



FORCE America Inc.

ULTRAKOOL Operator's Manual

FORCE America UK9-70-HYD-BTC-SS 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.

UK4 - 20 - 12VDC - FRM - AL - XX



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UK9-70-HYD-BTC-SS – Bill of Material

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1010557	1/4"-20 X 3/4" HHCS, 18-8 STAINLESS	16
2	1010558	3/8"-16 X 1-1/4" HHCS, 18-8 STAINLESS	8
3	1010560	3/8"-16 NYLON-INSERT HEX LOCK NUT, 18-8 STAINLESS	8
4	1010799	3/8" STAINLESS STEEL WASHER	16
5	1011613	DECAL, ULTRA KOOL	1
6	1011760	WELDMENT, DIFFUSER, 1-1/2 NPT THREAD	1
7	1013505	ADAPTER CAP NUT JIC FOR TUBE OD	2
8	1013938	FITTING STRAIGHT -8 MJIC X -8 MORB	1
9	1013967	FITTING STRAIGHT -20 MJIC / -20 MORB	3
10	1014034	FITTING UNION ADJ MORB -8	1
11	1014512	WELDMENT, RES-9, ULTRAKOOL, SS	1
12	1014550	FORMED SHEET, CRADLE, ULTRAKOOL HYD FAN, SS	1
13	1014553	PP, FORMED SHEET, PERFORATED PANEL, COOLER SIDE	1
14	1014554	PP, FORMED SHEET, PERFORATED PANEL, MOTOR SIDE	1
15	1015084	3/8"-16 X 3/4" HHCS, 18-8 STAINLESS	4
16	1015103	3/8" SCREW SIZE SPLIT LOCK WASHER, 0.68" OD, 18-8 STAINLESS	8
17	1015115	#12-14 X 1" SELF DRILLING SCREW, HEX WASHER HEAD, ZINC	6
18	1025287	HYDRAULIC MOTOR	1
19	1028135	RAISED FILLER BREATHER	1
20	1030846	1 NPT SQUARE HEAD PLUG	1
21	1046260	2-WAY BODY, SAE -8 PORTS - ALUMINUM	1
22	1053040	06 FEMALE JIC SWIVEL STRAIGHT FOR 3/8" HOSE	2
23	1067982	PLUG, MAGNETIC SQUARE HEAD, 3/4"-14 NPTF, STL	1
24	1071758	20 FEMALE JIC SWIVEL STRAIGHT FOR 1-1/4" HOSE	1
25	1075566	FITTING -20 FJIC X -08 MJIC REDUCER/EXPANDER	1
26	1076040	1/4" EXTRA THICK, FLAT WASHER, GENERAL PURPOSE, 18-8 STAINLESS	16
27	1086823	0-60 PSI BYPASS GAUGE - 1/8 NPT	1
28	1089083	08 FEMALE JIC 90 ELBOW FOR 1/2" HOSE	2

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29	1090446	TANK MOUNTED FILTER W/ELEMENT ENDURAGUARD	1
30	1094704	1-1/4" SUCTION EATON PUMA HOSE	1
31	1102603	-06 MALE JIC X #08 MALE ORB	1
32	1102641	5" SIGHT/TEMP GAUGE, M12X1.75, PLASTIC GUARD	1
33	1111583	EC215-08-328-LRL	1
34	1111586	1/2" EN857 2SC - 4000 PSI HOSE	1
35	1121608	ASSEMBLY, TUBE, UK9-HYD-SS	1
36	1122268	20 FEMALE JIC 90 ELBOW FOR 1-1/4" HOSE	1
37	1169068	CART, PRESSURE COMP FLOW REGULATOR	1
38	1177936	BOLR-400-226740	1
39	1178070	-20 MALE JIC X -20 MALE JIC X -20 MALE JIC	1
40	1181922	ADAPTER 45 DEG BULKHEAD 9/16-18 MALE JIC X 9/16-18 JIC	1
41	1185408	3/8"-16 X 2-1/4" SHCS 18-8 STAINLESS	2
42	1195152	WELDMENT, PANEL, TOP/END	1

