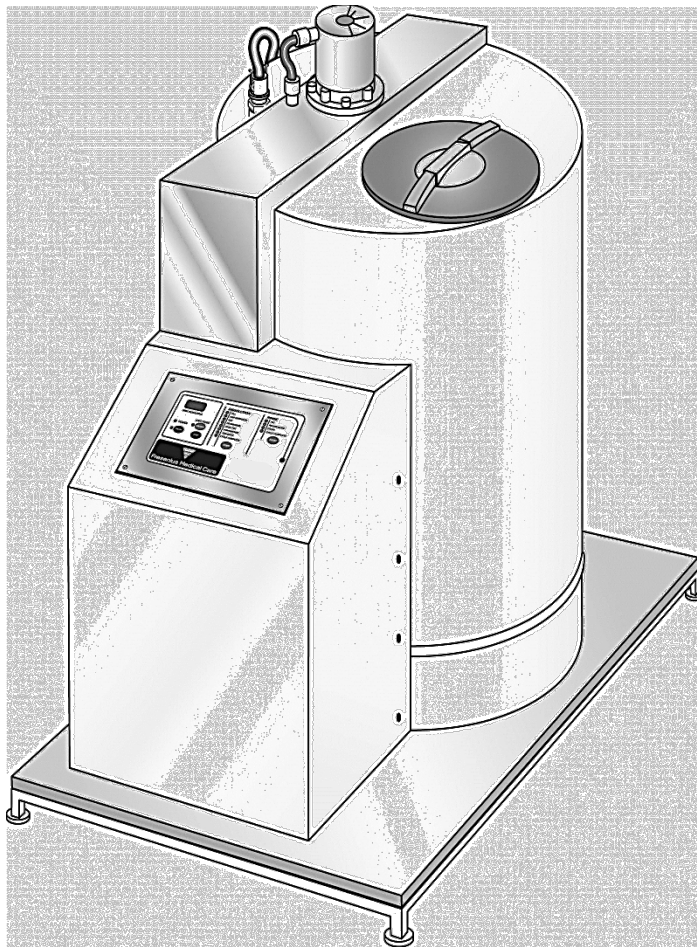




**FRESENIUS
MEDICAL CARE**

132 GALLON CONCENTRATE
DISSOLUTION UNIT
GranuFlo[®] AND DRY ACID



SPARE PARTS MANUAL

P/N 450363 Rev. C

132 Gallon Concentrate Dissolution Unit - GranuFlo® and Dry Acid Spare Parts Manual

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Caution: U.S. Federal law restricts this device to sale by or on the order of a physician.

As part of the Conditions for Coverage, it is the Medical Director's responsibility that the operators of the Fresenius Medical Care GranuFlo® or Dry Acid Dissolution Unit must be trained in its operation and thoroughly familiar with the contents of this manual. Operators must be proficient and able to distinguish between normal and abnormal operation.

Assembly, installation, adjustment, or repair is to be performed only by persons authorized by the facility Medical Director or by Fresenius USA, Inc. Fresenius Medical Care 132 Gallon Dissolution Unit GranuFlo® or Dry Acid spare parts manual, part number 450363, Field Service Bulletins, and other documentation are located on the Internet at <http://www.fmcna.com>.

Only Original Equipment Manufacturer (*OEM*) Fresenius Medical Care parts should be used in the repair or upgrade of the Fresenius Medical Care GranuFlo® or Dry Acid Concentrate Dissolution Unit. Although, parts may look similar to parts in various vendor catalogs or brick and mortar stores, the GranuFlo® or Dry Acid Concentrate Dissolution Unit uses parts that have been specified and tested in accordance to *ANSI/AAMI/ISO* guidelines. The use of non-*OEM* parts will void your warranty and may cause patient harm.

For further information regarding the operation, repair, parts, or maintenance of the Fresenius Medical Care 132 Gallon GranuFlo® or Dry Acid Dissolution Unit, please contact:

Fresenius USA, Inc.
4040 Nelson Avenue
Concord, CA 94520

(800) 227-2572

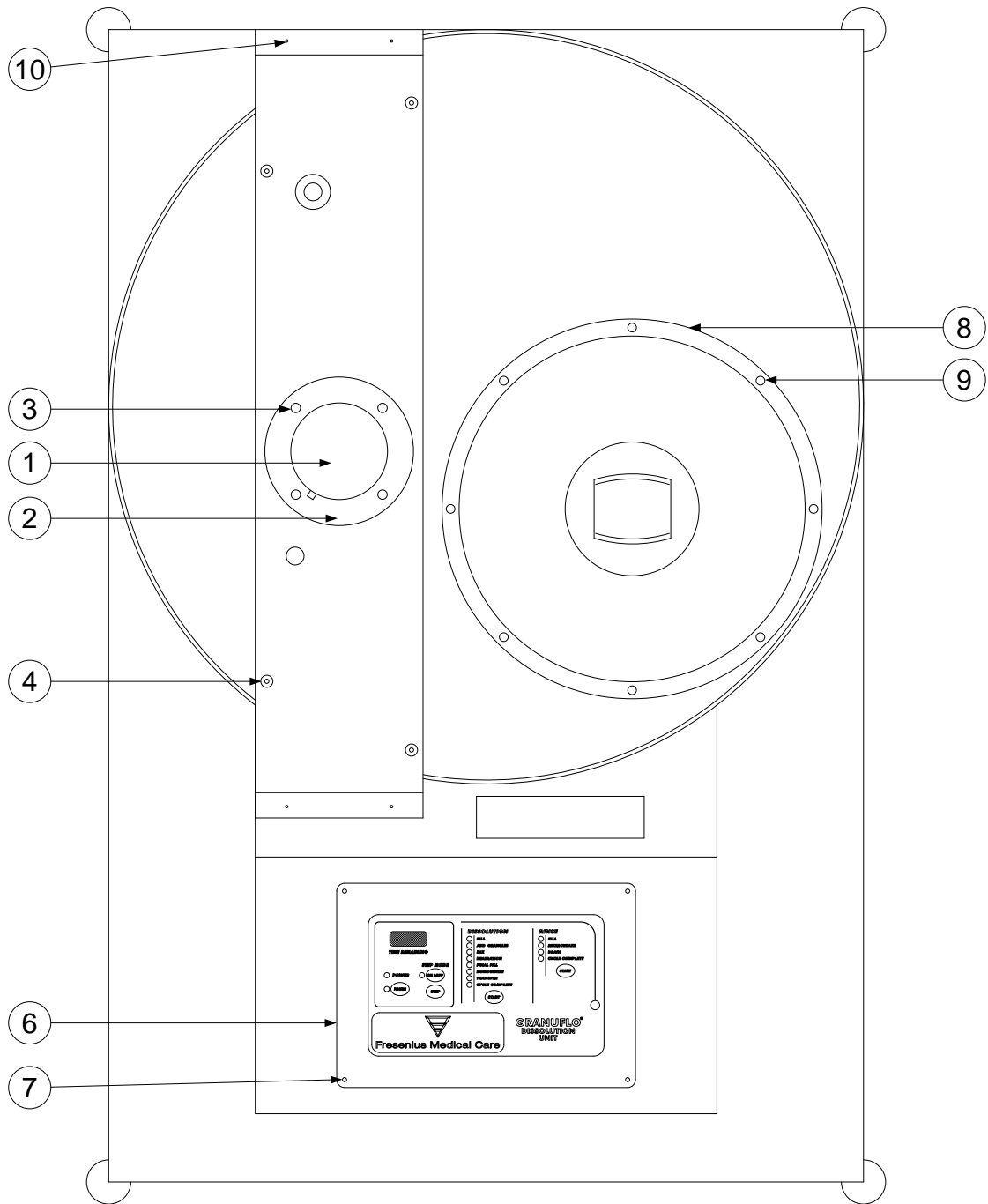
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STATEMENT: MINIMUM TESTABLE ASSEMBLIES

Some assemblies in the 132 Gallon Dissolution Unit – GranuFlo® and Dry Acid, can only be sold complete. These assemblies are 100% tested and are assigned an identification number by Fresenius Medical Care North America Quality Control. These "Minimum Testable Assemblies" are:

PART NUMBER	DESCRIPTION
150440	UPPER LEVEL SENSOR ASSY
150445	DRAIN VALVE ASSY
160068	CONTROL BOARD ASSEMBLY
160127	RECIRCULATION MOTOR (PUMP) ASSEMBLY
G79-000-07	TRANSFER VALVE ASSEMBLY
G79-000-40	FILL VALVE ASSEMBLY

