



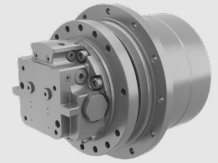
4.3

HM4V SERIES

Axial Piston Variable Displacement Motor (Containing Gearbox)

HM4V series swash plate axial piston motor, It is a special motor for hydraulic excavator track walking. The movement is realized by rotating the shell of the containing gearbox, With two - speed switch and parking brake and other functions.

Size:	12	21	22	290	340
				(Single motor)	
Max service pressure (bar):	245	245	245	373	368



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Features

- It is a special motor for hydraulic excavator track walking.
- High efficiency plunger motor and high precision reducer composite products.
- Compact and capable of powerful walking.

Technical data

Size		12	21	22	290	340
Normal displacement cc/rev		11.3	20.7	22.1	290.7	337.2
Direction of rotation		bidirectional				
Max rotation speed (rpm)		80	70	70	2170	2660
Max service pressure (bar)		245	245	245	373	368
Maximum braking torque(N·m)		20	55.9	55.9	1170	1400
Two-speed switch pilot pressure	Normal (bar)	33	33	33	29	39
	Max (bar)	49	49	49	59	59
Shell pressure	Rated (bar)	3	3	3	2	2
	Max (bar)	10	10	10	5	5
Deceleration ratio		36.96	36.51	52.73	-	-
Weight Kg		16 (Containing Gearbox)	34 (Containing Gearbox)	44 (Containing Gearbox)	167	143
Oil viscosity mm ² /s		7~1600, Best range: 12~80				
Oil Temperature °C		-20~90				
Oil Cleanliness		ISO 4406 20/18/15				

When the oil viscosity is between 200~1000mm²/s, it needs to be preheated before operation.

Type introduction

HM4V	12	C	P	T	N	N	-	RGTM22A	-	XXX
①	②	③	④	⑤	⑥	⑦		⑧		⑨

Product series

①	Swash plate axial piston motor	HM4V
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Large displacement

②	Size	12	21	22	290	340
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Port and flange fixing thread

③		12	21	22	290	340	Code
	UNC unified thread, ISO 11926	○	○	○	○	○	A
	BSPPG thread, JIS B2351	○	○	○	○	○	G
	Metric thread, ISO 9974	○	○	○	○	○	M
	Special inch pipe thread	●	●	●	●	●	C

Built-in parking brake

④		12	21	22	290	340	Code
	With built-in parking brake	●	●	●	●	●	P
	Without built-in parking brake	○	○	○	○	○	N

Automatic change valve

⑤		12	21	22	290	340	Code
	With automatic change valve	●	●	●	●	●	T
	Without automatic change valve	●	●	●	○	●	N

No impact relief valve

⑥		12	21	22	290	340	Code
	With no impact relief valve				●	●	S
	Without no impact relief valve	●	●	●			N

Safety valve against surge

⑦	Without safety valve against surge	N
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Type introduction

Reducer type (Only HM4V12、HM4V21、HM4V22)

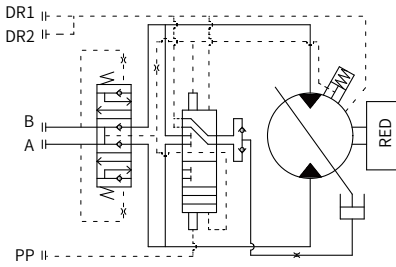
	Suitable for 12 displacement motor	RGTM22A
⑧	Suitable for 21 displacement motor	RGTM34A
	Suitable for 22 displacement motor	RGTM50A

Special code

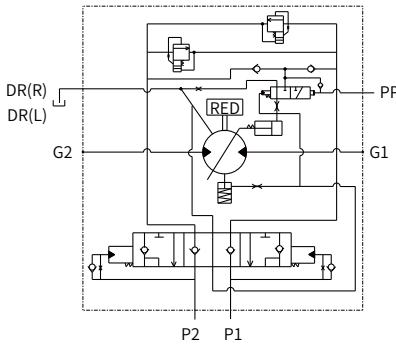
⑨	Special code	
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Principle

