



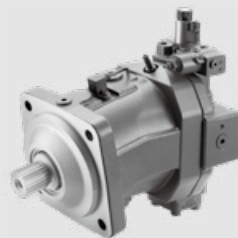
HM(E)6V SERIES

Bent-axial Piston Variable Displacement Motor

The HM6V & HME6V series bent-axial piston variable displacement motor is used in an open or closed circuit. The bent-axial structure ensures a larger displacement and a more compact structure under the same volume.

Apply to open or close circuit

Size:	60	85	115	160	170	200	215
Nominal pressure (bar):	450	450	450	400	450	400	450
Max. pressure (bar):	530	530	530	450	530	450	530



Contents

Technical Data	02
Type introduction	03-04
Principle	05-06
Installation size	
· HM6V 60	07-08
· HME6V 60	09-10
· HM6V 85	11-12
· HME6V 85	13-14
· HM6V 115	15-16
· HM6V160	17-18
· HM6V 170	19-20
· HM6V 200	21-22
· HM6V 215	23-24

Features

- Flange and plug-in designs are optional to meet different installation methods.
- Higher pressure and higher speed
- Superior performance in low speed operation provides excellent controllability.
- High activation efficiency.
- Various controllers are optional.
- Wide control range (to an angle of 0°).
- High torque and long service life.
- Flush valve and high-pressure balance valves are optional.
- Suitable for engineering machinery and general industrial vehicles, especially rotary drilling rigs and cranes.

Technical Data

Size	HM(E)6V 60	HM(E)6V 85	HM6V 115	HM6V 160	HM(E)6V 170	HM6V 200	HM6V 215	
Max displacement (cc/rev)	62	85.2	115.6	160	171.8	200	216.5	
Min displacement (cc/rev)	0							
Direction of rotation	Clockwise, Counter clockwise							
Rotation speed (rpm) (Not at min. displacement)	Rated	4450	3900	3550	3100	3100	2900	2900
	Max.	7200	6800	6150	4900	4900	4600	4800
Rotation speed (rpm) (At min. displacement)	Max.	8400	8350	7350	5500	5750	5100	5500
Pressure (bar)	Rated	450	450	450	400	450	400	450
	Max.	530	530	500	450	530	450	530
Max. output torque (N·m)	444 ($\Delta P = 450\text{bar}$)	610 ($\Delta P = 450\text{bar}$)	828 ($\Delta P = 450\text{bar}$)	1019 ($\Delta P = 400\text{bar}$)	1230 ($\Delta P = 450\text{bar}$)	1273 ($\Delta P = 400\text{bar}$)	1550 ($\Delta P = 450\text{bar}$)	
Weight (Kg) (Approximate value)	31	39	46	67	62	78	78	
Oil viscosity (mm ² /s)	5 ~ 1600, Best range: 16~36							
Oil Temperature °C	-25 ~ 103							
Oil Cleanliness	19/17/14 ISO 4406							
Moment of inertia (kg·m ²)	0.0043	0.0072	0.0110	0.0253	0.0213	0.0353	0.0303	

Type Introduction

HM6V	200	EP6	D1	N	N	S	S	/R	S4	A2	W
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫

Product series

①	Product series	60	85	115	160	170	200	215	Code
	Bent-axial Variable Piston Motor (Flange-type motor)	●	●	●	●	●	●	●	HM6V
	Bent-axial Variable Piston Motor (plug-in motor)	●	●			○			HME6V

Displacement

②	Displacement (cc/rev)	60	85	115	160	170	200	215
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Sensor

③	Sensor	60	85	115	160	170	200	215	Code
	Electric proportional displacement control, positive characteristic, 12V	●	●		●	●	●	●	EP1
	Electric proportional displacement control, positive characteristic, 24V	●	●		●	●	●	●	EP2
	Electric proportional displacement control, negative characteristic, 12V	●	●		●	●	●	●	EP5
	Electric proportional displacement control, negative characteristic, 24V	●	●		●	●	●	●	EP6
	Automatic control high-pressure related, positive control ($\Delta P \leq$ approx, 10bar)			●					HA1
	Automatic control high-pressure related, positive control ($\Delta P=100$ bar)				●	●	●	●	HA2
	Hydraulic proportional control, negative characteristic ($\Delta P=10$ bar)	●	●		●	●			HP5

Pressure cut-off

④	With	D1
	Hydraulic remote control, proportional	T3
	Without	00

Flush valve

⑤	With	S
	Without	N

Speed sensor

⑥	With	S
	Without	N

Type introduction

Large displacement adjusting screw

⑦	With	S
	Without	N

Small displacement adjusting screw

⑧	With	S
	Without	N

Port position

⑨	Port position	60	85	115	160	170	200	215	Code
	Rear				●	●	●	●	R
	Side	●	●	●	●	●	●	●	A

Mounting flange

⑩	Mounting flange (HM6V)	60	85	115	160	170	200	215	Code
	125-4 ISO 3019-2	●							M4
	140-4 ISO 3019-2		●						N4
	160-4 ISO 3019-2			●					P4
	180-4 ISO 3019-2				●	●	●	●	R4
	200-4 ISO 3019-2						●	●	S4
<hr/>									
	Mounting flange (HME6V)	60	85	115	160	170	200	215	Code
	160-2 ISO 3019-2	●		●					P2
	190-2 ISO 3019-2		●						Y2

Input shaft

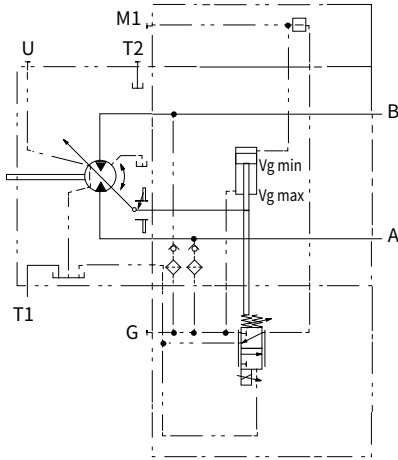
⑪	Drive shaft (HM6V)	60	85	115	160	170	200	215	Code
	W35×2×16×9g DIN 5480	●							Z8
	W40×2×18×9g DIN 5480		●	●					Z9
	W45×2×21×9g DIN 5480				●	●			A1
	W50×2×24×9g DIN 5480						●	●	A2
	13-8/16 ANSI J498b				●	●	●	●	A3
<hr/>									
	Drive shaft (HME6V)	60	85	115	160	170	200	215	Code
	W30×2×14×9g DIN 5480	●							Z6
	W40×2×18×9g DIN 5480		●						Z9

