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The Model BT K400 Dual-Feed Sonolator™



Assembly/Disassembly Instructions

Assembly And Disassembly

Note: Nomenclature referred to below appears on Drawings K420 Rev. B in the back of this manual or on Sonic's Tech Support page of website www.sonicmixing.com: [K420-A-01-B.pdf](#)

BEFORE OPENING THE SONOLATOR, ALWAYS CHECK THE PUMP DISCHARGE PRESSURE GAUGE TO ASSURE PRESSURE IS AT ZERO PSIG.

Orifice Removal and Replacement for Dual-feed BT_K400 Sonolator™

All Orifices are marked with a part number that includes the area in square inches.

1. Remove any piping connected to the inlet of the Sonolator™. With most systems, a union is provided just prior to the inlet to allow simple and easy access to this end of the Sonolator™.
2. Remove the large Acme nut, (# 2), near the Sonolator inlet.
3. Remove the Orifice Piston, (# 1), by pulling out or by pulling off Sonolator Housing, (# 5). There are slats on the edges of the Piston for removal with a screwdriver.
4. Remove the Back-Up Block (# 6) installed behind the Orifice, (# 8)
5. Remove Orifice, (#8). The Standard and Heat-traced Model BT Sonolator™ Orifices fit snugly and can be tapped lightly to be freed. Older Models 'B' and 'H-8 G-2' orifices are loose and are backed up with an 'O' ring seal. With the K400 version, simply pull the Orifice back once the Back-Up Block has been removed and slide out the side.

Re-assembly is accomplished in reverse order. Be sure to check condition of 'O' rings before re-assembly.

NOTE: Tungsten Carbide Orifices are brittle and over tightening the Orifice Locking Collar can cause damage. With the K400 version, the tungsten is an insert and there is no locking collar.

Note: Be sure to properly lubricate all O-rings when reassembling, particularly those around the Orifice Piston (# 1) and Blade Piston (# 15).

Blade Removal and Replacement for Standard Mono and Dual-feed Sonolator™

NOTE: Be certain the blade you install is the proper thickness. The K400 version requires the 0.254 Blade (# 12).

Standard Model BT and BT-HP Sonolators utilize the **0.115** inch thick blade.