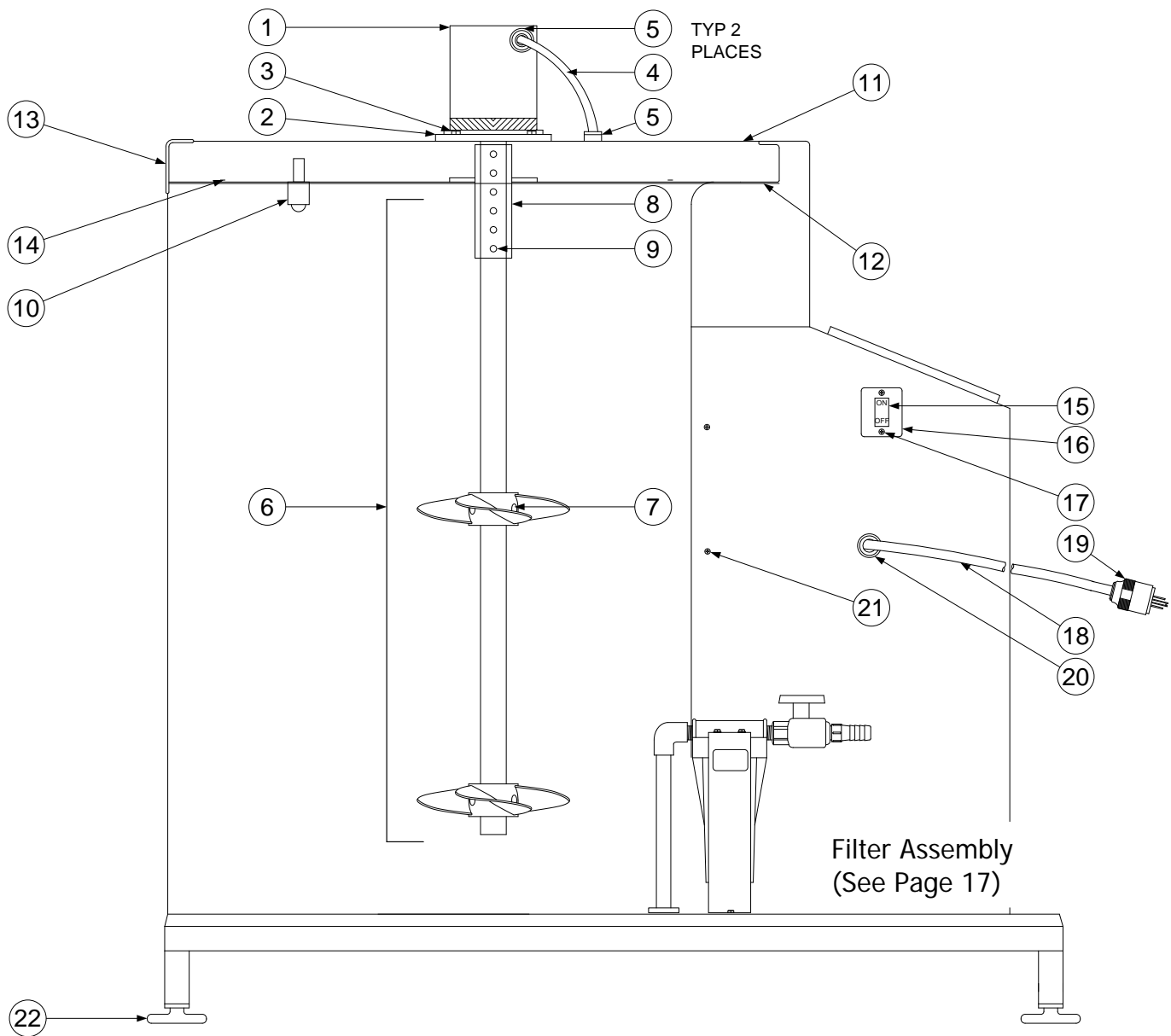


TOP VIEW

1.0 TOP VIEW

SEQ.	PART NUMBER	DESCRIPTION
1	160075	MOTOR, MIXER
2	G84-001-07	MIXER MOTOR MOUNT
3	G26-255	SCREW, SHCS, 1/2-13 X 1-1/4", SS
3A	G26-247	WASHER, LOCK, 1/2"*
4	G84-001-70	HOLE PLUG, 1/2", NYLON
6	160070	CONTROL CONSOLE ASSY, GRANUFLO® I – (SEE PAGE 21)
6A	160142	CONTROL CONSOLE ASSY, DRY ACID 132 – (SEE PAGE 21)
7	330913-07-01	SCREW 8-32 1/2" PH PAN HD
7A	338005-02-01	WASHER, CAPTIVE #8 1/16 THK NY*
8	337002-12	TANK TWIST LID AND RING
9	G26-256	SCREW, PHILLIPS, #8 X 1/2", SS
10	G26-245	SCREW, MACHINE, 6-32 X 1/2"
10A	330602-02-01	WASHER, #6 FLAT, SS*

* ITEM NOT ILLUSTRATED

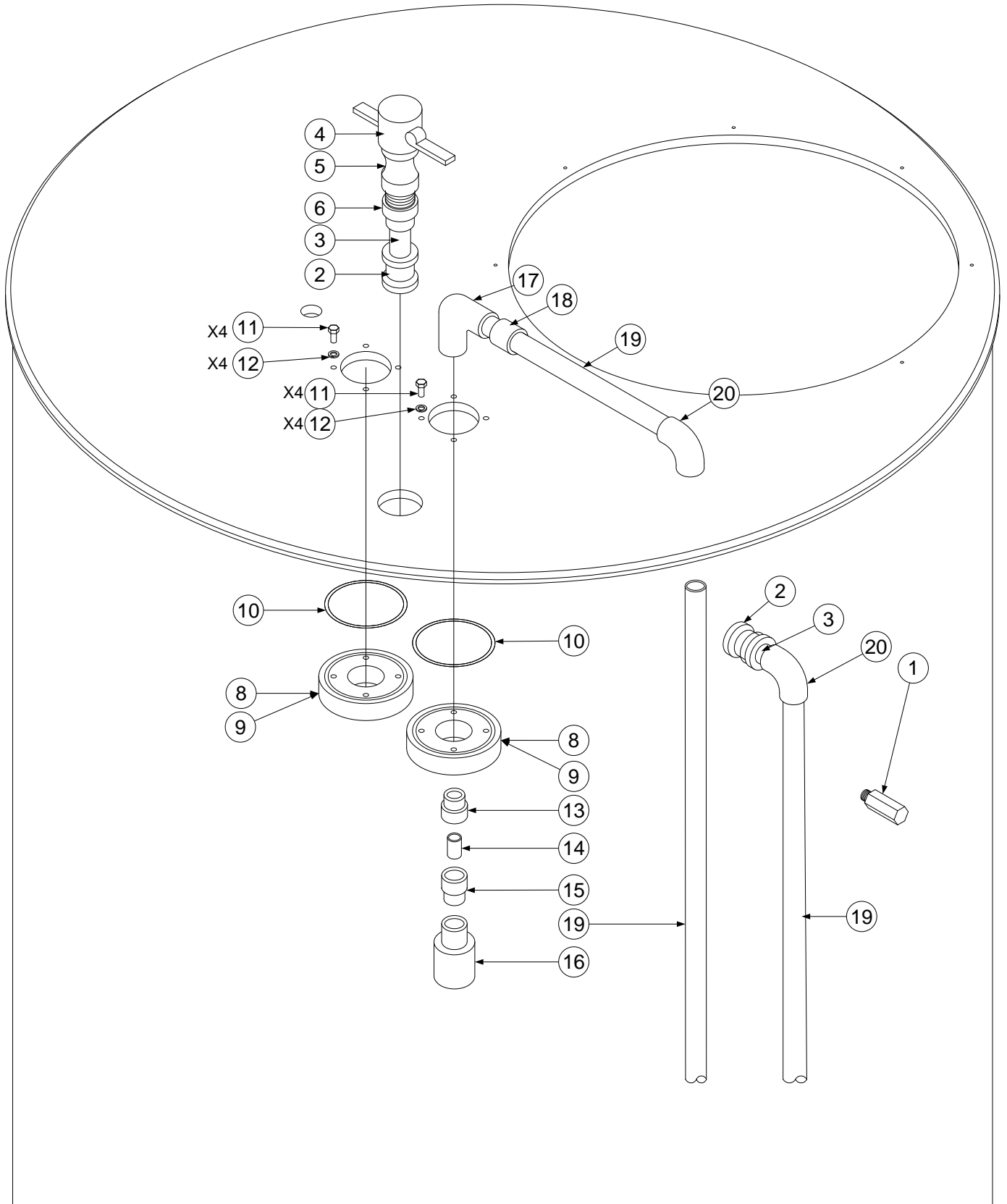


SIDE VIEW

2.0 SIDE VIEW

SEQ	PART NUMBER	DESCRIPTION
		MIX MOTOR
1	160075	MOTOR, MIXER
2	G84-001-07	MIXER MOTOR MOUNT
2A	G26-233	SCREW, CAP, 3/8-16 X 1"* – USED TO JOIN ITEM 2 TO ITEM 1
3	G26-255	SCREW, SHCS, 1/2-13 X 1-1/4", SS
4	160083	ASSY, GRANUFLO® I MIX MOTOR CABLE
5	368016-05	CONN, CORD, 0.375 DIA, FORM F2, AL
		MIXER MOTOR SHAFT
6	160154	MIXER MOTOR SHAFT ASSY – PROPELLER NOT AVAILABLE SEPARATELY
7	330047-06-01	SCREW (NEW STYLE), ¼-28 X 3/8L 316L – SHAFT HAS DIVOT
7A	330046-05-01	SCREW (OLD STYLE), ¼-20 X 3/8L, 316L - SHAFT DOES NOT HAVE DIVOT
8	G84-001-15	MIXER MOTOR SHAFT COUPLING – LEAVE 1/8 INCH GAP AT TOP
9	330045-03-01	SCREW SHSS KNRLD CUP PT, #10-32X1/4L, 316L
		FINAL FILL SENSOR
10	150440	UPPER LEVEL SENSOR ASSY WHEN REPLACING A SAMPLE MUST BE SENT TO LAB FOR CONCENTRATION VERIFICATION PRIOR TO USE. CONTACT TECHNICAL SUPPORT FOR DETAILS.
10A	330614-16	NYLON HEX JAM NUT 3/4-16*
10B	160113	CABLE, UPPER LEVEL SENSOR*
11	G84-001-05	TOP COVER, DISSOLUTION TANK
12	G84-001-06	END COVER, DISSOLUTION TANK
13	G84-001-23	END PLATE
14	G26-256	SCREW, PHILLIPS, #8 X 1/2", SS
		POWER SWITCH
15	363029-05	POWER SWITCH
15A	363029-09	SWITCH, DUAL BREAKER POWER, UL (DRY ACID)
16	260068	SWITCH PLATE
17	330913-09-01	SCREW, 8-32 X ¾" PAN HD, PHIL
17A	330602-03-01	WASHER, FLAT, #8, .188ID X.375 OD X.05T, SS*
17B	330705-08-02	NUT 8-32 W/EXT LW SS*
18	160089	GRANUFLO® I POWER CORD ASSY
18A	160150	DRY ACID 132 POWER CORD ASSY
19	368002-01	POWER PLUG 15A125V HOSP GRADE
20	332142-01	REDUCER BUSHING, 3/4X1/2 NPT
21	330126-10-01	PAN HEAD PHILLIPS SCREW, 1/4-20 X 1", SS
21A	642925	WASHER, FLAT OVERSIZED, A6.4, SS*
22	G84-001-16	BASE FEET