Direction of rotation

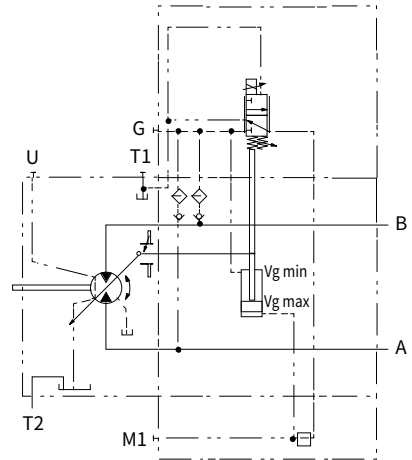
⑫	Clockwise, Counter clockwise
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Principle

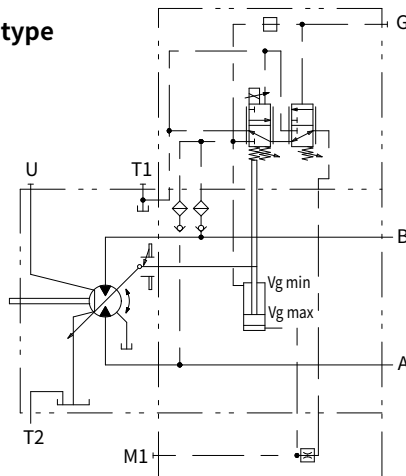
• EP1、EP2 Control type



• EP5、EP6 Control type

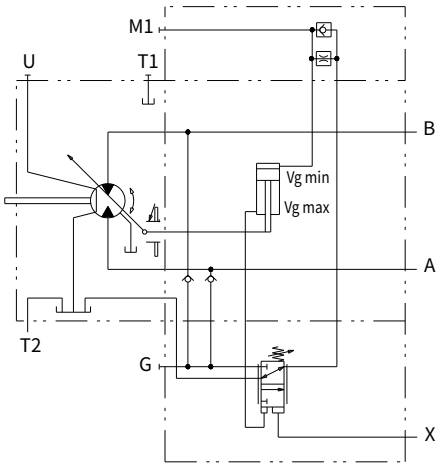


• EP6D1 Control type

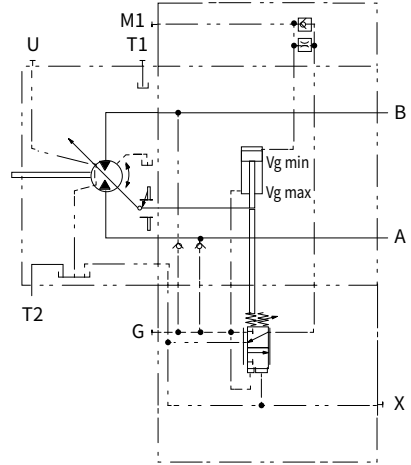


Principle

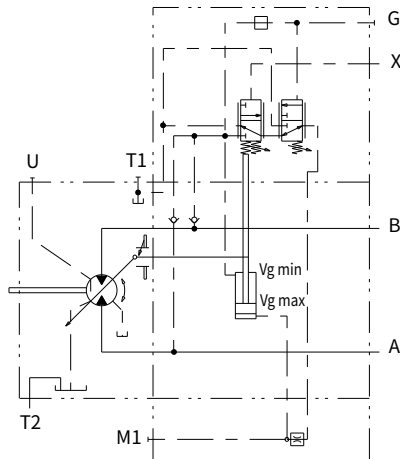
· HA1T3 Control type



· HA2 Control type

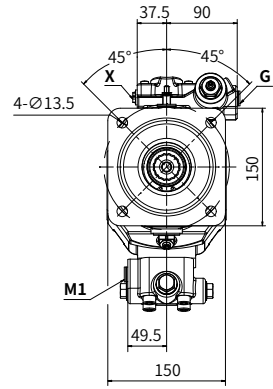
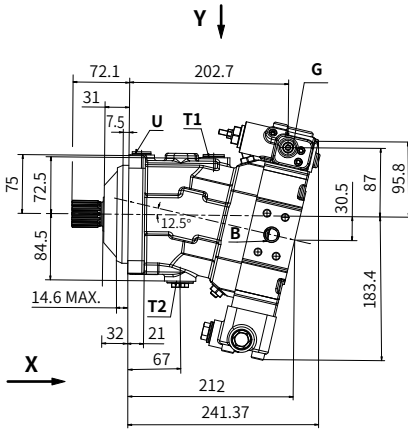


· HP5D1 Control type

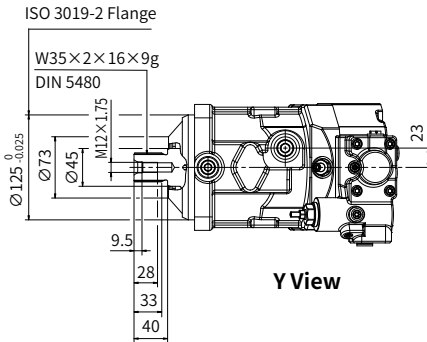


Installation size

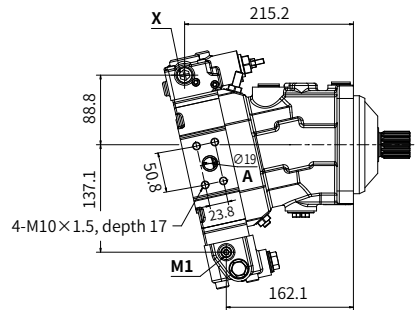
HM6V 60 Installation size



X View



Y View



Installation size

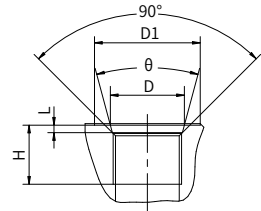
· HM6V 60 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

