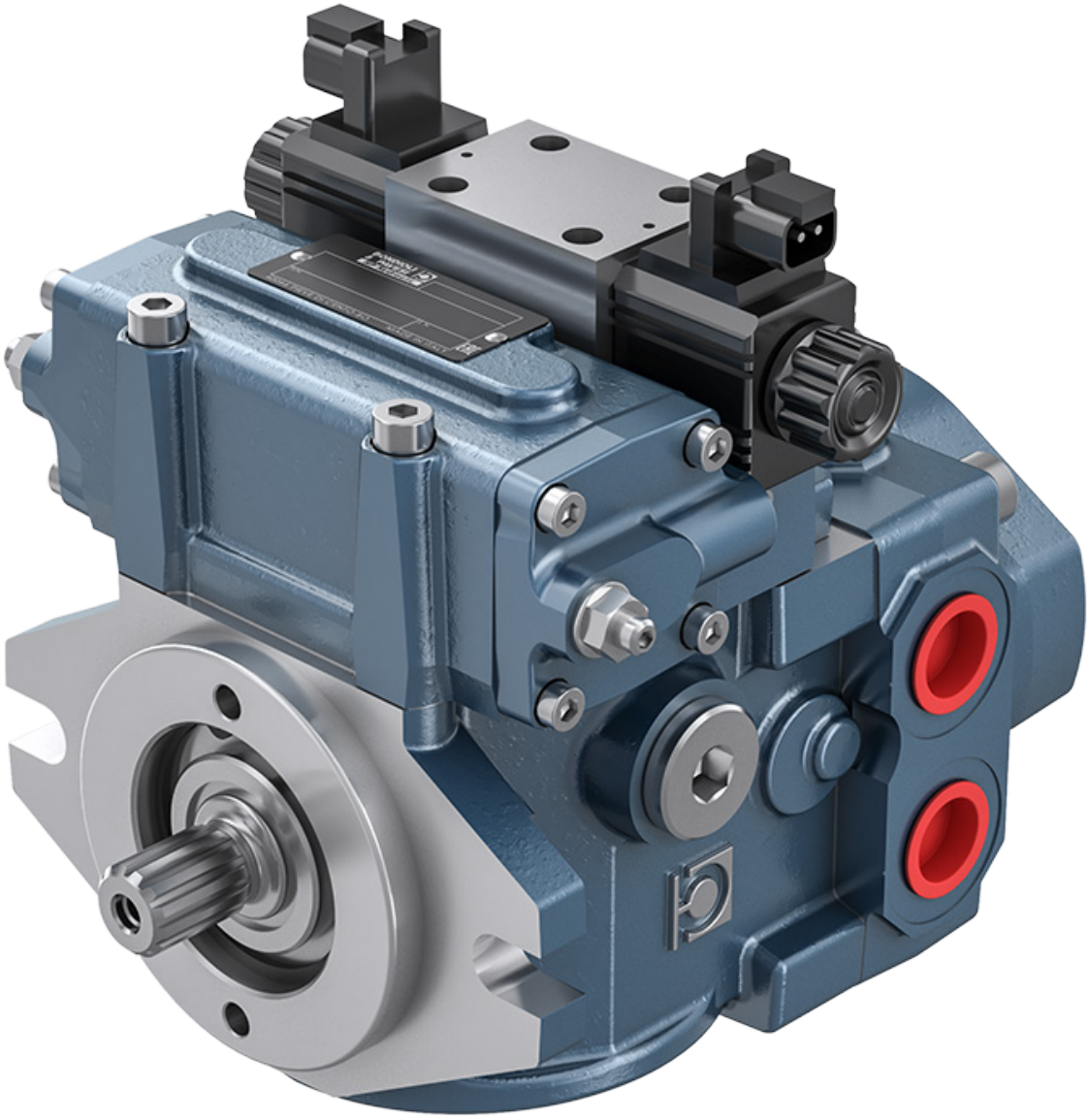
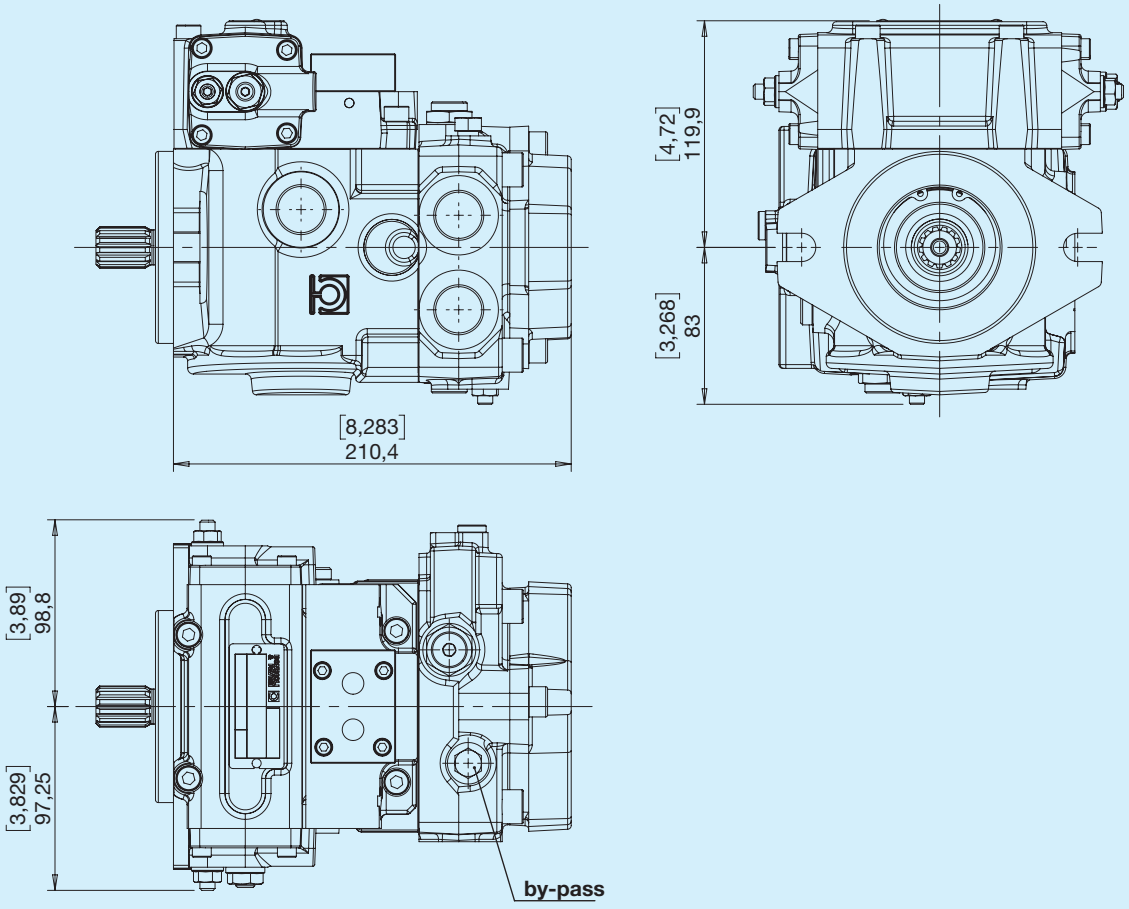
Closed circuit variable-displacement axial piston pumps and motors



