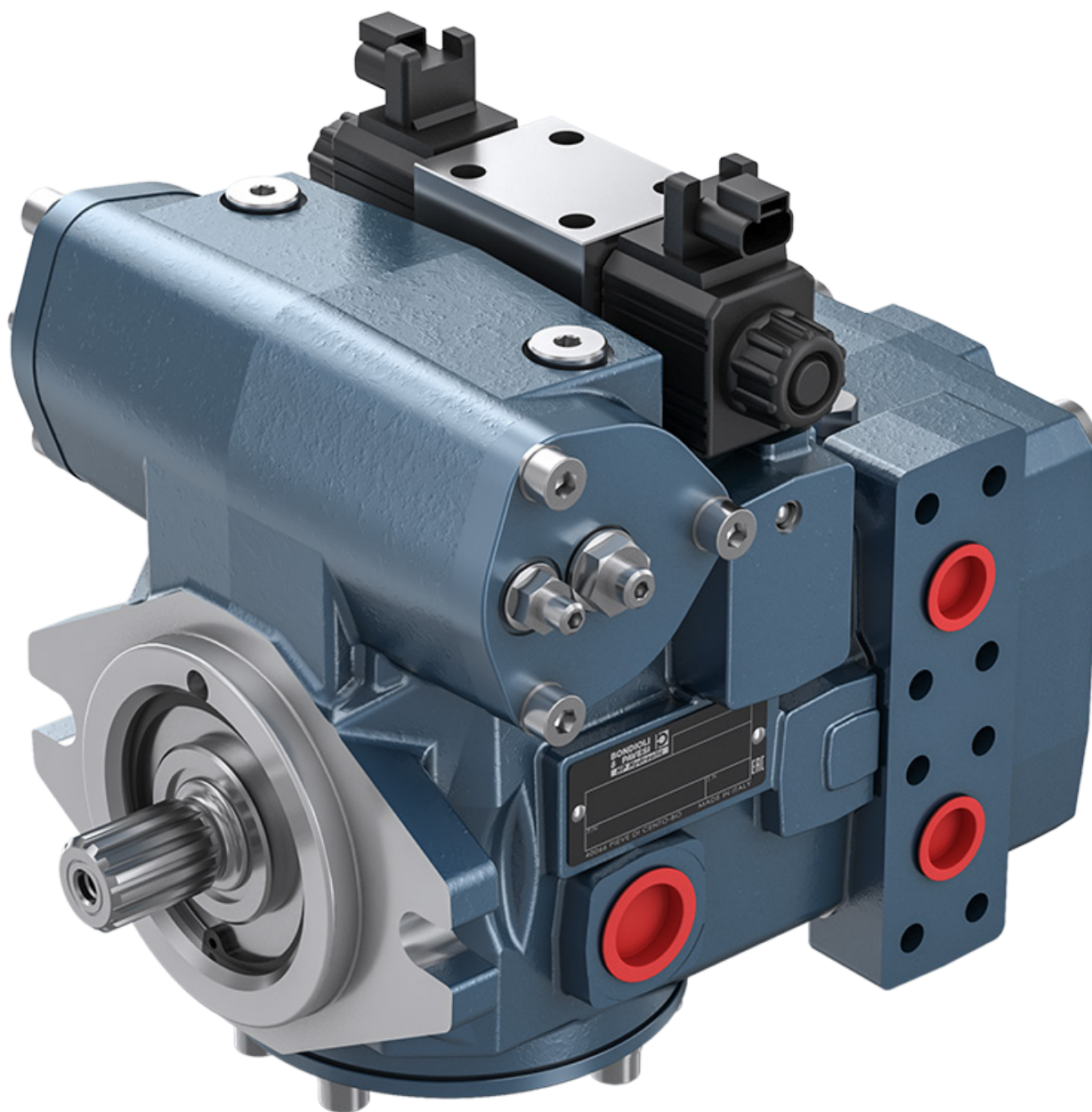
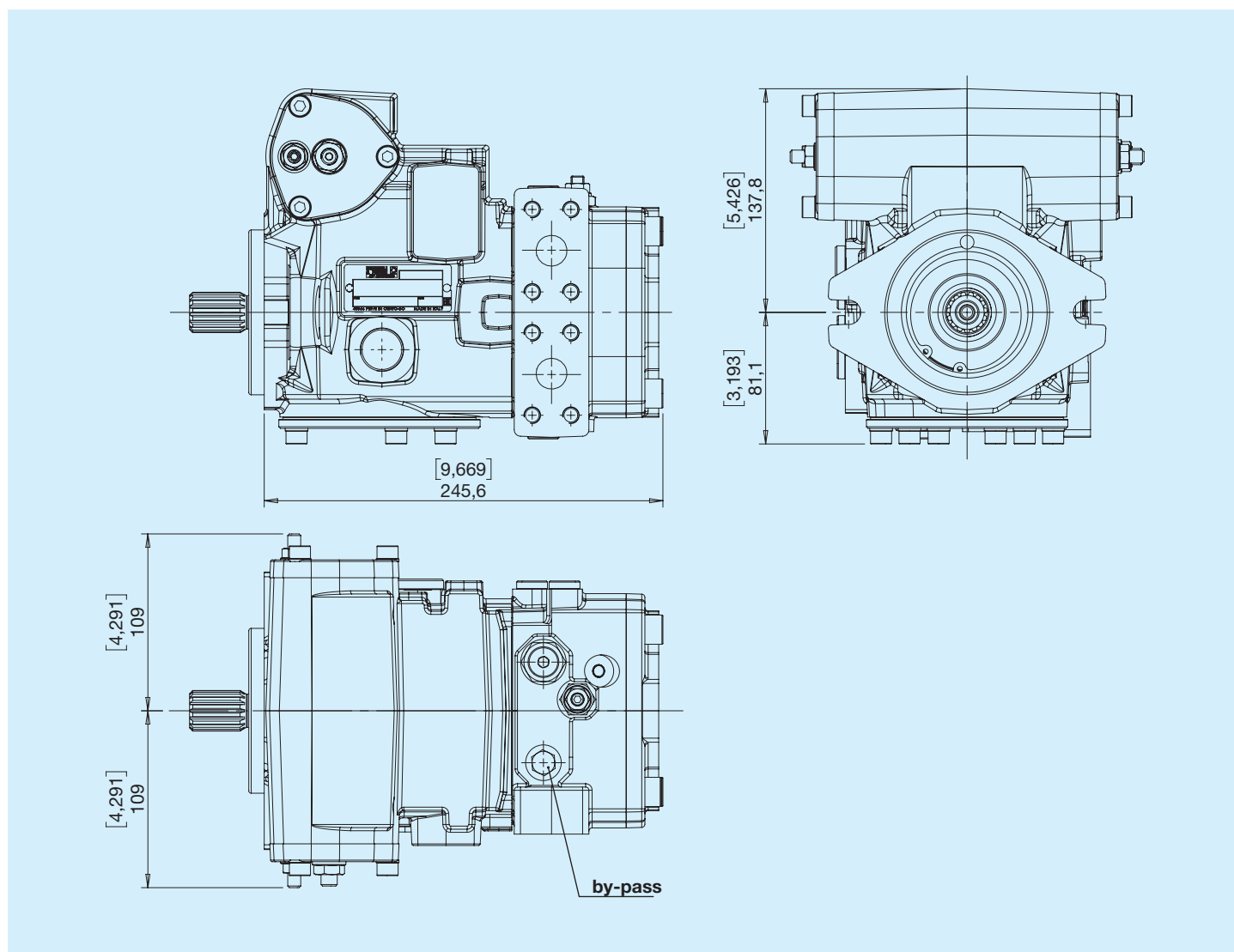


Variable-displacement pumps



Before using the axial piston pumps and motors, carefully read the GENERAL INSTRUCTIONS FOR USE OF CLOSED CIRCUIT AXIAL PISTON PUMPS AND MOTORS.

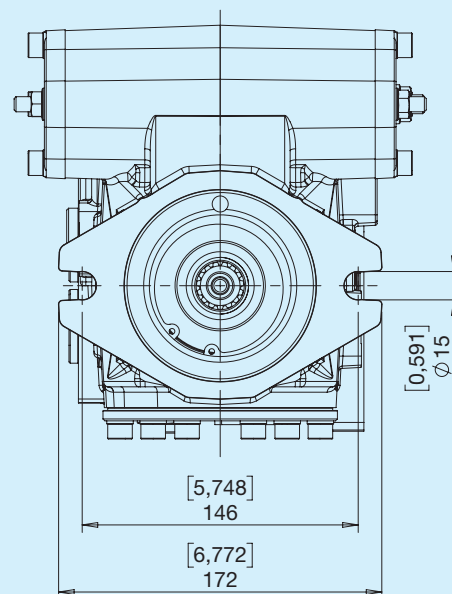
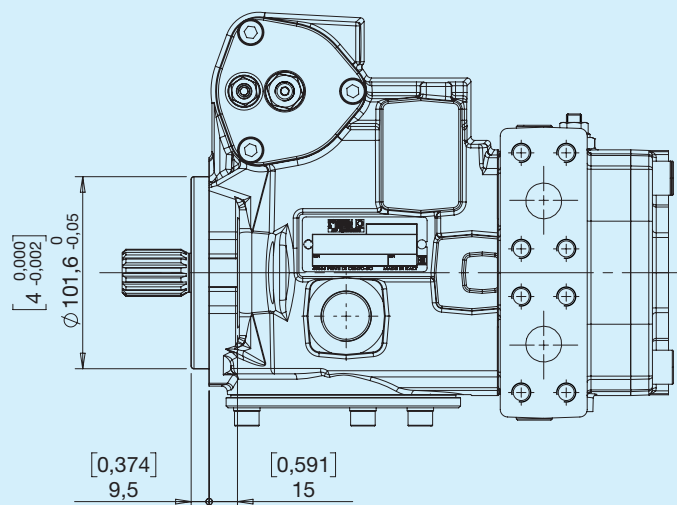


HPP5	Nominal displacement		Swash plate °	Continuous pressure		Intermittent pressure		Peak pressure		Rotational speed		Weight	
	cm ³	in ³		bar	psi	bar	psi	bar	psi	min ⁻¹	min ⁻¹	kg	lbs
046	46	2.81	18	420	6091	450	6525	480	6960	3800	500	25.5	56.2
056	56	3.42	17,5	400	5801	430	6236	460	6672	3600	500	35	77,1

