



FORCE America Inc.

ULTRAKOOL Operator's Manual

FORCE America UK30-40-HYD-FRM-PC Operator's Manual



ULTRA KOOL



The High Performance, Compact Cooling System

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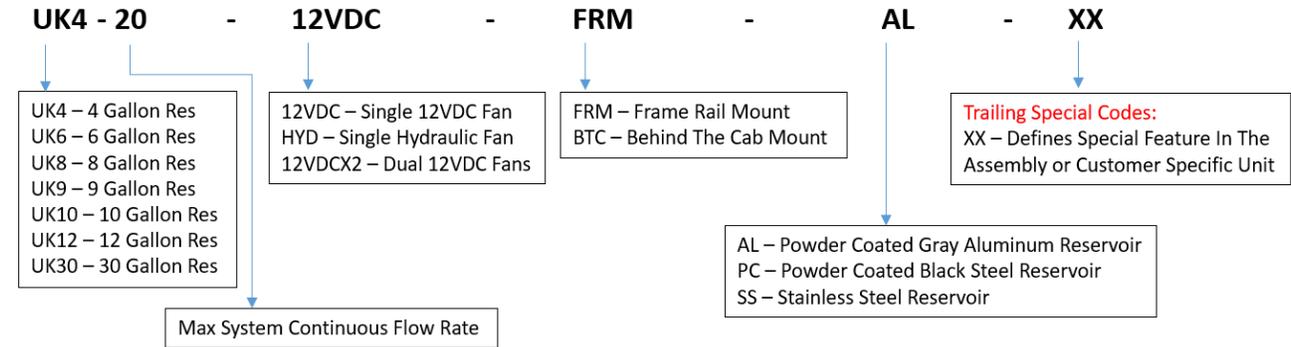
Warranty Disclaimer

Seller warrants that any goods sold by Seller to Buyer shall be free from defects in material and workmanship for a period of one (1) year from the date of delivery. THIS WARRANTY SHALL BE THE SOLE AND EXCLUSIVE WARRANTY MADE BY SELLER TO BUYER. SELLER HEREBY DISCLAIMS ANY IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

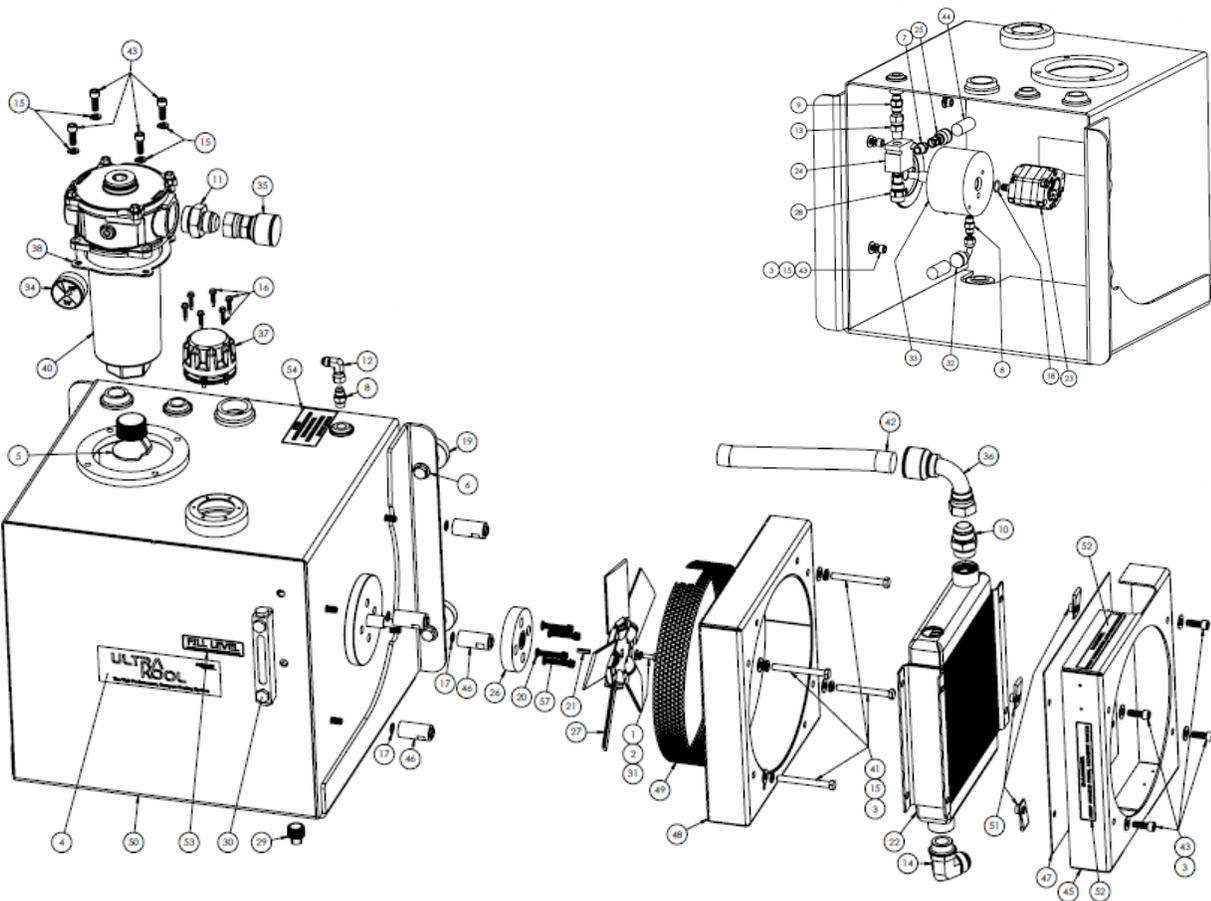
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UK30-40-HYD-FRM-PC – Model Code Breakdown



