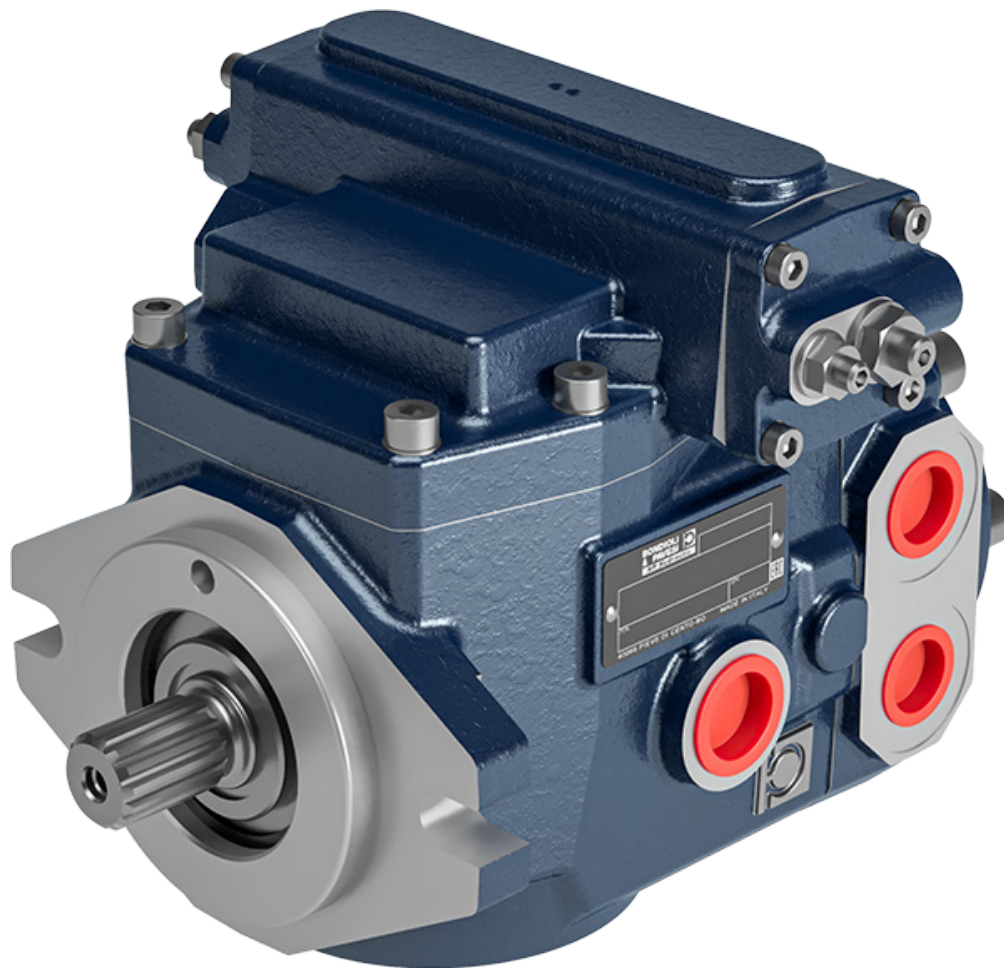
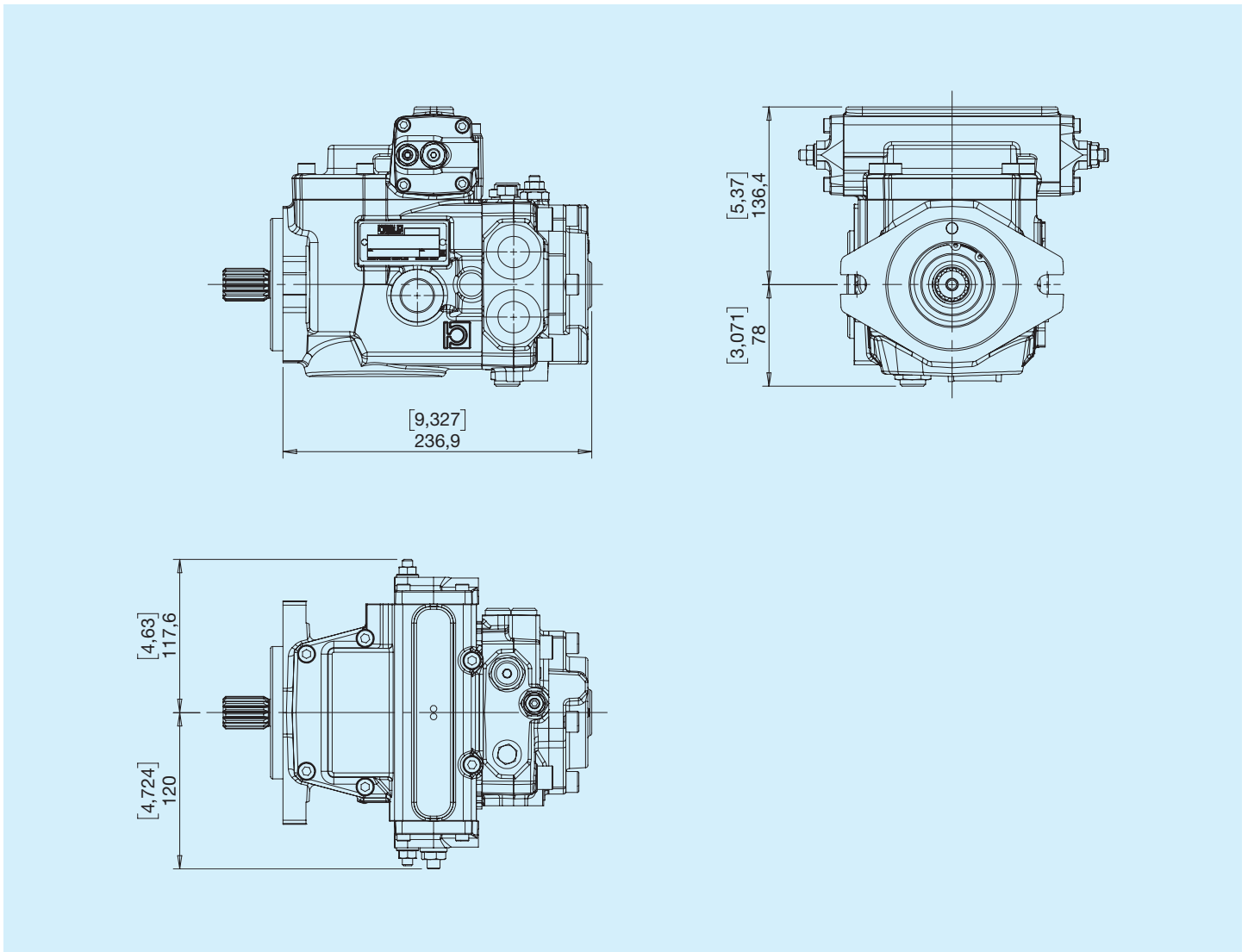


Variable-displacement pumps M4PV34-46-50-58-65



Before use, carefully read the GENERAL INSTRUCTIONS FOR USE OF CLOSED CIRCUIT AXIAL PISTON PUMPS AND MOTORS.

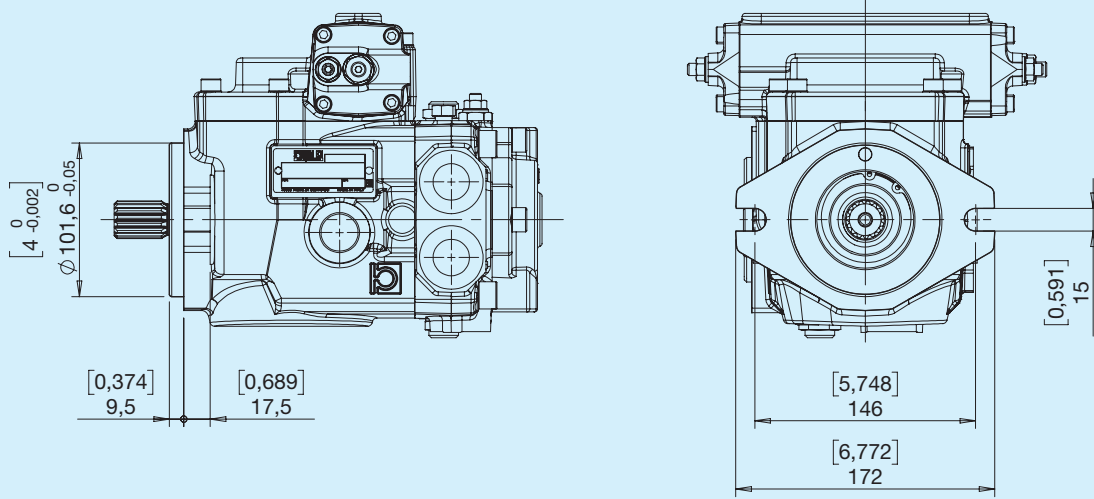


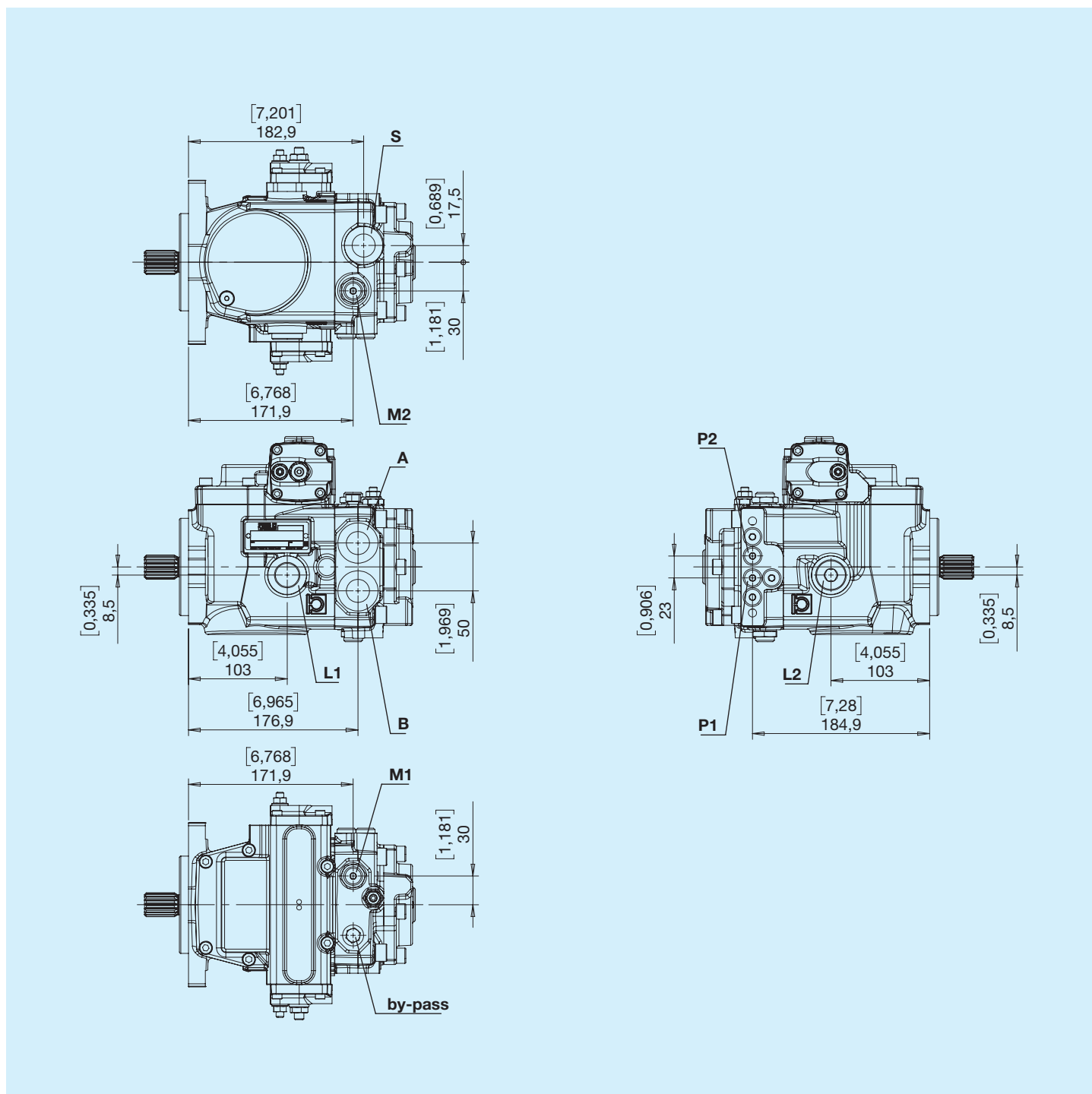
M4PV	Nominal displacement		Swash plate °	Continuous pressure		Intermittent pressure		Peak pressure		Rotational speed		Weight	
	cm <sup>3</sup>	in <sup>3</sup>		bar	psi	bar	psi	bar	psi	MAX min <sup>-1</sup>	MIN min <sup>-1</sup>	kg	lbs
<b>34</b>	34	2.08	18	300	4350	380	5075	400	5800	3800	500	25.0	55.0
<b>46</b>	46	2.81	19	300	4350	380	5075	400	5800	3800	500	25.0	55.0
<b>50</b>	50	3.05	18	300	4350	380	5075	400	5800	3800	500	25.0	55.0
<b>58</b>	58	3.54	18	250	3625	320	4640	400	5800	3600	500	26.5	58.3
<b>65</b>	65	3.97	18	250	3625	320	4640	400	5800	3600	500	28.9	63.6

## Feed pump

Type	Standard feed pump displacement		Pressure	
	cm <sup>3</sup>	in <sup>3</sup>	bar	psi
M4PV34	14	0.86	22	319
M4PV46	14	0.86	22	319
M4PV50	14	0.86	22	319
M4PV58	14	0.86	22	319
M4PV65	14	0.86	22	319

