



# **PART'S MANUAL**

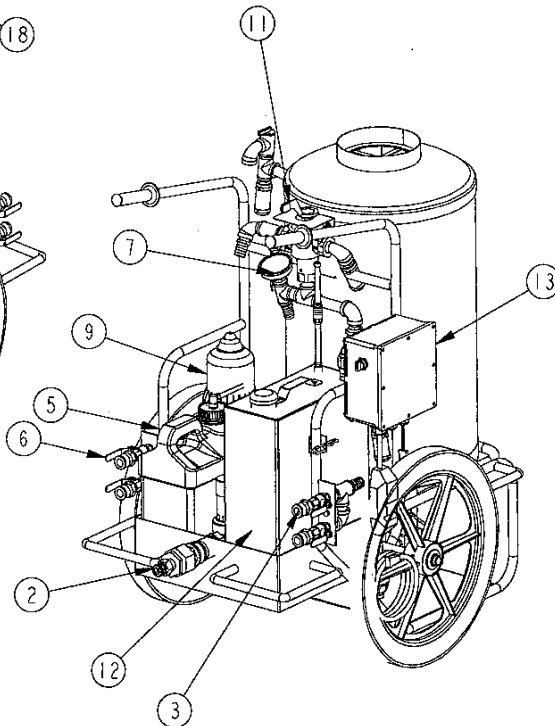
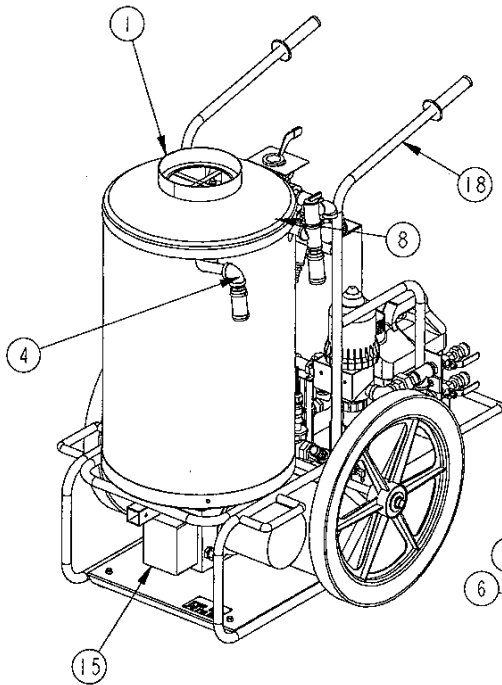
## **SF12-A** **HI VOLUME WATER HEATER**

**MODEL SF12 -A**

**WATER HEATER / SF12A  
W/INJ., METAL FUEL TANK**

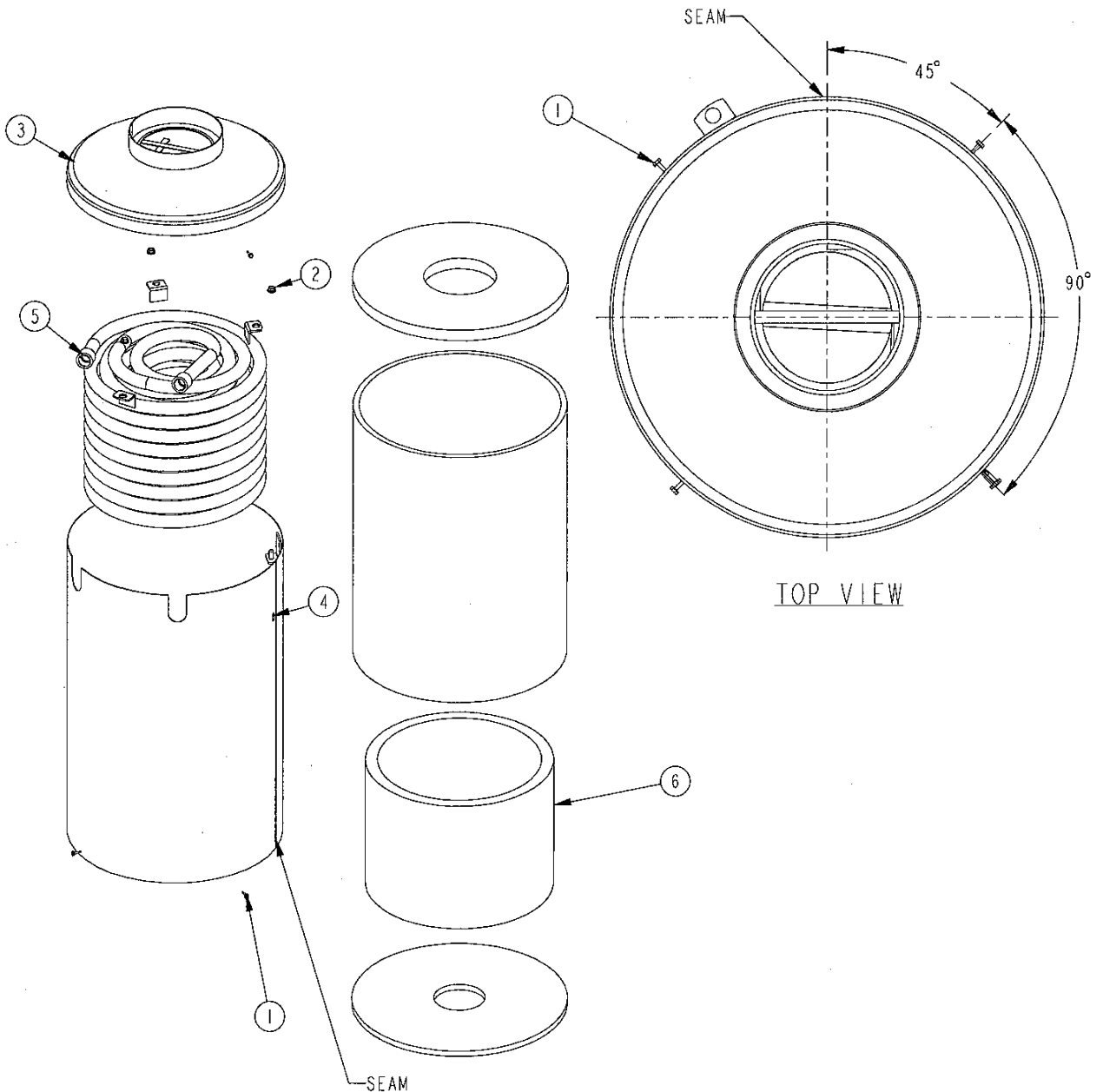
ITEM	PART DESCRIPTION	PART / DRAWER
1	Heat Chamber Assembly	BTV1-0020-1
2	Fire Hose Connect Assembly	ETV1-0002
3	Water Outlet, Rinse	ETV1-0004
4	Coil Inlet Assembly	ETV1-0006
5	Chemical Tank Assembly	ETV1-0011
6	Water Outlet, Wash	ETV1-0015
7	Mixing Valve Assembly	ETV1-0020
8	Coil Outlet Assembly	ETV1-0021
9	Injector Assembly	ETV1-0022
10	Water Inlet Assembly	ETV1-0025
11	Handle	ETV1-0063
12	Fuel Tank Assembly	ETV1-0009-2
13	Control Box Assembly	FTV1-0001
14	Wiring Diagram	FTV1-0002
15	Burner Assembly	GTV1-0001-1
16	Decal Assembly	ITV1-0001
17	Packaging Assembly	JTV1-0001
18	Machine Sub-Assembly	XTV1-0003

