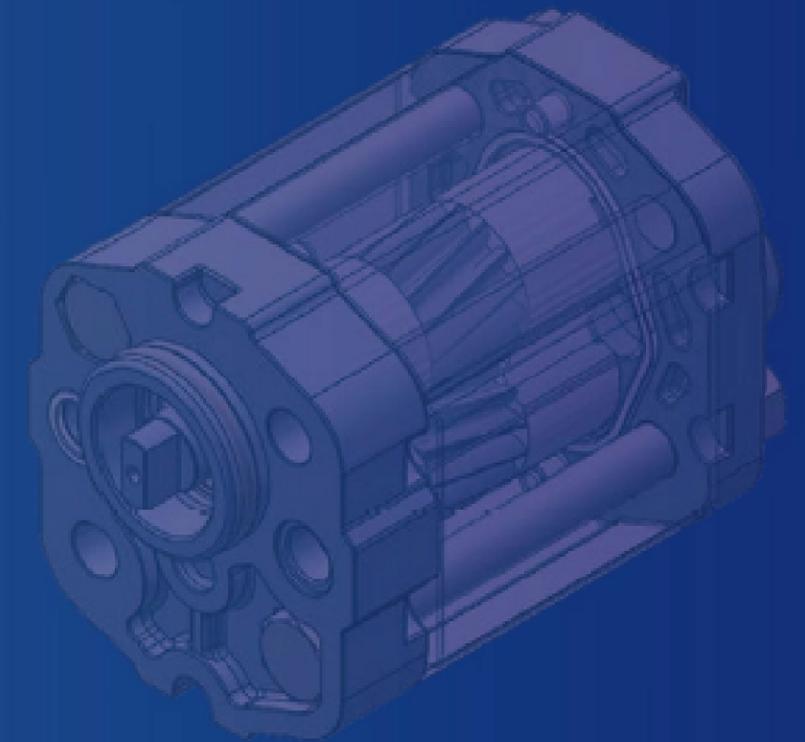




## Gear Pump



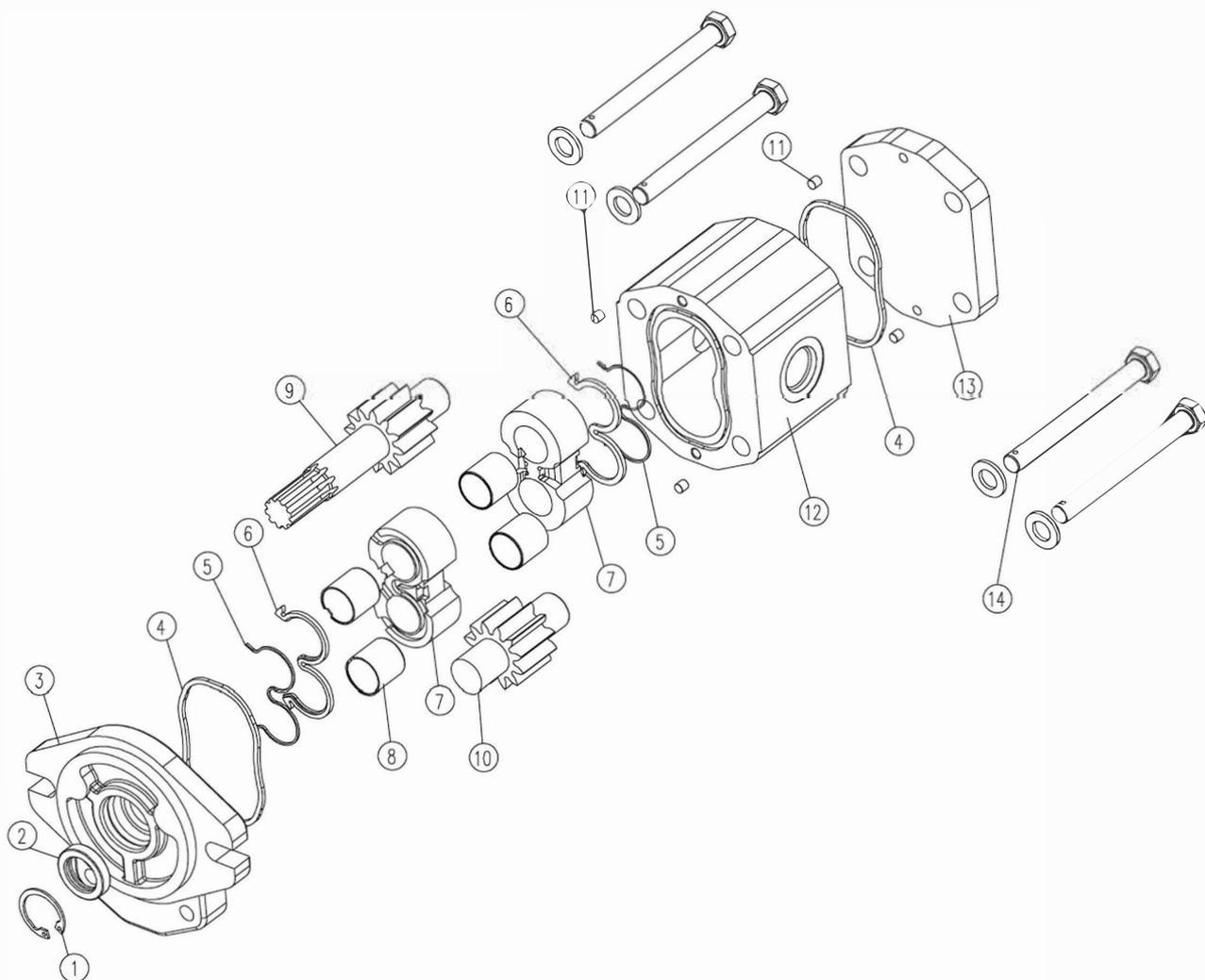
7519 Sideroad 7 E, Kenilworth, ON N0G2E0,  
Canada

226-532-0040

[contact@hydraportmdg.com](mailto:contact@hydraportmdg.com)

[www.hydraportmfg.com](http://www.hydraportmfg.com)

## Hydraport Hydraulics



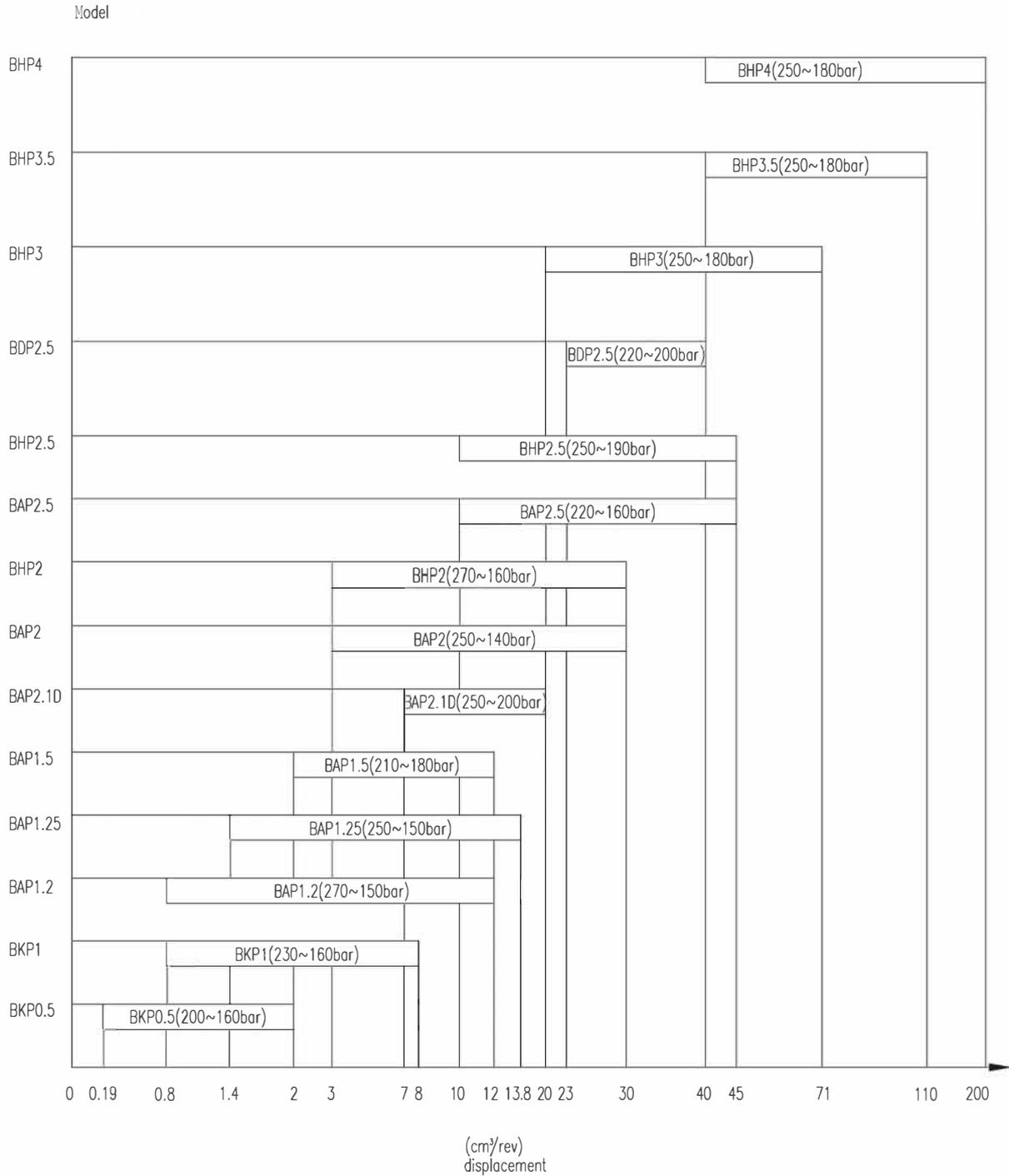
## PUMP'S PARTS

1. STOP RING
2. SHAFT SEAL
3. FRONT COVER
4. FACE SEAL
5. ANTI-EXTRUSION SEAL
6. COMPENSATION SEAL
7. BUSHING
8. DU BEARING
9. DRIVE GEAR
10. DRIVEN GEAR
11. CENTRING PIN
12. BODY
13. END COVER
14. FASTENING SCREWS

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# PRODUCT RANGE



Remark: The pressures shown in the graph is continue working pressure.  
 "BH" denote cast-iron front and end cover, the others denote aluminum front and end cover

# TECHNICAL INFORMATION

Please strictly follow assembly and use indications given in this catalogue for top performance and longer life the Boden pump.

## INSTALLATION NOTES

Before starting the system on a continuous basis, we suggest to adopt as follows simple precautions.

- Check for the direction of rotation of the pump to be consistent with the drive shaft one, being sure not reversion revolving.
- Check for the proper alignment of pump shaft and motor shaft, it is necessary that the connection does not induce axial or radial loads.
- Check if contact area between seal ring and shaft is clean, particulate matter will lead to rapid wear and leakage of oil seal.
- Ensure that intake and return pipes ends are always below fluid level and as far from each other as possible.
- Fill the pump with fluid, and turn it by hand.
- Disconnect pump drain during startup to bleed air off the circuit.
- Always avoid or limit load starting for pump longer life.

## HYDRAULIC FLUIDS

Use specific mineral oil based hydraulic fluids having good antioxidant, anti-foaming (rapid de-aeration), anti-wear, anti-corrosion and lubricating properties, Fluids should also comply with DIN 51525 and VDMA 24317 standards and get through 11th stage of FZG test.

For the standard models, the temperature of the fluid should not be between  $-10\text{ }^{\circ}\text{C}$  and  $+80\text{ }^{\circ}\text{C}$ .

Fluid kinematic viscosity ranges are the following:

allowed range	6...500 cSt
recommended range	10...100 cSt
value allowed at startup	...2000 cSt

## INLET PRESSURE

Under standard working conditions, intake pipe pressure is lower than atmospheric pressure. The operating inlet pressure should range between 0.7 and 3 bars (absolute).

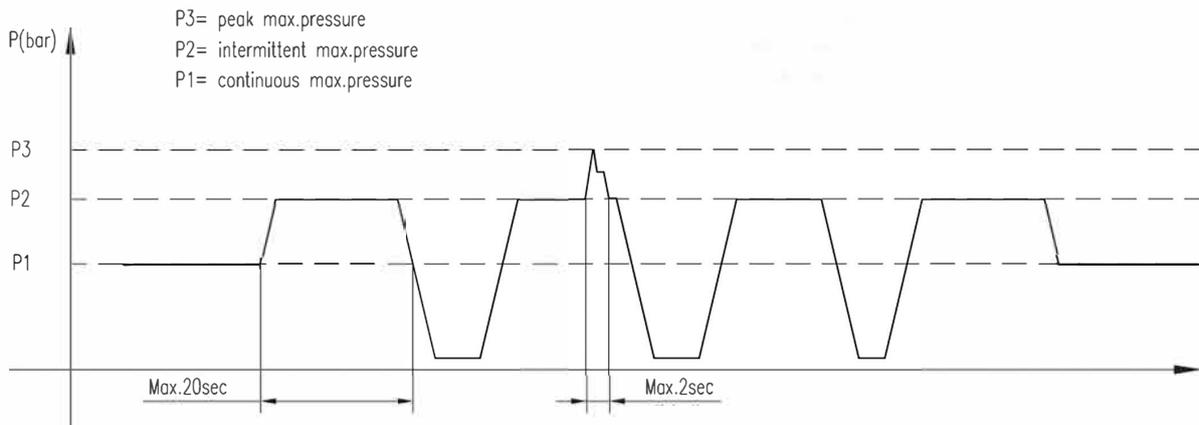
## FILTER RECOMMENDATION

It is widely known that most pumps early failures are due to contaminated fluids. As a warranty cannot be issued for dirt-related wear, we recommend a filter be used, which can reduce the degree of contamination to a permissible dimension in terms of the size and concentration of dirt particles.

The filtering system shall always ensure contamination levels not exceeding the values indicated below:

I	Pressure	<140 bar	140...210 bar	>210 bar
NAS 1638	NAS 1638 Class	10	9	8
ISO 4406	ISO 4406 Class	19/16	18/15	17/14
$\beta_x = 75$	Ratio $\beta_x = 75$	25-40 $\mu$ m	12-15 $\mu$ m	6-12 $\mu$ m

## PRESSURE DEFINITION



## INLET AND DELIVERY LINES

Hydraulic system pipes should show no sudden changes of direction, sharp bends and sudden differences in cross-section.

They should not be too long or out of proportion.

Pipe cross-section should be sized so that fluid velocity does not exceed recommended values.

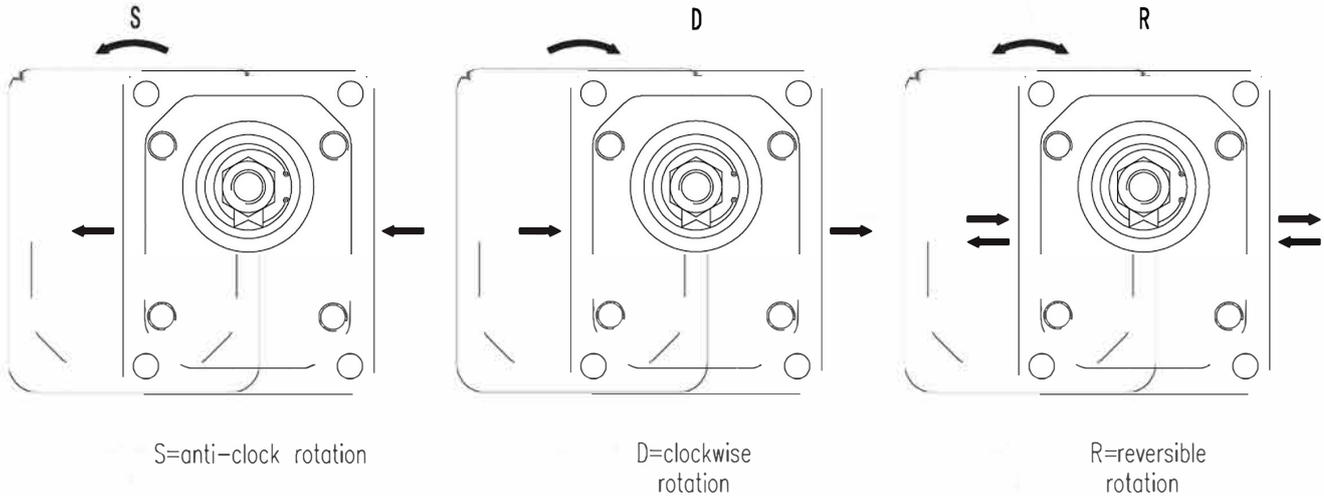
It is advisable to carefully consider the possible diameter reduction of the inlet or outlet pipes fitted on flange fittings.

Reference values are the following:

Intake line		0.5...1.6 m/s
Delivery line		2...6 m/s
Return line		1.6...3 m/s

## ROTATION DIRECTION

Rotation direction of definition: when standing before the pump with driving shaft up with its projecting end towards the observer, the pump is rotating clockwise in case of right-hand rotation "D". The contrary will happen with left-hand pumps "S", keeping the same point of view, when the pump can rotate in both directions, it is bidirectional and is indicated by "R".



## DESIGN CALCULATIONS FOR PUMP

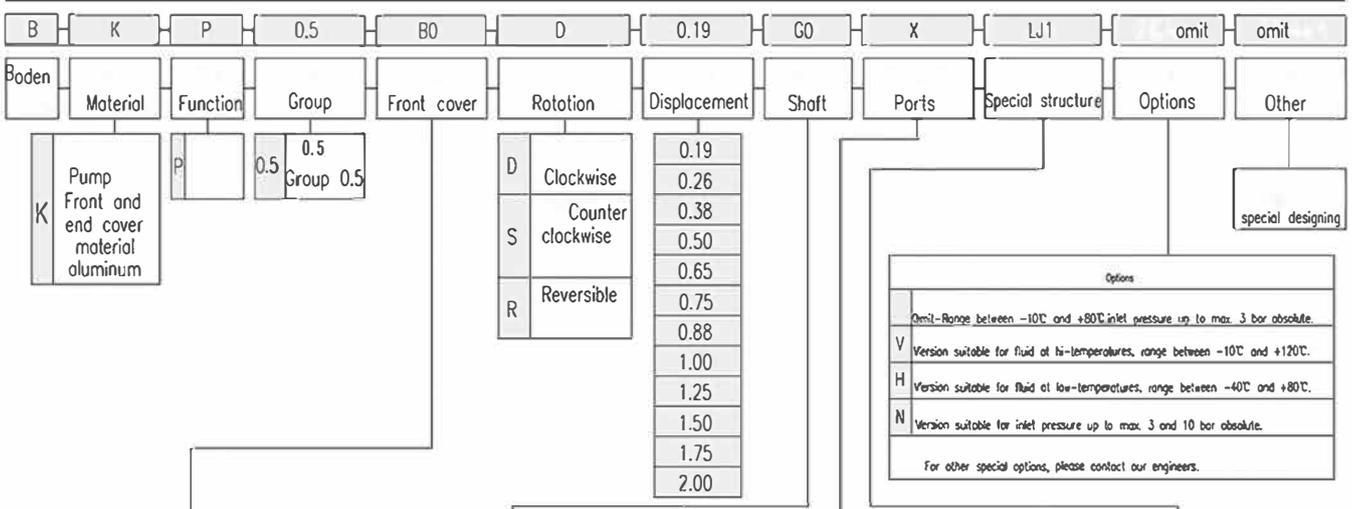
Flow	Q	L/min
Torque	M	Nm
Power	P	kW
Speed	n	r/min
Pressure	$\Delta P$	bar
Displacement	V	cm <sup>3</sup> /rev

Volumetric efficiency	$\eta_v = \eta_v(V, \Delta P, n)$	≈0.93
Mechanical efficiency	$\eta_{hm} = \eta_{hm}(V, \Delta P, n)$	≈0.85
Total efficiency	$\eta_t = \eta_v \cdot \eta_{hm}$	≈0.80

$Q = V \cdot n \cdot \eta_v \cdot 10^{-3}$	[L/min]
$M = (\Delta P \cdot V) / (62.83 \cdot \eta_{hm})$	[ Nm ]
$P = (\Delta P \cdot Q) / (612 \cdot \eta_t)$	[ kW ]

# Group 0.5

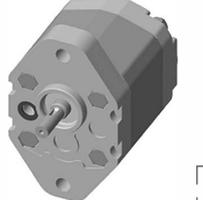
## Group 0.5 Ordering Code Rules



Front cover	Shaft	Ports	Special structure
<p>B0</p> <p>Square front cover with oil port (centering <math>\phi 22\text{mm}</math>)</p> 	<p>C0</p> <p>Threaded, semi-circular key shaft</p> 	<p>Z</p> <p>Metric thread</p> 	<p>omit-regular</p> 
<p>B1</p> <p>Square front cover without oil port (centering <math>\phi 22\text{mm}</math>)</p> 	<p>G0</p> <p>Tang shaft</p> 	<p>L</p> <p>Gos thread</p> 	<p>J</p> <p>Back cover with inlet</p> 
<p>B2</p> <p>Square front cover with 3-oil port (centering <math>\phi 22\text{mm}</math>)</p> 		<p>U</p> <p>UNF thread</p> 	<p>C</p> <p>Back cover with outlet</p> 
<p>A0</p> <p>Diamond front cover with oil port (centering <math>\phi 22\text{mm}</math>)</p> 		<p>R</p> <p>PT thread</p> 	<p>L</p> <p>Back cover with inlet and outlet</p> 
<p>A1</p> <p>Diamond front cover without oil port (centering <math>\phi 22\text{mm}</math>)</p> 		<p>K</p> <p>NPT thread</p> 	<p>VQ2</p> <p>Bidirectional pump back cover</p> 
<p>X</p> <p>Body without ports</p> 			

# Group 0.5

## Group 0.5 Standard Product Overview

type			
page	12	13	14

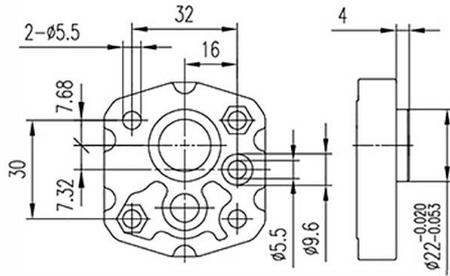
type		
page	15	16

## Group 0.5 Displacement parameter table

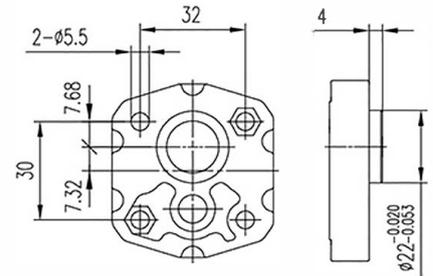
	V	cm <sup>3</sup> /rev	0.19	0.26	0.38	0.50	0.65	0.75	0.88	1.00	1.25	1.50	1.75	2.00
Displacement	V	cm <sup>3</sup> /rev	0.19	0.26	0.38	0.50	0.65	0.75	0.88	1.00	1.25	1.50	1.75	2.00
Suction absolute pressure	P <sub>e</sub>	bar	0.7...3											
Max. continuous pressure	P <sub>1</sub>		200										180	160
Max. intermittent pressure	P <sub>2</sub>		230										210	190
Max. peak pressure	P <sub>3</sub>		250										230	210
Min. speed	Ω <sub>min</sub>	r/min	1000							850	700	600	500	
Max. speed	Ω <sub>max</sub>		7000							6000	5000	4000	3000	
Volumetric efficiency	η <sub>v</sub>	%	≥90				≥91			≥92				

# Group 0.5

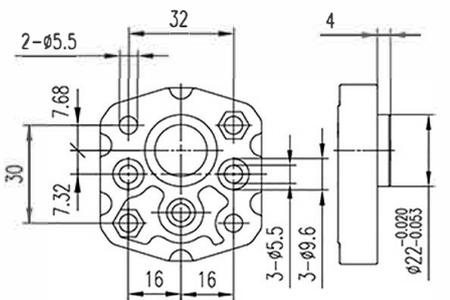
## FRONT COVER



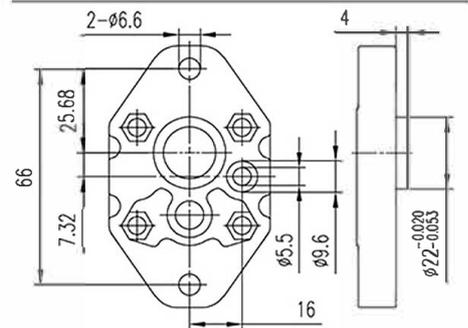
B0



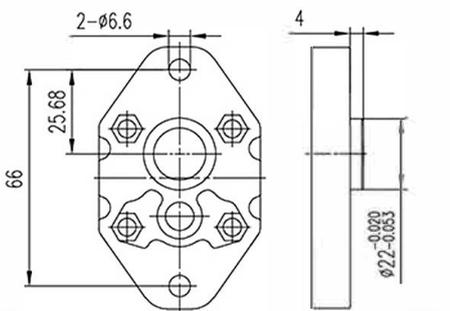
B1



B2

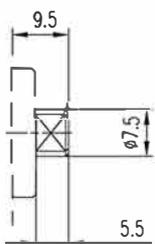


A0



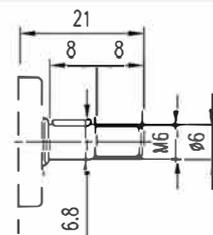
A1

## SHAFTS



G0

Max.Torque 10 Nm

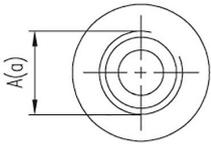


C0

Max.Torque 8 Nm

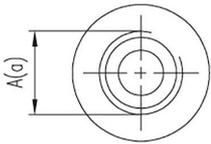
# Group 0.5

## PORTS



L2/L3

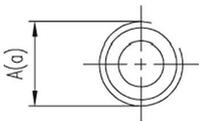
PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
L2	0.19...1.0	G1/4	G1/4
L3	1.25...2.0	G3/8	G3/8



O-ring

U0

PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
U0	0.19...2.0	9/16-18UNF	9/16-18UNF



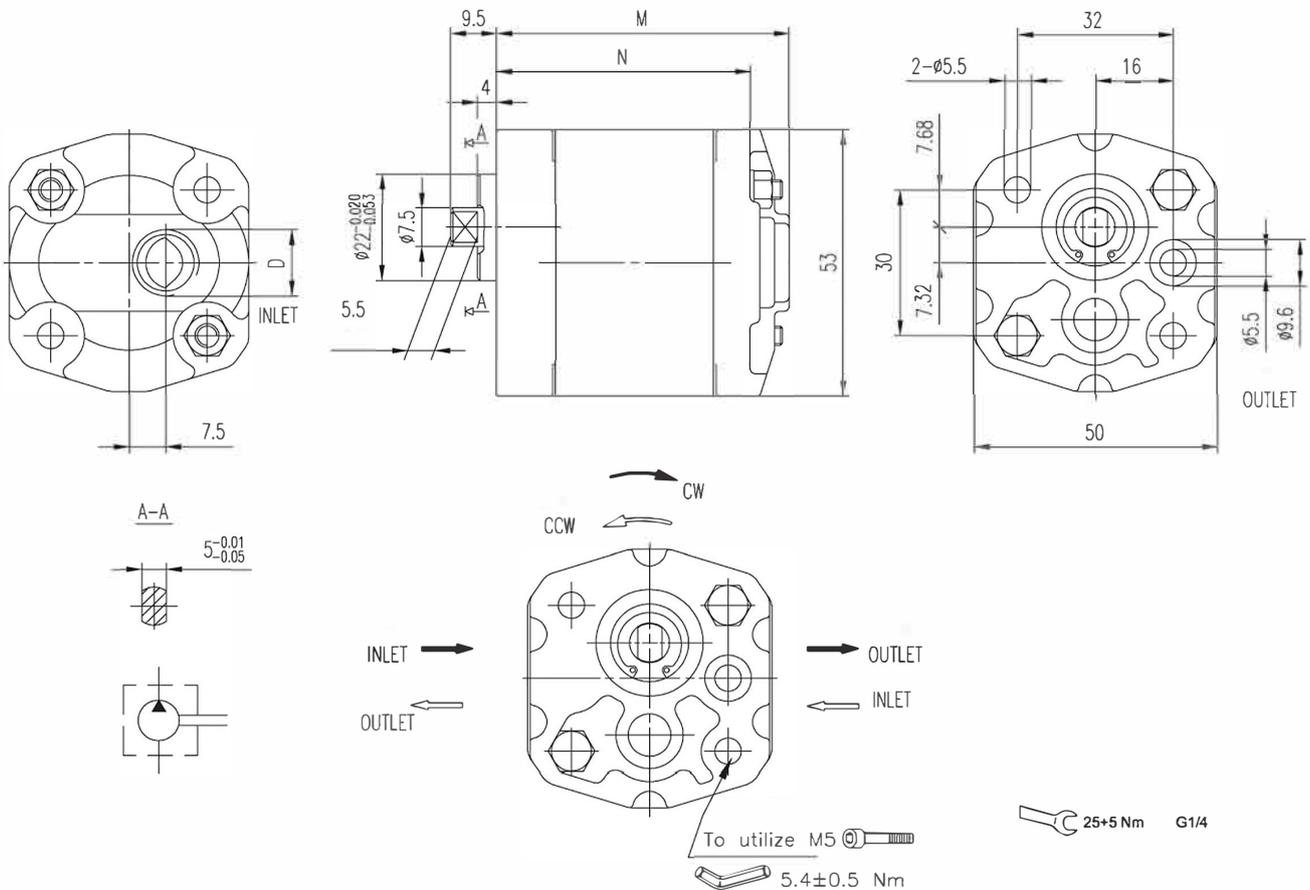
Z0/Z2

PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
Z0	0.19...1.0	M10X1	M10X1
Z2	1.25...2.0	M14X1.5	M12X1

# Group 0.5

## Group 0.5 Standard Product Dimensions

BKPO.5-B0-D-0.19-G0-X-LJ0

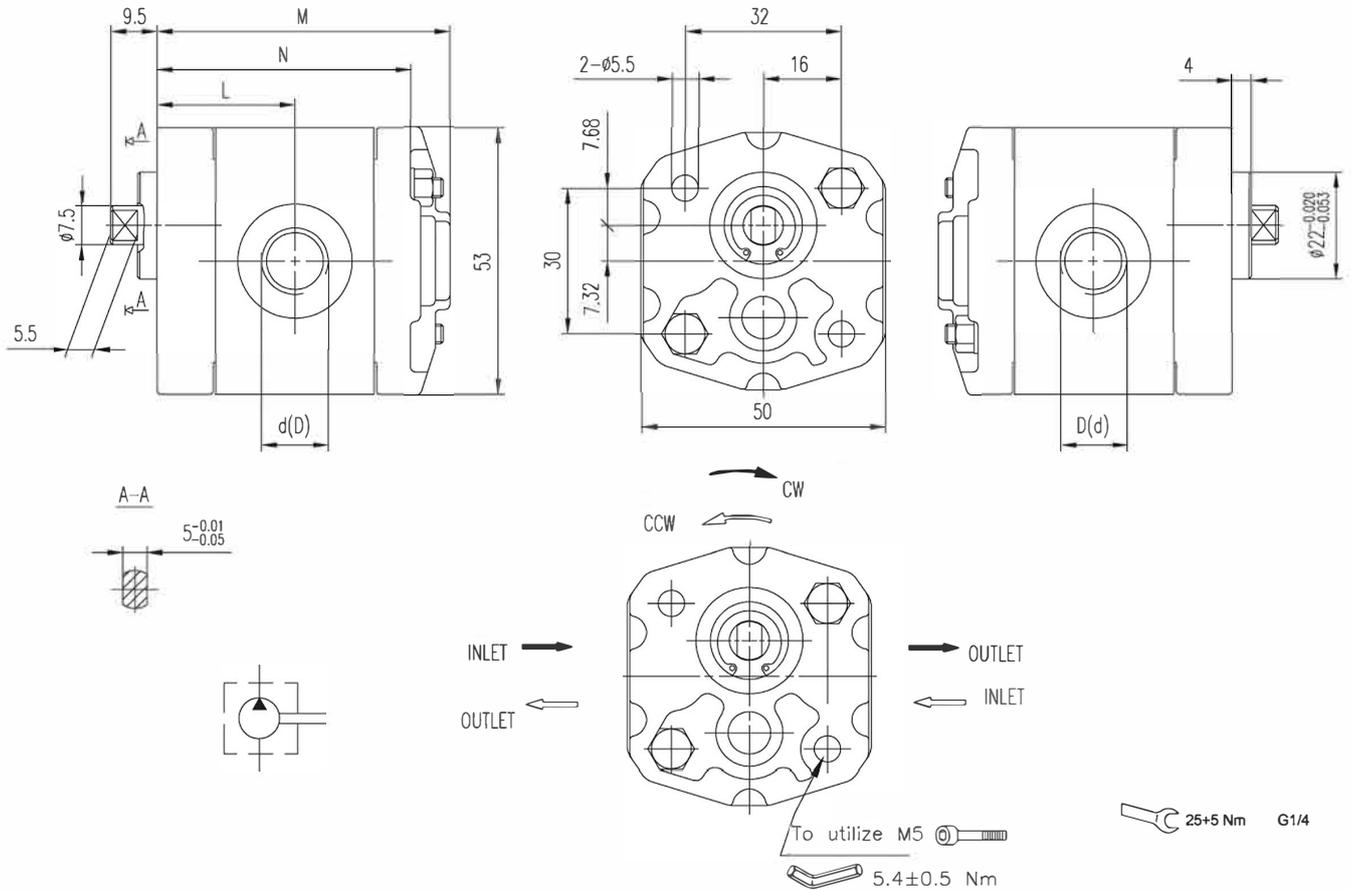


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D
	P1 bar	P2 bar	P3 bar				M mm	N mm		
0.19	200	230	250	7000	1000	0.36	60	51	LJ0	G1/4
0.26	200	230	250	7000	1000	0.364	60.5	51.5	LJ0	G1/4
0.38	200	230	250	7000	1000	0.372	61.5	52.5	LJ0	G1/4
0.50	200	230	250	7000	1000	0.38	62.5	53.5	LJ0	G1/4
0.65	200	230	250	7000	1000	0.40	63.5	54.5	LJ0	G1/4
0.75	200	230	250	7000	1000	0.408	64.5	55.5	LJ0	G1/4
0.88	200	230	250	7000	1000	0.416	65.5	56.5	LJ0	G1/4
1.00	200	230	250	6000	850	0.42	66.5	57.5	LJ0	G1/4
1.25	200	230	250	5000	700	0.436	68.5	59.5	LJ0	G1/4
1.50	200	230	250	4000	600	0.452	70.5	61.5	LJ0	G1/4
1.75	180	210	230	4000	600	0.468	72.5	63.5	LJ0	G1/4
2.00	160	190	210	3000	500	0.484	74.5	65.5	LJ0	G1/4

# Group 0.5

## Group 0.5 Standard Product Dimensions

BKPO.5-B1-**D**-0.19-G0-L2

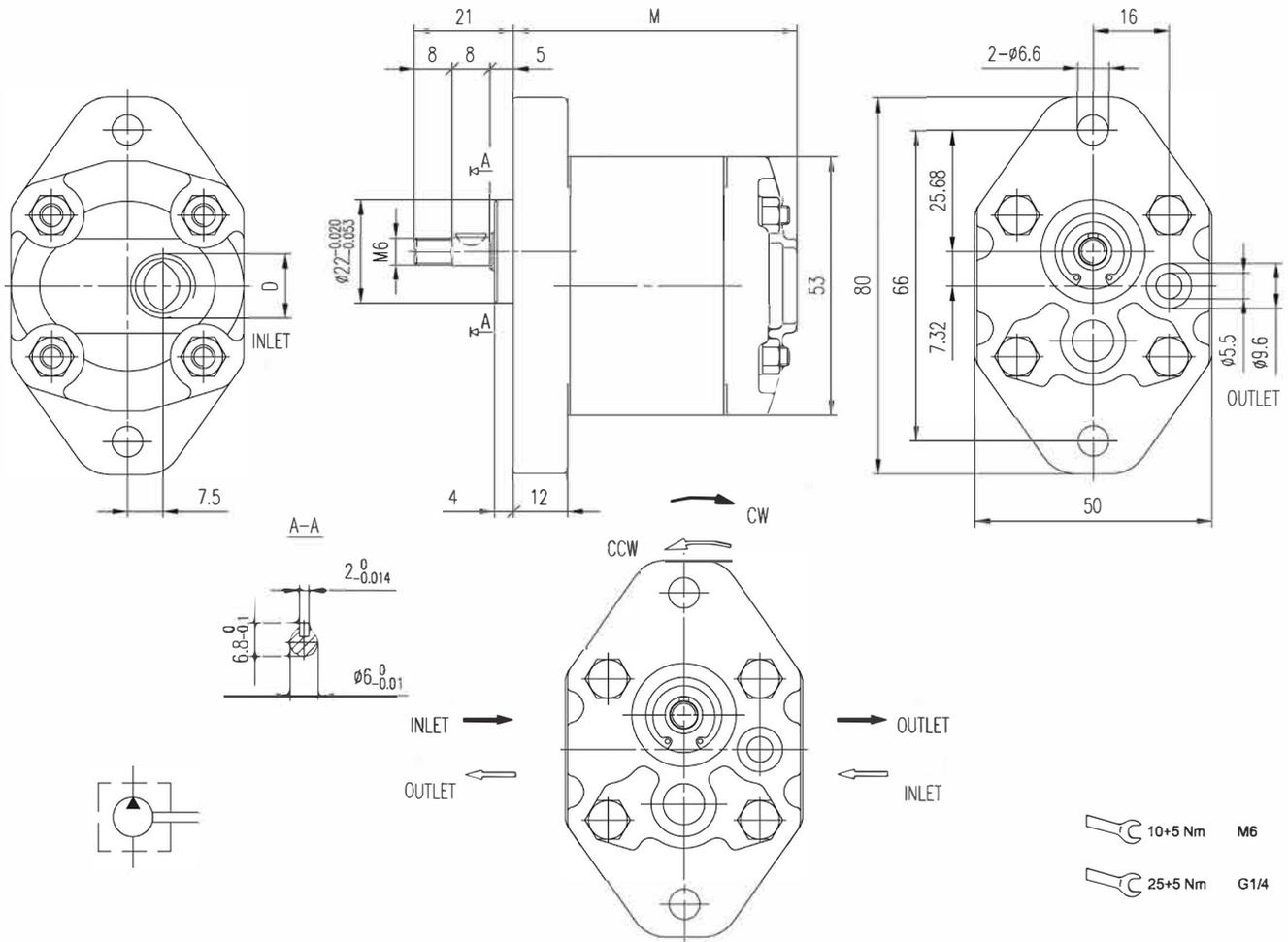


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions			Oil port code	INLET D	OUTLET d
	P1 bar	P2 bar	P3 bar				M mm	N mm	L mm			
0.19	200	230	250	7000	1000	0.36	60	51	27.2	L2	G1/4	G1/4
0.26	200	230	250	7000	1000	0.364	60.5	51.5	27.5	L2	G1/4	G1/4
0.38	200	230	250	7000	1000	0.372	61.5	52.5	28	L2	G1/4	G1/4
0.50	200	230	250	7000	1000	0.38	62.5	53.5	28.5	L2	G1/4	G1/4
0.65	200	230	250	7000	1000	0.40	63.5	54.5	29	L2	G1/4	G1/4
0.75	200	230	250	7000	1000	0.408	64.5	55.5	29.5	L2	G1/4	G1/4
0.88	200	230	250	7000	1000	0.416	65.5	56.5	30	L2	G1/4	G1/4
1.00	200	230	250	6000	850	0.42	66.5	57.5	30.5	L2	G1/4	G1/4
1.25	200	230	250	5000	700	0.436	68.5	59.5	31.5	L2	G1/4	G1/4
1.50	200	230	250	4000	600	0.452	70.5	61.5	32.5	L2	G1/4	G1/4
1.75	180	210	230	4000	600	0.468	72.5	63.5	33.5	L2	G1/4	G1/4
2.00	160	190	210	3000	500	0.484	74.5	65.5	34.5	L2	G1/4	G1/4

