



FORCE America Inc.

# ULTRAKOOL Operator's Manual

FORCE America UK12-70-HYD-FRM-PC Operator's Manual



# ULTRA KOOL



The High Performance, Compact Cooling System

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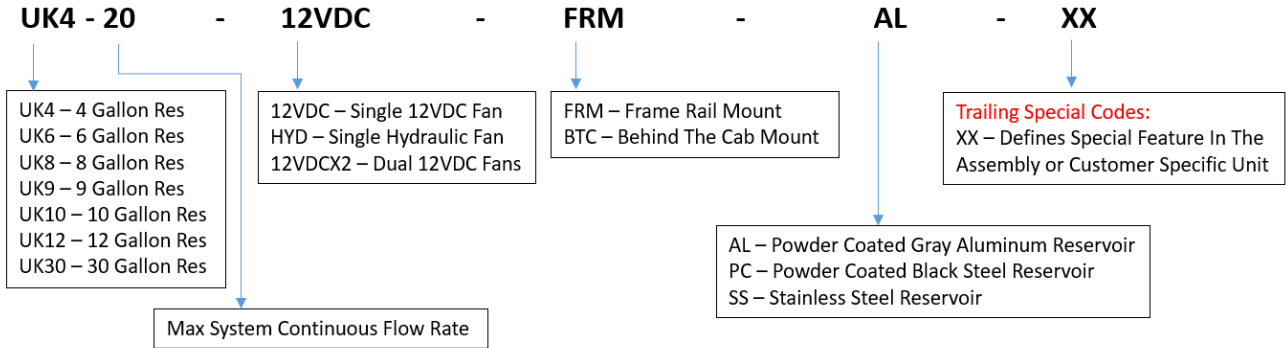
## Warranty Disclaimer

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.

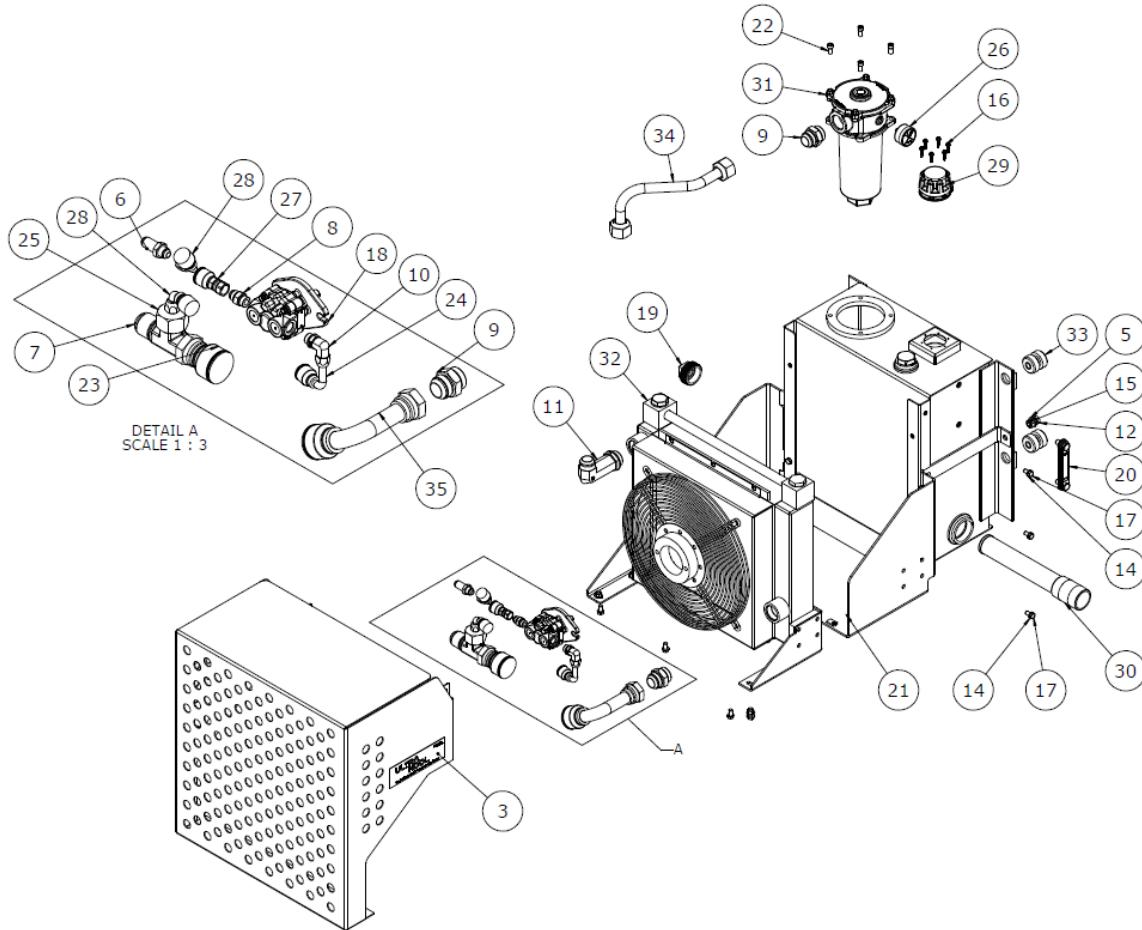
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## UK12-70-HYD-FRM-PC – Model Code Breakdown