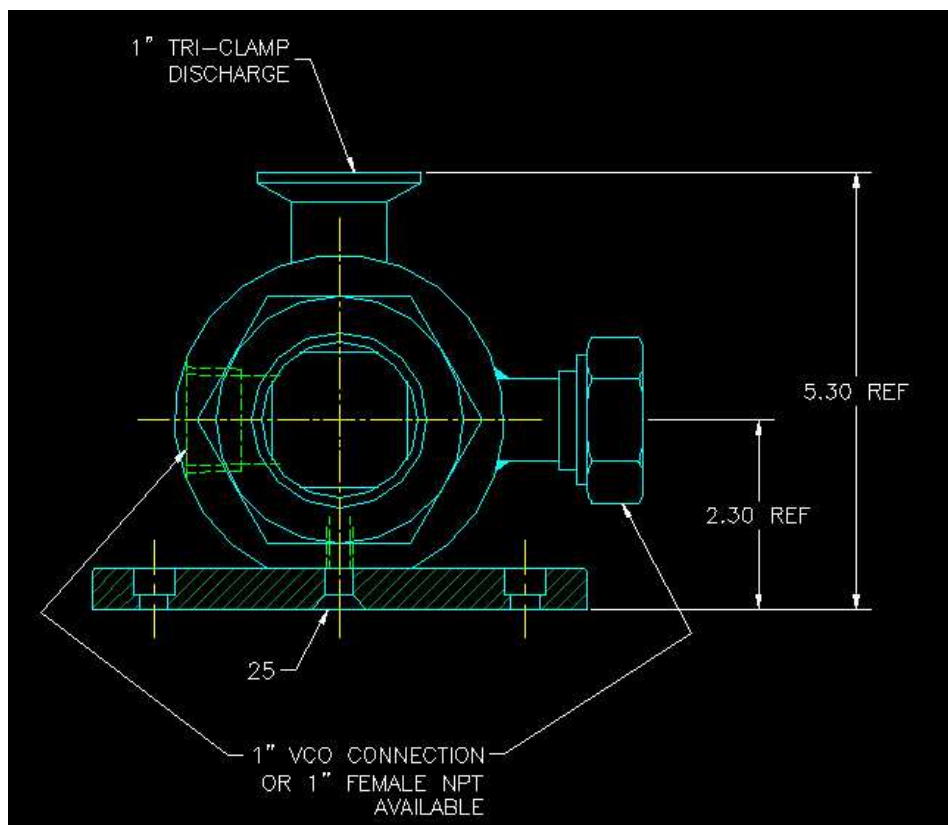
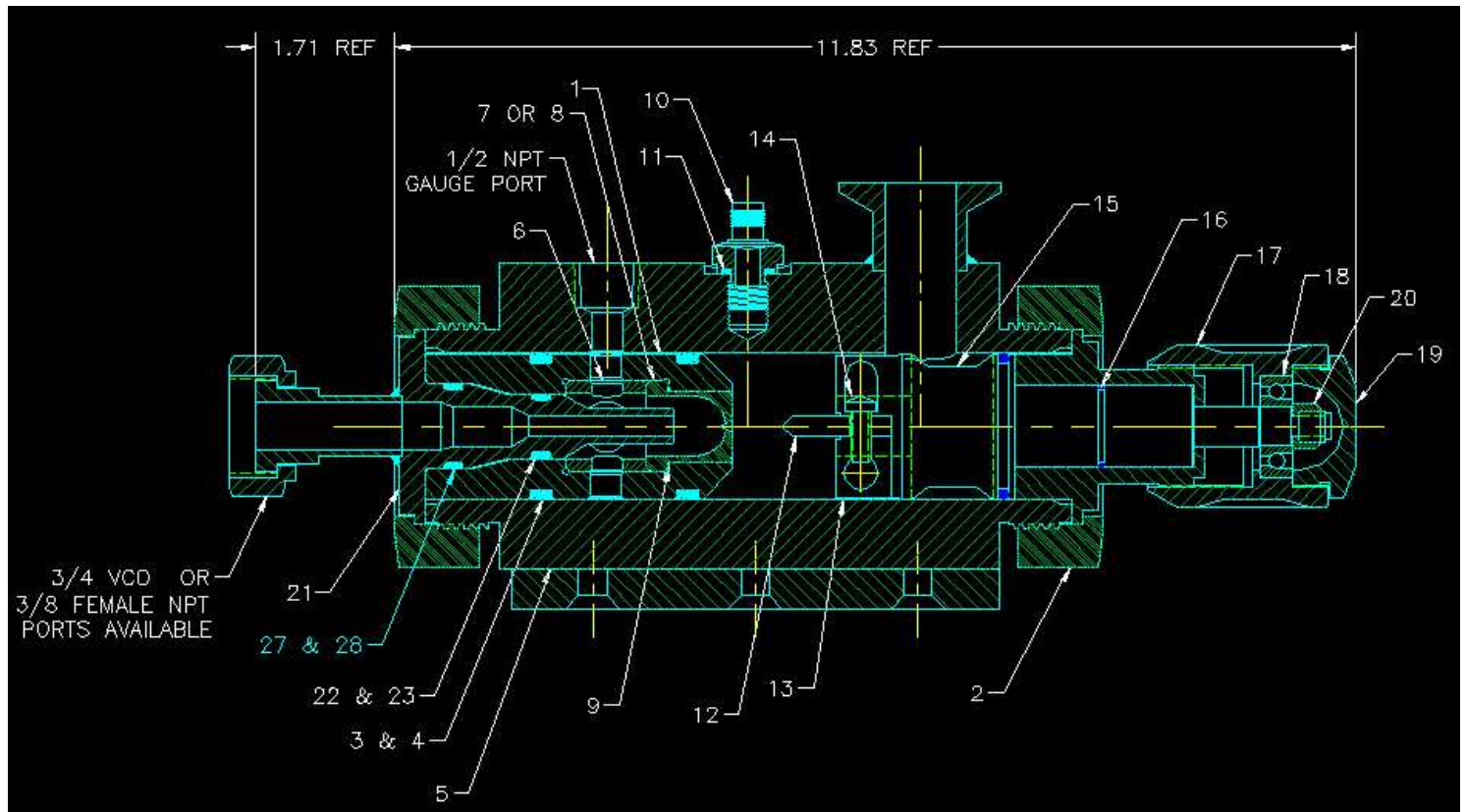
BLADES ARE AVAILABLE IN THE FOLLOWING MATERIALS: 316 Stainless Steel, Armco 17-7 Stainless Steel, and Tungsten Carbide.

1. Remove large Acme Retaining Nut (# 2) near Blade Piston, (# 15).
2. Remove the Blade Piston, (# 15), by pulling on the adjusting handle. Be careful with brittle tungsten carbide blades; pulling too vigorously on the piston may cause the operator to hit the blade against the side of Sonolator. **Note:** If the blade piston is difficult to remove, first remove large nut as in step one, then turn calibrating handle counter clock-wise as far as it will go. This causes the blade to withdraw. Then, by turning the handle clock-wise as far as possible, the entire Blade Piston will withdraw; if this fails to work, wedge the handle of the aluminum wrench, or a screwdriver, between the adapter and the housing and repeat the process. This will gradually withdraw the piston.