· HM6V 60 Port details

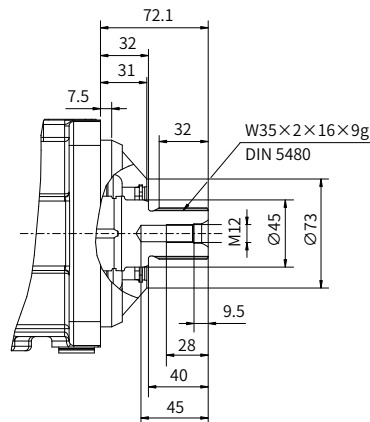
	Port name	Port size and description	Tightening torque (N·m)
A, B	Inlet port and Delivery port	SAE J518 1 1/4" M10×1.5 (depth 17mm)	57
T1	Case drain port	ISO 6149 M22×1.5 (depth 15.5mm)	100
T2		ISO 6149 M27×2 (depth 19mm)	- (Plastic plug)
G	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
U	Flushing port	ISO 6149 M18×1.5 (depth 14.5mm)	70
M1	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
Sa	External flushing port	ISO 6149 M22×1.5 (depth 16.5mm)	80

Port	H	L	M	D	D1	θ
T1	15.5	2.4	M22×1.5	∅ 23.8	∅ 34	30°
T2	19	3.1	M27×2	∅ 29.4	∅ 35	30°
G	11.5	2.4	M14×1.5	∅ 15.8	∅ 22	30°
U	14.5	2.4	M18×1.5	∅ 19.8	∅ 26	30°
M1	11.5	2.4	M14×1.5	∅ 15.8	∅ 22	30°
Sa	14.5	2.4	M22×1.5	∅ 21.8	-	30°



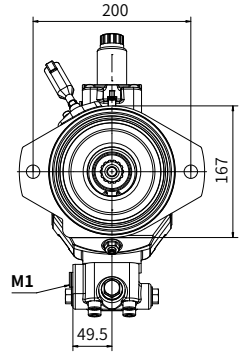
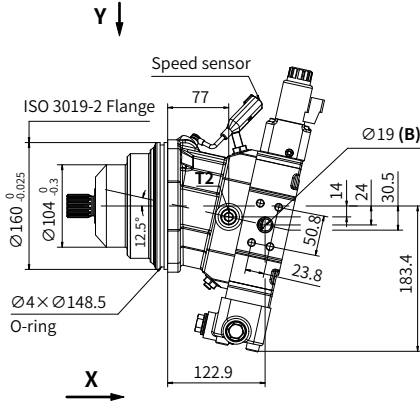
· HM6V 60 Input shaft type

"Z8" type shaft



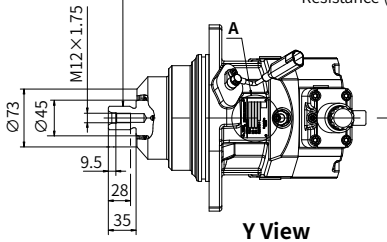
Installation size

HME6V 60 Installation size



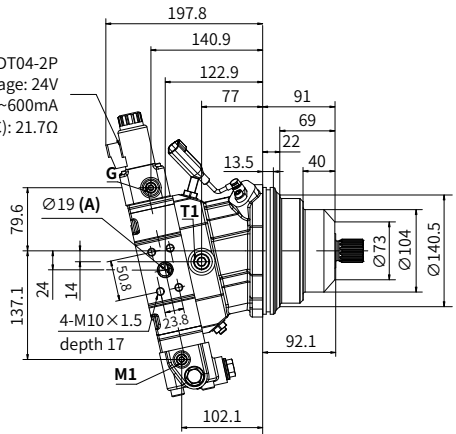
X View

W30×2×14×9g
DIN5480



Y View

Deutsch DT04-2P
Rated voltage: 24V
Control current: 200~600mA
Resistance (@20°C): 21.7 Ω



Installation size

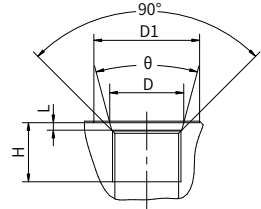
· HME6V 60 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

· HME6V 60 Port details

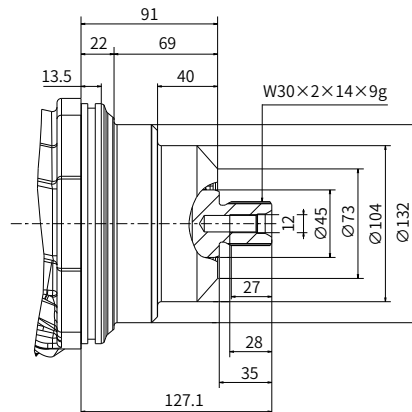
	Port name	Port size and description	Tightening torque (N·m)
A, B	Inlet port and Delivery port	SAE J518 3/4" M10×1.5 (depth 17mm)	57
T1	Case drain port	ISO 6149 M22×1.5 (Through hole)	100
T2		ISO 6149 M22×1.5 (Through hole)	100
G	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
M1		ISO 6149 M14×1.5 (depth 11.5mm)	45

Port	H	L	M	D	D1	θ
T1	19	2.4	M22×1.5	∅ 23.8	∅ 34	30°
T2	19	2.4	M22×1.5	∅ 23.8	∅ 34	30°
G	15	2.4	M14×1.5	∅ 15.8	∅ 22	30°
M1	11.5	2.4	M14×1.5	∅ 15.8	∅ 22	30°



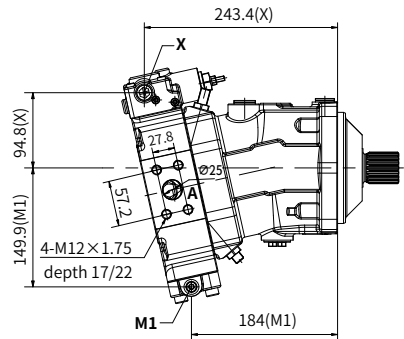
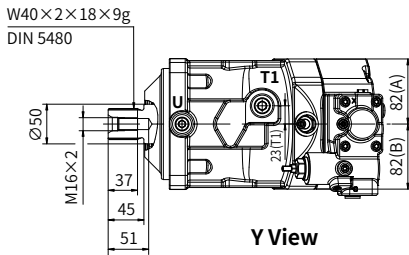
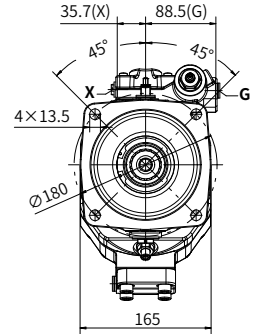
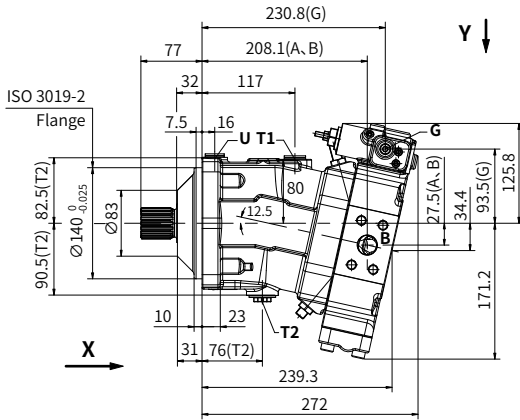
· HME6V 60 Input shaft type