NOTE: SOME ITEMS NOT SHOWN FOR CLARITY



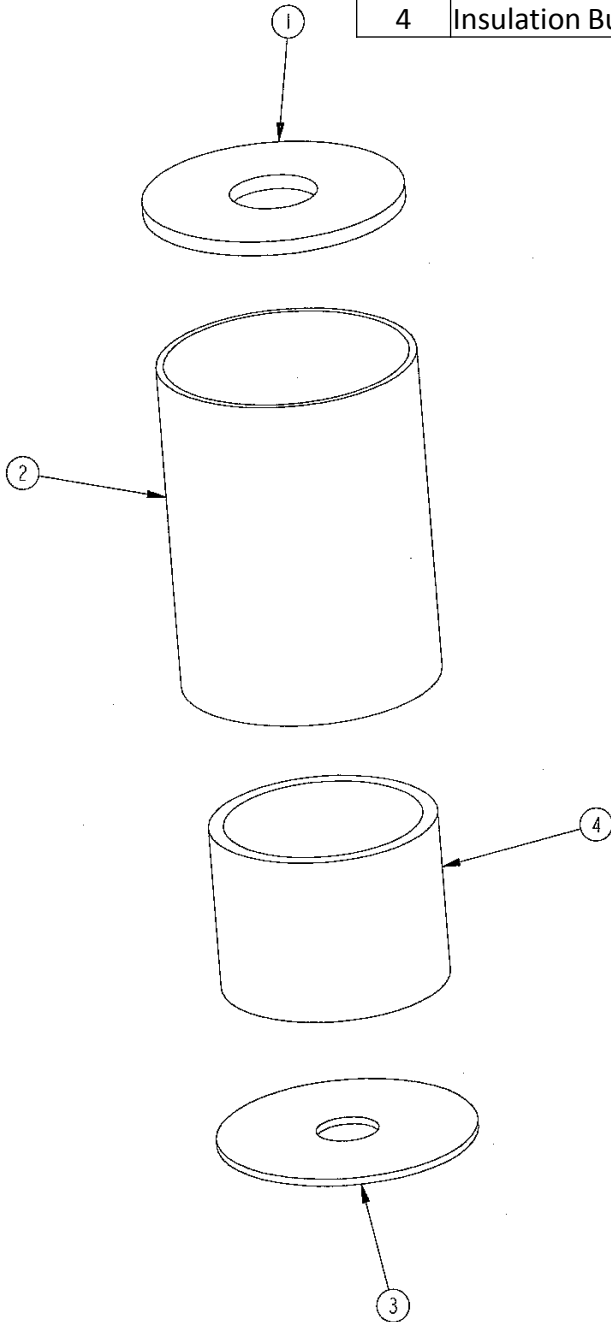
## HEAT CHAMBER ASSEMBLY / SF12A

ITEM	PART DESCRIPTION	PART / DRAWER
1	Screw, Teks #10-16 x 3/4	02-101400
2	3/8 Nut Serrated	02-301300
3	Stack Head Weldment 10"	B01-0068
4	Wrapper Weldment, 27"	BTV1-0014-1
5	Heating Coil Weldment	BTV1-0015-1
6	Insulation Assembly	HTV1-0004



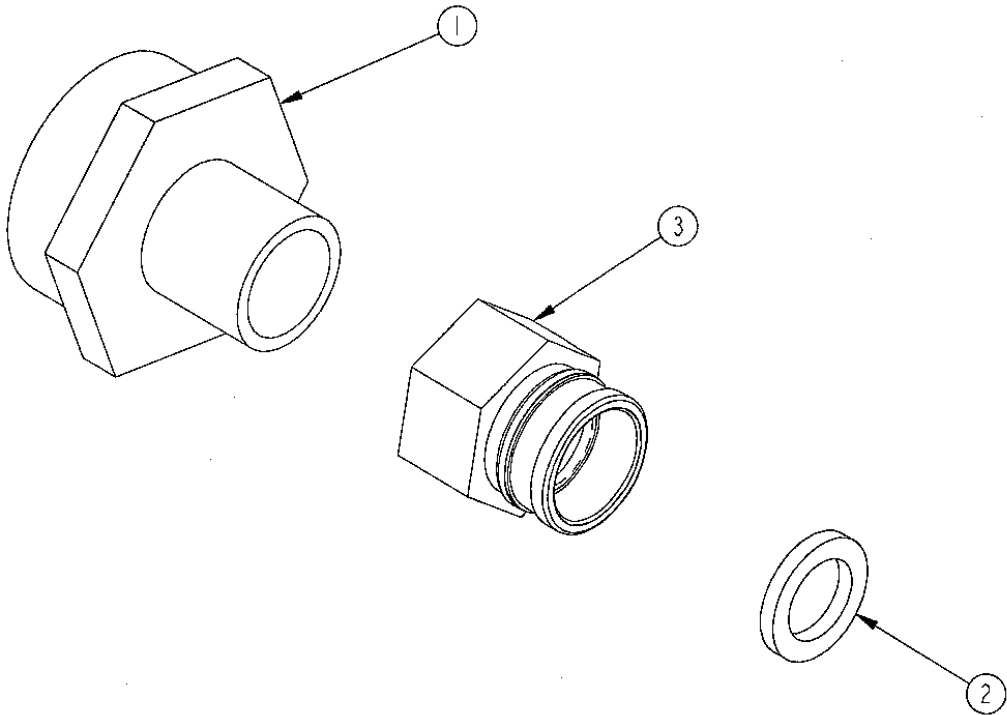
## INSULATION ASSEMBLY / SF12A

ITEM	PART DESCRIPTION	PART / DRAWER
1	Stack Head Ring	H01-0002
2	Insulation Blanket	H01-0019
3	Burner Head Ring	HTV1-0003
4	Insulation Bucket	101-0349