UK30-40-HYD-FRM-PC – Exploded Parts View



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UK30-40-HYD-FRM-PC – Bill of Material

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1010557	1/4"-20 X 3/4" HHCS, 18-8 STAINLESS	1
2	1010561	1/4" SCREW SIZE SPLIT LOCK WASHER, 0.49" OD, 18-8 STAINLESS	1
3	1010799	3/8" FLAT WASHER, GENERAL PURPOSE, 18-8 STAINLESS	12
4	1011613	ULTRAKOOL LOGO DECAL	1
5	1011760	WELDMENT, DIFFUSER, 1-1/2 NPT THREAD	1
6	1011765	1/2" SCREW SIZE FLAT WASHER, STEEL	8
7	1013172	ADAPTER STRAIGHT 9/16 X 18 MALE JIC X 3/8" MALE NPT STEEL	1
8	1013930	-06 MALE JIC X #06 MALE ORB	2
9	1013937	-08 MALE JIC X #08 MALE ORB	1
10	1013962	-16 MALE JIC X #16 MALE ORB	1
11	1013963	-16 MALE JIC X #20 MALE ORB	1
12	1014171	ADAPTER 90 DEG ELBOW 9/16 X 18 MALE JIC X 9/16 X 18 FEMALE JIC SWIVEL STEEL	1
13	1014228	ADAPTER STRAIGHT 3/4 X 16 FEMALE JIC SWIVEL X 3/8" MALE NPT STEEL	1
14	1014330	ELBOW 1-5/16 X 12 MALE JIC X 1-5/16 X 12 MALE ORB STEEL	1
15	1015103	3/8" SCREW SIZE SPLIT LOCK WASHER, 0.68" OD, 18-8 STAINLESS	12
16	1015115	#12-14 X 1" SELF DRILLING SCREW, UNSLOTTED HEX WASHER HEAD, ZINC	6
17	1023935	O-RING 70 DURO	4
18	1024164	ORING / OLD # 115	1
19	1031121	MOUNTING KIT FOR 50 GALLON URSOS UPRIGHT RESERVOIR	1
20	1035571	WASHER, COPPER	4
21	1037195	KEY 3/16" X 1-9/16"	1
22	1039457	BAR PLATE OC ASSEMBLY, RADIATOR ONLY, NO FAN	1
23	1041443	AFC KP20 PUMP KIT	1
24	1046257	BODY, C10-2, 3/8" NPT PORTS	1
25	1053040	06 FEMALE JIC SWIVEL STRAIGHT FOR 3/8" HOSE	1
26	1056755	HYK FAN-SEAL-KITFOR-UK8-40	1
27	1056821	12" FAN 5 BLADE HAN L.H.	1
28	1058596	PRESSURE COMP FLOW REG - 2.00 GPM FIXED OUTPUT	1
29	1067982	PLUG, MAGNETIC SQUARE HEAD, 3/4"-14 NPTF, STL	1
30	1068254	SIGHT GAUGE/TEMP 5" METRIC THREAD BLACK ANODIZED	1
31	1068870	1/4 FLAT WASHER 5/8 (5/8 OD X .050 THK) FWSS 025	1
32	1072449	06 FEMALE JIC 90 ELBOW FOR 3/8" HOSE	1
33	1079530	HYDRAKOOL FAN HUB VERSION 2	1
34	1087964	GAUGE, FILTER INDICATOR, 0-60 PSI	1

