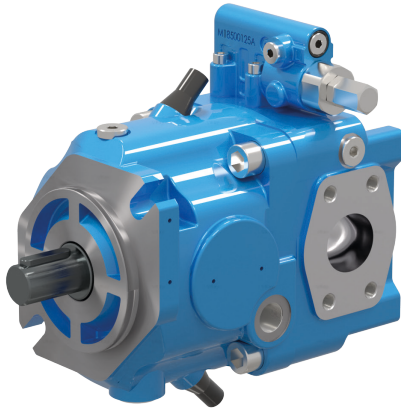


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Type	Displacement cm ³ /rev [in ³ /rev]	Max. flow l/min [U.S. gpm]	Max. pressure cont. bar [psi]
S5AV 032	32.00 [1.95]	100 [26.4]	280 [4000]
S5AV 045	43.3 [2.64]	117 [30.88]	300 [4350]
S5AV 050	49.65 [3.05]	149 [39.3]	320 [4600]
S5AV 063	63.98 [3.90]	160 [42.24]	320 [4600]
S5AV 075	75.00 [4.57]	169 [44.62]	350 [5000]
S5AV 093	93.76 [5.72]	197 [52]	320 [4600]

S5AV is a family of pumps for open circuit, axial piston design for mobile and industrial applications. A strong proven rotating group allows the pumps to handle high continuous and peak pressure. The pump features patented swash plate assembly resulting in minimal leaks and high volumetric efficiency. An adjustable maximum/minimum volume stops provides a means of tuning flow to your system. Controls options are designed to provide high accuracy and repeatability of operation. Versatile design includes 100% through-drive capability for multiple pump options.

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The product images and drawings shown are for illustration purposes only and may not be an exact representation of the product.

We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.

Each product configuration listed below is subject to availability: please contact Sales Dpt. for more commercial detailed info.

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Simbology:

C	N/bar [lbf/psi]	Load
F_{ax max}	N [lbf]	Axial pushing load
F_{ax max}	N [lbf]	Axial pulling load
F_q	N [lbf]	Radial load
F_{q max}	N [lbf]	Maximum permissible radial load
J	kg·m ² [lbf·ft ²]	Moment of inertia
m	kg [lbs]	Weight
n_{0 max}	rpm	Maximum speed
p_{nom}	bar [psi]	Maximum cont. pressure

p_{max}	bar [psi]	Maximum pressure peak
q_{max}	l/min [U.S. gpm]	Maximum flow
q_d	l/min [U.S. gpm]	External drain flow
T_k	Nm/bar [lbf.ft/psi]	Torque constant
T_{nom}	Nm [lbf.ft]	Maximum torque at pressure cont.
T_{max}	Nm [lbf.ft]	Maximum torque at pressure peak
V_g	cm ³ /rev [in ³ /rev]	Displacement
P_{max}	kW [hp]	Maximum power at p _{nom}
η_{hm}	%	Mech-hyd. efficiency
η_v	%	Volumetric efficiency

Features and benefits

- Compact size
- Quiet pump operation
- High efficiency
- Accurate control function
- Reduced maintenance
- Long pump life
- Flexibility in machine design

Typical applications

- Industrial equipments
- Earth moving machines and construction machinery
- Agricultural and forestry machines
- Marine and Off-Shore equipments

Hydraulic fluids:

Use fluids with mineral oil basis and anticorrosive, antioxidant and wear preventing addition agents (HL or HM). Viscosity range at operating temperature must be of 15 ÷ 40 cSt. For short periods and upon cold start, a max. viscosity of 800 cSt is allowed. Viscosities less than 10 cSt are not allowed. A viscosity range of 10 ÷ 15 cSt is allowed for extreme operating conditions and for short periods only. For further information see at Fluids and filtration section.

Temperature ranges:

The operating temperature of the oil must be within -25 °C ÷ 90 °C (-13 °F ÷ 194 °F). The running of the axial piston unit with oil temperature higher than 90 °C (194 °F) for lower than -25 °C (-13 °F) is not allowed. For further information see at Fluids and filtration section.

Filtration:

A correct filtration is essential for long and satisfactory life of axial piston units. In order to ensure a correct functioning of the unit, the maximum permissible contamination class is 20/18/15 according to ISO 4406:1999. For further details see at Fluids and filtration section.

Inlet pressure:

Minimum absolute pressure at suction port 0.8 bar [11.6 psi]. In no case inlet pressure can be lower.

Case drain pressure:

Maximum permissible case drain pressure 1.5 bar [22 psi]. A higher pressure can affect the shaft seal or reduce its life.

Seals:

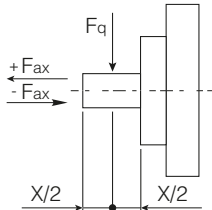
Seals used on standard S5AV series axial piston pumps are of NBR (Acrylonitrile-Butadiene Elastomer). For special uses (high temperatures or special fluids) it is possible to order the unit with FKM seals (Viton®).

Warning:

In the unit with FKM (Viton®) version, the seals on the controls are in NBR version.
In case of use of special fluids, contact Dana.

Drive shaft Radial and Axial forces:

The drive shaft can support both radial and axial forces. The maximum permissible loads in the following table are calculated in such a way as to guarantee a service life of at least 80% of the service life of bearings to which no load is applied.



			Size					
			032	045	050	063	075	093
Radial load	F_{q max}	lbf	225	225	338	338	540	540
Axial load	F_{ax max}	lbf	270	270	338	338	428	428

Installation:

S5AV series pumps can be installed in every position or direction. These axial piston units have separate ports and drain chambers and so must be always drained. Installation of the unit with shaft in vertical position and above the tank involves some limitations. For further details see at General installation guide lines.

Noise level:

Researches carried out by a university institute supplied us with some data concerning noise level and its correlation with structural vibrations. These data allow us to state as partial result a max. noise level value of 70 dB, at 1 m distance from the pump, under following working conditions: max. displacement, rotating speed 1500 rpm, pressure 200 bar [2900 psi] and mineral oil at 45 °C with viscosity 35 cSt.

			Size					
			032	045	050	063	075	093
Displacement ⁽¹⁾	$V_{g \max}$	cm ³ /rev [in ³ /rev]	32.00 [1.95]	43.3 [2.64]	49.65 [3.05]	63.98 [3.90]	75.00 [4.57]	93.76 [5.72]
Displacement ⁽¹⁾	$V_{g \min}$	cm ³ /rev [in ³ /rev]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]
Press. max. cont.	p_{nom}	bar [psi]	280 [4000]	300 [4350]	320 [4600]	320 [4600]	350 [5000]	320 [4600]
Press. max. peak	p_{max}	bar [psi]	350 [5000]	350 [5000]	380 [5500]	380 [5500]	420 [6000]	380 [5500]
Max speed at $V_{g \max}$ ⁽¹⁾	$n_{\text{max nom}}$	rpm	3150	2700	3000	2500	2250	2100
Minimum Recommended Speed	$n_{\min}$	rpm	500	500	500	500	500	500
Max flow at $n_{\text{max nom}}$ e $V_{g \max}$	$q_{\text{max nom}}$	l/min [U.S.gpm]	100 [26.4]	117 [30.88]	149 [39.3]	160 [42.24]	169 [44.62]	197 [52]
Max power at $q_{\text{max nom}}$ e p_{nom}	$P_{\text{max nom}}$	kW [hp]	46 [62]	57 [76]	79 [105]	85 [114]	113 [151]	121 [162]
Torque constant	T_k	Nm/bar [lbf.ft/psi]	0.51 [0.026]	0.69 [0.035]	0.79 [0.040]	1.01 [0.052]	1.20 [0.061]	1.49 [0.076]
Max torque cont. at p_{nom}	T_{nom}	Nm [lbf.ft]	142 [105]	207 [152.5]	253 [186]	326 [240]	418 [308]	477 [351]
Max torque peak at p_{max}	T_{max}	Nm [lbf.ft]	177 [130]	241 [177]	300 [221]	387 [285]	500 [368]	567 [418]
Moment of inertia ⁽²⁾	J	kg·m ² [lbf.ft ²]	0.0034 [0.081]	0.0034 [0.081]	0.0065 [0.154]	0.0065 [0.154]	0.0098 [0.232]	0.0098 [0.232]
Weight ⁽²⁾	m	kg [lbs]	19 [42]	20 [44]	30 [66]	31 [68]	42 [92]	44 [96]

(Theoretical values, without considering h_{hm} and h_v ; approximate values). Peak operations must not excide 1% of every minute. A simultaneous maximum pressure and maximum speed are not recommended.

If speed and oil viscosity are different from standard, please contact us.

Notes:

⁽¹⁾The values shown are valid for an absolute pressure (pass) of 1 bar [14.5 psi] at the suction inlet port an when operated on mineral oil in conditions of optimum viscosity.

⁽²⁾Approximate values.

The following alphanumeric codes system has been developed to identify all of the configuration options for the S5AV pumps. Use the model code below to specify the desired features. **All alphanumeric digits system of the code must be present when ordering.** We recommend to carefully read the catalogue before filling the ordering code.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Series	Pump	Size	Maximum displacement limitation	Minimum displacement limitation	Version	Mount flange	Shaft end	Direction of rotation	Seal	Control	Control feature	Through drive	Serie feature	Painting
S5AV	P	032	0÷32	0÷32	ME	02	S10	DX	N	PCXXX	000	XX	XX	XX

1	Series
S5AV	Variable displacement axial piston pump

2	Pump
P	Pump

3	Size
032	32 cm ³ /rev [1.95 in ³ /rev]
045	43.2 cm ³ /rev [2.64 in ³ /rev]
050	49.65 cm ³ /rev [3.05 in ³ /rev]
063	63.98 cm ³ /rev [3.9 in ³ /rev]
075	75 cm ³ /rev [4.57 in ³ /rev]
093	93.76 cm ³ /rev [5.673 in ³ /rev]

4	Maximum displacement limitation	032	045	050	063	075	093
32÷0	From 32 cm ³ /rev [1.95 in ³ /rev] to 0 cm ³ /rev [0 in ³ /rev]	●	–	–	–	–	–
45÷0	From 43.2 cm ³ /rev [2.64 in ³ /rev] to 0 cm ³ /rev [0 in ³ /rev]	–	●	–	–	–	–
50÷0	From 49.65 cm ³ /rev [3.05 in ³ /rev] to 0 cm ³ /rev [0 in ³ /rev]	–	–	●	–	–	–
63÷0	From 63.98 cm ³ /rev [3.9 in ³ /rev] to 0 cm ³ /rev [0 in ³ /rev]	–	–	–	●	–	–
75÷0	From 75 cm ³ /rev [4.57 in ³ /rev] to 0 cm ³ /rev [0 in ³ /rev]	–	–	–	–	●	–
93÷0	From 93.76 cm ³ /rev [5.673 in ³ /rev] to 0 cm ³ /rev [0 in ³ /rev]	–	–	–	–	–	●

