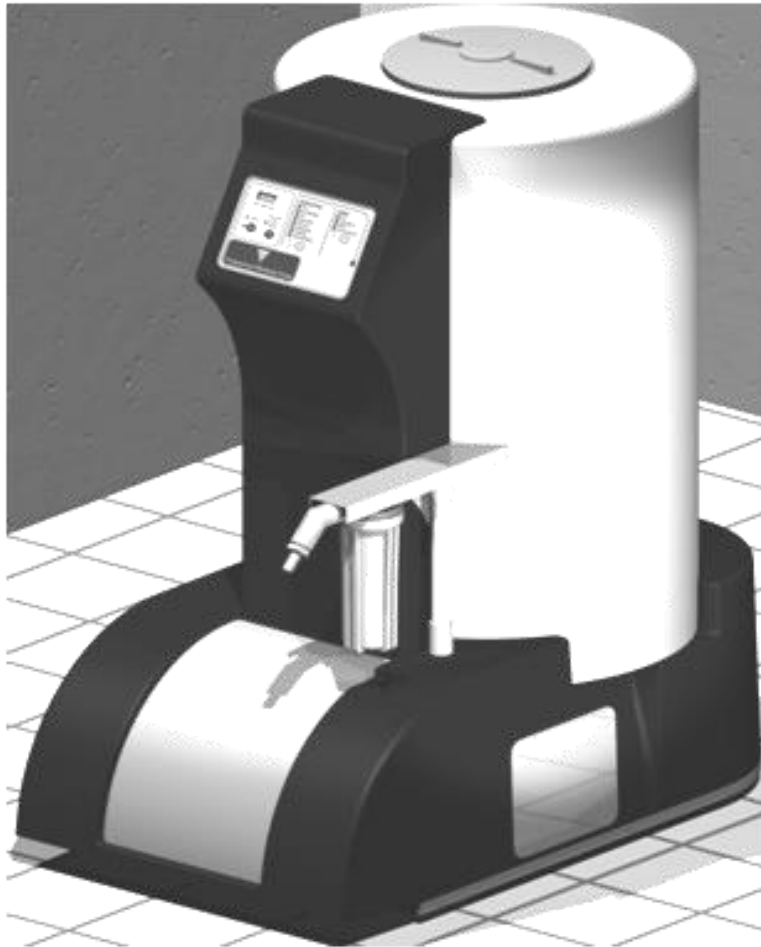




**FRESENIUS  
MEDICAL CARE**

GranuFlo<sup>®</sup>  
CONCENTRATE  
DISSOLUTION UNIT II



**SPARE PARTS MANUAL**

P/N 460009 REV. B

## **GranuFlo® Concentrate Dissolution Unit II Spare Part's Manual**

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**Caution: US 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® Dissolution Unit II 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 Concentrate GranuFlo® Dissolution Unit II spare parts manual, PN 460009, 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® Dissolution Unit II. Although, parts may look similar to parts in various vendor catalogs or brick and mortar stores the GranuFlo® Dissolution Unit II 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 GranuFlo® Dissolution Unit II, please contact:

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

(800) 227-2572

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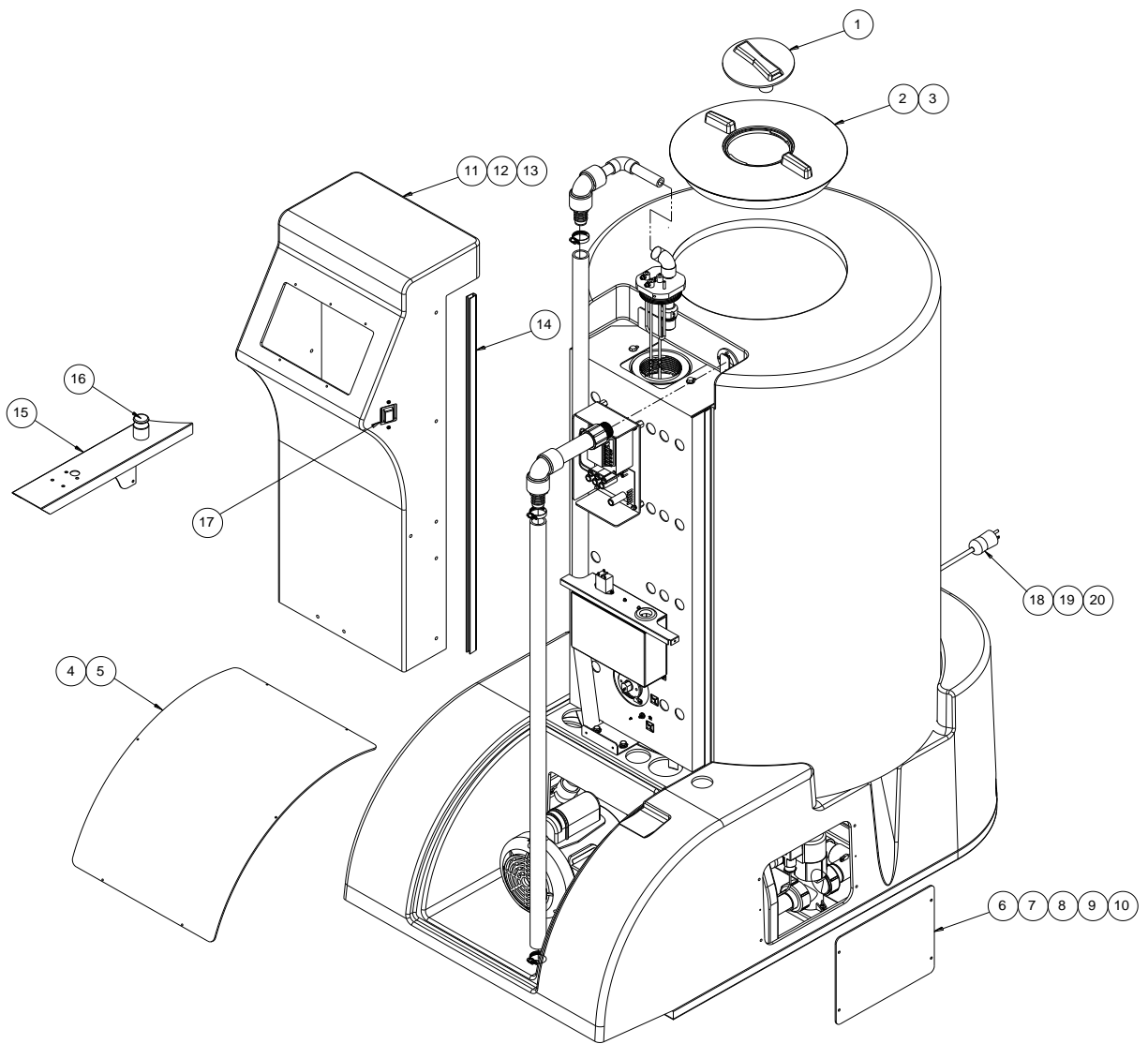
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## STATEMENT: MINIMUM TESTABLE ASSEMBLIES

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Some assemblies in the GranuFlo II 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:

<u>PART NUMBER</u>	<u>DESCRIPTION</u>
160002	CONTROL BOARD ASSEMBLY
160018	DRAIN VALVE ASSEMBLY
160024	DIN CONNECTOR ASSEMBLY
160027	PUMP DRY SENSOR
160029	TANK OVERFLOW ASSEMBLY
160030	SPINNER ASSEMBLY
160034	25 GALLON SENSOR
160036	SPRAY NOZZLE ASSEMBLY
160037	TRANSFORMER ASSEMBLY
160039	POWER BOARD ASSEMBLY
160045	PUMP ASSEMBLY
160059	STANDPIPE ASSEMBLY
160060	SYSTEM CABLE HARNESS
160064	SOLENOID VALVE ASSEMBLY
160090	MID LEVEL SENSOR
160125	FILL VALVE ASSEMBLY



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## 1.0 CABINET

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SEQ.	PART NUMBER	DESCRIPTION
1&2	337002-10	TANK LID COVER AND RING
3	G26-256	SCREW, PHILLIPS, #8 X 1/2", SS (FOR TANK LID RING)*
4	260029	FRONT ACCESS PANEL
5	330935-05-02	SCREW PAN HD PH 6 X 5/16 TYP B*
6	260046	SIDE ACCESS PANEL (LEFT & RIGHT)
7	330918-07-02	SCREW, 10-32X5/8", SS, THREAD FORMING*
8	330620-10-01	WASHER, OVERSIZED, NO. 10, S.S*
9	335136-01	DOUBLE SIDED TAPE*
10	260015	ACCESS PANEL MOUNTING PLATE*
11	260026	VERTICAL COVER
12	330918-07-02	SCREW, 10-32X5/8", SS, THREAD FORMING
13	330620-10-01	WASHER, OVERSIZED, NO. 10, S.S
14	368345-03	TRIM, 5/16" X 21/32", PVC VINYL
15	260030	FILTER SUPPORT
16	260059	TRANSFER HOSE SUPPORT
17	363029-05	POWER SWITCH
18	160098	POWER CORD
19	368016-07	STRAIN RELIEF, HEYCO 3213, LTF 11*
20	260057	STRAIN RELIEF PLATE*
21	337019-10	LEVELER, 3/8-16, 2" LONG, NON-SKID, SS*

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## 2.0 LABELS

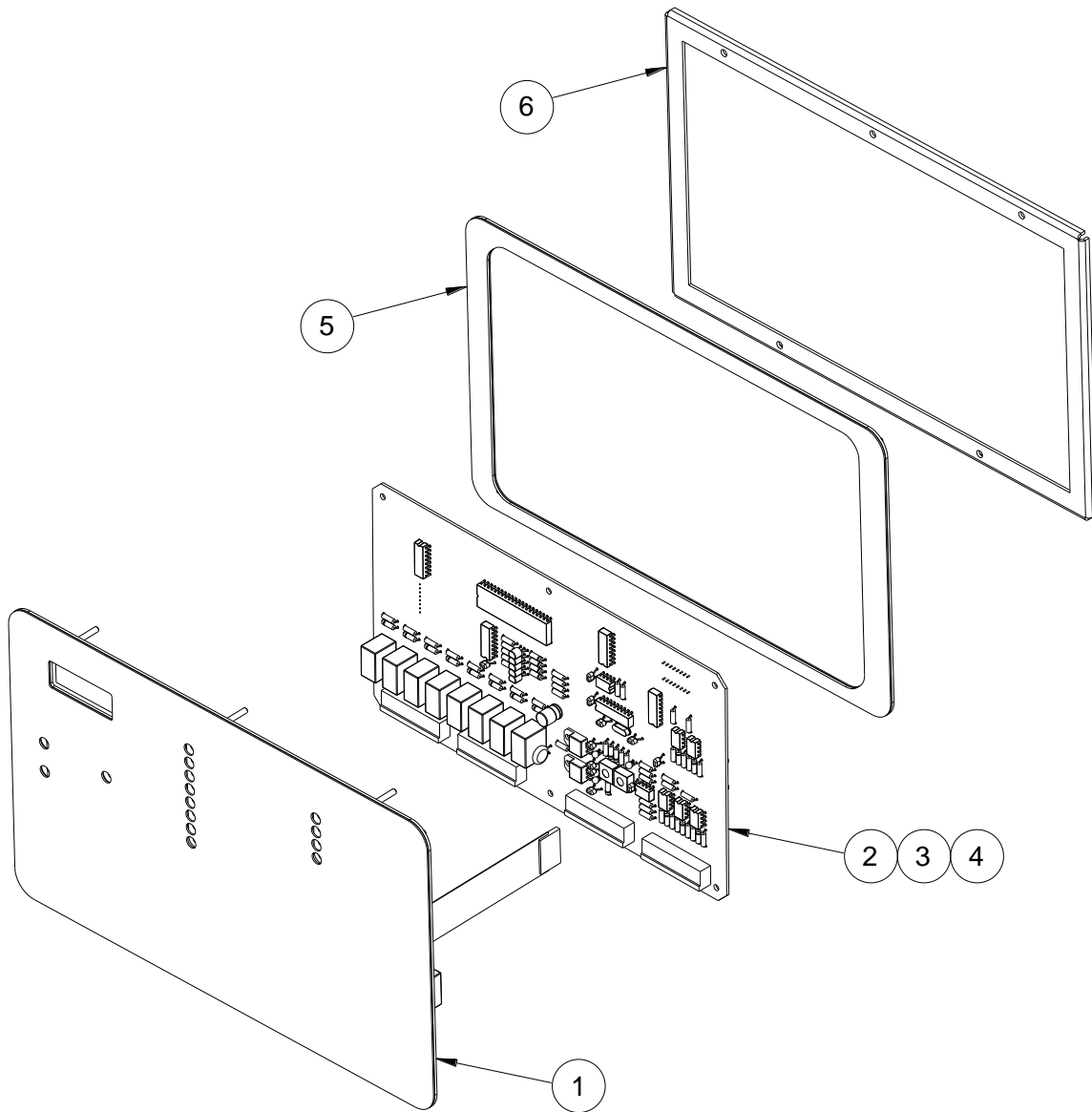
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SEQ.	PART NUMBER	DESCRIPTION
1	450014	MANUFACTURER LABEL*
2	450019	CAUTION LABEL*
3	450353	WARNING LABEL, DISSOLUTION TANK*
4	450354	FILTER LABEL, DISSOLUTION TANK*

\* ITEM NOT ILLUSTRATED

### 3.0 KEYPAD AND CONTROLLER

SEQ.	PART NUMBER	DESCRIPTION
1	160001	KEYPAD, SWITCH PANEL
2	160002	CONTROL BOARD ASSEMBLY
3	336086-06	NYLON SPACER (USED BEHIND CONTROL BOARD)*
4	160010	CPU, PROGRAMMED*
5	260056	FRONT PANEL GASKET
6	260019	BACK BRACE

