TAON
Hydraulik Komponenter

CATALOGUE

HYDRAULIC PUMPS

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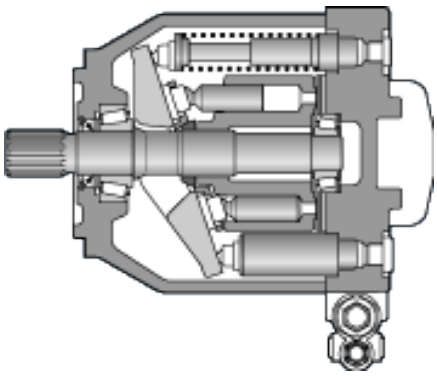
Piston pumps

Variable piston pump – Axial piston swashplate design
A10V(S)O

- Sizes 18 to 140
- Series 31, 52 & 53
- Nominal pressure 280 Bar
- Maximum pressure 350 Bar
- Open circuit

FEATURES



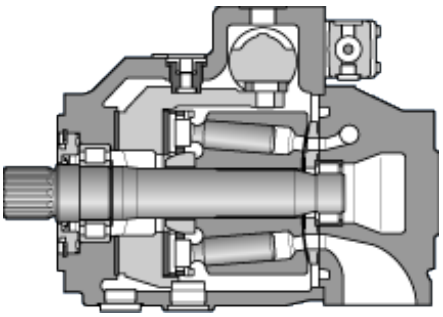
- Variable pump in axial piston swashplate design for hydrostatic drives in an open circuit.
- The flow is proportional to the drive speed and the displacement.
- The flow can be steplessly varied by adjustment of the swashplate angle.
- 2 case drain ports
- Excellent suction characteristics
- Low noise level
- Long service life
- Axial and radial load capacity of drive shaft
- Favorable power/weight ratio
- Versatile controller range
- Short control time
- The through drive is suitable for adding gear pumps and axial piston pumps up to the same size, i.e., 100% through drive.

Number	Serie	Displacement	Pressure: Cont./Peak
A10VSO18	31	18 cc/rev.	280 Bar/350 Bar
A10VSO28	31	28 cc/rev.	280 Bar/350 Bar
A10VSO45	31	45 cc/rev.	280 Bar/350 Bar
A10SVO45	52	45 cc/rev.	250 Bar/315 Bar
A10VSO60	53	60 cc/rev.	250 Bar/315 Bar
A10VSO71	31	71 cc/rev.	280 Bar/350 Bar
A10VSO100	31	100 cc/rev.	280 Bar/350 Bar
A10VSO140	31	140 cc/rev.	280 Bar/350 Bar

- Sizes 40 to 1000
- Series 10, 11 & 30
- Nominal pressure 350 Bar
- Maximum pressure 400 Bar
- For use in applications requiring very large volumes (e.g. in cranes, excavators, winches, etc.)
- Open circuit

FEATURES

- Axial piston pump in swash plate design for hydrostatic drives in open circuit operation
- The flow is proportional to the input drive speed and displacement. By adjusting the swash plate angle it is possible to infinitely vary the output flow.
- Excellent suction characteristics
- Low noise level
- Long service life
- Modular design
- Short response times
- Variable through drive options
- Visual swivel angle indicator
- Optional mounting position



Number	Serie	Displacement	Pressure: Cont./Peak
A4VSO40	10	40 cc/rev.	350 Bar/400 Bar
A4VSO71	10	71 cc/rev.	350 Bar/400 Bar
A4VSO125	10, 11, 30	125 cc/rev.	350 Bar/400 Bar
A4SVO180	30	180 cc/rev.	350 Bar/400 Bar
A4VSO250	10, 11, 30	250 cc/rev.	350 Bar/400 Bar
A4VSO355	30	355 cc/rev.	350 Bar/400 Bar
A4VSO500	10, 11, 30	500 cc/rev.	350 Bar/400 Bar
A4VSO750	30	750 cc/rev.	350 Bar/400 Bar
A4VSO1000	30	1000 cc/rev.	350 Bar/400 Bar

- Sizes 45 to 280
- Series 40
- Nominal pressure 450 Bar
- Maximum pressure 500 Bar
- Closed circuit

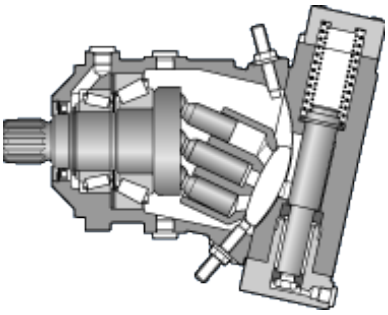
FEATURES

- Variable axial piston pump of swashplate design for hydrostatic drives in closed circuit.
- The flow is proportional to the drive speed and displacement.
- The flow can be infinitely varied by adjusting the swashplate angle.
- Flow direction changes smoothly when the swashplate is moved through the neutral position.
- A wide range of highly adaptable control devices with different control and regulating functions, for all important applications.
- Two pressure-relief valves are provided on the high-pressure side to protect the hydrostatic transmission (pump and motor) from overload.
- The high-pressure relief valves also function as boost valves.
- The integrated boost pump acts as a feed pump and control pressure supply.
- The maximum boost pressure is limited by a built-in low-pressure relief valve.
- High pressure level for high power density and good efficiency.

Number	Serie	Displacement	Pressure: Cont./Peak
A4VG45	40	45 cc/rev.	450 Bar/500 Bar
A4VG65	40	65 cc/rev.	450 Bar/500 Bar
A4VG85	40	85 cc/rev.	450 Bar/500 Bar
A4VG110	40	110 cc/rev.	450 Bar/500 Bar
A4VG145	40	145 cc/rev.	450 Bar/500 Bar
A4VG175	40	175 cc/rev.	450 Bar/500 Bar
A4VG210	40	210 cc/rev.	450 Bar/500 Bar
A4VG280	40	280 cc/rev.	450 Bar/500 Bar

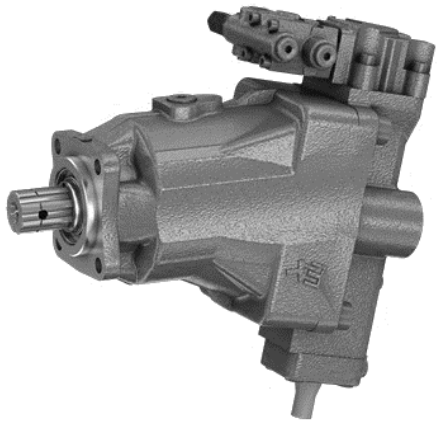
- Sizes 28 to 500
- Series 63
- Nominal pressure 350 Bar
- Maximum pressure 400 Bar
- For versatile use
- Open circuit

FEATURES



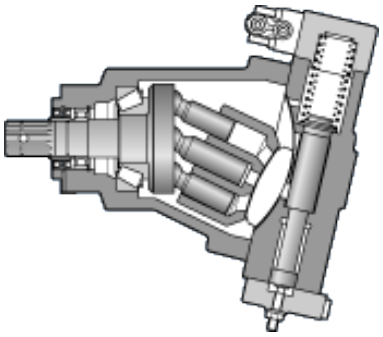
- Variable pump with axial tapered piston rotary group of bent-axis design, for hydrostatic drives in open circuit.
- For use in mobile and stationary applications.
- Flow is proportional to the drive speed and displacement.
- The flow can be steplessly changed by adjusting the bent axis.
- Wide selection of control devices.
- Compact, robust pump with a long service life.
- High efficiency.
- High pressure level and low power dissipation.
- Compact design for limited installation space.

Number	Serie	Displacement	Pressure: Cont./Peak
A7VO28	63	28 cc/rev.	350 Bar/400 Bar
A7VO55	63	55 cc/rev.	350 Bar/400 Bar
A7VO80	63	80 cc/rev.	350 Bar/400 Bar
A7VO107	63	107 cc/rev.	350 Bar/400 Bar
A7VO160	63	160 cc/rev.	350 Bar/400 Bar
A7VO250	63	250 cc/rev.	350 Bar/400 Bar
A7VO355	63	355 cc/rev.	350 Bar/400 Bar
A7VO500	63	500 cc/rev.	350 Bar/400 Bar



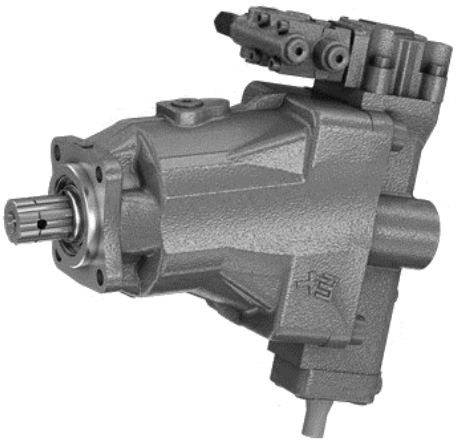
- Sizes 55 to 107
- Series 11
- Nominal pressure 300 Bar
- Maximum pressure 350 Bar
- For commercial vehicles
- Open circuit

FEATURES



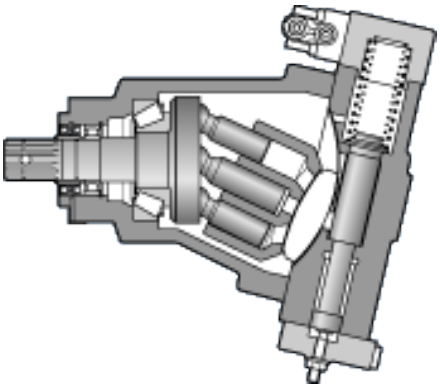
- Variable pump with axial tapered piston rotary group of bent-axis design with special characteristics and dimensions for use in commercial vehicles (e.g. loading cranes).
- The flow is proportional to the drive speed and displacement.
- The flow can be infinitely varied by adjusting the bent-axis angle.
- Favorable power-to-weight ratio, compact dimensions, optimum efficiency, economical design.
- High self-suction capability.
- Flange and shaft designed for direct mounting on the power take-off of commercial vehicles.
- Low noise levels.
- Optionally available with speed sensor

Number	Serie	Displacement	Pressure: Cont./Peak
A17VO55	11	55 cc/rev.	300 Bar/350 Bar
A17VO80	11	80 cc/rev.	300 Bar/350 Bar
A17VO107	11	107 cc/rev.	300 Bar/350 Bar



- Sizes 55 to 107
- Series 11
- Nominal pressure 350 Bar
- Maximum pressure 400 Bar
- For commercial vehicles
- Open circuit

FEATURES

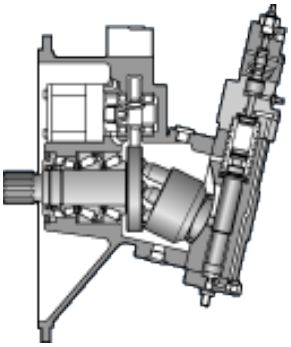


- Variable pump with axial tapered piston rotary group of bent-axis design with special characteristics and dimensions for use in commercial vehicles (e.g. truck loading cranes).
- The flow is proportional to the drive speed and displacement.
- The flow can be infinitely varied by adjusting the bent-axis angle.
- Favorable power-to-weight ratio, compact dimensions, optimum efficiency, economical design.
- High self-suction capability.
- Flange and shaft designed for direct mounting on the power take-off of commercial vehicles.
- Low noise levels.
- Increased pressure (350/400 Bar) compared to standard pump A17VO.

Number	Serie	Displacement	Pressure: Cont./Peak
A18VO55	11	55 cc/rev.	350 Bar/400 Bar
A18VO80	11	80 cc/rev.	350 Bar/400 Bar
A18VO107	11	107 cc/rev.	350 Bar/400 Bar

- Sizes 55 to 200
- Series 6
- Nominal pressure 350 Bar
- Maximum pressure 400 Bar
- For devices with multi-circuit operation in the open circuit (such as excavators, cranes, drilling equipment, etc.)
- Open circuit

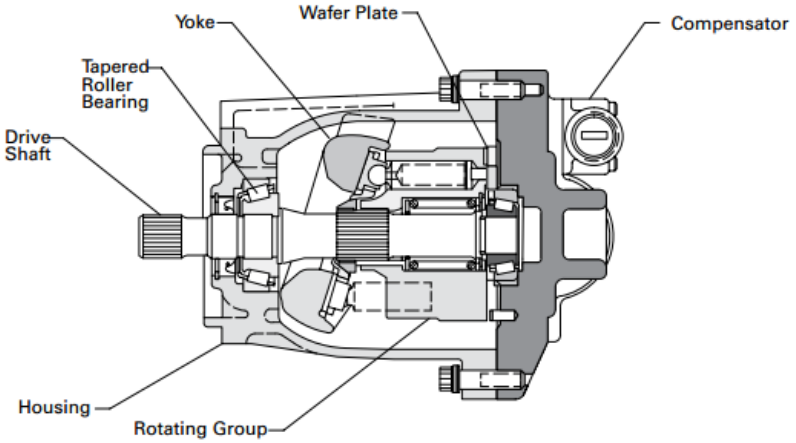
FEATURES

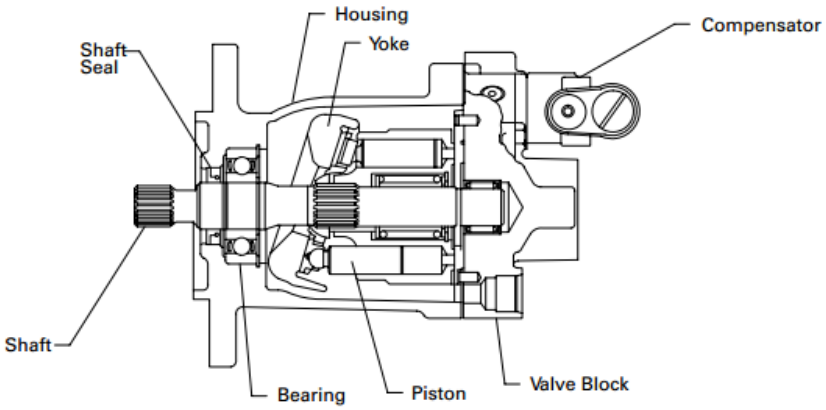


- Variable double pump with two axial tapered piston rotary groups of bent-axis design for hydrostatic drives in open circuits.
- The flow is proportional to the input speed and to the displacement, and is infinitely variable from qV max to qV min = 0.
- The pump is suitable for direct mounting on the flywheel case in diesel engines.
- One common suction port for auxiliary pump and both circuits.
- A wide range of control instruments is available for different control and regulating functions.
- Individual power controller.
- Integrated auxiliary pump with pressure-relief valve, optionally with additional pressure-reduction valve.
- Power take-off for mounting axial piston and gear pumps.
- Excellent power-to-weight ratio.
- Long service life.

Number	Serie	Displacement	Pressure: Cont./Peak
A8VO55	6	55 cc/rev.	350 Bar/400 Bar
A8VO80	6	80 cc/rev.	350 Bar/400 Bar
A8VO107	6	107 cc/rev.	350 Bar/400 Bar
A8VO140	6	140 cc/rev.	350 Bar/400 Bar
A8VO200	6	200 cc/rev.	350 Bar/400 Bar

- Displacement: 41 cm³/r
- Maximum pressure: 210 Bar
- Application: for unsupported PTO-drive applications whether in the field or on the warehouse floor (Skid steer loader, irrigation equipment)
- Open circuit
- Mobile





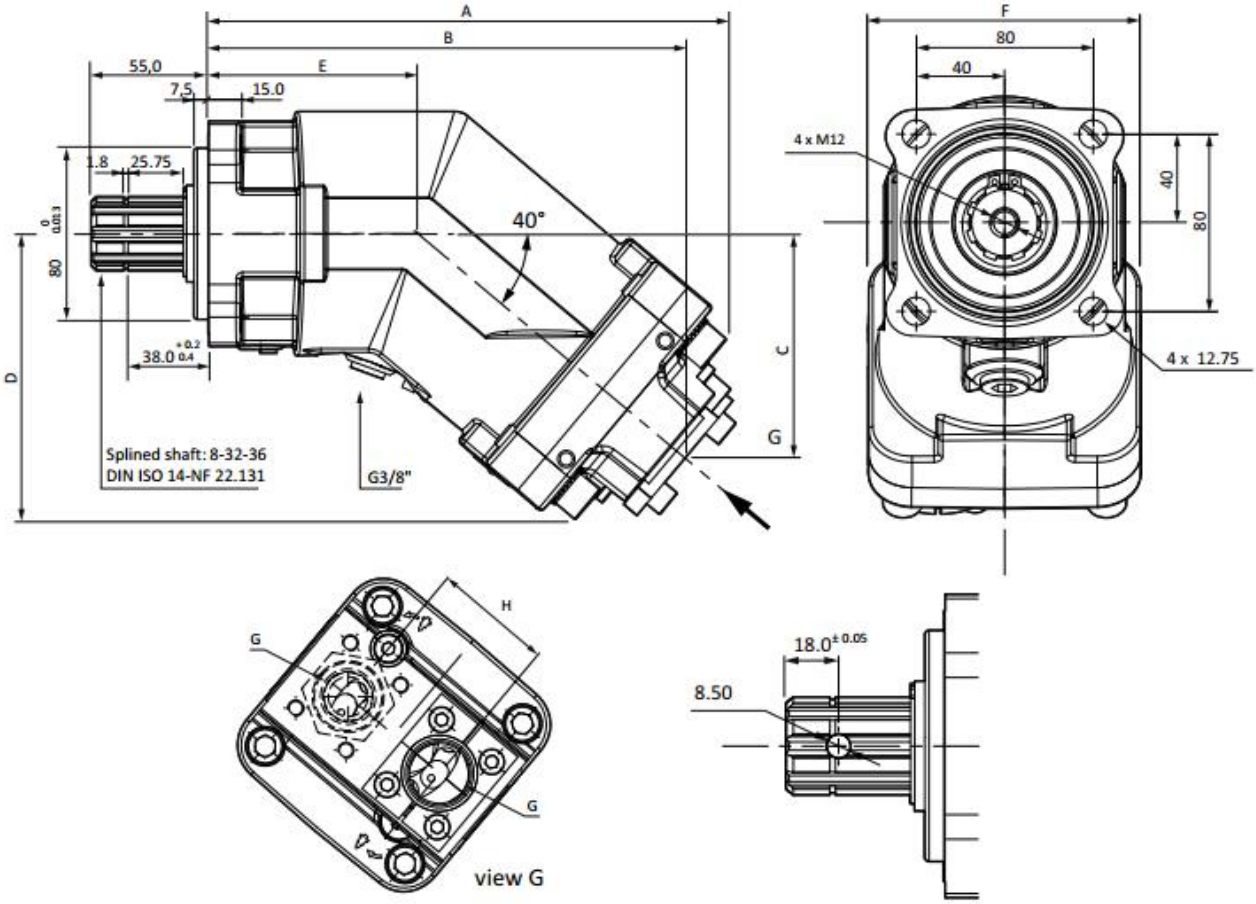
Features

- Inline, variable displacement pump
- Displacement is varied by pressure/flow compensator controls
- Optional controls for maximum operating flexibility
- Thru-drive available
- Aluminum housing creates a durable, lightweight enclosure
- Multiple configurations allow customization for specific applications

Piston pumps

Fixed-displacement piston pump – Bent-axis piston pump

HDS 18 cc

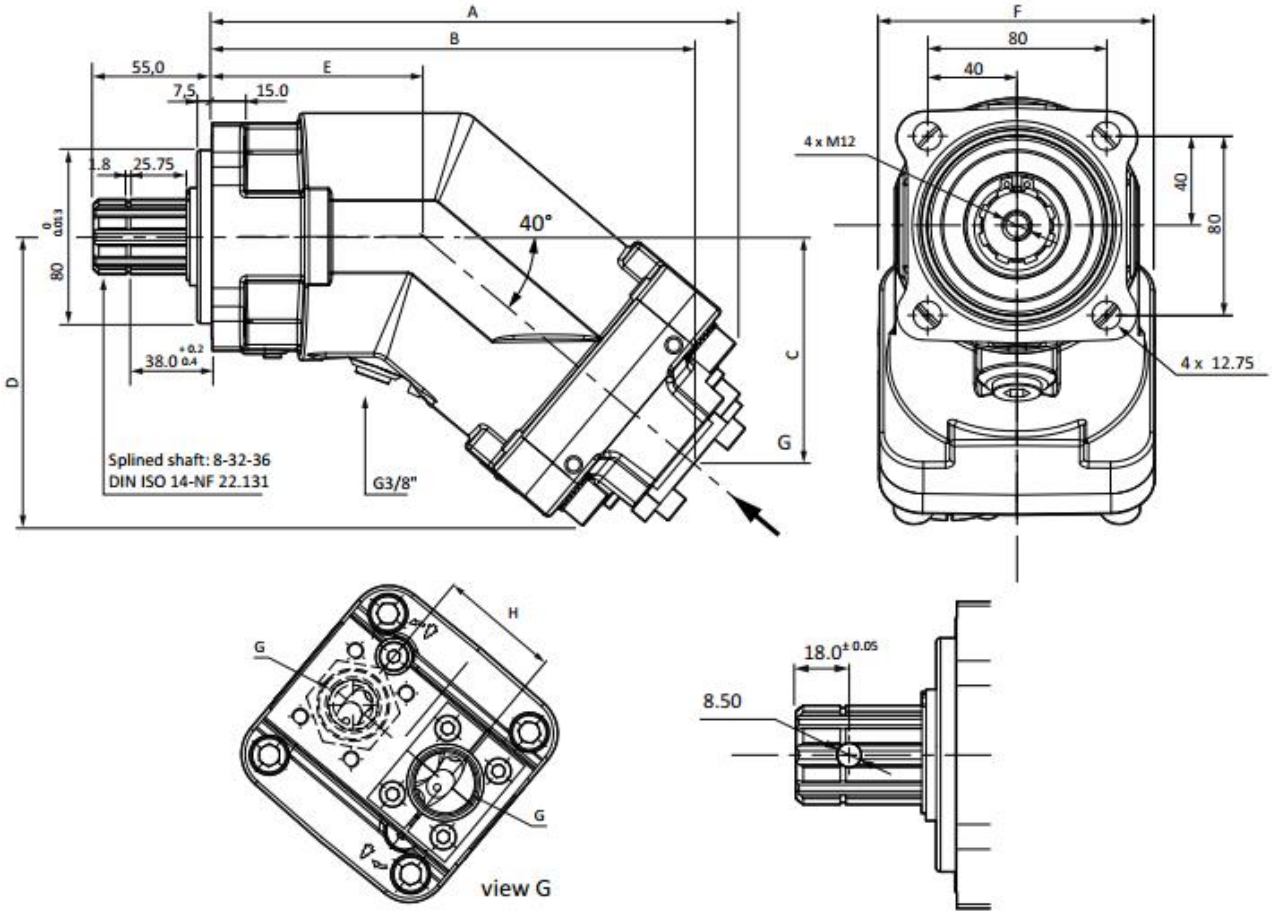


Pump type	Displacement cc	Max. continuous pressure bar	Min. intermittent P. pressure bar	Max. rotating speed rpm	Max. torque Nm	Max. intermittent pressure bar	Weight without inlet fitting kg	Weight with inlet fitting kg	Torque without inlet fitting kg	Torque with inlet fitting kg
18	17,80	350	400	2500	105	-	9,00	9,40	8,75	9,19

Pump type	A mm	B mm	C mm	D mm	E mm	F mm	G inch	H mm	Fluid	Rotation
18	195	176	76	104	80	108	3/4”	54	Mineral based hydraulic oils	CW-CCW

Piston pumps

Fixed-displacement piston pump – Bent-axis piston pump
HDS 25 cc

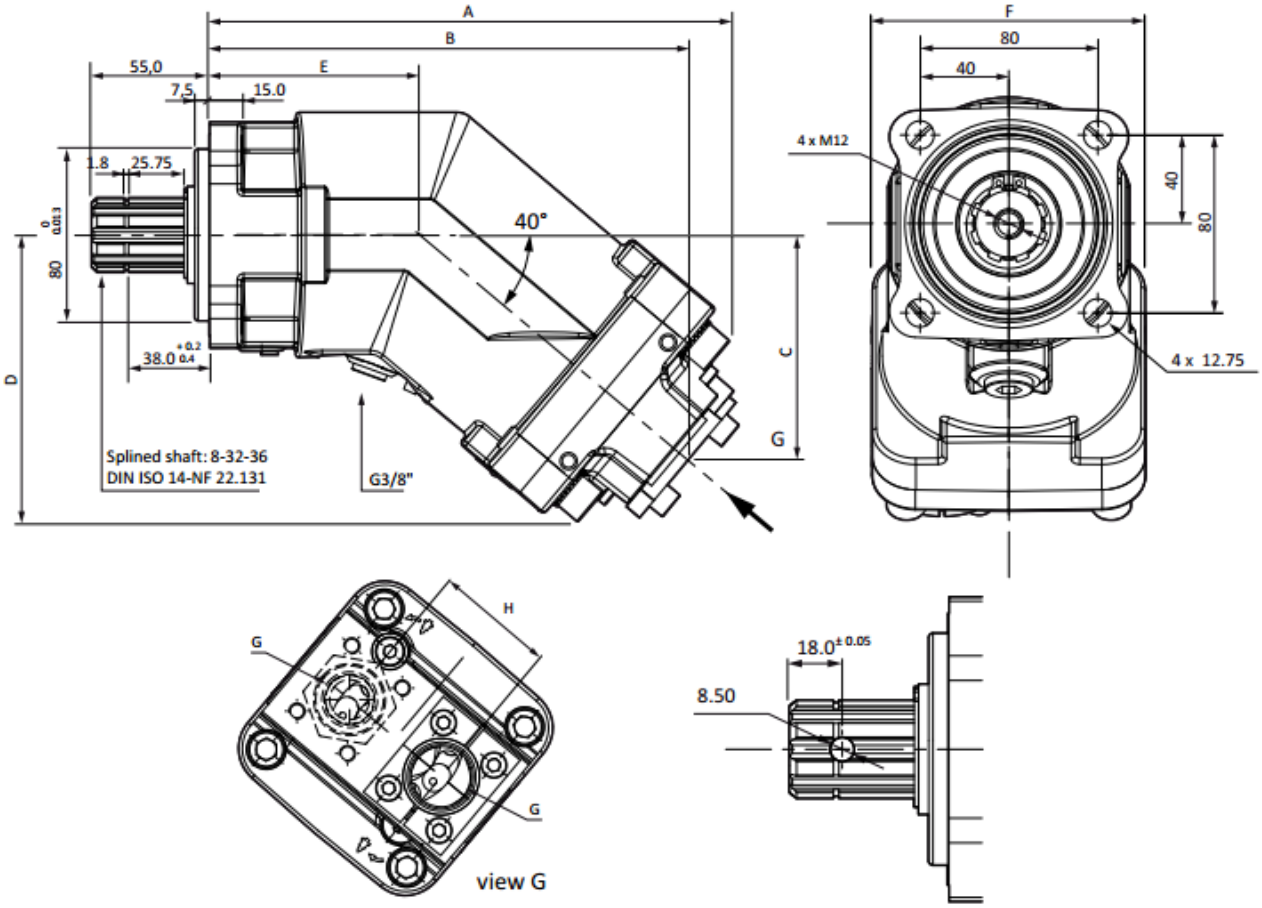


Pump type	Displacement cc	Max. continuous pressure bar	Min. intermittent P. pressure bar	Max. rotating speed rpm	Max. torque Nm	Max. intermittent pressure bar	Weight without inlet fitting kg	Weight with inlet fitting kg	Torque without inlet fitting kg	Torque with inlet fitting kg
25	24,50	350	400	2500	146	-	9,50	9,90	8,82	9,23

