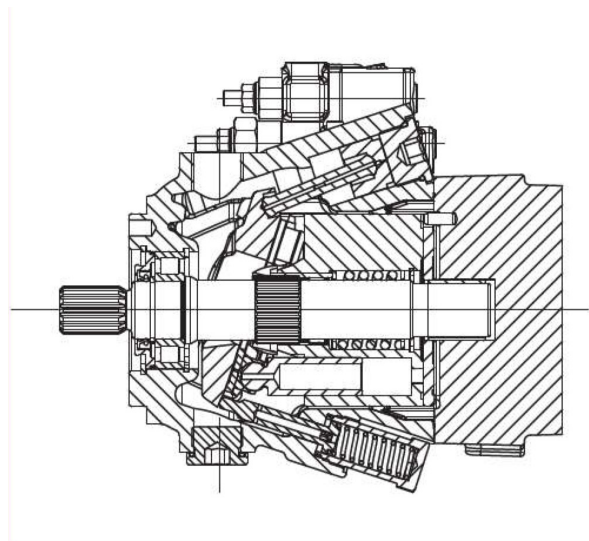
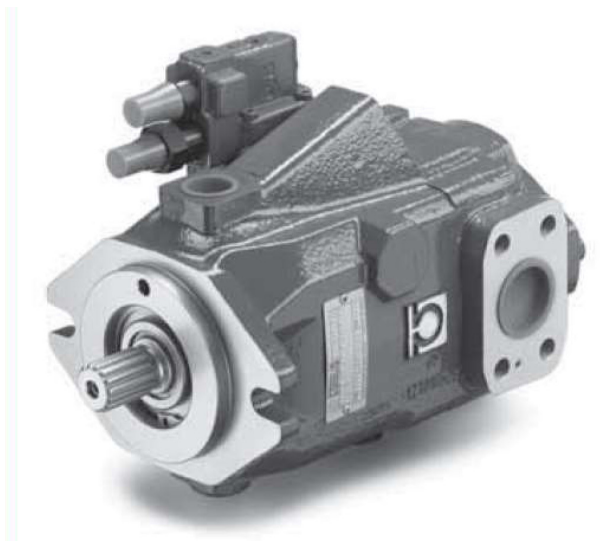


HPA4A Series

Axial Piston Pumps Variable Displacement



The HP A4A series axial piston pumps have been designed to operate in an open circuit. Control systems now available are making it easy to use these pumps in any application for industrial and mobile fields. Development of rotating groups, specifically designed, united to an accurate study of oil passage sections into the pumps, allow high speed rotation, like required by modern diesel engines, giving extreme reliability for working continuous pressure until 280 bar and until 350 bar for peak pressure. Control types shown in this section allow a load-sensing or a constant pressure control over the pump. It is possible to couple tandem versions for both pump types, by means of correct coupling flanges.

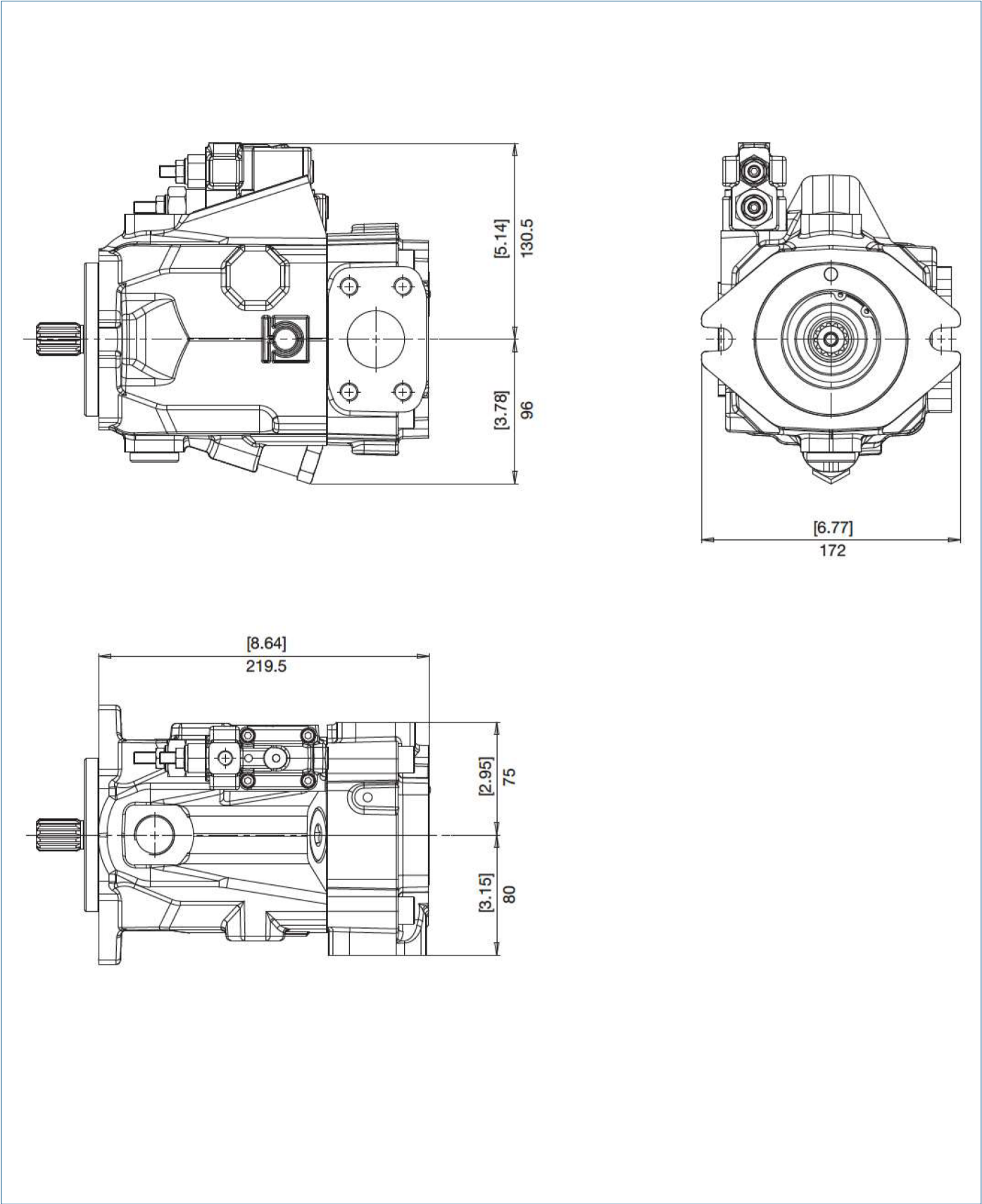
GROUP	NOMINAL DISPLACEMENT		SWASH PLATE	CONTINUOUS		INTERMITTENT		PEAK		SPEED		WEIGHT	
										MAX	MIN		
	cm ³	in ³		bar	psi	bar	psi	bar	psi	min ⁻¹	min ⁻¹	kg	lbs
HP A4A	34	2.08	14	280	4060	320	4640	350	5075	2800	500	23	52.8
	46	2.51	19	280	4060	320	4640	350	5075	2800	500	23	52.8
	58	3.54	17	250	3625	300	4350	320	4640	2650	500	24	57.2
	65	3.97	18	250	3625	300	4350	320	4640	2500	500	24	57.2