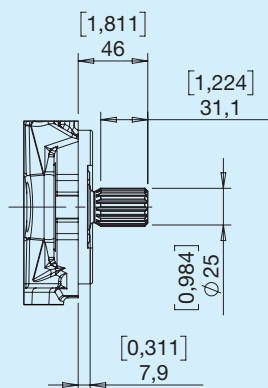
Feed pump

Type	Feed pump displacement		Pressure	
	cm ³	in ³	bar	psi
HPP5	16	0.98	22	319

B SAE B

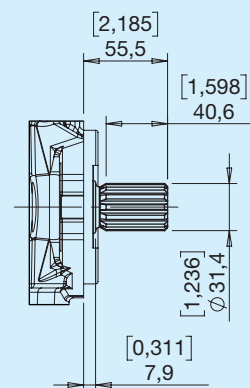


1 SAE 15T 16/32 DP

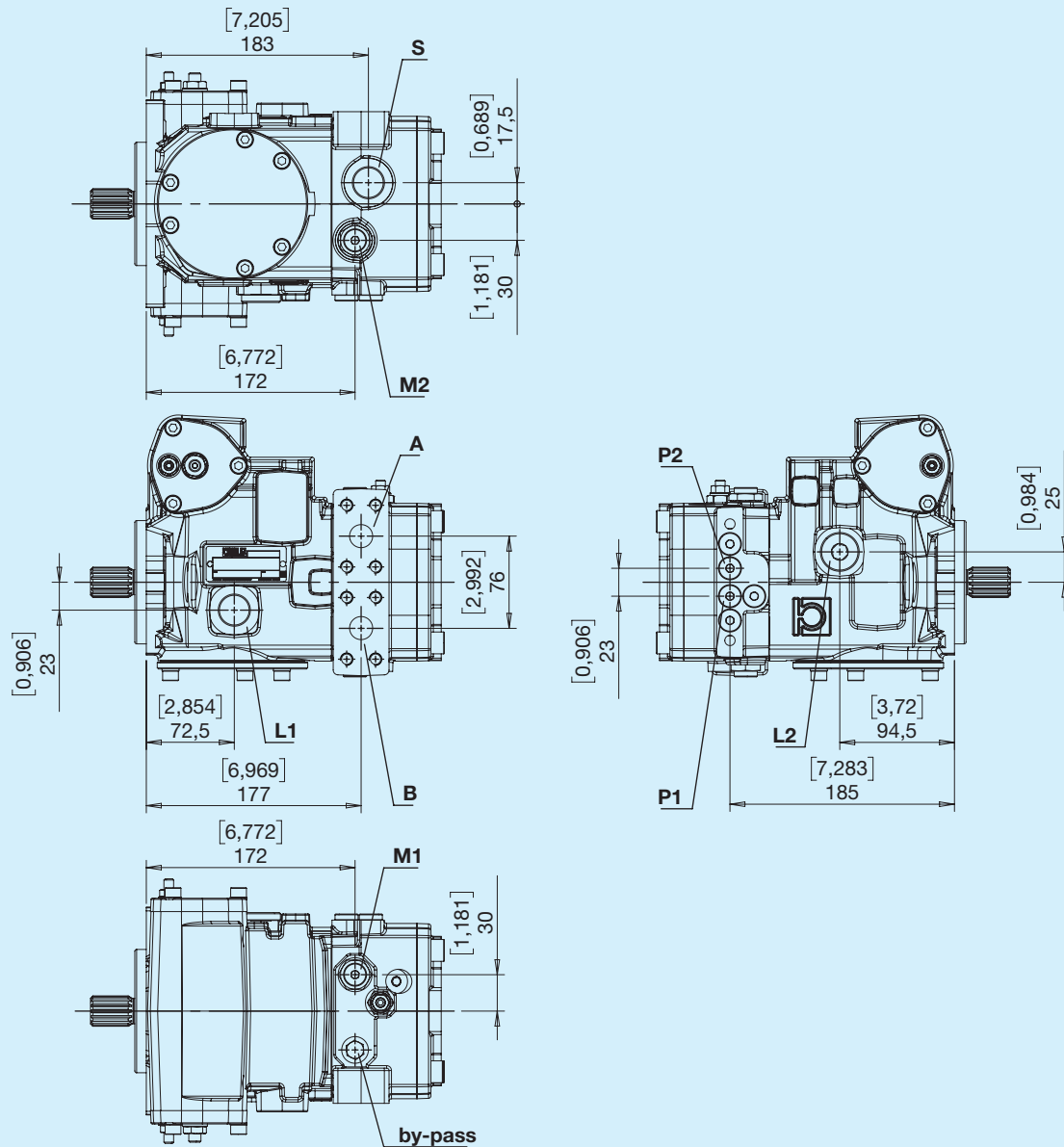


Max. torque 460 Nm

3 SAE 14T 12/24 DP

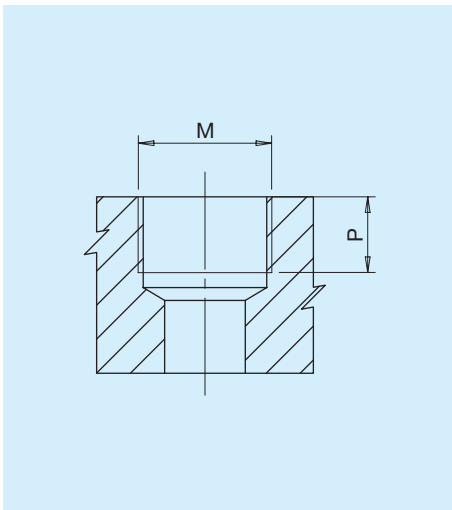


Max. torque 850 Nm



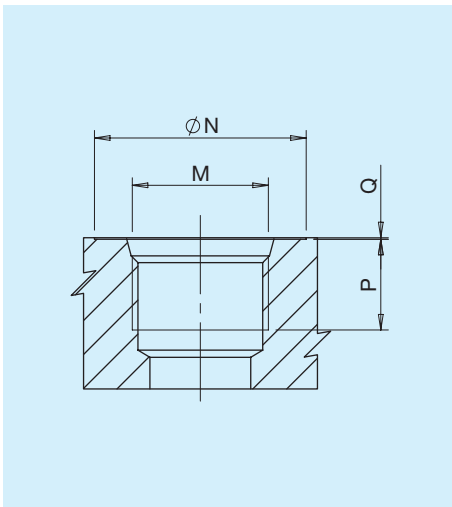
A,B - Use
L1, L2 - Drain port
S - Inlet
P - Pressure intake
M1, M2 - Manometer intake

Type G



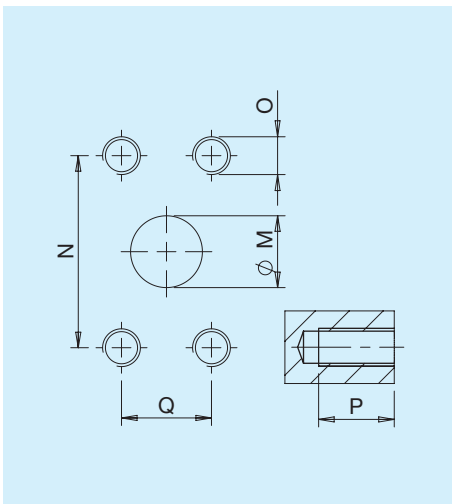
Type	M		P	
		Nm	mm	in
G2	Port ISO 1179-1 - G 1/4	17	12	0.47
G6	Port ISO 1179-1 - G 3/4	90	15	0.59

Type U



Type	Dim.	N		P		Q		M	Nm
		mm	in	mm	in	mm	in		
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 1/16-12	90

Type N

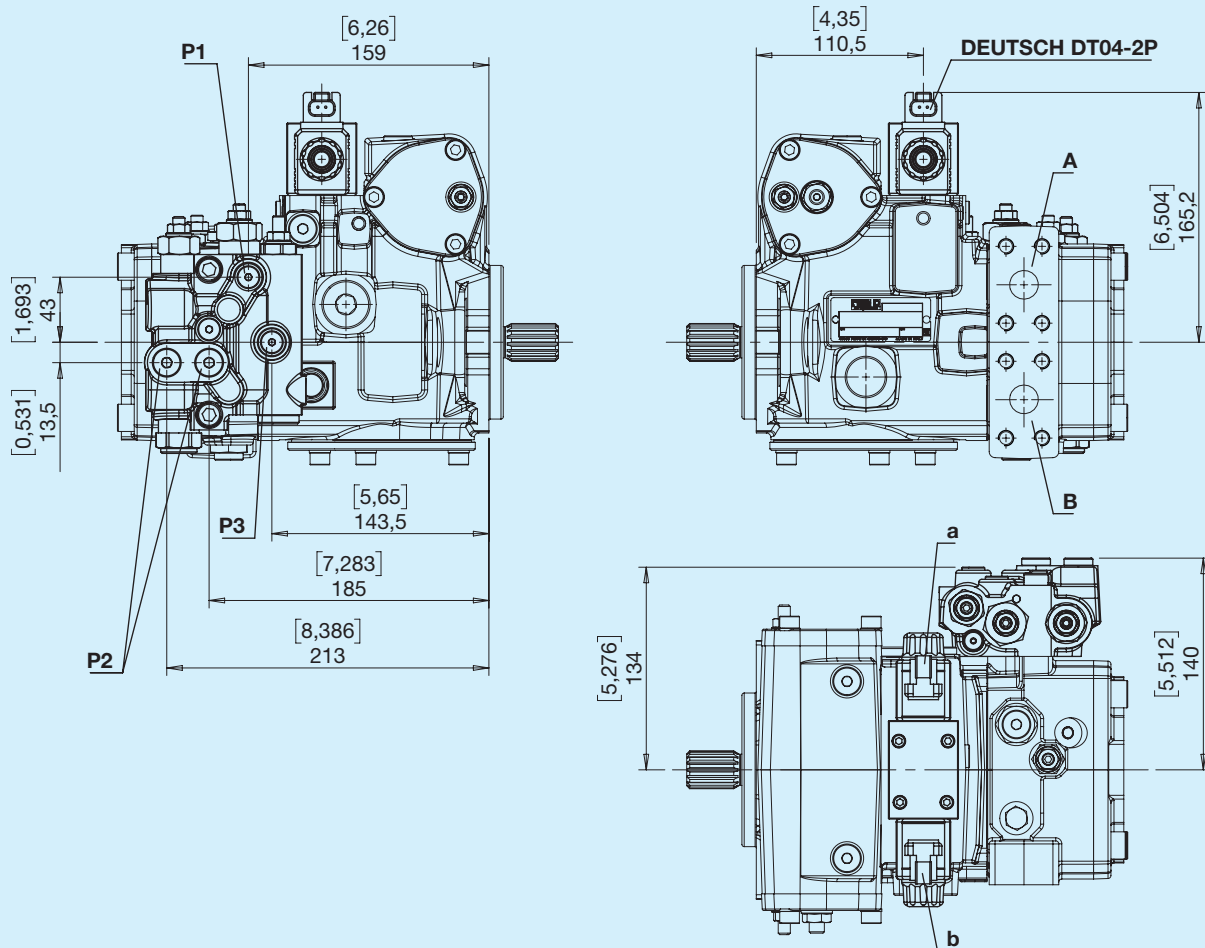


Type	M		N		Q		P		O	
	mm	in	mm	in	mm	in	mm	in		Nm
N6	19	0.75	50.8	2	23.8	0.94	20	0.79	M10	38

