



FORCE America Inc.

ULTRAKOOL Operator's Manual

FORCE America UK8-40-HYD-FRM-AL Operator's Manual



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ULTRA KOOL



The High Performance, Compact Cooling System

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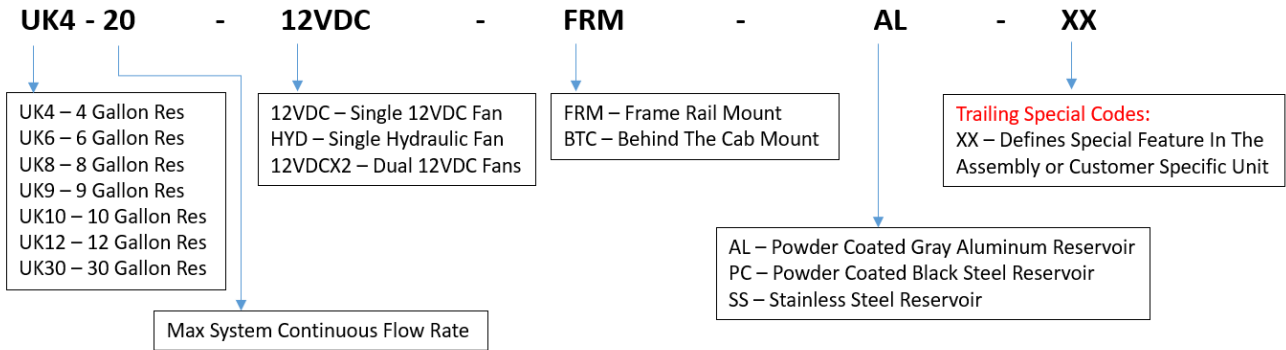
Warranty Disclaimer

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.

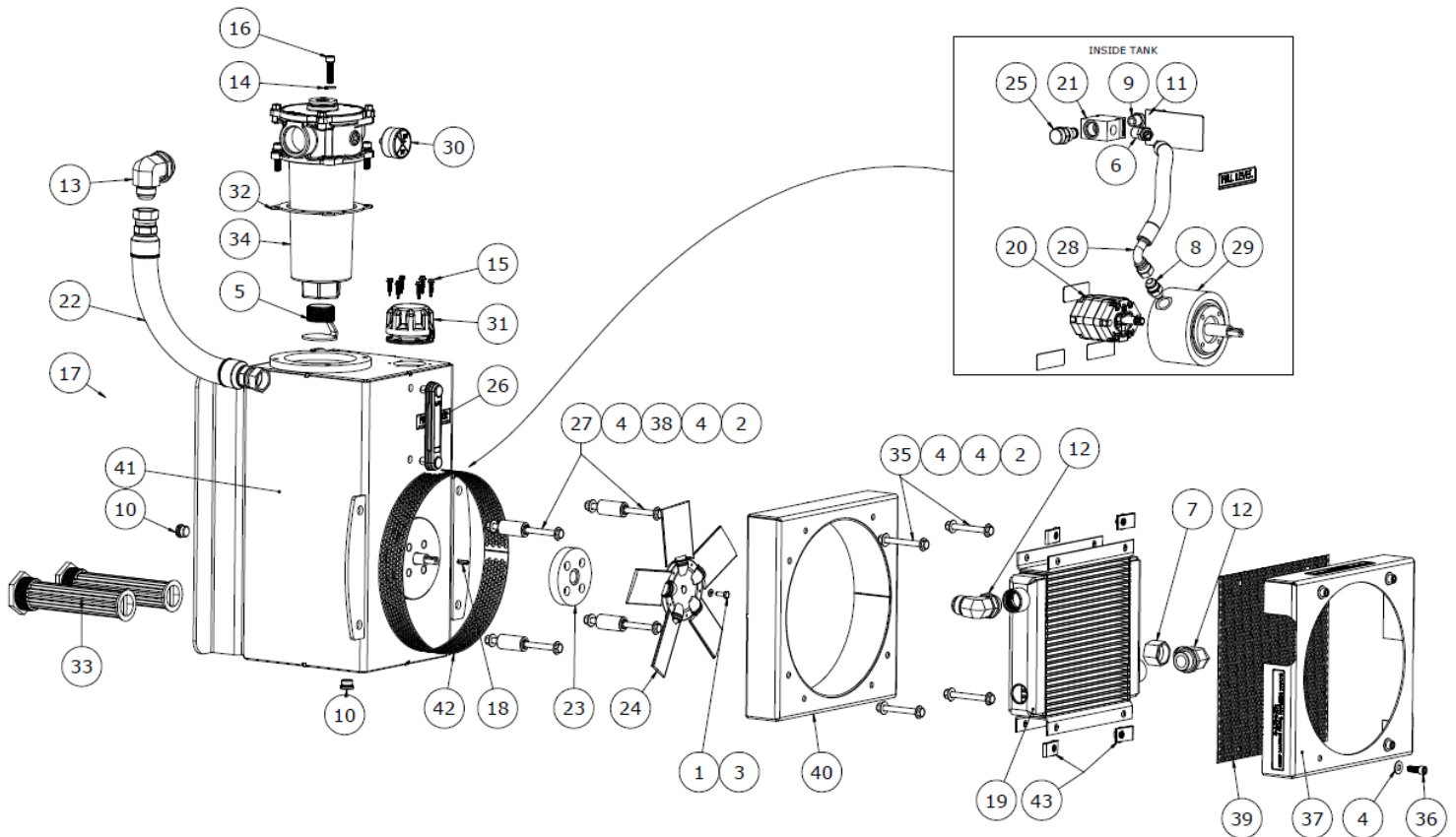
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UK8-40-HYD-FRM-AL – Model Code Breakdown



