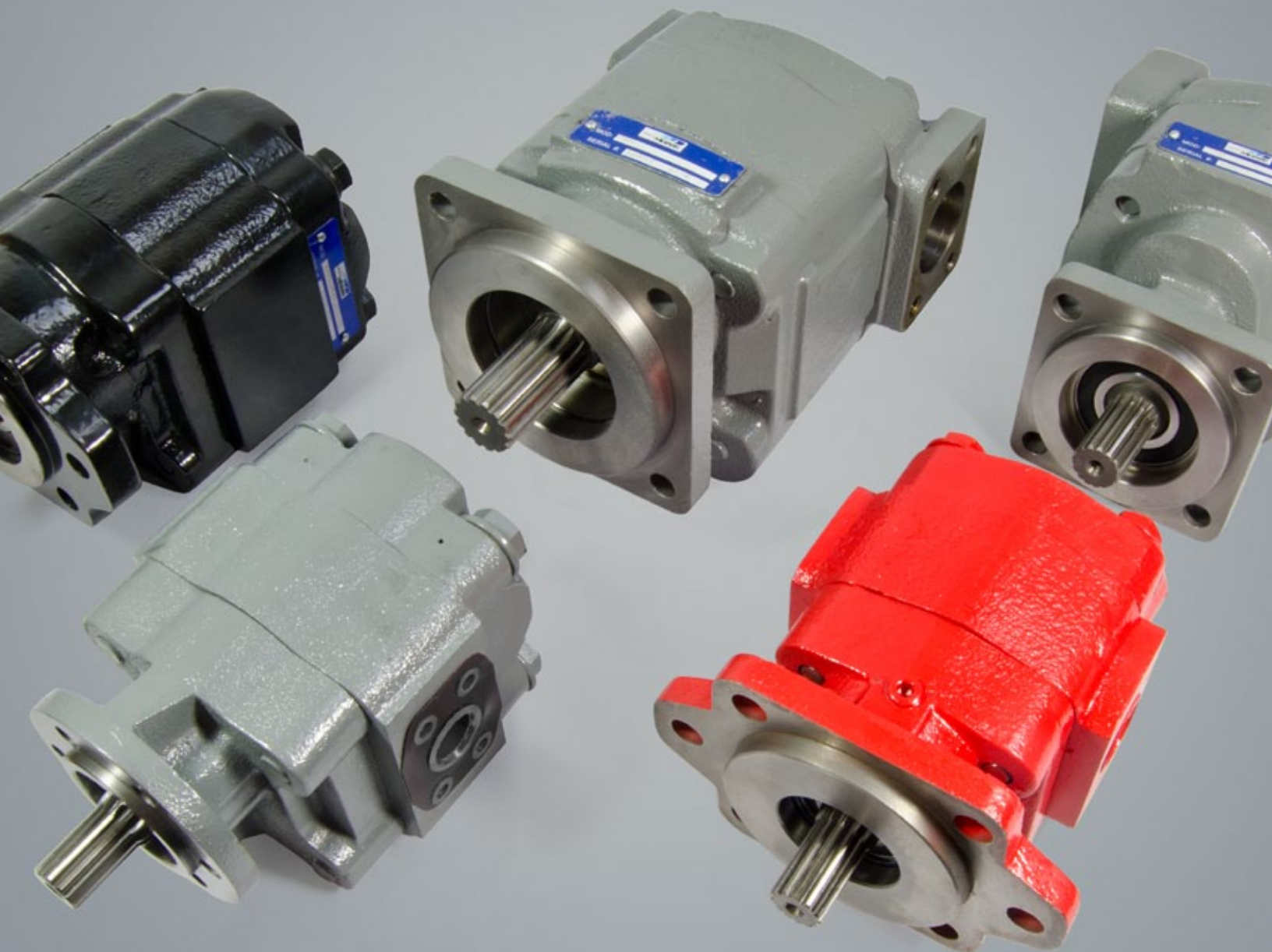


Genuine Metaris Gear Product Technical Catalog

Pumps & Components - MH Series Bearing & Bushing Style



MH50 Series Bearing Pump

Features

Metaris Bearing Pumps & Motors are available in 9 models with a variety of mounting flanges, shaft configurations and porting options. Multi-section units, piggyback designs, dowelled assemblies & flow dividers are all also available. With ductile iron housings, these pumps offer pressure ratings as high as 3000 psi for the most demanding of applications.

- Heavy Duty Roller Bearing Design
- Rugged Cast Iron Construction
- Pressure Balanced Wear Plates
- Working Pressure up to 3000 psi
- Multiple Bearing Carrier Options
- Multiple Porting Options
- High Strength Steel Gear & Shaft Sets



Specifications

MH50		DISPLACEMENT		MAX PRESSURE	
GEAR WIDTH		IN ³ /REV	(CM ³ /REV)	PSI	BAR
.07	3/4"	1.91	(31.3)	2500	(172)
1.00	1"	2.55	(41.8)	2500	(172)
1.25	1-1/4"	3.19	(52.2)	2500	(172)
1.50	1-1/2"	3.83	(62.7)	2500	(172)
1.75	1-3/4"	4.46	(73.1)	2000	(145)
2.00	2"	5.10	(83.6)	2000	(145)
2.25	2-1/4"	5.74	(94.0)	2000	(145)
2.50	2-1/2"	6.38	(104.5)	2000	(145)