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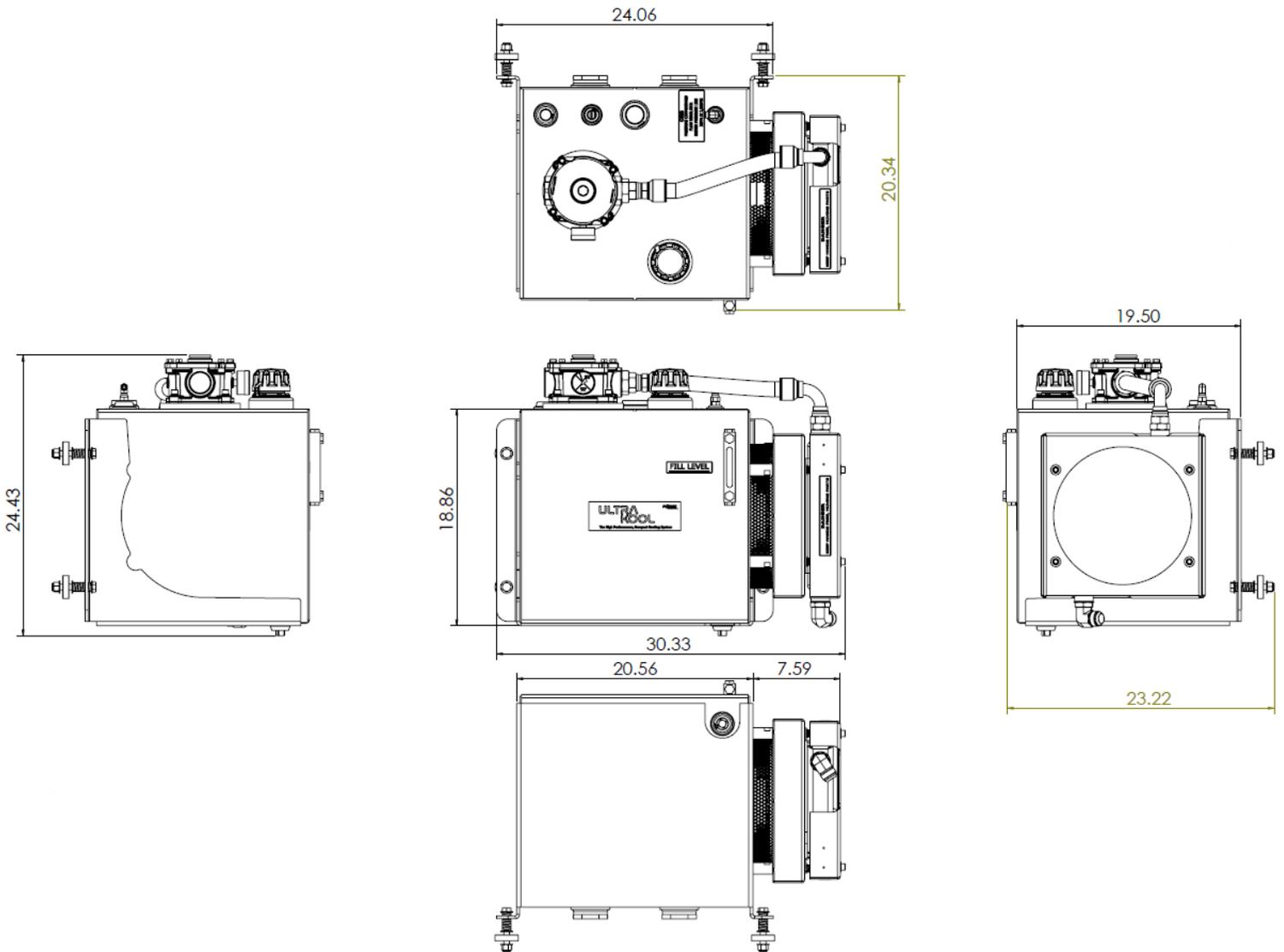
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35	1089249	16 FEMALE JIC SWIVEL STRAIGHT FOR 1" HOSE	1
36	1089351	16 FEMALE JIC 90 ELBOW FOR 1" HOSE	1
37	1090203	RESERVOIR FILLER BREATHER (ZINGA)	1
38	1090319	RG11, GASKET, TR/TS FILTER, REPLACES O-RING (ZINGA)	1
39	1090428	2"MX1-1/4" F NPT-23GPM-100MESH-3PSI-STEEL BUSH SUC STRAINER	2
40	1090448	SUCTION / RETURN LINE TANK TOP FILTER (ZINGA)	1
41	1093900	3/8"-16 X 3-1/2" HHCS, 18-8 STAINLESS	4
42	1094703	1" SUCTION HOSE EATON PUMA HOSE	1FT
43	1096203	18-8 STAINLESS STEEL SOCKET HEAD SCREW 3/8 X 16	12
44	1111582	EC215-06-492-LRL	2FT
45	1205987	WLDMT, UK FAN COVER, ALUM, PC	1
46	1205989	FFP, UK30 HYD STANDOFF, AL	4
47	1206079	PERFORATED SHEET, .06" THICK, HOLE SIZE .25" SPACING .313", PC BLUE	1
48	1206240	WLDMNT, UK HYD FAN COVER, AL, PC	1
49	1206274	PP, PERFERATED SHEET, UK HYD FAN GAURD, AL, PC	1
50	1206660	WLDMNT, UK30-40-HYD RES, STL, PC	1
51	1206918	NO-SLIP CLIP-ON BARREL NUT 3/8 X 16	4
52	1207215	UK DECAL SHEET - DANGER DECAL	3
53	1207215	UK DECAL SHEET - FILL LEVEL DECAL	1
54	1207215	UK DECAL SHEET - PRESSURE COMPENSATED DECAL	1
55	1207215	UK DECAL SHEET - NPT SUCTION DECAL	2
57	1209879	5/16-24X1-1/2 SOCKET HEAD CAP SCREW	4