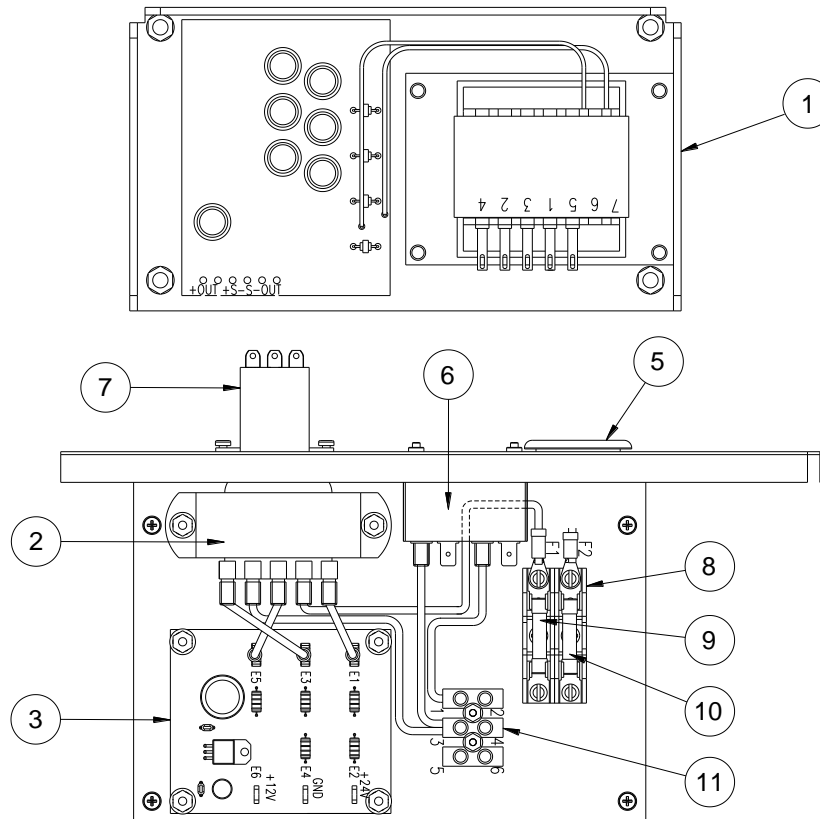


\* ITEM NOT ILLUSTRATED



## 4.0 POWER

SEQ.	PART NUMBER	DESCRIPTION
1	365037-02	POWER SUPPLY, 24V, 4.8A - COMPLETE
2	160037	TRANSFORMER ASSEMBLY
3	160039	POWER BOARD ASSEMBLY
4	260034	POWER COVER*
5	368046-05	GROMMET, 1" ID, 1-3/4" OD
6	361017-02	PUMP RELAY, 24VDC
7	361017-03	DRAIN RELAY, 24VDC
8	G15-027	FUSE HOLDER, 30A, 250V
9	367020-02	FUSE,SLO BLO,3AG, 2A,1/4X1-1/4
10	367020-05	FUSE,SLO BLO,3AG, 3A,1/4X1-1/4
11	368167-01	BARRIER STRIP TYPE 10E/3DS
12	160024	DIN CONNECTOR ASSEMBLY*



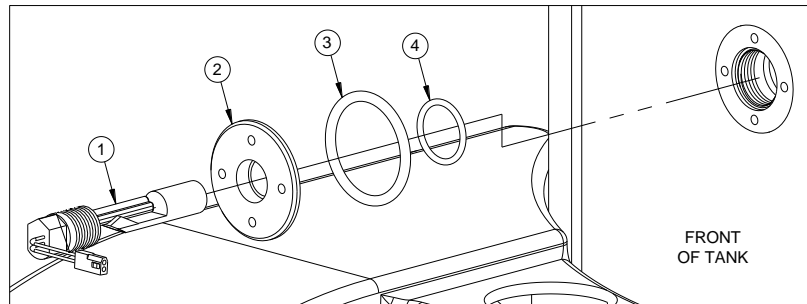
\* ITEM NOT ILLUSTRATED

---

## 5.0 25 GALLON SENSOR

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SEQ.	PART NUMBER	DESCRIPTION
1	160034	25 GALLON SENSOR
2	260001	REDUCER, BUSHING MALE THREAD
3	334021-03	O-RING, BUNA, 70 DURO, 1-3/8" OD
4	334021-06	O-RING, BUNA, 70 DURO, 2-3/8" OD

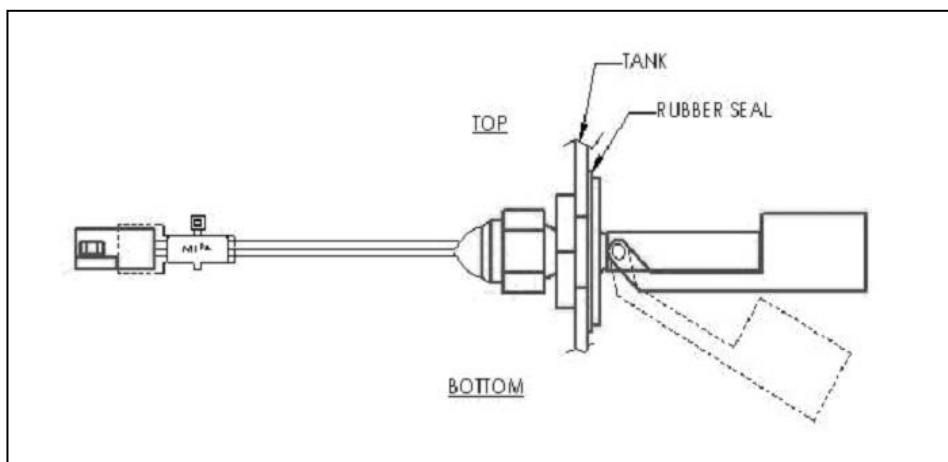


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## 6.0 MID LEVEL SENSOR

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SEQ.	PART NUMBER	DESCRIPTION
1	160090	MID LEVEL SENSOR

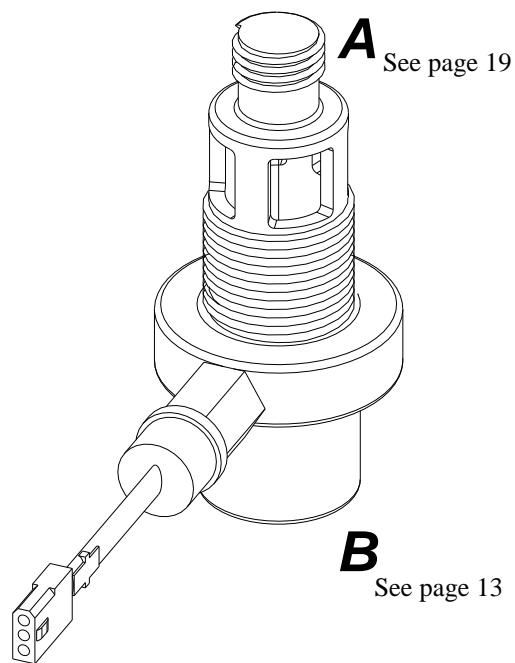


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## 7.0 PUMP DRY SENSOR

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SEQ.	PART NUMBER	DESCRIPTION
	160027	PUMP DRY SENSOR
1	332062-09	ELBOW, 1", 90 DEG, SOC X FIPT, PVC*†
2	332107-05	ADAPTOR, 1" MIPT X 1" HOSE, PVC*††



† NOTE: GLUED TO TANK DRAIN SENSOR (PART B)

†† NOTE: CONNECTED TO ELBOW (ITEM 1)

