

INDAG

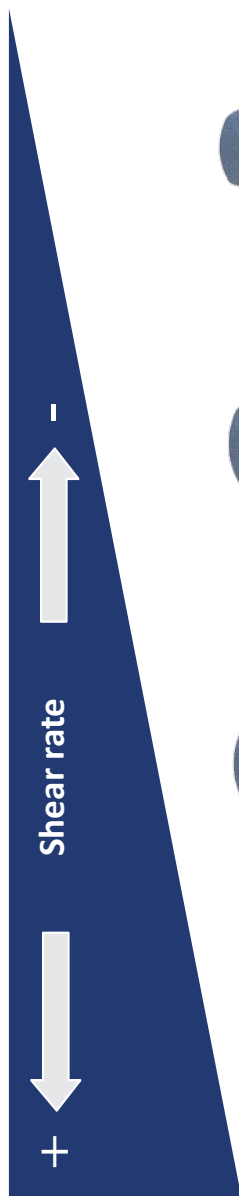
Maschinenbau GmbH

The FlowMix[®]-Company

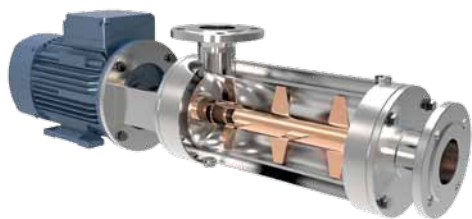


Homogenizer Type DLM/H

Emulsifying, dispersing and shearing



Mixer type DLM/M



Mixer type DLM/P



Mixer type DLM/S



Mixer type DLM/H



■ Function and application of DLM/H

INDAG homogenizer type DLM/H is used for effective mixing, emulsifying, dispersing and aerating of fluids, solids. Shear rate of DLM/H is very high.

A small selection of examples for applications are: continuous production of stable emulsion of oil / water / emulsifier; dilution of Natriumlaurylethersulfat (SELS) / water. DLM/H homogenizers are used in production of colour, varnish, detergent, adhesive. INDAG DLM/H homogenizer for continuous process reduces process time and increases product quality compared to a batch mixing system.

■ Technology of DLM/H

INDAG homogenizer type DLM/H consists of a rotor and stator equipped with axial positioned mixing/shearing elements. Mixing energy is introduced efficiently into product. It is possible (as an option) to heat or cool stator. INDAG mixer DLM/H is designed in a modular way. DLM/H 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 smaller clearance between rotor and stator mixing elements and therefore even more intensive shearing effect. Homogenizer DLM/H with own bearing block can be equipped with every commercially available motor. DLM/H can be equipped with single acting mechanical seal or double acting mechanical seal. INDAG mixers are designed likewise for explosive range and products (ATEX).

Positioning

Horizontal or vertical position of mixer is possible

Pressure levels

6 bar, 10 bar, 16 bar, 25 bar, 40 bar, 100 bar

Materials

1.4301 (AISI 304), 1.4404 (AISI 316L), 1.4539 (AISI 904L), 1.4462 (AISI 318), 1.0421 (AISI 106-A)

Seals

Single acting mechanical seal;
double acting mechanical seal;
stuffing box seal

Connections

EN, DIN, ANSI flange

Rotational speed

1,500 rpm to 6,000 rpm

Capacities

50l/h to 120,000l/h

Temperatures

0 °C to 300 °C

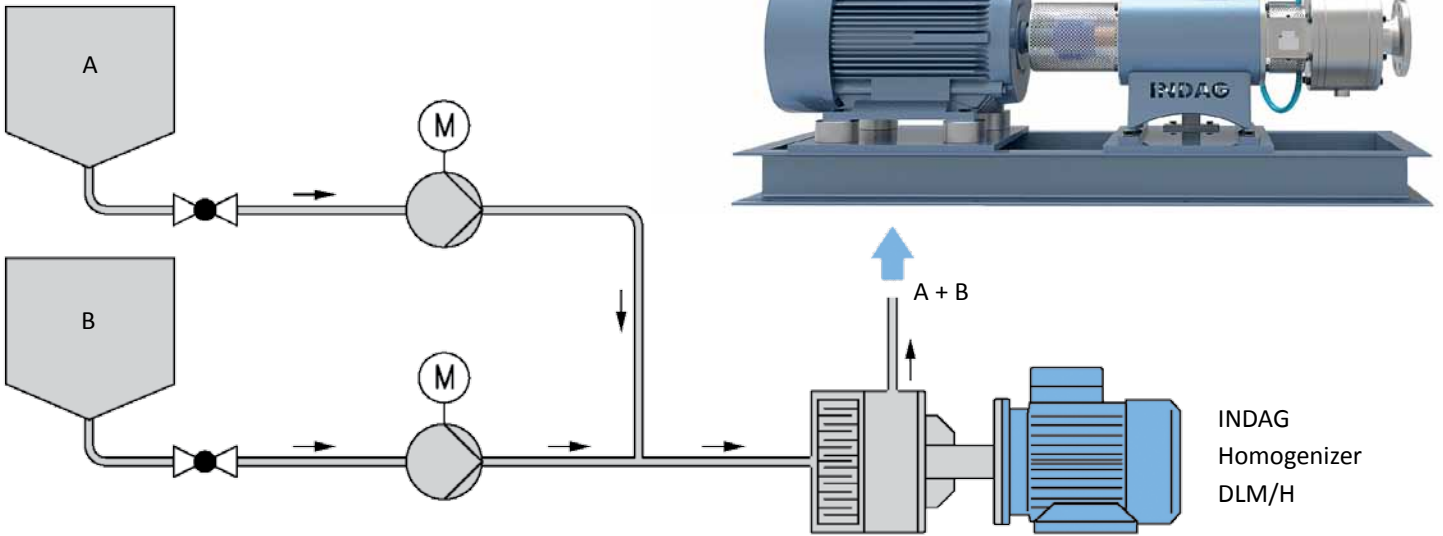
Viscosities

1 mPas to 500,000 mPas

■ Advantages of DLM/H

- Very good self-cleaning during CIP-cleaning
- Efficient introduction of mixing energy
- Modular design of homogenizer
- Hygienic design

