3.4

M70F(E) SERIES

Swash-plate Type
Axial Piston Fixed Displacement Motor

M70F(E) series swash plate axial piston motor is a kind of fxed displacement motor with wide application for open and closed circuit. The swashplate design allows a compact motor with high power density. This series is applicable to farm machinery, construction machinery and industrial vehicles.

Apply to open and closed hydraulic circuit

Size	45	55	63	65	75	85	100	130
Rated pressure (bar)	280/345	400	400	280	400	400	400	400
Maximum pressure(bar)	350/415	450	450	350	450	450	450	450

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Features

- **High speed operation and smooth starting characteristics:**
  Optimized rotary balance design high-speed performance and excellent starting characteristics.
- **Low speed operation:**
  Superior performance in low speed operation provides excellent controllability.
- **Compact size:**
  Swash plate conguration enables the motor to be much more compact.
- **Long bearing life:**
  Swash plate conguration results in longer bearing life.

Technical Data

The data in the above table is the theoretical value.

Type introduction

Product series

Size

	Size	45	55	63	65	75	85	100	130	63

Specifications and positions of the inlet and outlet ports

Type introduction

Thread connection type (except inlet and thread type of Flange Port)

Port type M70F)	45		63		75	85	100	130	Code
UNC port, ISO 11926	●		●		●	●	●	●	A
Metric port,ISO 6149			●		●	●	●		M
Metric port,DIN 3852			●		●	●	●		E
BSPPG thread, JIS B2351	●		●		●	●	●		G
Port type M70FE)	45	55		65					Code
UNC port, ISO 11926	●	●		●					A

Thread type of Flange Port

Thread speci f cation M70F)	45		63		75	85	100	130	Code
UNC threads (only for UNC port)	●		●		●	●	●		A
Metric thread			●		●	●	●	●	M
BSPPG thread, JIS B2351	●								G
Thread speci f cation (M70FE)	45	55		65					Code
UNC threads (only for UNC port)		●							A
Metric thread	●			●					M

Input Shaft

Standard M70F)	Size	45		63		75	85	100	130	Code
ANSI B92.1	1 1/2 in 17T 12/24DP									1
	1 3/4 in 13T 8/16DP									2
	2 in 15T 8/16DP									3
	1 3/8 in 21T 16/32DP					●	●	●		4
	1 1/4 in 14T 12/24DP						●			5
	23T 16/32DP					●	●	●		A
	13T 16/32DP	●								H
	15T 16/32DP	●								J
DIN 5480	W30 × 2 × 14 × 9g	●								G
	W35 × 2 × 16 × 9g			●						6
	W40 × 2 × 18 × 9g									7
	W45 × 2 × 21 × 9g									8
	W50 × 2 × 24 × 9g									9
SAE J498B	27T 16/32DP								●	B
Straight shaft shaft diameter 34		●								K
Standard (M70FE)	Size	45	55		65					Code
ANSI B92.1	1 1/4 in 14T 12/24DP		●							5
Taper 125 1000		●			●					D

Type introduction

Mounting flange

	Mounting fange M70F)	45		63		75	85	100	130	Code
	SAE J744 127-4			●		●	●	●		L2
	SAE J744 152-4								●	L3
	SAE J744 101.6-2	●								L4
	Special 2-Hole 127-2	●								L6
	Mounting fange(M70FE)	45	55		65					Code
	Special 2-Hole 135-2	●			●					L1
	Special 2-Hole 160-2		●							L5

Flushing flow（L/min）

	Standard version							N
	Special version	Withou fush valve **Only** M70F45、M70FE55、M70F75、M70F85、M70F100、M70F130）	Flushing fow	Code	Flushing fow	Code	Opening pressure 16bar, di ferential pressure ΔP=25bar	
			3.5	A	20	G		
			5	B	25	H		
			8	C	30	I		
			10	D	35	J		
			14	E	40	K		
			17	F				

