

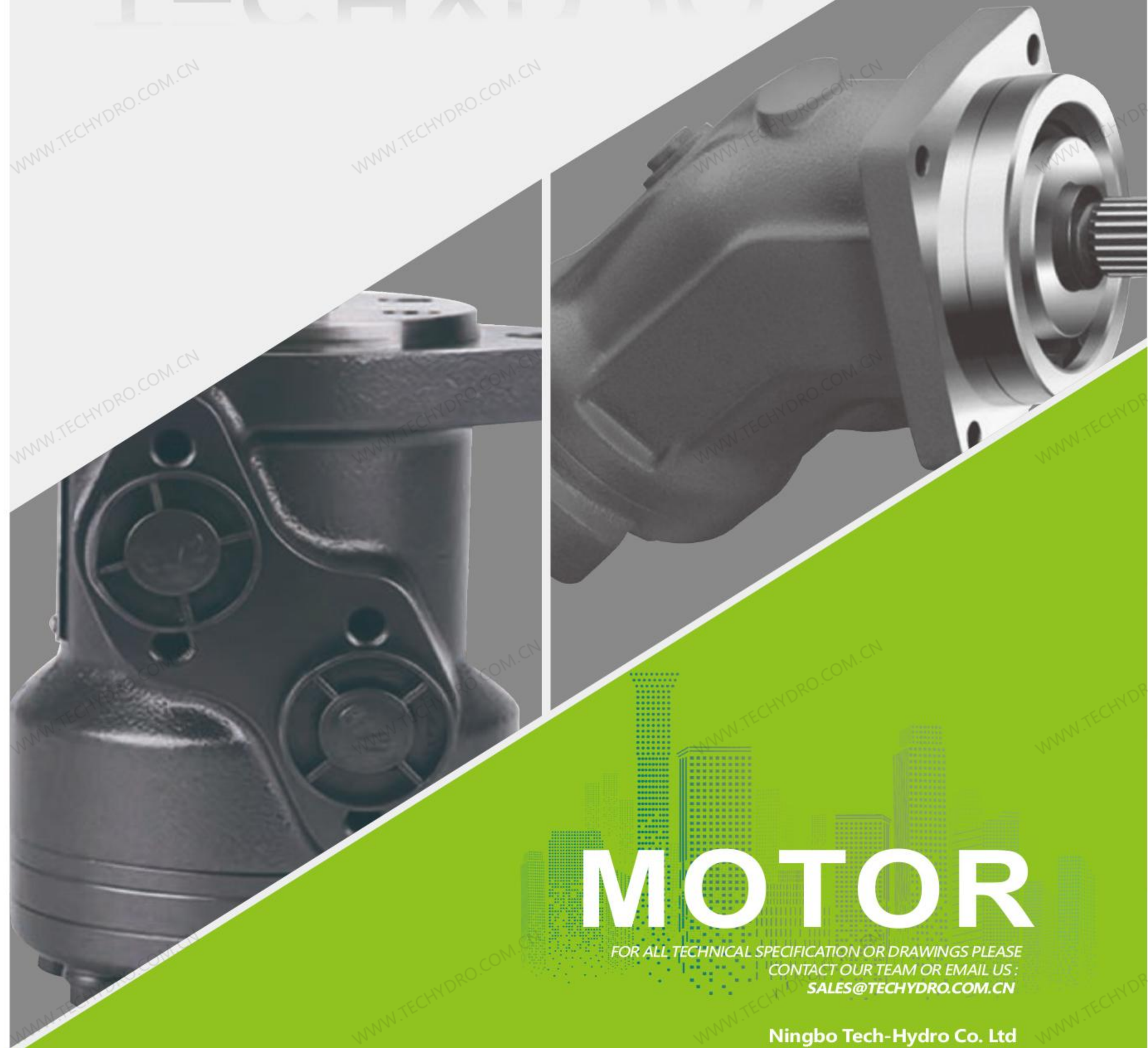


TECHYDRO

☎ +86-15869517019
✉ SALES@techhydro.com.cn
🌐 WWW.TECHYDRO.COM.CN
💬 whatsapp/Wechat: +86-15869517019
☎ TEL: +86(0574) -87021030

TECHYDRO

WWW.TECHYDRO.COM.CN



MOTOR

FOR ALL TECHNICAL SPECIFICATION OR DRAWINGS PLEASE
CONTACT OUR TEAM OR EMAIL US:
SALES@TECHYDRO.COM.CN

Ningbo Tech-Hydro Co. Ltd

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※ All original manufacturers' names, part numbers and description are for reference purposes only and it doesn't imply that any Part listed is the product of these manufacturers.

TECHYDRO

PISTON MOTOR



TH-A6VM-REXROTH

TH-A6VM

01 02 03 04 / 63 W - V 05 06 07 08 09 10 11

Size

01	≈ Displacement Vg max	in ³ / rev	1.71	3.34	4.88	6.53	8.54	9.76	12.20
		in cm ³ / rev	28	55	80	107	140	160	200

Control device

			28	55	80	107	140	160	200
02	HD1	Hydraulic control, pilot-pressure related	Δp = 145 psi (10 bar)		●	●	●	●	●
	HD2		Δp = 365 psi (25 bar)		●	●	●	●	●
	HD3		Δp = 510 psi (35 bar)		—	—	—	—	—
	HZ	Hydraulic two-point control			—	—	—	—	—
	HZ1				●	—	—	—	—
	HZ3				—	●	●	—	—
	EP1	Electric control, proportional	12V		●	●	●	●	●
	EP2		24V		●	●	●	●	●
	EZ1		12V		●	—	—	—	—
	EZ2	Electric two-point control	24V		●	—	—	—	—
	EZ3		12V		—	●	●	—	—
	EZ4		24V		—	●	●	—	—
	HA1	Automatic control, high-pressure related	Without pressure increase		●	●	●	●	●
	HA2		With pressure increase Δp = 1450 psi (100 bar)		●	●	●	●	●
	DA	Hydraulic control, speed related	pSt /pHD = 3/100,	Hydraulic travel direction valve	12V	—	—	—	—
	DA1		pSt /pHD = 5/100,	Hydraulic travel direction valve	24V	●	●	●	●
	DA2				12V	●	●	●	●
	DA3				24V	●	●	●	●
	DA4		pSt /pHD = 8/100,	Hydraulic travel direction valve		●	●	●	●
	DA5				12V	●	●	●	●
	DA6				24V	●	●	●	●

Pressure control (only for HD, EP)

			28	55	80	107	140	160	200
03		Without pressure control (without code)	●	●	●	●	●	●	●
	D	Pressure control,	Direct		●	●	●	●	●
	E		Direct, with 2nd pressure setting		●	●	●	●	●
	G		Remote		—	—	—	—	—

Overriding HA control (for HA1, HA2 only)

			28	55	80	107	140	160	200
04		Without override (without code)	●	●	●	●	●	●	●
	T	Pressure control,			●	●	●	●	●
	U1		12V		●	●	●	●	●
	U2		24V		●	●	●	●	●
	DA6V	Electric override + electric travel direction valve	12V/24V		●	●	●	●	●

Series

05	63	Series 6, index 3
----	----	-------------------

TH-A6VM-REXROTH

TH-A6VM / 63 W - V
01 02 03 04 05 06 07 08 09 10 11

Direction of rotation

06	W	Viewed from shaft end, alternating
----	---	------------------------------------

Setting range for displacement

		28	55	80	107	140	160	200
07	Vg min = 0 to 0.7 Vg max (without code)	●	●	●	●	●	●	●
1	Vg min = 0 to 0.4 Vg max	—	—	—	—	—	—	—
2	Vg min > 0.4 Vg max to 0.8 Vg max	—	—	—	—	—	—	—

Seals

08	V	FKM (fluor-caoutchouc)
----	---	------------------------

Shaft end

		28	55	80	107	140	160	200
09	S	Version SAE	Splined shaft ANSI B92.1a-1976	—	●	●	—	●
	A	Version ISO	Splined shaft DIN 5480	●	●	●	—	●
	Z			●	●	●	●	—

Mounting flange

		28	55	80	107	140	160	200
10	C	Version SAE	SAE J744 – 2-bolt	—	●	●	—	●
	D		SAE J744 – 4-bolt	●	—	—	—	—
	B	Version ISO	ISO 3019-2 – 4-hole	●	●	●	●	●