Before using the axial piston pumps, carefully read the document entitled GENERAL INSTRUCTIONS FOR USE OF AXIAL PISTON PUMPS AND MOTORS.

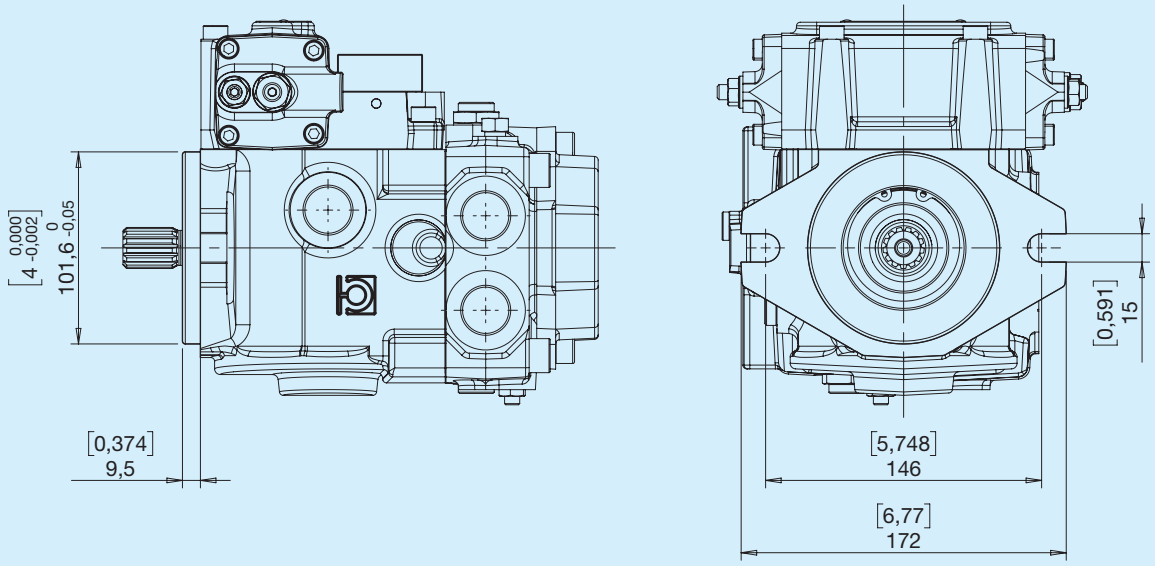


HNM3	Nominal displacement		Swash plate	Continuous pressure		Intermittent pressure		Peak pressure		Rotational speed		Weight	
	cm³	in³	°	bar	psi	bar	psi	bar	psi	min⁻¹	min⁻¹	kg	lbs
021	21	1.28	14.6	210	3046	230	3336	250	3626	3200	500	25	55
028	28	1.71	16.3	210	3046	230	3336	250	3626	3200	500	25	55
032	32	1.95	18	210	3046	230	3336	250	3626	3200	500	25	55
B21	21	1.28	14.6	250	3626	300	4351	350	5076	3600	500	25	55
B28	28	1.71	16.3	250	3626	300	4351	350	5076	3600	500	25	55
B37	37	2.26	18	250	3626	300	4351	350	5076	3400	500	25	55

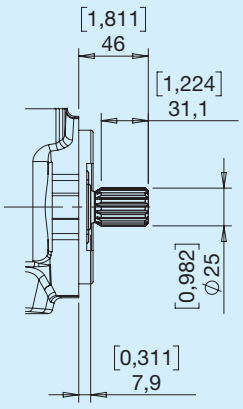
Feed pump

Type	Feed pump displacement		Pressure	
	cm^3	**in^3**	**bar**	**psi**
HNM3 021	9	0.55	22	319
HNM3 028	9	0.55	22	319
HNM3 032	9	0.55	22	319
HNM3 B21	9	0.55	22	319
HNM3 B28	9	0.55	22	319
HNM3 B37	12	0.72	22	319