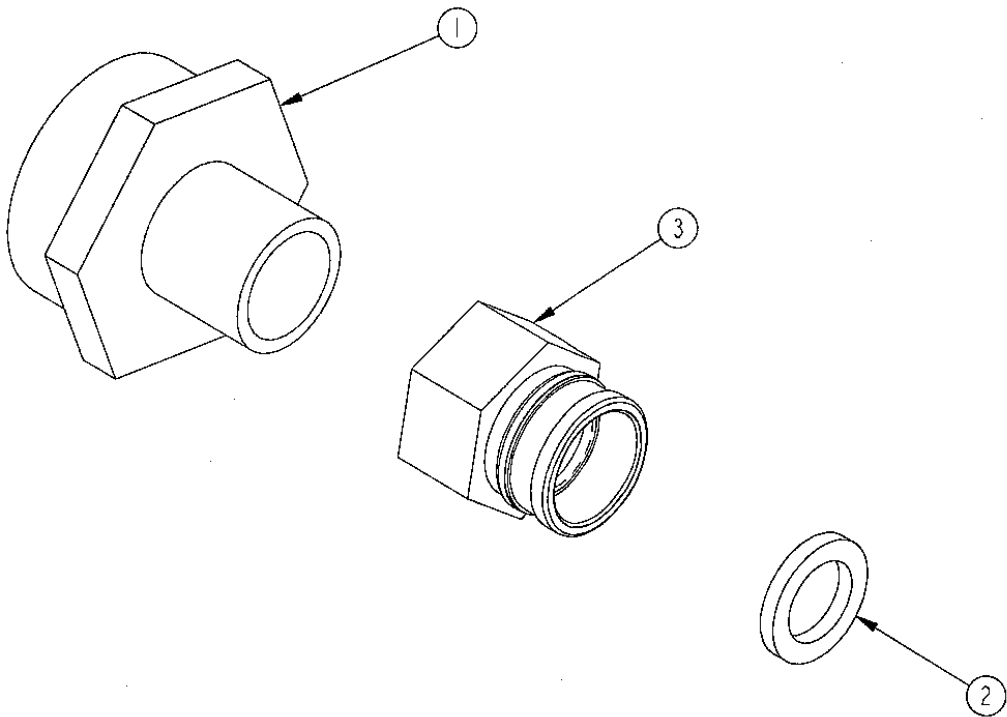
### FIRE HOSE CONNECT ASSEMBLY / SF12A

ITEM	PART DESCRIPTION	PART / DRAWER
1	Nipple, Reducing 1 1/2 x 3/4	01-301101
2	Hose Washe, 3/4"	01-401020
3	Garden Hose Adapter 3/4" GHT	01-401101



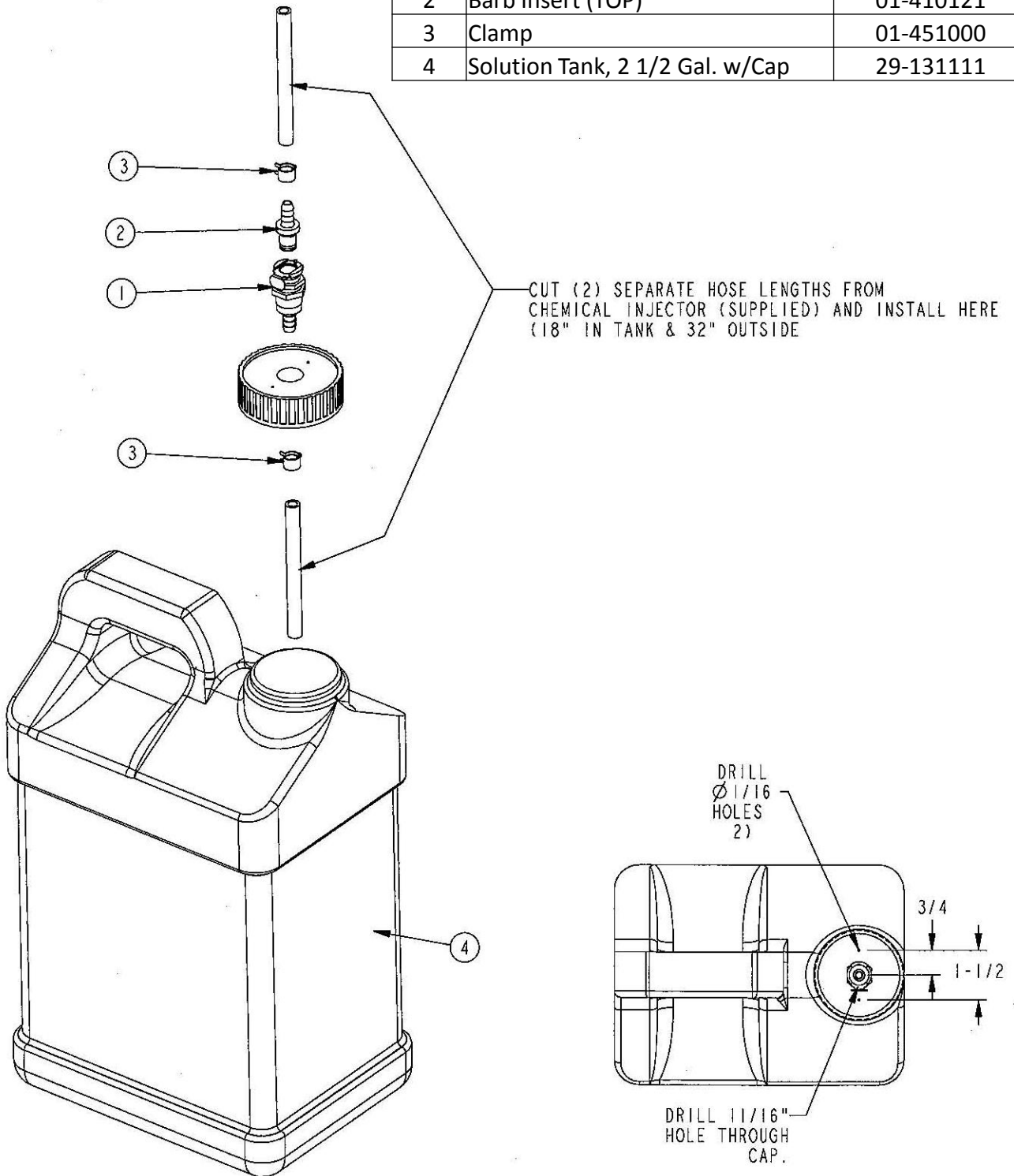
### FIRE HOSE CONNECT ASSEMBLY / SF12A

ITEM	PART DESCRIPTION	PART / DRAWER
1	Nipple, Reducing 1 1/2 x 3/4	01-301101
2	Hose Washe, 3/4"	01-401020
3	Garden Hose Adapter 3/4" GHT	01-401101

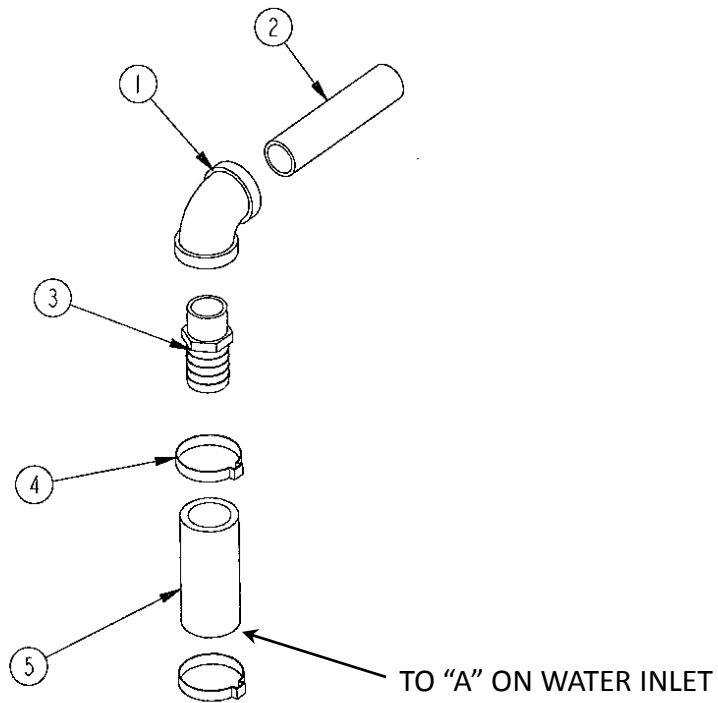


## CHEMICAL TANK ASSEMBLY SF12 / SF12-A

ITEM	PART DESCRIPTION	PART / DRAWER
1	Coupling Body (BTM)	01-410120
2	Barb Insert (TOP)	01-410121
3	Clamp	01-451000
4	Solution Tank, 2 1/2 Gal. w/Cap	29-131111