"Z6" type shaft



Installation size

HM6V 85 Installation size



Installation size

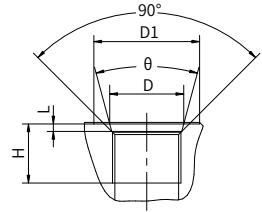
·HM6V 85 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

·HM6V 85 Port details

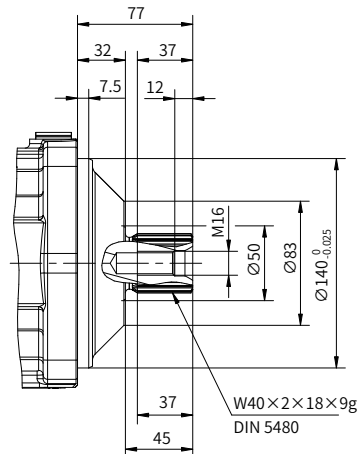
	Port name	Port size and description	Tightening torque (N·m)
A, B	Inlet port and Delivery port	SAE J518 1" M12×1.75 (depth 17mm)	98
T1	Case drain port	ISO 6149 M22×1.5 (depth 15.5mm)	45
T2		ISO 6149 M27×2 (depth 19mm)	210
G	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
U	Flushing port	ISO 6149 M18×1.5 (depth 14.5mm)	45
X	Pilot port	ISO 6149 M14×1.5 (depth 11.5mm)	45
M1	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45

Port	H	L	M	D	D1	θ
T1	20	2.4	M22×1.5	∅ 23.8	∅ 30	30°
T2	19	3.1	M27×2	∅ 29.4	∅ 34	30°
G	15	2.4	M14×1.5	∅ 15.8	∅ 22	30°
U	14.5	2.4	M18×1.5	∅ 19.8	∅ 28	30°
X	15	2.4	M14×1.5	∅ 15.8	∅ 22	30°
M1	12	2.4	M14×1.5	∅ 15.8	-	30°



·HM6V 85 Input shaft type

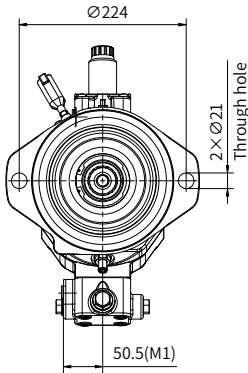
"Z9" type shaft



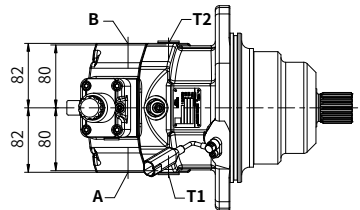
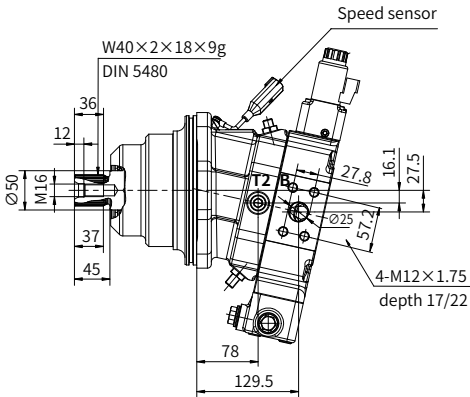
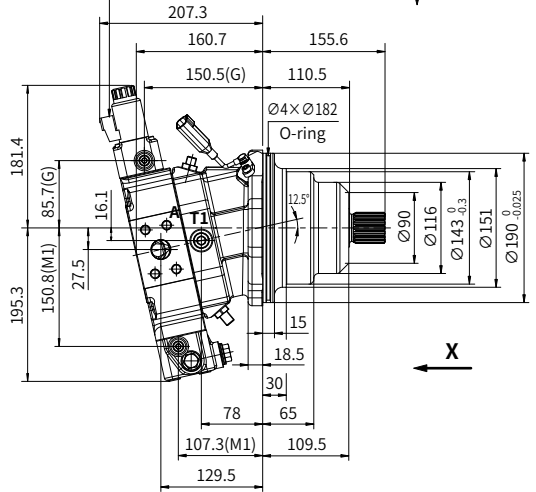
Installation size

HME6V 85 Installation size

Deutsch DT04-2P
 Rated voltage: 24V
 Control current: 200~600mA
 Resistance(@20°C): 21.7Ω



X View



Y View

Installation size

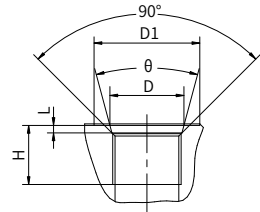
• HME6V 85 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

• HME6V 85 Port details

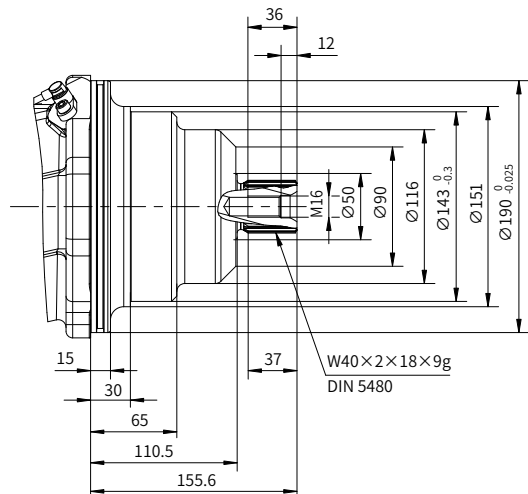
	Port name	Port size and description	Tightening torque (N·m)
A, B	Inlet port and Delivery port	SAE J518 1" M12×1.75 (depth 17mm)	98
T1	Case drain port	ISO 6149 M22×1.5 (depth 15.5mm)	45
T2		ISO 6149 M22×1.5 (depth 15.5mm)	45
G	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
M1		ISO 6149 M14×1.5 (depth 11.5mm)	45

