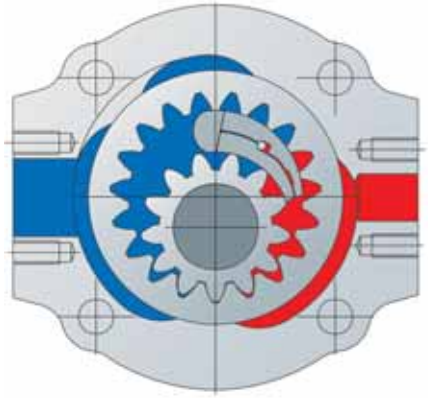
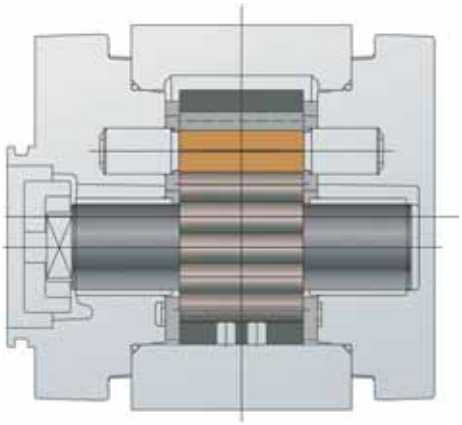
Internal gear pump
Type EIPS 3
with constant displacement volume

EIPS 3

Characteristics

- Internal gear pump with axial and radial gap compensation
- Radial compensation with segments
- Pressure cover
- Field of application: Mobile hydraulic systems, e.g. for fork lifts, industrial hydraulic
- Direct fixture
- SAE-B-Flange with cylindrical shaft end
- Long time life
- Low pulsation (pressure pulsation ~ 2%)





Technical Data:

Rated Size NG	020	025	032	040	050
Spec. volume V_{th} [cm³/rev]**	20.0	24.8	32.1	40.1	50.3
Continuous operating pressure [bar]	250				
Peak operating pressure [bar] max.10 sec.15% duty cycle	320			300	280
Cut-in pressure peak 100 ms [bar]	350			325	300
Max. speed [min⁻¹]	3,600	3,200	3,000	2,500	1,800
Nominal speed [min⁻¹]	200 – 3,600	200 – 3,200	200 – 3,000	100 – 2,500	100 –1,800
Operating viscosity [mm²/s]	10 – 300				
Starting viscosity [mm²/s]	2,000				
Operating temperature [°C]	-20 to +100				
Operating medium	HL – HLP DIN 51 524 part 1/2				
Max. medium temperature [°C]	120				
Min. medium temperature [°C]	-40				
Max. ambient temperature [°C]	80				
Min. ambient temperature [°C]	-40				
Max. admission pressure (intake side) [bar]	2 bar absolute				
Min. admission pressure (intake side) [bar]	0.8 bar absolute (Start 0.6)				
Weight appr. [kg]:	4.9	5.3	5.5	5.8	6.3
Degree of filtration	Class 20/18/15 due to ISO 4406				
Life expectancy	10 x 10⁶ LW against peak operating pressure (Industrialversion with cylindrical shaft) 1 x 10⁶ LW against peak operating pressure (Mobileversion with oldham coupling)				

Efficiency η_{vol}:	93	93	94	95	95
Efficiency η_{hm}:	91	92	92	93	93
Pump noise* (measured in sound chamber) dB[A]	62	63	64	65	66
	n = 1.450	Δp = 250 bar	T = 50 °C	Medium: HLP 46	
	*Measured in anechoic room of Eckerle Hydraulic Division; Axial microphone distance 1.0 m				

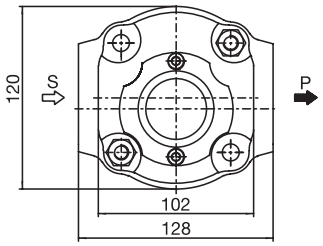
** Due to manufacturing tolerances the displacement volume could vary