# Group 0.5

## Group 0.5 Standard Product Dimensions

BKPO.5-A0-D-0.19-C0-X-LJ0

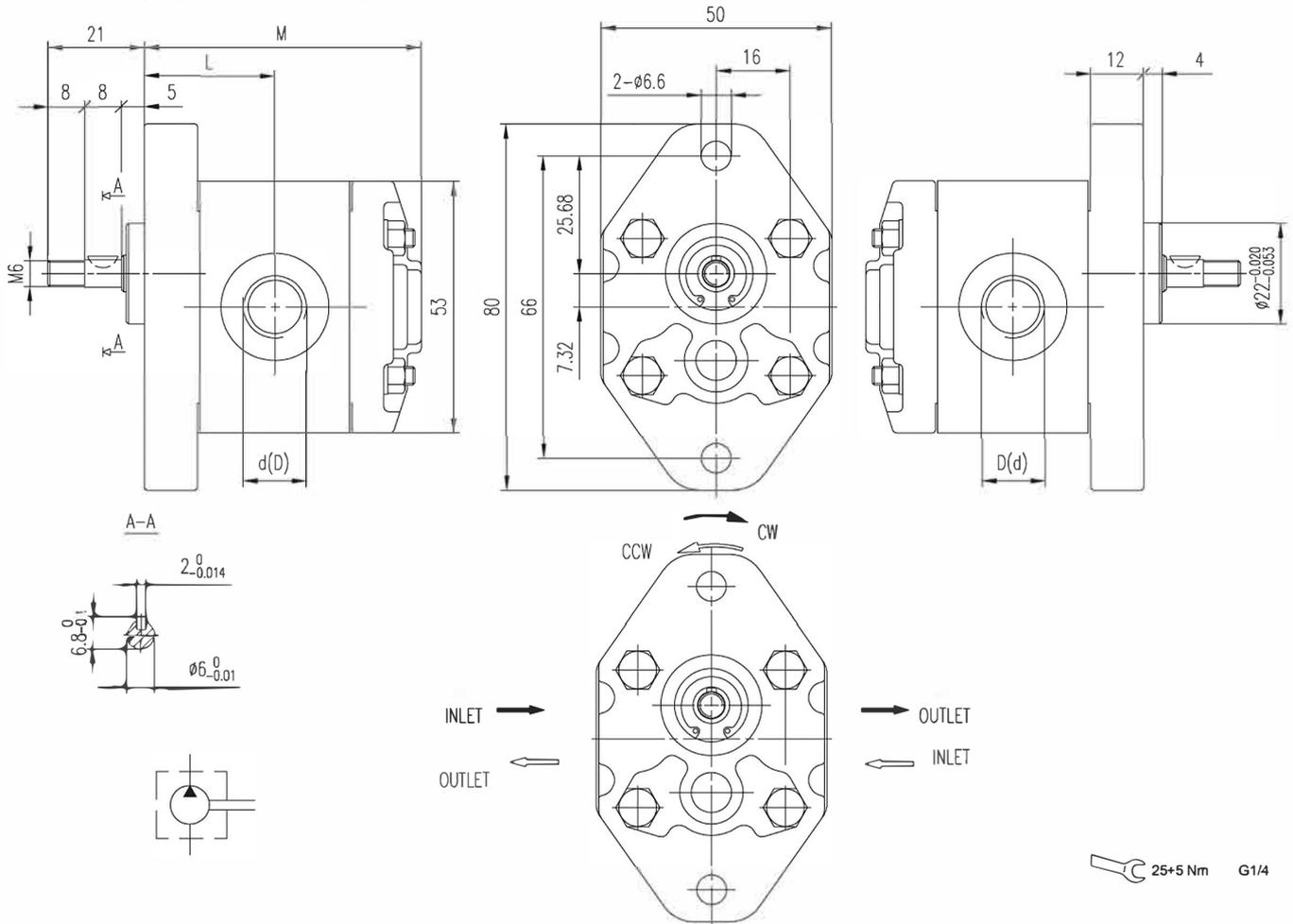


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions M mm	Oil port code	INLET D
	P1 bar	P2 bar	P3 bar						
0.19	200	230	250	7000	1000	0.395	60	LJ0	G1/4
0.26	200	230	250	7000	1000	0.40	60.5	LJ0	G1/4
0.38	200	230	250	7000	1000	0.41	61.5	LJ0	G1/4
0.50	200	230	250	7000	1000	0.42	62.5	LJ0	G1/4
0.65	200	230	250	7000	1000	0.43	63.5	LJ0	G1/4
0.75	200	230	250	7000	1000	0.44	64.5	LJ0	G1/4
0.88	200	230	250	7000	1000	0.45	65.5	LJ0	G1/4
1.00	200	230	250	6000	850	0.46	66.5	LJ0	G1/4
1.25	200	230	250	5000	700	0.48	68.5	LJ0	G1/4
1.50	200	230	250	4000	600	0.50	70.5	LJ0	G1/4
1.75	180	210	230	4000	600	0.51	72.5	LJ0	G1/4
2.00	160	190	210	3000	500	0.52	74.5	LJ0	G1/4

# Group 0.5

## Group 0.5 Standard Product Dimensions

BKPO. 5-A1-D-0.19-C0-L2



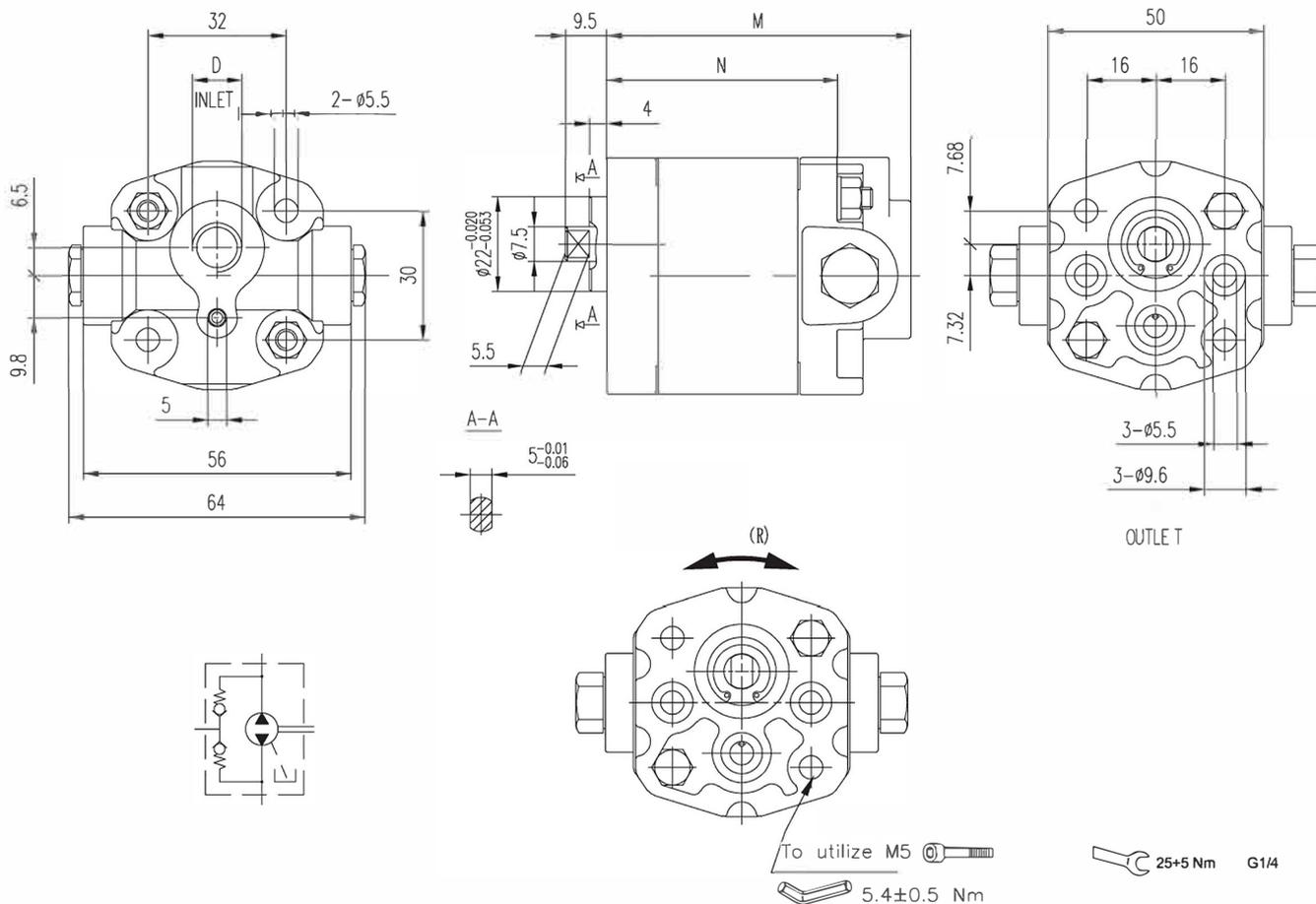
25+5 Nm G1/4

Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D	OUTLET d
	P1 bar	P2 bar	P3 bar				M mm	L mm			
0.19	200	230	250	7000	1000	0.395	60	27.2	L2	G1/4	G1/4
0.26	200	230	250	7000	1000	0.40	60.5	27.5	L2	G1/4	G1/4
0.38	200	230	250	7000	1000	0.41	61.5	28	L2	G1/4	G1/4
0.50	200	230	250	7000	1000	0.42	62.5	28.5	L2	G1/4	G1/4
0.65	200	230	250	7000	1000	0.43	63.5	29	L2	G1/4	G1/4
0.75	200	230	250	7000	1000	0.44	64.5	29.5	L2	G1/4	G1/4
0.88	200	230	250	7000	1000	0.45	65.5	30	L2	G1/4	G1/4
1.00	200	230	250	6000	850	0.46	66.5	30.5	L2	G1/4	G1/4
1.25	200	230	250	5000	700	0.48	68.5	31.5	L2	G1/4	G1/4
1.50	200	230	250	4000	600	0.50	70.5	32.5	L2	G1/4	G1/4
1.75	180	210	230	4000	600	0.51	72.5	33.5	L2	G1/4	G1/4
2.00	160	190	210	3000	500	0.52	74.5	34.5	L2	G1/4	G1/4

# Group 0.5

## Group 0.5 Standard Product Dimensions

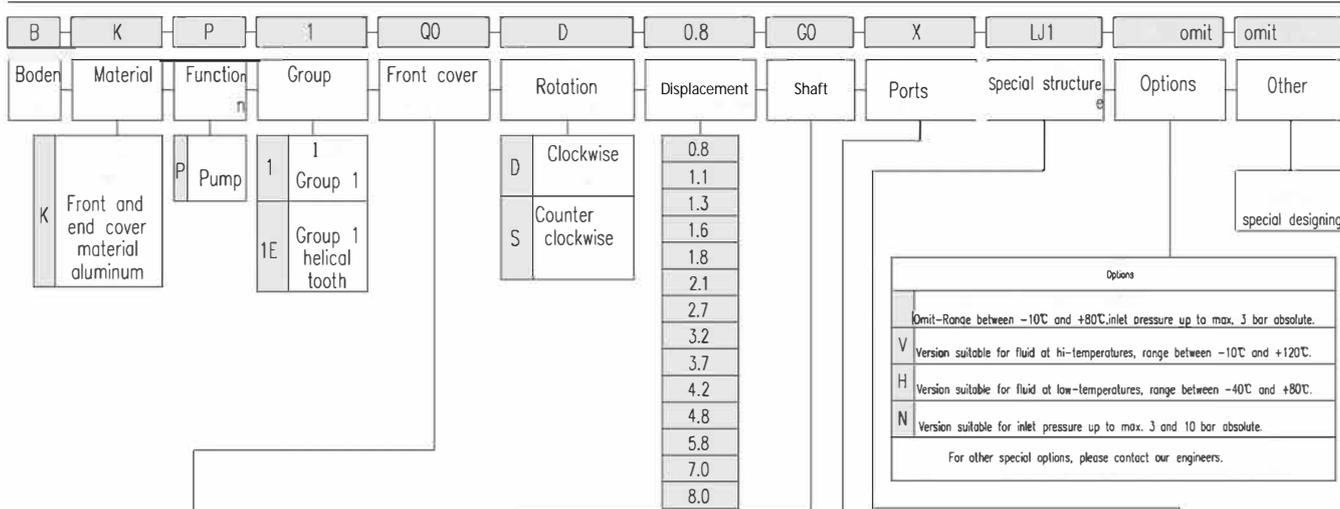
BKPO. 5-B2-R-**0.19**-G0-X-**LJ0**-VQ2



Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D
	P1 bar	P2 bar	P3 bar				M mm	L mm		
0.19	150	170	190	7000	1000	0.40	68	51	LJ0	G1/4
0.26	150	170	190	7000	1000	0.41	68.5	51.5	LJ0	G1/4
0.38	150	170	190	7000	1000	0.42	69.5	52.5	LJ0	G1/4
0.50	150	170	190	7000	1000	0.43	70.5	53.5	LJ0	G1/4
0.65	150	170	190	7000	1000	0.44	71.5	54.5	LJ0	G1/4
0.75	150	170	190	7000	1000	0.45	72.5	55.5	LJ0	G1/4
0.88	150	170	190	7000	1000	0.46	73.5	56.5	LJ0	G1/4
1.00	150	170	190	6000	850	0.47	74.5	57.5	LJ0	G1/4
1.25	150	170	190	5000	700	0.49	76.5	59.5	LJ0	G1/4
1.50	150	170	190	4000	600	0.51	78.5	61.5	LJ0	G1/4
1.75	150	170	190	4000	600	0.52	80.5	63.5	LJ0	G1/4
2.00	150	170	190	3000	500	0.53	82.5	65.5	LJ0	G1/4

# Group 1

## Group 1 Ordering Code Rules



Front cover		Shaft		Ports		Special structure	
Q0	Square front cover with oil port centering $\phi 32\text{mm}$	T0	Taper shaft 1:8	E	Rectangular flange	omit-regular	
Q1	Square front cover without oil port centering $\phi 32\text{mm}$	G0	Tang Shaft	F	Rectangular flange	J	Back cover with inlet
BO	Square front cover without oil port (centering $\phi 25.4\text{mm}$ )	G1	Tong Shaft	Z	Metric thread	C	Back cover with outlet
				L	Gas thread	L	Back cover with inlet and outlet
				U	UNF thread	YFI	Back cover with relief valve
				R	PT thread		
				N	NPT thread		
				X	Body without ports		

See page 19 for details

See page 19 for details

See page 20-21 for details

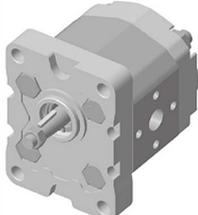
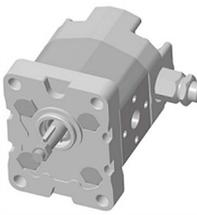
See page 22 for details

# Group 1

## Group 1 Standard Product Overview

type			
			
page	23	24	25

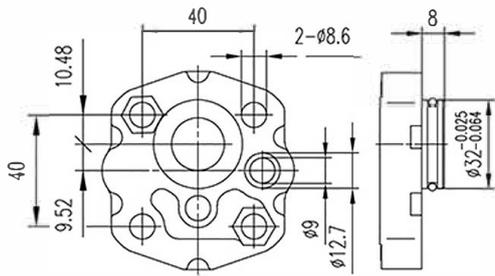
type		
		
页码 page	26	27

## Group 1 Displacement parameter table

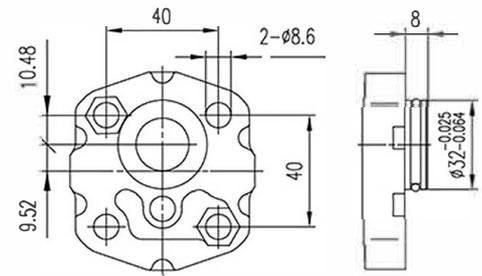
Displacement	V	cm <sup>3</sup> /rev	0.8	1.1	1.3	1.6	1.8	2.1	2.7	3.2	3.7	4.2	4.8	5.8	7.0	8.0	
Suction absolute pressure	P <sub>e</sub>	bar	0.7...3														
Max. continuous pressure	P <sub>1</sub>		230				210				190		160				
Max. intermittent pressure	P <sub>2</sub>		250				230				210		180				
Max. peak pressure	P <sub>3</sub>		270				250				230		200				
Min. speed	n <sub>Min</sub>	r/min	1000					800					600				
Max. speed	n <sub>Max</sub>		6000							5000	4500	3500	3000	2500	2100		
Volumetric efficiency	η <sub>v</sub>	%	≥90		≥91			≥92					≥93				

# Group 1

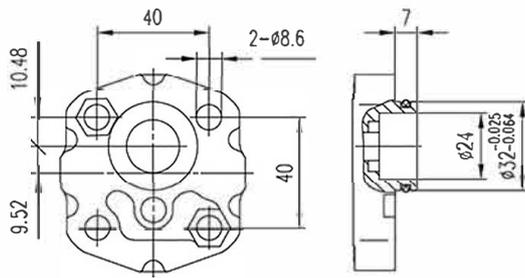
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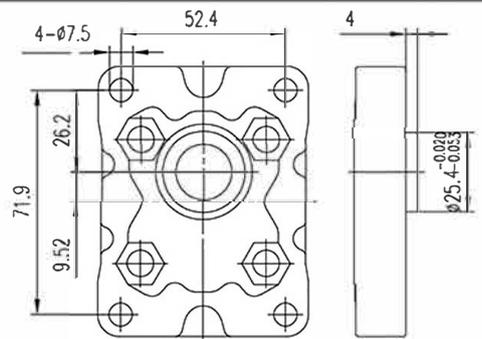
Q0



Q1

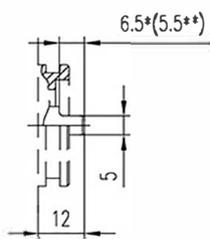


Q2



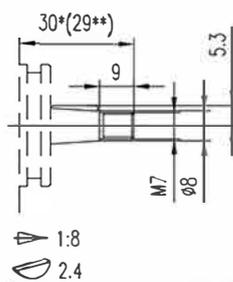
B0

## SHAFTS



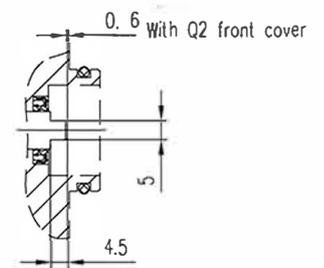
G0

Max.Torque 20 Nm



T0

Max.Torque 25 Nm



G1

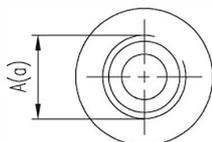
Max.Torque 20 Nm

Dimension with front cover Q

Dimension with front cover B

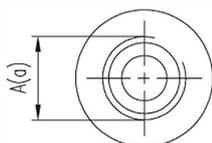
# Group 1

## /PORTS



L2/L3

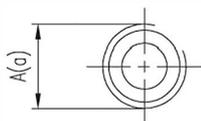
PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
L2	0.8...8.0	G3/8	G1/4
L3	0.8...8.0	G3/8	G3/8



O-ring

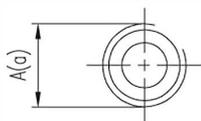
U0

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
U0	0.8...8.0	3/4-16UNF	9/16-18UNF



Z0

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
Z0	0.8...8.0	M18X1.5	M14X1.5

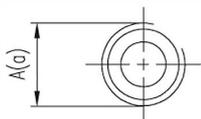


N1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
N1	0.8...8.0	3/8NPT	3/8NPT

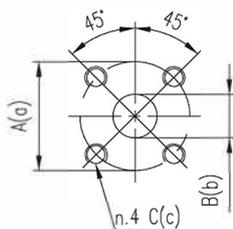
# Group 1

## PORTS



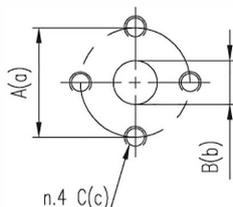
R0/R1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
R0	0.8...8.0	PT1/2	PT1/2
R1	0.8...8.0	PT3/8	PT3/8



F0

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
F0	0.8...8.0	30	12	M6	30	12	M6

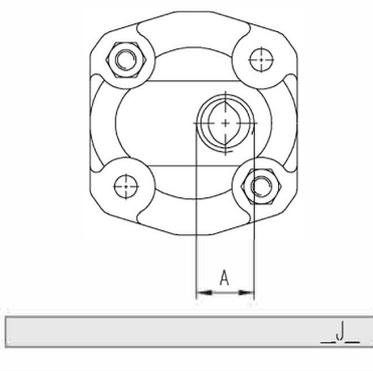


E0

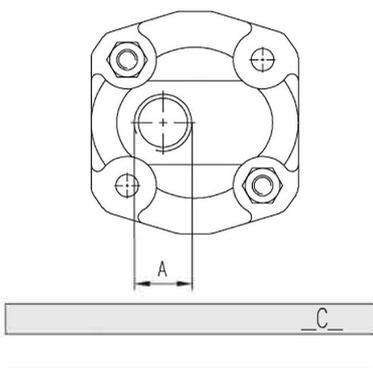
PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
E0	0.8...8.0	30	12	M6	30	12	M6

# Group 1

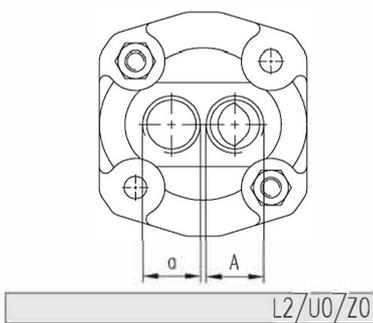
## SPECIAL STRUCTRE



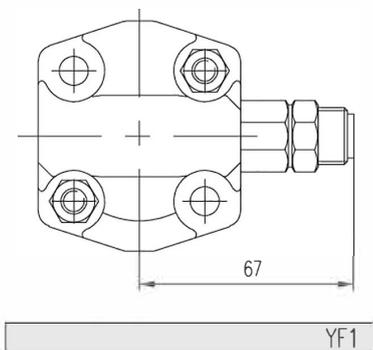
CODE	INLET
	A
LJ1	G3/8
MJ1	M18X1.5
UJ1	9/16-18UNF



CODE	OUTLET
	A
LCO	G1/4
MCO	M14X1.5
UC1	9/16-18UNF



CODE	INLET	OUTLET
	A	a
L2	G3/8	G1/4
U0	3/4-16UNF	9/16-18UNF
Z0	M18X1.5	M14X1.5

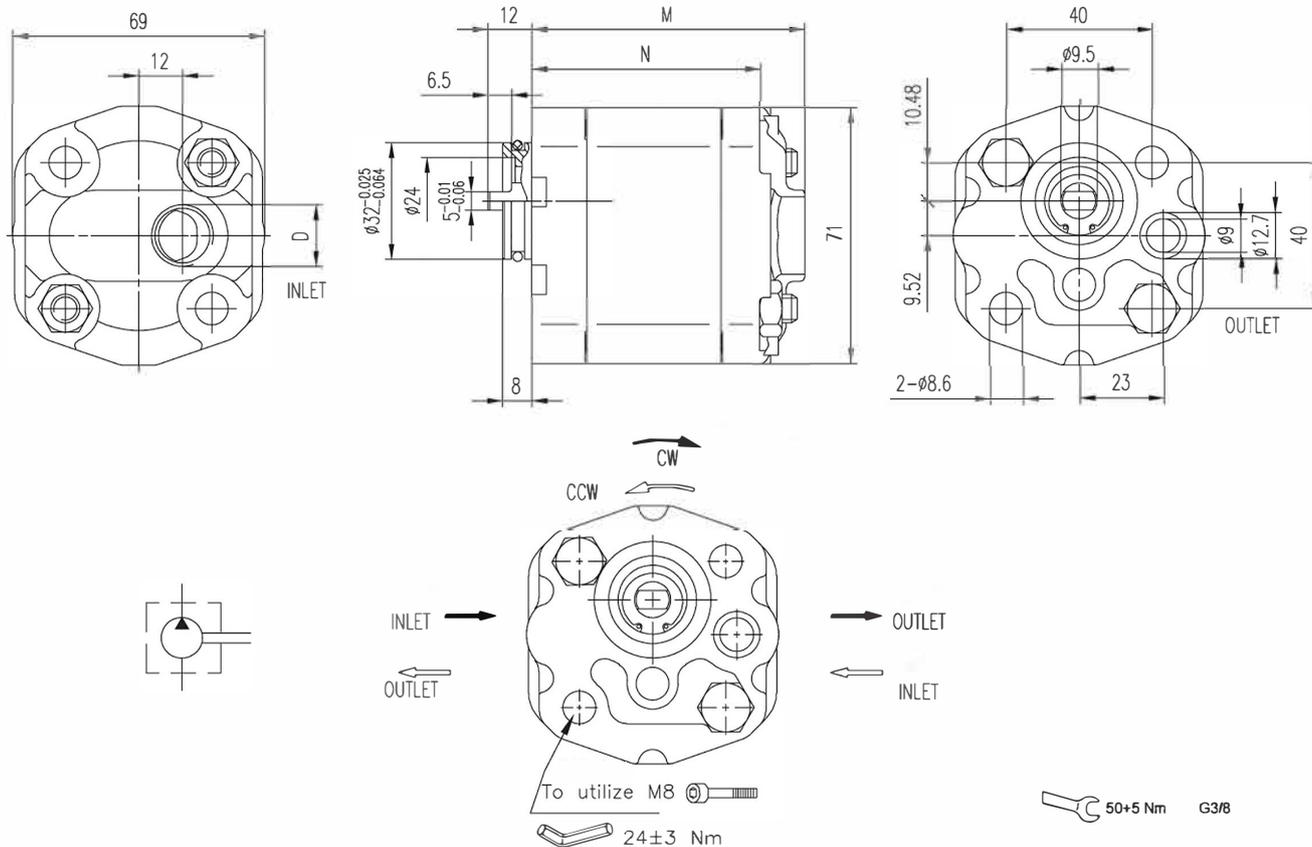


CODE	Pressure
	bar
YF1	25...180

# Group 1

## Group 1 Standard Product Dimensions

BKP1-Q0-D-0.8-G0-X-LJ1

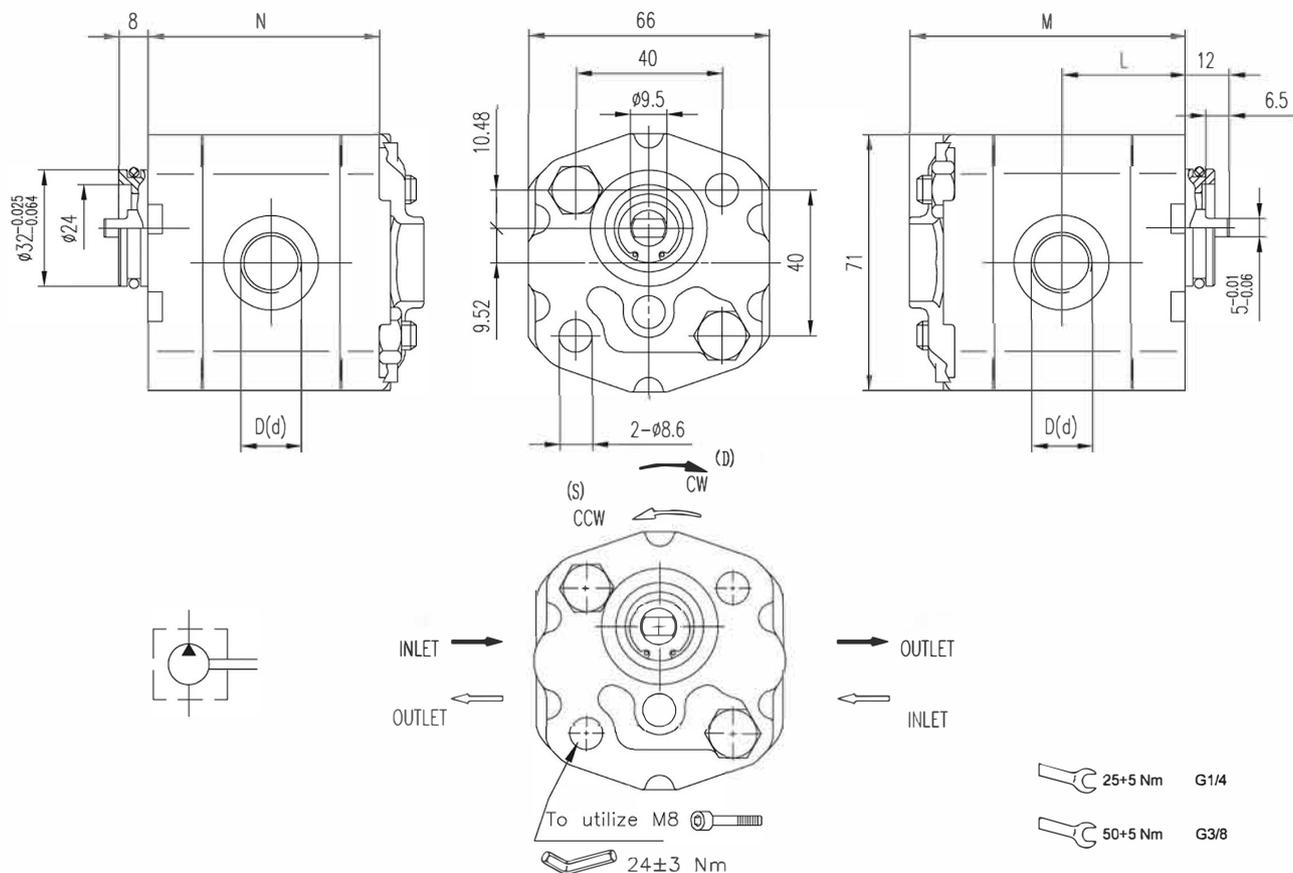


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D
	P1 bar	P2 bar	P3 bar				M mm	N mm		
0.8	230	250	270	6000	1000	0.76	73.5	61.5	LJ1	G3/8
1.1	230	250	270	6000	1000	0.77	74	62	LJ1	G3/8
1.3	230	250	270	6000	1000	0.78	75	63	LJ1	G3/8
1.6	230	250	270	6000	1000	0.79	76	64	LJ1	G3/8
1.8	230	250	270	6000	1000	0.81	77	65	LJ1	G3/8
2.1	230	250	270	6000	1000	0.82	78	66	LJ1	G3/8
2.7	230	250	270	6000	800	0.85	80	68	LJ1	G3/8
3.2	210	230	250	5000	800	0.87	82	70	LJ1	G3/8
3.7	210	230	250	4500	800	0.90	84	72	LJ1	G3/8
4.2	210	230	250	4000	800	0.93	86	74	LJ1	G3/8
4.8	190	210	230	3500	600	0.95	88	76	LJ1	G3/8
5.8	190	210	230	3000	600	1.02	92	80	LJ1	G3/8
7.0	160	180	200	2500	600	1.07	96	84	LJ1	G3/8
8.0	160	180	200	2100	600	1.13	100	88	LJ1	G3/8

# Group 1

## Group 1 Standard Product Dimensions

BKP1-Q1-D-0.8-G0-L2

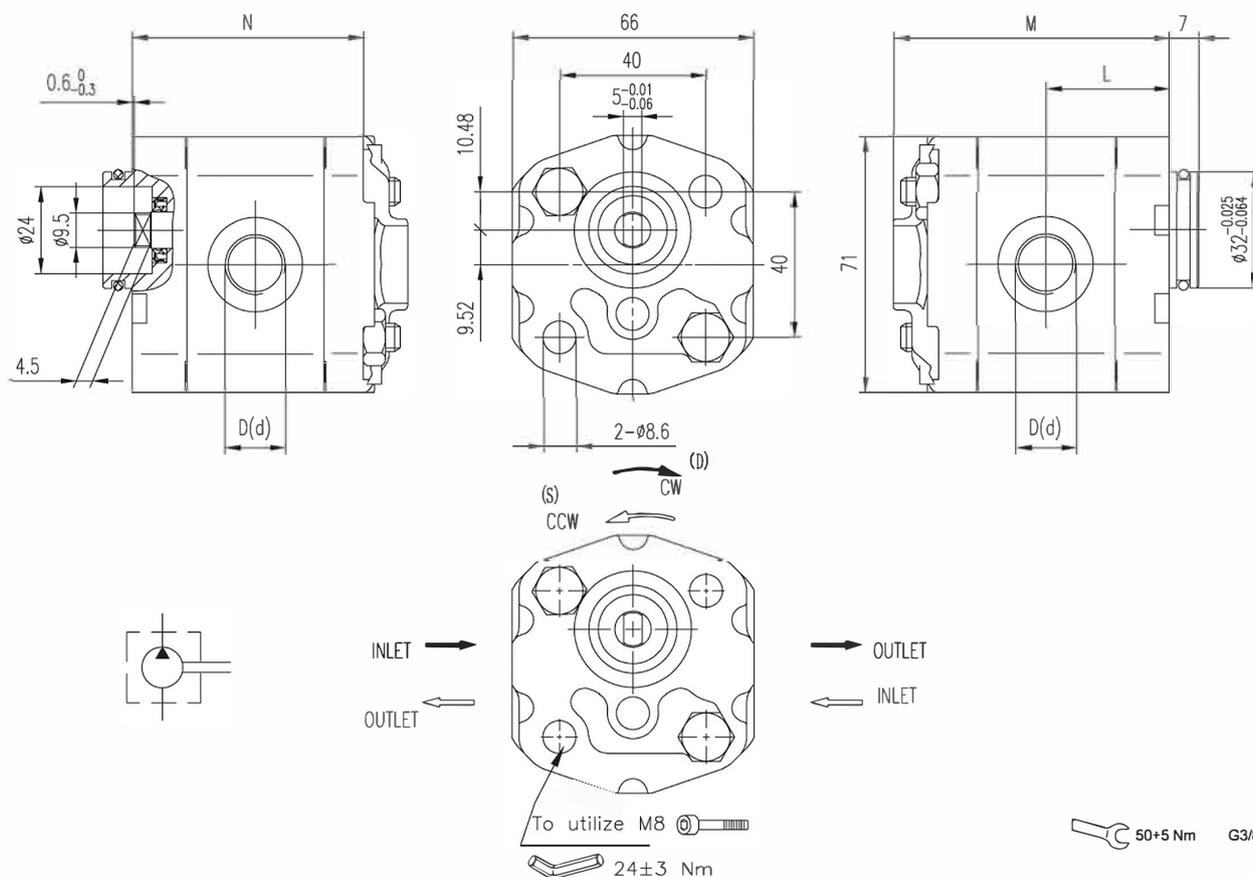


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions			Oil port code	INLET D	OUTLET d
	P1 bar	P2 bar	P3 bar				M mm	N mm	L mm			
0.8	230	250	270	6000	1000	0.76	73.5	61.5	32.8	L2	G3/8	G1/4
1.1	230	250	270	6000	1000	0.77	74	62	33	L2	G3/8	G1/4
1.3	230	250	270	6000	1000	0.78	75	63	33.5	L2	G3/8	G1/4
1.6	230	250	270	6000	1000	0.79	76	64	34	L2	G3/8	G1/4
1.8	230	250	270	6000	1000	0.81	77	65	34.5	L2	G3/8	G1/4
2.1	230	250	270	6000	1000	0.82	78	66	35	L2	G3/8	G1/4
2.7	230	250	270	6000	800	0.85	80	68	36	L2	G3/8	G1/4
3.2	210	230	250	5000	800	0.87	82	70	37	L2	G3/8	G1/4
3.7	210	230	250	4500	800	0.90	84	72	38	L2	G3/8	G1/4
4.2	210	230	250	4000	800	0.93	86	74	39	L2	G3/8	G1/4
4.8	190	210	230	3500	600	0.95	88	76	40	L2	G3/8	G1/4
5.8	190	210	230	3000	600	1.02	92	80	42	L2	G3/8	G1/4
7.0	160	180	200	2500	600	1.07	96	84	44	L2	G3/8	G1/4
8.0	160	180	200	2100	600	1.13	100	88	46	L2	G3/8	G1/4