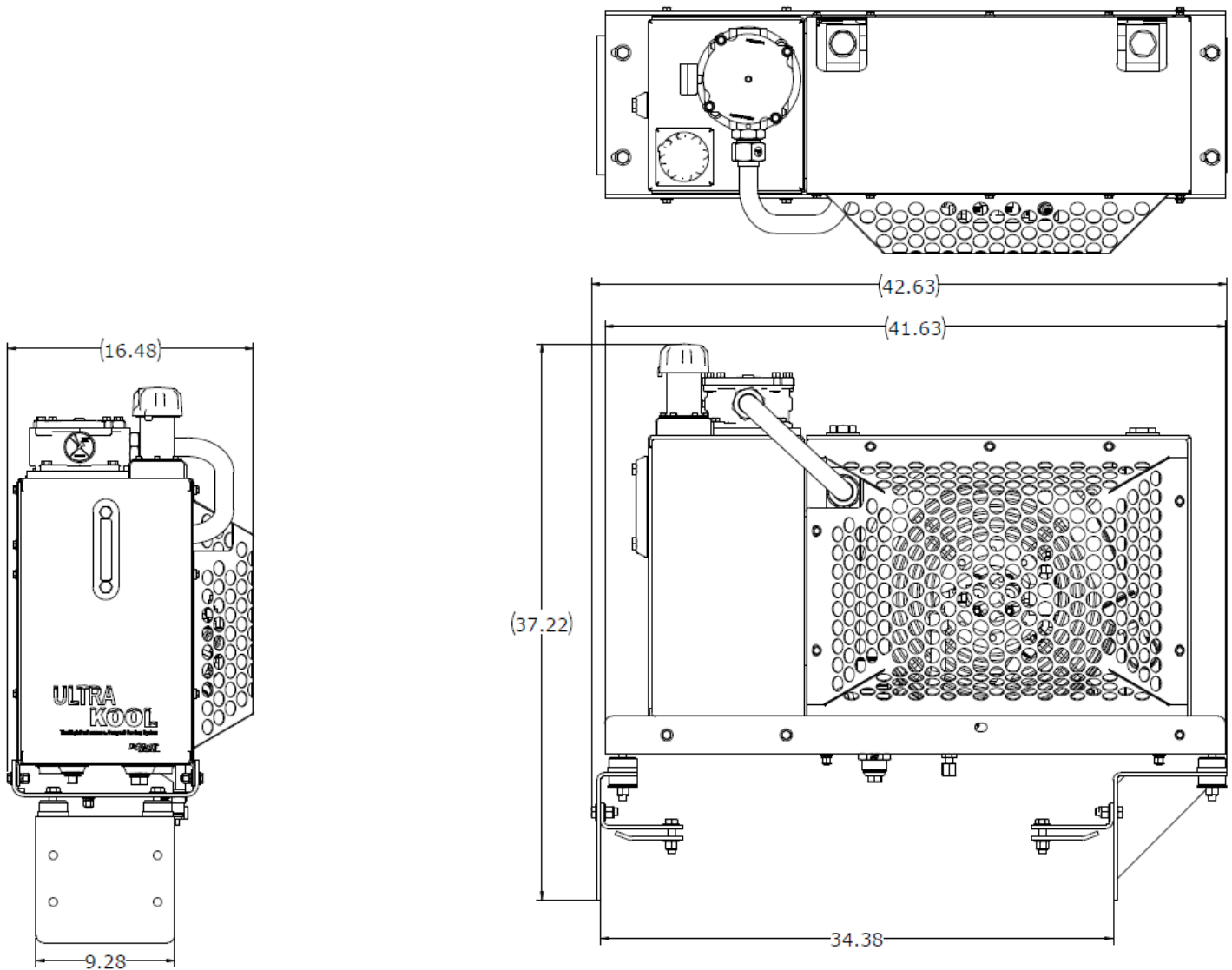
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UK9-70-HYD-BTC-SS – Dimensions



