

INDAG

Maschinenbau GmbH

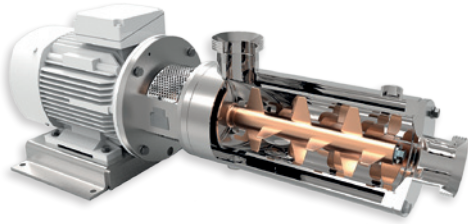
The FlowMix[®]-Company



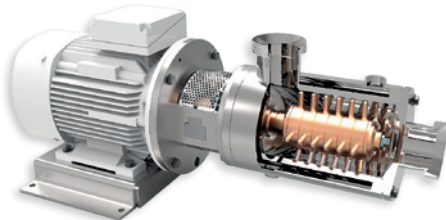
**Dynamic inline mixer
Type DLM/M**

For gentle mixing

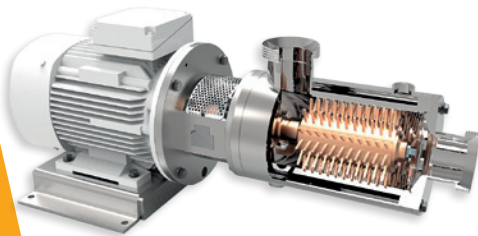
Mixer type DLM/M



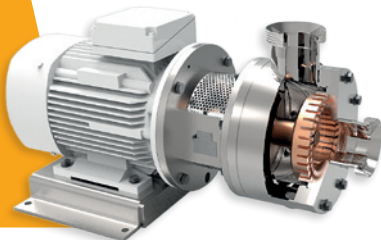
Mixer type DLM/P



Mixer type DLM/S



Mixer type DLM/H



Shear Rate



+

■ Function and application of DLM/M

INDAG dynamic inline mixer type DLM/M is used for gentle mixing of shear sensitive products. Examples for applications are: to mix fruit concentrate into yoghurt or quark and chocolate into ice cream. A mousse au chocolat is produced by gently fold chocolate into egg white foam. Sensitive foam will not be destroyed. Other examples are to mix caustic lye into vegetable oil for neutralization or to mix aroma into a fat mass.

■ Technology of DLM/M

INDAG inline mixer type DLM/M has only mixing elements on rotor and no mixing elements in stator (mixer casing). Rotor can be equipped with mixing elements of different geometry. Geometry depends on product to be mixed.

INDAG mixer DLM/M is designed in a modular way. A single acting mechanical seal can be changed to double acting mechanical seal without change of mixer.

Positioning

Horizontal or vertical position of mixer is possible

Pressure levels

6 bar, 10 bar, 16 bar, 25 bar, 40 bar

Materials

1.4301 (AISI 304), 1.4404 (AISI 316 L)

Seals

Single acting mechanical seal; double acting mechanical seal; even in aseptic execution