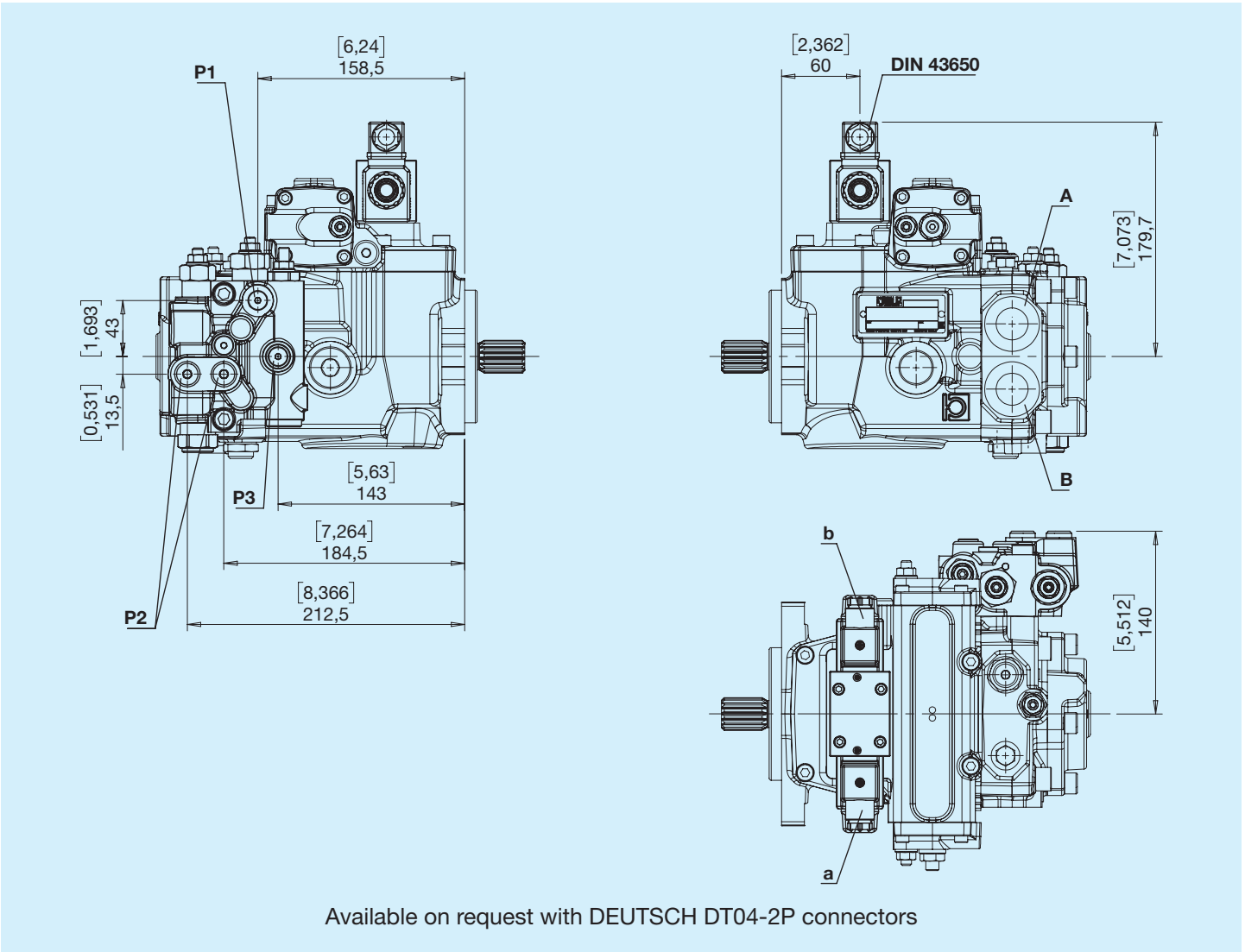
## B SAE B





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

## A Automotive



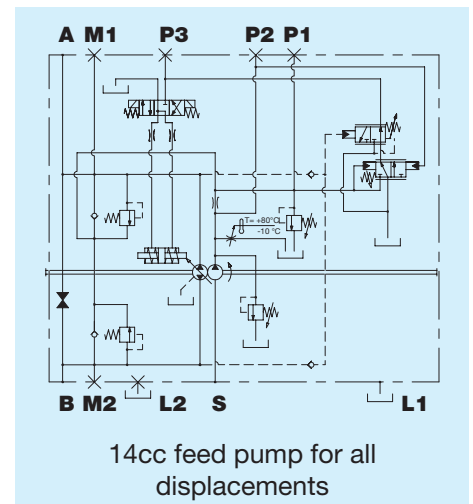
Available on request with DEUTSCH DT04-2P connectors

## Outlet

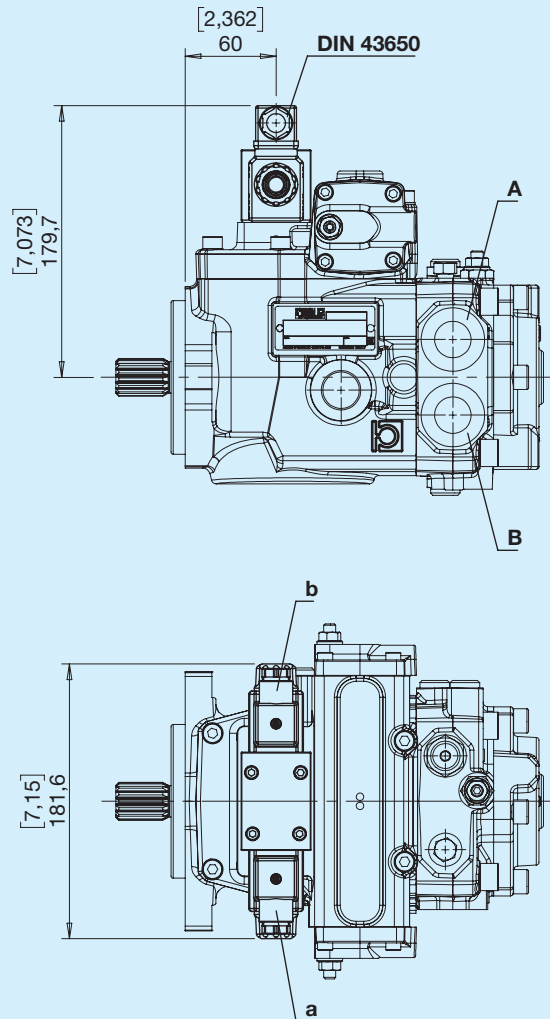
Rotation	Excited solenoid	Outlet
Right	a	B
Right	b	A
Left	a	A
Left	b	B

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

## Hydraulic diagram



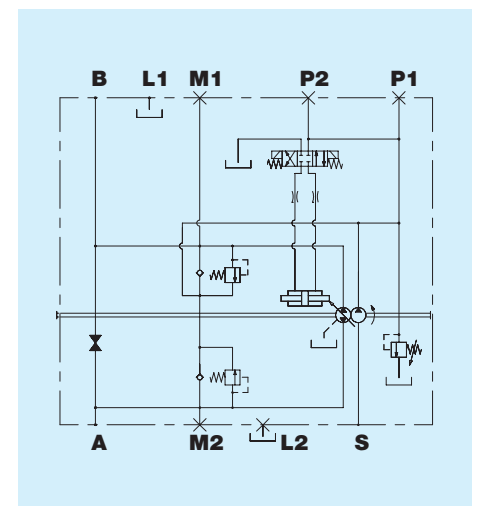
## E Electrical ON/OFF, closed centre 12V



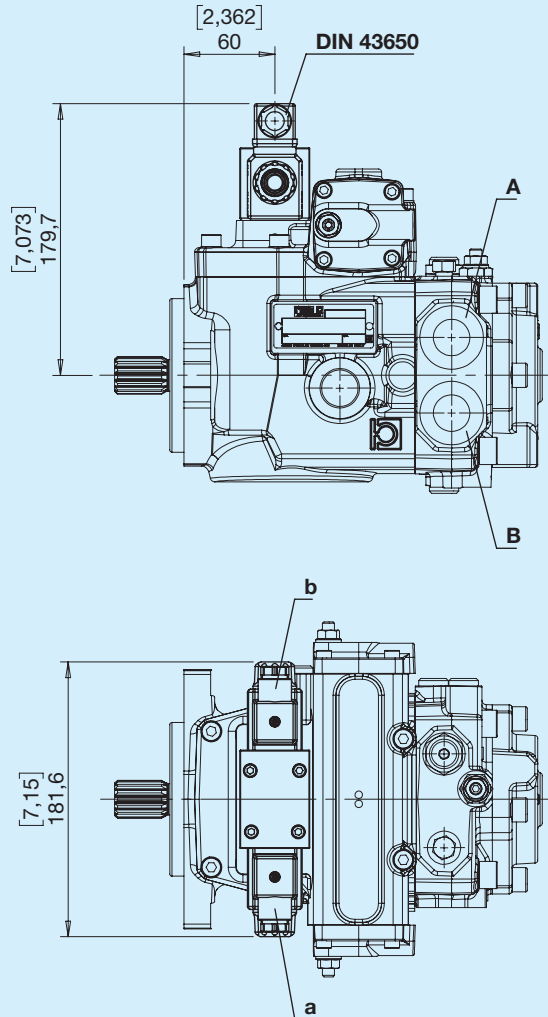
### Outlet

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

### Hydraulic diagram



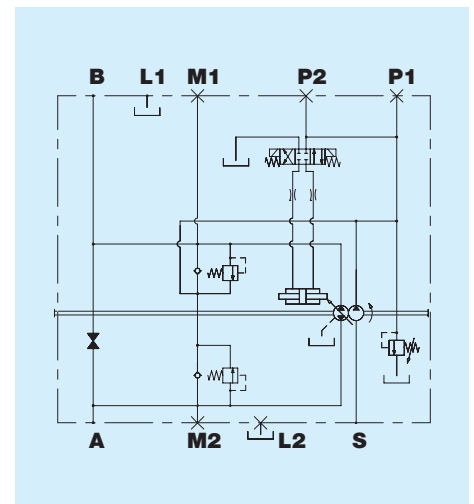
## F Electrical ON/OFF, closed centre 24V



### Outlet

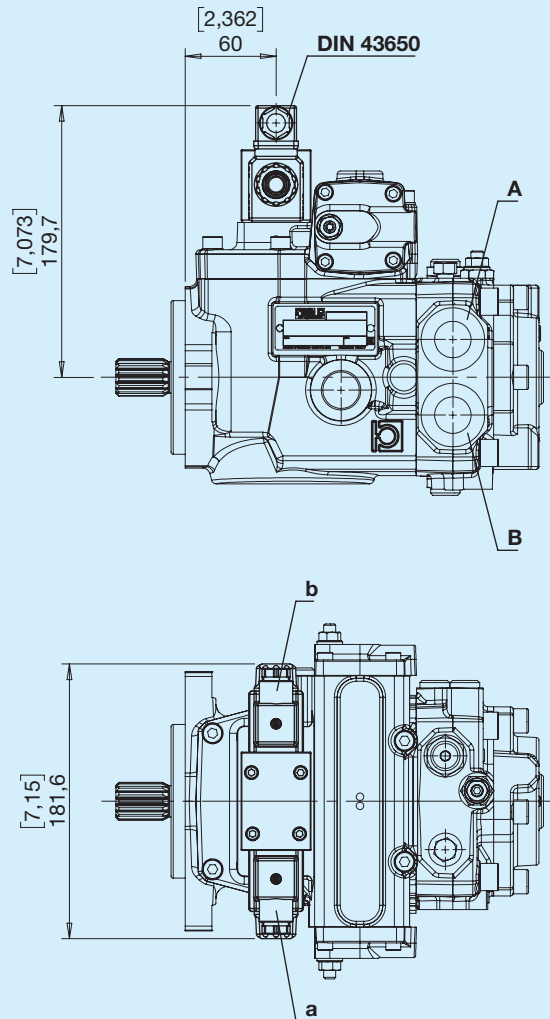
Rotation	Excited solenoid	Outlet
Right	a	B
Right	b	A
Left	a	A
Left	b	B

### Hydraulic diagram





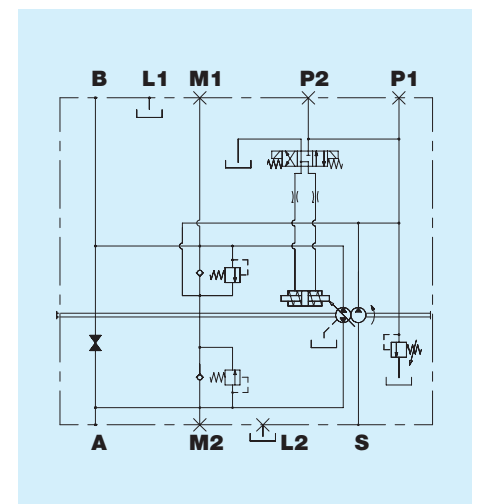
**N** Electrical ON/OFF, open centre 12V