■ Flow diagram of DLM/H



■ Mixer sizes and capacities of DLM/H

Type DLM/H ... ST**	unit	2	3	4	5
capacity*	l/h	50-6,000	500-30,000	2,000-55,000	5,000-120,000
connection	DN	25-50	50-65	80-100	100-125
optional	ASME	1-2"	2"-2,5"	3"-4"	4"-5"
power	kW	2.2-4.0	4-11	11-22	37.5-75
rotational speed	1/min	1,000-6,000	1,000-5,000	1,000-3,600	1,000-3,600
mixing stages compact version	2	DLM/H-202 KB	DLM/H-302 KB	DLM/H-402 KB	DLM/H-502 KB
mixing stages bearing block version	3		DLM/H-303 LB	DLM/H-403 LB	DLM/H-503 LB

*Capacity depends on product. ** Type designation ST = standard execution has been left out within the table.

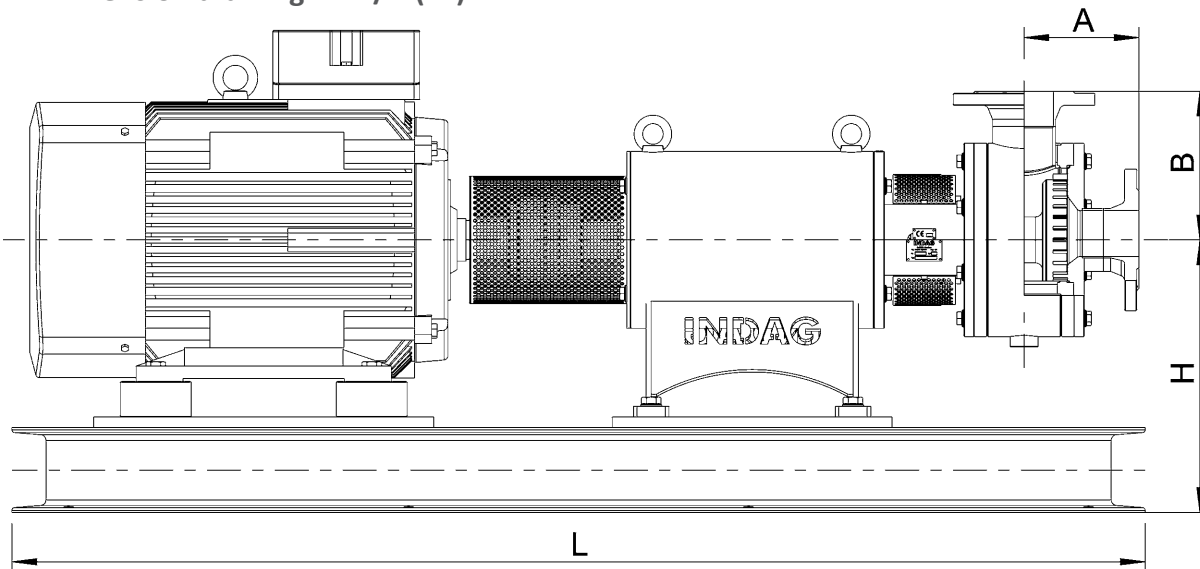


INDAG homogenizer type DLM/H-403 ST HO LB

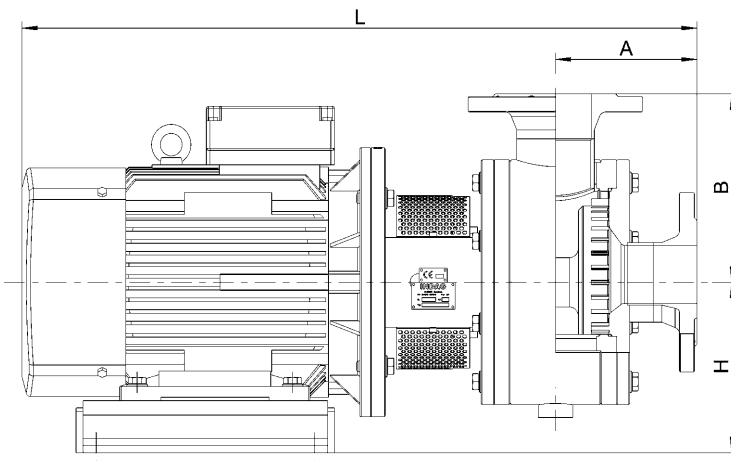


Stator mixing elements three-stages

■ Dimension drawing DLM/H (LB)



■ Dimension drawing DLM/H (KB)



■ Dimension table of DLM/H

Type	unit	A	B	H*	L*
DLM/H-202 KB	mm	130	165	170	595
DLM/H-302 KB	mm	162	180	190	775
DLM/H-402 KB	mm	174	210	190	835
DLM/H-502 KB	mm	202	260	238	1010
DLM/H-202 LB	mm	130	165	250	1200
DLM/H-302 LB	mm	162	180	312	1500
DLM/H-402 LB	mm	174	210	385	1600
DLM/H-502 LB	mm	202	260	460	1800

* 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, emulsifying, dispersing 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.



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