# Group 1

## Group 1 Standard Product Dimensions

BKP1-Q2-D-0.8-G1-L3

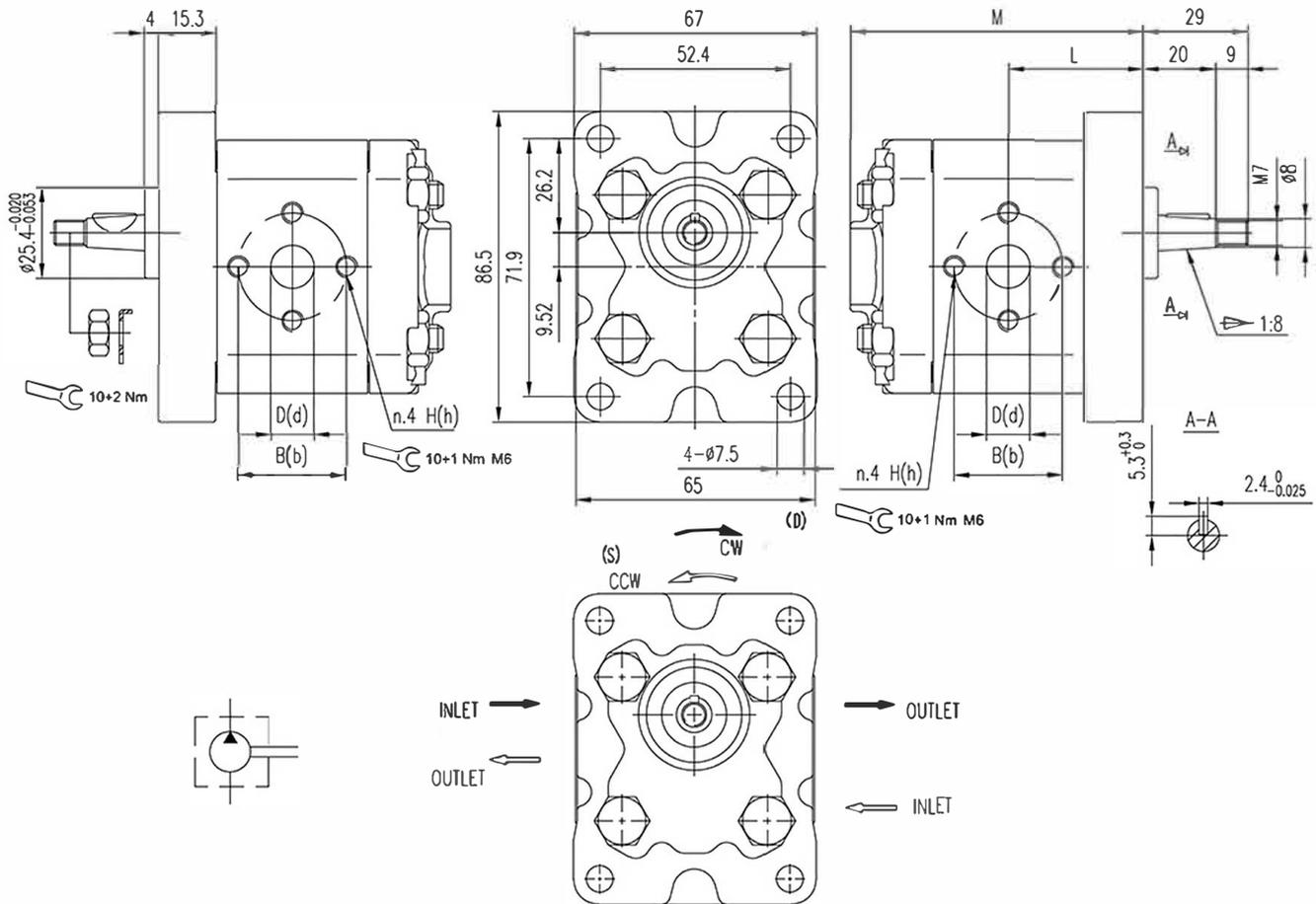


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions			Oil port code	INLET D	OUTLET d
	P1 bar	P2 bar	P3 bar				M mm	N mm	L mm			
0.8	230	250	270	6000	1000	0.76	73.5	61.5	32.8	L3	G3/8	G3/8
1.1	230	250	270	6000	1000	0.77	74	62	33	L3	G3/8	G3/8
1.3	230	250	270	6000	1000	0.78	75	63	33.5	L3	G3/8	G3/8
1.6	230	250	270	6000	1000	0.79	76	64	34	L3	G3/8	G3/8
1.8	230	250	270	6000	1000	0.81	77	65	34.5	L3	G3/8	G3/8
2.1	230	250	270	6000	1000	0.82	78	66	35	L3	G3/8	G3/8
2.7	230	250	270	6000	800	0.85	80	68	36	L3	G3/8	G3/8
3.2	210	230	250	5000	800	0.87	82	70	37	L3	G3/8	G3/8
3.7	210	230	250	4500	800	0.90	84	72	38	L3	G3/8	G3/8
4.2	210	230	250	4000	800	0.93	86	74	39	L3	G3/8	G3/8
4.8	190	210	230	3500	600	0.95	88	76	40	L3	G3/8	G3/8
5.8	190	210	230	3000	600	1.02	92	80	42	L3	G3/8	G3/8
7.0	160	180	200	2500	600	1.07	96	84	44	L3	G3/8	G3/8
8.0	160	180	200	2100	600	1.13	100	88	46	L3	G3/8	G3/8

# Group 1

## Group 1 Standard Product Dimensions

BKP1-B0-D-0.8-TO-E0

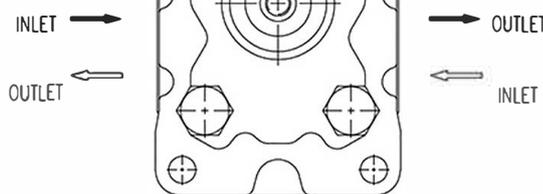
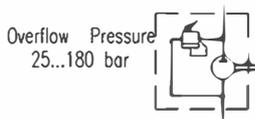
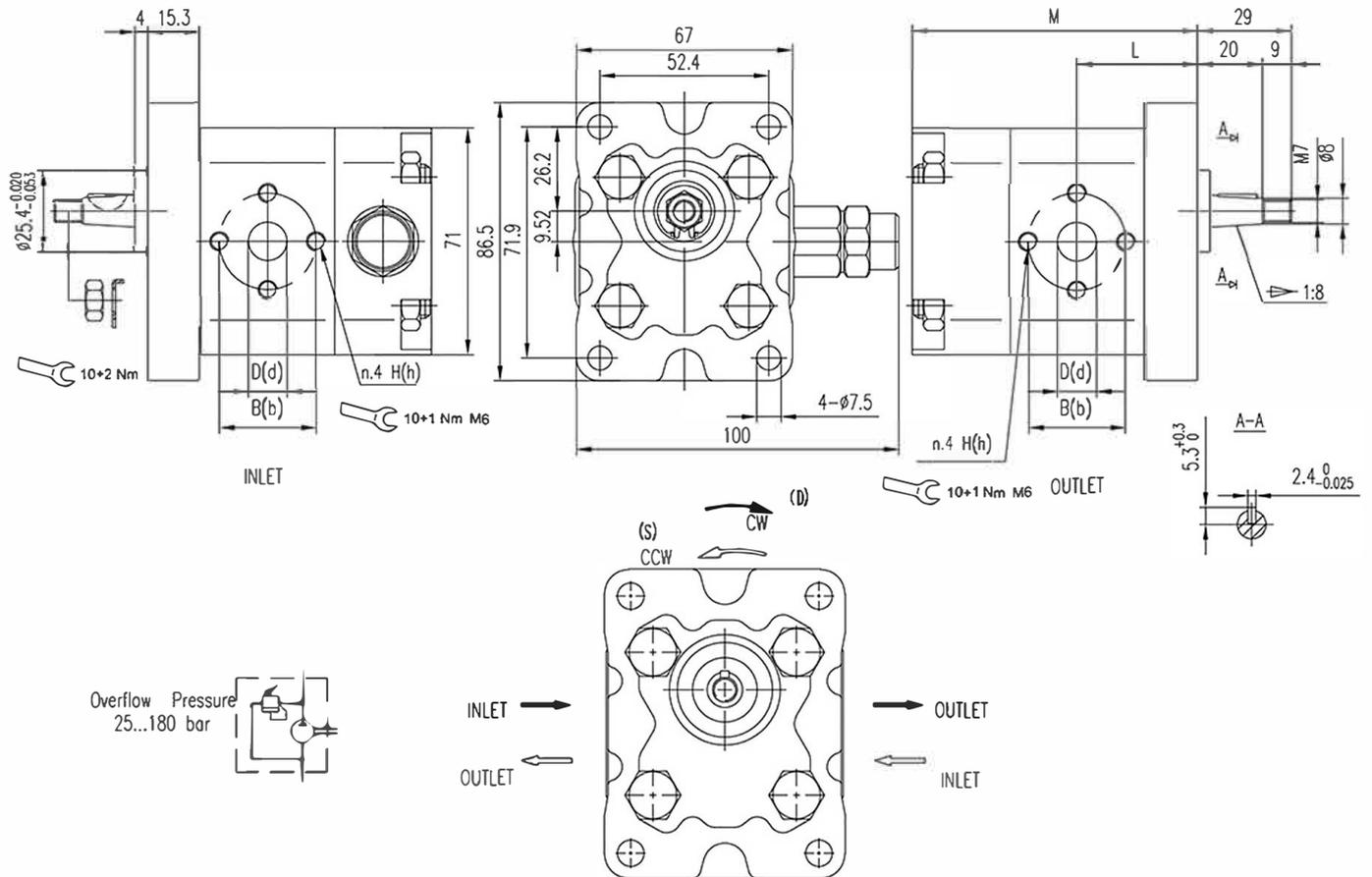


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET		OUTLET			
	P1 bar	P2 bar	P3 bar				M	L		B	D	H	b	d	h
0.8	230	250	270	6000	1000	0.86	74.5	33.8	E0	30	12	M6	30	12	M6
1.1	230	250	270	6000	1000	0.88	75	34	E0	30	12	M6	30	12	M6
1.3	230	250	270	6000	1000	0.90	76	34.5	E0	30	12	M6	30	12	M6
1.6	230	250	270	6000	1000	0.92	77	35	E0	30	12	M6	30	12	M6
1.8	230	250	270	6000	1000	0.94	78	35.5	E0	30	12	M6	30	12	M6
2.1	230	250	270	6000	1000	0.96	79	36	E0	30	12	M6	30	12	M6
2.7	230	250	270	6000	800	0.988	81	37	E0	30	12	M6	30	12	M6
3.2	210	230	250	5000	800	1.016	83	38	E0	30	12	M6	30	12	M6
3.7	210	230	250	4500	800	1.044	85	39	E0	30	12	M6	30	12	M6
4.2	210	230	250	4000	800	1.072	87	40	E0	30	12	M6	30	12	M6
4.8	190	210	230	3500	600	1.1	89	41	E0	30	12	M6	30	12	M6
5.8	190	210	230	3000	600	1.156	93	43	E0	30	12	M6	30	12	M6
7.0	160	180	200	2500	600	1.212	97	45	E0	30	12	M6	30	12	M6
8.0	160	180	200	2100	600	1.268	101	47	E0	30	12	M6	30	12	M6

# Group 1

## Group 1 Standard Product Dimensions

BKP1-B0-S-0.8-T0-E0-YF1-P180



Displacement (cm <sup>3</sup> /rev)	M <sub>cx</sub> pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET			OUTLET		
	P1 bar	P2 bar	P3 bar				M mm	L mm		B mm	D mm	H mm	b mm	d mm	h mm
0.8	230	250	270	6000	1000	0.86	83.5	33.8	E0	30	12	M6	30	12	M6
1.1	230	250	270	6000	1000	0.88	84	34	E0	30	12	M6	30	12	M6
1.3	230	250	270	6000	1000	0.90	85	34.5	E0	30	12	M6	30	12	M6
1.6	230	250	270	6000	1000	0.92	86	35	E0	30	12	M6	30	12	M6
1.8	230	250	270	6000	1000	0.94	87	35.5	E0	30	12	M6	30	12	M6
2.1	230	250	270	6000	1000	0.96	88	36	E0	30	12	M6	30	12	M6
2.7	230	250	270	6000	800	0.988	90	37	E0	30	12	M6	30	12	M6
3.2	210	230	250	5000	800	1.016	92	38	E0	30	12	M6	30	12	M6
3.7	210	230	250	4500	800	1.044	94	39	E0	30	12	M6	30	12	M6
4.2	210	230	250	4000	800	1.072	96	40	E0	30	12	M6	30	12	M6
4.8	190	210	230	3500	600	1.1	98	41	E0	30	12	M6	30	12	M6
5.8	190	210	230	3000	600	1.156	102	43	E0	30	12	M6	30	12	M6
7.0	160	180	200	2500	600	1.212	106	45	E0	30	12	M6	30	12	M6
8.0	160	180	200	2100	600	1.268	110	47	E0	30	12	M6	30	12	M6

# Group 1.25

## Group 1.25 Ordering Code Rules

B	A	P	1.25	BO	D	1.4	TO	EO	omit	omit	omit
Body	Material	Function	Group	Front cover	Rotation	Displacement	Shaft	Ports	Special structure	Options	Other
A	Front and end cover material aluminum	P Pump M Motor	1.25 Group 1.25		D Clockwise S Counter clockwise R Reversible	1.4 2.1 2.8 3.5 4.1 5.2 6.2 7.6 9.3 11.0 13.8					special designing
H	30bar. Front and end cover material cast iron, pressure 30 bar higher than aluminum covers										
<p>V Range between -10°C and +80°C inlet pressure up to max. 3 bar absolute.</p> <p>V Version suitable for fluid at hi-temperatures, range between -10°C and +120°C.</p> <p>H Version suitable for fluid at low-temperatures, range between -40°C and +80°C.</p> <p>N Version suitable for inlet pressure up to max. 3 and 10 bar absolute.</p> <p>For other special options, please contact our engineers.</p>											

	Front cover	Shaft	Ports	Special structure
AO	Diamond front cover (centering $\phi 50.8\text{mm}$ ) 	TO Taper shaft 1:8 	E Rectangular flange 	omit-regular 
BO	Square front cover (centering $\phi 30\text{mm}$ ) 	CO Straight keyed 	Z Metric thread 	Q Back cover with oil drain 
QO	Square front cover (centering $\phi 45.24\text{mm}$ ) 	CI Semi-circular key shaft 	L Gas thread 	
		GO Tong shaft 	U UNF thread 	
		SO SAE spline shaft DP20/40-30-9T 	R PT thread 	
		CO Straight keyed With QO front cover 	N NPT thread 	
		G1 Tong shaft With QO front cover 	X Body without ports 	
		S1 SAE spline shaft With QO front cover DP20/40-30-9T 		
	See page 30 for details	See page 30 for details	See page 31-32 for details	See page 32 for details

# Group 1.25

## Group 1.25 Standard Product Overview

type			
page	33	34	35

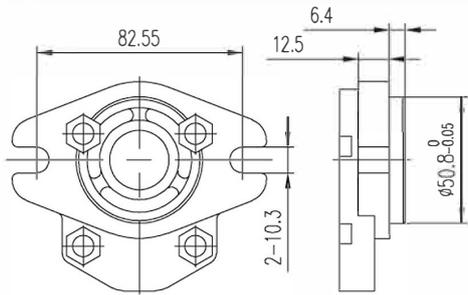
type	
page	36

## Group 1.25 Displacement parameter table

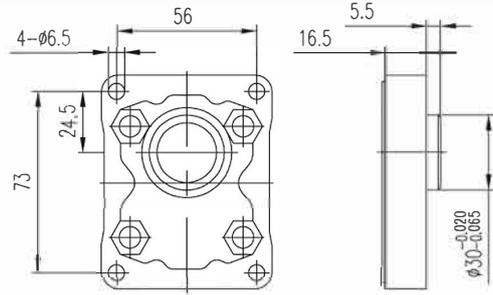
Displacement	V	cm <sup>3</sup> /rev	1.4	2.1	2.8	3.5	4.1	5.2	6.2	7.6	9.3	11	13.8
Suction absolute pressure	P <sub>e</sub>	bar	0.7...3										
Max. continuous pressure	P <sub>1</sub>		250				230		200	180	170	150	
Max. intermittent pressure	P <sub>2</sub>		270				245		215	195	185	165	
Max. peak pressure	P <sub>3</sub>		290				260		230	210	200	180	
Min. speed	n <sub>min</sub>	r/min	800				600						
Max. speed	n <sub>max</sub>		6000		5000		4000		3800	3200	2600	2200	1800
Volumetric efficiency	η <sub>v</sub>	%	≥90	≥91			≥92				≥94		

# Group 1.25

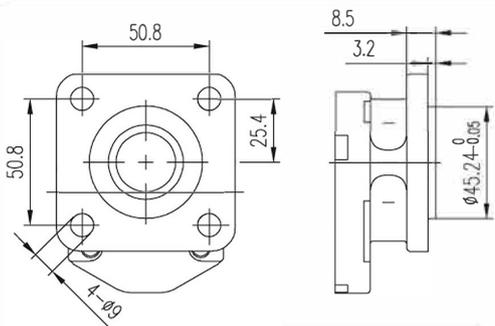
## FRONT COVER



A0

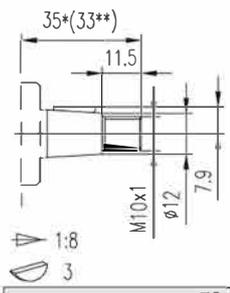


B0



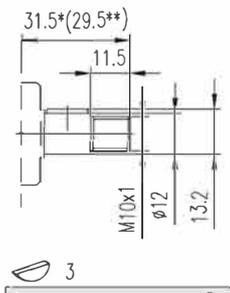
Q0

## SHAFTS



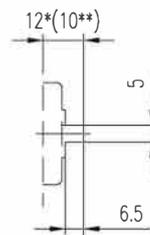
T0

Max.Torque 100 Nm



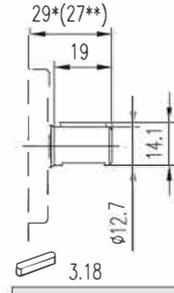
C1

Max.Torque 55 Nm



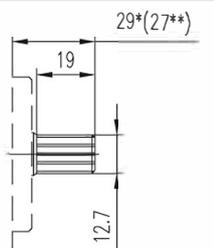
G0

Max.Torque 45 Nm



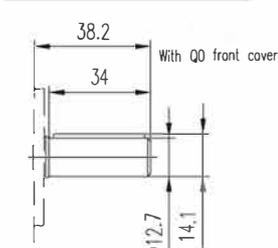
C0

Max.Torque 60 Nm



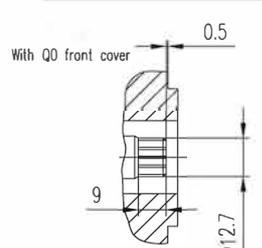
DP20/40-30'-9T  
S0

Max.Torque 100 Nm



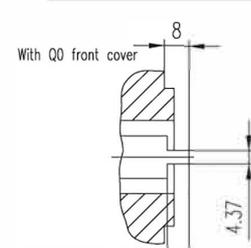
C2

Max.Torque 100 Nm



DP20/40-30'-9T  
S1

Max.Torque 95 Nm



G1

Max.Torque 40 Nm

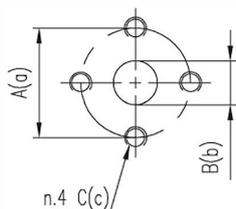
\*

B□

30 Dimension with front cover A□

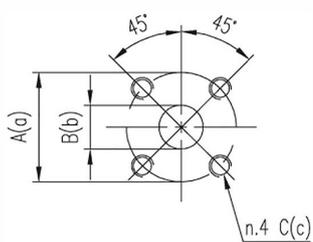
# Group 1.25

## PORTS



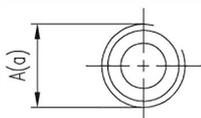
EO

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
EO	3...8	30	13	M6	30	13	M6



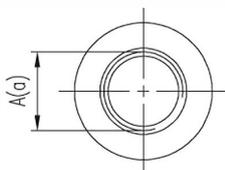
FO

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
FO	1.4...13.8	30	12	M6	30	12	M6



NO/N1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
NO	1.4...7.6	NPT1/2	NPT3/8
N1	9.3...13.8	NPT3/8	NPT3/8



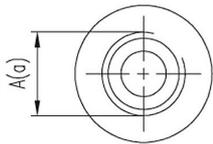
O-ring

U0/U1/U2/U3

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
U0	1.4...6.2	3/4-16 UNF	9/16-18 UNF
U1	7.6...13.8	7/8-14 UNF	3/4-16 UNF
U2	1.4...6.2	3/4-16 UNF	3/4-16 UNF
U3	7.6...13.8	7/8-14 UNF	7/8-14 UNF

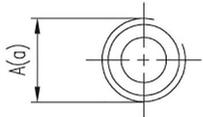
# Group 1.25

## PORTS



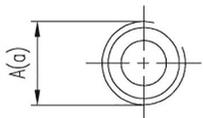
L0/L1/L2/L3

PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
L0	1.4...3.5	G1/2	G3/8
L1	4.1...13.8	G1/2	G1/2
L2	1.4...3.5	G3/8	G3/8
L3	4.1...13.8	G3/4	G1/2



R0/R1/R2/R3

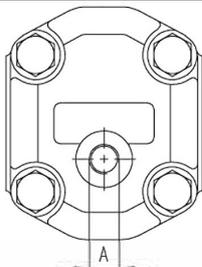
PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
R0	1.4...6.2	PT1/2	PT3/8
R1	7.6...13.8	PT3/4	PT1/2
R2	1.4...13.8	PT1/2	PT1/2
R3	1.4...6.2	PT3/8	PT3/8



Z0/Z1/Z2

PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
Z0	7.6...13.8	M18X1.5	M18X1.5
Z1	1.4...6.2	M16X1.5	M16X1.5
Z2	1.4...6.2	M18X1.5	M14X1.5

## SPECIAL STRUCTRE



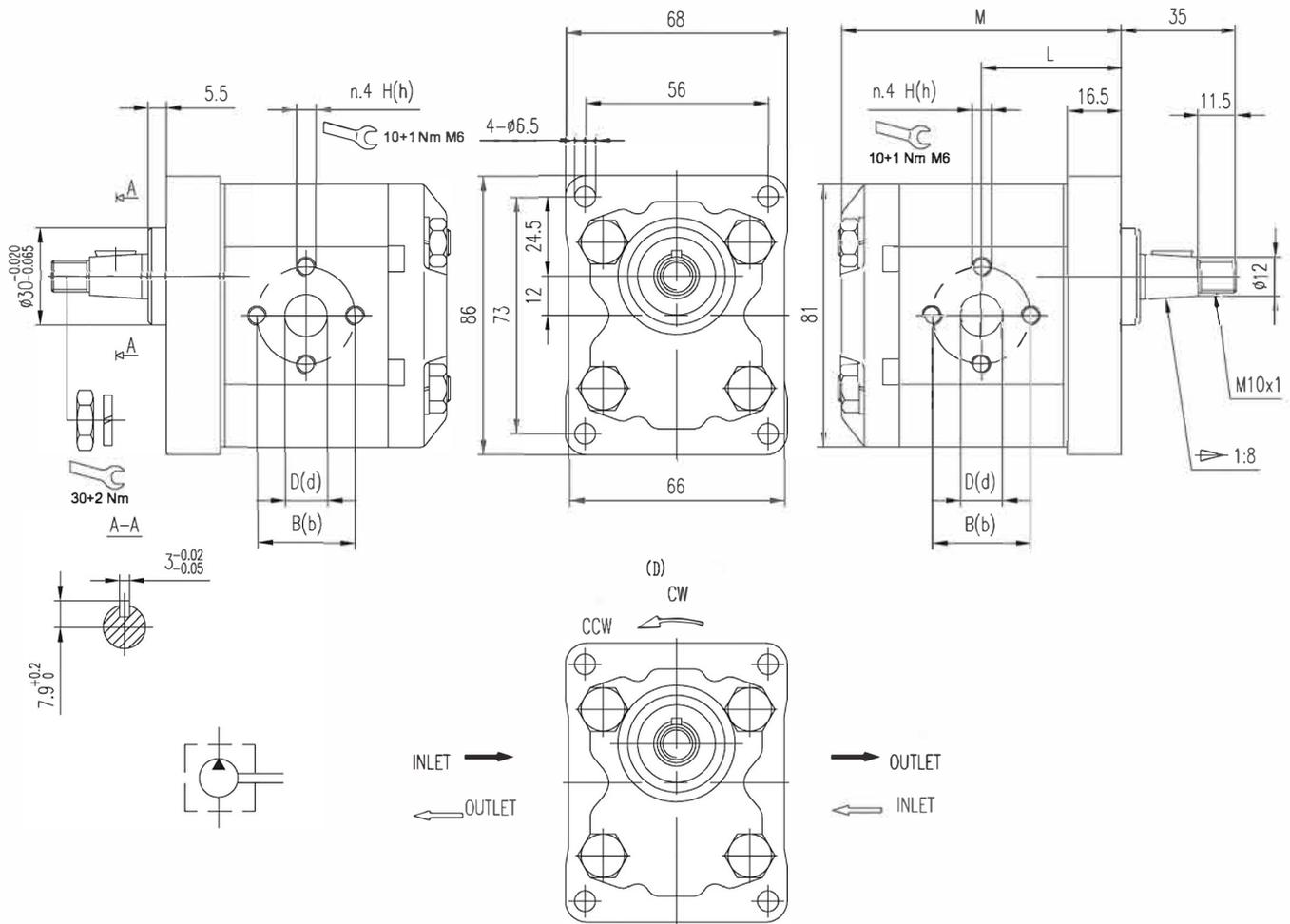
Q1/Q2

CODE	oil drain
	A
Q1	G1/4
Q2	7/16-20UNF

# Group 1.25

## Group 1.25 Standard Product Dimensions

BAP1.25-B0-D-1.4-T0-E0

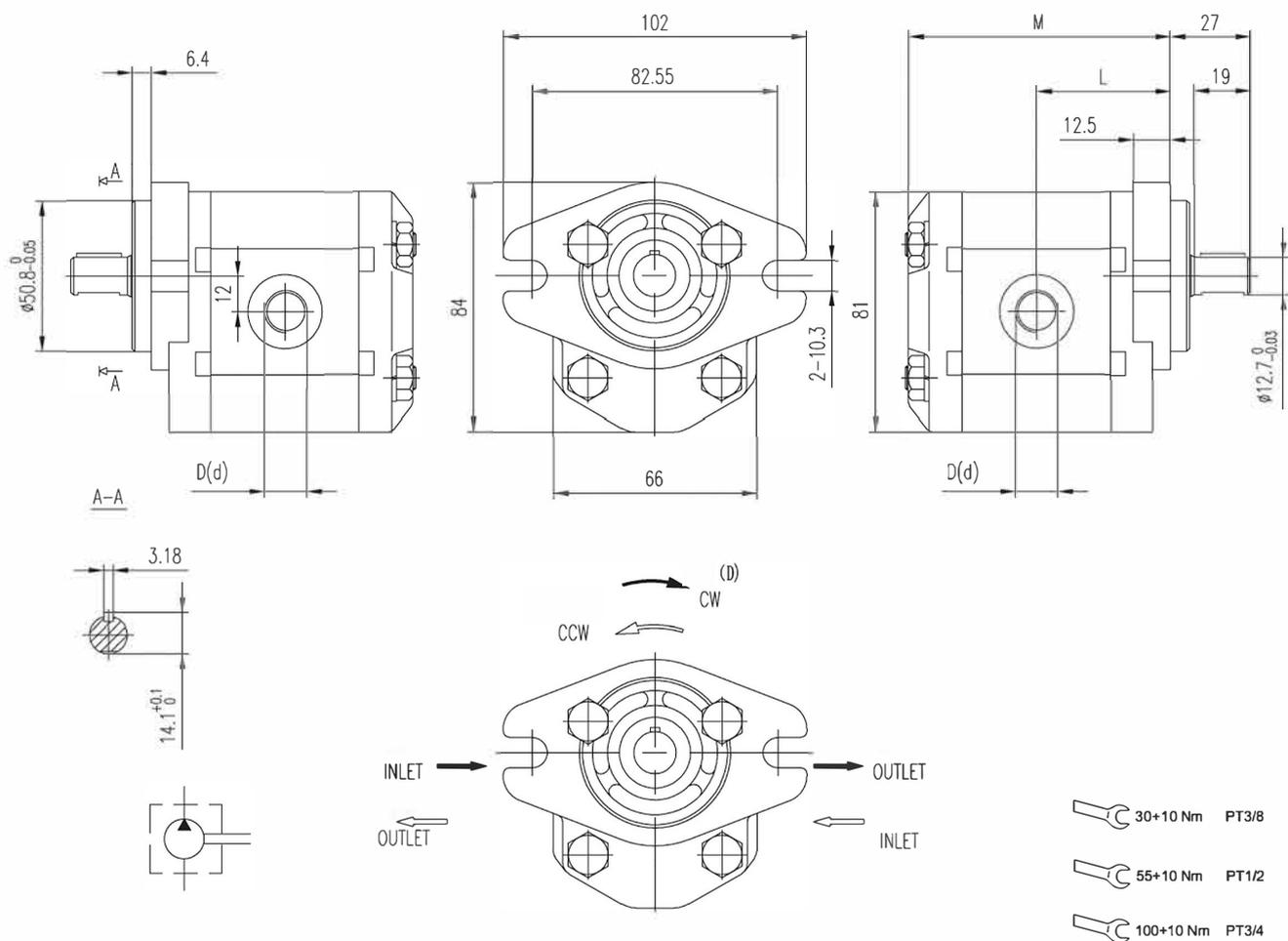


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET			OUTLET		
	P1 bar	P2 bar	P3 bar				M mm	L mm		B mm	D mm	H mm	b mm	d mm	h mm
1.4	250	270	290	6000	800	1.80	80.5	40	E0	30	13	M6	30	13	M6
2.1	250	270	290	6000	800	1.835	82.5	41	E0	30	13	M6	30	13	M6
2.8	250	270	290	5000	800	1.87	84.5	42	E0	30	13	M6	30	13	M6
3.5	250	270	290	5000	800	1.905	86.5	43	E0	30	13	M6	30	13	M6
4.1	250	270	290	4000	800	1.94	88.5	44	E0	30	13	M6	30	13	M6
5.2	230	245	260	4000	800	2.02	91.5	45.5	E0	30	13	M6	30	13	M6
6.2	230	245	260	3800	800	2.1	94.5	47	E0	30	13	M6	30	13	M6
7.6	200	215	230	3200	600	2.17	98.5	49	E0	30	13	M6	30	13	M6
9.3	180	195	210	2600	600	2.25	103.5	51.5	E0	30	13	M6	30	13	M6
11.0	170	185	200	2200	600	2.345	108.5	54	E0	30	13	M6	30	13	M6
13.8	150	165	180	1800	600	2.485	116.5	58	E0	30	13	M6	30	13	M6

# Group 1.25

## Group 1.25 Standard Product Dimensions

BAP1.25-A0-D-1.4-CO-L0

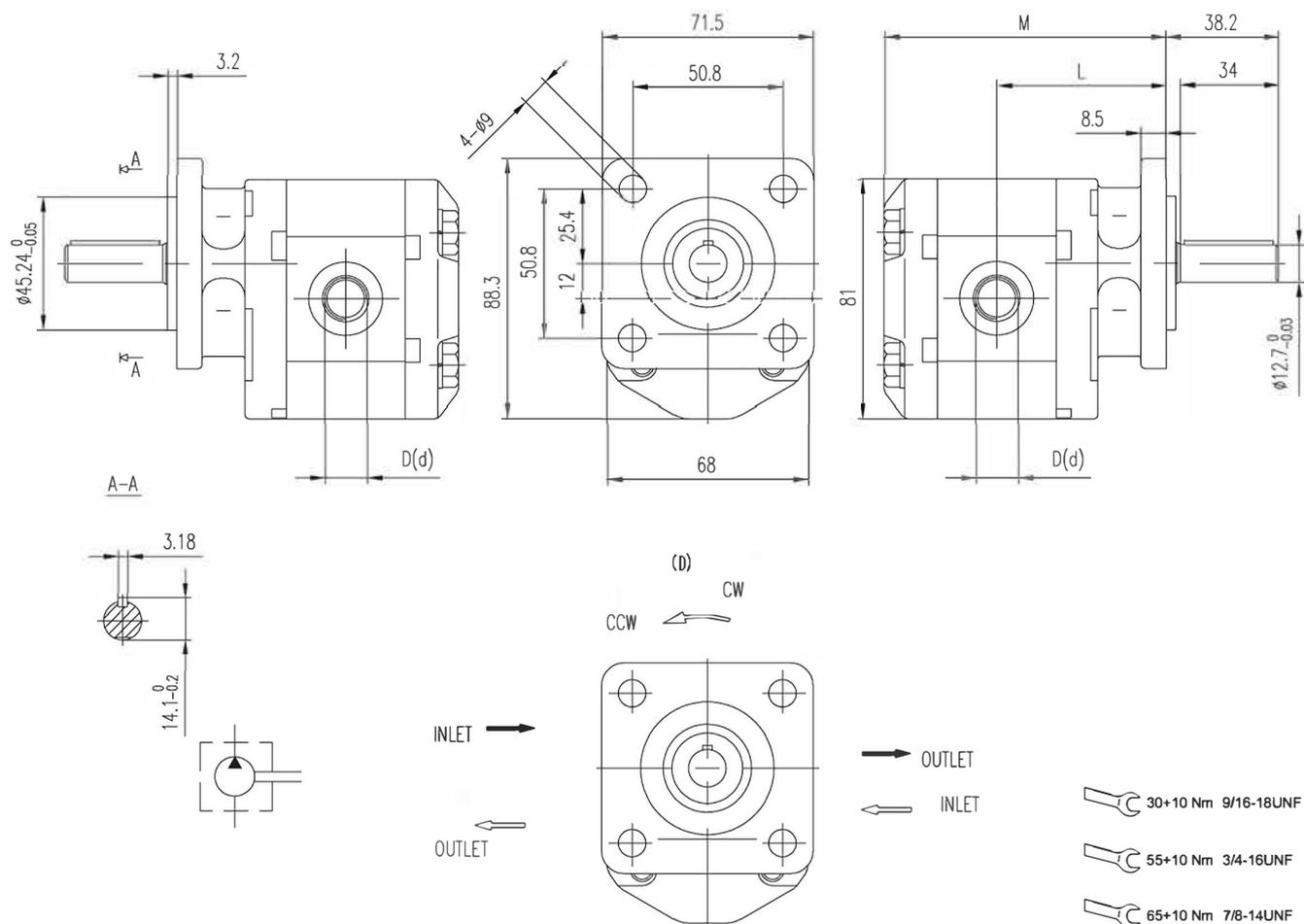


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D	OUTLET d
	P1 bar	P2 bar	P3 bar				M mm	L mm			
1.4	250	270	290	6000	800	1.80	80.5	40	L0	G1/2	G3/8
2.1	250	270	290	6000	800	1.835	82.5	41	L0	G1/2	G3/8
2.8	250	270	290	5000	800	1.87	84.5	42	L0	G1/2	G3/8
3.5	250	270	290	5000	800	1.905	86.5	43	L0	G1/2	G3/8
4.1	250	270	290	4000	800	1.94	88.5	44	L3	G3/4	G1/2
5.2	230	245	260	4000	800	2.02	91.5	45.5	L3	G3/4	G1/2
6.2	230	245	260	3800	800	2.1	94.5	47	L3	G3/4	G1/2
7.6	200	215	230	3200	600	2.17	98.5	49	L3	G3/4	G1/2
9.3	180	195	210	2600	600	2.25	103.5	51.5	L3	G3/4	G1/2
11.0	170	185	200	2200	600	2.345	108.5	54	L3	G3/4	G1/2
13.8	150	165	180	1800	600	2.485	116.5	58	L3	G3/4	G1/2