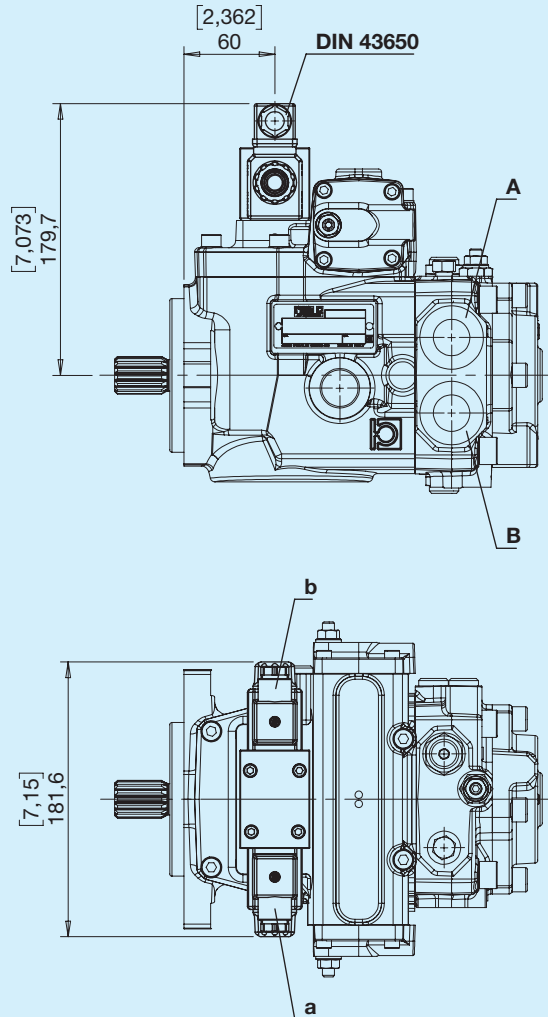
## Outlet

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

## Hydraulic diagram



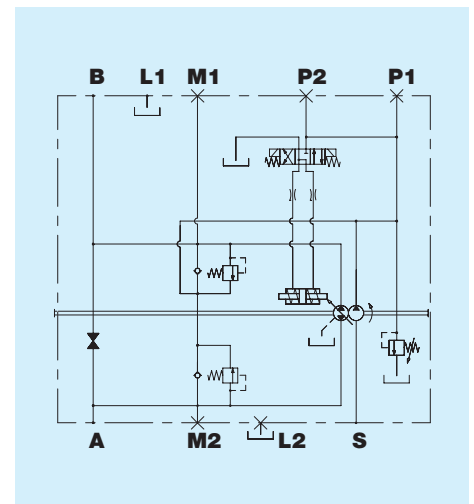
**Q** Electrical ON/OFF, open centre 24V



