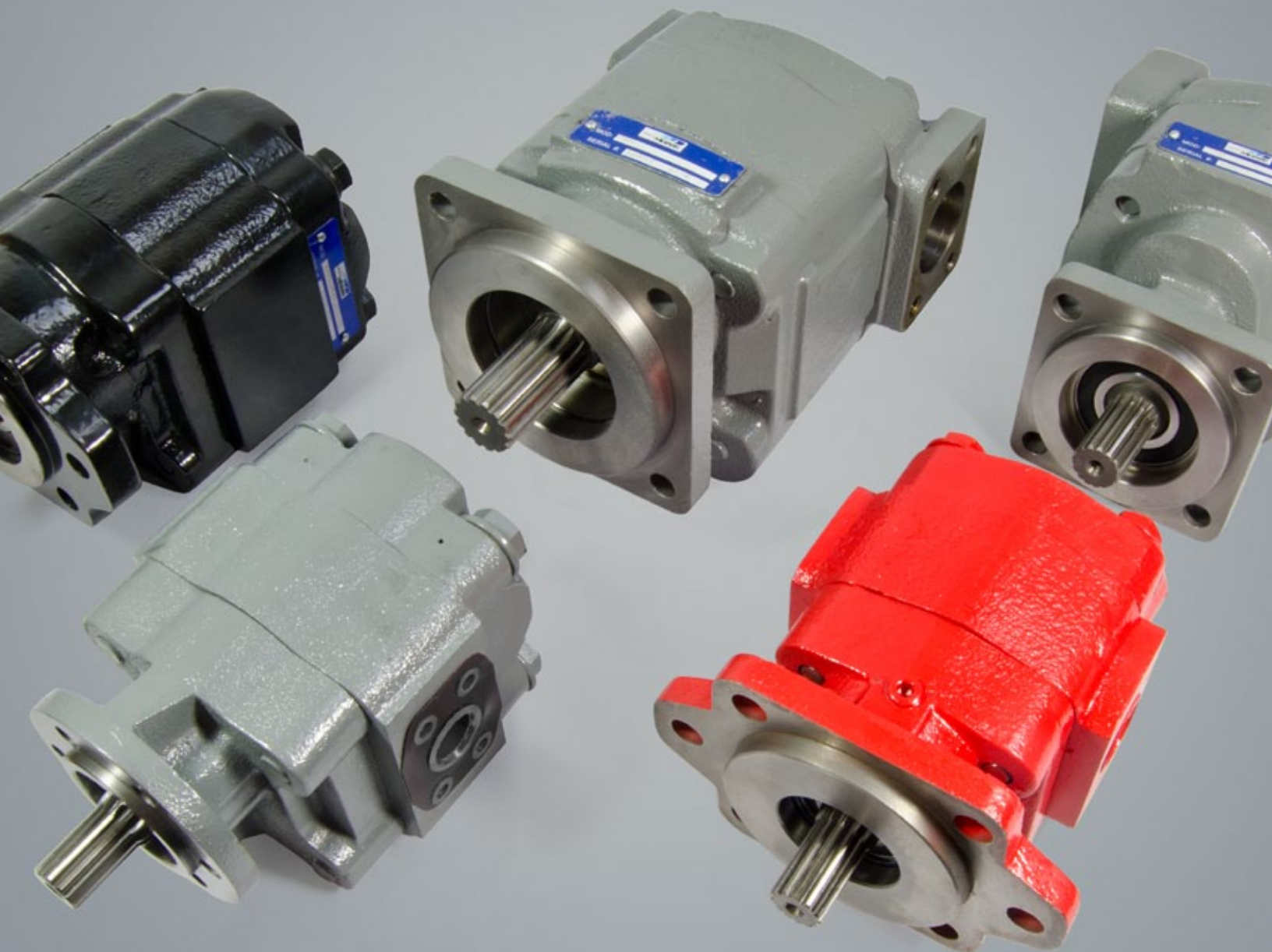


Genuine Metaris Gear Product Technical Catalog

Pumps & Components - MH Series Bearing & Bushing Style



MH101/102 Series Dump Pumps

Features

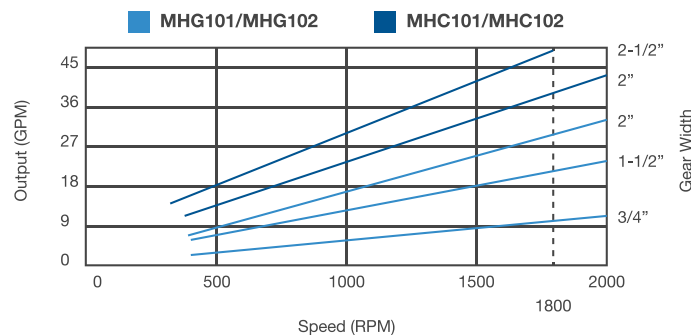
Genuine Metaris Dump Pumps are known for their ruggedness, reliability and interchangeability. Available in both the 101 Remote Mount and the 102 Direct Mount configurations and C or G frames, these pumps offer cast iron construction, a variety of displacements and “Air Shift” capabilities.

- Remote Mount, Direct Mount and Dual Pressure Options
- 3 Piece Cast Iron Construction
- High Pressure Shaft Seals