Port	H	L	M	D	D1	θ
T1	15.5	2.4	M22×1.5	∅ 23.8	∅ 29	30°
T2	15.5	2.4	M22×1.5	∅ 23.8	∅ 29	30°
G	15	2.4	M14×1.5	∅ 15.8	∅ 22	30°
M1	11.5	2.4	M14×1.5	∅ 15.8	∅ 22	30°



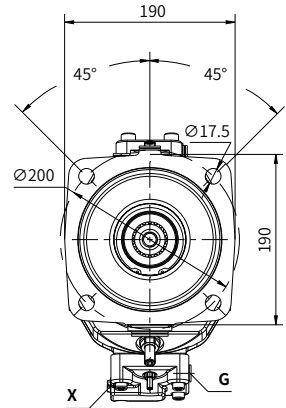
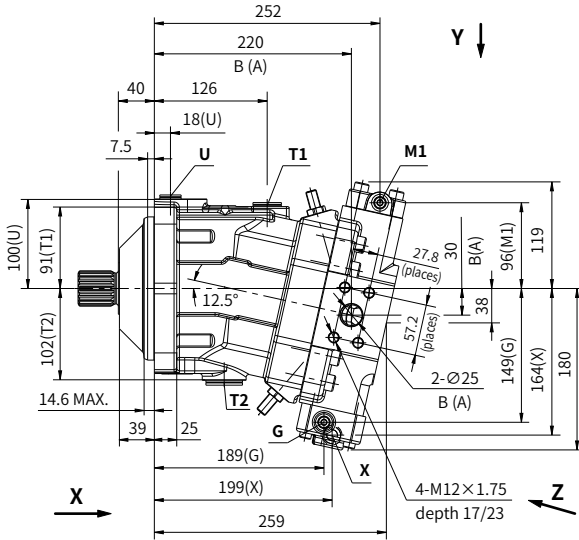
• HME6V 85 Input shaft type

"Z9" type shaft

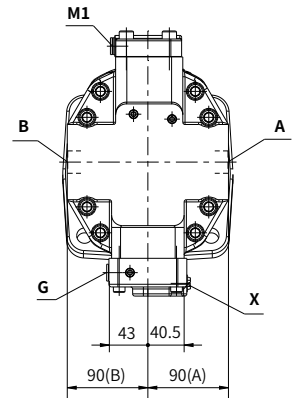
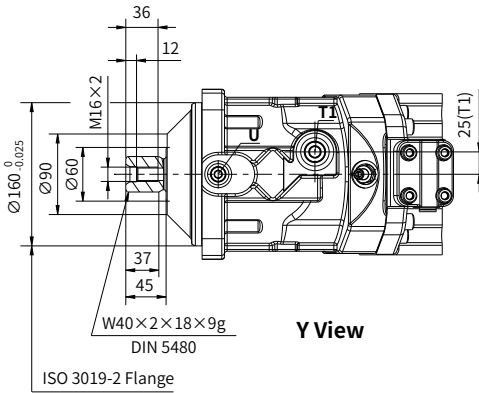


Installation size

HM6V 115 Installation size



X View



HM(E)6V

Installation size

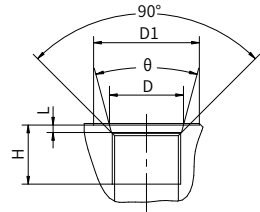
· HM6V 115 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

· HM6V 115 Port details

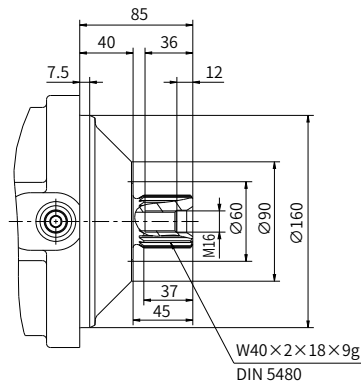
	Port name	Port size and description	Tightening torque (N·m)
A, B	Inlet port and Delivery port	SAE J518 1" M12×1.75 (depth 17mm)	98
T1	Case drain port	ISO 6149 M27×2 (depth 19mm)	90
T2		ISO 6149 M33×2 (depth 19mm)	120
G	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
U	Flushing port	ISO 6149 M18×1.5 (depth 14.5mm)	45
X	Pilot port	ISO 6149 M14×1.5 (depth 11.5mm)	45
M1	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45

Port	H	L	M	D	D1	θ
T1	19	3.1	M27×2	∅ 29.4	∅ 34	30°
T2	19	3.1	M33×2	∅ 35.4	∅ 43	30°
G	11.5	2.4	M14×1.5	∅ 15.8	∅ 22	30°
U	14.5	2.4	M18×1.5	∅ 19.8	∅ 28	30°
X	11.5	2.4	M14×1.5	∅ 15.8	∅ 22	30°
M1	11.5	2.4	M14×1.5	∅ 15.8	∅ 22	30°