B SAE B

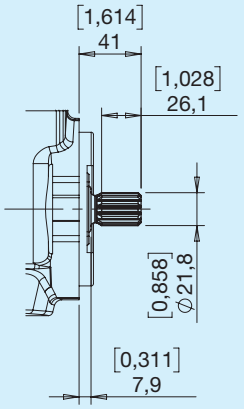


3 SAE 15T 16/32 DP



Coppia Max 460 Nm

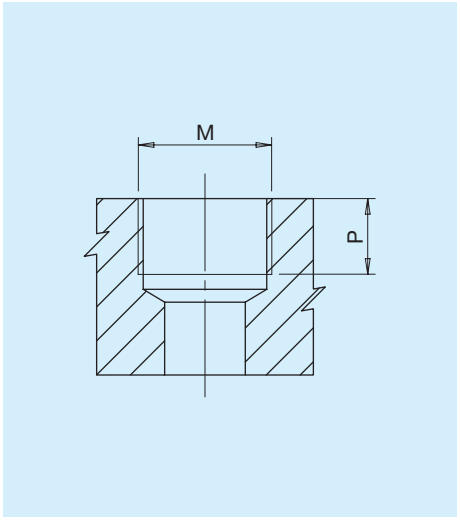
6 SAE 13T 16/32 DP



Coppia Max 310 Nm

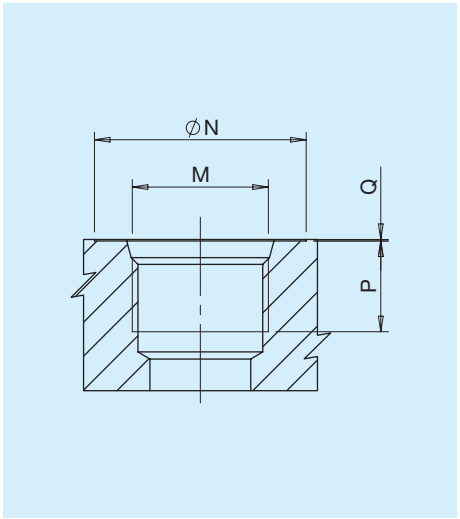
A,B - Use
L1, L2 - Drain port
S - Inlet
P - Pressure intake
M1, M2 - Manometer intake

Type G1-G2-G6



Type	M	M	P	
		Nm	**mm**	**in**
G1	Port ISO 1179-1 - G 1/8	8	11	0.43
G2	Port ISO 1179-1 - G 1/4	17	12	0.47
G6	Port ISO 1179-1 - G 3/4	90	15	0.59

Type U2-U6

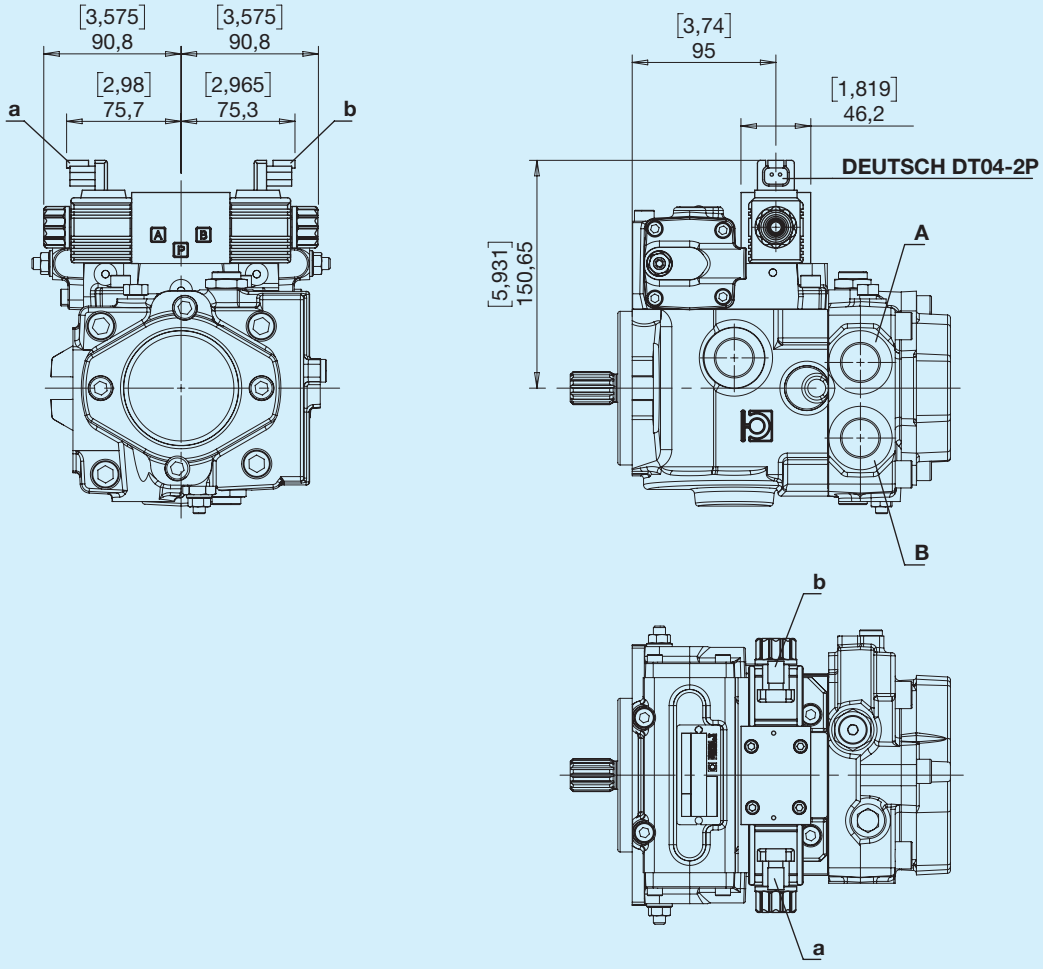


Type	Dim.	N		P		Q		M	
		mm	**in**	**mm**	**in**	**mm**	**in**		**Nm**
U2	1/4''	20	0.79	12	0.47	0.3	0.01	Port ISO 11926-1-7/16-20	17
U6	3/4''	42	1.65	18	0.70	0.3	0.01	Port ISO 11926-1-1 5/16-12	90