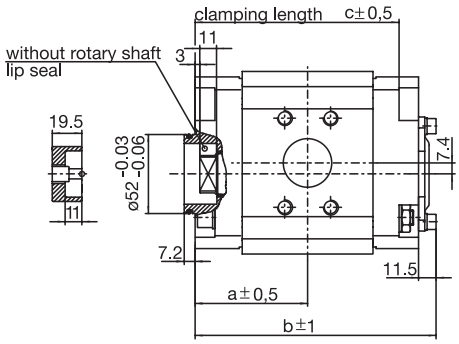
Dimensions

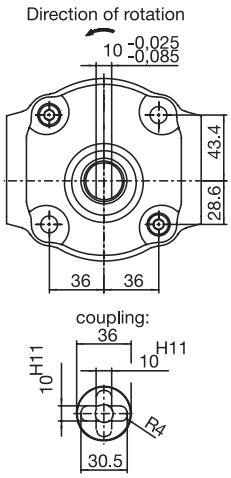
Pump with oldham coupling

Order example: EIPS3 - _ _ _LN33-1X

NG	a	b	c
020	60.3	131	106.5
025	63.5	137.5	113
032	68.5	147.5	123
040	74	158,5	134
050	81	172,5	148





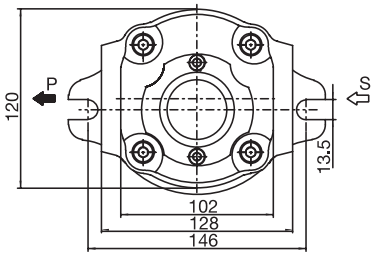


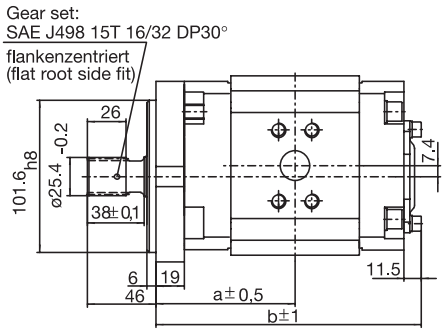
Coupling included in scope of delivery.
Provide M10 DIN 912 fastening screws with DIN 433 plain washer, tightening torque M=49+5 Nm

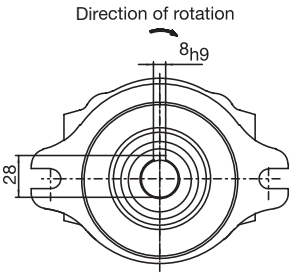
Pump with SAE-B-2-hole flange and splint shaft

Order example: EIPS3 - _ _ _RL23-1X

NG	a	b
020	79.3	150
025	82.5	156.5
032	87.5	166.5
040	93	177.5
050	100	191.5



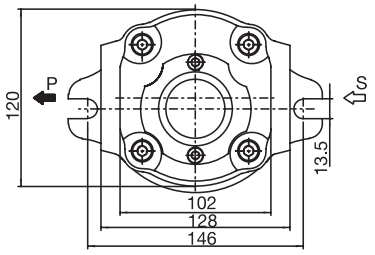


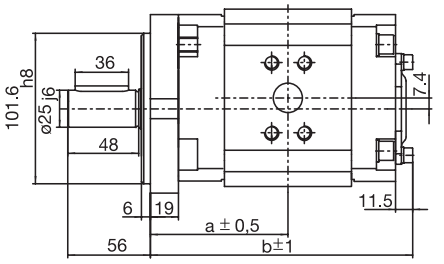


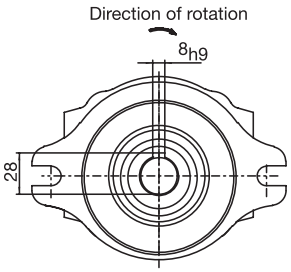
Pump with SAE-B-2-hole flange and cylindrical shaft