Connections

Dairy connections according to DIN 11851, DIN 11864, Tri Clamp, SMS

Rotational speed

100 rpm to 1,800 rpm

Capacities

50 l/h to 120,000 l/h

Temperatures

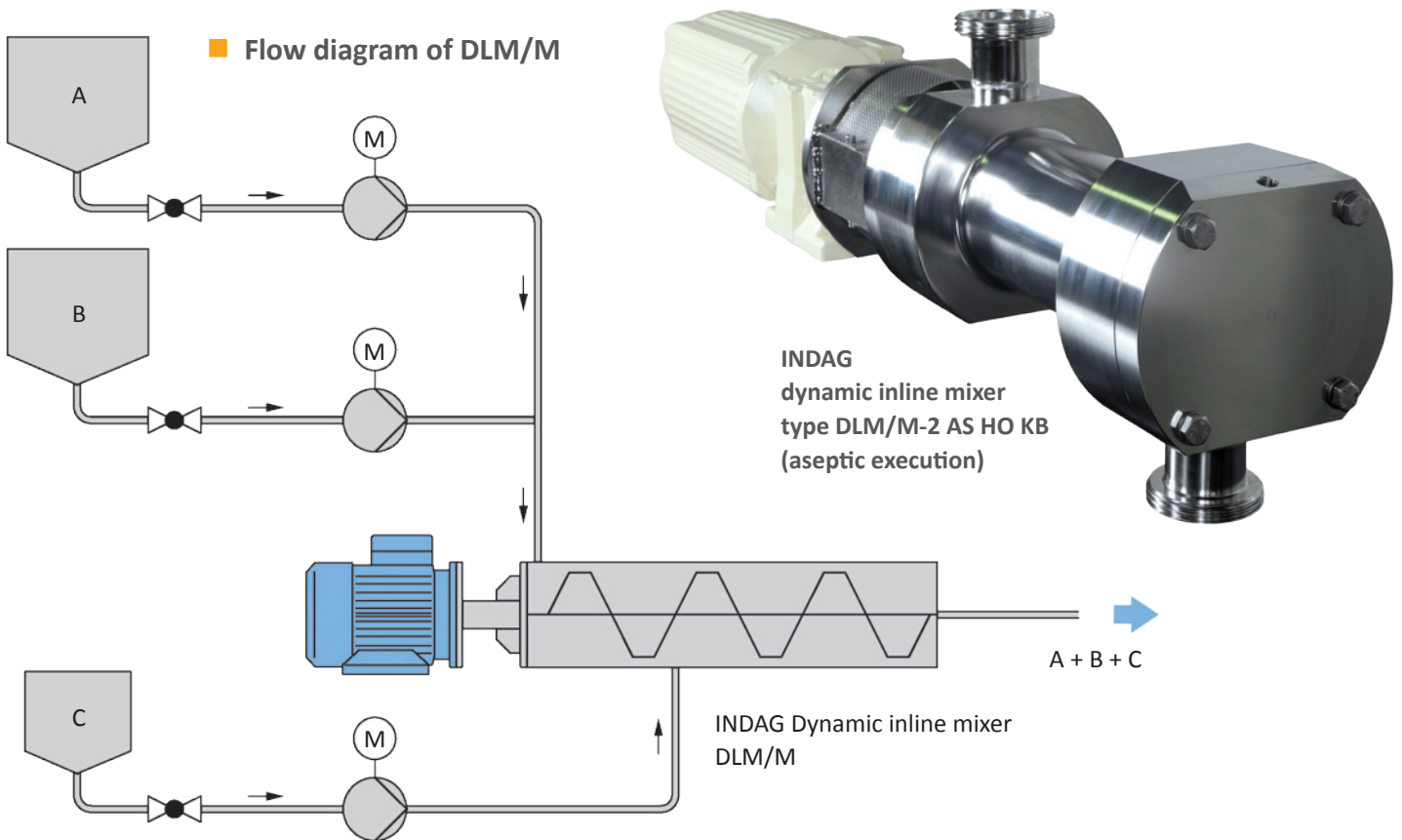
0 °C to 200 °C

Viscosities

1 mPas to 1,000,000 mPas

■ Advantages of DLM/M

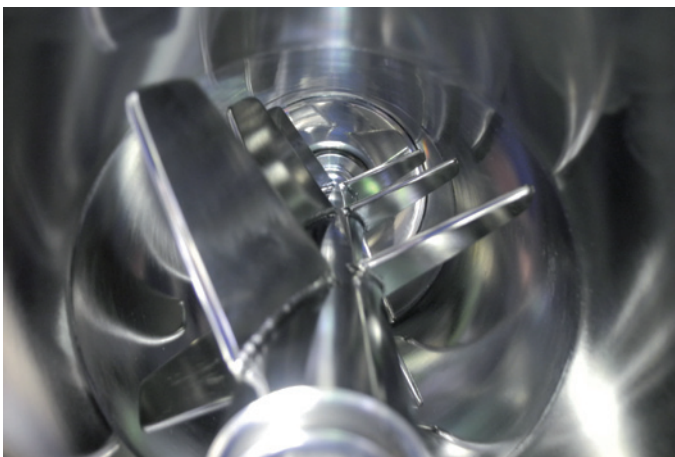
- Very good self-cleaning during CIP-cleaning
- No pressure loss
- No blockage entwining (clog) free
- Very homogenous mixing result
- Mixing energy can be changed variable and adapted to product or capacity changes
- Execution with double jacket and further connections possible
- Gentle mixing of sensitive products