Combinations

Type	Inlet **S**	Outlet **A-B**	Drain port **L1-L2**	Pressure intakes **P**	Manometer intakes **M1 - M2**
G	G6	G6	G6	G1	G2
U	U6	U6	U6	G1	U2

E F Electrical ON/OFF, closed centre 12V / 24V

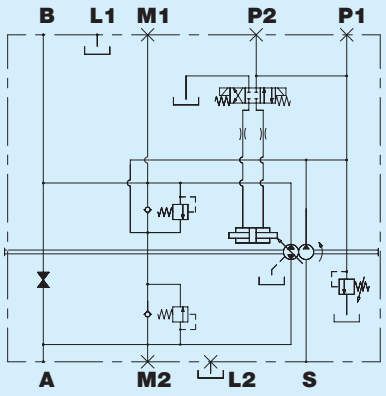


Available on request with DIN 43650 connectors

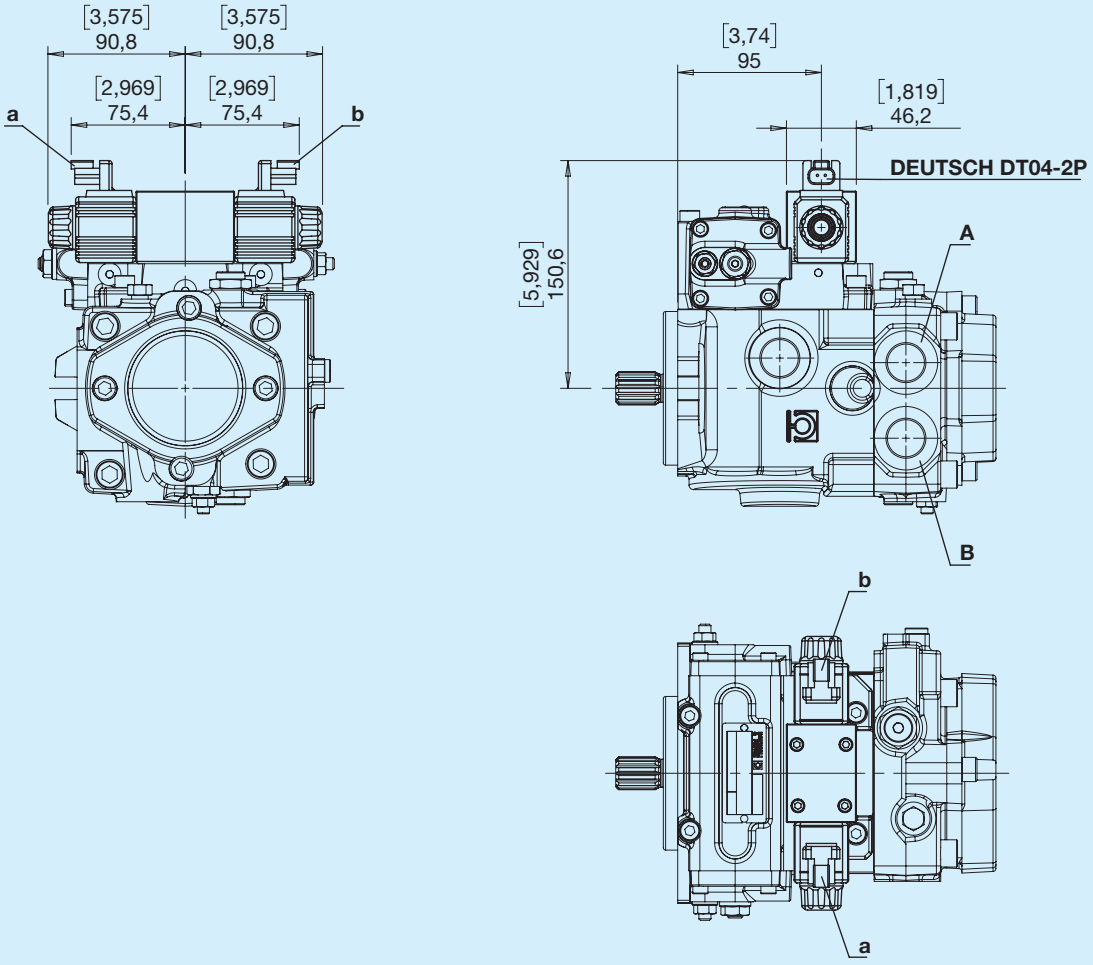
Outlet

Rotation	Excited solenoid	Outlet
Right	a	A
Right	b	B
Left	a	B
Left	b	A

Hydraulic diagram



N Q Electrical ON/OFF, open centre 12V / 24V

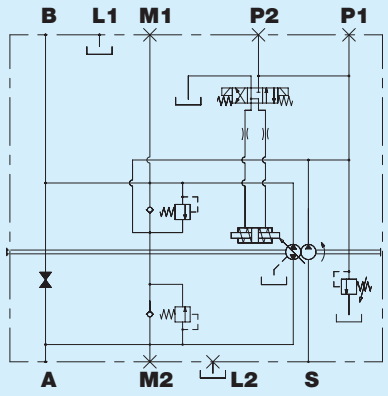