MH50 Series Bearing Pump

Pump Performance Data

SPEED RPM	GEAR WIDTH (GPM/LPM)						
	1"	1-1/4"	1-1/2"	1-3/4"	2"	2-1/4"	2-1/2"
900	8.5 / 32	10.5 / 39.5	13 / 49	15 / 57	17.5 / 66	20 / 75.5	22 / 83.5
1200	12 / 46.5	15 / 57	18 / 68	21 / 79.5	24 / 91	27 / 102	30 / 114
1500	15 / 57	19 / 72	23 / 87	27 / 102	31 / 117	35 / 132	39 / 146
1800	18 / 68	23 / 87	27.5 / 104	32.5 / 123	37.5 / 142	42 / 159	47 / 178
2100	21.5 / 81.5	27 / 102	32.5 / 123	38.5 / 146	44 / 167	48.5 / 187	55 / 208
2400	25 / 94.5	31 / 117	37 / 140	44 / 167	51 / 193	57 / 216	63.5 / 240

Motor Performance Data

SPEED RPM	GEAR WIDTH							
	1"		1-1/2"		2"		2-1/2"	
	INPUT FLOW (GPM/LPM)	OUTPUT TORQUE (IN/LBS / NM)	INPUT FLOW (GPM/LPM)	OUTPUT TORQUE (IN/LBS / NM)	INPUT FLOW (GPM/LPM)	OUTPUT TORQUE (IN/LBS / NM)	INPUT FLOW (GPM/LPM)	OUTPUT TORQUE (IN/LBS / NM)
800	10.5 / 40	670 / 7.5	15.5 / 58.5	1070 / 12.5	21 / 79.5	1450 / 16.5	26 / 98.5	1850 / 21.5
1200	15.5 / 58.5	680 / 8	22.5 / 85	1075 / 12.5	30.5 / 115	1450 / 16.5	37.5 / 142	1840 / 21
1600	20 / 75.5	670 / 7.5	30 / 114	1045 / 12	40 / 151	1440 / 16.5	49.5 / 187	1750 / 20
2000	25 / 94.5	660 / 7.5	37 / 140	1030 / 12	49 / 185	1415 / 16.5	61.5 / 233	1720 / 20

Note: Input Flow @ 2000psi | Output Torque @ 140 bar

MH50 PL Chart

SHAFT STYLE	INTEGRAL	TWO PIECE
SAE "BB" Spline	9,900	8,000
SAE "BB" Keyed	6,600	6,600
SAE "B" Spline	6,400	6,400
SAE "B" Keyed	5,750	5,750
SAE "C" Spline	13,850	8,000
SAE "C" Keyed	13,000	8,000
Connecting Shaft		8,000

Values based on using anti-wear type petroleum oil 150 SUS at 100° F (ISO rating of 32 cSt at 38° C) and 0 psi inlet pressure.

MH50 Series Bearing Pump

Model Code Breakdown

Repeat for Tandem Units

1 2 3 4 5 6 7 8 9 6 7 10

MHP - 50 - A - 1 - 78 - ME - AB - 10 - 25 - DB - * - * - *

Type ¹

MHP = Pump
MHM = Motor

Unit ²

A = Single Unit
B = Tandem Unit
C = Single or Tandem Unit w/ a Continental Shaft

Shaft End Cover ³

1 = Pump w/o Shaft Bearing (Clockwise Rotation)
2 = Pump w/o Shaft Bearing (Counter-clockwise Rotation)
3 = Pump w/o Shaft Bearing (Double Rotation)
4 = Pump w/ Shaft Bearing (Clockwise Rotation)
5 = Pump w/ Shaft Bearing (Counter-clockwise Rotation)
6 = Pump w/ Shaft Bearing (Double Rotation)
8 = Motor w/ Shaft Bearing & 1/4" Drain Port
9 = Motor w/o Shaft Bearing & 1/4" Drain Port

Shaft End Cover ⁴

00 = Pad Mount 94 = SAE 2-Bolt "A" Mount
42 = SAE 4-Bolt "B" Mount 96 = SAE 2-Bolt "B" Mount (Type 2)
78 = SAE 4-Bolt "C" Mount 97 = SAE 2-Bolt "B" Mount
91 = 51/51 Piggyback Mount 98 = SAE 2-Bolt "C" Mount
92 = 76/51 Piggyback Mount 99 = SAE 2-Bolt "C" Mount (Type 2)

Port End Cover ⁵

NPT Codes

Single Units	Tandem Units	Port Size		A	B
		Left	Right		
BE BY	BI BJ	None	None	n/a	n/a
KE KY	KI KJ	3/4"	None	n/a	1.38
LE LY	LI LJ	None	3/4"	1.38	n/a
ME MY	MI MJ	3/4"	3/4"	1.38	1.38



Orientation is viewed from the shaft end

O-ring Codes

Single Units	Tandem Units	Port Size		A	B
		Left	Right		
CE CY	CI CJ	3/4"	None	n/a	1.38
DE DY	DI DJ	None	3/4"	1.38	n/a
FE FY	FI FJ	3/4"	3/4"	1.38	1.38



Orientation is viewed from the shaft end

Metric Str. Thd. Codes

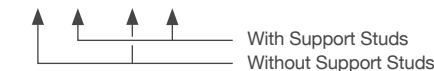
Single Units	Tandem Units	Port Size		A	B
		Left	Right		
NE	NI NJ	3/4"	None	n/a	1.38
PE	PI PJ	None	3/4"	1.38	n/a
QE	QI QJ	3/4"	3/4"	1.38	1.38