Speed sensor

	Without speed sensor	N
	With speed sensor (supply voltage 4.5~8VDC)*	M
	With speed sensor (supply voltage 8~32VDC)*	P
	Installation of reserved speed sensor*	A

Note: " * " only the M70FE55 is available

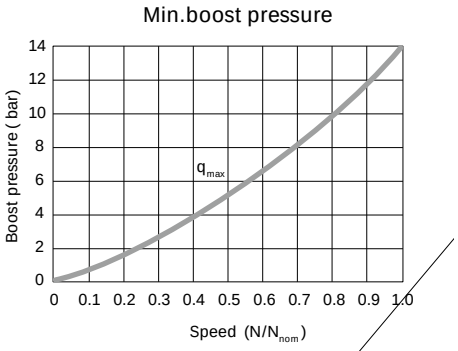
Please refer to page 7/26 for speci fc parameters of the speed sensor.

Remark ● = Available ○ = On request

Min.boost pressure

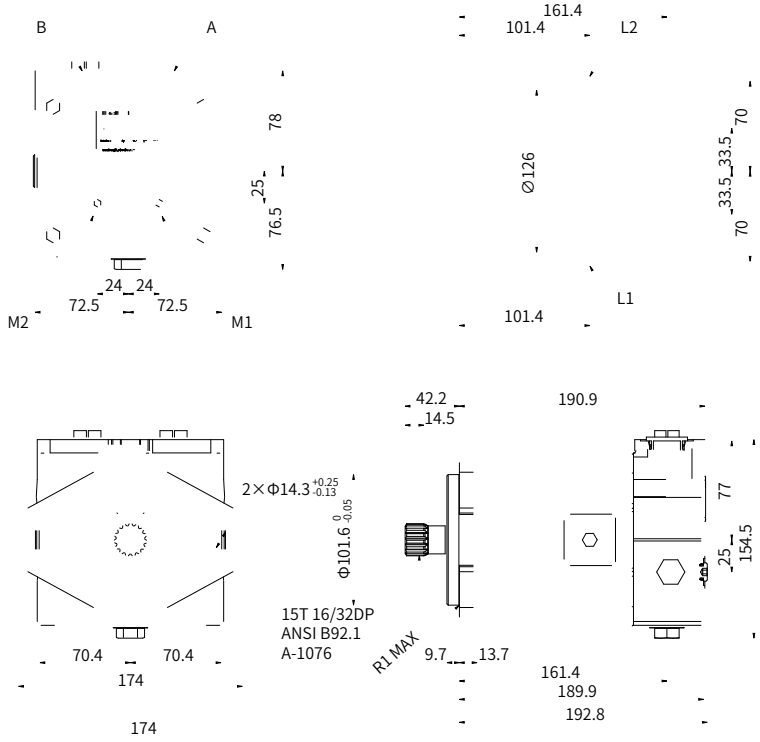
To prevent cavitation when the motor is operating in a pumping mode, a positive pressure is required at the suction port.

The figure above shows the minimum boost pressure requirement based on regular operation. In case of a rapid change of the flow, more boost pressure must be applied.



Installation size

M70F 45 Installation size



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

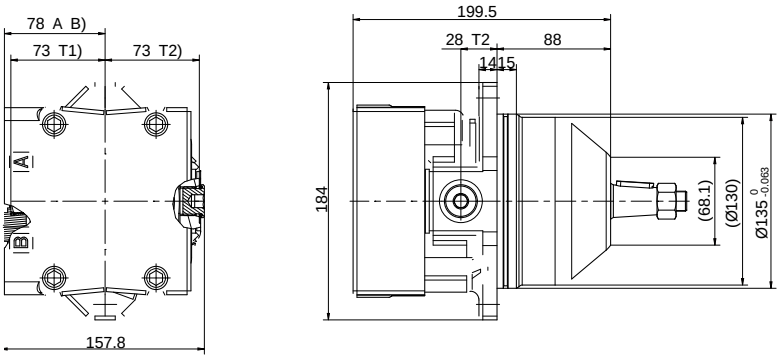
Note: The rotation direction is looked from the shaft end.