Order example: EIPS3 - _ _ _RK23-1X

NG	a	b
020	79.3	150
025	82.5	156.5
032	87.5	166.5
040	93	177.5
050	100	191.5



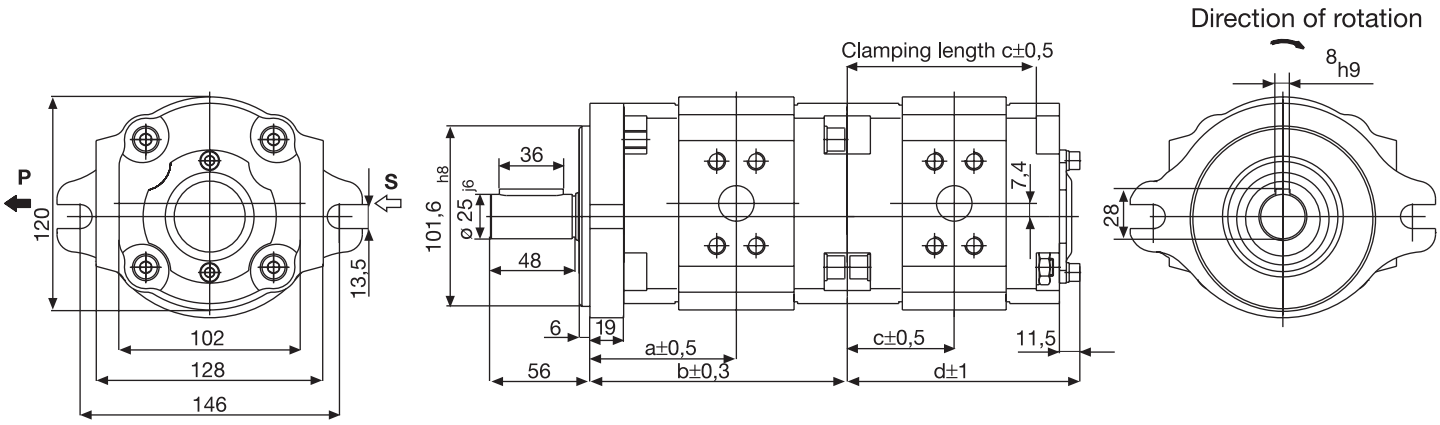




Dimensions
Ordering code

Doublepump with SAE-2-hole flange and cylindrical shaft

Order example: EIPS3 - _ _ _RK23-1X
EIPS3 - _ _ _RP33-1X



NG	a	b	c	d
020	79.3	138.5	60.3	131
025	82.5	145	63.5	137.5
032	87.5	155	68.5	147.5
040	93	166	74	158.5
050	100	180	81	172.5

Ordering code

EIP S3-032RK23-10 S123

Eckerle internal gear pump

Type S: Segmental pump

Overall size

Rated size, three digits

Sense of rotation R: Clockwise
L: Anticlockwise

Shaft end K: Cylindrical with cone
L: SAE gear with cone
N: Two-flange engagement with cone
P: Cone tooth system on both sides
cone is standard
(cone = add-on facility for additional pumps to create multiple-flow pumps)

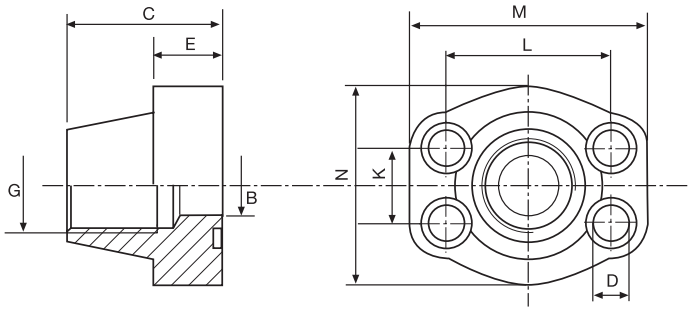
Fastening flange: 2: SAE/B-2-hole flange, centre-Ø 101.6
3: Direct fixture
– other flanges on request –

Intake and delivery connection 3: SAE-flange connections
– other connections on request –

Revision code 1st number: Change of mounting dimensions
2nd number: Change of pump with same mounting dimensions

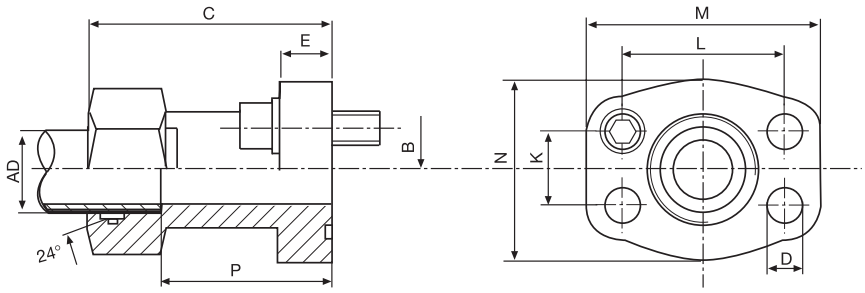
Special version number (not applicable with standard pumps or when the type key is unambiguous)