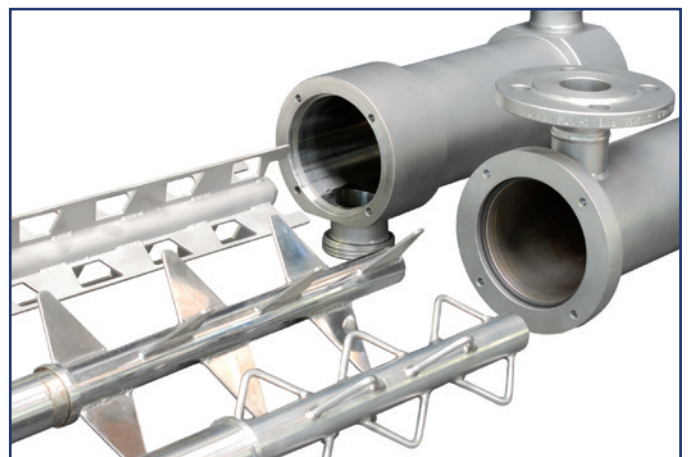
■ Mixer sizes and capacities of DLM/M

| Type DLM/M ... HY** | unit | 1 | 2 | 3 | 4 | 5 | 6 |
|---------------------|-------|-----------|-----------|------------|--------------|--------------|---------------|
| capacity* | l/h | 100-2,000 | 200-5,000 | 500-10,000 | 1,000-20,000 | 3,000-60,000 | 5,000-120,000 |
| connection | DN | 40-80 | 50-100 | 65-150 | 80-200 | 100-250 | 125-300 |
| optional | ASME | 1.5"-3" | 2"-4" | 2.5"-6" | 3"-8" | 4"-10" | 5"-12" |
| power | kW | 0.75-2.2 | 1.1-3 | 1.5-4 | 2.2-7.5 | 3-11 | 4-15 |
| rotational speed | 1/min | 100-1,800 | 100-1,800 | 100-1,800 | 100-1,800 | 100-1,000 | 100-1,000 |