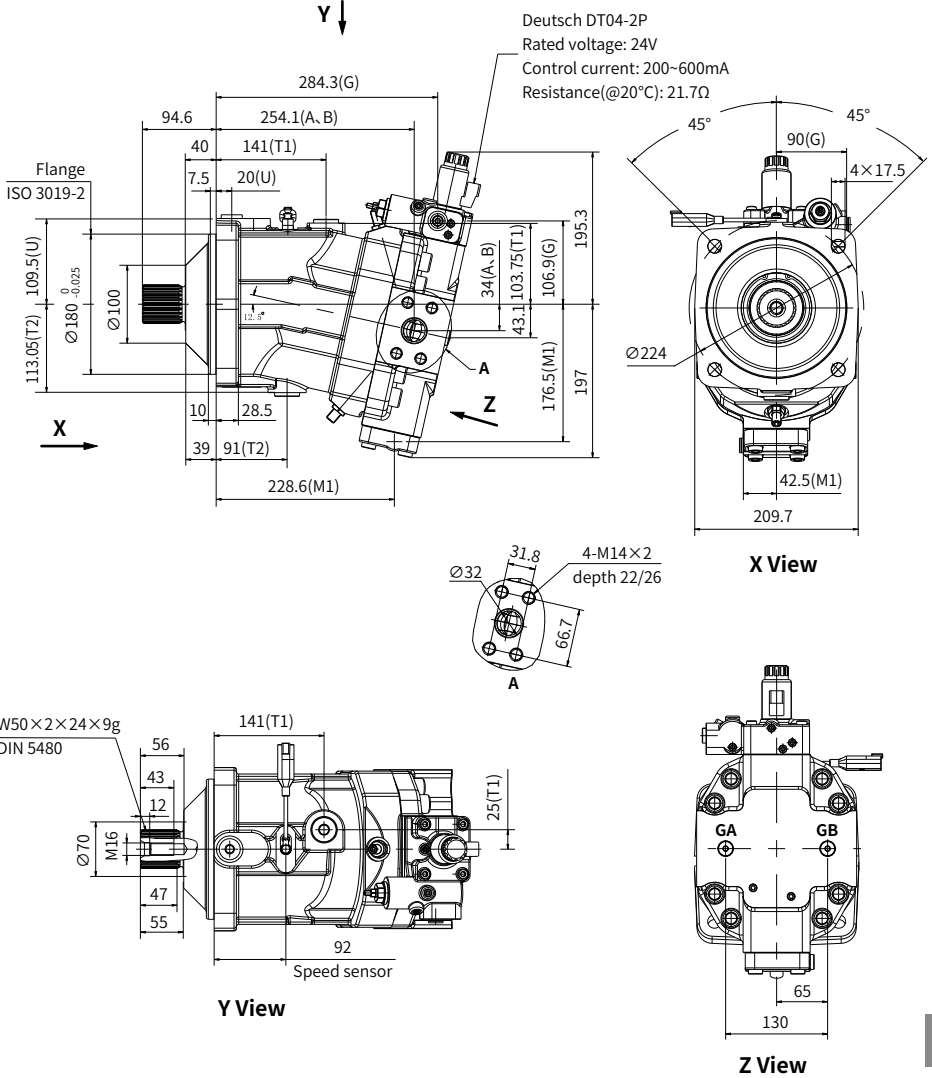
· HM6V 115 Input shaft type

"Z9" type shaft



Installation size

HM6V 160 Installation size



Installation size

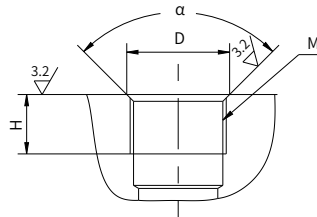
· HM6V 160 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

· HM6V 160 Port details

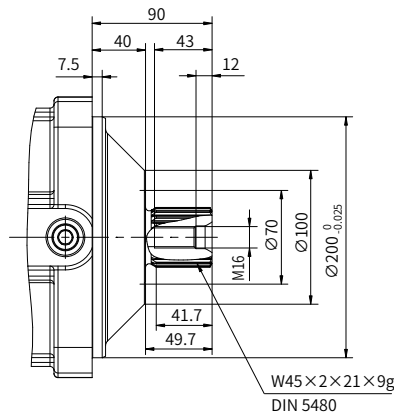
	Port name	Port size and description	Tightening torque (N·m)
A、 B	Inlet port and Delivery port	SAE J518 1 1/4" M14×2 (depth 19mm)	-
T1	Case drain port	DIN 3852 M26×1.5 (depth 23mm ED seals)	110±10
T2		DIN 3852 M26×1.5 (depth 18mm ED seals)	110±10
G	Measuring port pressure	DIN 3852 M14×1.5 (depth 15mm ED seals)	40±5
U	Flushing port	DIN 3852 M22×1.5 (depth 20mm ED seals)	45±5
GA、 GB	Measuring port pressure	DIN 3852 M14×1.5 (depth 12mm ED seals)	40±5

Port	H	M	D	α
T1	23	M26×1.5	∅ 26	90°
T2	18	M26×1.5	∅ 26	90°
G	15	M14×1.5	∅ 14	90°
U	20	M22×1.5	∅ 22	90°
GA、 GB	12	M14×1.5	∅ 14	90°