Pump type	A mm	B mm	C mm	D mm	E mm	F mm	G inch	H mm	Fluid	Rotation
25	195	176	76	104	80	108	3/4”	54	Mineral based hydraulic oils	CW-CCW

Piston pumps

Fixed-displacement piston pump – Bent-axis piston pump
HDS 35 cc

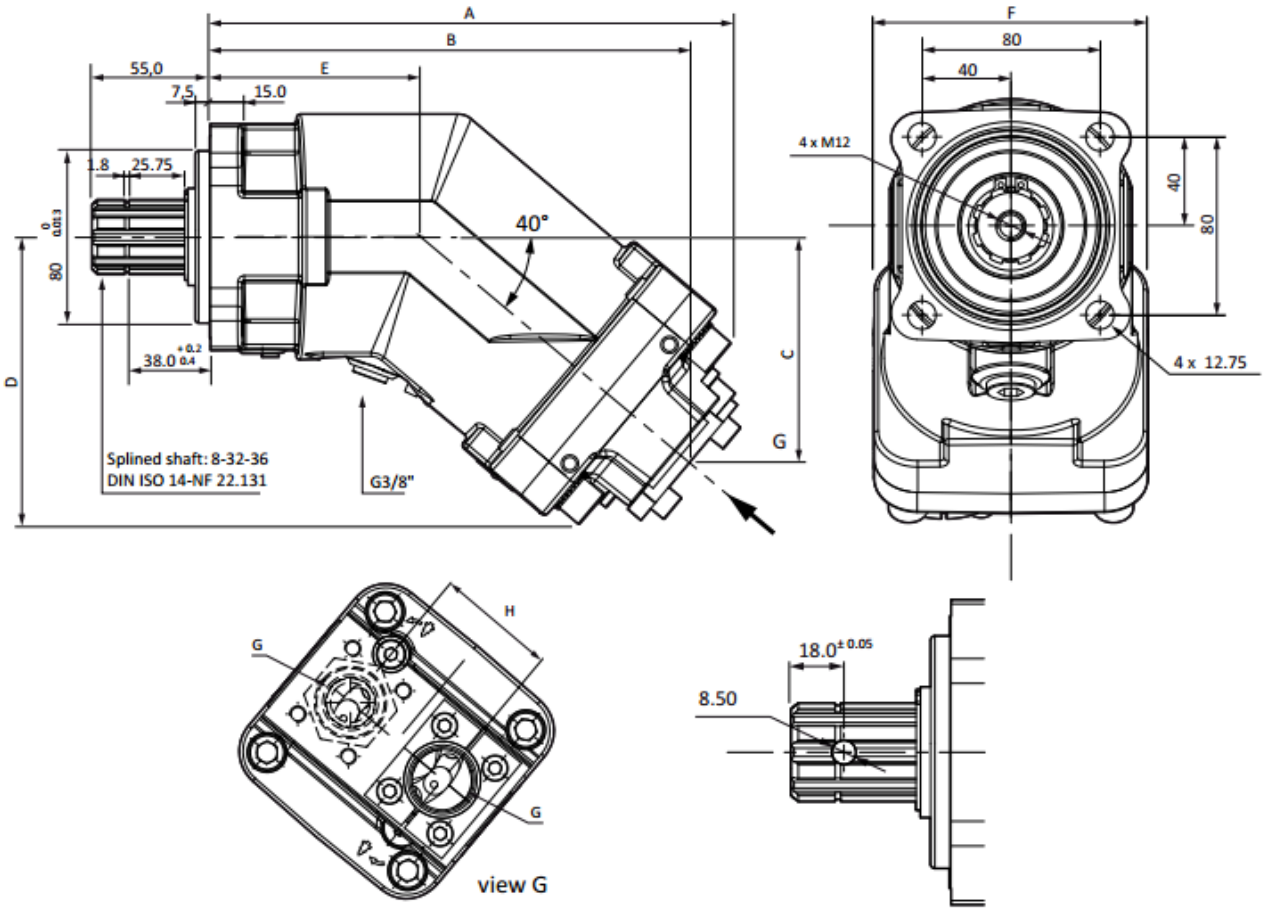


Pump type	Displacement cc	Max. continuous pressure bar	Min. intermittent P. pressure bar	Max. rotating speed rpm	Max. torque Nm	Max. intermittent pressure bar	Weight without inlet fitting kg	Weight with inlet fitting kg	Torque without inlet fitting kg	Torque with inlet fitting kg
35	34,70	350	400	2500	190	-	10,50	10,90	11,00	11,52

Pump type	A mm	B mm	C mm	D mm	E mm	F mm	G inch	H mm	Fluid	Rotation
35	202	182	82	108	85	108	3/4”	54	Mineral based hydraulic oils	CW-CCW

Piston pumps

Fixed-displacement piston pump – Bent-axis piston pump
HDS 45 cc



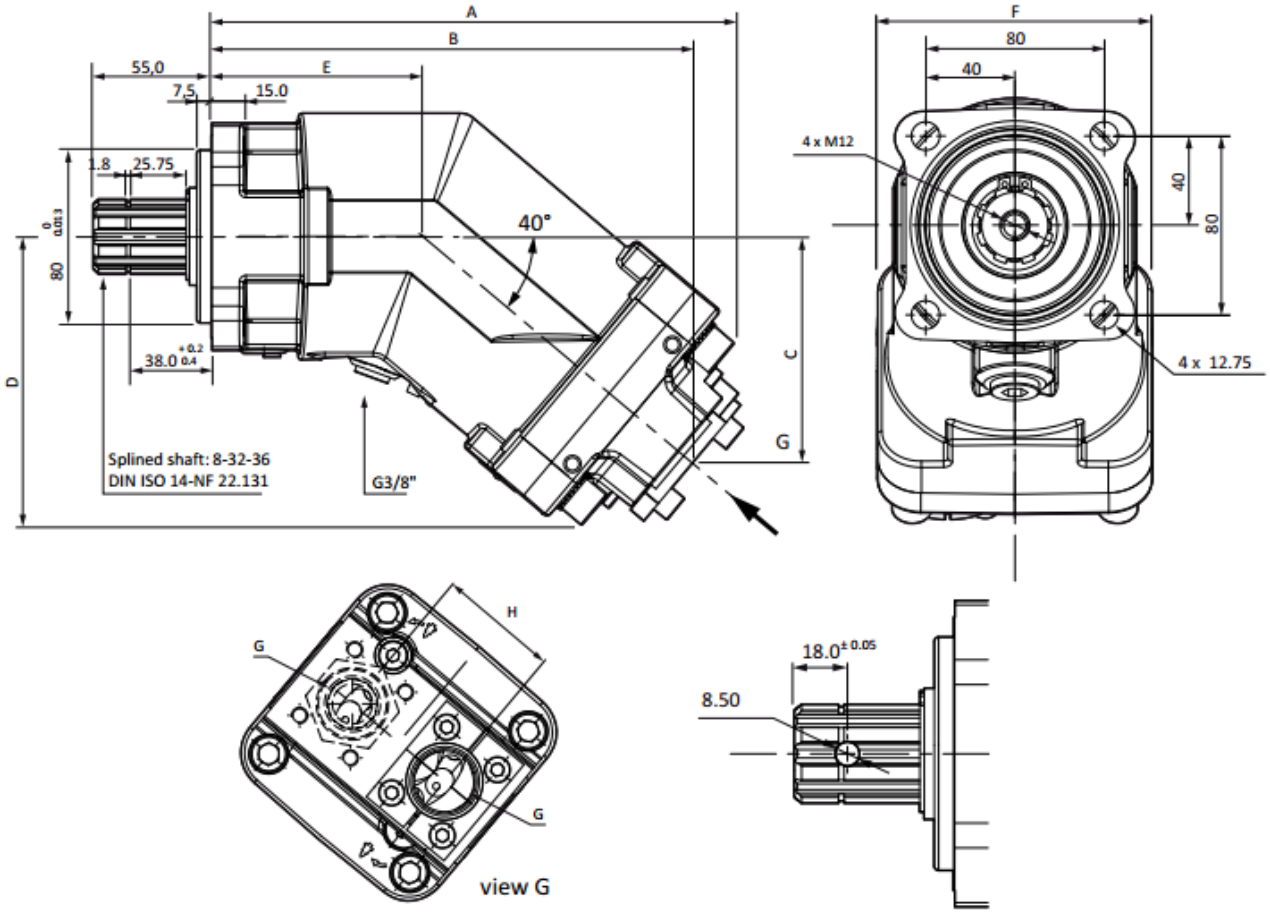
Pump type	Displacement cc	Max. continuous pressure bar	Min. intermittent P. pressure bar	Max. rotating speed rpm	Max. torque Nm	Max. intermittent pressure bar	Weight without inlet fitting kg	Weight with inlet fitting kg	Torque without inlet fitting kg	Torque with inlet fitting kg
45	42,20	350	400	2400	240	-	10,50	10,90	11,12	11,40

Pump type	A mm	B mm	C mm	D mm	E mm	F mm	G inch	H mm	Fluid	Rotation
45	202	183	82	108	86	108	3/4”	54	Mineral based hydraulic oils	CW-CCW

Piston pumps

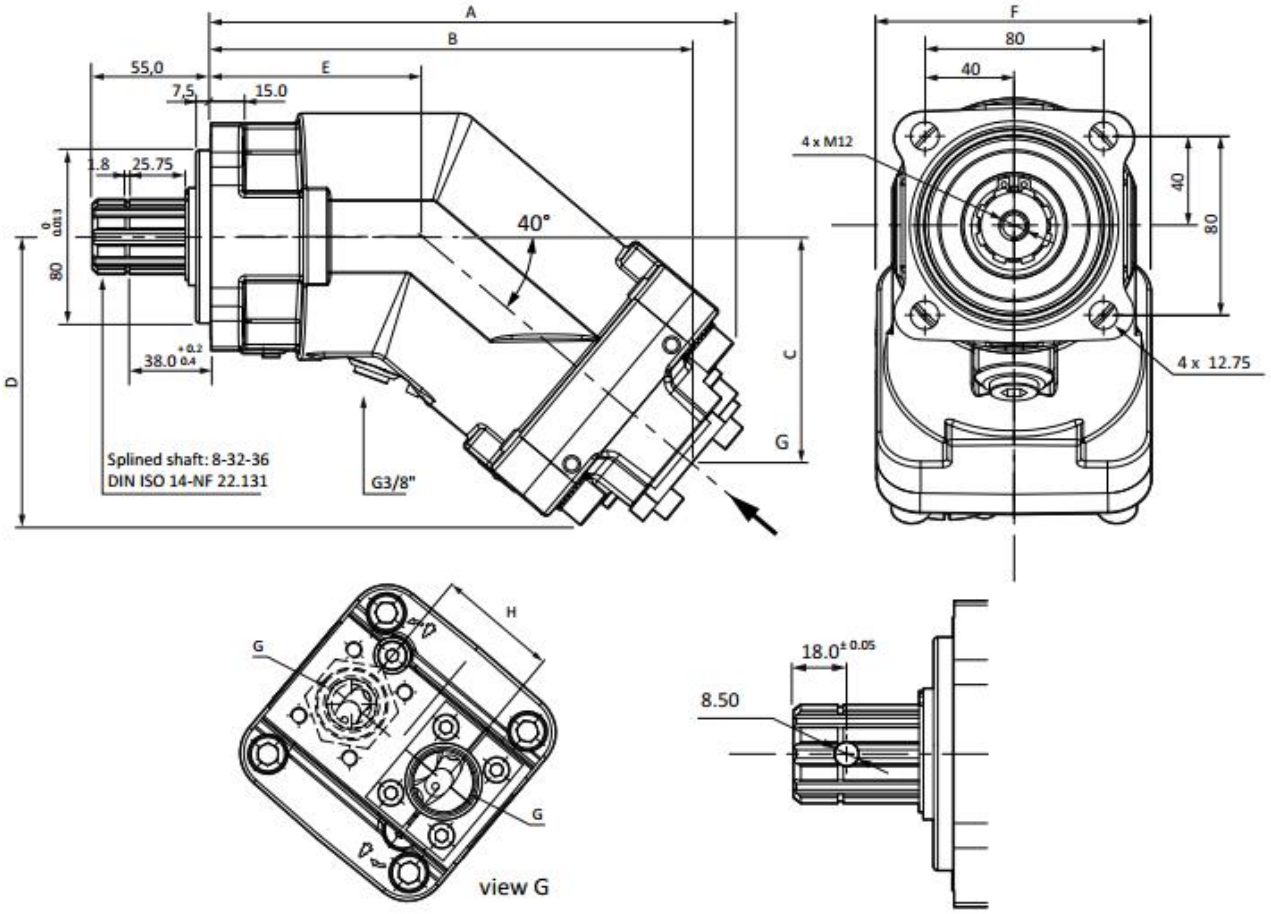
Fixed-displacement piston pump – Bent-axis piston pump

HDS 55 cc



Pump type	Displacement	Max. continuous pressure	Min. intermittent P. pressure	Max. rotating speed	Max. torque	Max. intermittent pressure	Weight without inlet fitting	Weight with inlet fitting	Torque without inlet fitting	Torque with inlet fitting
	cc	bar	bar	rpm	Nm	bar	kg	kg	kg	kg
55	54,80	350	400	2400	296	-	11,00	11,40	11,72	12,20

Pump type	A mm	B mm	C mm	D mm	E mm	F mm	G inch	H mm	Fluid	Rotation
55	215	196	94	118	86	108	3/4”	54	Mineral based hydraulic oils	CW-CCW



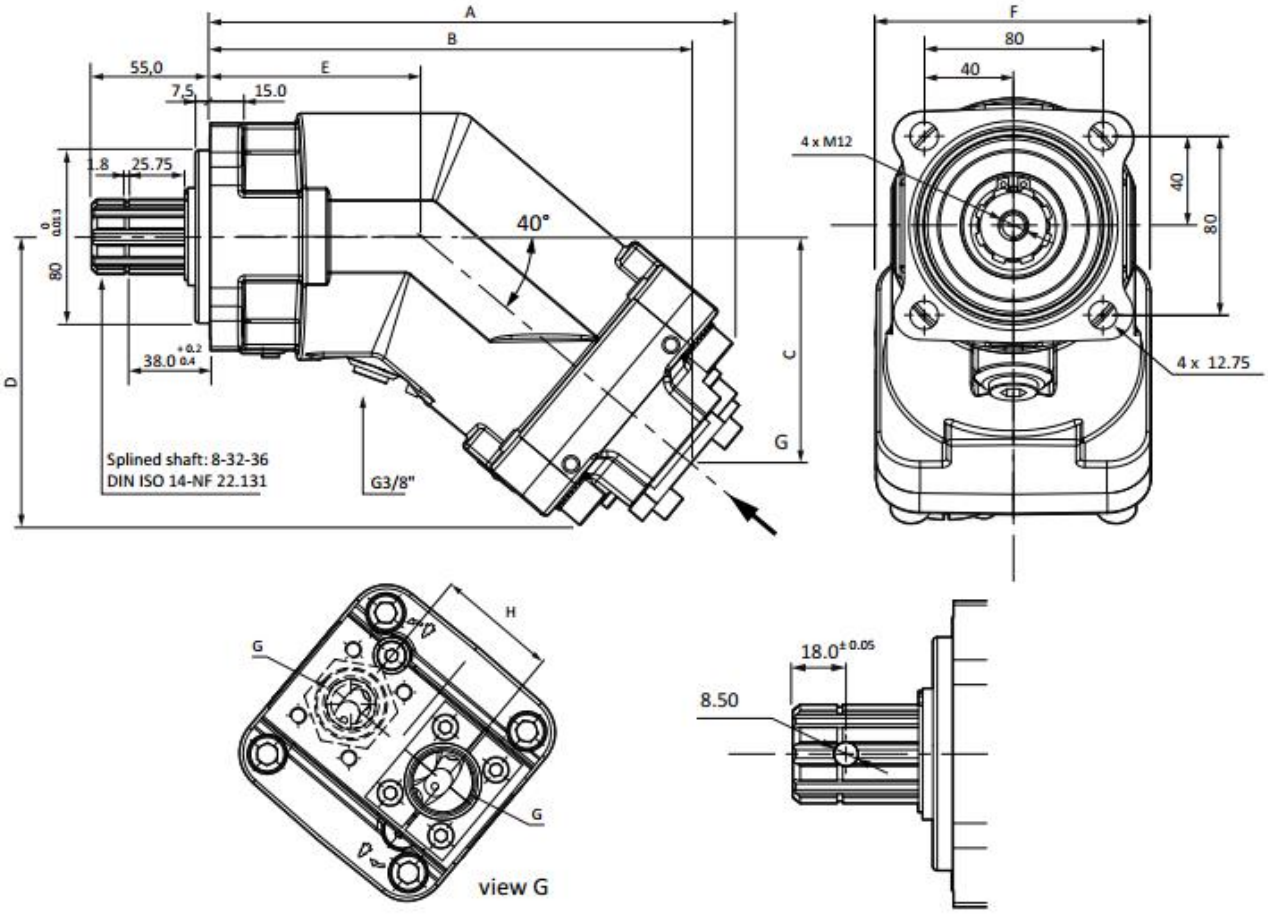
Pump type	Displacement cc	Max. continuous pressure bar	Min. intermittent P. pressure bar	Max. rotating speed rpm	Max. torque Nm	Max. intermittent pressure bar	Weight without inlet fitting kg	Weight with inlet fitting kg	Torque without inlet fitting kg	Torque with inlet fitting kg
63	67,40	350	400	2200	360	-	11,50	11,90	11,77	12,23

Pump type	A mm	B mm	C mm	D mm	E mm	F mm	G inch	H mm	Fluid	Rotation
63	215	196	94	118	86	108	3/4”	54	Mineral based hydraulic oils	CW-CCW

Piston pumps

Fixed-displacement piston pump – Bent-axis piston pump

HDS 85 cc

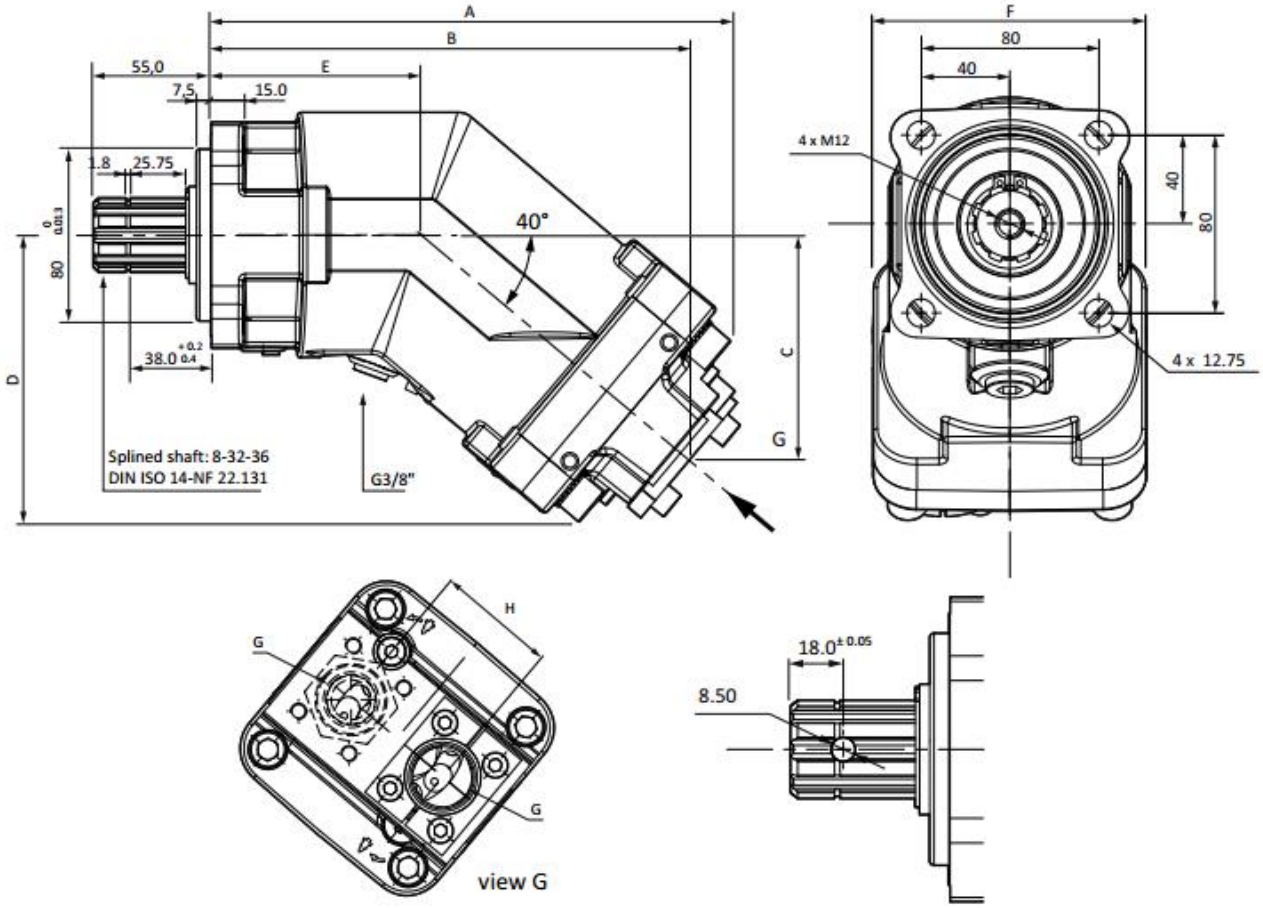


Pump type	Displacement cc	Max. continuous pressure bar	Min. intermittent P. pressure bar	Max. rotating speed rpm	Max. torque Nm	Max. intermittent pressure bar	Weight without inlet fitting kg	Weight with inlet fitting kg	Torque without inlet fitting kg	Torque with inlet fitting kg
85	85,20	350	400	2250	460	-	15,00	15,40	17,80	18,33

Pump type	A mm	B mm	C mm	D mm	E mm	F mm	G inch	H mm	Fluid	Rotation
85	223	223	105	132	98	122	1”	60	Mineral based hydraulic oils	CW-CCW

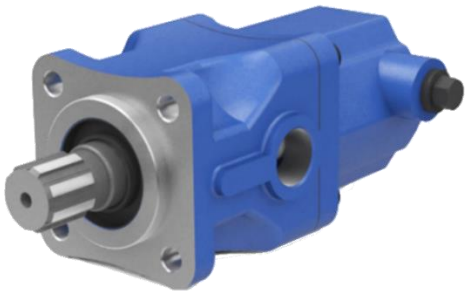
Piston pumps

Fixed-displacement piston pump – Bent-axis piston pump
HDS 108 cc



Pump type	Displacement cc	Max. continuous pressure bar	Min. intermittent P. pressure bar	Max. rotating speed rpm	Max. torque Nm	Max. intermittent pressure bar	Weight without inlet fitting kg	Weight with inlet fitting kg	Torque without inlet fitting kg	Torque with inlet fitting kg
108	108,70	350	400	1900	620	-	15,50	15,90	17,92	18,45

Pump type	A mm	B mm	C mm	D mm	E mm	F mm	G inch	H mm	Fluid	Rotation
108	223	223	105	132	98	122	1"	60	Mineral based hydraulic oils	CW-CCW



PUMP TYPE	PUMP CODE	DISPLACEMENT	MAX PRESSURE		MAX SPEED		WEIGHT
			Continuous	Intermittent	Continuous	Intermittent	
		cm^3/rev	Bar / Psi		Min^{-1}		Kg
PPA 35	720635A	35	250 3625	360 5220	1200	1200	14
6 Piston Pump		ISO Type (4 Bolt Connection)			Bi-Rotational		

PUMP TYPE	PUMP CODE	DISPLACEMENT	MAX PRESSURE		MAX SPEED		WEIGHT
			Continuous	Intermittent	Continuous	Intermittent	
		cm^3/rev	Bar / Psi		Min^{-1}		Kg
PPA 42	720642A	42	230 3335	360 5220	1200	1200	14
6 Piston Pump		ISO Type (4 Bolt Connection)			Bi-Rotational		