- Direct Acting Relief C/W Load Check
- Pressure Balance Thrust Plates
- Heavy Duty Roller Bearing
- Two or Three Line Hook-up
- Optional Airshift Control
- Factory set Relief Pressure at 2000 psi
- Optional Mounting Bracket
- Dowelled for Higher Pressure



Specifications

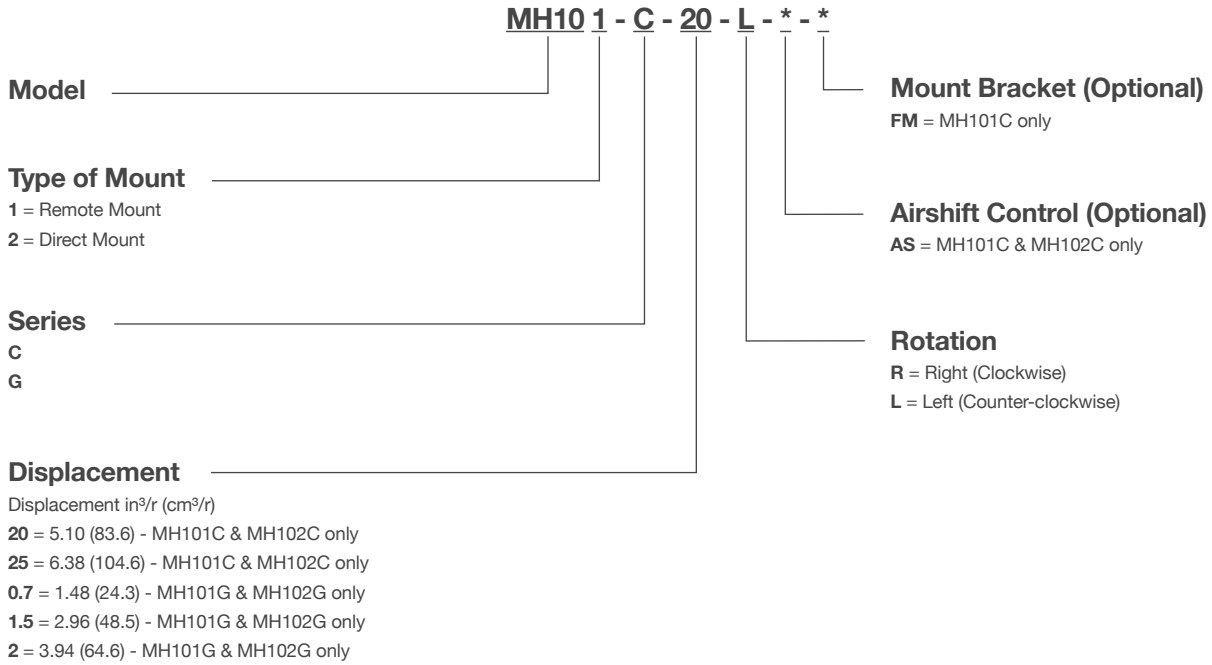
SERIES	REMOTE MOUNT	DIRECT MOUNT	FLOW AT 1800 RPM (GPM/LPM)				MAX RPM	MAX PRESSURE (PSI/BAR)
			3/4"	1-1/2"	2"	2-1/2"		
MH101G	X		9.5 / 36	21 / 79.5	29 / 109.3	-	1800	2500 / 173
MH101C	X		-	-	39 / 147	48 / 180.5	1800	2500 / 173
MH102G		X	9.5 / 36	21 / 79.5	29 / 109.3		1800	2500 / 173
MH102C		X			39 / 147	48 / 180.5	1800	2500 / 173