SAE flange



Type	Article number	K	L	G	B	C	D	E	M	N	p max	Bolts	O-Ring	Weight
EFG3/4-SAE34-C	0707040027	22.2	47.6	G3/4"	19	36	10.5	18	66	52	344 bar	M10 x 35	24.99x3.53	0.39
EFG11/4-SAE114-C	0707040029	30.2	58.7	G11/4"	32	41	11.5	21	80	72	279 bar	M10 x 40	37.69x2.53	0.66

SAE flange according DIN 3901



Type	Article number	K	L	AD	B	C	D	E	P	M	N	pmax	Bolts	O-Ring	Weight
V-AD22-SAE34-C	0707040031	22.2	47.6	22	19	60	11	14	51	66	52	344 bar	M10 x 35	24.99x3.53	0.35
V-AD35-SAE114-C	0707040033	30.2	58.7	35	30	65	11	16	56	80	72	160 bar	M10 x 40	37.69x2.53	0.72

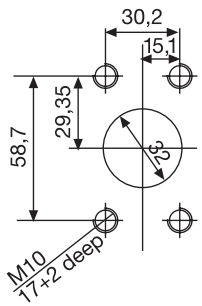
Order example

EIPS 3 - 020 RK 23 - 1X

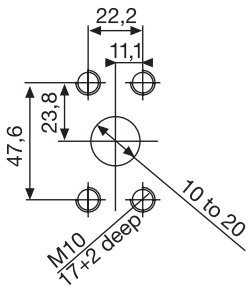
Segmental pump overall size 3 with 20 cm³/rev., clockwise rotation, cylindrical shaft with cone, SAE/B-2-hole flange connection, SAE flange connection, revision code 10