Orientation is viewed from the shaft end

BSPP Codes

Single Units	Tandem Units	Port Size		A	B
		Left	Right		
WE	WI WJ	3/4"	None	n/a	1.38
XE	XI XJ	None	3/4"	1.38	n/a
ZE	ZI ZJ	3/4"	3/4"	1.38	1.38



Orientation is viewed from the shaft end

Connecting Shaft ¹⁰

For connecting tandem units
1 = Connecting Shaft - Multiple Units

Bearing Carriers ⁹

See page 85 for Bearing Carrier options

Shaft Type ⁸

07 = SAE "C" 14 Tooth Spline 1.25" Dia.
11 = SAE "C" Keyed 1.25" Dia. 5/16" x 15/32" x 1-1/2" Key
25 = SAE "B" 13 Tooth Spline .875" Dia.
43 = SAE "BB" Keyed 1" Dia. 1/4" x 3/8" x 1-1/4" Key
53 = SAE "C" 14 Tooth Spline 1.25" Dia.
65 = SAE "B" 13 Tooth Spline .875" Dia. Type 2
67 = SAE "BB" Keyed 1" Dia. 1/4" x 3/8" x 1-1/4" Key Type 2
73 = SAE "C" Keyed 1.25" Dia. 5/16" x 15/32" x 2-1/4" Key
98 = SAE "BB" 15 Tooth Spline 1" Dia. (Cont. Only)

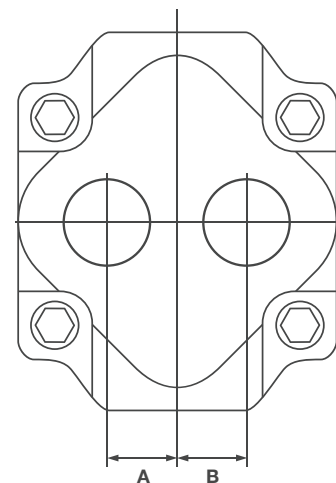
Gear Size ⁷

Code / Displacement (in³/r)

07	10	12	15	17	20	22	25
(1.91)	(2.55)	(3.19)	(3.83)	(4.46)	(5.10)	(5.74)	(6.38)

Gear Housing ⁶

See following pages for Gear Housing options



MH50 Series Bearing Pump

Model Code Breakdown Cont.

Gear Housing ⁶

- Orientation is viewed from the shaft end
- NPT Porting is NOT RECOMMENDED for pressures above 1500 psi
- Ports marked with an 'x' are recommended porting - for all other porting please consult the factory
- Shaded Cells are good for Motor units

NPT Codes

Code	Port Size		5	7	10	12	15	17	20	22	25
	Left	Right									
AB	None	None	x	x	x	x	x	x	x	x	x
IC	3/4"	None			x						
ID	None	3/4"			x	x	x	x			
IF	3/4"	3/4"			x	x	x	x	x		
IG	3/4"	1"			x	x	x				
IH	3/4"	1-1/4"					x				
IJ	1"	3/4"			x	x	x	x	x		
IK	1-1/4"	3/4"					x				
YC	1"	None				x	x	x	x	x	
YD	None	1"				x	x	x	x	x	
YF	1"	1"				x	x	x	x	x	x
YG	1"	1-1/4" *					x	x	x	x	
YH	1"	1-1/2"									x
YJ	1-1/4" *	1"					x	x	x	x	x
YK	1-1/2"	1"									x
IA	1-1/4" *	None					x	x	x	x	x
IB	None	1-1/4" *					x	x	x	x	x
YL	1-1/4"	1-1/4"						x	x	x	x
YM	1-1/4"	1-1/2" *							x	x	x
YP	1-1/2"	1-1/4"							x	x	x
YR	1-1/2"	1-1/2"							x	x	x
YA	1-1/2"	None							x	x	x
YB	None	1-1/2"							x	x	x

* Low Pressure Inlet Porting

BSPP Codes

Code	Port Size		5	7	10	12	15	17	20	22	25
	Left	Right									
AB	None	None	x	x	x	x	x	x	x	x	x
YN	3/4"	None			x	x					
YQ	None	3/4"			x	x	x	x			
YS	3/4"	3/4"				x	x				
YT	3/4"	1"			x	x	x				
YU	3/4"	1-1/4"			x	x	x	x			
YV	1"	3/4"			x	x	x	x	x		
YW	1-1/4"	3/4"			x	x	x	x			
SL	1"	None			x	x	x				
RQ	None	1"					x	x	x	x	x
MP	1"	1"					x	x	x	x	x
VY	1"	1-1/4" *					x	x	x	x	x
IX	1-1/4" *	1"					x	x	x	x	x
NJ	1-1/4" *	None					x	x	x		
UI	None	1-1/4" *								x	x
PF	1-1/4"	1-1/4"								x	x
IQ	1-1/4"	1-1/2"									x
IS	1-1/2"	1-1/4"									x

* Low Pressure Inlet Porting

Metric Str. Thd. Codes

Code	Port Size		5	7	10	12	15	17	20	22	25
	Left	Right									
AB	None	None	x	x	x	x	x	x	x	x	x
EN	3/4"	None			x	x	x	x			
TQ	None	3/4"			x	x	x	x			
ES	3/4"	3/4"			x	x					
ET	3/4"	1"			x	x	x	x	x		
EV	1"	3/4"			x	x	x	x	x		
NL	1"	None					x	x	x	x	
ER	None	1"					x	x	x	x	
CM	1"	1"					x	x	x		
VE	1"	1-1/4" *					x	x	x	x	x
EX	1-1/4" *	1"					x	x	x	x	x
UA	None	1-1/4"							x	x	x
PA	1-1/4"	1-1/4"							x	x	x
QA	1-1/4"	1-1/2" *							x	x	x
SA	1-1/2"	1-1/4"							x	x	x

* Low Pressure Inlet Porting

MH50 Series Bearing Pump

Model Code Breakdown Cont.