● Available
– Not available

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S5AV	P	032	0÷32	0÷32	ME	02	S10	DX	N	PCXXX	000	XX	XX	XX

5

Minimum displacement limitation		Size					
		032	045	050	063	075	093
0÷32	From 0 cm ³ /rev (0 in ³ /rev) to 32 cm ³ /rev (1.95 in ³ /rev)	●	–	–	–	–	–
0÷45	From 0 cm ³ /rev (0 in ³ /rev) to 45 cm ³ /rev (2.745 in ³ /rev)	–	●	–	–	–	–
0÷50	From 0 cm ³ /rev (0 in ³ /rev) to 50 cm ³ /rev (3.05 in ³ /rev)	–	–	●	–	–	–
0÷63	From 0 cm ³ /rev (0 in ³ /rev) to 63 cm ³ /rev (3.843 in ³ /rev)	–	–	–	●	–	–
0÷75	From 0 cm ³ /rev (0 in ³ /rev) to 75 cm ³ /rev (4.575 in ³ /rev)	–	–	–	–	●	–
0÷93	From 0 cm ³ /rev (0 in ³ /rev) to 93 cm ³ /rev (5.673 in ³ /rev)	–	–	–	–	–	●

● Available
– Not available

6

Version	
ME	ISO

7

Mount flange		Size					
		032	045	050	063	075	093
02	2 Bolts SAE-B	●	●	●	●	–	–
04	2 Bolts SAE-C	–	–	–	–	●	●
08 ^(*)	4 Bolts SAE-D	–	–	–	–	●	●

* : Not available for second pump Tandem 075 / 093 + 075 / 093.

● Available
– Not available

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S5AV	P	032	0÷32	0÷32	ME	02	S10	DX	N	PCXXX	000	XX	XX	XX

8		Size					
Shaft end		032	045	050	063	075	093
S10	Splined 15T - 16/32 DP	●	●	–	–	–	–
SAX	Splined 13T - 16/32 DP	●	●	–	–	–	–
CBB	Cylindrical Ø25 mm [Ø0.984 in]	●	●	–	–	–	–
S11	Splined 15T - 16/32 DP	–	–	●	●	–	–
SAH	Splined DIN 5480 W35x2x30x16x9g	–	–	●	●	–	–
CBC	Cylindrical Ø32 mm [Ø1.260 in]	–	–	●	●	–	–
S13	Splined 14T - 12/24 DP	–	–	–	–	●	●
SAC	Splined 21T - 16/32 DP	–	–	–	–	●	●
SAL	Splined DIN 5480 W40x2x30x18x9g	–	–	–	–	●	●
CBD	Cylindrical Ø40 mm [Ø1.575 in]	–	–	–	–	●	●

For Tandem assembly check chapter “TANDEM COMBINATION DIMENSIONS”

- Available
- Not available

9		Direction of rotation (viewed from shaft side)
DX	CW	
SX	CCW	

10		Seal
N	NBR	
V(*)	FKM	

* : The seals on the Controls are in NBR version.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S5AV	P	032	0÷32	0÷32	ME	02	S10	DX	N	PCXXX	000	XX	XX	XX

11

Control		Size					
		032	045	050	063	075	093
PCXXX	Constant Pressure - CTP	●	●	●	●	●	●
LSPCX	Load Sensing + Pressure Cut-Off with drain - CLS+TP	●	●	●	●	●	●
LSPCY	Load Sensing + Pressure Cut-Off without drain - CLS+TP	●	●	●	●	●	●
NCPCX	Constant Power + Constant Pressure - NC+PC	–	–	●	●	●	●
NLP0X	Constant Power + Load Sensing + pressure Cut-Off without drain - NC+LS+TP3	–	–	●	●	●	●
NLP1X	Constant Power + Load Sensing + pressure Cut-Off with drain - NC+LS+TP3C	–	–	●	●	●	●

- Available
– Not available

12

Control feature			Control					
			PCXXX	LSPCX	LSPCY	NCPCX	NLP0X	NLP1X
000	None		–	–	–	–	–	–
6.5÷35	Power at 1500 rpm [kW]	S5AV 50	–	–	–	●	●	●
8÷45		S5AV 63	–	–	–	●	●	●
9.5÷60		S5AV 75	–	–	–	●	●	●
12÷60		S5AV 93	–	–	–	●	●	●
18÷35	Load Sensing (bar)	Standard 20 bar	–	●	●	–	●	●
50÷350	Pressure Setting (bar)	Standard 305 bar	●	●	●	●	●	●

- Available
– Not available

Please verify the possibility of the values showed with the control diagrams present on the catalogue.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S5AV	P	032	0÷32	0÷32	ME	02	S10	DX	N	PCXXX	000	XX	XX	XX

13

Through drive		Size					
		032	045	050	063	075	093
Through drive for 2nd Pump assembled by the customer							
XX	Without through drive	●	●	●	●	●	●
SA	SAE A = Z9 - 16/32 DP	●	●	●	●	●	●
SB	SAE B = Z13 - 16/32 DP	●	●	●	●	●	●
BB	SAE B-B = Z15 - 16/32 DP	●	●	●	●	●	●
SC	SAE C = Z14 - 12/24 DP	–	–	●	●	●	●
CC	SAE C-C = Z17 - 12/24 DP	–	–	●	●	●	●
G2	GR2 L=4	●	●	●	●	●	●
2G	GR2 L=3.2	●	●	●	●	●	●
G3	GR3	●	●	●	●	●	●
Through drive for 2nd Pump assembled by Dana							
TA	Pump combination c/w through drive SAE A = 9T - 16/32 DP	●	●	●	●	●	●
TB	Pump combination c/w through drive SAE B = 13T - 16/32 DP	●	●	●	●	●	●
BT	Pump combination c/w through drive SAE B-B = 15T - 16/32 DP	●	●	●	●	●	●
TC	Pump combination c/w through drive SAE C = 14T - 12/24 DP	–	–	●	●	●	●
T0	Pump Combination only with S5AV 32/45 shaft S10	●	●	●	●	●	●
T1	Pump Combination only with S5AV 50/63 shaft S11	–	–	●	●	●	●
T2	Pump Combination only with S5AV 50/63 shaft SAH	–	–	●	●	●	●
T4	Pump Combination only with S5AV 75/93 shaft SAC	–	–	–	–	●	●

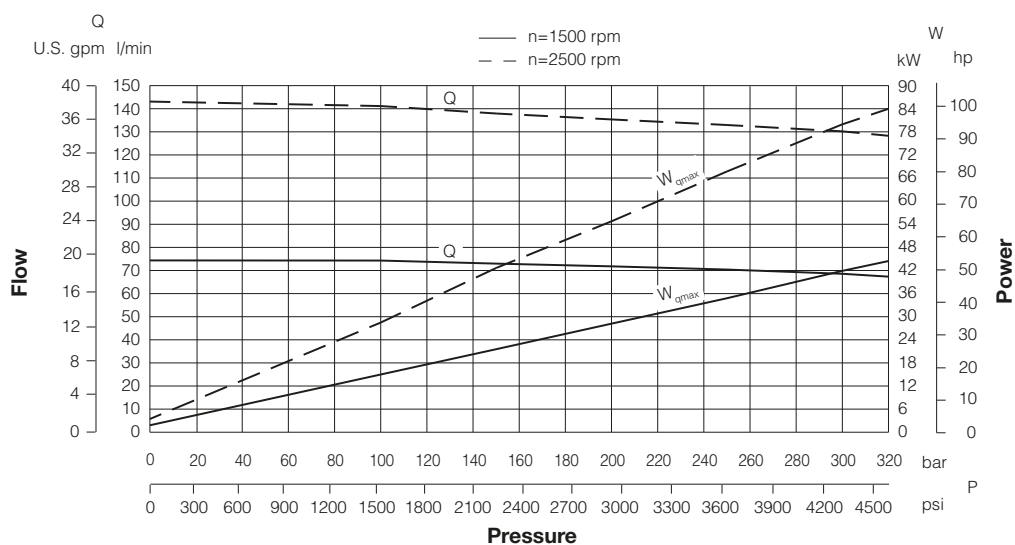
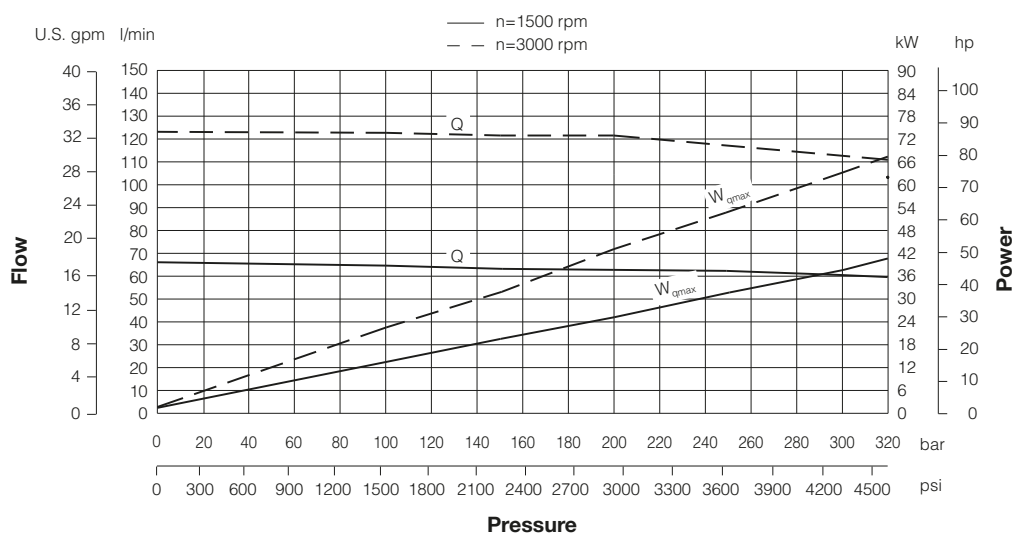
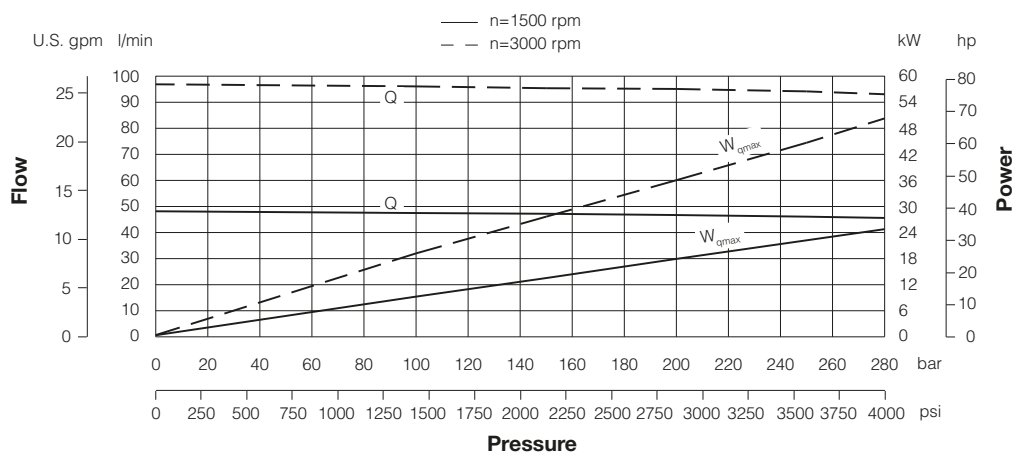
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In tandem combinations where 2nd pump is S5AV, use only T0-T1-T2-T4 through drive.