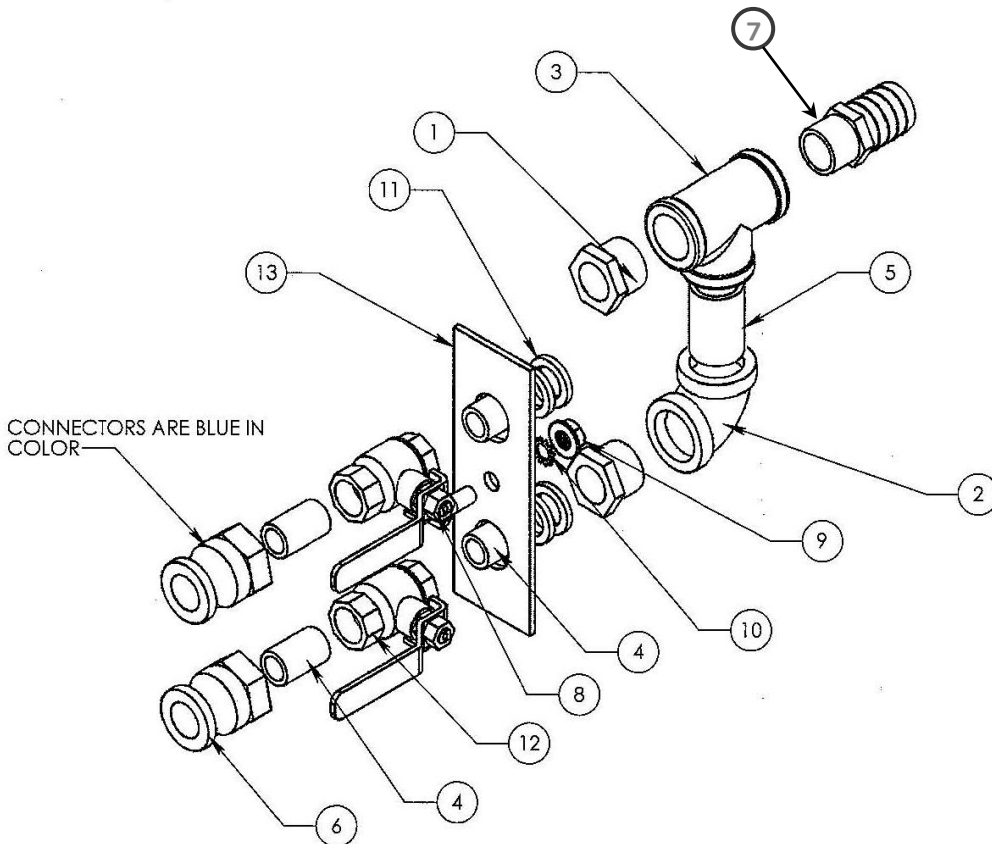
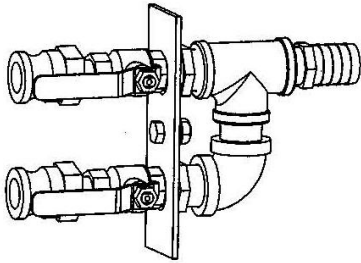
COIL INLET ASSEMBLY SF12		
ITEM	PART DESCRIPTION	PART / DRAWER
1	Elbow 3/4 x 90 Deg Bronze	01-111406
2	Nipple, 3/4 x 4 Bronze	01-291702
3	Hose Barb 3/4 x 3/4	01-411801
4	Clamp: Oetiker, for 1" Hose	01-451205
5	Hose, 1" Multi-Purpose	2231-32





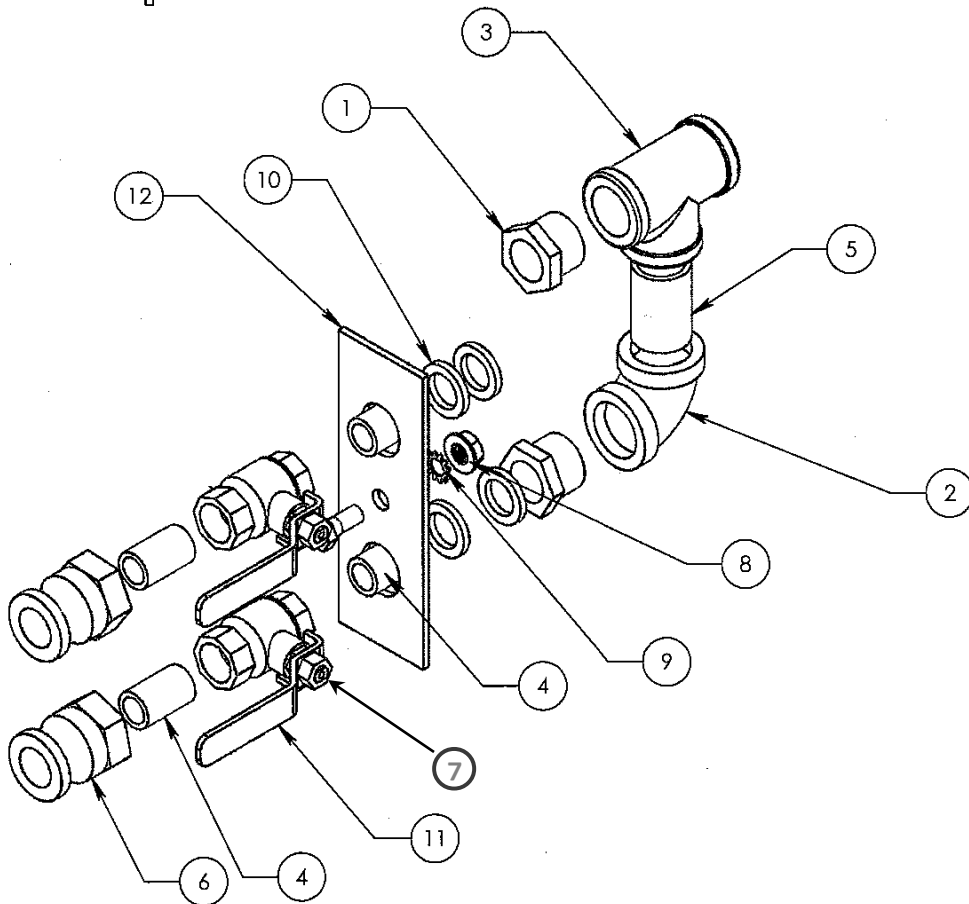
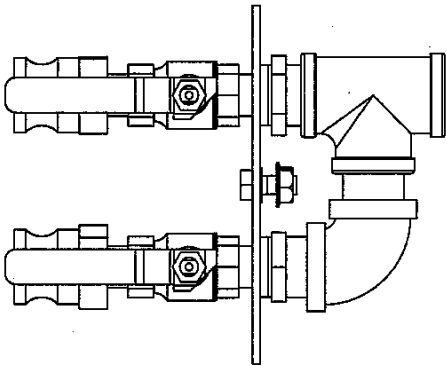
**WASH ASSEMBLY (BLUE)  
SF12A**