3. Remove the Blade, (# 12), by removing the fastening bolts, (# 14).

Reassemble in reverse order.

Drawing K420-A-01-A:



Model BT K400 DF Sonolator Parts List:

28	PAR-BAC RING, 8-118	2	COMMERCIAL	SL-1078
27	O-RING 2-118	1	COMMERCIAL	SL-1077
26	PLUG, 1" NPT	1	COMMERCIAL	
25	FLAT HEAD CAP SCREWS, 5/16-18 X 1.00	3	COMMERCIAL	
24	PLATE, BASE, HIGH PRESSURE BT	1	SONIC	K111
23	PAR-BAC RING, 8-114	2	COMMERCIAL	SL-1076
22	O-RING 2-114	1	COMMERCIAL	SL-1075
21	INJECTOR, SECONDARY, HIGH PRESSURE	1	SONIC	K423
20	NUT, HEX, 3/8-16, S. ST.	1	COMMERCIAL	ST-1023
19	CALIBRATOR END CAP	1	SONIC	K127
18	BEARING	1	COMMERCIAL	ST4003A
17	CALIBRATOR, BT SONOLATOR	1	SONIC	K152
16	O-RING, 2-020	1	COMMERCIAL	SL-1007
15	BLADE PISTON, .254 BLADE	1	SONIC	K106-3 OR K405
14	SOCKET HD CAP SCREW, 1/4-20 X 5/8 LG, LOW HEAD, 316 S. ST.	2	COMMERCIAL	
13	BLADE CLAMP, .254 BLADE	1	SONIC	K108-2 OR K406
12	BLADE, .254 THK	1	SONIC	K107AV4 OR K404
11	O-RING, 2-014	1	COMMERCIAL	SL-1002
10	PROBE	1	SONIC	IN-1027
9	O-RING, 2-018	1	COMMERCIAL	SL-1006
8	ORIFICE, HIGH PRESSURE, TUNGSTEIN CARBIDE	1	SONIC	K408
7	ORIFICE, HIGH PRESSURE, STAINLESS	1	SONIC	K403
6	BACK-UP BLOCK, HIGH PRESSURE BT SONOLATOR, DUAL FEED	1	SONIC	K421
5	HIGH PRESSURE HOUSING, DUAL-FEED	1	SONIC	K425
4	PAR-BAC RING, 8-222	4	COMMERCIAL	SL-1071
3	O-RING, 2-222, SEE NOTE 3	3	COMMERCIAL	SL-1021
2	2" ACME NUT	2	COMMERCIAL	ST-2002
1	ORIFICE PISTON, HIGH PRESSURE	1	SONIC	K422
ITEM	DESCRIPTION	QTY	MFG	PART #

MODEL 'BT' SONOLATOR MONO FEED

NUM	REQ	PART NUM	DESCRIPTION	MATL
1	1	K139D	HOUSING	316 S.S.
2	1	K140C	ORIFICE PISTON	316 S.S.
3	1	K142B	ORIFICE	316 S.S.
4	1	K141B	ORIFICE LOCKING COLLAR	316 S.S.
5	1	K106D-2	BT BLADE PISTON	316 S.S.
6	1	K107A-4	.254 SIZE BLADE	316 S.S.
7	1	K108B	BLADE CLAMP	316 S.S.
8	2	ST1008A	SLHCS 1/4-20X5/8 LG.	COMM
10	3	AL1021	O-RING #2-222	VITON
11	1	SL1007	O-RING #2-020	VITON
12	1	IN1008	PROBE PV-2	316 S.S.
13	1	IN1015	PROBE LOCKING COLLAR	304 S.S.
14	1	SL1005	O-RING #2-017	VITON
15	1	ST2001	ACME 1" NUT	COMM
16	1	K116B	TUNING VALVE HANDLE NUT	304 S.S.
17	1	K117B	VALVE STEM	316 S.S.
18	1	K118B	STEM RETAINER	304 S.S.
19	2	ST1002	SHSS, CUP, #10-24X1/4 LG.	COMM
20	1	SL1004	O-RING #2-016	VITON
21	2	ST2002	ACME 2" NUT	COMM
22	1	K122C	PISTON GUIDE	316 S.S.
23	1	K152C	CALIBRATOR	304 S.S.
24	1	K127C	END CAP	304 S.S.
25	1	ST4003A	BEARING MRC 201-S	COMM
26	1	ST1023	FINISHED HEX NUT 3/8-16	COMM
27	1	ST1024	LOCKWASHER, 3/8	COMM
28	1	K131B	BAR DETAIL	304 S.S.
29	1	ST4001A	BALL, 3/4 DIA.	COMM
30	1	SL2001	CONDSEAL, 1"	COMM
34	1	SL1006	O-RING #2-018	VITON