*Capacity depends on product. ** HY = food execution

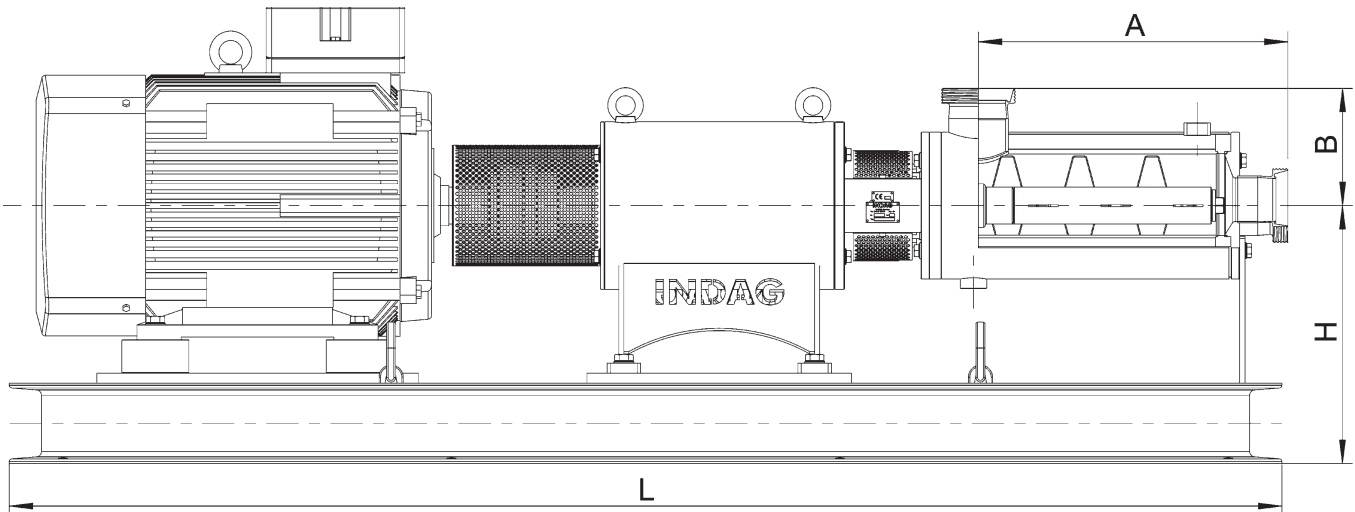


INDAG DLM/M-4 rotor

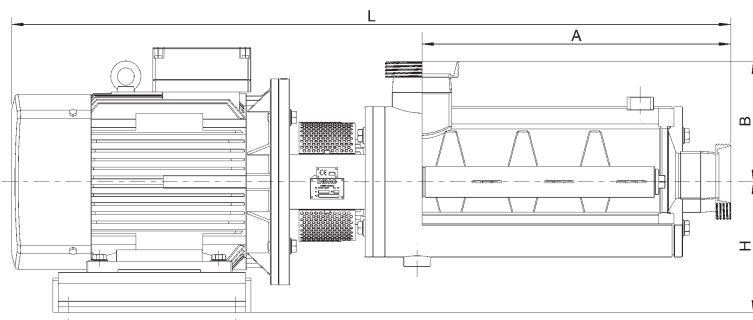


INDAG DLM/M-3 different rotors

■ Dimension drawing of DLM/M (LB)



■ Dimension drawing of DLM/M (KB)



■ Dimension table of DLM/M

| Type | unit | A | B | H* | L* |
|------------|------|-----------------------|-----|-----|------|
| DLM/M-1 KB | mm | 331 | 129 | 158 | 886 |
| DLM/M-2 KB | mm | 366 | 155 | 170 | 992 |
| DLM/M-3 KB | mm | 462 | 175 | 190 | 1076 |
| DLM/M-4 KB | mm | 564 | 205 | 190 | 1220 |
| DLM/M-5 KB | mm | 654 | 244 | 218 | 1360 |
| DLM/M-6 KB | mm | Dimensions on request | | | |
| DLM/M-1 LB | mm | 331 | 129 | 250 | 1500 |
| DLM/M-2 LB | mm | 366 | 155 | 312 | 1700 |
| DLM/M-3 LB | mm | 462 | 175 | 385 | 1900 |
| DLM/M-4 LB | mm | 564 | 205 | 460 | 2200 |
| DLM/M-5 LB | mm | 654 | 244 | 460 | 2500 |
| DLM/M-6 LB | mm | Dimensions on request | | | |

* depends on the drive

Company profile

For over 60 years INDAG develops, designs and produces dynamical inline mixers and complete metering and mixing systems in Borsfleth, Germany.

INDAG products claim to meet highest requirements in quality and efficiency.

Product and service spectrum

Product spectrum includes: dynamic inline mixer type DLM/M, intensive inline mixer type DLM/P, intensive inline mixer type DLM/S, homogenizer type DLM/H, solid-liquid mixer type DLM/FS, complete systems type FlowMix for metering, mixing and aerating. Complete systems are equipped with PLC control and sensors for automatic and monitored production. Service spectrum includes commissioning and maintenance of mixers and complete systems.



INDAG

Maschinenbau GmbH

Ivenfleth 13

D-25376 Borsfleth / GERMANY

phone +49 4124 9876-0

fax: +49 4124 9876-54

e-mail: info@indag.de

www.indag.com