

For Rapid and Vigorous mixing

LKRE Agitator

Application

Agitator LKRE is used in tanks or vessels where a rapid and vigorous mixing is required. For example yoghurt can be mixed in 3 to 4 minutes.

LKRE is specifically designed for use in dairies and the food industry. The agitator should be used mainly in temporary service.

Working principle

LKRE comprises a self-cooled standard motor with a direct coupled propeller shaft. The electric motor is fitted on a console with a stainless steel flange for welding into a tank or vessel. The joint between the console and the flange is fitted with an O-ring on the side of the tank wall to act as a sanitary seal.

The propeller shaft is fitted with a rotary carbon seal to ensure that no air is sucked in. The propeller is a three-bladed type.

The agitator is specially designed for CIP and is fitted with attachments for internal cleaning of tubes and propeller.

Standard design

LKRE is available in two versions and is to be positioned vertically. Propeller diameter, revolution speed and motor size should be selected after taking in to account the product to be mixed or agitated. The standard motor, as fitted, is especially suitable for use in conditions where it is normal to fit an agitator, in that the motor shell and insulation are intended for operation under damp or wet conditions.

Materials

Steel parts:	Stainless steel 1.4301(304).
Lower bearing:	Reinforced PTFE.
Rubber seals:	Nitrile (NBR).
Shaft seal:	Carbon/stainless steel.

Operation

The agitator causes the product to move, the result being the following two types of flow or current: Firstly a main flow which moves the liquid over a large distance, secondly a whirlpool effect (turbulence) which overrides the main flow and moves the liquid over smaller distances (fig. 2).

The specially designed jet-pipe around the propeller (fig. 1) produces concentrated sucking and squirting actions which lead to an effective mixing.



Fig. 1. LKRE, Agitator.

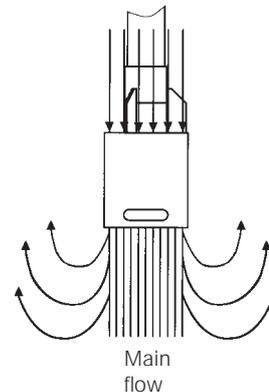


Fig. 2. Operation.

Ordering

Please state the following when ordering:

- Agitator type LKRE.
- Propeller size: 90 or 110 mm.
- Voltage and frequency.

Technical data

The values in this table are for 2800 rpm.

Type	Propeller size (mm)	Max. current at 380 V/ 2800 rpm. (A)	Measured current at 380 V (A)	Max. tank pressure (kp/cm ²)	Max. temp. (C°)	Q (m ³ /min)	Cm (m/sek)
LKRE	90	7	2.7	3	110	3.9	13
	110	7	4.7	3	110	6.5	16

Q = Theoretical mixing capacity by specific density $\rho = 1 \text{ g/cm}^3$.
 Cm = Theoretical axial speed directly above the propeller.

Motor

Standard direct coupled motor acc. to IEC metric standard IP55 (with drain holes with labyrinth plug), insulation class F.

Voltage and frequency

(3~, 50 Hz, 220-240V Δ /380-420VY)
 (3~, 60 Hz, 250-280V Δ /440-480VY)

Motor size (2 speed)

50Hz: 2.5 kW \approx 1440 rpm.
 3.1 kW \approx 2820 rpm.

Dimensions (mm)

Propeller size (mm)	90	110
A	1045	1365
B*	550	870
C	240	240
D	106	130
E	615	935
F	230	230
H**	200	200
Weight (kg)	42	42

* Distance from flange to the centre of propeller.

** Diameter for welding flange screws.

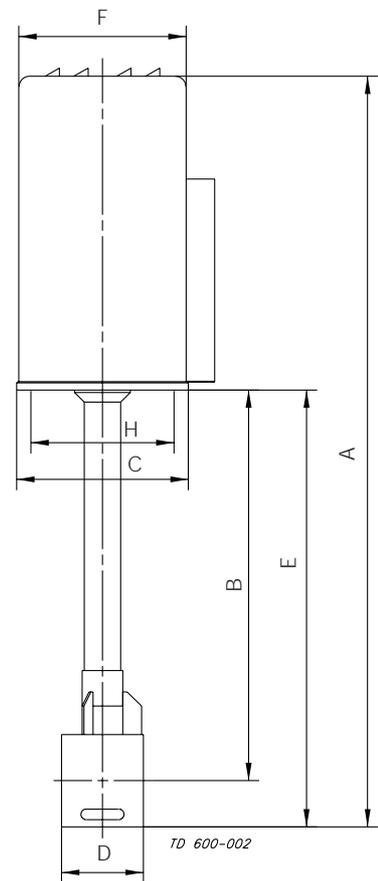


Fig. 3. Dimensions.