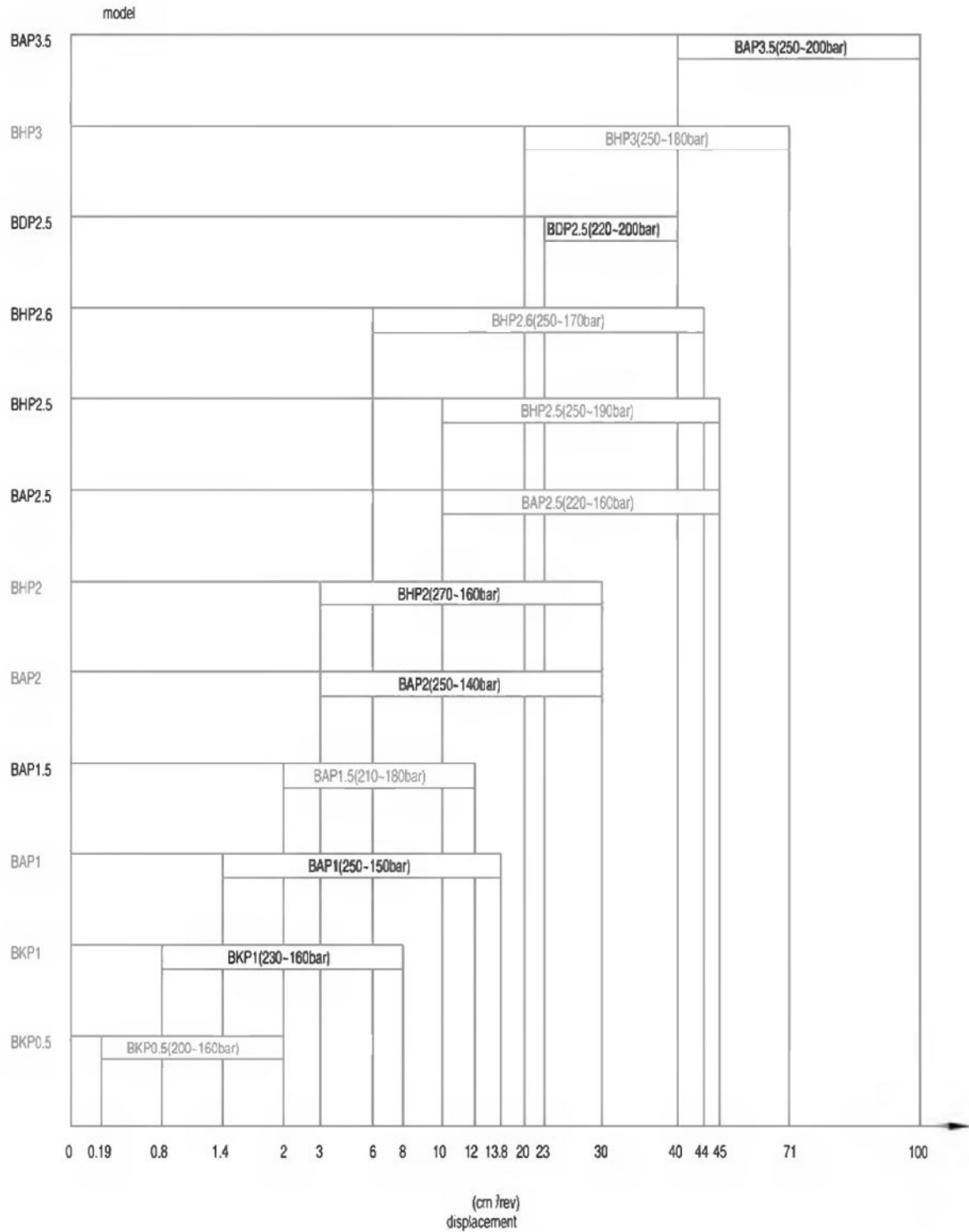


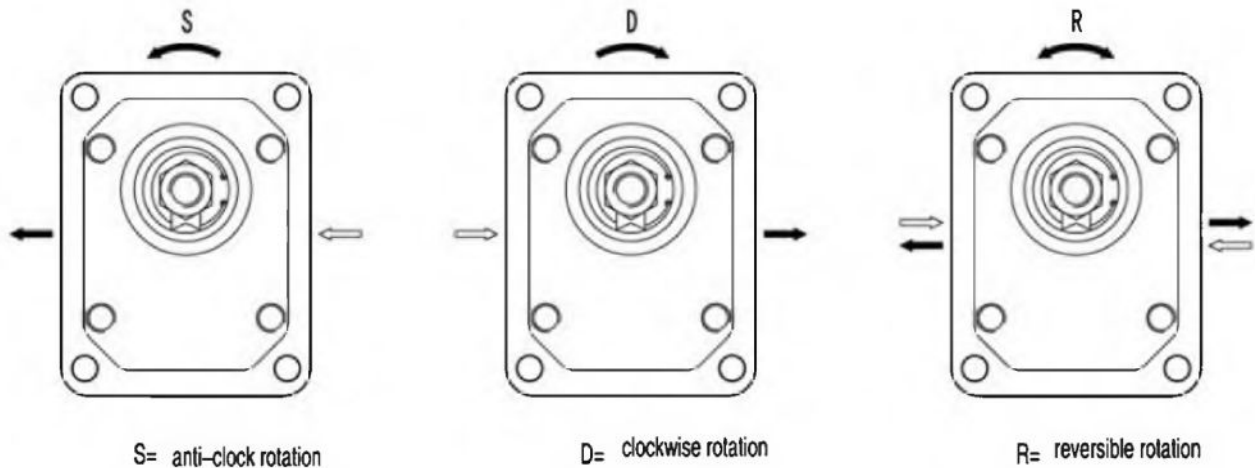
PRODUCT RANGE



Remark: Show these pressures as maximum continuous pressure in the graph, product series "BH" denote front and end cover material cast iron, etcaeteras series denote front and end cover material aluminum.

ROTATION DIRECTION

Definition of rotation direction: 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.



DESIGN CALCULATIONS FOR PUMP

Flow	Q	L/min
Torque	M	Nm
Power	P	kW
Speed	n	r/min
Pressure	ΔP	bar
Displacement	V	cm ³ /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]

BAP2[BHP2]

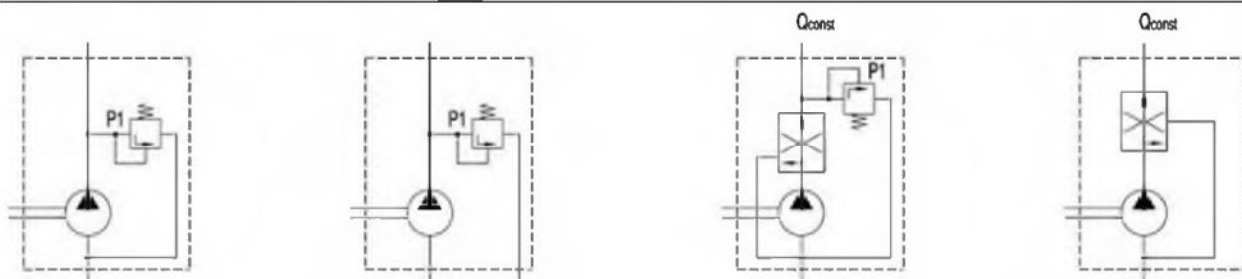
HOW TO ORDER

BA	P	2	Front cover	Rotation	Size	Shaft	Ports	Ports position	Seals	Options
Series	P- Pump M- Motor	Group	A0 B0 B1 B2 Q0 Q1 Q2	D Clockwise S Counter clockwise R Reversible	3 4 6 8 10 12 14 16 18 20 22 25 28 30			Ports position Omit-Side inlet and side outlet B-Back inlet and front outlet C-Back inlet and side outlet D-Side inlet and front outlet R-Back inlet and back outlet	Drain Q0- internal drain Q1- external drain G1/4 Q2- external drain 9/16-18 UNF Q3- external drain 7/16-20 UNF Q4- external drain M12x1.5	
BA-Front and end cover material aluminum										
BH-Front and end cover material cast iron, pressure than 'BA' series high 30 bar.										