* ITEM NOT ILLUSTRATED

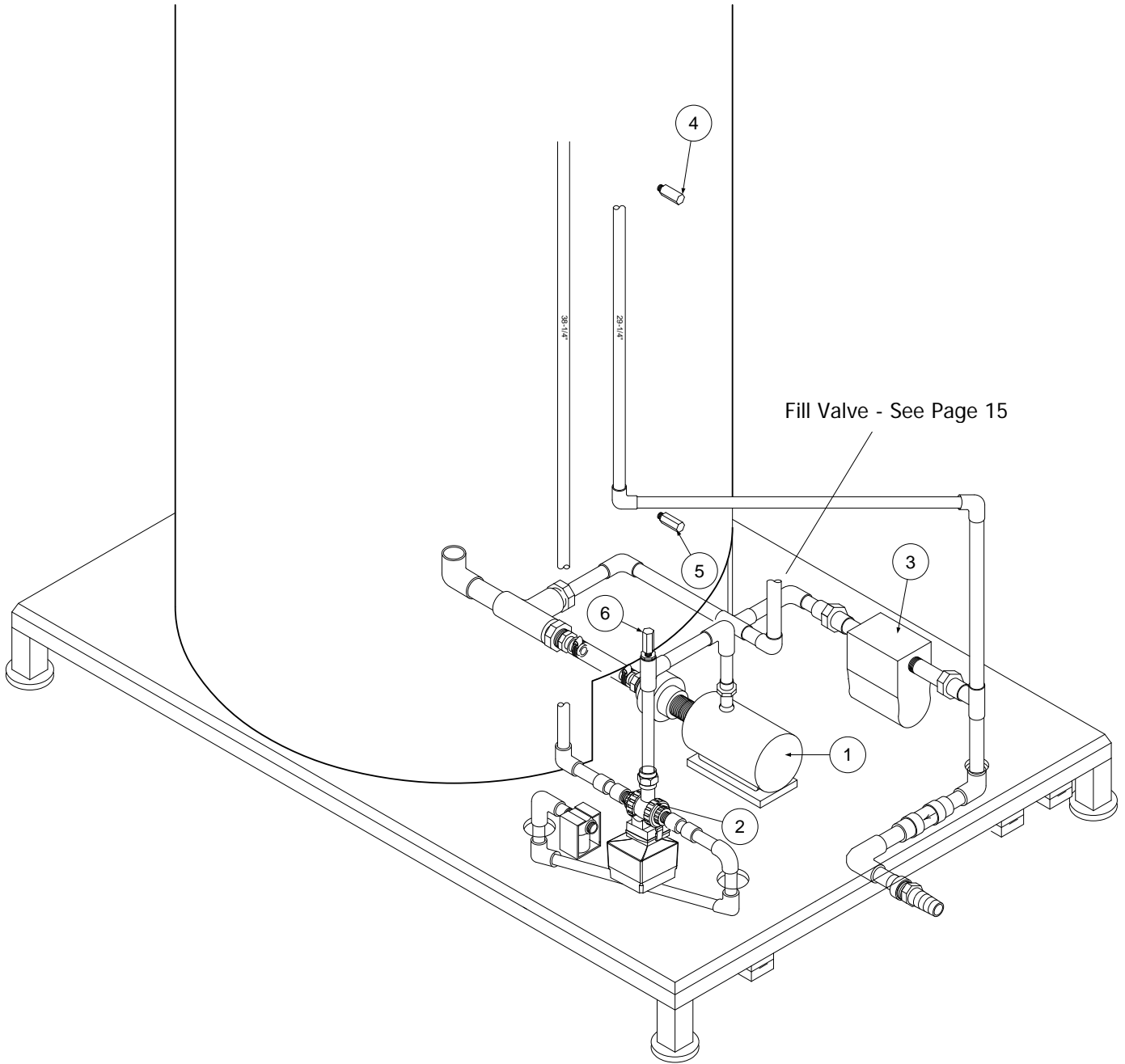


HYDRAULICS - UPPER

3.0 HYDRAULICS – UPPER

SEQ	PART NUMBER	DESCRIPTION
1	150443	MID-FILL LEVEL SENSOR ASSY
1A	160115	MID-FILL LEVEL SENSOR CABLE*
2	G30-018	FITTING, BULKHEAD, 3/4"
3	332031-020	PIPE 3/4", 2" LG, PVC-80
4	332107-10-01	CAP, DUST, 3/4", POLYP
5	332107-10	ADAPTER, 3/4", MALE, POLYP
6	332137-07	ADAPTER, 3/4" FIPT-3/4" SKT
8	G84-001-09	RETAINING SEAL
9	G84-001-10	O-RING, DISSOLUTION TANK
10	334028-04	O-RING, 3.375" ID X 0.125" WIDE, EPDM
11	330081-09-01	HEX HD, CAP SCREW, 1/4-20 X 3/4L, SS
12	642925	WASHER, FLAT OVERSIZED, A6.4, SS
13	G30-039	BUSHING, REDUCING, 1" X 1/2"
14	G30-040	PIPE, PVC, 1/2"
15	G30-042	ADAPTER, MALE, 1/2"
16	G84-001-11	SPRAY BALL
17	332062-03	ELBOW, 90 DEG. 1" SOCKET, PVC
18	332142-02	BUSHING, REDUCING, 1"X3/4", SXS
19	G30-035	PIPE, PVC, 3/4"
20	332062-02	ELBOW, 90 DEG. 3/4" SKT, PVC
21	150440	UPPER LEVEL (FINAL FILL) SENSOR ASSY* WHEN REPLACING A SAMPLE MUST BE SENT TO LAB FOR CONCENTRATION VERIFICATION PRIOR TO USE. CONTACT TECHNICAL SUPPORT FOR DETAILS.
21A	160113	UPPER LEVEL (FINAL FILL) SENSOR CABLE*

* ITEM NOT ILLUSTRATED

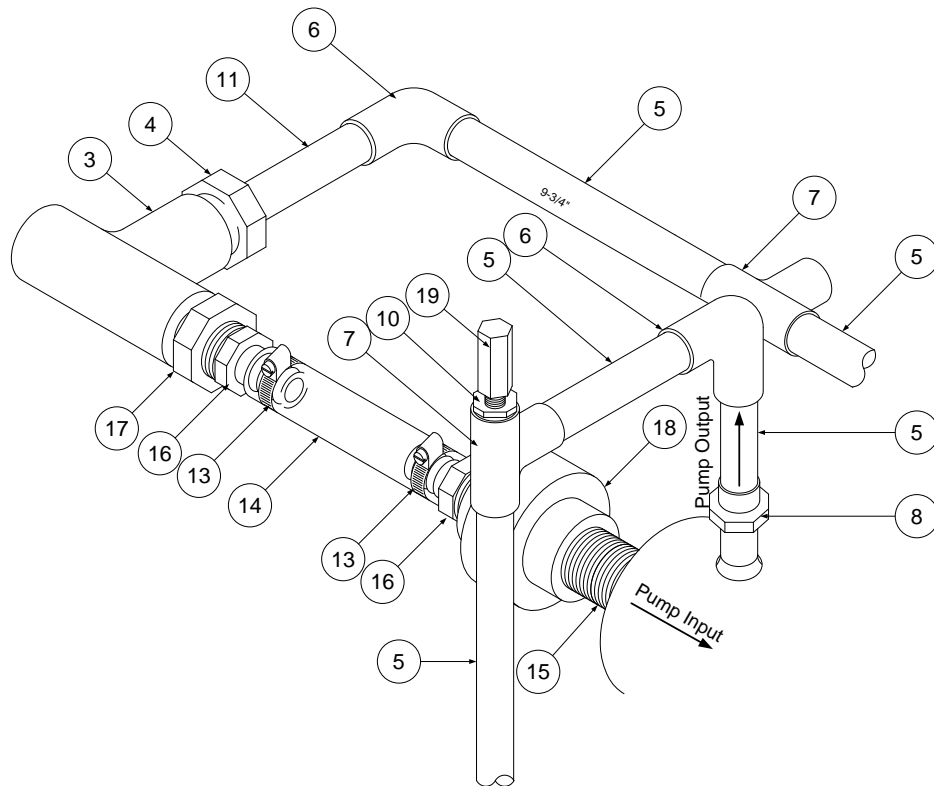
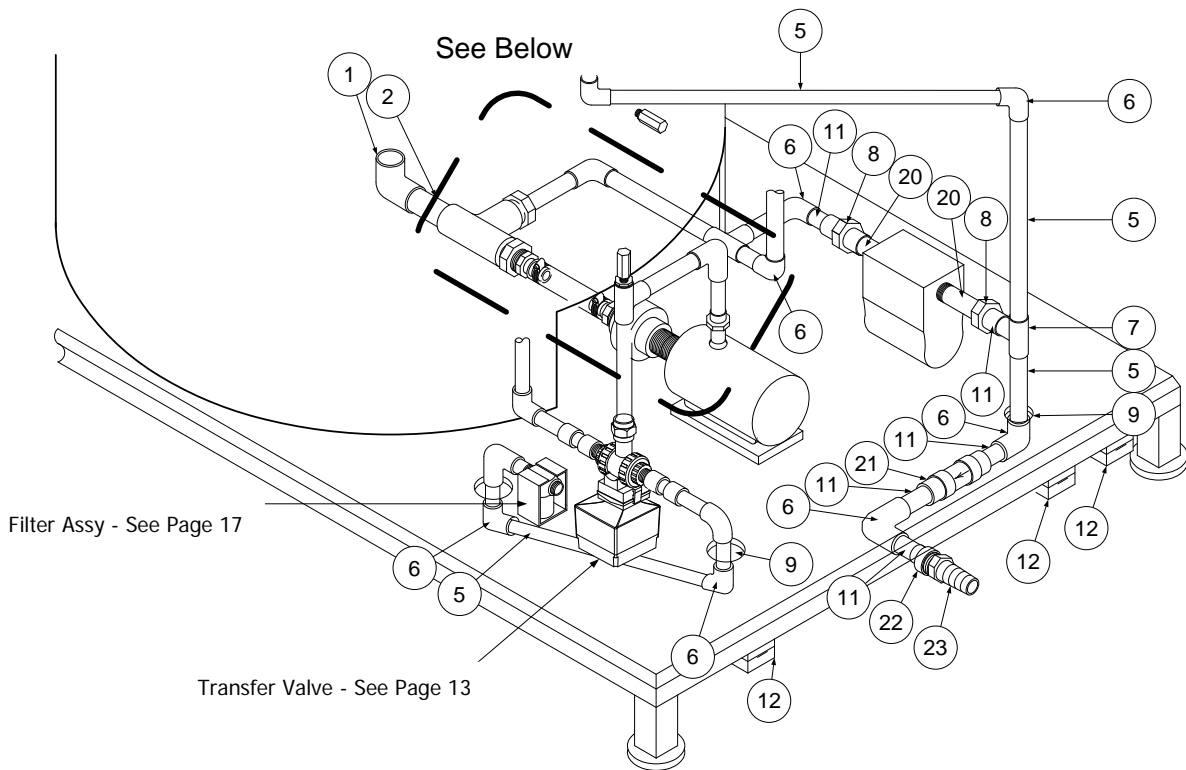