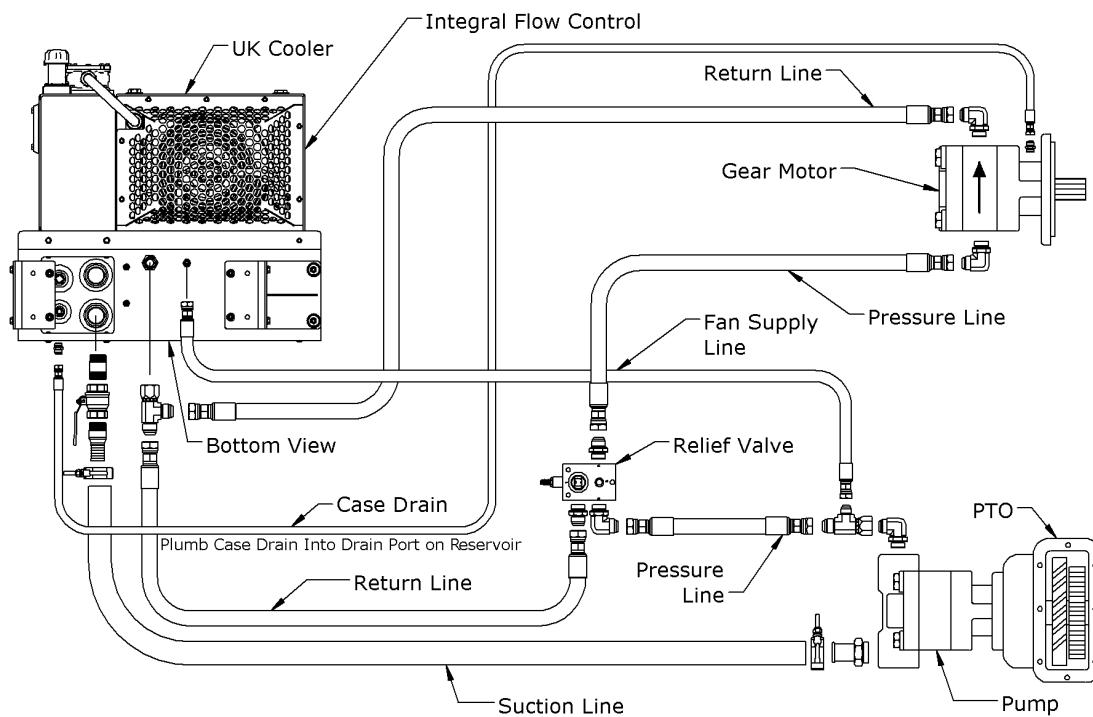
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UK9-70-HYD-BTC-SS – Typical Plumbing Layout



UK9-70-HYD-BTC-SS – 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.

UK9-70-HYD-BTC-SS – 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.

UK9-70-HYD-BTC-SS – 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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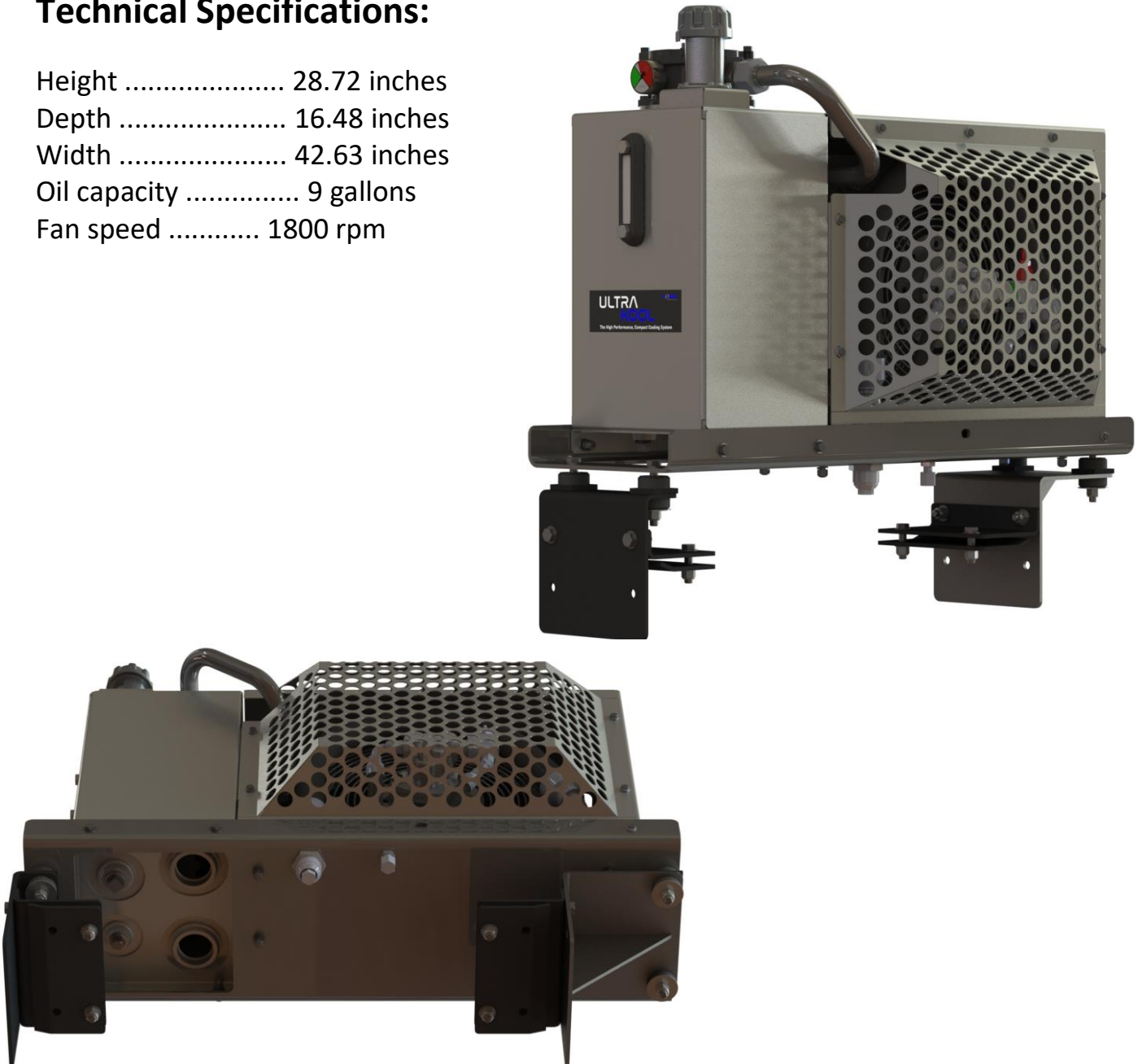
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UK9-70-HYD-BTC-SS – Product Information

