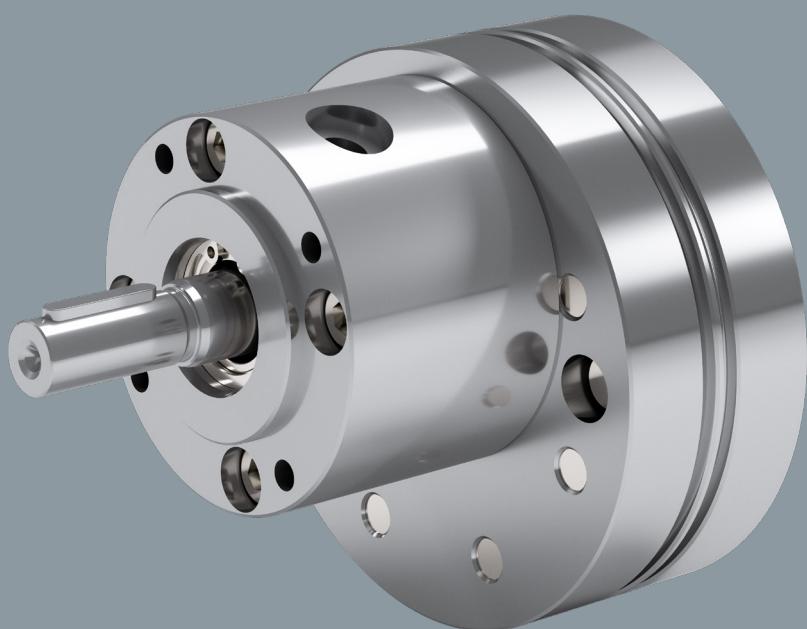


KD1

GEAR METERING PUMPS



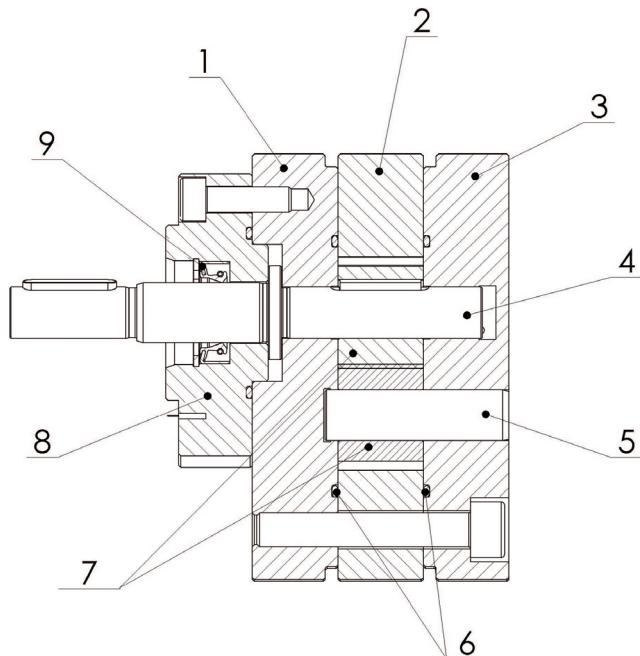
KRACHT®
FLUID TECHNOLOGY AND SYSTEMS

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General

Construction



- 1 Front plate
- 2 Center plate
- 3 Rear plate
- 4 Drive shaft
- 5 Arbor
- 6 O-rings
- 7 Gears
- 8 Seal carrier
- 9 Shaft seal

Description

The KD1 is a high precision external gear metering pump. With extremely small clearances and an optimal gear geometry the KD1 has a very high volumetric efficiency also at difficult combinations e.g. high pressure together with low turning speed and low viscosities.

The main parts of the pump are made of stainless steel. Because of that a wide range of fluids can be pumped. For various kinds of applications different types of radial lip-type seals, a stuffing box packing or a magnetic coupling are available. On request the KD1 can be supplied as a pump-motor unit.

