Efficient Mixing and Agitation

Alfa Laval Bottom mounted agitators Type ALB

Applications

Application	Typical examples
Maintain media homogeneous	Milk storage tanks, mixed product tanks, UHT 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 + fluid mix tanks, etc.
Suspension	Fluids with particles, i.e. juice tanks
Heat transmission	Circulation of media in tanks with dimple jacket (cooling or heating)

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 DATA

Materials
List the range of materials available for wetted parts:

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.

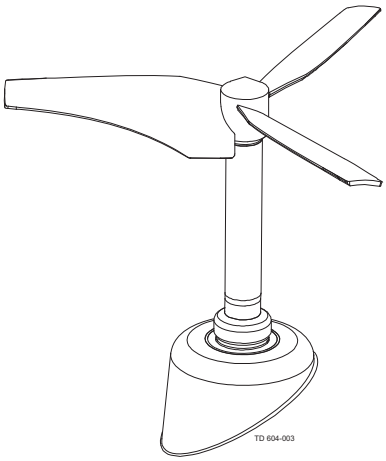
Specific selection of materials will depend on the actual configuration selected.

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 bottom mounted propeller agitators is designed to meet almost every customer requirement. Due to their modular build the agitators can be designed for every type of application with the 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.



Configurable design

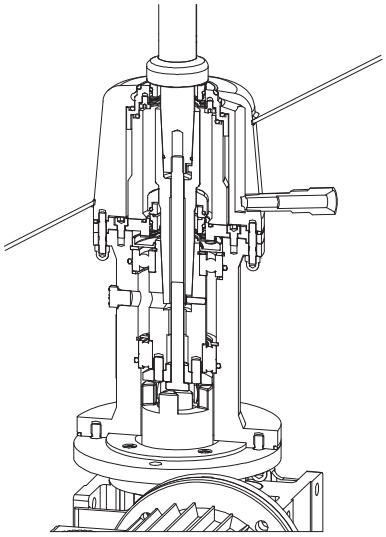
Type ALB agitator design is fully configurable divided in the following elements:

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

Each element has a broad range of different characteristics which makes it possible to size the agitator for all applications and requirements.

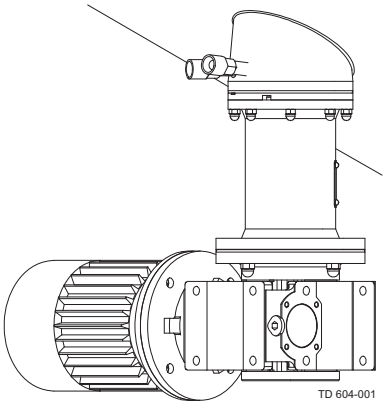
Advantageous and profitable design

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

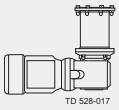
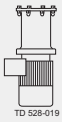
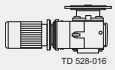
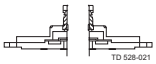
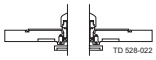
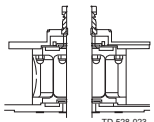
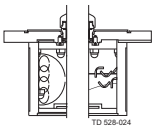
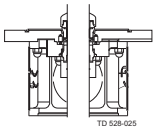
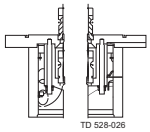
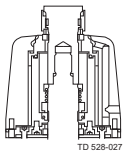


Operation features	Due to
Low energy consumption	the wide range of high efficiency propellers and drive units makes it possible to design for low operational costs
Gentle product treatment	the wide range of high efficiency propellers makes it possible to design for low shear operation

Hygienic features	Due to
Easy external cleaning	stainless steel bearing frame design with seal O-rings (for washing)
Connections inside the tank (risk zones) can be minimised	bearing frame drives with drive shaft and special internal shaft connection without having a flange coupling inside the tank
All seals both stationary and rotating seals are sterilised during running	the unique cone shaped seal arrangement with flushed sterile seal system
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
All service (replacement of wearing parts such as shaft seals, bearings etc.) can be done from outside the tank	bearing frame drives with detachable shaft which can be dismounted from outside the tank
Easy dismantling	use of spider type coupling and stainless steel parts

Type ALB	Configuration						Bottom mounted agitators
Drives							
Bearing frame size = xx Shaft diameter = yy (not used if xx = yy) Description (power, speed and shaft diameter depending on application)	 TD 528-017 **-ME-GR-Bxx(/yy)** Right angle gearbox, shaft mounted in hollow shaft of gearbox	 TD 528-018 **-ME-GC-Bxx(/yy)** Stainless steel bearing frame and coaxial gearbox	 TD 528-019 **-ME-Bxx(/yy)** Stainless steel bearing frame and direct motor drive	 TD 528-016 **-ME-GR-yy** Right angle gearbox, shaft mounted in hollow shaft of gearbox			
Seal arrangements							
Description (lower flange and seal material depending on application)	 TD 528-021 **F-S1-** Seal flange with O-ring seal against tank flange, drain, fluid trap and shaft seal: single mechanical bellow seal	 TD 528-022 **F-S2-** Seal flange with O-ring seal against tank flange, drain, fluid trap and shaft seal: single mechanical non-bellow seal	 TD 528-023 **LF-S1-** Lantern (spacer), seal flange with O-ring seal against tank flange, drain, fluid trap and shaft seal: single mechanical bellow seal	 TD 528-024 **LF-S2-** Lantern (spacer), seal flange with O-ring seal against tank flange, drain, fluid trap and shaft seal: single mechanical non-bellow seal	 TD 528-025 **LF-D-** Lantern (spacer), seal flange with O-ring seal against tank flange, drain, fluid trap and shaft seal: double mechanical seal for high pressure applications and aseptic use	 TD 528-026 **LF-DT-** Lantern (spacer), seal flange with O-ring seal against tank flange, drain, fluid trap and shaft seal: double mechanical seal (tandem) for low pressure applications	 TD 528-027 **C-D-** Cone shaped welding flange, flushed O-ring seal between welding flange and agitator seal house, drain, fluid trap and shaft seal: double mechanical sterile seal for high pressure applications and aseptic use
Shaft							
Length = llll	 TD 528-020 **-Sllll-**						
Description (material depending on application)	SS shaft, length according to application						
Energy Saving Foils							
Diameter = vvv (125 mm to 1900 mm) Description (material depending on application)	 TD 528-001 **-PvvvU3P** 3 - bladed propeller, finish: polished Standard: Ra < 0.8 µm	 TD 528-001 **-PvvvU3PE** 3 - bladed propeller, finish: polished and electro polished Standard: Ra < 0.8 µm	 TD 528-001a **-PvvvU3G** 3 - bladed propeller, finish: shot peened				
Optional							
	 TD 528-005 **Welding flange**	 TD 528-006 **Blind flange**	 TD 528-007 **Cover for Motor / gear motor**	S **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			

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