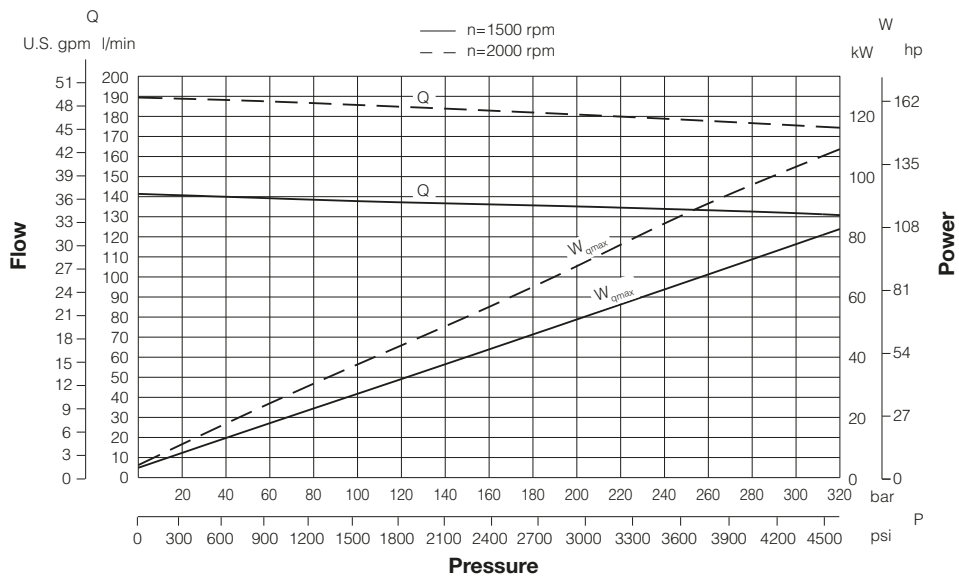
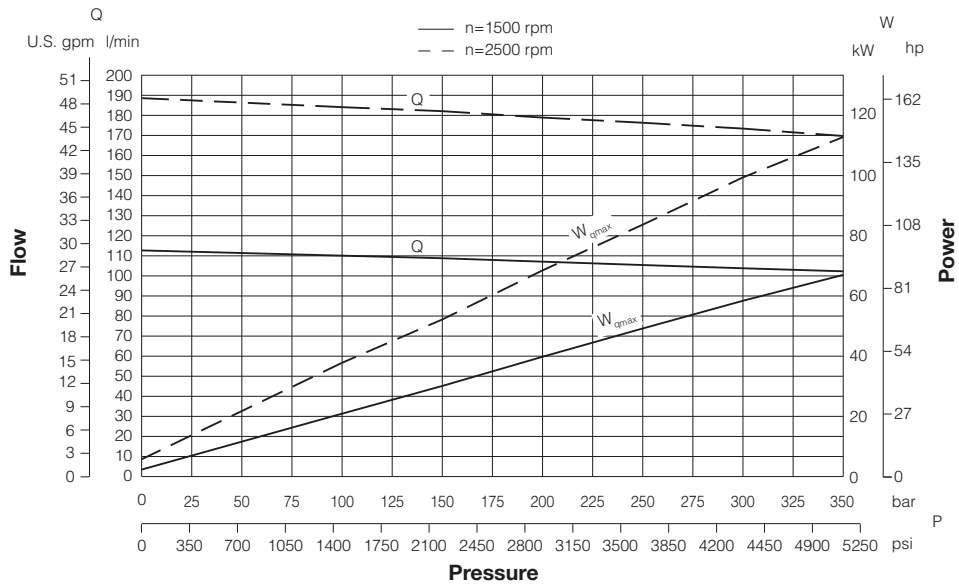
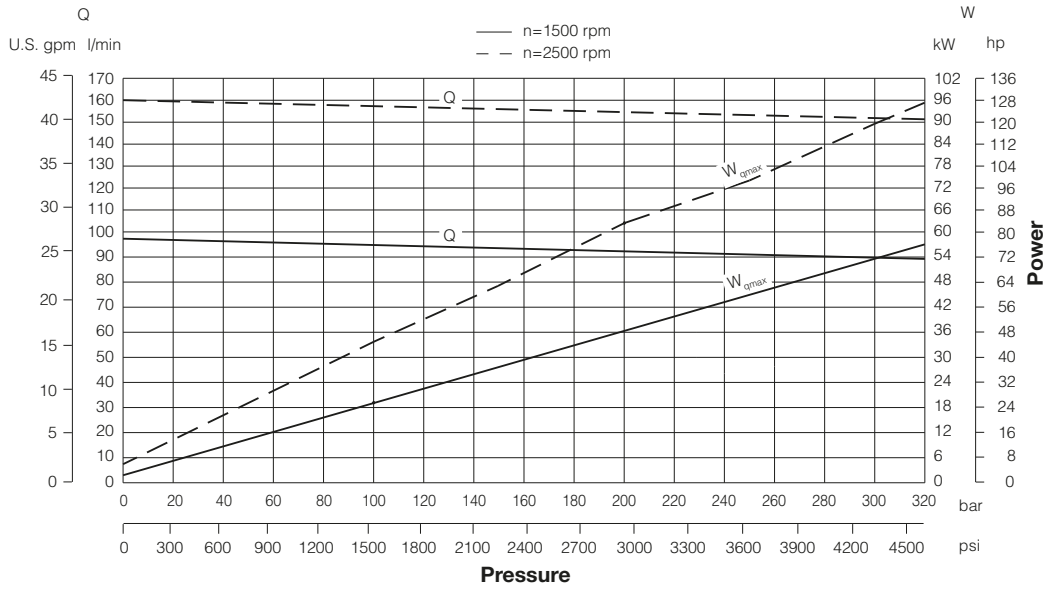
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S5AV	P	032	0÷32	0÷32	ME	02	S10	DX	N	PCXXX	000	XX	XX	XX

14	Serie feature	
XX	None	

15	Painting	
XX	None	
01	Black Paint ed RAL 9005	



The curves are representative of the standard Dana production. Tests made with mineral oil ISO VG 46 at 50°C



The curves are representative of the standard Dana production. Tests made with mineral oil ISO VG 46 at 50°C

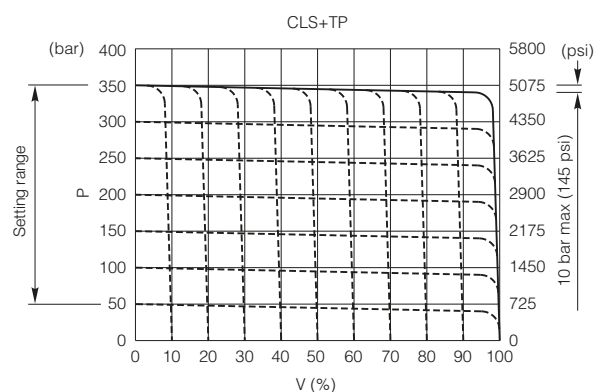
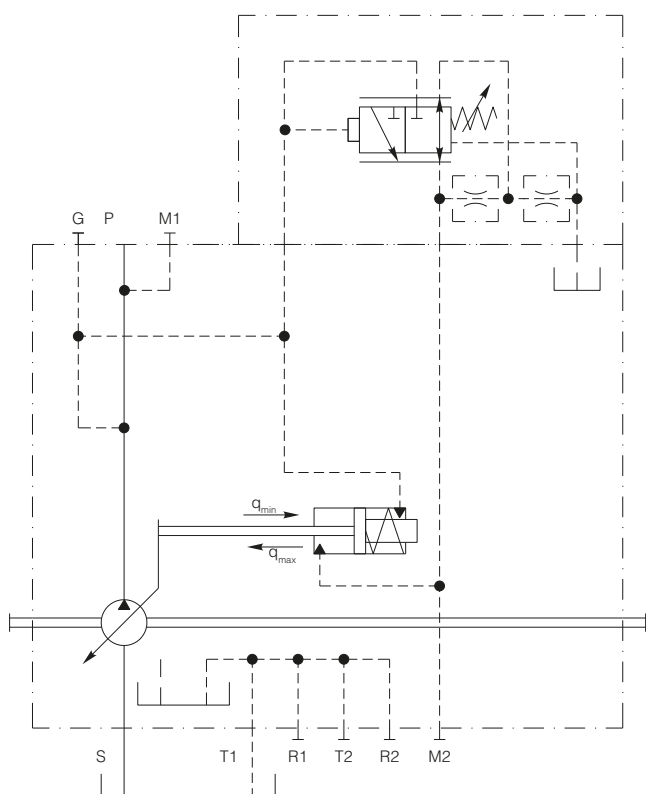
The constant pressure control device allows to maintain a constant pressure in the hydraulic circuit, within the field of regulation of the pump, by changing the flow to adapt it to the demands of the system.

In absence of pressure, the pump will swivel to the maximum displacement.

The range of calibration of the pressure control device is comprised between 50 [730 psi] and 350 bar [5000 psi]. However, the setting pressure of the control does not have to exceed the value of the nominal pressure (p_{nom}) of the pump. The pressure relief valve inserted in the circuit must be set at a pressure of at least 20 bar [290 psi] higher than the setting pressure of the CTP control device.

When ordering. Please state clearly:

- Control pressure setting [psi]



The control has a internal drain line to cool the pump during the stand-by operations. The drain flow value depends on pressure setting. The average oil flow at different working pressures can be found in the following table.

Pressure	psi	725	1450	2175	2900	3625	4350	4640
Oil flow	U.S. gpm	0.66	0.92	1.19	1.45	1.58	1.72	1.85

The Load Sensing control device is a regulating valve that controls the pump displacement in function of the working pressure so as to satisfy the demands for the various users. The pump flow is influenced from an external restrictor (the variable restrictor or proportional compensated flow control valve) placed between the user and the pump. The Load Sensing control compares the pressure before and after the restrictor and varies the pump displacement so as to maintain a constant the pressure drop through the restrictor (Δp). In this way, the flow of the pump depends exclusively on the section of passage of the variable restrictor. The range of calibration of the Δp is contained between 18 bars [261 psi] end 35 bars [507 psi]. The standard calibration is 20 bars [290 psi]. The variable restrictor not supplied with the pump.

