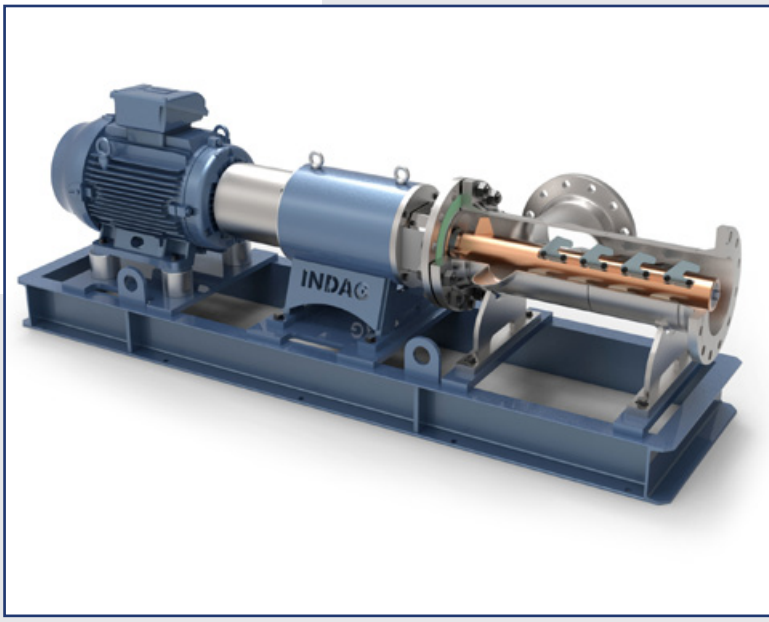
INDAG
Maschinenbau GmbH

The FlowMix®-Company





Hydrolysis Inline Mixer Type DLM/KS

Efficient hydrolyzing of sewage sludge

Function and application of DLM/KS

INDAG Hydrolysis Inline Mixer DLM/KS is used for efficient hydrolysis of dewatered sewage sludge. This target is reached by full condensation of pressure steam inside of dynamical mixer. Without intensive mixing of pressure steam into sewage sludge a lot of heat quantity is lost unused. Volume of downsteam reactor can be reduced. Hydrolyzed sewage sludge will be effectively dewatered in a second dewatering stage. Dry substance (DS) content of dewatered sludge is increased. Transport costs of dewatered sewage sludge – i.e. to burn – is reduced.

Advantages of DLM/KS

- **No pressure loss**
- **No blockage, entwining (clog) free**
- **Homogeneous mixing result**
- **Variable mixing energy by speed change via frequency converter**
- **Higher DS-values of dewatered sewage sludge**
- **Considerable reduction of energy cost (pressure steam)**

Technology of DLM/KS

INDAG mixer type DLM/KS is equipped with flexible mixing elements on rotor. These mixing elements mix intensively and homogeneously pressure steam into sewage sludge. Rotor is supported by own bearing block. Bearing block is designed with strengthened bearings. Mixer DLM/KS is equipped with double acting mechanical seal. Mixer is designed for a maximal pressure of 18 bar and a maximal temperature of 207°C.