Service line port

		28	55	80	107	140	160	200
11	510	Version SAE (AA6VM)	SAE flange ports	51	—	●	●	—
	517		A/B, rear (UN threads)	—	●	●	—	●
	520		SAE flange ports	52	—	●	●	—
	527		A/B side, opposite (UN threads)	—	●	●	—	●
	370		Port plate with pressure-relief valves,	37	—	—	—	—
	380		For mounting a counterbalance valve	38	—	●	●	—
	010	Version ISO (A6VM)	SAE flange ports	01	●	●	●	—
	017		A/B, rear (metric threads)	—	●	●	—	●
	020	Electric two-point control	SAE flange ports	02	●	●	●	—
	027		A/B side, opposite (metrics threads)	—	●	●	—	●



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TH-A2FO-REXROTH

TH-A2F 0 16 / 6 1 R V - A B 06
01 02 03 04 05 06 07 08 09

01 Operating mode

M = Motor

02 Displacement

Vg max, unit cm³
= 5, 10, 12, 16, 23, 28, 32, 45, 56,
63, 80, 90, 107, 125, 160, 180, 200

03 Series 6

04 Index

1 = NG10 to 180
3 = NG200

05 Directions of rotation

R = clockwise
L = counter-clockwise
W = Bi-rotation(motor)

06 Seals

N = NBR (nitrile butadiene rubber),
FKM rotary shaft seal (Viton)

V = FKM (Fluorocarbon)

07 Drive shafts

	5	10	12	16	23	28	32	45	56	63	80	90	107	125	160	180	200
Splined shaft DIN 5480	—	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—
Parallel keyed shaft DIN 6885	●	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—
Conical shaft 1)	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

1) Conical shaft with threaded pin and woodruff key (DIN 6888).
The torque must be transmitted via the tapered press fit.

08 Mounting flanges

	5 to 250
ISO 3019-2 4-hole	● B

09 Port plates for service lines 2)

	5	10 to 16	23 to 250
SAE flange port A/B at side and SAE flange port S at rear	—	—	● 05
Threaded port A/B at side and threaded port S at rear	—	●	— 06
Threaded ports A/B and S at side	●	—	— 07

2) Fastening thread or threaded ports, metric.

● = Available ○ = On request — = Not available ■ = Preferred program

TH-MF SERIES-DANFOSS

TH-MF 20 A B A 11 35 35 000
01 02 03 04 05 06 07 08

01 Displacement

Displacement cm³/r (in³/r)
20, 21, 22, 23, 24, 25, 26, 27

02 Shaft

A = 14t, 12/24 Pitch, Ø31.20 (1.23")
B = 19t, 16/32 Pitch, Ø31.75 (1.25")
C = 21t, 16/32 Pitch, Ø34.50 (1.36")
D = 23t, 16/32 Pitch, Ø37.68 (1.48")
E = 27t, 16/32 Pitch, Ø44.03 (1.73")
F = 40t, 16/32 Pitch, Ø64.66 (2.55")
G = 3t, 8/16 Pitch, Ø43.71 (1.72")
I = 20t, 16/32 Pitch, Ø32.91 (1.30")
J = Cone 1:8, SAE J501, Ø41.27 (1.62")
K = Cone 1:8, SAE J501, Ø31.75 (1.25")
L = Parallel with Key, Ø34.925 (1.38")
M = Parallel with Key, Ø34.925 (1.38")
P = 15t, 16/32 Pitch, Ø25.40 (1.00")
R = 13t, 16/32 Pitch, Ø21.80 (0.86")

03 Ports

A = SAE J518c, Code 62, Size 1", 6000psi 7/16"-14UNC-2A
B = SAE J518c, Code 61, Size 1", 5000psi 3/8"-16UNC-2A
C = ISO 6162, DN25, Type II, 40 MPa M12
D = SAE J518c, Code 62, Size 3/4", 6000psi 3/8"-16UNC-2B
E = SAE J518c, Code 61, Size 3/4", 5000psi 3/8"-16UNC-2B
F = ISO 6162, DN19, Type II, 40 MPa M10

04 Manifold Assembly

A = Manifold Assembly with Bypass Valve
B = Manifold Assembly without Bypass Valve
C = Without Manifold Assembly with Cover Plate
N = Without Manifold Assembly

05 Pressure Setting of Valve in Manifold Assembly

11 = 1.1 MPa (1.1±0.05 MPa at 3.8 dm³/min)
13 = 1.3 MPa (1.3±0.05 MPa at 3.8 dm³/min)
16 = 1.6 MPa (1.6±0.05 MPa at 3.8 dm³/min)
00 = Without Manifold Assembly

06 Pressure Setting in Port A

11 = 11 MPa (1600)
14 = 14 MPa (2050)
35 = 35 MPa (5000)
40 = 40 MPa (5500)
42 = 42 MPa (6000)
00 = Without Pressure Valve

07 Pressure Setting in Port B

11 = 11 MPa (1600)
14 = 14 MPa (2050)
35 = 35 MPa (5000)
40 = 40 MPa (5500)
42 = 42 MPa (6000)
00 = Without Pressure Valve

08 Design Code

000 = Standard
XXX = Special Production Number



TH-M PARKER

Control & Displacement Features Shuttle Valve Features External Drive External Mounting Special Modifications

11

12

13

14

15

11

Control	Code	Control Feature
2M	0	CETOP3, NG6 Valve, 110AC/60Hz with Hirschmann Connector ¹
	1	CETOP3, NG6 Valve, 12VDC with Hirschmann Connector ¹
	2	CETOP3, NG6 Valve, 240VAC/50Hz with Hirschmann Connector ¹
	3	CETOP3, NG6 Valve, 110VAC/60Hz, Wiring Box ¹
	4	CETOP3, NG6 Valve, 12VDC, Wiring Box ¹
	5	CETOP3 (D03, NG6) Interface, No Valve ¹
	6	CETOP3, NG6 Valve, 24VDC with Hirschmann Connector ¹
5A	7	CETOP3, NG6 Valve, 110VAC/50Hz with Hirschmann Connector ¹
	0	With Deadband ¹
8A	1	Without Deadband ¹
	0	75-250 PSI (5-17 Bar)
9A	1	250-450 PSI (17-31 Bar)
	0	24VDC ¹
All Other	1	12VDC ¹
	0	None
Motor	Code	Reduced Displacement
M*F M*G M*N	0	Standard Cam (19°)
	1	M6 with 17° Cam – 5.3 in ³ /rev (87cc/rev)
		M7 with 17° Cam – 6.4 in ³ /rev (105 cc/rev)
		M8 with 17° Cam – 7.1 in ³ /rev (116 cc/rev)
		M11 with 17° Cam – 9.7 in ³ /rev (160 cc/rev)
		M14 with 17° Cam – 12.5 in ³ /rev (205 cc/rev)
	2	M24 with 17° Cam – 22.0 in ³ /rev (360 cc/rev)
		M30 with 17° Cam – 27.2 in ³ /rev (446 cc/rev)
		M6 with 15° Cam – 4.6 in ³ /rev (76 cc/rev)
		M7 with 15° Cam – 5.6 in ³ /rev (92 cc/rev)
	3	M8 with 15° Cam – 6.2 in ³ /rev (102 cc/rev)
		M11 with 15° Cam – 8.5 in ³ /rev (140 cc/rev)
		M14 with 15° Cam – 10.9 in ³ /rev (179 cc/rev)
		M6 with 13° Cam – 4.0 in ³ /rev (66 cc/rev)
		M7 with 13° Cam – 4.8 in ³ /rev (79 cc/rev)
		M8 with 13° Cam – 5.3 in ³ /rev (88 cc/rev)

12

Code	Shuttle Valve Features
Omit	M*F/M*V/R Motors only
0	Without Orifices
2	With Orifices

13

Code	External Drive
Omit	None (M*F/G/V/H units only)
-A	SAE-A (SAE 82-2) – M6, 7, 8, 11, 14M/N/R/L only
-B	SAE-B (SAE 101-2) – M6, 7, 8M/N/R/L SAE-B (SAE 101-2 & 101-4) – M11, 14, 24, 30M/N/R/L
-C	SAE-C (SAE 127-2) – M6, 7, 8M/N/R/L SAE-C (SAE 127-2 & 127-4) – M11, 14, 24, 30M/N/R/L
-D	SAE-D (SAE 152-4) – M11, 14, 24, 30M/N/R/L only
-E	SAE-E (SAE 165-4) – M11, 14, 24, 30M/N/R/L only
-F	SAE-F (SAE 177-4) – M24, 30M/N/R/L only
-M	Blanking Plate-less Coupling

14

Code	External Mounting
0	No External Motor Mounted
1	External Motor Mounted (must be separately specified) – Requires Special Modification “-M2”
2	ATEX Externally Mounted Motor

15

Code	Special Modifications
Omit	None
-NP	No Paint
-M2	Other Special Modification (example: bronze caged barrel bearing for low viscosity fluids, tandem motors, etc.)
-EX	ATEX APPROVED PUMP must consult engineering.