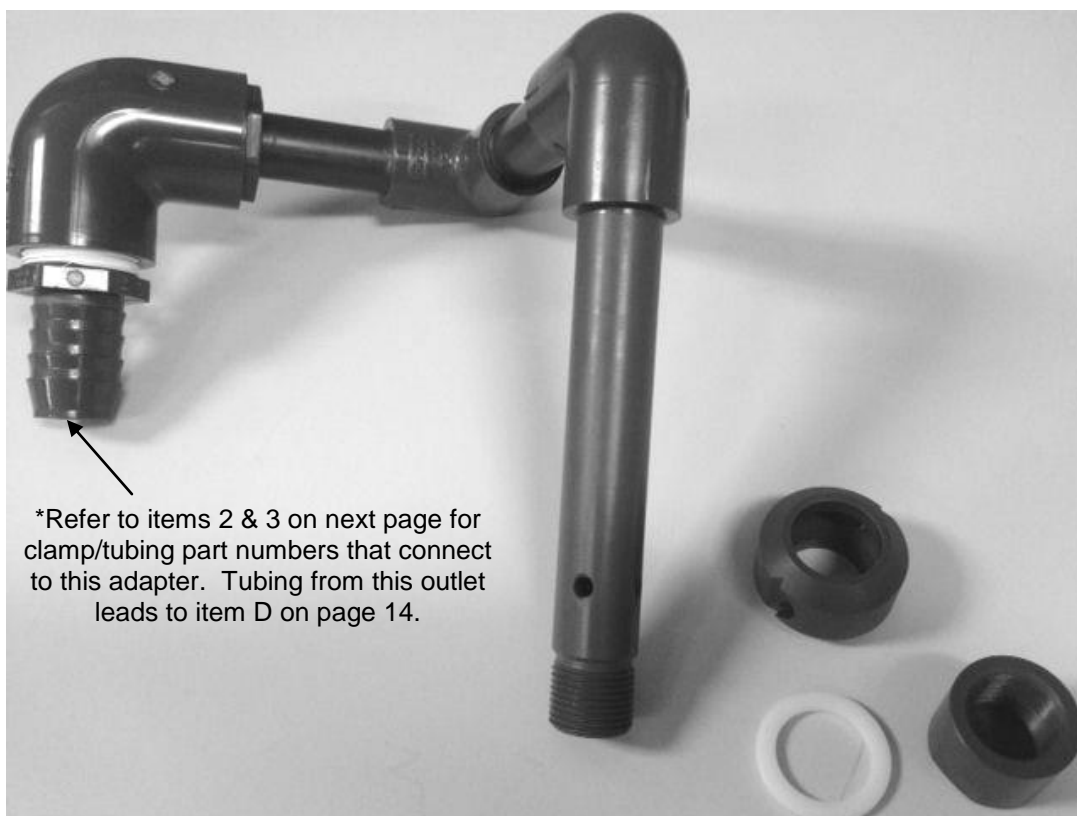
\* ITEM NOT ILLUSTRATED

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## 8.0 SPINNER ASSEMBLY

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SEQ.	PART NUMBER	DESCRIPTION
	160030	SPINNER ASSEMBLY

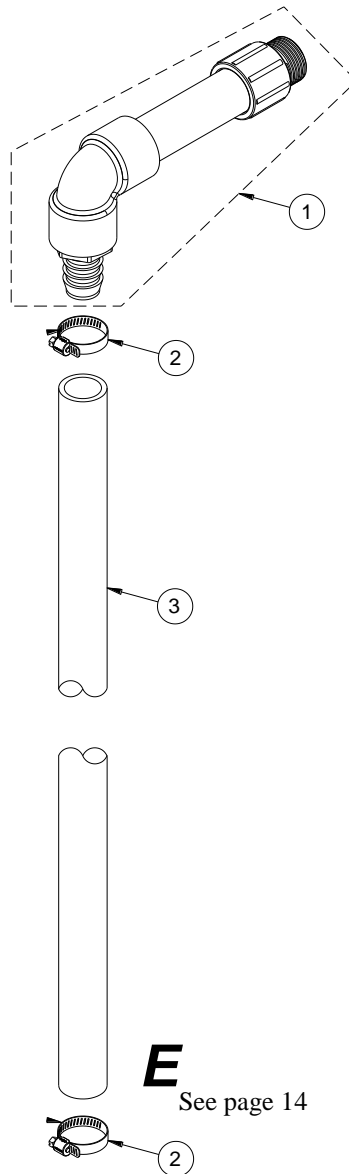


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## 9.0 TANK OVERFLOW RISER

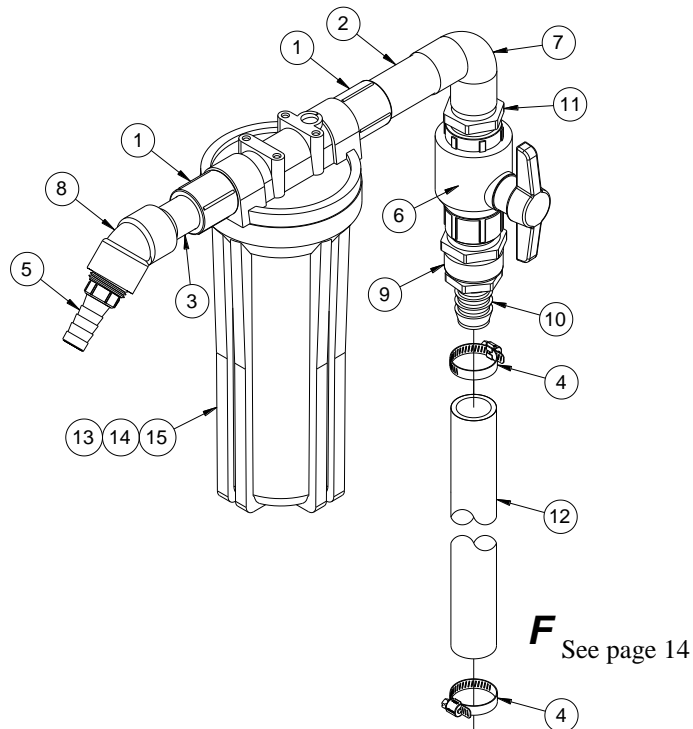
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SEQ.	PART NUMBER	DESCRIPTION
1	160029	TANK OVERFLOW RISER ASSEMBLY
2	336124-04	HOSE CLAMP, SS, 1-1/4
3	336018-11	TUBING, 1" ID X 1.29" OD, REINFORCED (SPECIFY LENGTH)