Installation size

·Drain port ,pressure measuring port , inlet port and outlet port

Installation size

M70FE 45 Installation size



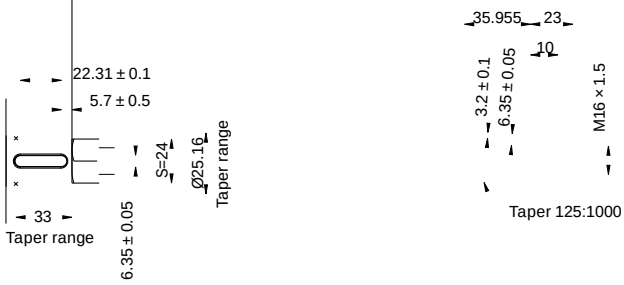
Control and Flow		Oil direction	
		Oil port A	Oil port B
Rotation direction	Clockwise rotution	Out	Inlet
	Counter clockwise rotution	Inlet	Out

Installation size

· M70FE 45 Port details

	Port name	Port size and description
A, B	Inlet port and Delivery port	SAE J518 3/4″ M10
TI, T2	Case drain port	ISO 11926 7/8-14 UNF-2B

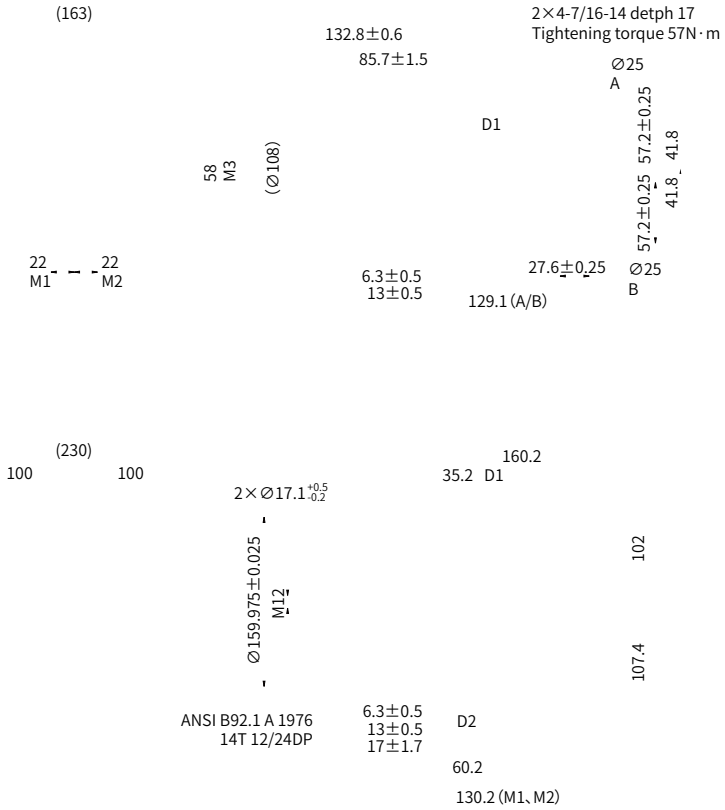
· M70FE 45 Input shaft type



"D" type shaft

Installation size

M70FE 55 Installation size



Control and Flow		Oil direction	
		Oil port A	Oil port B
Rotation direction	Clockwise rotution	Out	Inlet
	Counter clockwise rotution	Inlet	Out

Installation size

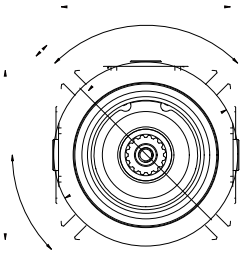
· M70FE 55 Port details

T1, T2 Port Details

Port details

Installation size

M70F 63 Installation size



Installation size

·Drain port and gauge port

Parallel piping thread type (Code : G)

