



Monarch D.C. Hydraulic Power Systems

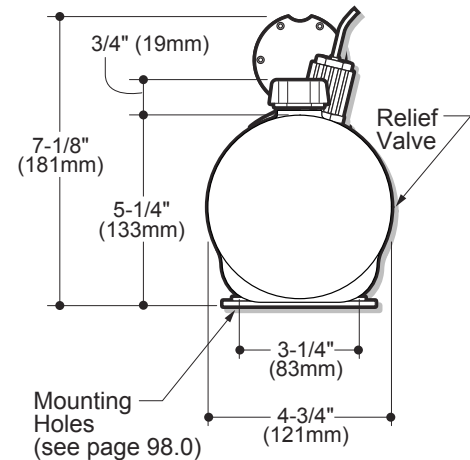
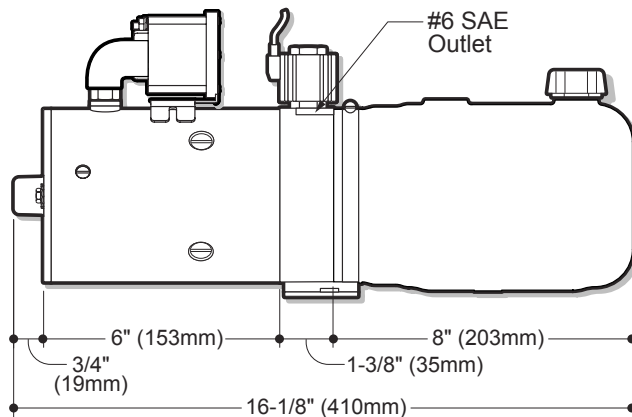
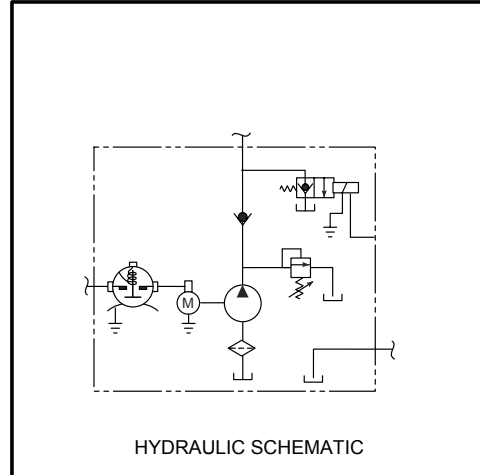
MODEL M-319

Description:

- Pump/Motor/Reservoir/Valve
- Check Valve
- 2-Way/2-Position Normally Closed Solenoid Operated Lowering Valve
- Externally Adjustable Relief Valve
- #6 SAE Outlet
- Horizontal Mounting Standard

Popular Options:

- Control Box and Cord
- Vertical Mounting. Motor Up



How to Order Your M-319 Dyna-Jack®

Comprehensive information may be found on the page referenced below each selection category.

Shown as Standard with:								
	08111	12	06102	17757	04560	Horiz.		
PUMP	MOTOR	VOLTAGE	RESERVOIR (LENGTH)	MOTOR START SWITCH	MOUNTING BRACKET	MOUNTING POSITION	OPTIONAL ACCESSORIES	CONTROL STATION
Ref. Page 54.0	Ref. Page 61.0		Ref. Page 87.0-93.0	Ref. Page 96.0	Ref. Page 98.0		Ref. Page 99.0	Ref. Page 97.0

Reference Pages are attached. Scroll Down to view the Reference Pages.



M Series D.C. Pump Data

PUMP CODE	DISPLACEMENT
	In ³ /Rev (Cm ³ /Rev)
12637 - 100 (New)	0.022 (0.361)
12637 - 120 (71)	0.027 (0.443)
12637 - 150 (72)*	.032 (.524)
12637 - 190 (73)*	.042 (.690)
12637 - 270 (62)*	.057 (.934)
12171 - 150 (42)	.077 (1.26)
12171 - 200 (43)	.099 (1.66)
12171 - 250 (03)	0.125 (2.13)
12171 - 270 (51)	0.137 (2.31)
12171 - 330 (New)	0.168 (2.76)
12171 - 380 (05)	0.193 (3.23)
* denotes <i>i</i> - Pump	

Recommended Operating Conditions for M Series Pumps:

Operating Temperature: -20°F to 130°F (-29°C to 54°C)

Oil Viscosity:

Optimum 100 to 350 SUS (Cst = .22 x SUS - 135/SUS)

Minimum 100 SUS at Operating

Maximum Start Up 4000 SUS

Recommended Fluid for indoor use:

Mobil DTE 24 or equal

Recommended Fluid for outdoor use:

ATF Dexron II or equal

STANDARD PUMP FEATURES:

- Fixed Displacement, External Tooth Gears
- Hardcoat Processed Internal Pump Surfaces
Extend Service Life
- Extremely Tolerant of Fluid Contaminants and Resistant to Galling Caused by Low Temperature Start-up
- Wide Temperature and Viscosity Operation
- Cost Effective
- Thrust Ball on Drive Shaft Minimizes Axial Thrust Effects

M Series D.C. Motor Information

PART NUMBER	VOLTAGE	INSULATION CLASS	DIMENSIONS PAGE	NUMBER OF TERMINALS	HOUSING DIAMETER INCH (MM)	UL LISTED	DESCRIPTION *SEE KEY
08053	12	A	62.0	1	3" (77mm)	NO	PM /ID
08111-D	12	B	63.0	1	4.5" (115mm)	NO	SW /ID
08111-E	12	B	63.0	1	4.5" (115mm)	NO	SW /ID
08058	12	B	64.0	1	4.5" (115mm)	NO	SW /ID Ball Bearing Commutator End
08112	12	B	65.0	1	4.5" (115mm)	NO	CW /ID
08117	12	B	66.0	2	4.5" (115mm)	YES	SW /ID
08100	12	B	67.0	1	4.5" (115mm)	NO	SW /HD
08050	12	H	68.0	2	5.5" (140mm)	YES	SW /ED
08163	12	H	69.0	2	4.6" (117mm)	NO	PM /ID
08164	12	H	70.0	2	5.75" (146mm)	NO	PM /ID
08045	12	B	71.0	1	4.5" (115mm)	NO	SW /ID
08056	12	H	72.0	2	4.5" (115mm)	YES	SW /ID
08030	24	B	73.0	2	4.5" (115mm)	NO	SW /ID
08004	12	F	74.0	1	3.25" (83mm)	NO	PM /ID
08189	12	F	75.0	1	4.5" (115mm)	NO	SW /ID
08051	24	A	76.0	2	3" (77mm)	NO	PM /ID
08120	24	B	77.0	2	4.5" (115mm)	YES	SW /ID
08035	24	H	78.0	2	4.6" (117mm)	NO	PM /ID
08066	12	H	79.0	2	5.5" (140mm)	NO	SW /HD
08195	24	F	80.0	1	3.25" (83mm)	NO	PM /ID
08168	36	H	81.0	2	4.6" (117mm)	NO	PM /ID
08055	36	B	82.0	2	4.5" (115mm)	NO	SW /ID
08040	48	H	83.0	2	4.6" (117mm)	NO	PM /ID
08055	48	B	84.0	2	4.5" (115mm)	NO	SW /ID
08174	72	H	85.0	2	4.6" (117mm)	NO	PM /ID

Key to Abbreviations:

PM = Permanent Magnet
ID = Intermittent Duty

SW = Series Wound
ED = Extended Duty

CW = Compound Wound
HD = Heavy Duty

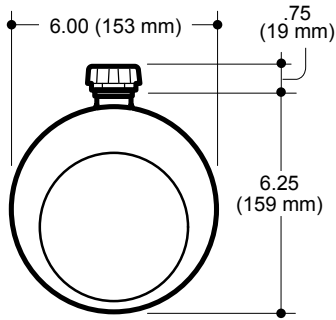
LD = Light Duty

A Thermal Protection Switch is available as an option on most motors and must be used with a solenoid motor start switch. Refer to the Thermal Chart on Page 86.0 for Motor Thermal Performance Data.