HYDRAULICS LOWER – VALVES, SENSORS & PUMP

3.1 HYDRAULICS – LOWER – VALVES, SENSORS & PUMP

SEQ	PART NUMBER	DESCRIPTION
1	160127	RECIRCULATION MOTOR (PUMP) ASSY
1A	160084	GRANUFLO® I PUMP CABLE ASSY*
1B	G26-223	SCREW, MACHINE, (HEX HEAD) 1/4 – 20 X 1"*
1C	642925	WASHER, FLAT OVERSIZED, A6.4, SS*
1D	330606-05-01	WASHER, 1/4" SPLIT LOCK*
1E	330611-06-01	HEX NUT 1/4-20, SS*
2	G79-000-07	TRANSFER VALVE – (SEE PAGE 13)
2A	160131	TRANSFER VALVE RETROFIT KIT ASSY.* – (SEE PAGE 13) MACHINES MANUFACTURED PRIOR TO 2007 MAY NEED THIS KIT – CONTACT TECHNICAL SUPPORT FOR DETAILS
2B	160111	TRANSFER (SPRAY) VALVE CABLE*
3	150445	DRAIN VALVE ASSY
3A	160087	DRAIN VALVE CABLE ASSY*
4	150443	MID-FILL LEVEL SENSOR ASSY
4A	160115	MID-FILL LEVEL SENSOR CABLE ASSY*
5	150443	25-GALLON LEVEL SENSOR ASSY
5A	160110	25-GALLON LEVEL SENSOR CABLE ASSY*
6	150443	LOW-LEVEL (PUMP DRY) SENSOR ASSY
6A	160114	LOW-LEVEL (PUMP DRY) SENSOR CABLE ASSY*

* ITEM NOT ILLUSTRATED

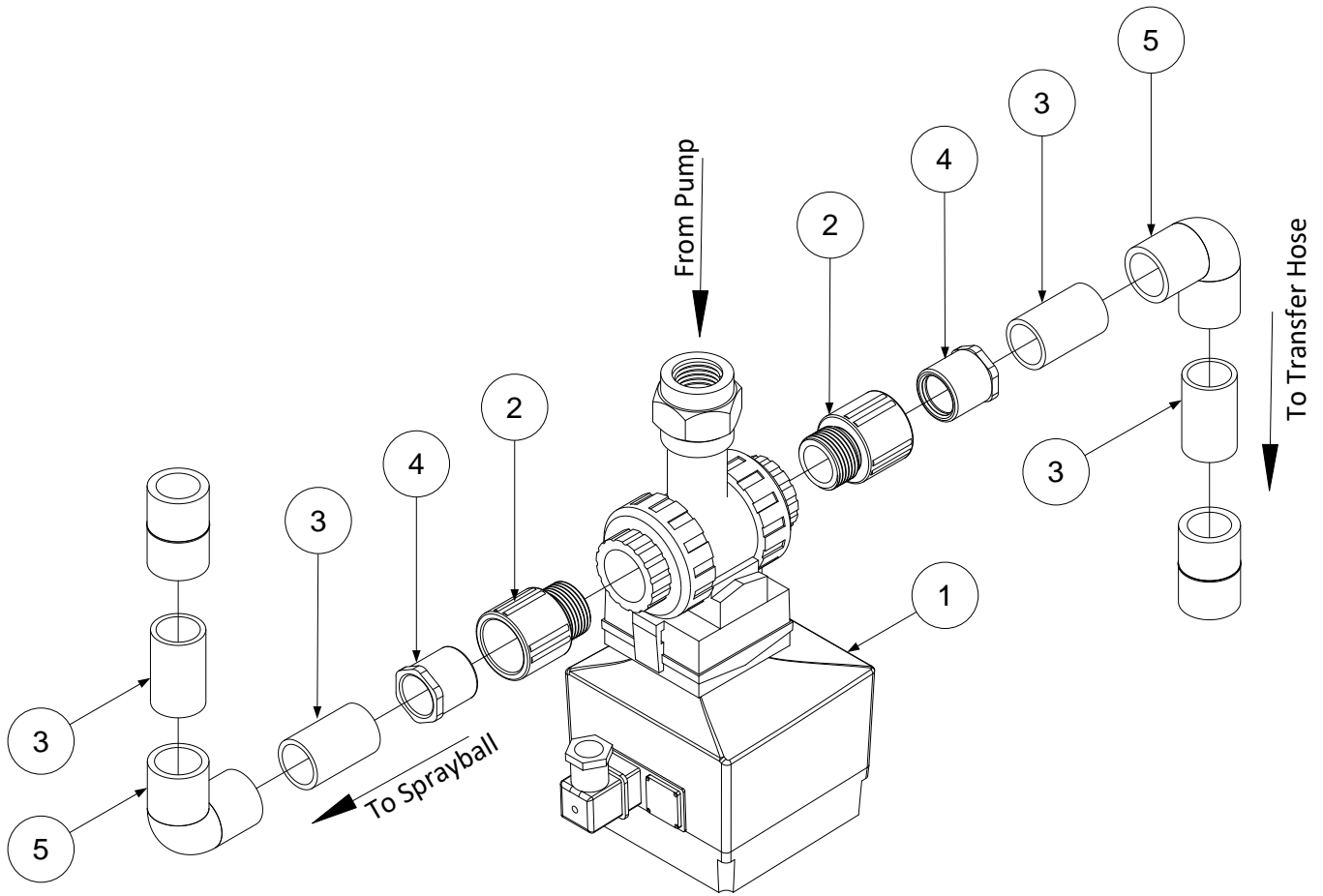


HYDRAULICS LOWER – ELBOWS, TEES, PIPES AND FITTINGS

3.2 HYDRAULICS – LOWER – ELBOWS, TEES, PIPES AND FITTINGS

SEQ	PART NUMBER	DESCRIPTION
1	G30-017	ELBOW, 1-1/2", SCH. 80, PVC
2	G30-037	PIPE, PVC, 1-1/2"
3	G30-025	TEE, 1-1/2", SLIP TO SLIP
4	G30-008	BUSHING, REDUCING, 1-1/2" X 3/4"
5	G30-035	PIPE, PVC, 3/4",
6	332062-02	ELBOW, 90 DEG. 3/4" SKT, PVC
7	332136-05	TEE, 3/4" SOCKET, PVC-80, WAS G30-032
8	G30-046	UNION, 3/4"
9	G84-001-50	SLIP COLLAR - DISSOLUTION TANK
9A	G26-262	SCREW, CAP, 1/4-20 X 1-1/4"*
10	332142-05	BSHNG, RDCR, 3/4-1/4, SPIGXFIPT
11	332031-020	PIPE 3/4", 2" LG, PVC-80
12	G84-001-61	BASE GUARD DISSOLUTION TANK
13	336124-04	CLAMP, HOSE 11/16" TO 1-1/2", S.S.
14	336018-09	TUBING, PVC, 1" ID X 1-3/8" OD
15	332137-09	NIPPLE, 1" MIPT, CLOSE
16	332107-05	ADAP. 1" MIPT X 1" HOSE PVC-80
17	332142-04	BSHNG, RDCR, 1-1/2, SPIGXFIPT, FG
18	332007	UNION, 1"FIPT X FIPT, PVC-80, FG
19	150443	LOW-LEVEL (PUMP DRY) SENSOR ASSY
20	332137-06	NIPPLE, 3/4" MIPT X 1-3/8"LONG
21	G84-001-62	CHECK VALVE, TRUE UNION
22	332137-07	ADAPTER, 3/4" FIPT-3/4" SKT
23	G84-001-64	NIPPLE, PLASTIC HOSE