HPA4A Series

Axial Piston Pumps Variable Displacement



DIMENSIONS



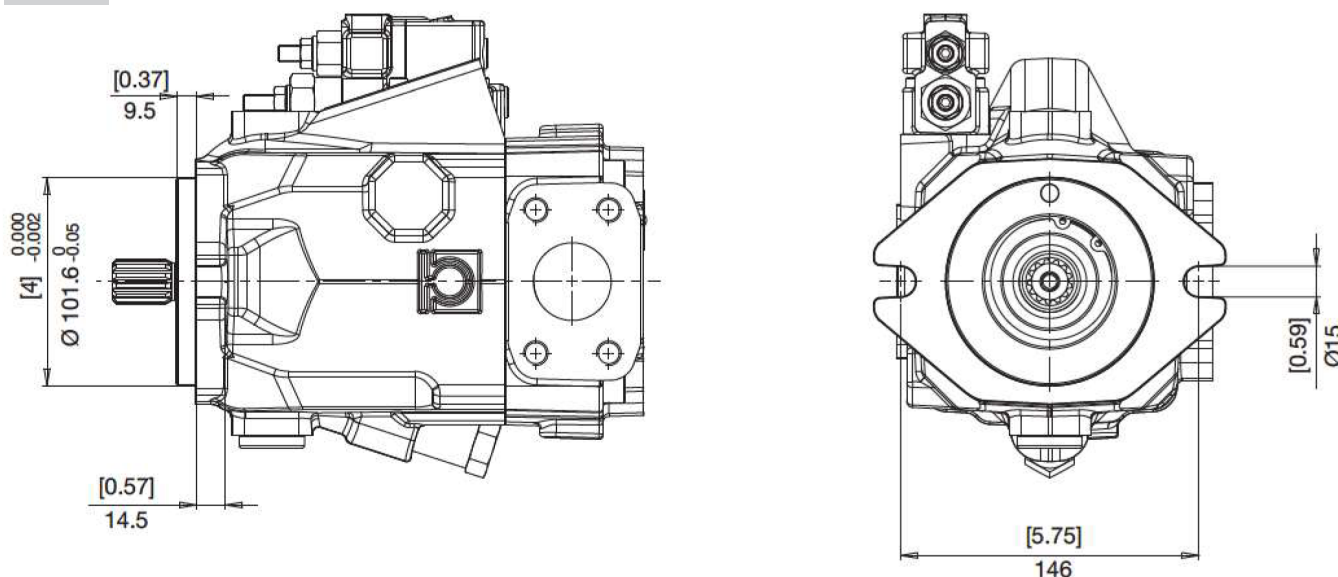
HPA4A Series

Axial Piston Pumps Variable Displacement



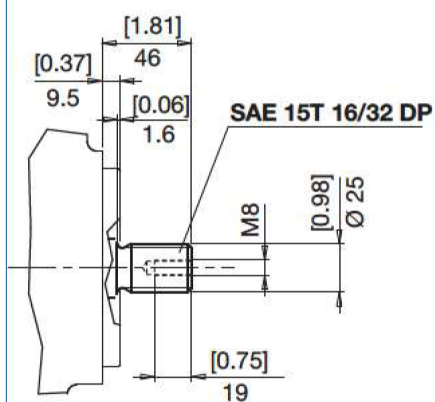
FLANGES

B SAE B

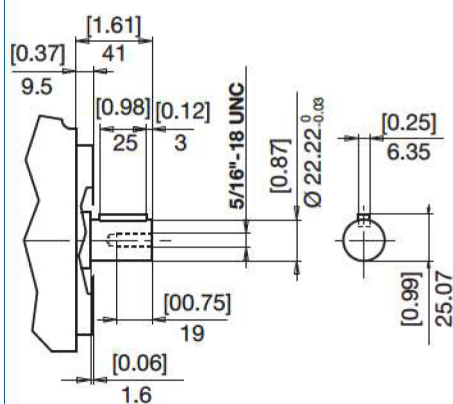


SPLINE SHAFTS

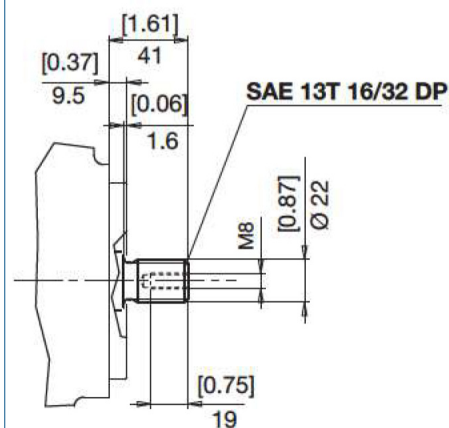
1 Max Torque 460 Nm



6 Max Torque 210 Nm



9 Max Torque 310 Nm

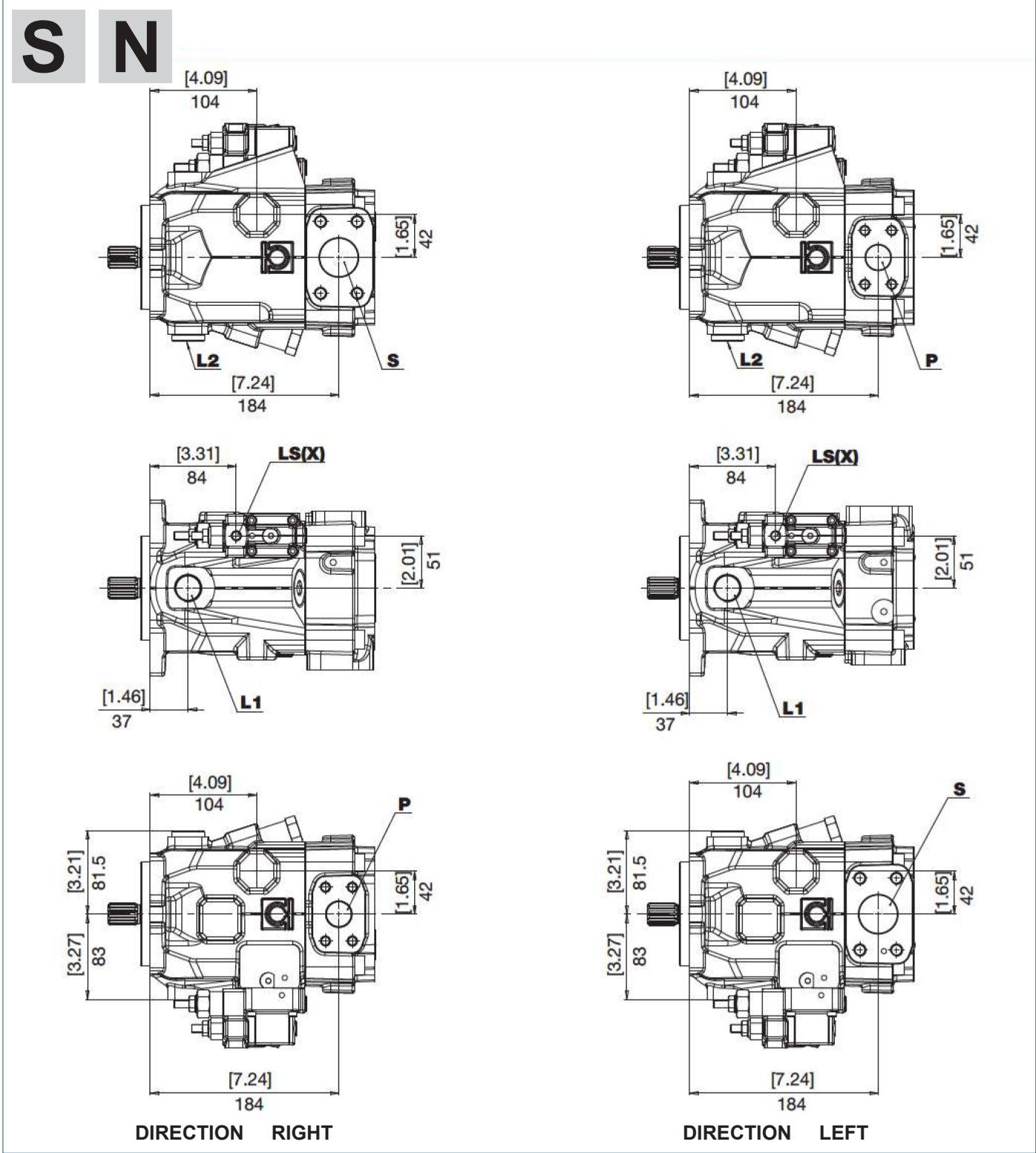