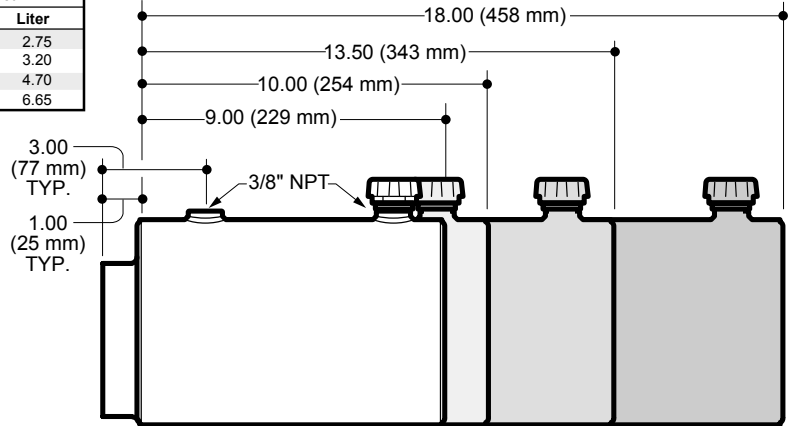


M-Series Reservoirs

Part No.	Length In(mm)	Useable Capacity			
		Horizontal		Vertical	
		In ³	Liter	In ³	Liter
06042	9.00 (229 mm)	190	3.10	168	2.75
06043	10.00 (254 mm)	217	3.56	194	3.20
06044	13.50 (343 mm)	292	4.80	285	4.70
06045	18.00 (458 mm)	394	6.45	405	6.65

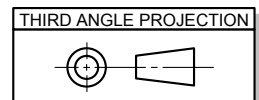
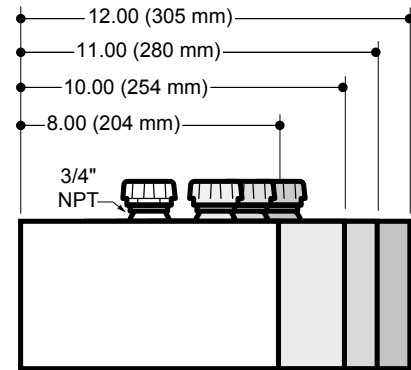
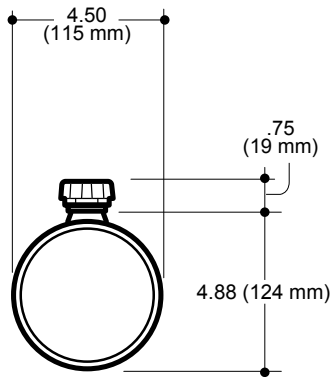


Steel



Steel

Part No.	Length In(mm)	Useable Capacity	
		In ³	Liter
06661	8.00 (204 mm)	60	1.00
06663	10.00 (254 mm)	85	1.40
06664	11.00 (280 mm)	98	1.60
06665	12.00 (305 mm)	111	1.80

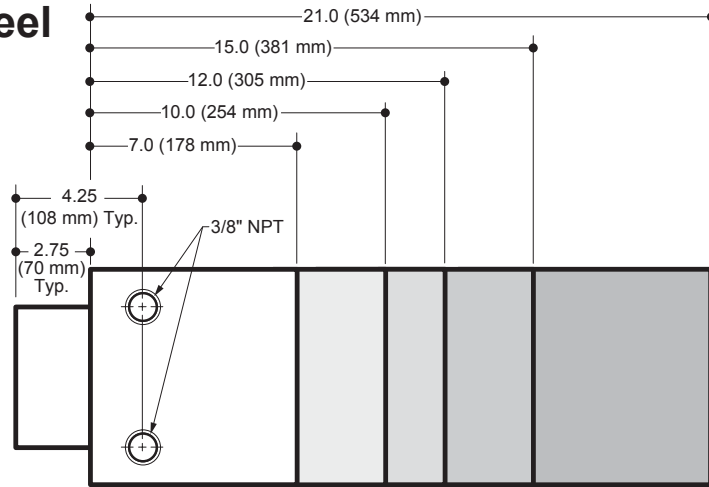
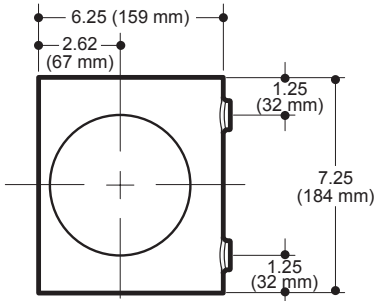


M-Series Reservoirs

Vertical Mounting. Motor Up - Optional.

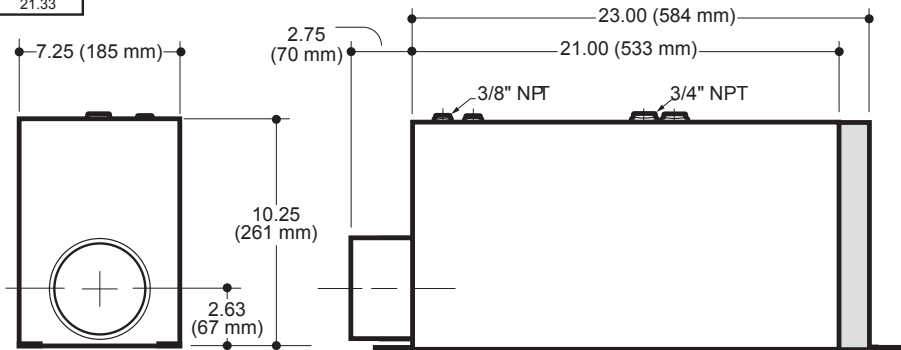
Part No.	Length In(mm)	Useable Capacity	
		In ³	Liter
06861	7.00 (178 mm)	236	3.86
06862	10.00 (254 mm)	348	5.70
06328	12.00 (305 mm)	406	6.65
06864	15.00 (381 mm)	510	8.36
06888	21.00 (534 mm)	715	11.72

Steel



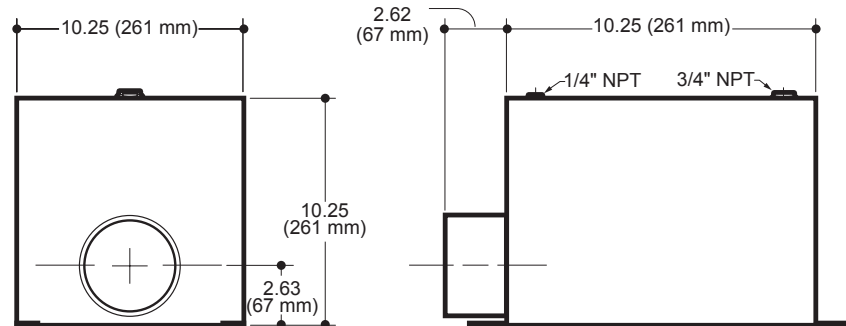
Part No.	Length In(mm)	Useable Capacity	
		In ³	Liter
06982	21.00 (533 mm)	1193	19.55
06397	23.00 (584 mm)	1302	21.33

Steel

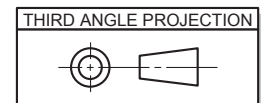


Steel

Useable Capacity		
Part No.	In ³	Liter
06681	1155	18.92



This reservoir is not suitable for modular power units.





