



3.1

## HM2F SERIES

### Bent-axial Piston Fixed Displacement Motor

HM2F series bent-axial piston fixed 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: 90  
Nominal pressure (bar): 400  
Max pressure (bar): 450



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### Features

- ◁ Higher pressure and higher speed
- ◁ High activation efficiency
- ◁ Optimized power-weight ratio
- ◁ High torque and long service life
- ◁ Superior performance in low speed operation provides excellent controllability
- ◁ Suitable for engineering machinery and general industrial vehicles

## Technical Data

Feature		90
Max. Displacement (cc/rev)		90.5
Direction of rotation		Clockwise, Counter clockwise
Rotation speed	Rated (rpm)	4500
	Max. (rpm)	5000
Rated pressure (bar)		400
Max. pressure (bar)		450
Theoretical output torque (N·m)		576 @ $\Delta P=400$ bar
Max. Flow (L/min)		407
Moment of inertia (kg·m <sup>2</sup> )		0.0058
Weight (kg)		24.7
Volume in the case (L)		0.65
Oil viscosity (mm <sup>2</sup> /s)		5 ~ 1600, Best range: 16~36
Oil temperature (°C)		-25 ~ 103
Oil cleanliness		ISO 4406 20/18/15

## Type Introduction

HM2F	90	N	W	V	N4	D0	B	N	N
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

### Product series

①	Bent-axial piston fixed displacement motor	HM2F
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### Displacement

②	Displacement (cc/rev)	90
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### Thread type of ports

③	Thread type of A/B port and T1/T2 port	UNC threads	A
		Metric threads	N

### Direction of rotation

④	Clockwise, Counter clockwise	W
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### Seals

⑤	FKM (Viton rubber: DIN ISO 1629)	V
	NBR (Nitrile rubber :DIN ISO 1629)	N

### Mounting flange

⑥	140-4 ISO 3019-2	N4
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## Type Introduction

### Input shaft

⑦	W40×2×18×9g DIN 5480	D0
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### Port position

⑧	Bottom	B
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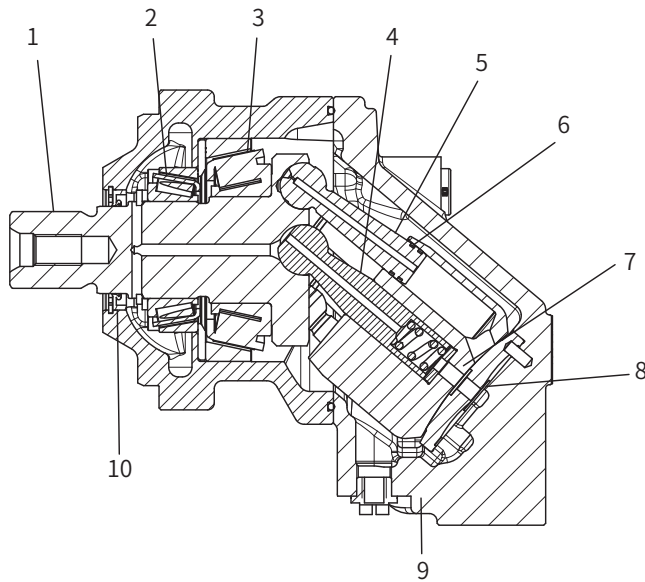
### Control

⑨	With	S
	Without	N

### Speed sensor

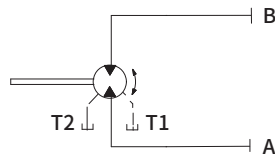
⑩	With	S
	Without	N

### Section view



- |                                  |                   |
|----------------------------------|-------------------|
| 1. Output shaft                  | 6. Sealing ring   |
| 2. Tapered roller bearing(small) | 7. Cylinder block |
| 3. Tapered roller bearing(large) | 8. Valve plate    |
| 4. Centering journal             | 9. End cap        |
| 5. Piston                        | 10. Oil seal      |

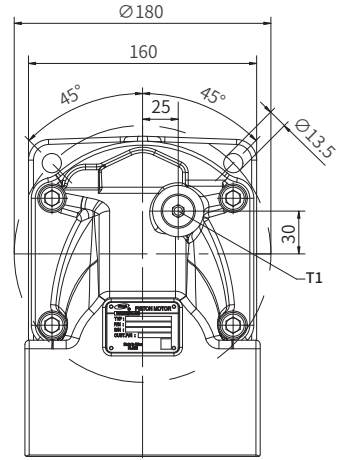
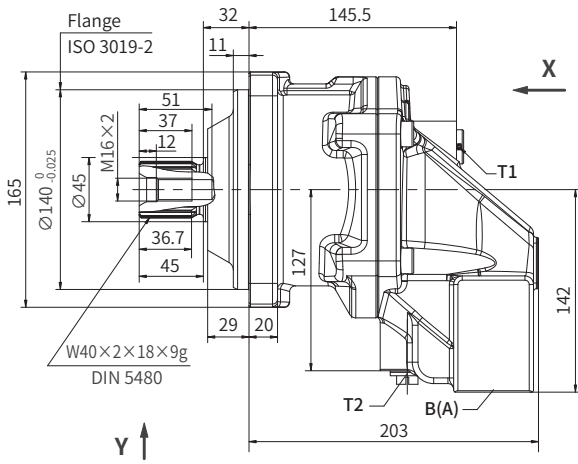
### Principle



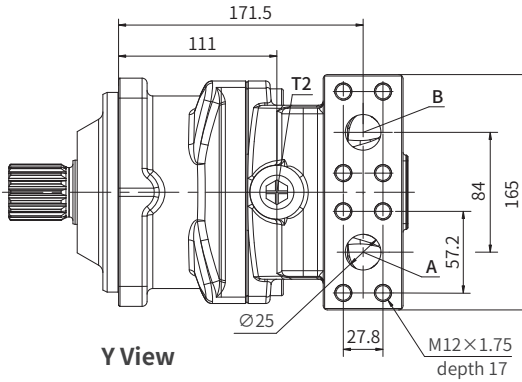
03

# Installation size

## HM2F 90 Installation size



X View



Y View

## Installation size

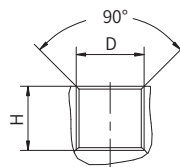
### • HM2F 90 Direction of rotation and oil flow direction

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

### • HM2F 90 Port details

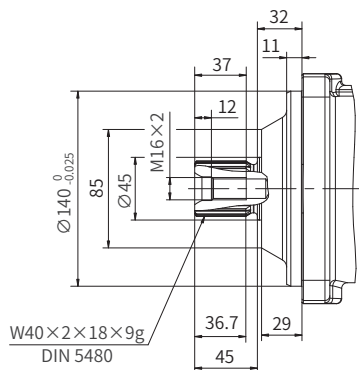
	Port name	Port size and description	Tightening torque (N·m)
A、 B	Inlet port and Delivery port	SAE J518 DIN 13 1" M12×1.75 (depth 17mm)	130
T1、 T2	Case drain port	DIN 3852 M18×1.5 (depth 12mm)	60

Port	H	D	M
T1	17	∅ 18	M18×1.5
T2	17	∅ 18	M18×1.5



### • HM2F 90 Input shaft type

“A1” type shaft



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