HPA4A Series



Axial Piston Pumps Variable Displacement

LATERAL PORTS



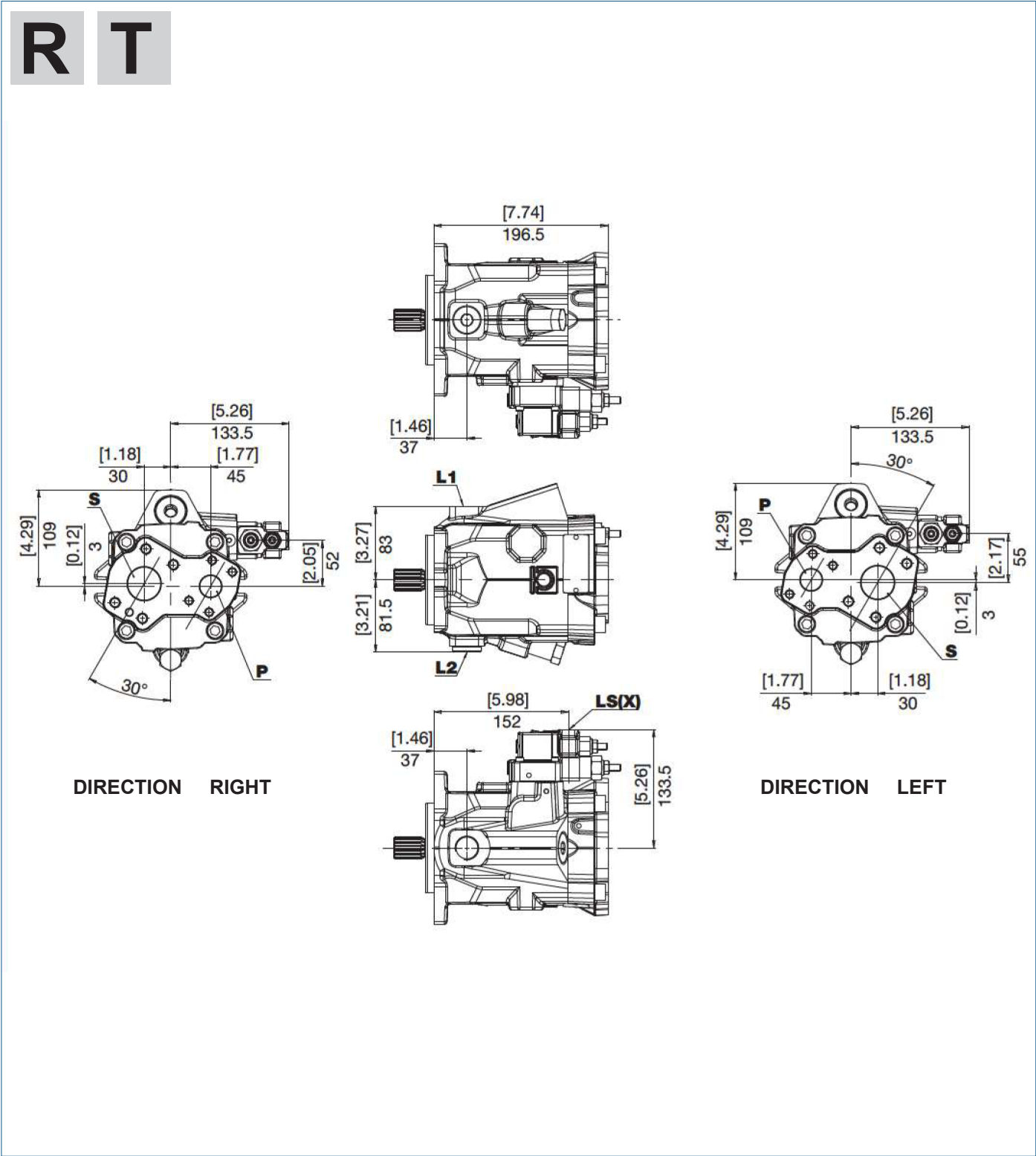
S	Feeding Pump Inlet	P	Output
L1	Drain	LS(X)	Pilot
L2			

HPA4A Series

Axial Piston Pumps Variable Displacement



REAR PORTS



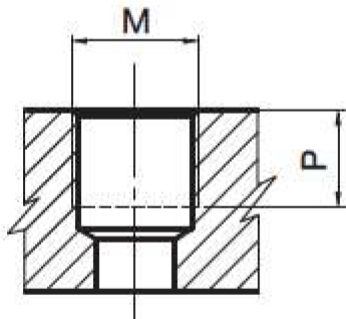
S	Feeding Pump Inlet	P	Output
L1 L2	Drain	LS(X)	Pilot

HPA4A Series

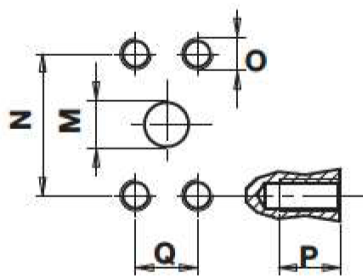


Axial Piston Pumps Variable Displacement

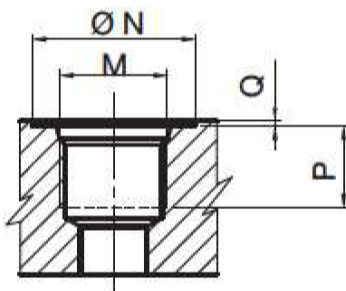
PORTS



TYPE	M		P	
		Nm	mm	in
G1	1/8" GAS BSPP	8	8	0.31
G6	3/4" GAS BSPP	90	19	0.75



TYPE	M		N		P		Q		O	
	mm	in	mm	in	mm	in	mm	in		Nm
N7	25	1	52.4	2.06	18	0.71	26.2	1.03	M10	38
N9	38	1.5	69.9	2.75	20	0.79	35.7	1.41	M12	70



TYPE	SIZE	N		P		Q		M	
		mm	in	mm	in	mm	in		Nm
U2	1/4"	20	0.79	12	0.47	0.3	0.01	7/16-20 UNF	17
U6	3/4"	41	1.61	20	0.79	0.3	0.01	1-1/16-12 UNF	90