* ITEM NOT ILLUSTRATED

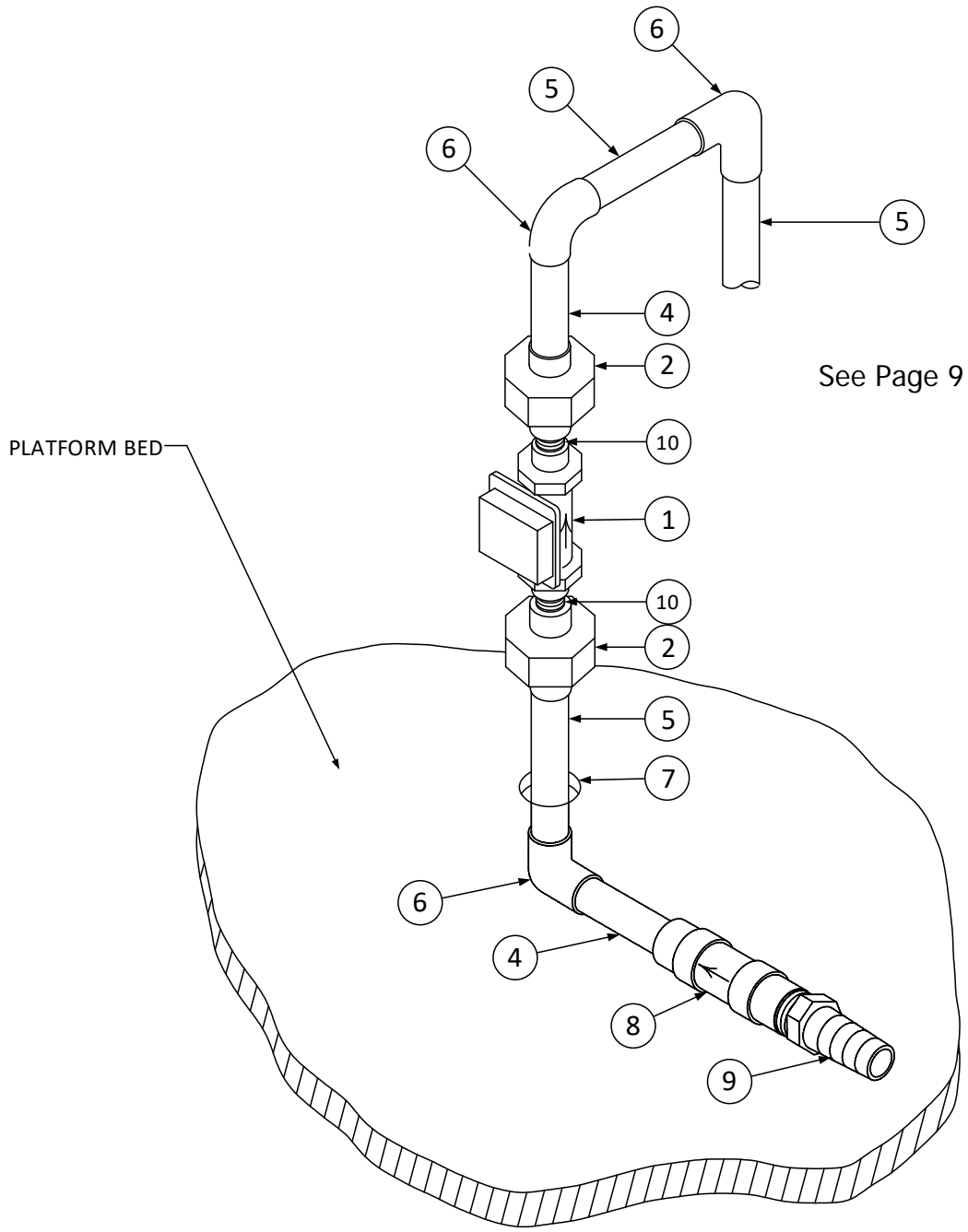


TRANSFER VALVE ASSEMBLY

3.3 HYDRAULICS – TRANSFER VALVE ASSEMBLY

SEQ	PART NUMBER	DESCRIPTION
	160131	TRANSFER/RECIRC VALVE RETROFIT ASSY* MACHINES MANUFACTURED PRIOR TO 2007 MAY NEED THIS KIT – CONTACT TECHNICAL SUPPORT FOR DETAILS
1	G79-000-07	TRANSFER VALVE
2	332062-16	ADAPTOR, 1" MIPT X SOC, PVC 80
3	332031-020	PIPE 3/4", 2" LG, PVC-80
4	332142-02	BUSHING, REDUCING, 1"X3/4", SxS
5	332062-02	ELBOW, 90 DEG. 3/4" SKT, PVC

* ITEM NOT ILLUSTRATED

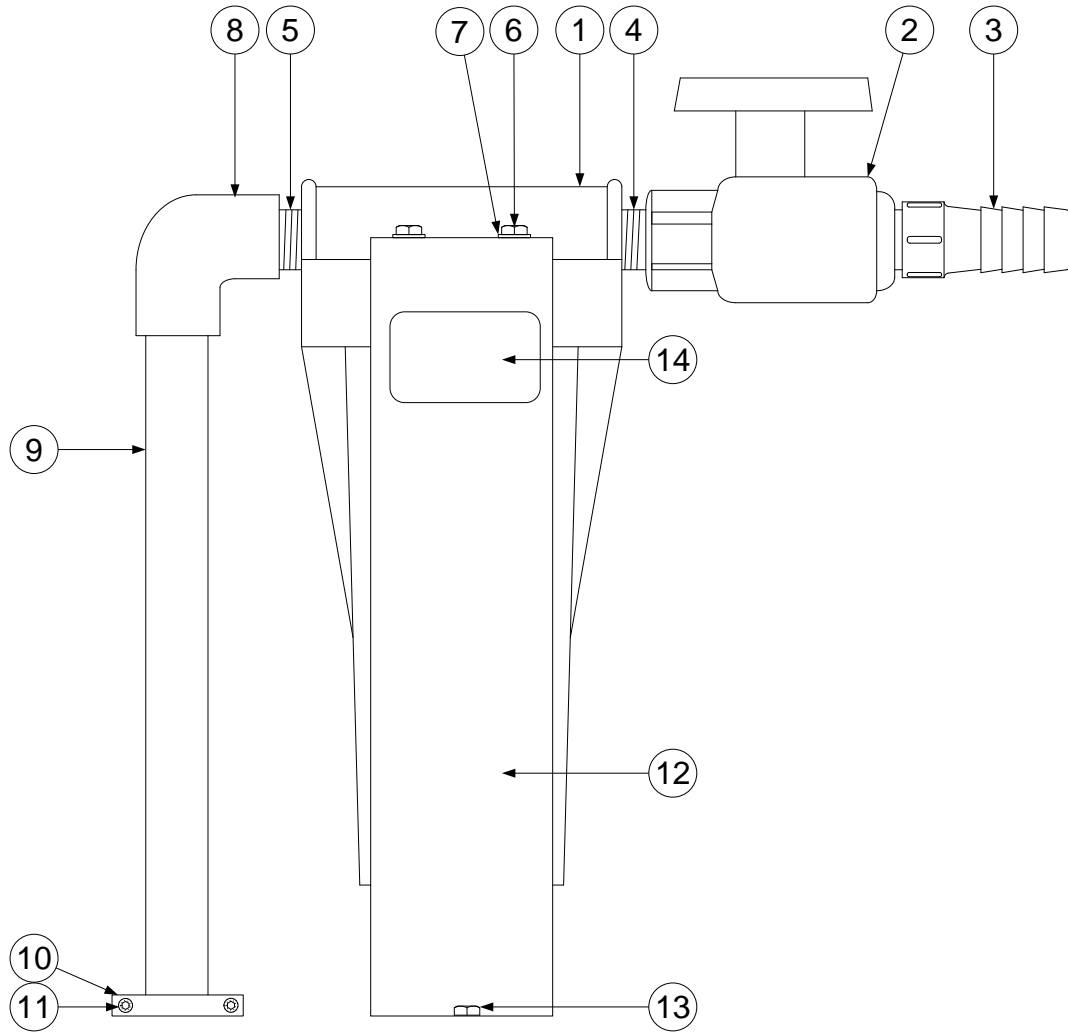


FILL VALVE

3.4 HYDRAULICS – FILL VALVE

SEQ	PART NUMBER	DESCRIPTION
1	G79-000-40	FILL VALVE
1A	160112	FILL VALVE CABLE*
2	332007-01	UNION, 3/4", SOCKET, PVC-80
4	332031-020	PIPE 3/4", 2" LG, PVC-80
5	G30-035	PIPE, PVC, 3/4"
6	332062-02	ELBOW, 90 DEG. 3/4" SKT, PVC
7	G84-001-50	SLIP COLLAR – DISSOLUTION TANK
7A	G26-262	SCREW, CAP, 1/4-20 X 1-1/4"*
8	G84-001-62	CHECK VALVE, TRUE UNION
9	G84-001-64	NIPPLE, PLASTIC HOSE
10	332137-06	NIPPLE, 3/4" MIPT X 1-3/8" LONG