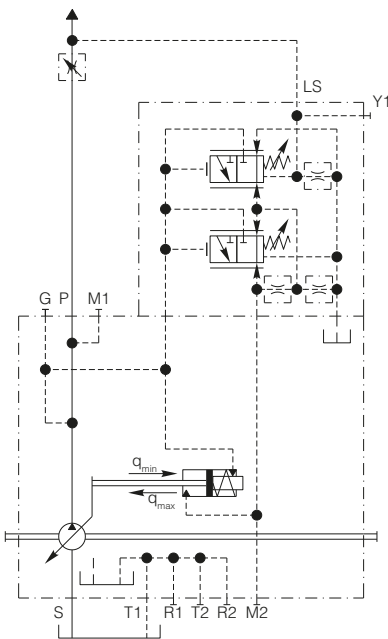
The control has a pressure cut-off built-in valve. Two are the valves available whit one field of calibration: LSPCX from 50 to 350 bar [730 ÷ 5000 psi] with drain and LSPCY from 50 to 350 bar [730 ÷ 5000 psi] without drain.

The pressure of calibration of the control however, can not exceed the value of nominal pressure (p_{nom}) of the pump. The pressure relief valve in the circuit has to be set at a pressure level of at least 20 bar [290 psi] higher than the setting pressure of the TP control.

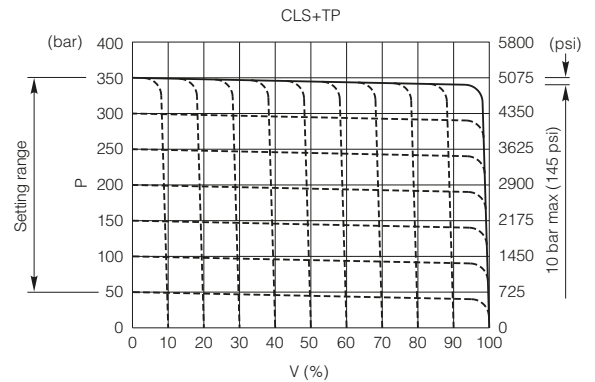
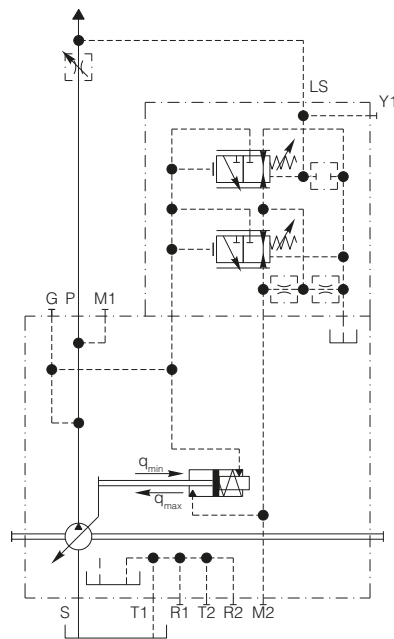
When ordering. Please state clearly:

- CLS Δp pressure setting
- TP pressure setting [psi]

WITH DRAIN



WITHOUT DRAIN



The constant power control regulates the pump displacement depending on the working pressure to avoid that the power absorbed by the pump can never exceed the power supplied by the engine.

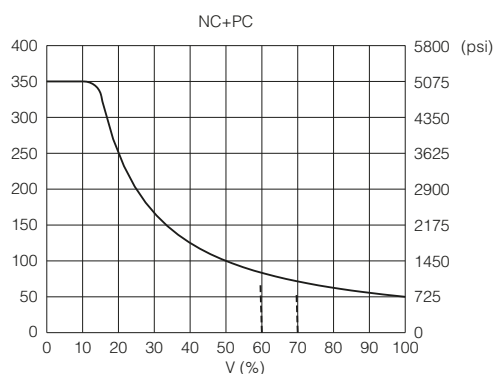
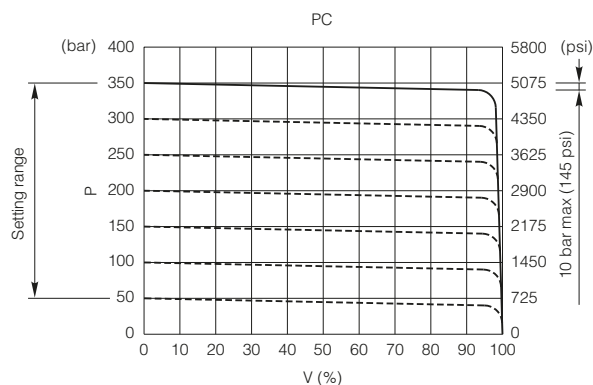
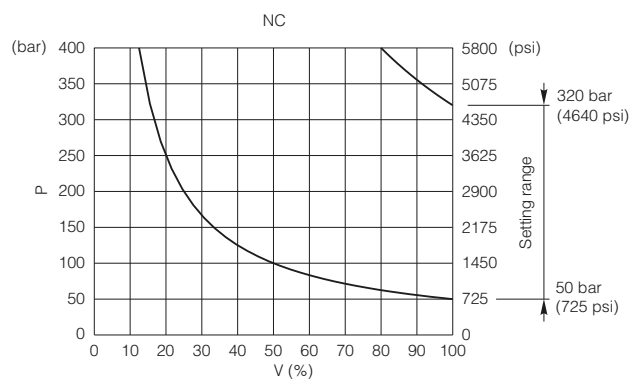
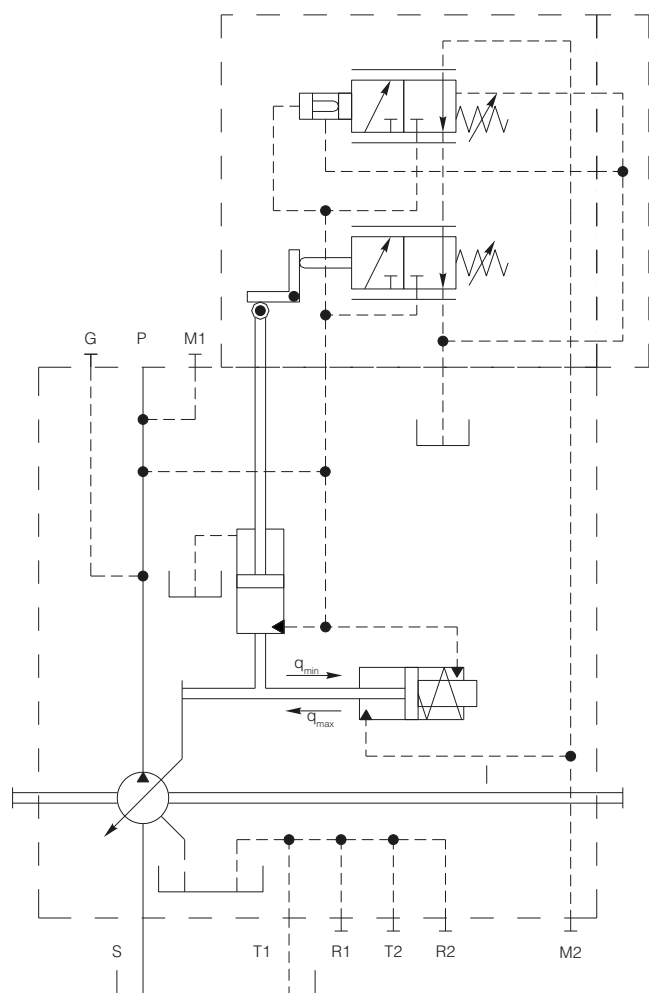
The NC+PC includes also the Constant Pressure features that overrides the constant power control.

The minimum pressure of the setting operation of the NC control is between 50 bar [725 psi] and 320 bar [4.640 psi]. The range of calibration of the pressure control device is comprised between 50 [730 psi] and 350 bar [5000 psi]. The setting pressure of the control, however can not exceed the nominal pressure (p_{nom}) of the pump.

The pressure relief valve in the circuit has to be set at a pressure level of at least 20 bar [290 psi] higher than the setting pressure of the TP control.

When ordering. Please state clearly:

- Input power [hp] at 1500 rpm
- TP pressure setting [psi]



The constant power control regulates the pump displacement depending on the working pressure to avoid that the power absorbed by the pump can never exceed the power supplied by the engine.

The NC+LS+TP3 includes also the Load Sensing and Pressure Cut-Off features.

The minimum pressure of the setting operation of the NC control is between 50 bar [725 psi] and 320 bar [4.640 psi]. The pressure setting range of the Δp is between 18 bar [261 psi] and 35 bar (507 psi). The standard setting is 20 bar [290 psi].

Inside the control there is a pressure cut-off built-in valve (TP3).

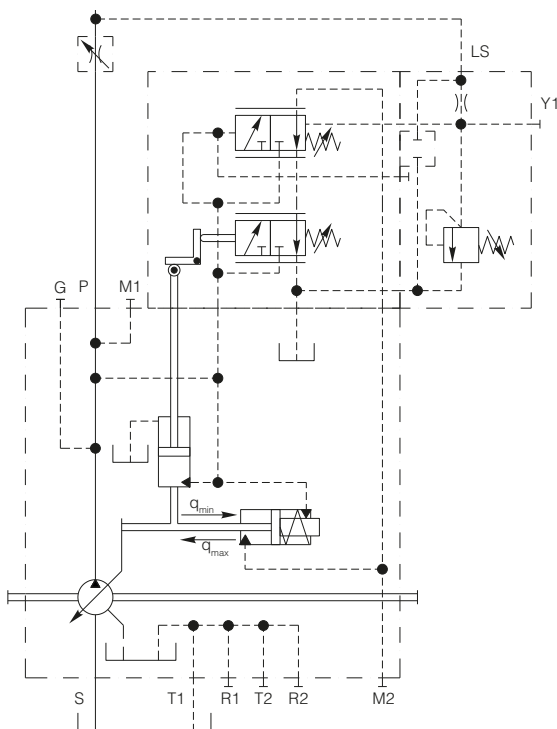
Two are the TP valves available with one field of calibration:

TP3C from 50 to 350 bar [730 ÷ 5000 psi] with drain and TP3 from 50 to 350 bar [730 ÷ 5000 psi] without drain.

The pressure relief valve in the circuit has to be set at a pressure level of at least 20 bar [290 psi] higher than the setting pressure of the TP3 control.

