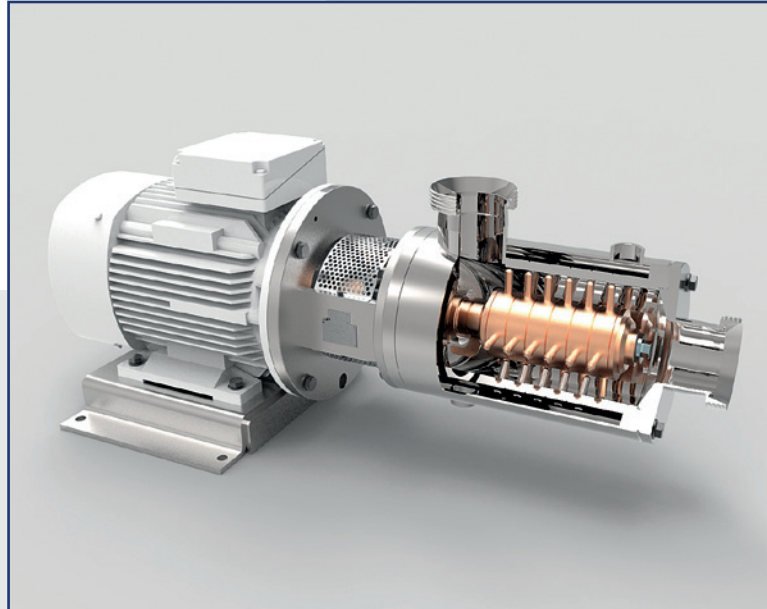


# INDAG

Maschinenbau GmbH

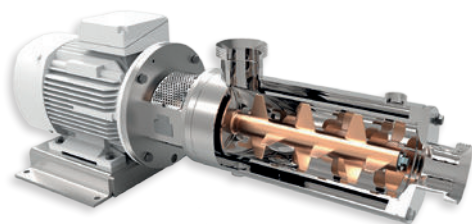
The FlowMix<sup>®</sup>-Company



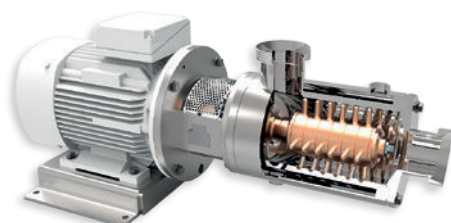
**Intensive inline mixer  
Type DLM/P**

**For shear sensitive mixing applications**

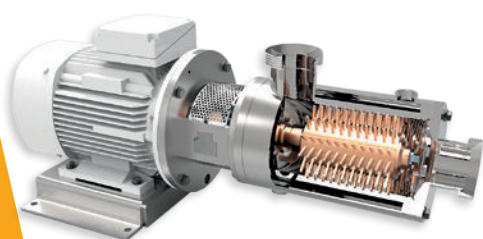
Mixer type DLM/M



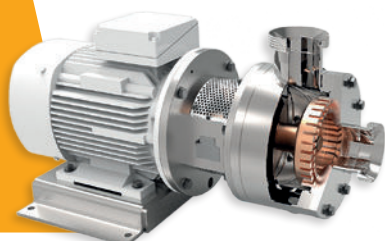
Mixer type DLM/P



Mixer type DLM/S



Mixer type DLM/H



Shear Rate



+

### Advantages of DLM/P

- Very good self-cleaning during CIP-cleaning
- No pressure loss
- Homogenous mixing result even for extreme concentration ratios
- Efficient introduction of mixing energy
- Mixing energy can be changed variable and adapted to product or capacity changes
- Temperature increase less than 1 °C
- Gentle mixing of shear sensitive products
- Execution with double jacket and further connections possible

### Function and application of DLM/P

INDAG intensive inline mixer type DLM/P is used to homogeneously mixing shear sensitive liquids. For example aroma, color or emulsifier is mixed into fat mass or chocolate. Even if concentration of additive (i.e. 0,01 %) is very small, mixing result will be absolutely homogeneous. Introduced mixing energy will not increase temperature of product more than 1°C. Especially shear sensitive products like aerated foams will not be destroyed by INDAG intensive inline mixer DLM/P.

### Technology of DLM/P

INDAG intensive inline mixer type DLM/P consists of round shape mixing elements on rotor and in stator (mixer casing). Round shape mixing elements are extremely robust to allow mixing of high viscous products (> 1,000,000 mPas). Mixing energy is introduced efficiently into product. It is possible (as an option) to heat or cool rotor and stator. INDAG mixer DLM/P is designed in a modular way. DLM/P is offered in a compact design (KB) and a foundation plate design (LB). Compact design means that rotor is supported by drive shaft of motor. Foundation plate design means that rotor is supported by its own bearing block. An own bearing block allows a longer rotor and a larger mixing volume. DLM/P can be equipped with single acting mechanical seal or double acting mechanical seal.