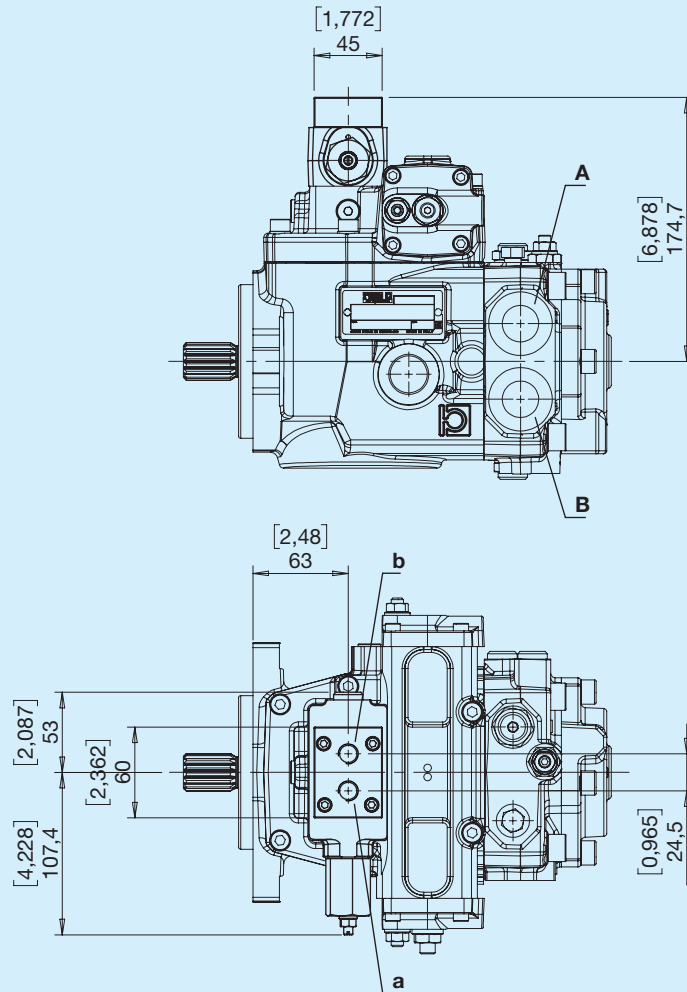
## Outlet

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

## Hydraulic diagram



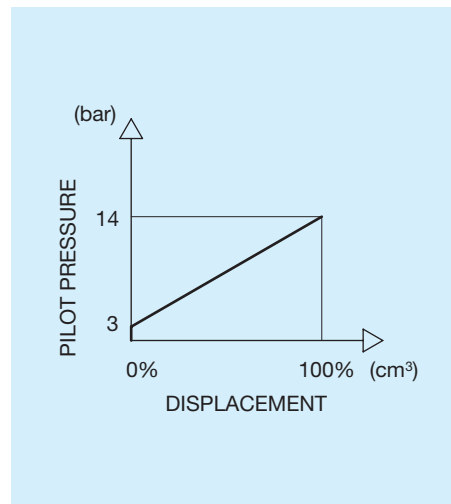
## G Feedback hydraulic



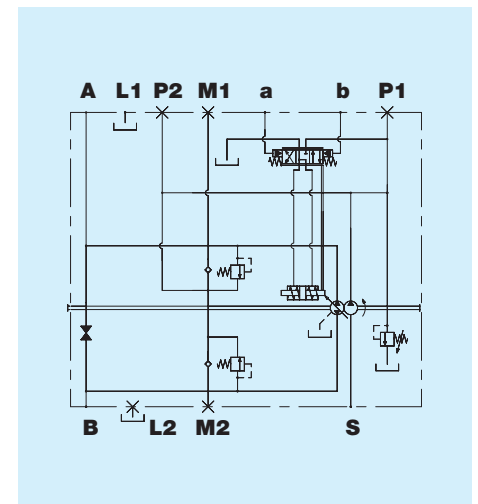
### Outlet

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

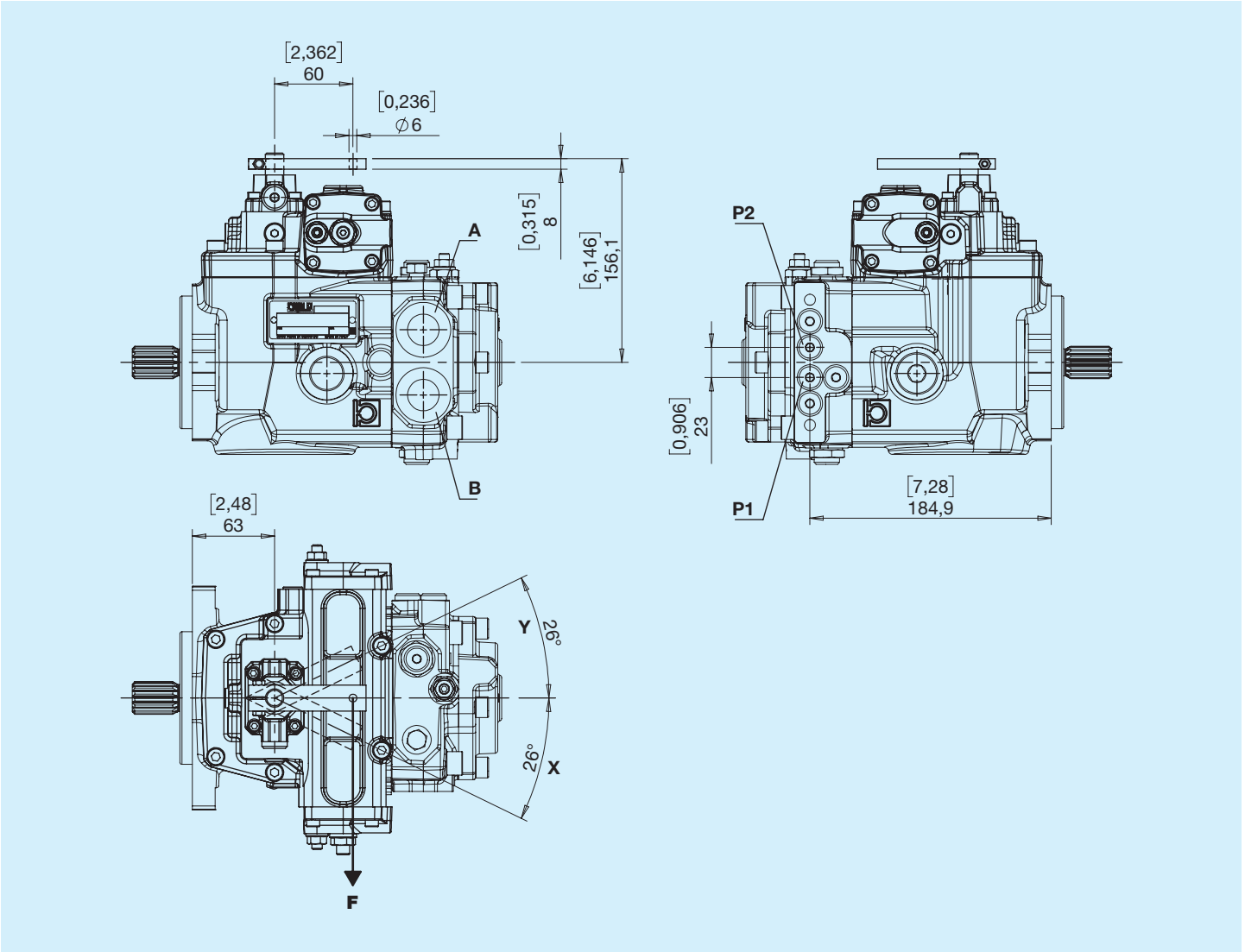
### Pilot pressure



### Hydraulic diagram



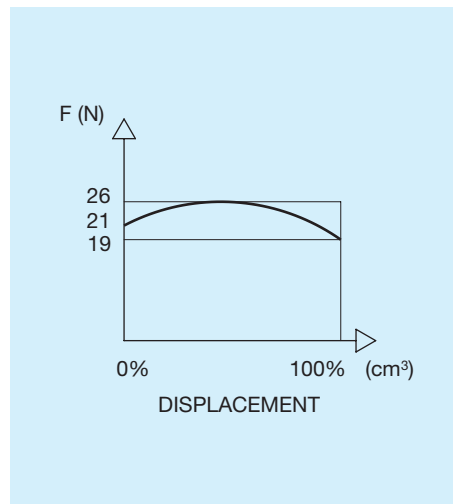
## I Lever-operated hydraulic



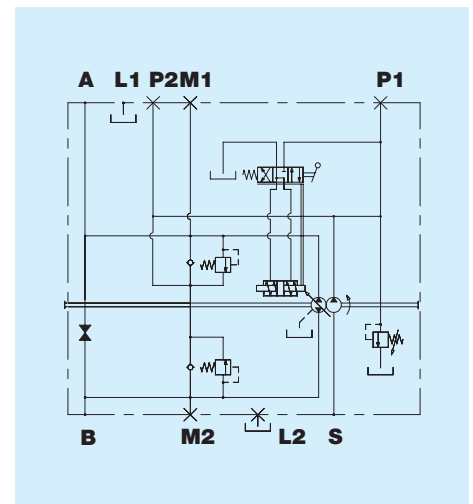
### Outlet

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

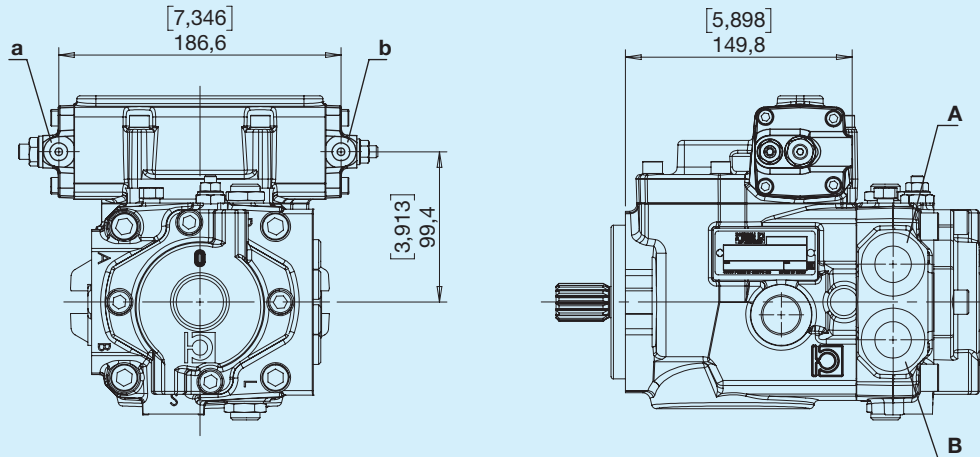
### Pilot pressure



### Hydraulic diagram



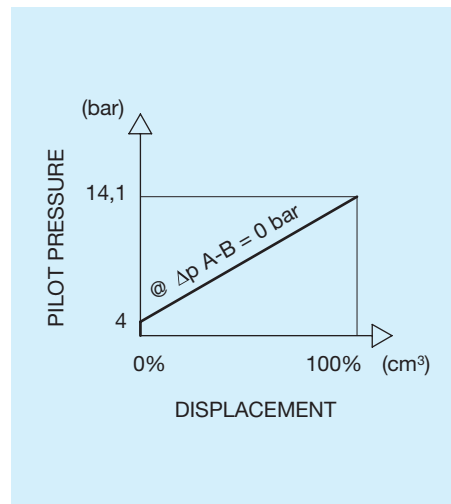
## K Direct hydraulic



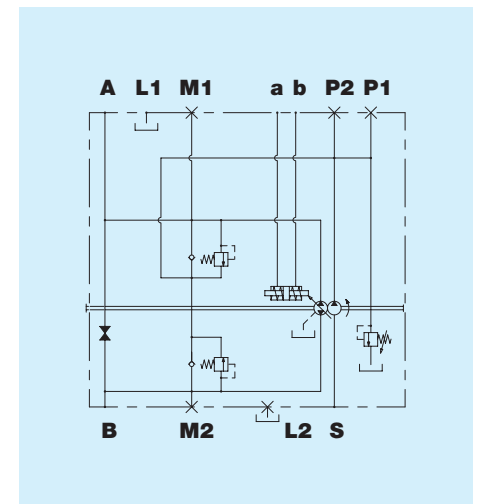
### Outlet

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

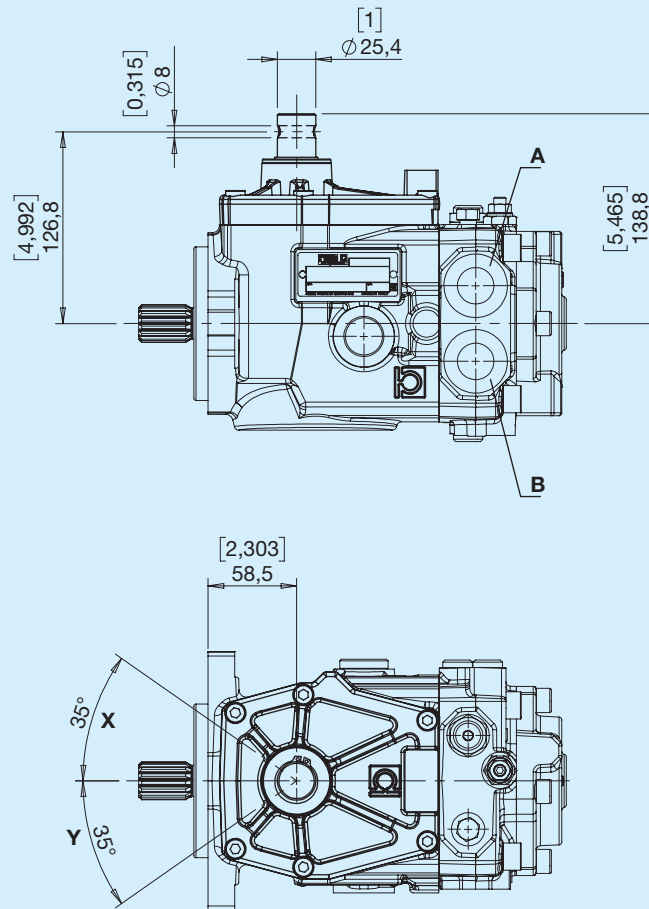
### Pilot pressure



### Hydraulic diagram



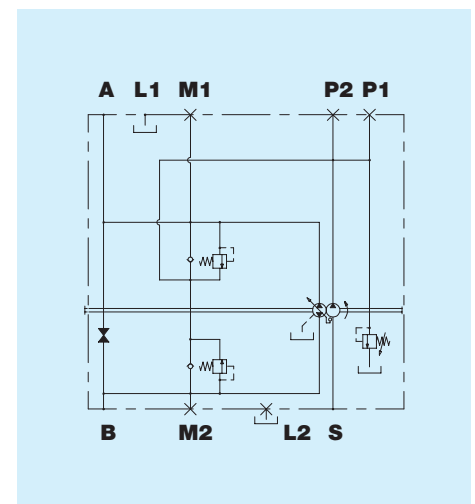
## M Manual



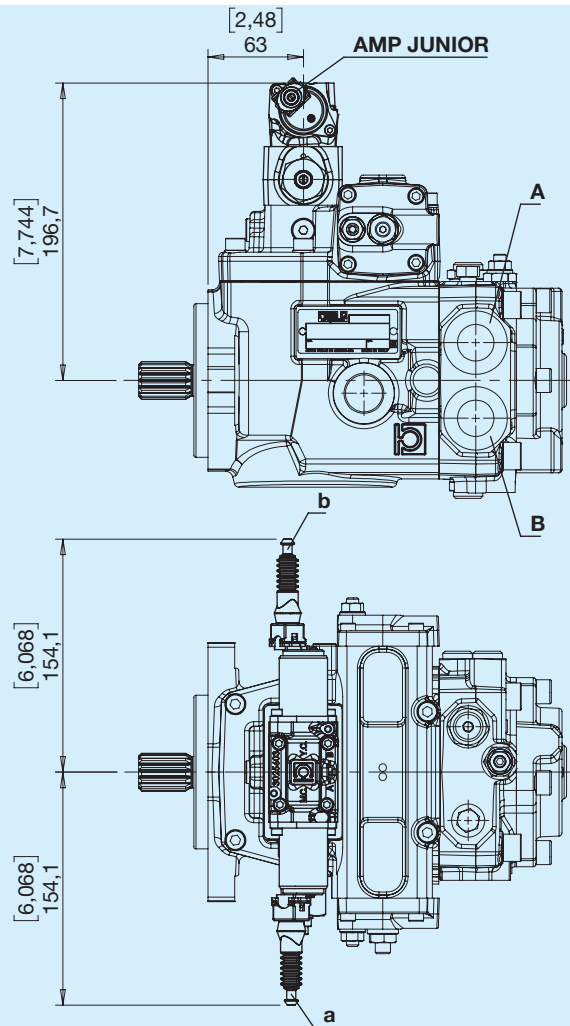
### Outlet

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

### Hydraulic diagram



## ○ Electronic proportional feedback control 12V



Available on request with DEUTSCH DT04-2P connectors

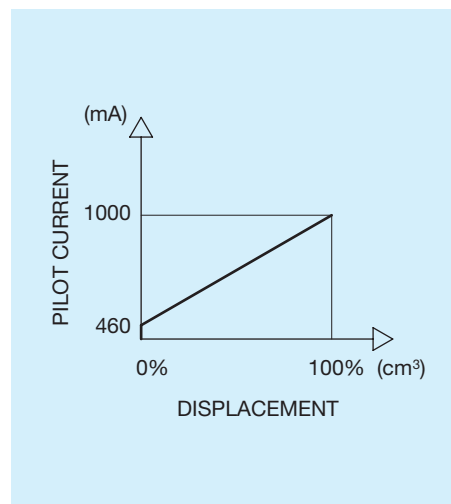
### Outlet

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

