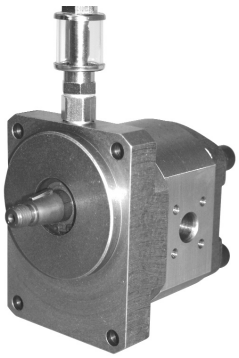
KRACHT



DuroTec® Gear Pumps

KP 1

Description

DuroTec® gear pumps KP 1 for abrasive and poor lubricating fluids.

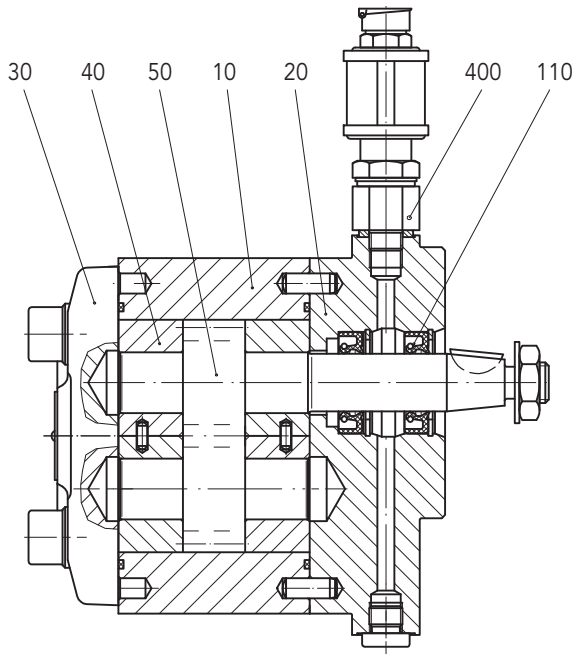
The limit of applications of transfer gear pumps has been reached when the transfer medium does not have the required lubricity for a proper function of the pump and a high working pressure is needed at the same time. Such problematic fluids are for example silicates (sodium silicate), isocyanates and polyols with hard fillers as can be found in the PU-technology. Under air or humidity influence, crystallisation of these fluids occurs and agrivates the lack of lubricity.

The gear (gear wheel and shafts) is surrounded by SIC sleeve bearing. The gear is high-rigid protected against wear.

Depending on the medium to be transferred, working pressures up to 150 bar are possible with driving speeds of about 1500 1/min.
Solid body parts with a size < 50 µm and a hardness acc. to Vickers < 2500 will be accepted in the transfer medium.

The main field of application for the DuroTec® pumps KP 1 are mainly multi-component-systems in the PU-technology. Everywhere where standards pumps do not reach a satisfying lifetime, e. g. where polyols with hard fillers have to be handled, this pump offers a reliable alternative.

Construction



10 Housing
20 Flange cover
30 End cover
40 Doublegland bearing
50 Gear
110 Shaft seal
400 Quench tank

Characteristics

Displacement	V_g	5.5 / 8 / 11 / 16 / 22 cm^3/r
Mounting position		horizontal (quench tank above)
Direction of rotation		right (left on request)
Fixing type		Flange connection (dimensions page 6)
Suction connection		Flange (threaded ports on request)
Pressure connection		Flange (threaded ports on request)
Working pressure – suction side	$p_{e\ min}$ $p_{e\ max}$	= – 0.4 bar = 4.0 bar FKM rotary shaft lip-type seal (at 1500 1/min) = 5.0 bar FKM rotary shaft lip-type seal (at 1000 1/min) = 10.0 bar FKM rotary shaft lip-type seal (at 500 1/min) = 16.0 bar mechanical seal
Working pressure – pressure side	$p_{n\ max}$	= 150 bar (depending on transfer medium)
Speed	n	1500 1/min (depending on transfer medium)
Viscosity	ν	20000 mm^2/s (higher viscosities on request)
Fluid temperature	ϑ_{max}	150 °C
Ambient temperature	$\vartheta_{u\ min}$ $\vartheta_{u\ max}$	= – 20 °C = 60 °C
Efficiency		Vol. efficiency 85 % at 100 bar, n = 1000 1/min with test medium HLP 46 at 20 °C
Shaft end		Tapert 1 : 5 (Hexagon nut M 12 x 1.5) Involute spline (B 17 x 14 DIN 5482)

Description Special Code

Special Code	Note
245	DuroTec®
297	Flange cover and end cover PVD coated
380	mechanical seal with quench tank
437	with axial clearance compensation
439	with axial clearance compensation (fluid temperature ϑ_{max} 100 °C)
492	Stainless steel version, gear nickel-phosphorus coated