Positioning
Horizontal or vertical position of mixer is possible

Pressure level
18 bar

Temperature
207°C

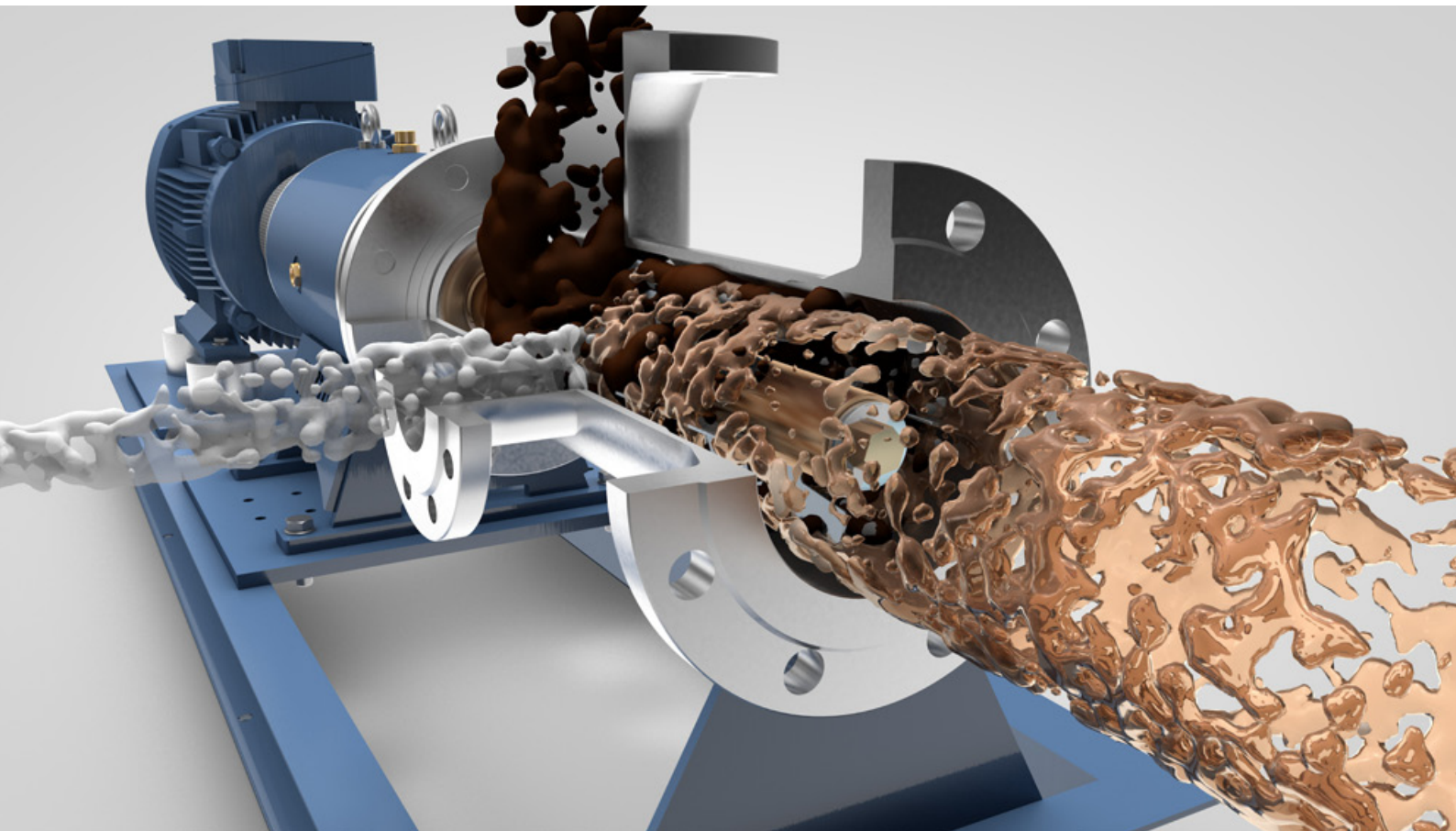
Materials
1.4301 (AISI 304), 1.4404 (AISI 316L)