### 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; stuffing box seal

### Connections

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

### Rotational speed

100 rpm to 1,000 rpm

### Capacities

50 l/h to 20,000 l/h

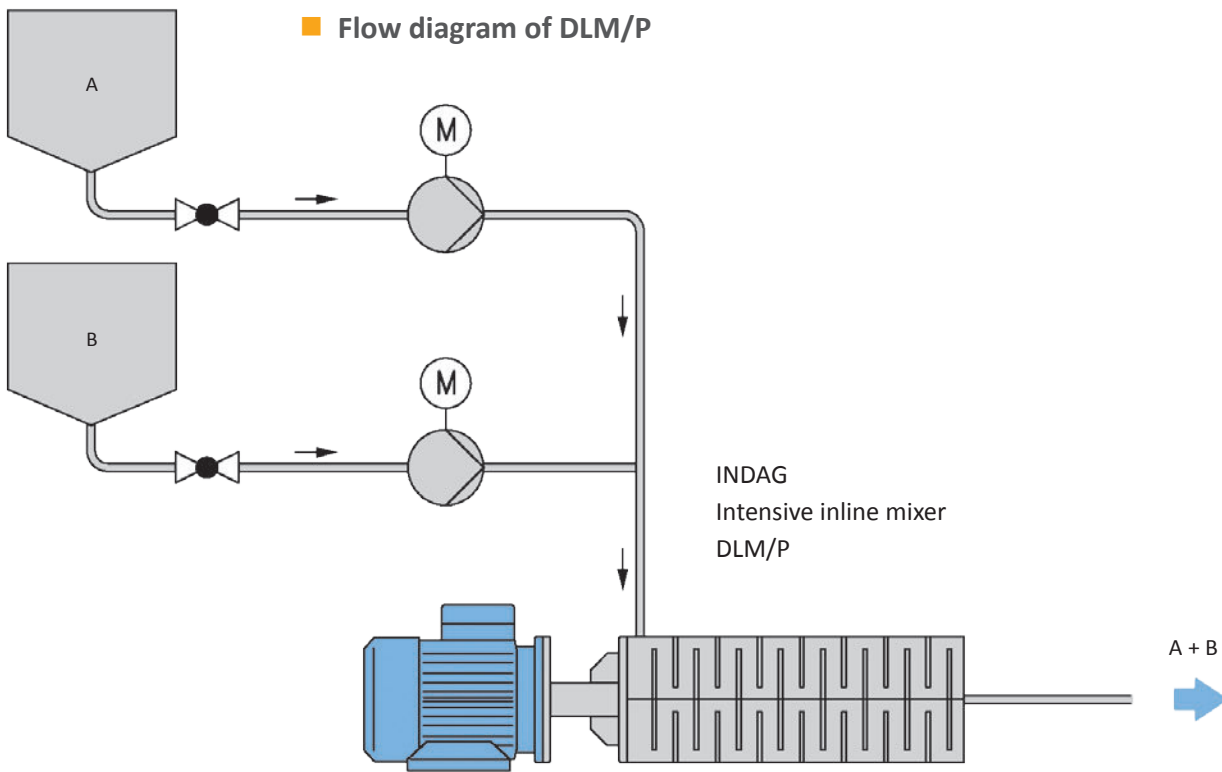
### Temperatures

0 °C to 200 °C

### Viscosities

1 mPas to 1,000,000 mPas

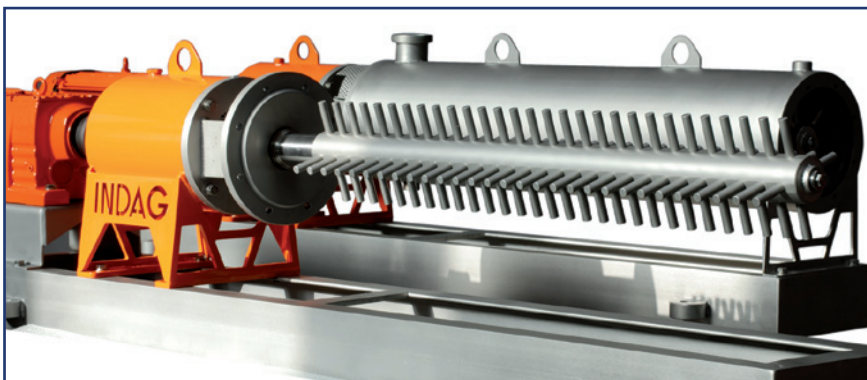
■ Flow diagram of DLM/P



■ Mixer sizes and capacities of DLM/P

Type DLM/P ... HY**	unit	1	2	3	4	5	6
capacity*	l/h	50-200	100-800	300-1,500	500-4,000	1,000-10,000	2,000-20,000
connection	DN	40	50	65	80	100	125
optional	ASME	1.5"	2"	2.5"	3"	4"	5"
power*	kW	0.55-4	1.5-7.5	2.2-22	4-35	5.5-55	11-75
rotational speed*	1/min	300-1,500	200-1,000	200-1,000	200-1,000	100-1,000	100-1,000
mixing stages compact version	8	DLM/P-108 KB	DLM/P-208 KB	DLM/P-308 KB	DLM/P-408 KB	DLM/P-508 KB	DLM/P-608 KB
mixing stages bearing block version	8	DLM/P-108 LB	DLM/P-208 LB	DLM/P-315 LB	DLM/P-408 LB	DLM/P-508 LB	DLM/P-608 LB
	20			DLM/P-320 LB	DLM/P-420 LB	DLM/P-520 LB	DLM/P-620 LB
	30			DLM/P-330 LB	DLM/P-430 LB	DLM/P-530 LB	

\*depends on product \*\* Type designation HY = food execution has been left out within the table.