Gear Housing Cont. ⁶

- Orientation is viewed from the shaft end
- NPT Porting is NOT RECOMMENDED for pressures above 1500 psi
- Ports marked with an 'x' are recommended porting - for all other porting please consult the factory
- Shaded Cells are good for Motor units

O.D. Tube Codes

Code	Port Size		5	7	10	12	15	17	20	22	25
	Left	Right									
AB	None	None	x	x	x	x	x	x	x	x	x
EC	3/4"	None			x	x	x	x	x		
ED	None	3/4"			x	x	x	x	x		
EF	3/4"	3/4"			x	x	x	x	x		
EG	3/4"	1"			x	x	x				
EH	3/4"	1-1/4"					x	x			
EJ	1"	3/4"			x	x	x	x	x		
EK	1-1/4"	3/4"					x	x			
AC	1"	None			x	x	x	x			
AD	None	1"			x	x	x	x			
AF	1"	1"					x	x	x	x	x
AG	1"	1-1/4" *					x	x	x	x	x
AH	1"	1-1/2"						x	x	x	
AJ	1-1/4" *	1"					x	x	x	x	x
AK	1-1/2" *	1"					x	x	x	x	x
AL	1-1/4"	1-1/4"							x	x	x
AM	1-1/4"	1-1/2" *							x	x	x
AP	1-1/2" *	1-1/4"							x	x	x
AR	1-1/2"	1-1/2"									x
AA	1-1/4" *	None					x	x	x	x	x
AO	None	1-1/4" *					x	x	x	x	x
AE	1-1/2" *	None							x	x	
AU	None	1-1/2" *							x	x	

* Low Pressure Inlet Porting

Split Flange Codes

Code	Port Size		5	7	10	12	15	17	20	22	25
	Left	Right									
AB	None	None	x	x	x	x	x	x	x	x	x
UC	3/4"	None			x	x	x	x			
UD	None	3/4"			x	x	x	x			
UF	3/4"	3/4"			x	x	x	x	x	x	x
UG	3/4"	1"			x	x	x				
UH	3/4"	1-1/4"				x	x	x			
UJ	1"	3/4"			x	x	x	x	x		
UK	1-1/4"	3/4"				x	x	x			
OC	1"	None			x	x	x	x	x	x	x
OD	None	1"			x	x	x	x	x	x	x
OF	1"	1"				x	x	x	x	x	x
OG	1"	1-1/4" *				x	x	x	x		
OH	1"	1-1/2" *					x	x	x	x	x
OJ	1-1/4" *	1"				x	x	x	x	x	x
OK	1-1/2" *	1"					x	x	x	x	x
OL	1-1/4"	1-1/4"					x	x	x	x	x
OM	1-1/4"	1-1/2" *					x	x	x	x	x
ON	1-1/4"	2"							x	x	x
OP	1-1/2" *	1-1/4"					x	x	x	x	x
OQ	2"	1-1/4"								x	x
OR	1-1/2"	1-1/2"							x	x	x
OS	1-1/2"	2"								x	x
OV	2"	1-1/2"								x	x
OX	2"	2"									x
OA	1-1/4" *	None					x	x	x	x	x
OB	None	1-1/4" *					x	x	x	x	x
OE	1-1/2" *	None						x	x	x	x
OU	None	1-1/2" *						x	x	x	x
UB	1"	2"								x	x
UQ	2"	1"								x	x
XB	2"	None								x	x
ZB	None	2"								x	x

* Low Pressure Inlet Porting

MH50 Series Bearing Pump

Model Code Breakdown Cont.

Gear Housing Cont. ⁶

- Orientation is viewed from the shaft end
- NPT Porting is NOT RECOMMENDED for pressures above 1500 psi
- Ports marked with an 'x' are recommended porting - for all other porting please consult the factory
- Shaded Cells are good for Motor units

Metric Split Flange Codes

Code	Port Size		5	7	10	12	15	17	20	22	25
	Left	Right									
AB	None	None	x	x	x	x	x	x	x	x	x
VN	3/4"	None			x	x	x	x			
VQ	None	3/4"			x	x	x	x			
VS	3/4"	3/4"			x	x	x				
VT	3/4"	1"			x	x	x	x	x		
RV	1"	3/4"			x	x	x	x	x		
RU	3/4"	1-1/4"			x	x	x				
RW	1-1/4"	3/4"			x	x	x				
UL	1"	None				x	x	x	x	x	
UR	None	1"				x	x	x	x	x	
UM	1"	1"				x	x	x	x	x	
VU	1"	1-1/4" *				x	x	x	x	x	x
UX	1-1/4" *	1"				x	x	x	x	x	x
HO	1"	1-1/2" *					x	x	x		
VO	1-1/2" *	1"					x	x	x		
NO	1-1/4" *	None						x	x	x	x
UO	None	1-1/4" *						x	x	x	x
PO	1-1/4"	1-1/4"					x	x	x	x	x
QO	1-1/4"	1-1/2" *					x	x	x	x	x
SO	1-1/2" *	1-1/4"					x	x	x	x	x
JR	1-1/4"								x	x	x
JM	2"	1-1/4"							x	x	x
UY	1-1/2" *	None					x	x	x	x	
TO	None	1-1/2" *					x	x	x	x	
SV	1-1/2"	1-1/2"							x	x	x
JN	1-1/2"	2"							x	x	x
JQ	2"	1-1/2"							x	x	x

* Low Pressure Inlet Porting

MH50 Series Bearing Pump

Model Code Breakdown Cont.