# Group 1.25

## Group 1.25 Standard Product Dimensions

BHP1.25-Q0-D-1.4-C2-U0

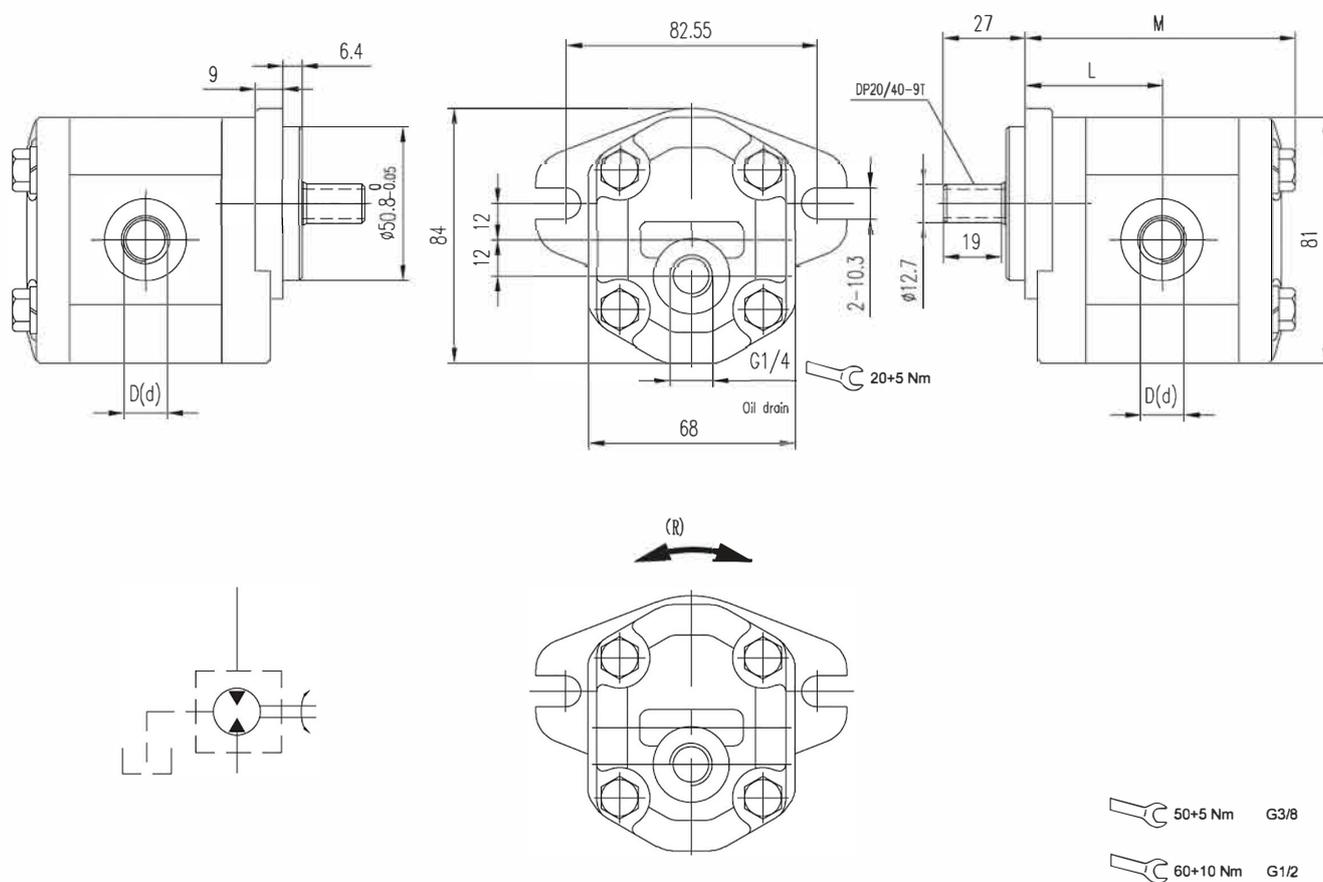


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET		OUTLET	
	P1 bar	P2 bar	P3 bar				M mm	L mm		D	d		
1.4	250	270	290	6000	800	1.90	98	59	U0	3/4-16UNF	9/16-18UNF		
2.1	250	270	290	6000	800	1.94	100	60	U0	3/4-16UNF	9/16-18UNF		
2.8	250	270	290	5000	800	1.97	102	61	U0	3/4-16UNF	9/16-18UNF		
3.5	250	270	290	5000	800	2.01	104	62	U0	3/4-16UNF	9/16-18UNF		
4.1	250	270	290	4000	800	2.04	106	63	U0	3/4-16UNF	9/16-18UNF		
5.2	230	245	260	4000	800	2.15	109	64.5	U0	3/4-16UNF	9/16-18UNF		
6.2	230	245	260	3800	800	2.2	112	66	U0	3/4-16UNF	9/16-18UNF		
7.6	200	215	230	3200	600	2.27	116	68	U1	7/8-14UNF	3/4-16UNF		
9.3	180	195	210	2600	600	2.35	121	70.5	U1	7/8-14UNF	3/4-16UNF		
11.0	170	185	200	2200	600	2.45	126	73	U1	7/8-14UNF	3/4-16UNF		
13.8	150	165	180	1800	600	2.6	134	77	U1	7/8-14UNF	3/4-16UNF		

# Group 1.25

## Group 1.25 Standard Product Dimensions

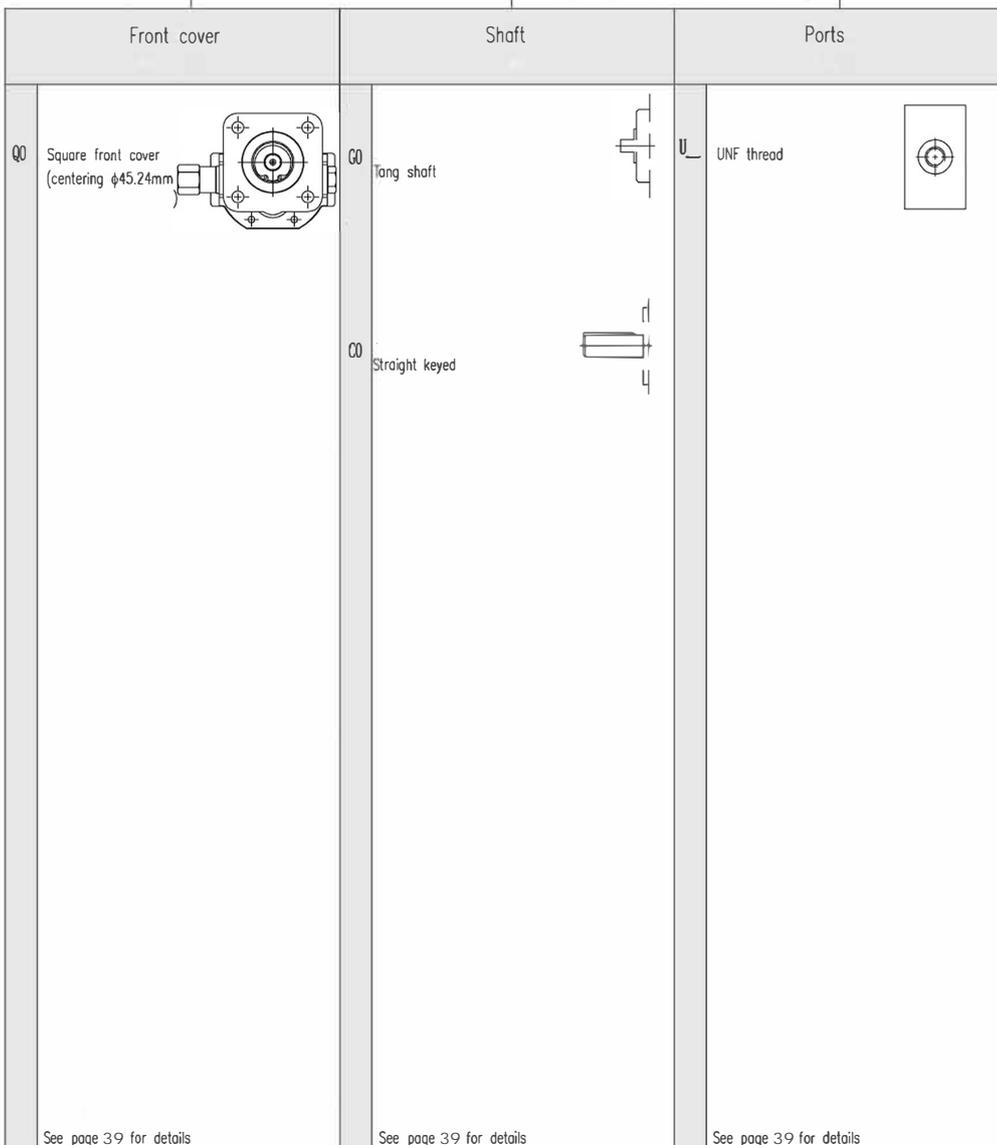
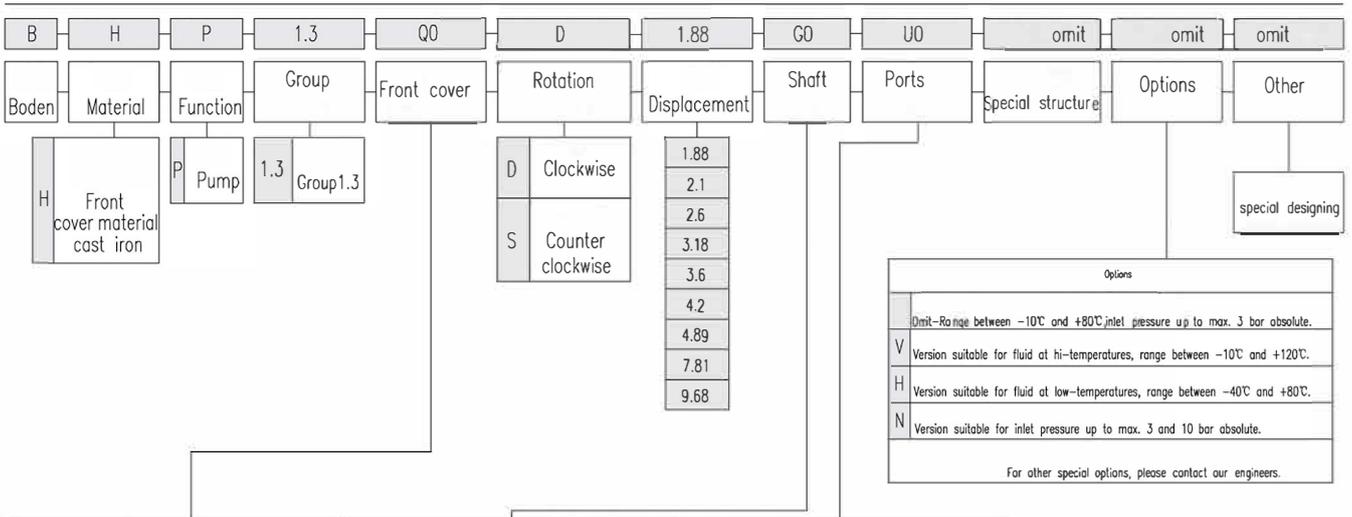
BHM1.25-A0-R - **1.4** - S0 - **L2**



Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET		OUTLET
	P1 bar	P2 bar	P3 bar				M mm	L mm		D	d	
1.4	250	270	290	6000	800	1.80	80.5	40	L2	G3/8	G3/8	
2.1	250	270	290	6000	800	1.835	82.5	41	L2	G3/8	G3/8	
2.8	250	270	290	5000	800	1.87	84.5	42	L2	G3/8	G3/8	
3.5	250	270	290	5000	800	1.905	86.5	43	L2	G3/8	G3/8	
4.1	250	270	290	4000	800	1.94	88.5	44	L1	G1/2	G1/2	
5.2	230	245	260	4000	800	2.02	91.5	45.5	L1	G1/2	G1/2	
6.2	230	245	260	3800	800	2.1	94.5	47	L1	G1/2	G1/2	
7.6	200	215	230	3200	600	2.17	98.5	49	L1	G1/2	G1/2	
9.3	180	195	210	2600	600	2.25	103.5	51.5	L1	G1/2	G1/2	
11.0	170	185	200	2200	600	2.345	108.5	54	L1	G1/2	G1/2	
13.8	150	165	180	1800	600	2.485	116.5	58	L1	G1/2	G1/2	

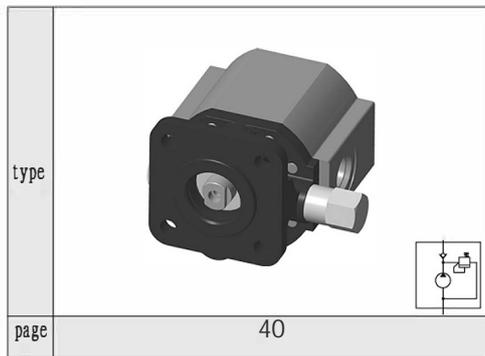
# Group 1.3

## Group 1.3 Ordering Code Rules



# Group 1.3

## Group 1.3 Standard Product Overview

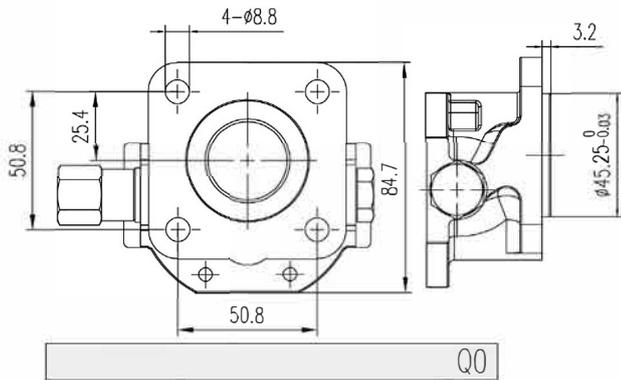


## Group 1.3 Displacement parameter table

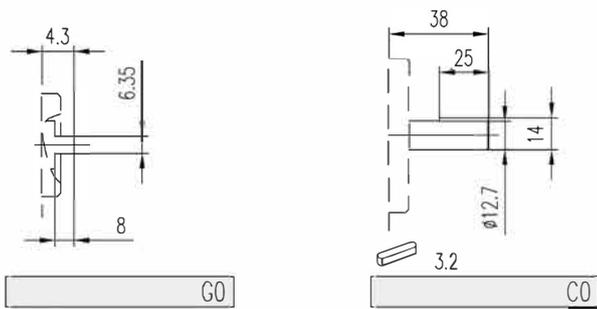
Displacement	V	cm <sup>3</sup> /rev	1.88	2.1	2.6	3.18	3.6	4.2	4.89	7.81	9.68
Overflow pressure	P <sub>e</sub>	bar	40...200								
Max. continuous pressure	P <sub>1</sub>		120							80	
Max. intermittent pressure	P <sub>2</sub>		175							140	
Max. peak pressure	P <sub>3</sub>		220							160	
Min. speed	n <sub>min</sub>	r/min	1000								
Max. speed	n <sub>max</sub>		3450								
Volumetric efficiency	η <sub>v</sub>	%	≥ 90	≥ 91				≥ 92			

# Group 1.3

## FRONT COVER



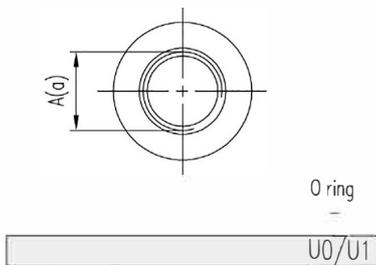
## SHAFTS



Max.Torque 50Nm

Max.Torque 65 Nm

## PORTS

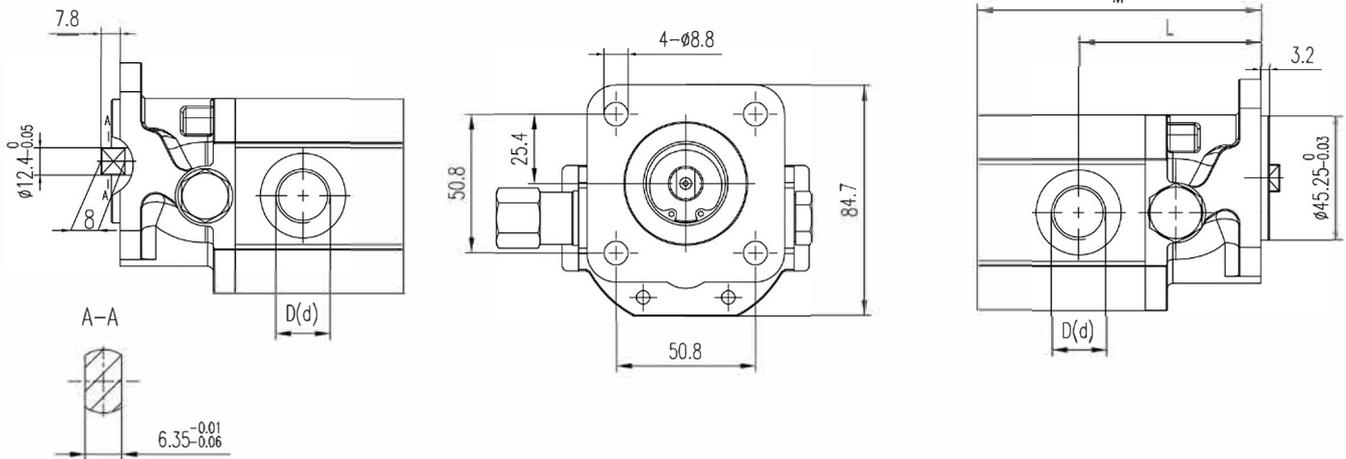


PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
U0	1.88...4.89	3/4-16 UNF	9/16-18 UNF
U1	7.81...9.68	7/8-14 UNF	9/16-18 UNF

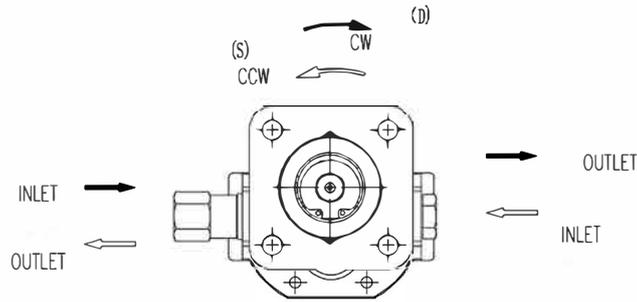
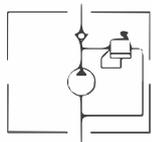
# Group 1.3

## Group 1.3 Standard Product Dimensions

BHP1.3-Q0-D-1.88-G0-U0-YF3-P040



Overflow Pressure  
40...200 bar



30+10 Nm 9/16-18UNF

55+10 Nm 3/4-16UNF

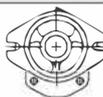
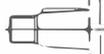
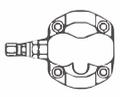
65+10 Nm 7/8-14UNF

Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET		OUTLET	
	P1 bar	P2 bar	P3 bar				M mm	L mm		D	d		
1.88	120	175	220	3450	1000	1.7	86	57.5	U0	3/4-16UNF	9/16-18UNF		
2.1	120	175	220	3450	1000	1.72	87	57.5	U0	3/4-16UNF	9/16-18UNF		
2.6	120	175	220	3450	1000	1.75	88.5	64	U0	3/4-16UNF	9/16-18UNF		
3.18	120	175	220	3450	1000	1.79	90.5	64	U0	3/4-16UNF	9/16-18UNF		
3.6	120	175	220	3450	1000	1.81	92.2	64	U0	3/4-16UNF	9/16-18UNF		
4.2	120	175	220	3450	1000	1.88	94.5	64	U0	3/4-16UNF	9/16-18UNF		
4.89	120	175	220	3450	1000	1.92	96.5	64	U0	3/4-16UNF	9/16-18UNF		
7.81	80	140	160	3450	1000	2.09	106.5	71	U1	7/8-14UNF	9/16-18UNF		
9.68	80	140	160	3450	1000	2.21	113	71	U1	7/8-14UNF	9/16-18UNF		

# Group 2

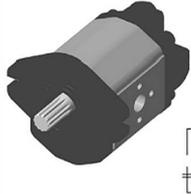
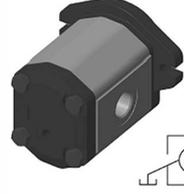
## Group 2 Ordering Code Rules

B	A	P	2	BO	D	3	TO	EO	omit	omit	omit
Boden	Material	Function	Group	Front cover	Rotation	Displacement	Shaft	Ports	Special structure	Options	Other
A	Front and end cover material aluminum	P Pump M Motor	2 Group 2		D Clockwise S Counter clockwise R Reversible	3 4 6 8 10 12 14 16 18 20 22 25 28 30					special designing
H	30bar. Front and end cover material cast iron, pressure 30 bar higher than aluminum covers								Options		
										<p>Options</p> <p>omit-Range between -10°C and +80°C inlet pressure up to max. 3 bar absolute.</p> <p>V Version suitable for fluid at hi-temperatures, range between -10°C and +120°C.</p> <p>H Version suitable for fluid at low-temperatures, range between -40°C and +80°C.</p> <p>N Version suitable for inlet pressure up to max. 3 and 10 bar absolute.</p> <p>For other special options, please contact our engineers.</p>	

Front cover		Shaft		Ports		Special structure	
A0	Diamond front cover (centering $\phi 82.55\text{mm}$ ) 	TO	Taper shaft 1:8 	E	Rectangular flange 		omit-regular 
BO	Square front cover (centering $\phi 36.5\text{mm}$ ) 	T1	Taper shaft 1:5 	F	Rectangular flange 	Q	Back cover with oil drain 
B1	Square front cover (centering $\phi 38\text{mm}$ ) 	CO	straight keyed 	F	Split flange 		Back cover with inlet and outlet 
B2	Square front cover (centering $\phi 80\text{mm}$ ) 	GO	Tong shaft 	Z	Metric thread 	DFO	Back cover with one-way valve 
Q0	Square front cover (centering $\phi 50\text{mm}$ ) 	G1	Tong shaft 	L	Gos thread 	YFO	Back cover with relief valve 
Q2	O-RING Square front cover (centering $\phi 52\text{mm}$ ), O-RING 	HO	Rectangle spline shaft $\sqrt{L.4-15 \times 11.4 \times 4}$ 	U	UNF thread 	HFA	Back cover with constant flow valve 
		SO	SAE spline shaft DP16/32-30'-9T 	R	PT thread 		
		S1	SAE spline shaft DP16/32-30'-11T 	N	NPT thread 		
		S8	SAE spline shaft DP16/32-30'-10T 	X	Body without ports 		
See page 43 for details		See page 44 for details		See page 45-46 for details		See page 47 for details	

# Group 2

## Group 2 Standard Product Overview

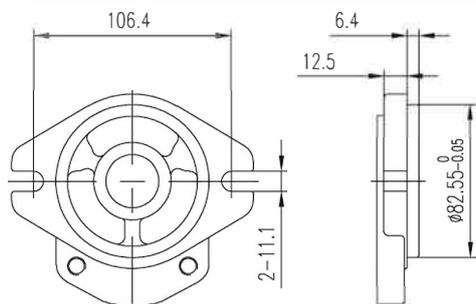
type				
page	48	49	50	51
type				
page	52	53	54	55
type				
page	56	57	58	

## Group 2 Displacement parameter table

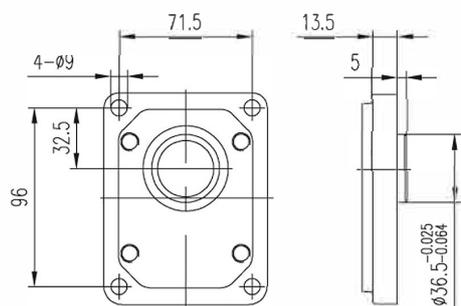
Displacement	V	cm <sup>3</sup> /rev	3	4	6	8	10	12	14	16	18	20	22	25	28	30		
Suction absolute pressure	Pe	bar	0.7... 3															
Max. continuous pressure	P1		270				250				220		200		180		160	
Max. intermittent pressure	P2		285				265				235		215		190		170	
Max. peak pressure	P3		300				280				250		230		200		180	
Min. speed	$\Omega_{Min}$	r/min	800	600		500				400								
Max. speed	$\Omega_{Max}$		4000		3500			3200			3000		2500					
Volumetric efficiency	$\eta_v$	%	≥ 91				≥ 92				≥ 93		≥ 95					

# Group 2

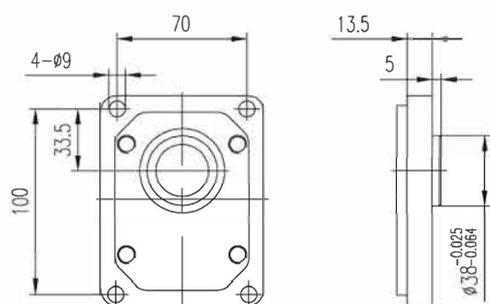
## FRONT COVER



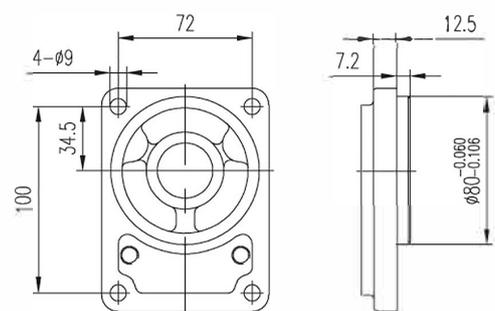
A0



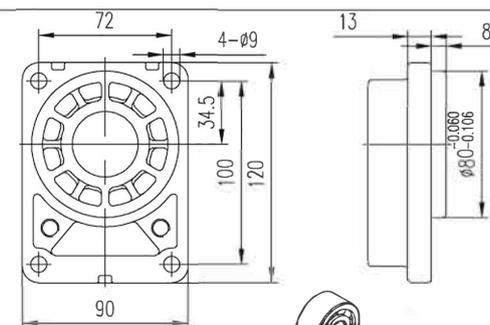
B0



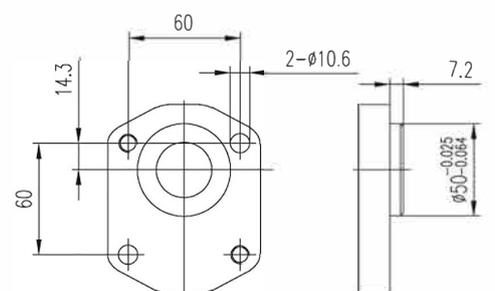
B1



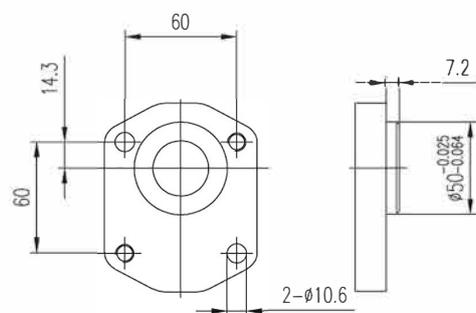
B2



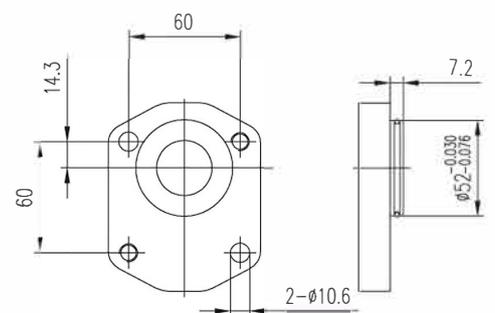
B3



Q0



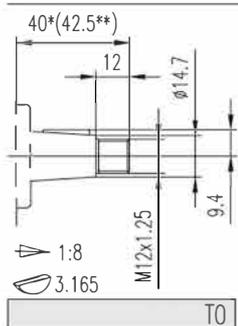
Q1



Q2

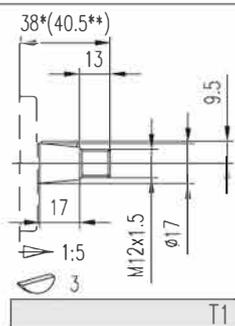
# Group 2

## SHAFTS



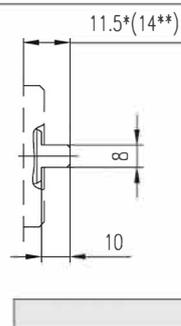
T0

Max.Torque 200 Nm



T1

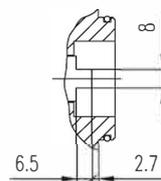
Max.Torque 180 Nm



G0

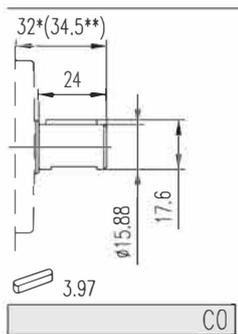
Max.Torque 100 Nm

With Q2 front cover



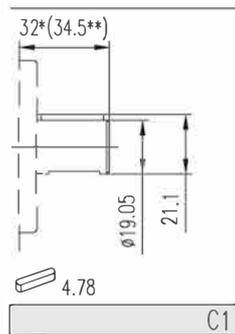
G1

Max.Torque 100 Nm



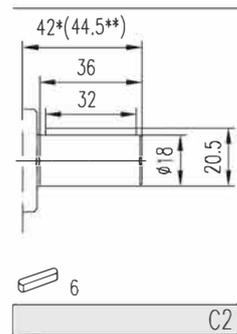
C0

Max.Torque 140 Nm



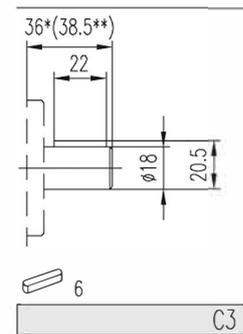
C1

Max.Torque 160 Nm



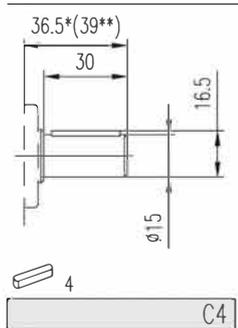
C2

Max.Torque 150 Nm



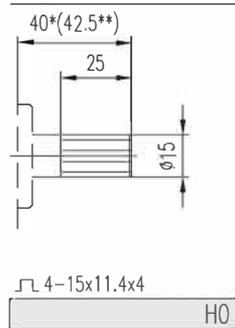
C3

Max.Torque 150 Nm



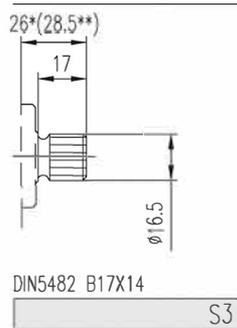
C4

Max.Torque 135 Nm



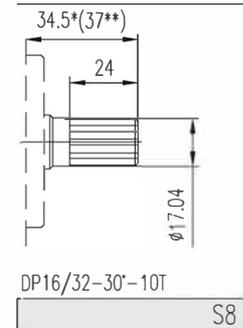
H0

Max.Torque 185 Nm



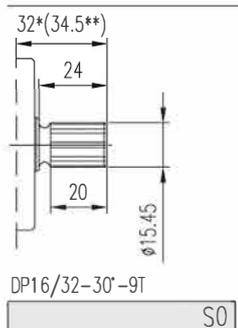
S3

Max.Torque 150 Nm



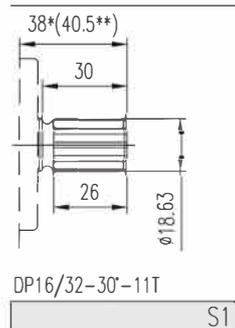
S8

Max.Torque 190 Nm



S0

Max.Torque 185 Nm



S1

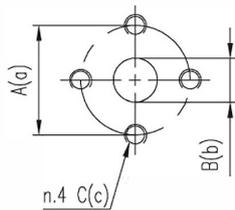
Max.Torque 200 Nm

Dimension with front cover A□/B□

Dimension with front cover Q□

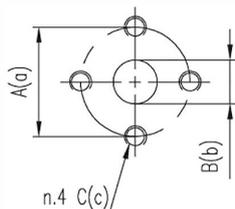
# Group 2

## PORTS



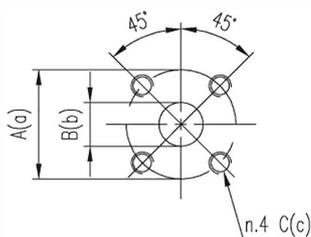
E0/E1/E2

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
E0	3...8	30	13	M6	30	13	M6
E1	10...22	40	20	M8	30	13	M6
E2	25...30	40	22	M6	30	13	M6



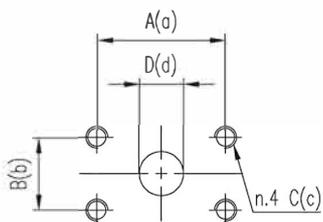
E3

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
E3	3...8	38	14	M8	38	10	M8
E3	10...22	38	18	M8	38	15	M8
E3	25...30	38	20	M8	38	15	M8



F0/F1/F13

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
F0	3...8	40	15	M6	35	15	M6
F1	10...30	40	20	M8	35	15	M6
F13	10...30	40	20	M6	40	20	M6

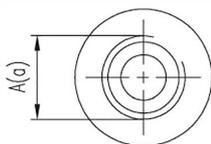


F2/F3/F4

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET				OUTLET			
		A	B	C	D	a	b	c	d
F2	3...16	38.1	17.48	5/16-18UNC	13	38.1	17.48	5/16-18UNC	13
F3	18...20	47.63	22.23	3/8-16UNC	20	38.1	17.48	5/16-18UNC	13
F4	22...30	47.63	22.23	3/8-16UNC	20	47.63	22.23	3/8-16UNC	20

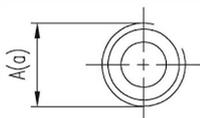
# Group 2

## PORTS



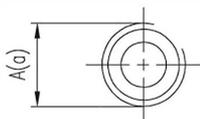
L0/L1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
L0	3...6	G1/2	G1/2
L1	8...30	G3/4	G1/2



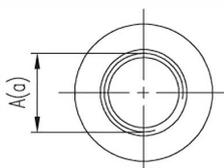
R0/R1/R2

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
R0	3...12	PT1/2	PT1/2
R1	14...25	PT3/4	PT1/2
R2	28...30	PT 1	PT3/4



Z0/Z1/Z3

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
Z0	3...12	M14X1.5	M14X1.5
Z1	14...25	M20X1.5	M18X1.5
Z3	28...30	M24X1.5	M22X1.5

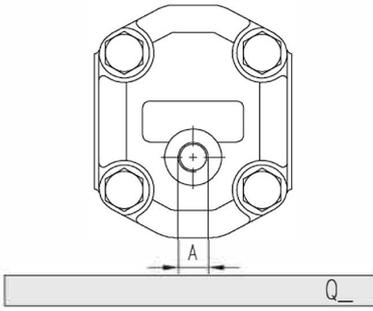


O-ring  
U0/U1

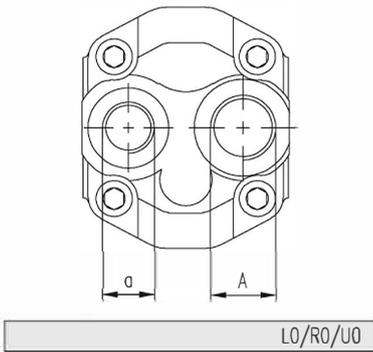
PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
U0	3...28	1 1/16-12 UNF	7/8-14 UNF
U1	30	1 5/16-12 UNF	7/8-14 UNF

# Group 2

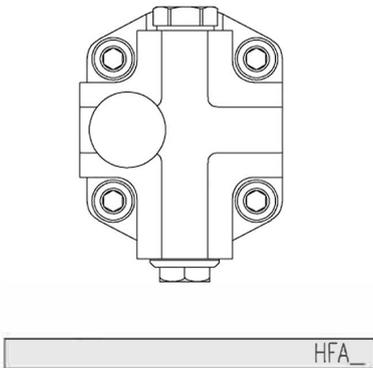
## SPECIAL STRUCTRE



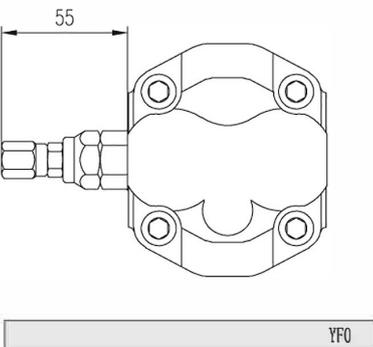
CODE	oil drain
	A
Q1	G1/4
Q2	9/16-18UNF



CODE	INLET	OUTLET
	A	a
LO	G1/2	G1/2
RO	PT1/2	PT1/2
UO	1 1/16-12UNF	7/8-14UNF



CODE	OULET	Oil port position
HFAC19T	M18*1.5	Same side of oil inlet
HFAC19F	M18*1.5	Opposite side of oil inlet

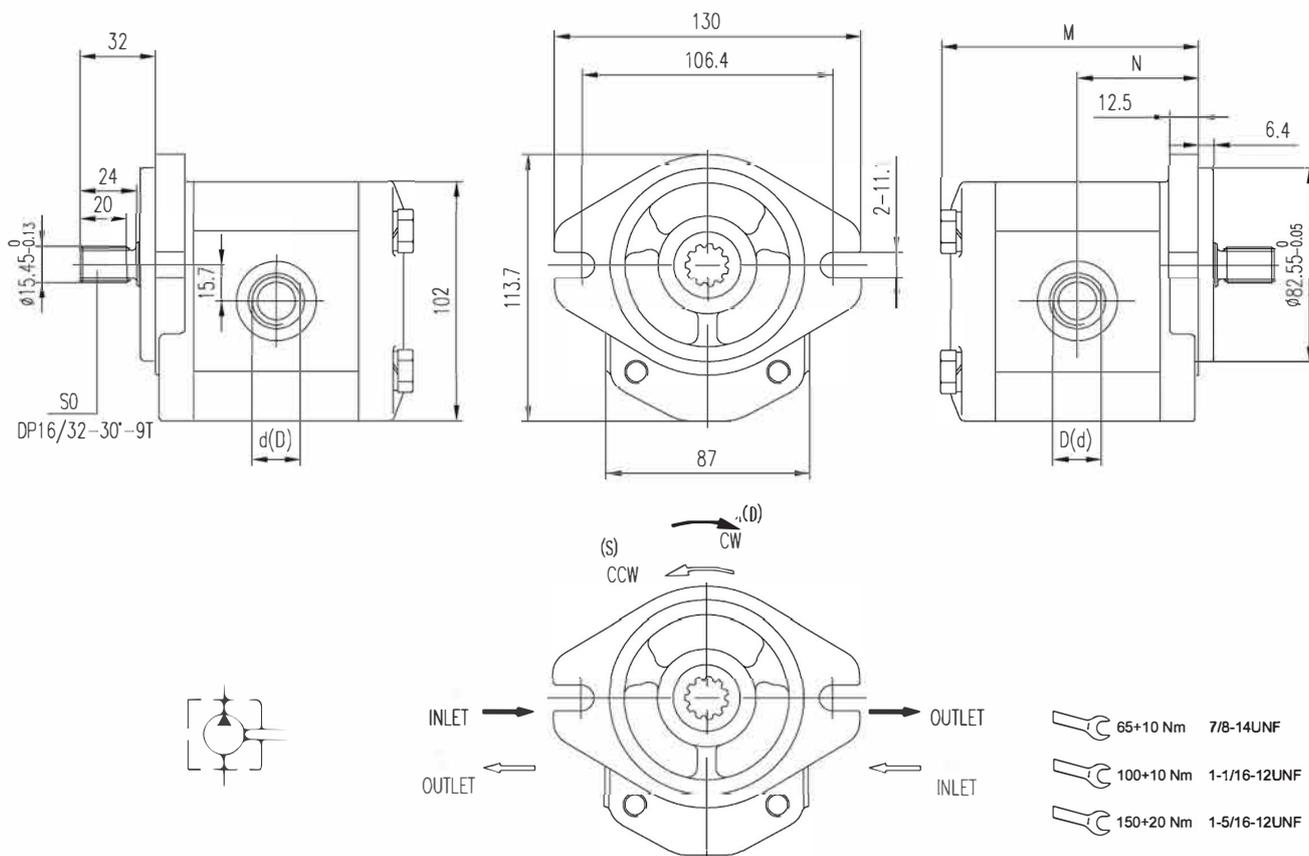


CODE	Pressure regulating range of overflow valve
YFO	20...250(bar)