## UK12-70-HYD-FRM-PC – Exploded Parts View



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## UK12-70-HYD-FRM-PC – Bill of Material

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1010303	3/8"-16 HEX NUT, GR5, ZINC	4
2	1011466	3/8"-16 X 1" HHCS, GR5, ZINC	4
3	1011613	ULTRAKOOL LOGO DECAL	2
4	1011760	WELDMENT, DIFFUSER, 1-1/2 NPT THREAD	1
5	1011765	1/2" SCREW SIZE FLAT WASHER, STEEL	2
6	1013426	FITTING -08 MJIC X -08 MJIC BULKHEAD UNION	1
7	1013459	FITTING -20 MJIC X -20 MJIC X -20 MJIC BULKHEAD UNION TEE	1
8	1013938	FITTING STRAIGHT -8 MJIC X -8 MORB	1
9	1013967	FITTING STRAIGHT -20 MJIC / -20 MORB	2
10	1014311	FITTING 90 DEG -8 MJIC / -8 MORB	1
11	1014353	FITTING 90 DEG EXTRA LONG -20 MJIC / -20 MORB	1
12	1014914	1/2"-13 X 1" HHCS, ZINC	2
13	1014969	3/8" SAE FLAT WASHER, ZINC	8
14	1014971	3/8" SCREW SIZE LOCK WASHER, MEDIUM SPLIT, ZINC	11
15	1014978	1/2"-13 HEX NUT, GR5, ZINC	2
16	1015115	#12-14 X 1" SELF DRILLING SCREW, HEX WASHER HEAD, ZINC	6
17	1015139	3/8"-16 X 3/4" HHCS, GR5, ZINC	11
18	1025287	HYDRAULIC MOTOR	1
19	1030867	2" NPT SQUARE-HEAD PLUG	1
20	1067943	5" LEVEL/BLUE TEMP GAUGE, M12 BOLTS	1
21	1067982	PLUG, MAGNETIC SQUARE HEAD, 3/4"-14 NPTF, STL	1
22	1068876	3/8"-16 X 3/4" SHCS 18-8 STAINLESS	4
23	1071758	20 FEMALE JIC SWIVEL STRAIGHT FOR 1-1/4" HOSE	1
24	1072192	08 FEMALE JIC LONG DROP 90 ELBOW FOR 1/2" HOSE	1
25	1075566	FITTING -20 FJIC X -08 MJIC REDUCER/EXPANDER	1
26	1086823	0-60 PSI BYPASS GAUGE - 1/8 NPT	1
27	1089077	08 FEMALE JIC SWIVEL STRAIGHT FOR 1/2" HOSE	1
28	1089083	08 FEMALE JIC 90 ELBOW FOR 1/2" HOSE	2
29	1090203	FB-10-00-0 03-0-0	1