PUMP TYPE	PUMP CODE	DISPLACEMENT	MAX PRESSURE		MAX SPEED		WEIGHT
			Continuous	Intermittent	Continuous	Intermittent	
		cm^3/rev	Bar / Psi		Min^{-1}		Kg
PPA 52	720652A	52	200 2900	360 5220	1200	1200	14
6 Piston Pump		ISO Type (4 Bolt Connection)			Bi-Rotational		

Piston pump

Fixed-displacement piston pump – Straight piston pump

PPA 9 – 70, 85 & 105

PUMP TYPE	PUMP CODE	DISPLACEMENT	MAX PRESSURE		MAX SPEED		WEIGHT
			Continuous	Intermittent	Continuous	Intermittent	
		cm^3/rev	Bar / Psi		Min^{-1}		Kg
PPA 70	720970A	70	220 3190	350 5075	1000	1600	20
9 Piston Pump		ISO Type (4 Bolt Connection)			Bi-Rotational		

PUMP TYPE	PUMP CODE	DISPLACEMENT	MAX PRESSURE		MAX SPEED		WEIGHT
			Continuous	Intermittent	Continuous	Intermittent	
		cm^3/rev	Bar / Psi		Min^{-1}		Kg
PPA 85	720985A	85	220 3190	350 5075	1000	1600	20
9 Piston Pump		ISO Type (4 Bolt Connection)			Bi-Rotational		

PUMP TYPE	PUMP CODE	DISPLACEMENT	MAX PRESSURE		MAX SPEED		WEIGHT
			Continuous	Intermittent	Continuous	Intermittent	
		cm^3/rev	Bar / Psi		Min^{-1}		Kg
PPA 105	720905A	105	200 2900	350 5075	1000	1600	20
9 Piston Pump		ISO Type (4 Bolt Connection)			Bi-Rotational		

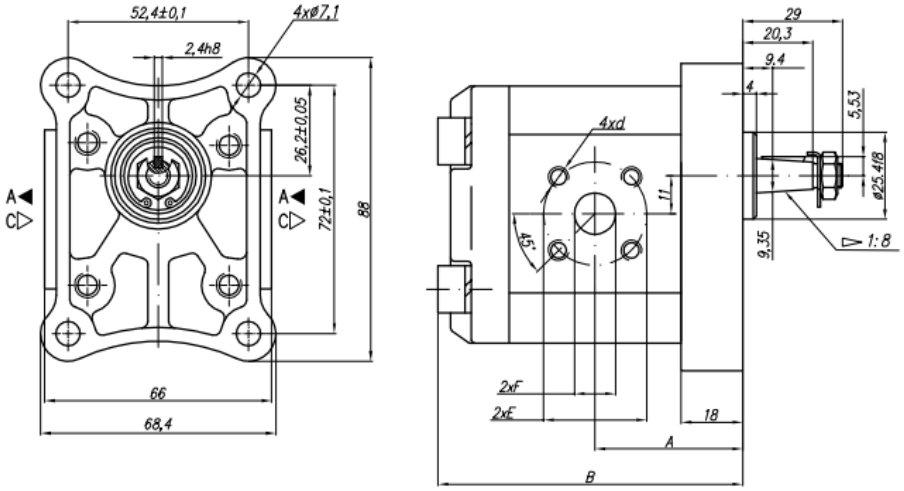
Hydraulic gear pumps

Group 1

10A(C)..X026

The gear pumps are designed to work under the following conditions:

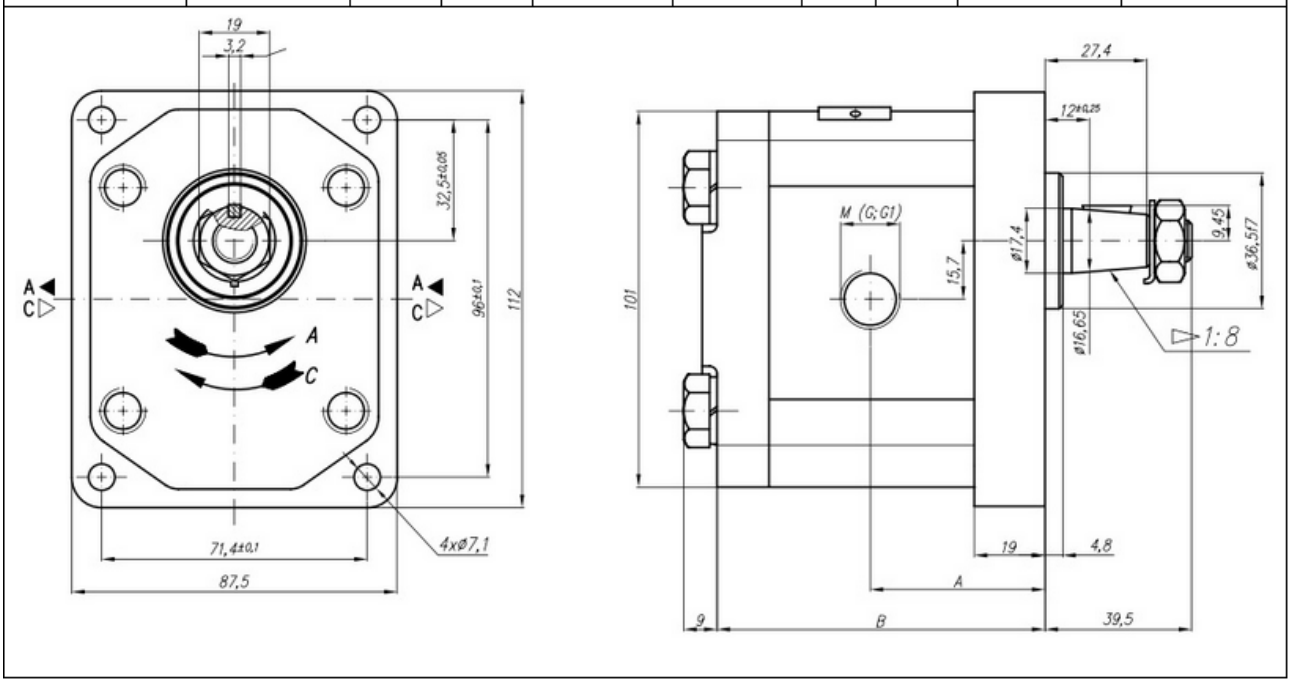
- Working liquid: hydraulic oils with a viscosity of 16-200 mm²/s
- Filtration degree: 15-25 microns
- Ambient temperature range: -22-+55 °C
- Fluid temperature range: -25-+80 ° C
- Inlet pressure, absolute: 0.8-2.2 bar
- Fluid speed (suction line) 0.5-1 m/s
- Outlet pressure up to 250 bar



Model	Displacement	Flow		Pressure	Max. Speed	Dimensions							
		at 1500 rpm	at max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm3/rev.	L/min.	L/min.	Bar	rpm	mm	mm	E	F	D	M	G	U
10A(C)1X026	1	1,4	3,26	250	3500	39,1	81						
10A(C)1,25X026	1,25	1,74	4,07	250	3500	39,5	82						
10A(C)1,6X026	1,6	2,23	5,21	250	3500	40,3	83,6						
10A(C)2X026	2	2,82	6,58	250	3500	41,1	85,2						
10A(C)2,5X026	2,5	3,53	8,23	250	3500	42,1	87,2						
10A(C)2,65X026*	2,65	3,74	8,72	250	3500	42,4	87,8						
10A(C)3,15X026	3,15	4,44	10,36	250	3500	43,5	89,8						
10A(C)3,65X026	3,65	5,15	12,01	250	3500	44,4	91,9						
10A(C)4,2X026	4,2	5,92	13,82	250	3500	45,5	94,1	Ø30	Ø12	M6	Ø30	Ø12	M6
10A(C)4,7X026*	4,7	6,63	15,46	250	3500	46,1	96						
10A(C)5X026	5	7,05	14,1	250	3000	47,1	97,2						
10A(C)5,7X026	5,7	8,12	16,25	200	3000	48,5	100,1						
10A(C)6,1X026	6,1	8,69	14,49	200	2500	49,4	101,8						
10A(C)7,4X026	7,4	10,55	17,58	180	2500	52,1	107,2						
10A(C)8X026*	8	11,4	15,2	150	2000	53,4	109,7						
10A(C)8,5X026	8,5	12,11	16,15	150	2000	54,4	111,7						
10A(C)9,8X026	9,8	13,97	18,62	120	2000	57	117						

* These pumps only under a special order

Type	Displacement	Flow		Pressure	Max. Speed	Dimension			
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet	Outlet
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	M	M
20A(C)14X016H	14	20.16	47.04	250	3500	55.3	105.7	M20x1.5	M16x1.5
20A(C)15X016H	15	21.6	43.2	250	3000	56	107.2		
20A(C)16X016H	16	23.04	46.08	250	3000	56.9	108.8		
20A(C)17.3X016H	17.3	24.91	49.82	230	3000	58	110.9		
20A(C)18.2X016H	18.2	26.21	52.42	210	3000	58.8	112.5		
20A(C)19X016H	19	27.36	54.72	200	3000	59.4	113.8		
20A(C)22X016H	22	31.68	52.8	180	2500	61.9	118.8		
20A(C)25X016H	25	36	60	160	2500	64.3	123.7		
20A(C)28X016H	28	40.32	67.2	130	2500	66.8	128.5	M27x2	M20x1.5
20A(C)32X016H	32	46.08	61.44	120	2000	70	134.8		
20A(C)36X016H	36	51.84	69.12	100	2000	73.2	141.4		

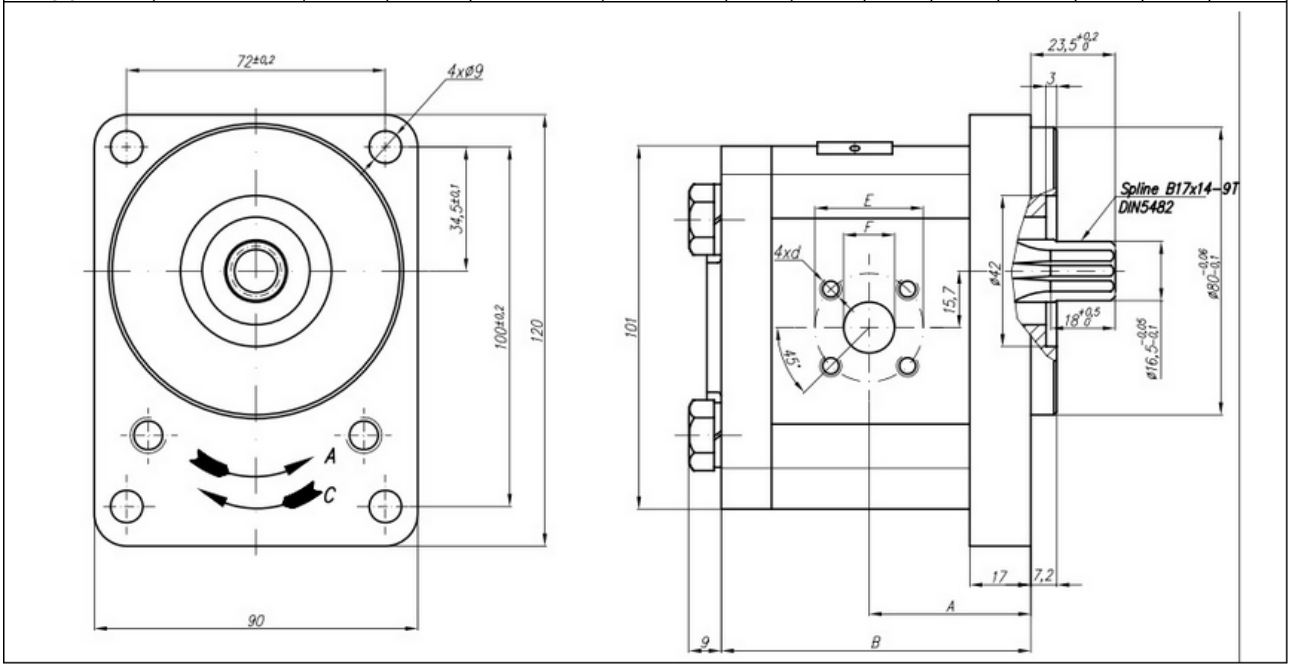


Hydraulic gear pumps

Group 2

20A(C)..X021

Type	Displacement	Flow		Pressure	Max. Speed	Dimension							
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	E	F	d	E	F	d
20A(C)4.5X021	4.5	6.4	14.33	250	3500	39.8	78	40	15	M6-6H	35	15	M6-6H
20A(C)6.3X021	6.3	8.69	20.29	250	3500	41	81						
20A(C)8.2X021	8.2	11.32	26.4	250	3500	43.1	83.9		20				
20A(C)10X021	10	13.95	32.55	250	3500	47.5	87						
20A(C)11X021	11	15.76	36.78	250	3500	47.5	89.1						
20A(C)12X021	12	16.92	39.48	250	3500	47.5	90.3						
20A(C)14X021	14	19.95	46.55	250	3500	47.5	93.4						
20A(C)15X021	15	21.6	36	250	2500	47.5	94.9						
20A(C)16X021	16	23.04	38.4	250	2500	47.5	96.6						
20A(C)19X021	19	27.36	45.6	200	2500	47.5	101.5						
20A(C)22X021	22	31.68	42.24	180	2000	55	106.5						
20A(C)25X021	25	36	48	160	2000	57.2	111.4				40	20	

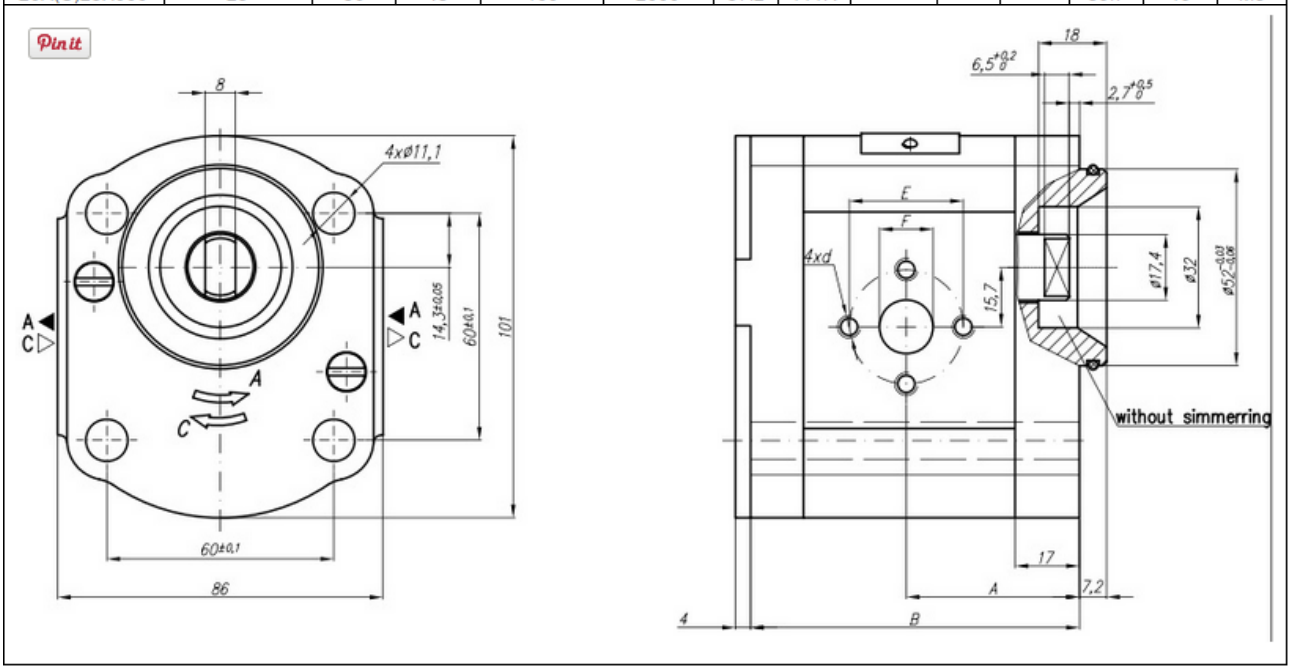


Hydraulic gear pumps

Group 2

20A(C)..X066

Type	Displacement	Flow		Pressure	Max. Speed	Dimension							
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	E	F	d	E	F	d
20A(C)4.5X066	4.5	6.14	14.33	250	3500	40.2	78	30.2	13.1	M6-6H	30.2	13.1	M6-6H
20A(C)6.3X066	6.3	8.69	20.29	250	3500	42	81						
20A(C)8.2X066	8.2	11.32	26.4	250	3500	43.5	83.9						
20A(C)10X066	10	13.95	32.55	250	3500	45	87	39.7	19	M8-6H		14.2	
20A(C)11X066	11	15.76	36.78	250	3500	46	89.1						
20A(C)12X066	12	16.92	39.48	250	3500	46.6	90.3						
20A(C)14X066	14	19.95	46.55	250	3500	48	93.4						
20A(C)15X066	15	21.6	36	250	2500	49	95						
20A(C)16X066	16	23.04	38.4	250	2500	50	96.6						
20A(C)19X066	19	27.36	45.6	200	2500	52	101.5						
20A(C)22X066	22	31.68	42.24	180	2000	55	106.5						
20A(C)25X066	25	36	48	160	2000	57.2	111.4				39.7	19	M8

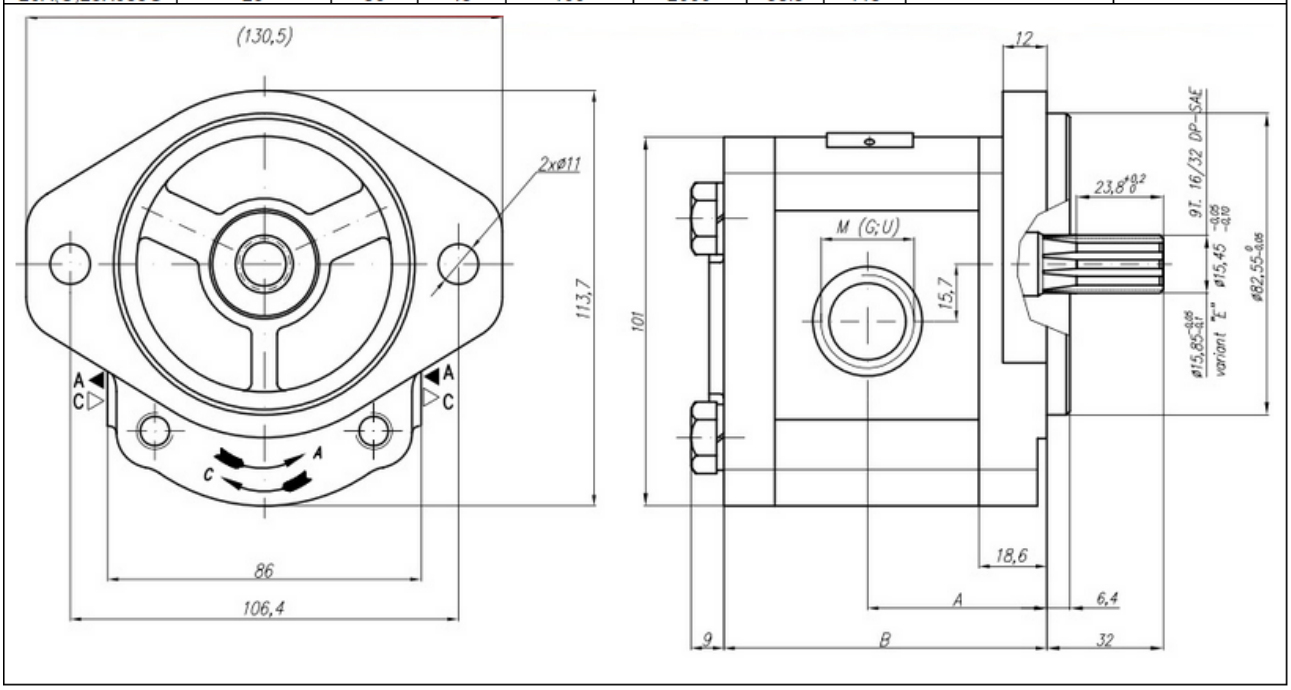


Hydraulic gear pumps

Group 2

20A(C)..X085G

Type	Displacement	Flow		Pressure	Max. Speed	Dimension			
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet	Outlet
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	G	G
20A(C)4.5X085G	4.5	6.14	14.33	250	3500	42	79.6	G 1/2	G 1/2
20A(C)6.3X085G	6.3	8.69	20.29	250	3500	43.6	82.6		
20A(C)8.2X085G	8.2	11.32	26.4	250	3500	45	85.6		
20A(C)10X085G	10	13.95	32.55	250	3500	46.6	88.7	G 3/4	
20A(C)11X085G	11	15.76	36.78	250	3500	47.6	90.7		
20A(C)12X085G	12	16.92	39.48	250	3500	48.2	91.9		
20A(C)14X085G	14	19.95	46.55	250	3500	49.6	95		
20A(C)15X085G	15	21.6	36	250	2500	50.6	96.5		
20A(C)16X085G	16	23.04	38.4	250	2500	51.6	98.2		
20A(C)19X085G	19	27.36	45.6	200	2500	53.6	103.1		
20A(C)22X085G	22	31.68	42.24	180	2000	56.6	108.1		
20A(C)25X085G	25	36	48	160	2000	58.8	113		

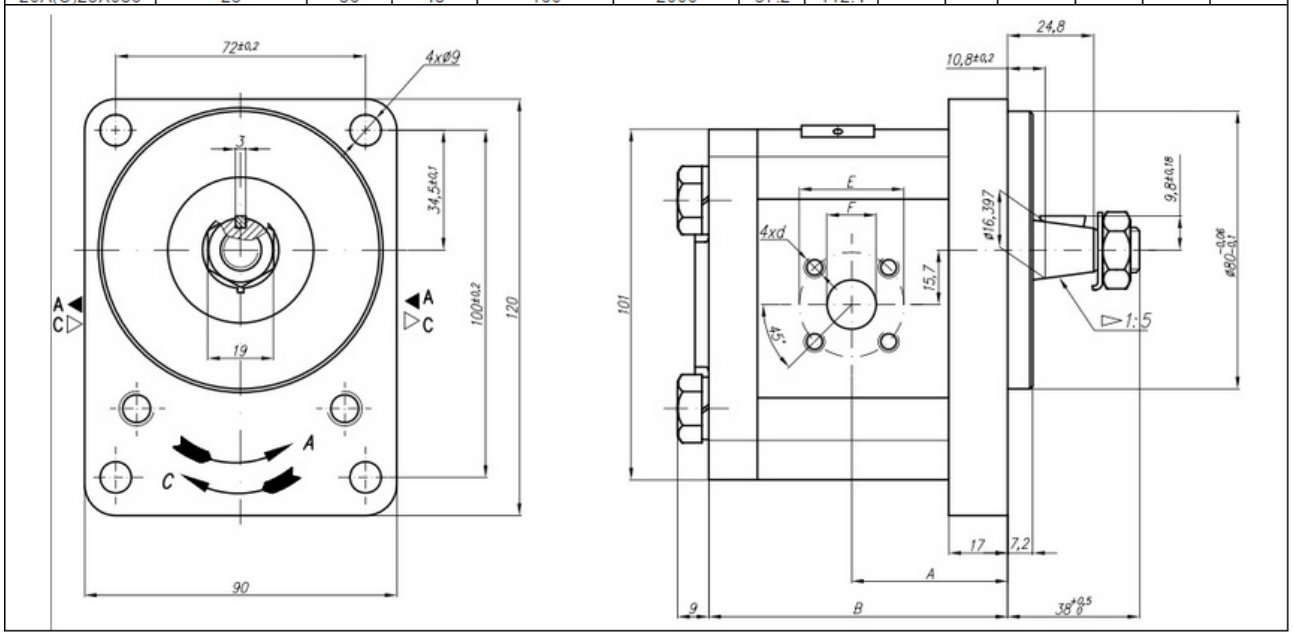


Hydraulic gear pumps

Group 2

20A(C)..X086

Type	Displacement	Flow		Pressure	Max. Speed	Dimension							
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	E	F	d	E	F	d
20A(C)4.5X086	4.5	6.4	14.33	250	3500	39.8	78	40	15	M6-6H	35	15	M6-6H
20A(C)6.3X086	6.3	8.69	20.29	250	3500	41	81						
20A(C)8.2X086	8.2	11.32	26.4	250	3500	43.1	83.9		20				
20A(C)10X086	10	13.95	32.55	250	3500	47.5	87						
20A(C)11X086	11	15.76	36.78	250	3500	47.5	89						
20A(C)12X086	12	16.92	39.48	250	3500	47.5	90.3						
20A(C)14X086	14	19.95	46.55	250	3500	47.5	93.4						
20A(C)15X086	15	21.6	36	250	2500	47.5	95						
20A(C)16X086	16	23.04	38.4	250	2500	47.5	96.5						
20A(C)19X086	19	27.36	45.6	200	2500	47.5	101.5						
20A(C)22X086	22	31.68	42.24	180	2000	55	106.5						
20A(C)25X086	25	36	48	160	2000	57.2	112.4						