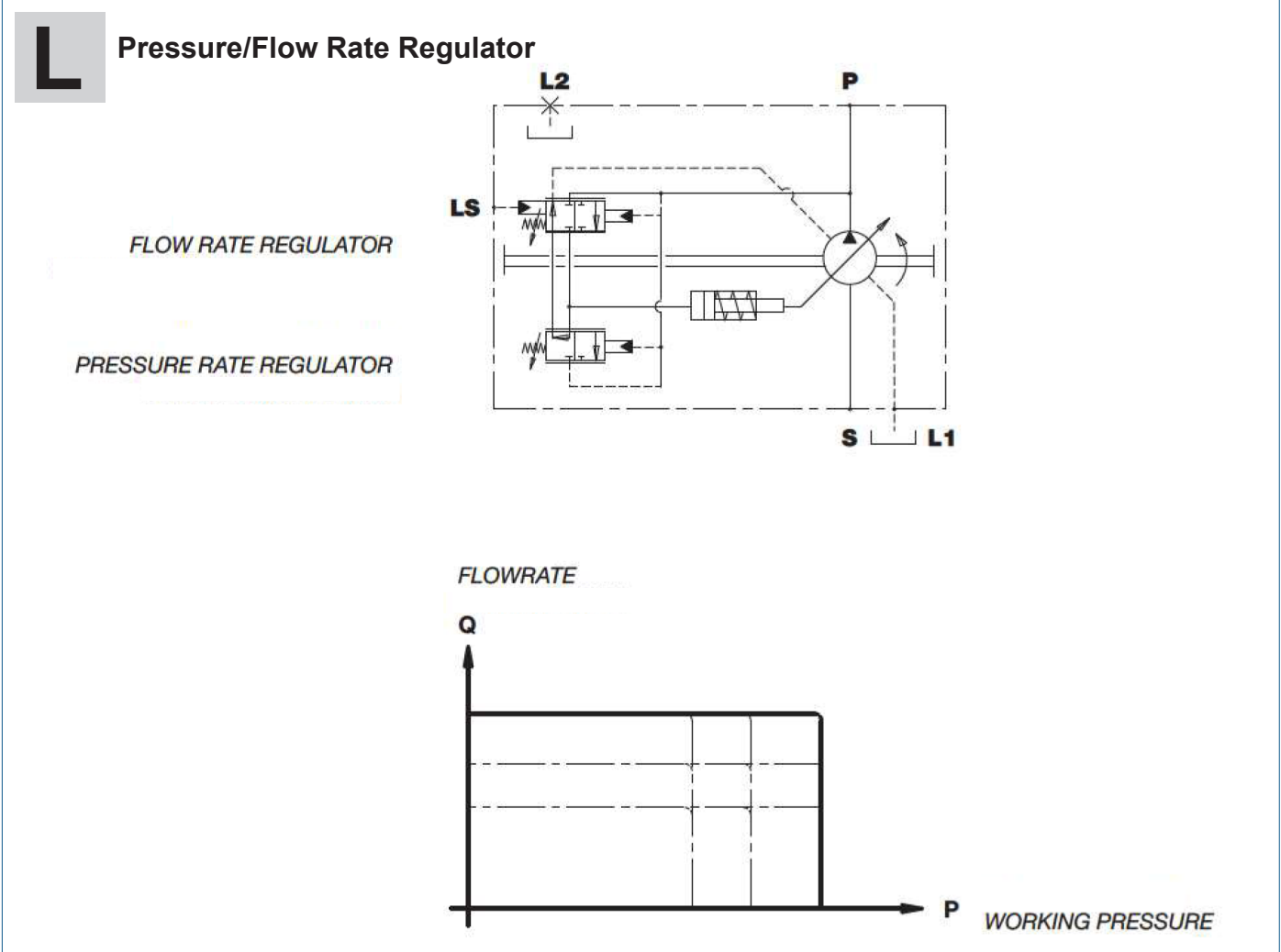
TYPE	S INLET	P OUTLET	L1 - L2 DRAIN	LS(X) PILOT
S	N9	N7	G6	G1
N	N9	N7	U6	U2
R	N9	N7	G6	G1
T	N9	N7	U6	U2

HPA4A Series

Axial Piston Pumps Variable Displacement



CONTROL SYSTEMS



CONTROL SYSTEM SET

WORKING PRESSURE		PRESSURE DIFFERENTIAL ΔP		
bar	psi	14 bar - 203 psi	21 bar - 305 psi	25 bar - 363 psi
180	2610	A	B	C
210	3045	E	F	G
250	3625	I	L	M
280	4060	O	P	Q
320	4640	S	T	U
350	5075	Z	X	Y

An external relief valve set at 10% above the pump pressure regulator must always be provided.