Seals
Double acting mechanical seal

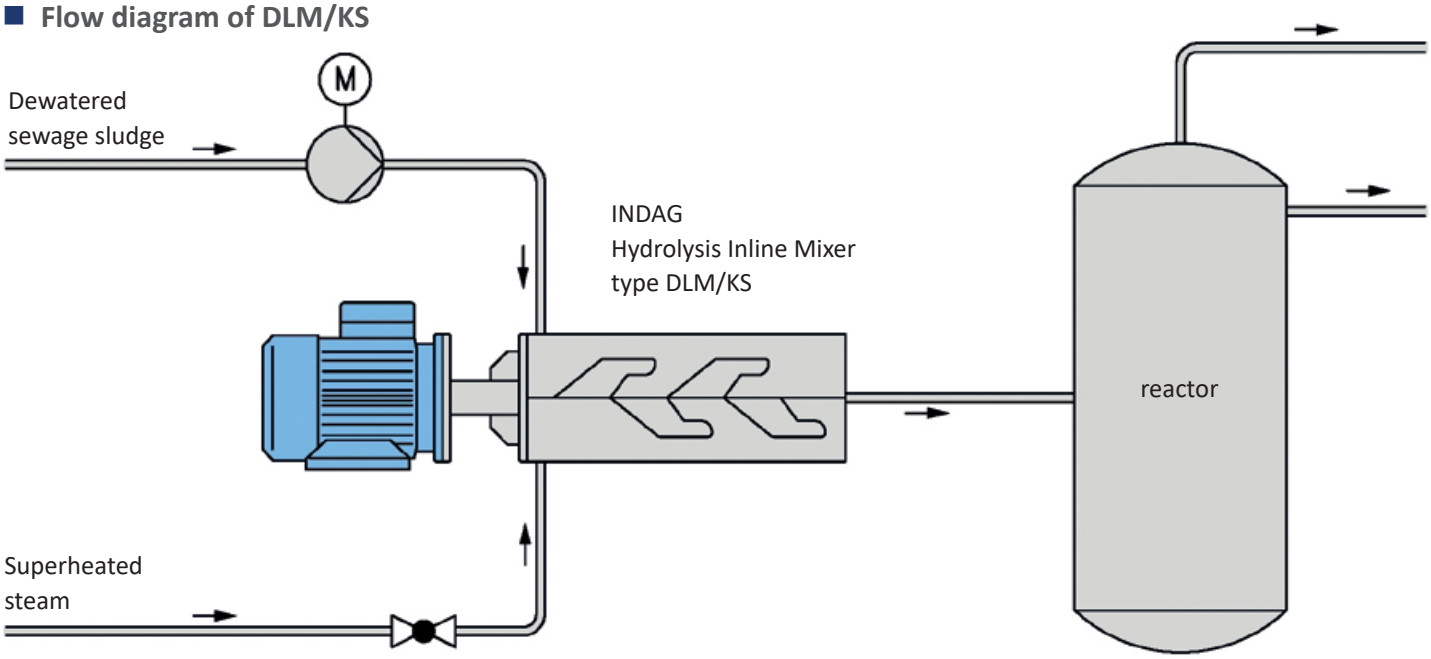
Connections
Flange DIN 2633, ANSI , #300