ITEM	PART DESCRIPTION	PART / DRAWER
1	Bushing 3/4" x 1/2" Bronze	01-101906
2	Elbow 3/4" x 90 Deg Bronze	01-111406
3	Tee, 3/4" Bronze	01-161406
4	Nipple, 1/2" Close, Bronze	01-281002
5	Nipple	01-291102
6	Cam Lock Connector Blue	01-410107
7	Hose Barb 3/4" x 1"	01-411801
8	Capscrew: Zinc 5/16 x 3/4	02-121100
9	5/16-18 Zinc Serrated Nut	02-301200
10	Washer 5/16" Star	02-501202
11	EPDM Washer	02-550100
12	Ball Valve 1/2" Forged	05-201105
13	Outlet Plate	BTV1-0012



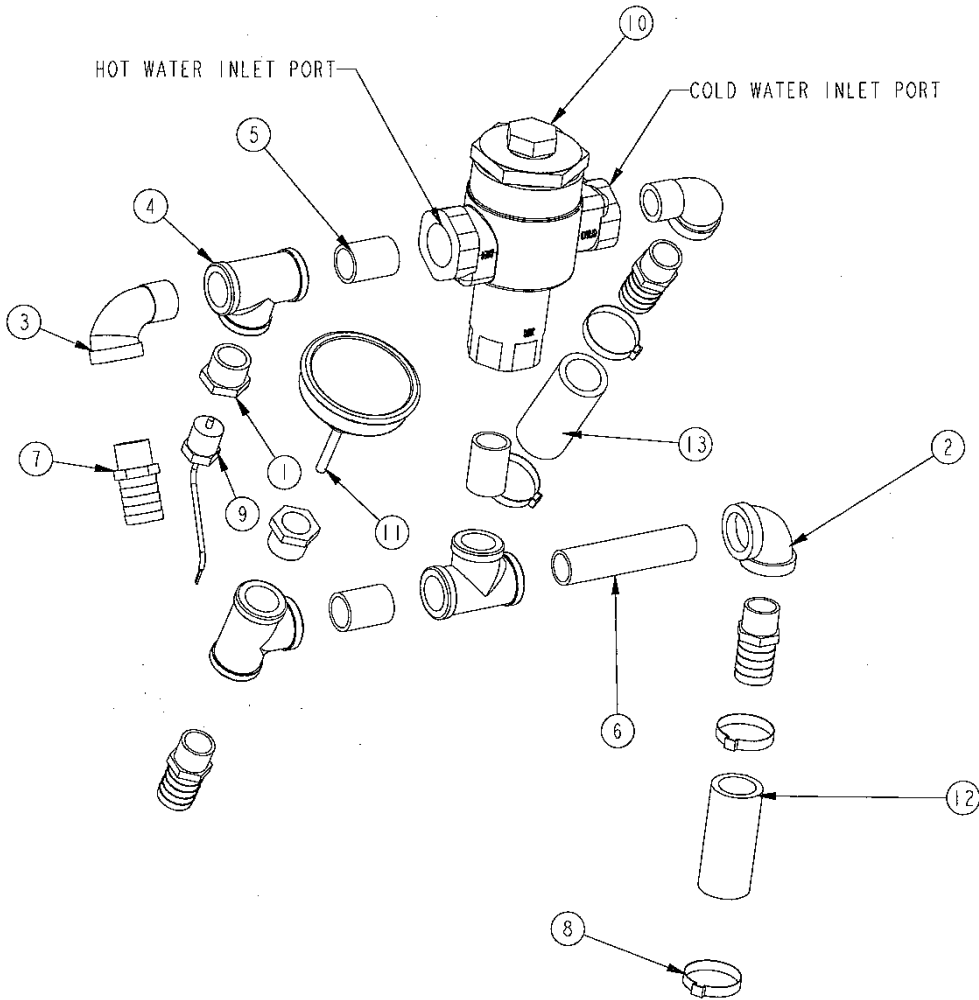
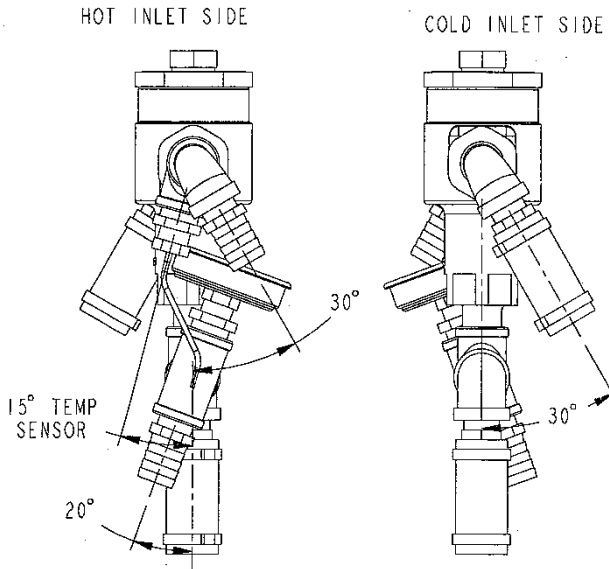
**WASH ASSEMBLY (RED)  
SF12A**

ITEM	PART DESCRIPTION	PART / DRAWER
1	Bushing 3/4" x 1/2" Bronze	01-101906
2	Elbow 3/4" x 90 Deg Bronze	01-111406
3	Tee, 3/4" Bronze	01-161406
4	Nipple, 1/2" Close, Bronze	01-281002
5	Nipple	01-291102
6	Cam Lock Connector Red	01-410106
7	Capscrew: Zinc 5//16 x 3/4	02-121100
8	5/16-18 Zinc Serrated Nut	02-301200
9	Washer 5/16" Star	02-501202
10	EPDM Washer	02-550100
11	Ball Valve 1/2" Forged	05-201105
12	Outlet Plate	BTV1-0012



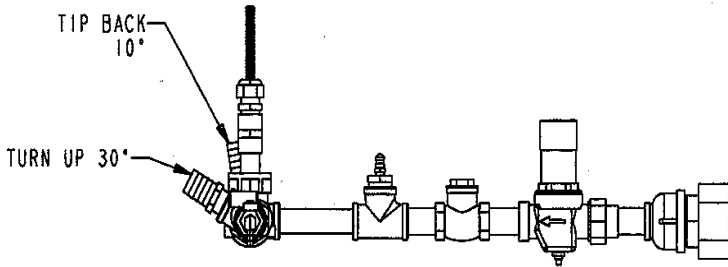
**MIXING VALVE ASSEMBLY  
NEW VALVE / SF12A**

ITEM	PART DESCRIPTION	PART / DRAWER
1	Bushing 3/4 x 1/2 Bronze	01-101906
2	Elbow 3/4 x 90 Deg Bronze	01-111406
3	Elbow St 3/4 x 90 Bronze	01-131406
4	Tee, 3/4 Close, Bronze	01-161406
5	Nipple, 3/4 Close, Bronze	01-291000
6	Nipple, 3/4 x 4 Bronze	01-291702
7	Hose Barb 3/4 x 3/4	01-411801
8	Clamp: Oetiker, for 1" Hose	01-451205
9	Thermocouple, Type J	03-332000
10	Cobraco Mixing Valve 3/4"	05-121903
11	Thermometer 1/2" w/3" Dial	05-501225
12	Hose, 1" Multi-Purpose	2231-20
13	Hose, 1" Multi-Purpose	2231-23