Combinations

Type	Inlet S	Outlet A-B	Drain port L1-L2	Pilot pressure a-b	Pressure intakes P1 - P2	Manometer intakes M1 - M2
G	G6	N6	G6	G2	G2	G2
U	U6	N6	U6	G2	G2	U2

A Automotive



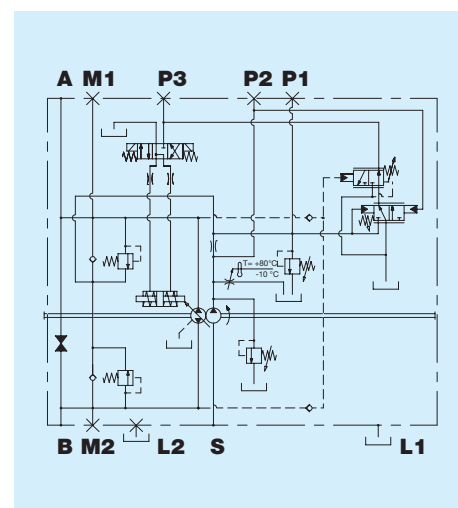
Available on request with DIN 43650 connectors

Outlet

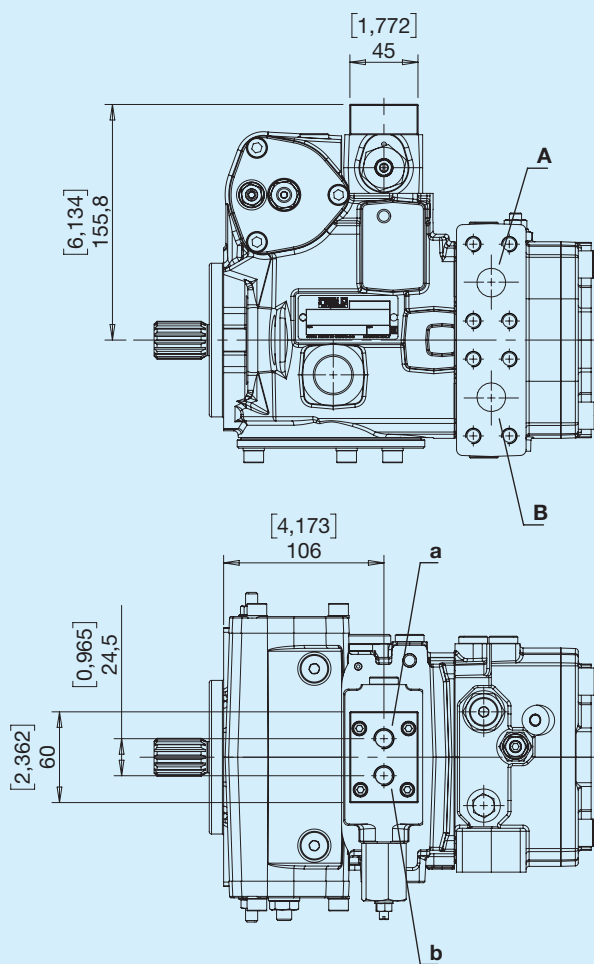
Rotation	Excited solenoid	Outlet
Right	a	A
Right	b	B
Left	a	B
Left	b	A