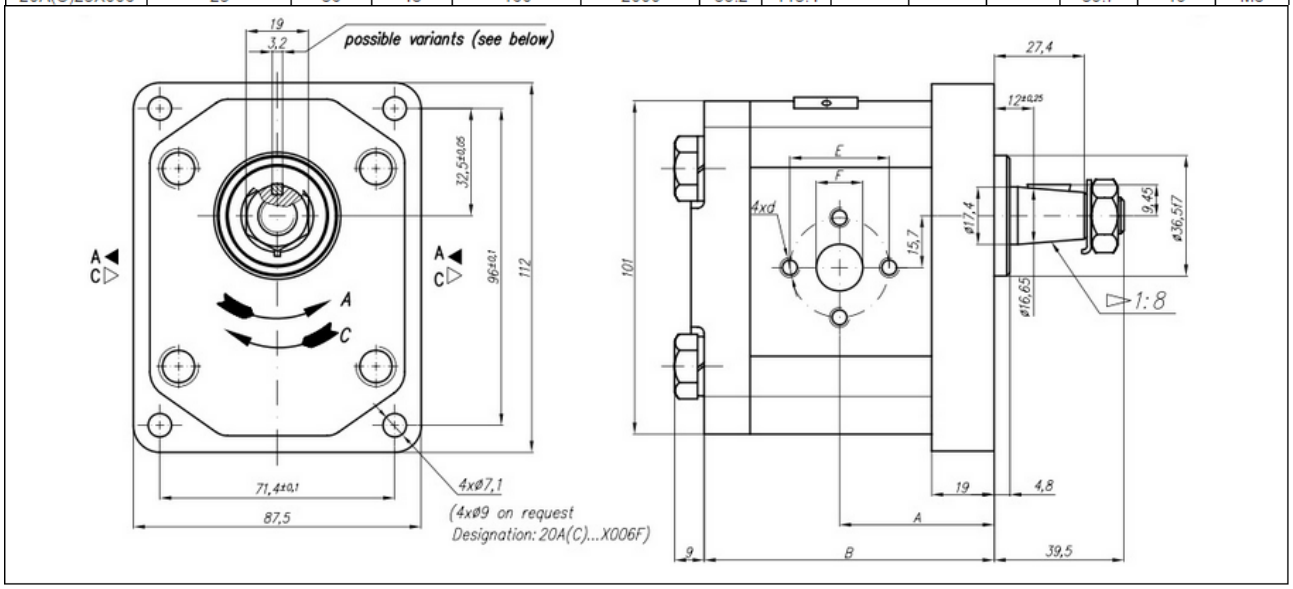


Hydraulic Gear Pumps

Group 2

20A(C)..X006

Type	Displacement	Flow		Pressure	Max. Speed	Dimension							
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	E	F	d	E	F	d
20A(C)4.5X006	4.5	6.4	14.33	250	3500	42.5	80	30.2	13.1	M6-6H	30.2	13.1	M6-6H
20A(C)6.3X006	6.3	8.69	20.29	250	3500	42.5	80						
20A(C)8.2X006	8.2	11.32	26.4	250	3500	42.5	80						
20A(C)10X006	10	13.95	32.55	250	3500	47	89	39.7	19	M8-6H		14.2	
20A(C)11X006	11	15.76	36.78	250	3500	48	91.1						
20A(C)12X006	12	16.92	39.48	250	3500	48.6	92.3						
20A(C)14X006	14	19.95	46.55	250	3500	50	95.4						
20A(C)15X006	15	21.6	36	250	2500	51	96.9						
20A(C)16X006	16	23.04	38.4	250	2500	52	98.6						
20A(C)19X006	19	27.36	45.6	200	2500	54	103.5						
20A(C)22X006	22	31.68	42.24	180	2000	57	108.5						
20A(C)25X006	25	36	48	160	2000	59.2	113.4				39.7	19	M8

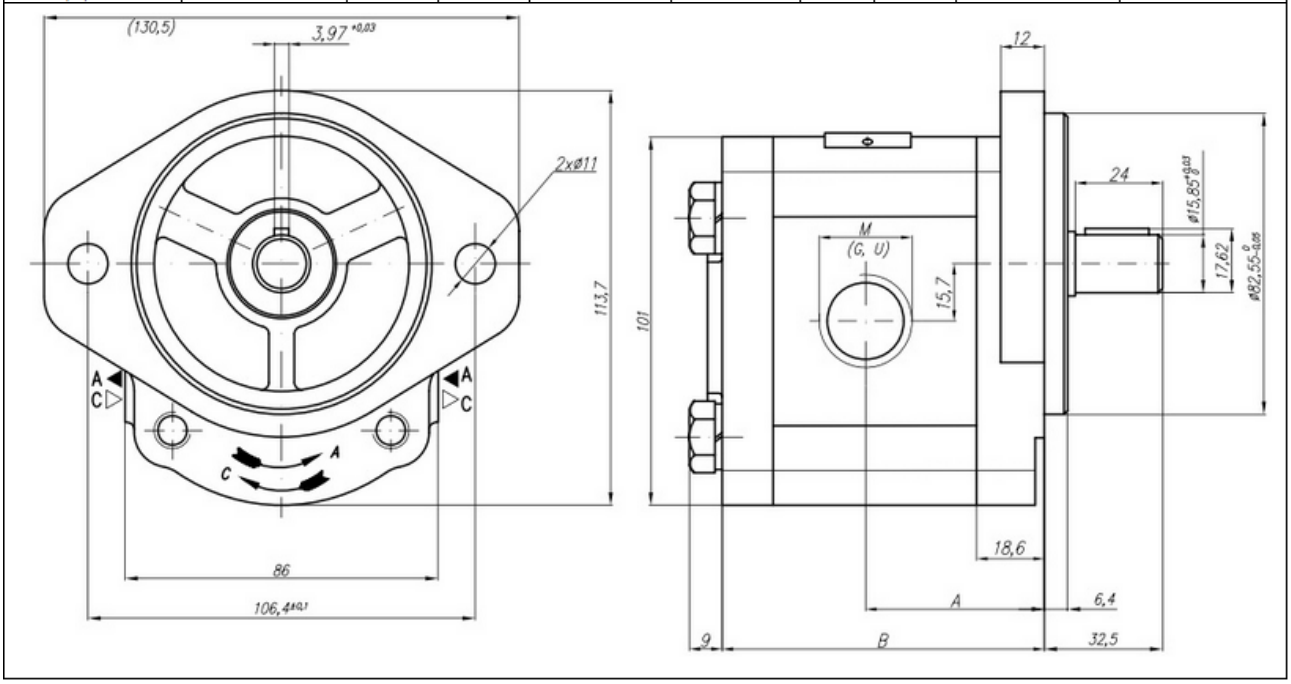


Hydraulic gear pumps

Group 2

20A(C)..X030

Type	Displacement	Flow		Pressure	Max. Speed	Dimension			
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet	Outlet
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	M	M
20A(C)4.5X030	4.5	6.14	14.33	250	3500	41.4	79.6	M20x1.5	M16x1.5
20A(C)6.3X030	6.3	8.69	20.29	250	3500	42.6	82.6		
20A(C)8.2X030	8.2	11.32	26.4	250	3500	44.7	85.5		
20A(C)10X030	10	13.95	32.55	250	3500	49.1	88.6		
20A(C)11X030	11	15.76	36.78	250	3500	49.1	90.7		
20A(C)12X030	12	16.92	39.48	250	3500	49.1	91.9		
20A(C)14X030	14	19.95	46.55	250	3500	49.1	95		
20A(C)15X030	15	21.6	36	250	2500	49.1	96.5		
20A(C)16X030	16	23.04	38.4	250	2500	49.1	98.2		
20A(C)19X030	19	27.36	45.6	200	2500	49.1	103.1		M20x1.5
20A(C)22X030	22	31.68	42.24	180	2000	56.6	108.1		
20A(C)25X030	25	36	48	160	2000	58.8	113		

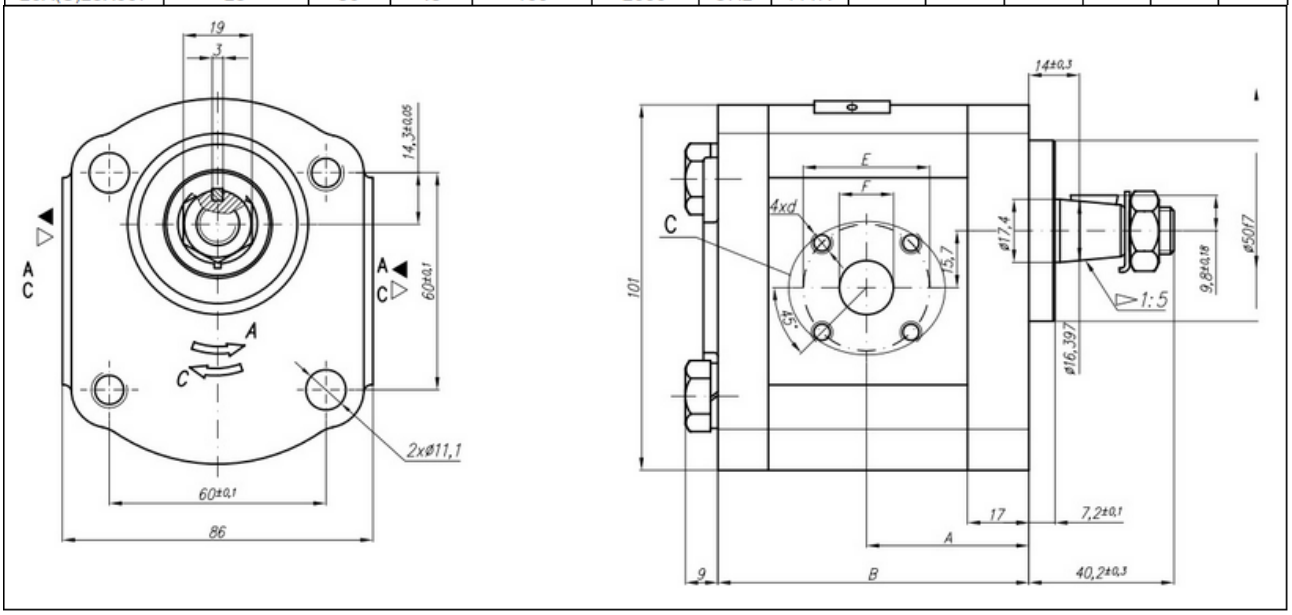


Hydraulic gear pumps

Group 2

20A(C)..X007

Type	Displacement	Flow		Pressure	Max. Speed	Dimension							
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	E	F	d	E	F	d
20A(C)4.5X007	4.5	6.14	14.33	250	3500	37.3	75.1	40	15	M6-6H	35	15	M6-6H
20A(C)6.3X007	6.3	8.69	20.29	250	3500	38.6	78						
20A(C)7X007	7	9.66	22.54	250	3500	42.5	82.1		20				
20A(C)8.2X007	8.2	11.32	26.4	250	3500	40.6	78						
20A(C)10X007	10	13.95	32.55	250	3500	45	87						
20A(C)11X007	11	15.76	36.78	250	3500	45	89.1						
20A(C)12X007	12	16.92	39.48	250	3500	45	90.3						
20A(C)14X007	14	19.95	46.55	250	3500	45	93.4						
20A(C)15X007	15	21.6	36	250	2500	45	94.9						
20A(C)16X007	16	23.04	38.4	250	2500	45	96.5						
20A(C)19X007	19	27.36	45.6	200	2500	45	101.5						
20A(C)22X007	22	31.68	42.24	180	2000	52.5	106.5						
20A(C)25X007	25	36	48	160	2000	57.2	111.4						

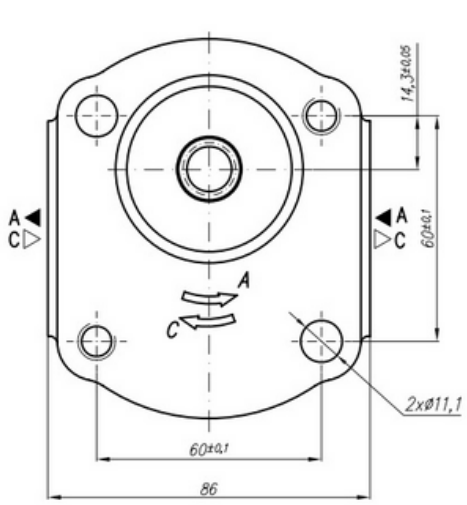


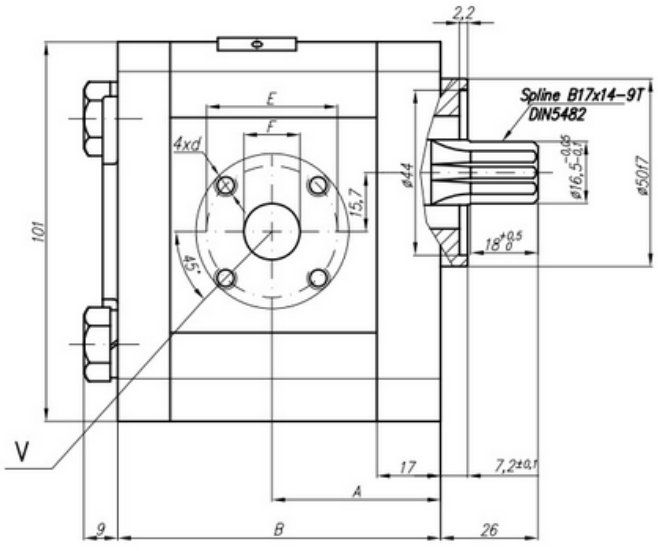
Hydraulic gear pumps

Group 2

20A(C)..X205

Type	Displacement	Flow		Pressure	Max. Speed	Dimension							
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	E	F	d	E	F	d
20A(C)4.5X205	4.5	6.14	14.33	250	3500	37.3	75.1	40	15	M6-6H	35	15	M6-6H
20A(C)6.3X205	6.3	8.69	20.29	250	3500	38.6	78						
20A(C)8.2X205	8.2	11.32	26.4	250	3500	40.6	78		20				
20A(C)10X205	10	13.95	32.55	250	3500	45	87						
20A(C)11X205	11	15.76	36.78	250	3500	45	89.1						
20A(C)12X205	12	16.92	39.48	250	3500	45	90.3						
20A(C)14X205	14	19.95	46.55	250	3500	45	93.4						
20A(C)15X205	15	21.6	36	250	2500	45	94.9						
20A(C)16X205	16	23.04	38.4	250	2500	45	96.5						
20A(C)19X205	19	27.36	45.6	200	2500	45	101.5						
20A(C)22X205	22	31.68	42.24	180	2000	52.5	106.5						
20A(C)25X205	25	36	48	160	2000	57.2	111.4						



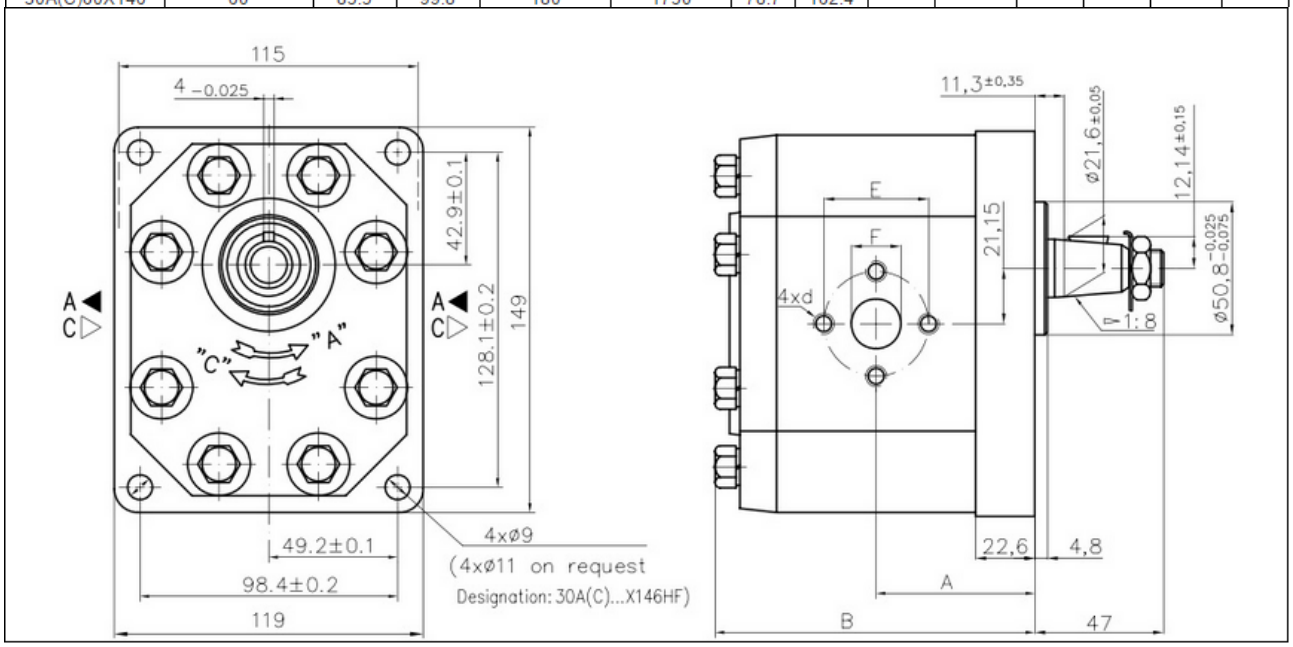


Hydraulic gear pumps

Group 3

30A(C)..X146H

Type	Displacement	Flow		Pressure	Max. Speed	Dimension							
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	E	d	F	E	d	F
30A(C)20X146	20	28.2	56.4	250	3000	56.1	116.7	40	M8	19	40	M8	19
30A(C)22.2X146	22.5	31.7	63.5	250	3000	57.6	119.7						
30A(C)25X146	25	35.3	70.5	250	3000	58.3	121.1						
30A(C)28X146	28	39.5	79	250	3000	60.2	124.7						
30A(C)32X146	32	45.1	90.2	250	3000	66.5	137.3	51	M10	27			
30A(C)36X146	36	51.3	95.8	250	2800	68	140.5						
30A(C)42X146	42	59.9	99.8	230	2500	70.8	146.1						
30A(C)46X146	46	65.6	100.5	230	2300	72.7	149.8						
30A(C)50X146	50	71.3	99.8	200	2100	74.5	153.4						
30A(C)55X146	55	78.4	91.4	200	1750	76.7	157.9						
30A(C)60X146	60	85.5	99.8	180	1750	78.7	162.4						

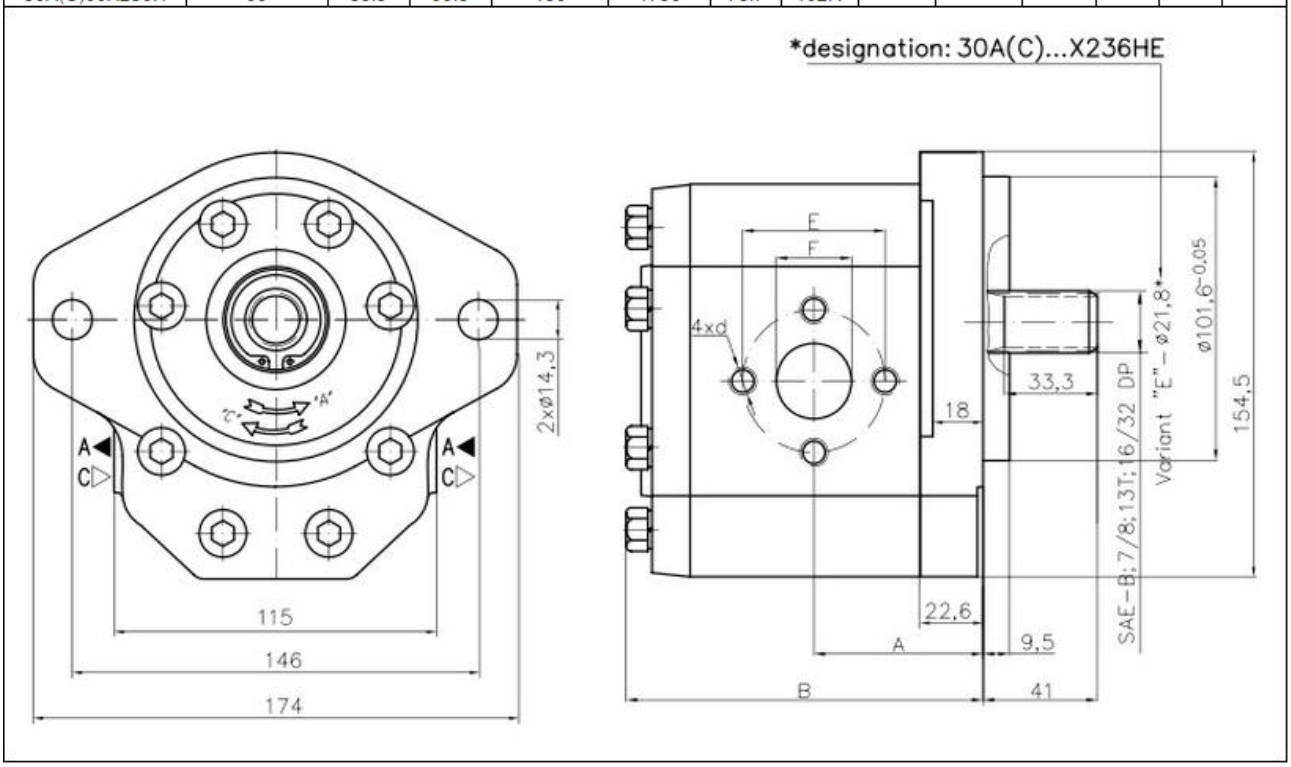


Hydraulic gear pumps

Group 3

30A(C)..X236H

Type	Displacement	Flow		Pressure	Max. Speed	Dimension							
		@ 1500 rpm	@ max. rpm	Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	l/min	l/min	bar	rpm	mm	mm	E	d	F	E	F	d
30A(C)20X236H	20	28.2	56.4	250	3000	56.1	116.7	40	M8	19	40	19	M8
30A(C)22.2X236H	22.5	31.7	63.5	250	3000	57.6	119.7						
30A(C)25X236H	25	35.3	70.5	250	3000	58.3	121.1						
30A(C)28X236H	28	39.5	79	250	3000	60.2	124.7						
30A(C)32X236H	32	45.1	90.2	250	3000	66.5	137.3	51	M10	27			
30A(C)36X236H	36	51.3	84.6	250	2800	68	140.5						
30A(C)42X236H	42	59.9	99.8	230	2500	70.8	146.1						
30A(C)46X236H	46	65.6	100.5	230	2300	72.7	149.8						
30A(C)50X236H	50	71.3	99.8	200	2100	74.5	153.4						
30A(C)55X236H	55	78.4	91.4	200	1750	76.7	157.9						
30A(C)60X236H	60	85.5	99.8	180	1750	78.7	162.4						

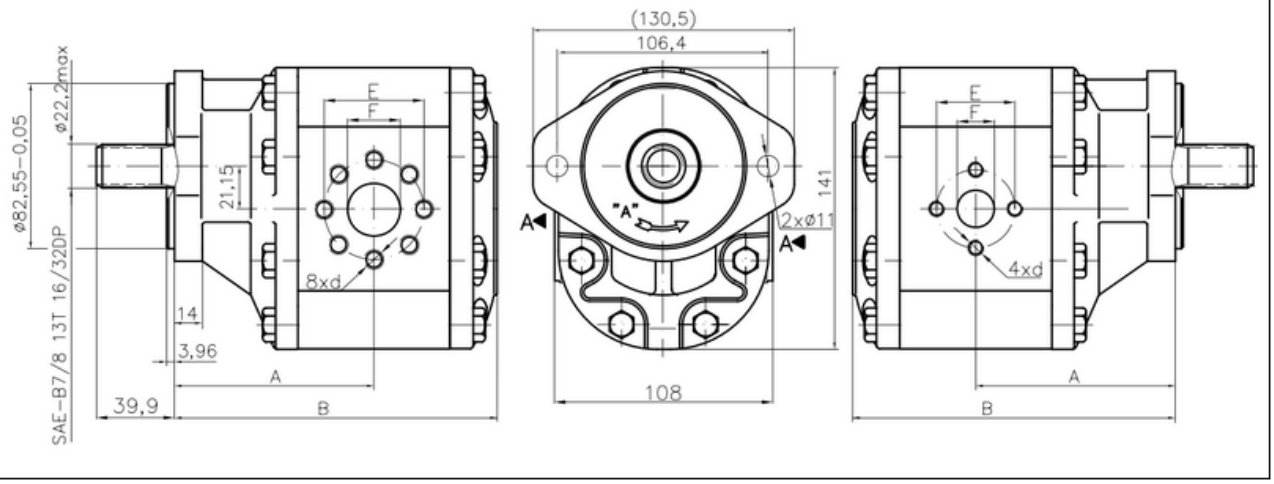


Hydraulic gear pumps

Group 3

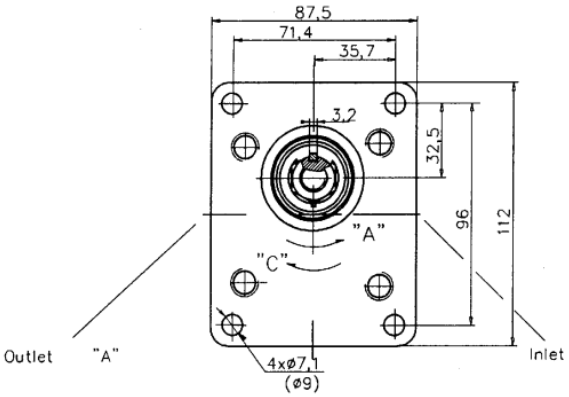
30A(C)..X415

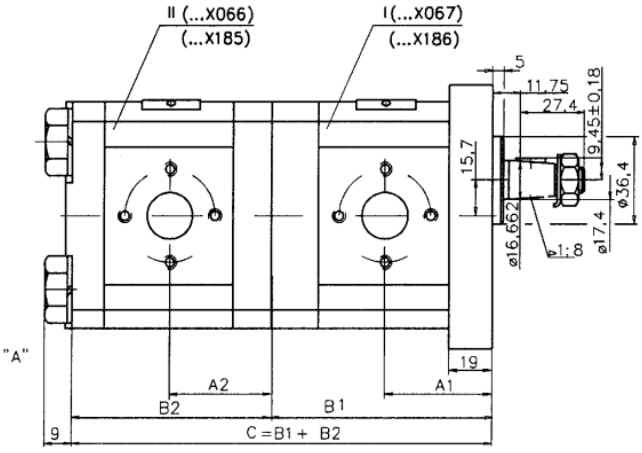
Type	Displacement	Pressure	Max. Speed	Dimension							
		Pnom	n	A	B	Inlet			Outlet		
	cm^3/rev	bar	rpm	mm	mm	E	d	F	E	d	F
30C32X415	32	200	3000	101	164	51	M10	27	40	M8	19