TH-HMV-LINDE



TH-HMV 210 E1 M 1 H I E F X 070 C 10 N X R X

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

01 DISPLACEMENT

055 - 54.8 cc/r (3.35 cir)
 075 - 75.9 cc/r (4.63 cir)
 105 - 105 cc/r (6.41 cir)
 135 - 135.6 cc/r (8.27 cir)
 135D - 2x135.6 cc/r (2x8.27 cir)
 165 - 165 cc/r (10.07 cir)
 210 - 210 cc/r (12.81 cir)

FRAME SIZE						
55	75	105	135	135D	165	210
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•

02 CONTROL TYPE

E1 - Electric Infinitely Variable Control.
 E2 - Electric Two Position Control. (2-Speed)
 E4 - Electric Infinitely Variable (E1) w/ Zero Displacement.
 H1 - Hydraulic Infinitely Variable Control.
 H2 - Hydraulic Two Position Control. (2-Speed)
 H4 - Hydraulic Infinitely Variable (H1) w/ Zero Displacement.
 EH1P - H1 Control w/ Pressure Override, & Electric Displacement Override. (Hydraulic Override Available.)
 EH1PB - H1 Control w/ Pressure Override, Electric Displ. Override & Electric Brake Pressure Shut off. (Hyd. Avail.)
 NOTE: E1, E2, H1, and H2 require an external servo supply pressure.

•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•

03 CONTROL RANGE

L - 8-14 bar (116-203 psi)
 M - 10-16 bar (145-232 psi)
 N - 4-16 bar (58-232 psi)
 X - Not Applicable (E2 and H2 Controls, Pos. 2)

•	•	•	•	•	•	•
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•	•	•	•	•	•	•
•	•	•	•	•	•	•

04 VOLTAGE

1 - 12 Volt DC
 (E1, E2, E4, EH1P, & EH1PB Controls Only.)
 2 - 24 Volt DC
 (E1, E2, E4, EH1P, & EH1PB Controls Only.)
 X - Not Applicable (H1, H2, or H4 Controls, Pos. 2)

Must Specify w/ Electric Controls.						
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•

05 CONNECTOR TYPE

A - AMP Junior-Timer
 (E1, E2, E4, EH1P, & EH1PB Controls Only.)
 H - Hirschmann
 (E1, E2, E4, EH1P, & EH1PB Controls Only.)
 X - Not Applicable (H1, H2, or H4 Controls, Pos. 2)

Must Specify w/ Electric Controls.						
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•

06 PORTING

D - Metric Straight Thread Flat Face Port (DIN 3852)
 I - Metric Straight Thread O-Ring Port (ISO 6149)
 NOTE: High Pressure Work Ports "A" and "B" are SAE Code 62 with Metric Threads (ISO 6162).

•	•	•	•	•	•	•
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•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•

07 MOUNTING

C - SAE C, 2-Bolt
 D - SAE D, 2-Bolt
 E - SAE E, 4-Bolt
 P - Plug-In

•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
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•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•

08 SHAFT

C - SAE C 14T, 12/24 dP
 D - SAE D 13T, 8/16 dP
 F - SAE F 15T, 8/16 dP
 H - ANSI 21T, 16/32 dP
 23T, 16/32 dP
 27T, 16/32 dP

All Shafts are ANSI B92.1						
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•



TH-HMV-LINDE

TH-HMV 210 E1 M 1 H I E F X 070 C 10 N X R X

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

09 MAX DISPLACEMENT

X - Standard Setting. Unit Not Destroyed.
 --- - Specify Setting in cc/rev.

1 cc/rev = 0.061 cir						
●	●	●	●	●	●	●
○	○	○	○	○	○	○

14 CROSSOVER RELIEF

X - Without High Pressure Crossover Relief
 --- - Specify setting in bar.
 (For P Only in Pos.11)

Specify Setting in BAR. (1 bar = 14.5 psi)						
●	●	●	●	●	●	●
○	○	○	○	○	○	○

10 MIN DISPLACEMENT

--- - Specify Setting in cc/rev.

1 cc/rev = 0.061 cir						
●	●	●	●	●	●	●

15 PORT ORIENTATION

A - Radial Ports (Side)
 B - Axial Ports (Rear)

●	●	●	●	●	●	●
○	○	○	○	○	○	○

11 PURGE / FLUSHING

B - Blocked
 C - Closed Loop (Purge Relief - 10 bar)
 O - Open Loop (Flow Control - 5 bar)
 P - Plain (Without purge)
 (Use with Cross Over Relief. Pos. 14)

○	○	○	○	○	○	○
●	●	●	●	●	●	●
●	●	●	●	●	●	●
●	●	●	●	●	●	●

16 COUNTER BALANCE VALVE

X - Without Counter Balance Valve
 T - Track Applications
 W - Wheel Applications
 H - Hoist Applications

DECELERATION VALVE						
●	●	●	●	●	●	●
-○	○	○	-	-	-	-
-○	○	○	-	-	-	-
-○	○	○	-	-	-	-

12 PURGE RELIEF

10 - 10 bar (145 psi) - (Closed Loop Only)
 14 - 14 bar (203 psi) - (Closed Loop Only)
 5 - 5 bar (73 psi) - (Open Loop)
 X - Without Purge Relief Valve

●	●	●	●	●	●	●
○	○	○	○	○	○	○
●/○	●/○	●/○	●/○	●/○	●/○	●/○
○	○	○	○	○	○	○

13 PURGE FLOW

N - Normal (Open Loop - ~4 lpm (~1 gpm),
 Closed Loop - ~10 lpm (~2.6 gpm))
 R - 50% Reduced (Closed Loop Only)
 X - None. (Only applies when
 "X - Without Purge Relief Valve" is selected in Pos. 12)

●	●	●	●	●	●	●
○	○	○	○	○	○	○
○	○	○	○	○	○	○

● = Standard
 ○ = Option
 c = Special, Consult Factory
 - = Not Available
 * = With Restriction(s)
 ▲ = In Development. Consult Factory.



TH-HMR-LINDE



TH-HMR 135 R B L X X 280 I D H X 045 P X X 420 A X

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18

01 DISPLACEMENT

055 - 54.7 cc/r (3.33 cir)
 075 - 75.9 cc/r (4.63 cir)
 105 - 105 cc/r (6.41 cir)
 135 - 135.6 cc/r (8.27 cir)
 165 - 165 cc/r (10.07 cir)

FRAME SIZE				
55	75	105	135	165
-	●	-	-	-
-	-	●	-	-
-	-	-	●	-
-	-	-	-	●

02 CONTROL

R - System Pressure Regulating Control
 L - Regulator for Two Position Control
 (Default to Max, Shift to Min.)
 H - Regulator for Two Position Control
 (Default to Min, Shift to Max.)

●	●	●	●	●
○	○	○	○	○
○	○	○	○	○

03 CONTROL OPTION

B - Bi-Directional Regulator Shuttle
 UA - Uni-Directional, Pressure Port
 "A" is Regulated
 UB - Uni-Directional, Pressure Port
 "B" is Regulated
 N - None (External Feed to Regulator)

●	●	●	●	●
○	○	○	○	○
○	○	○	○	○

04 DISPLACEMENT OVERRIDE

E - Electric (Specify Voltage in Pos.
 5 & Connector in Pos. 6)
 H - Hydraulic (High Pressure)
 L - Hydraulic (Low Pressure, 20-30
 bar (290-435 psi))
 P - Pneumatic X - Not Applicable

●	●	●	●	●
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○

05 VOLTAGE

1 - 12 Volt DC (E Displacement
 Override Only, Pos. 4)
 2 - 24 Volt DC (E Displacement
 Override Only, Pos. 4)
 X - Not Applicable (H, L, P, or X
 Displacement Override, Pos. 4)

●	●	●	●	●
○	○	○	○	○

06 CONNECTOR TYPE

A - AMP Junior-Timer (E Displacement
 Override Only, Pos. 4)
 H - Hirschmann (E Displacement
 Override Only, Pos. 4)
 X - Not Applicable (H, L, P, or X
 Displacement Override, Pos. 4)

○	○	○	○	○
●	●	●	●	●
○	○	○	○	○

07 REGULATION BEGIN

--- - Specify Setting in BAR.