Available on request with DIN 43650 connectors

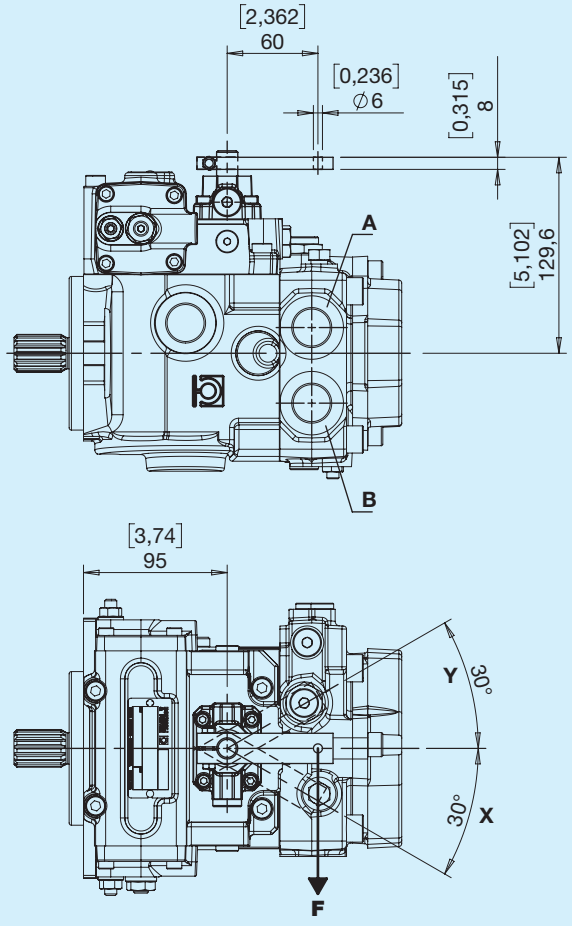
Outlet

Rotation	Excited solenoid	Outlet
Right	a	A
Right	b	B
Left	a	B
Left	b	A

Hydraulic diagram



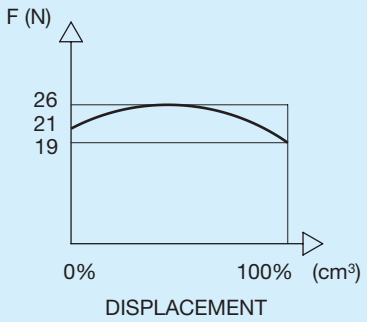
I Lever-operated hydraulic



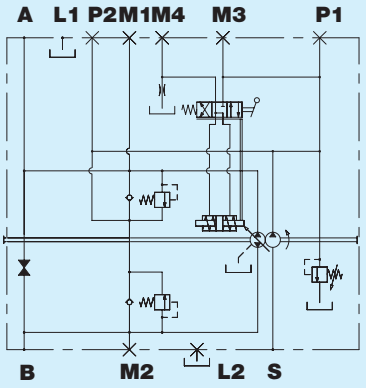
Outlet

Rotation	Control lever	Outlet
Right	Y	B
Right	X	A
Left	Y	B
Left	X	A

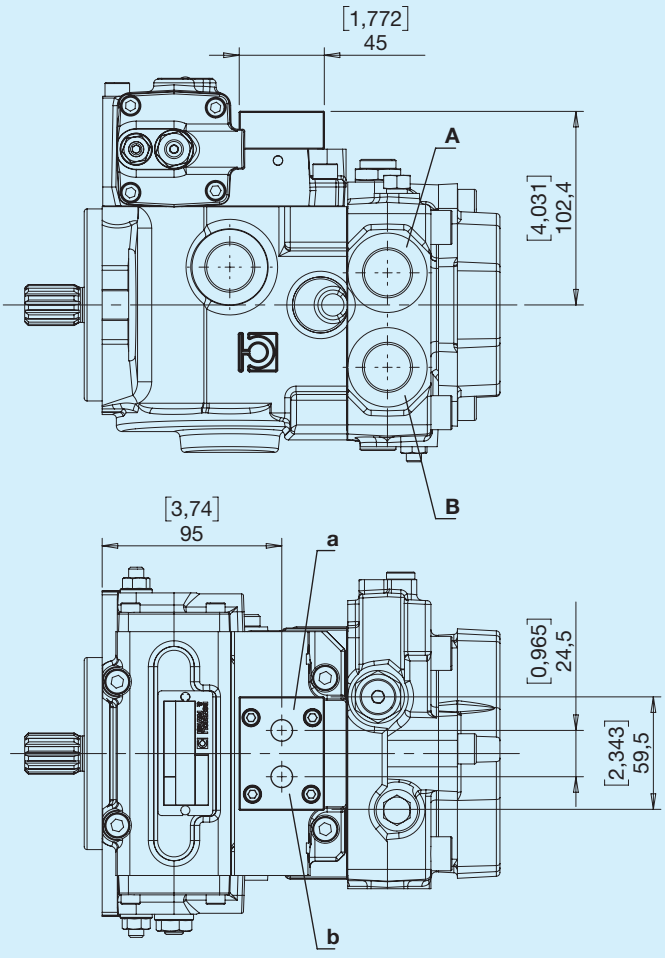
Pilot pressure



Hydraulic diagram



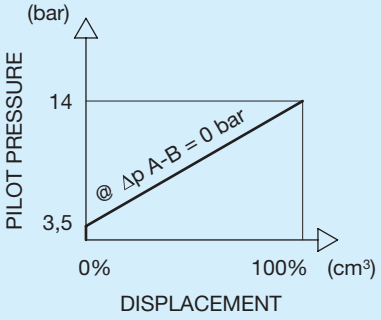
K Remote hydraulic



