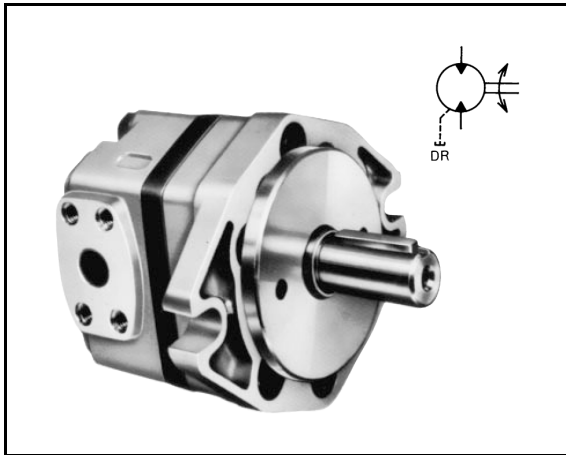


INTERNAL GEAR MOTOR (TCM-* SERIES)



Two gears meshing in the casing are rotated continuously by the fluid flowing into the casing to develop torque on the output shaft.

FEATURES

1. Low noise
 2. Contains only a few component parts made for easy maintenance.
 3. High-speed operation is possible while developing stable torque over the low to high speed range.
 4. The operating direction is reversible.
- The drain pipe must be returned directly to the reservoir.
 - (Drain back pressure: 0.2 MPa max.)
 - The permissible operating ambient temperature range is from 0 to 60°C.
 - The pump can be used for R&O type and abrasion-resistant type hydraulic fluid applications.
 - The hydraulic fluid used must be equivalent to ISO VG32 or ISO VG46.
 - The permissible viscosity range of the hydraulic fluid to be used is 300 to 15 mm²/sec. However, it is advisable to use a hydraulic fluid with a viscosity of around 30 mm²/sec.
 - The permissible motor shaft to driven machinery coupling error is as below:
Parallelism: 0.05 mm max.
Angular error: 0.5 deg. max.
 - When water-glycol fluid is used, specify "G" at the end of model designation. In this case, the maximum speed is 1,200 min⁻¹. Please consult us about the applicable brand of water-glycol fluid.
 - Use a flexible coupling for connecting a shaft in the manner radial and thrust load will not be exerted to the pump shaft. Do not apply shock to the pump shaft by tapping the shaft end when mounting/removing a coupling or a pump. Inadequate shock will cause seizure of pump and short pump life.

SPECIFICATIONS

Model		Nominal Displacement	Displacement (cm ³ /rev)	Pressure (MPa)		Output Shaft Torque (at Rated Pressure) (N-m)	Speed (min ⁻¹)	
Foot-mount Type	Flange-mount Type			Rating	Max.		Max.	Min.
TCM2-L5-M1-A	TCM2-F5-M1-A	5	5.5	17.5	21	14	4,000	200
TCM2-L6.3-M1-A	TCM2-F6.3-M1-A	6.3	6.9			17		
TCM2-L8-M1-A	TCM2-F8-M1-A	8	8.8			21		
TCM2-L10-M1-A	TCM2-F10-M1-A	10	11.0			27		
TCM3-L12.5-M1	TCM3-F12.5-M1	12.5	13.7	17.5	21	35	3,000	200
TCM3-L16-M1	TCM3-F16-M1	16	17.3			44		
TCM3-L20-M1	TCM3-F20-M1	20	22.1			55		
TCM3-L25-M1	TCM3-F25-M1	25	27.4			69		
TCM4-L31.5-M1	TCM4-F31.5-M1	31.5	35.2	17.5	21	86	3,000	200
TCM4-L40-M1	TCM4-F40-M1	40	44.9			110		
TCM4-L50-M1	TCM4-F50-M1	50	54.6			136		
TCM5-L63-M1-A	TCM5-F63-M1-A	63	62.2			17.5		
TCM5-L80-M1-A	TCM5-F80-M1-A	80	79.3	215				
TCM5-L100-M1-A	TCM5-F100-M1-A	100	99.1	269				
TCM5-L125-M1-A	TCM5-F125-M1-A	125	127.5	339				

37 mm²/s

PIPING FLANGE

Specify the flange separately by selecting one from the following table.

Name		For TCM2	For TCM3	For TCM4	For TCM5
Type	For Thread Type	FTCP-04PT	FTCP-06PT	FTCP-08PT	FTCP-12PT
	For Welding Type	FTCP-04WE	FTCP-06WE	FTCP-08WE	FTCP-12WE

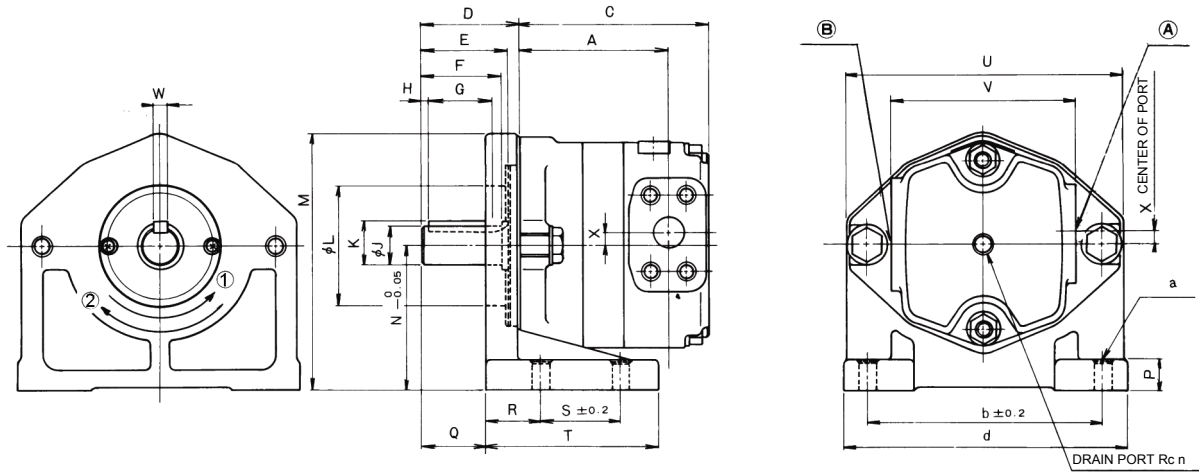
NOTE 1: The flange comes with bolts and an O-ring.

