Alfa Laval Side mounted agitators Type ALS

Efficient Mixing and Agitation

Application

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

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)
- Other materials on request.
- Seal rubber parts
  - (O-rings or bellows): .............. EPDM
    - FPM/FEP (only for stationary o-rings)
- 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: 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 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 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 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:

<table>
<thead>
<tr>
<th>Operation features</th>
<th>Due to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low energy consumption</td>
<td>the wide range of high efficiency propellers and drive units makes it possible to design for low operational costs</td>
</tr>
<tr>
<td>Gentle product treatment</td>
<td>the wide range of high efficiency propellers makes it possible to design for low shear operation</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Hygienic features</th>
<th>Due to</th>
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<tbody>
<tr>
<td>Easy external cleaning</td>
<td>stainless steel bearing frame design with O-ring seal (for wash down)</td>
</tr>
<tr>
<td>Connections inside the tank (risk zones) can be avoided</td>
<td>bearing frame drives with drive shaft and special internal shaft connection without having a flange coupling inside the tank</td>
</tr>
<tr>
<td>Good drip off properties</td>
<td>no plane surfaces or grooves on internal parts</td>
</tr>
<tr>
<td>Easy cleaning</td>
<td>no interior shadow sides between the blades and smooth surfaces</td>
</tr>
</tbody>
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<th>Maintenance features</th>
<th>Due to</th>
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<td>All service (replacement of wear parts such as shaft seals, bearings etc.) can be done from outside of the tank</td>
<td>bearing frame drives with detachable shaft which can be dismounted from outside of the tank</td>
</tr>
<tr>
<td>Easy dismantling</td>
<td>use of spider type coupling and stainless steel parts (no corrosion)</td>
</tr>
</tbody>
</table>
Type ALS Configuration

Side mounted agitators

Drives

Bearing frame size = xx

Shaft diameter = yy

(not used if xx = yy)

Description

- ME-GR-Box(yy)
- ME-GC-Box(yy)
- ME-Box(yy)
- ME-GR-yy
- ME-GP-yy

Stainless steel bearing frame and right angle gearbox
Stainless steel bearing frame and coaxial gearbox
Frame and direct motor drive
Right single gearbox, shaft mounted in hollow shaft of gearbox
Parallel shaft gearbox,

Seal arrangements

Description

- F-S1-
- F-S2-
- LF-S1-
- LF-S2-
- LF-D-
- LF-DT-
- ME-yyLF-S1-

Seal flange with O-ring seal against tank, flange, draining, oil trap (only geared versions) and shaft seal: single mechanical bellow seal
Seal flange with O-ring seal against tank, flange, draining, oil trap (only geared versions) and shaft seal: single mechanical non-bellow seal
Lantern (spacer), seal flange with O-ring seal against tank, flange, draining, oil trap (only geared versions) and shaft seal: single mechanical bellow seal
Lantern (spacer), seal flange with O-ring seal against tank, flange, draining, oil trap and shaft seal: single mechanical non-bellow seal
Lantern (spacer), seal flange with O-ring seal against tank, flange, draining, oil trap and shaft seal: double mechanical seal for high pressure applications and aseptic use
Lantern (spacer), seal flange with O-ring seal against tank, flange, draining, oil trap and shaft seal: double mechanical seal (tandem) for low pressure applications
Direct motor drive, shaft connected directly to motor, lantern (space), seal flange with O-ring seal against tank, flange, draining, oil trap and shaft seal: single mechanical bellow seal

Shaft

Length = liii

Description

SS shaft, length according to application

Energy Saving

Foil

Diameter = vv (125 mm to 1900 mm)

Description

- PvvvD3P
- PvvvD3PE
- PvvvD3G

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

Optional

Welding flange
Blind flange
Cover for Motor / gear motor

Description

- Welding flange
- Blind flange
- Cover for Motor / gear motor

- S

Standard spare part kit
Stainless steel cover - comes in different shapes according to drive type
Ind. mounting pin bolts and nuts
Ind. O-ring seal

Incl. mounting pin bolts and nuts
Incl. O-ring seal Stainless steel cover - comes in different shapes according to drive type

Spare part kit

Incl. O-ring seal Stainless steel cover - comes in different shapes according to drive type

Standard spare part kit