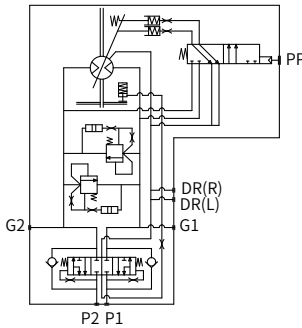
- HM4V12、HM4V21、HM4V22



- HM4V290



- HM4V340

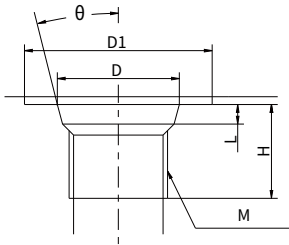


04

Port details

• HM4V 12

	Port Name	Port Size and Description
A B	Inlet port and Delivery port	G3/8 (depth 14mm)
DR1、DR2	Housing drain port	G1/4 (depth 12 mm)
PP	Two speed switch pilot oil port	G1/8 (depth 10 mm)

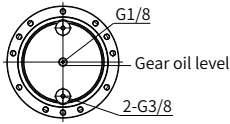


Special inch non - sealed pipe thread orifice details

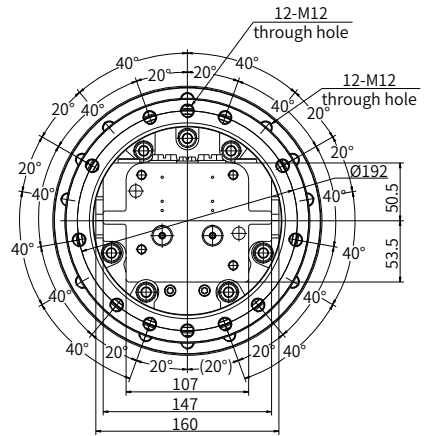
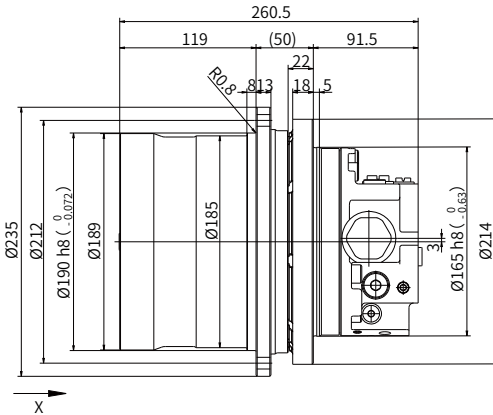
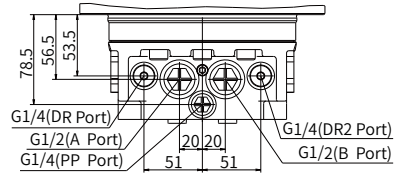
Port (M)	H	L	D	D1	θ
G1/4	12	2.5	Ø15.6	Ø24	15°
G1/2	17	2.5	Ø22.6	Ø34	15°
G1/8	10	2	Ø11.6	Ø18	15°

Installation size

· HM4V 21



Gear oil level
(Viewed from X)
1:4



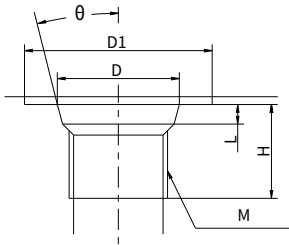
Inlet port	Outlet port	Rotation direction
B	A	Clockwise
A	B	Anti-clockwise

Note: The rotation direction is looked from the X end.

Port details

• HM4V 21

	Port Name	Port Size and Description
A	Inlet port and Delivery port	G1/2 (depth 17mm)
B		
DR1、DR2	Housing drain port	G1/4 (depth 12 mm)
PP	Two speed switch pilot oil port	G1/4 (depth 12 mm)