Updated 10/06/2006

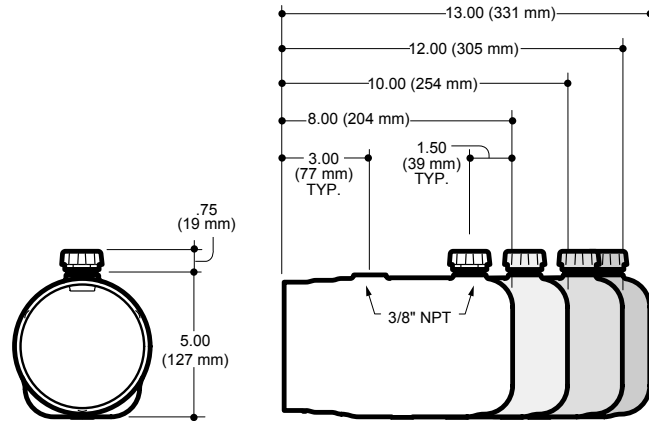
M-Series Reservoirs
4.5" Diameter

HORIZONTAL			'L' Dim	
Part No.	Useable Volume			
	Cu IN	Liter	Inch	mm
06102	54.92	0.90	8.00	203.20
06103	75.67	1.24	10.00	254.00
06104	96.41	1.58	12.00	304.80
06105	106.79	1.75	13.00	330.20

VERTICAL			'L' Dim	
Part No.	Useable Volume			
	CU IN	Liter	Inch	mm
04616	36.61	0.60	8.00	203.20
04617	65.91	1.08	10.00	254.00
04618	95.20	1.56	12.00	304.80
04619	109.84	1.80	13.00	330.20

Useable Volume may be increased 7.5% with the addition of a suction shroud assembly 13082
When using an I pump, up to 3% reduction in useable volume should be expected.

Poly

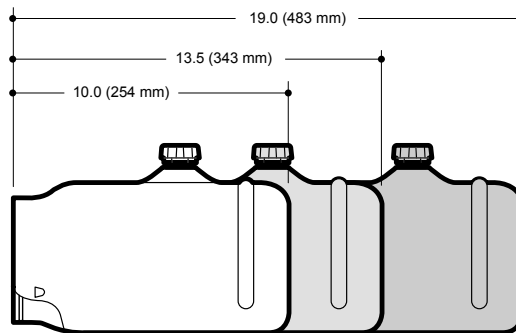
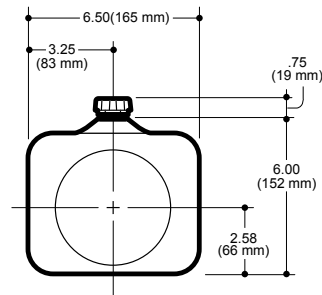


Poly

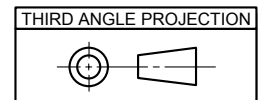
5.5" X 6.5" Top

HORIZONTAL			'L' Dim	
Part No	Useable Volume			
	Cu IN	Liter	Inch	mm
14157	143.40	2.35	10.00	254.00
14158	220.00	3.61	13.50	342.90
14159	347.23	5.69	19.00	482.60
04845	143.40	2.35	10.00	254.00
04846	220.00	3.61	13.50	342.90
04687	326.48	5.35	19.00	482.60

Useable Volume may be increased 8% with the addition of a suction shroud assembly 13082
When using an I pump, up to 3% reduction in useable volume should be expected



These reservoirs are not suitable for some modular power units. Consult factory for optional reservoirs for your application.



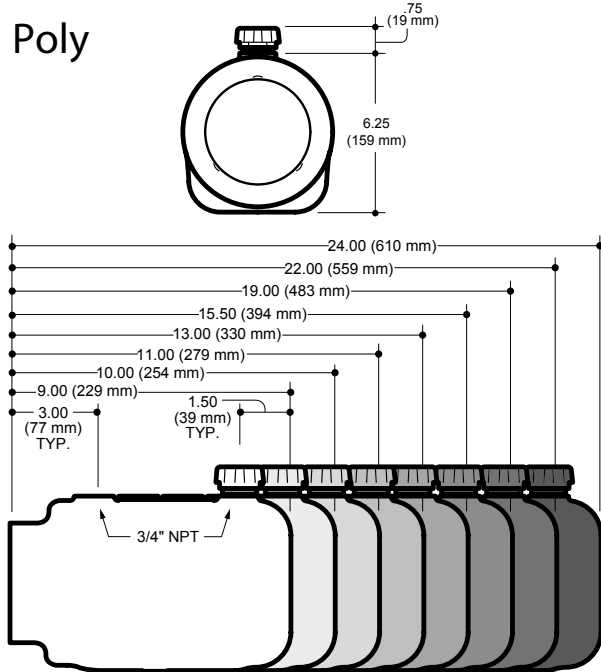
UPDATED 10/6/2006

Monarch Hydraulics, Inc.

M-Series Reservoirs 6" Centered

HORIZONTAL			'L' Dim	
Part No.	Useable Volume			
	Cu IN	Liter	Inch	mm
14128	118.37	1.94	9.00	228.60
14121	136.19	2.23	10.00	254.00
14122	154.01	2.52	11.00	279.40
14123	189.65	3.11	13.00	330.20
14124	234.20	3.84	15.50	393.70
14125	296.57	4.86	19.00	482.60
14126	350.03	5.74	22.00	558.80
14127	385.68	6.32	24.00	609.60