Technical Specifications:

Height 28.72 inches
Depth 16.48 inches
Width 42.63 inches
Oil capacity 9 gallons
Fan speed 1800 rpm



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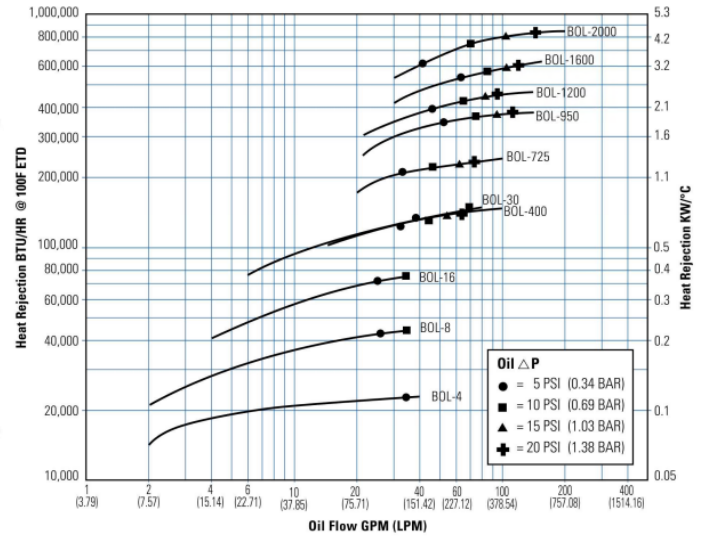
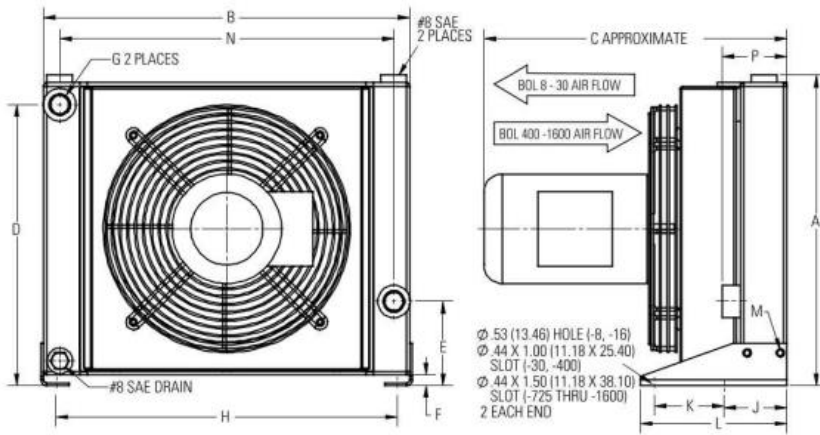
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BOLR-400-226740 - Hydraulic Cooler Specifications