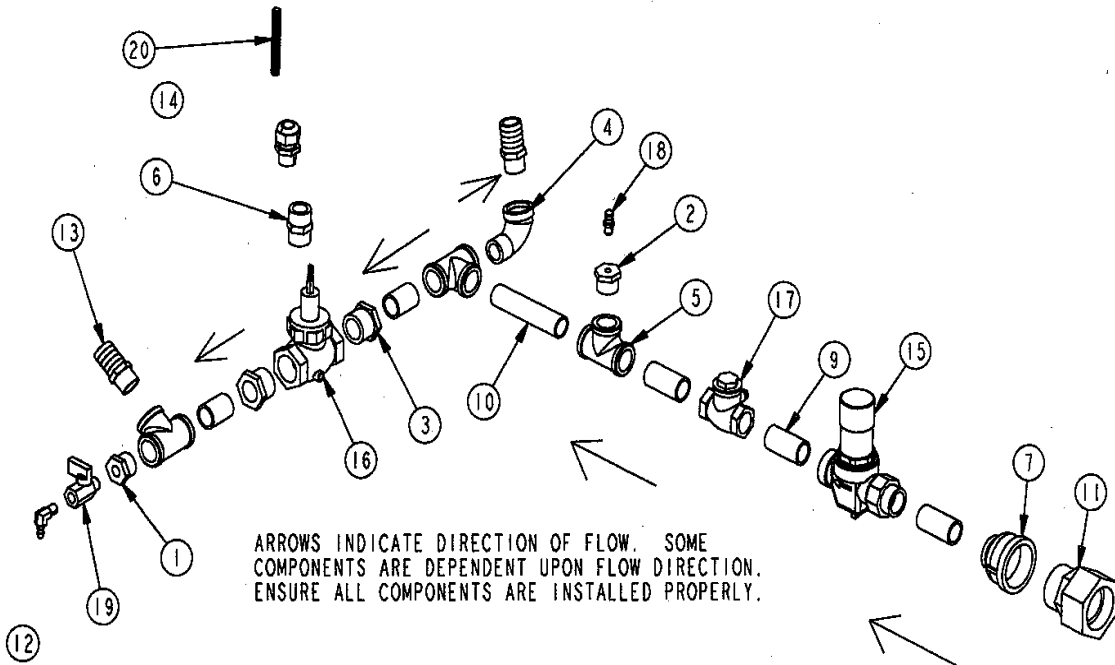


WATER INLET ASSEMBLY / SF12A

ITEM	PART DESCRIPTION	PART / DRAWER
1	Bushing 3/4" x 1/4 Bronze	01-101900
2	Bushing 3/4" x 1/8 Bronze	01-101904
3	Bushing 1 x 3/4 Bronze	01-102006
4	Elbow St 3/4 x 90 Bronze	01-131406
5	Tee, 3/4 Bronze	01-161406
6	Coupling, PVC 1/2" NPT BLK	01-201305
7	Coupling, Bronze 1 1/2 x 1" Bronze	01-221305
8	Nipple, 3/4 Close, Bronze	01-291000
9	Nipple, 3/4 x 4, Bronze	01-291702
10	Nipple, 1" x 2"	01-301302
11	Fire Hose 1 1/2 x 1" NPT	01-401105
12	Hose Barb	01-411102
13	Hose Barb 3/4 x 3/4	01-411801
14	Heyco Connector	03-192520
15	Pressure Control, 1"	04-101730
16	Flow Switch	04-101930
17	Check Valve, Cast Brass	05-121210
18	Air Valve 1/8"	05-141000
19	1/4" Ball Valve, 1/4 N x 1/4 F	05-201210
20	Conduit, 5/16" Black Nylon	1032-25

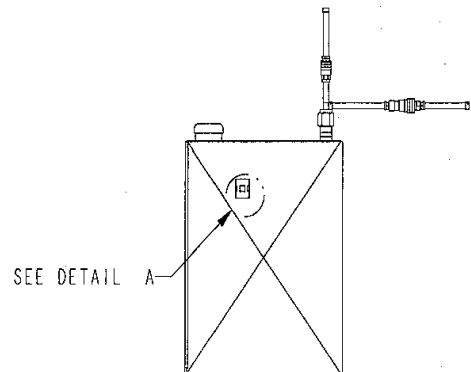
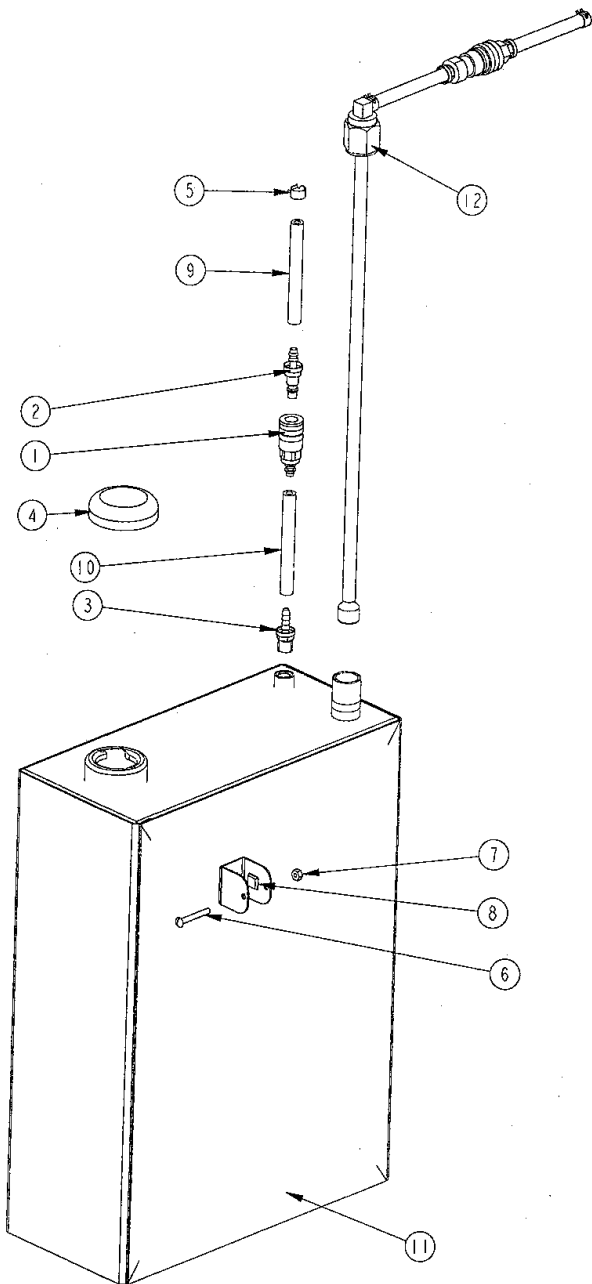


SIDE VIEW

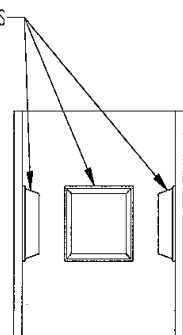


**METAL FUEL TANK ASSEMBLY / SF12A  
TV1 20 LITER FUEL TANK**

ITEM	PART DESCRIPTION	PART / DRAWER
1	Push Lok Hose Barb	01-410104
2	Push Lok Hose Barb Nipple	01-410105
3	Hose Barb	01-411111
4	Filler Cap, Vented	01-431000
5	Uni Clamp	01-451020
6	Screw	02-101770
7	Hex Nut	02-301004
8	Bumper	03-241102
9	Fuel Line	2202-24
10	Fuel Line	2202-9
11	Fuel Tank Weldment	BTV1-0205
12	Fuel Inlet Assembly	ETV1-0010-3