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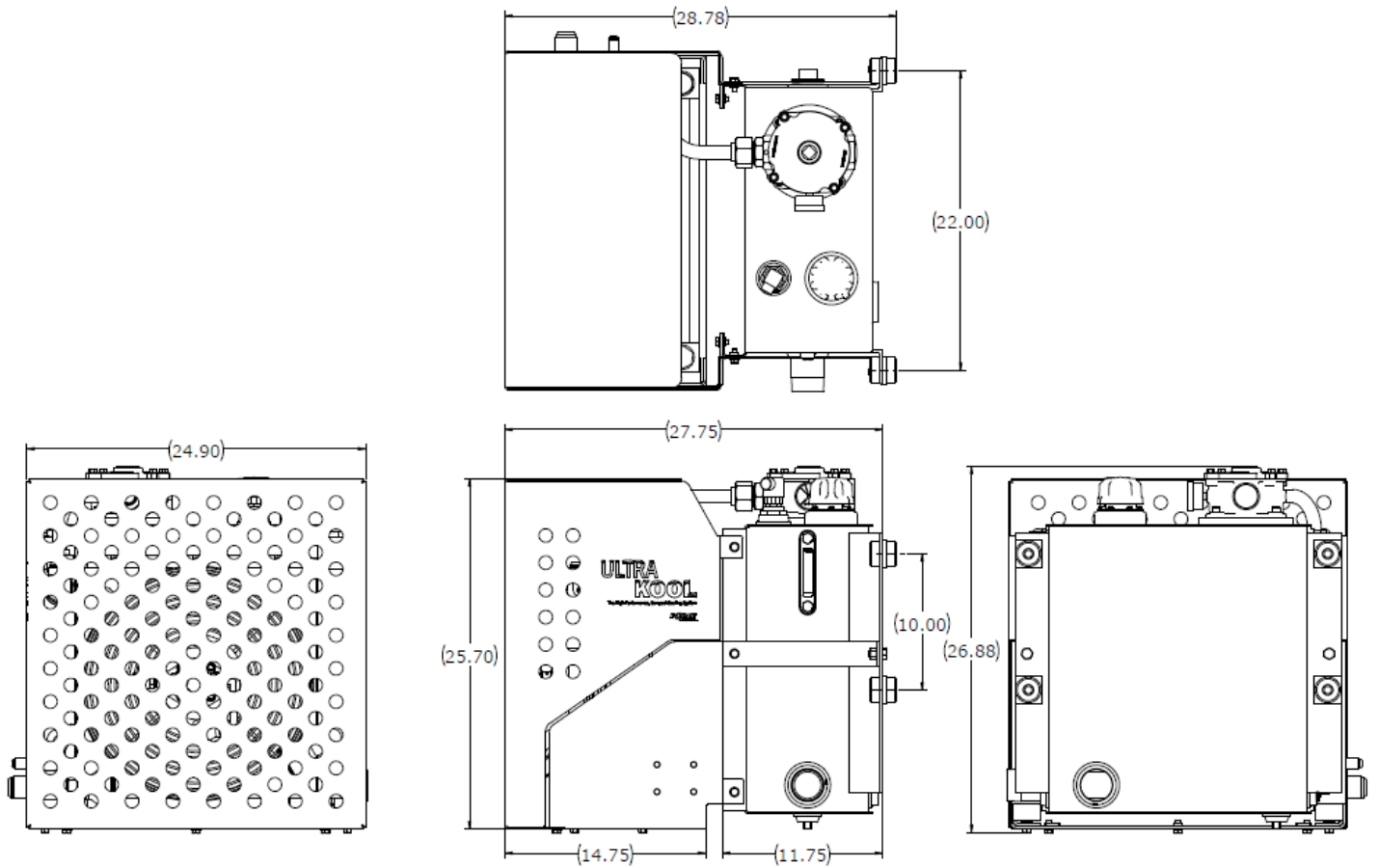
## The High Performance, Compact Cooling System

30	1090430	STRAINER, 2" NPTF MALE THREAD, 2" NPTF OUTLET PORT	1
31	1090443	SUCTION / RETURN LINE TANK TOP FILTER	1
32	1177936	BOLR-400-226740	1
33	1097650	ISOLATOR, BONDED BUSHING & SNUBBER	4
34	1156195	TUBE, UK12 RETURN LINE, SS	1
35	1157033	20 FEMALE JIC LONG DROP 90 ELBOW FOR 1-1/4" HOSE	1
36	1190158	WELDMENT, UK12 CRADLE BRACKET, SS	1
37	1190159	WELDMENT, UK12 SHROUD, HYDRAULIC, SS	1
38	1190160	WELDMENT, UK12 HYDRAULIC TANK, SS	1