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.

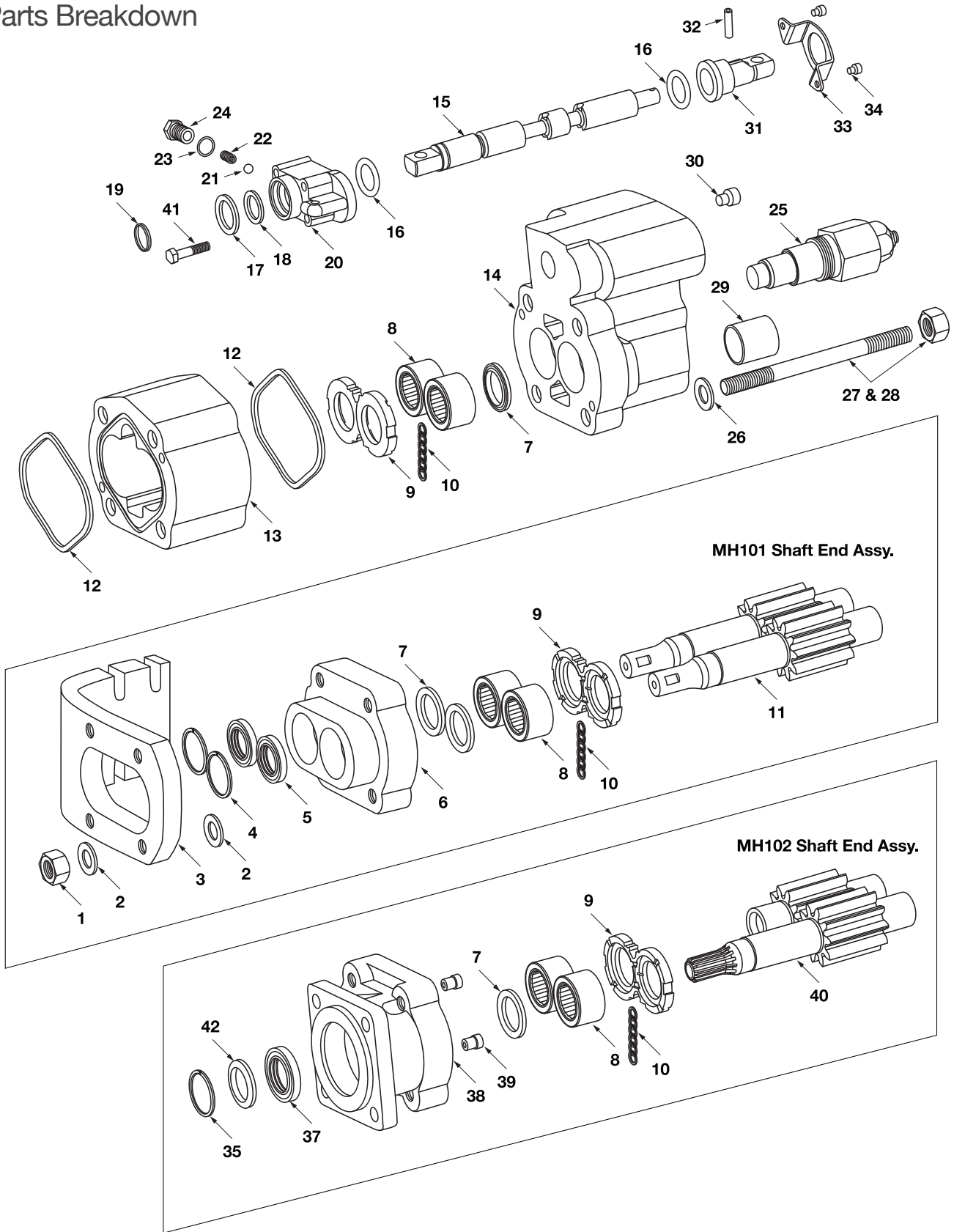
MH101/102 Series Dump Pumps

Model Code Breakdown



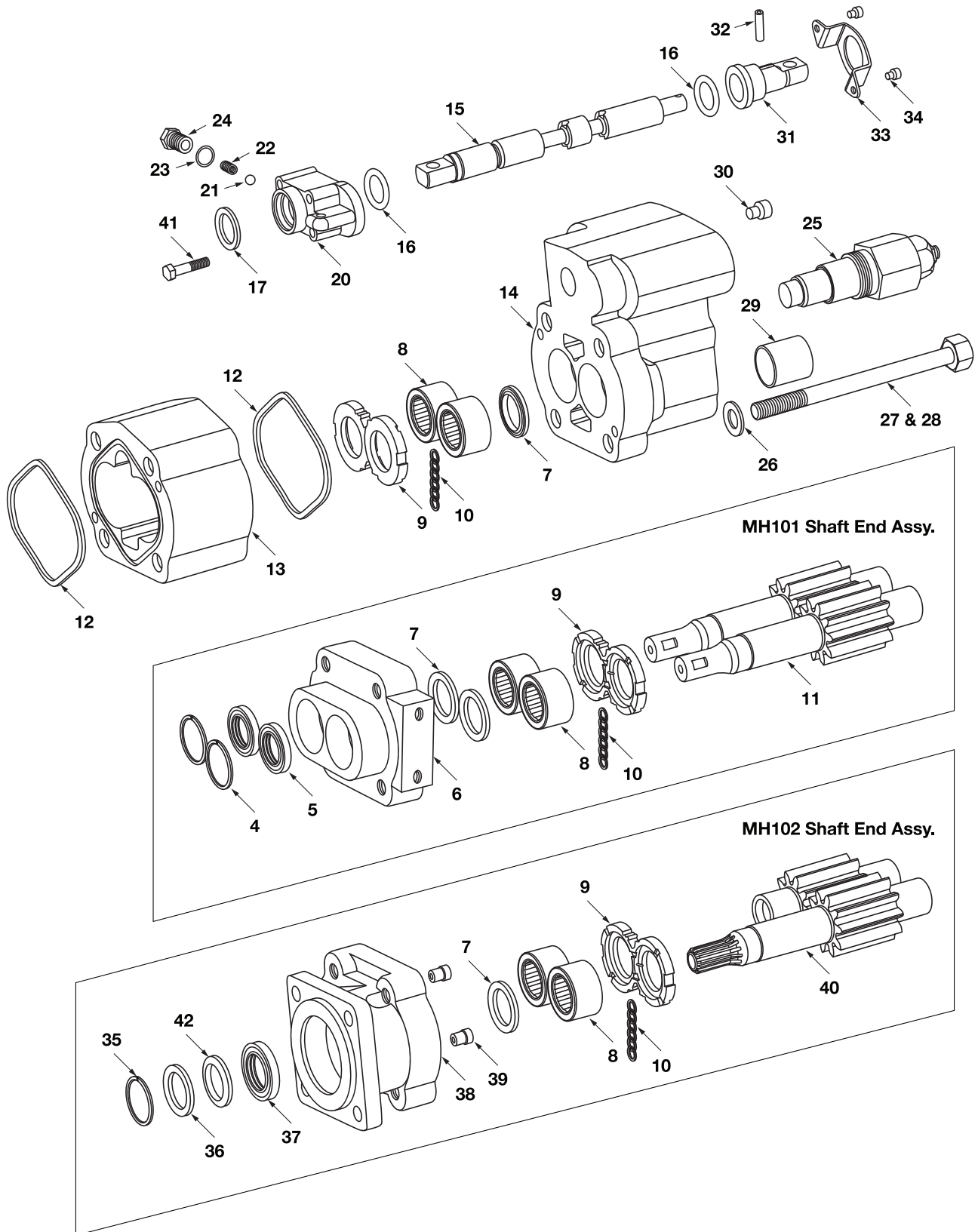
MH101C/102C Series Dump Pumps

Parts Breakdown



MH101G/102G Series Dump Pumps

Parts Breakdown



MH101/102 Series Dump Pumps

Parts Breakdown

DRAWING NO.	DESCRIPTION	MHG SERIES		MHC SERIES	
		METARIS #	ALTERNATE #	METARIS #	ALTERNATE #
1	MHC ONLY HEX NUT	-	-	X42-11-16000	391-1451-076
2	MHC ONLY WASHER	-	-	X45-10-17005	391-3784-028
3	MHC101 BRACKET (OPTIONAL)	-	-	A11-96-39999	314-0100-005
4	MH101 SNAP RING	X05-01-45080	391-2681-487	X05-03-50120	391-2681-493
5	MH101 LIP SEAL	X84-36-02709	391-2883-119	X84-36-03009	391-2883-096
6	MH101 SHAFT END COVER	A13-10-21100	308-5016-201	A11-10-21100	314-5039-201
7	RING SEAL	X81-76-02706	91-2585-006	X81-76-03305	391-2585-009