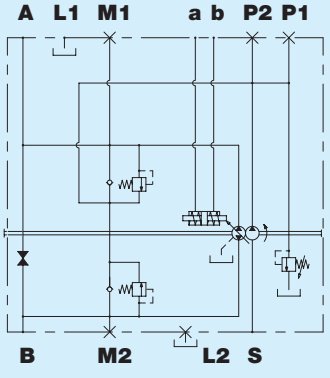
Outlet

Rotation	Pilot pressure	Outlet
Right	a	A
Right	b	B
Left	a	A
Left	b	B

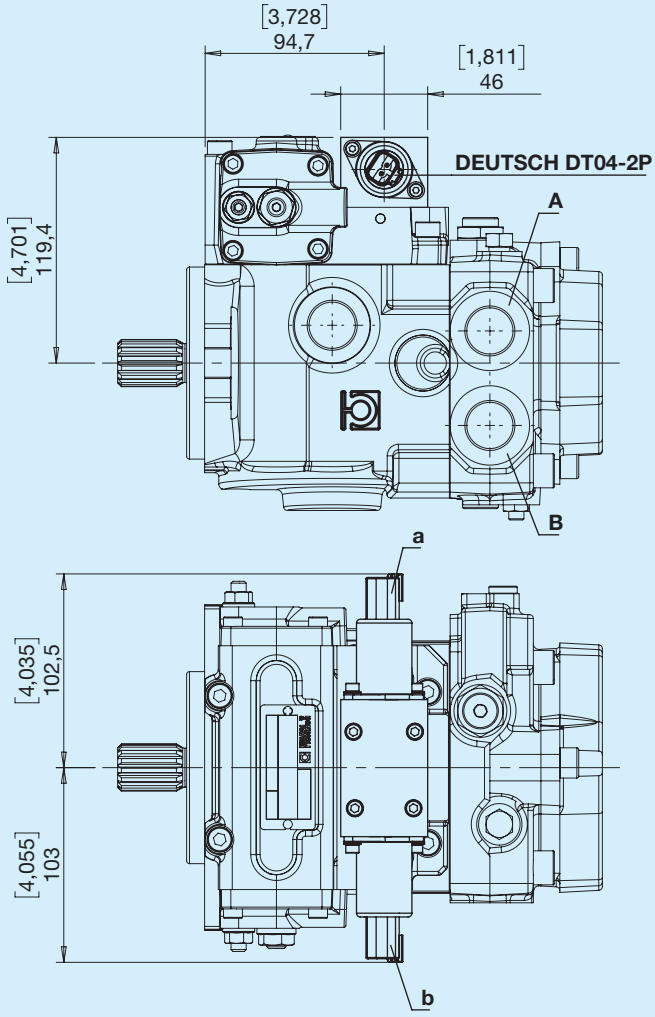
Pilot pressure



Hydraulic diagram



S Electronic proportional control 12V



Available on request with AMP JUNIOR connectors

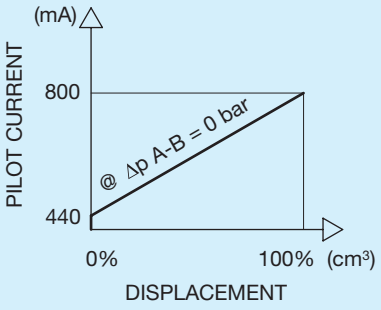
Outlet

Rotation	Powered solenoid	Outlet
Right	a	B
Right	b	A
Left	a	A
Left	b	B

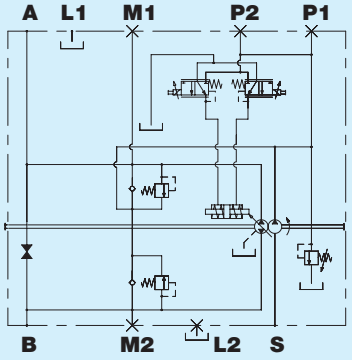
Control

Rated voltage	12	V
Min. current (I1)	300	mA
Max. current (I2)	1500	mA
PWM frequency	100	Hz