P1, P3 - Pressure intake G 1/8
P2 - Pressure intake G 1/4

Hydraulic diagram



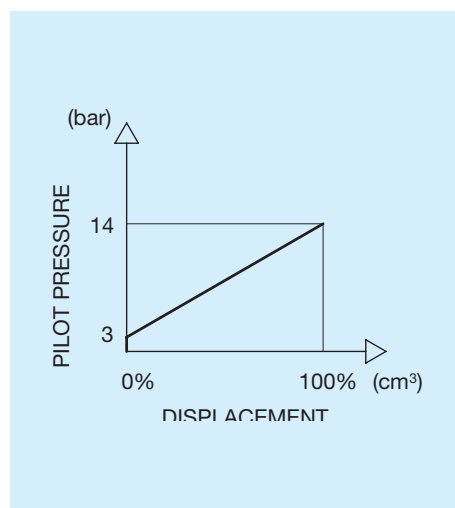
G Feedback hydraulic



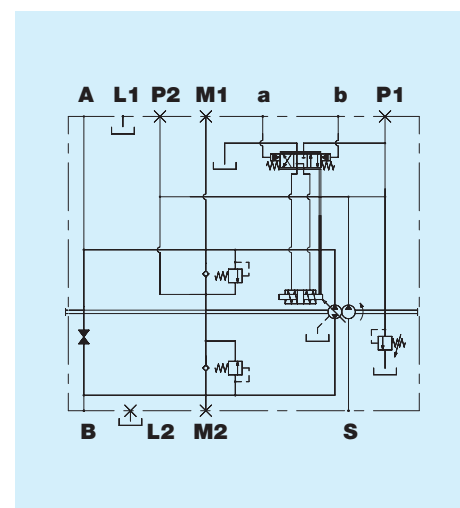
Outlet

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

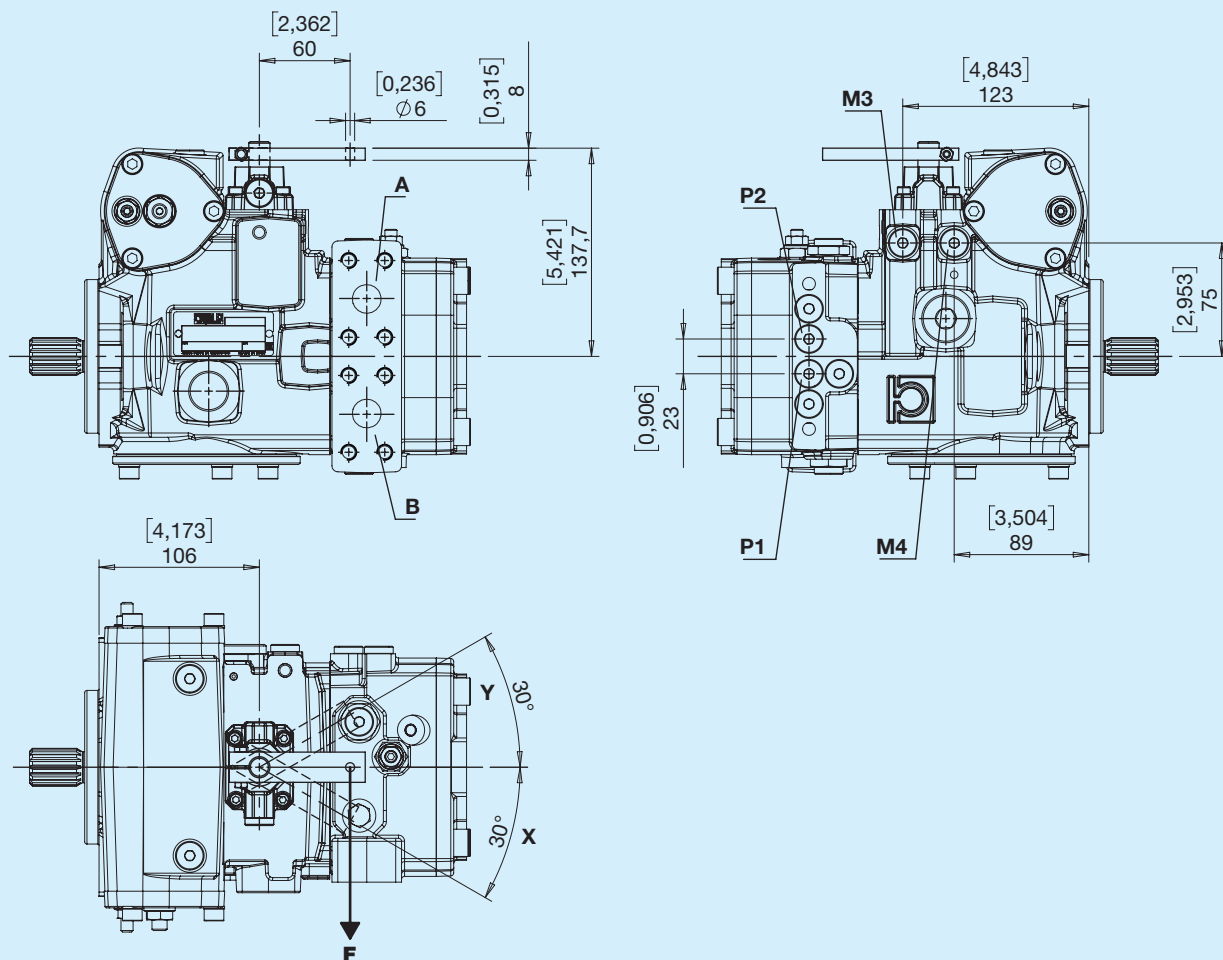
Pilot pressure



Hydraulic diagram



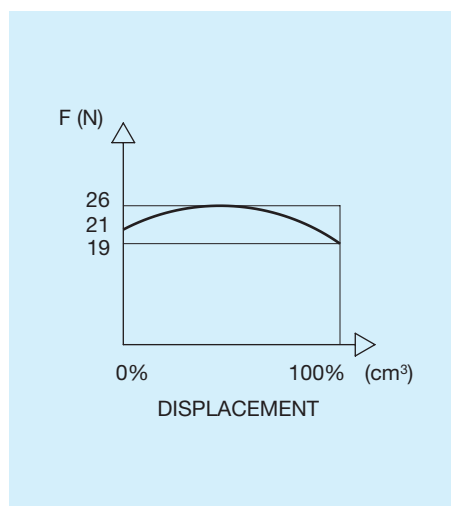
I Lever-operated hydraulic



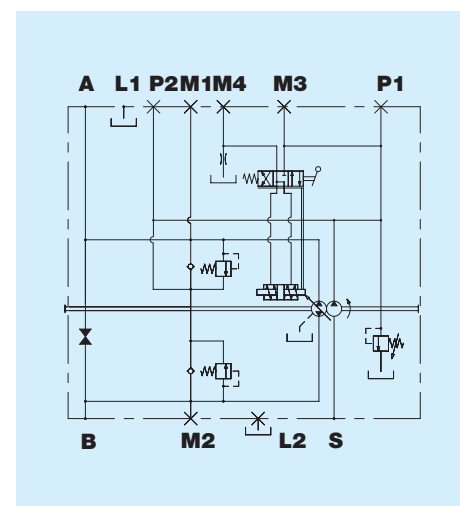
Outlet

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

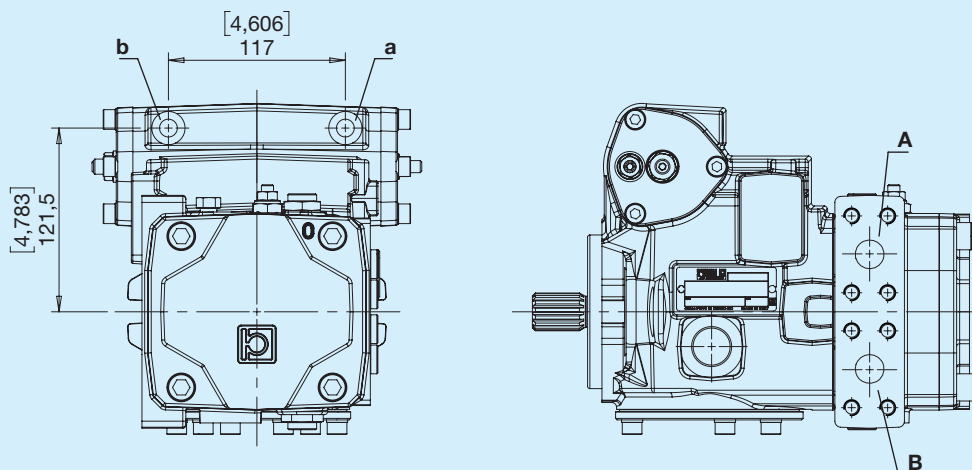
Pilot pressure



Hydraulic diagram



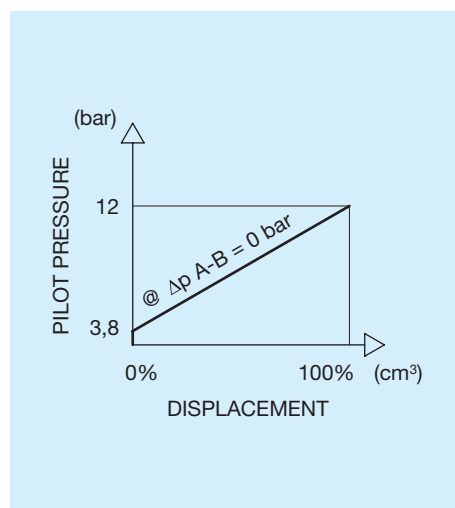
K Direct hydraulic



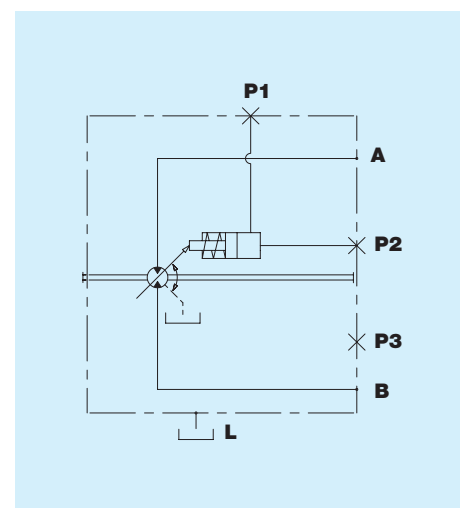
Outlet

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

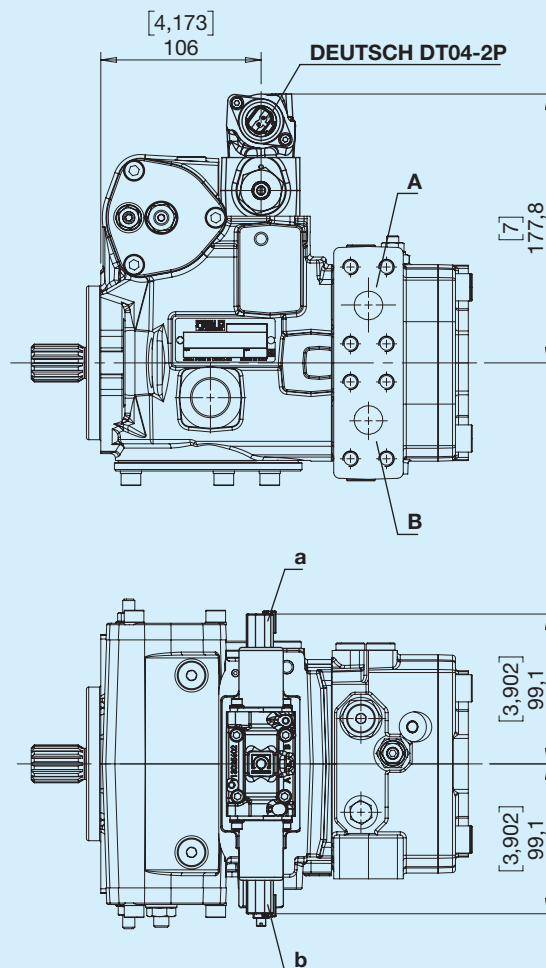
Pilot pressure



Hydraulic diagram



O Electronic proportional feedback control 12V