1 bar = 14.5 psi				
●	●	●	●	●

08 PORTING

D - Metric Straight Thread Flat Face
 Port (DIN 3852)
 I - Metric Straight Thread O-Ring Port
 (ISO 6149)
 NOTE: High Pressure Work Ports "A" and
 "B" are SAE Code 62 with Metric Threads (ISO 6162).

●	●	●	●	▲
▲	▲	▲	▲	▲

09 MOUNTING

C - SAE C, 2-Bolt
 D - SAE D, 2-Bolt
 P - Plug-In

●	●	●	-	-
-	-	-	●	●
-	-	○	○	▲

10 SHAFT

C - SAE C 14T, 12/24 dP
 D - SAE D 13T, 8/16 dP
 H - ANSI 21T, 16/32 dP
 23T, 16/32 dP
 27T, 16/32 dP

All Shafts are ANSI B92.1				
●	○	-	-	-
-	-	○	○	●
○	●	-	-	-
-	-	●	-	-
-	-	-	●	▲



TH-HMR-LINDE

TH-HMR 135 R B L X X 280 I D H X 045 P X X 420 A X

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18



MAX DISPLACEMENT

X - Standard Setting. (Unit Not Destroyed.)
 --- Specify Setting in cc/rev.

1 cc/rev = 0.061 in ³
● ● ● ● ●
○ ○ ○ ○ ○



PORT ORIENTATION

A - Radial Ports (Side)
 B - Axial Ports (Rear)

● ● ● ● ●
○ ○ ○ ○ ○



MIN DISPLACEMENT

--- Specify Setting in cc/rev.

1 cc/rev = 0.061 in ³
● ● ● ● ●



COUNTER BALANCE VALVE

X - None
 T - Track Applications
 W - Wheel Applications

DECELERATION VALVE
● ● ● ● ●
○ ○ ○ ○ ○



PURGE / FLUSHING

B - Blocked
 C - Closed Loop (Purge Relief - 10 bar)
 O - Open Loop (Flow Control - 5 bar)
 P - Plain (Without purge)
 (Use with Cross Over Relief. Pos. 16)

○ ○ ○ ○ ○
● ● ● ● ●
○ ○ ○ ○ ○



PURGE RELIEF

10 - 10 bar (145 psi) - (Closed Loop Only)
 14 - 14 bar (203 psi) - (Closed Loop Only)
 5 - 5 bar (73 psi) - (Open Loop)
 X - Without Purge Relief Valve

● ● ● ● ●
○ ○ ○ ○ ○
● ● ● ● ●
○ ○ ○ ○ ○



PURGE FLOW

N - Normal (Open Loop - ~4 lpm (~1 gpm),
 Closed Loop - ~10 lpm (~2.6 gpm))
 R - 50% Reduced (Closed Loop Only)
 X - None (Only applies when "X" is selected in Pos. 14)

● ● ● ● ●
○ ○ ○ ○ ○
○ ○ ○ ○ ○



CROSS OVER RELIEF (COR)

X - Not Applicable with B, C, & O Purge
 (Pos. 13)
 --- Specify setting in bar. (For P Only in Pos. 13)

1 bar = 14.5 psi
● ● ● ● ●
○ ○ ○ ○ ○

FOR ALL TECHNICAL SPECIFICATION OR DRAWINGS PLEASE CONTACT OUR TEAM OR EMAIL US: SALES@TECHYDRO.COM.CN



MOTOR FOR CY SERIES

TH-CY 107 Y - R P - Y - 180L - 4 22kW

01 02 03 04 05



Refer to CY pump's ordering code



Pole number



Motor model

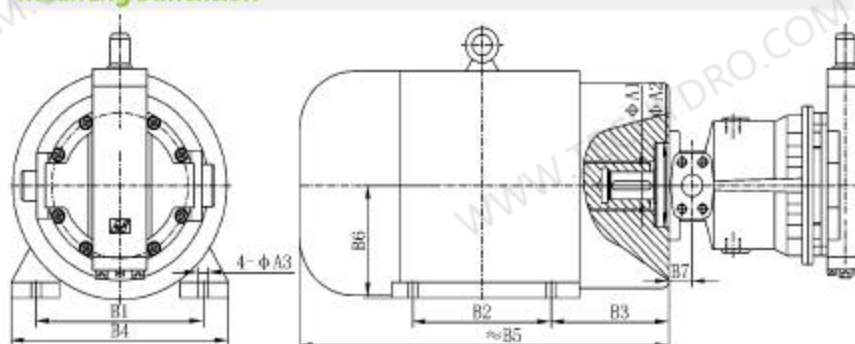


Model No.



Motor power

Mounting Dimension



TH-CY size	motor type	A1	A2	A3	B1	B2	B3	B4	B5	B6	B7
TH-CY10-18	Y112M	25	75	12	190	140	92	245	360	112	25
TH-CY25-45	Y132S(Y132M)	30	100	12	216	140(178)	107	280	410(445)	132	30
TH-CY55-125	Y160M(Y160L)	40	120	15	254	210(254)	119	330	545(590)	160	35
	Y180M(Y180L)			15	279	241(279)	133	355	622(660)	180	
	Y200L			19	318	305	150	395	675	200	
	Y225S(Y225M)			19	356	286(311)	143	435	680(705)	225	
TH-CY140-225	Y180M(Y180L)	55	150	15	276	241(279)	133	355	622(660)	180	44
	Y200L			19	318	305	150	395	675	200	
	Y225S(Y225M)			19	356	286(311)	143	435	680(705)	225	
	Y250M			24	406	349	161	490	784	250	
TH-CY250-320	Y250M	60	180	24	406	349	161	490	784	250	75
	Y280S(Y280M)			24	457	368(419)	200	550	876(927)	280	

The relevant dimension of pump, please refer to the front page.



TH-CA

**Features**

- ▶ High power density
- ▶ High torque density
- ▶ Energy efficient
- ▶ Flexible, many sizes, few mechanical interfaces
- ▶ Insensitive for shock loads
- ▶ Very low moment of inertia
- ▶ Small footprint (total occupied volume)
- ▶ Freewheeling possibility
- ▶ Through hole diameter 110 mm
- ▶ Brake mounting possibility
- ▶ Tandem mounting possibility
- ▶ Up to three speed possibility

Valid for:

- ▶ Torque range: up to 69 kNm [up to 50 892 lb-ft]
- ▶ Speed range: up to 400 rpm
- ▶ Power range: up to 750 kW
- ▶ Maximum operating pressure: 350 bar [5 076 psi]
- ▶ Frame size: 50, 70, 100, 140 and 210
- ▶ Displacement: 1 256 to 13 200 cm³/rev
[76,6 to 806 in³/rev]
- ▶ Specific torque: 20 to 210 Nm/bar
[1 017 to 10 678 ft-lbs/1 000 psi]

TH-CA 50 50 S A 0 N 0 C 02 00

01 02 03 04 05 06 07 08 09 10

01

Frame size					50
TH-CA50					70
TH-CA70					100
TH-CA100					140
TH-CA140					210
TH-CA210					

02

Nominal size , specific torque, Nm/bar (see section 4.3)					
Frame size 50	20	25	32	40	50
	•	•	•	•	•
Frame size 70		40	50	60	70
		•	•	•	•
Frame size 100	40	50	64	80	100
	•	•	•	•	•
Frame size 140		80	100	120	140
		•	•	•	•
Frame size 210			160	180	210
			•	•	•

03

Mounting alternatives, shaft	
Splines	S
Shrink disc coupling	C

04

Motor prepared for brake or tandem kit	
Motor not prepared for brake or tandem kit	A
Motor prepared for brake or tandem kit ¹⁾	B

05

Displacement shift (see section 5)		
Single speed motor	•	0
2-speed motor, rotation clockwise (As viewed from shaft side and inlet to A port)	•	R
2-speed motor, rotation counter clockwise (As viewed from shaft side and inlet to A port)	•	L

06

Type of seal (see section 6)		
NBR (Nitrile)	•	N
FPM (Viton)	•	V

07

Through hole kit (see section 7)		
No	•	0
Yes	•	H

08

Increased robustness (see section 8)		
No	•	0
Yes, standard DLC coating	•	C
Yes, coating for increased starting efficiency	•	D

09

Modification	
Current modification	02

10

Design	
Standard	00
Special index ^{*)}	01-99



KPM/SAI/STAFFA

TH-HM

01

02

03

04

05

01

T-HM Series Identifier: (crankshaft connecting radial piston hydraulic motor)

02

Serial Code

03

Nominal displacement (ml/r)