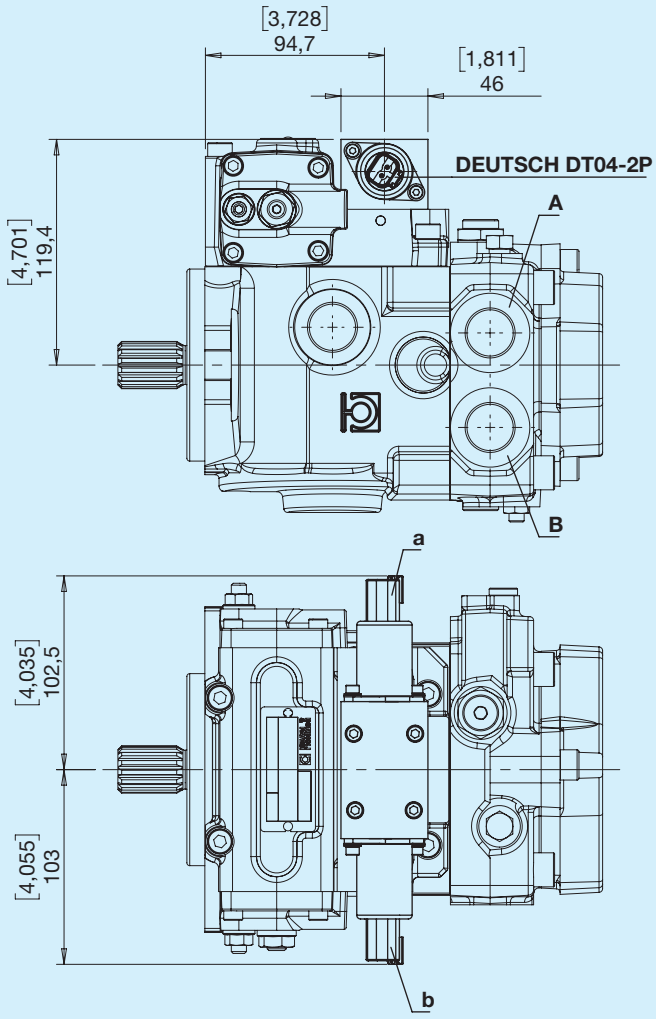
Pilot pressure



Hydraulic diagram



W Electronic proportional control 24V



Available on request with AMP JUNIOR connectors

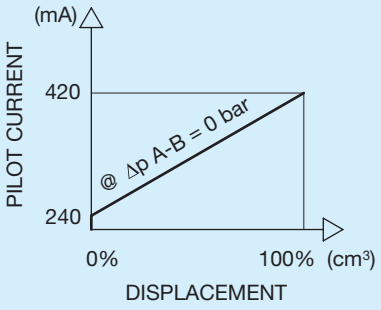
Outlet

Rotation	Powered solenoid	Outlet
Right	a	B
Right	b	A
Left	a	A
Left	b	B

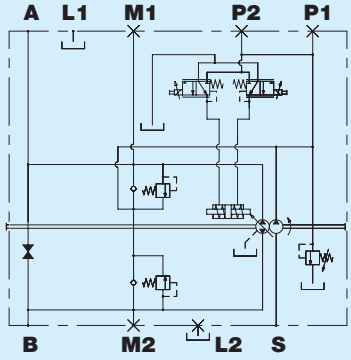
Control

Rated voltage	24	V
Min. current (I1)	180	mA
Max. current (I2)	850	mA
PWM frequency	100	Hz