Metric thread type (Code : M)

ANSI thread type (Code : A)

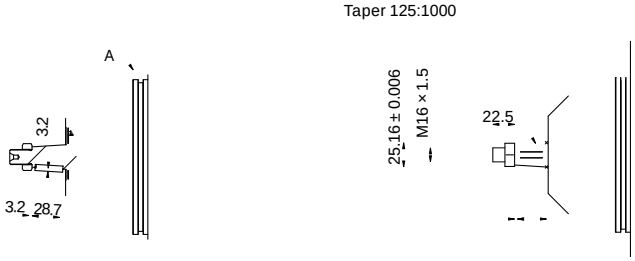
·Port details

Installation size

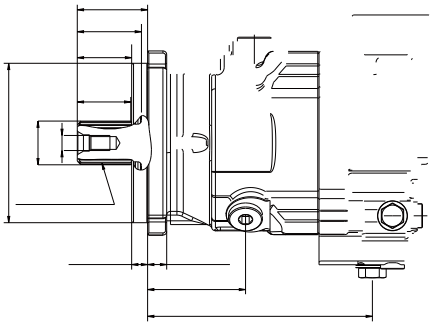
· M70FE 65 Port details

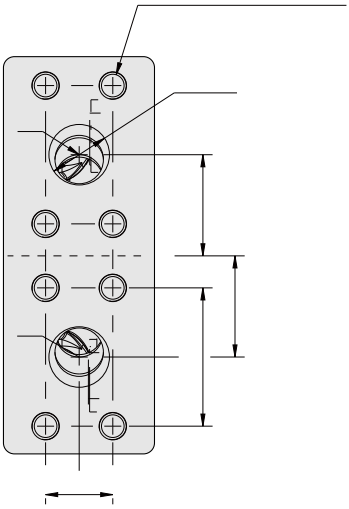
	Port name	Port size and description
A, B	Inlet port and Delivery port	SAE J518 3/4″ M10
TI, T2	Case drain port	ISO 11926 7/8-14 UNF-2B

· M70FE 65 Input shaft type



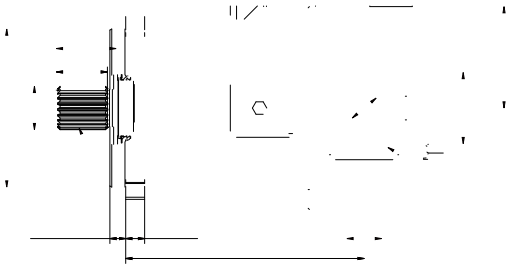
“D” type shaft





Installation size

M70F 85 Installation size



Installation size

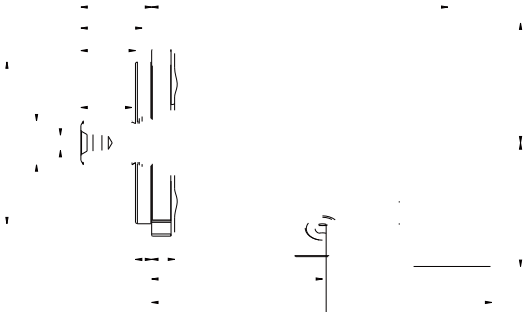
·Drain port and gauge port

·Port details

Installation size

M70F 100 Installation size

working ports A and B, at bottom



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

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

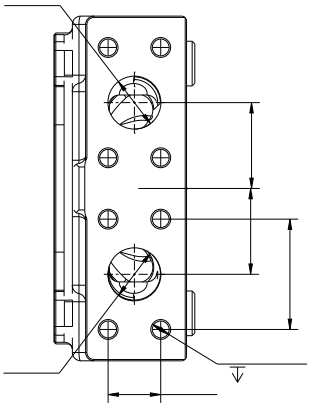
Installation size

·Drain port and gauge port

Installation size

·Drain port and gauge port

ANSI thread type (Code : A)



4 Motor (Variable)

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