04

Form of an output shaft

Standard rectangular spline shaft without letters (Centering with the outer diameter)
"B" represents a Parallel key shaft, and the footnote numbers indicate the same installation dimensions of the corresponding models of the same Orbit motor or other brand hydraulic motors (with flange)

"I" represents internal spline (centering with the interior diameter), and the footnote numbers indicate the same installation dimensions of QJM series (with flange)

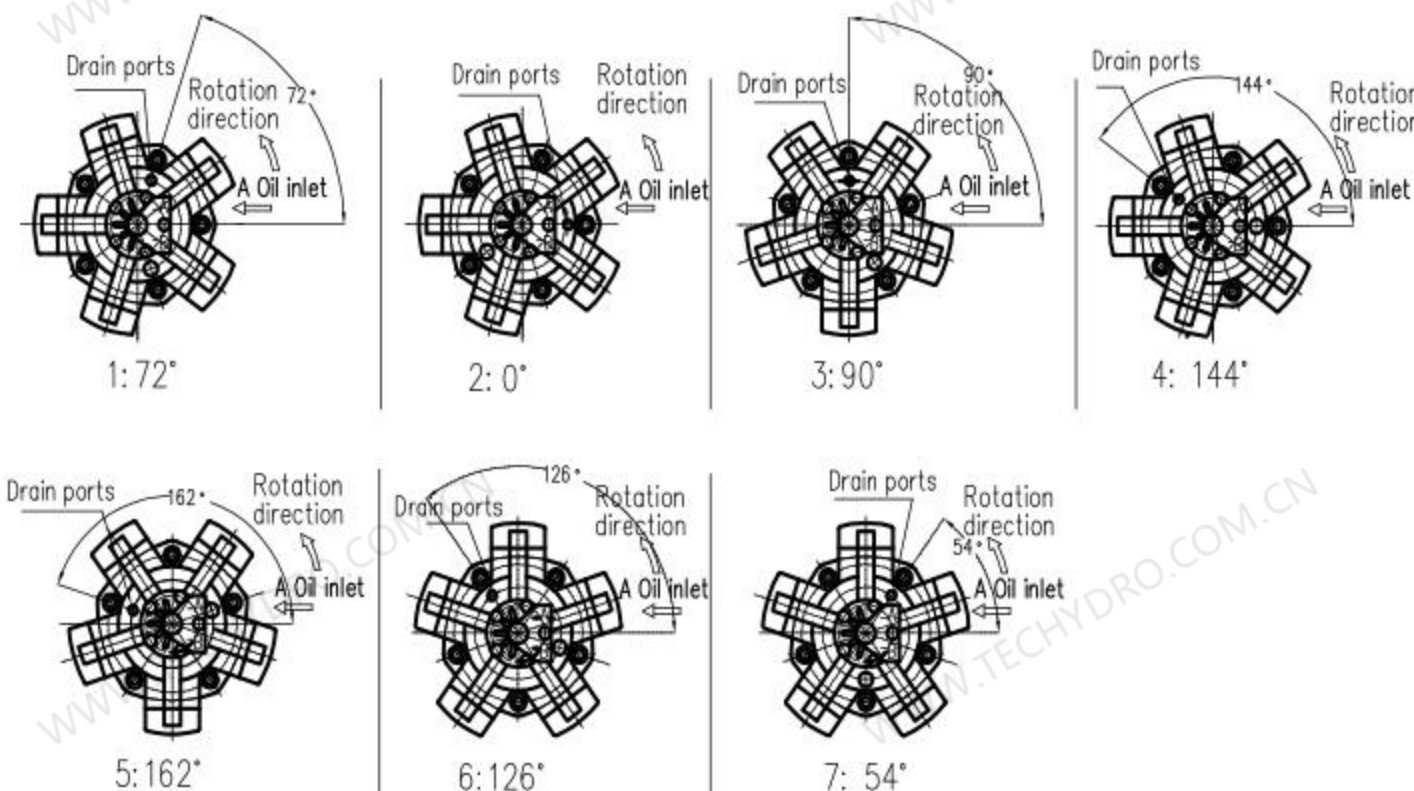
"GM" and "SL" represent the installation connection dimensions are the same as those of SAI Italy M series, L series and GM series hydraulic motors, and the footnote number refers to the relevant installation dimensions

(For more detailed data & dimensions, please consult our engineer)

Unless specified, the standard configuration is applied (see installation connection dimension drawing of motor)

05

Omit-mounting hole position inlet and drain port (for five-cylinder):



MODEL EXAMPLE

T-HM6 -450BD31-1

Represents NHM6 series radial piston hydraulic motor with crankshaft connecting-rod structure, displacement: 450 ml/r, output shaft: B (Parallel Key), and oil distributor: D31, the relative mounting position of oil inlet and drain port is 72°.



TH-QJM

01

02

03

04

05

06

01

1-Fixed Displacement; 2-Variable Displacement Dual Speeds

02

Variable Control Mode :FS-Manual control with spool valve
LS-Manual control with screw
No code-Hydraulic control

03

Sphere Piston Hydraulic Motor

04

Basic type number, all the coupling dimensions with the same base number are the same.

05

Displacement

06

No code -standard model
Z"-motor with bearing: *-mode
Ze-external bearing of axis of rotation
T*-motor with through-hole: *-diameter
B-motor with oil passing flange
S-motor with brake

Se-out control brake Rectangular spline shaft
SeZ-out control brake, flat key shaft
SeZH-out control brake rectangular spline shaft
f-with valve block
A-the spline size is different from this series

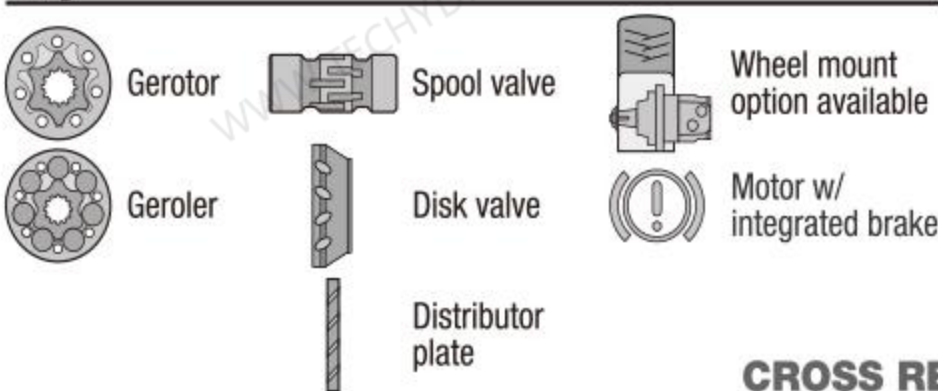
Example of model selection

2FS QJM21-0.63\$Z-... double speed manual valve control with variables sphere piston hydraulic motor, basic type is 21series, displacement is 0.63L/rev, with brake, bearing, flat key shaft outout.



ORBITAL MOTOR

Key



DISPLACEMENT

in³/rev
cm³/rev

TORQUE

lbf.ft
Nm

SPEED

rpm

CROSS REFERENCE

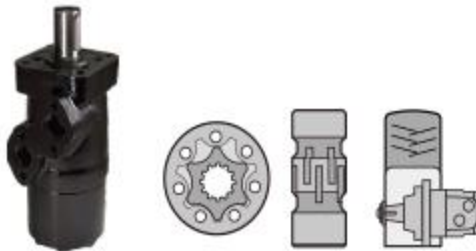
BMM

LIGHT DUTY



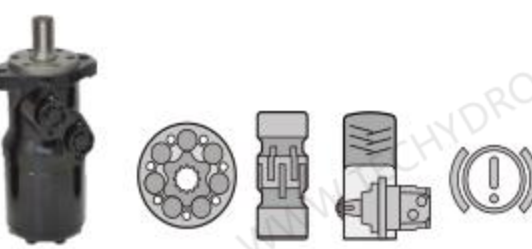
Danfoss®	OMM	0.5-3.1 in ³ /rev [8.2-50.3 cm ³ /rev]
Eaton Char-Lynn®	J (129-)	8.1-33.9 lbf.ft [11-46 Nm]
White®	WM (125/126)	400-1950 rpm
Parker®	-	
M+S®	MLHM, MM	

BMM / BMPH



Danfoss®	OMP, OMPW, DH	2.2-29.7 in ³ /rev [36.0-486.5 cm ³ /rev]
Eaton Char-Lynn®	H (101-)	40.6-317.2 lbf.ft [55-430 Nm]
White®	WD (145/146), WP (155/156), RS (200/201)	120-1500 rpm
Parker®	TB, TC, TE	
M+S®	MLHP, MP, MLHPW, PW	