UK8-40-HYD-FRM-AL – Exploded Parts View



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UK8-40-HYD-FRM-AL – Bill of Materials

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1010557	1/4"-20 X 3/4" HHCS, 18-8 STAINLESS	1
2	1010560	3/8"-16 NYLON-INSERT HEX LOCK NUT, 18-8 STAINLESS	8
3	1010561	1/4" SCREW SIZE SPLIT LOCK WASHER, 0.49" OD, 18-8 STAINLESS	1
4	1010799	3/8" FLAT WASHER, GENERAL PURPOSE, 18-8 STAINLESS	20
5	1011760	WELDMENT, DIFFUSER, 1-1/2 NPT THREAD	1
6	1013367	ADAPTER 45 DEG ELBOW MALE JIC X MALE NPT STEEL	1
7	1013504	ADAPTER CAP NUT 1-5/16 X 12 JIC FOR TUBE OD 1"	1
8	1013937	-08 MALE JIC X #06 MALE ORB	1
9	1014000	ADAPTER STRAIGHT 9/16 X 18 MALE ORB X 3/8" MALE NPT STEEL	1
10	1014114	PLUG, SAE -08 HOLLOW HEX	2
11	1014301	ELBOW 9/16 X 18 MALE JIC X 9/16 X 18 MALE ORB STEEL	1
12	1014330	ELBOW 1-5/16 X 12 MALE JIC X 1-5/16 X 12 MALE ORB STEEL	2
13	1014331	ELBOW 1-5/16 X 12 MALE JIC X 1-5/8 X 12 MALE ORB STEEL	1
14	1015103	3/8" SCREW SIZE SPLIT LOCK WASHER, 0.68" OD, 18-8 STAINLESS	4
15	1015115	#12-14 X 1" SELF DRILLING SCREW, HEX WASHER HEAD, ZINC	6
16	1015229	3/8-16 X 1-1/2 SOCKET HEAD CAP SCREW STAINLESS STEEL	4
17	1031121	MOUNTING KIT FOR UPRIGHT RESERVOIR	1
18	1037195	KEY 3/16" X 1-9/16"	1
19	1039457	DB-13050 BAR PLATE COOLER ASSEMBLY	1
20	1041443	AFC KP20 PUMP KIT	1
21	1046257	BODY, C10-2, 3/8" NPT PORTS	1
22	1056189	H036316-16Z-616-616-17.5" CUT HOSE	1
23	1056755	UK FAN-SEAL-KITFOR-UK8-40	1
24	1056821	12" FAN 5 BLADE	1
25	1058596	PRESSURE COMP FLOW REG - 2.00 GPM FIXED OUTPUT	1
26	1067943	5" SIGHT GAUGE/BLUE THERMOMETER - M-12 MOUNTING BOLTS	1
27	1076043	3/8"-16 X 6" HHCS, 18-8 STAINLESS	4
28	1078665	FLOW REGULATOR HOSE FOR UK8-40-HYD	1
29	1079530	ULTRA KOOL FAN HUB VERSION 2	1