Technical data

General characteristics

Mounting position	Any
Direction of rotation	Clockwise (Looking at the end of the pump shaft)
Shaft end	Cylindrical
Shaft seals	One radial lip-type seal Three radial lip-type seals Gland packing Magnetic coupling
Options	Pressure sensor (in conjunction with connection block) Temperature sensor (in conjunction with connection block) Heating jacket

Technical characteristics

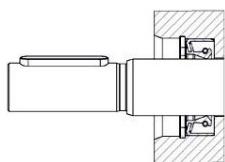
Nominal sizes in cm³/rev	0.1 · 0.3 · 0.6 · 1.2 · 1.8 · 2.4 · 3.0 · 4.8 · 6.0 (other nominal sizes on request)	
Clearance groups	S	Small clearance
	M	Medium clearance
	L	Large clearance
Hydraulic connections (input)	G ³ / ₈ rear connection G ¹ / ₂ side connection	(in conjunction with connection block)
Hydraulic connections (output)	G ¹ / ₄ rear connection G ¹ / ₂ side connection	(in conjunction with connection block)
Maximum operating pressure (output)	150 bar	(depending on viscosity, speed and motor power)
Operating pressure (input)	Shaft seal: Radial lip-type seals FKM 0 ... 10 bar PTFE 0 ... 5 bar	
	Shaft seal: Gland packing PTFE/Graphite 0 ... 50 bar	
	Shaft seal: Magnetic coupling Stainless steel 0 ... 10 bar	
Speed	10 ... 200 1/min	(depending on pressure, viscosity and motor power)
Viscosities	min max	1.0 mm ² /s (depending on pressure and speed) Depending on inlet conditions, speed and motor power
Media temperatures	Shaft seal: Radial lip-type seals FKM -20 ... 150 °C PTFE -20 ... 200 °C	
	Shaft seal: Gland packing PTFE/Graphite -20 ... 200 °C	
	Shaft seal: Magnetic coupling Stainless steel -20 ... 150 °C	
Ambient temperatures	-30 ... 120 °C	

Materials

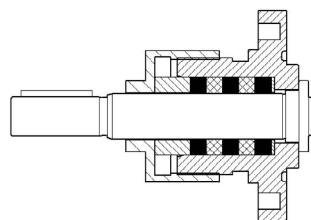
Pump plates	Stainless steel X90CrMoV18 (1.4112)
Gears	Stainless steel X90CrMoV18 (1.4112)
Drive shaft and arbor	Stainless steel X90CrMoV18 (1.4112)
Sealing materials radial shaft seals	FKM PTFE
Sealing materials gland packing	PTFE/Graphite
Magnetic coupling	Stainless steel
O-rings	FKM PTFE
Bearings	Material: X155CrVMo12-1 Chemical coating: Nickel with PTFE
Coatings for housings and gears	Standard: Without coating On request: DLC (Diamond-like carbon), WC/C (tungsten carbide/carbon) or triple-cut