HPA4A Series



Axial Piston Pumps Variable Displacement

CONTROL SYSTEMS

P

Pressure Rate Regulator

CHARACTERISTIC CURVE OF THE PUMP WITH PRESSURE REGULATOR

CONTROL SYSTEM SET

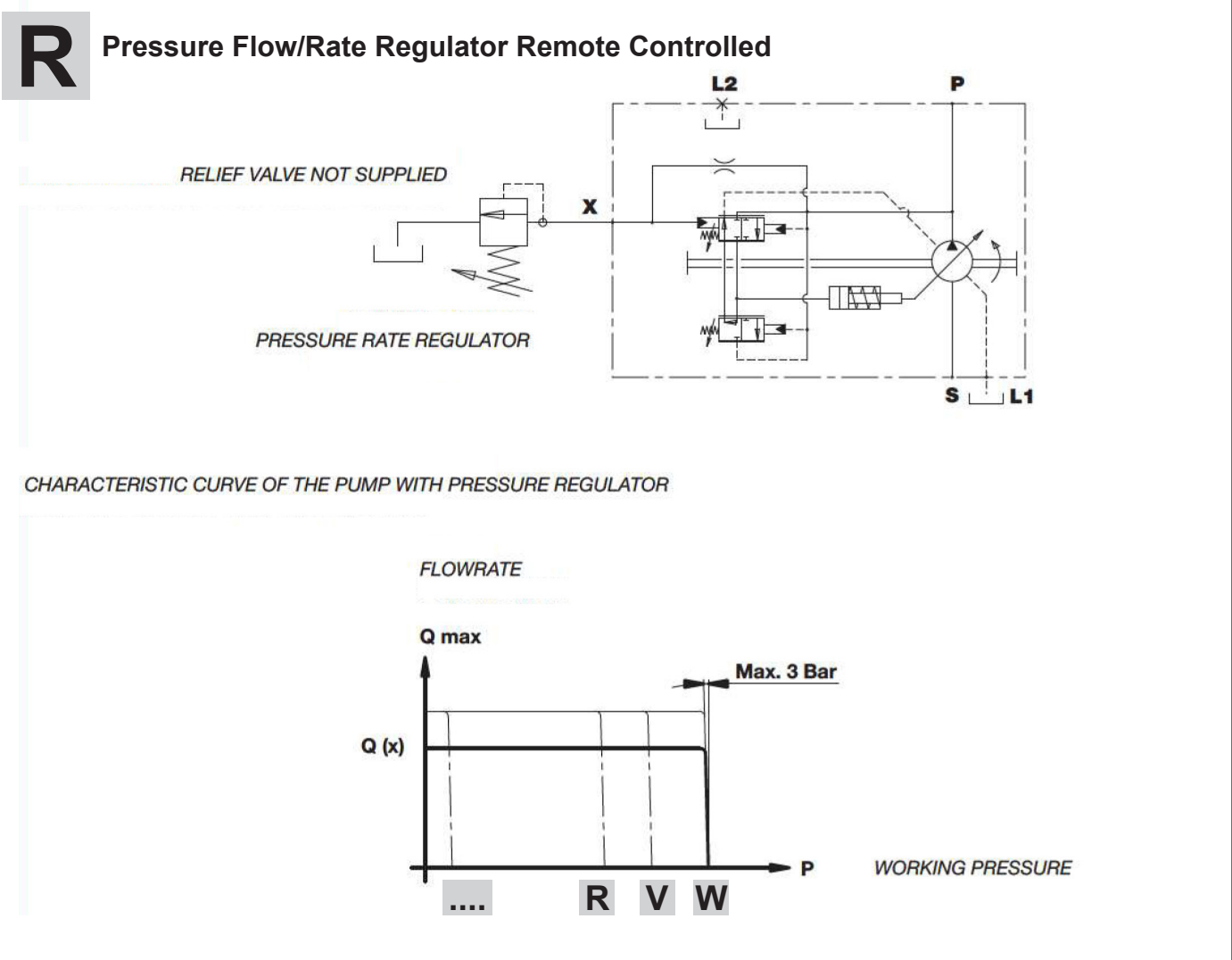
CODE	WORKING PRESSURE	
	bar	psi
D	180	2610
H	210	3045
N	250	3625
R	280	4060
V	320	4640
W	350	5075

HPA4A Series

Axial Piston Pumps Variable Displacement



CONTROL SYSTEMS



CONTROL SYSTEM SET

CODE	WORKING PRESSURE	
	bar	psi
D	180	2610
H	210	3045
N	250	3625
R	280	4060
V	320	4640
W	350	5075

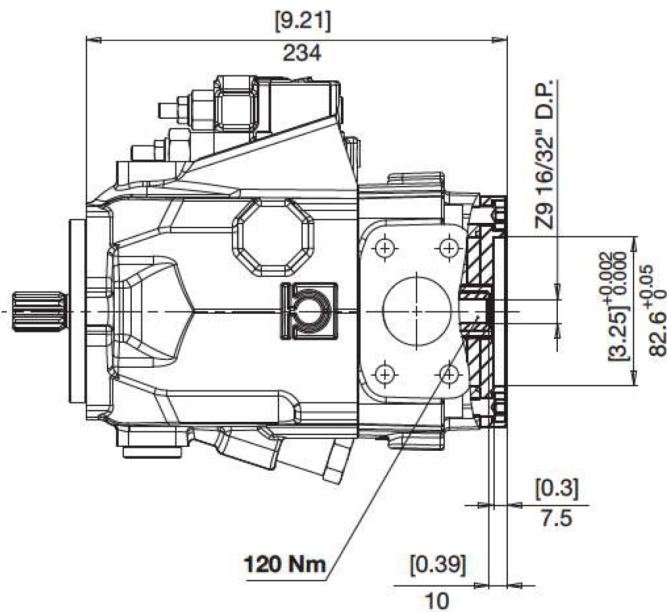
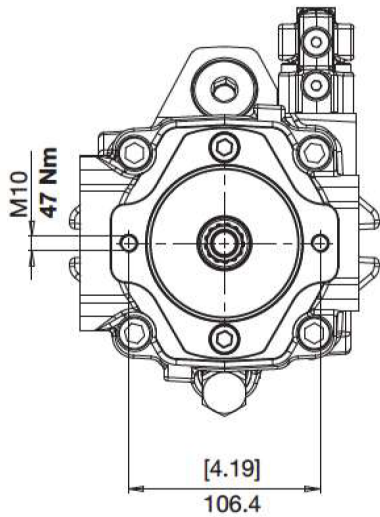
HPA4A Series