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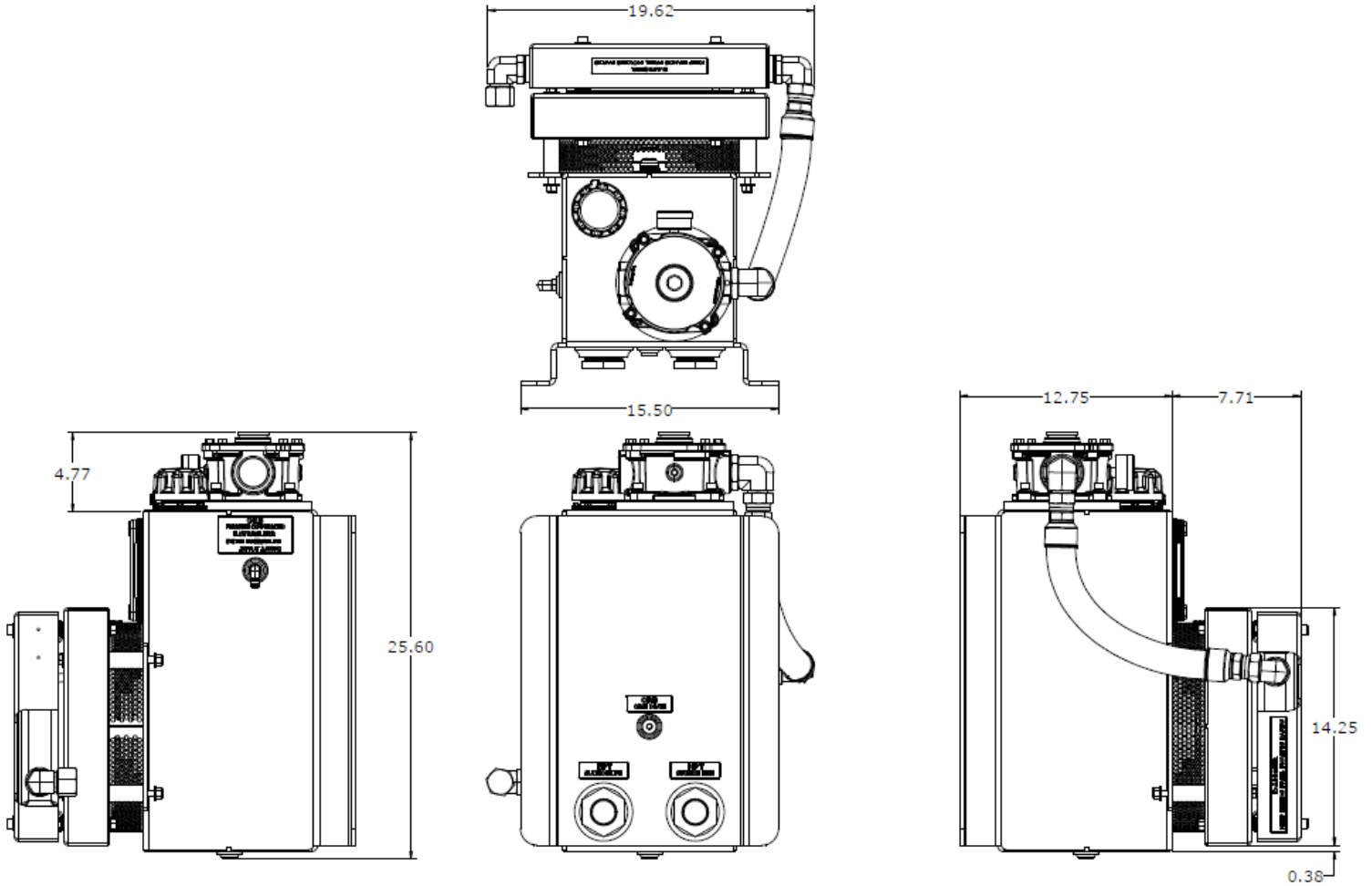
30	1087964	GAUGE, FILTER INDICATOR, 0-60 PSI	1
31	1090203	10MIC FILL BREATHER W/O BASKET-3PSI RELIEF-NO DIPSTICK	1
32	1090319	GASKET, TR/TS FILTER, REPLACES O-RING	1
33	1090428	2" MALE X 1-1/4" FEMALE NPT - 3 PSI BYPASS SUCTION STRAINER	2
34	1090448	SUCTION / RETURN LINE TANK TOP FILTER	1
35	1093900	3/8"-16 X 3-1/2" HHCS, 18-8 STAINLESS	4
36	1096203	18-8 STAINLESS STEEL SOCKET HEAD SCREW 3/8 X 16	4
37	1205987	WLDMT, UK FAN COVER, ALUM, PC	1
38	1205991	FFP, UK8 HYD STANDOFF, AL	4
39	1206079	PERFORATED SHEET, PC BLUE	1
40	1206240	WELDMNT, UK HYD FAN COVER, AL, PC	1
41	1206257	WELDMNT, UK8-40-HYD RESERVOIR, AL, PC	1
42	1206274	PP, PERFERATED SHEET, UK HYD FAN GAURD, AL, PC	1
43	1206918	NO-SLIP CLIP-ON BARREL NUT 3/8 X 16	4
44	1207215	UK DECAL SHEET - DANGER DECAL	2
45	1207215	UK DECAL SHEET - CASE DRAIN DECAL	1
46	1207215	UK DECAL SHEET - NPT SUCTION DECAL	2
47	1207215	UK DECAL SHEET - PRESSURE COMPENSATED DECAL	1
48	1207215	UK DECAL SHEET - FILL LEVEL DECAL	1