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 (34)	#20 SAE	1¼"	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	1¼"	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	1¼"	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 (9870)	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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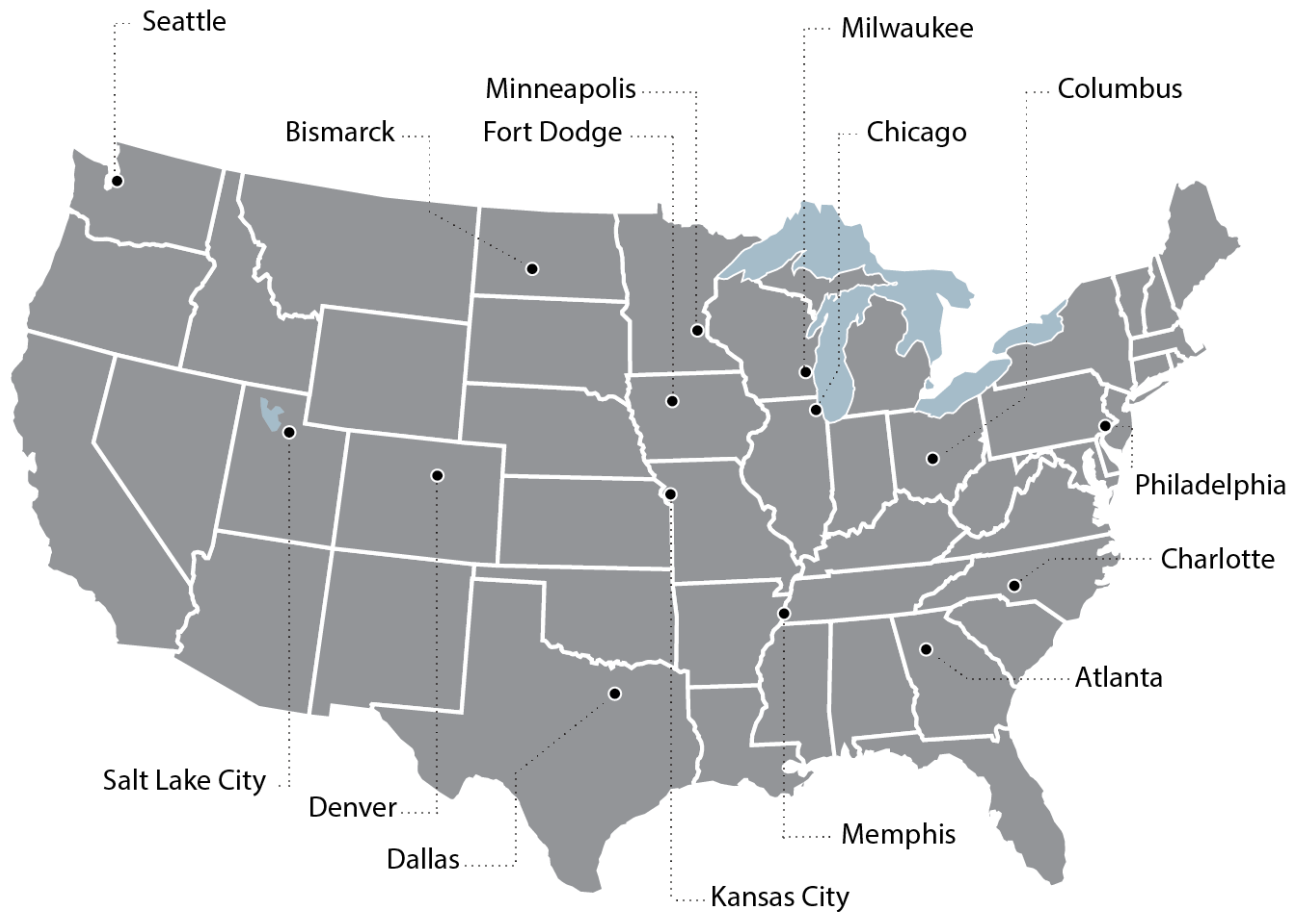
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Contact Us



Atlanta, Georgia	888-293-2325
Bismarck, North Dakota	800-624-7568
Charlotte, North Carolina	800-788-8598
Chicago, Illinois	800-433-5765
Columbus, Ohio	888-449-0356
Dallas, Texas	800-893-7225
Denver, Colorado	888-833-7711
Fort Dodge, Iowa	800-362-2994

Kansas City, Missouri	800-383-4724
Memphis, Tennessee	888-845-5876
Milwaukee, Wisconsin	800-722-5844
Minneapolis, Minnesota	800-328-2732
Philadelphia, Pennsylvania	800-492-6621
Salt Lake City, Utah	877-230-0505
Seattle, Washington	800-354-9028