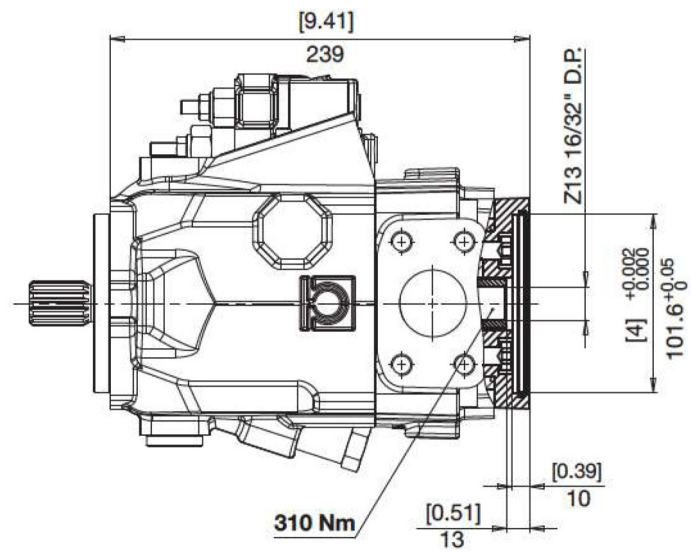
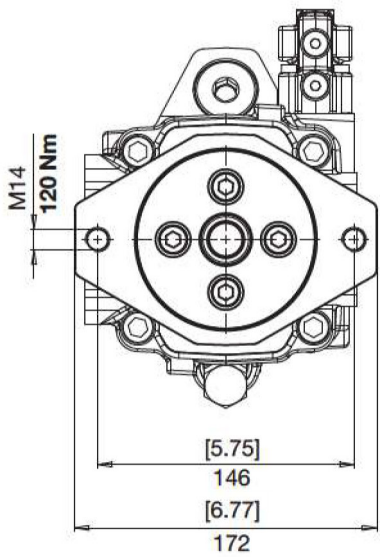
Axial Piston Pumps Variable Displacement

VERSION

5 SAE A



6 SAE B



HPA4A Series

Axial Piston Pumps Variable Displacement



HOW TO ORDER

MODEL CODE

1	2	3	4	5	6	7	8	9	10

1 - SERIES

HP A4A	Variable displacement axial piston pump
---------------	---

2 - DISPLACEMENT

034	Displacement 34 cm ³ / rev (2.08 in ³ / rev)
046	Displacement 46 cm ³ / rev (2.51 in ³ / rev)
058	Displacement 58 cm ³ / rev (3.54 in ³ / rev)
065	Displacement 65 cm ³ / rev (3.97 in ³ / rev)

3 - DIRECTION OF ROTATION

R	CW
L	CCW

4 - FLANGE

B	SAE B
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5 - SHAFT PROFILE

1	Z15 16/32" DP
6	Round Shaft Ø22.22
9	Z13 16/32" DP

6 - PORT

	Refer to chart
--	----------------

7 - CONTROL SYSTEMS

L	Pressure/Flow Rate Regulator
P	Pressure Rate Regulator
R	Pressure Rate Regulator Remote Controlled

8 - CONTROL SYSTEM SET

	Refer to chart
--	----------------

9 - VERSION

0	No special fittings
5	SAE A
6	SAE B

10 - SPECIAL VERSIONS

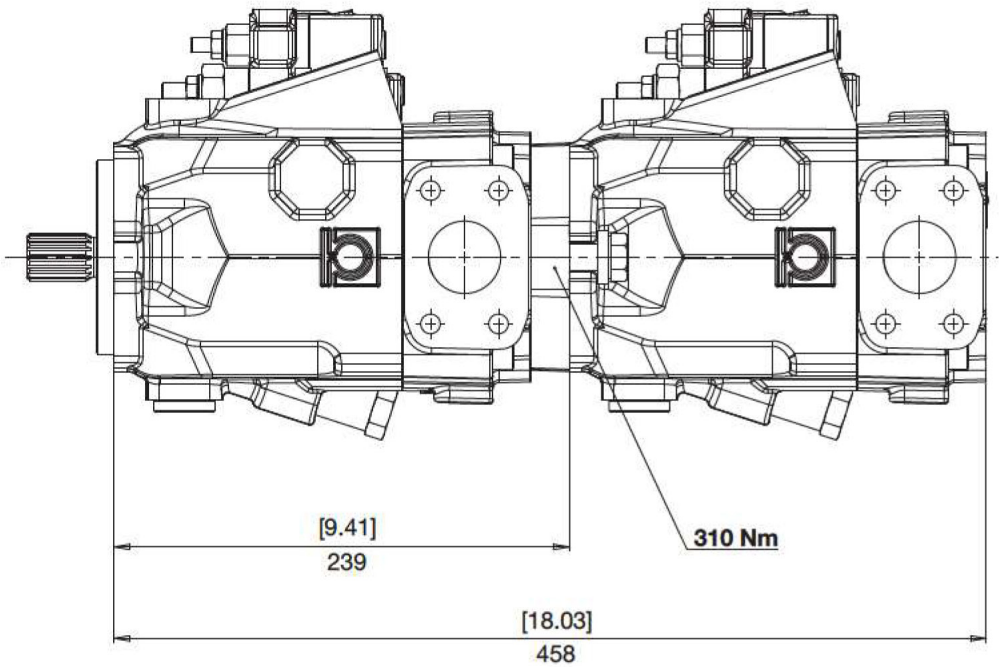
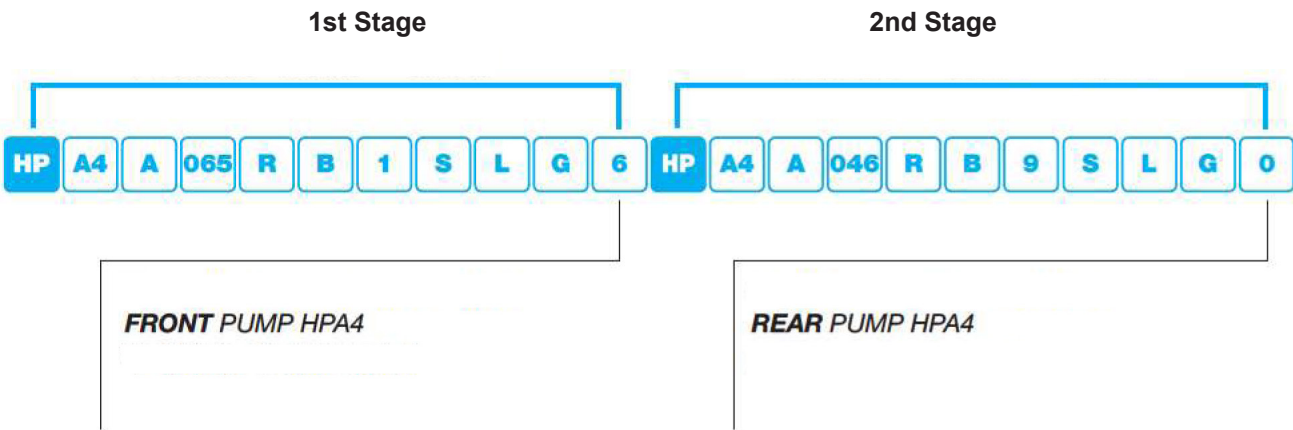
HPA4A Series

