001	 TD 528-001	 TD 528-001a	 TD 528-002	 TD 528-002	 TD 528-002a
Description (material depending on application)	**-nPvvvD3P** 3 - bladed propeller, finish: polished	**-nPvvvD3PE** 3 - bladed propeller, finish: polished and electro polished	**-nPvvvD3G** 3 - bladed propeller, finish: shot peened	**-nPvvvD2P** 2 - bladed propeller, finish: polished	**-nPvvvD2PE** 2 - bladed propeller, finish: polished and electro polished	**-nPvvvD2G** 2 - bladed propeller, finish: glass shot peened
	Standard: Ra < 0.8 µm	Standard: Ra < 0.8 µm		Standard: Ra < 0.8 µm	Standard: Ra < 0.8 µm	
Bottom steady bearing	 TD 528-003	 TD 528-003a	 TD 528-XX4			
Description (material depending on application)	**-BS1P** Bottom steady bearing with PTFE bushing finish: polished	**-BS1G** Bottom steady bearing with PTFE bushing finish: shot peened	**-BS2P** Hygienic bottom steady bearing with PVDF bushings finish: polished			
	Standard: Ra < 0.8 µm		Standard: Ra < 0.8 µm			
Optional	 TD 528-005	 TD 528-006	 TD 528-007	S		
	Welding flange	**Blind flange**	**Cover for motor / gear motor**	**Spare part kit**		
Description	Incl. mounting pin nuts and bolts	Incl. seal O-ring	Stainless steel cover - comes in different shapes according to drive type	Standard spare part kit		

ESE00215EN 1611

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.