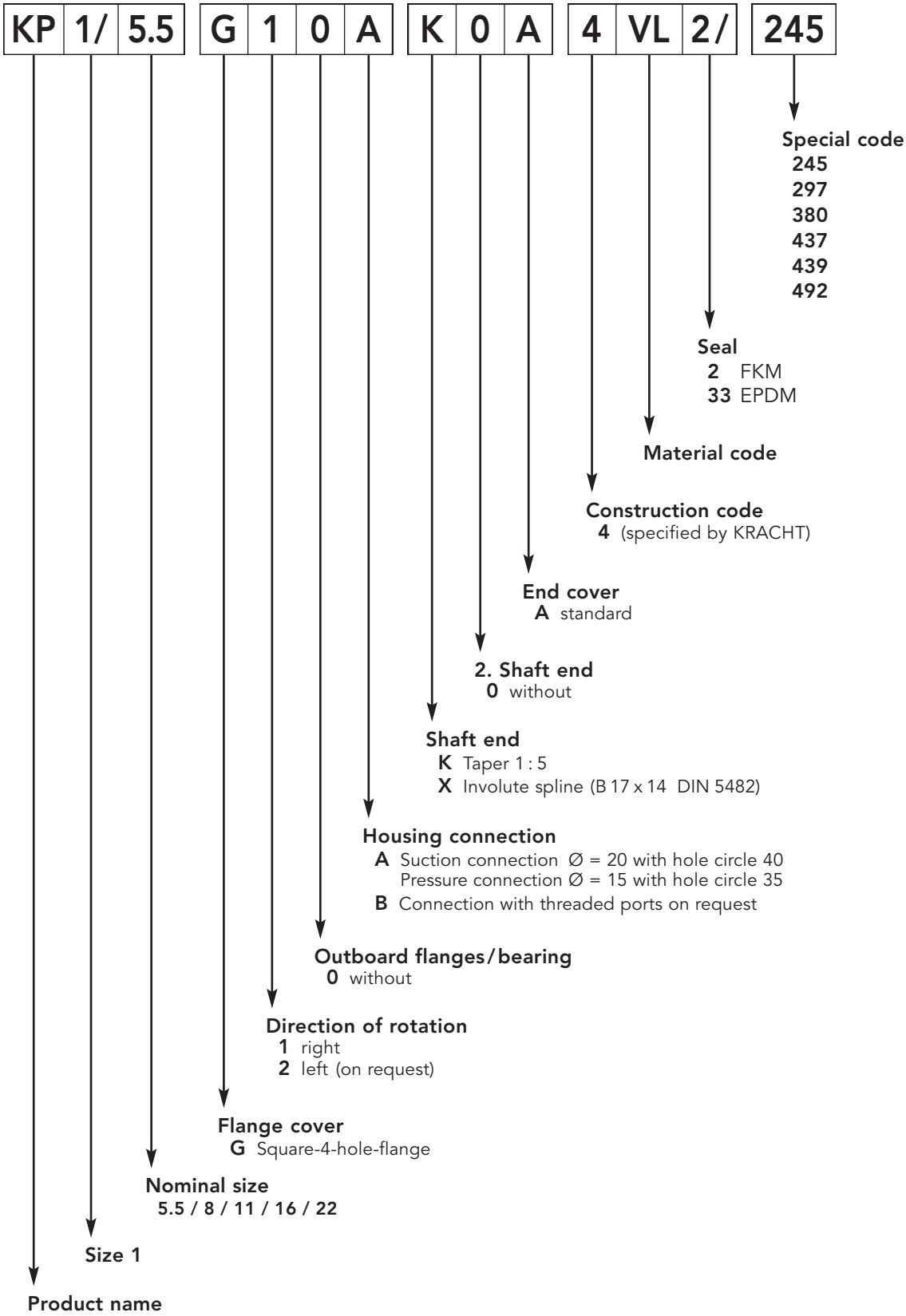
Available Pump Types

Pump-type	Available sizes	Housing material	Bearing	Bearing material	Gear	Shaft seal	non-ferrous metals	Shaft end
KP1/../245	5.5 / 8 / 11 / 16 / 22	EN-GJS-600 Flange cover EN-GJS-400 End cover EN-GJS-400	Double gland bearing without axial clearance compensation	SiC	CVD-coated	Double rotary shaft lip-type seal FKM, FEP, EPDM	yes	Taper 1 : 5 or involute spline
KP1/../297	5.5 / 8 / 11 / 22	EN-GJS-600 Flange cover 1.4404 PVD coated End cover 1.4404 PVD coated	Double gland bearing without axial clearance compensation	SiC	CVD-coated	Double rotary shaft lip-type seal FKM, FEP, EPDM	yes	Taper 1 : 5 or involute spline
KP1/../380	22	EN-GJS-600 Flange cover EN-GJS-400 End cover EN-GJS-400	Double gland bearing without axial clearance compensation	SiC	CVD-coated	Mechanical seal + seal chamber	yes	Taper 1 : 5