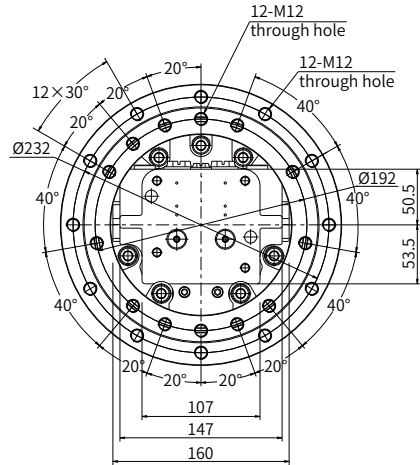
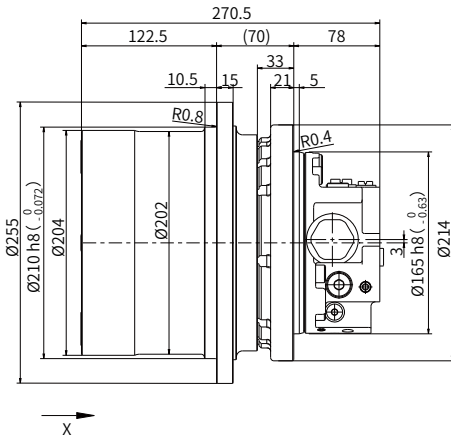
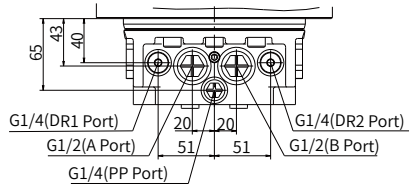
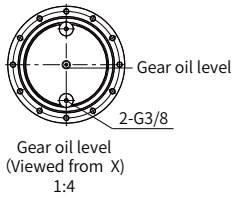


Special inch non - sealed pipe thread orifice details

Port (M)	H	L	D	D1	θ
G1/4	12	2.5	Ø15.6	Ø24	15°
G1/2	17	2.5	Ø22.6	Ø34	15°

Installation size

• HM4V 22



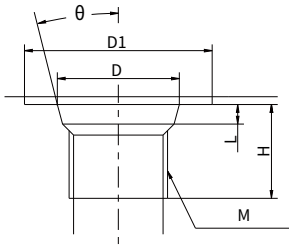
Inlet port	Outlet port	Rotation direction
B	A	Clockwise
A	B	Anti-clockwise

Note: The rotation direction is looked from the X end.

Port details

• HM4V 22

	Port Name	Port Size and Description
A	Inlet port and Delivery port	G1/2 (depth 17mm)
B		
DR1、DR2	Housing drain port	G1/4 (depth 12 mm)
PP	Two speed switch pilot oil port	G1/4 (depth 12 mm)

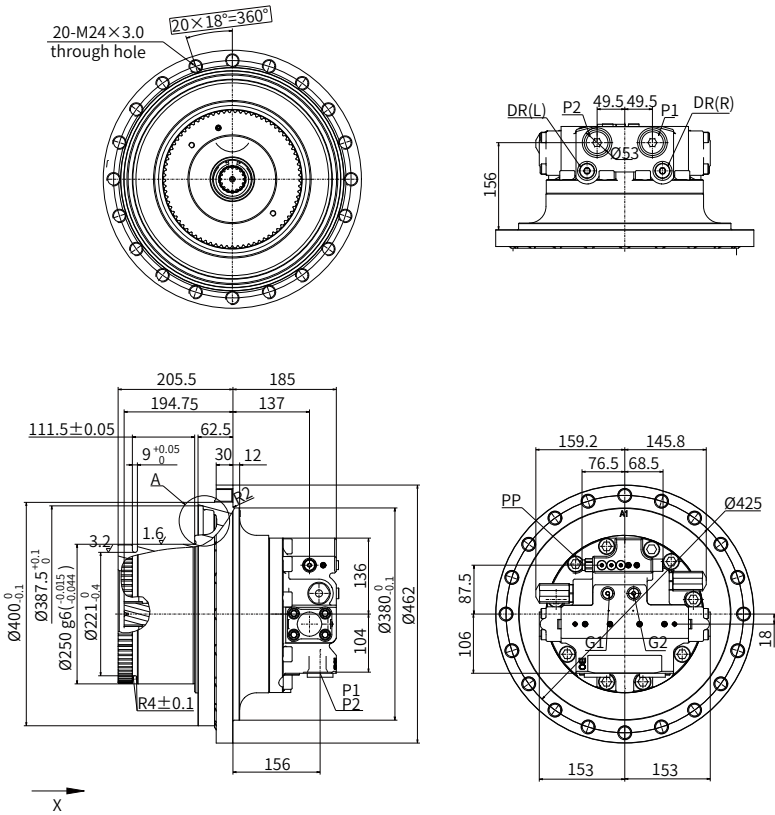


Special inch non - sealed pipe thread orifice details

Port (M)	H	L	D	D1	θ
G1/4	12	2.5	Ø15.6	Ø24	15°
G1/2	17	2.5	Ø22.6	Ø34	15°

Installation size

• HM4V 290



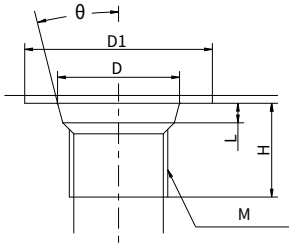
Inlet port	Outlet port	Rotation direction
P1	P2	Clockwise
P2	P1	Anti-clockwise

Note: The rotation direction is looked from the X end.