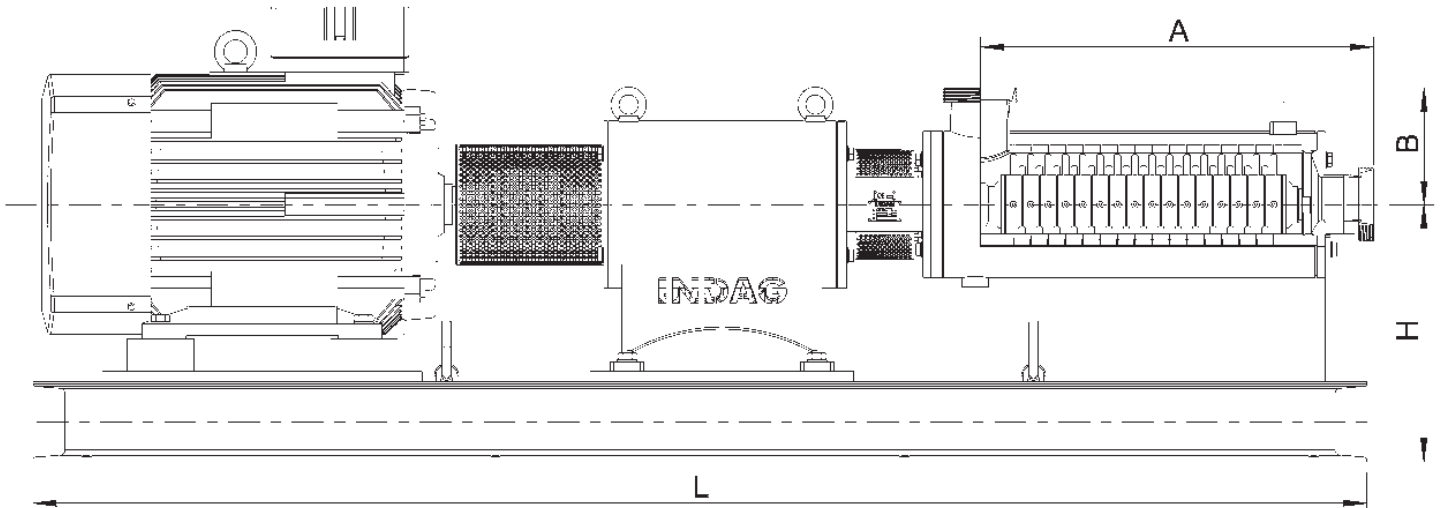


INDAG inline mixer type DLM/P-430

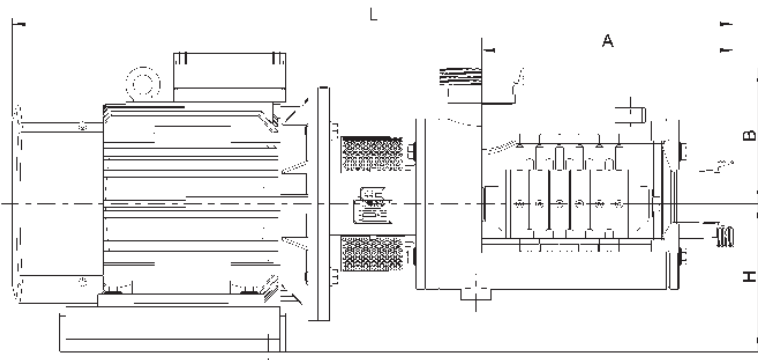


INDAG DLM/P stator mixing elements

■ Dimension drawing of DLM/P (LB)



■ Dimension drawing of DLM/P (KB)



■ Dimension table of DLM/P

Type	unit	A	B	H*	L*
DLM/P-108 KB	mm	377	129	148	968
DLM/P-208 KB	mm	397	155	148	990
DLM/P-308 KB	mm	408	175	190	1022
DLM/P-408 KB	mm	441	205	190	1055
DLM/P-508 KB	mm	474	244	218	1086
DLM/P-608 KB	mm	Dimensions on request			
DLM/P-108 LB	mm	559	129	250	1500
DLM/P-220 LB	mm	579	155	312	1700
DLM/P-320 LB	mm	590	175	385	2000
DLM/P-420 LB	mm	623	205	460	2200
DLM/P-520 LB	mm	656	244	460	2300
DLM/P-620 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**

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