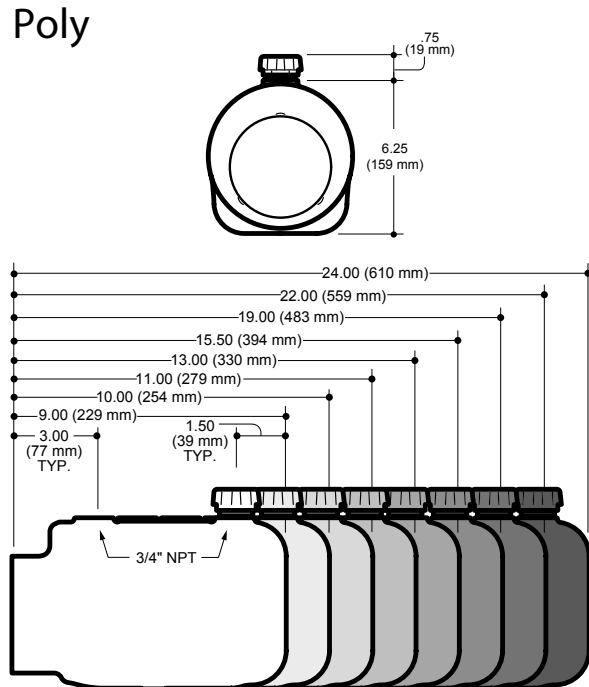
VERTICAL			'L' Dim	
Part No.	Useable Volume			
	CU IN	Liter	Inch	mm
14001	82.41	1.35	9.00	228.60
14002	111.07	1.82	10.00	254.00
14003	139.72	2.29	11.00	279.40
14004	197.04	3.23	13.00	330.20
14005	268.68	4.40	15.50	393.70
14006	368.98	6.05	19.00	482.60
14007	454.95	7.46	22.00	558.80
14008	512.27	8.40	24.00	609.60



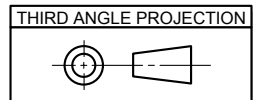
M-Series Reservoirs 6" Offset

HORIZONTAL			'L' Dim	
Part No.	Useable Volume			
	Cu IN	Liter	Inch	mm
14009	123.57	2.03	9.00	228.60
14010	143.40	2.35	10.00	254.00
14011	163.23	2.68	11.00	279.40
14012	202.89	3.33	13.00	330.20
14013	252.47	4.14	15.50	393.70
14014	321.87	5.28	19.00	482.60
14015	381.36	6.25	22.00	558.80
14016	421.02	6.90	24.00	609.60

VERTICAL			'L' Dim	
Part No.	Useable Volume			
	CU IN	Liter	Inch	mm
14133	88.49	1.45	9.00	228.60
14134	112.90	1.85	10.00	254.00
14135	137.31	2.25	11.00	279.40
14136	186.13	3.05	13.00	330.20
14137	247.15	4.05	15.50	393.70
14138	332.59	5.45	19.00	482.60
14139	405.82	6.65	22.00	558.80
14140	454.64	7.45	24.00	609.60



These reservoirs are not suitable for some modular power units. Consult factory for optional reservoirs for your application.



* Note: Useable Volume may be increased 6% with the addition of a suction shroud assembly 13082. When using an I pump, up to 3% reduction in useable volume should be expected.



UPDATED 10/06/2006

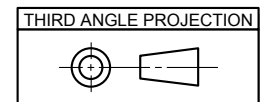
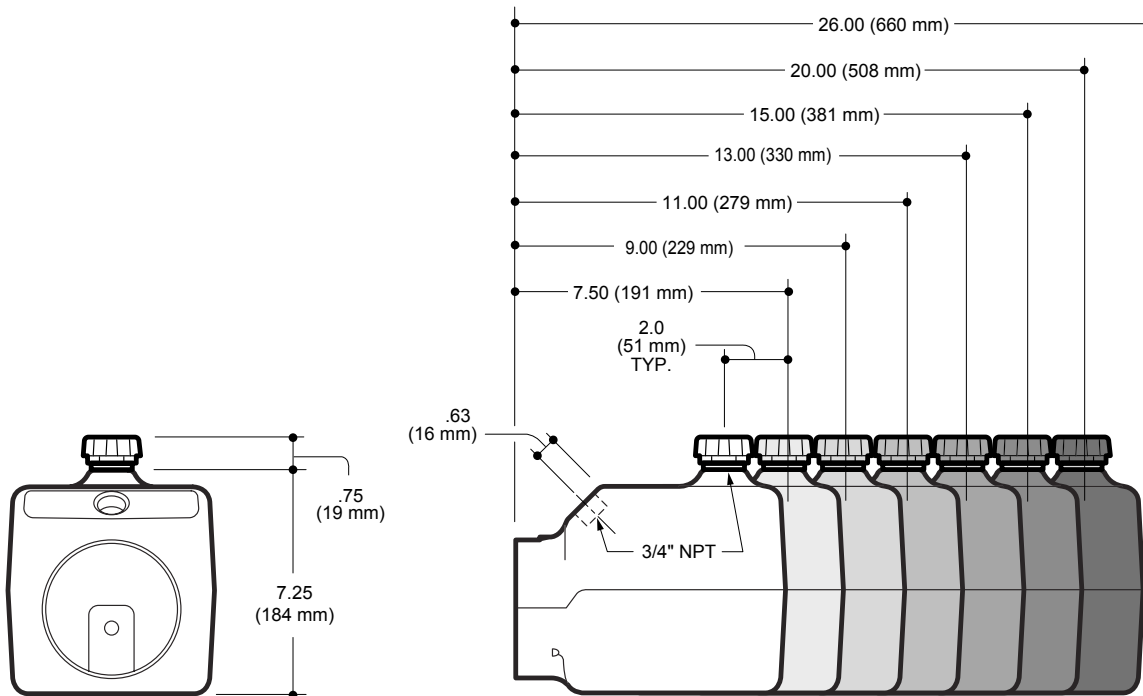
M-Series Reservoirs 6.75" x 6.75"

Poly

Part No.	HORIZONTAL		'L' Dim	
	Useable Volume		Inch	mm
	Cu IN	Liter		
14164	157.14	2.58	7.50	190.50
14165	203.21	3.33	9.00	228.60
14166	264.64	4.34	11.00	279.40
14167	326.07	5.34	13.00	330.20
14168	387.50	6.35	15.00	381.00
14169	541.08	8.87	20.00	508.00
14170	725.37	11.89	26.00	660.40

Part No.	VERTICAL		'L' Dim	
	Useable Volume		Inch	mm
	CU IN	Liter		
14183	85.43	1.40	7.50	190.50
14184	149.51	2.45	9.00	228.60
14185	234.94	3.85	11.00	279.40
14186	320.37	5.25	13.00	330.20
14187	404.81	6.63	15.00	381.00
14188	619.39	10.15	20.00	508.00
14189	875.69	14.35	26.00	660.40

*Note: Useable Volume may be increased 5% with the addition of a suction shroud assembly 13082. When using an I pump, up to 3% reduction in useable volume should be expected.