8	ROLLER BEARING	X03-24-12743	391-0381-068	X03-24-13349	391-0381-059
9	THRUST PLATE	A30-70-10000	391-2185-013	A25-70-10000	391-2185-012
10	POCKET SEAL	X85-11-00002	391-2882-086	X85-11-00002	391-2882-050
11	MH101 SHAFT & GEAR SET	A13-50-XX221	312-29XX-842	A11-50-XX131	314-29XX-640
12	GEAR HOUSING GASKET	X85-11-09203	391-2884-019	X85-11-10803	391-2884-021
13	GEAR HOUSING	A13-32-XX000	308-80XX-901	A11-32-XX000	314-80XX-100
14a	MH101 PORT END COVER	Special Order	308-3910-902	A11-22-01431	314-3910-903
14b	MH102 PORT END COVER	Special Order	308-3910-901	A12-22-01431	314-3910-904
15	SPOOL VALVE	A13-75-15000	308-4000-001	A11-75-15000	314-4000-001
16	O-RING	X86-11-01903	391-1985-014	X81-11-02504	391-2881-103
17	DETENT HOUSING WIPER SEAL	M4022883152	391-2883-152	M4022883147	391-2883-147
18	MHC ONLY RETAINER RING	-	-	X45-19-26003	391-3782-126
19	MHC ONLY SNAP RING	-	-	X05-04-24160	391-2688-003
20	DETENT CAP	A13-96-14176	308-4000-102	A11-96-14891	314-0100-003
21	DETENT BALL	X03-90-10008	391-0282-009	M4022089009	391-0282-009
22	DETENT SPRING	A13-95-00000	391-3581-383	A13-95-00000	391-3581-383
23	LOCK WASHER	X45-17-15004	391-3788-002	X45-17-15004	391-3788-002
24	DETENT RETAINER	A11-60-40000	391-2583-079	A11-60-40000	391-2583-079
25	RELIEF VALVE	A13-75-13000	355-9001-197	A11-75-13000	355-9001-067
26	WASHER	X45-19-15005	391-3782-146	X45-19-17005	391-3784-029
27a	CAP SCREW/ROD / MH101-20	X41-11-14140	391-1401-382	X41-11-XXXXX	391-1401-111
27b	CAP SCREW/ROD / MH101-25	-	-	X41-11-16191	391-1401-110
28a	CAP SCREW/ROD / MH102-20	X41-11-14140	391-1401-382	Special Order	391-1425-433
28b	CAP SCREW/ROD / MH102-25	-	-	Special Order	391-1425-432