BMR / BMRS



Danfoss®	OMR, OMRW N, OMRW NF, DS	2.2-29.8 in ³ /rev [36.0-489.0 cm ³ /rev]
Eaton Char-Lynn®	S (103-)	53.1-427.8 lbf.ft
White®	WP (155/156), RS (200/201), WR (255/256)	120-1085 rpm
Parker®	TB, TC, TE	
M+S®	MLHR, MR, MLHRW	

BME2



Danfoss®	-	4.1-22.6 in ³ /rev [66.8-370.0 cm ³ /rev]
Eaton Char-Lynn®	-	92.9-323.8 lbf.ft [126-439 Nm]
White®	WG (275/276, 277/278)	152-667 rpm
Parker®	TB, TC, TE	
M+S®	-	

BMJ



Danfoss®	OMEW	4.1-22.6 in ³ /rev [66.8-370.0 cm ³ /rev]
Eaton Char-Lynn®	W (162-)	92.9-323.8 lbf.ft [126-439 Nm]
White®	-	152-667 rpm
Parker®	TJ	
M+S®	MLHRW, RW	

BMH

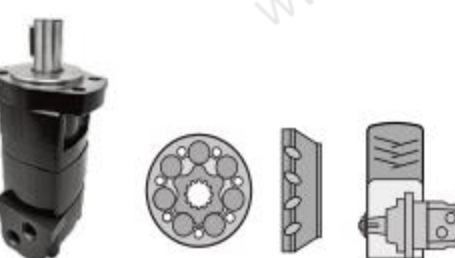


Danfoss®	OMH	12.4-29.9 in ³ /rev [203.2-489.2 cm ³ /rev]
Eaton Char-Lynn®	Delta (184-)	376.2-612.2 lbf.ft [510-830 Nm]
White®	-	155-366 rpm
Parker®	-	
M+S®	MLHH, MH	



ORBITAL MOTOR

BMK2



Danfoss®	-	4.0-29.6 in ³ /rev [65.0-485.0 cm ³ /rev]
Eaton Char-Lynn®	2000 (104-, 105-)	136.4-623.2 lbf.ft [185-845 Nm]
White®	-	153-835 rpm
Parker®	-	
M+S®	-	

BMSY



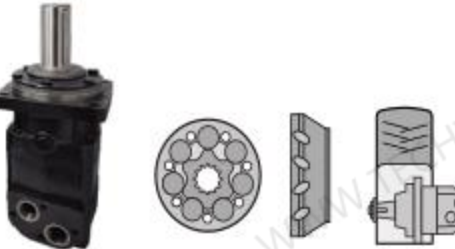
Danfoss®	OMS, OMSW, OMSS	4.9-29.0 in ³ /rev [80.6-475.0 cm ³ /rev]
Eaton Char-Lynn®	2000 (104-, 105-)	166.0-671.2 lbf.ft [225-910 Nm]
White®	WS (350/351/355/356/357/358), HB (300)	155-800 rpm
Parker®	TF	
M+S®	MLHS, MLS, MLHSS	

BMER



Danfoss®	OMR, OMEW, OMRW, OMH	7.2-45.5 in ³ /rev [118.0-745.0 cm ³ /rev]
Eaton Char-Lynn®	Delta (184-)	239.7-774.4 lbf.ft [100-360 Nm]
White®	RE (505/506, 520/521, 530/531)	100-360 rpm
Parker®	TF, TG, TL	
M+S®	HW, RW	

BMT / BMTE



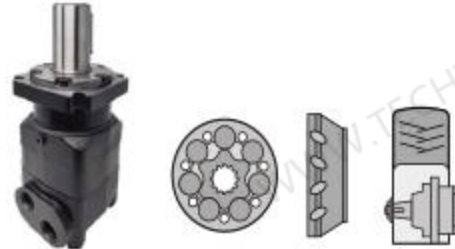
Danfoss®	OMT	9.8-48.9 in ³ /rev [161.1-801.8 cm ³ /rev]
Eaton Char-Lynn®	4000 (109-, 110-, 111-), 6000 (112-, 113-)	346.7-1079.8 lbf.ft [470-1464 Nm]
White®	DR (620), DT (700)	154-625 rpm
Parker®	TG, TH, ME, MJ	
M+S®	MLHR, MR, MLHRW	

BMK6



Danfoss®	OMT	11.9-59.9 in ³ /rev [195.6-981.6 cm ³ /rev]
Eaton Char-Lynn®	6000 (112-, 113-)	416.7-1235.4 lbf.ft [565-1675 Nm]
White®	-	152-765 rpm
Parker®	-	
M+S®	MLHT, MT	

BMV / BMVE



Danfoss®	OMV	20.3-60.4 in ³ /rev [333.0-990.0 cm ³ /rev]
Eaton Char-Lynn®	10,000 Series (119-)	678.6-1486.2 lbf.ft [920-2015 Nm]
White®	DT (700), D9 (800)	200-510 rpm
Parker®	-	
M+S®	MLHV, MV	

BMK10



Danfoss®	-	21.4-56.9 in ³ /rev [351.0-933.0 cm ³ /rev]
Eaton Char-Lynn®	10,000 Series (119-)	756.0-1829.2 lbf.ft [1025-2480 Nm]
White®	-	180-485 rpm
Parker®	-	
M+S®	-	



TH-BMM

01

Position Displacement

Displacement CC/R
8, 12.5, 20, 32, 40, 50

02

Flange and Pilot

M = 3-M6 Circle-flange, pilot $\phi 31.5 \times 5\text{mm}$
U = 3-1/4-28UNF Circle-flange, pilot $\phi 31.5 \times 5\text{mm}$
F = 2- $\phi 9$ Round-flange, pilot $\phi 63 \times 2\text{mm}$

03

Shaft

A = Shaft $\phi 16$, parallel key $5 \times 5 \times 16$
B = Shaft $\phi 15.875$, parallel key $4.8 \times 4.8 \times 19.05$
C = Shaft $\phi 16.5$ involute B17x14 DIN5482

04

Oil Port

E = G3/8 U = 9/16-18UNF
1E = End port G3/8 1U = End port 9/16-18UNF

05

Special Function

Omit = Standard O = No case drain



06

Paint Color

A = Silver Paint B = Blue C = Black D = No Paint

07

Rotation Direction

A = Standard B = Opposite

08

Drain Port

E = G1/8 U = 3/8-24UNF
1E = G1/8 1U = 3/8-24UNF



TH-BMP

01

Position Displacement

Displacement CC/R
50, 63, 80, 100, 125, 160, 200, 250, 315, 400

02

Flange and Pilot

A = 2 bolt Round-flange, pilot $\phi 80 \times 2.8\text{mm}$
B = 2 bolt Round-flange, pilot $\phi 82.55 \times 2.8\text{mm}$
C = 2 bolt Round-flange, pilot $\phi 80 \times 5\text{mm}$
D = 2 bolt Round-flange, pilot $\phi 82.55 \times 5\text{mm}$
E = 4 bolt Round-flange, pilot $\phi 80 \times 5\text{mm}$
F = 4 bolt Round-flange, pilot $\phi 82.55 \times 5\text{mm}$
G = 4 bolt Round-flange, pilot $\phi 80 \times 5\text{mm}$
H = 4 bolt Square flange, pilot $\phi 82.55 \times 5\text{mm}$
I = 4 bolt Square flange, pilot $\phi 85 \times 5\text{mm}$
J = 4 bolt Square flange, pilot $\phi 44.4 \times 2.8\text{mm}$
K = 6 bolt Round-flange, pilot $\phi 80 \times 5\text{mm}$
L = 6 bolt Round-flange, pilot $\phi 82.55 \times 5\text{mm}$

03

Shaft

1 = $\phi 25$ straight shaft, flat key $8 \times 7 \times 32$
2 = $\phi 25$ straight shaft, flat key $6.35 \times 6.3 \times 32$
3 = $\phi 25.4$ straight shaft, flat key $6.35 \times 6.3 \times 32$
4 = $\phi 20$ straight shaft, flat key $6 \times 6 \times 32$
5 = Splined shaft 6D-25.4x21.5x6.25
6 = Splined shaft 6D-25x22x6