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The High Performance, Compact Cooling System

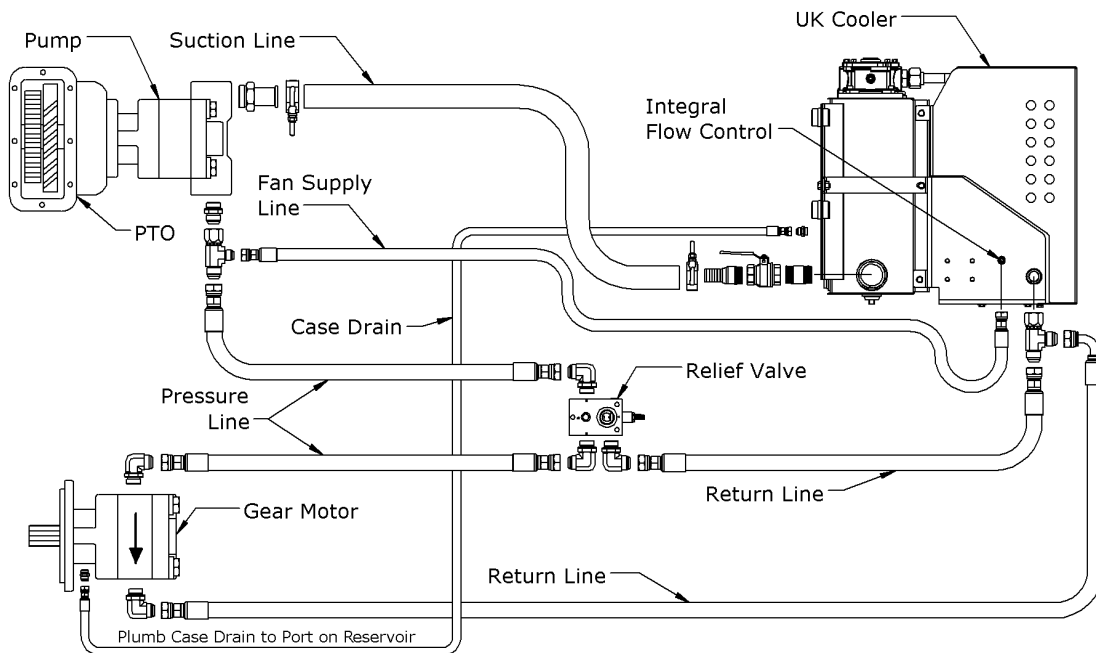
## UK12-70-HYD-FRM-PC – Dimensions



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## UK12-70-HYD-FRM-PC – Typical Plumbing Layout



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## UK12-70-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.



## UK12-70-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.

## UK12-70-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.

- 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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## UK12-70-HYD-FRM-PC – Product Information

### Technical Specifications:

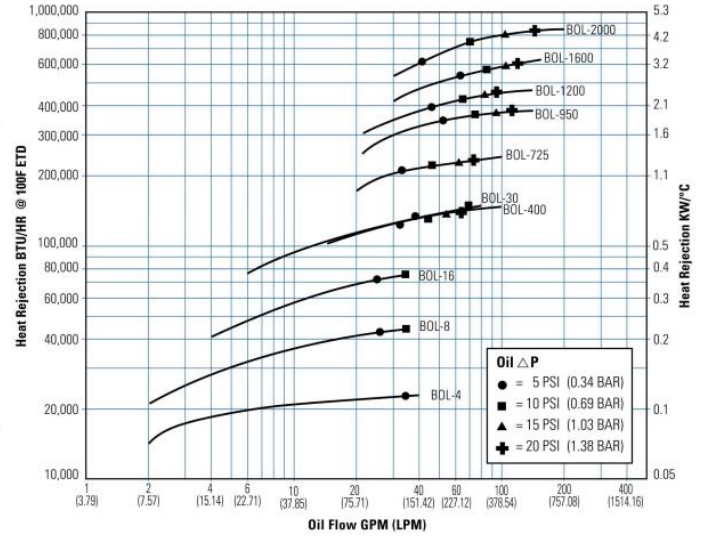
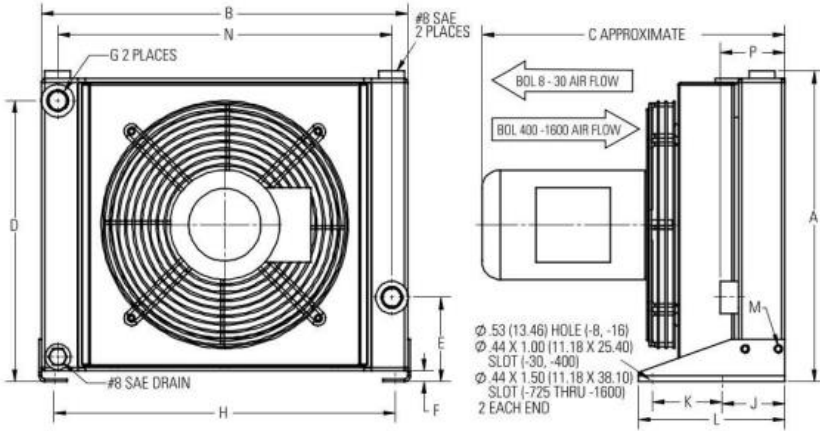
Height ..... 26.88 inches  
Depth ..... 28.78 inches  
Width ..... 24.90 inches  
Oil capacity ..... 12 gallons  
Fan speed ..... 1800 rpm