KP1/../437	22	EN-GJS-600 Flange cover EN-GJS-400 End cover EN-GJS-400	Double gland bearing with axial clearance compensation	SiC	CVD-coated	Double rotary shaft lip-type seal FKM, FEP, EPDM	yes	Taper 1 : 5 or involute spline
KP1/../439	5.5 / 8 / 11 / 22	EN-GJS-600 Flange cover EN-GJS-400 End cover EN-GJS-400	Double gland bearing with axial clearance compensation	Steel nitrated	CVD-coated	Double rotary shaft lip-type seal FKM, FEP, EPDM	yes	Taper 1 : 5 or involute spline
KP1/../492	5.5 / 11	1.4404	Double gland bearing without axial clearance compensation	SiC	nickel-phosphorus coated	DRWDR FKM	yes	Taper 1 : 5

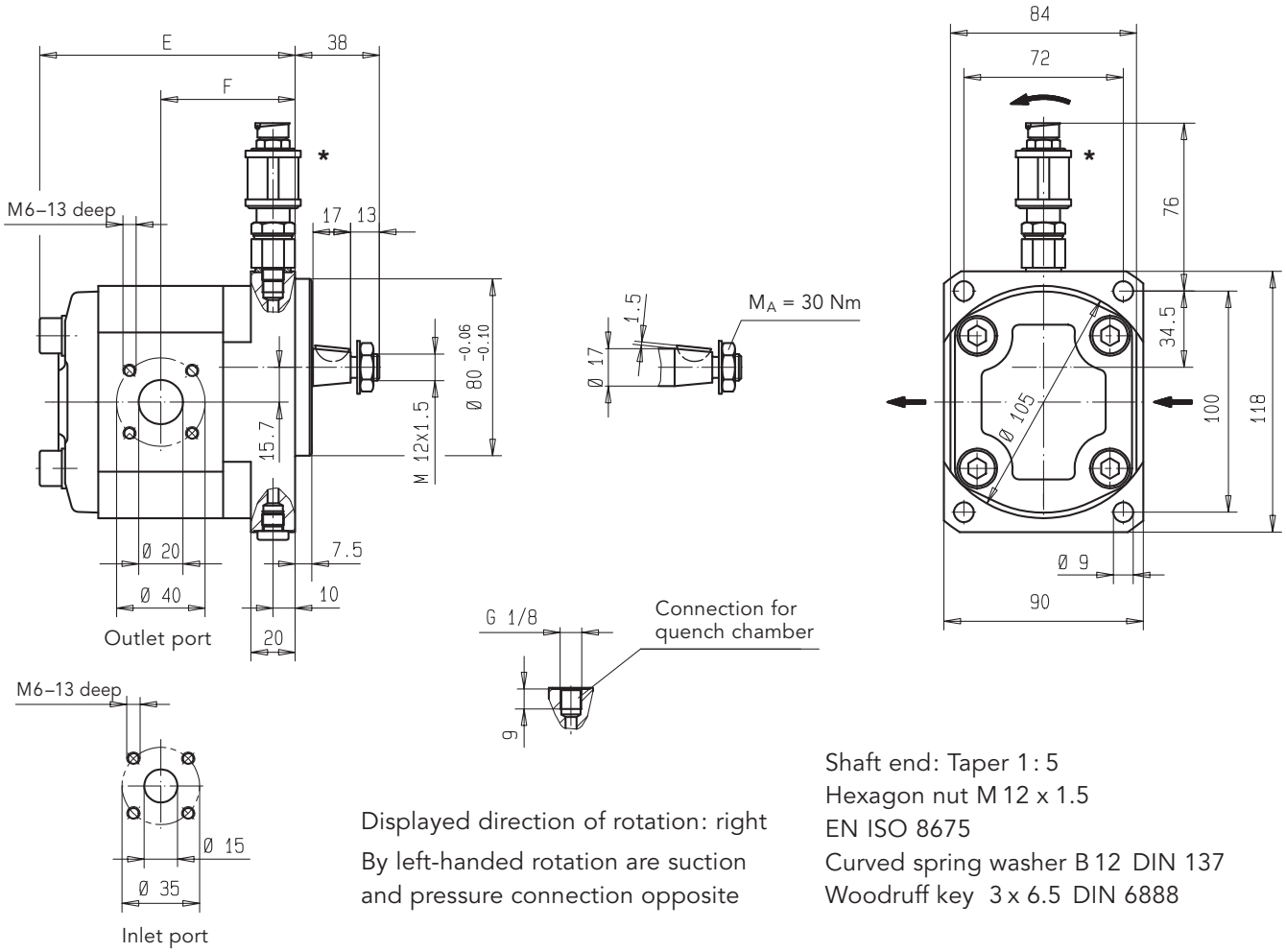
(Quench tank on request available)