When ordering. Please state clearly:

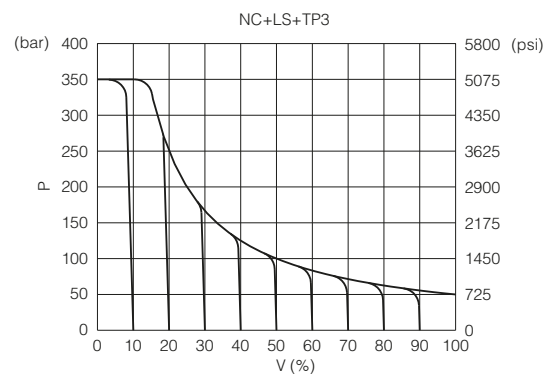
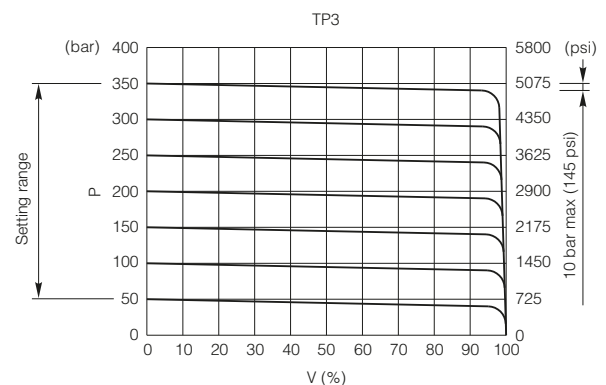
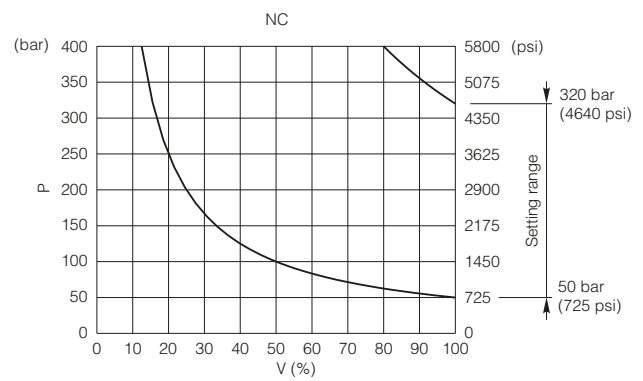
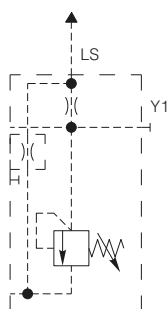
- Input power [hp] at 1500 rpm
- LS Δp pressure setting
- TP3(TP3C) pressure setting [psi]



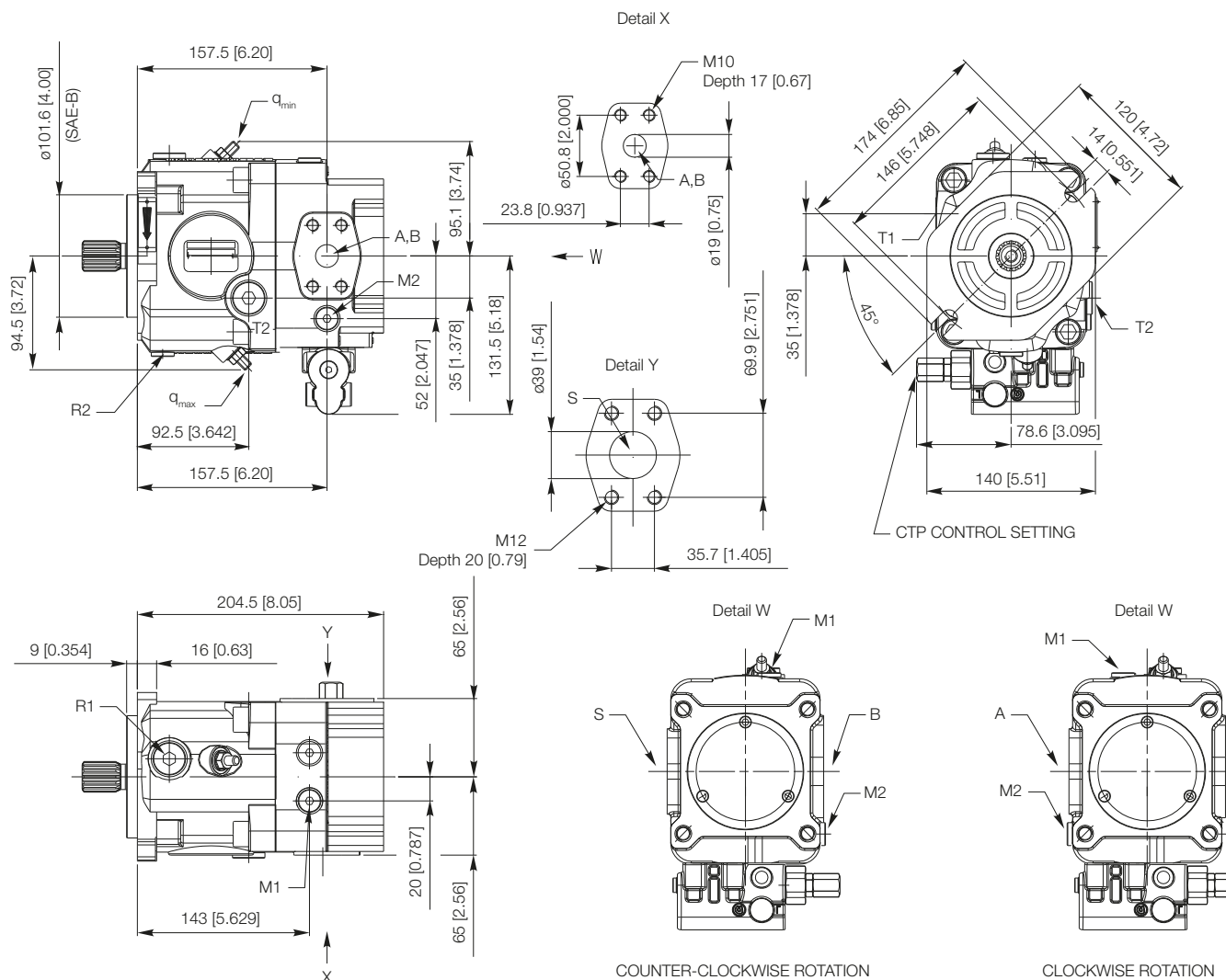
NC+LS+TP3 (Without drain)

NC+LS+TP3C

(With drain)

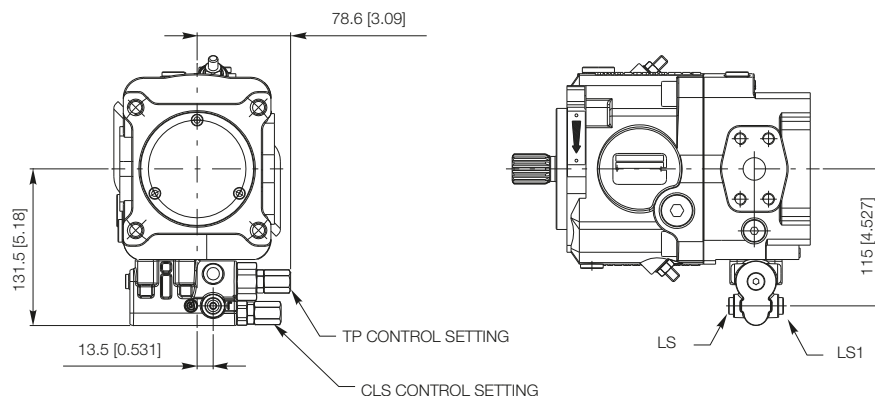


Mounting flange SAE B 2 Bolts - CTP (PCXXX) Control



A-B: Pressure port - 3/4" SAE 6000
 S: Suction port - 1" 1/2 SAE 3000
 T1, T2: Case drain port (1 plugged) - 1/2 G (BSPP) deep 20 [0.78]
 M1: Gauge port - working pressure - 1/4 G (BSPP) deep 13 [0.511]
 M2: Gauge port - stroking chamber - 1/4 G (BSPP) deep 13 [0.511]
 R1: Case vent port - 1/2 G (BSPP) deep 20 [0.78]
 R2: Bearing flushing port - 1/4 G (BSPP) deep 13 [0.511]

Mounting flange SAE B 2 Bolts - CLS+TP (LSPCX - LSPCY) Control

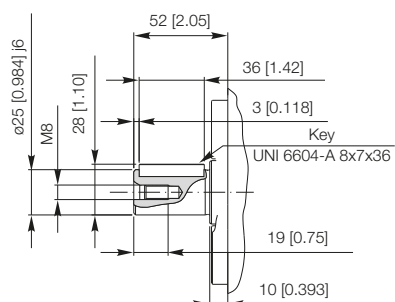


LS/LS1: Load Sensing Pressure port - 1/8 G (BSPP) Deep 10 [0.393]