Intake and delivery connections due to SAE J518C

Intake connection



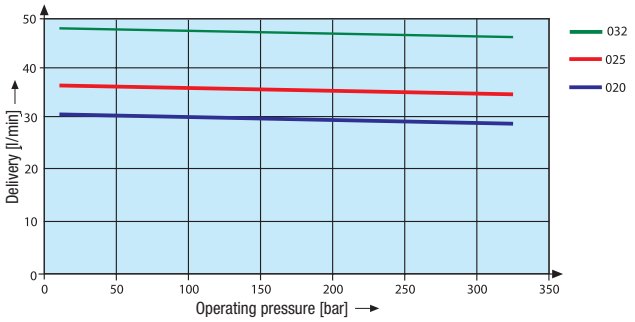
Delivery connection

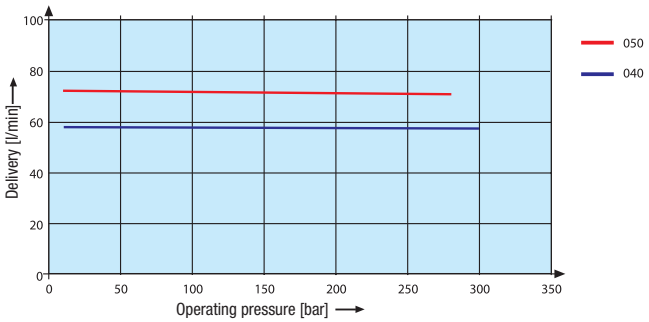


All dimensions stated in mm
– other connections on request –

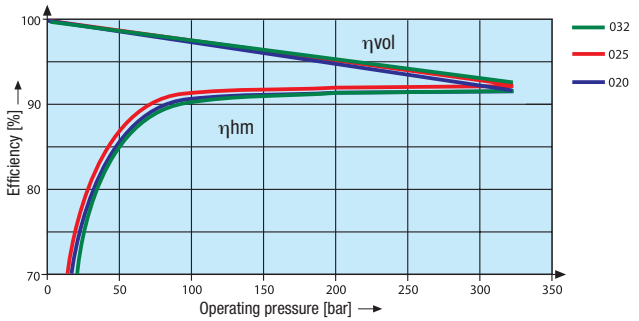
Characteristics

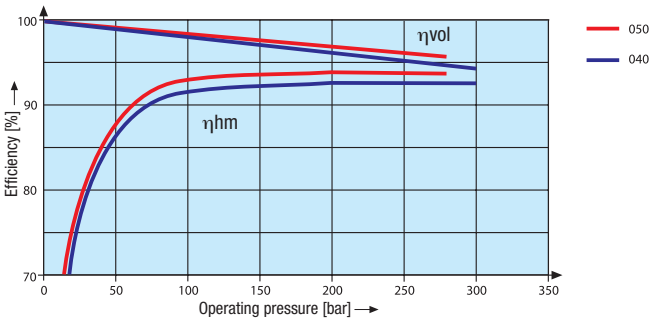
Volumetric flow



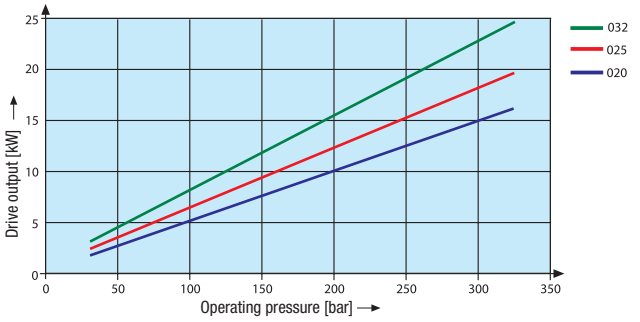


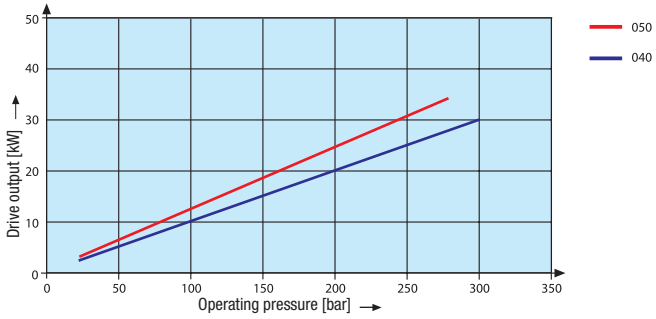
Efficiency



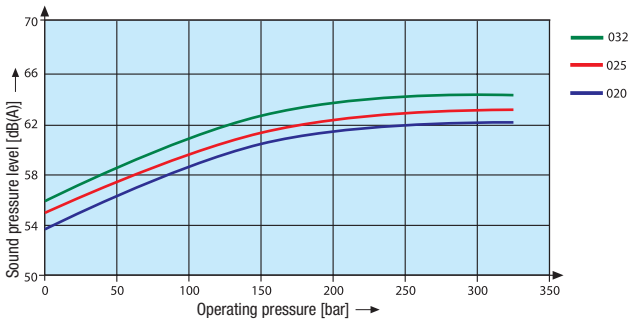


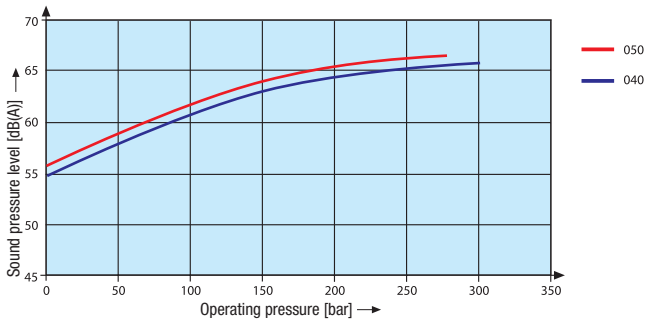
Drive power





Sound pressure level





Meausurement conditions: Speed 1450 rpm, viscosity 46 mm²/sec., operating temperature 40° C
Sound pressure measured in low-reflection anechoic room in accordance with DIN 45 635 sheet 26;
Microphone distance 1.0 m axial.