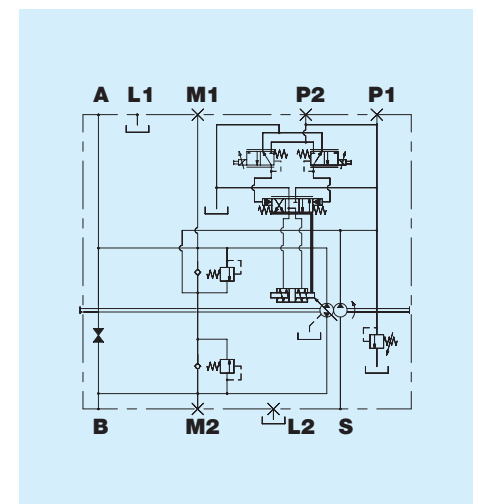
### Control

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

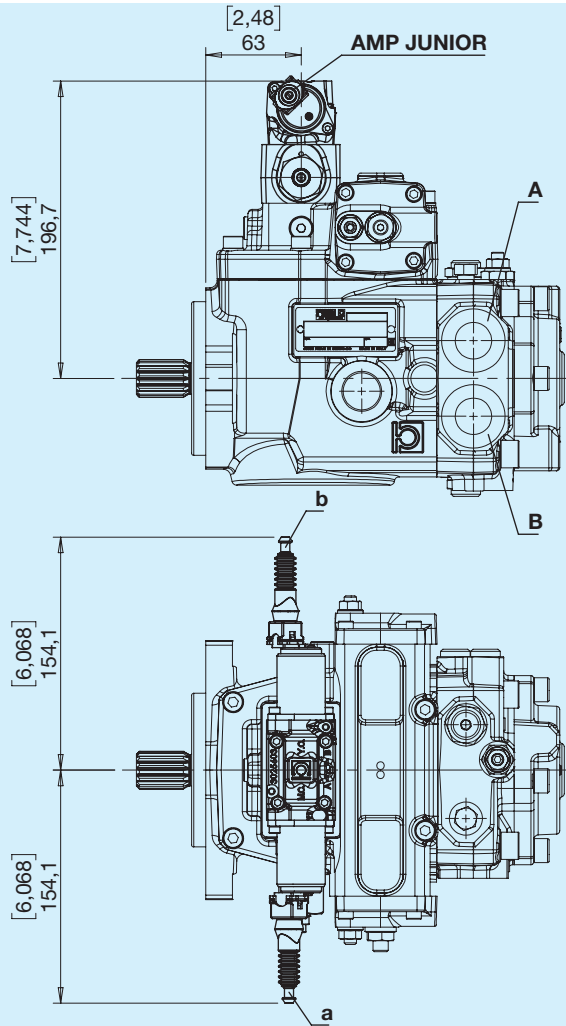
### Pilot pressure



### Hydraulic diagram



## V Electronic proportional feedback control 24V



Available on request with DEUTSCH DT04-2P connectors

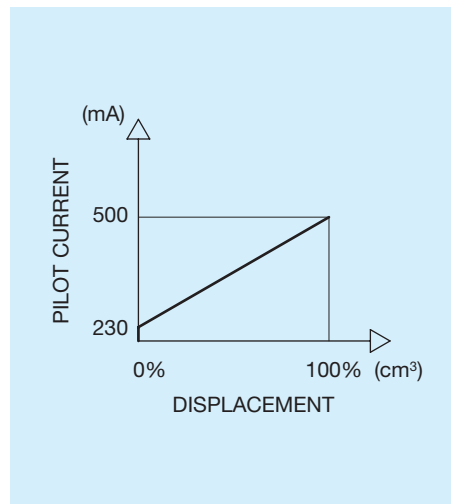
### Outlet

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

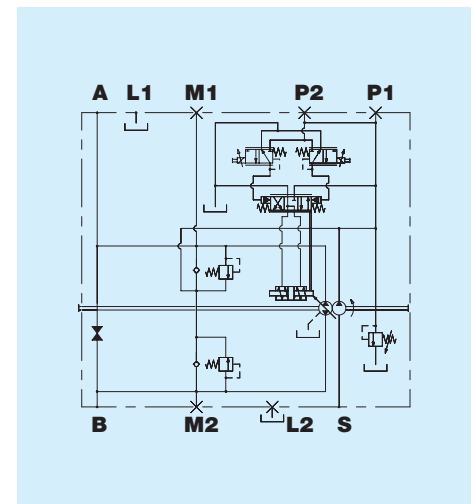
### Control

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

### Pilot pressure

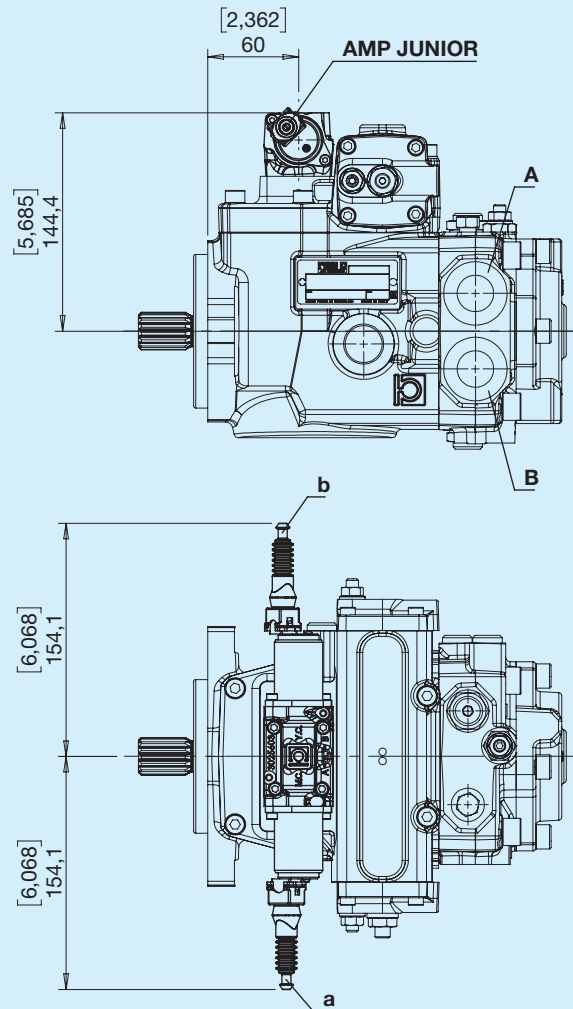


### Hydraulic diagram





## S Electronic proportional control 12V



Available on request with DEUTSCH DT04-2P connectors

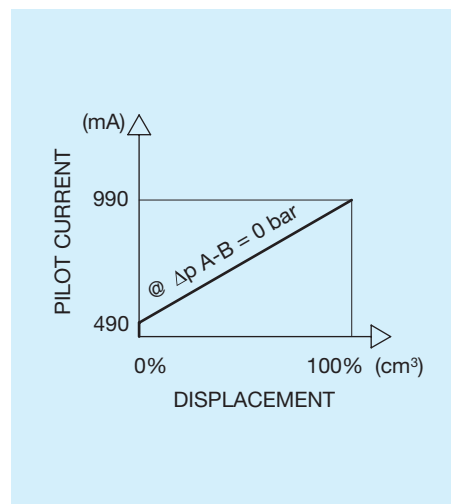
### Outlet

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

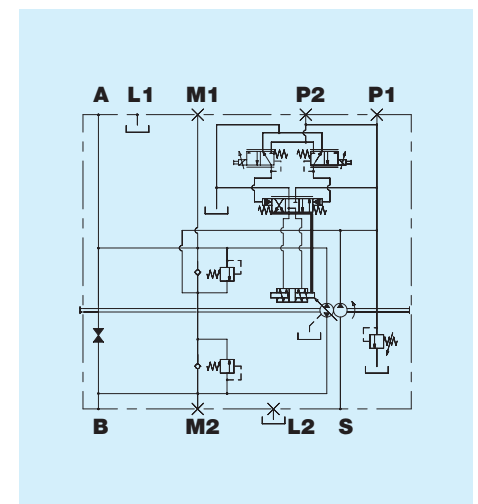
### Control

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

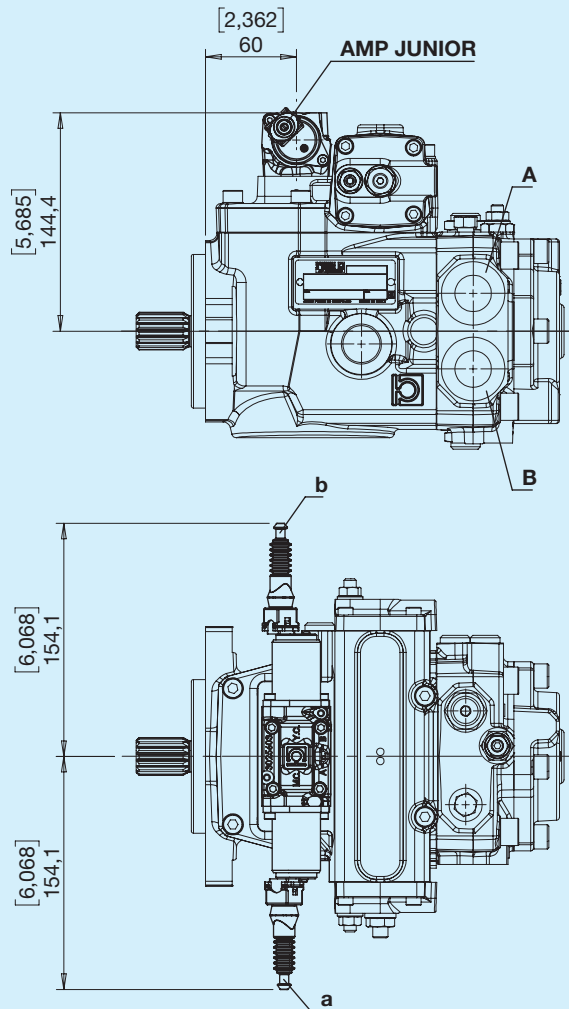
### Pilot pressure



### Hydraulic diagram



## W Electronic proportional control 24V



Available on request with DEUTSCH DT04-2P connectors

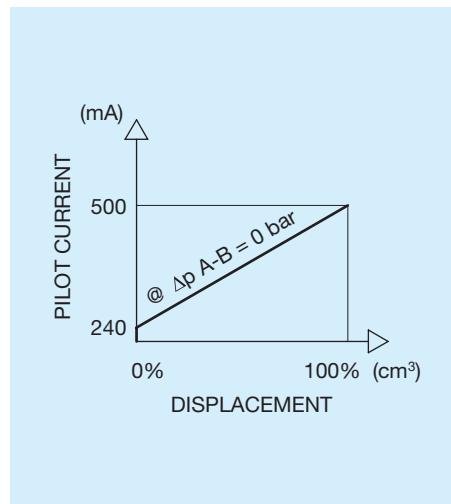
### Outlet

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

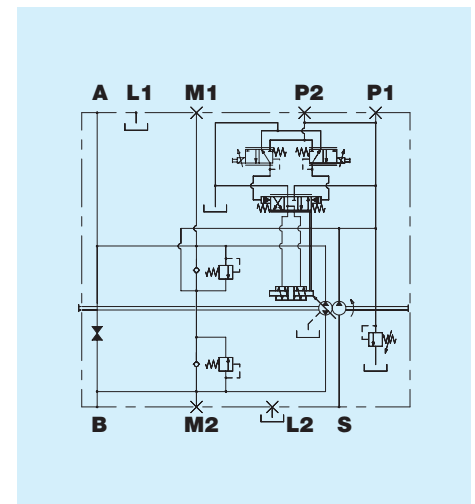