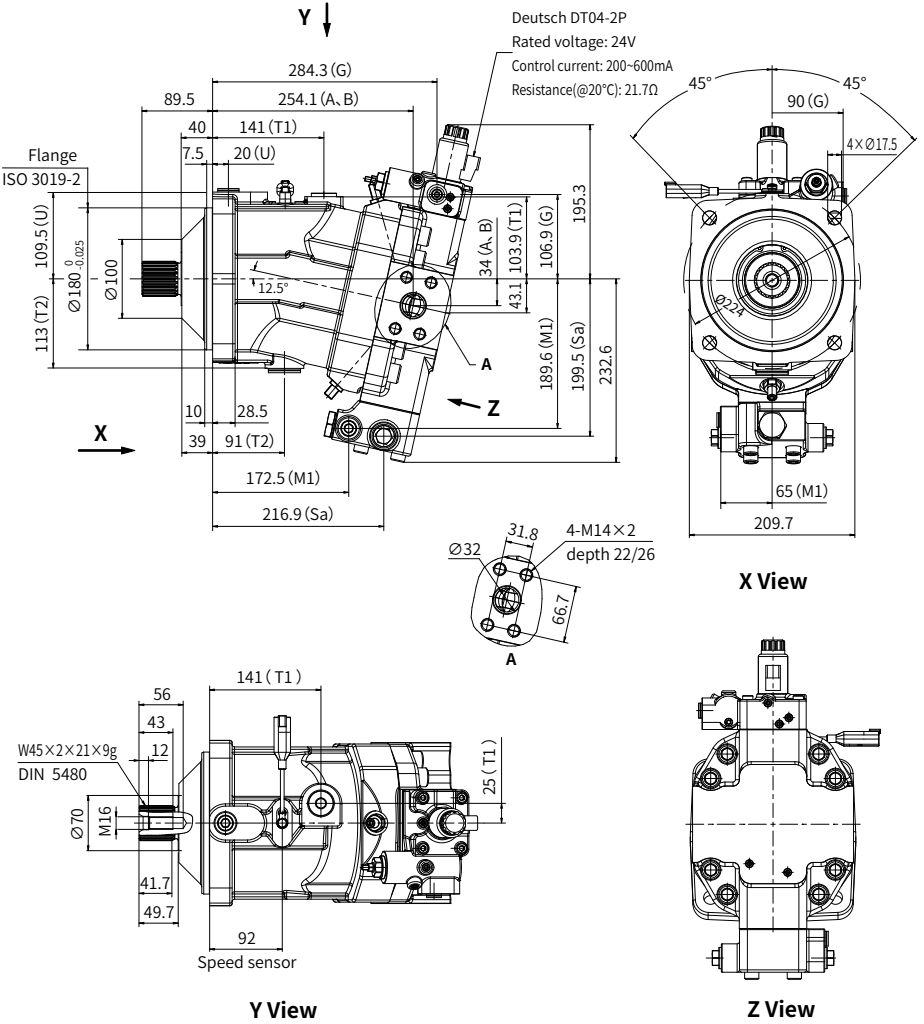
· HM6V 160 Input shaft type

"A1" type shaft



Installation size

HM6V 170 Installation size



HM(E)6V

Installation size

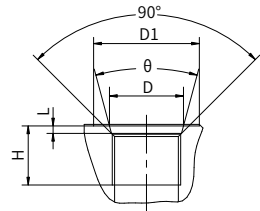
· HM6V 170 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

· HM6V 170 Port details

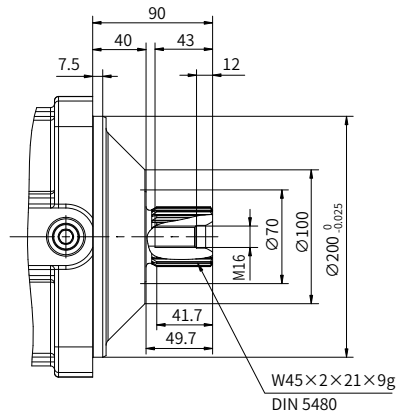
	Port name	Port size and description	Tightening torque (N·m)
A, B	Inlet port and Delivery port	SAE J518 1 1/4" M14×2 (depth 22mm)	157
T1	Case drain port	ISO 6149 M27×2 (depth 29mm)	210
T2		ISO 6149 M33×2 (depth 25.5mm)	215
G	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
U	Flushing port	ISO 6149 M22×1.5 (depth 20mm)	45
M1	Measuring port pressure	ISO 6149 M14×1.5 (depth 12.5mm)	45
Sa	External flushing port	ISO 6149 M22×1.5 (depth 16mm)	100

Port	H	L	M	D	D1	θ
T1	29	3.1	M27×2	∅ 29.4	∅ 34	30°
T2	25.5	3.1	M33×2	∅ 35.4	∅ 43	30°
G	15	2.4	M14×1.5	∅ 15.8	∅ 25	30°
U	20	2.4	M22×1.5	∅ 23.8	∅ 29	30°
M1	12.5	2.4	M14×1.5	∅ 15.8	∅ 22	30°
Sa	16	2.4	M22×1.5	∅ 23.8	∅ 30	30°



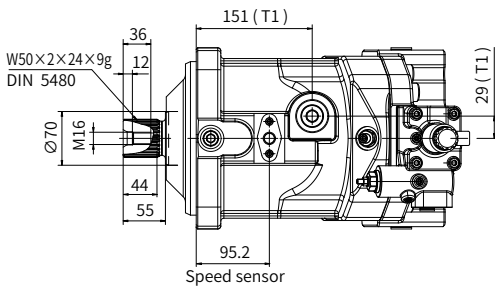
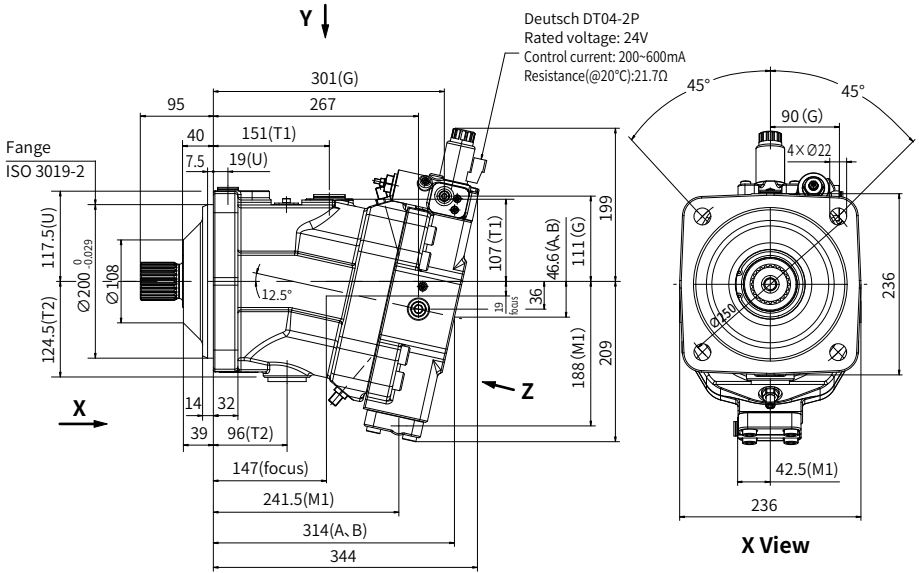
· HM6V 170 Input shaft type

"A1" type shaft

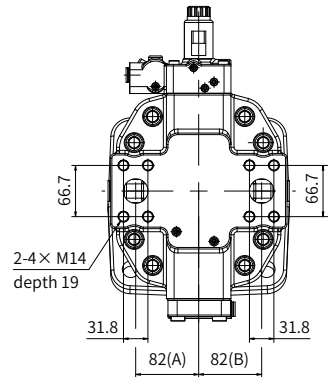


Installation size

HM6V 200 Installation size



Y View



Z View

HM(E)6V

Installation size

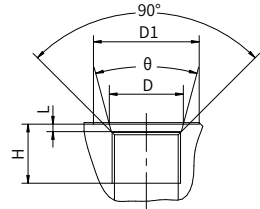
· HM6V 200 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