Shaft seals

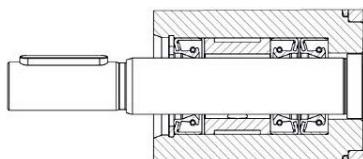
One radial lip-type seal



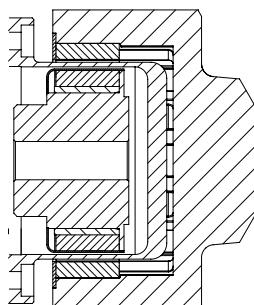
Gland packing



Three radial lip-type seals



Magnetic coupling



Versions

Pump with free shaft end

Pump without connection block
with rear hydraulic connections

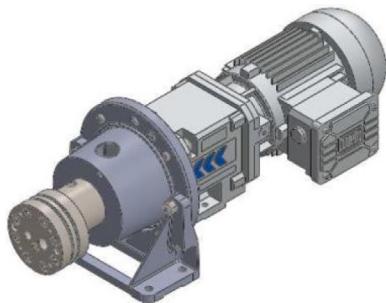


Pump with connection block
with lateral hydraulic connections



Motor-pump unit with mechanical coupling

Pump without connection block
with rear hydraulic connections

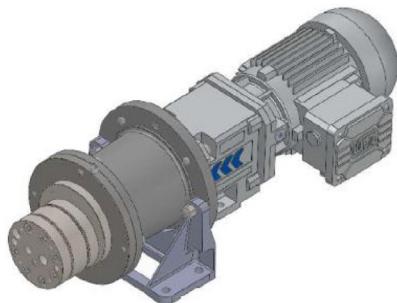


Pump with connection block
with lateral hydraulic connections

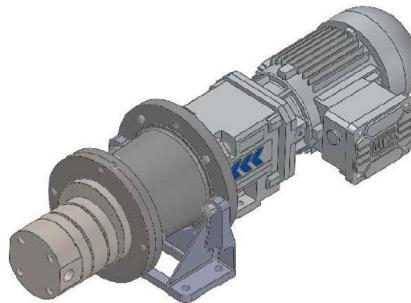


Motor-pump unit with magnetic coupling

Pump without connection block
with rear hydraulic connections



Pump with connection block
with lateral hydraulic connections



Type key

KD1	/	0.1	S	1	Z	G3/8R	G1/4R	1	1	0	1W	F	F	0	0	0
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

1 Product

KD1 Gear metering pump

2 Nominal sizes

0.1 · 0.3 · 0.6 · 1.2 · 1.8 · 2.4 · 3.0 · 4.8 · 6.0

3 Clearance groups

S	Clearance group S - small clearance
M	Clearance group M - medium clearance
L	Clearance group L - large clearance

4 Direction of rotation

1 Clockwise (Looking at the end of the pump shaft)

5 Shaft end

Z Cylindrical

6 Hydraulic connection suction side

G3/8R G³/₈ - connection on rear (without connection block)G1/2S Connection block with G¹/₂ - connection on the side

7 Hydraulic connection pressure side

G1/4R G¹/₄ - connection on rear (without connection block)G1/2S Connection block with G¹/₂ - connection on the side

8 Housing material

1 X90CrMoV18 (1.4112)

9 Gear material

1 X90CrMoV18 (1.4112)

10 Gear set and housing coating

0 Uncoated (coatings available on request)

11 Shaft seals

1W One radial lip-type seal

3W Three radial lip-type seals

MK Prepared for magnetic coupling

PA Gland packing

12 Shaft seal material

0 Without (only in conjunction with 11:MK)

F FKM (only in conjunction with 11:1W or 3W)

P PTFE (only in conjunction with 11:1W or 3W)

K Graphite/PTFE (only in conjunction with 11:PA)