### Control

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

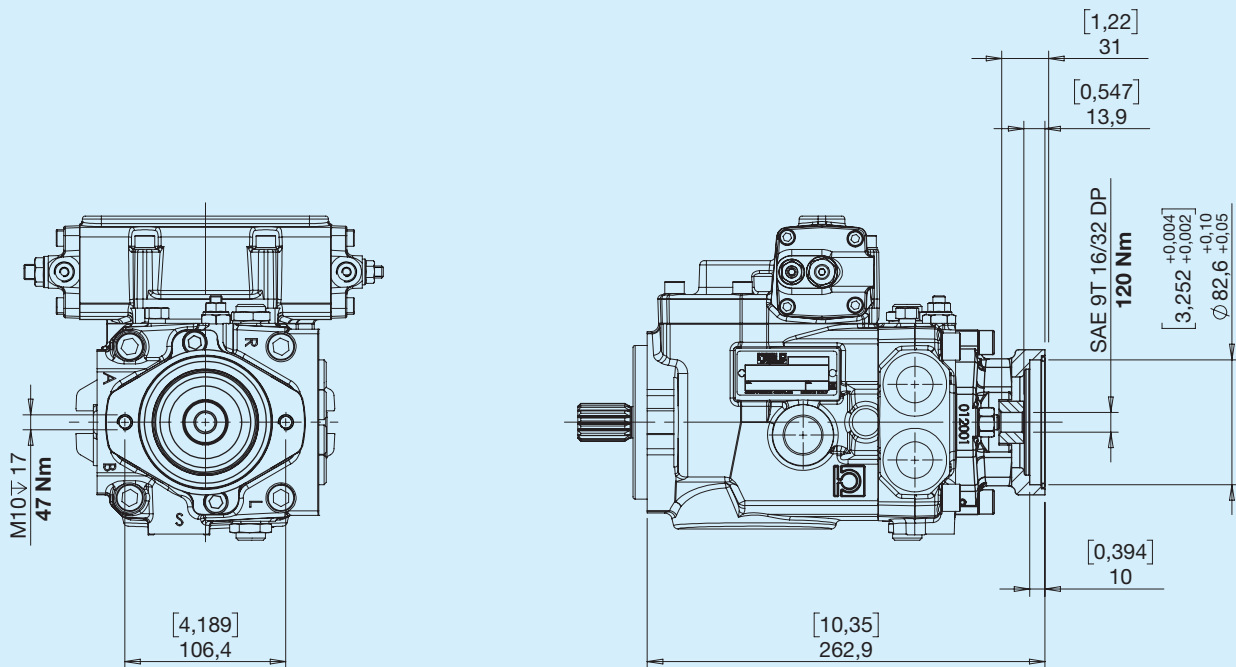
### Pilot pressure



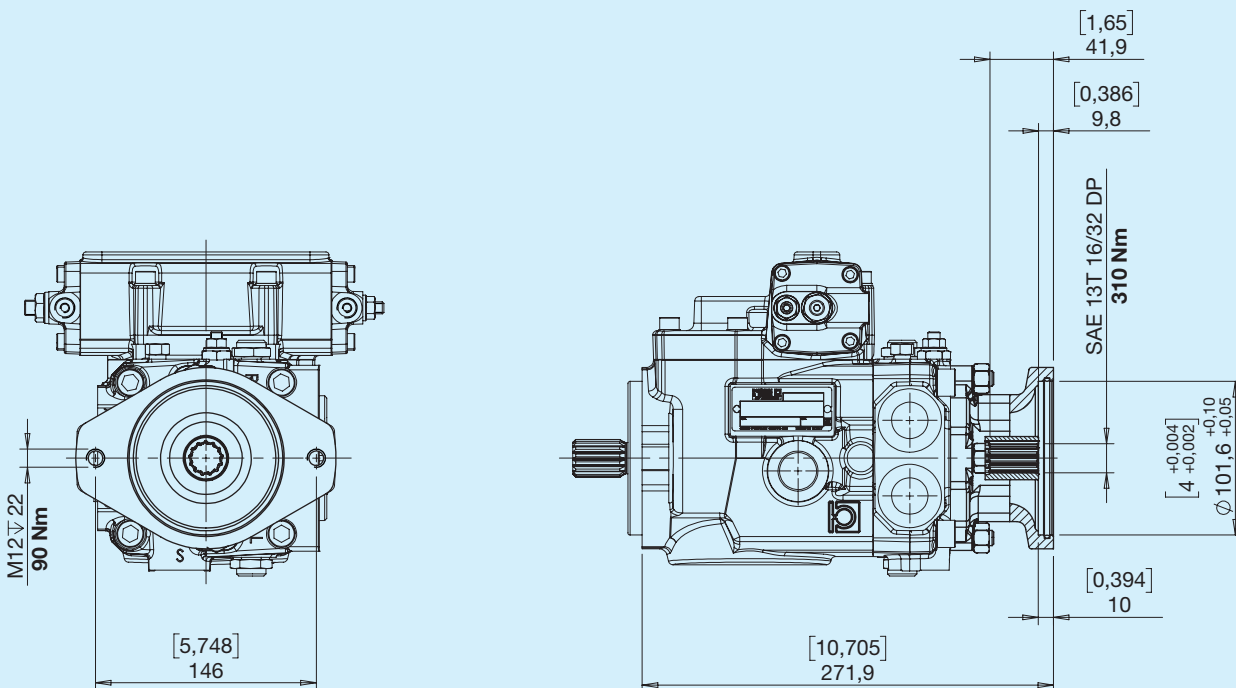
### Hydraulic diagram



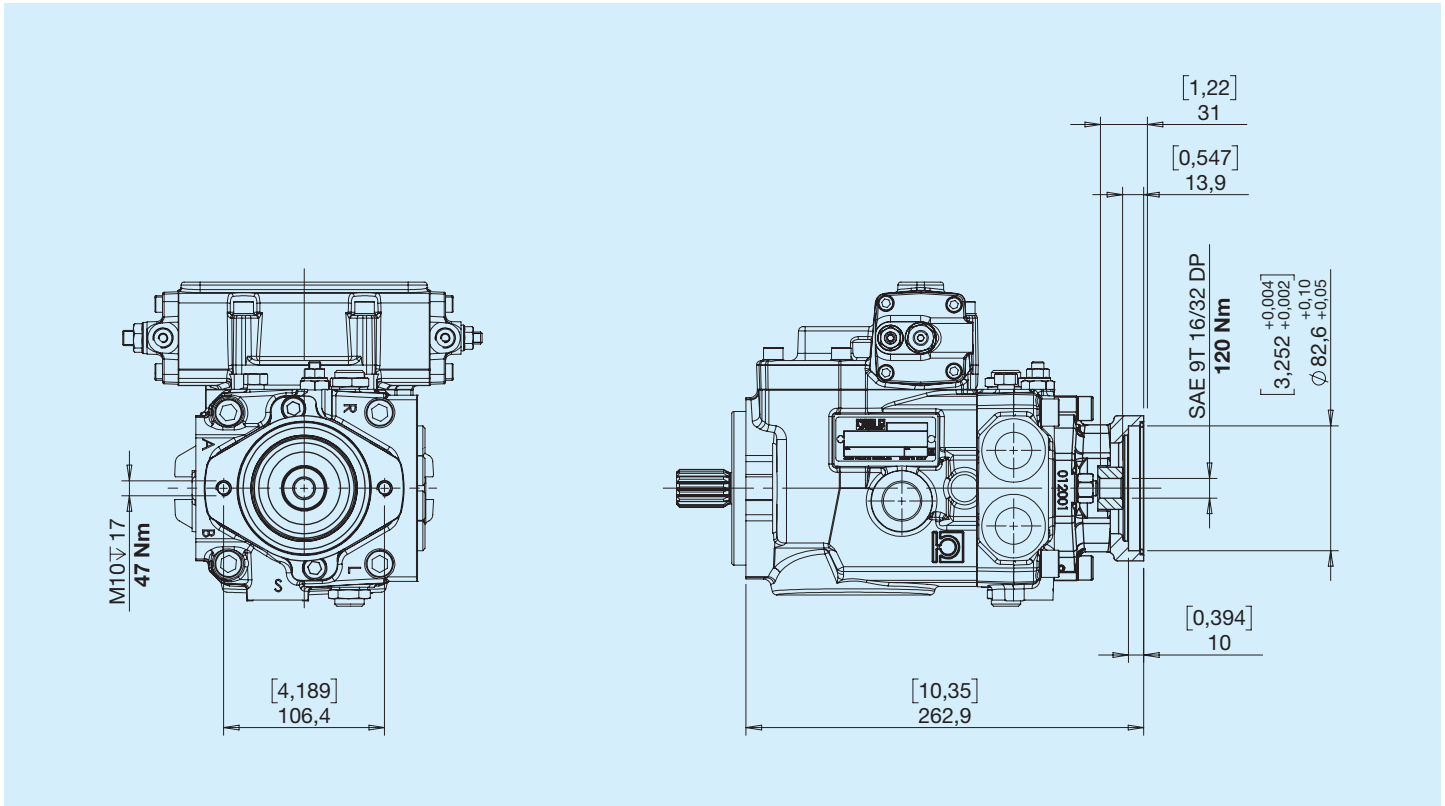
## 2 SAE A with boost pump



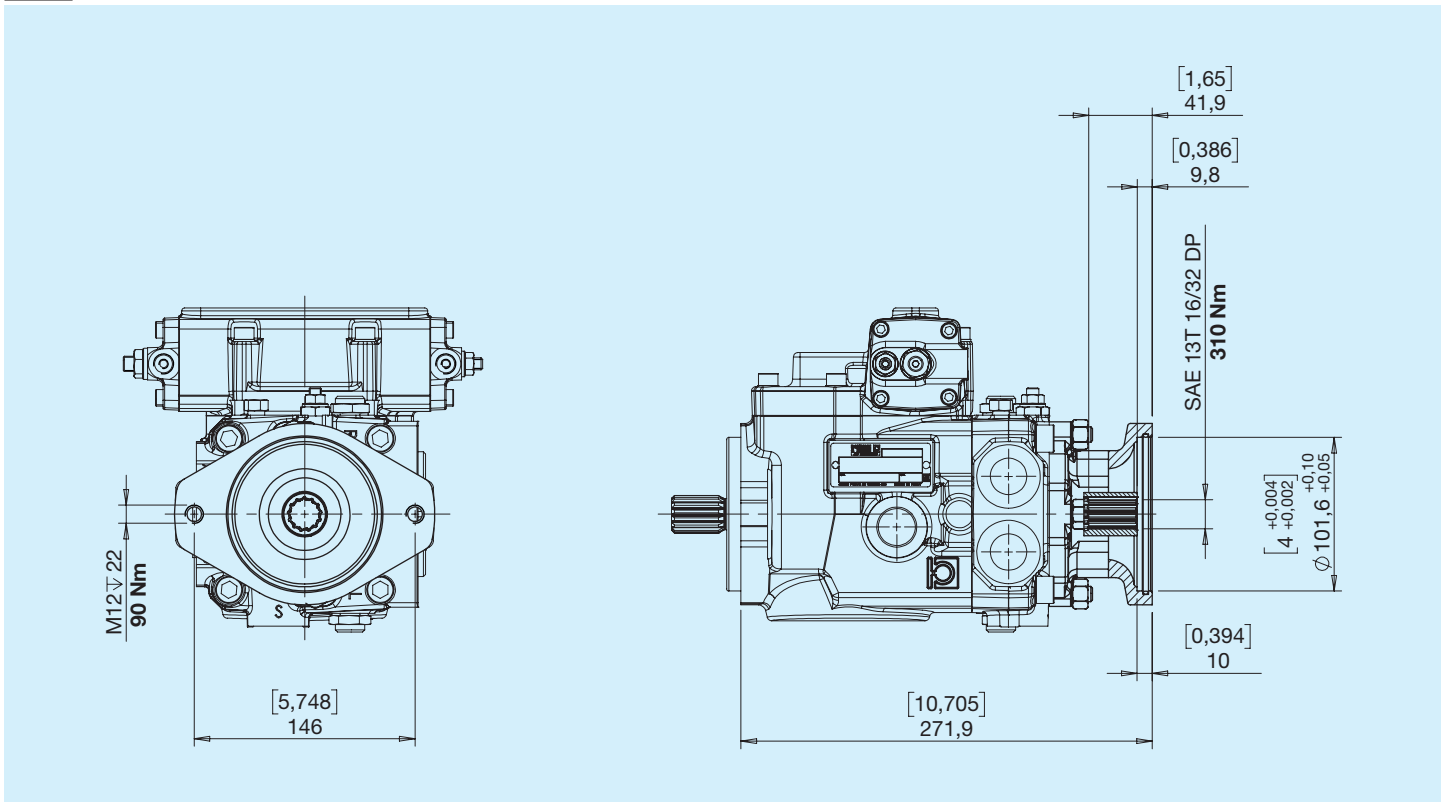
## 3 SAE B with boost pump



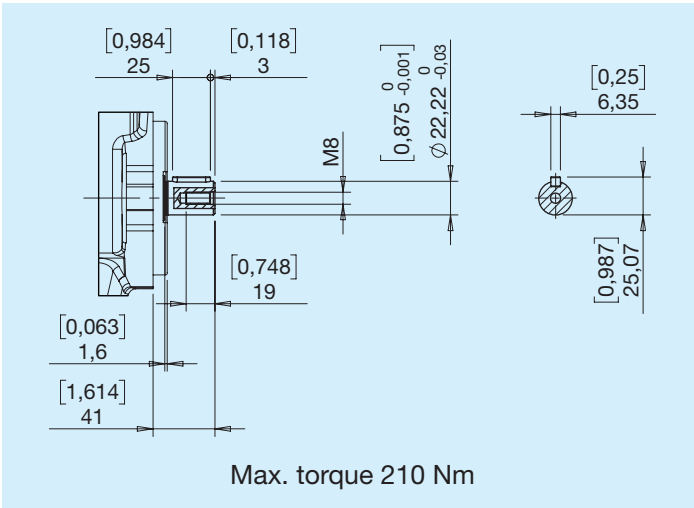
## 5 SAE A without boost pump



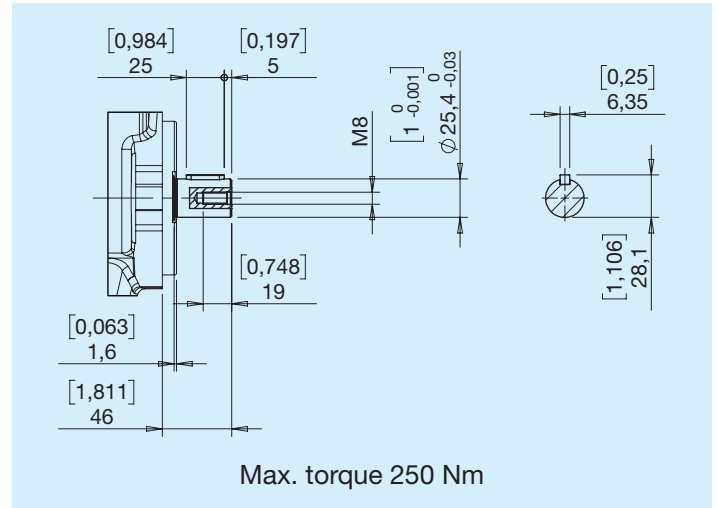
## 6 SAE B without boost pump



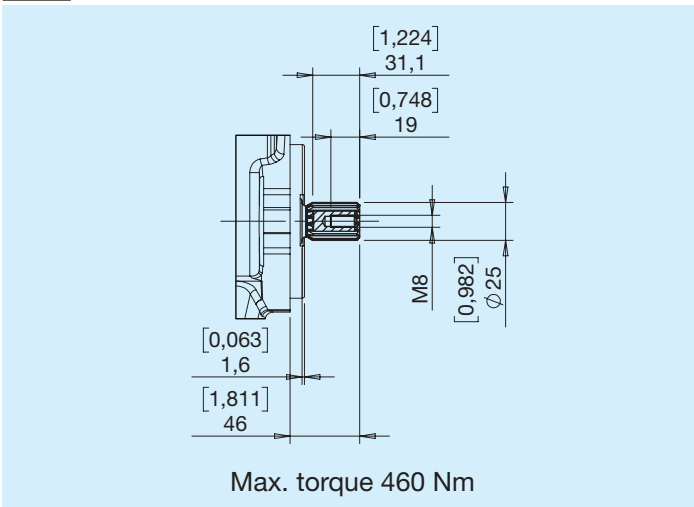
## 1 Cylindrical Ø22.22



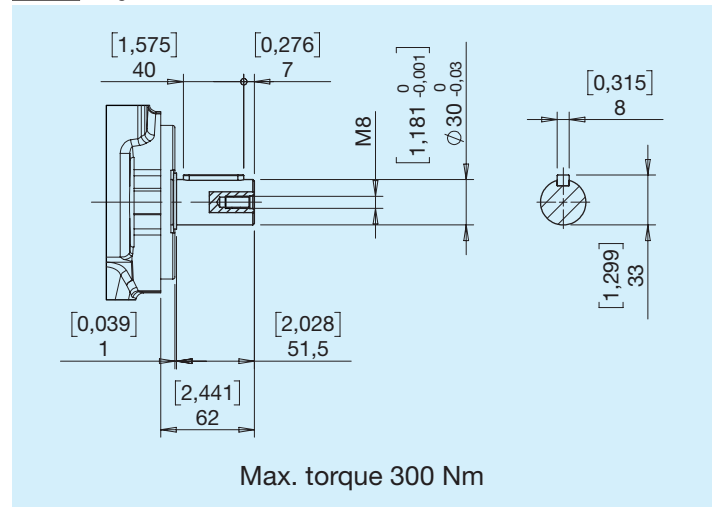
## 2 Cylindrical Ø25.4



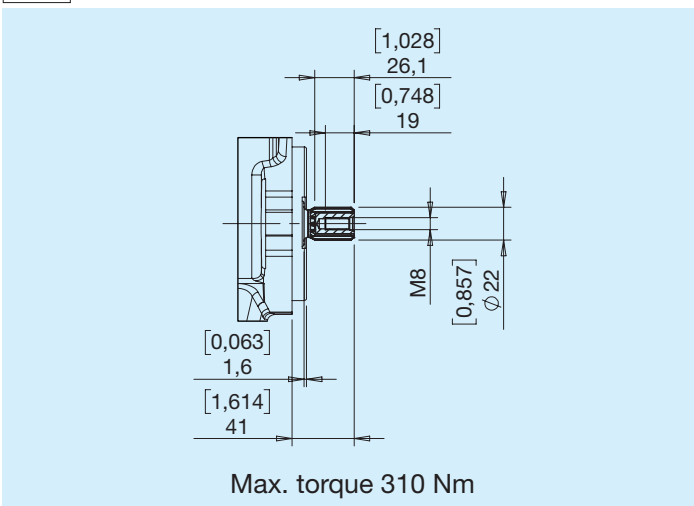
## 3 SAE 15T 16/32 DP



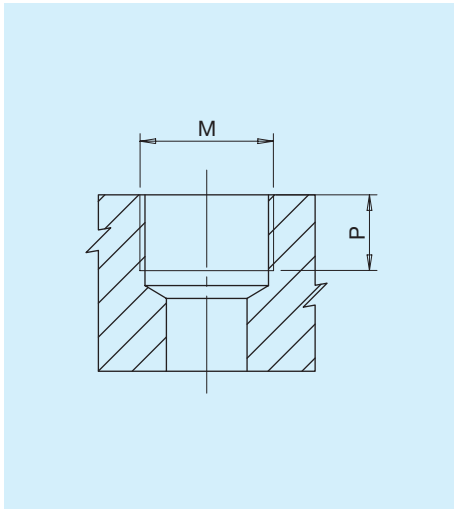
## 4 Cylindrical Ø30



## 6 SAE 13T 16/32 DP

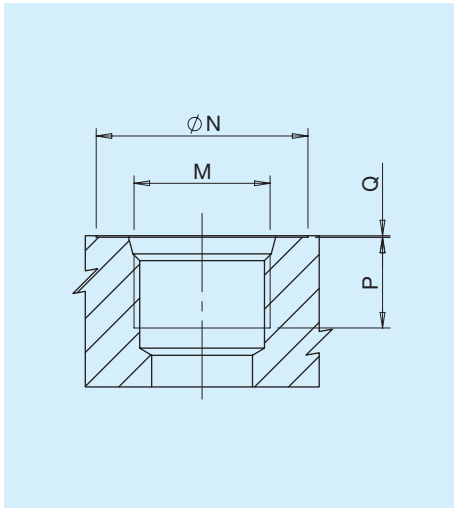


## Type R



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

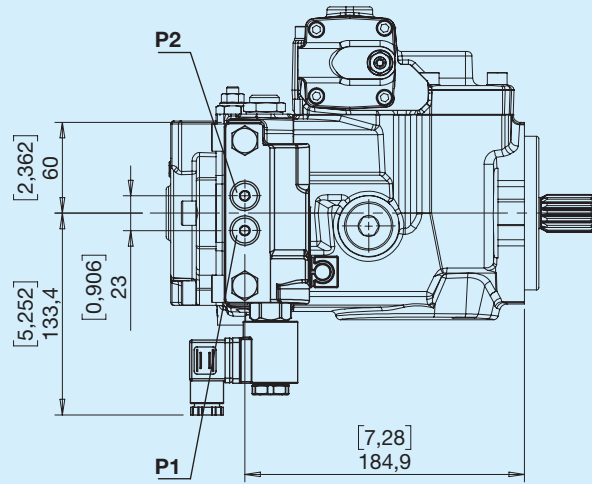
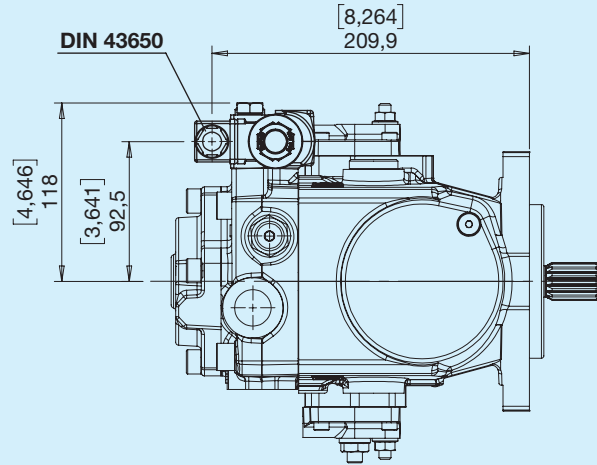
## Type U



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

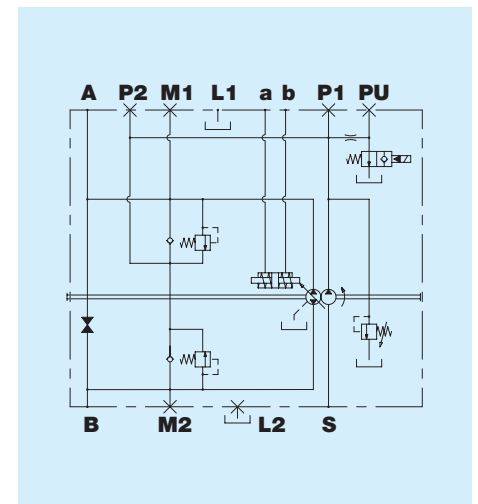
## Combinations

Type	Inlet <b>S</b>	Outlet <b>A-B</b>	Drain <b>L1-L2</b>	Pilot pressure <b>a-b</b>	Pressure points <b>P1 - P2</b>	Pressure gauge sockets <b>M1 - M2</b>
<b>R</b>	G6	G6	G6	G2	G2	G2
<b>U</b>	U6	U6	U6	G2	G2	U2