04

Rotation Direction

A = Standard B = Opposite

05

Paint Color

A = Silver Paint B = Blue C = Black D = No Paint

06

Drain Port

1 = None 2 = M14X1.5
3 = G1/4 4 = 7/16-20UNF

07

Oil Port

A = G1/2 B = M22x1.5
C = 1/2-14NPTF D = ZG1/2
E = M18X1.5 F = M20X1.5
G = 7/8-14UNF



TH-BMR

01

Position Displacement

Displacement CC/R
50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500

02

Flange and Pilot

A = 2 bolt Round-flange, pilot $\phi 80 \times 2.8\text{mm}$
B = 2 bolt Round-flange, pilot $\phi 82.55 \times 2.8\text{mm}$
C = 2 bolt Round-flange, pilot $\phi 80 \times 5\text{mm}$
D = 2 bolt Round-flange, pilot $\phi 82.55 \times 5\text{mm}$
E = 4 bolt Round-flange, pilot $\phi 80 \times 5\text{mm}$
F = 4 bolt Round-flange, pilot $\phi 82.55 \times 5\text{mm}$
G = 4 bolt Square-flange, pilot $\phi 80 \times 5\text{mm}$
H = 4 bolt Square flange, pilot $\phi 82.55 \times 5\text{mm}$
I = 4 bolt Square flange, pilot $\phi 85 \times 5\text{mm}$
J = 4 bolt Square flange, pilot $\phi 44.4 \times 2.8\text{mm}$
K = 6 bolt Round-flange, pilot $\phi 80 \times 5\text{mm}$
L = 6 bolt Round-flange, pilot $\phi 82.55 \times 5\text{mm}$

03

Shaft

1 = $\phi 25$ straight shaft, flat key $8 \times 7 \times 32$
2 = $\phi 25$ straight shaft, flat key $6.35 \times 6.3 \times 32$
3 = $\phi 25.4$ straight shaft, flat key $6.35 \times 6.3 \times 32$
4 = $\phi 20$ straight shaft, flat key $6 \times 6 \times 32$
5 = Splined shaft 6D-25.4x21.5x6.25
6 = Splined shaft 6D-25x22x6



04

Rotation Direction

A = Standard B = Opposite

05

Paint Color

A = Silver Paint B = Blue C = Black D = No Paint

06

Drain Port

1 = None 2 = M14X1.5 3 = G1/4 4 = 7/16-20UNF

07

Oil Port

A = G1/2 B = M22x1.5 C = 1/2-14NPTF D = ZG1/2
E = M18X1.5 F = M20X1.5 G = 7/8-14UNF



TH-BMH

01

Position Displacement

Displacement CC/R
160, 200, 250, 315, 400, 500

02

Flange and Pilot

2 = 2- $\phi 13.5$ Round, flange pilot $\phi 82.5 \times 6\text{mm}$
4 = 4- $\phi 13.5$ Round, flange pilot $\phi 82.5 \times 6\text{mm}$
6 = 6- $\phi 13.5$ Round, flange pilot $\phi 82.5 \times 6\text{mm}$

03

Output shaft

B = Shaft $\phi 32$, parallel key $10 \times 8 \times 45$
M = Shaft $\phi 35$, parallel key $10 \times 8 \times 45$
F = Shaft $\phi 31.75$, splined key 14-DP12/24
FD = Long Shaft $\phi 31.75$, splined key 14-DP12/24
G = Shaft $\phi 32$, parallel key $7.96 \times 7.96 \times 31.75$
T1 = Cone shaft $\phi 35$, parallel key $B6 \times 6 \times 20$
S = Shaft $\phi 25.4$, splined SAE 6B



04

Ports and drain port

D = G1/2 Manifold mount 4-M8, G1/4
M = M22x1.5 Manifold mount 4-M8, M14x1.5
S = 7/8-14 O-ring Manifold mount 4-5/16-18UNC, 7/16-20UNF
P = 1/2-14 NPTF Manifold mount 4-5/16-18UNC, 7/16-20UNF
R = PT(Rc)1/2 Manifold mount 4-M8, PT(Rc)1/4

05

Special Function

Omit = Standard O = No drain F = Free Running LS = Low Speed

06

Paint Color

S = Silver Paint Omit = Blue B = Black 00 = No Paint

07

Rotation Direction

Omit = Standard R = Opposite



TH-BMS

Note: When the table is used, please fill the code of left rows in the table and give us, which the code information consists of construction, displacement, mounting flange, output shaft and ports. The informations of mounting flange, output shaft and ports are the same as BMS series. The SP flange afflies to shafts of T1, D, B, F, G. If the specification is not in the table or you have specific requirements, please contact us.



01 Code

Omit

02 Position Displacement

Displacement CC/R
80, 100, 125, 160, 200, 250, 315, 400, 475

03 Install flange and stop

E2 = 2-Φ13.5 Round-flange Φ106.4, pilot Φ82.5x6.3
E4 = 4-Φ13.5 Round-flange Φ106.4, pilot Φ82.5x6.3
F6 = 6-Φ13.5 Round-flange Φ106.4, pilot Φ82.5x6.3
E2B = 2-Φ14.3 Round-flange Φ146.05, pilot Φ101.6x9.4
W = 4-Φ13.5 Wheel-flange Φ160, pilot Φ125x8
SP = 4-Φ11.5 Square-flange Φ106.4, pilot Φ82.5x6.3

04 Port and Drain Port

D = G1/2 Manifold Mount 2-M10, G1/4
M = M22x1.5 Manifold Mount 2-M10, M14x1.5
S = 7/8-14UNF O-ring manifold 2-3/8-16, 7/16-20UNF
P = 1/2-14NPTF manifold 2-3/8-16UNC, 7/16-20UNF

05 Output Shaft

B = Shaft Φ32, parallel key 10x8x45
D = Shaft Φ25.4, parallel key 6.35x6.35x25.4
G = Shaft Φ31.75, parallel key 7.96x7.96x31.75
F = Shaft Φ31.75, splined key 14-DP12/24
FD = Long Shaft Φ31.75, splined key 14-DP12/24
SL = Shaft Φ34.85, Splined key 6-34.85x28.14x8.64
T1 = Cone-shaft Φ35, parallel key B6x6x20
T3 = Cone-shaft Φ31.75, parallel key 7.96x7.96x31.75
S1 = Shaft Φ25.4, splined key SAE 6B
I = Sub-shaft Φ22, splined key 13-DP16/32

06 Special function

Omit = Standard F = Free Running LS = Standard

07 Paint Color

S = Silver Gery Omit = Blue B = Black 00 = No Paint

08 Rotation Direction

Omit = Standard R = Opposite



TH-BMV

01 Position Displacement

Displacement CC/R
315, 400, 500, 630, 800, 1000

02 Flange and Pilot

4 = 4-Φ18 Square-flange Φ200, pilot Φ160x11mm
W = 4-Φ18 Wheel-flange Φ224, pilot Φ180x10mm

03 Shaft

A = Shaft Φ50, parallel key 14x9x70
BD = Shaft Φ53.975, splined key 16-DP8/16
B = Shaft Φ53.975, splined key 16-DP8/16
C = Shaft Φ57.15, parallel key 12.7x12.7x57.15
T = Cone shaft Φ60, parallel key 16x10x32
T1 = Cone shaft Φ57.2, parallel key 14.308x14.308x50.8
Q = Shaft Φ45, splined key 17Z*2.5*30P*5e

04 Ports and drain port

D = G1 Manifold 4xM12, G1/4
M = M33x2 Manifold 4xM12, M14X1.5
S = 1-5/16 12UN, 9/16-18UNF
G = G1, G1/4
M5 = M33X2, M14X1.5
D1 = G3/4 manifold 4xM12, G1/4



05 Special function

A = Standard

06 Paint Color

S = Silver Gery Omit = Blue
B = Black 00 = No Paint

07 Rotation Direction

Omit = Standard R = Opposite



TH-BMT / BMTS

01 Position Displacement

Displacement CC/R
160, 200, 250, 315, 400, 500, 630, 800

02 Flange

BMT 4 = 4-Φ14 Square-flange Φ160, pilot Φ125x9
K6 = 4-Φ14.5 Square-flange Φ162, pilot Φ127x9
W = 4-Φ18 Wheel-flange Φ200, pilot Φ160x7
BMTS D = 4-Φ14 Circle-flange Φ160, pilot Φ125x8
E = 4-Φ14.5 Square-flange Φ162, pilot Φ127x10