## 10.0 OUTPUT SPOUT & FILTER

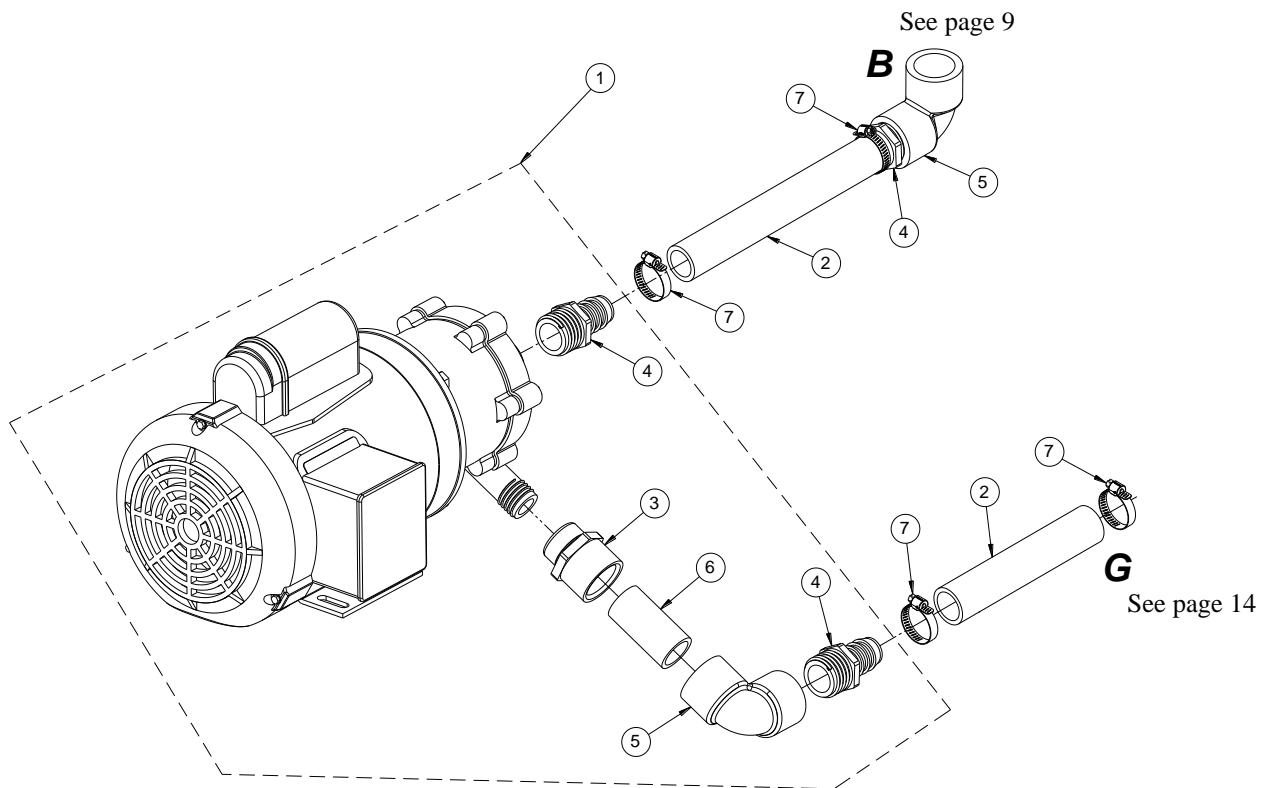
SEQ.	PART NUMBER	DESCRIPTION
1	G30-001	ADAPTER, MALE, 3/4"
2	G30-035	PIPE, PVC, 3/4" (SPECIFY LENGTH)
3	G30-045	NIPPLE, 3/4 X 6" (MUST BE CUT IN HALF)
4	336124-04	HOSE CLAMP, SS, 1-1/4
5	G84-001-64	NIPPLE, PLASTIC HOSE
6	332045-05	VALVE, BALL, 1" SOC, PVC
7	332062-02	ELBOW, 90 DEG. 3/4" SKT, PVC
8	332062-04	ELBOW, 45 DEG. 3/4" FIPT, PVC
9	332062-12	ADAPTOR, 1", SPIGXFIPT, PVC 80
10	332107-05	ADAPTOR, 1" MIPT X 1" HOSE,PVC
11	332142-02	BUSHING,REDUCING,1"X3/4",SxS
12	336018-11	TUBING, 1" ID X 1.29" OD, REINFORCED (SPECIFY LENGTH)
13	336104-02	FILTER HOUSING, 10", 3/4" NPT
14	336104-02-01	O-RING,FILTER HOUSING*
15	G84-202-12	FILTER CARTRIDGE, 1 MICRON*