Bearing Carriers ⁹

NPT Codes

In	Out	CW (Left)	CCW (Right)
None None	None None	C A	D U
1" 1-1/4" 1-1/2"	None None None	TB VB WB	BT BV BW
1" 1-1/4" 1-1/2" 1-1/4" 1-1/2"	3/4" 3/4" 3/4" 1" 1"	TX VX WX VZ WZ	XT XV XW ZV ZW
1" 1-1/4" 1-1/4" 1-1/2"	3/4" 3/4" 1" 1"	TJ VJ VK WK	JT JV KV KW
1"	3/4"	ZX	XZ

SAE Split Flange Codes

In	Out	CW (Left)	CCW (Right)
1" 1-1/4" 1-1/2"	None None None	LB MB NB	BL BM BN
None 1" 1-1/4" 1-1/2" 1-1/4" 1-1/2"	3/4" 3/4" 3/4" 1" 1"	BR LR MR NR MS NS	RB RL RM RN SM SN
1" 1-1/4" 1-1/4" 1-1/2"	3/4" 3/4" 1" 1"	LX MX MZ NZ	XL XM ZM ZN
1"	3/4"	SR	RS

SAE O-ring Codes

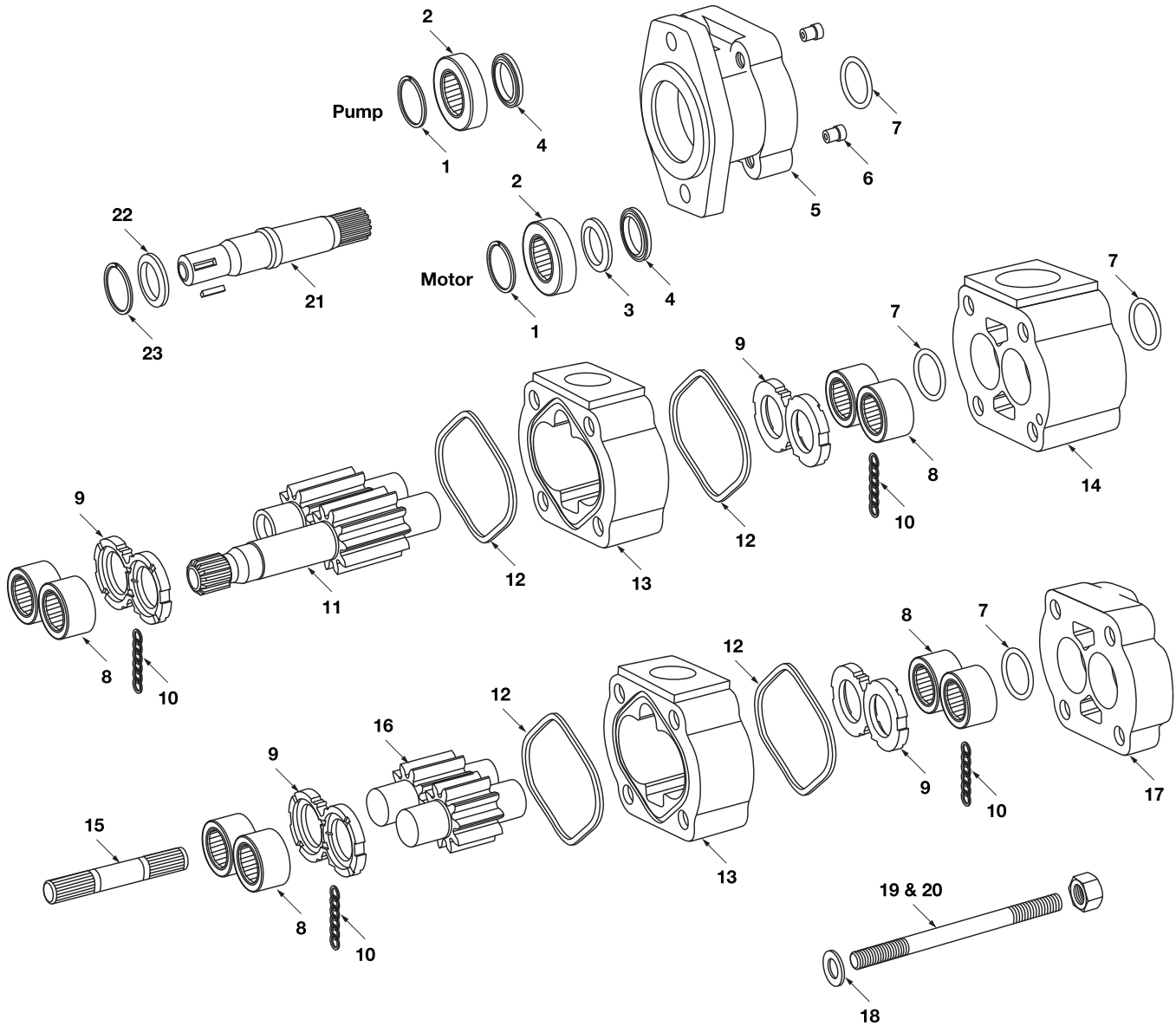
In	Out	CW (Left)	CCW (Right)
1" 1-1/4" 1-1/2"	None None None	CB DB FB	BC BD BF
None 1" 1-1/4" 1-1/2" 1-1/4" 1-1/2"	3/4" 3/4" 3/4" 1" 1"	PJ CJ DJ FJ DK FK	JP JC JD JF KD KF
1"	3/4"	CR	RC