13 Housing seal material

F FKM

P PTFE

14 Bearing type

0 No bearing bushes, shaft runs in stainless steel housing

1 With bearing bushes

Manufacturing method: Turned

Material: X155CrVMo12-1

Chemical coating: Nickel with PTFE

15 Sensors

0 Without

P Connection block with pressure sensor

T Connection block with temperature sensor

PT Connection block with pressure and temperature sensor

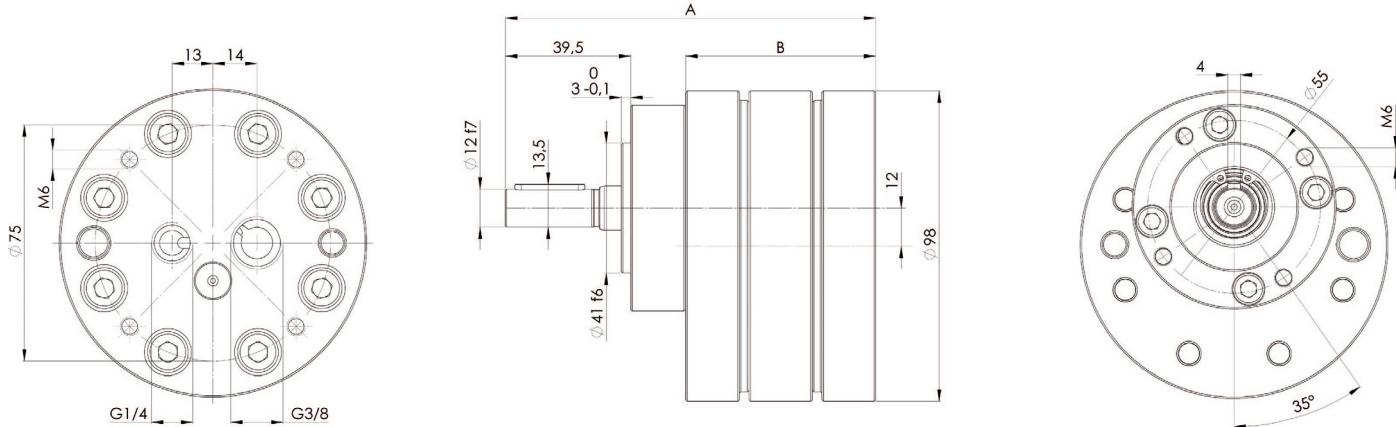
16 Heating jacket

0 Without

H With heating jacket

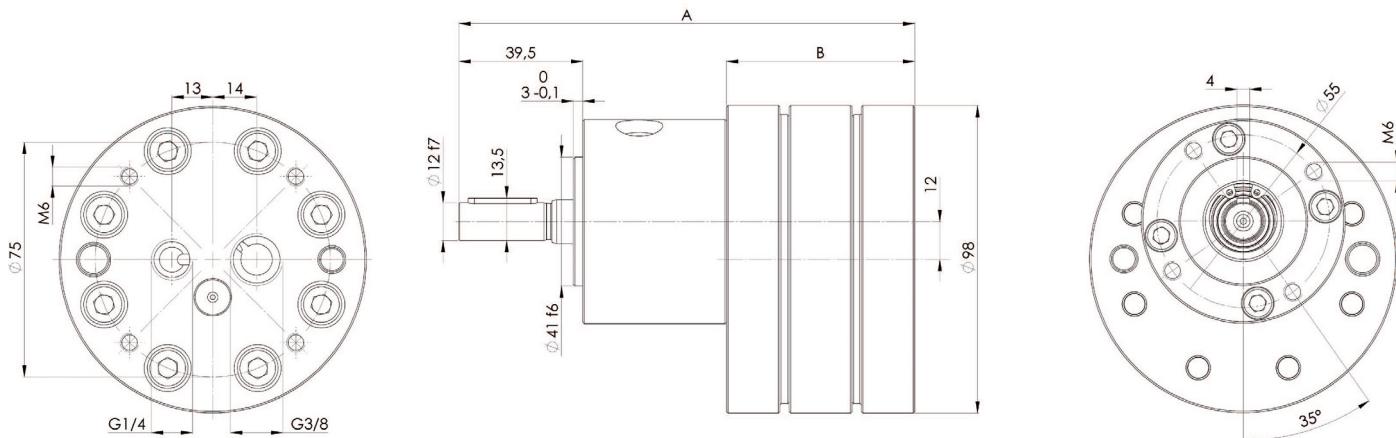
Dimensions

1W version with one radial shaft seal



Nominal sizes									
	0.1	0.3	0.6	1.2	1.8	2.4	3.0	4.8	6.0
A	99	103	109	105	109	113	117	118	123
B	42	46	52	48	52	56	60	61	66

3W version with three radial shaft seals



Nominal sizes									
	0.1	0.3	0.6	1.2	1.8	2.4	3.0	4.8	6.0
A	127	131	137	133	137	141	145	146	151
B	42	46	52	48	52	56	60	61	66

Notes

Drawings for KD1 with gland packing, magnetic coupling or connection block available on request.

Other nominal sizes available on request.

Dimensions in mm

Notes

Notes

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