NOTE 2: For the flange dimensions, refer to page 33.

NOTE 3: The inlet piping flange size and the outlet piping flange size are the same.

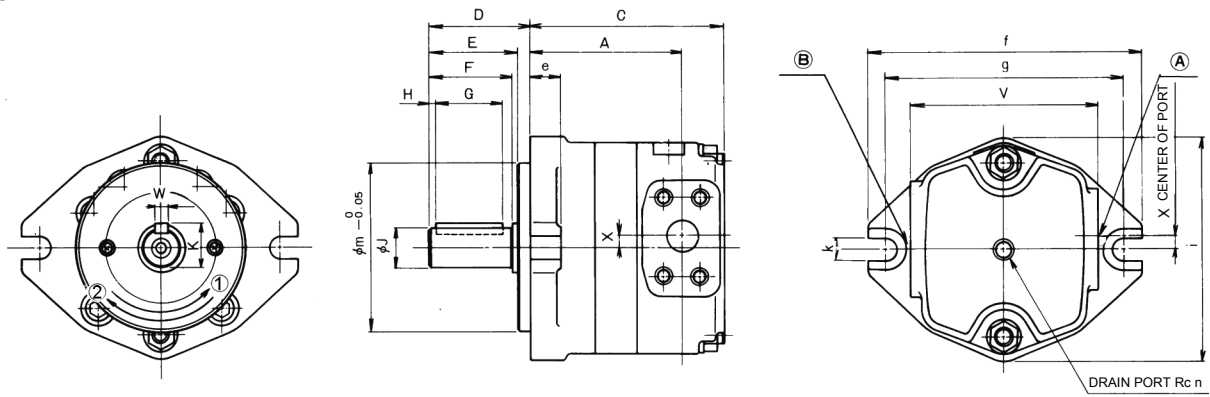
EXTERNAL DIMENSIONS

● TCM*-L*-M1-*



WHEN INLET IS ①, DIRECTION OF ROTATION IS ①.
WHEN INLET IS ②, DIRECTION OF ROTATION IS ②.

● TCM*-F*-M1-*



DIMENSION TABLE

Type	TCM2				TCM3				TCM4			TCM5			
	5	6.3	8	10	12.5	16	20	25	31.5	40	50	63	80	100	125
Displacement (cm ³ /rev)	5	6.3	8	10	12.5	16	20	25	31.5	40	50	63	80	100	125
A	64	66.5	70	74	81	84.5	89	94	109	114.5	120	123	129	136	146
C	85	87.5	91	95	106	109.5	114	119	146	151.5	157	162	168	175	185
D	44.5				61.5				86			94			
E	37				53.5				76			82			
F	35.5				49.5				73			80			
G	30				40				61			61			
H	2				3.5				5			8			
J	19.05 ⁰ _{-0.021}				24 ^{+0.009} _{-0.004}				32 ^{+0.011} _{-0.005}			38 ^{+0.011} _{-0.005}			
K	21.25				27				35			41			
L	65				75				90			115			
M	125				162				204.5			258.2			
N	69.8				92.1				109.5			139.7			
P	15				20				20			26			
Q	29.5				39.5				64			68			
R	28.5				35				40			45			
S	50.8				50.8				76.2			139.7			
T	96				110				150			210			
U	129				172				209			272			
V	87				115				155			200			
W	4.76 ^{+0.024} _{+0.012}				8 ⁰ _{-0.036}				10 ⁰ _{-0.036}			10 ⁰ _{-0.036}			
X	10				8				8			0			
Y	11				11				18			20			
a	127				146				235			295.3			
d	155				176				276			338			
e	14.5				18.5				20			34			
f	125				168				205			268			
g	106				146				181			229			
i	106				136				186			233			
k	11				14				18			22			
m	82.55				101.6				126.95			152.35			
n	1/4				1/4				3/8			1/2			

MASS TABLE

Model	Mass (kg)	
	F-type	L-type
TCM2-*5-M1-A	2.4	4.5
TCM2-*6.3-M1-A	2.5	4.6
TCM2-*8-M1-A	2.6	4.7
TCM2-*10-M1-A	2.8	4.9
TCM3-*12.5-M1	4.9	9.4
TCM3-*16-M1	5.2	9.7
TCM3-*20-M1	5.5	10.0
TCM3-*25-M1	5.9	10.4
TCM4-*31.5-M1	12.3	19.7
TCM4-*40-M1	13.1	20.5
TCM4-*50-M1	13.9	21.3
TCM5-*63-M1-A	22.2	39.2
TCM5-*80-M1-A	23.9	40.9
TCM5-*100-M1-A	25.6	42.6
TCM5-*125-M1-A	27.8	44.8