# Group 2

## Group 2 Standard Product Dimensions

BHP2-A0-[D]-[3]-S0-[U0]



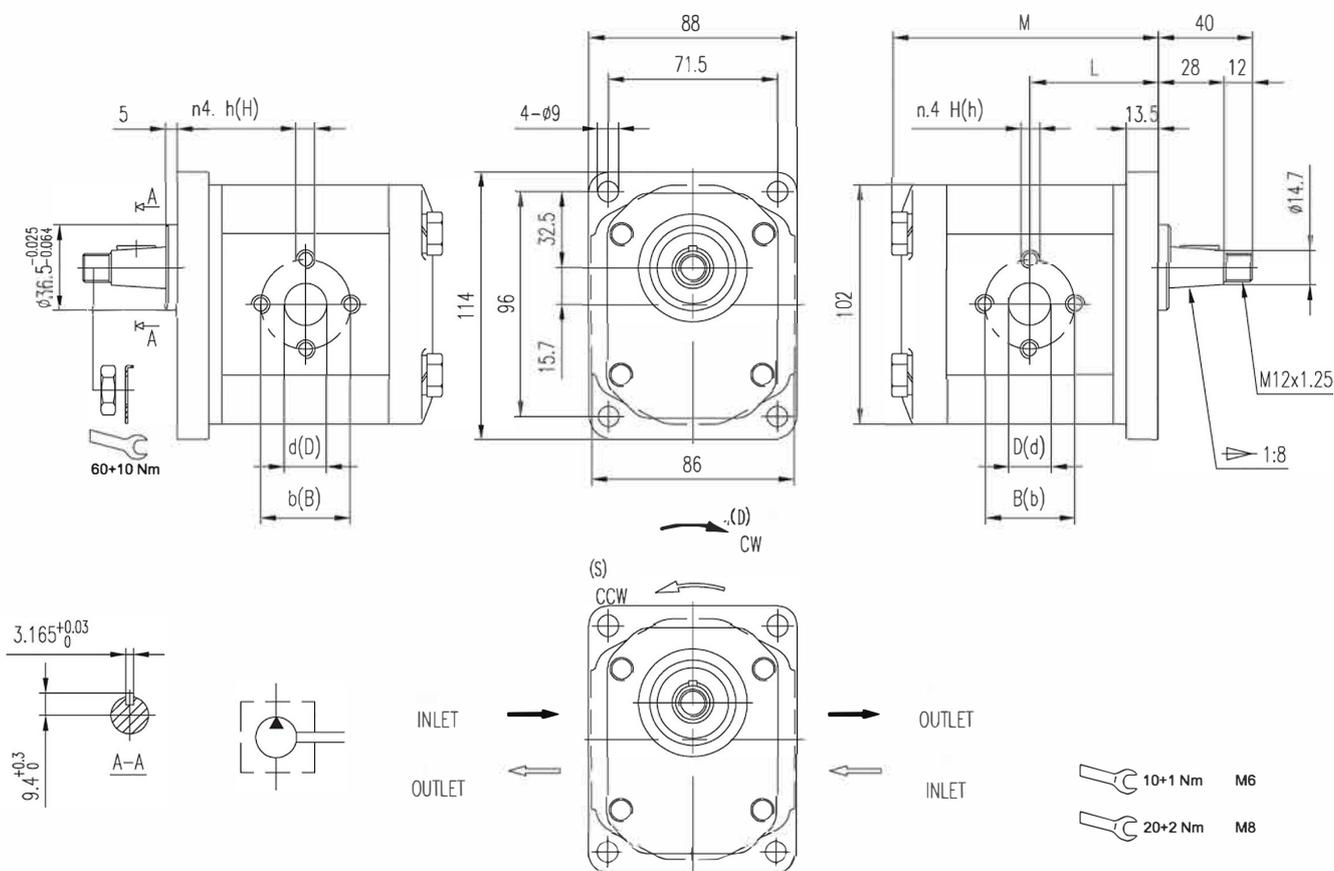
- 65+10 Nm 7/8-14UNF
- 100+10 Nm 1-1/16-12UNF
- 150+20 Nm 1-5/16-12UNF

Displacement (cm <sup>3</sup> /rev)	Max pressure			Min. speed (r/min)	Weight (Kg)	Dimensions		Oil port code	INLET OUTLET		
	P1 bar	P2 bar	P3 bar			M mm	L mm		D	d	
3	270	285	300	4000	800	3.35	91.1	43.6	U0	1 1/16-12UNF	7/8-14UNF
4	270	285	300	4000	600	3.4	92.7	44.4	U0	1 1/16-12UNF	7/8-14UNF
6	270	285	300	4000	600	3.5	96	46	U0	1 1/16-12UNF	7/8-14UNF
8	270	285	300	3500	500	3.6	99.3	47.7	U0	1 1/16-12UNF	7/8-14UNF
10	270	285	300	3500	500	3.7	102.6	49.3	U0	1 1/16-12UNF	7/8-14UNF
12	270	285	300	3500	500	3.8	105.9	51	U0	1 1/16-12UNF	7/8-14UNF
14	250	265	280	3500	500	3.9	109.3	52.7	U0	1 1/16-12UNF	7/8-14UNF
16	250	265	280	3500	500	4.0	112.7	54.4	U0	1 1/16-12UNF	7/8-14UNF
18	250	265	280	3200	400	4.1	116	56	U0	1 1/16-12UNF	7/8-14UNF
20	220	235	250	3200	400	4.2	119.3	57.7	U0	1 1/16-12UNF	7/8-14UNF
22	220	235	250	3000	400	4.3	122.6	59.3	U0	1 1/16-12UNF	7/8-14UNF
25	200	215	230	3000	400	4.45	127.6	61.8	U0	1 1/16-12UNF	7/8-14UNF
28	180	190	200	2500	400	4.6	132.6	64.3	U0	1 1/16-12UNF	7/8-14UNF
30	160	170	180	2500	400	4.7	135.9	66	U1	1 5/16-12UNF	7/8-14UNF

# Group 2

## Group 2 Standard Product Dimensions

BHP2-B0-**D**-**3**-T0-**E0**

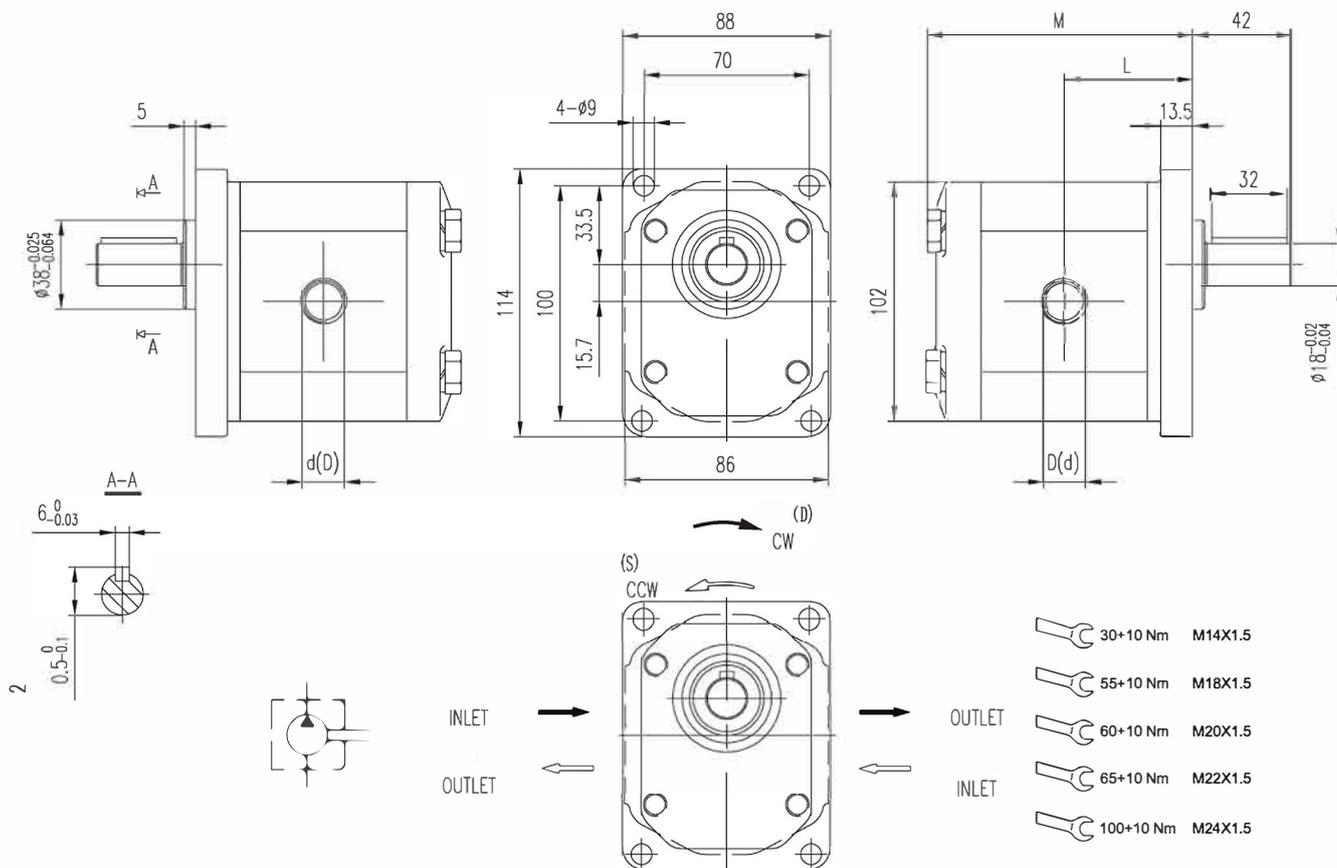


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET			OUTLET		
	P1 bar	P2 bar	P3 bar				M mm	L mm		B mm	D mm	H mm	b mm	d mm	h mm
3	270	285	300	4000	800	3.35	91.1	43.6	E0	30	13	M6	30	13	M6
4	270	285	300	4000	600	3.4	92.7	44.4	E0	30	13	M6	30	13	M6
6	270	285	300	4000	600	3.5	96	46	E0	30	13	M6	30	13	M6
8	270	285	300	3500	500	3.6	99.3	47.7	E0	30	13	M6	30	13	M6
10	270	285	300	3500	500	3.7	102.6	49.3	E1	40	20	M8	30	13	M6
12	270	285	300	3500	500	3.8	105.9	51	E1	40	20	M8	30	13	M6
14	250	265	280	3500	500	3.9	109.3	52.7	E1	40	20	M8	30	13	M6
16	250	265	280	3500	500	4.0	112.7	54.4	E1	40	20	M8	30	13	M6
18	250	265	280	3200	400	4.1	116	56	E1	40	20	M8	30	13	M6
20	220	235	250	3200	400	4.2	119.3	57.7	E1	40	20	M8	30	13	M6
22	220	235	250	3000	400	4.3	122.6	59.3	E1	40	20	M8	30	13	M6
25	200	215	230	3000	400	4.45	127.6	61.8	E2	40	22	M8	30	13	M6
28	180	190	200	2500	400	4.6	132.6	64.3	E2	40	22	M8	30	13	M6
30	160	170	180	2500	400	4.7	135.9	66	E2	40	22	M8	30	13	M6

# Group 2

## Group 2 Standard Product Dimensions

BHP2-B1-[D]-[3]-C2-[Z0]

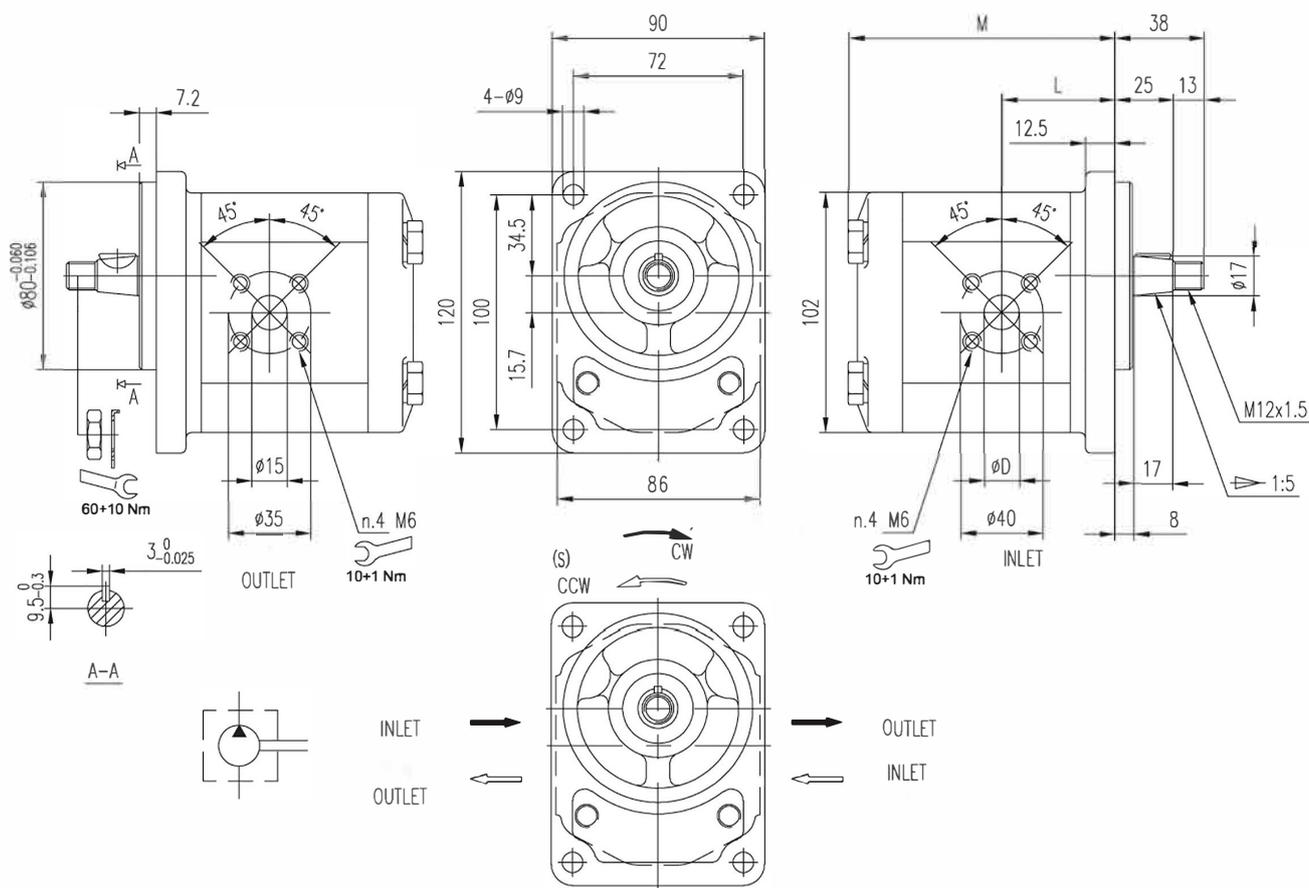


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D	OUTLET d
	P1 bar	P2 bar	P3 bar				M mm	L mm			
3	270	285	300	4000	800	3.35	91.1	43.6	Z0	M14X1.5	M14X1.5
4	270	285	300	4000	600	3.4	92.7	44.4	Z0	M14X1.5	M14X1.5
6	270	285	300	4000	600	3.5	96	46	Z1	M20X1.5	M18X1.5
8	270	285	300	3500	500	3.6	99.3	47.7	Z1	M20X1.5	M18X1.5
10	270	285	300	3500	500	3.7	102.6	49.3	Z1	M20X1.5	M18X1.5
12	270	285	300	3500	500	3.8	105.9	51	Z1	M20X1.5	M18X1.5
14	250	265	280	3500	500	3.9	109.3	52.7	Z1	M20X1.5	M18X1.5
16	250	265	280	3500	500	4.0	112.7	54.4	Z1	M20X1.5	M18X1.5
18	250	265	280	3200	400	4.1	116	56	Z1	M20X1.5	M18X1.5
20	220	235	250	3200	400	4.2	119.3	57.7	Z3	M24X1.5	M22X1.5
22	220	235	250	3000	400	4.3	122.6	59.3	Z3	M24X1.5	M22X1.5
25	200	215	230	3000	400	4.45	127.6	61.8	Z3	M24X1.5	M22X1.5
28	180	190	200	2500	400	4.6	132.6	64.3	Z3	M24X1.5	M22X1.5
30	160	170	180	2500	400	4.7	135.9	66	Z3	M24X1.5	M22X1.5

# Group 2

## Group 2 Standard Product Dimensions

BHP2-B2-**D**-**3**-T1-**F0**

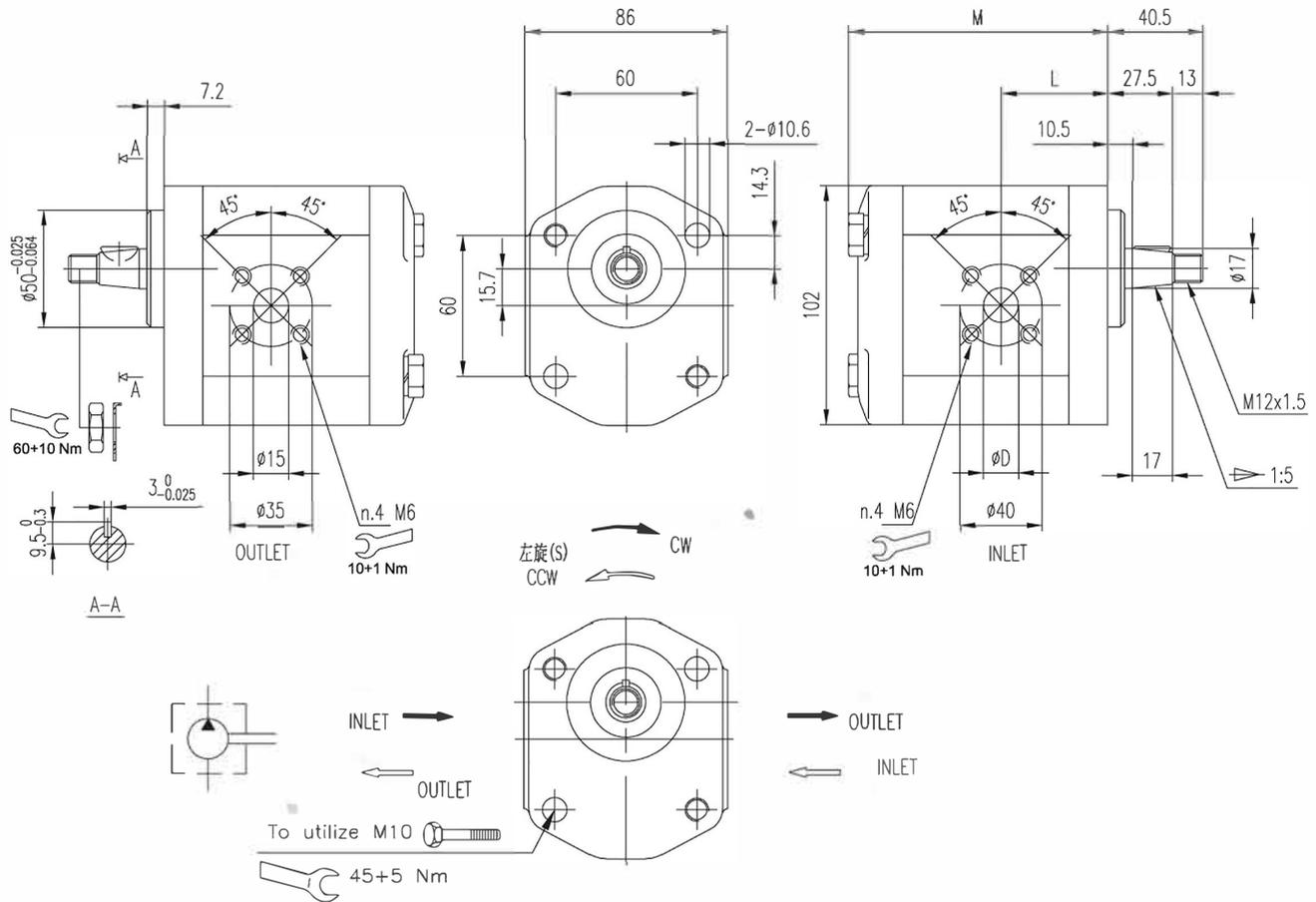


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D mm
	P1 bar	P2 bar	P3 bar				M mm	L mm		
3	270	285	300	4000	800	3.35	91.1	39.9	F0	15
4	270	285	300	4000	600	3.4	92.7	39.9	F0	15
6	270	285	300	4000	600	3.5	96	41.1	F0	15
8	270	285	300	3500	500	3.6	99.3	43.2	F0	15
10	270	285	300	3500	500	3.7	102.6	43.7	F1	20
12	270	285	300	3500	500	3.8	105.9	47.5	F1	20
14	250	265	280	3500	500	3.9	109.3	47.5	F1	20
16	250	265	280	3500	500	4.0	112.7	47.5	F1	20
18	250	265	280	3200	400	4.1	116	47.5	F1	20
20	220	235	250	3200	400	4.2	119.3	47.5	F1	20
22	220	235	250	3000	400	4.3	122.6	55.1	F1	20
25	200	215	230	3000	400	4.45	127.6	61.8	F1	20
28	180	190	200	2500	400	4.6	132.6	64.3	F1	20
30	160	170	180	2500	400	4.7	135.9	66	F1	20

# Group 2

## Group 2 Standard Product Dimensions

BHP2-Q0-**D**-**3**-T1-**F0**

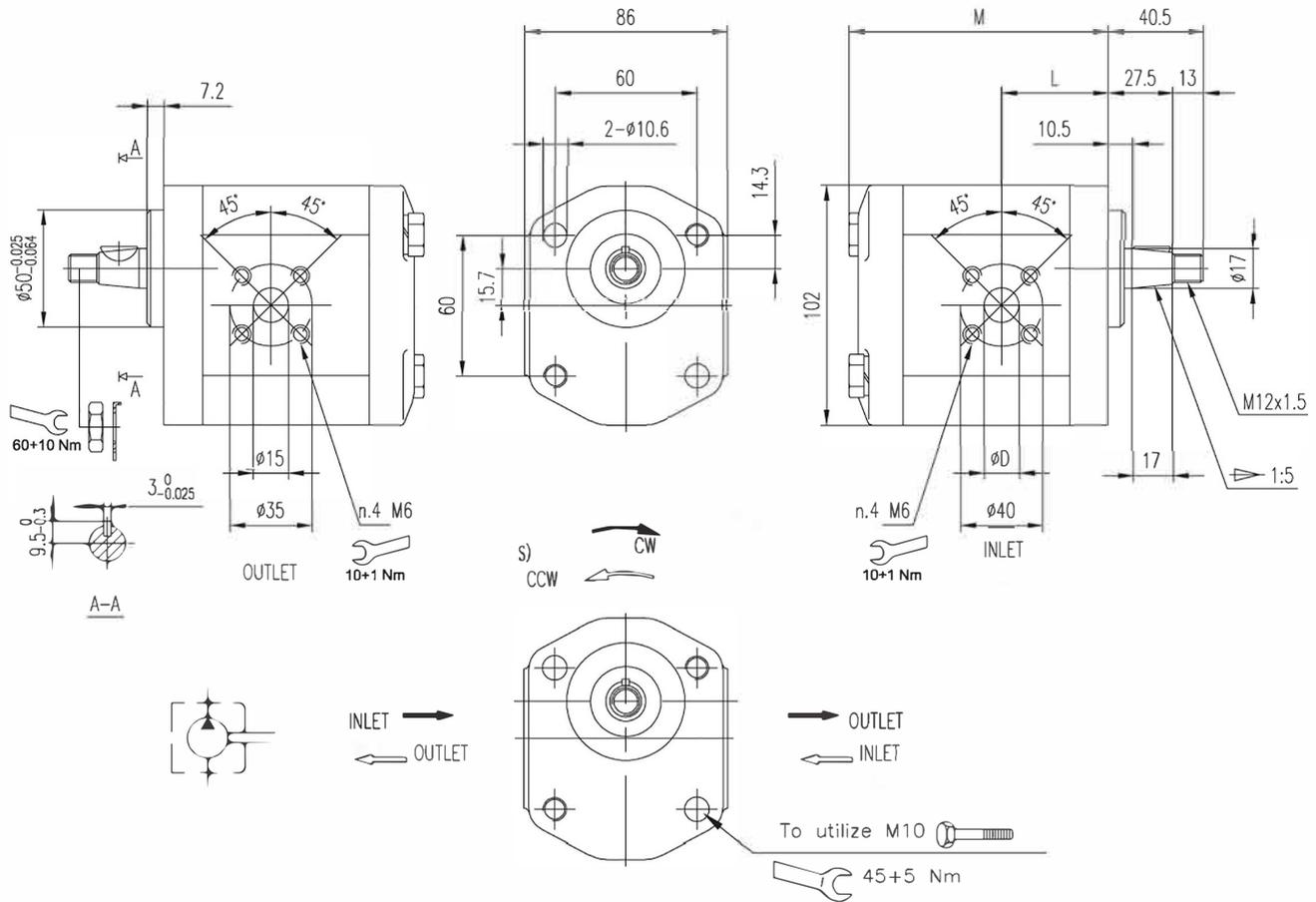


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D mm
	P1 bar	P2 bar	P3 bar				M mm	L mm		
3	270	285	300	4000	800	3.35	88.6	37.4	F0	15
4	270	285	300	4000	600	3.4	90.2	37.4	F0	15
6	270	285	300	4000	600	3.5	93.5	38.6	F0	15
8	270	285	300	3500	500	3.6	96.8	40.7	F0	15
10	270	285	300	3500	500	3.7	100.1	41.2	F1	20
12	270	285	300	3500	500	3.8	103.4	45	F1	20
14	250	265	280	3500	500	3.9	106.8	45	F1	20
16	250	265	280	3500	500	4.0	110.2	45	F1	20
18	250	265	280	3200	400	4.1	113.5	45	F1	20
20	220	235	250	3200	400	4.2	116.8	45	F1	20
22	220	235	250	3000	400	4.3	120.1	52.6	F1	20
25	200	215	230	3000	400	4.45	125.1	59.3	F1	20
28	180	190	200	2500	400	4.6	130.1	61.8	F1	20
30	160	170	180	2500	400	4.7	133.4	63.5	F1	20

# Group 2

## Group 2 Standard Product Dimensions

BHP2-Q1-**D**-**3**-T1-**F0**

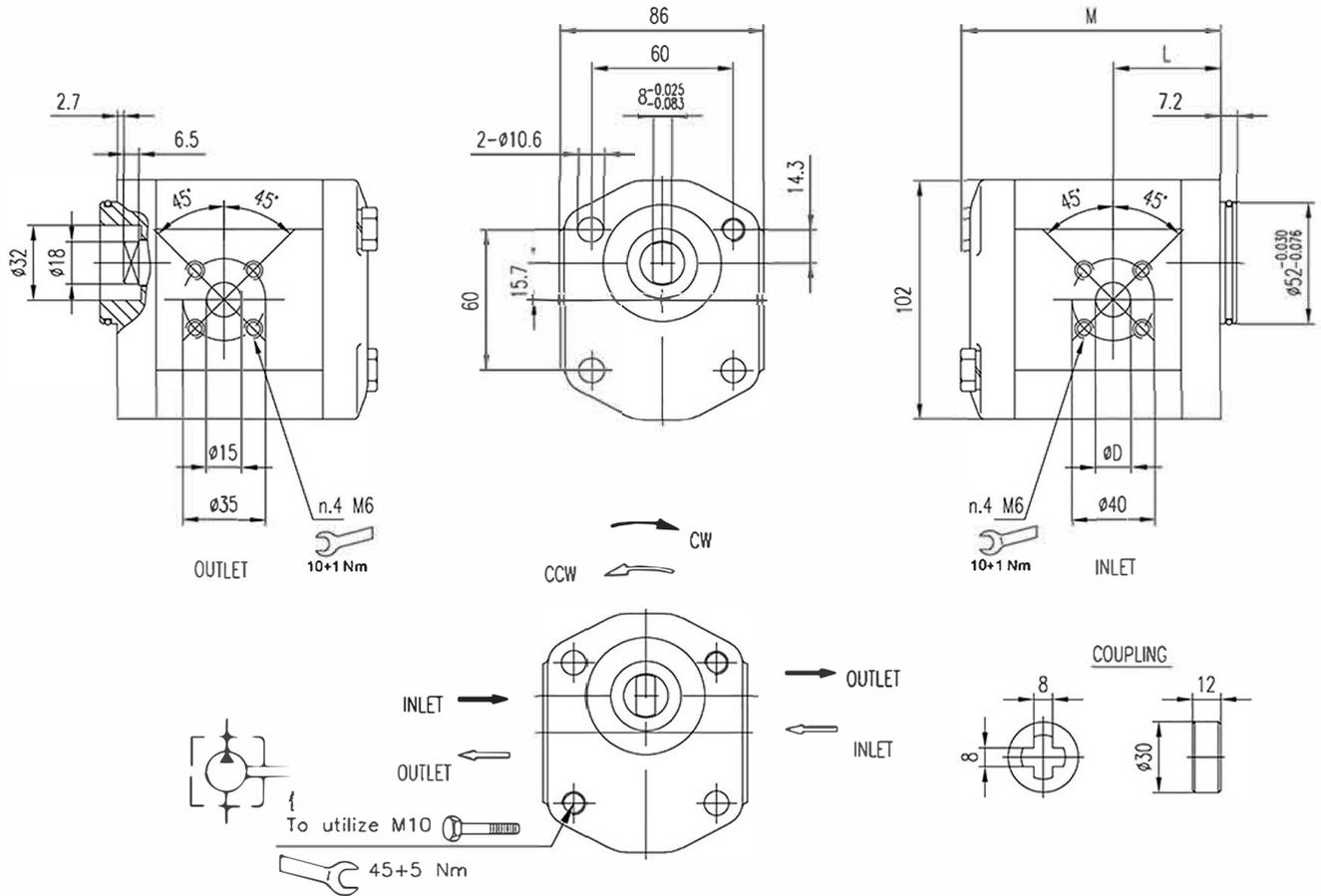


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	Inlet D mm
	P1 bar	P2 bar	P3 bar				M mm	L mm		
3	270	285	300	4000	800	3.35	88.6	37.4	F0	15
4	270	285	300	4000	600	3.4	90.2	37.4	F0	15
6	270	285	300	4000	600	3.5	93.5	38.6	F0	15
8	270	285	300	3500	500	3.6	96.8	40.7	F0	15
10	270	285	300	3500	500	3.7	100.1	41.2	F1	20
12	270	285	300	3500	500	3.8	103.4	45	F1	20
14	250	265	280	3500	500	3.9	106.8	45	F1	20
16	250	265	280	3500	500	4.0	110.2	45	F1	20
18	250	265	280	3200	400	4.1	113.5	45	F1	20
20	220	235	250	3200	400	4.2	116.8	45	F1	20
22	220	235	250	3000	400	4.3	120.1	52.6	F1	20
25	200	215	230	3000	400	4.45	125.1	59.3	F1	20
28	180	190	200	2500	400	4.6	130.1	61.8	F1	20
30	160	170	180	2500	400	4.7	133.4	63.5	F1	20

# Group 2

## Group 2 Standard Product Dimensions

BHP2-Q2-D-3-G1-FO

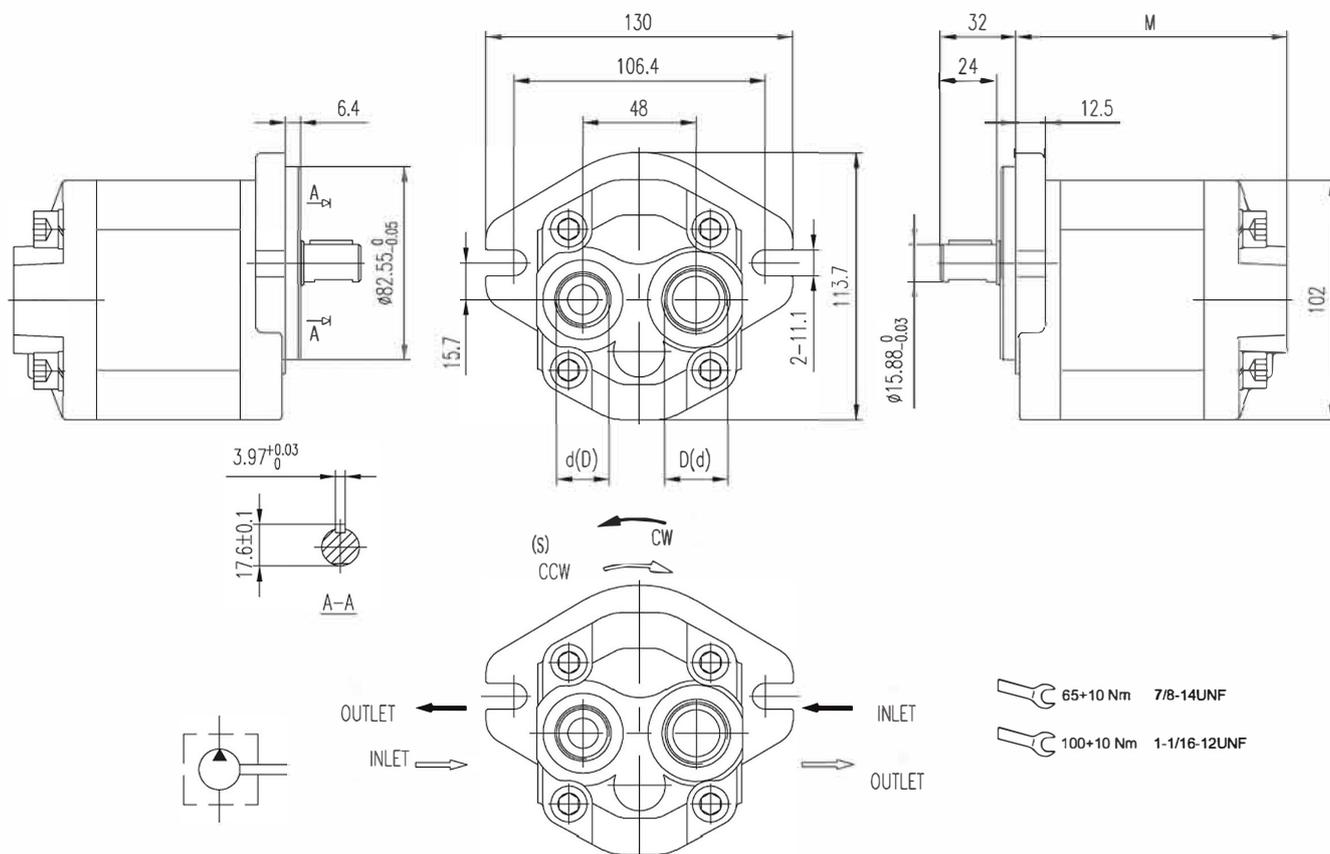


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D mm
	P1 bar	P2 bar	P3 bar				M mm	L mm		
3	270	285	300	4000	800	3.35	88.6	37.4	F0	15
4	270	285	300	4000	600	3.4	90.2	37.4	F0	15
6	270	285	300	4000	600	3.5	93.5	38.6	F0	15
8	270	285	300	3500	500	3.6	96.8	40.7	F0	15
10	270	285	300	3500	500	3.7	100.1	41.2	F1	20
12	270	285	300	3500	500	3.8	103.4	45	F1	20
14	250	265	280	3500	500	3.9	106.8	45	F1	20
16	250	265	280	3500	500	4.0	110.2	45	F1	20
18	250	265	280	3200	400	4.1	113.5	45	F1	20
20	220	235	250	3200	400	4.2	116.8	45	F1	20
22	220	235	250	3000	400	4.3	120.1	52.6	F1	20
25	200	215	230	3000	400	4.45	125.1	59.3	F1	20
28	180	190	200	2500	400	4.6	130.1	61.8	F1	20
30	160	170	180	2500	400	4.7	133.4	63.5	F1	20

# Group 2

## Group 2 Standard Product Dimensions

BHP2-A0-[D]-[3]-CO-X-[U0]