Axial Piston Pumps Variable Displacement



MULTIPLE PUMPS

To order multiple pumps, duplicate the order code of the individual pumps as per example below:



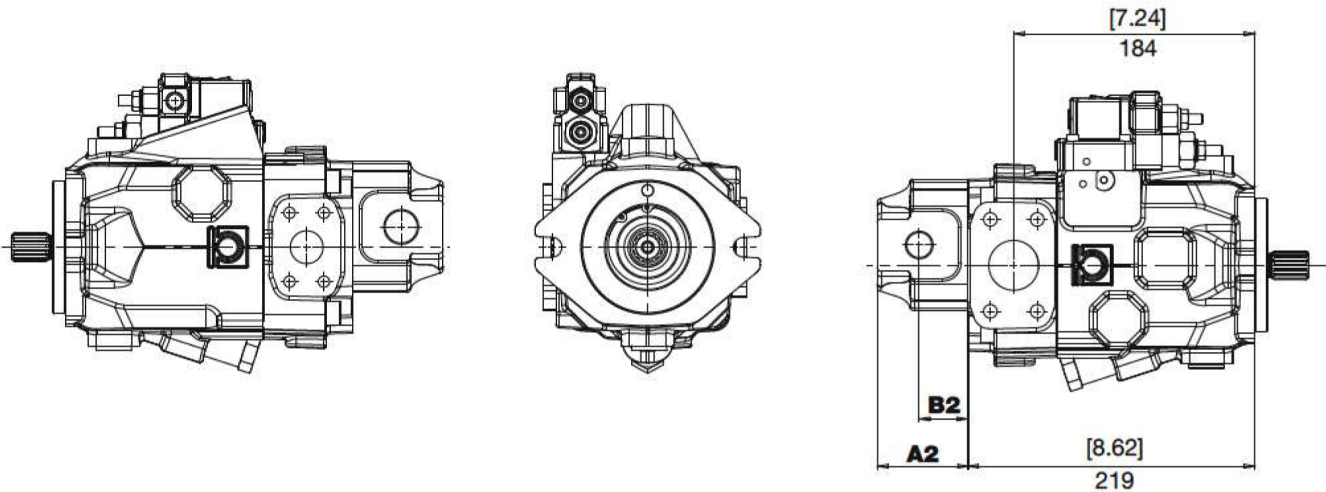
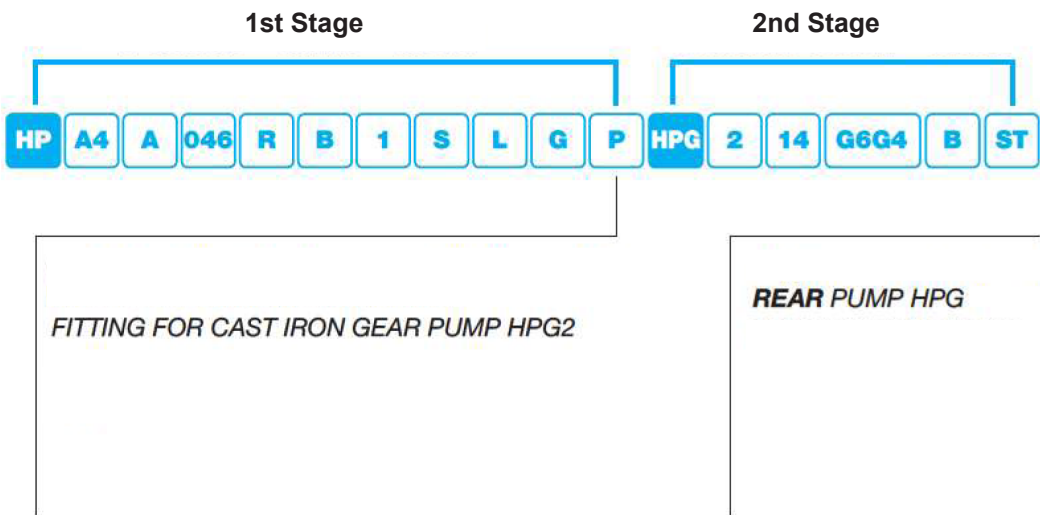
HPA4A Series

Axial Piston Pumps Variable Displacement



MULTIPLE PUMPS

To order an integrated version, duplicate the order code of the individual pumps as per example below:



TYPE	mm	in	mm	in
05	48.3	1.90	27.3	1.07
06	51.0	2.01	30.0	1.18
08	55.5	2.19	34.5	1.36
11	60.0	2.36	39.0	1.54
14	69.0	2.72	37.0	1.46
17	73.5	2.89	41.5	1.63
20	78.0	3.07	46.0	1.81
26	87.5	3.44	57.0	2.24
31	96.0	3.78	65.5	2.58