Available on request with DIN 43650 connectors

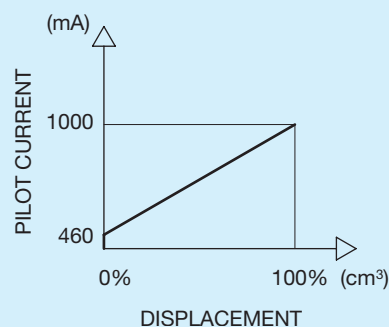
Outlet

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

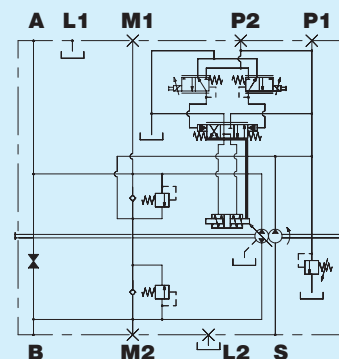
Control

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

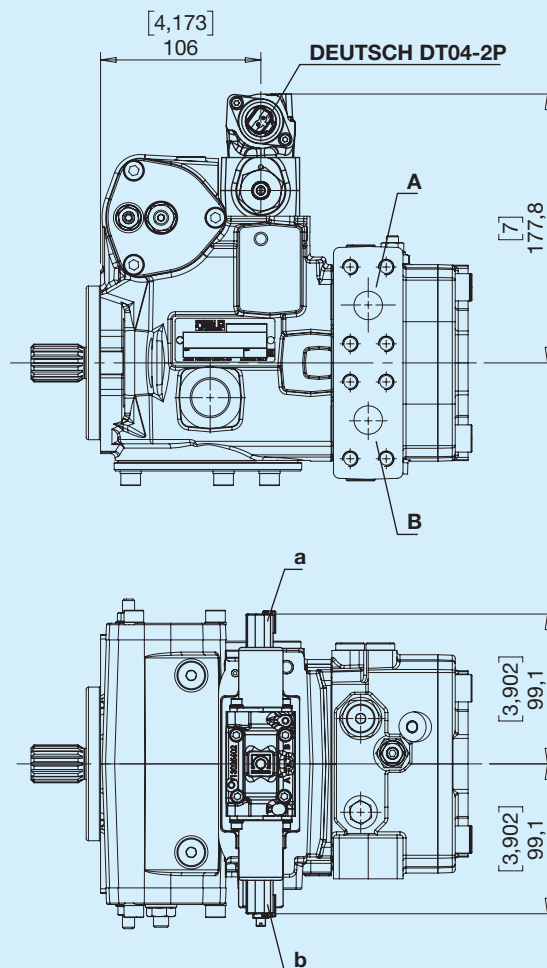
Pilot pressure



Hydraulic diagram



V Electronic proportional feedback control 24V



Available on request with DIN 43650 connectors

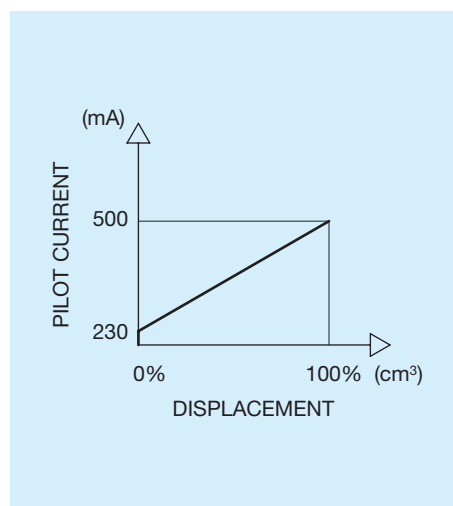
Outlet

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

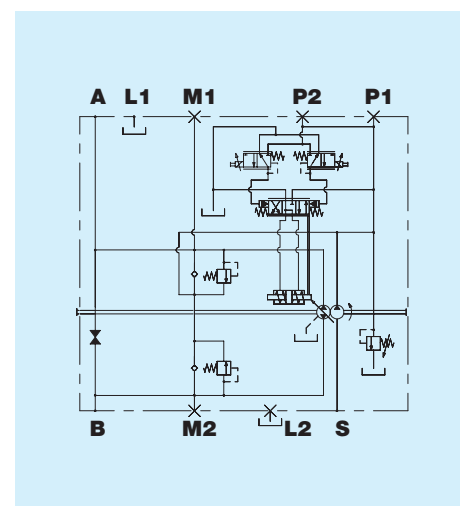
Control

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

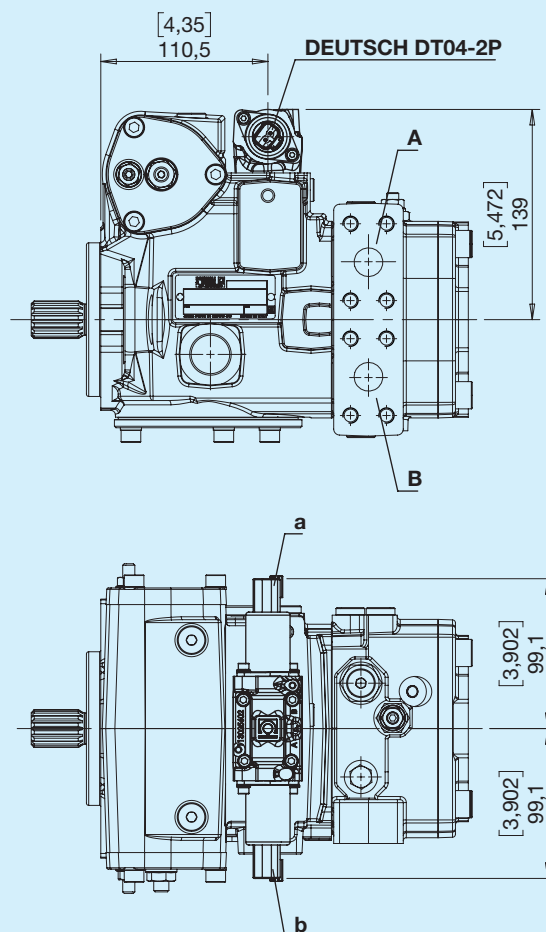
Pilot pressure



Hydraulic diagram



S Electronic proportional control 12V



Available on request with AMP JUNIOR connectors

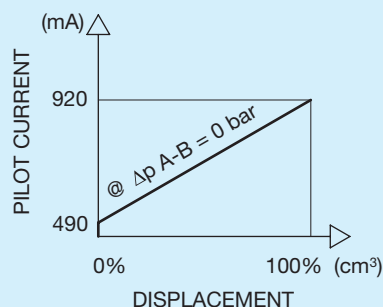
Outlet