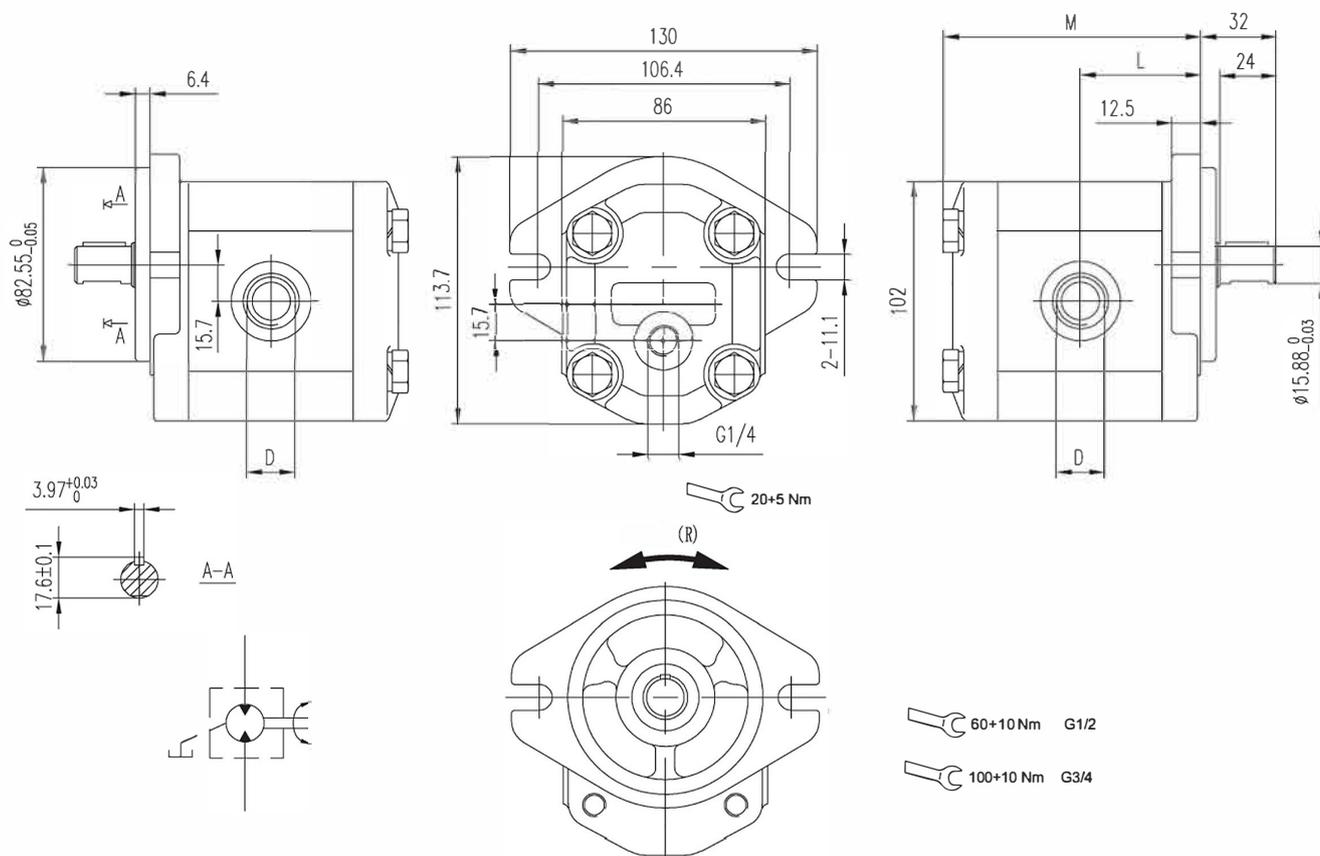
Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions M mm	Oil Port Code	INLET OUTLET	
	P1 bar	P2 bar	P3 bar						D	d
3	270	285	300	4000	800	3.4	103.1	U0	1 1/16-12UNF	7/8-14UNF
4	270	285	300	4000	600	3.45	104.7	U0	1 1/16-12UNF	7/8-14UNF
6	270	285	300	4000	600	3.55	108	U0	1 1/16-12UNF	7/8-14UNF
8	270	285	300	3500	500	3.65	111.3	U0	1 1/16-12UNF	7/8-14UNF
10	270	285	300	3500	500	3.75	114.6	U0	1 1/16-12UNF	7/8-14UNF
12	270	285	300	3500	500	3.85	117.9	U0	1 1/16-12UNF	7/8-14UNF
14	250	265	280	3500	500	3.95	121.3	U0	1 1/16-12UNF	7/8-14UNF
16	250	265	280	3500	500	4.05	124.7	U0	1 1/16-12UNF	7/8-14UNF
18	250	265	280	3200	400	4.15	128	U0	1 1/16-12UNF	7/8-14UNF
20	220	235	250	3200	400	4.25	131.3	U0	1 1/16-12UNF	7/8-14UNF
22	220	235	250	3000	400	4.35	134.6	U0	1 1/16-12UNF	7/8-14UNF
25	200	215	230	3000	400	4.50	139.6	U0	1 1/16-12UNF	7/8-14UNF
28	180	190	200	2500	400	4.65	144.6	U0	1 1/16-12UNF	7/8-14UNF
30	160	170	180	2500	400	4.75	147.9	U0	1 1/16-12UNF	7/8-14UNF



# Group 2

## Group 2 Standard Product Dimensions

BHM2-A0-R-**3**-CO-**L0**-Q1

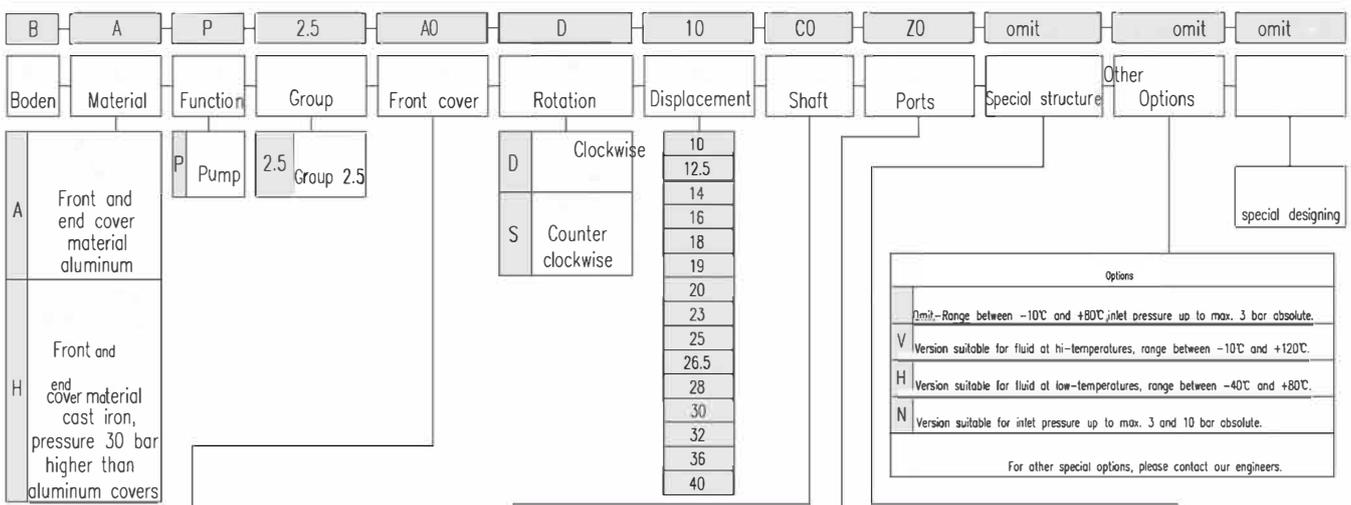


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	Let D
	P1 bar	P2 bar	P3 bar				M mm	L mm		
3	270	285	300	4000	800	3.35	91.1	43.6	L0	G1/2
4	270	285	300	4000	600	3.4	92.7	44.4	L0	G1/2
6	270	285	300	4000	600	3.5	96	46	L0	G1/2
8	270	285	300	3500	500	3.6	99.3	47.7	L1	G3/4
10	270	285	300	3500	500	3.7	102.6	49.3	L1	G3/4
12	270	285	300	3500	500	3.8	105.9	51	L1	G3/4
14	250	265	280	3500	500	3.9	109.3	52.7	L1	G3/4
16	250	265	280	3500	500	4.0	112.7	54.4	L1	G3/4
18	250	265	280	3200	400	4.1	116	56	L1	G3/4
20	220	235	250	3200	400	4.2	119.3	57.7	L1	G3/4
22	220	235	250	3000	400	4.3	122.6	59.3	L1	G3/4
25	200	215	230	3000	400	4.45	127.6	61.8	L1	G3/4
28	180	190	200	2500	400	4.6	132.6	64.3	L1	G3/4
30	160	170	180	2500	400	4.7	135.9	66	L1	G3/4



# Group 2.5

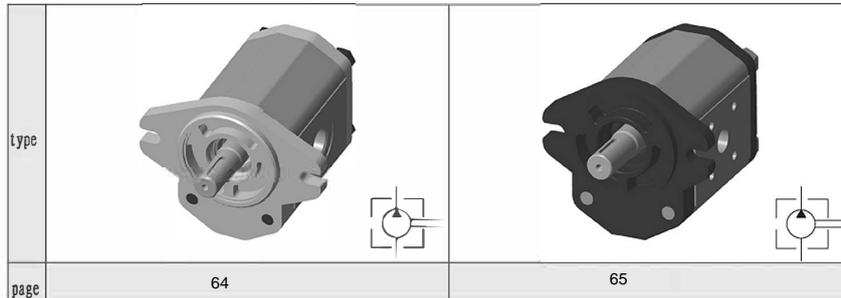
## Group 2.5 Ordering Code Rules



Front cover	Shaft	Ports	Special structure
A1  Diamond front cover (centering φ85mm)   Diamond front cover (centering φ82.55mm)	CO straight keyed φ20 	E Rectangular flange 	omit-regular 
	C1 straight keyed φ18 	F Rectangular flange 	
	C2 straight keyed φ19.05 	F Split flange 	
	H0 Rectangle spline shaft J 6-20x16x4 	Z Metric thread 	
	H1 Rectangle spline shaft J 4-18x15x5 	L Gas thread 	
	S0 Involute spline shaft EXT12Z-1.5m-30° 	U UNF thread 	
	S1 SAE spline shaft DP16/32-30°-10T 	R PT thread 	
	S2 SAE spline shaft DP16/32-30°-11T 	X Body without ports 	
	S3 SAE spline shaft DP32-30-13T 		
	See page 61 for details	See page 61 for details	

# Group 2.5

## Group 2.5 Standard Product Overview

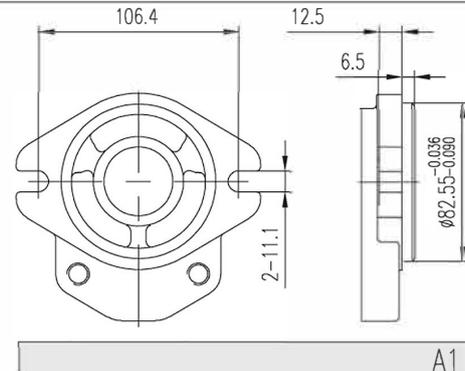
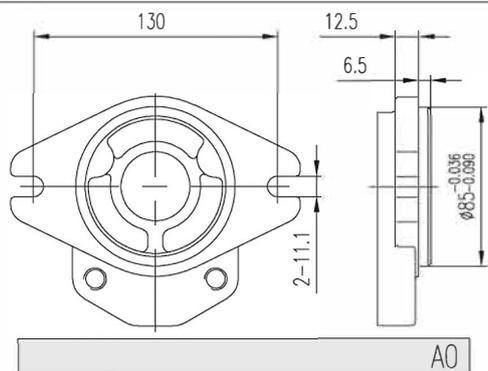


## Group 2.5 Displacement parameter table

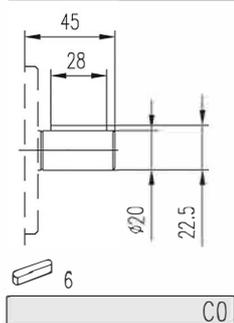
Displacement	V	cm <sup>3</sup> /rev	10	12.5	14	16	18	19	20	23	25	26.5	28	30	32	36	40	45
Suction absolute pressure	P <sub>e</sub>	bar	0.7...3															
Max. continuous pressure	P <sub>1</sub>		250						230				200		160			
Max. intermittent pressure	P <sub>2</sub>		270						250				230		180			
Max. peak pressure	P <sub>3</sub>		290						260				250		200			
Min. speed	Ω <sub>min</sub>	r/min	800		700		600		500				400					
Max. speed	Ω <sub>max</sub>		4000			3500						3000		2750		2500		
Volumetric efficiency	η <sub>v</sub>	%	≥91		≥92			≥93			≥94				≥95			

# Group 2.5

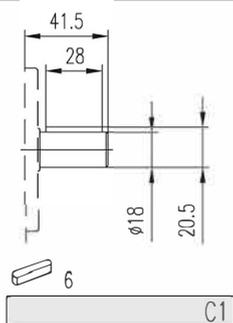
## FRONT COVER



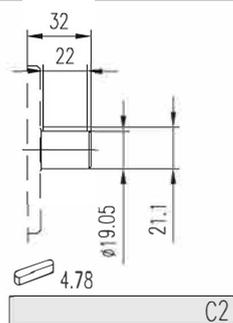
## SHAFTS



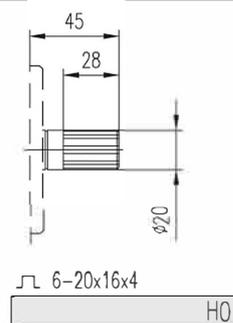
Max.Torque 200 Nm



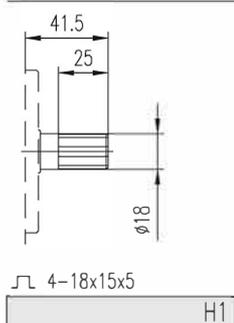
Max.Torque 180 Nm



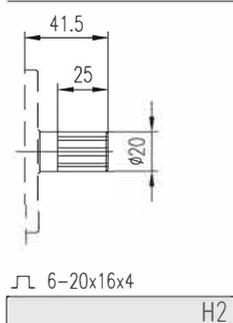
Max.Torque 190 Nm



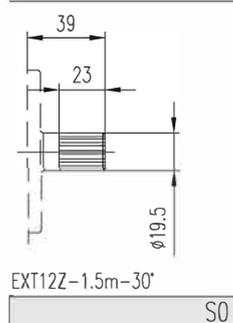
Max.Torque 240 Nm



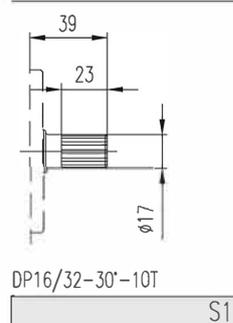
Max.Torque 200 Nm



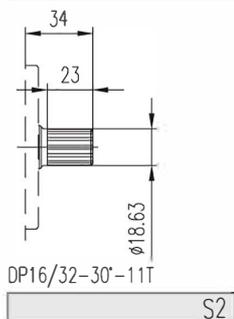
Max.Torque 240 Nm



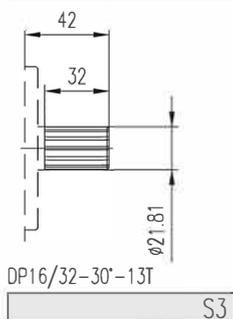
Max.Torque 220 Nm



Max.Torque 200 Nm



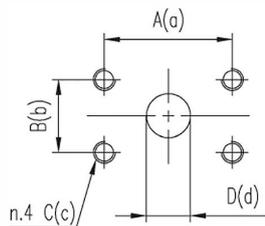
Max.Torque 210 Nm



Max.Torque 300 Nm

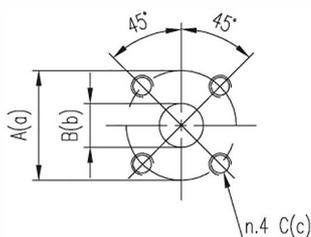
# Group 2.5

## PORTS



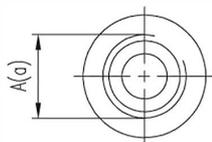
F0/F1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET				OUTLET			
		A	B	C	D	a	b	c	d
F0	10...16	47.6	22.2	M10x1.25	20	47.6	22.2	M10x1.25	13
F1	18...45	52.4	26.2	M10x1.25	25	47.6	22.2	M10x1.25	20



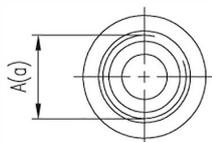
F2

Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
	A	B	C	a	b	c
10...16	55	20	M8	55	13	M8
18...45	55	25	M8	55	20	M8



Z0/Z1/Z2

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
Z0	10...14	M22x1.5	M18x1.5
Z1	16...20	M27x2	M22x1.5
Z2	23...45	M33x2	M27x2



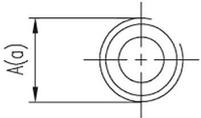
O-ring

U0/U1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
U0	10...23	1 1/16-12 UNF	7/8-14 UNF
U1	25...45	1 5/16-12 UNF	1 1/16-12 UNF

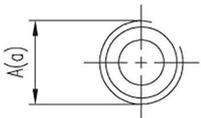
# Group 2.5

## PORTS



L0/L1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
L0	10...23	G3/4	G1/2
L1	25...45	G 1	G3/4



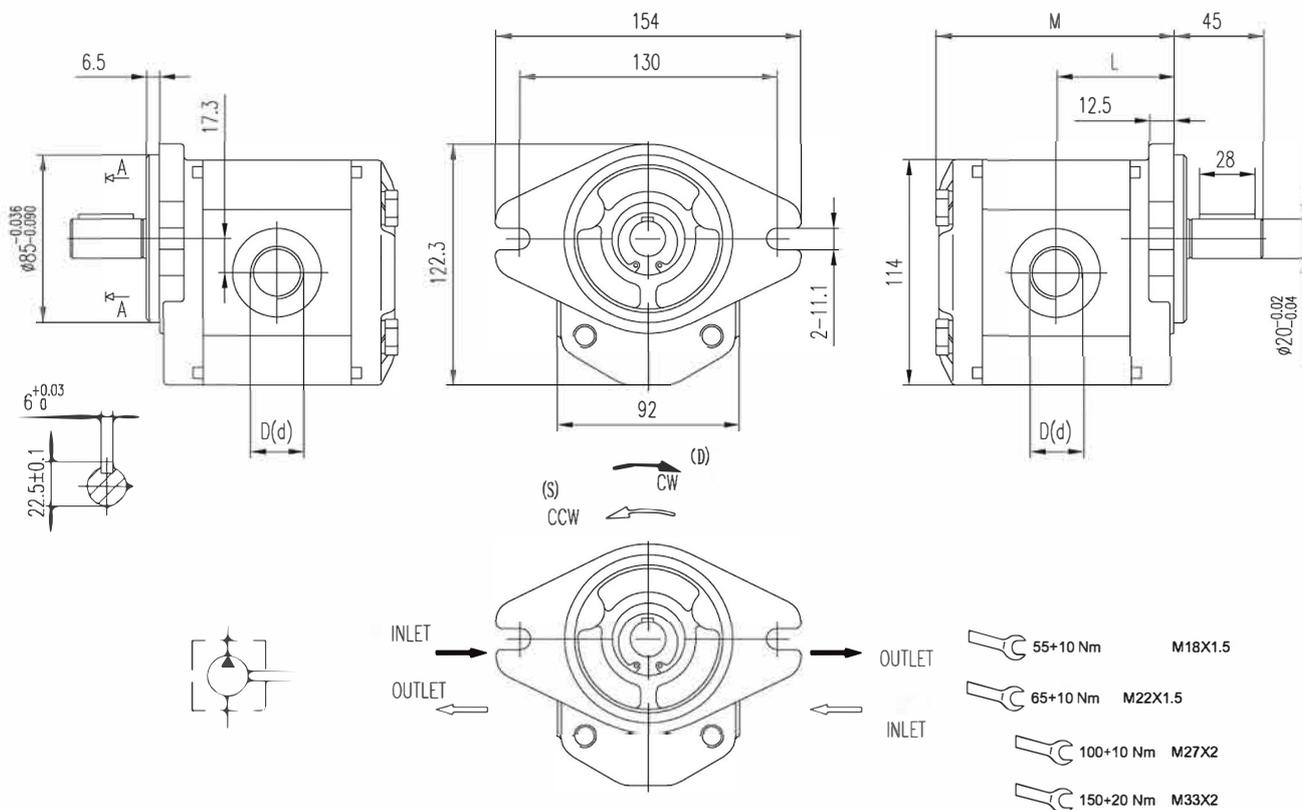
R0/R1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
R0	10...23	PT3/4	PT1/2
R1	25...45	PT 1	PT3/4

# Group 2.5

## Group 2.5 Standard Product Dimensions

BAP2.5-A0-[D]-[10]-CO-[Z0]

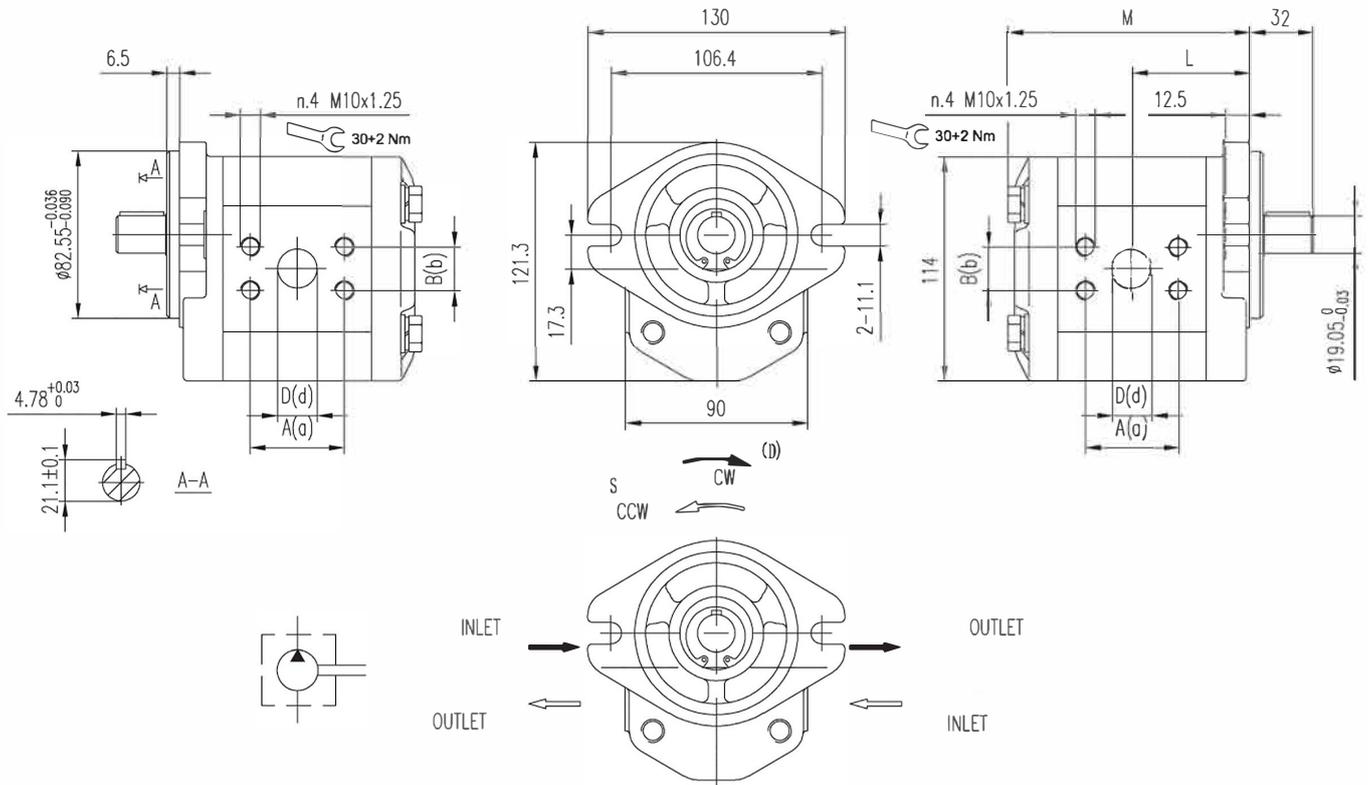


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	Inlet D	Outlet d
	P1 bar	P2 bar	P3 bar				M mm	L mm			
10	250	270	290	4000	800	4.1	110	53.3	Z0	M22x1.5	M18x1.5
12.5	250	270	290	4000	800	4.3	113	54.8	Z0	M22x1.5	M18x1.5
14	250	270	290	4000	700	4.5	115	55.8	Z0	M22x1.5	M18x1.5
16	250	270	290	3500	700	4.7	118	57.1	Z1	M27x2	M22x1.5
18	250	270	290	3500	600	4.9	120	58.3	Z1	M27x2	M22x1.5
19	250	270	290	3500	600	5.0	121	58.8	Z1	M27x2	M22x1.5
20	250	270	290	3500	500	5.1	123	59.6	Z1	M27x2	M22x1.5
23	230	250	260	3500	500	5.25	126	61.3	Z2	M33x2	M27x2
25	230	250	260	3500	500	5.45	129	62.6	Z2	M33x2	M27x2
26.5	230	250	260	3500	500	5.6	131	63.6	Z2	M33x2	M27x2
28	230	250	260	3500	500	5.75	133	64.6	Z2	M33x2	M27x2
30	230	250	260	3000	400	5.95	135	65.6	Z2	M33x2	M27x2
32	200	230	250	3000	400	6.15	138	67.1	Z2	M33x2	M27x2
36	200	230	250	2750	400	6.55	142	69.1	Z2	M33x2	M27x2
40	160	180	200	2500	400	6.9	148	71.6	Z2	M33x2	M27x2
45	160	180	200	2500	400	7.45	153	74.6	Z2	M33x2	M27x2

# Group 2.5

## Group 2.5 Standard Product Dimensions

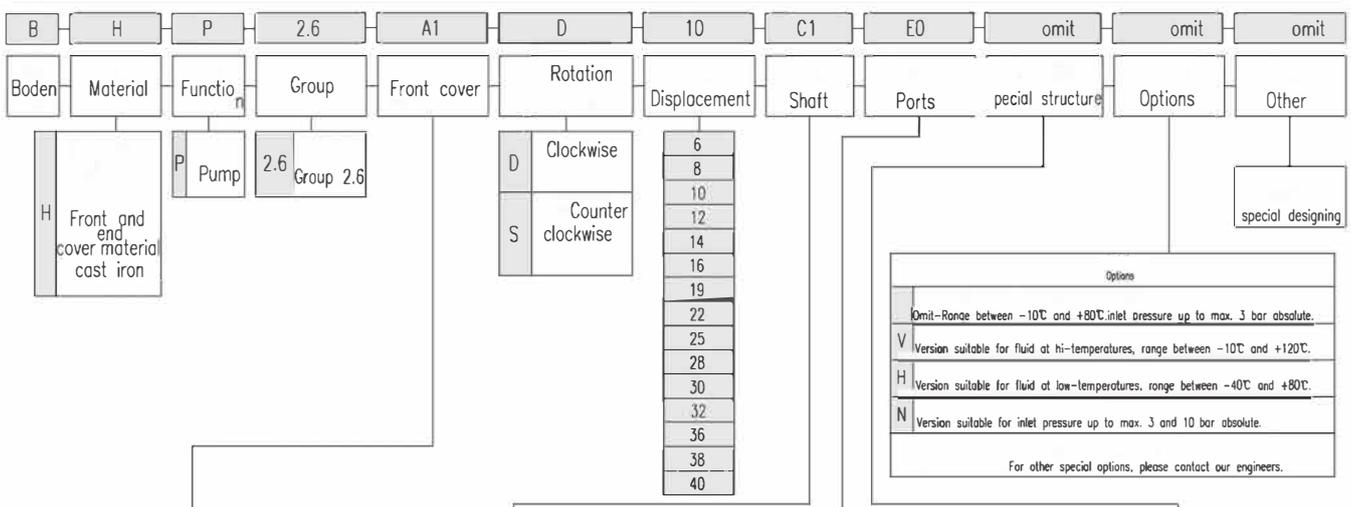
BHP2.5-A1-D-10-C2-F0



Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET			OUTLET		
	P1 bar	P2 bar	P3 bar				M mm	L mm		A mm	B mm	D mm	a mm	b mm	d mm
10	250	270	290	4000	800	4.1	110	53.3	F0	47.6	22.2	20	47.6	22.2	13
12.5	250	270	290	4000	800	4.3	113	54.8	F0	47.6	22.2	20	47.6	22.2	13
14	250	270	290	4000	700	4.5	115	55.8	F0	47.6	22.2	20	47.6	22.2	13
16	250	270	290	3500	700	4.7	118	57.1	F0	47.6	22.2	20	47.6	22.2	13
18	250	270	290	3500	600	4.9	120	58.3	F1	52.4	26.2	25	47.6	22.2	20
19	250	270	290	3500	600	5.0	121	58.8	F1	52.4	26.2	25	47.6	22.2	20
20	250	270	290	3500	500	5.1	123	59.6	F1	52.4	26.2	25	47.6	22.2	20
23	230	250	260	3500	500	5.25	126	61.3	F1	52.4	26.2	25	47.6	22.2	20
25	230	250	260	3500	500	5.45	129	62.6	F1	52.4	26.2	25	47.6	22.2	20
26.5	230	250	260	3500	500	5.6	131	63.6	F1	52.4	26.2	25	47.6	22.2	20
28	230	250	260	3500	500	5.75	133	64.6	F1	52.4	26.2	25	47.6	22.2	20
30	230	250	260	3000	400	5.95	135	65.6	F1	52.4	26.2	25	47.6	22.2	20
32	200	230	250	3000	400	6.15	138	67.1	F1	52.4	26.2	25	47.6	22.2	20
36	200	230	250	2750	400	6.55	142	69.1	F1	52.4	26.2	25	47.6	22.2	20
40	160	180	200	2500	400	6.9	148	71.6	F1	52.4	26.2	25	47.6	22.2	20
45	160	180	200	2500	400	7.45	153	74.6	F1	52.4	26.2	25	47.6	22.2	20

# Group 2.6

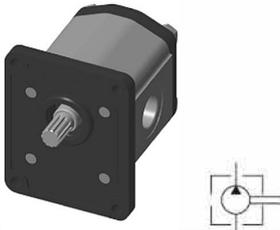
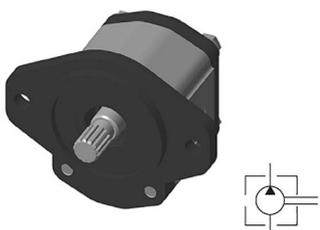
## Group 2.6 Ordering Code Rules

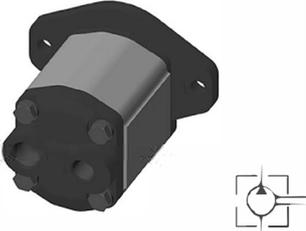


Front cover	Shaft	Ports	Special structure
<p>A1</p> <p>Diamond front cover (centering φ82.55mm)</p>	<p>C1</p> <p>straight keyed φ18</p>	<p>E</p> <p>Rectangular flange</p>	<p>omit-regular</p>
	<p>C2</p> <p>straight keyed φ19.05</p>	<p>F</p> <p>Rectangular flange</p>	<p>Back cover with inlet and outlet</p>
<p>A2</p> <p>Diamond front cover (centering φ101.6mm)</p>	<p>06</p> <p>2</p> <p>straight keyed φ22.2</p>	<p>F</p> <p>Split flange</p>	
	<p>H1</p> <p>Rectangle spline shaft └ 4-18x15x5</p>	<p>Z</p> <p>Metric thread</p>	
<p>B0</p> <p>Square front cover (centering φ50.8mm)</p>	<p>H2</p> <p>Rectangle spline shaft └ 6-20x16x4</p>	<p>L</p> <p>Gas thread</p>	
	<p>S0</p> <p>Involute spline shaft EXT12Z-1.5m-30°</p>	<p>U</p> <p>UNF thread</p>	
	<p>S1</p> <p>SAE spline shaft DP16/32-30°-10T</p>	<p>R</p> <p>PT thread</p>	
	<p>S2</p> <p>SAE spline shaft DP16/32-30°-11T</p>	<p>X</p> <p>Body without ports</p>	
	<p>S3</p> <p>SAE spline shaft DP16/32-30°-13T</p>		
See page 68 for details	See page 69 for details	See page 70-71 for details	See page 71 for details

# Group 2.6

## Group 2.6 Standard Product Overview

type			
page	72	73	74

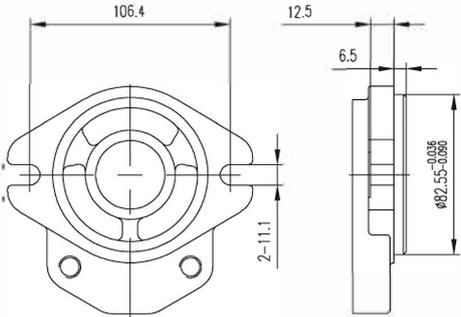
type	
page	75

## Group 2.6 Displacement parameter table

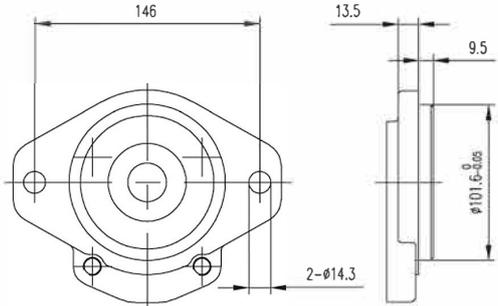
Displacement	V	cm <sup>3</sup> /rev	6	8	10	12	14	16	19	22	25	28	30	32	36	38	40	44
Suction absolute pressure	P <sub>e</sub>	bar	0.7...3															
Max. continuous pressure	P <sub>1</sub>		250										230	200	170			
Max. intermittent pressure	P <sub>2</sub>		280										250	230	190			
Max. peak pressure	P <sub>3</sub>		300										260	250	210			
Min. speed	n <sub>min</sub>	r/min	800	700	600	500						400						
Max. speed	n <sub>max</sub>		4000		3500		3000						2750		2500			
Volumetric efficiency	η <sub>v</sub>	%	≥92						≥93						≥94		≥95	

Group 2.6

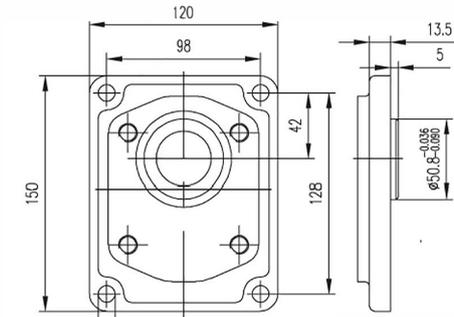
FRONT COVER



A1



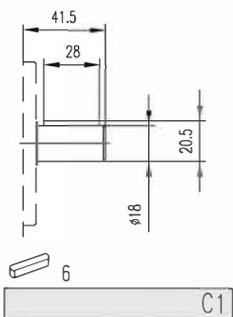
A2



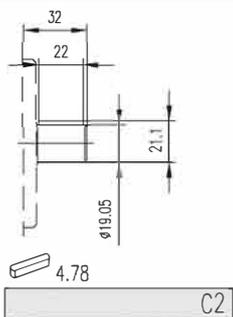
B0

# Group 2.6

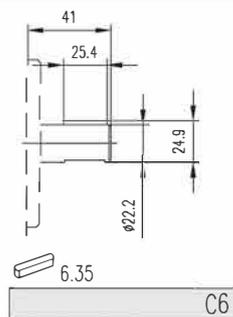
## SHAFTS



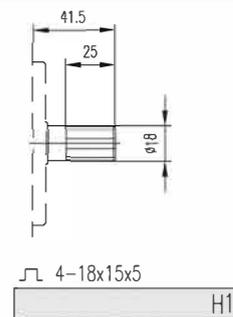
Max.Torque 180 Nm



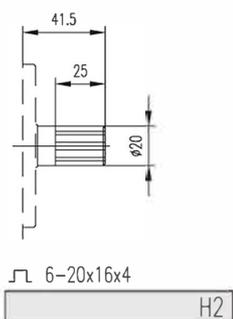
Max.Torque 190 Nm



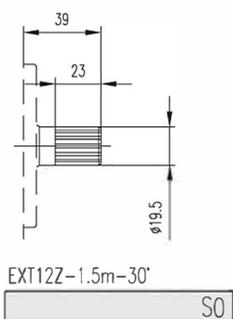
Max.Torque 300 Nm



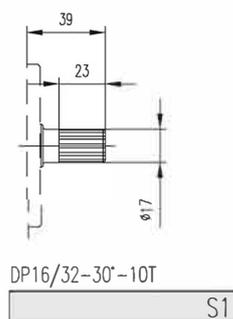
Max.Torque 200 Nm



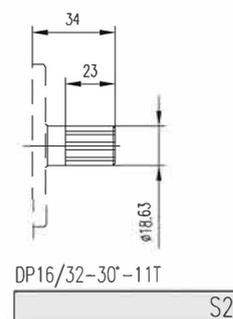
Max.Torque 240 Nm



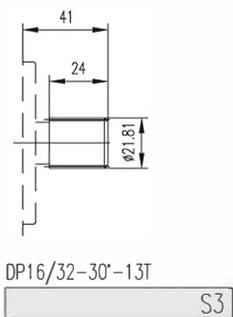
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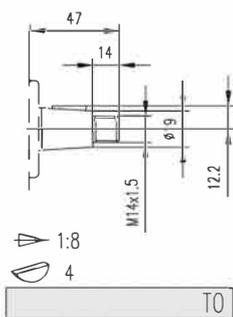
Max.Torque 200 Nm



Max.Torque 210 Nm



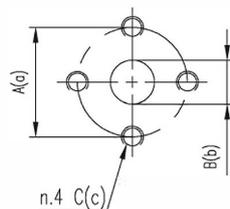
Max.Torque 300 Nm



Max.Torque 300 Nm

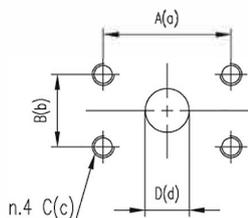
# Group 2.6

## PORTS



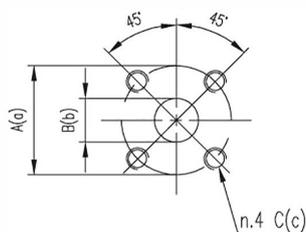
E0/E1/E2

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
E0	6...8	30	13	M6	30	13	M6
E1	10...19	40	20	M8	30	13	M6
E2	22...44	51	25	M10	40	18	M8