CENTER PADS ON THREE SIDES

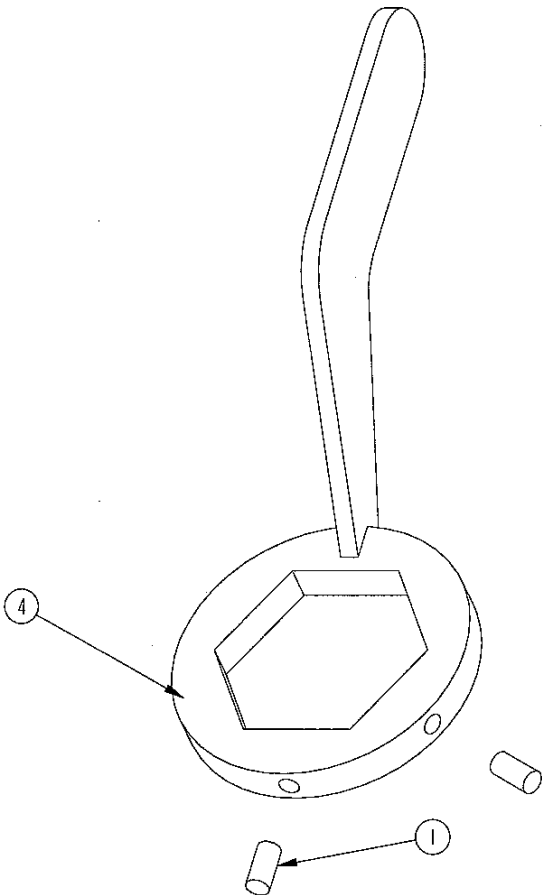
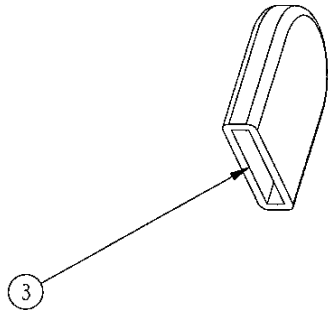


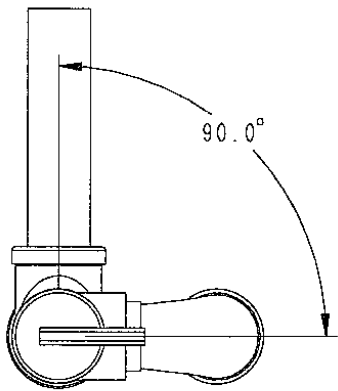
DETAIL A  
SCALE 1.000

**WRENCH ASSEMBLY / SF12  
TVI MIX VALVE**

ITEM	PART DESCRIPTION	PART / DRAWER
1	Set Screw 8-32 x 5/16"	02-100507
2	Allen Wrench 5/64"	02-100508
3	Cover	02-100509
4	Wrench Weldment	BTV1-0076