The gear pumps are designed to work under the following conditions:

- Working liquid: hydraulic oils with a viscosity of 16-200 mm²/s
- Filtration degree: 15-25 microns
- Ambient temperature range: -22-+55 °C
- Fluid temperature range: -25-+80 ° C
- Inlet pressure, absolute: 0.8-2.2 bar
- Fluid speed (suction line) 0.5-1 m/s



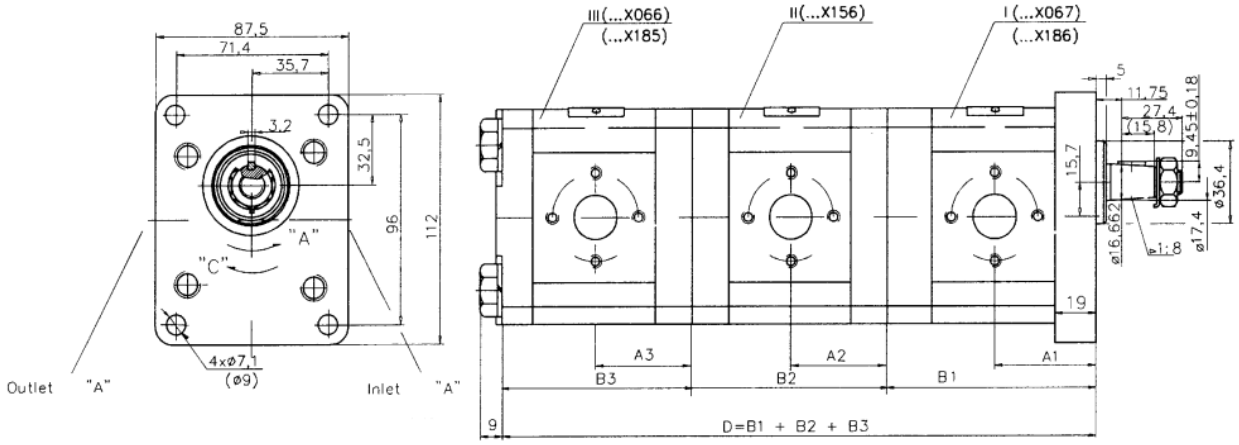


I		
Model	**A1**	**B1**
20A(C)4,5X067	42,5	87,2
20A(C)6,3X067	44	90,2
20A(C)8,2X067	45,5	93,1
20A(C)10X067	47	96,2
20A(C)11X067	48	98,2
20A(C)12X067	48,6	99,5
20A(C)14X067	50	102,6
20A(C)15X067	51	104,1
20A(C)16X067	52	105,8
20A(C)19X067	54	110,7
20A(C)22X067	57	115,7
20A(C)25X067	59,2	120,6

II		
Model	**A2**	**B2**
20A(C)4,5X066	40,5	78
20A(C)6,3X066	42	81
20A(C)8,2X066	43,5	83,9
20A(C)10X066	45	87
20A(C)11X066	46	89,1
20A(C)12X066	46,6	90,3
20A(C)14X066	48	93,4
20A(C)15X066	49	95
20A(C)16X066	50	96,6
20A(C)19X066	52	101,5
20A(C)22X066	55	106,5
20A(C)25X066	57,2	112,1

The gear pumps are designed to work under the following conditions:

- Working liquid: hydraulic oils with a viscosity of 16-200 mm²/s
- Filtration degree: 15-25 microns
- Ambient temperature range: -22-+55 °C
- Fluid temperature range: -25-+80 ° C
- Inlet pressure, absolute: 0.8-2.2 bar
- Fluid speed (suction line) 0.5-1 m/s



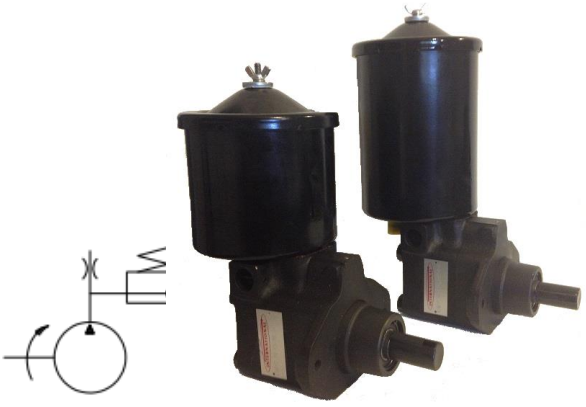
I		
Model	**A1**	**B1**
20A(C)4,5X067	42,5	87,2
20A(C)6,3X067	44	90,2
20A(C)8,2X067	45,5	93,1
20A(C)10X067	47	96,2
20A(C)11X067	48	98,2
20A(C)12X067	48,6	99,5
20A(C)14X067	50	102,6
20A(C)15X067	51	104,1
20A(C)16X067	52	105,8
20A(C)19X067	54	110,7
20A(C)22X067	57	115,7
20A(C)25X067	59,2	120,6

II		
Model	**A2**	**B2**
20A(C)4,5X156	40,5	85,2
20A(C)6,3X156	42	88,2
20A(C)8,2X156	43,5	91,1
20A(C)10X156	45	94,2
20A(C)11X156	46	96,3
20A(C)12X156	46,6	97,5
20A(C)14X156	48	100,6
20A(C)15X156	49	102,1
20A(C)16X156	50	103,8
20A(C)19X156	52	108,7
20A(C)22X156	55	113,7
20A(C)25X156	57,2	118,6

III		
Model	**A3**	**B3**
20A(C)4,5X066	40,5	78
20A(C)6,3X066	42	81
20A(C)8,2X066	43,5	83,9
20A(C)10X066	45	87
20A(C)11X066	46	89,1
20A(C)12X066	46,6	90,3
20A(C)14X066	48	93,4
20A(C)15X066	49	95
20A(C)16X066	50	96,6
20A(C)19X066	52	101,5
20A(C)22X066	55	106,5
20A(C)25X066	57,2	112,1

Vane pumps

VTM vane pump – Power steering pump
VTM42



- Compact power source for steering assemblies
- Integral relief and flow control
- High efficiency
- Balanced cartridge design
- Quiet operation

◆ Power Steering Pump Ordering Specifications

IFP VTM42 40 15 20 NO R K

POWER STEERING

RING SIZE (SEE SPEC. BELOW)

CONTROLLED FLOW SEE TABLE "A"

RELIEF SETTING SEE TABLE "B"

NO-NO TANK
ST-SMALL TANK
BT-BIG TANK
MN-MANIFOLD

ROTATION
R - CLOCKWISE
L - COUNTERCLOCKWISE

K - THREADED KEYED SHAFT

Values based on using anti-wear type petroleum oil 150 SUS at 100°F and 0 PSI inlet pressure.

IFP MODEL SERIES	RING SIZE (DELIVERY USgpm @ 1200 R/MIN & 100 PSI)	DISPL. in^3/r (cm^3/r)	MAXIMUM SPEED - RPM @100 PSI 7 BAR	@1500 PSI (100 BAR)	@2000 PSI (140 BAR)	MAXIMUM PRESSURE PSI (BAR)	APPROX. WEIGHT lbs. (kg.)
VTM42	1	0.21 (3.4)	7000	5000	4250	2000 (140)	14 (6.4)
	1.5	0.31 (5.1)	7000	4500	4000		
	2	0.38 (6.2)	7000	4200	3800		
	4	0.79 (12.9)	7000	2800	2800		
	5	0.96 (15.7)	6000	2600	2300		
	6	1.18 (19.3)	5000	2500	2000		

TABLE A Controlled Flow (at 1600 RPM & 100 PSI)

15	-1.5 USgpm (6 L/min)
20	-2.0 USgpm (8 L/min)
25	-2.5 USgpm (9.5 L/min)
30	-3.0 USgpm (11 L/min)
35	-3.5 USgpm (13 L/min)
40	-4.0 USgpm (15 L/min)
45	-4.5 USgpm (17 L/min)
50	-5.0 USgpm (19 L/min)
55	-5.5 USgpm (21 L/min)
60	-6.0 USgpm (23 L/min)
65	-6.5 USgpm (25 L/min)
70	-7.0 USgpm (26.5 L/min)
75	-7.5 USgpm (28 L/min)

TABLE B Relief Setting

05	-500 psi (35 bar)
07	-750 psi (52 bar)
10	-1000 psi (70 bar)
12	-1250 psi (86 bar)
15	-1500 psi (100 bar)
17	-1750 psi (120 bar)
20	-2000 psi (140 bar)

IFP offers a complete line of economical high performance fixed displacement VTM vane pumps providing flows up to 25 US GPM and pressures to 2000 psi for mobile and marine power steering applications. The integral flow control and relief valve eliminate the need for external valving and combined with the top mounted reservoir, you have a compact power package. Units can be supplied with a manifold assembly to be piped to an external tank or assembled on existing installations. Units are supplied with a threaded shaft and a heavy duty front bearing for gear and pulley drive assemblies.

(F3) - **V (M) ** A (M) (F) - * * 22 * - * * *

1 2 3 4 5 6 7 8 9 10 11 12

1 F3 - Viton Seals

Omit if not required

2 Series Designation

20V – 7 to 45 cm³/r (0.43 to 2.78 in³/r)
25V – 33 to 67 cm³/r (2.0 to 4.1 in³/r)
35V – 81 to 121 cm³/r (4.9 to 7.4 in³/r)
45V – 138 to 193 cm³/r (8.4 to 11.6 in³/r)

3 Pilot Designation

Omit - Standard pilot
S – SAE per ISO 3019/1 (SAE J744) (N/A on 20V pump).
M – Metric per ISO 3019/2 100A2HW codes (N/A on 20V pump).

4 Geometric Displacement

Rated capacity (USgpm) at 1200 rpm, 6,9 bar (100 psi)

Frame Size	Code (USgpm)	cm³/r	in³/r
20V	2	7	0.43
	5	18	1.10
	8	27	1.67
	9	30	1.85
	11	36	2.22
	12	40	2.47
	14	45	2.78
25V	10	33	2.01
	12	39	2.47
	14	45	2.78
	17	55	3.39
	21	67	4.13
35V	25	81	4.94
	30	97	5.91
	35	112	6.83
	38	121	7.37
45V	42	138	8.41
	45	147	8.95
	50	162	9.85
	60	193	11.75

5 Port Connections

A – SAE 4-bolt flange

6 Port Connection Modifier

Omit – Inch thread port connection (4-bolt flange).

M – Metric port connection (4-bolt flange - N/A on 20V)

7 Mounting

Omit - Flange mounting
F – Foot mounting

8 Shafts

Std. Pilot Shafts

Model	Str. Key	HD Str. Key	Spline
20V	1	N/A	151
25V thru 45V	1	86	11

"S" SAE Pilot & "M" Metric ISO Pilot Shafts

Model	Str. Key	HD Str. Key	Metric Str. Key	Spline
25VS - 45VS	202	203	N/A	297
25VM - 45VM	N/A	N/A	292N	N/A

9 Outlet Postions

(Viewed from cover end of pump)
A – Opposite inlet port
B – 90° CCW from inlet
C – Inline with inlet
D – 90° CW from inlet

10 Design

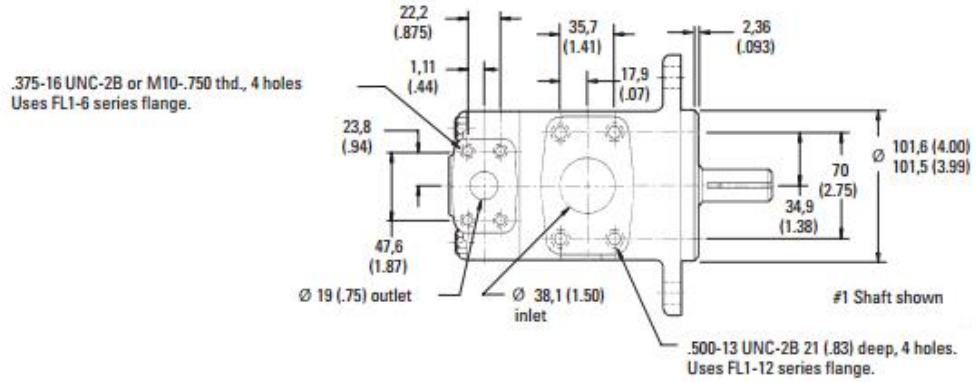
11 Rotation

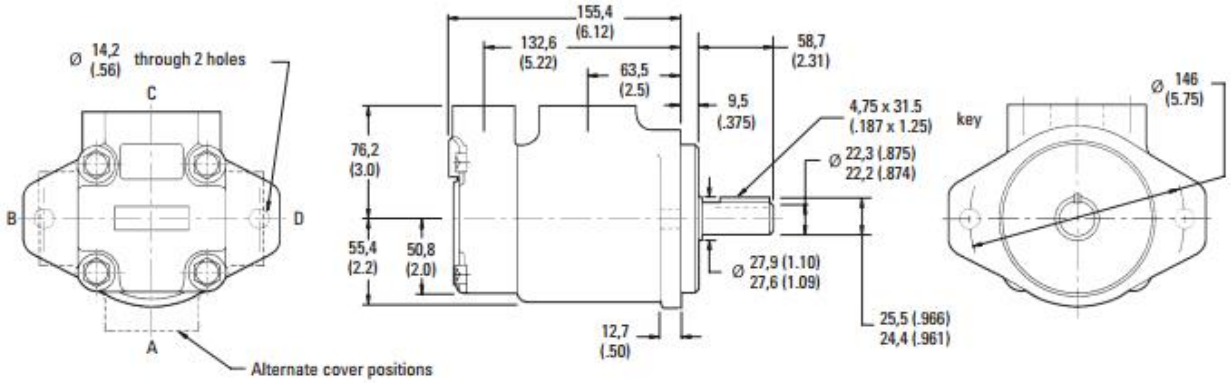
(Viewed form shaft end of pump)
L – Left hand for counterclockwise
R – Right hand for clockwise

12 Special Suffix

167 – 2-bolt, 5.00" dia. pilot (25V only - N/A for VS or VM models)

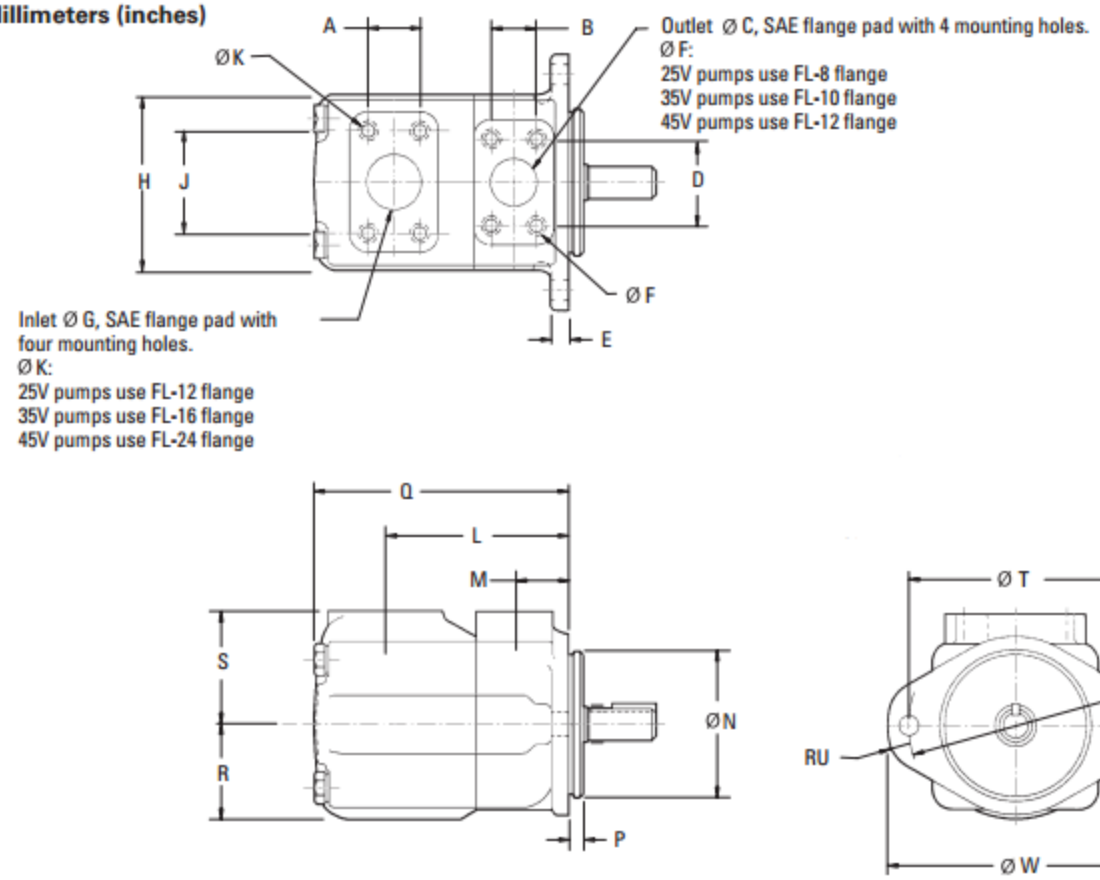
20V Series Single Pumps
Millimeters (inches)





25V, 35V and 45V Single Pumps

Millimeters (inches)



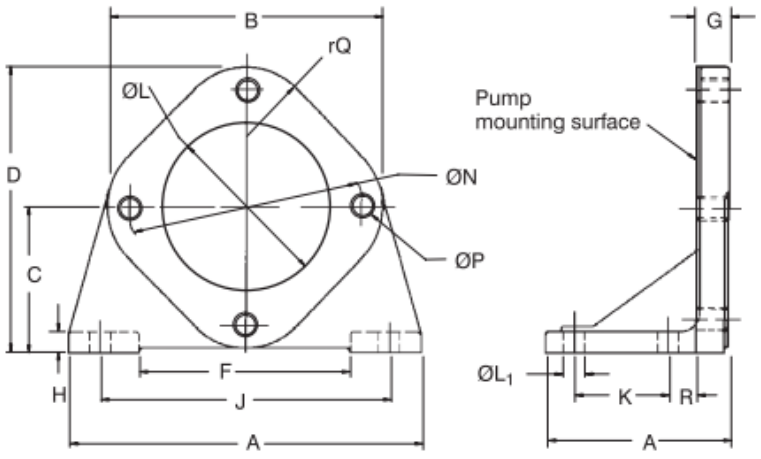
Model	ø F x full thread depth, 4 holes	ø K x full thread depth, 4 holes
25V(*)-**AM	M10 x 19,0 (0.75)) deep	M12 x 23,8 (0.94) deep
25V(*)-**A	⅜"-16UNC-2B x 19 (0.75) deep	½"-13UNC-2B x 23,8 (0.94) deep
35V(*)-**AM	M12 x 22,3 (0.88) deep	M12x22,3 (0.88) deep
35V(*)-**A	0.43"-14UNC-2B x 22,3 (0.88)deep	½ "-13UNC-2B x 22,3 (0.88) deep
45V(*)-**AM	M12 x 23,8 (0.94) deep	M16 x 30 (1.18) deep
45V(*)-**A	½"-13UNC-2B x 23,8 (0.94) deep	⅝"-11UNC-2B x 30 (1.18) deep

Model	A	B	øC	D	E	øG	H	J	L	L for (**VS & **VM)	M	øN	P	P for (**VS)	P for (**VM)
25V	35,7	26,2	25,4	52,4	12,7	38,1	118	69,9	121	149	38,1	101,6 (4.00)	9,53	9,53	9,25
	(1.41)	(1.03)	(1.00)	(2.06)	(0.50)	(1.50)	(4.62)	(2.75)	(4.76)	(5.88)	(1.50)	101,5 (3.99)	(0.38)	(0.38)	(.364)
35V	42,9	30,2	31,8	58,7	16	50,8	140	77,8	125,5	133,4	38,1	127,0 (5.00)	9,53	12,7	9.11
	(1.69)	(1.19)	(1.25)	(2.31)	(0.63)	(2.00)	(5.50)	(3.06)	(4.94)	(5.25)	(1.50)	126,9 (4.99)	(0.38)	(0.50)	(.359)
45V	61,9	35,7	38,1	69,9	16	76,2	159	106,4	153	164	43	127,0 (5.00)	12,7	12,7	9.11
	(2.43)	(1.41)	(1.50)	(2.75)	(0.63)	(3.00)	(6.25)	(4.19)	(6.03)	(6.44)	(1.69)	126,9 (4.99	(0.50)	(0.50)	(.359)

Model	Q	Q for (**VS)	Q for (**VM)	R	S	øT	RU	øV	øW	øX
25V	162,1 (6.38)	171,7 (6.76)	171,7 (6.76)	63,5 (2.50)	76,2 (3.00)	146 (5.75)	14 (0.55)	14,2 (0.56)	175 (6.88)	121 (4.76)
35V	185 (7.28)	193 (7.59)	193 (7.59)	69,9 (2.75)	82,6 (3.25)	181 (7,13)	16 (0.63)	17,5 (0.69)	213 (8.38)	148 (5.83)
45V	216 (8.50)	226 (8.91)	226 (8.91)	82,6 (3.25)	93,7 (3.69)	181 (7.13)	16 (0.63)	17,5 (0.69)	213 (8.38)	148 (5.83)

FOOT MOUNTING DIMENSIONS

Salts for mounting pump are supplied with bracket.



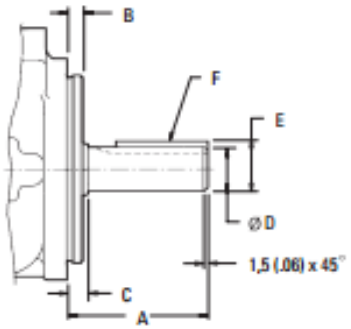
Part No.	A	B	C	D	E	F	G	H	J
422583	171 (6.75)	178 (7.00)	92 (3.625)	181 (7.125)	93 (3.656)	98 (3.858)	17,4 (.687)	13 (.50)	146 (5.750)
422584	265 (10.43)	212 (8.37)	109,5 (4.312)	216 (8.50)	129 (5.06)	164 (6.46)	19 (.750)	16 (.62)	235 (9.250)

Part No.	K	øL	øL1	øN	øP	rQ	R
422583	50,8 (2.00)	101,6 (4.00)	11,1 (.593)	146 (5.750)	1/2"-13 UNC	51 (2.00)	13
422584	76,2 (3.00)	127 (5.00)	17,5 (.68)	180,7 (7.125)	3/8"-11 UNC	64 (2.52)	19

422583 for use with frame sizes 20, 25 and .2520 pumps. Weighs 2,7 kg (6 lbs.)
422584 for use with frame sizes 35, 45, 35** and 45** pumps. Weighs 5,9 kg (13 lbs.)

SHAFT OPTIONS

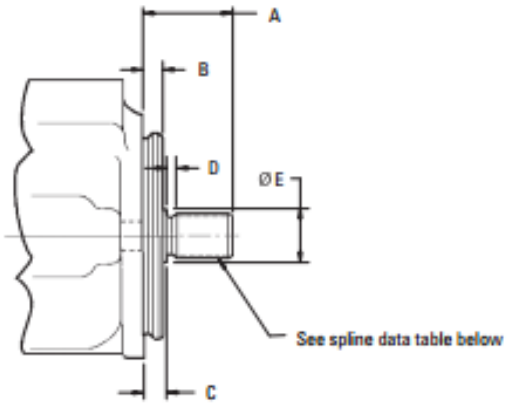
Straight Key Shafts



Pump	Shaft Code	A	B	C	øD	E	F key width x length
20V	1	59 (2.32)	9,53 (.375)	12,1 (.476)	22,23 (.875) 22,20 (.874)	24,5 (.966) 24,4 (.961)	4,75 (.817) x 32 (1.25)
25V 2520V	1	59 (2.32)	9,53 (.375)	11,1 (.435)	22,23 (.875) 22,20 (.874)	24,5 (.966) 24,4 (.961)	4,75 (.817) x 32 (1.25)
25V 252*V	86	78 (3.06)	9,53 (.375)	11,1 (.435)	25,37 (.999) 25,35 (.998)	28,3 (1.11) 28,1 (1.10)	6,36 (.250) x 50,8 (2.00)
25VM 252*VM 25VT*M	292N	52,3 (2.06)	9,25 (.364)	10,4 (.41)	25,02 (.985) 25,00 (.984)	28,02 (1.10) 27,81 (1.09)	8,00 (.314) x 28 (1.10)
25VT*S 25VS	202	71,4 (2.81)	9,53 (.375)	7,9 (.310) ▲	22,23 (.875) 22,20 (.874)	25,15 (.990) 24,90 (.980)	6,36 (.250) x 50,8 (2.00)
252*VS	203	77,7 (3.06)	9,53 (.375)	7,9 (.310) ▲	25,40 (1.00) 25,35 (.998)	28,20 (1.11) 27,94 (1.10)	6,36 (.250) x 50,8 (2.00)
35V 352*V	1	73,2 (2.88)	9,53 (.375)	11,1 (.435)	31,75 (1.25) 31,70 (1.24)	35,36 (1.39) 34,10 (1.38)	7,94 (.313) x 38,1 (1.50)
	86	86 (3.88)	9,53 (.375)	11,1 (.435)	34,90 (1.374) 34,87 (1.373)	38,6 (1.52) 38,3 (1.51)	7,92 (.312) x 54 (2.13)
35VM 352*VM 35VT*M	292N	68,4 (2.70)	9,12 (.359)	10,4 (.41)	37,01 (1.457) 36,75 (1.447)	35,00 (1.378) 34,80 (1.370)	10 (.394) x 45 (1.77)
35VS 352*VS	202	84,1 (3.31)	12,7 (.50)	10,4 (.41)	31,75 (1.25) 31,70 (1.24)	35,36 (1.39) 34,10 (1.38)	7,94 (.313) x 45 (1.77)
35VT*S 35VS 352*VS	203	84,1 (3.31)	12,7 (.50)	7,9 (.310) ▲	34,90 (1.374) 34,87 (1.373)	38,56 (1.518) 38,30 (1.508)	7,92 (.312) x 54 (2.125)
45V 45**V	1	62 (2.44)	12,7 (.500)	14,22 (.560)	31,75 (1.25) 31,70 (1.24)	35,36 (1.39) 34,10 (1.38)	7,92 (.312) x 28,5 (1.12)
	86	87,4 (3.44)	12,7 (.500)	14,22 (.560)	38,07 (1.499) 38,05 (1.498)	42,4 (1.67) 42,1 (1.66)	9,53 (.375) x 50,8 (2.00)
45VS 45**VS	202	84,1 (3.31)	12,7 (.500)	14,22 (.560)	31,75 (1.25) 31,70 (1.24)	35,36 (1.39) 34,10 (1.38)	7,94 (.313) x 63 (2.48)
45VM 452*VM 45VT*M	292N	92 (3.62)	9,12 (.359)	10,0 (.394)	40,01 (1.575) 39,99 (1.574)	43,0 (1.693) 42,8 (1.685)	12 (.472) x 63 (2.48)
45VT*S 45VS 45**VS	203	87,4 (3.44)	9,14 (.360)	7,9 (.310) ▲	38,07 (1.499) 38,05 (1.498)	42,4 (1.67) 42,1 (1.66)	9,53 (.375) x 57,1 (2.25)

▲ Shaft shoulder inside recess in pilot.