Seals

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.
T-Version suitable for inlet pressure up to max. 3 and 6 bar absolute.
N-Version suitable for inlet pressure up to max. 3 and 10 bar absolute.

Options



Pressure relief valve.
Discharge returned to suction.
P1= 5...250 bar.

Ordering code

Y 180xx

Pressure relief valve.
Discharge returned to externally.
P1= 5...250 bar.

P 120xx

3-way flow control valve
with pressure relief valve.
Excess flow returned to suction.
P1= 100...180 bar.
Qconst= 2...30 L/min.

F 15015

3-way flow control valve.
Excess flow returned to suction.
Qconst= 2...30 L/min.

Q xxx15

Examples:

BHP2-B0-D-3-T0-E0 = clockwise rotation, 3 cc/rev, B0 front cover, 1:8 tapered shaft(T0), setting ports E0 type, standard seals

BAP2-A0-D-3-C0-U0 = clockwise rotation, 3 cc/rev, A0 front cover, C0 parallel shaft, setting ports U0 type, standard seals

BHP2-Q0-D-3-T1-F0-N= clockwise rotation, 3 cc/rev, Q0 front cover, 1:8 tapered shaft(T0), setting ports F0 type, high pressure seals(N)

BHP2A0[BAP2A0]

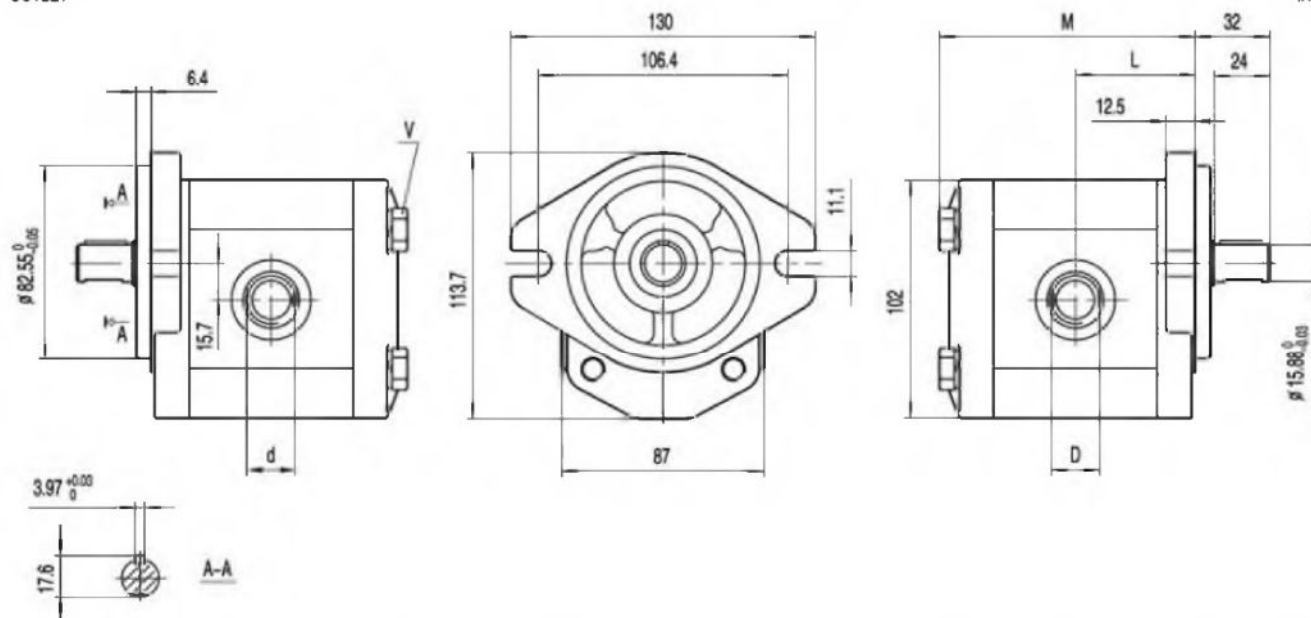


"D" and "d" ports are machined in compliance with threaded port with O-ring seal in truncated housing SAE J1926/1(ISO J1926-1).