Type Key

Ordering example



Dimensions Shaft end Taper (in mm)



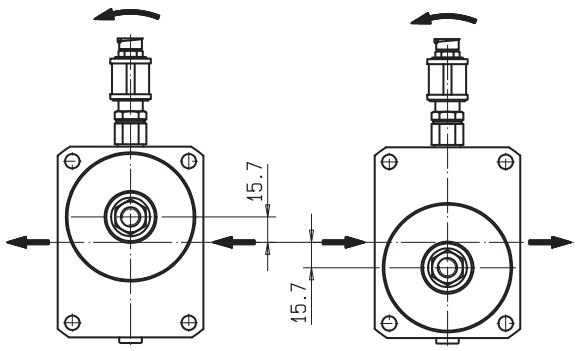
Displayed direction of rotation: right

By left-handed rotation are suction and pressure connection opposite

Shaft end: Taper 1 : 5
Hexagon nut M 12 x 1.5
EN ISO 8675
Curved spring washer B 12 DIN 137
Woodruff key 3 x 6.5 DIN 6888

	Displacement / Nominal size				
	5.5	**8**	**11**	**16**	**22**
E	106.2	110.4	115.4	123.8	134.6
F	56.1	58.2	60.7	64.9	70.3

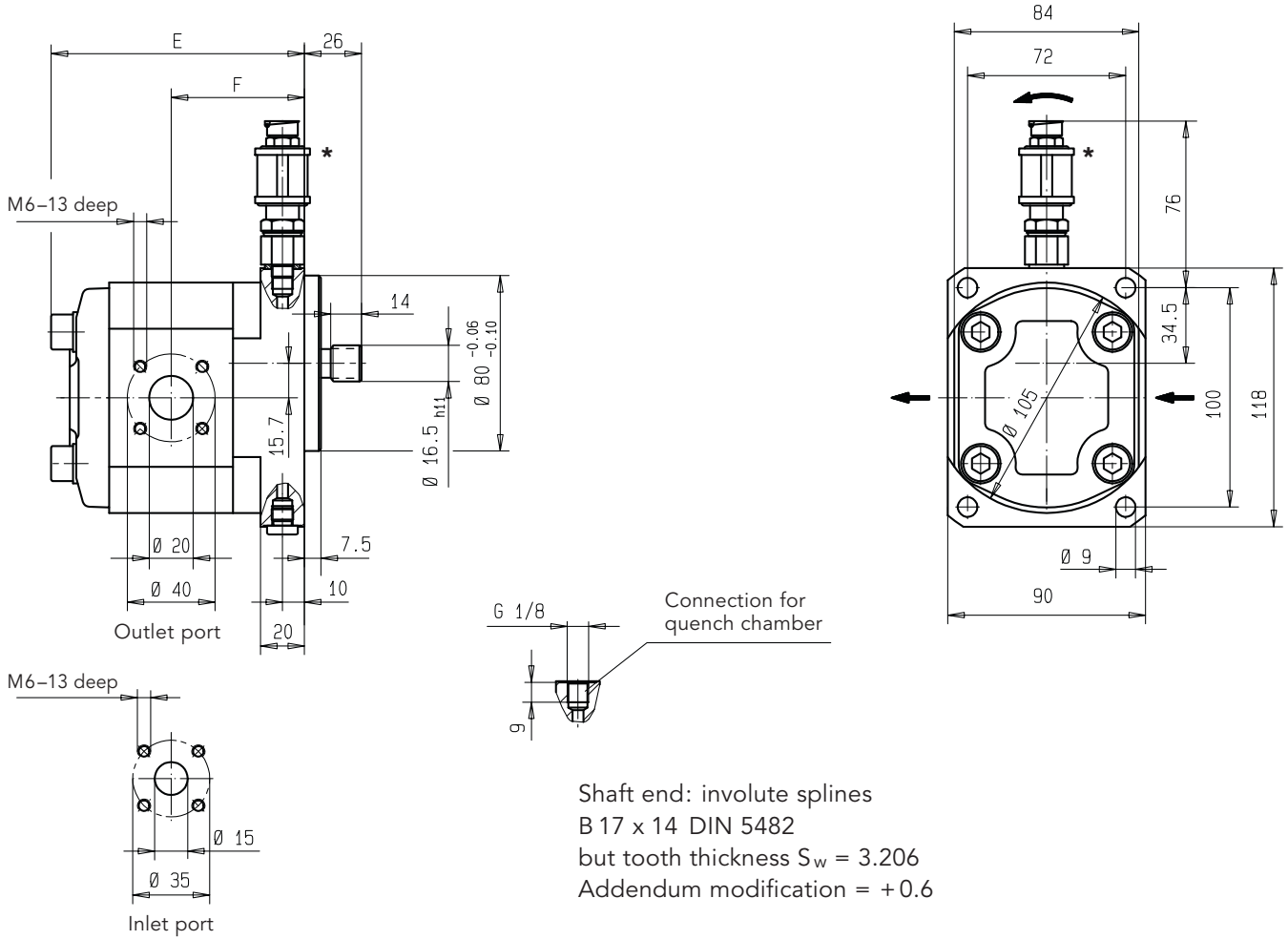
Direction of rotation



Change of the transfer direction with constant direction of rotation by turn to the pump at 180°.

* Quench tank as component part available (Part no. B.0177250002)

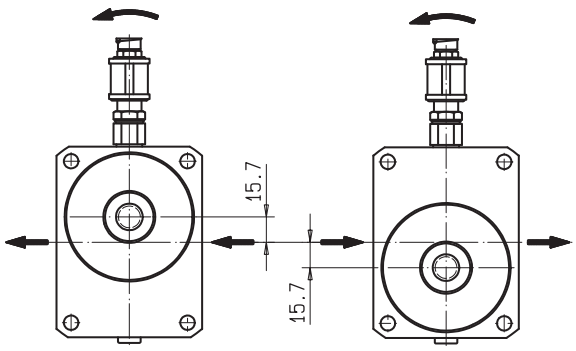
Dimensions Shaft end Involute Splines (in mm)



Shaft end: involute splines
B 17 x 14 DIN 5482
but tooth thickness S_w = 3.206
Addendum modification = +0.6

	Displacement / Nominal size				
	5.5	**8**	**11**	**16**	**22**
E	106.2	110.4	115.4	123.8	134.6
F	56.1	58.2	60.7	64.9	70.3