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

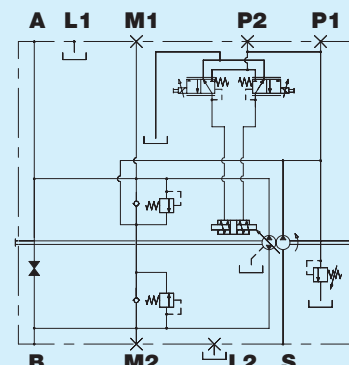
Control

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

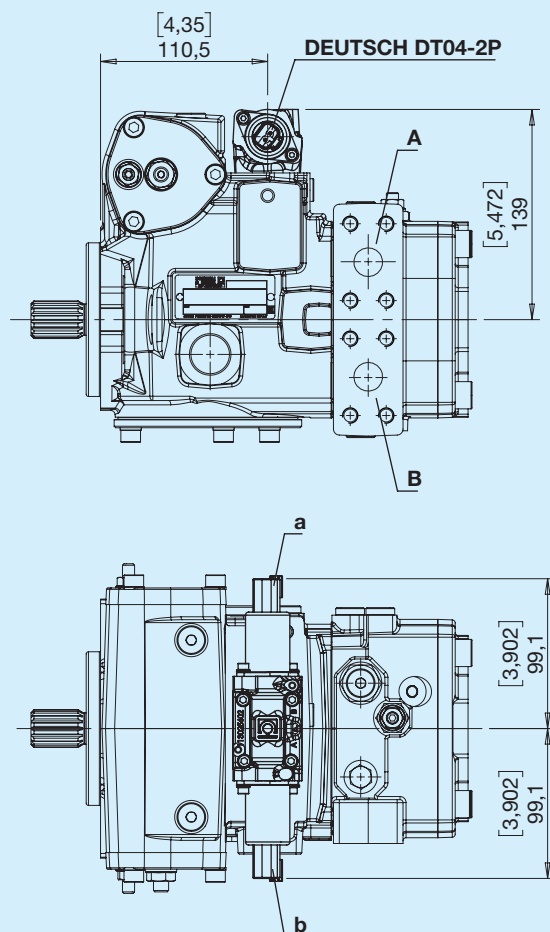
Pilot pressure



Hydraulic diagram



W Electronic proportional control 24V



Available on request with AMP JUNIOR connectors

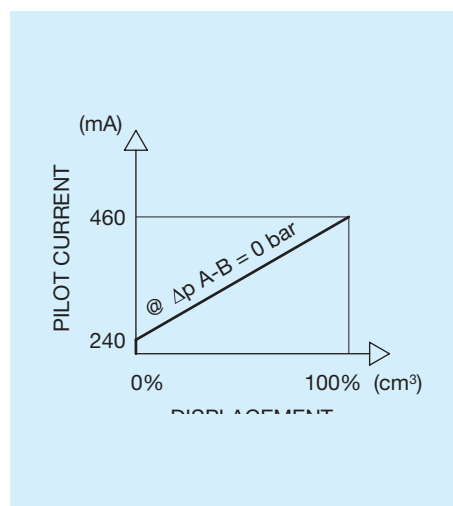
Outlet

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

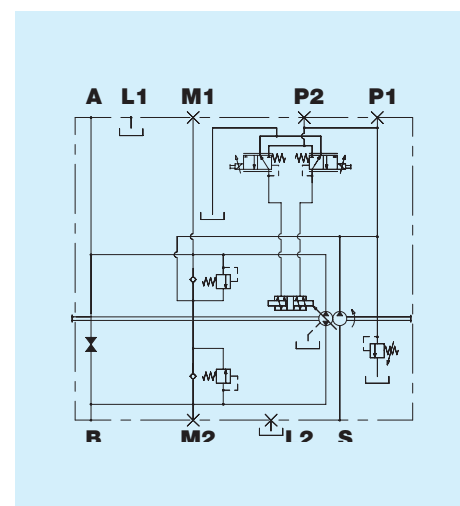
Control

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

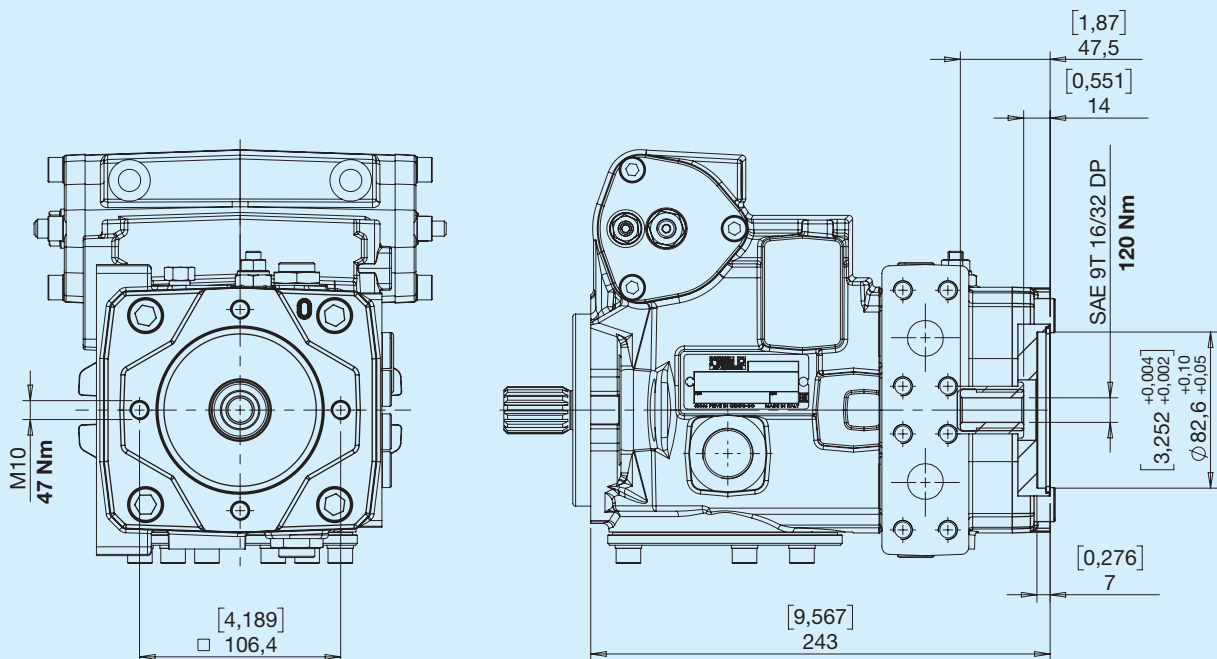
Pilot pressure



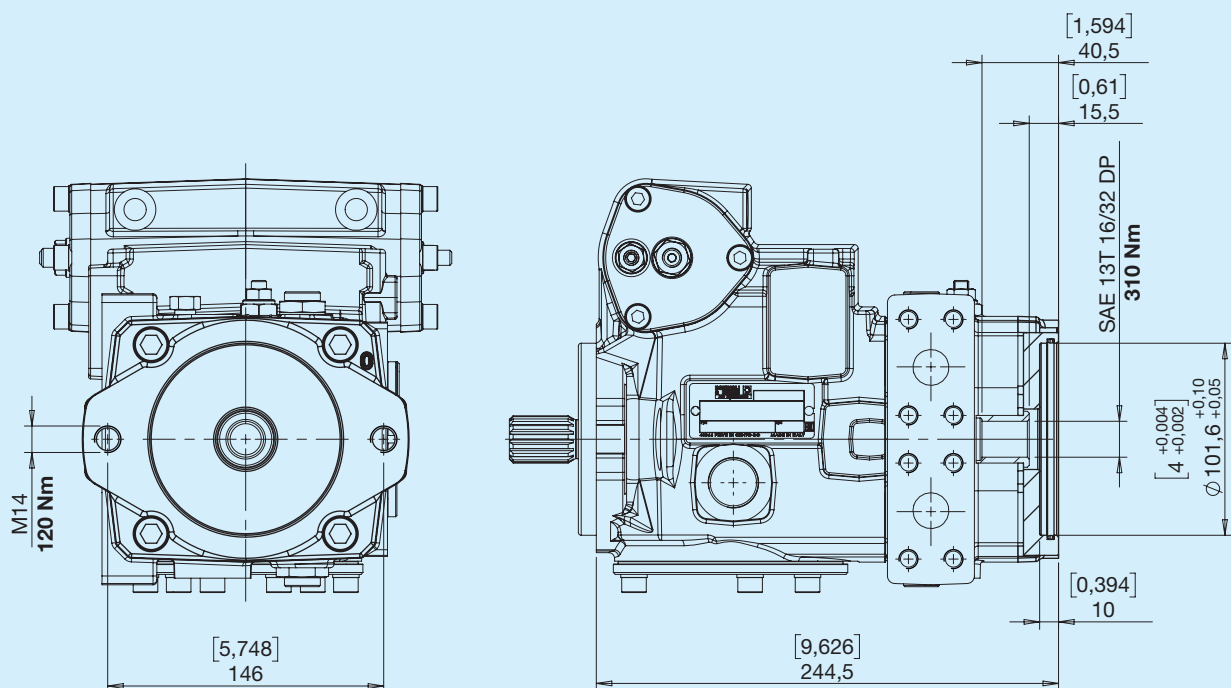
Hydraulic diagram



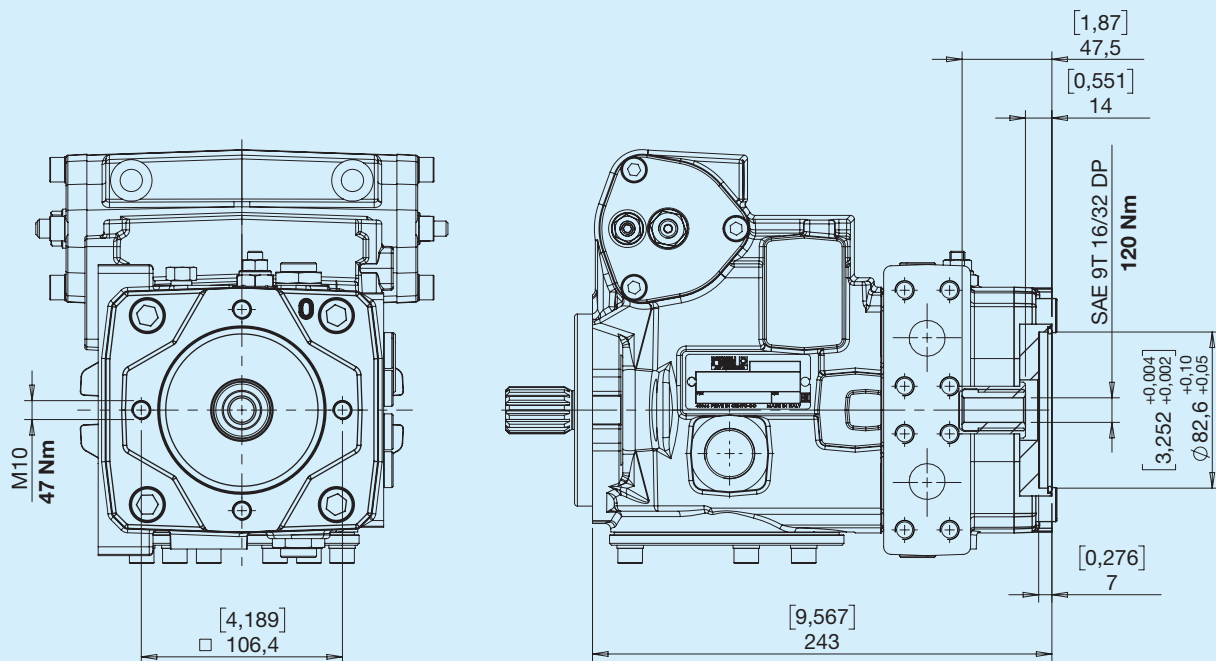
2 SAE A with boost pump



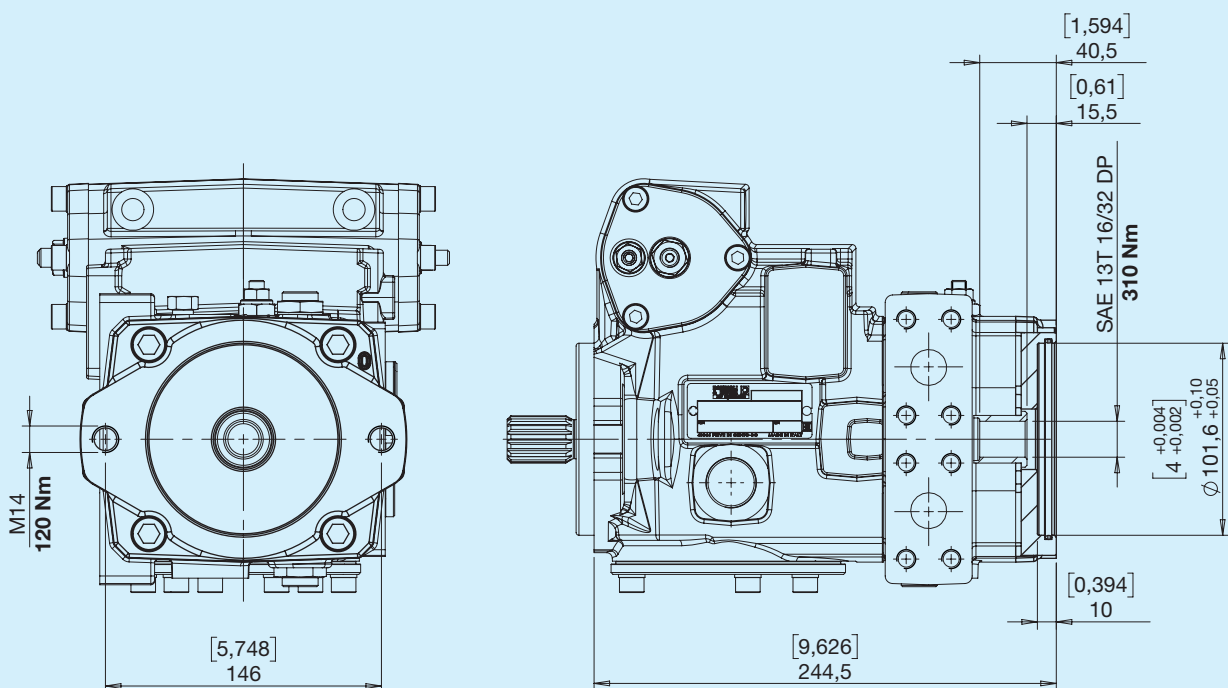
3 SAE B with boost pump



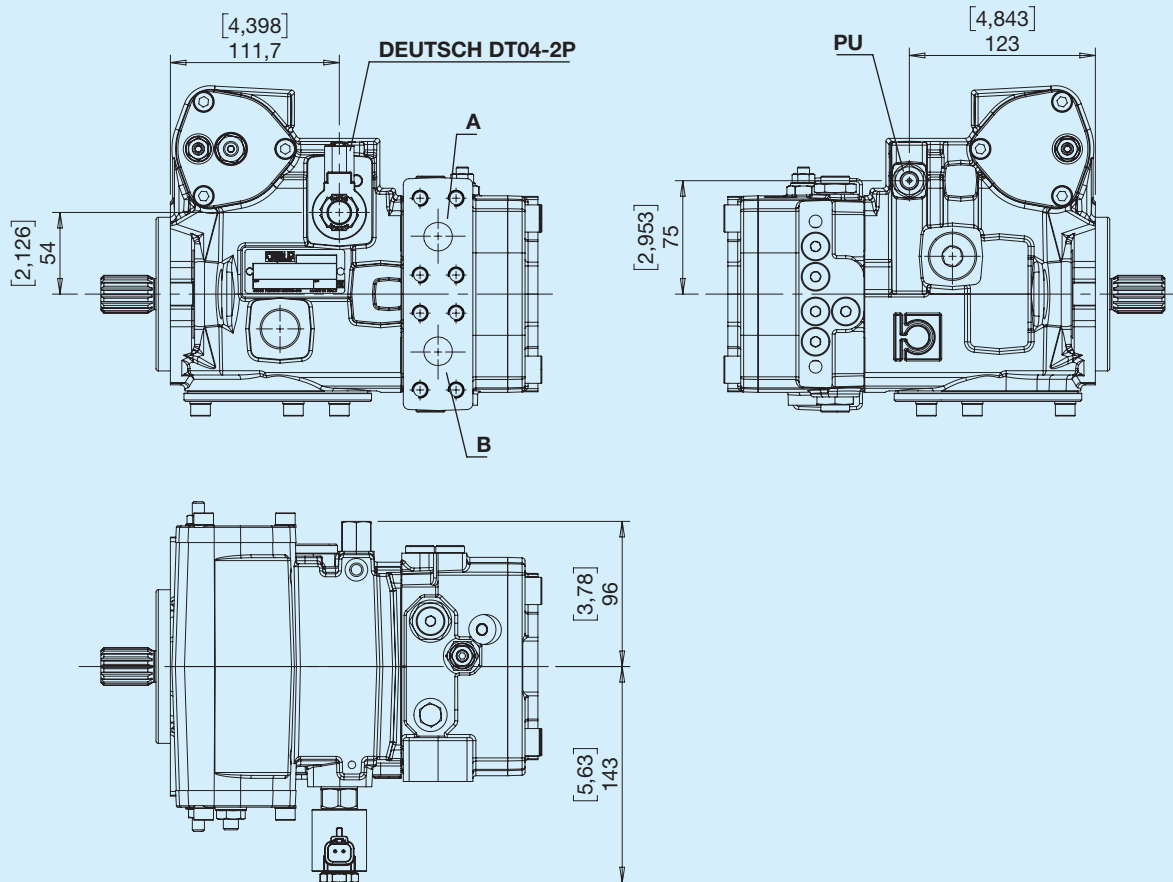
5 SAE A without boost pump



6 SAE B without boost pump