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. A13-50-XX221 changes to A13-50-15221 for 1.5" gear size
 Housing no. A13-32-XX000 changes to A13-32-15000 for a 1.5" housing size
 No porting sizes have been indicated all porting must be specified when ordering parts.

MH101/102 Series Dump Pumps

Parts Breakdown

DRAWING NO.	DESCRIPTION	MHG SERIES		MHC SERIES	
		METARIS #	ALTERNATE #	METARIS #	ALTERNATE #
29	OPTIONAL SLEEVE	A11-92-32370	391-3283-052	A11-92-32370	391-3283-052
30	PIPE PLUG	X02-02-23190	391-2282-003	X02-02-23250	391-2282-006
31	SPOOL END CAP	A13-96-23249	391-1881-072	A11-96-23869	391-1881-073
32	SPIRAL PIN	A00-94-30525	391-2085-009	A00-94-30525	391-2085-009
33	BRACKET	A13-96-34168	391-0981-007	A11-96-34884	391-0981-010
34	S.H.C. SCREW	X41-22-06010	391-1402-063	X41-22-06010	391-1402-063
35	MH102 SNAP RING	X05-03-56200	391-2686-063	X05-03-77250	391-2686-065
36	MH102 SPACER	A30-92-38520	391-3383-069	-	-
37	MH102 LIP SEAL	X84-36-02709	391-2883-119	X84-36-03309	391-2883-115
38	MH102 SHAFT END COVER	A20-10-21420	308-5030-201	A50-10-21420	313-5033-201
39	CHECK VALVES	A00-75-11000	391-3681-001	A00-75-11000	391-3681-001
40	MH102 SHAFT & GEAR SET 7/8" X 13 TOOTH SPLINE	A30-50-XX221	312-29XX-130	A50-50-XX221	314-29XX-130
41a	CAP SCREW (Not Shown) MHG-Qty 2, MHC-Qty 4	X41-12-06019	391-1433-020	X41-11-08044	391-1401-082
42	MH102 SEAL RETAINER	A20-60-10000	391-3381-040	A50-60-10000	391-3383-087
Not Shown	SHAFT KEY	X01-01-61032	391-1781-021	X01-01-61032	391-1781-021
Not Shown	SEAL RETAINER	A13-60-10000	391-2183-124	-	-

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.