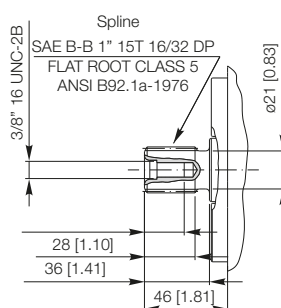
8

Shaft options

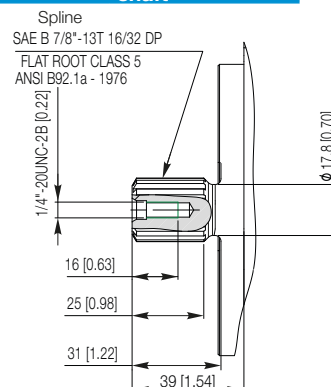
CBB Parallel keyed shaft



S10 Splined shaft



SAX Splined shaft

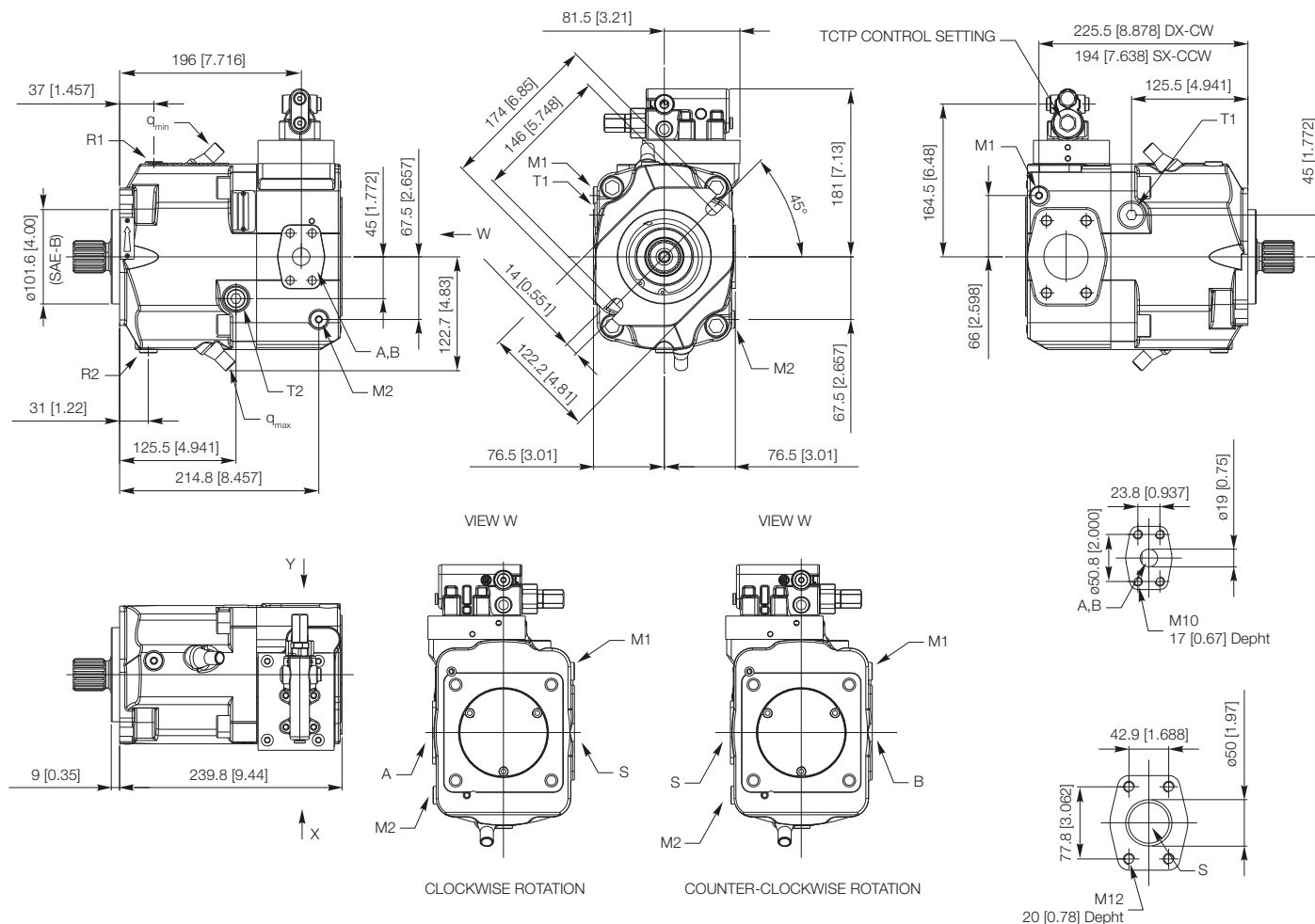


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Mounting flange SAE B 2 Bolts - CTP (PCXXX) Control



A-B: Pressure port - 3/4" SAE 6000

S: Suction port - 2" SAE 3000

T1, T2: Case drain port (1 plugged) - 1/2 G (BSPP) deep 20 [0.78]

M1: Gauge port - working pressure - 1/4 G (BSPP) deep 13 [0.511]

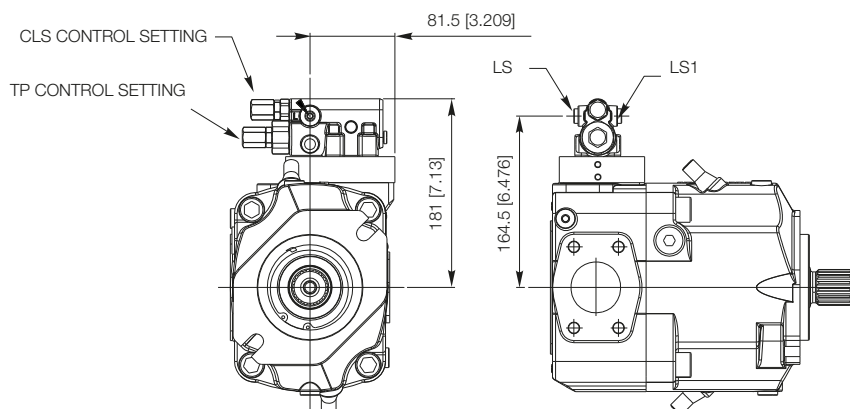
M2: Gauge port - stroking chamber - 1/4 G (BSPP) deep 13 [0.511]

R1: Case vent port - 1/2 G (BSPP) deep 20 [0.78]

R2: Bearing flushing port - 1/4 G (BSPP) deep 13 [0.511]

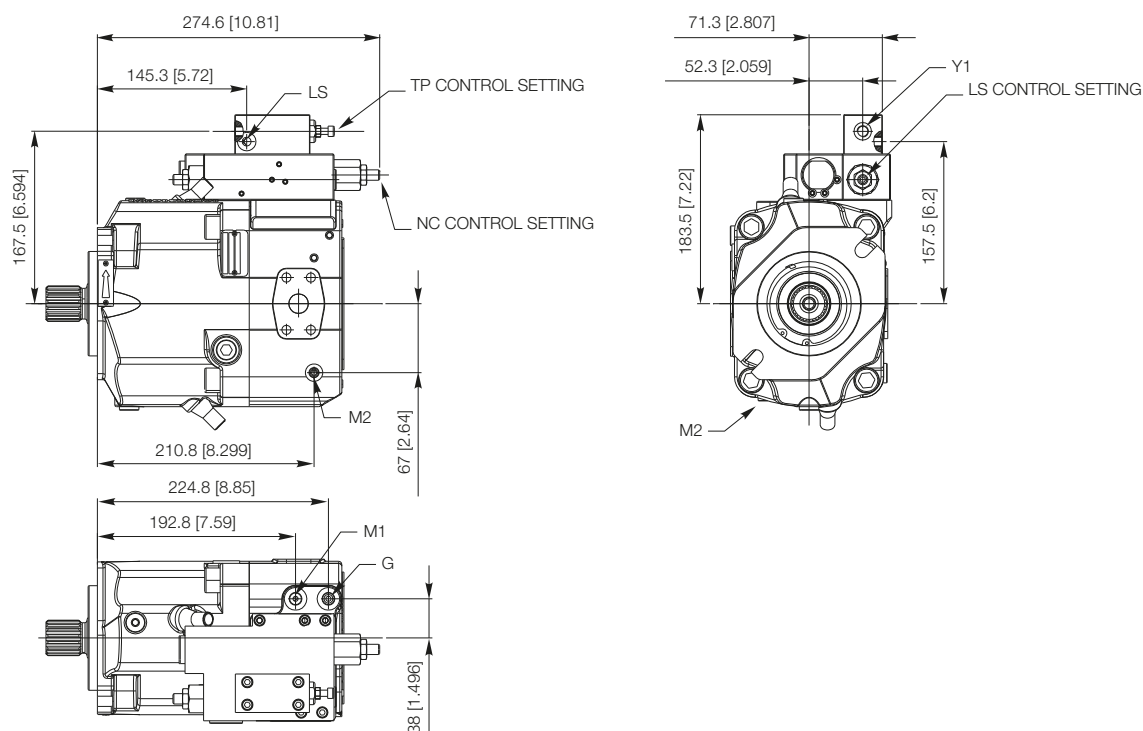
G: Control boost port (PI control only) - 1/4 G (BSPP) deep 13 [0.511]

Mounting flange SAE B 2 Bolts - CLS+TP (LSPCX - LSPCY) Control

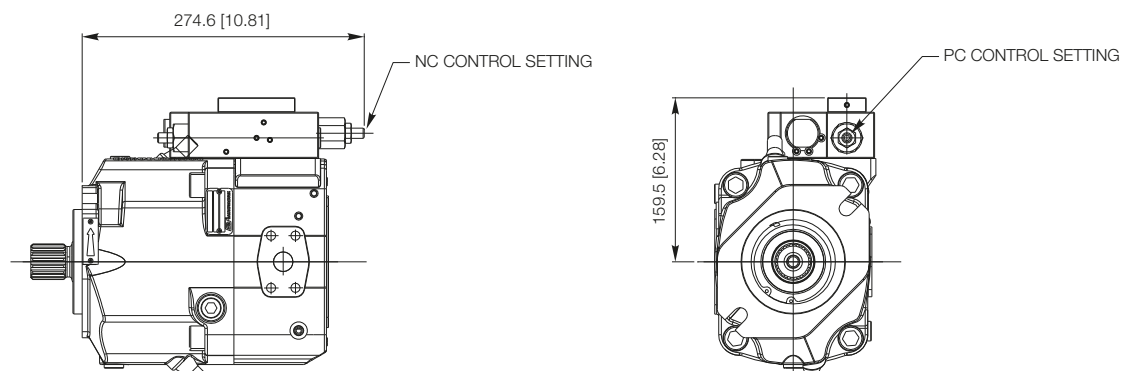


LS/LS1: Load Sensing Pressure port - 1/8 G (BSPP) Deep 10 [0.393]
For the ports not showed please to make reference to PCXXX Control

Mounting flange SAE B 2 Bolts - NC+LS+TP3 (NLP0X-NLP1X) Control



LS: Load Sensing Pressure port - 1/8 G (BSPP) Deep 10 [0.393]
Y1: Remote port - 1/8 G (BSPP) Deep 10 [0.393]
M1: Gauge port - working pressure - 1/4 G (BSPP) Deep 13 [0.511]
M2: Gauge port - stroking chamber - 1/4 G (BSPP) Deep 13 [0.511]
G: Control boost port (PI control only) - 1/4 G (BSPP) Deep 13 [0.511]