Motors Only Codes

In	Out	Dual	
None	None	B	
1" 1-1/4" 1-1/2" 1" 1-1/4" 1-1/2" 1" 1-1/4" 1-1/2"	1" 1-1/4" 1-1/2" 1" 1-1/4" 1-1/2" 1" 1-1/4" 1-1/2"	TT VV WW CC BB FF LL MM NN	NPT NPT NPT SAE O-Ring SAE O-Ring SAE O-Ring SAE Split Flange SAE Split Flange SAE Split Flange

MH50 Series

Parts Breakdown



MH50 Series

Parts Breakdown

DRAWING NO.	DESCRIPTION	METARIS #	ALTERNATE #
1	SHAFT BRG. SNAP RING	X05-03-77250	391-2686-065
2a	BEARING SPACER & SEAL RETAINER FOR MOTORS	A50-60-10000	391-3383-087
2b	INPUT SHAFT BEARING	X03-16-13272	391-0381-077
3	MOTOR SEAL RETAINER USED WITH SHAFT BEARING	A50-60-30000	391-3383-020
4a	PUMP LIP SEAL	X83-11-03308	391-2883-10
4b	MOTOR LIP SEAL	X84-36-03309	391-2883-115
4c	PUMP LIP SEAL FOR CONTINENTIAL SHAFT ONLY	X89-11-03308	391-2883-133
5a	50 PAD PILOT PUMP SHAFT END COVER TYPE 00	A50-10-21100	313-5013-201
5b	50 4 BOLT B PILOT PUMP SHAFT END COVER TYPE 42 (4" or 101.6 mm pilot)	A50-10-21420	313-5033-201
5c	50 4 BOLT C PILOT PUMP SHAFT END COVER TYPE 78 (5" or 127 mm pilot)	A50-10-21430	313-5033-202
5d	50 2 BOLT B PILOT PUMP SHAFT END COVER TYPE 97 (4" or 101.6 mm pilot)	A50-10-21220	313-5023-204
5e	50 2 BOLT C PILOT PUMP SHAFT END COVER TYPE 98 (5" or 127 mm pilot)	A50-10-21230	313-5023-203
5f	50 2 BOLT B (TYPE 2) PILOT PUMP SHAFT END COVER TYPE 96 (4" or 101.6 mm pilot)	A50-10-22220	313-5029-201
5g	50 2 BOLT C (TYPE 2) PILOT PUMP SHAFT END COVER TYPE 99 (5" or 127 mm pilot)	A50-10-22230	313-5029-202
5h	50/50 SHAFT END COVER FOR PIGGYBACK UNITS TYPE 91	A41-10-21500	313-5029-206
5i	75/50 SHAFT END COVER FOR PIGGYBACK UNITS TYPE 92	A42-10-21500	313-5029-207
5j	50 PAD PILOT MOTOR SHAFT END COVER TYPE 00	A50-10-41100	313-5013-202
5k	50 4 BOLT B PILOT MOTOR SHAFT END COVER TYPE 42 (4" or 101.6 mm pilot)	A50-10-41420	313-5033-405
5l	50 4 BOLT C PILOT MOTOR SHAFT END COVER TYPE 78 (5" or 127 mm pilot)	A50-10-41430	313-5033-403
5m	50 2 BOLT B PILOT MOTOR SHAFT END COVER TYPE 97 (4" or 101.6 mm pilot)	A50-10-41220	313-5023-206
5n	50 2 BOLT C PILOT MOTOR SHAFT END COVER TYPE 98 (5" or 127 mm pilot)	A50-10-41230	313-5023-205
6a	CHECK VALVE MOTOR	A00-75-11000	391-3681-001
6b	PRESSURE PLUG PUMP	X02-03-32110	391-2286-004
7	RING SEAL	X81-76-03305	391-2585-009
8	ROLLER BEARING (Ø 1.937" O.D.)	X03-24-13349	391-0381-059
9a	PUMP & MOTOR THRUST PLATE	A25-70-10000	391-2185-012
9b	DRY VALVE THRUST PLATE	A50-70-10000	391-2185-041
10	POCKET SEAL	X85-11-00002	391-2882-050
11a	SHAFT & GEAR 14 TOOTH SPLINE 1.228" maj. dia. TYPE 7	A50-50-XX245	313-29XX-250
11b	SHAFT & GEAR 1.250" KEYED (5/16") TYPE 11	A50-50-XX145	313-29XX-750
11c	SHAFT & GEAR SET 13 TOOTH SPLINE 0.858" maj. dia TYPE 25	A50-50-XX225	313-29XX-230
11d	SHAFT & GEAR SET 0.9984" dia. KEYED (1/4" x 3/8" x 1 1/4") TYPE 43	A50-50-XX135	313-29XX-740
11e	SHAFT & GEAR 14 TOOTH SPLINE 1.228" maj. dia. TYPE 53 TYPE 2	A50-50-XX246	313-29XX-450
11f	SHAFT & GEAR SET 13 TOOTH SPLINE 0.858" maj. dia TYPE 65 TYPE 2	A50-50-XX226	313-29XX-430
12	PUMP & MOTOR HOUSING GASKET	X85-11-10803	391-2884-021
13	PUMP & MOTOR GEAR HOUSING	A25-32-XX000	303-80XX-100