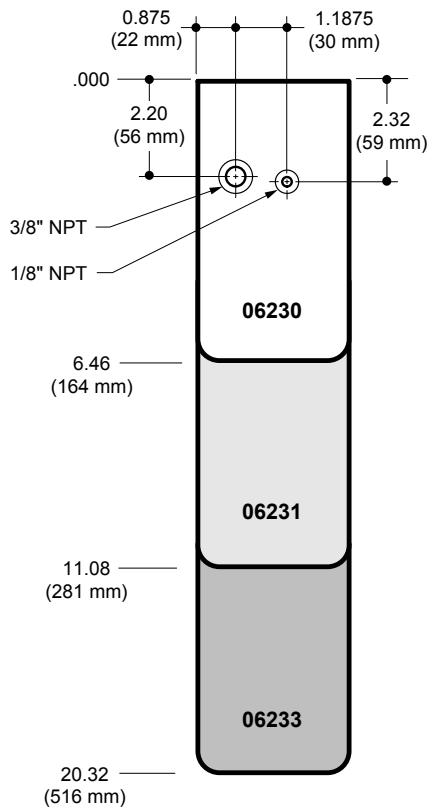
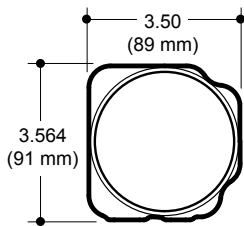


Reservoirs for Mini Units

3.5" X 3.5" MINI

P/N	HORIZONTAL		P/N	VERTICAL		'L' Dim	
	Useable Volume			Useable Volume			
	Cu IN	Liter		CU IN	Liter		
06230	30.51	0.50	06230	24.50	0.40	6.46	164.08
06231	62.04	1.02	06231	69.22	1.13	11.08	281.43
06233 *	125.10	2.05	06233 *	158.67	2.60	20.32	516.13

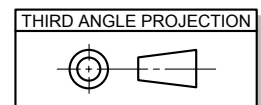
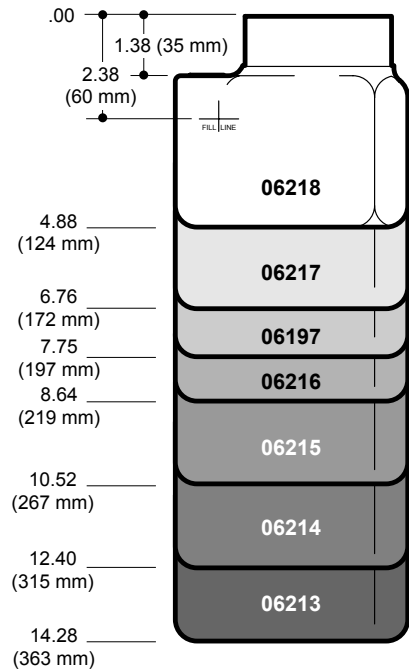
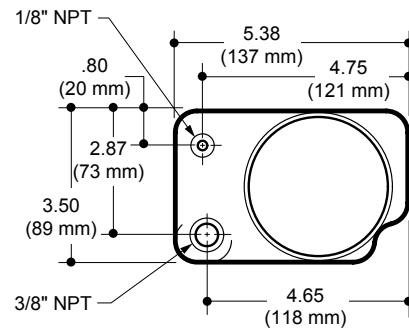
Poly



3.5" X 5.38" MINI

P/N	HORIZONTAL		P/N	VERTICAL		'L' Dim	
	Useable Volume			Useable Volume			
	Cu IN	Liter		CU IN	Liter		
06218	32.34	0.53	06218	27.46	0.45	4.88	123.95
06217	50.89	0.83	06217	58.58	0.96	6.76	171.70
06197	60.66	0.99	06197	74.97	1.23	7.75	196.85
06216	69.44	1.14	06216	91.54	1.50	8.64	219.46
06215 *	88.00	1.44	06215 *	120.83	1.98	10.52	267.21
06214 *	106.55	1.75	06214 *	151.95	2.49	12.40	314.96
06213 *	125.10	2.05	06213 *	183.08	3.00	14.28	362.71

Poly

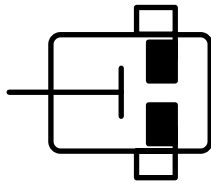


* Reservoir should not be used in a horizontal application without first consulting engineering (Special supports may be required.)

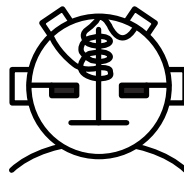


Motor Start Switches for D.C. Power Systems

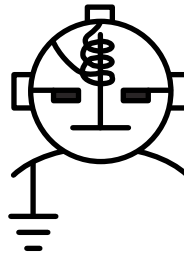
Wiring Diagrams



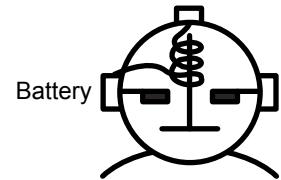
"A"



"B"



"C"



"D"

PART NUMBER	VOLTAGE	WIRING DIAGRAM	COIL DUTY	DESCRIPTION
03336	12	D	Int.	Insulated Ground
17757	12	C	Int.	
03467	24	C	Int.	
17744	12	B	Int.	
03463	24	B	Int.	
17757	12	C	Int.	
17744	12	B	Int.	
07519	24	C	Int.	Tower
17764	24	B	Int.	
03322	12/24	A	N.A.	Manual Start Only - M-301, M-313
04343	12/24	A	N.A.	Round Valve. Cam Start M-310 Only
01349	N.A.	N.A.	N.A.	Bus Bar
13155	N.A.	N.A.	N.A.	Bus Bar for use with 17744 & 17757 Solenoids
04776	N.A.	N.A.	N.A.	Bus Bar for Tower Switches
01361	N.A.	N.A.	N.A.	Battery Cable, 5" Long
01628	N.A.	N.A.	N.A.	Battery Cable, 6" Long

Switches are available with curved mounting for direct attachment to power unit or with flat base for remote mounting. Other Motor Start Switches are also available. Contact Factory.