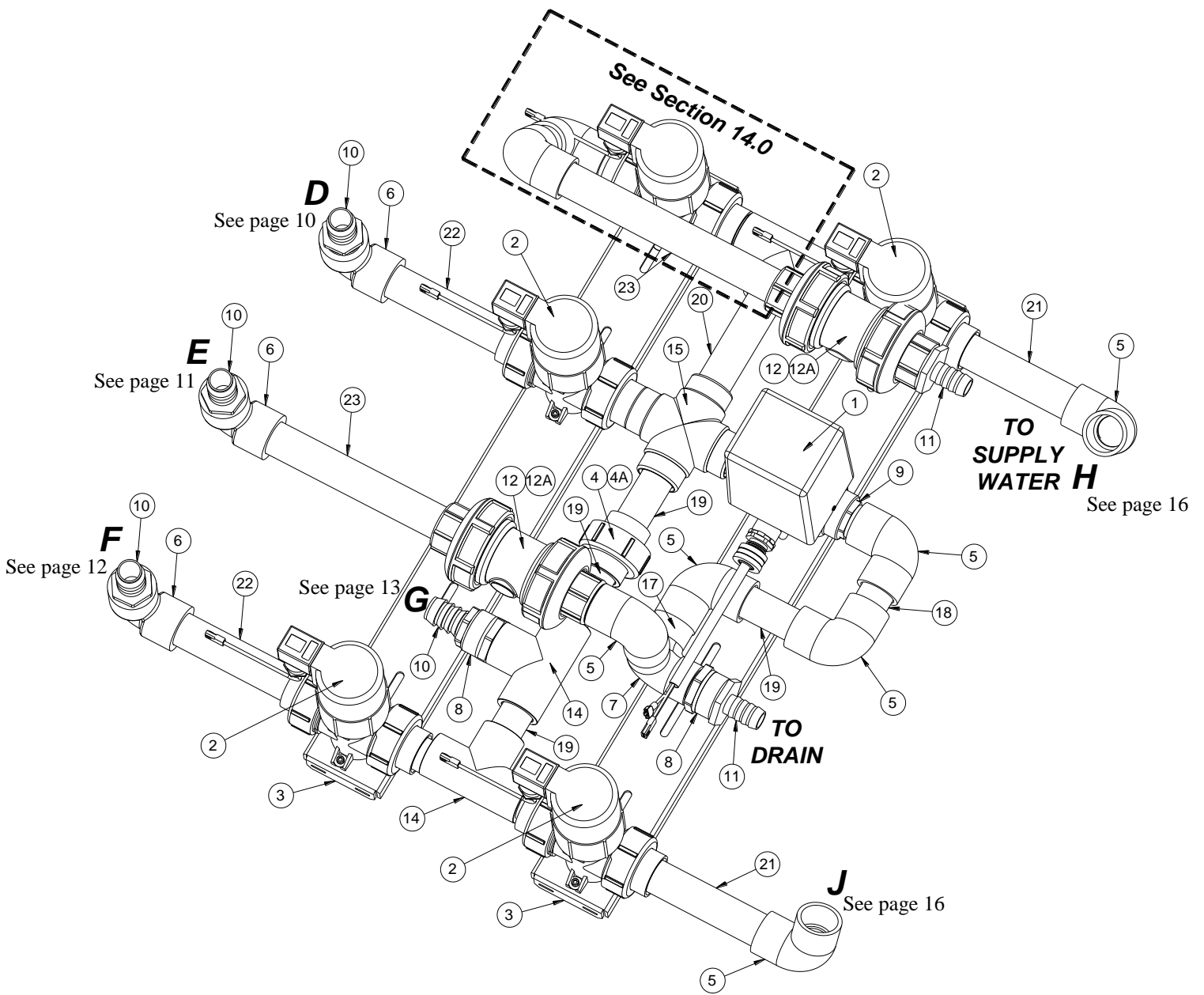


\* ITEM NOT ILLUSTRATED

## 11.0 PUMP

SEQ.	PART NUMBER	DESCRIPTION
1	160045	PUMP ASSEMBLY
2	336018-11	TUBING, 1" ID X 1.29" OD, REINFORCED (SPECIFY LENGTH)
3	332107-08	ADAPTOR, REDUCING PVC FEMALE, 1"X3/4"
4	332107-05	ADAPTOR, 1" MIPT X 1" HOSE,PVC
5	332062-09	ELBOW, 1", 90 DEG, SOC X FIPT, PVC
6	332018-025	PIPE, 1" X 2.5" LONG, PVC, SCH 80
7	336124-04	HOSE CLAMP, SS, 1-1/4"





NOTE: USE ITEM 16 FOR ALL CONNECTING PIPES WHERE NO PIPE IS VISABLE BETWEEN THE FITTINGS.



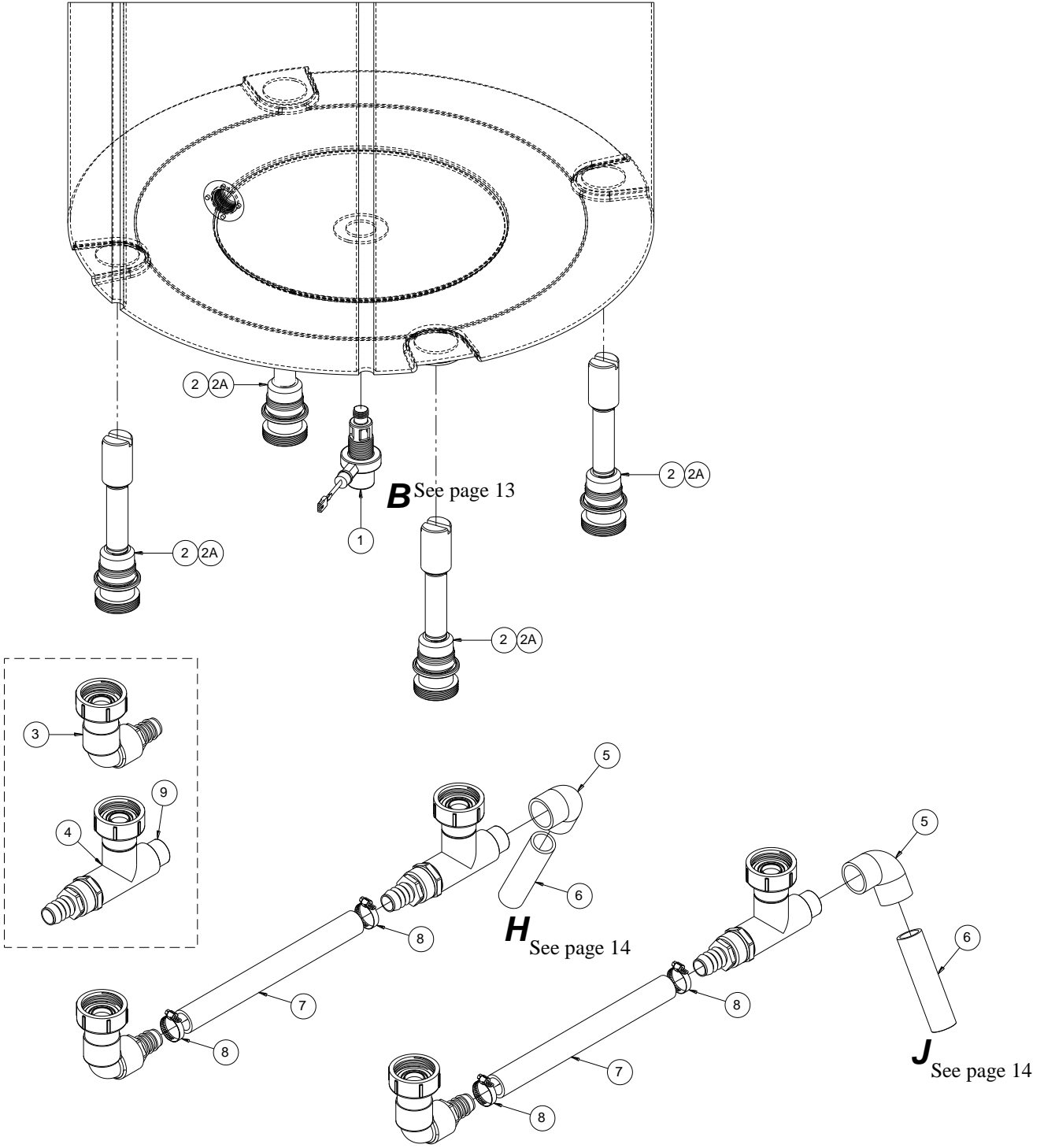
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## 12.0 HYDRAULICS 1

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SEQ.	PART NUMBER	DESCRIPTION
1	160018	DRAIN VALVE ASSEMBLY
2	160064	SOLENOID VALVE ASSEMBLY
3	260051	VALVE BRACKET
4	332007-02	UNION, 1" SOC, PVC 80
4A	334021-09	O-RING, UNION SLIP JOINT*
5	332062-03	ELBOW, 90 DEG. 1" SOCKET, PVC
6	332062-09	ELBOW, 1", 90 DEG, SOC X FIPT, PVC
7	332062-10	ELBOW, 1", SIDE SOC, PVC 40
8	332062-12	ADAPTOR, 1", SPIGXFIPT, PVC 80
9	332062-20	ADAPTOR, 1" MALE, SPIG X MIPT, PVC 80 (USED ON BOTH SIDES OF DRAIN VALVE, ITEM 1)
10	332107-05	ADAPTOR, 1" MIPT X 1" HOSE, PVC
11	332107-07	ADAPTOR, 1" MIPT X 3/4" HOSE, PVC
12	332133-12	CHECK VALVE, TRUE UNION, 1" PVC
12A	334021-10	O-RING, CHECK VALVE SLIP JOINT*
13	G84-001-62	CHECK VALVE, TRUE UNION, 3/4"*
14	332136-04	TEE, 1" SOCKET, PVC-80
15	332163-01	CROSS, 1" SOC, PVC 80
16	332018-020	PIPE, 1" X 2" LONG, PVC-80*
17	332018-025	PIPE, 1" X 2.5" LONG, PVC-80
18	332018-030	PIPE, 1" X 3" LONG, PVC-80
19	332018-040	PIPE, 1" X 4" LONG, PVC-80
20	332018-050	PIPE, 1" X 5" LONG, PVC-80
21	332018-060	PIPE, 1" X 6" LONG, PVC-80
22	332018-080	PIPE, 1" X 8" LONG, PVC-80
23	332018-110	PIPE, 1" X 11" LONG, PVC-80

\* ITEM NOT ILLUSTRATED



NOTE: USE ITEM 9 FOR ALL CONNECTING PIPES WHERE NO PIPE IS VISABLE BETWEEN THE FITTINGS.