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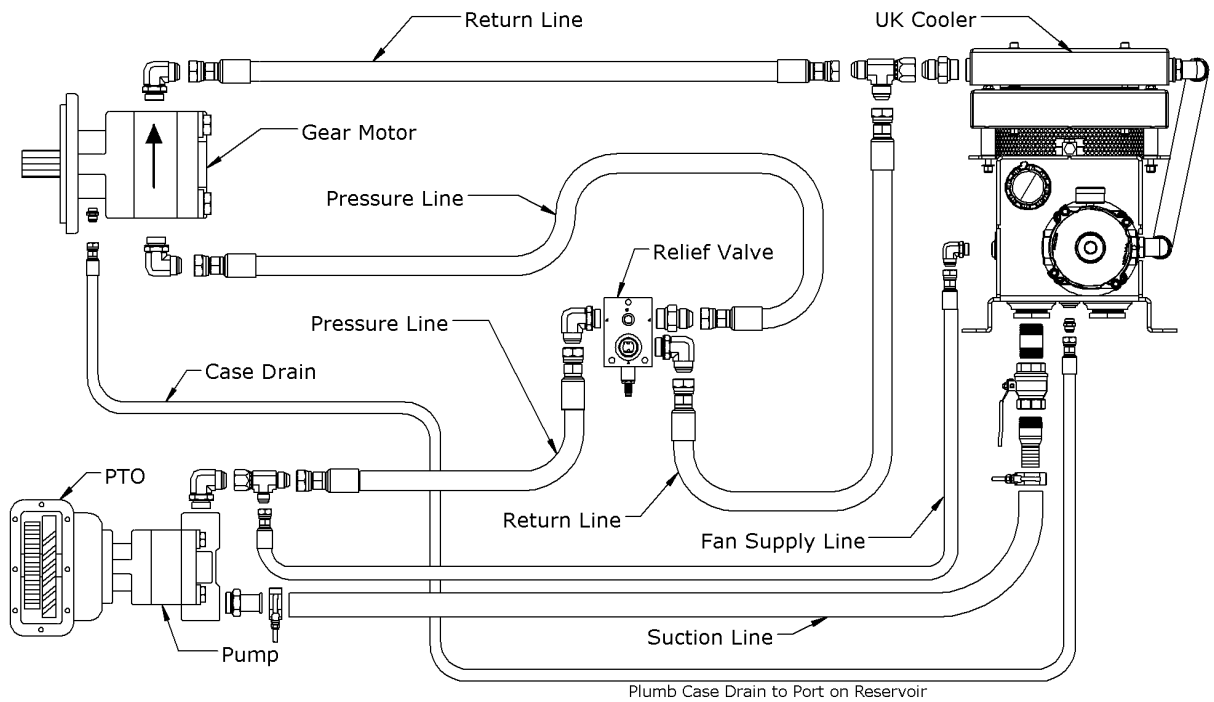
UK8-40-HYD-FRM-AL – Dimensions