Mounting flange material	V
	Screws tightening torque Nm
Aluminum	40...45
Cast iron	70...75

OUTLET

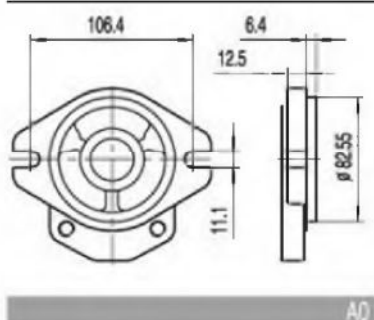
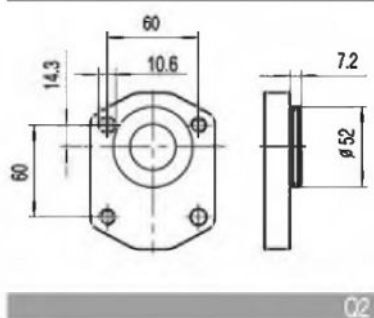
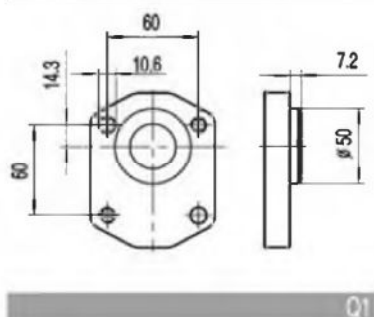
INLET



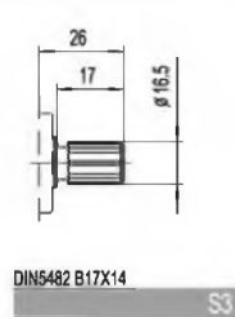
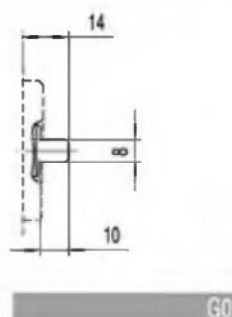
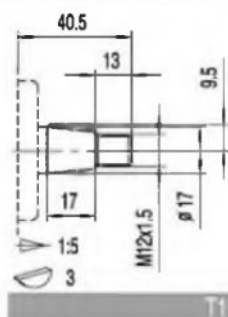
Type	Displacement (cm ³ /rev)	Max pressure			Max. speed (r/min)	Min. speed (r/min)	Dimensions			
		P1 bar	P2 bar	P3 bar			M mm	L mm	D	d
BHP2A0-D-3	3	270	285	300	4000	800	91.1	43.6	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-4	4	270	285	300	4000	600	92.7	44.4	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-6	6	270	285	300	4000	600	96	46	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-8	8	270	285	300	3500	500	99.3	47.7	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-10	10	270	285	300	3000	500	102.6	49.3	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-12	12	270	285	300	3000	500	105.9	51	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-14	14	250	265	280	4000	500	109.3	52.7	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-16	16	250	265	280	4000	500	112.7	54.4	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-18	18	250	265	280	3600	400	116	56	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-20	20	220	235	250	3200	400	119.3	57.7	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-22	22	220	235	250	3000	400	122.6	59.3	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-25	25	200	215	230	3000	400	127.6	61.8	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-28	28	180	190	200	2500	400	132.6	64.3	1 1/16-12UNF	7/8-14UNF
BHP2A0-D-30	30	160	170	180	2500	400	135.9	66	1 5/16-12UNF	7/8-14UNF

BAP2[BHP2]

FRONT COVER



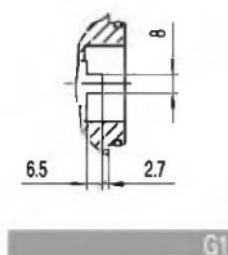
SHAFTS



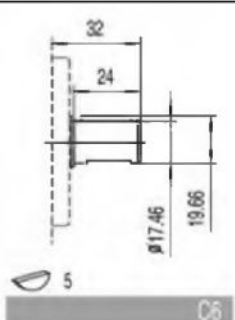
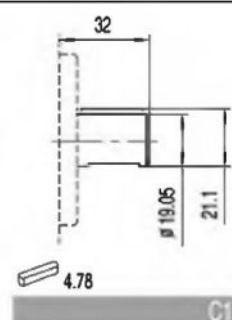
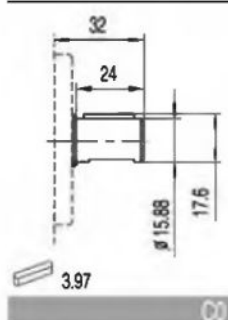
Max.Torque 180 Nm