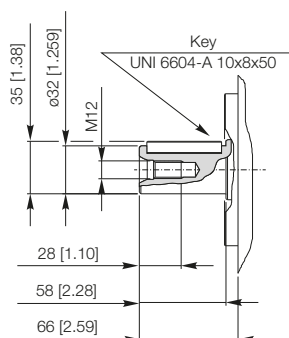


For the ports not showed please to make reference to NLP0X-NLP1X Control

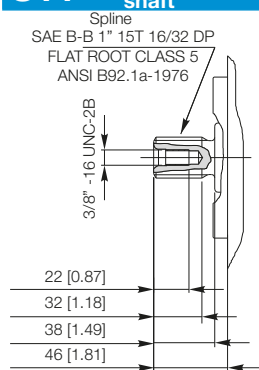
8

Shaft options

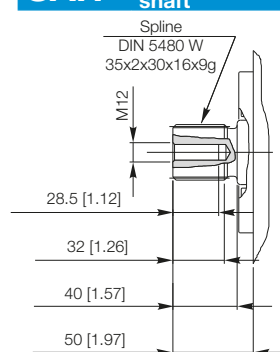
CBC Parallel keyed shaft



S11 Splined shaft



SAH Splined shaft

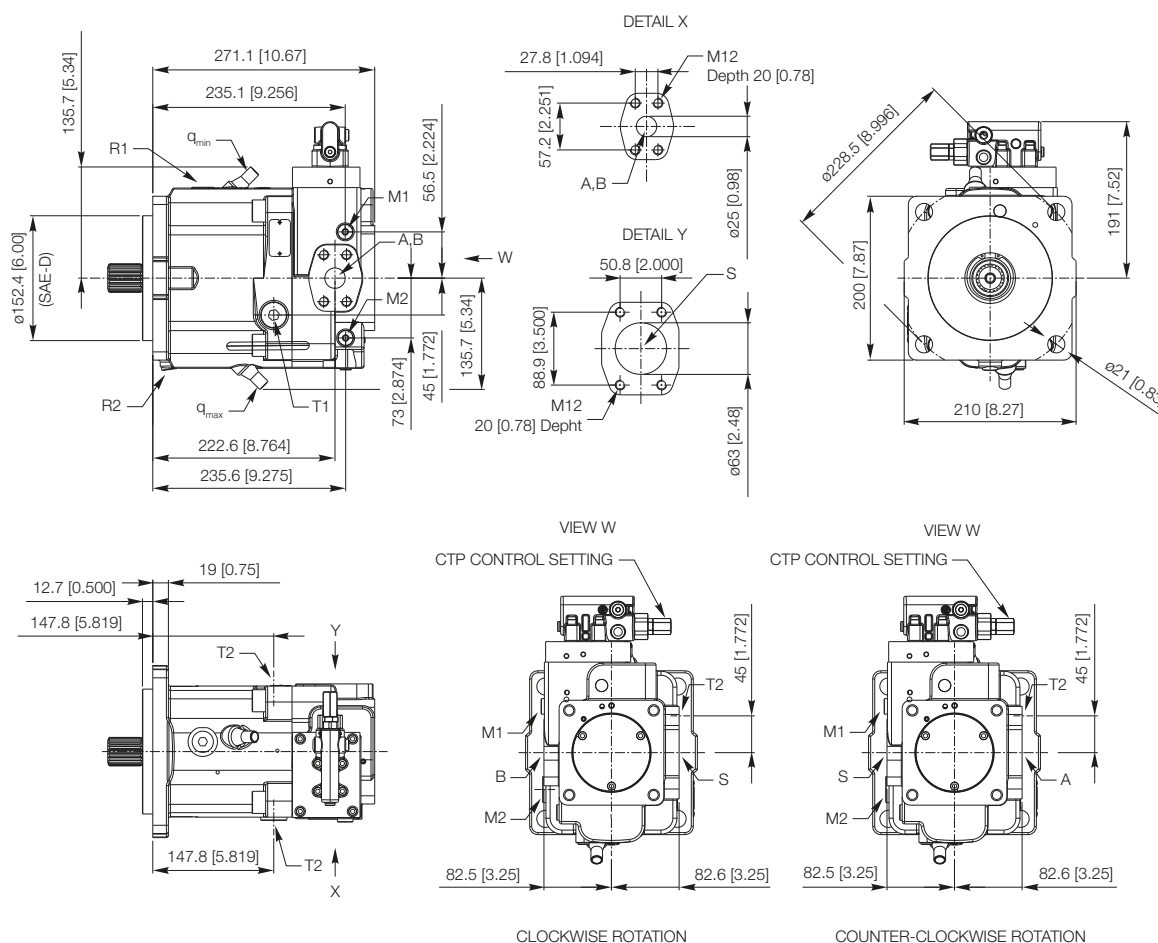


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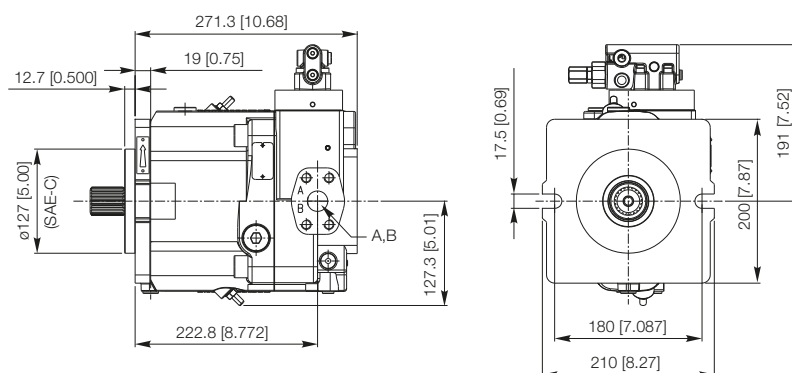
[Click Dana button to return to Section index](#)



Mounting flange SAE D 4 Bolts - PCXXX (CTP) Control



S5AV 075/093 Pump - Mounting flange SAE C 2 Bolts - PCXXX (CTP) Control



A-B: Pressure port - 1" SAE 6000

S: Suction port - 2" 1/2 SAE 3000

T1, T2: Case drain port (1 plugged) - 3/4 G (BSPP) deep 20 [0.78]

M1: Gauge port - working pressure - 1/4 G (BSPP) deep 13 [0.511]

M2: Gauge port - stroking chamber - 1/4 G (BSPP) deep 13 [0.511]

R1: Case vent port - 1/2 G (BSPP) deep 20 [0.78]

R2: Bearing flushing port - 1/4 G (BSPP) deep 13 [0.511]

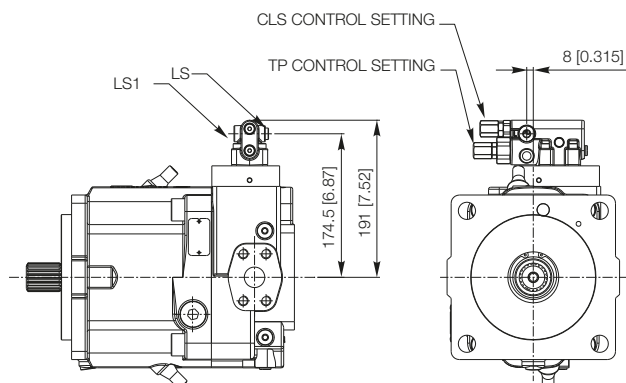
G: Control boost port (PI control only) - 1/4 G (BSPP) deep 13 [0.511]

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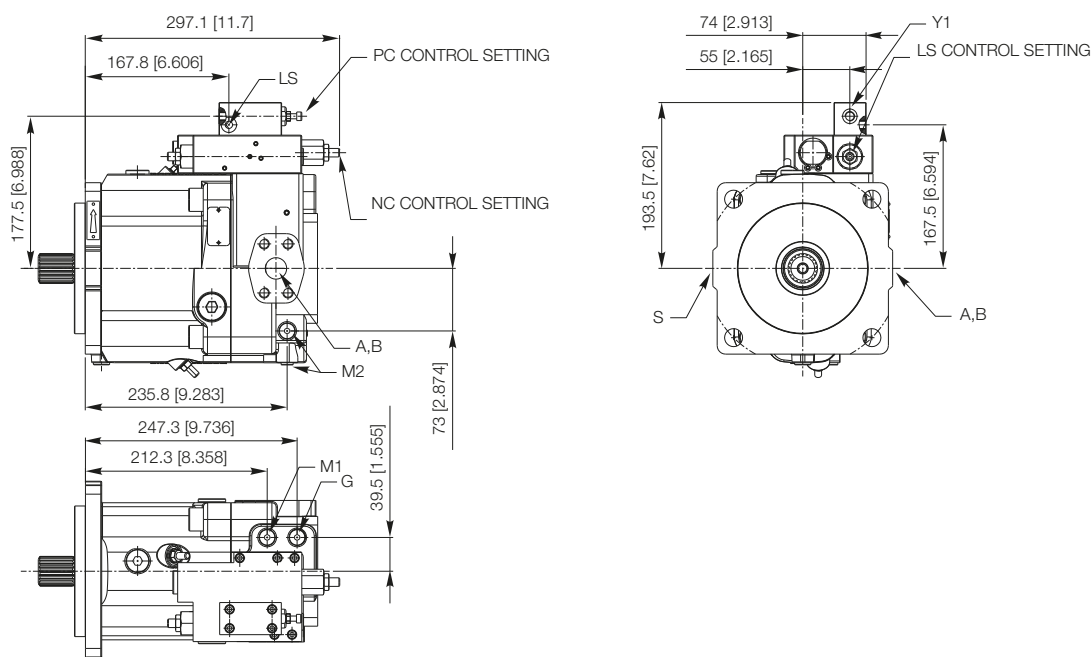


Mounting flange SAE D 4 Bolts - LSPCX - LSPCY (CLS+TP) Control



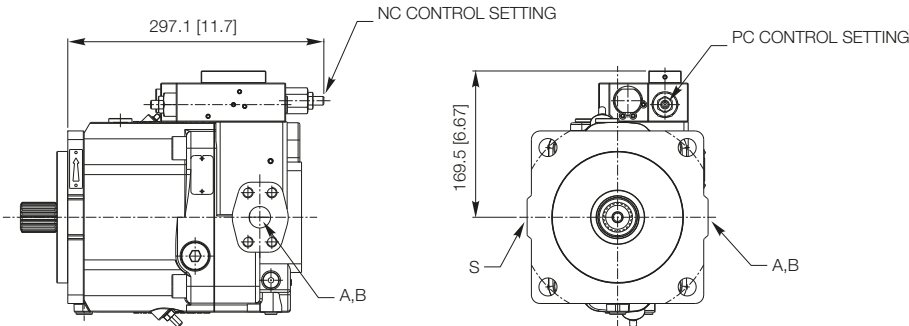
LS/LS1: Load Sensing Pressure port - 1/8 G (BSPP) Deep 10 [0.393]
For the ports not showed please to make reference to PCXXX Control

Mounting flange SAE D 4 Bolts - NLP0X-NLP1X (NC+LS+TP3) Control



LS: Load Sensing Pressure port - 1/8 G (BSPP) Deep 10 [0.393]
Y1: Remote port - 1/8 G (BSPP) Deep 10 [0.393]
G: Control boost port (PI control only) - 1/4 G (BSPP) deep 13 [0.511]
M1: Gauge port - working pressure - 1/4 G (BSPP) deep 13 [0.511]