Splined Shafts



Pump	Shaft Code	A	B	C	D	øE	Spline Data (see below)
20V	151	41,1 (1.62)	9,53 (.375)	11,1 (.437)	3,9 (.156)	27,8 (1.09)	A
25V 2520V	11	44,5 (1.75)	9,53 (.375)	11,1 (.437)	3,9 (.156)	27,8 (1.09)	A
2525V	174	59,9 (2.36)	9,53 (.375)	17,3 (.68)	3,0 (.12)	29,2 (1.15)	B
25VT*S 25VS 252*VS	297	41,1 (1.62)	9,14 (.36)	7,9 (.31)	4,1 (.16)	27,8 (1.09)	C
35V 352*V	11	58,7 (2.31)	9,53 (.375)	11,1 (.437)	6,35 (.25)	35,1 (1.38)	D
35VT*S 35VS 352*VS	297	55,5 (2.19)	9,14 (.360)	7,9 (.310)	5,5 (.21)	35,1 (1.38)	E
45V 45**V	11	61,9 (2.44)	12,7 (.500)	14,3 (.565)	9,7 (.38)	39,6 (1.56)	D
45VT*S 45VS 45**VS	297	55,5 (2.19)	9,14 (.360)	7,9 (.310)	9,7 (.38)	39,6 (1.56)	E

Spline Data Table

(Involute splines from above chart)

Spline Data Reference	Number of Teeth	Pitch	Major Diameter	Form Diameter	Minor Diameter	Minor Diameter
A	13	16/32	22,17 (.873) 22,15 (.872)	19,03 (.749)	18,63 (.734) 18,35 (.723)	Major dia. fit
B	14	12/24	31,22 (1.23) 31,11 (1.22)	27,48 (1.08)	27,0 (1.063) 26,7 (1.05)	Side fit
C	13	16/32	22,2 (.875) 21,7 (.853)	19,03 (.749)	18,4 (.725)	Side fit
D	14	12/24	31,7 (1.25) 31,67 (1.247)	27,2 (1.07)	26,99 (1.06) 26,64 (1.05)	Major dia. fit
E	14	12/24	31,6 (1.25) 31,1 (1.22)	27,48 (1.08)	26,7 (1.05)	Side fit

Vane pumps

Single vane pump – Balanced vane type
V10 – V20

F3 - V 10 - 1 P 5 S - 1 C 20 L

1 2 3 4 5 6 7 8 9 10 11

1 Special Seals
Omit if not required.

2 Vane pump

3 Series
10 or 20

4 Mounting

1 – 2-bolt flange, 3.25" pilot (standard)
6 – 2-bolt flange, 4.00" pilot (optional)

5 Inlet port connections

P –1" NPT thread (V10 only)
1 1/4" NPT thread (V20 only)
S –1.3125-12 straight thread (V10 only)
1.625-12 straight thread (V20 only)

6 Ring size
(Delivery at 1200 r/min and 100 psi/7 bar)

V10 series:
1 – 1 USgpm/3.8 L/min
2 – 2 USgpm/7.6 L/min
3 – 3 USgpm/11.4 L/min
4 – 4 USgpm/15.1 L/min
5 – 5 USgpm/18.9 L/min
6 – 6 USgpm/22.7 L/min
7 – 7 USgpm/26.5 L/min

V20 series:
6 – 6 USgpm/22.7 L/min
7 – 7 USgpm/26.5 L/min
8 – 8 USgpm/30.3 L/min
9 – 9 USgpm/34.1 L/min
11 – 11 USgpm/41.6 L/min
12 – 12 USgpm/45.4 L/min
13 – 13 USgpm/49.2 L/min

7 Outlet port connections

P – 1/2" NPT thd. (V10 only)
R –1.1875–12 St. thd. (V20 only)
S – .750–16 St. thd. (V10 only)
1.0625–12 St. thd. (V20 only)

8 Shafts

1 – Straight keyed
11 – Splined
38 – 11 Tooth – 3/4" OD.
62 – Splined (V20 only)

9 Position of outlet port
(Viewed from cover end of pump)

A – Opposite inlet port
B – 90 CCW from inlet
C – In line with inlet
D – 90 CW from inlet

10 Design

11 – V20 series
20 – V10 series
Subject to change.

11 Shaft rotation
(Viewed from shaft end of pump)

L – Left hand (counterclockwise).
Omit for right hand.

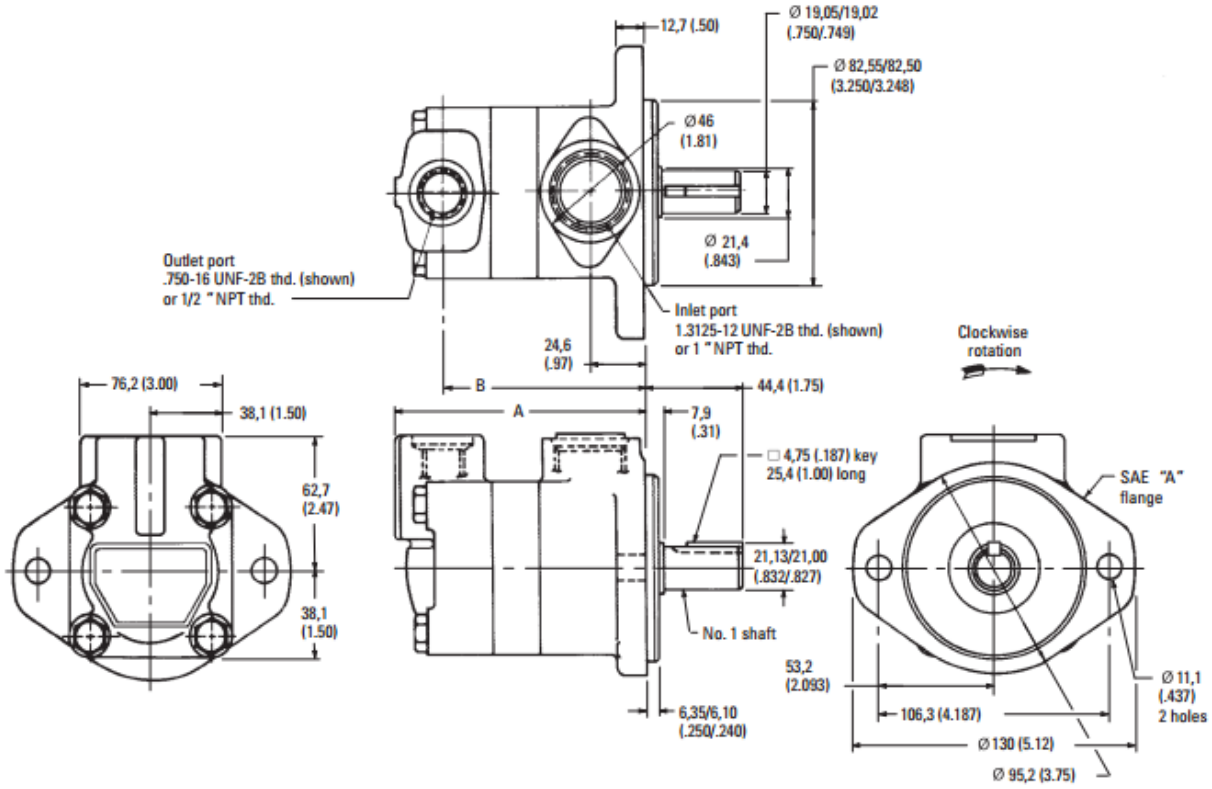
Specifications

Based on using petroleum oil at 49° C (120° F), viscosity 32 cSt at 38° C (150 SUS at 100° F), and 0 psi inlet pressure

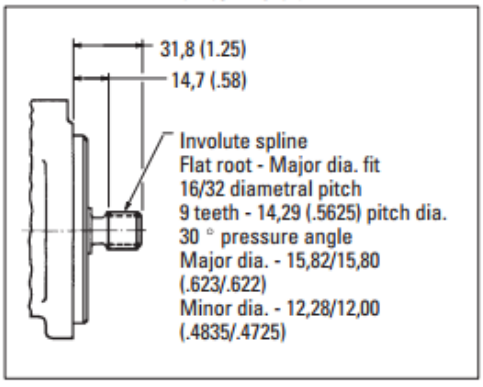
Model series	Ring size (Delivery USgpm @ 1200 r/min & 100 psi)	Displ. cm³/r (in³/r)	Max. Speed r/min	Maximum pressure bar (psi)	Typical delivery L/min (USgpm) @ max. speed & pressure	Typical input power kW (hp) @ max. speed & pressure	Weight kg (lb)
V10	1	3,3 (.20)	4800	172 (2500)	13,6 (3.6)	5,2 (7)	4,5 - 6,8 (10 - 15)
	2	6,6 (.40)	4500	172 (2500)	27,6 (7.3)	10,1 (13.6)	
	3	9,8 (.60)	4000	172 (2500)	35,6 (9.4)	13,3 (17.8)	
	4	13,1 (.80)	3400	172 (2500)	41,3 (10.9)	15,2 (20.4)	
	5	16,4 (1.00)	3200	172 (2500)	48,5 (12.8)	17 (22.8)	
	6	19,5 (1.19)	3000	152 (2200)	55,3 (14.6)	18,3 (24.5)	
	7	22,8 (1.39)	2800	138 (2000)	60,6 (16)	17,9 (24)	
V20	6	19,5 (1.19)	3400	172 (2500)	60,9 (16.1)	21,6 (29)	7,3 - 8,2 (16 - 18)
	7	22,8 (1.39)	3000	172 (2500)	63,2 (16.7)	22 (29.5)	
	8	26,5 (1.62)	2800	172 (2500)	67 (17.7)	24,2 (32.5)	
	9	29,7 (1.81)	2800	172 (2500)	75 (19.8)	26,5 (35.5)	
	11	36,4 (2.22)	2500	172 (2500)	86,7 (22.9)	28 (37.5)	
	12	39 (2.38)	2400	152 (2200)	87,1 (23)	26,8 (36)	
	13	42,4 (2.59)	2400	152 (2200)	98 (25.9)	29,1 (39)	

V10 Dimensions

Millimeters (inches)



Number 11 shaft

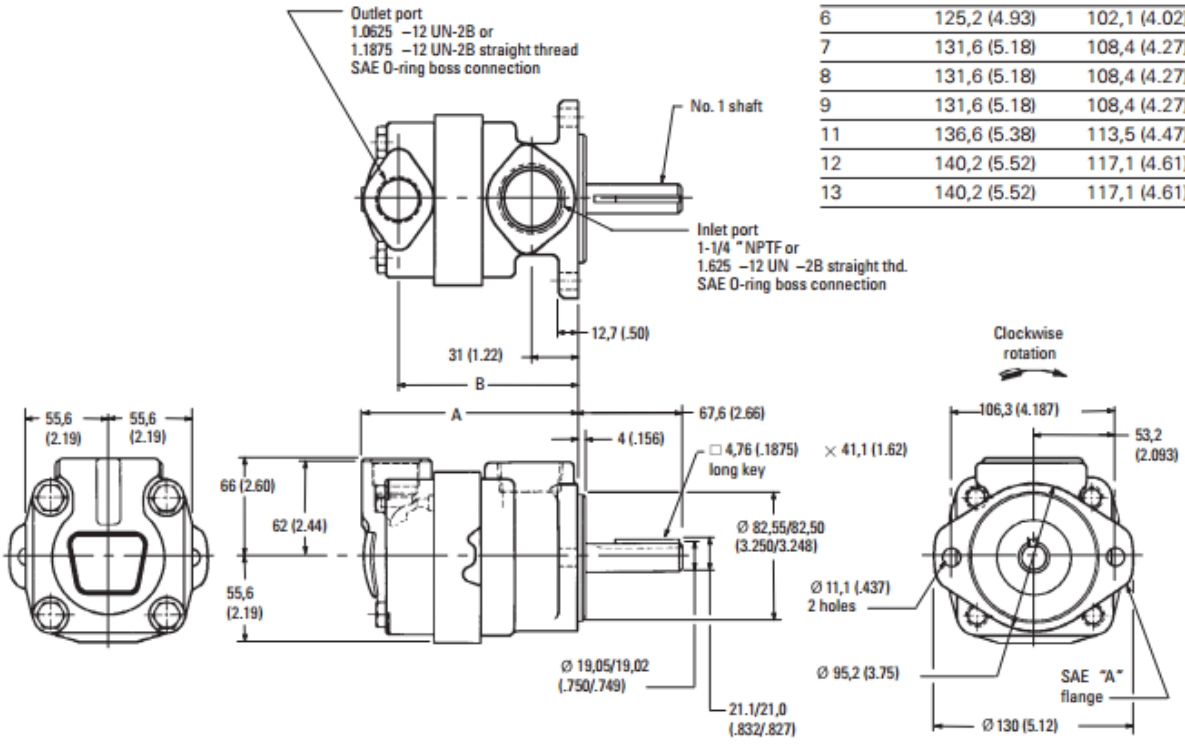


Ring size	Dimension	
	A	B
1	115,6 (4.55)	91,9 (3.62)
2	115,6 (4.55)	91,9 (3.62)
3	115,6 (4.55)	91,9 (3.62)
4	121,9 (4.80)	98,3 (3.87)
5	121,9 (4.80)	98,3 (3.87)
6	127,0 (5.00)	103,4 (4.07)
7	127,0 (5.00)	103,4 (4.07)

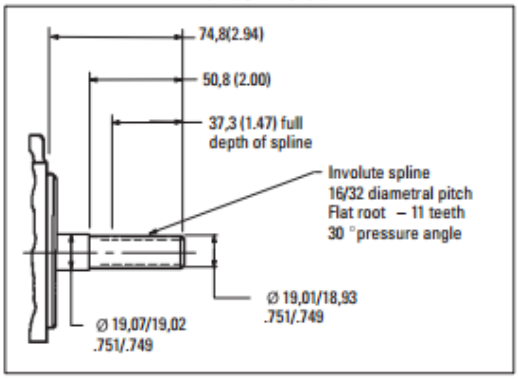
V20 Dimensions

Millimeters (inches)

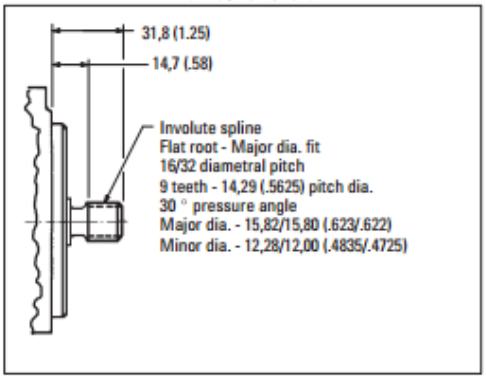
Ring size	Dimension	
	A	B
6	125,2 (4.93)	102,1 (4.02)
7	131,6 (5.18)	108,4 (4.27)
8	131,6 (5.18)	108,4 (4.27)
9	131,6 (5.18)	108,4 (4.27)
11	136,6 (5.38)	113,5 (4.47)
12	140,2 (5.52)	117,1 (4.61)
13	140,2 (5.52)	117,1 (4.61)



Number 11 shaft



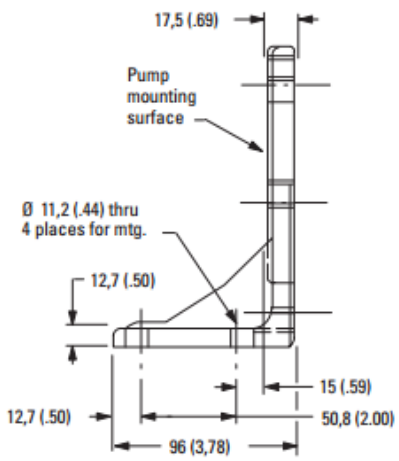
Number 62 shaft

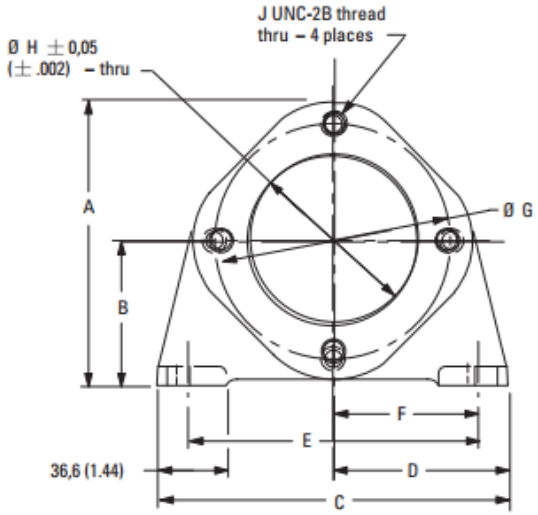


FOOT MOUNTING DIMENSIONS

Dimensions

Millimeters (inches)





Note: Each kit includes screws for mounting pump to bracket.

Model	A	B	C	D	E	F	øG	øH	J
FB-A-10	134,9 (5.31)	69,8 (2.75)	152,4 (6.00)	76,2 (3.00)	127,0 (5.00)	63,5 (2.50)	106,37 (4.188)	82,63 (3.253)	.375-16
FB-B-10	180,8 (7.12)	92,2 (3.63)	171,4 (6.75)	85,7 (3.38)	146,0 (5.75)	73,1 (2.88)	146,0 (5.75)	101,68 (4.003)	.500-13

TAON
Hydraulik Komponenter

(F3) - ****V (M) ** A (M) ** (F) - * ** 22 * - ***
1 2 3 4 5 6 7 8 9 10 11 12 13

1 F3 - Viton Seals

Omit if not required

2 Series Designation

Displacements cm³/r (in³/r)

Model	Shaft End	Cover End
2520V -	33 - 67	7 - 45
	(2.0 - 4.1)	(0.45 - 2.8)
2525V -	(2.0 - 4.1)	33 - 67
	(0.45 - 2.8)	33 - 67
3520V -	(2.0 - 4.1)	81 - 121
	(2.0 - 4.1)	7 - 45
3525V -	(4.9 - 7.4)	81 - 121
	(0.45 - 2.2)	33 - 67
4520V -	(4.9 - 7.4)	138 - 193
	(2.0 - 4.1)	7 - 45
4525V -	(8.4 - 11.8)	138 - 193
	(0.45 - 2.2)	33 - 67
4535V -	(8.4 - 11.8)	138 - 193
	(2.0 - 4.1)	81 - 121
	(8.4 - 11.8)	(4.9 - 7.4)

3 Pilot Designation

Omit - Standard pilot
S – SAE per ISO 3019/1 (SAE J744) (N/A on 2525V)
M – Metric per ISO 3019/2 100A2HW (N/A on 2525V)

4 Geometric Displacement - Shaft End Pump

Rated capacity (USgpm) at 1200 rpm, 6,9 bar (100 psi)

Frame Size	Code (USgpm)	cm³/r	in³/r
25**V	10	33	2.0
	12	40	2.5
	14	45	2.8
	17	55	3.4
	21	67	4.1
35**V	25	81	4.9
	30	97	5.9
	35	112	6.8
	38	121	7.4
45**V	42	138	8.4
	45	147	9.0
	50	162	9.9
	60	193	11.8

5 Port Connections

A - SAE 4-bolt flange

6 Port Connection Modifier

Omit - Inch thread port connection (4-bolt flange)
M - Metric port connection (4-bolt flange)

7 Geometric Displacement - Cover End Pump

Rated capacity (USgpm) at 1200 rpm, 6,9 bar (100 psi)

Frame Size	Code (USgpm)	cm³/r	in³/r
**20V	2	7	0.43
	5	18	1.1
	8	27	1.7
	9	30	1.9
	11	36	2.2
	12	40	2.5
	14	45	2.8
**25V	10	33	2.0
	12	40	2.5
	14	45	2.8
	17	55	3.4
	21	67	4.1
4535V	25	81	4.9
	30	97	5.9
	35	112	6.8
	38	121	7.4

8 Mounting

Omit - Flange mounting
F – Foot mounting

9 Shaft

Std. Pilot Shafts

Model	Str. Key	HD Str. Key	Spline
25**V - 45**V	1	N/A	151

"S" SAE Pilot & "M" Metric ISO Pilot Shafts

Model	Str. Key	HD Str. Key	Metric Str. Key	Spline
25**VS - 45**VS	202	203	N/A	297
25**VM - 45**VM	N/A	N/A	292N	N/A

10 Port Orientation

(Viewed from cover end of pump)
All series except 2525V & 4535V
With No. 1 outlet opposite inlet:
AA - No. 2 outlet 135 CCW from inlet
AB - No. 2 outlet 45 CCW from inlet
AC - No. 2 outlet 45 CW from inlet
AD - No. 2 outlet 135 CW from inlet
With No.1 outlet 90 CCW from inlet:
BA - No. 2 outlet 135 CCW from inlet
BB - No. 2 outlet 45 CCW from inlet
BC - No. 2 outlet 45 CW from inlet
BD - No. 2 outlet 135 CW from inlet
With No.1 outlet inline with inlet:
CA - No. 2 outlet 135 CCW from inlet
CB - No. 2 outlet 45 CCW from inlet
CC - No. 2 outlet 45 CW from inlet
CD - No. 2 outlet 135 CW from inlet
With No.1 outlet 90 CW from inlet:
DA - No. 2 outlet 135 CCW from inlet
DB - No. 2 outlet 45 CCW from inlet
DC - No. 2 outlet 45 CW from inlet
DD - No. 2 outlet 135 CW from inlet

Series 2525V & 4535V
With No.1 outlet opposite inlet:
AA - No. 2 outlet opposite inlet
AB - No. 2 outlet 90 CCW from inlet
AC - No. 2 outlet inline with inlet
AD - No. 2 outlet 90 CW from inlet
With No.1 outlet 90 CCW from inlet:
BA - No. 2 outlet opposite inlet
BB - No. 2 outlet 90 CCW from inlet
BC - No. 2 outlet inline with inlet
BD - No. 2 outlet 90 CW from inlet
With No.1 outlet inline with inlet:
CA - No. 2 outlet opposite inlet
CB - No. 2 outlet 90 CCW from inlet
CC - No. 2 outlet inline inlet
CD - No. 2 outlet 90 CW from inlet
With No.1 outlet 90 CW from inlet:
DA - No. 2 outlet opposite inlet
DB - No. 2 outlet 90 CCW from inlet
DC - No. 2 outlet inline with inlet
DD - No. 2 outlet 90 CW from inlet

11 Design

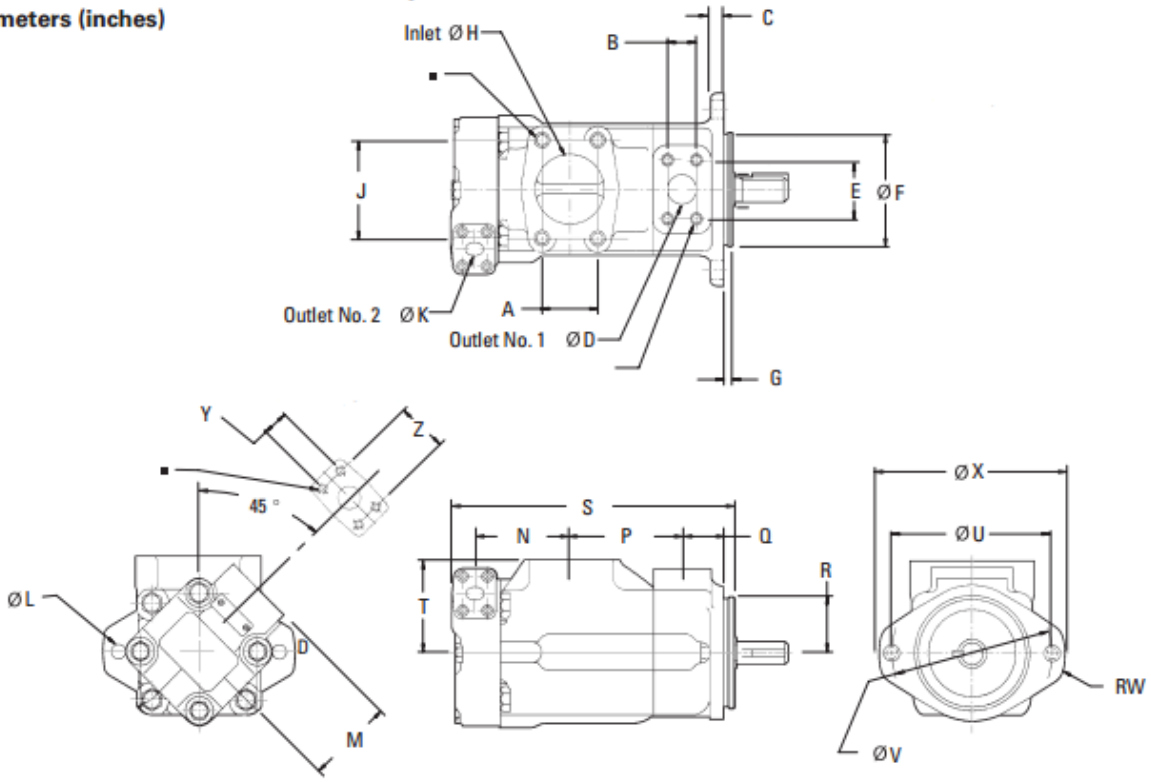
12 Rotation

(Viewed form shaft end of pump)
L – Left hand for counter clockwise
R – Right hand for clockwise