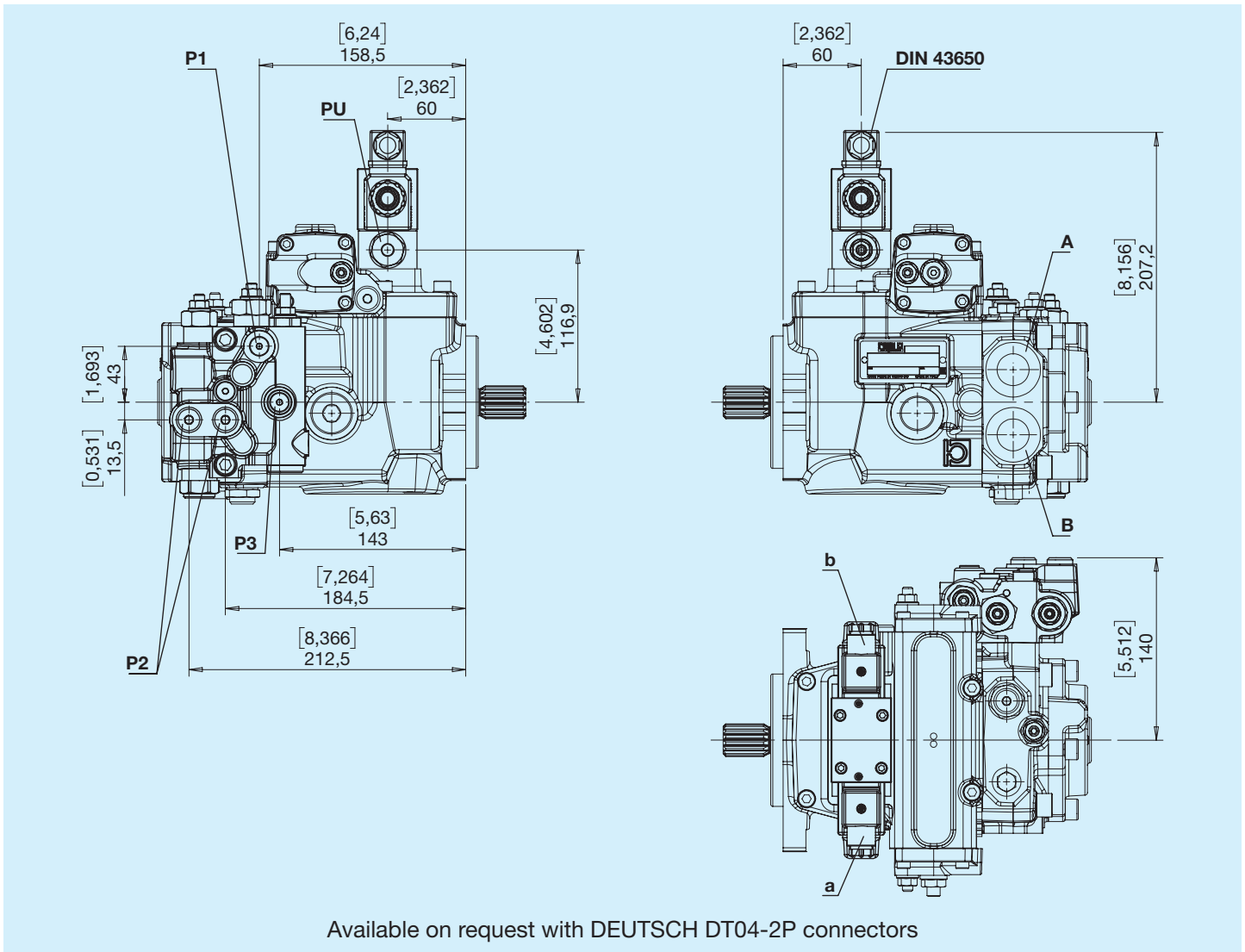


PU - Brake opening pressure G1/4

Hydraulic diagram

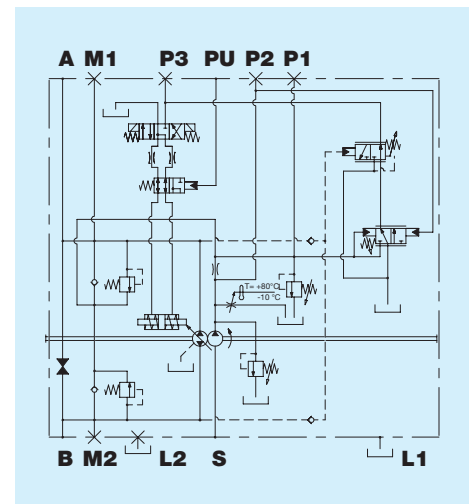


## H Hydraulic inching (only A control)



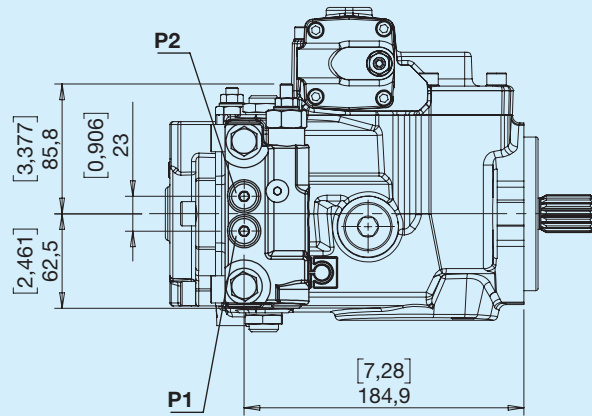
- PU** - G1/8 Pilot pressure inching
- P1, P3** - Pressure intake G1/8
- P2** - Pressure intake G1/4

## Hydraulic diagram



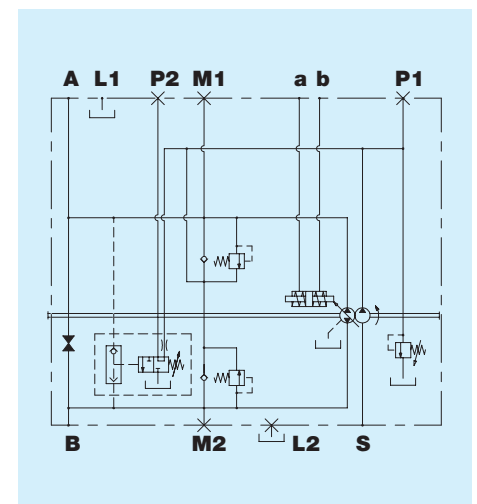


## J Cut-off

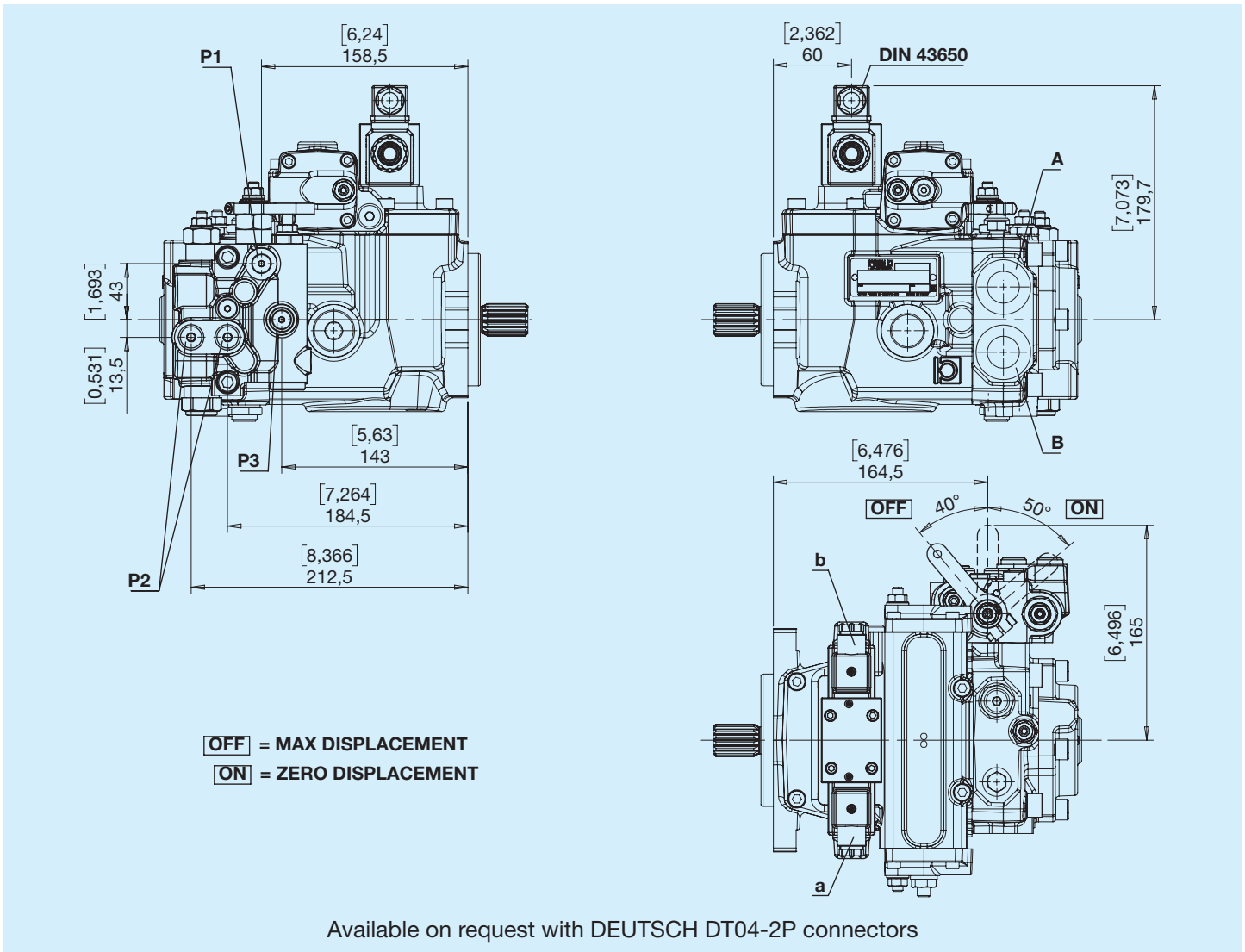


P1, P2 - Pressure intake G1/4

## Hydraulic diagram



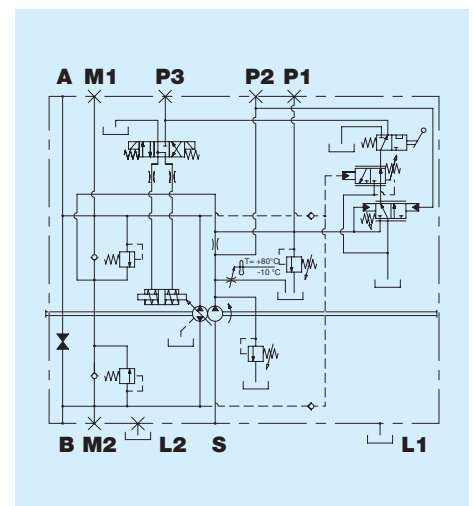
## M Mechanical inching (only A control)



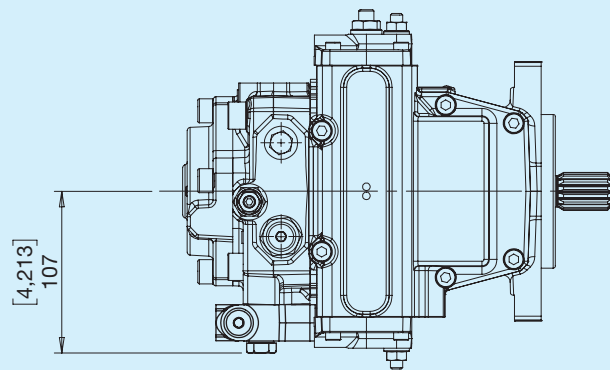
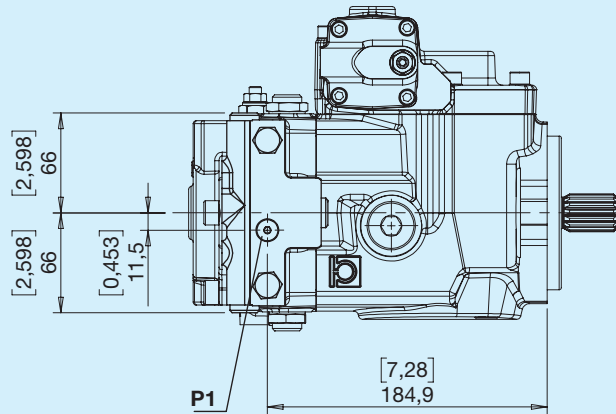
**P1, P3** - Pressure intake G 1/8