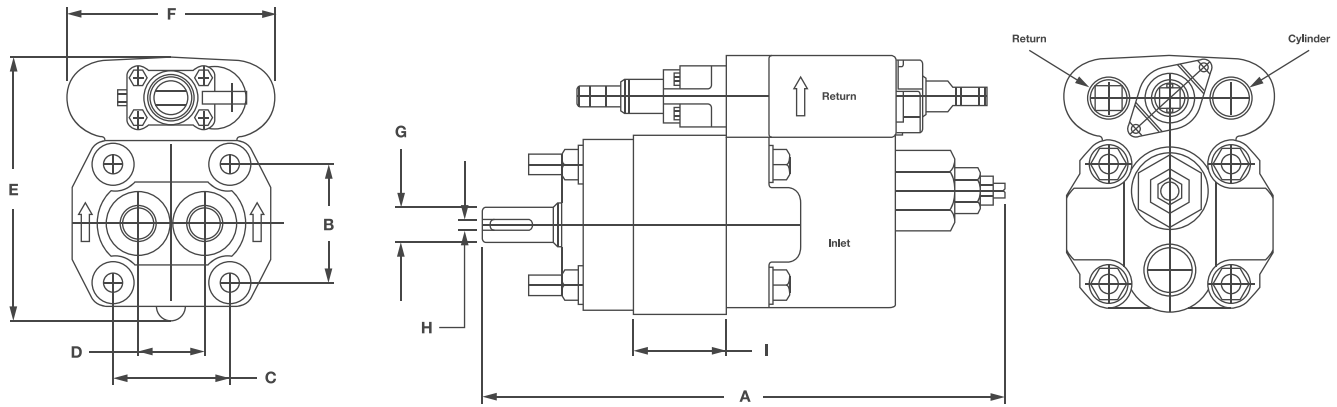
For example: Gear set no. A13-50-XX221 changes to A13-50-15221 for 1.5" gear size
 Housing no. A13-32-XX000 changes to A13-32-15000 for a 1.5" housing size
 No porting sizes have been indicated all porting must be specified when ordering parts.

MH101 Series Dump Pumps

Dimensions

Dimensions are in inches (millimeters).

- Weight: 31 - 70 lbs



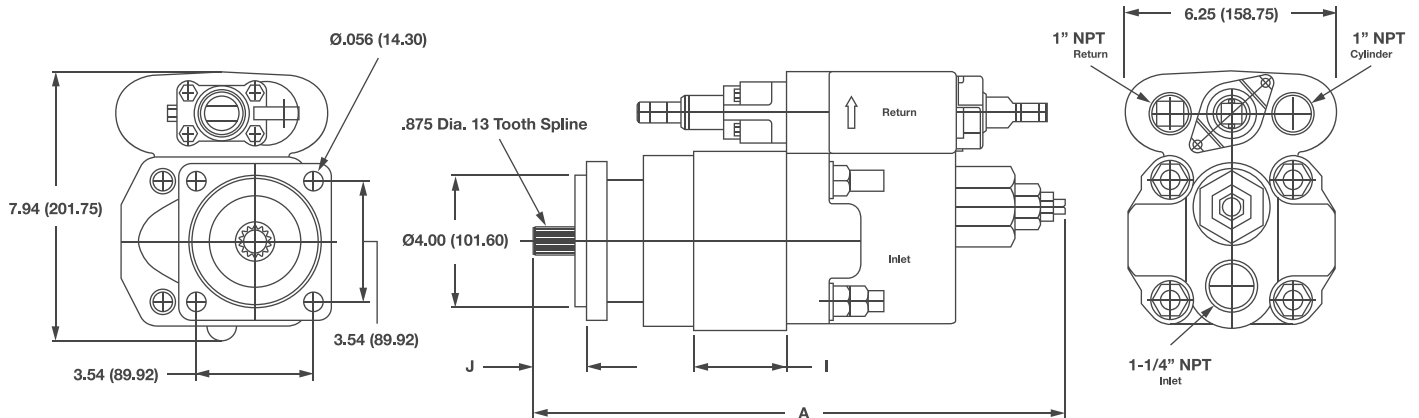
SERIES	A	B	C	D	E	F	G	H	I (25)	I (20)	I (1.5)	I (.75)
MHC101	13.12+GW	3.6 (91.4)	3.56 (90.4)	2 (50.8)	7.9 (201.7)	6.25 (158.8)	1 (25.4)	.25 (6.35)	3.25 (82.6)	2.75 (69.9)	-	-
MHG101	10.6 (269.2)	-	-	1.75 (44.5)	6.1 (154.9)	5.3 (134.6)	1 (25.4)	.25 (6.35)	-	2 (50.8)	.75 (19.1)	1 (25.4)

MH102 Series Dump Pumps

Dimensions

Dimensions are in inches (millimeters).