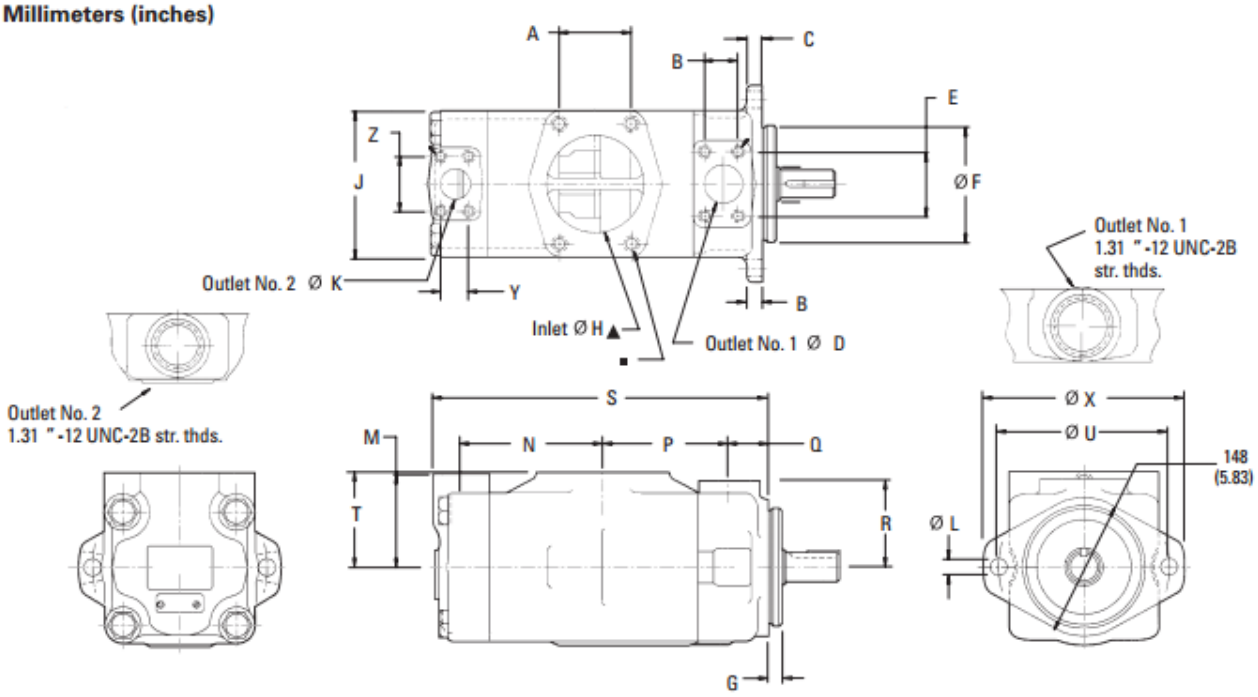
13 Special Suffix

167 – 2-bolt, 5" dia. pilot (25**V only - N/A for VS or VM models)

2520V, 35**V and 452*V Double Pumps
Millimeters (inches)



2525V and 4535V Series Double Pumps
Millimeters (inches)



Model	A	B	C	øD▲	E	øF	G	G for (****VS)	G for (****VM)	øH▲	J	øK▲	øL	M	N
2520V	50,8 (2.00)	26,2 (1.03)	12,7 (0.50)	25,4 (1.00)	52,4 (2.06)	101,6 (4.0) 101,5 (3.9)	9,53 (0.38)	9,53 (0.38)	9,25 (.364)	63,5 (2.50)	88,9 (3.50)	19,1 (0.75)	14,2 (0.56)	76,2 (3.00)	88,1 (3.47)
3520V	62 (2.44)	30,1 (1.19)	15,9 (0.62)	31,7 (1.25)	58,7 (2.31)	127 (5.00) 126 (4.99)	9,53 (0.38)	12,7 (0.50)	9,12 (.359)	76,2 (3.00)	106,3 (4.19)	19,1 (0,75)	17,5 (0.69)	76,2 (3.00)	99,6 (3.92)
3525V	62 (2.44)	30,1 (1.19)	15,9 (0.62)	31,7 (1.25)	58,7 (2.31)	127 (5.00) 126 (4.99)	9,53 (0.38)	12,7 (0.50)	9,12 (.359)	76,2 (3.00)	106,3 (4.19)	25,4 (1.00)	17,5 (0.69)	74,7 (2.94)	109,5 (4.31)
4520V	69,9 (2.75)	35,7 (1.41)	15,9 (0.62)	38,1 (1.50)	69,9 (2.75)	127 (5.00) 126 (4.99)	12,7 (0.50)	12,7 (0.50)	9,12 (.359)	88,9 (3.50)	120,6 (4.75)	19,1 (0.75)	17,5 (0.69)	76,2 (3.00)	102 (4.72)
4525V	69,9 (2.75)	35,7 (1.41)	15,9 (0.62)	38,1 (1.50)	69,9 (2.75)	127 (5.00) 126 (4.99)	12,7 (0.50)	12,7 (0.50)	9,12 (.359)	88,9 (3.50)	120,6 (4.75)	25,4 (1.00)	17,5 (0.69)	74,7 (2.94)	136 (5.35)

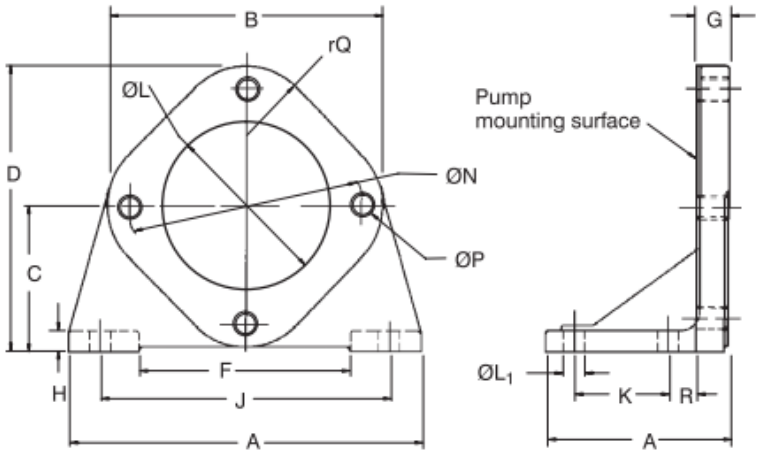
Model	P	P for (***VS & VM)	Q	R	S	S for (***VS)	S for (***VM)	T	øU	øV	RW	øX	Y	Z
2520V	101,6	111,3 (4.38)	38,1	76,2	250	259	259	85,3	146,1	175	14	174,7	22,2	47,6
	(4.00)		(1.50)	(3.00)	(9.81)	(10.2)	(10.2)	(3.38)	(5.75)	(6.88)	(0.55)	(6.88)	(0.88)	(1.88)
3520V	114,3	122,2 (4.81)	38,1	82,6	273,3	285	282	88,9	181	148	16	213	22,2	47,6
	(4.50)		(1.50)	(3.25)	(10.8)	(11.2)	(11.1)	(3.50)	(7.13)	(5.83)	(0.63)	(8.38)	(0.88)	(1.88)
3525V	114,3	122,2 (4.81)	38,1	82,6	287,3	260	254	88,9	181	148	16	213	26,2	52,4
	(4.50)		(1.50)	(3.25)	(9.81)	(10.2)	(10.0)	(3.50)	(7.13)	(5.83)	(0.63)	(8.38)	(1.03)	(2.06)
4520V	119,4	129,7 (5.11)	42,9	93,7	303,5	314	310	102,4	181	148	16	213	22,2	47,6
	(4.70)		(1.69)	(3.69)	(11.95)	(12.4)	(12.2)	(4.03)	(7.13)	(5.83)	(0.63)	(8.38)	(0.88)	(1.88)
4525V	119,4	129,7 (5.11)	42,9	93,7	325	336	332	102,4	181	148	16	213	26,2	52,4
	(4.70)		(1.69)	(3.69)	(12.8)	(13.2)	(13.1)	(4.03)	(7.13)	(5.83)	(0.63)	(8.38)	(1.03)	(2.06)

Model	A	B	C	øD▲	E	øF	G	øH▲	J	øK▲	øL	M	N
2525V	50,8 (2.00)	26,2 (1.03)	12,7 (0.50)	25,4 (1.00)	52,4 (2.06)	101,6 (4.0) 101,5 (3.9)	9,53 (0.38)	63,5 (2.50)	88,9 (3.50)	25,4 (1.00)	14,2 (0.56)	76,2 (3.00)	97,5 (3.84)
4535V	77,8 (3.06)	35,7 (1.41)	15,9 (0.62)	38,1 (1.50)	69,9 (2.75)	127 (5.00) 126 (4.99)	12,7 (0.50)	101,6 (4.00)	130,2 (5.13)	31,7 (1.25)	17,5 (0.69)	101,6 (4.00)	148,3 (5.84)
4535VM							9,12 (.359)						

Model	P	Q	R	S	T	øU	øV	RW	øX	Y	Z
2525V	101,6 (4.00)	38,1 (1.50)	76,2 (3.00)	263 (10.4)	84 (3.31)	146,1 (5.75)	175 (6.88)	14 (0.55)	174,7 (6.88)	26,2 (1.03)	52,4 (2.06)
4535V	133,3 (5.25)	42,9 (1.69)	93,7 (3.69)	353 (13.9)	102,4 (4.03)	181 (7.13)	148 (5.83)	–	213 (8.38)	30,2 (1.19)	58,7 (2.31)
4535VS & 4535VM	144 (5.66)			364 (14.3)							

FOOT MOUNTING DIMENSIONS

Salts for mounting pump are supplied with bracket.



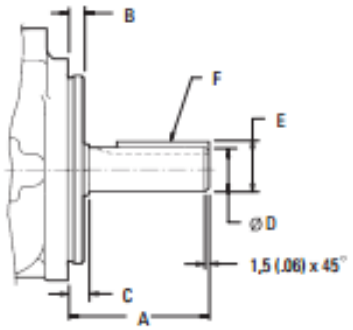
Part No.	A	B	C	D	E	F	G	H	J
422583	171 (6.75)	178 (7.00)	92 (3.625)	181 (7.125)	93 (3.656)	98 (3.858)	17,4 (.687)	13 (.50)	146 (5.750)
422584	265 (10.43)	212 (8.37)	109,5 (4.312)	216 (8.50)	129 (5.06)	164 (6.46)	19 (.750)	16 (.62)	235 (9.250)

Part No.	K	øL	øL1	øN	øP	rQ	R
422583	50,8 (2.00)	101,6 (4.00)	11,1 (.593)	146 (5.750)	1/2"-13 UNC	51 (2.00)	13
422584	76,2 (3.00)	127 (5.00)	17,5 (.68)	180,7 (7.125)	3/8"-11 UNC	64 (2.52)	19

422583 for use with frame sizes 20, 25 and .2520 pumps. Weighs 2,7 kg (6 lbs.)
422584 for use with frame sizes 35, 45, 35** and 45** pumps. Weighs 5,9 kg (13 lbs.)

SHAFT OPTIONS

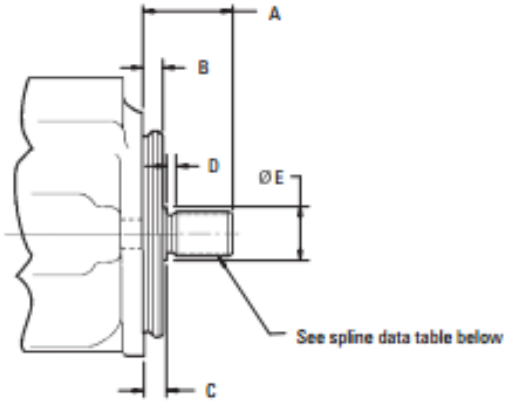
Straight Key Shafts



Pump	Shaft Code	A	B	C	øD	E	F key width x length
20V	1	59 (2.32)	9,53 (.375)	12,1 (.476)	22,23 (.875) 22,20 (.874)	24,5 (.966) 24,4 (.961)	4,75 (.817) x 32 (1.25)
25V 2520V	1	59 (2.32)	9,53 (.375)	11,1 (.435)	22,23 (.875) 22,20 (.874)	24,5 (.966) 24,4 (.961)	4,75 (.817) x 32 (1.25)
25V 252*V	86	78 (3.06)	9,53 (.375)	11,1 (.435)	25,37 (.999) 25,35 (.998)	28,3 (1.11) 28,1 (1.10)	6,36 (.250) x 50,8 (2.00)
25VM 252*VM 25VT*M	292N	52,3 (2.06)	9,25 (.364)	10,4 (.41)	25,02 (.985) 25,00 (.984)	28,02 (1.10) 27,81 (1.09)	8,00 (.314) x 28 (1.10)
25VT*S 25VS	202	71,4 (2.81)	9,53 (.375)	7,9 (.310) ▲	22,23 (.875) 22,20 (.874)	25,15 (.990) 24,90 (.980)	6,36 (.250) x 50,8 (2.00)
252*VS	203	77,7 (3.06)	9,53 (.375)	7,9 (.310) ▲	25,40 (1.00) 25,35 (.998)	28,20 (1.11) 27,94 (1.10)	6,36 (.250) x 50,8 (2.00)
35V 352*V	1	73,2 (2.88)	9,53 (.375)	11,1 (.435)	31,75 (1.25) 31,70 (1.24)	35,36 (1.39) 34,10 (1.38)	7,94 (.313) x 38,1 (1.50)
	86	86 (3.88)	9,53 (.375)	11,1 (.435)	34,90 (1.374) 34,87 (1.373)	38,6 (1.52) 38,3 (1.51)	7,92 (.312) x 54 (2.13)
35VM 352*VM 35VT*M	292N	68,4 (2.70)	9,12 (.359)	10,4 (.41)	37,01 (1.457) 36,75 (1.447)	35,00 (1.378) 34,80 (1.370)	10 (.394) x 45 (1.77)
35VS 352*VS	202	84,1 (3.31)	12,7 (.50)	10,4 (.41)	31,75 (1.25) 31,70 (1.24)	35,36 (1.39) 34,10 (1.38)	7,94 (.313) x 45 (1.77)
35VT*S 35VS 352*VS	203	84,1 (3.31)	12,7 (.50)	7,9 (.310) ▲	34,90 (1.374) 34,87 (1.373)	38,56 (1.518) 38,30 (1.508)	7,92 (.312) x 54 (2.125)
45V 45**V	1	62 (2.44)	12,7 (.500)	14,22 (.560)	31,75 (1.25) 31,70 (1.24)	35,36 (1.39) 34,10 (1.38)	7,92 (.312) x 28,5 (1.12)
	86	87,4 (3.44)	12,7 (.500)	14,22 (.560)	38,07 (1.499) 38,05 (1.498)	42,4 (1.67) 42,1 (1.66)	9,53 (.375) x 50,8 (2.00)
45VS 45**VS	202	84,1 (3.31)	12,7 (.500)	14,22 (.560)	31,75 (1.25) 31,70 (1.24)	35,36 (1.39) 34,10 (1.38)	7,94 (.313) x 63 (2.48)
45VM 452*VM 45VT*M	292N	92 (3.62)	9,12 (.359)	10,0 (.394)	40,01 (1.575) 39,99 (1.574)	43,0 (1.693) 42,8 (1.685)	12 (.472) x 63 (2.48)
45VT*S 45VS 45**VS	203	87,4 (3.44)	9,14 (.360)	7,9 (.310) ▲	38,07 (1.499) 38,05 (1.498)	42,4 (1.67) 42,1 (1.66)	9,53 (.375) x 57,1 (2.25)

▲ Shaft shoulder inside recess in pilot.

Splined Shafts



Pump	Shaft Code	A	B	C	D	øE	Spline Data (see below)
20V	151	41,1 (1.62)	9,53 (.375)	11,1 (.437)	3,9 (.156)	27,8 (1.09)	A
25V 2520V	11	44,5 (1.75)	9,53 (.375)	11,1 (.437)	3,9 (.156)	27,8 (1.09)	A
2525V	174	59,9 (2.36)	9,53 (.375)	17,3 (.68)	3,0 (.12)	29,2 (1.15)	B
25VT*S 25VS 252*VS	297	41,1 (1.62)	9,14 (.36)	7,9 (.31)	4,1 (.16)	27,8 (1.09)	C
35V 352*V	11	58,7 (2.31)	9,53 (.375)	11,1 (.437)	6,35 (.25)	35,1 (1.38)	D
35VT*S 35VS 352*VS	297	55,5 (2.19)	9,14 (.360)	7,9 (.310)	5,5 (.21)	35,1 (1.38)	E
45V 45**V	11	61,9 (2.44)	12,7 (.500)	14,3 (.565)	9,7 (.38)	39,6 (1.56)	D
45VT*S 45VS 45**VS	297	55,5 (2.19)	9,14 (.360)	7,9 (.310)	9,7 (.38)	39,6 (1.56)	E

Spline Data Table

(Involute splines from above chart)

Spline Data Reference	Number of Teeth	Pitch	Major Diameter	Form Diameter	Minor Diameter	Minor Diameter
A	13	16/32	22,17 (.873) 22,15 (.872)	19,03 (.749)	18,63 (.734) 18,35 (.723)	Major dia. fit
B	14	12/24	31,22 (1.23) 31,11 (1.22)	27,48 (1.08)	27,0 (1.063) 26,7 (1.05)	Side fit
C	13	16/32	22,2 (.875) 21,7 (.853)	19,03 (.749)	18,4 (.725)	Side fit
D	14	12/24	31,7 (1.25) 31,67 (1.247)	27,2 (1.07)	26,99 (1.06) 26,64 (1.05)	Major dia. fit
E	14	12/24	31,6 (1.25) 31,1 (1.22)	27,48 (1.08)	26,7 (1.05)	Side fit

F3 - V 2010 - 1 F 13 S 3 S - 1 CC - 12 - L

1 2 3 4 5 6 7 8 9 10 11 12 13

1 Special Seals
Omit if not required.

2 Vane pump

3 Series
2010 or 2020

4 Mounting

1 – 2-bolt flange, 4.00" pilot (standard)
6 – 2-bolt flange, 3.25" pilot (optional)
See page 23 for optional foot bracket kits.

5 Inlet port connections

F – 4-bolt flange 1.50 dia. (V2010)
2.00 dia. (V2020)

6 Shaft-end pump ring size
(delivery at 1200 rpm & 100 psi)

6 - 6 USgpm
7 - 7 USgpm
8 - 8 USgpm
9 - 9 USgpm
11 - 11 USgpm
12 - 12 USgpm
13 - 13 USgpm

7 No. 1 outlet port (shaft end)
S – 1.062-12 UN-2B thd.

8 Cover-end pump ring size
(Delivery at 1200 r/min and 100 psi/7 bar)

V2010:
1 – 1 USgpm/3.8 L/min
2 – 2 USgpm/7.6 L/min
3 – 3 USgpm/11.4 L/min
4 – 4 USgpm/15.1 L/min
5 – 5 USgpm/18.9 L/min
6 – 6 USgpm/22.7 L/min
7 – 7 USgpm/26.5 L/min

V2020:
6 – 6 USgpm/22.7 L/min
7 – 7 USgpm/26.5 L/min
8 – 8 USgpm/30.3 L/min
9 – 9 USgpm/34.1 L/min
11 – 11 USgpm/41.6 L/min

9 No. 2 outlet port (cover end)

S – .750-16 St. Thd. (V2010)
1.062–12 St. Thd. (V2020)

10 Shafts

1 – Straight keyed
11 –Splined

11 Position of outlet
(Viewed from cover end of pump)

V2010
With no. 1 outlet opposite inlet
AA – No. 2 outlet 135° CCW from inlet
AB – No. 2 outlet 45° CCW from inlet
AC – No. 2 outlet 45° CW from inlet
AD – No. 2 outlet 135° CW from inlet

With no. 1 outlet 90° CCW from inlet
BA – No. 2 outlet 135 CCW from inlet
BB – No. 2 outlet 45 CCW from inlet
BC – No. 2 outlet 45 CW from inlet
BD – No. 2 outlet 135 CW from inlet

With no. 1 outlet in line with inlet
CA – No. 2 outlet 135° CCW from inlet
CB – No. 2 outlet 45° CCW from inlet
CC – No. 2 outlet 45° CW from inlet
CD – No. 2 outlet 135° CW from inlet

With no. 1 outlet 90° CW from inlet
DA – No. 2 outlet 135° CCW from inlet
DB – No. 2 outlet 45° CCW from inlet
DC – No. 2 outlet 45° CW from inlet
DD – No. 2 outlet 135° CW from inlet

V2020
With no. 1 outlet opposite inlet
AA – No. 2 outlet opposite inlet
AB – No. 2 outlet 90° CCW from inlet
AC – No. 2 outlet in line with inlet
AD – No. 2 outlet 90° CW from inlet

With no. 1 outlet 90° CCW from inlet
BA – No. 2 outlet opposite inlet
BB – No. 2 outlet 90° CCW from inlet
BC – No. 2 outlet in line with inlet
BD – No. 2 outlet 90° CW from inlet

With no. 1 outlet inline with inlet
CA – No. 2 outlet opposite inlet
CB – No. 2 outlet 90° CCW from inlet
CC – No. 2 outlet in line with inlet
CD – No. 2 outlet 90° CW from inlet

With no. 1 outlet 90° CW from inlet
DA – No. 2 outlet opposite inlet
DB – No. 2 outlet 90° CCW from inlet
DC – No. 2 outlet in line with inlet
DD – No. 2 outlet 90° CW from inlet

12 Design

12 – V2010 series
30 – V2020 series
Subject to change.

13 Shaft rotation
(Viewed from shaft end of pump)

L – Left hand for counterclockwise
Omit for right hand

Based on using petroleum oil at 49° C (120° F), viscosity 32 cSt at 38° C (150 SUS at 100° F), and 0 psi inlet pressure

V2010 model series	Ring size (Delivery USgpm @ 1200 r/min & 100 psi)	Displ. cm³/r (in³/r)	Max. speed r/min	Maximum pressure bar (psi)	Typical delivery L/min (USgpm) @ max. speed & pressure	Typical input power kW (hp) @ max. speed & pressure	Approx. total weight kg (lb)
Shaft-end pump	6	19,5 (1.19)	3000	172 (2500)	54,9 (14.5)	18,3 (24.5)	13,6 (30)
	7	22,8 (1.39)	3000	172 (2500)	62,5 (16.5)	22,4 (30)	
	8	26,5 (1.62)	2800	172 (2500)	66,2 (17.5)	24,2 (32.5)	
	9	29,7 (1.81)	2800	172 (2500)	75,7 (20)	26,8 (36)	
	11	36,4 (2.22)	2500	172 (2500)	87,1 (23)	28 (37.5)	
	12	39 (2.38)	2400	152 (2200)	87,1 (23)	26,8 (36)	
	13	42,4 (2.59)	2400	152 (2200)	98,4 (26)	29,1 (39)	
Cover-end pump	1	3,3 (.20)	3000	172 (2500)	7,6 (2)	3,4 (4.5)	
	2	6,6 (.40)	3000	172 (2500)	17,8 (4.7)	6,7 (9)	
	3	9,8 (.60)	3000	172 (2500)	26,5 (7)	10 (13.4)	
	4	13,1 (.80)	3000	172 (2500)	36 (9.5)	13,4 (18)	
	5	16,4 (1.00)	3000	172 (2500)	45,4 (12)	16 (21.5)	
	6	19,5 (1.19)	3000	152 (2200)	54,9 (14.5)	18,3 (24.5)	
	7	22,8 (1.39)	2800	138 (2000)	60,6 (16)	17,9 (24)	

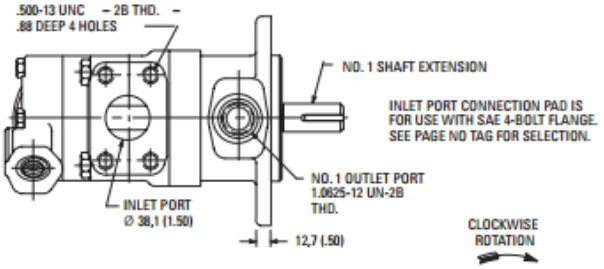
See page 6 speed correction curve.