· HM6V 200 Port details

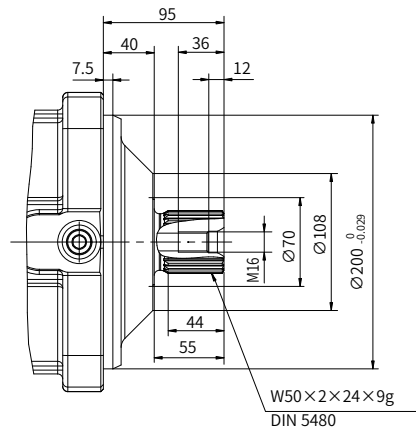
	Port name	Port size and description	Tightening torque (N · m)
A, B	Inlet port and Delivery port	SAE J518 1 1/4" M14×2 (depth 20mm)	157
T1	Case drain port	ISO 6149 M33×2 (depth 20mm)	215
T2		ISO 6149 M42×2 (depth 20mm)	330
G	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
U	Flushing port	ISO 6149 M22×1.5 (depth 11.5mm)	45
M1	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45

Port	H	L	M	D	D1	θ
T1	20	3.1	M33×2	∅ 35.4	∅ 43	30°
T2	20	3.1	M42×2	∅ 44.4	∅ 52	30°
G	15	2.4	M14×1.5	∅ 15.8	∅ 25	30°
U	19	2.4	M22×1.5	∅ 23.8	∅ 34	30°
M1	12	2.4	M14×1.5	∅ 15.8	-	30°



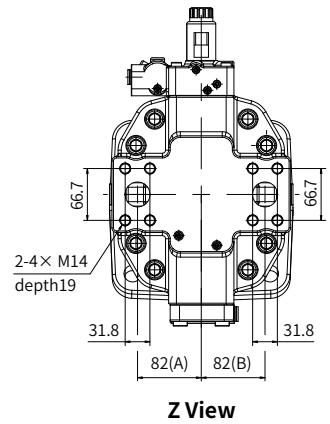
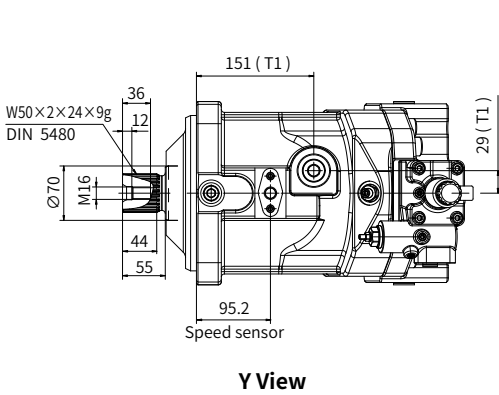
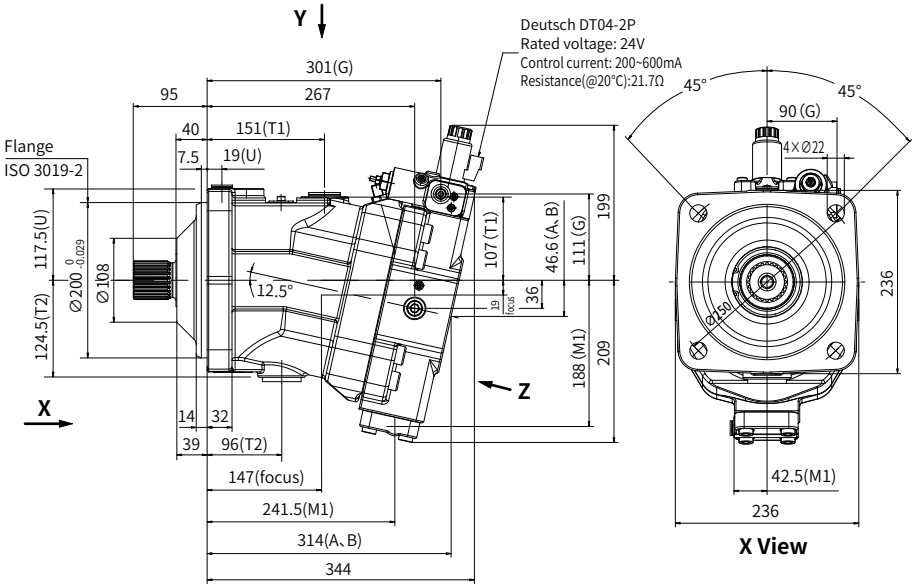
· HM6V 200 Input shaft type

"A2" type shaft



Installation size

HM6V 215 Installation size



Installation size

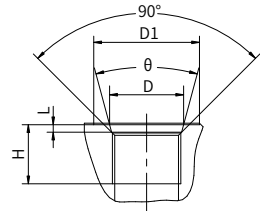
• HM6V 215 Direction of rotation and oil flow direction

Installation	Rotation
Flow A → B	Clockwise
Flow B → A	Counter-clockwise

• HM6V 215 Port details

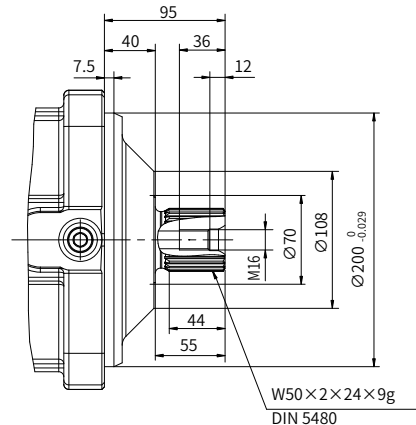
	Port name	Port size and description	Tightening torque (N·m)
A, B	Inlet port and Delivery port	SAE J518 1 1/4" M14×2 (depth 20mm)	157
T1	Case drain port	ISO 6149 M33×2 (depth 20mm)	215
T2		ISO 6149 M42×2 (depth 20mm)	330
G	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45
U	Flushing port	ISO 6149 M22×1.5 (depth 11.5mm)	45
M1	Measuring port pressure	ISO 6149 M14×1.5 (depth 11.5mm)	45

Port	H	L	M	D	D1	θ
T1	20	3.1	M33×2	∅ 35.4	∅ 43	30°
T2	20	3.1	M42×2	∅ 44.4	∅ 52	30°
G	15	2.4	M14×1.5	∅ 15.8	∅ 25	30°
U	19	2.4	M22×1.5	∅ 23.8	∅ 34	30°
M1	12	2.4	M14×1.5	∅ 15.8	-	30°



• HM6V 215 Input shaft type

"A2" type shaft



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