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## BOLR-400-226740 - Hydraulic Cooler Specifications



rate heat rejection values 15% if using 50Hz motors.

Model	A	B	C	D	E	F	G		H	J	K	L	M	N	P	Approx. Ship Wt. lbs (kg)
							SAE	NPT & BSPP								
BOL-4	See diagram above						#12 SAE	3/4"	See diagram above							18 (8.16)
BOL-8	12.56 (319)	15.81 (402)	15.94 (405)	11.34 (288)	4.51 (115)	0.57 (14)	#12 SAE	3/4"	14.44 (361)	3.36 (85)	3.74 (95)	7.87 (200)	M8 BOLT (2PL)	13.99 (355)	3.63 (92)	45 (20.4)
BOL-16	16.33 (415)	19.69 (500)	16.43 (417)	15.06 (383)	4.57 (116)	0.57 (14)	#12 SAE	3/4"	18.31 (465)	3.35 (85)	3.74 (95)	7.87 (200)	M8 BOLT (2PL)	17.95 (456)	3.63 (92)	55 (24.94)
BOL-30	20.13 (511)	26.38 (670)	17.88 (454)	19.49 (495)	5.26 (134)	1.32 (340)	#20 SAE	1 1/4"	24.74 (628)	4.15 (105)	5.00 (127)	9.9 (251)	M8 BOLT (4PL)	24.34 (618)	5.00 (127)	125 (56.70)
BOL-400	18.90 (480)	22.38 (568)	18.6 (472)	17.31 (440)	6.50 (165)	2.00 (51)	#20 SAE	1 1/4"	22.31 (567)	4.15 (105)	5.00 (127)	9.9 (251)	M8 BOLT (4PL)	20.07 (510)	5.00 (127)	148 (67.13)
BOL-725	23.40 (594)	30.25 (768)	17.56 (446)	21.62 (549)	6.50 (165)	2.00 (51)	#20 SAE	1 1/4"	30.11 (765)	4.15 (105)	5.00 (127)	9.9 (251)	M10 BOLT (4PL)	27.95 (710)	5.00 (127)	170 (77.11)
BOL-950	27.70 (705)	37.01 (940)	22.68 (576)	24.55 (624)	9.50 (241)	2.00 (51)	2" SAE 4 BOLT FLANGE	2"	35.87 (911)	6.05 (154)	9.20 (234)	16 (406)	M10 BOLT (4PL)	34.26 (870)	7.00 (178)	300 (136.08)
BOL-1200	28.38 (721)	40.98 (1041)	24.05 (611)	24.55 (624)	5.50 (140)	2.00 (51)		2"	40.29 (1023)	6.05 (154)	9.20 (234)	16 (406)	M10 BOLT (4PL)	38.18 (970)	8.75 (222)	430 (195.04)
BOL-1600	36.50 (927)	40.98 (1041)	25.43 (646)	32.80 (833)	9.50 (241)	2.00 (51)		2"	40.29 (1023)	6.05 (154)	9.20 (234)	16 (406)	M10 BOLT (4PL)	38.18 (970)	8.75 (222)	515 (233.60)
BOL-2000	See diagram above							2"	See diagram above							582 (264.00)