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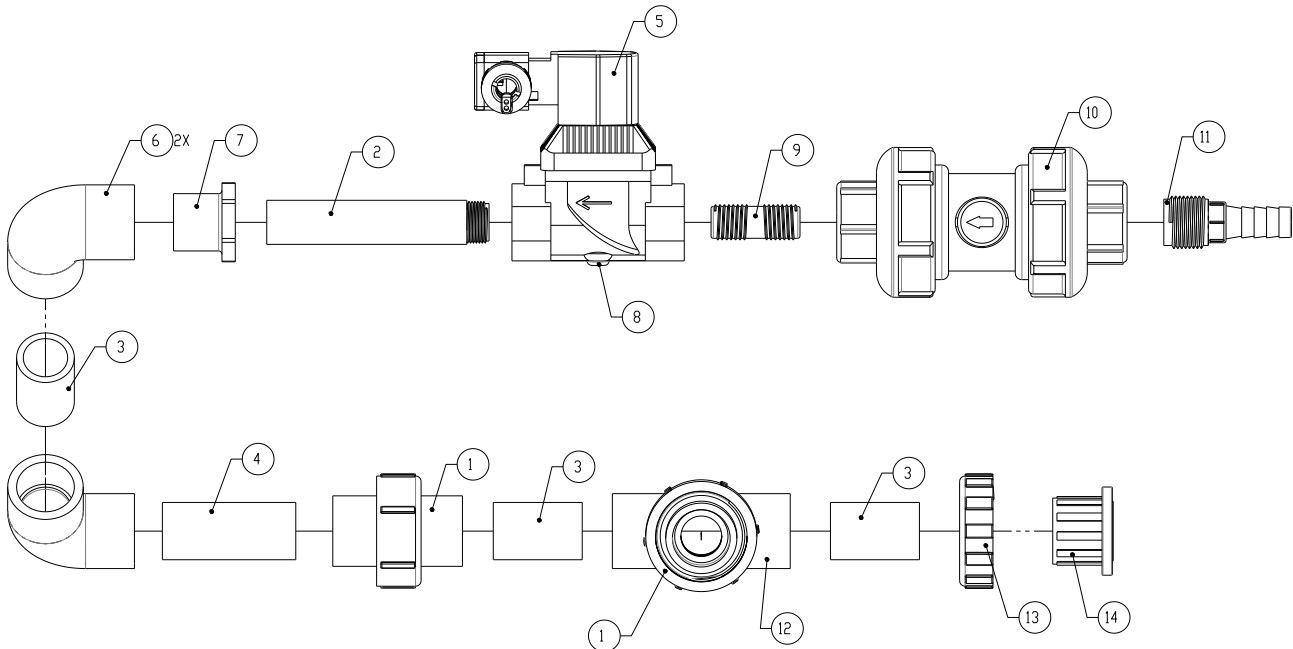
## 13.0 HYDRAULICS 2

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SEQ.	PART NUMBER	DESCRIPTION
1	160027	PUMP DRY SENSOR
2	160036	SPRAY NOZZLE ASSY
2A	334021-05	O-RING, BUNA, 70 DURO, 1-7/8" OD
3	160042	NOZZLE SUB ASSY-A
4	160063	NOZZLE SUB ASSY-B (INCLUDES ITEM 9)
5	332062-03	ELBOW, 90 DEG. 1" SOCKET, PVC
6	332018-040	PIPE, 1" X 4.0" LONG, PVC, SCH 80
7	336018-11	TUBING, 1" ID X 1.29" OD, REINFORCED (SPECIFY LENGTH)
8	336124-04	HOSE CLAMP, SS, 1-1/4
9	332018-020	PIPE, 1" X 2" LONG, PVC-80

## 14.0 FILL VALVE ASSEMBLY

SEQ.	PART NUMBER	DESCRIPTION
	160125	GranuFlo II FILL VALVE UPGRADE KIT (INCLUDES ITEMS 1-14 AND INSTALLATION INSTRUCTIONS)
1	332007-02	UNION, 1" SOC, PVC 80
2	332011-050	TOE NIPPLE, 3/4", 5" LONG, PVC-80
3	332018-020	PIPE 1", 2" LG, PVC-80
4	332018-030	PIPE, 1" X 3" LONG, PVC, SCH 80
5	160064-01	FILL VALVE
6	332062-03	ELBOW, 90 DEGREE 1" SOCKET, PVC
7	332142-02	BUSHING, REDUCING, 1" X 3/4"
8	335038-04	BUMPER, ADHESIVE BACKED 0.5 DIAMETER
9	332137-13	NIPPLE, 3/4" X 2" LG, THREADED, PVC 80
10	G84-001-62	CHECK VALVE, TRUE UNION
11	G84-001-64	NIPPLE, PLASTIC HOSE
12	332136-04	TEE, 1" SOCKET, PVC-80 (SEE NOTE)
13	332045-06-02	VALVE UNION NUT, PVC 80
14	332045-06-01	VALVE, END CONNECTOR, 1", SOC, PVC 80