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UK8-40-HYD-FRM-AL – Typical Plumbing Layout



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UK8-40-HYD-FRM-AL – 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.

UK8-40-HYD-FRM-AL – 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.

UK8-40-HYD-FRM-AL – 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.

- 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

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UK8-40-HYD-FRM-AL – Product Information

Technical Specifications:

Height 25.6 inches
Depth 20.46 inches
Width 19.62 inches
Oil capacity 8 gallons
Fan speed 1800 rpm

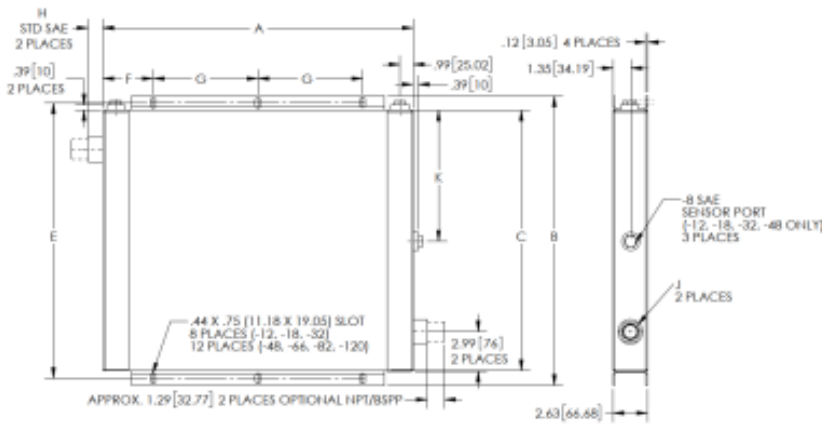


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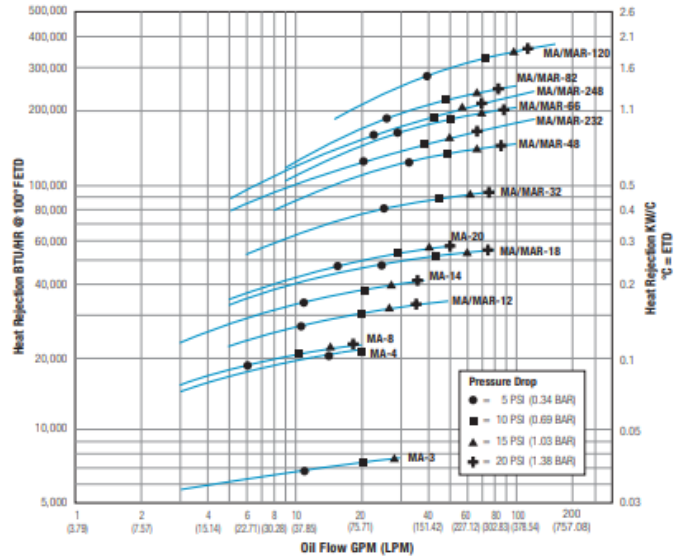
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MA-12 - Hydraulic Cooler Specifications

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)								
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.