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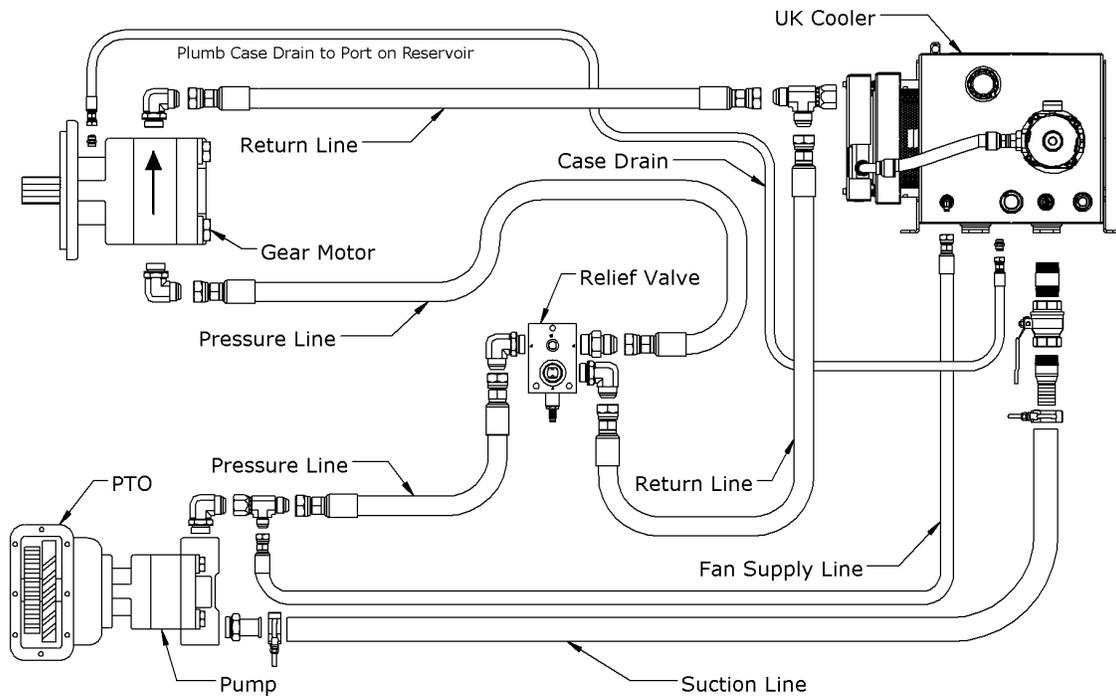
UK30-40-HYD-FRM-PC – Dimensions