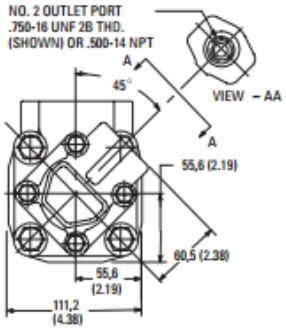
V2010 model series	Ring size (Delivery USgpm @ 1200 r/min & 100 psi)	Displ. cm³/r (in³/r)	Max. speed r/min	Maximum pressure bar (psi)	Typical delivery L/min (USgpm) @ max. speed & pressure	Typical input power kW (hp) @ max. speed & pressure	Approx. total weight kg (lb)
Shaft-end pump	12	39 (2.38)	2400	152 (2200)	87,1 (23)	26,8 (36)	
	13	42,4 (2.59)	2400	152 (2200)	98,4 (26)	29,1 (39)	
Cover- or shaft-end pump	6	19,5 (1.19)	3000	172 (2500)	54,9 (14.5)	19,4 (26)	15,9 (35)
	7	22,8 (1.39)	3000	172 (2500)	62,5 (16.5)	22,4 (30)	
	8	26,5 (1.62)	2800	172 (2500)	66,2 (17.5)	24,2 (32.5)	
	9	29,7 (1.81)	2800	172 (2500)	75,7 (20)	26,8 (36)	
	11	36,4 (2.22)	2500	172 (2500)	87,1 (23)	28 (37.5)	

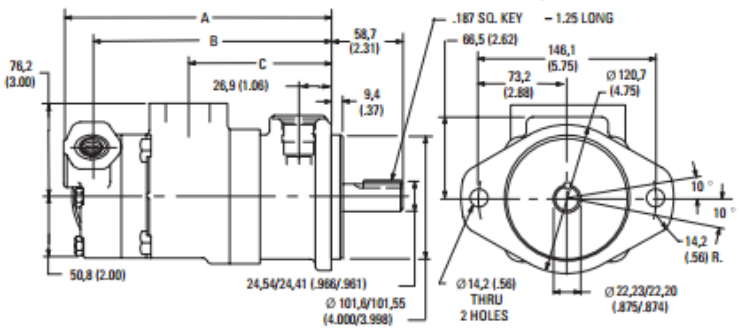
V2010 Dimensions

Millimeters (inches)

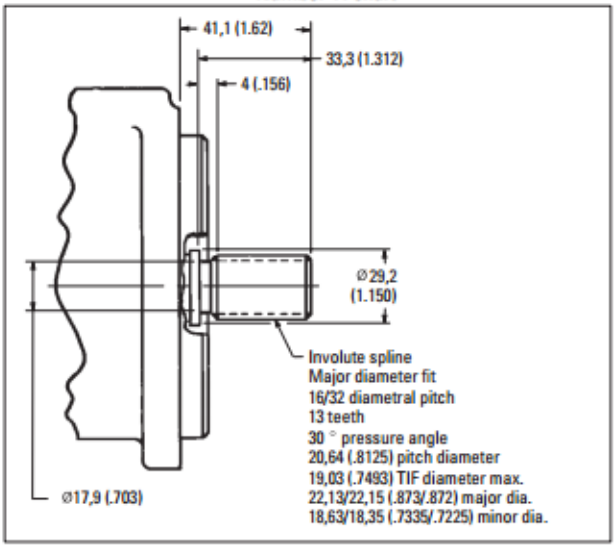
Rated Delivery, gpm @ 1200 rpm & 100 psi		Dimensions		
Shaft end	**Cover end**	**A**	**B**	**C**
7,8 or 9	1, 2 or 3	213,1 (8.39)	189,2 (7.45)	113,3 (4.46)
7,8 or 9	4 or 5	219,5 (8.64)	195,6 (7.70)	113,3 (4.46)
7,8 or 9	6 or 7	224,5 (8.84)	200,7 (7.90)	113,3 (4.46)
11	1, 2 or 3	218,2 (8.59)	194,3 (7.65)	118,1 (4.65)
11	4 or 5	224,5 (8.84)	200,7 (7.90)	118,1 (4.65)
11	6 or 7	229,6 (9.04)	205,7 (8.10)	121,7 (4.79)
12 or 13	1, 2 or 3	221,7 (8.73)	197,9 (7.79)	121,7 (4.79)
12 or 13	4 or 5	227,8 (8.97)	204,0 (8.03)	121,7 (4.79)
12 or 13	6 or 7	232,9 (9.17)	209,0 (8.23)	121,7 (4.79)





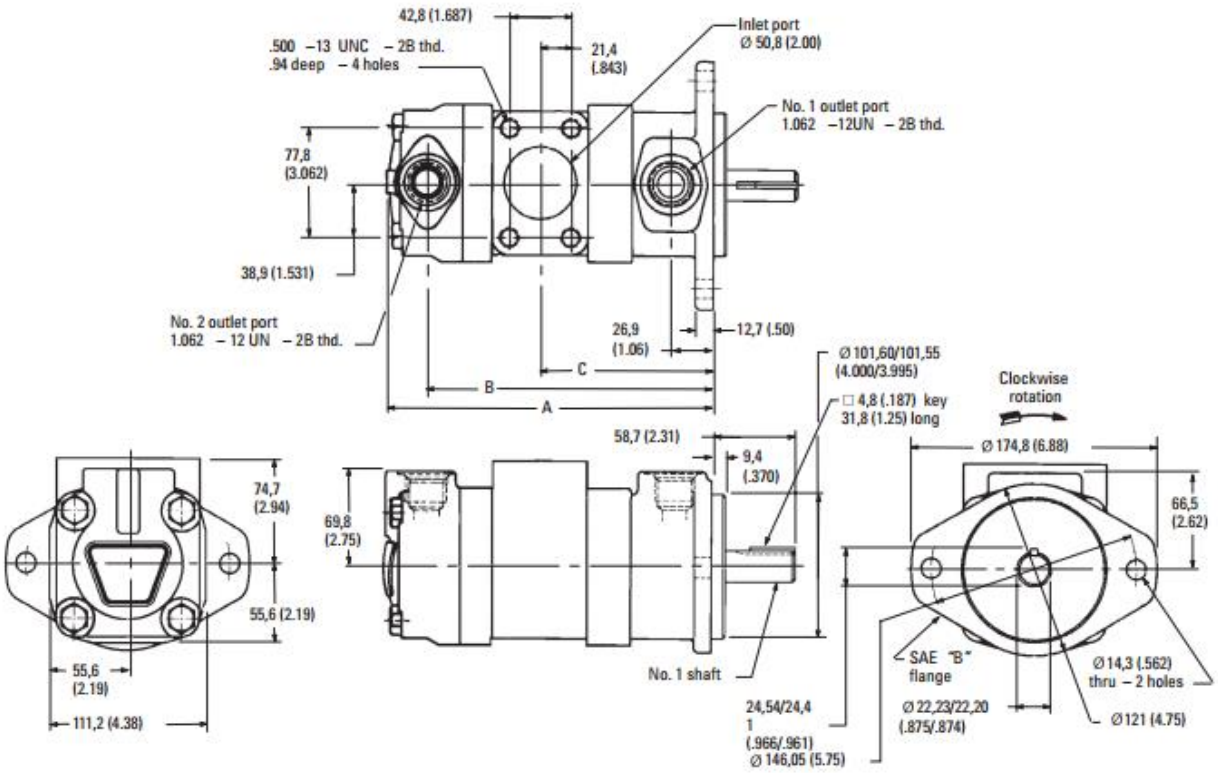


Number 11 shaft

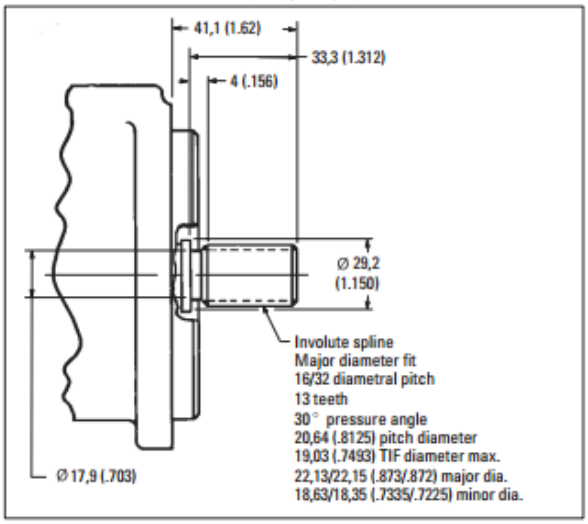


V2020 Dimensions

Millimeters (inches)



Number 11 shaft

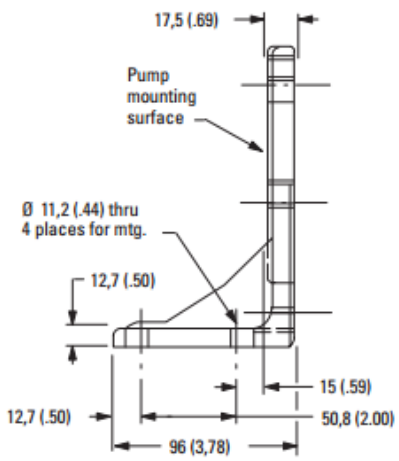


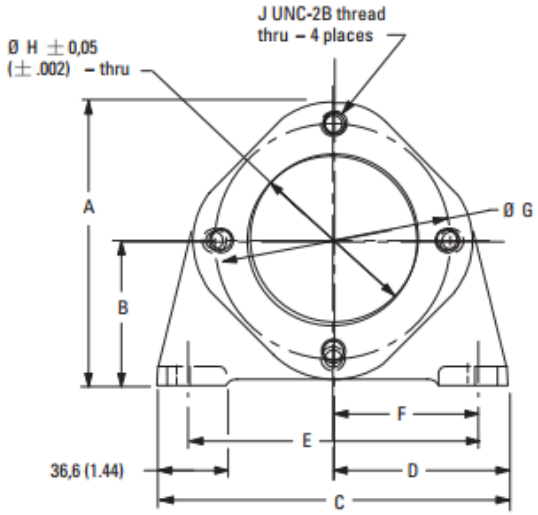
Ring size		Dimensions		
Shaft end	**Cover end**	**A**	**B**	**C**
7, 8 or 9	6	213,6 (8.41)	187,7 (7.39)	114 (4.49)
7, 8 or 9	7, 8 or 9	220 (8.66)	194 (7.64)	114 (4.49)
11	6	218,7 (8.61)	192,8 (7.59)	119,1 (4.69)
11	7, 8 or 9	225 (8.86)	199,1 (7.84)	119,1 (4.69)
11	11	229,9 (9.05)	204 (8.03)	119,1 (4.69)
12 or 13	6	222,2 (8.75)	196,3 (7.73)	122,4 (4.82)
12 or 13	7, 8 or 9	228,3 (8.99)	202,4 (7.97)	122,4 (4.82)
12 or 13	11	233,4 (9.19)	207,5 (8.17)	122,4 (4.82)

FOOT MOUNTING DIMENSIONS

Dimensions

Millimeters (inches)





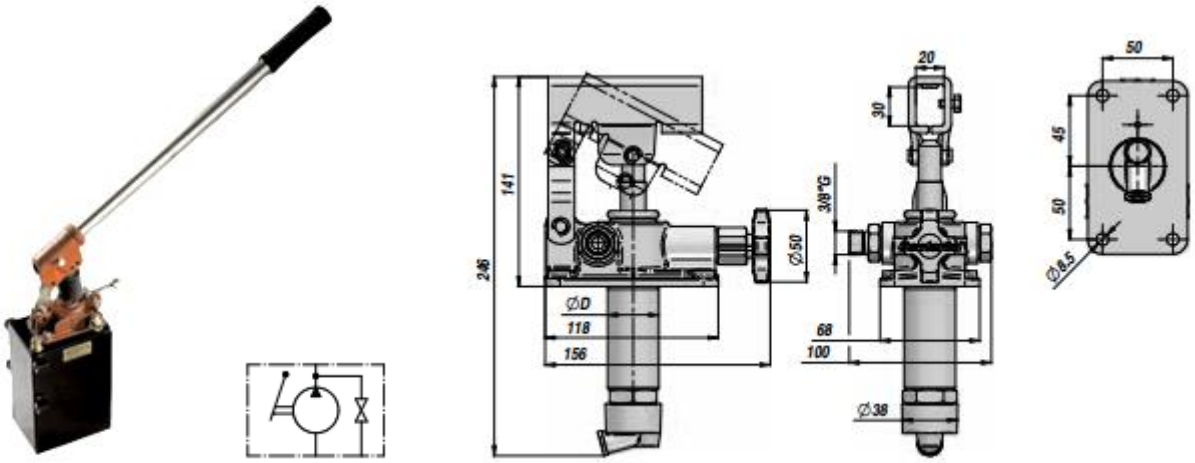
Note: Each kit includes screws for mounting pump to bracket.

Model	A	B	C	D	E	F	øG	øH	J
FB-A-10	134,9 (5.31)	69,8 (2.75)	152,4 (6.00)	76,2 (3.00)	127,0 (5.00)	63,5 (2.50)	106,37 (4.188)	82,63 (3.253)	.375-16
FB-B-10	180,8 (7.12)	92,2 (3.63)	171,4 (6.75)	85,7 (3.38)	146,0 (5.75)	73,1 (2.88)	146,0 (5.75)	101,68 (4.003)	.500-13

Hand pumps

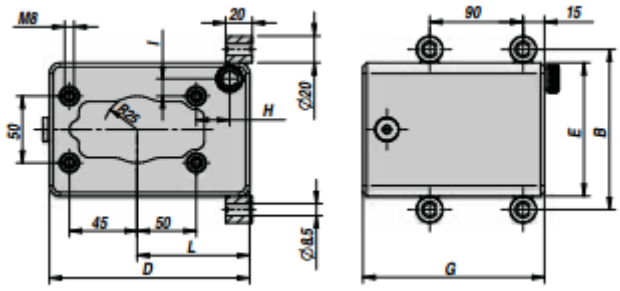
Single acting – with lowering valve

12 – 25 – 45



Pump				Hand lever	
Model	cm³/cycle	P max. Bar	kg	Dimensions mm	kg
12	12	380	2,85	20X30X600	0,86
25	25	350	2,95		
45	45	280	3,15		

OIL TANK

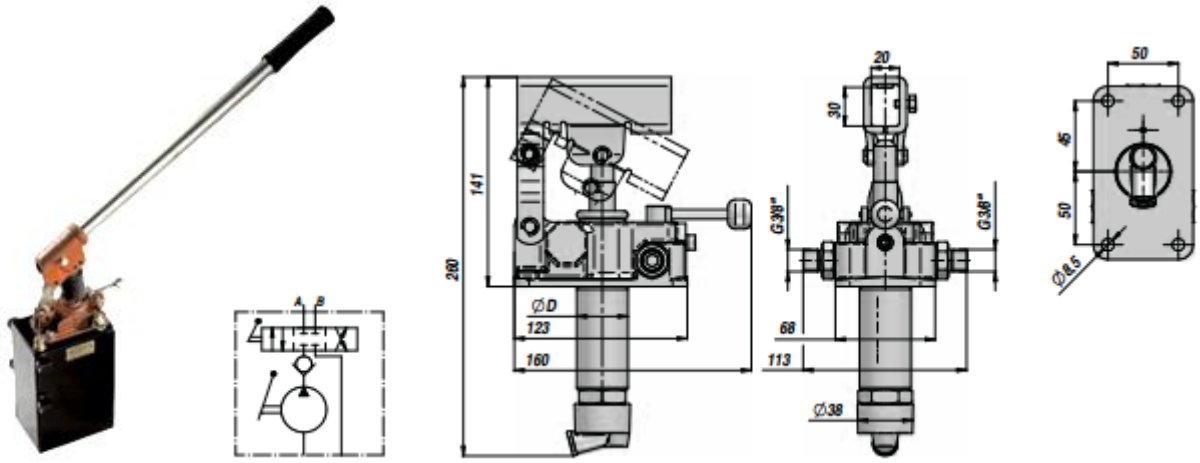


Tank								
Capacity L	Dimensions (mm)							kg
	B	D	E	G	H	I	L	
1	120	150	100	120	24	12	90	2
2	120	150	100	180	24	12	90	2,2
3	120	150	100	247	24	12	90	2,5
5	195	175	175	200	42	45	110	4,5
7	195	175	175	269	42	45	110	5,4

Hand pumps

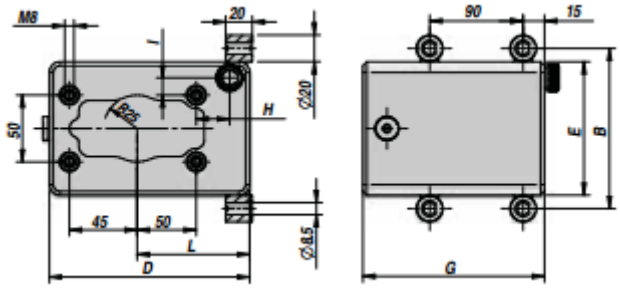
Double acting – with lowering valve

12 – 25 – 45



Pump				Hand lever	
Model	cm³/cycle	P max. Bar	kg	Dimensions mm	kg
12	12	380	2,85	20X30X600	0,86
25	25	350	2,95		
45	45	280	3,15		

OIL TANK

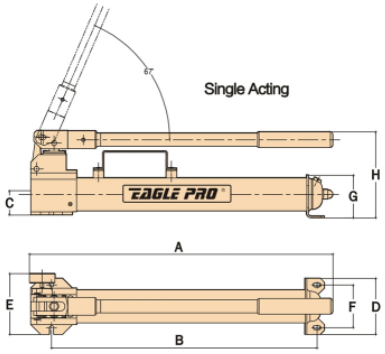


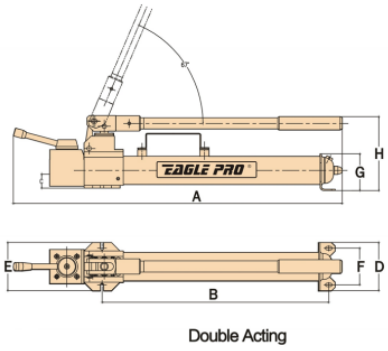
Tank								
Capacity L	Dimensions (mm)							kg
	B	D	E	G	H	I	L	
1	120	150	100	120	24	12	90	2
2	120	150	100	180	24	12	90	2,2
3	120	150	100	247	24	12	90	2,5
5	195	175	175	200	42	45	110	4,5
7	195	175	175	269	42	45	110	5,4

Hand pumps

High pressure

EPA Series





Used with Cylinder	Model	Speed	Usable Oil Volume	Pressure rating		Oil output per stroke		Handle force	Output Oil Thread	Weight
				1st stage	2nd stage	1st stage	2nd stage			
			L	bar	bar	L	L	kg	inch	kg
Single Acting	EPA-10521*	Double	0,360	14	689	0,009	0,001	35,0	3/8-18NPT	2,2
	EPA-10921A	Double	0,990	25	689	0,037	0,004	49,0	3/8-18NPT	7,3
	EPA-12321A	Double	2,520	25	689	0,037	0,004	49,0	3/8-18NPT	10,1
	EPA-11621	Double	1,764	25	689	0,035	0,003	43,1	3/8-18NPT	10,9
Double Acting	EPA-10922A	Double	0,990	25	689	0,037	0,004	49,0	3/8-18NPT	8,8
	EPA-12322A	Double	2,520	25	689	0,037	0,004	49,0	3/8-18NPT	11,6

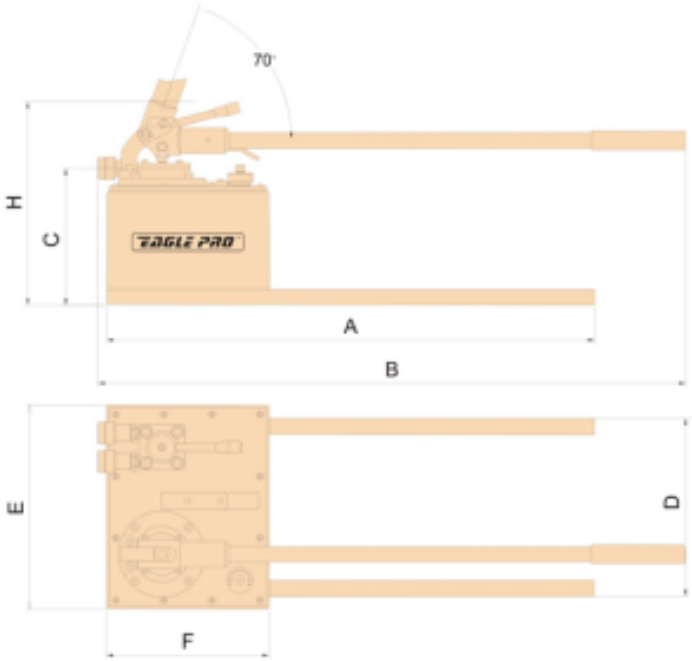
***EPA-10521: Aluminium hand pump**

Model	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm
EPA-10521	374	290	NA	80	109	67	NA	142
EPA-10921A	581	505	47	108	130	82	82	165
EPA-12321A	738	507	47	125	137	NA	82	161
EPA-10922A	581	505	29	108	107	82	82	165
EPA-12322A	738	507	29	125	107	NA	82	161
EPA-11621	732	504	41	140	119	100	85	160

Hand pumps

High pressure

EPA Series



Used With Cylinder	Model	Speed	Usable Oil Volume	Pressure Rating		Oil Output Per Stroke		Handle Force	Output Oil Thread	Weight
			L	1st stage bar	2nd stage bar	1st stage L	2nd stage L	kg	mm	kg
Single Acting	EPA-14521	Double	4,950	18	689	0,029	0,003	50,8	3/8-18NPT	22,5
	EPA-17521	Double	8,244	18	689	0,137	0,006	50,8	3/8-18NPT	30,0
Double Acting	EPA-14522	Double	4,950	18	689	0,029	0,003	50,8	3/8-18NPT	22,5
	EPA-17522	Double	8,244	18	689	0,137	0,006	50,8	3/8-18NPT	30,0

Model	A mm	B mm	C mm	D mm	E mm	F mm	H mm
EPA-14521	579	607	163	274	315	249	267
EPA-14522	579	607	163	274	315	249	267
EPA-17521	800	904	211	274	315	249	315
EPA-17522	800	904	211	274	315	249	315

FEATURES

- Convenient high-strength design, engineered for use in extreme environments
- Dual-speed pump
- Built-in safety valve for overload protection
- Unique handle designed to require less effort, saving time and energy

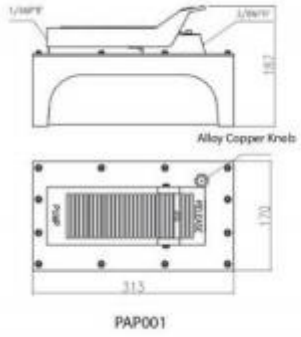
Used With Cylinder	Model	Speed	Usable Oil Volume	Pressure Rating		Oil Output Per Stroke		Handle Force	Output Oil Thread	Weight
				1st stage	2nd stage	1st stage	2nd stage			
			L	bar	bar	L	L	kg	mm	kg
Single Acting	EPA-21621	Double	1,764	20	1379	0,029	0,002	42,2	1/4BSP	9,5

Air/hydraulic pumps

High pressure – Foot pedal/remote control

EPC Series

Model	Pressure Rating	Air Source Pressure bar		Effective Oil Capacity	Flow L/min		Dimensions mm			Oil Tank Material	Operational Manner	Weight
	bar	min	max	L	No load	Load	L	W	H			kg
EPC-001	689	6	10	2,520	0,891	0,137	312	170	191	Engineering plastic	Foot Pedal	11,8
EPC-002	689	6	10	1,764	0,891	0,137	262	135	185	Alloy Aluminium	Foot Pedal	8,6
EPC-003	689	6	10	4,950	0,891	0,137	318	178	191	Steel	Foot Pedal	12,7
EPC-004	689	6	10	7,956	0,891	0,137	279	224	254	Steel	Foot Pedal	16,3
EPC-008	689	6	10	1,764	0,891	0,137	262	135	185	Alloy Aluminium	Remote Control	11,4
EPC-009	689	6	10	7,956	0,891	0,137	279	226	274	Steel	Remote Control	19,5
EPC-010	689	6	10	1,764	0,891	0,137	262	135	185	Engineering plastic	Foot Pedal	8,6



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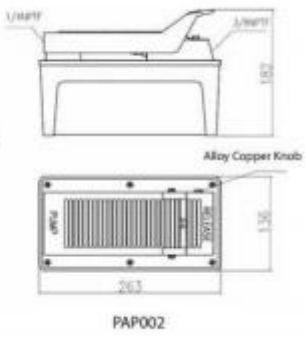
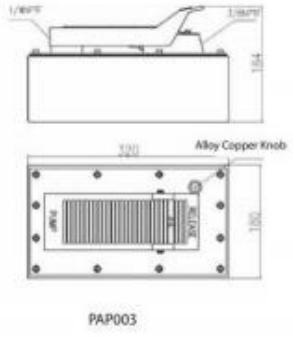
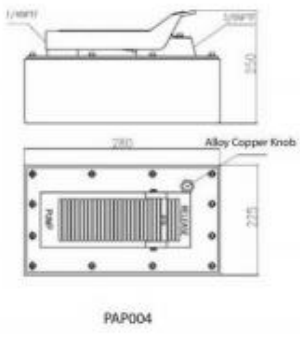


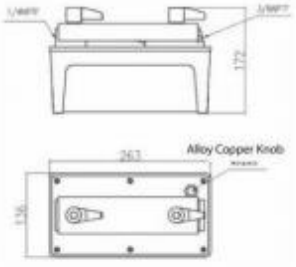
PAP002



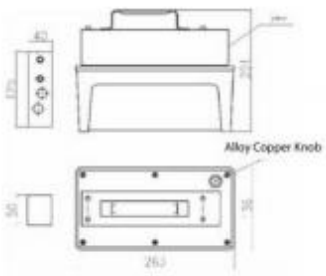
PAP003



PAP004



PAP005



PAP008