Mounting flange SAE D 4 Bolts - NCPCX (NC+PC) Control

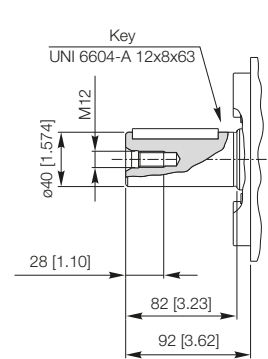


For the ports not showed please to make reference to NLP0X-NLP1X Control

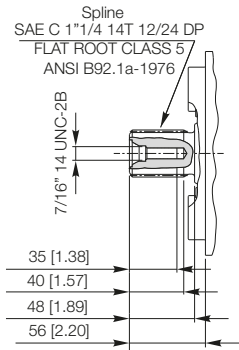
8

Shaft options

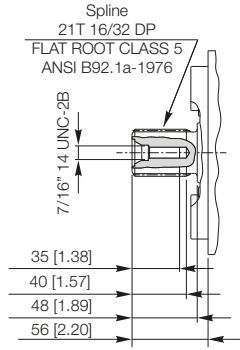
CBD Parallel keyed shaft



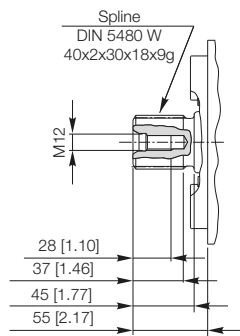
S13 Splined shaft



SAC Splined shaft



SAL Splined shaft

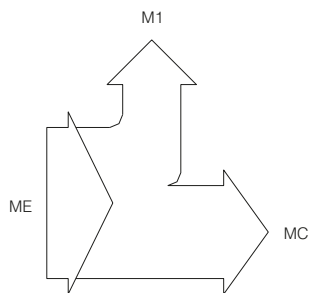


S5AV pump can be supplied with through drive. It is possible use the through drive with a second pump (another S5AV or a pump of other kind). Available flanges are:

- Standard G2 and G3 gear pump flange
- SAE A, SAE B, SAE B-B, SAE C and SAE C-C flange
- TANDEM flange

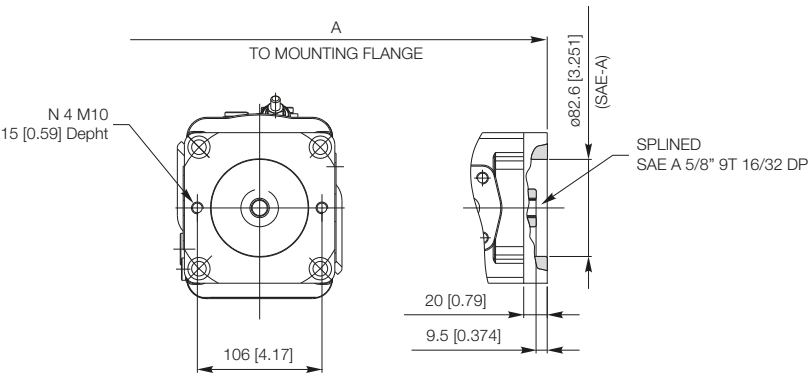
The maximum permissible torques on drive shaft of the first pump and the maximum through drive torques are listed in the btables below.

WARNING: The effective torque value on the shaft of first pump is given by the sum of the torques required from each pump making the system.



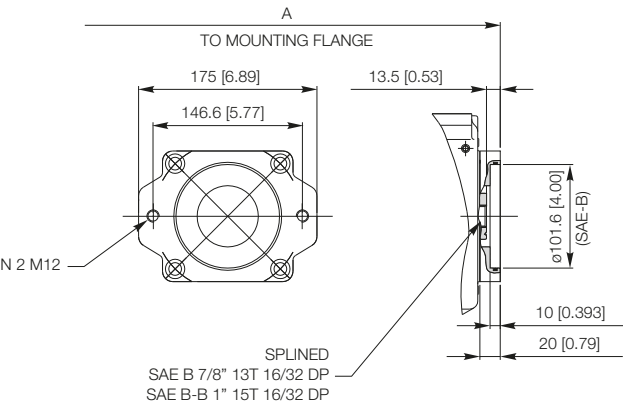
Size	Drive Shaft	Drive Shaft max torque ME Nm [lbf•ft]	Through drive max torque MC Nm [lbf•ft]
032/045	CBB (Ø 25)	170 [125]	170 [125]
	S10 (15T 16/32 DP)	300 [221]	250 [184]
	SAX (13T 16/32 DP)	210 [169]	210 [169]
050/063	CBC (Ø 32)	450 [330]	350 [260]
	SAH (W 35x2x30x16x9g)	800 [590]	350 [260]
	S11 (15T 16/32 DP)	300 [220]	300 [220]
075/093	CBD (Ø 40)	700 [516]	610 [450]
	SAL (W 40x2x30x18x9g)	11850 [364]	610 [450]
	SAC (21T 16/32 DP)	950 [700]	610 [450]
	S13 (14T 12/24 DP)	620 [457]	610 [450]

SAE A (SA) Flange



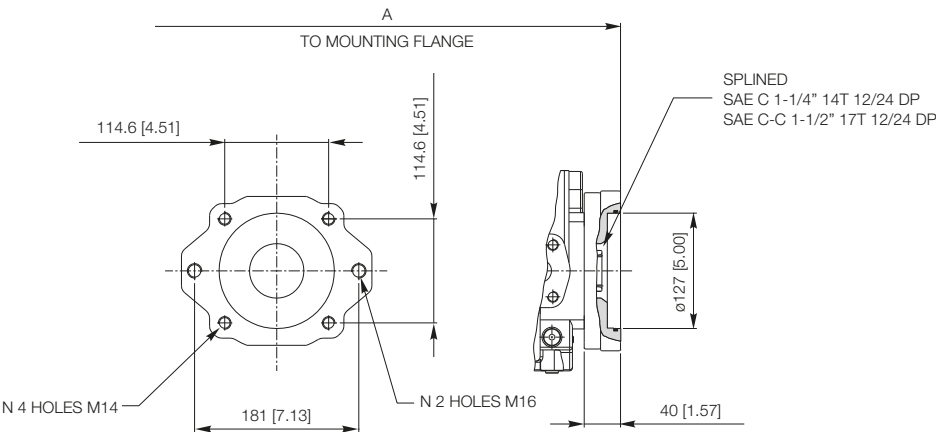
	Size		
	032/045	050/063	075/093
A mm [in]	224.5 [8.83]	260 [10.23]	291.3 [11.46]

SAE B (SB) - SAE B-B (BB) Flange



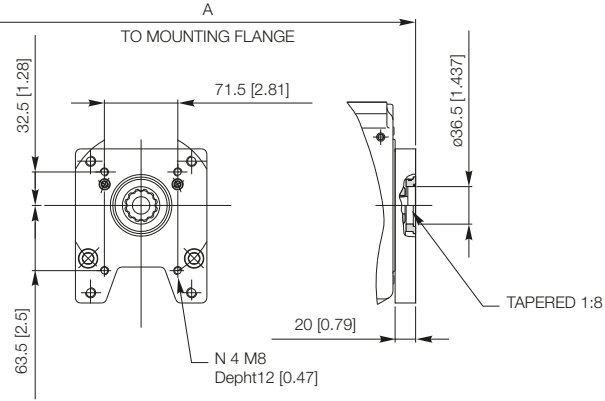
	Size		
	032/045	050/063	075/093
A mm [in]	224.5 [8.83]	2260 [10.23]	291.3 [11.46]

SAE C (SC) - SAE C-C (CC) Flange



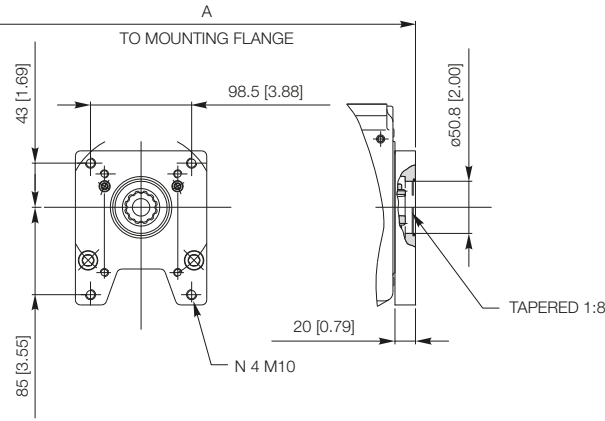
	Size	
	050/063	075/093
A mm [in]	280 [11.02]	311.3 [12.25]

G2 Flange



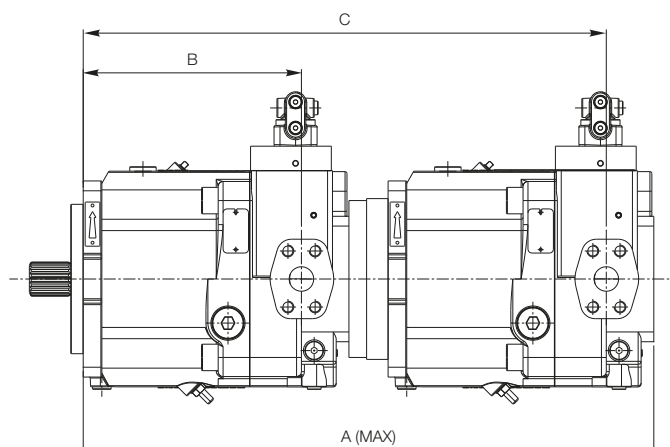
	Size		
	032/045	050/063	075/093
A mm [in]	224 [8.83]	260 [10.23]	291.3 [11.46]

G3 Flange



	Size		
	032/045	050/063	075/093
A mm [in]	224.5 [8.83]	260 [10.23]	291.3 [11.46]





Size	A (Max) mm [in]	B mm [in]	C mm [in]
032 T0 / 045 T0 + 032	431 [16.97]	157.5 [6.20]	384 [15.12]
045 T0 + 032 / 045	431 [16.97]	157.5 [6.20]	384 [15.12]
050 T0 / 063 T0 + 032 / 045	466.5 [18.36]	196 [7.71]	419.5 [16.51]
050 T1-T2 / 063 T1-T2 + 050	502 [19.76]	196 [7.71]	458 [18.03]
063 T1-T2 + 050 / 063	502 [19.76]	196 [7.71]	458 [18.03]
075 T0 / 093 T0 + 032 / 045	498 [19.61]	223 [8.78]	451 [17.75]
075 T1-T2 / 093 T1-T2 + 050 / 063	533 [20.98]	223 [8.78]	489 [19.25]
075 T4-TC / 093 T4-TC + 075	583 [22.95]	223 [8.78]	534 [21.02]
093 T4-TC + 075 / 093	583 [22.95]	223 [8.78]	534 [21.02]

WARNING: In combination pump the rear pump can be equipped only with one of the shaft listed in the following table.
For an S5AV 075 / 093 used as 2nd pump is available only the option for SAE-C 2 holes flange.

Combination pump / Rear pump shaft

+		2nd Pump		
		S5AV 032 / 045 Shaft	S5AV 050 / 063 Shaft	S5AV 075 / 093 Shaft
1st Pump	S5AV 032 / 045	(S10)		
	S5AV 050 / 063	(S10)	(SAH)	
			(S11)	
	S5AV 075 / 093	(S10)	(SAH)	(S13)
			(S11)	(SAC)



SAMHYDRAULIKTM