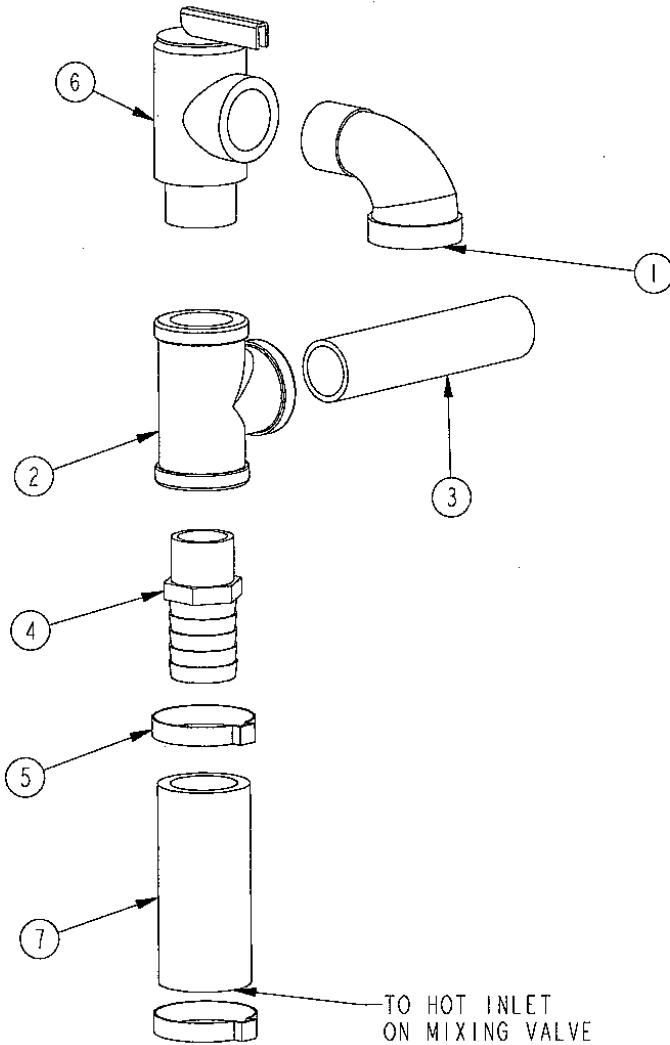
NOTE: NOT ALL PARTS ARE SHOWN ON THIS PAGE





TOP VIEW:  
TURN UP AS SHOWN

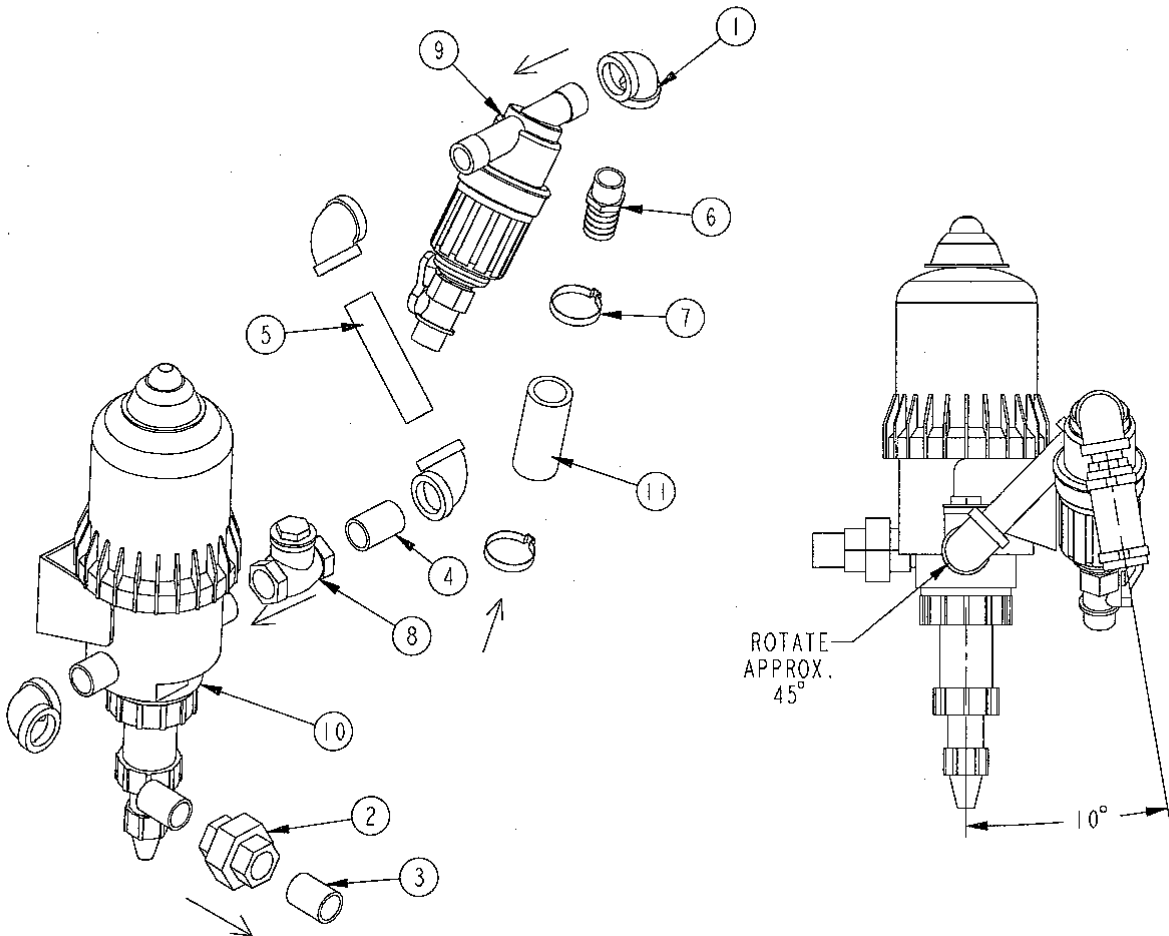
COIL OUTLET ASSEMBLY / SF12A		
ITEM	PART DESCRIPTION	PART / DRAWER
1	Elbow St 3/4 x 90 Bronze	01-131406
2	Tee, 3/4 Bronze	01-161406
3	Nipple, 3/4 x 4 Bronze	01-291702
4	Hose Barb 3/4 x 3/4	01-411801
5	Clamp: Oetiker, for 1" Hose	01-451205
6	Pressure Relief Valve, 150 PSI	05-101410
7	Hose, 1" Multi-Purpose	2231-23



## COIL OUTLET ASSEMBLY / SF12A

ITEM	PART DESCRIPTION	PART / DRAWER
1	Elbow 3/4 x 90 Deg Bronze	01-111406
2	Union, 3/4 Bronze	01-171406
3	Nipple, 3/4 Close, Bronze	01-291000
4	Nipple, 3/4 x 1 1/2 Bronze	01-291102
5	Nipple, 3/4 x 4 Bronze	01-291702
6	Hose Barb 3/4 x 3/4	01-411801
7	Clamp: Oetiker, for 1" Hose	01-451205
8	Check Valve, Cast Brass	05-121210
9	3/4" Filter	05-121910
10	Dosatron Chemical Injection	05-121920
11	Hose, 1" Multi-Purpose	2231-40

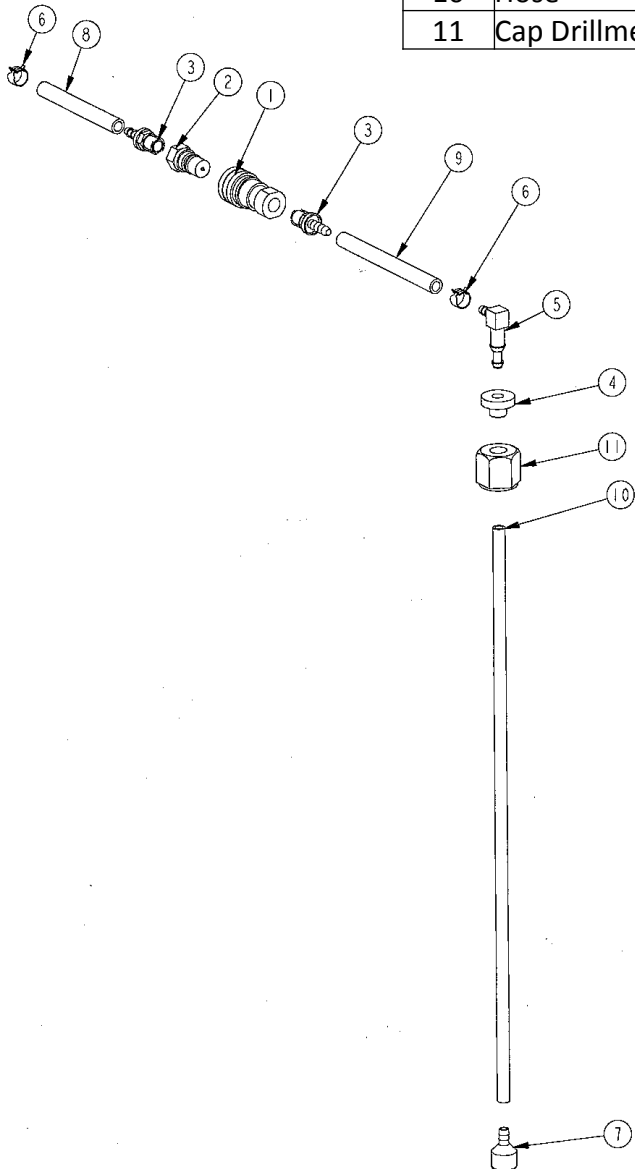
ARROWS INDICATE DIRECTION OF FLOW. SOME COMPONENTS ARE DEPENDENT UPON FLOW DIRECTION. ENSURE ALL COMPONENTS ARE INSTALLED PROPERLY.





## FUEL INLET ASSEMBLY / SF12A

ITEM	PART DESCRIPTION	PART / DRAWER
1	Quick Coupler, Hydraulic	01-410102
2	Quick Coupler, Hydraulic Nipple	01-410103
3	Hose Barb	01-411111
4	Grommet	01-411112-1
5	Barb	01-411113
6	Uni Clamp	01-451020
7	Inlet Screen	05-121300
8	Fuel Line	2202-20
9	Fuel Line	2202-4
10	Hose	2239-19
11	Cap Drillment	BTVI-0206



**ELECTRICAL BOX ASSEMBLY / SF12A**

ITEM	PART DESCRIPTION	PART / DRAWER
1	Mach Screw, #6-32 x 1	02-100405
2	Mach Screw, #8-32 x 1/2"	02-101100
3	Screw, 1/4-20 x 1/2" Hex	02-111000
4	Nut: Hex Head, Zinc #6-32	02-301001
5	Nut: 8-32" Klik Rivet	02-301007
6	Hex Nut: 1/4-20 Serrated	02-301100
7	Star Washer #10	02-501002
8	Conduit Locking Nut	03-191005
9	Heyco Conn. 3231 1/2"	03-192520
10	GFCI 120V 15AMP 36'	03-211725
11	Switch, Rotary On-Off	03-222200
12	Relay, Solid State	03-312040
13	Temperature Control, Athena	04-101470
14	Electrical Mtg Plate	BTV1-0005
15	Temp Control Mtg Brkt	BTV1-00306
16	Control Box	BTV1-0016
17	Barrier Strip, TVI	BTV1-0036
18	Female Thermocouple Assy.	FTVI-0005