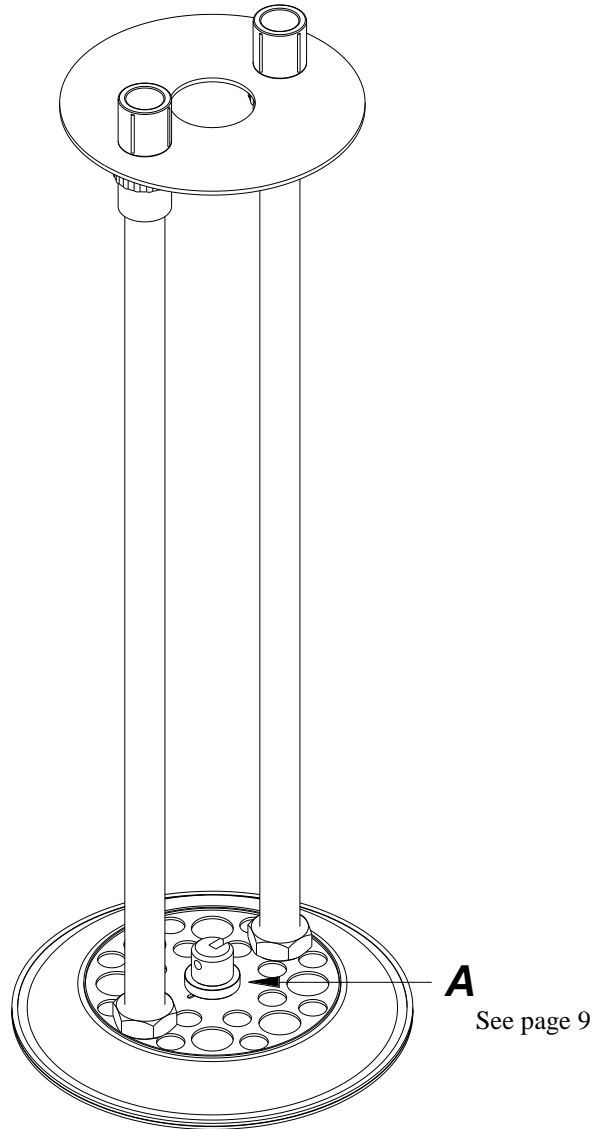
**NOTE:**  
CONSULT TECHNICAL SERVICES FOR ANY ADDITIONAL CLARIFICATION

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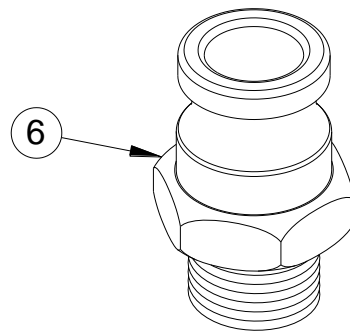
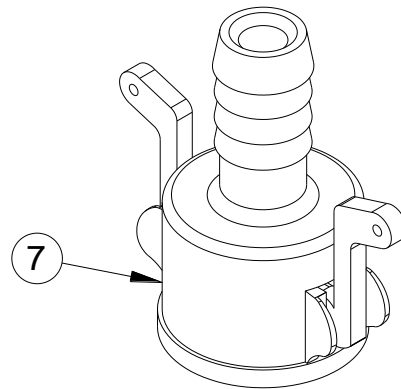
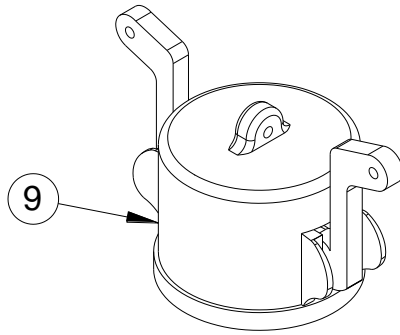
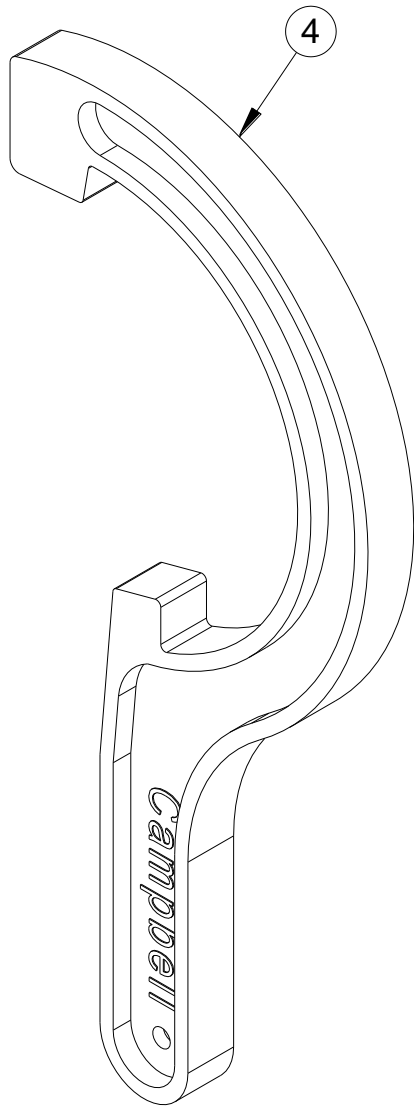
## 15.0 STANDPIPE

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SEQ.	PART NUMBER	DESCRIPTION
	160059	STANDPIPE ASSEMBLY
	260025	BASE FILTER ROD (FOR STANDPIPE ASSEMBLY)*



\*ITEM NOT ILLUSTRATED



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## 16.0 GranuFlo II TANK, SET UP KIT

---

SEQ.	PART NUMBER	DESCRIPTION
	160065	GranuFlo II TANK, SET UP KIT

### SETUP KIT INCLUDES THE FOLLOWING:

1	450368	GranuFlo II OPERATOR'S MANUAL *
2	G79-000-26	JAR, HYDROMETER, 500 ML *
3	G83-535-02	BOTTLE, PRODUCT SAMPLE (2)*
4	G84-001-43	WRENCH, FILTER HOUSING
5	G84-001-55	HOSE CLAMP, 9/16" TO 1-1/16" DIA. ALL SS (6)*
6	332107-10	ADAPTER, MALE F, 3/4" (2)
7	G84-001-57	COUPLER, 3/4" HOSE SHANK
8	G84-001-60	HYDROMETER (2)*
9	332107-10-01	CAP, DUST, 3/4" POLYPRO
10	G84-202-12	FILTER CARTRIDGE, 1 MICRON (2)*
11	G97-283-08	DISSOLUTION TANK, NOZZLE ASSY. *
12	368171-02	RECEPTACLE, DUPLEX GFI 120V 20A*
13	507356	GranuFlo BATCH ANALYSIS FORM*†
14	G84-001-58	HOSE, 3/4" FOOD GRADE (420")*

\* ITEM NOT ILLUSTRATED

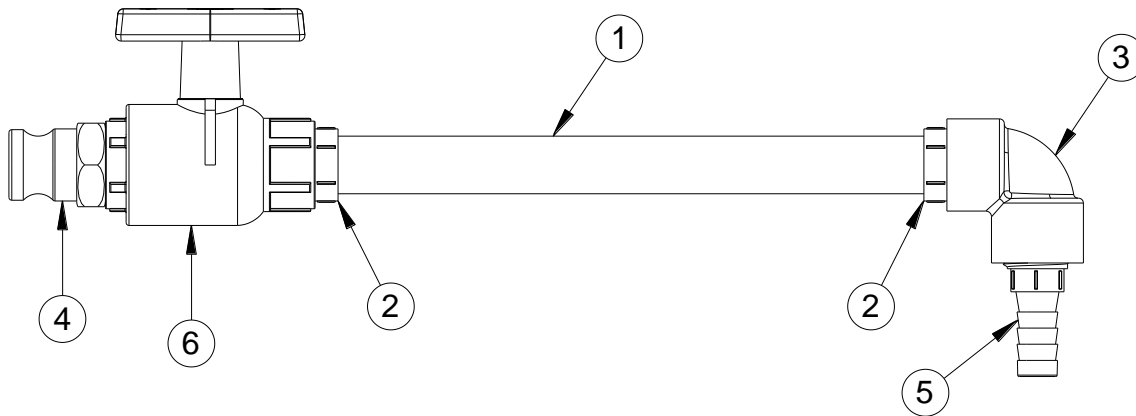
† CONTACT TECHNICAL SERVICES FOR AVAILABILITY

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## 17.0 DISSOLUTION TANK NOZZLE

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SEQ.	PART NUMBER	DESCRIPTION
	G97-283-08	DISSOLUTION TANK, NOZZLE ASSY.
1	G30-035	PIPE, PVC, 3/4" (SPECIFY LENGTH)
2	G30-001	ADAPTER, MALE, 3/4"
3	G30-044	ELBOW, 90 DEGREE, 3/4"
4	332107-10	ADAPTER, MALE F, 3/4"
5	G84-001-64	NIPPLE, PLASTIC HOSE
6	G84-001-69	BALL VALVE, STANDARD, 3/4"







**Fresenius Medical Care North America**

Manufactured by:  
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<http://www.fmcna.com>