Key To Abbreviations. H.D. = Heavy Duty
Int. = Intermittent Duty

Control Stations

FIGURE 1

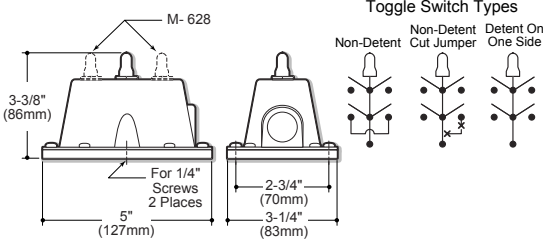


FIGURE 3

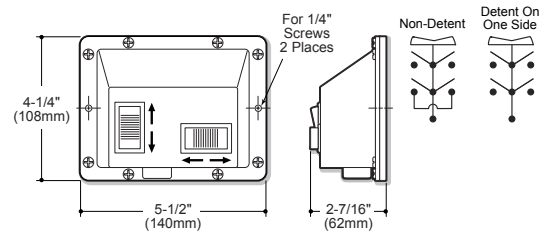


FIGURE 2

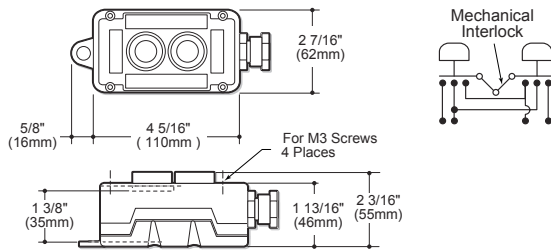


FIGURE 4

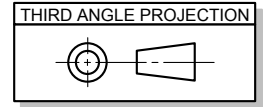
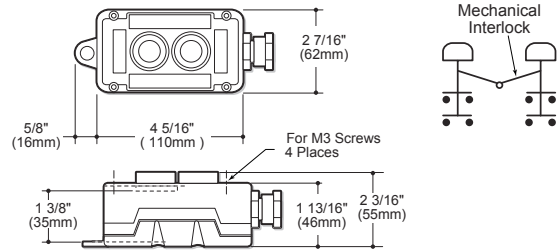
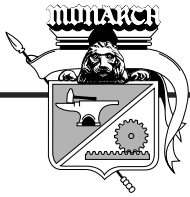
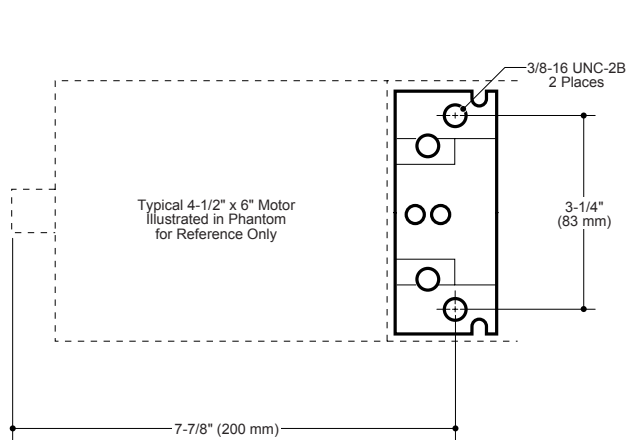


FIGURE	SWITCH SYMBOL	MODELS USED ON	PART NUMBER
1*		M-303, M-319, M-314, M-3519, M-3541	03409
1*		M-642, M-3551, M-3515, M-3554	03487
1		M-3528 M-303, M-319, M-314, M-3519, M-719	03451
2		M-642, M-3551, M-3515, M-3530, M-3547, M-3554	07995
3		M-680'S	03197 (DETENTED) 03201 (NON-DETENTED)
4		M-303, M-319, M-314, M-3519, M-719	07993

NOTE: The above Control Stations may be used with other Power Units. Consult Factory.

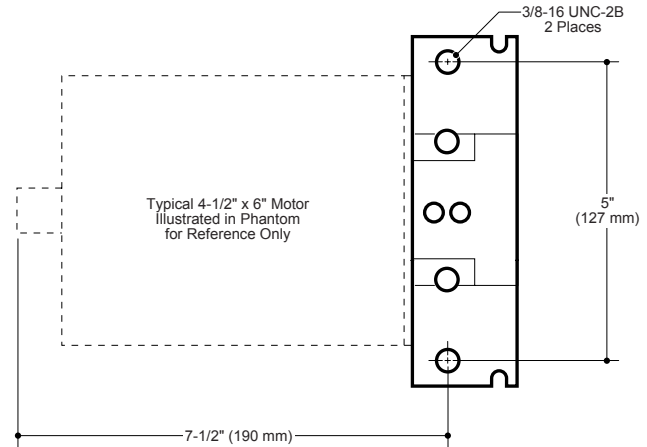


Mounting Brackets



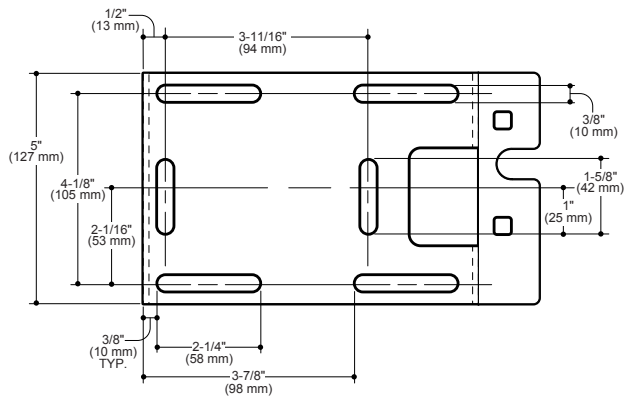
04560

May Be Used on Most M Series Units with 4.5" Ø (114mm Ø) Base, M 10 x 1.5 Thread also Available. Consult Factory.



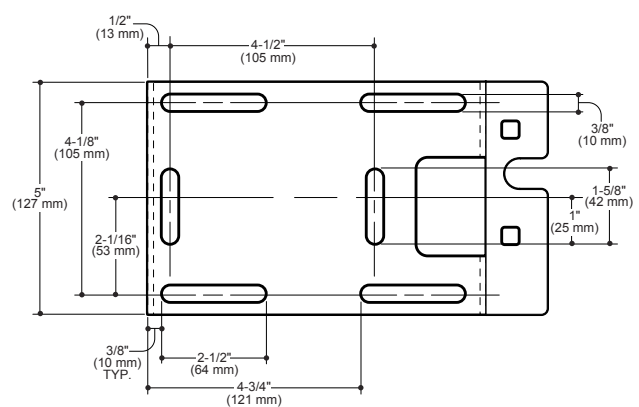
04559

May Be Used on Most M Series Units with 4.5" Ø (114mm Ø) Base, M 10 x 1.5 Thread also Available. Consult Factory.



02238

May Be Used With Motors: 08055, 08056, 08057, 08092, 08111, 08112, 08117, 08120



01289

May Be Used With Motor: 08100

Motors 08035, 08040, 08050, 08163, 08168, and 08174 have their own mounting bracket (see motor dimension section of this catalog). Custom brackets are also available. Contact factory.

Popular Accessories For DC Power Systems

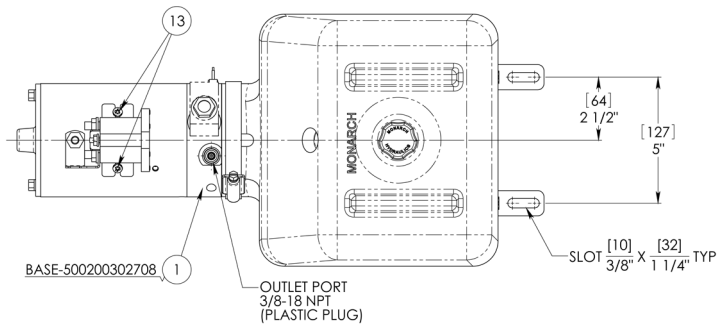
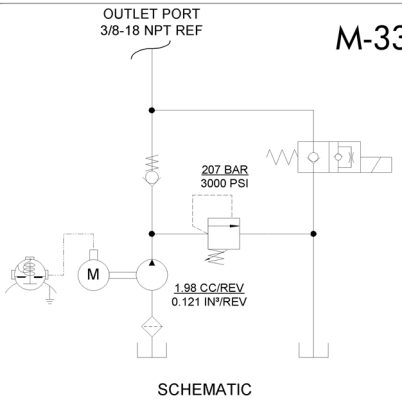
PART NUMBER	DESCRIPTION
01436	Sight Level/Temperature Gauge. For Use on Large Reservoirs Only.
01516	Reservoir Breather, Flush Mount, .375" NPT. Cross Scored
03171	Reservoir Breather, .375" NPT.
01143	Reservoir Breather, .750" NPT.
01670	Sight Glass. 3/4" NPT.
03219	Pressure Gauge. Liquid Filled. 1/4" NPT. 0-500 PSI.
01434	Pressure Gauge. Liquid Filled. 1/4" NPT. 0-3000 PSI.
01790	Pressure Gauge. Liquid Filled. 1/4" NPT. 0-5000 PSI
00570	Gauge Shutoff. 1/4" NPT.
00904	Flow Control, Adjustable. Non Pressure Compensated. 1/4" NPT. F x F For Flows to 3.0 GPM (11.4 LPM)
00620-X.XX	Flow Control, Pressure Compensated. Fixed. 1/4" NPT F x F. Other Types Available. Specify Flow Required.
01875	Filter, Return Line. 15 GPM. 10 Micron Nominal.
04369	Filter, Return Line. 5 GPM. 10 Micron Nominal.
01425	Filter/Breather, Chrome Plated. Basket Strainer.
04202	M-310 Cam Start Switch Conversion Kit.
07157	Relief Valve, Cartridge. 1500-3000 PSI. Other Pressure Ranges Also Available.
00081	By-Pass Relief Valve. Inline. Adjustable.
01506	Terminal Cover, Rubber. #4 Cable
03981	Hand Pump, Standard
03987	Hand Pump, Mini Direct, Right Hand. High Pressure - Low Displacement
03943	Hand Pump, Mini Direct, Left Hand. High Pressure - Low Displacement
07435	Hand Pump, High Pressure - Heavy Duty
03695	Valve Cover Cap Kit, M-693.