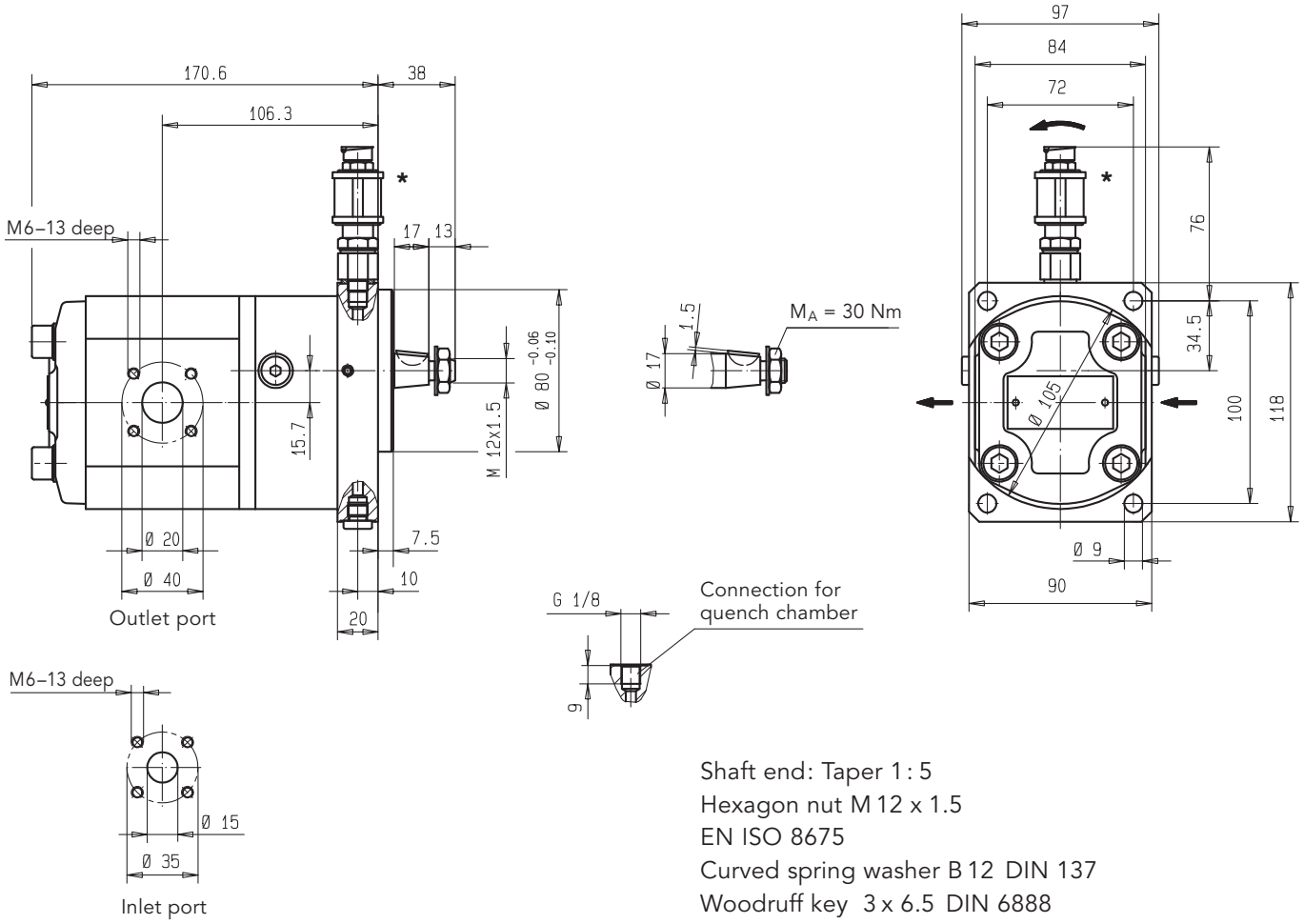
Direction of rotation



Change of the transfer direction with constant direction of rotation by turn to the pump at 180°.

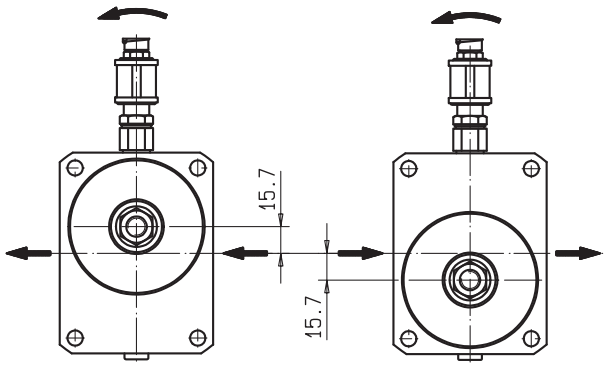
* Quench tank as component part available (Part no. B.0177250002

Dimensions Shaft end Taper, Version 380 (in mm)



Shaft end: Taper 1 : 5
Hexagon nut M 12 x 1.5
EN ISO 8675
Curved spring washer B 12 DIN 137
Woodruff key 3 x 6.5 DIN 6888

Direction of rotation



Change of the transfer direction with constant direction of rotation by turn to the pump at 180°.

* Quench tank as component part available (Part no. B.0177250002)

Product Portfolio

Transfer Pumps

Transfer pumps for lubricating oil supply equipment, low pressure filling and feed systems, dosing and mixing systems.

Mobile Hydraulics

Single and multistage high pressure gear pumps, hydraulic motors and valves for construction machinery, vehicle-mounted machines.

Flow Measurement

Gear and turbine flow meters and electronics for volume and flow metering technology in hydraulics, processing and laquering technology.

Industrial Hydraulics / Test Bench Construction

Cetop directional control and proportional valves, hydraulic cylinders, pressure, quantity and stop valves for pipe and slab construction, hydraulic accessories for industrial hydraulics (mobile and stationary use).

Technology Test benches / Fluid Test benches.

DuroTec® Gear Pumps KP 1 / GB / 04.12

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