**P2** - Pressure intake G 1/4

## Hydraulic diagram

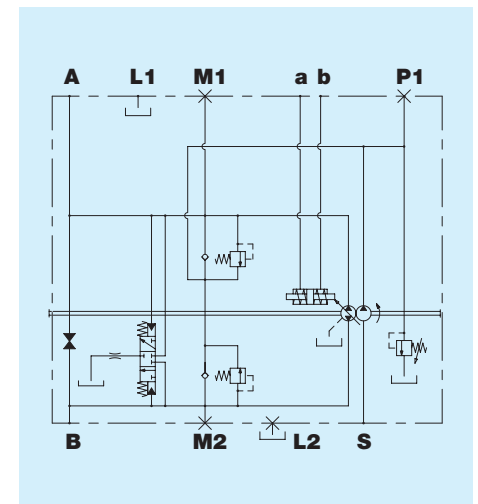


**V** Flushing valve (5-7 l/min)



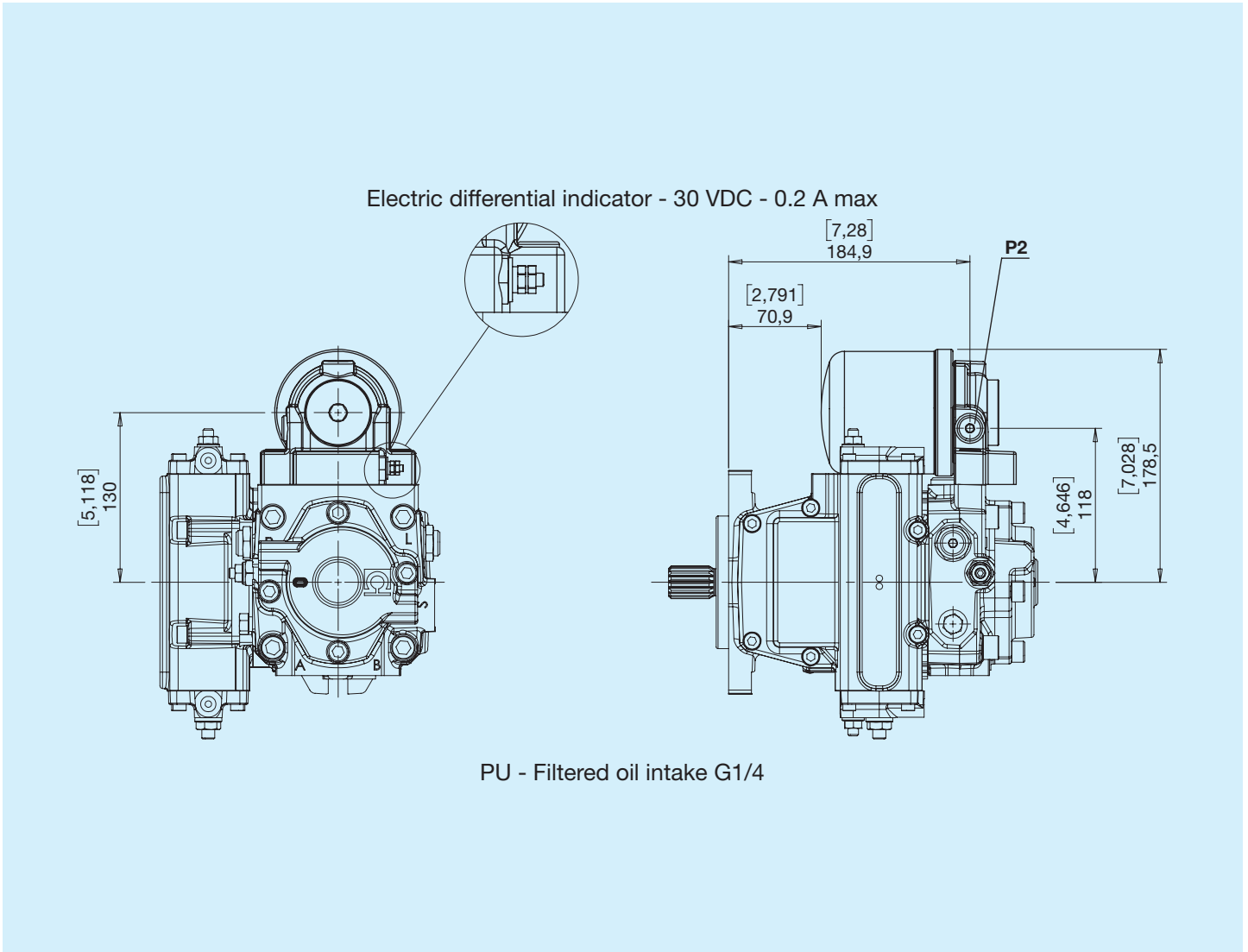
P1 - Pressure intake G1/8

## Hydraulic diagram

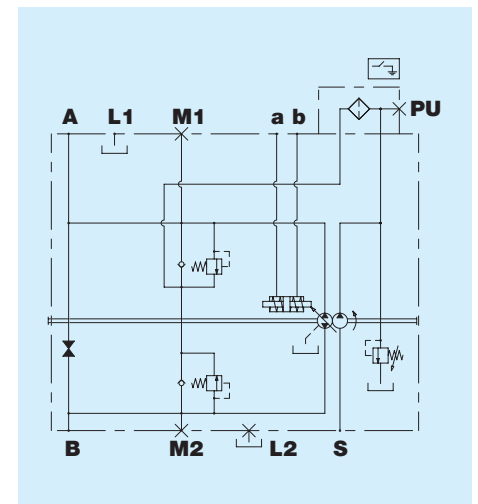




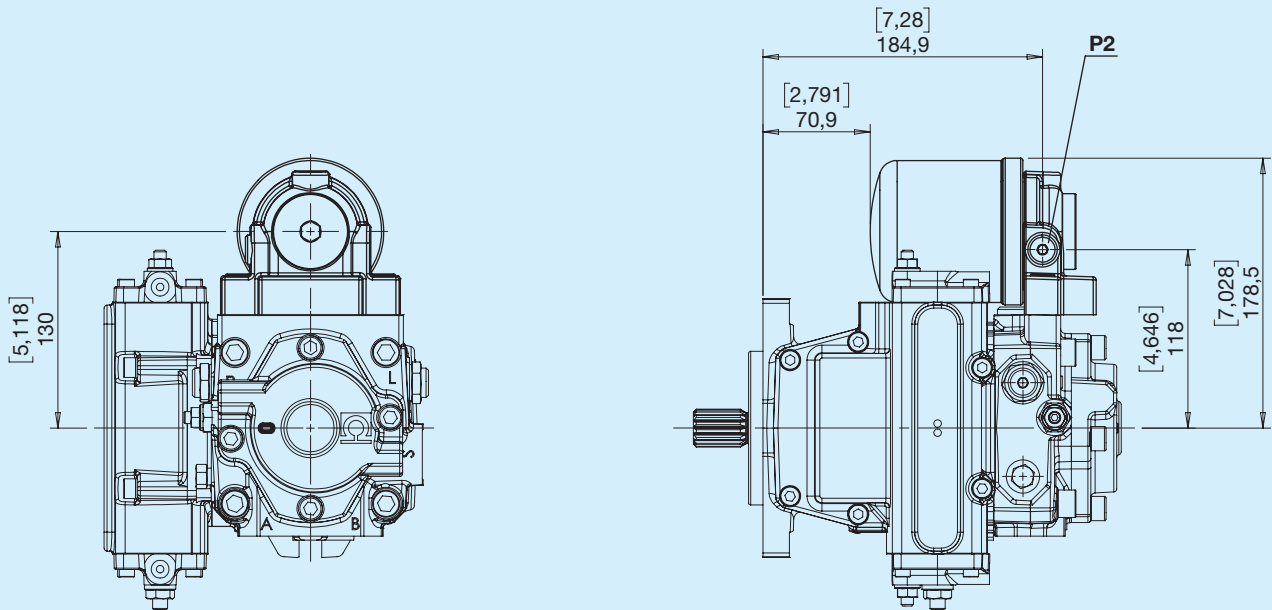
**X** Filter with clogging indicator



## Hydraulic diagram

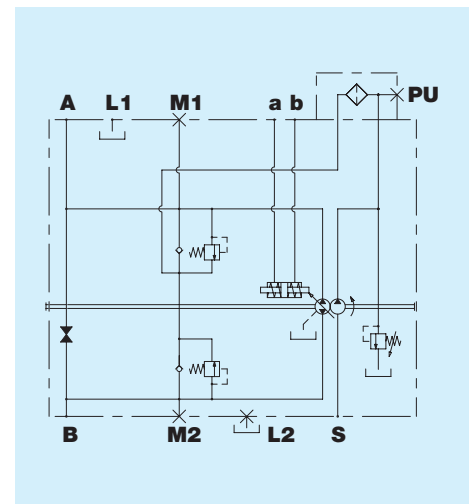


## Y Filter without clogging indicator



PU - Filtered oil intake G1/4

## Hydraulic diagram





<b>M4PV34-65</b>		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
------------------	--	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

1	2	<b>Nominal displacement</b>																
		<b>34</b>																
		<b>46</b>																
						<b>50</b>				<b>65</b>								
						<b>58</b>												

3	4	<b>Displacement</b>																
		<b>34</b>																
		<b>46</b>																
						<b>50</b>				<b>65</b>								
						<b>58</b>												

5	<b>Controls</b>																
	<b>A</b> Automotive	<b>Q</b> Electrical ON/OFF, open centre 24V	<b>M</b> Manual	<b>W</b> Electronic proportional control 24V													
	<b>E</b> Electrical ON/OFF, closed centre 12V	<b>G</b> Feedback hydraulic	<b>O</b> Electronic proportional feedback control 12V														
	<b>F</b> Electrical ON/OFF, closed centre 24V	<b>I</b> Lever-operated hydraulic	<b>V</b> Electronic proportional feedback control 24V														
	<b>N</b> Electrical ON/OFF, open centre 12V	<b>K</b> Remote hydraulic	<b>S</b> Electronic proportional control 12V														

6	<b>Versions</b>																
	<b>1</b> No special fittings, with boost pump	<b>4</b> No special fittings, without boost pump	<b>B</b> Primary SHORT pump without boost pump	<b>U</b> Secondary SHORT pump with SAE A fitting													
	<b>2</b> SAE A with boost pump	<b>5</b> SAE A without boost pump	<b>Y</b> Secondary SHORT pump without fitting	<b>W</b> Secondary SHORT pump with SAE B fitting													
	<b>3</b> SAE B with boost pump	<b>6</b> SAE B without boost pump															

7	<b>Valve calibration</b>																
	<b>B</b> 150 bar	<b>E</b> 210 bar	<b>I</b> 280 bar	<b>O</b> 350 bar													
	<b>D</b> 180 bar	<b>G</b> 250 bar	<b>L</b> 300 bar	<b>P</b> 400 bar													

8	<b>Swashplate type</b>																
	<b>A</b> Mounted on needle bearings	<b>B</b> Mounted on bronze bearings															

9	<b>Direction of rotation</b>																
	<b>R</b> Right	<b>L</b> Left															

10	<b>Shafts</b>																
	<b>1</b> Cylindrical Ø22.22	<b>3</b> SAE 15T 16/32 DP	<b>5</b> SAE 13T 16/32 DP female (sec. tandem)	<b>_mini]]</b>													
	<b>2</b> Cylindrical Ø25.4	<b>4</b> Cylindrical Ø30	<b>6</b> SAE 13T 16/32 DP														

11	<b>By-pass</b>																
	<b>B</b> By-pass																

12	<b>Type of ports</b>																
	<b>R</b> Gas	<b>U</b> Unf															

13	<b>Accessories</b>																
	<b>O</b> No option	<b>M</b> Mechanical inching (only A control)	<b>X</b> Filter with electric clogging indicator														
	<b>H</b> Hydraulic inching (only A control)	<b>V</b> Flushing valve	<b>Y</b> Filter without electric clogging indicator														
	<b>J</b> Cut-off	<b>W</b> Power limiter	<b>S</b> Multiple accessories														

14	15	16	<b>Special versions</b>													
			...													



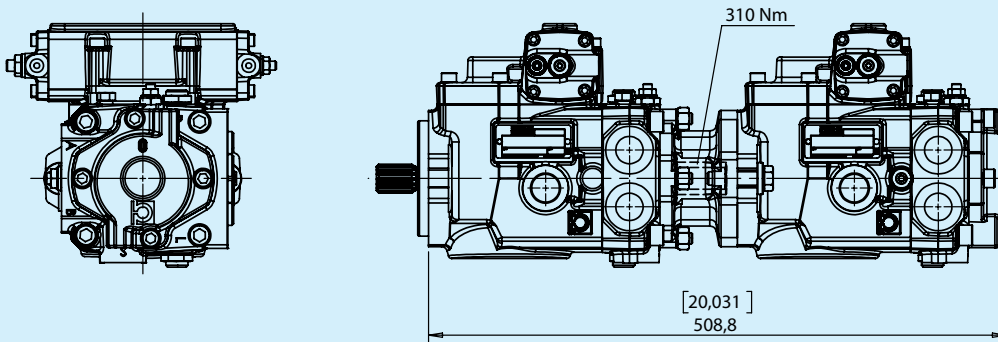


## Double pump with two charge pumps

The order code of a multiple pump is obtained by summing, as shown in the examples, the codes of the individual pumps (stages) obtained by following the order instructions for the single pumps.

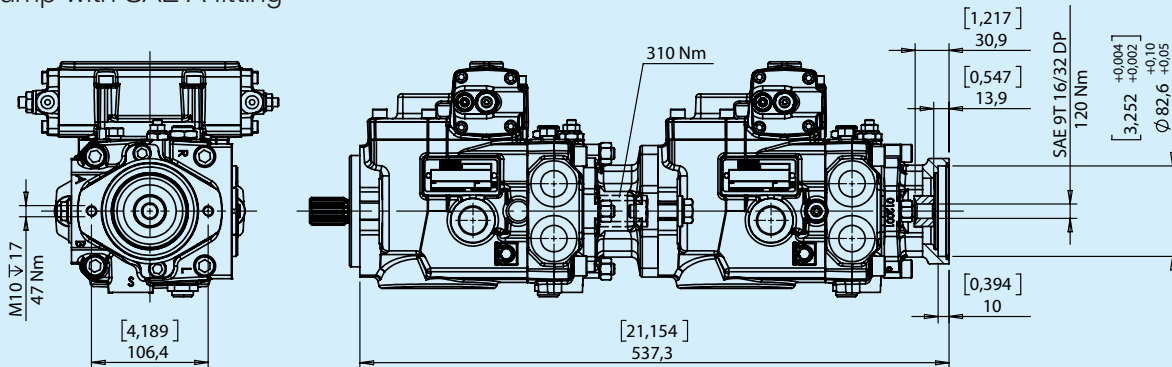
Stage 1
Stage 2  
**M4PV 58 58 K 3 E A R 3 B 0 000** + **M4PV 58 58 K 1 E A R 6 B 0 000**

tandem pump



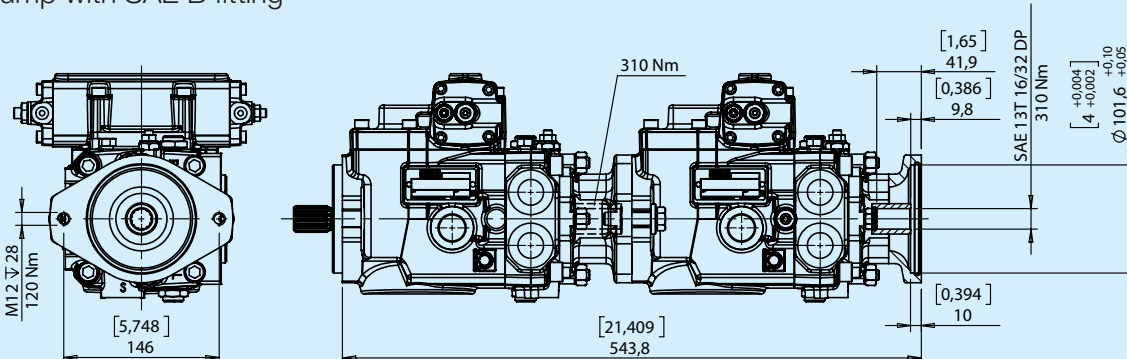
Stage 1
Stage 2  
**M4PV 58 58 K 3 E A R 3 B 0 000** + **M4PV 58 58 K 2 E A R 6 B 0 000**

tandem pump with SAE A fitting



Stage 1
Stage 2  
**M4PV 58 58 K 3 E A R 3 B 0 000** + **M4PV 58 58 K 3 E A R 6 B 0 000**

tandem pump with SAE B fitting





## Double pump, short version

The order code of a short multiple pump is obtained, as shown in the examples, by summing the codes of the individual pumps (stages) obtained by following the order instructions for the single pumps.

**WARNING!** the short M4PV tandem version does not have a charge pump in the common distributor and must therefore be supplied externally.