Other Available Options and Accessories Include:

- Float Switches
- Special Manifold Circuits
- Pressure Switches
- Multi-Function Valve Controls - Monoblock and Sectional
- Special Cartridge, Industrial and Manual Valve Configurations.

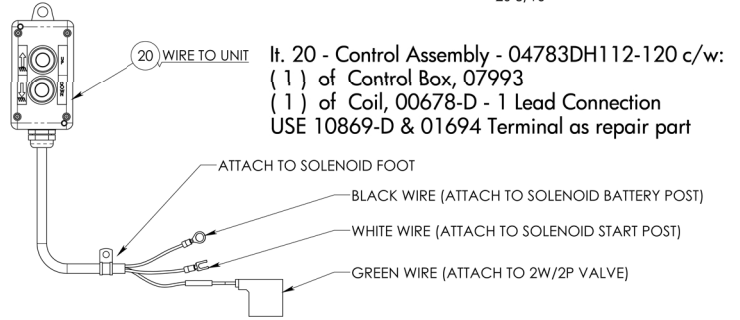
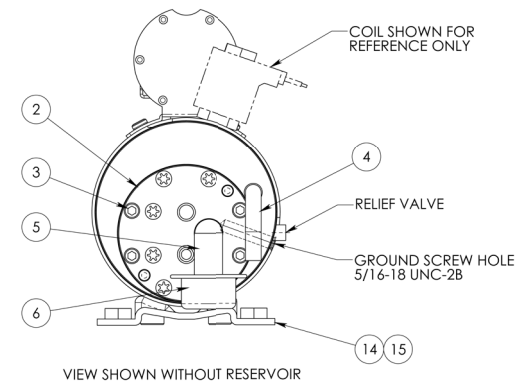
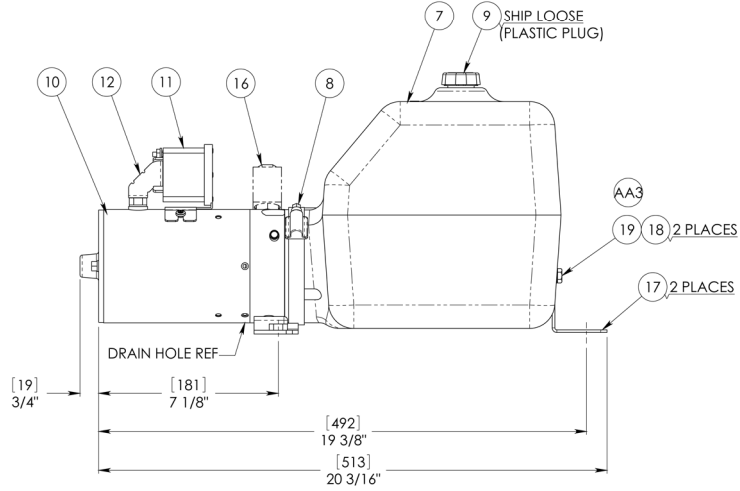
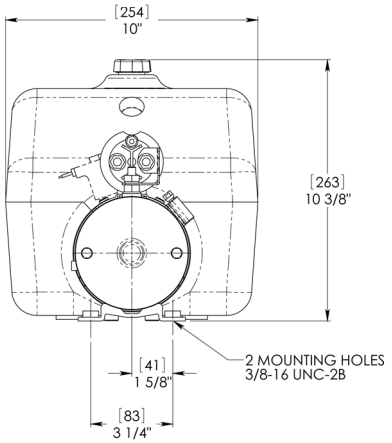
NOTE: Accessories Will Not Fit Every Model. Please Contact the Factory For Assistance.

M-3319-0163 = BH-LO M3319038-27M01E



ITEM NO	QTY	PART NO	DESCRIPTION
1	1	12383	BASE ASSY,M319,MOD,STD MTR/PL
2	1	500216312171250	P ASSY,QM MDLR,DC,BRGS BLD RSV
3	4	500206907818	SCREW,SHC,1/4-20 X 3.0,BLK OX
4	1	500208313059	TUBE,RETURN,90DEG,1/8NPTF
5	1	500208301209	TUBE,SUCTION,90 DGR,3/8NPT
6	1	500203201134	FILTER,SCREEN M-SERIES SUCT.
7	1	500206419257	RESV,PLASTIC,9X10X11,H/MT
8	1	500201707900	CLAMP,HOSE,WORM GEAR,RSV,M-SER
9	1	500205901143	PLUG,RESEV,BREATHER-FILLER
10	1	50020500811119	MOTOR,DC,12V,4.5",1 TERM
11	1	500208017757	SWITCH,SOL ACT MTR ST,12 VDC
12	1	500207813155	STRAP,MOTOR-SOLENOID CONNECTING
13	2	500206917071	SCREW,PAN HD,TORX,10-32 X 5/16
14	1	500201004560	BRACKET,PL MT,SHEET METAL,3,25
15	2	07592	SCREW,SHC,3/8-16 X 1.0,ZINC CH
16	1	50020160719304	CARTRIDGE,2W/2P,NC,POPPET,4000
17	2	500201013167	BRACKET,MT,RESV,90 DEG,SINGLE
18	2	500208607781	WASHER,LOCK,5/16
19	2	500206907632	SCREW,H.H,CAP,5/16-18 X 5/8
20	1	04783DH112-120	CONTROL STATION,WP,2 PB,W/120"

Tank : 3+ Gallons useable capacity
M3319-038-25M01E with 14225,Tank
at 5.3 Gallons useable capacity.



It. 20 - Control Assembly - 04783DH112-120 c/w:
(1) of Control Box, 07993
(1) of Coil, 00678-D - 1 Lead Connection
USE 10869-D & 01694 Terminal as repair part

NOTE:
1. PLACE "M-3319038-27M01E" ON SERIAL NUMBER LABEL IN PLACE OF MODEL NUMBER.