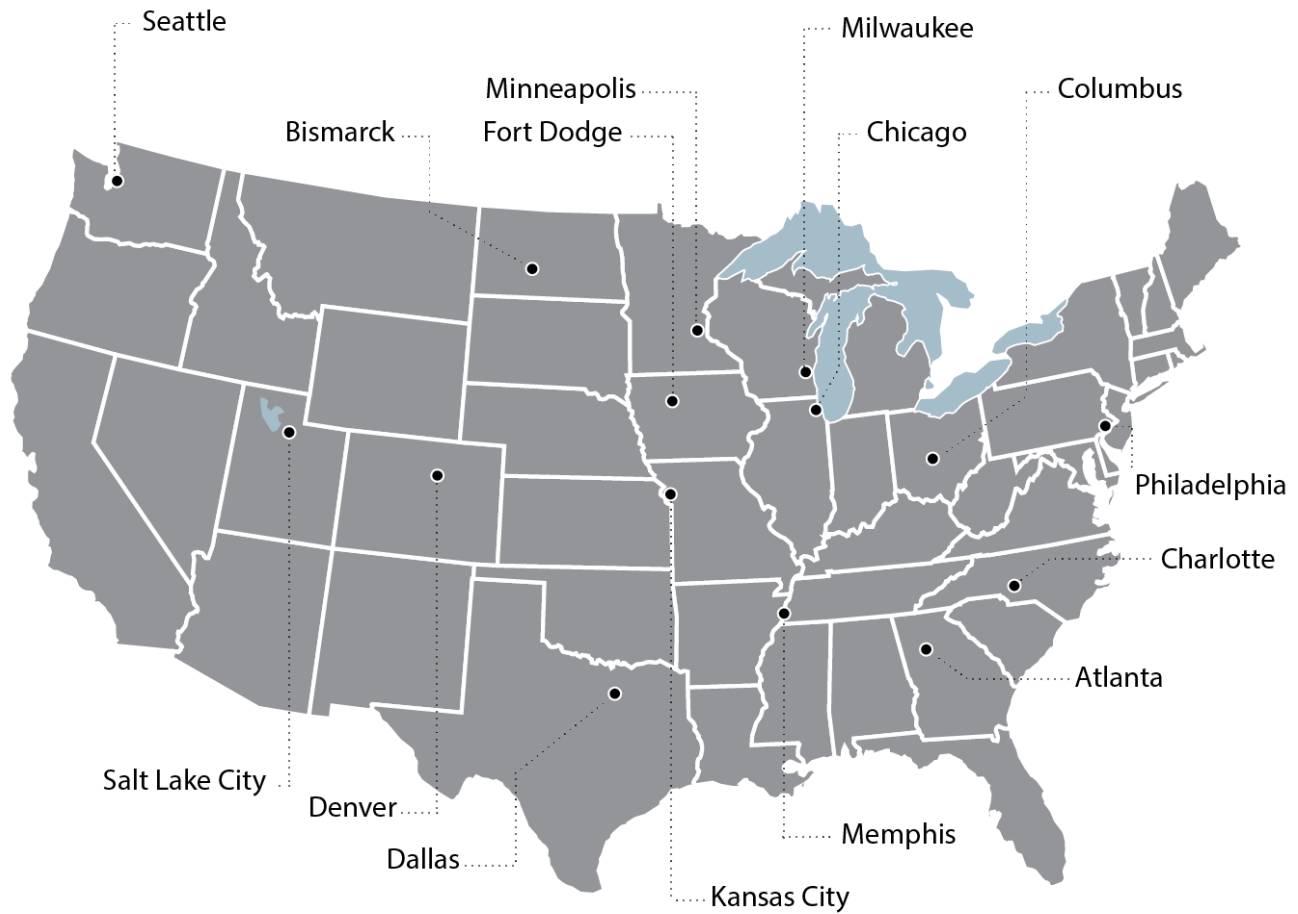


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