MH50 Series

Parts Breakdown

DRAWING NO.	DESCRIPTION	METARIS #	ALTERNATE #
14a	50 MOTOR BEARING CARRIER BLANK	A50-40-00000	313-7300-100
14b	50 PUMP BEARING CARRIER WITH COMMON PASSAGE	A50-40-20000	313-7363-100
15	CONNECTING SHAFT	A50-50-00500	313-1133-001
16	GEAR SET ONLY	A50-50-XX000	313-28XX-000
17a	50 PUMP & MOTOR PORT END COVER	A50-22-00000	313-3100-100
17b	50 PUMP & MOTOR PORT END COVER SPECIAL LARGER PORTING	A50-27-00000	313-3400-100
17c	50 PIGGY BACK REAR PORT END COVER	A50-22-03000	313-5029-205
18	FLAT WASHER (5/8")	X45-10-17005	391-3784-028
19	BOLTS / STUDS (5/8"-UNC)	See Fasteners Page	
20	HEX NUT (5/8"-UNC)	X42-11-16000	391-1451-076
21a	CONTINENTAL SHAFT TYPE 11 (1 1/4" Ø KEYED 5/16")	A50-50-00141	313-1500-500
21b	CONTINENTAL SHAFT TYPE 7 (1.250" Ø - 14 TOOTH SPLINE)	A50-50-00241	313-1135-194
21c	CONTINENTAL SHAFT TYPE 25 (0.875" Ø- 13 TOOTH SPLINE)	A50-50-00221	313-1000-300
21d	CONTINENTAL SHAFT TYPE 43 (1.00" Ø x 1/4" x 3/8" x 1 1/4" key)	A50-50-00131	313-1500-400
21e	CONTINENTAL SHAFT TYPE 73 LONG (1 1/4" Ø KEYED 5/16")	A50-50-00147	313-1500-502
21f	CONTINENTAL SHAFT TYPE 98 - SPLINED - SAE BB 15T	A50-50-00231	313-1000-400
22	CONTINENTAL SHAFT BRG. RETAINER (MAY NOT BE REQUIRED)	A50-60-20000	391-3381-046
23	CONTINENTAL SHAFT BRG. RETAINER SNAP RING (MAY NOT BE REQUIRED)	X05-02-35120	391-2685-040
Not Shown	SEAL RETAINER FOR 51/51 PIGGY BACK PUMP S.E.C.	A30-60-10001	391-2584-063
Not Shown	SEAL RETAINER O RING FOR PIGGY BACK PUMP S.E.C.	X81-11-04704	391-2881-124
Not Shown	SEAL RETAINER O RING FOR PIGGY BACK PUMP S.E.C.	X81-11-05704	391-2881-120
Not Shown	SEAL RETAINER FOR 76/51 PIGGY BACK PUMP S.E.C.	A50-60-10003	391-2585-013
Not Shown	DRY VALVE SEAL RETAINER	A50-60-10001	391-2584-050
Not Shown	CASE DRAIN PLUG	X02-03-22060	391-2282-056
Not Shown	PUMP LIP SEAL FOR PIGGY BACK S.E.C. & P.E.C.	X83-11-02708	391-2883-058
Not Shown	SHAFT KEY FOR TYPE 73 SHAFT	X01-01-81257	391-1781-008
Not Shown	SHAFT KEY FOR TYPE 43 SHAFT	X01-01-61032	391-1781-021
Not Shown	SHAFT KEY FOR TYPE 11 SHAFT	X01-01-81238	391-1781-045
Not Shown	50/50 PIGGY BACK CONNECTING SHAFT	A41-50-00400	313-1133-004
Not Shown	75/50 PIGGY BACK CONNECTING SHAFT	A42-50-00400	313-1133-003

Note: The **XX** shown in the part number is in place of the size - the true value must be placed into the part number when ordering parts.

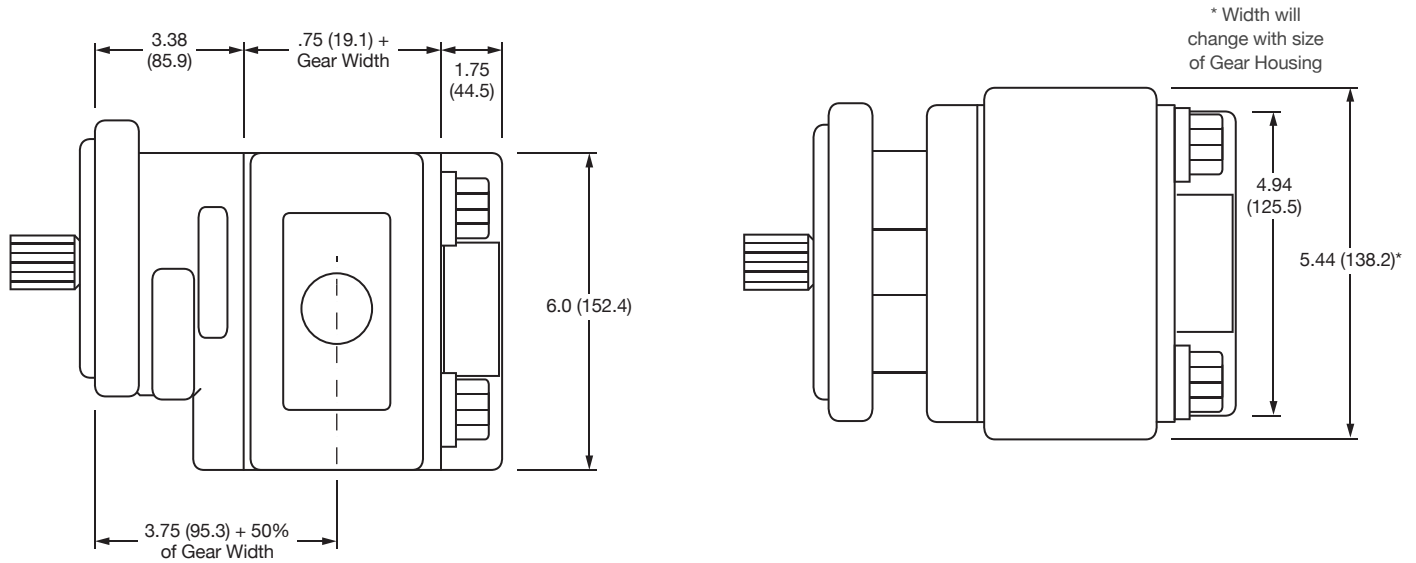
For example: Gear set no. A50-50-XX000 changes to A50-50-15000 for 1.5" gear size
 Housing no. A25-32-XX000 changes to A25-32-15000 for a 1.5" housing size
 No porting sizes have been indicated all porting must be specified when ordering parts.