DO NOT SCALE

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NON-SPECIFIED TOLERANCES:
.XX ± .020
.XXX ± .010
FRACT. ± 5/64
ANGLES ± 5°

BREAK EDGES .005-.010 REMOVE BURRS

[MILLIMETER]
INCH

AA	1) WAS DRAWING M-3319-0163 2) REMOVED (2)01988 3) (2)500206907632 WERE (2)07767
REV	DESCRIPTION
	DESCRIPTION: PUMP UNIT, M-3319-0163, HORZ MT., 12 VDC
	CUSTOMER: BUCHER HYDS (BHLO) M-3319038-27M01E
	DATE: 8/1/2011
	DRAWN BY: IAJ
	EWR: 16685
	SHEET 1 OF: 1



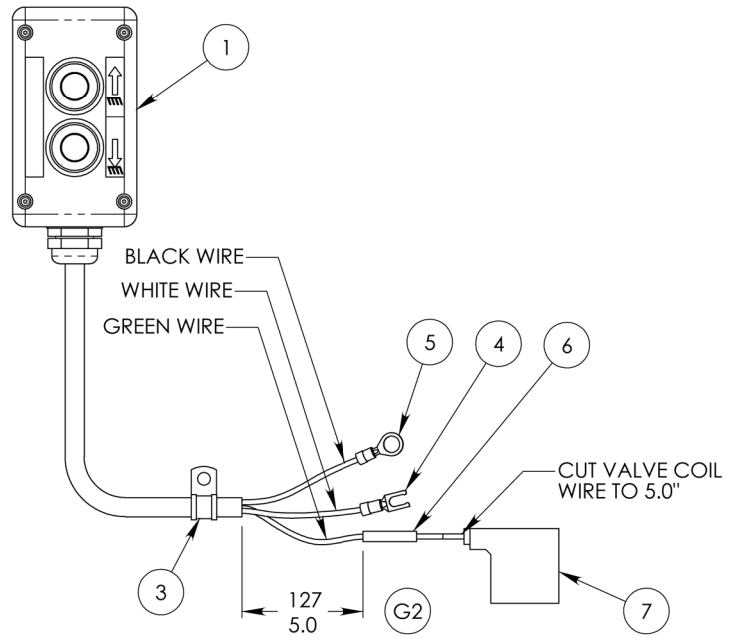
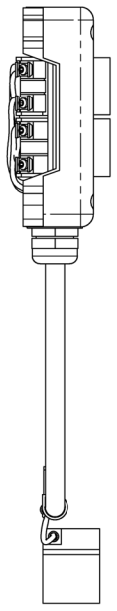
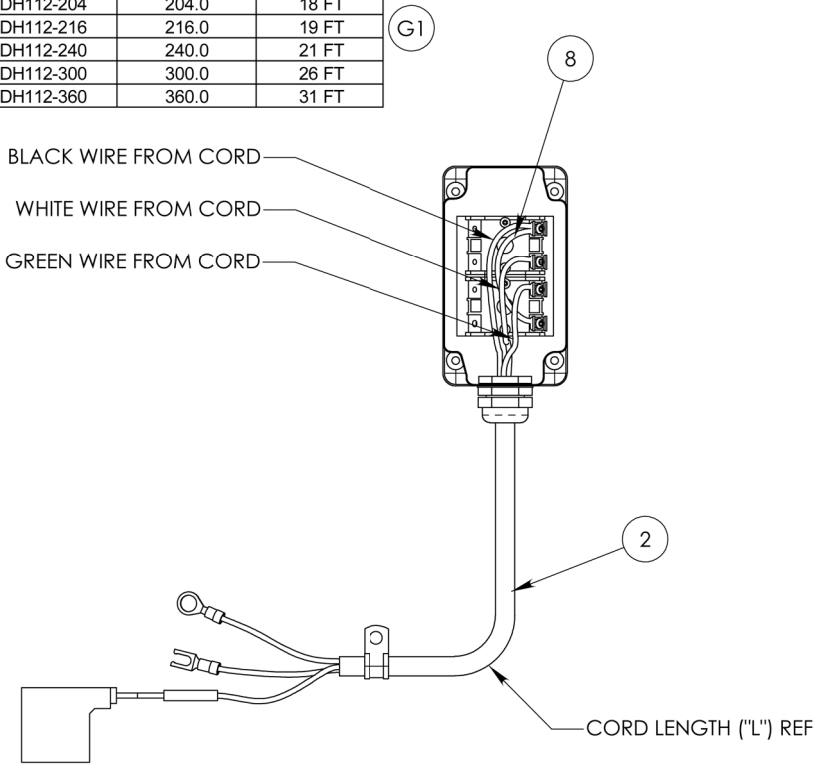
DRAWING #:
500331910163

SIZE: **D**
REV BY:
REV DATE:
REV: **AA**

04783DH112 REV: G

PART NO.	LENGTH "L"	CAB-003
04783DH112-036	36.0	4 FT
04783DH112-072	72.0	7 FT
04783DH112-096	96.0	9 FT
04783DH112-108	108.0	10 FT
04783DH112-120	120.0	11 FT
04783DH112-144	144.0	13 FT
04783DH112-180	180.0	16 FT
04783DH112-192	192.0	17 FT
04783DH112-204	204.0	18 FT
04783DH112-216	216.0	19 FT
04783DH112-240	240.0	21 FT
04783DH112-300	300.0	26 FT
04783DH112-360	360.0	31 FT

ITEM NO	QTY	PART NO	DESCRIPTION
1	1	07993-HD	NONE
2	"L"	CAB-003	CABLE,TRAILER,1/6/3
3	1	01076	CLAMP,CABLE,3/8"
4	1	04195	TERMINAL,SPRING SPADE,INSLTE
5	1	01346	TERMINAL,WIRE FOR 5/16 STUD
6	1	01412	TERMINAL,BUTT CONNECTOR,16-14
7	1	00678-D	COIL,10VDC,GRNDD,#8,SNGLE WIRE
8	1	13119-03.50	WIRE,CONTROL,3.5",#16AWG,BLACK



- NOTES:
- "L" ESTABLISHES LENGTH IN INCHES. LENGTH MUST BE SPECIFIED TO COMPLETE THE PART NUMBER. THE LENGTH OF THE CORD MUST MEET THIS DIMENSION.
 - EXAMPLE: 04783DH112-120 IS A 120.0 CORD

G		(1) ADDED 04783DH112-216		SIZE: B	
REV		(2) 172/5.0 WAS 5.0/172		REV BY: ZXTZ	
		DESCRIPTION		REV DATE: 05/21/2007	
THIS PRINT IS THE PROPERTY OF MONARCH HYDRAULICS INC., AND IS NOT TO BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO OUR INTEREST		NON-SPECIFIED TOLERANCES: -XX ±.010 -XXX ±.005 FRACT. ± 1/32 ANGLES ± 1/2°		DESCRIPTION: CONTROL STATION, WEATHERPROOF, 2 TERMINAL PUSH BUTTON, W/"L" CORD, W/STD PUMP END TERMINALS, W/COIL-00678-D, M-319	
BREAK EDGES .005-.010 REMOVE BURRS		CUSTOMER: MONARCH HYDRAULICS INC. GRAND RAPIDS, MI USA		DATE: 7/18/2005	
DO NOT SCALE		SHEET 1 OF 1		DRAWN BY: ALC	
[MILLIMETER] INCH		DRAWING #: 04783DH112		EWR: 11828	
				REV: G	