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UK30-40-HYD-FRM-PC – Typical Plumbing Layout



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UK30-40-HYD-FRM-PC – Startup Procedure Steps

1. Mount unit to truck chassis.
2. Plumb all hydraulic lines per plumbing diagrams and application diagrams.
3. Fill Reservoir to the high end of the sight gauge.
4. Engage PTO at low RPM levels.
5. Continually add oil to make sure oil level stays visible within the sight gauge.
6. After oil level stays steady check for leaks and repair before continuing.
7. Verify fan operation for either hydraulic or electric fans.
8. Slowly increase PTO speed to get desired pump RPMs.
9. Run system until oil gets to temp (electric) and verify oil is being cooled (both fan types).

Should take roughly 5-10 minutes to verify.

10. Operate all functions of the system to verify the system is properly bled of air.
11. Disengage PTO.
12. System is functional and ready for full operation.

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UK30-40-HYD-FRM-PC – Maintenance Recommendations

General – Look over your Ultra-Kool system before each use to make sure there are no leaks, and all components are good working order.

Oil – Replace every 12 months or sooner depending on operational conditions. Only oil based hydraulic fluids should be used in this system. Please contact FORCE America if you have any questions related to the fluid you'd like to use in your system.

Filters – Replace as indicated by the gauge on the return filter housing. Replacement filter part number can be obtained from the parts breakdown diagram.

Hoses – Replace hoses due to any leaks or a visual inspection revealing abrasions or cracking.

Cooler – Rinse every 3-6 months with low pressure water (under 200 PSI). When used in dirty environments, it is recommended to rinse the cooler more frequently for optimal performance.

UK30-40-HYD-FRM-PC – Troubleshooting

Cooling – If system is not cooling properly check the following items.

- Clean or rinse the cooler to remove debris
- Check to make sure the fan is engaging and functioning properly
- Check for additional heat coming from relief valves not functioning properly
- Check to make sure you don't have pump cavitation in your system

Noise – If the system is making excessive noise check the following items.

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- Fan is engaging and functioning correctly
- Check oil level is in the center of your sight gauge
- Make sure all bolts are securely fastened on the unit

UK30-40-HYD-FRM-PC – Product Information

Technical Specifications:

Dry Weight	209 lbs.
Height	24.43 inches
Depth	20.34 inches
Width	30.33 inches
Oil capacity	30 gallons
Fan speed	1800 rpm
Suction port.....	2 – 2" NPT
Drain Port.....	1 – ¾" NPT
Temp/Level.....	1 – ¼" NPT
Pressure Comp.....	1 – 6 ORB
Other.....	1 – ¾" NPT
.....	1 – ½" NPT