- Weight: 31 - 70 lbs



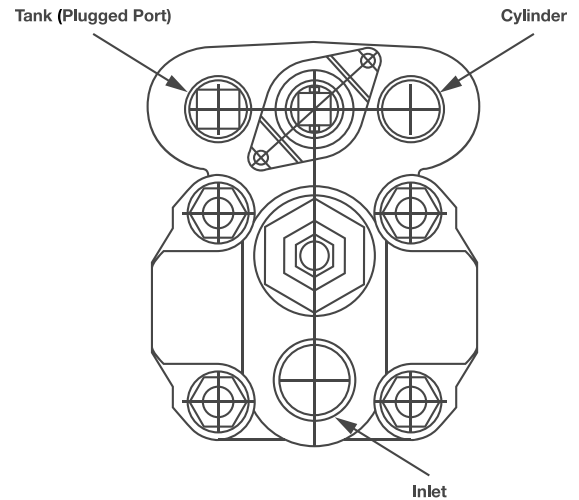
SERIES	A	B	C	D	E	F	G	H	I (25)	I (20)	I (1.5)	I (.75)	J
MHC102	13.62+GW	-	-	-	7.94 (201.7)	6.25 (158.8)	.875 (22.2)	-	3.25 (82.6)	2.75 (69.9)	-	-	1.62 (41.1)
MHG102	11.38+GW	-	-	-	7.94 (201.7)	6.25 (158.8)	.875 (22.2)	-	-	2 (50.8)	.75 (19.1)	1 (25.4)	1.31 (33.3)

MH101/102 Series Dump Pumps

Installation and Operation

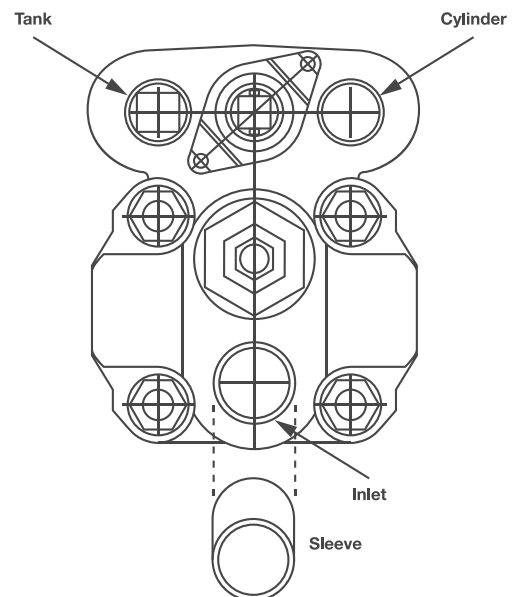
TWO LINE INSTALLATION

- One line to the cylinder
- One line to the supply line of the reservoir
- Tank port on the pump is plugged
- When the spool is in neutral, oil recirculates internally
- When the spool is in the raised position, oil is routed to the cylinder port to raise the cylinder
- When the spool is in the lower position, oil flow from the cylinder is routed back through the relief back to the inlet of the pump
- **NOTE: For intermittent use only**



THREE LINE INSTALLATION

- One line to the cylinder
- One line to the supply line of the reservoir
- One line to the return line of the reservoir
- The sleeve is installed in the inlet port of the pump
- **NOTE: For intermittent or continuous use**



WHEN INSTALLING AIR SHIFTERS

- Lubricate all moving parts before assembly
- Do not over tighten the mounting bolts
- Operate the spool by air to inspect proper movement