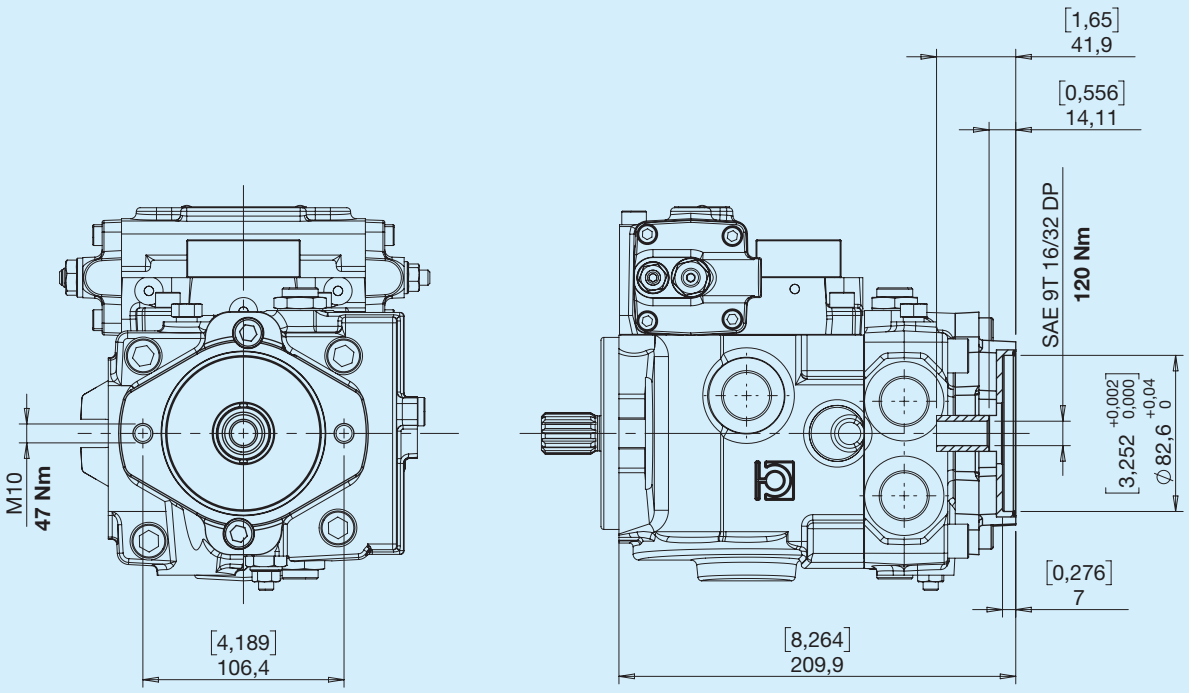
Pilot pressure



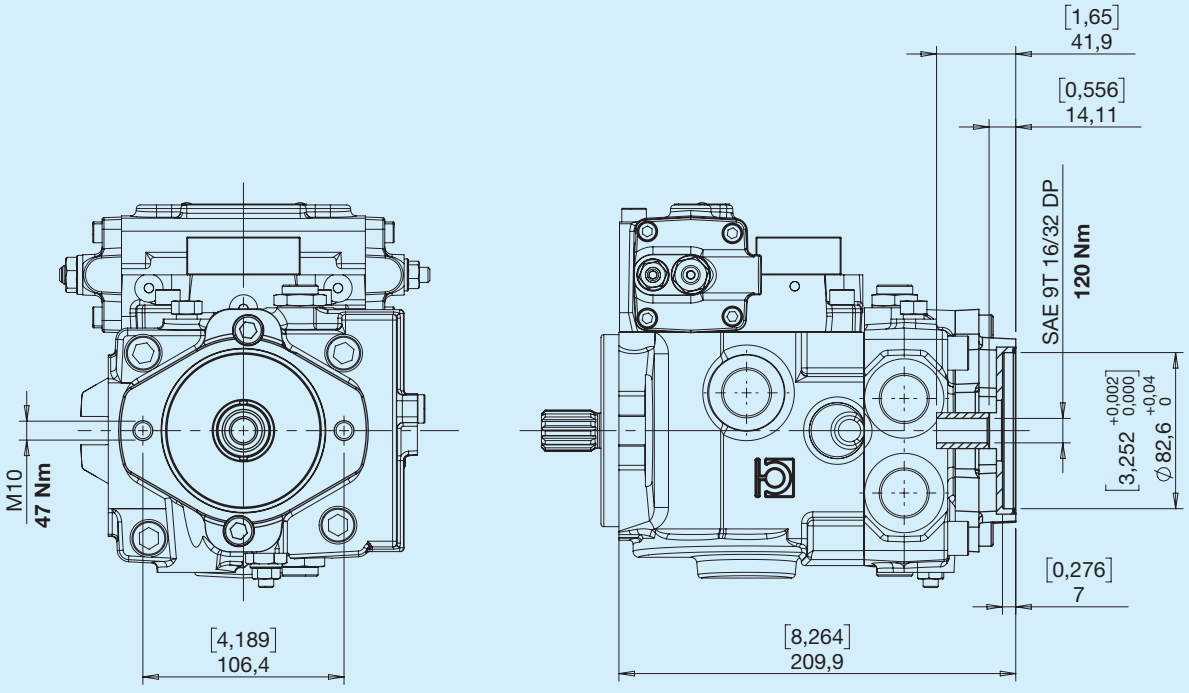
Hydraulic diagram



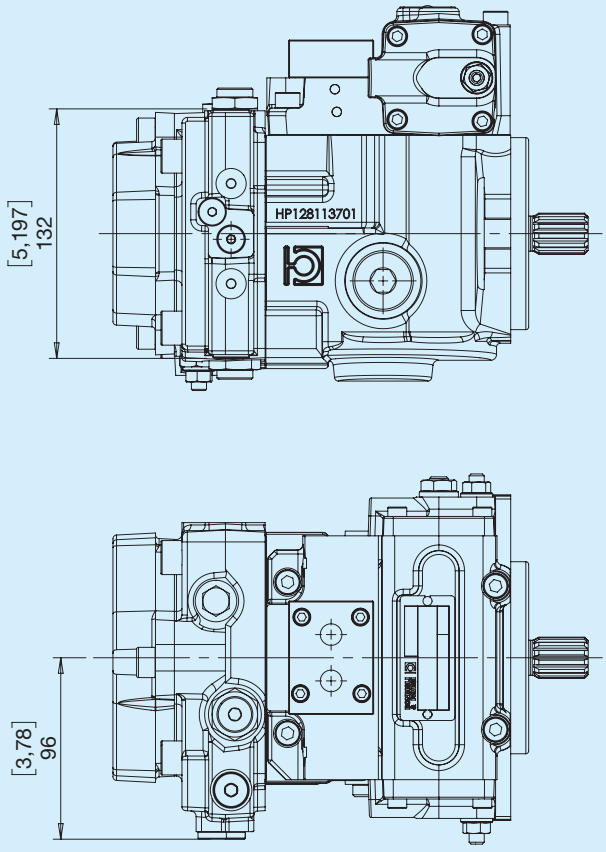
2 SAE A with boost pump



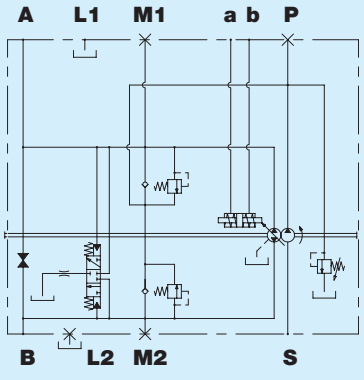
5 SAE A without boost pump



V Flushing valve (5-7 l/min)



Hydraulic diagram



Instructions for ordering

	1	2	3		4		5		4		7		8		9		10		11		12	13	14
HNM3																							

1 2 3

Displacement

021	**028**	**032**
B21	**B28**	**B37**

4

Direction of rotation

R	Right	**L**	Left

5

Flanges

B	SAE B

4

Shaft profile

3	SAE 15T 16/32 DP	**6**	SAE 13T 16/32 DP

7

Type of ports

G	Gas	**U**	Unf

8

Controls

E	Electrical ON/OFF, closed centre 12V	**N**	Electrical ON/OFF, open centre 12V	**I**	Lever-operated hydraulic	**S**	Electronic proportional control 12V
F	Electrical ON/OFF, closed centre 24V	**Q**	Electrical ON/OFF, open centre 24V	**K**	Remote hydraulic	**W**	Electronic proportional control 24V

9

Valve calibration

B	150 bar	**E**	210 bar	**I**	280 bar	**O**	350 bar
D	180 bar	**G**	250 bar	**L**	300 bar	**P**	400 bar

10

Through Drive

0	No special fittings, without boost pump	**1**	No special fittings, with boost pump	**2**	SAE A with boost pump	**5**	SAE A without boost pump

11

Accessories

0	No option	**V**	Flushing valve

12 13 14

Special versions

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