MH50 Series

Dimensions

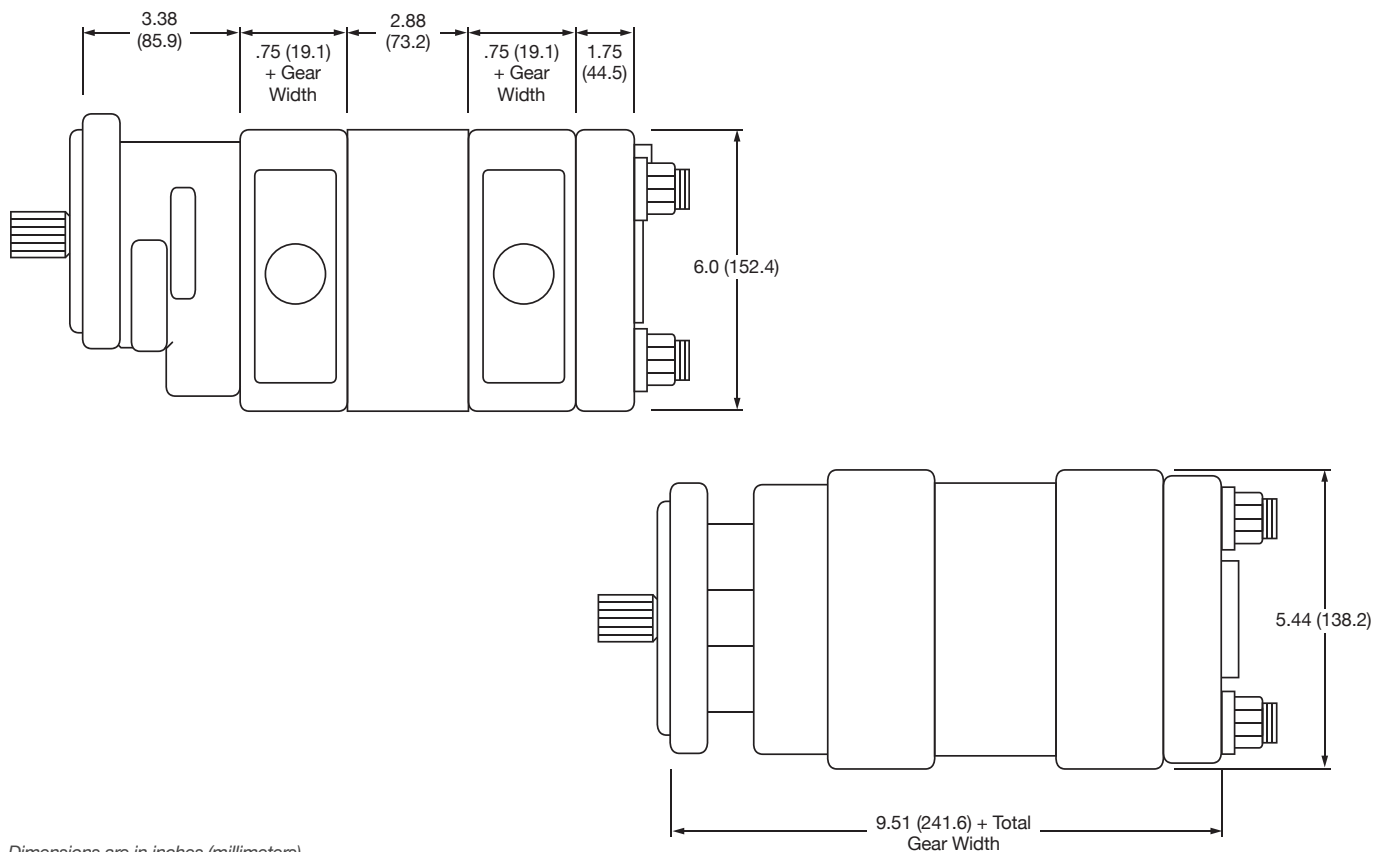
Single Unit

* Shaft dimension will change with the type of shaft used.



Multiple Unit

* Shaft dimension will change with the type of shaft used.



Dimensions are in inches (millimeters).