Alfa Laval SB Static Mixer

Liquid mixers

Introduction

The Alfa Laval SB Static Mixer is a static mixer mainly intended for dissolving gasses into liquids. In this case the mixer is equipped with a gas inlet connection.

It can also be used for mixing of different liquids in case the mixing requires high mixing force. The mixer Type L is in this case delivered without any gas inlet.

The Alfa Laval SB Static Mixer is intended for mixing of liquids demanding low or medium mixing force.

Since the mixer can be used at high pressure and that a certain product treatment takes place inside, it has been concluded that the mixer is to be considered as pressure vessel - and thereby subject to approval according to relevant PED regulations.

The design is made according to EN 13445 (unfired pressure vessels), inspection and testing according to rules for conformity assessment in this directive

Application

HP Mixer Type L – For mixing and dissolving gases into liquids and for mixing of liquids demanding high mixing force.

HP Mixer Type S – For mixing of liquids demanding low mixing force.

Benefits

- Hygienic - no sintered parts
- All parts in contact with the liquid are made of stainless steel
- Sanitary design
- Compact
- Easy to install

Standard design

The mixer is supplied with flange connection or nut and liner both with weld end according to ISO 2037 or DIN11850.

Working principle

The HP Mixer is a specially developed high performance static mixer for brewery or other beverage applications. The product components are mixed by a combination of pressure and turbulence.

The mixer consists of an outer shell and an insert which is positioned at the centre. The insert is equipped with propeller shaped wings that puts the incoming liquid(s) into rotation. When this has been obtained, another pair of wings changes the rotation direction and the turbulence created gives an extremely effective mixing.

The mixer type L with gas connection is designed so that the gas inlet is located at a position where the turbulence is at a maximum. This means that the injected gas will be dispersed in very small bubbles that are easily dissolved into the liquid phase.

Technical Data

HP Mixer Type L	Approx. length (mm/inch)	Kv/Cv (water)
HP - LF - 51	480/19	7.5/8.7
HP - L - 51	680/27	10/11.6
HP - L - 63	920/36	20/23
HP - L - 76	1060/42	25/28.9
HP - L - 101	1250/49	35/40.5
HP - L - 125	1550/61	65/75
HP - L - 150	1560/61	110/127

HP Mixer Type S	Approx. length (mm/inch)	Kv/Cv (water)
HP - S - 51	420/17	15/17
HP - S - 63	540/21	25/28.9
HP - S - 76	630/24	35/40.5
HP - S - 101	750/30	55/63.6
HP - S - 125	900/35	65/75

Flow range in tables is indicative only - selection of most suitable mixer to be done based on the actual application.

Calculation of pressure drop for water according to the following formula:

$$\Delta P = \frac{Q^2}{Kv^2}$$

ΔP = Pressure drop in bar / PSI

Q = Flow in m^3/h / Gallons

Physical Data

Material Specifications	
Product wetted steel surfaces	EN 1.4404 (AISI 316L)
Product wetted seals	EPDM

Installation Recommendations

The mixer can be installed in horizontal or vertical position. In cases of low flow rates, the mixing action is improved if the mixer is installed vertically.

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How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com