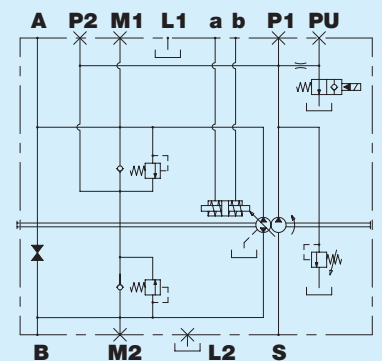


E Sicurezza operatore assente

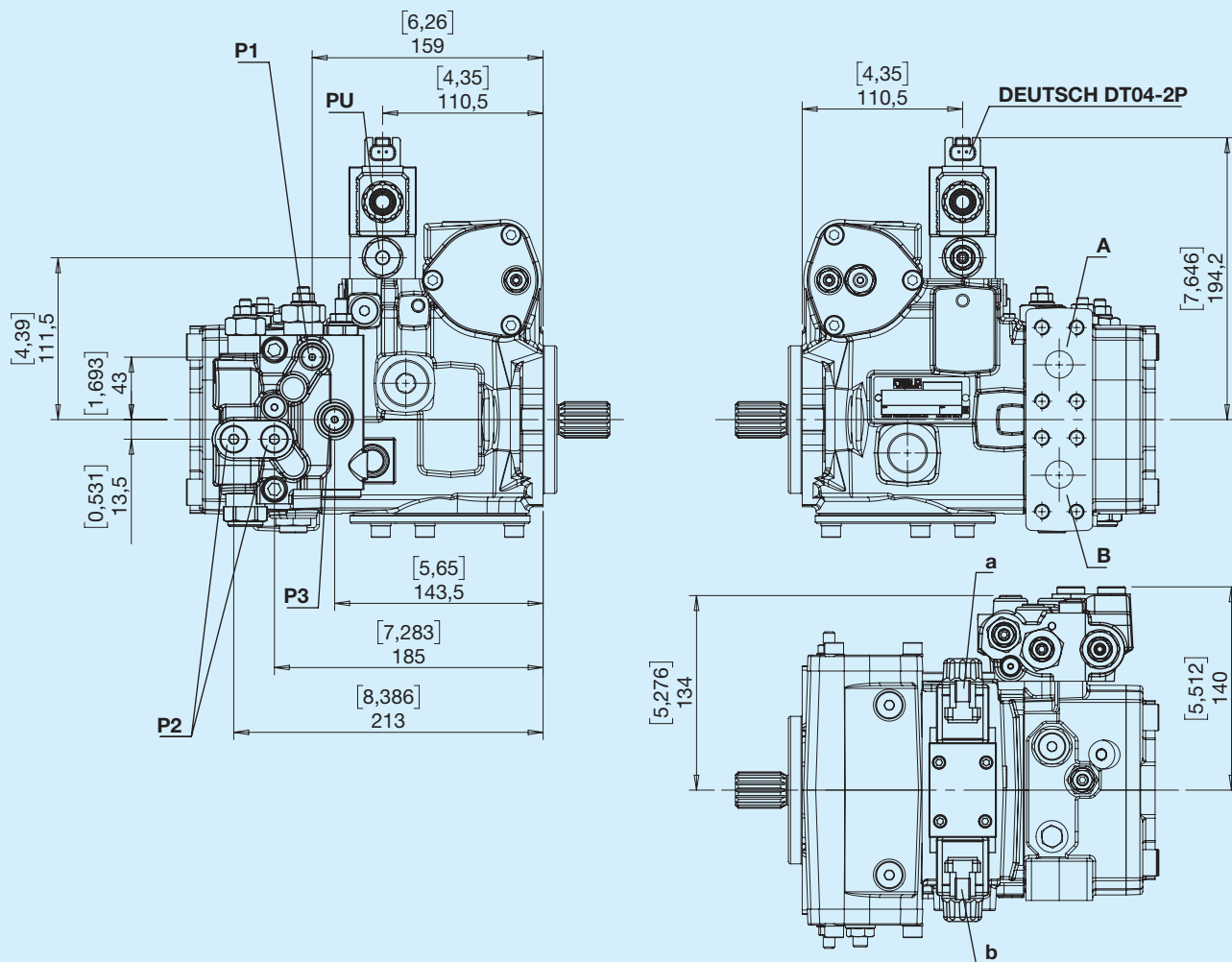


PU - Brake opening pressure G1/4

Hydraulic diagram

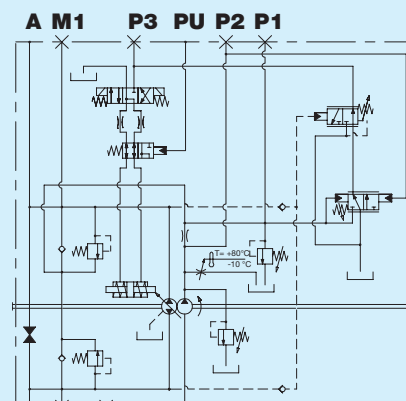


H Hydraulic inching (A control)



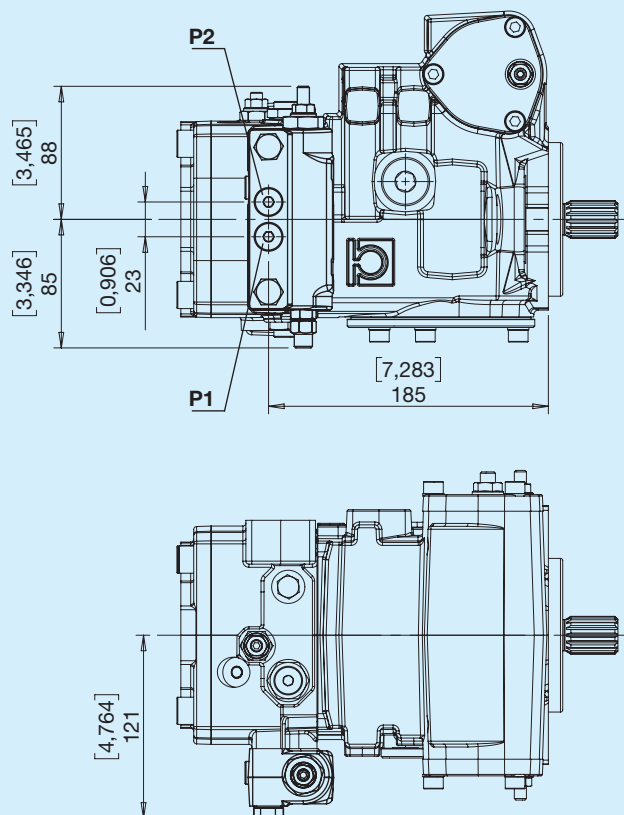
Available on request with DIN 43650 connectors

Hydraulic diagram



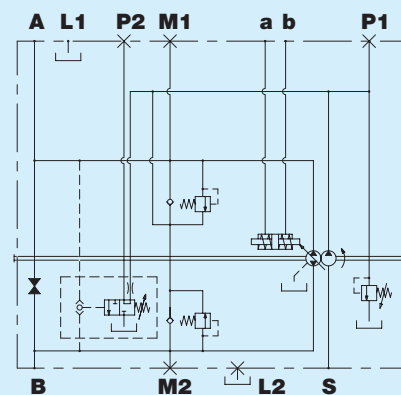
Right
Right
Left

J Cut-off

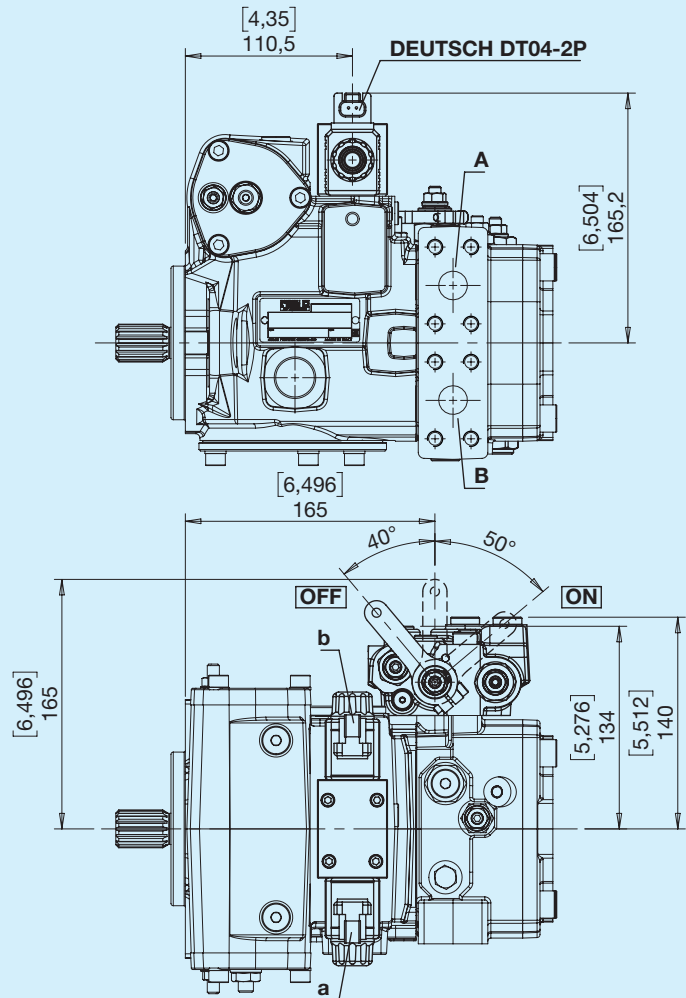
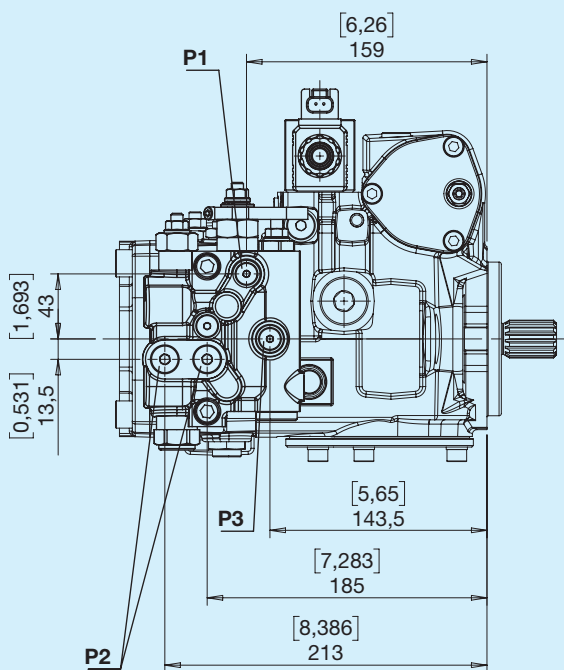


P1, P2 - Pressure intake G1/4

Hydraulic diagram



M Mechanical inching (A control)

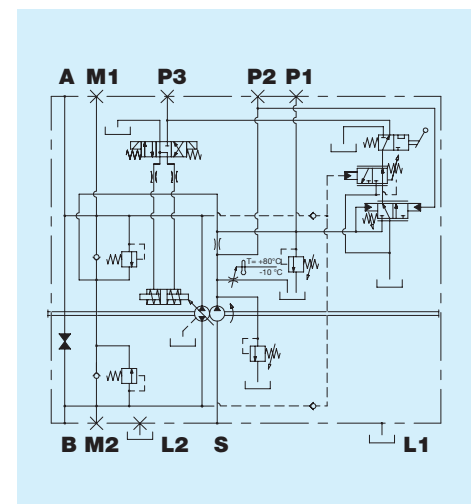


Available on request with DIN 43650 connectors

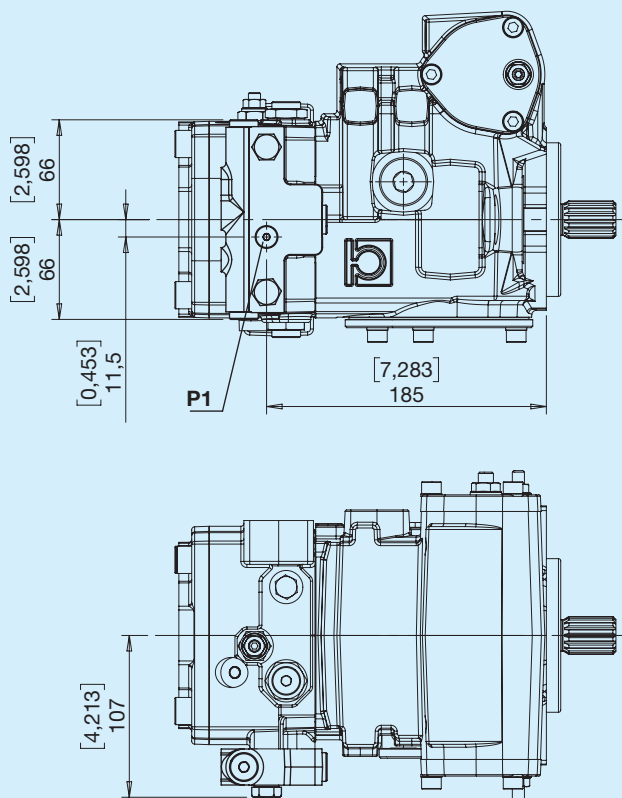
P1, P3 - Pressure intake G 1/8

P2 - Pressure intake G 1/4

Hydraulic diagram

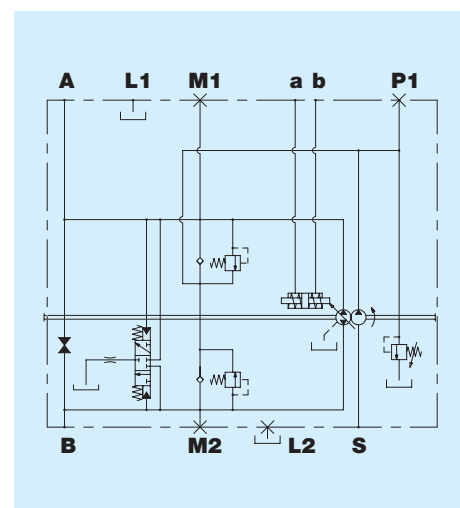


V Flushing valve (5-7 l/min)