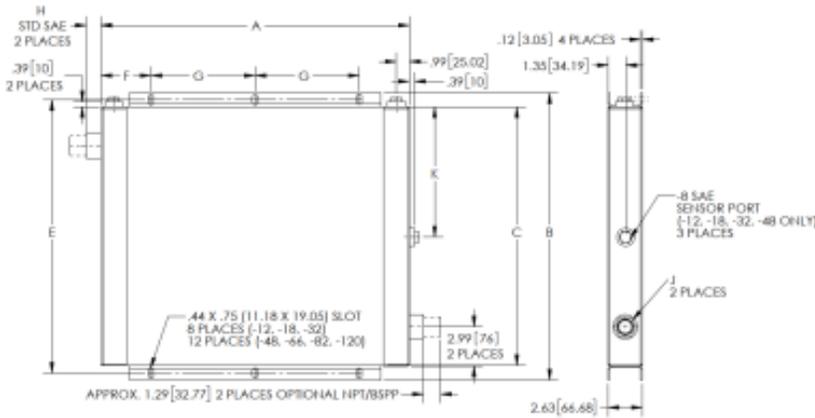


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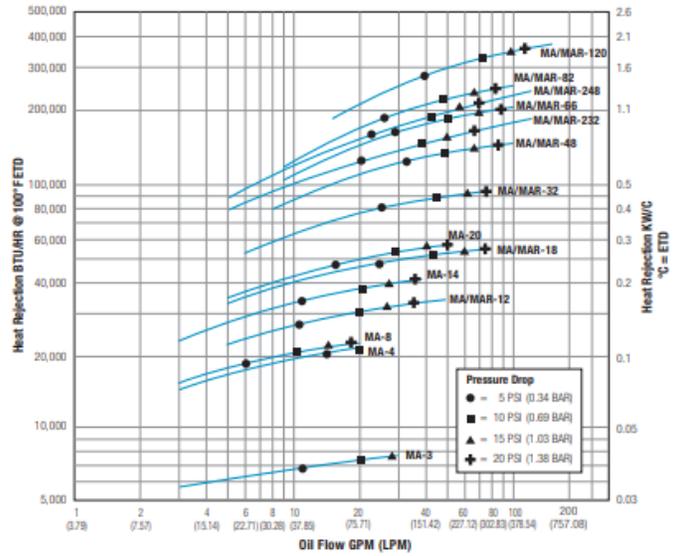
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MA-12 - Hydraulic Cooler Specifications

MA-12 thru MA-120



MA Models - Core only (No Fan)



Model	A	B	C		E	F	G	H	J		K
			Without Bypass Valve	With Bypass Valve					SAE	NPT & BSPP	
MA-8	3.00 (76)	5.53 (141)	6.53 (166)						#12	3/4"	5.00 (127)
MA-12	13.82 (351)	11.97 (304)	9.85 (250)	12.8 (325)	10.98 (279)	4.06 (103)	5.71 (145)	1.00 (25)	#12	3/4"	5.00 (127)
MA-14	6.00 (152)	9.86 (250)	10.86 (276)								
MA-18	15.84 (402)	14.14 (359)	12.01 (305)	14.6 (371)	12.96 (329)	4.99 (127)	5.87 (149)	1.00 (25)	#12	3/4"	5.91 (150)
MA-20	10.00 (254)	14.19 (360)	15.19 (386)								
MA-32	19.69 (500)	18.46 (469)	16.34 (415)	18.9 (480)	17.40 (442)	3.84 (98)	12.00 (305)	1.10 (28)	#16	1"	8.07 (205)
MA-48	23.69 (602)	22.09 (561)	20.12 (511)	22.7 (577)	21.02 (534)	3.85 (98)	8.00 (203)	1.10 (28)	#16	1"	10.00 (254)
MA-66	27.56 (700)	25.83 (656)	23.39 (594)	26.5 (673)	24.72 (628)	3.78 (96)	10.00 (254)	1.58 (40)	#20	1 1/4"	
MA-82	31.46 (799)	27.80 (706)	25.43 (646)	28.6 (726)	26.57 (675)	5.70 (145)	10.00 (254)	2.00 (51)	#24	1 1/2"	
MA-120	31.46 (799)	39.6 (1006)	37.44 (951)	40.0 (1016)	38.38 (975)	5.73 (146)	10.00 (254)	2.00 (51)	#24	1 1/2"	

Note: We reserve the right to make reasonable design changes without notice. All dimensions are in inches (millimeters) unless noted otherwise.