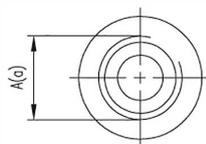
F0/F1

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET				OUTLET			
		A	B	C	D	a	b	c	d
F0	6...16	47.6	22.2	M10x1.5	20	47.6	22.2	M10x1.5	13
F1	19...44	52.4	26.2	M10x1.5	25	47.6	22.2	M10x1.5	20



F2

Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
	A	B	C	a	b	c
6...16	55	20	M8	55	13	M8
19...44	55	25	M8	55	20	M8

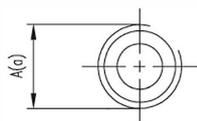


Z0/Z1/Z2

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
Z0	10...14	M22x1.5	M18x1.5
Z1	16...20	M27x2	M22x1.5
Z2	23...45	M33x2	M27x2

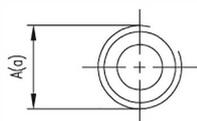
# Group 2.6

## PORTS



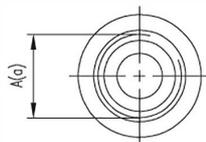
L0/L1

PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
L0	10...23	G3/4	G1/2
L1	25...45	G 1	G3/4



R0/R1

PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
R0	6...22	PT3/4	PT1/2
R1	25...44	PT 1	PT3/4

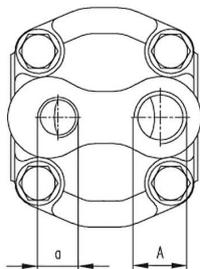


O-ring

U0/U1

PORTS CODE	Displacement	INLET	OUTLET
	(cm <sup>3</sup> /rev)	A	a
U0	6...22	1 1/16-12 UNF	7/8-14 UNF
U1	25...44	1 5/16-12 UNF	1 1/16-12 UNF

## SPECIAL STRUCTRE



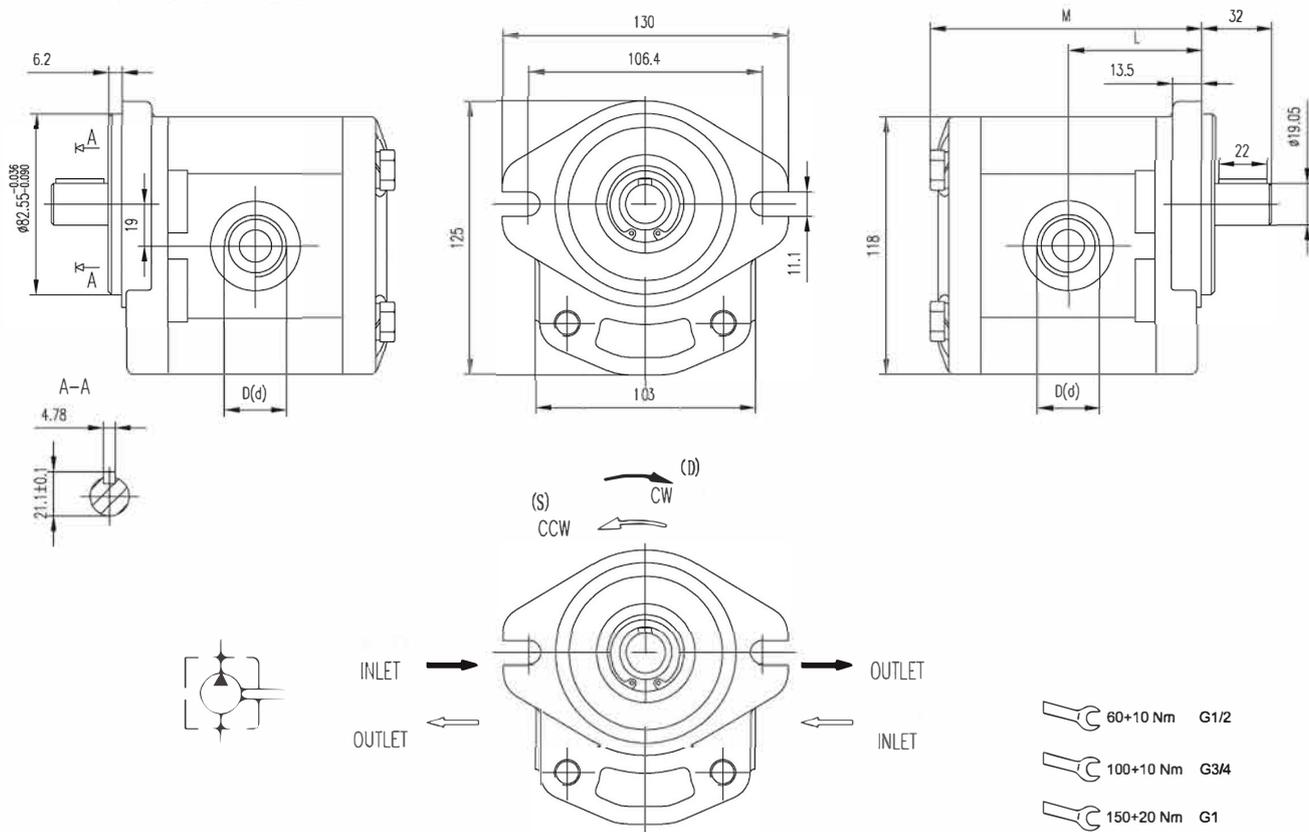
L0/R0/Z0

CODE	INLET	OUTLET
	A	a
L0	G3/4	G1/2
R0	PT3/4	PT1/2
Z0	M22X1.5	M18X1.5

# Group 2.6

## Group 2.6 Standard Product Dimensions

BHP2.6-A1-[D]-6-C2-[L0]

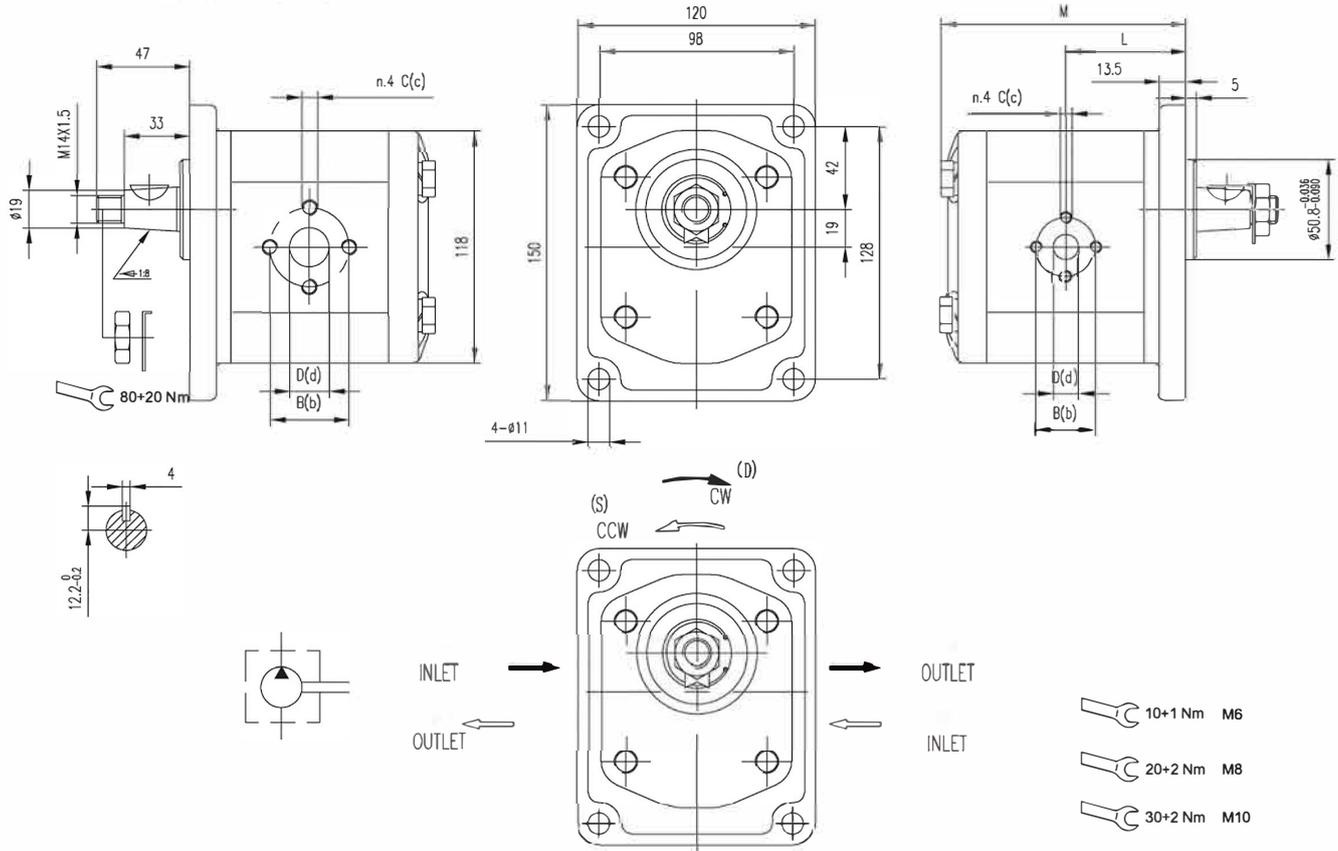


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET		OUTLET	
	P1 bar	P2 bar	P3 bar				M mm	L mm		D	d		
6	250	280	300	4000	800	4	103	49.3	L0	G3/4	G1/2		
8	250	280	300	4000	800	4.3	105	50.3	L0	G3/4	G1/2		
10	250	280	300	4000	700	4.6	107	51.3	L0	G3/4	G1/2		
12	250	280	300	3500	700	4.9	110	52.5	L0	G3/4	G1/2		
14	250	280	300	3500	600	5.2	111	53.3	L0	G3/4	G1/2		
16	250	280	300	3500	600	5.5	114	54.5	L0	G3/4	G1/2		
19	250	280	300	3000	500	5.8	117	56.3	L0	G3/4	G1/2		
22	250	280	300	3000	500	6.1	121	58.0	L0	G3/4	G1/2		
25	250	280	300	3000	500	6.4	123	59.3	L1	G1	G3/4		
28	250	280	300	3000	500	6.7	126	60.8	L1	G1	G3/4		
30	230	250	260	3000	500	7.0	129	62.0	L1	G1	G3/4		
32	230	250	260	3000	400	7.3	131	63.3	L1	G1	G3/4		
36	200	230	250	2750	400	7.6	135	65.3	L1	G1	G3/4		
38	200	230	250	2750	400	7.9	137	66.3	L1	G1	G3/4		
40	170	190	210	2500	400	8.2	139	67.3	L1	G1	G3/4		
44	170	190	210	2500	400	8.5	144	69.5	L1	G1	G3/4		

# Group 2.6

## Group 2.6 Standard Product Dimensions

BHP2. 6-B0-D-6-T0-E0

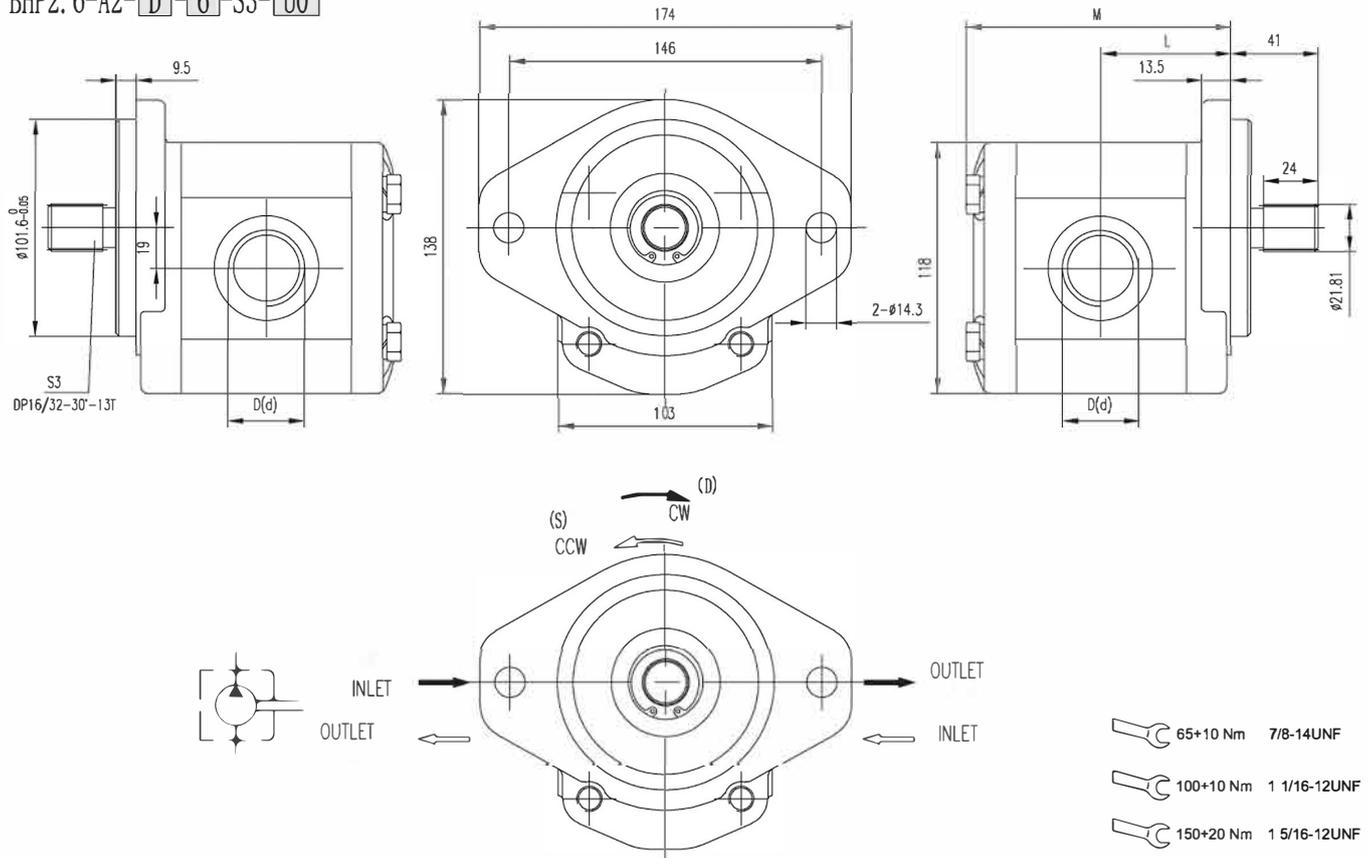


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET			OUTLET		
	P1 bar	P2 bar	P3 bar				M mm	L mm		B mm	D mm	C	b mm	d mm	c
6	250	280	300	4000	800	4	103	49.3	E0	30	13	M6	30	13	M6
8	250	280	300	4000	800	4.3	105	50.3	E0	30	13	M6	30	13	M6
10	250	280	300	4000	700	4.6	107	51.3	E1	40	20	M8	30	13	M6
12	250	280	300	3500	700	4.9	110	52.5	E1	40	20	M8	30	13	M6
14	250	280	300	3500	600	5.2	111	53.3	E1	40	20	M8	30	13	M6
16	250	280	300	3500	600	5.5	114	54.5	E1	40	20	M8	30	13	M6
19	250	280	300	3000	500	5.8	117	56.3	E1	40	20	M8	30	13	M6
22	250	280	300	3000	500	6.1	121	58.0	E2	51	25	M10	40	18	M8
25	250	280	300	3000	500	6.4	123	59.3	E2	51	25	M10	40	18	M8
28	250	280	300	3000	500	6.7	126	60.8	E2	51	25	M10	40	18	M8
30	230	250	260	3000	500	7.0	129	62.0	E2	51	25	M10	40	18	M8
32	230	250	260	3000	400	7.3	131	63.3	E2	51	25	M10	40	18	M8
36	200	230	250	2750	400	7.6	135	65.3	E2	51	25	M10	40	18	M8
38	200	230	250	2750	400	7.9	137	66.3	E2	51	25	M10	40	18	M8
40	170	190	210	2500	400	8.2	139	67.3	E2	51	25	M10	40	18	M8
44	170	190	210	2500	400	8.5	144	69.5	E2	51	25	M10	40	18	M8

# Group 2.6

## Group 2.6 Standard Product Dimensions

BHP2. 6-A2-**D**-**6**-S3-**U0**

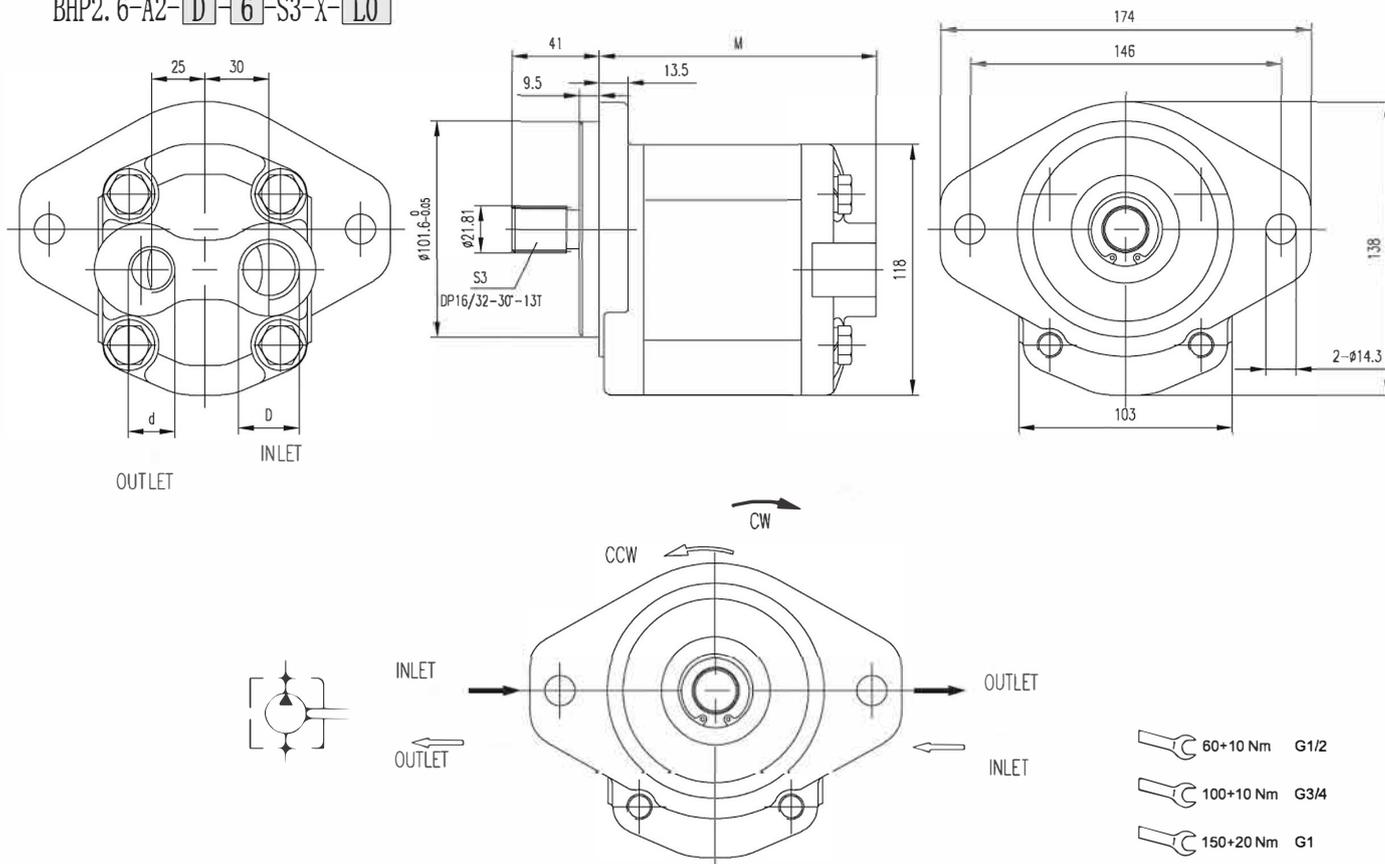


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D	OUTLET d
	P1 bar	P2 bar	P3 bar				M mm	L mm			
6	250	280	300	4000	800	4	103	49.3	U0	1 1/16-12UNF	7/8-14UNF
8	250	280	300	4000	800	4.3	105	50.3	U0	1 1/16-12UNF	7/8-14UNF
10	250	280	300	4000	700	4.6	107	51.3	U0	1 1/16-12UNF	7/8-14UNF
12	250	280	300	3500	700	4.9	110	52.5	U0	1 1/16-12UNF	7/8-14UNF
14	250	280	300	3500	600	5.2	111	53.3	U0	1 1/16-12UNF	7/8-14UNF
16	250	280	300	3500	600	5.5	114	54.5	U0	1 1/16-12UNF	7/8-14UNF
19	250	280	300	3000	500	5.8	117	56.3	U0	1 1/16-12UNF	7/8-14UNF
22	250	280	300	3000	500	6.1	121	58.0	U0	1 1/16-12UNF	7/8-14UNF
25	250	280	300	3000	500	6.4	123	59.3	U1	1 5/16-12UNF	1 1/16-12UNF
28	250	280	300	3000	500	6.7	126	60.8	U1	1 5/16-12UNF	1 1/16-12UNF
30	230	250	260	3000	500	7.0	129	62.0	U1	1 5/16-12UNF	1 1/16-12UNF
32	230	250	260	3000	400	7.3	131	63.3	U1	1 5/16-12UNF	1 1/16-12UNF
36	200	230	250	2750	400	7.6	135	65.3	U1	1 5/16-12UNF	1 1/16-12UNF
38	200	230	250	2750	400	7.9	137	66.3	U1	1 5/16-12UNF	1 1/16-12UNF
40	170	190	210	2500	400	8.2	139	67.3	U1	1 5/16-12UNF	1 1/16-12UNF
44	170	190	210	2500	400	8.5	144	69.5	U1	1 5/16-12UNF	1 1/16-12UNF

# Group 2.6

## Group 2.6 Standard Product Dimensions

BHP2.6-A2-D-6-S3-X-L0

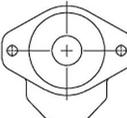
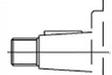
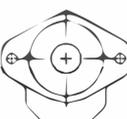
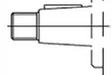
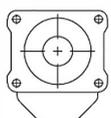
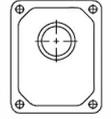


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions M mm	Oil port code	INLET		OUTLET
	P1 bar	P2 bar	P3 bar						D	d	
6	250	280	300	4000	800	4.15	118	L0	G3/4	G1/2	
8	250	280	300	4000	800	4.45	120	L0	G3/4	G1/2	
10	250	280	300	4000	700	4.75	122	L0	G3/4	G1/2	
12	250	280	300	3500	700	5.05	125	L0	G3/4	G1/2	
14	250	280	300	3500	600	5.35	126	L0	G3/4	G1/2	
16	250	280	300	3500	600	5.65	129	L0	G3/4	G1/2	
19	250	280	300	3000	500	5.95	132	L0	G3/4	G1/2	
22	250	280	300	3000	500	6.25	136	L0	G3/4	G1/2	
25	250	280	300	3000	500	6.55	138	L1	G1	G3/4	
28	250	280	300	3000	500	6.85	141	L1	G1	G3/4	
30	230	250	260	3000	500	7.15	144	L1	G1	G3/4	
32	230	250	260	3000	400	7.45	146	L1	G1	G3/4	
36	200	230	250	2750	400	7.75	150	L1	G1	G3/4	
38	200	230	250	2750	400	8.05	152	L1	G1	G3/4	
40	170	190	210	2500	400	8.35	154	L1	G1	G3/4	
44	170	190	210	2500	400	8.65	159	L1	G1	G3/4	

# Group 3

## Group 3 Ordering Code Rules

B	H	P	3	A0	D	20	CO	EO	omit	omit	omit
Boden	Material	Function	Group	Front cover	Rotation	Displacement	Shaft	Parts special structure	Options	Other	
A	Front and end cover material aluminum	P Pump M Motor	3 Group 3		D Clockwise S Counter clockwise R Reversible	20 22 26 33 39 46 50 52 55 63 71					special designing
H	Front and End Material cast iron, pressure 30 bar higher than aluminum covers								Options		
<p>Options</p> <p>Omit-Range between -10°C and +80°C inlet pressure up to max. 3 bar absolute.</p> <p>V Version suitable for fluid at hi-temperatures, range between -10°C and +120°C.</p> <p>H Version suitable for fluid at low-temperatures, range between -40°C and +80°C.</p> <p>N Version suitable for inlet pressure up to max. 3 and 10 bar absolute.</p> <p>For other special options, please contact our engineers.</p>											

	Front cover	Shaft	Ports	Special structure
A0	Diamond front cover (centering $\phi 101.6\text{mm}$ ) 	T0 Taper shaft 1:8 	E Rectangular flange 	omit-regular 
A1	Diamond front cover (centering $\phi 100\text{mm}$ ) 	T1 Taper shaft 1:5 	F Rectangular flange 	Q Back cover with oil drain 
B0	Square front cover (centering $\phi 90\text{mm}$ ) 	C0 straight keyed $\phi 25$ 	F Split flange 	
		C2 straight keyed $\phi 22.22$ 	Z Metric thread 	
B1	Square front cover (centering $\phi 50.8\text{mm}$ ) 	C3 straight keyed $\phi 25.4$ 	L Cos thread 	
B2	Square front cover (centering $\phi 105\text{mm}$ ) 	H0 Rectangle spline shaft $\sqrt{6-25 \times 20.1 \times 6}$ 	U UNF thread 	
		H2 Rectangle spline shaft $\sqrt{6-25 \times 21 \times 5}$ 	R PT thread 	
		S0 SAE spline shaft DP16/32-30'-13T 	X Body without ports 	
		S1 SAE spline shaft DP16/32-30'-15T 		

See page 78 for details

See page 79 for details

See page 80-181 for details

See page 82 for details

# Group 3

## Group 3 Standard Product Overview

type			
page	83	84	85

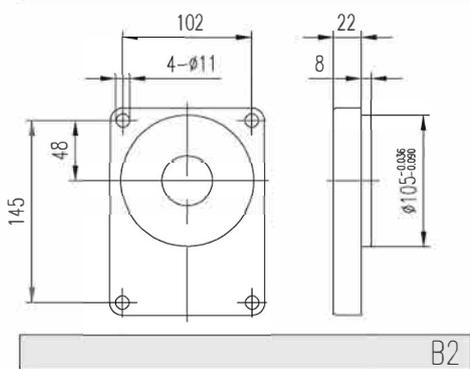
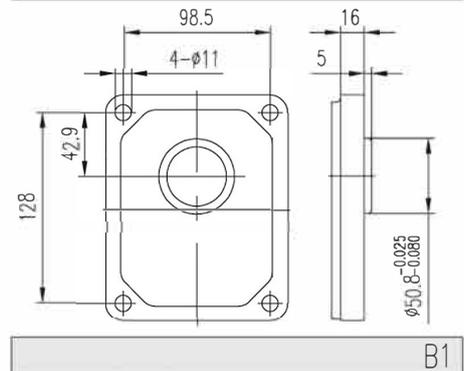
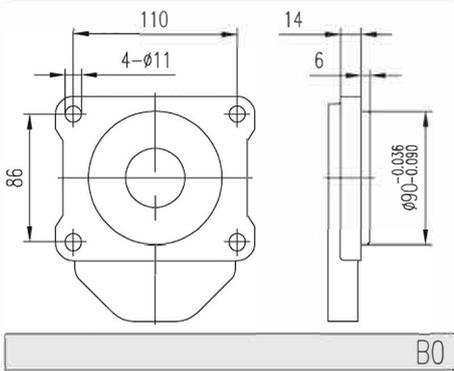
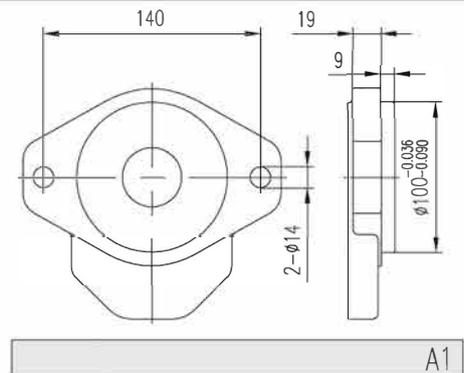
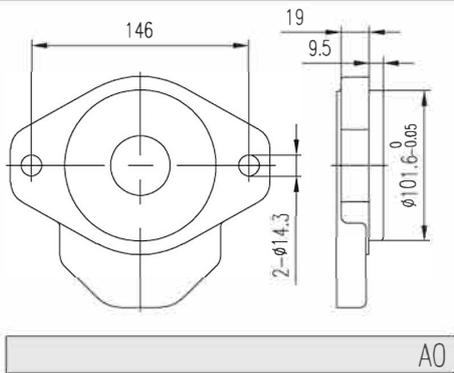
type		
page	86	87

## Group 3 Displacement parameter table

	V	cm <sup>3</sup> /rev	20	22	26	33	39	46	50	52	55	63	71	
Displacement	V	cm <sup>3</sup> /rev	20	22	26	33	39	46	50	52	55	63	71	
Suction absolute pressure	P <sub>e</sub>	bar	0.7... 3											
Max. continuous pressure	P <sub>1</sub>		250			230			220		200		180	
Max. intermittent pressure	P <sub>2</sub>		265			250			240		230		200	
Max. peak pressure	P <sub>3</sub>		280			270			260		250		220	
Min. speed	n <sub>min</sub>	r/min	600		500						400			
Max. speed	n <sub>max</sub>		3500		3000						2800		2500	
Volumetric efficiency	η <sub>v</sub>	%	≥92			≥93			≥94			≥95		

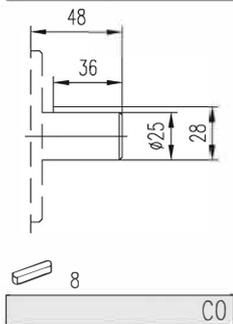
# Group 3

## FRONT COVER

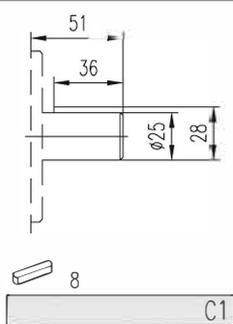


# Group 3

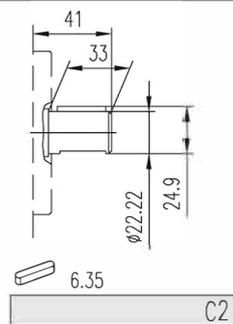
## SHAFTS



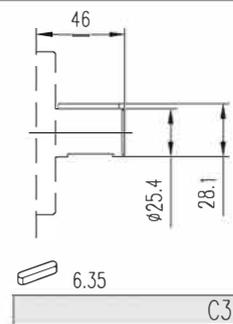
Max.Torque 450 Nm



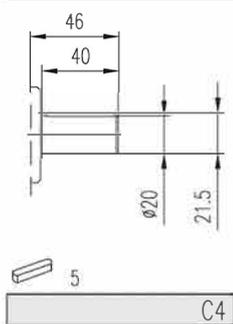
Max.Torque 450 Nm



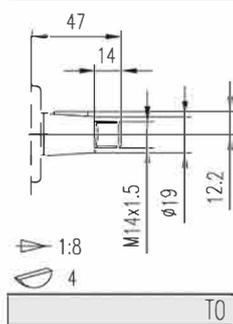
Max.Torque 400 Nm



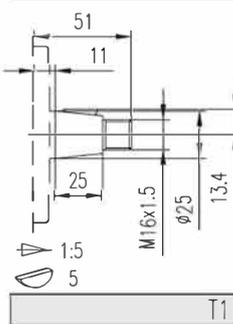
Max.Torque 450 Nm



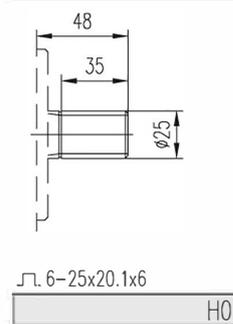
Max.Torque 350 Nm



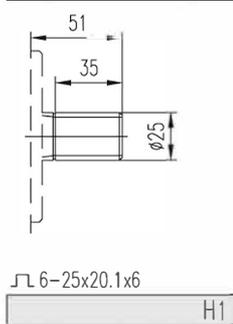
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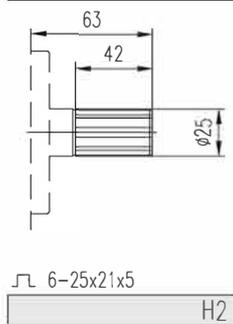
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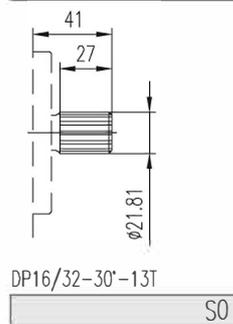
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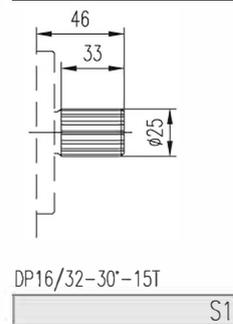
Max.Torque 500 Nm



Max.Torque 500 Nm



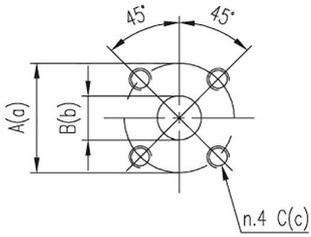
Max.Torque 500 Nm



Max.Torque 600 Nm

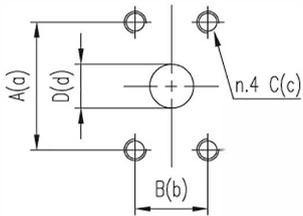
# Group 3

## PORTS



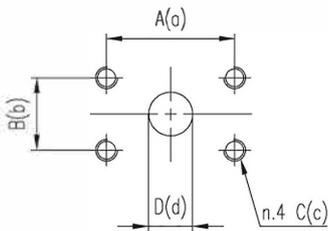
F0/F1/F2/F3

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
F0	20...26	50	20	M8	50	20	M8
F1	33...46	65	25	M8	65	20	M8
F2	50...71	76	33	M10	76	25	M10
F3	50...63	76	33	M8	76	25	M8



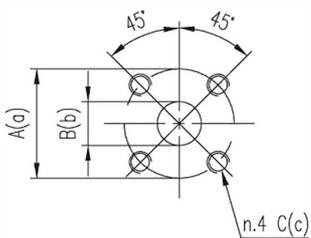
F4/F5

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET				OUTLET			
		A	B	C	D	a	b	c	d
F4	20...52	52.4	26.2	3/8-16UNC	27	47.6	22.2	3/8-16UNC	19
F5	55...71	58.7	30.2	7/16-14UNC	33	52.4	26.2	3/8-16UNC	27



F6

Displacement (cm <sup>3</sup> /rev)	INLET				OUTLET			
	A	B	C	D	a	b	c	d
20...25	57.2	26	M10	25	57.2	26	M10	20
33	57.2	26	M10	30	57.2	26	M10	20
39	57.2	26	M10	35	57.2	26	M10	20
50...63	57.2	26	M10	35	57.2	26	M10	25

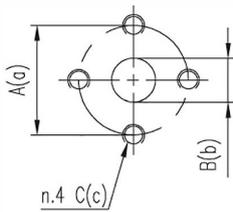


F7

Displacement (cm /rev)	INLET			OUTLET		
	A	B	C	a	b	c
20...71	55	27	M8	55	19	M8

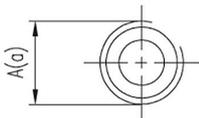
# Group 3

## PORTS



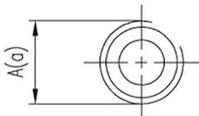
E0/E1/E2/E3

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET			OUTLET		
		A	B	C	a	b	c
E0	20...39	56	27	M10	56	19	M10
E1	46	51	27	M10	51	27	M10
E2	50...52	56	27	M10	56	27	M10
E3	55...71	62	33	M10	51	27	M10



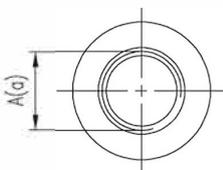
L0/L1/L2/L3

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
L0	20...22	G3/4	G3/4
L1	26...39	G 1	G3/4
L2	46...63	G1 1/4	G 1
L3	71	G1 1/2	G1 1/4



R0/R1/R2/R3

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
R0	20...22	PT3/4	PT3/4
R1	26...39	PT 1	PT3/4
R2	46...63	PT1 1/4	PT 1
R3	71	PT1 1/2	PT1 1/4



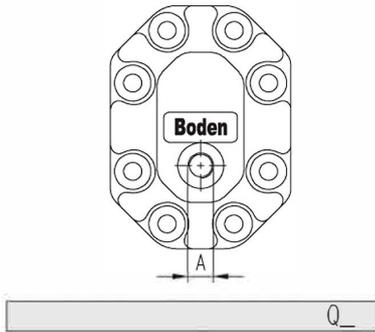
O-ring

U0/U1/U2

PORTS CODE	Displacement (cm <sup>3</sup> /rev)	INLET	OUTLET
		A	a
U0	20...33	1 5/16-12UNF	1 1/16-12UNF
U1	39...52	1 5/8-12UNF	1 1/16-12UNF
U2	55...71	1 7/8-12UNF	1 5/16-12UNF

