



# Efficient Mixing and Agitation

## Alfa Laval Side mounted agitators Type ALS

### Application

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.

#### 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

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

#### Certificates

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

#### Dimensions

Propeller standard diameter range:  $\varnothing$ 125 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 side mounted propeller agitators is designed to meet almost every customer requirement. Due to their modular build, the agitators can be designed for every kind of application within the sanitary 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**

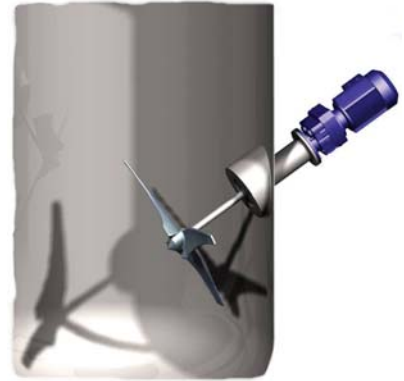
Type ALS agitator design is fully configurable divided in the following elements:

- 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**

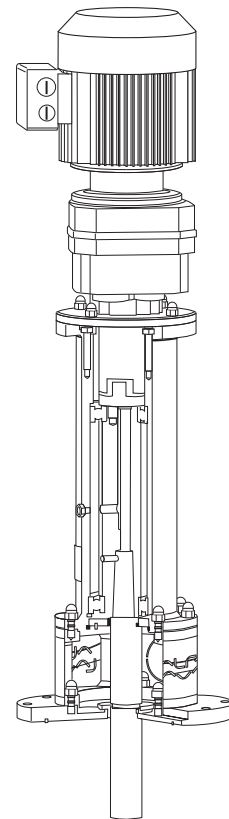
Each configuration offers a number of advantages, which are shown in the examples below:



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

Sanitary features	Due to
Easy external cleaning	stainless steel bearing frame design with O-ring seal (for wash down)
Connections inside the tank (risk zones) can be avoided	bearing frame drives with drive shaft and special internal shaft connection without having a flange coupling inside the tank
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 wear parts such as shaft seals, bearings etc.) can be done from outside of the tank	bearing frame drives with detachable shaft which can be dismantled from outside of the tank
Easy dismantling	use of spider type coupling and stainless steel parts (no corrosion)



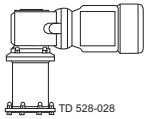
Type ALS

Configuration

Side mounted agitators

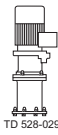
Drives

Bearing frame size = xx  
 Shaft diameter = yy  
 (not used if xx = yy)



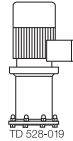
-ME-GR-Bxx(yy)

Description  
 Stainless steel bearing  
 frame and right angle  
 gearbox



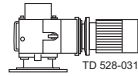
-ME-GC-Bxx(yy)

Description  
 Stainless steel bearing  
 frame and coaxial  
 gearbox



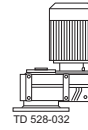
-ME-Bxx(yy)

Description  
 Stainless steel bearing  
 frame and direct motor  
 drive



-ME-GR-yy

Description  
 Right angle gearbox,  
 shaft mounted in hollow  
 shaft of gearbox



-ME-GP-yy

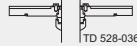
Description  
 Parallel shaft gearbox,  
 shaft mounted in hollow  
 shaft of gearbox

Seal arrangements



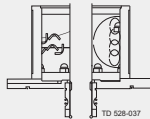
F-S1-

Description  
 Seal flange with O-ring  
 seal against tank flange,  
 drain, oil trap (only geared  
 versions) and shaft  
 seal: single mechanical  
 bellow seal



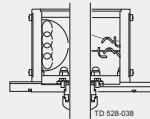
F-S2-

Description  
 Seal flange with O-ring  
 seal against tank flange,  
 drain, oil trap (only geared  
 versions) and shaft  
 seal: single mechanical  
 non-bellow seal



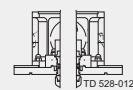
LF-S1-

Description  
 Lantern (spacer), seal  
 flange with O-ring seal  
 against tank flange, drain,  
 oil trap (only geared  
 versions) and shaft  
 seal: single mechanical  
 bellow seal



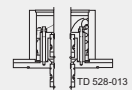
LF-S2-

Description  
 Lantern (spacer), seal  
 flange with O-ring seal  
 against tank flange, drain,  
 oil trap (only geared  
 versions) and shaft  
 seal: single mechanical  
 non-bellow seal



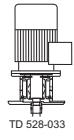
LF-D-

Description  
 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-

Description  
 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



-ME-yyLF-S1-

Description  
 Direct motor drive, shaft  
 connected directly to  
 motor, lantern (spacer),  
 seal flange with O-ring  
 seal against tank flange,  
 drain and shaft seal:  
 single mechanical  
 bellow seal

Shaft



TD 528-034

Length = IIII -SIIII-

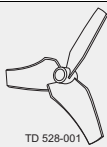
Description  
 SS shaft, length

(material depending on application)

Energy Saving

Foils

Diameter = vv (125 mm  
 to 1900 mm)



TD 528-001

-PvvvD3P

Description  
 3 - bladed propeller,  
 finish: polished Standard:  
 Ra < 0.8 µm



TD 528-001

-PvvvD3PE

Description  
 3 - bladed propeller,  
 finish: polished and  
 electro polished  
 Standard: Ra < 0.8 µm



TD 528-001a

-PvvvD3G

Description  
 3 - bladed propeller,  
 finish: shot peened

Optional



TD 528-005

Welding flange

Description  
 Incl. mounting pin  
 bolts and nuts



TD 528-006

Blind flange

Incl. O-ring seal



TD 528-007

Cover for Motor /  
 gear motor )

Stainless steel cover -  
 comes in different shapes  
 according to drive type

S

Spare part kit

Standard spare part kit



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**How to contact Alfa Laval**

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