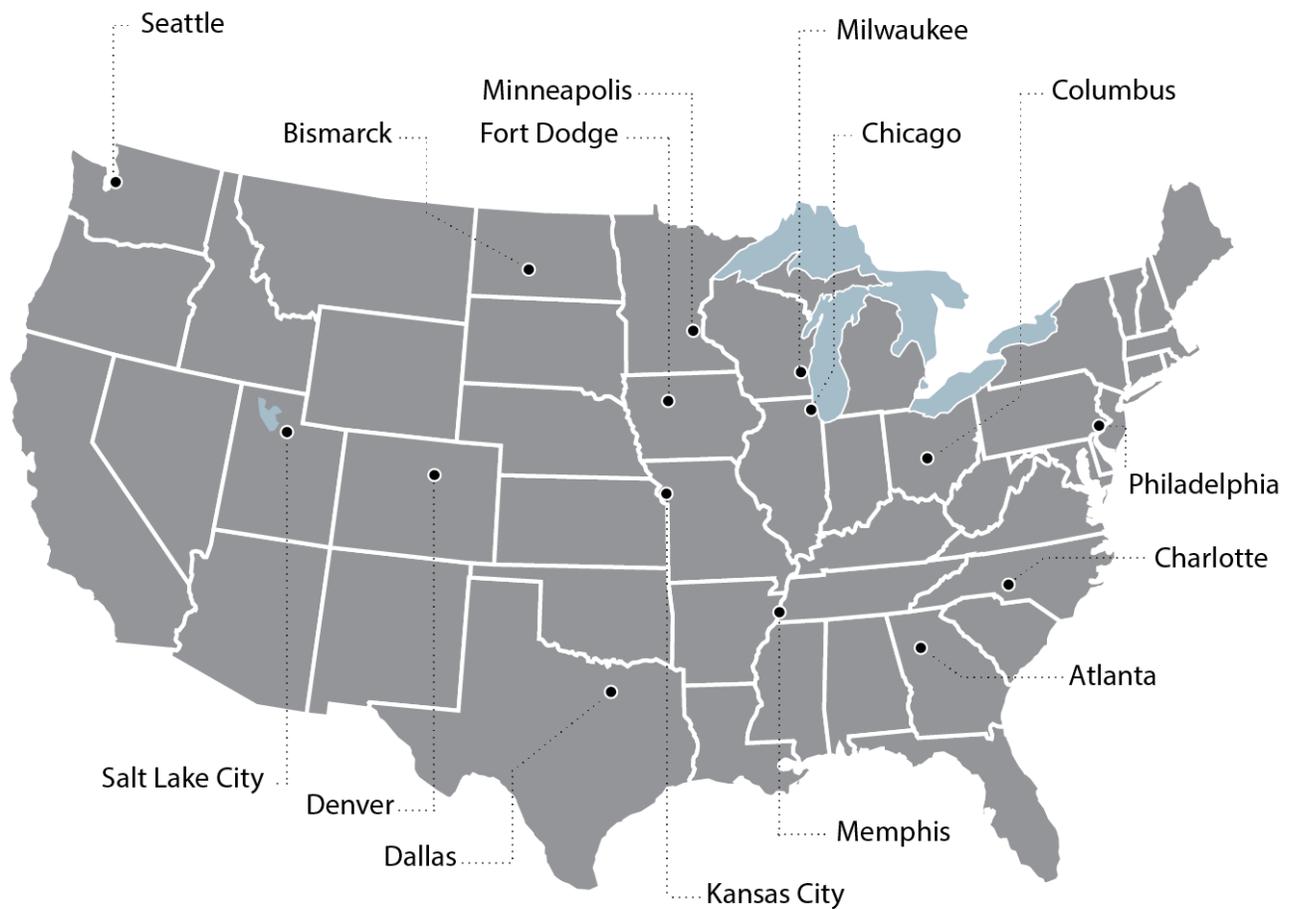


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