# Group 3

## SPECIAL STRUCTRE



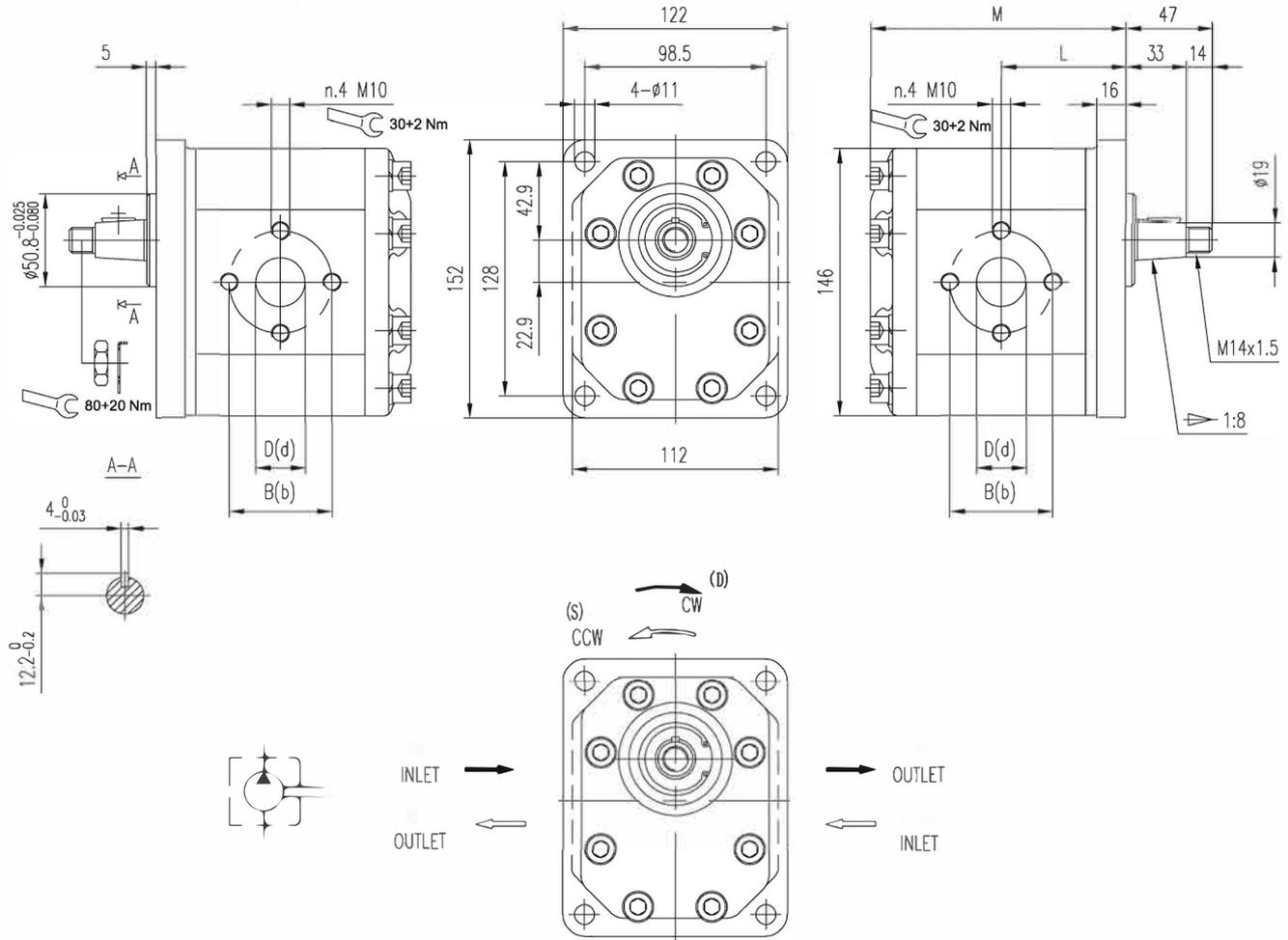
CODE	oil drain
	A
Q1	G3/8
Q2	3/4-16UNF



# Group 3

## Group 3 Standard Product Dimensions

BHP3-B1-D-20-T0-E0

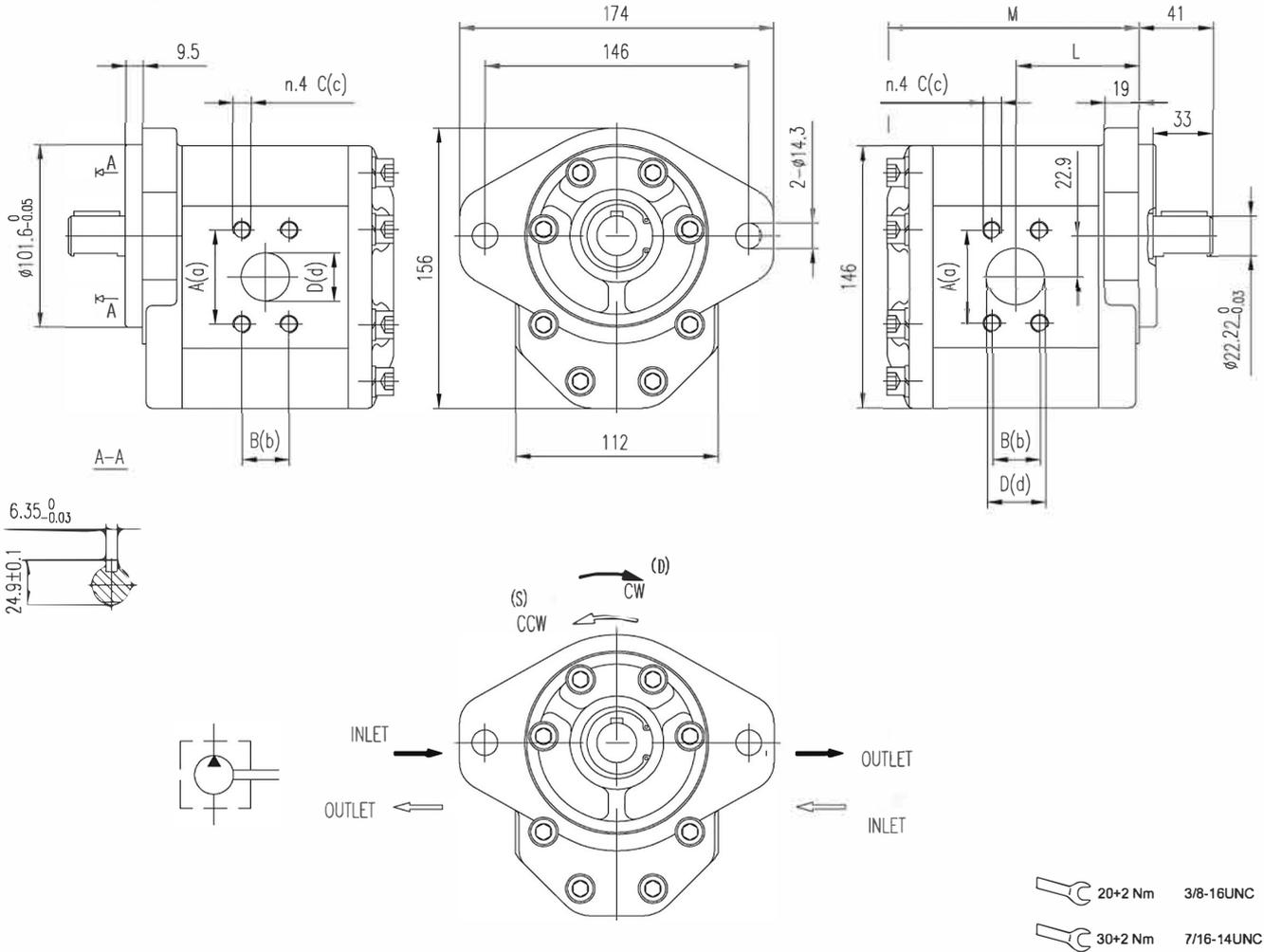


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET		OUTLET	
	P1 bar	P2 bar	P3 bar				M mm	L mm		B mm	D mm	b mm	d mm
20	250	265	280	3500	600	7.5	128	63	E0	56	27	56	19
22	250	265	280	3500	600	7.7	130	64	E0	56	27	56	19
26	250	265	280	3000	600	8.1	133	65	E0	56	27	56	19
33	230	250	270	3000	500	8.6	139	68	E0	56	27	56	19
39	230	250	270	3000	500	9.1	146	72	E0	56	27	56	19
46	230	250	270	3000	500	9.6	152	75	E1	51	27	51	27
50	220	240	260	3000	500	10.0	156	77	E2	56	27	56	27
52	220	240	260	3000	500	10.2	158	78	E2	56	27	56	27
55	200	230	250	2800	400	10.5	160	79	E3	62	33	51	27
63	200	230	250	2800	400	11.1	168	83	E3	62	33	51	27
71	180	200	220	2500	400	11.8	175	86	E3	62	33	51	27

# Group 3

## Group 3 Standard Product Dimensions

BHP3-A0-**D**-**20**-C2-**F4**

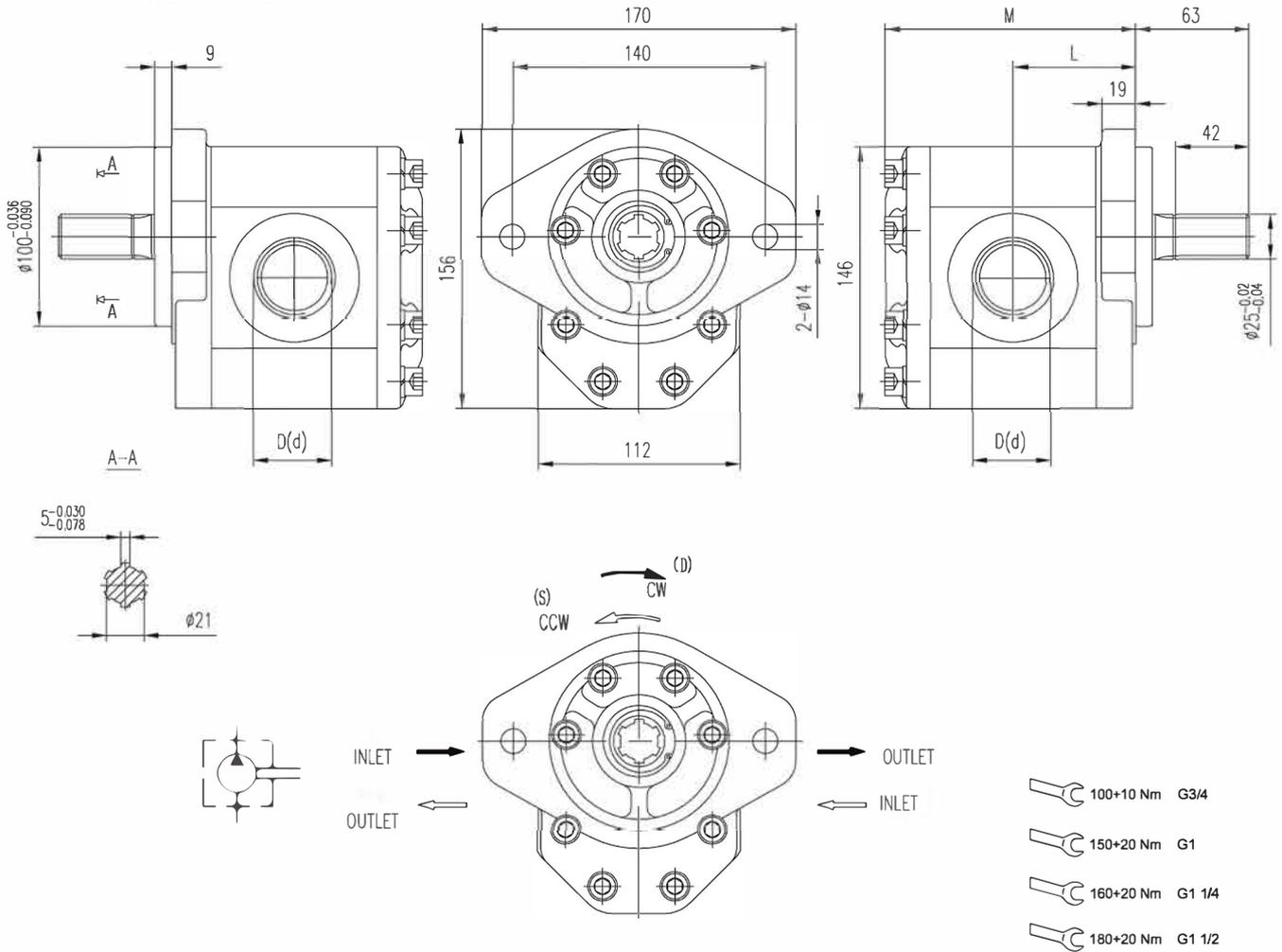


Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET				OUTLET			
	P1 bar	P2 bar	P3 bar				M mm	L mm		A mm	B mm	C UNC	D mm	a mm	b mm	c UNC	d mm
20	250	265	280	3500	600	7.5	128	63	F4	52.4	26.2	3/8	27	47.6	22.2	3/8	19
22	250	265	280	3500	600	7.7	130	64	F4	52.4	26.2	3/8	27	47.6	22.2	3/8	19
26	250	265	280	3000	600	8.1	133	65	F4	52.4	26.2	3/8	27	47.6	22.2	3/8	19
33	230	250	270	3000	500	8.6	139	68	F4	52.4	26.2	3/8	27	47.6	22.2	3/8	19
39	230	250	270	3000	500	9.1	146	72	F4	52.4	26.2	3/8	27	47.6	22.2	3/8	19
46	230	250	270	3000	500	9.6	152	75	F4	52.4	26.2	3/8	27	47.6	22.2	3/8	19
50	220	240	260	3000	500	10.0	156	77	F4	52.4	26.2	3/8	27	47.6	22.2	3/8	19
52	220	240	260	3000	500	10.2	158	78	F4	52.4	26.2	3/8	27	47.6	22.2	3/8	19
55	200	230	250	2800	400	10.5	160	79	F5	58.7	30.2	7/16	33	52.4	26.2	3/8	27
63	200	230	250	2800	400	11.1	168	83	F5	58.7	30.2	7/16	33	52.4	26.2	3/8	27
71	180	200	220	2500	400	11.8	175	86	F5	58.7	30.2	7/16	33	52.4	26.2	3/8	27

# Group 3

## Group 3 Standard Product Dimensions

BHP3-A1-**D**-**20**-H2-**L0**



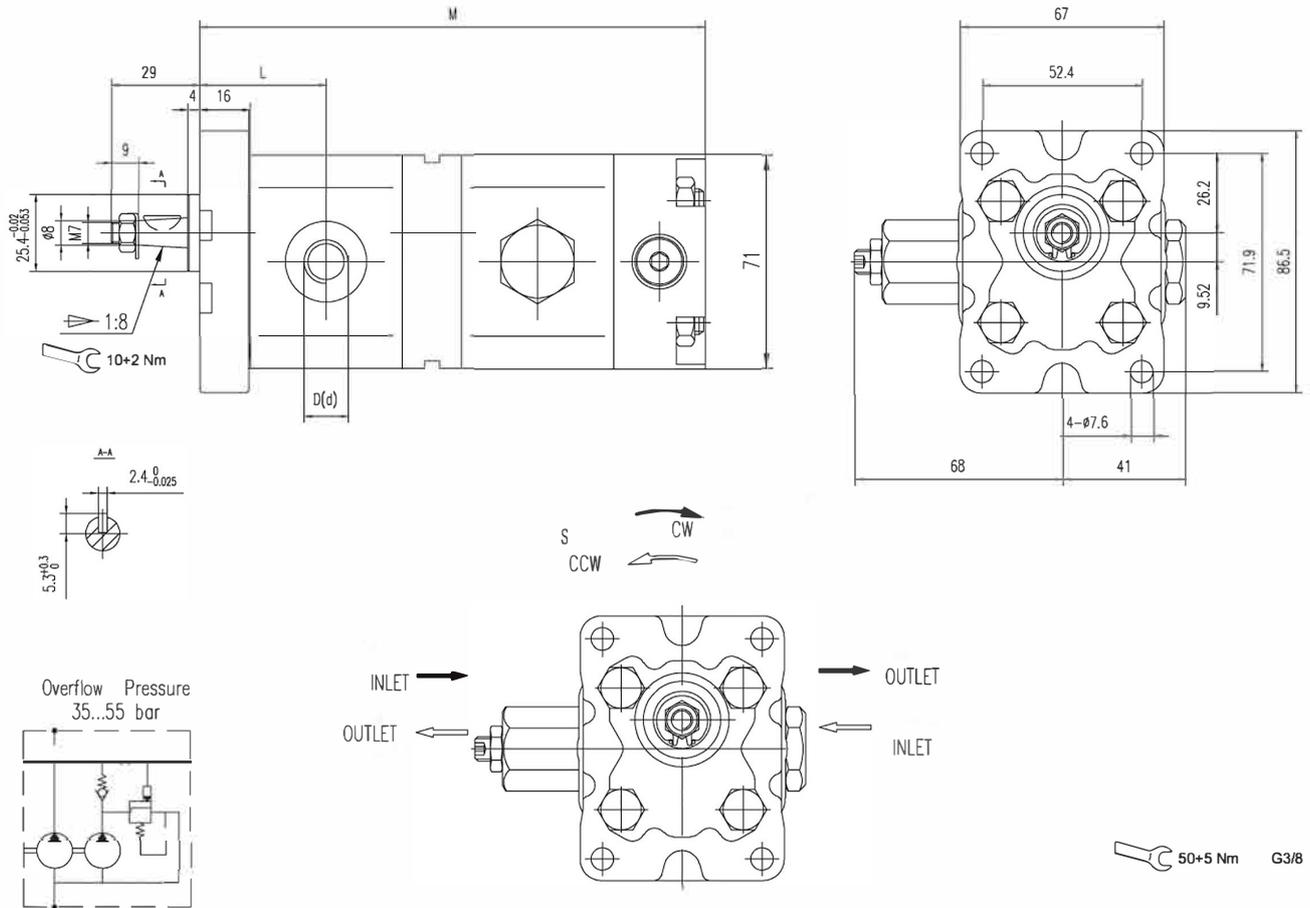
Displacement (cm <sup>3</sup> /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Weight Kg	Dimensions		Oil port code	INLET D	OUTLET d
	P1 bar	P2 bar	P3 bar				M mm	L mm			
20	250	265	280	3500	600	7.5	128	63	L0	G3/4	G3/4
22	250	265	280	3500	600	7.7	130	64	L0	G3/4	G3/4
26	250	265	280	3000	600	8.1	133	65	L1	G1	G3/4
33	230	250	270	3000	500	8.6	139	68	L1	G1	G3/4
39	230	250	270	3000	500	9.1	146	72	L1	G1	G3/4
46	230	250	270	3000	500	9.6	152	75	L2	G1 1/4	G1
50	220	240	260	3000	500	10.0	156	77	L2	G1 1/4	G1
52	220	240	260	3000	500	10.2	158	78	L2	G1 1/4	G1
55	200	230	250	2800	400	10.5	160	79	L2	G1 1/4	G1
63	200	230	250	2800	400	11.1	168	83	L2	G1 1/4	G1
71	180	200	220	2500	400	11.8	175	86	L3	G1 1/2	G1 1/4



# 1G/1G High-Low Pump

## 1G/1G High-Low Pump Standard Product Dimensions

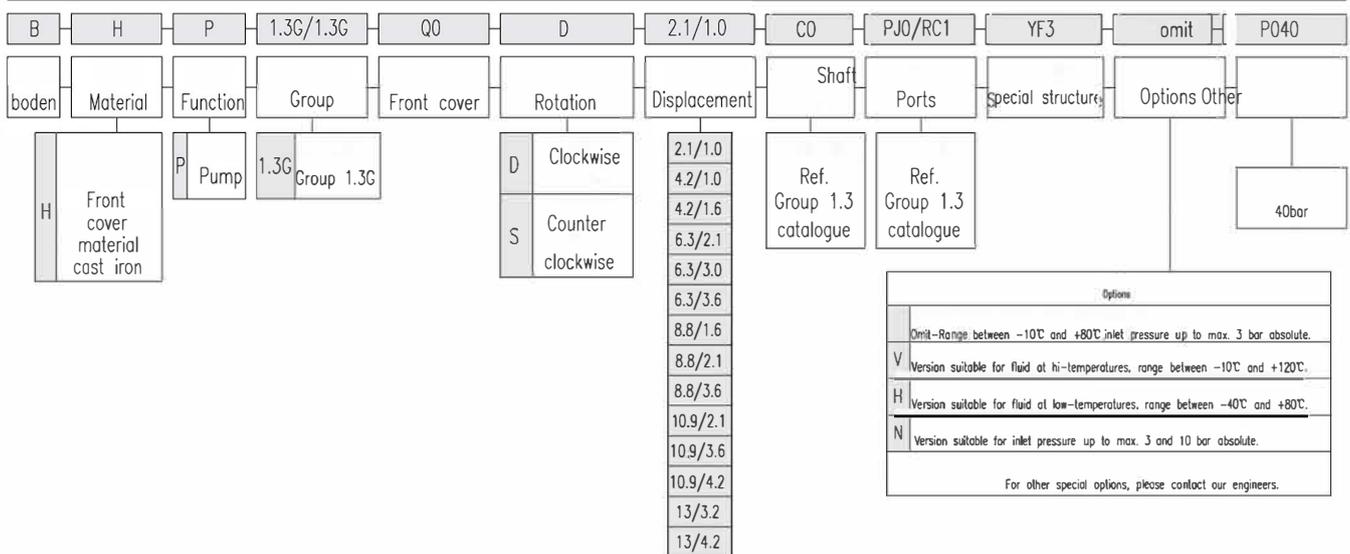
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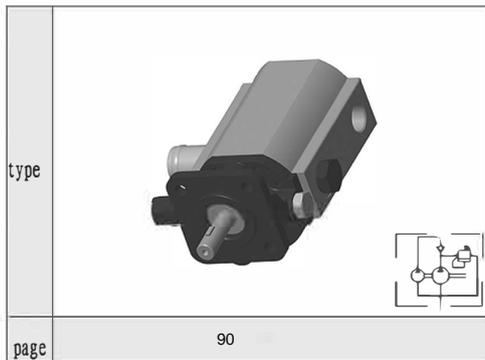
Displacement		Max pressure			Overflow pressure	Max. speed	Min. speed	Dimensions		Oil port code	D	d
High	Low	P1	P2	P3				L	M			
cm <sup>3</sup> /rev	cm <sup>3</sup> /rev	bar	bar	bar	bar	(r/min)	(r/min)	mm	mm			
0.8	3.7	210	230	250	40...45	3500	1000	33.8	146.7	L3	G3/8	G3/8
1.1	3.7	210	230	250		3500	1000	34	147.2	L3	G3/8	G3/8
1.6	3.7	210	230	250		3500	1000	35	149.2	L3	G3/8	G3/8
1.8	4.2	210	230	250		3500	1000	35.5	152.2	L3	G3/8	G3/8
2.1	4.2	210	230	250		3500	1000	36	153.2	L3	G3/8	G3/8
2.1	4.8	210	230	250		3500	1000	36	155.2	L3	G3/8	G3/8
2.7	4.8	210	230	250		3500	1000	37	157.2	L3	G3/8	G3/8
2.7	5.8	210	230	250		3500	1000	37	161.2	L3	G3/8	G3/8
3.2	5.8	210	230	250		3500	1000	38	163.2	L3	G3/8	G3/8
2.1	7.0	210	230	250		3500	1000	36	163.2	L3	G3/8	G3/8
2.7	7.0	210	230	250		3500	1000	37	165.2	L3	G3/8	G3/8
3.2	7.0	210	230	250		3500	1000	38	167.2	L3	G3/8	G3/8
2.7	8.0	210	230	250		3500	1000	37	169.2	L3	G3/8	G3/8
3.2	8.0	210	230	250		3500	1000	38	171.2	L3	G3/8	G3/8

# 1.3G/1.3G High-Low Pump

## 1.3G/1.3G High-Low Pump Ordering Code Rules



## 1.3G/1.3G High-Low Pump Standard Product Overview



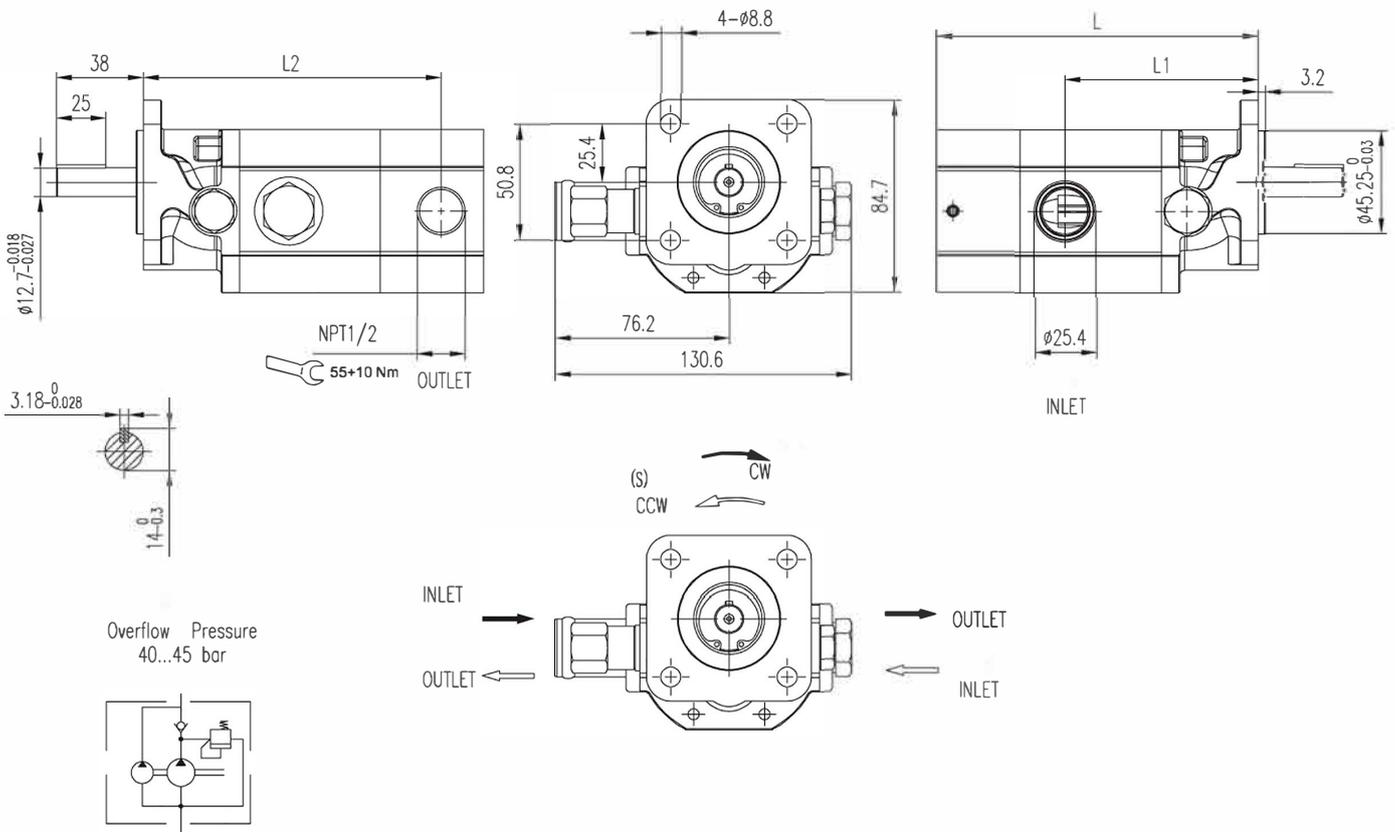
## 1.3G/1.3G High-Low Pump Displacement Parameter Table

Low pressure Displacement	V	cm <sup>3</sup> /rev	2.1	4.2	4.2	6.3	6.3	6.3	8.8	8.8	8.8	10.9	10.9	10.9	13	13
High pressure Displacement	V	cm <sup>3</sup> /rev	1.0	1.0	1.6	2.1	3.0	3.6	1.6	2.1	3.6	2.1	3.6	4.2	3.2	4.2
Overflow pressure	P	bar	40...45													
Max. continuous pressure	P1		210													
Max. intermittent pressure	P2		230													
Max. peak pressure	P3		250													
Min. speed	n <sub>Min</sub>	r/min	500													
Max. speed	n <sub>Max</sub>		3600													
Volumetric efficiency	η <sub>v</sub>	%	≥93													

# 1.3G/1.3G High-Low Pump

## 1.3G/1.3G High-Low Pump Standard Product Dimensions

BHP1.3G/1.3G-Q0-D-2.1/1.0-C0-PJ0/NC2-P040



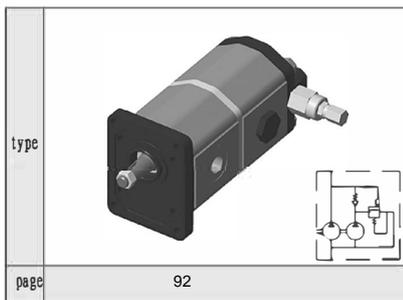
Displacement		Max pressure			Overflow Pressure P	Max speed	Min. speed	Weight	Dimensions			Oil port code		INLET	OUTLET
Low	High	P1	P2	P3					L	L1	L2	D	d	D	d
cm <sup>3</sup> /rev	cm <sup>3</sup> /rev	bar	bar	bar	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
2.1	1.0	210	230	250	40...45	3600	500	1.45	157.8	64.2	100.2	PJ0	NC2	ø25.4	NPT1/2
4.2	1.0	210	230	250		3600	500	1.6	157.8	64.2	100.2	PJ0	NC2	ø25.4	NPT1/2
4.2	1.6	210	230	250		3600	500	1.68	159.8	64.2	102.2	PJ0	NC2	ø25.4	PT1/2
6.3	2.1	210	230	250		3600	500	1.9	154.2	61.2	95.2	PJ0	NC2	ø25.4	NPT1/2
6.3	3.0	210	230	250		3600	500	1.98	157.8	61.2	95.2	PJ0	NC2	ø25.4	NPT1/2
6.3	3.6	210	230	250		3600	500	2	159.5	61.2	99.2	PJ0	NC2	ø25.4	NPT1/2
8.8	1.6	210	230	250		3600	500	2.1	162	69.6	103.6	PJ0	NC2	ø25.4	NPT1/2
8.8	2.1	210	230	250		3600	500	2.15	162.7	69.6	103.6	PJ0	NC2	ø25.4	NPT1/2
8.8	3.6	210	230	250		3600	500	2.25	167.9	69.6	107.6	PJ0	NC2	ø25.4	NPT1/2
10.9	2.1	210	230	250		3600	500	2.4	170.2	77.1	111.1	PJ0	NC2	ø25.4	NPT1/2
10.9	3.6	210	230	250		3600	500	2.5	175.4	77.1	115.1	PJ0	NC2	ø25.4	NPT1/2
10.9	4.2	210	230	250		3600	500	2.55	177.7	77.1	115.1	PJ0	NC2	ø25.4	NPT1/2
13	3.2	210	230	250		3600	500	2.98	180.7	84.1	122.1	PJ0	NC2	ø25.4	NPT1/2
13	4.2	210	230	250		3600	500	3.04	184.7	84.1	122.1	PJ0	NC2	ø25.4	NPT1/2

# 2G/2G High-Low Pump

## 2G/2G High-Low Pump Ordering Code Rules

B	H	P	2G/2G	B0	D	3/18	T0	L1	omit	omit	P040
boden	Material	Function	Group	Front cover	Rotation	Displacement	Shaft	Ports	Special structure	Options	Other
A	Front and end cover material aluminum	P Pump	2G Group 2G	Ref. Group 2 catalogue	D Clockwise S Counter clockwise	3/16 3/18 4/18 4/20 6/20 6/22 8/20 8/22 10/22 10/25 12/25 12/28 14/28 14/30	Ref. Group 2 catalogue	Ref. Group 2 catalogue			40bar
H	Front and end cover material cast iron, pressure 30 bar higher than aluminum covers										
Options											
	Omit-Range between -10°C and +80°C inlet pressure up to max. 3 bar absolute.										
V	Version suitable for fluid at hi-temperatures, range between -10°C and +120°C.										
H	Version suitable for fluid at low-temperatures, range between -40°C and +80°C.										
N	Version suitable for inlet pressure up to max. 3 and 10 bar absolute.										
For other special options, please contact our engineers.											

## 2G/2G High-Low Pump Standard Product Overview



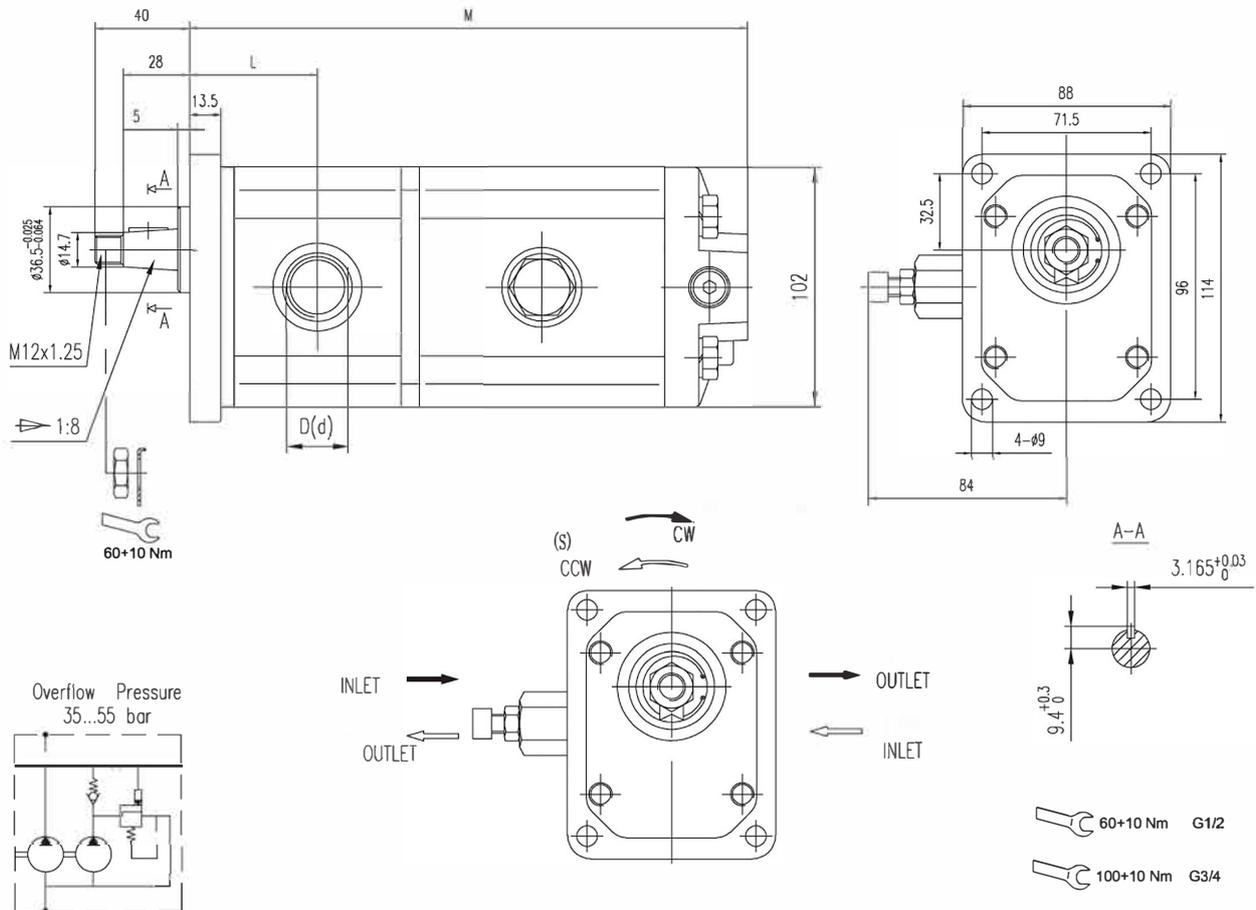
## 2G/2G High-Low Pump Displacement Parameter Table

Displacement	V	cm <sup>3</sup> /rev	3	3	4	4	6	6	8	8	10	10	12	12	14	14
Displacement	V	cm <sup>3</sup> /rev	16	18	18	20	20	22	20	22	22	25	25	28	28	30
Overflow pressure	P	bar	35... 75													
Max. continuous pressure	P1		210													
Max. intermittent pressure	P2		230													
Max. peak pressure	P3		250													
Min. speed	n <sub>Min</sub>	r/min	800													
Max. speed	n <sub>Max</sub>		2500													
Volumetric efficiency	η <sub>v</sub>	%	≥ 90													

# 2G/2G High-Low Pump

## 2G/2G High-Low Pump Standard Product Dimensions

BHP2G/2G-B0-[D]-[3/18]-T0-[L1]-[P040]



Displacement		Max pressure			Overflow pressure	Max. speed	Min. speed	Dimensions		Oil port code	INLET	OUTLET
High	Low	P1	P2	P3	P	(r/min)	(r/min)	L	M		D	d
cm <sup>3</sup> /rev	cm <sup>3</sup> /rev	bar	bar	bar	bar			mm	mm			
3	16	210	230	250	35...75	3500	1000	43.6	181.8	L1	G3/4	G1/2
3	18	210	230	250		3500	1000	43.6	185.1	L1	G3/4	G1/2
4	18	210	230	250		3500	1000	44.4	186.7	L1	G3/4	G1/2
4	20	210	230	250		3500	1000	44.4	190	L1	G3/4	G1/2
6	20	210	230	250		3500	1000	46	193.3	L1	G3/4	G1/2
6	22	210	230	250		3500	1000	46	196.6	L1	G3/4	G1/2
8	20	210	230	250		3500	1000	47.7	196.6	L1	G3/4	G1/2
8	22	210	230	250		3500	1000	47.7	199.9	L1	G3/4	G1/2
10	22	210	230	250		3500	1000	49.3	203.2	L1	G3/4	G1/2
10	25	210	230	250		3500	1000	49.3	208.2	L1	G3/4	G1/2
12	25	210	230	250		3500	1000	51	211.5	L1	G3/4	G1/2
12	28	210	230	250		3500	1000	51	216.5	L1	G3/4	G1/2
14	28	210	230	250		3500	1000	52.7	219.9	L1	G3/4	G1/2
14	30	210	230	250		3500	1000	52.7	223.2	L1	G3/4	G1/2