Max.Torque 100 Nm

Max.Torque 150 Nm



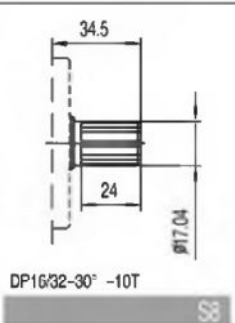
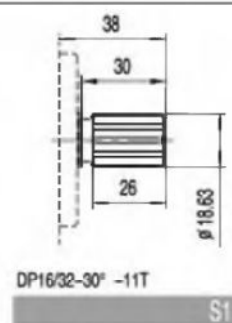
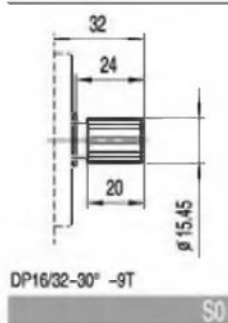
Max.Torque 100 Nm



Max.Torque 140 Nm

Max.Torque 160 Nm

Max.Torque 180 Nm



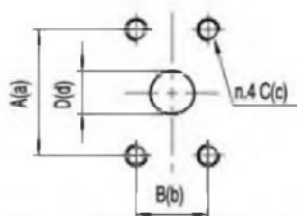
Max.Torque 185 Nm

Max.Torque 200 Nm

Max.Torque 190 Nm

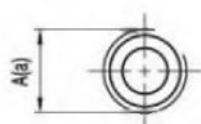
BAP2[BHP2]

PORTS



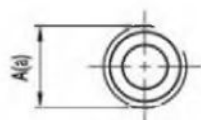
F2/F3/F4

TYPE	PORTS CODE	INLET				OUTLET			
		A	B	C	D	a	b	c	d
BA(H)P2...3 ÷ BA(H)P2...16	F2	38.1	17.48	5/16-18UNC	13	38.1	17.48	5/16-18UNC	13
BA(H)P2...18 ÷ BA(H)P2...20	F3	47.63	22.23	3/8-16UNC	20	38.1	17.48	5/16-18UNC	13
BA(H)P2...22 ÷ BA(H)P2...30	F4	47.63	22.23	3/8-16UNC	20	47.63	22.23	3/8-16UNC	20



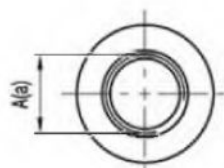
L0/L1/L3/L4

TYPE	PORTS CODE	INLET	OUTLET
		A	a
BA(H)P2...3 ÷ BA(H)P2...6	L0	G1/2	G1/2
BA(H)P2...8 ÷ BA(H)P2...30	L1	G3/4	G1/2
BA(H)P2...16 ÷ BA(H)P2...30	L3	G 1	G3/4
BA(H)P2...8 ÷ BA(H)P2...30	L4	G3/4	G3/4



R0/R1/R2

TYPE	PORTS CODE	INLET	OUTLET
		A	a
BA(H)P2...3 ÷ BA(H)P2...12	R0	PT1/2	PT1/2
BA(H)P2...14 ÷ BA(H)P2...25	R1	PT3/4	PT1/2
BA(H)P2...28 ÷ BA(H)P2...30	R2	PT 1	PT3/4



U0/U1/U2/U3

TYPE	PORTS CODE	INLET	OUTLET
		A	a
BA(H)P2...3 ÷ BA(H)P2...28	U0	1 1/16-12 UNF	7/8-14 UNF
BA(H)P2...30	U1	1 5/16-12 UNF	7/8-14 UNF
BA(H)P2...3 ÷ BA(H)P2...28	U2	7/8-14 UNF	3/4-16 UNF
BA(H)P2...8 ÷ BA(H)P2...30	U3	1 5/16-12 UNF	1 1/16-12 UNF