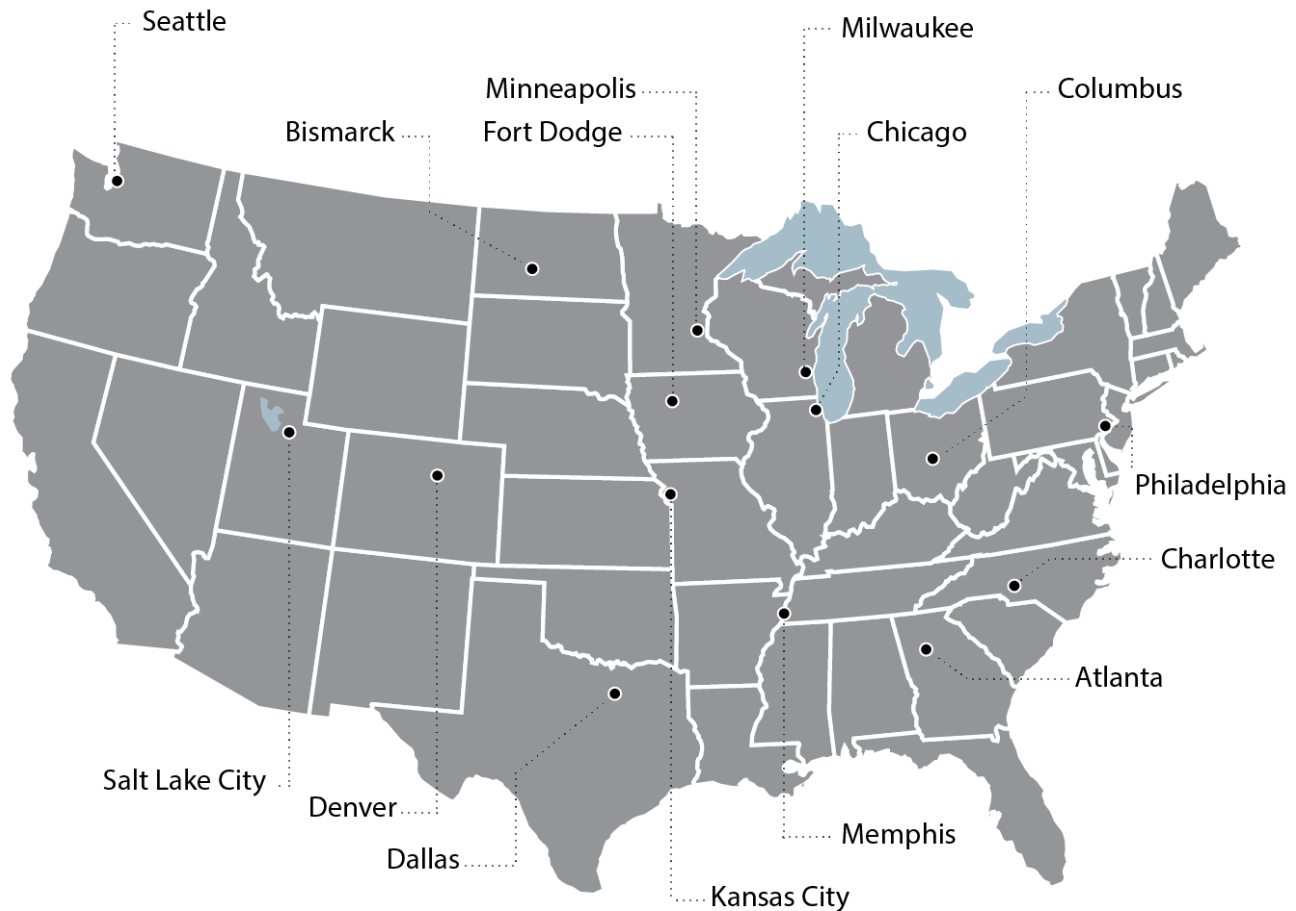
Note: We reserve the right to make reasonable design changes without notice. All dimensions are in inches (millimeters) unless noted otherwise.

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## Contact Us



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