Rotational speed
600 rpm to 1,700 rpm

Capacities
100 kg/h to 25,000 kg/h



Flow diagram of DLM/KS



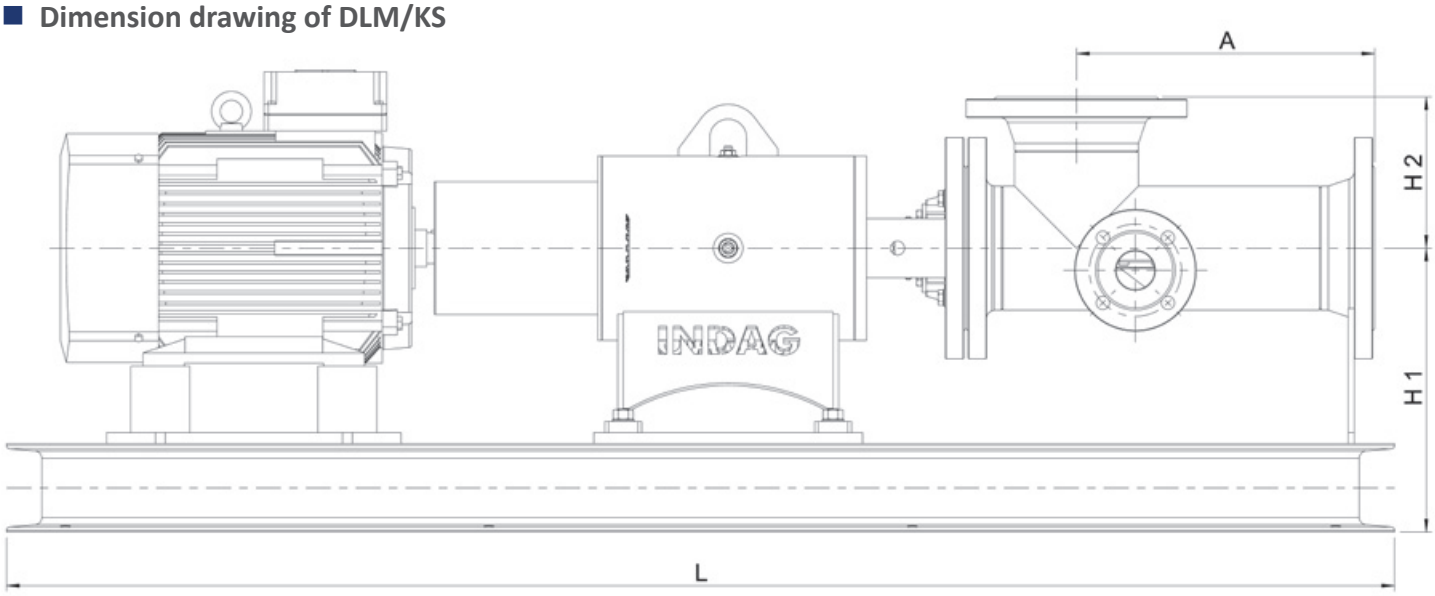
Mixer sizes and capacities of DLM/KS

Type	Unit	DLM/KS-1	DLM/KS-2	DLM/KS-3	DLM/KS-4	DLM/KS-5	DLM/KS-6
total capacity	kg/h	100-500	250-2,000	500-4,000	2,000-8,000	4,000-15,000	6,000-25,000
connections	DN	80	100	150	200	250	300
connections	inch	4”	4”	6”	8”	10”	12”
power	kW	4	7,5	11	18,5	22	30
rotational speed at 50 Hz/60 Hz	rpm	1,450/1,700	1,450/1,700	950/1,150	950/1,150	750/900	600
pressure	bar	18	18	18	18	18	18
pressure	psi	260	260	260	260	260	260
pressure vessel		no	no	no	(yes)	(yes)	(yes)
temperature	°C	207	207	207	207	207	207
temperature	°F	404	404	404	404	404	404



INDAG Hydrolysis Inline Mixer type DLM/KS

Dimension drawing of DLM/KS



Dimension table DLM/KS

Type	Unit	L	H1	A	H2
DLM/KS-1	mm	1,470	152	295	149
DLM/KS-2	mm	1,610	312	335	198
DLM/KS-3	mm	1,885	385	405	225
DLM/KS-4	mm	2,195	455	485	265
DLM/KS-5	mm	2,490	530	575	320
DLM/KS-6	mm	2,798	610	660	385

Company profile

For more than 65 years, INDAG has been developing, designing and manufacturing dynamic inline mixers in Borsfleth near Hamburg.
INDAG mixers are designed to meet the highest quality and efficiency standards.

Product range and services

Our product range covers: Dynamic inline mixers for gentle, intensive, or high shear mixing. Possible applications are: Mixing, emulgating, dispersing and foaming.
Our services include: Commissioning, maintenance, and repair of INDAG mixers, spare parts service and customer support based on many years of experience.

INDAG
Maschinenbau GmbH

Ivenfleth 13
25376 Borsfleth / GERMANY
Phone: +49 4124 9876-0
Fax: +49 4124 9876-54
E-Mail: info@indag.de
www.indag.com