* ITEM NOT ILLUSTRATED

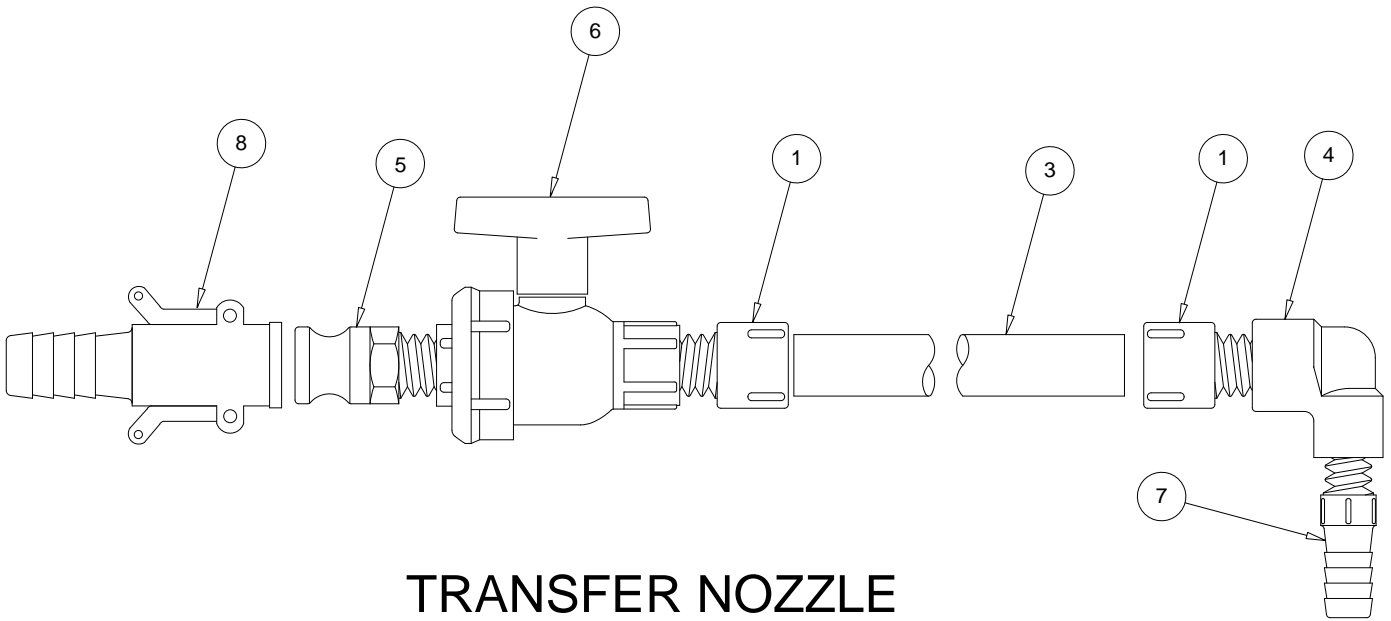


FILTER ASSEMBLY

3.5 HYDRAULICS – FILTER ASSEMBLY

SEQ	PART NUMBER	DESCRIPTION
1	G84-001-20	FILTER HOUSING
1A	G84-202-12	FILTER CARTRIDGE, 1 MICRON*
1B	G84-001-78	O-RING FILTER HOUSING GRANUFLO® I*
2	G84-001-69	BALL VALVE, STANDARD 3/4"
3	G84-001-64	NIPPLE, PLASTIC HOSE
4	332137-06	NIPPLE, 3/4" MIPT X 1-3/8"LONG
5	G30-045	NIPPLE, 3/4 X 6"
6	G26-110	SCREW, CAP, 1/4-20 X 5/8"
6A	330606-05-01	WASHER, 1/4" SPLIT LOCK*
7	642925	WASHER, FLAT OVERSIZED, A6.4, SS
8	332062-02	ELBOW, 90 DEG. 3/4" SKT, PVC
9	G30-035	PIPE, PVC, 3/4"
10	G84-001-50	SLIP COLLAR - DISSOLUTION TANK
11	G26-262	SCREW, CAP, 1/4-20 X 1-1/4"
12	G84-001-21	HOLDER, FILTER HOUSING
13	G26-223	SCREW, MACHINE, 1/4-20 X 1"
13A	330611-06-01	HEX NUT 1/4-20, SS*
14	450354	FILTER LABEL, DISSOLUTION TANK
15	G84-001-43	WRENCH, FILTER HOUSING*

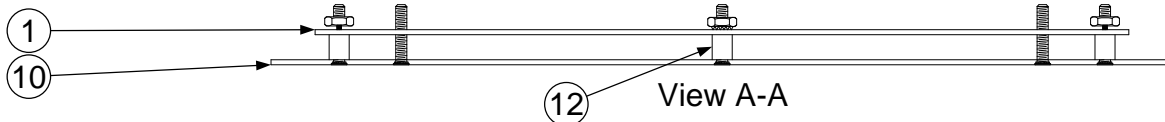
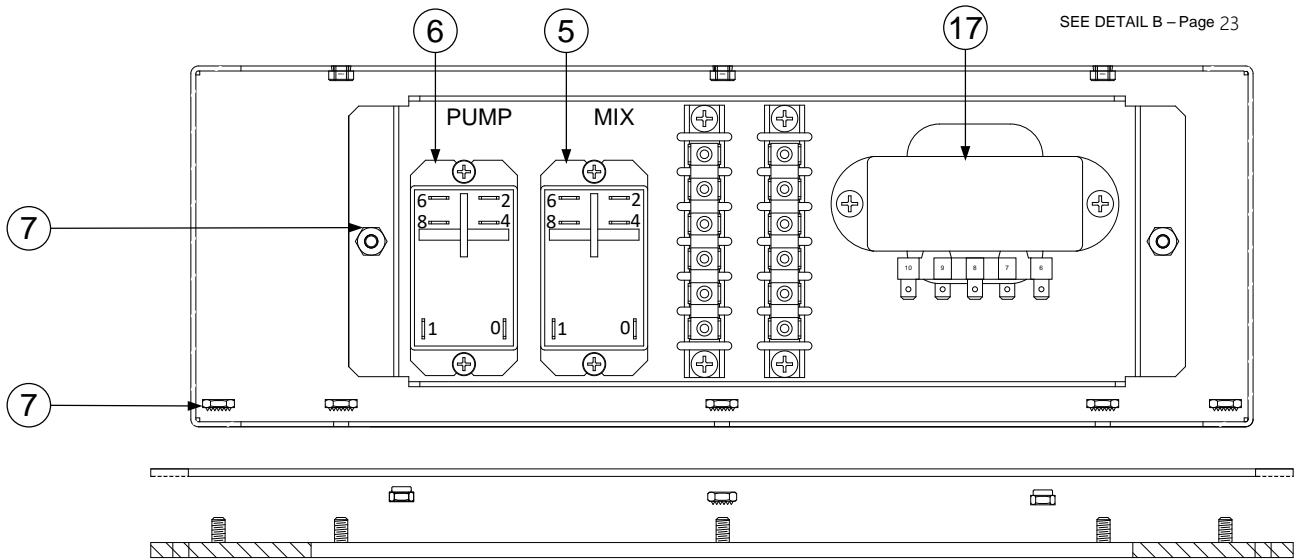
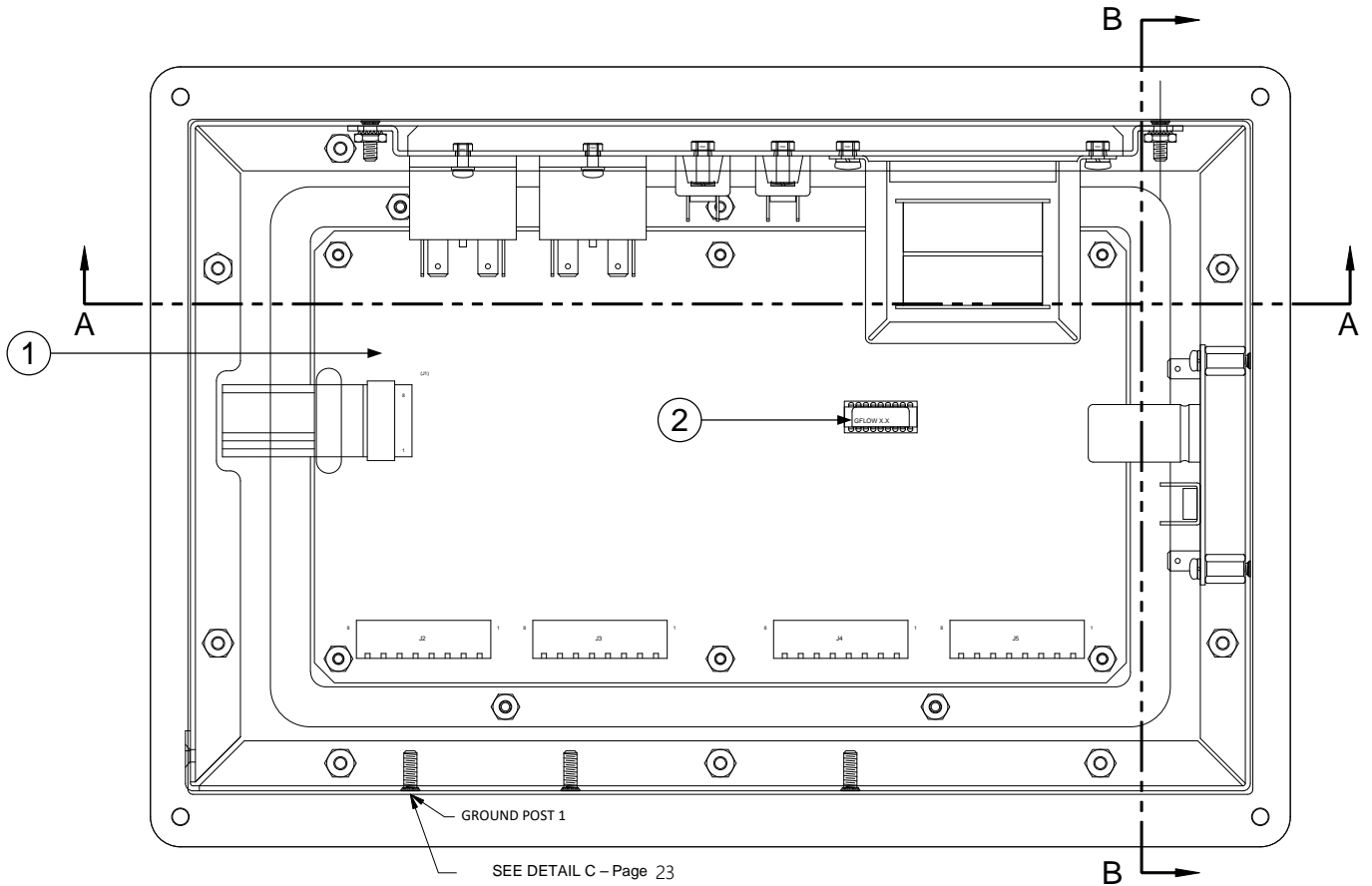
* ITEM NOT ILLUSTRATED