Port details

• HM4V 290

	Port Name	Port Size and Description
P ₁	Inlet port and Delivery port	G1 (depth 23 mm)
P ₂		
DRR、DRL	Housing drain port	G1/2 (depth 18 mm)
PP	Two speed switch pilot oil port	G1/4 (depth 15 mm)
G1、G2	Pressure Measuring	G1/4 (depth 15 mm)

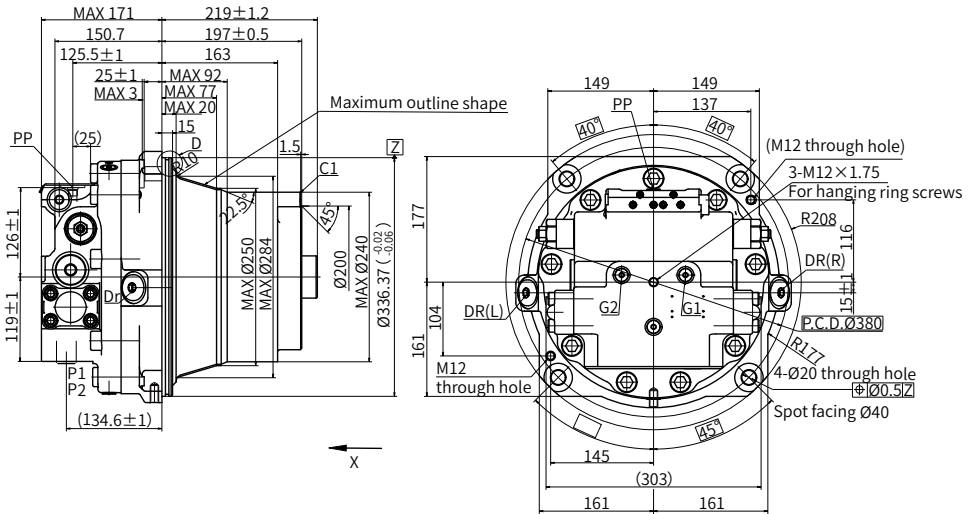
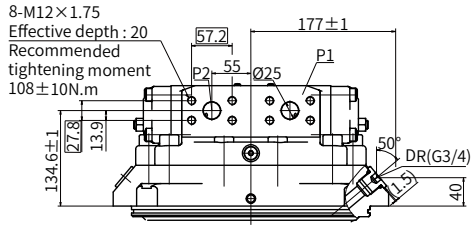
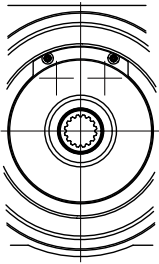


Special inch non - sealed pipe thread orifice details

Port (M)	H	L	D	D1	θ
G1	23	3.5	35.8	53	15
G1/2	18	2.5	22.6	34	15
G1/4-13	15	2.5	15.6	-	15
G1/4-13	15	2.5	15.6	24	15

Installation size

• HM4V 340



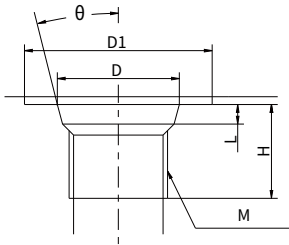
Inlet port	Outlet port	Rotation direction
B	A	Clockwise
A	B	Anti-clockwise

Note: The rotation direction is looked from the X end.

Port details

• HM4V 340

	Port Name	Port Size and Description
P ₁	Inlet port and Delivery port	SAE 1" (depth 17mm)
P ₂		
DRR、DRL	Housing drain port	G3/4 (depth 12 mm)
PP	Two speed switch pilot oil port	G1/4 (depth 15 mm)
G1、G2	Pressure Measuring	G1/4 (depth 12 mm)



Special inch non - sealed pipe thread orifice details

Port (M)	H	L	D	D1	θ
SAE 1"	-	-	-	-	-
G3/4-20	20	3.5	30.8	45	15
G1/4-13	15	2.5	15.6	24	15
G1/4-13	15	2.5	15.6	24	15

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