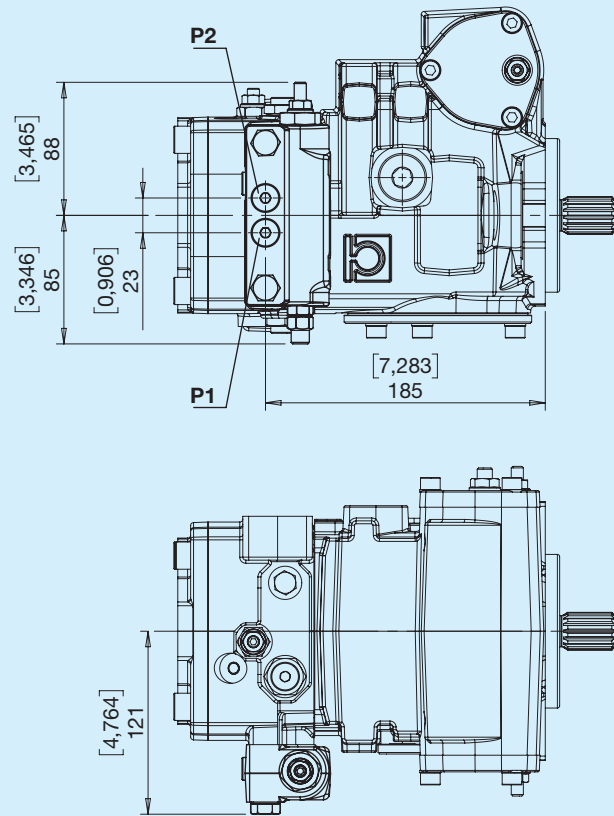


P1 - Pressure intake G1/8

Hydraulic diagram

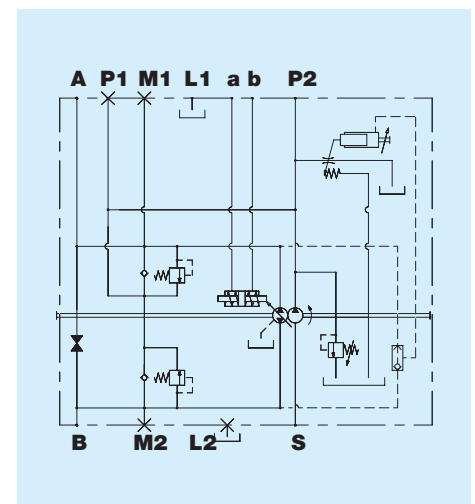


W Power limiter

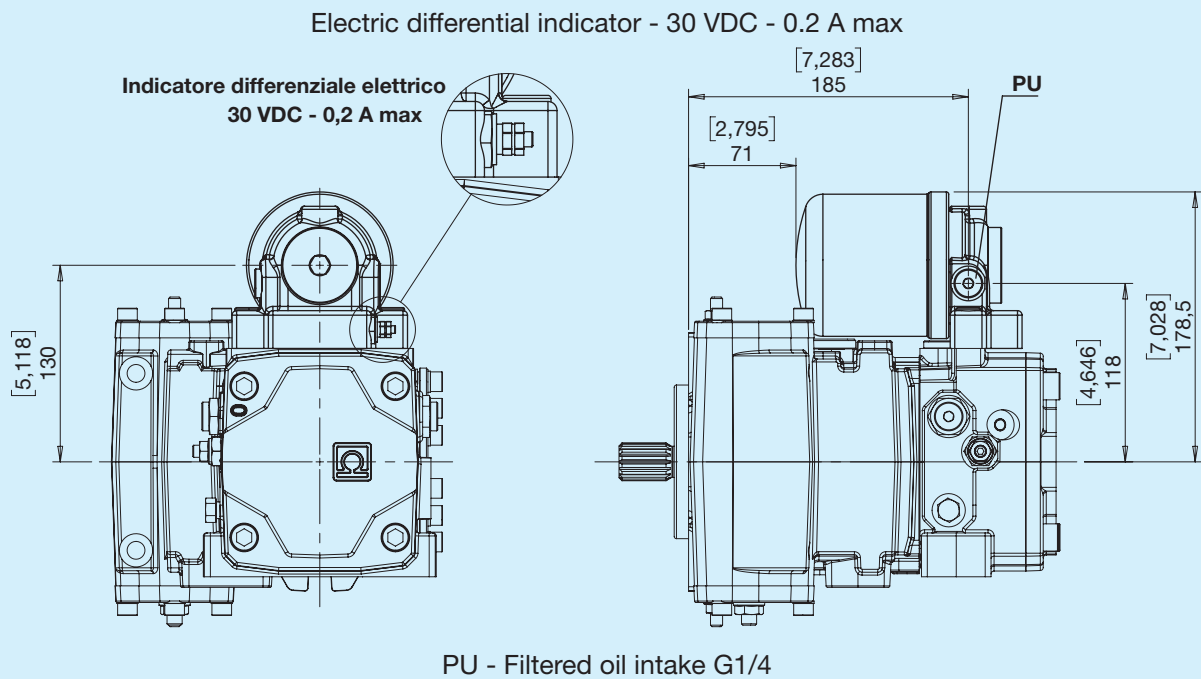


P1, P2 - Pressure intake G1/4

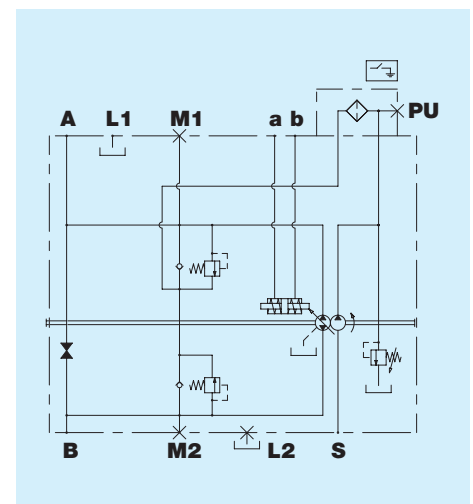
Hydraulic diagram



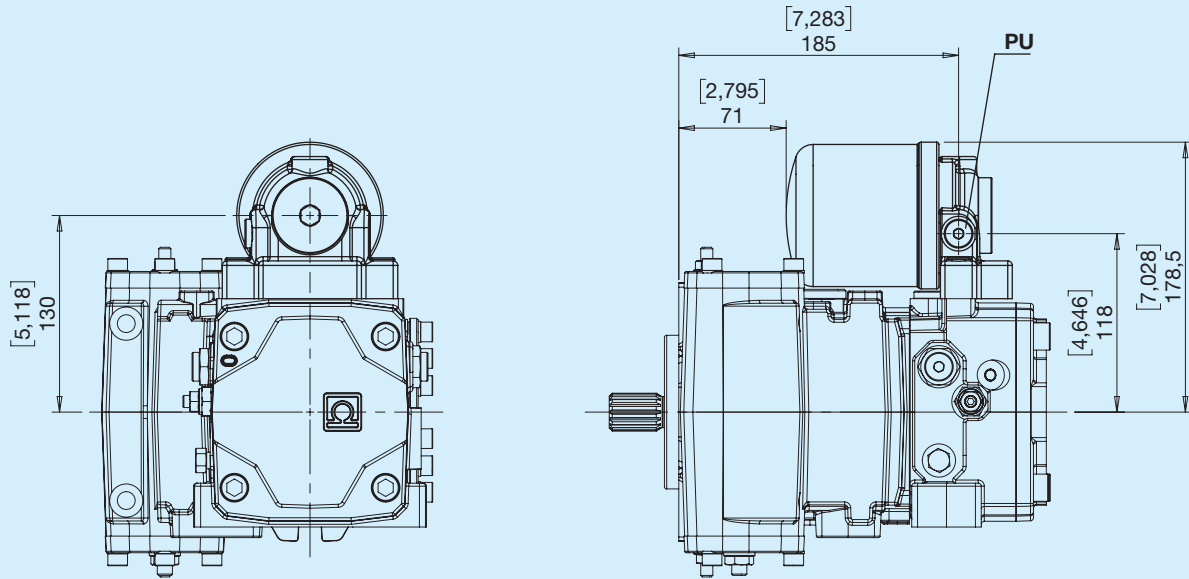
X Filter with clogging indicator



Hydraulic diagram

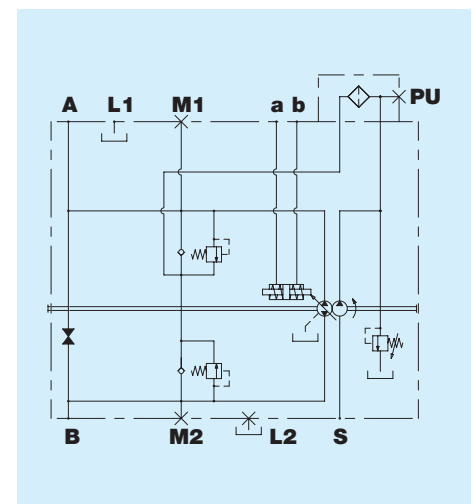


Y Filter without electric clogging indicator



PU - Filtered oil intake G1/4

Hydraulic diagram



	1	2	3	4	5	6	7	8	9	10	11	12	13	14
HPP5														
1 2 3	Displacement													
	046					056								
4	Direction of rotation													
	R Right					L Left								
5	Flanges													
	B SAE B													
6	Shaft profile													
	1 SAE 15T 16/32 DP					3 SAE 14T 12/24 DP								
7	Type of ports													
	G Gas					U Unf								
8	Controls													
	A Automotive				I Lever-operated hydraulic				O Electronic proportional feedback control 12V				S Electronic proportional control 12V	
	G Feedback hydraulic				K Remote hydraulic				V Electronic proportional feedback control 24V				W Electronic proportional control 24V	
9	Valve calibration													
	G 250 bar		L 300 bar		P 400 bar		Y 500 bar		I 280 bar		O 350 bar		R 450 bar	
10	Versions													
	0 No special fittings, without boost pump				2 SAE A with boost pump				5 SAE A without boost pump				1 No special fittings, with boost pump	
	3 SAE B with boost pump				6 SAE B without boost pump									
11	Accessories													
	0 No option				J Cut-off				W Power limiter				E Sicurezza operatore assente	
	H Hydraulic inching (A control)				M Mechanical inching (A control)				X Filter with electric clogging indicator				Y Filter without electric clogging indicator	
12 13 14	Special versions													
	...													