TRANSFER NOZZLE

3.6 TRANSFER NOZZLE

SEQ	PART NUMBER	DESCRIPTION
	G97-283-08	TRANSFER NOZZLE ASSEMBLY – (DOES NOT INCLUDE ITEM 8)
1	G30-001	ADAPTER, MALE, 3/4"
3	G30-035	PIPE, PVC, 3/4"
4	G30-044	ELBOW, 90 DEGREE, 3/4", THD TO THD
5	332107-10	ADAPTER, 3/4", MALE, POLYP
6	G84-001-69	BALL VALVE, STANDARD 3/4"
7	G84-001-64	NIPPLE, PLASTIC HOSE
8	G84-001-57	COUPLER, 3/4" HOSE SHANK

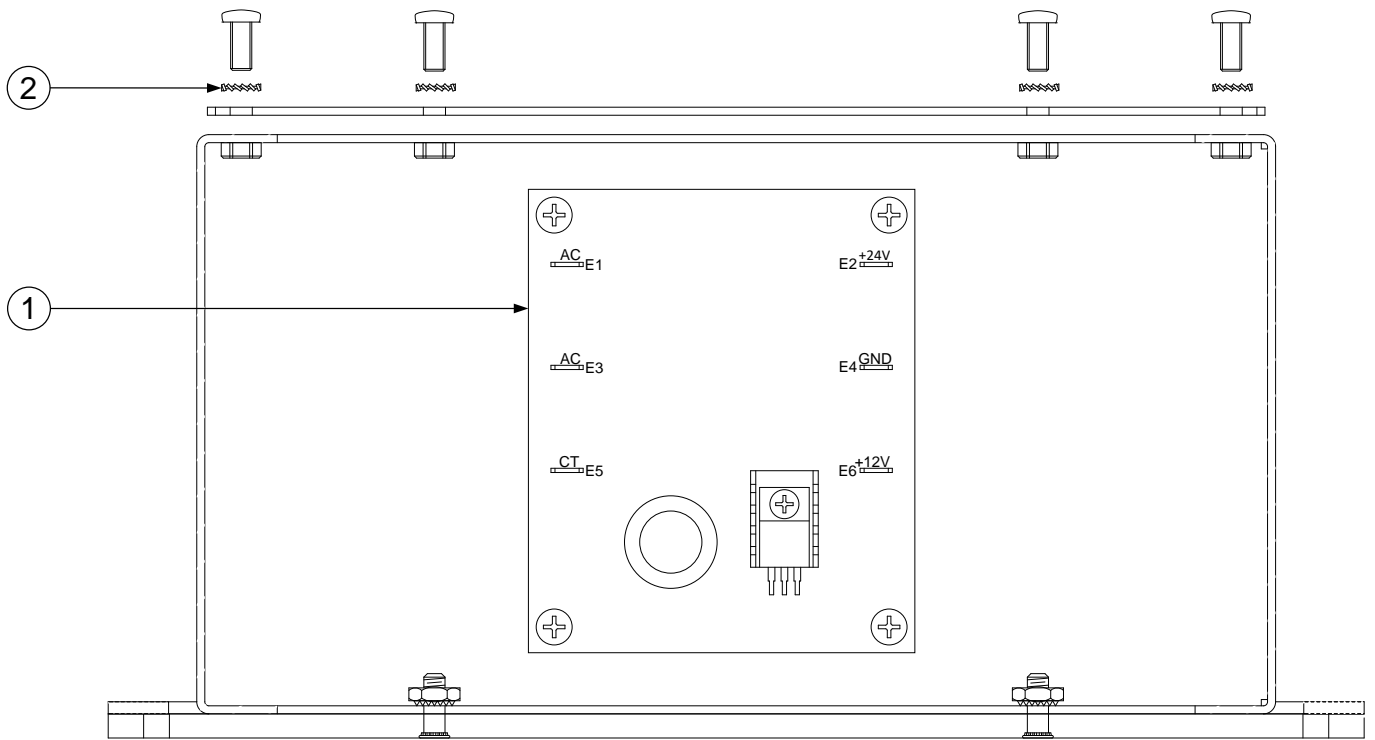


DETAIL A

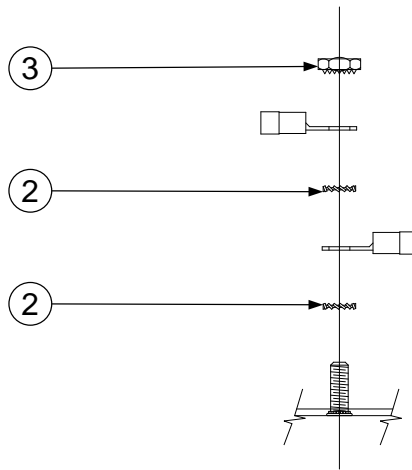
4.0 CONTROL CONSOLE ASSY – DETAIL A

SEQ	PART NUMBER	DESCRIPTION
1	160068	ASSY, GRANUFLO® I DISPLAY BOARD CONTROL BOARD
2	160069	CPU, PROGRAMMED, GRANUFLO® I
5	361017-04	POWER RELAY, DPST, 30AMP, 120VAC COIL (MIX)
6	361017-04	POWER RELAY, DPST, 30AMP, 120VAC COIL (PUMP)
7	330705-08-02	NUT 8-32 W/EXT LW SS
10	160001	KEYPAD, SWITCH PANEL, GRANUFLO® – (SEE PAGE 25)
10A	160134	KEYPAD, SWITCH PANEL, DRY ACID, 132 GALLONS – (SEE PAGE 25)
12	336086-06	NYLON SPACER, 0.14 ID X 1/4 OD X 5/16 LG
13	G15-026	FUSE, 250V 1A, SLO BLO (DRY ACID ONLY)*
13A	160149	FUSE HOLDER AND FUSE ASSY (DRY ACID ONLY)*
14	160122	GRANUFLO® I CONTROL PANEL RETROFIT KIT* FOR GRANUFLO® I MACHINES THAT HAVE THE STEP SWTICH THAT USES A KEY – INCLUDES ITEM 15.
15	160070	CONTROL CONSOLE ASSY, GRANUFLO® I*
16	160142	CONTROL CONSOLE ASSY, DRY ACID 132*
17	160074	ASSEMBLY, GRANUFLO I TRANSFORMER

* ITEM NOT ILLUSTRATED.