BMTS
Omit = Short shaft 16-DP12/24

03 Special function

Omit = Standard F = Free Running LS = Standard

04 Output Shaft

BMT M = Shaft Φ40, parallel key 12x 8x 70
G = Shaft Φ38.1, parallel key 9.52x 9.52 x 57.15
F = Shaft Φ38.1, splined tooth 17-DP12/24
FD = Shaft Φ38.1, splined tooth 17-DP12/24
T = Cone-shaft 1:10 Φ45, parallel key B12x8x28
T1 = Cone-shaft 1:8 045, parallel key 11.13x11.13x31.75
SL = Shaft Φ34.85, Splined key 6-34.85x28.14x8.64
G1 = Shaft Φ31.75, parallel key 7.96x7.96x40
F1 = Shaft Φ31.75, splined tooth 14-DP12/24



05 Paint Color

S = Silver Gery Omit = Blue B = Black 00 = No Paint

06 Rotation Direction

Omit = Standard R = Opposite

07 Port and Drain Port

D = G3/4 Manifold Mount, 4-M10, G1/4
M = M27x2 Manifold Mount, 4-M10, M14x1.5
S = 1-1/16-12UN O-ing, 9/16-18UNF
S1 = 1-1/16-12UN O-ing, 7/16-20UNF
G = G3/4, G1/4
M3 = M27x2, M14x1.5



TH-BM5

01 Position Displacement

Displacement CC/R
80, 100, 125, 160, 200, 250, 315, 400

02 Flange and Pilot

A = 2 bolt Round-flange, pilot Φ70x6.4mm
B = 2 bolt Round-flange, pilot Φ80x6.4mm
C = 2 bolt Round-flange, pilot Φ82.55x6.4mm
D = 2 bolt Round-flange, pilot Φ100x6.4mm
E = 4 bolt Square-flange, pilot Φ80x6.4mm
F = 4 bolt Square-flange, pilot Φ82.55x6.4mm
G = 4 bolt Square-flange, pilot Φ85x6.4mm
H = 4 bolt Square flange, pilot Φ100x7.5mm
I = 4 bolt Round- flange, pilot Φ82.55x6.4mm
J = 4 bolt Square flange, pilot Φ85x6.4mm
K = 4 bolt Square-flange, pilot Φ107x6.4mm
L = 6 bolt Round-flange, pilot Φ82.55x6.4mm

03 Shaft

1 = Φ25 straight shaft, flat key 8x7x32
2 = Φ30 straight shaft, flat key 7.96x7.96x40
3 = Φ25 straight shaft, flat key 8x7x28
4 = Φ30 straight shaft, flat key 8x7x28
5 = Φ30 straight shaft, flat key 10x8x45
6 = Φ32 straight shaft, flat key 10x8x40
7 = Φ32 straight shaft, flat key 10x8x45
8 = Φ25.4 straight shaft, flat key 6.35x6.3x28
9 = Splined shaft 6D-30x26x6
10 = Splined shaft 6D-30x26x8
11 = Splined shaft 12/24DP 14tooth



04 Rotation Direction

A = Standard B = Opposite

05 Paint Color

A = Silver Paint B = Blue C = Black D = No Paint

06 Drain Port

1 = None 2 = M14X1.5 3 = G1/4
4 = 7/16-20UNF 5 = ZG1/4

07 Oil Port

A = G1/2 B = M22x1.5 C = 1/2-14NPTF
D = ZG1/2 E = M18X1.5 F = M20X1.5
G = 7/8-14UNF H = Φ13 I = M27x2 J = G3/4



TH-BM6



Position Displacement

Displacement CC/R
195, 245, 310, 395, 490, 625, 800, 985



Flange and Pilot

A = 4 bolt Square-flange, pilot $\phi 125 \times 13 \text{ cm}$
B = 4 bolt Square-flange, pilot $\phi 127 \times 13.2 \text{ cm}$
C = 4 bolt Square-flange, pilot $\phi 160 \times 8 \text{ mm}$



Shaft

1 = $\phi 32$ straight shaft, flat key $10 \times 8 \times 36$
2 = $\phi 32$ straight shaft, flat key $10 \times 8 \times 45$
3 = $\phi 40$ straight shaft, flat key $12 \times 8 \times 45$
4 = $\phi 40$ straight shaft, flat key $12 \times 8 \times 70$
5 = $\phi 40$ straight shaft, flat key $12 \times 8 \times 90$
6 = $\phi 40$ straight shaft, flat key $12 \times 8 \times 63$
7 = $\phi 50$ straight shaft, flat key $14 \times 9 \times 70$
8 = Splined shaft $8D-42 \times 36 \times 7$
9 = Splined shaft $6D-40 \times 35 \times 10$
10 = Splined shaft $12/24 \text{ DP } 17$ tooth
11 = Splined shaft 2.5 17 tooth
12 = Splined shaft 2 16 tooth



Rotation Direction

A = Standard B = Opposite



Paint Color

A = Silver Paint B = Blue C = Black D = No Paint

Drain Port

1 = None 2 = M14X1.5 3 = G1/4
4 = 7/16-20UNF 5 = R1/4

Oil Port

A = G1 B = M22x1.5 C = $\phi 14$
D = ZG1/2 E = M18X1.5 F = M24X1.5
G = 1-5/16-12UNF H = $\phi 13$ I = M27x2
J = G3/4 K = M33x2 L = 1 1/16



TH-10 SERIES



Code for Series

1 = 1st mounting type
2 = 2nd mounting type
3 = 3rd mounting type
9 = Mini SCU



Code for Integral valve

S = Integral Valve
Omit = Without Integral valve



Function Code

1 = Open center non-reaction
2 = Open center reaction
3 = Closed center non-reaction
4 = Closed center non-reaction
5 = Load sensing



Displacement

50, 63, 80, 100, 125, 160, 200, 250, 280, 315, 400

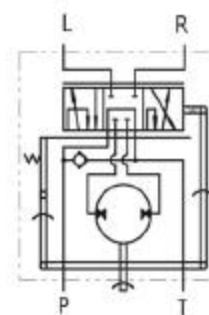


Ports Code

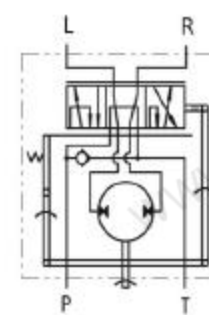
A, B, C, D, E, U, G, Q, M, F, I, N



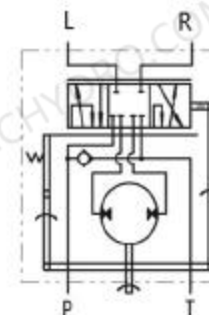
Relief Valve Pressure Settings



101-1



101-2



101-3



TH-BZZ SERIES

Hydraulic Steering Units



Function Code

1 = Open center non load reaction
2 = Open center load reaction
3 = Closed center non load reaction
5 = Load sensing



Pressure Grade

16 MPa/ 2320 PSI



Displacement ML/R

50, 63, 80, 100, 125, 160, 200, 250, 280, 315, 400



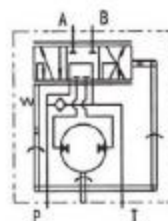
Design Code

A = Long ringed boss, cross-block connection
B = Sae involute spline connection
C = Short ringed boss, cross-block connection

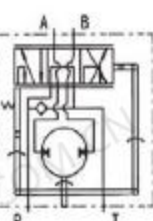


Mounting Type

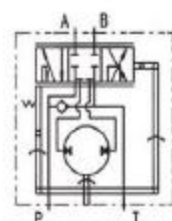
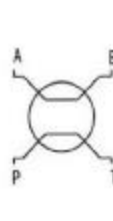
A = Long ringed boss, cross-block connection
B = Sae involute spline connection
C = Short ringed boss, cross-block connection



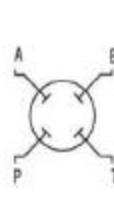
BZZ1 Open center non load reaction



BZZ2 Open center load reaction



BZZ3 Closed center non load reaction



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Ports Code	Ports P, T, L, R	Column Mounting C	Valve Mounting V
A	M20x1.5	M10	M12
B	M20x1.5 O-ring	M10	M12
C	M18x1.5	M10	M12
D	M18x1.5 O-ring	M10	M12
E	G1/2	M10	M130x1
U	G1/2 O-ring	M10	M130x1
G	M22x1.5	M10	M12
Q	M22x1.5 O-ring	M10	M12
M	3/4-16 UNC O-ring	M10	M12
F	3/4-16 UNC O-ring	3/8-16 UNC	3/8-24 UNF
I	3/4-16 UNC O-ring	M10	M10
N	3/4-16 UNC O-ring	M10x1.25	M10



Mo	Tu	We	Th	Fr	Sa	Su
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Memo No. _____

Date / /



Mo	Tu	We	Th	Fr	Sa	Su
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Memo No. _____

Date / /