View B-B



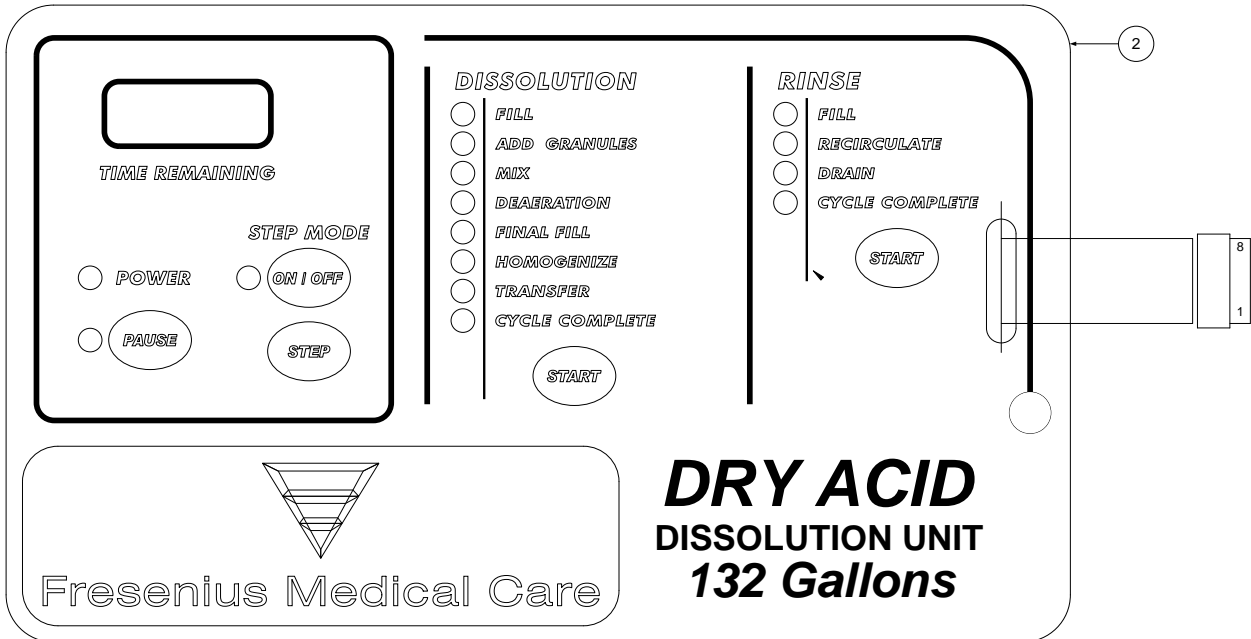
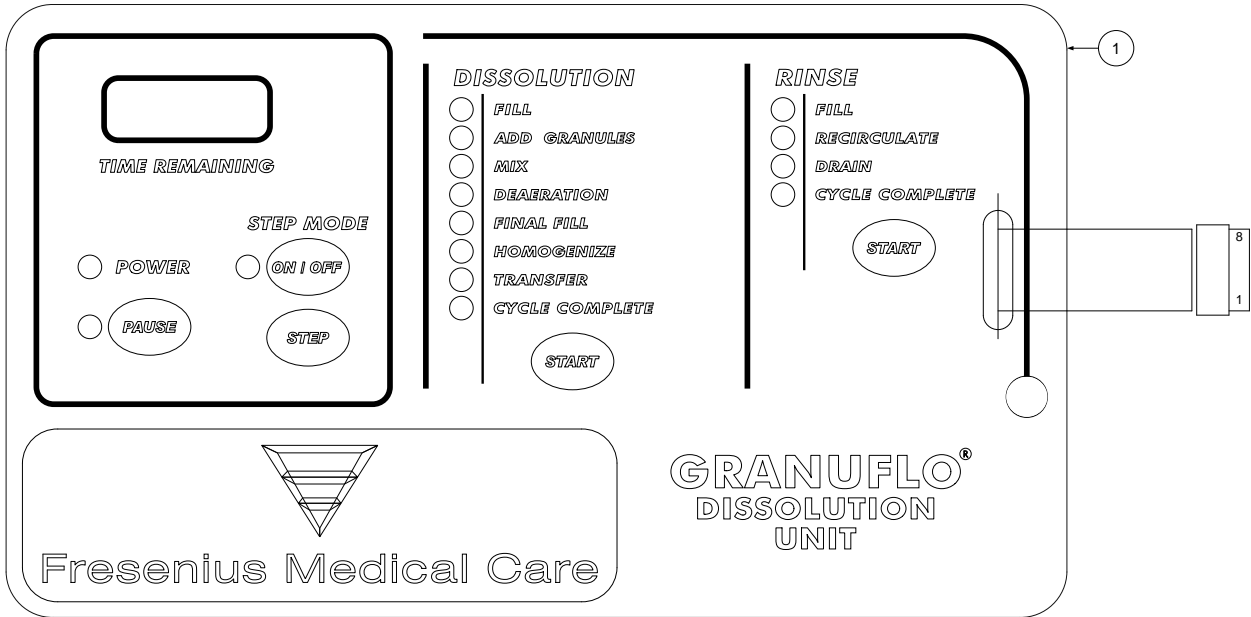
Detail C
Ground Post

DETAIL B & C

4.1 CONTROL CONSOLE ASSY – DETAIL B & C

SEQ	PART NUMBER	DESCRIPTION
1	160039	POWER BOARD ASSEMBLY
2	330604-03-01	WASHER, #8 EXT TOOTH LOCK SS
3	330705-08-02	NUT 8-32 W/EXT LW SS

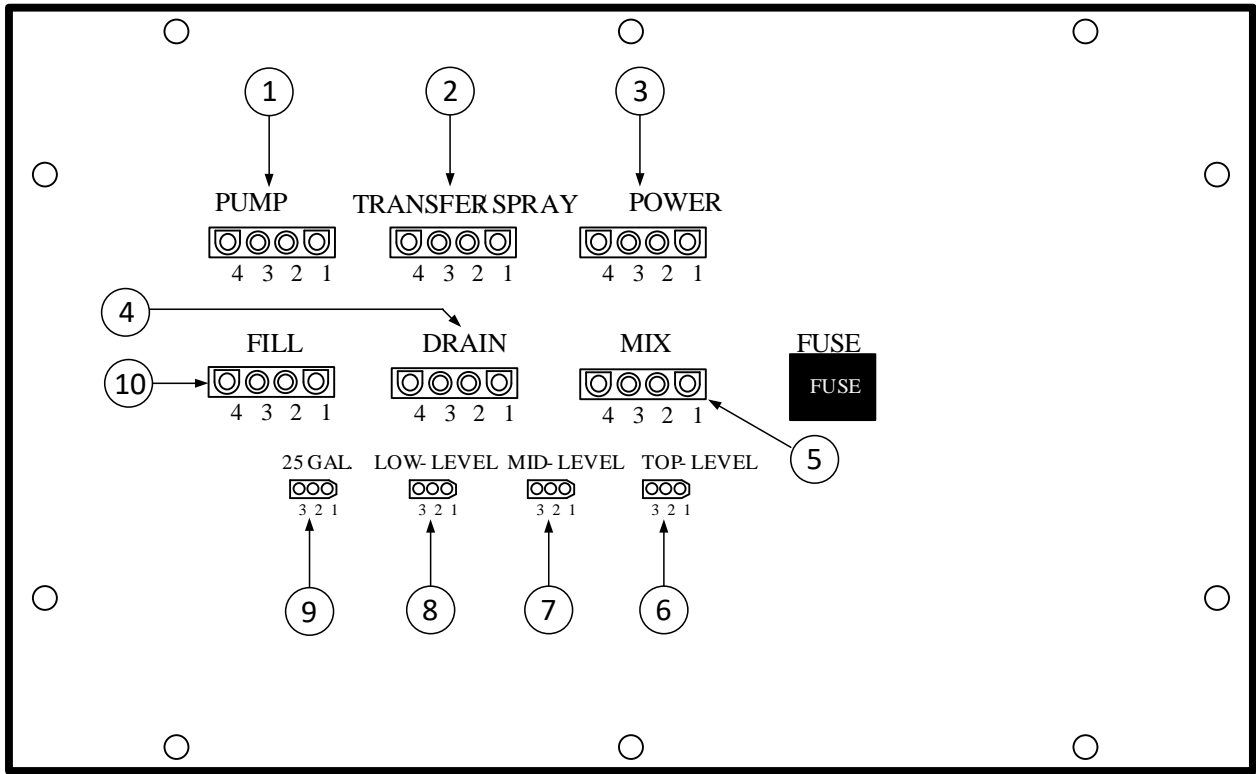
* ITEM NOT ILLUSTRATED



KEYPAD SWITCH PANEL

4.2 KEYPAD SWITCH PANEL – GRANFLO® & DRY ACID

SEQ	PART NUMBER	DESCRIPTION
1	160001	KEYPAD, SWITCH PANEL, GRANUFLO®
2	160134	KEYPAD SWITCH PANEL, DRY ACID 132 GALLONS



CABLES

4.3 CABLES

SEQ	PART NUMBER	DESCRIPTION
1	160084	GRANUFLO® I PUMP CABLE ASSY
2	160111	GRANUFLO® I TRANSFER VALVE CABLE
3	160089	GRANUFLO® I POWER CORD (CABLE)
4	160087	GRANUFLO® I DRAIN VALVE CABLE
5	160083	GRANUFLO® I MIX MOTOR CABLE
6	160113	TOP-LEVEL (FINAL FILL) SENSOR CABLE
7	160115	MID-LEVEL SENSOR CABLE
8	160114	LOW-LEVEL (PUMP DRY) SENSOR CABLE
9	160110	25 GALLON SENSOR CABLE
10	160112	GRANUFLO® I FILL VALVE CABLE

*Refer to Section 4.0 Control Console Assembly (Detail A) for Fuse Holder/Assembly Part Numbers

5.0 132 GALLON DISSOLUTION UNIT, SET UP KITS

PART NUMBER	DESCRIPTION
G97-283-07	DISSOLUTION TANK UNIT I, SET UP KIT
160143	DRY ACID 132 DISSOLUTION UNIT, SET UP KIT

SETUP KIT INCLUDES THE FOLLOWING:

G79-000-26	JAR, HYDROMETER, 500 ML
G84-001-60	HYDROMETER – (RANGE 1.000 – 1.220) – (qty 2)
G83-535-02	BOTTLE, PRODUCT SAMPLE - (qty 2)
G84-001-55	HOSE CLAMP, 9/16" – 1-1/16" DIAMETER, SS - (qty 6)
332107-10	ADAPTER, 3/4", MALE, POLYP - (qty 2)
G84-001-57	COUPLER, 3/4" HOSE SHANK
G84-001-43	WRENCH, FILTER HOUSING
G84-001-58	HOSE, 3/4" FOOD GRADE - (qty 480")
332107-10-01	CAP, DUST, 3/4", POLYP
G84-001-78	O-RING FILTER HOUSING, GRANUFLO I
G84-202-12	FILTER CARTRIDGE, 1 MICRON
G97-283-08	DISSOLUTION TANK, NOZZLE ASSEMBLY
368171-02	RECEPTACLE, DUPLEX GFCI, 120V, 20A
G84-001-16	BASE FEET – (qty 4)**
460018	DRY ACID DISSOLUTION UNIT, 132 GALLONS OPERATOR'S MANUAL‡

** ITEM ONLY INCLUDED IN THE DRY ACID SET UP KIT

‡ AVAILABLE ONLINE AT WWW.FMCNA.COM

6.0 MISCELLANEOUS

G15-017

BULB, CONTROL PANEL – USED FOR GRANUFLO® I VERSION I CONTROL PANEL

Fresenius Medical Care North America

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