

CONNECTION SIZES & MODEL DATA

Model Number	INF/EFF Conn. DIA (Note 3)	Drain Conn. DIA	Tank Footprint	Perlite (Note 4)	Upper Head Weight	Head & Tubes Weight	Tank Ship Weight	Operating Weight
	mm	mm	m ²	kg	kg	kg	kg	kg
SP-27-48-487	150	80	2.5	13.6	159	299	748	1347
SP-33-48-732	200	80	3.1	20.4	216	358	817	1760
SP-41-48-1038	200	100	4.1	29.0	340	574	1066	2730
SP-49-48-1548	250	100	5.4	43.5	492	871	1506	3827
SP-55-48-2076	300	100	6.7	58.1	628	1043	1746	4920

- **Automatic System Includes:**
Automatic Filter Controller
- **Semi-Automatic System Includes:**
Bump Button Box

CAPACITIES & RATINGS

Model Number	Filter Area	Recommended Flow Rate Range (Note 2)	Tank Volume
	m ²	1.22 – 3.42 m ³ /hr/m ²	m ³
SP-27-48-487	35.6	43.4 – 121.8	0.6
SP-33-48-732	53.1	64.8 – 181.6	0.9
SP-41-48-1038	75.4	92.0 – 258.0	1.7
SP-49-48-1548	112.5	137.3 – 384.8	2.3
SP-55-48-2076	151.0	184.2 – 516.4	3.2

DIMENSIONS

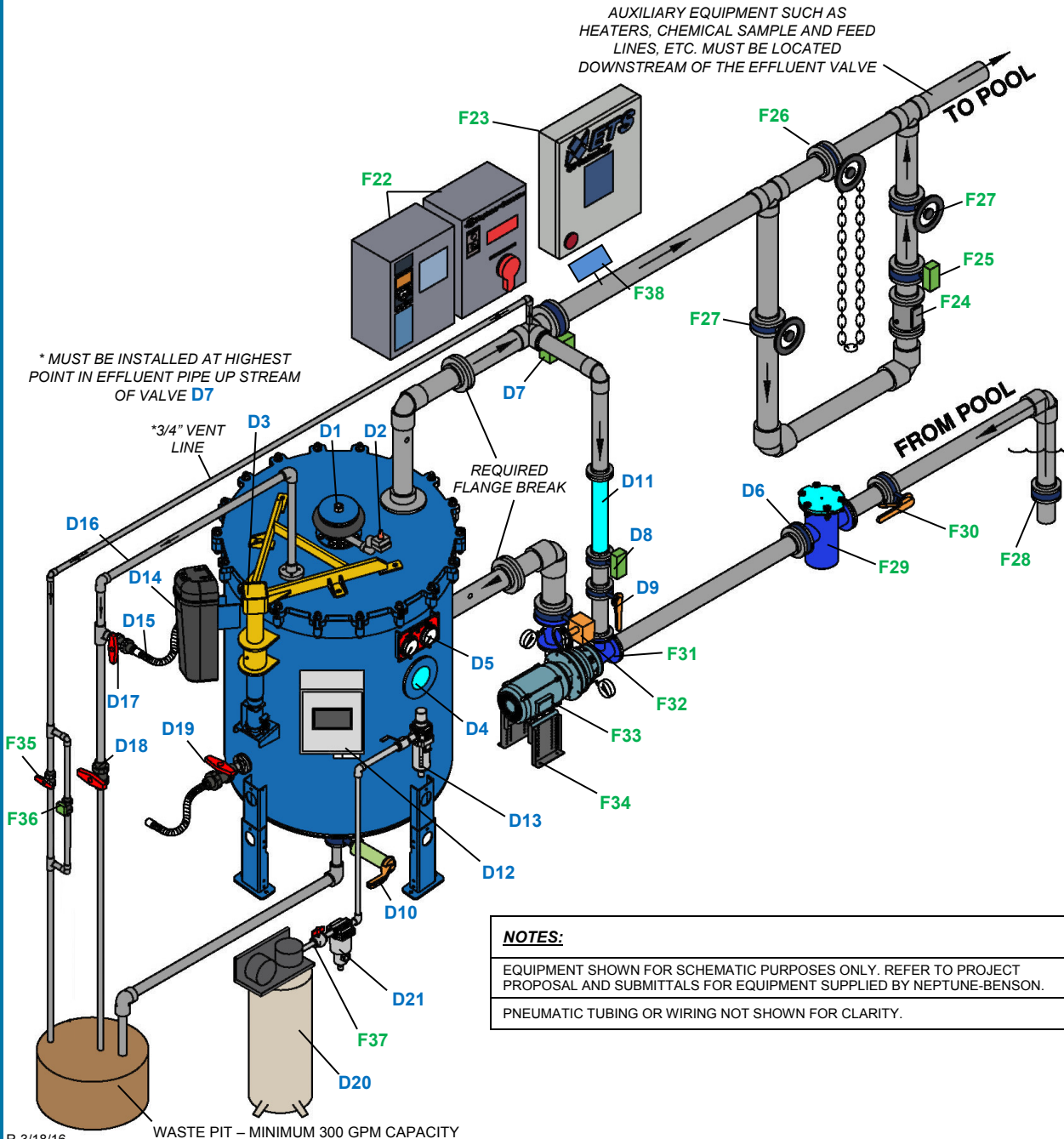
Model Number	A	B (Note 1)	C (Note 1)	D
	cm	cm	cm	cm
SP-27-48-487	85	244	226	70
SP-33-48-732	100	267	250	80
SP-41-48-1038	122	270	251	91
SP-49-48-1548	140	280	247	92
SP-55-48-2076	157	283	247	99

- Note 1: "B" dimension is installed height. "C" dimension indicates overall height with tank legs in the shipping position.
 Note 2: Recommended flow rate range is suggested to optimize filtration performance. This filter is NSF listed for up to 4.89 m³/hr/m² flow rate. Consult Neptune-Benson for applications higher than the recommended flow rate range.
 Note 3: Tank connection sizes based on velocity not to exceed 3.0 mps.
 Note 4: The required perlite media volume is based on a 3mm thick cake which is recommended for optimal performance.
 Note 5: SP-27 to SP-55 also available as reduced height.



FILTERS

Defender® Filter Schematic - Automatic



NOTES:

EQUIPMENT SHOWN FOR SCHEMATIC PURPOSES ONLY. REFER TO PROJECT PROPOSAL AND SUBMITTALS FOR EQUIPMENT SUPPLIED BY NEPTUNE-BENSON.

PNEUMATIC TUBING OR WIRING NOT SHOWN FOR CLARITY.

DEFENDER FILTER COMPONENTS - INCLUDED IN DEFENDER PACKAGE		
MARK	REFERENCE	NOTES
D1	PNEUMATIC BUMPING ASSEMBLY	NONE
D2	QUICK EXHAUST VALVE	
D3	LIFTING DAVIT	
D4	VIEWING WINDOW	
D5	GAUGE PANEL	
D6	INFLUENT CHECK VALVE	
D7	EFFLUENT VALVE	AIR OPERATED BUTTERFLY VALVE, NORMALLY OPEN. INSTALL EFFLUENT VALVE DIRECTLY ON PRECOAT TEE. LOCATE ACTUATOR WHERE VALVE POSITION CAN BE VIEWED FROM FLOOR.
D8	PRECOAT VALVE	AIR OPERATED BUTTERFLY VALVE, NORMALLY CLOSED. INSTALL PRECOAT VALVE AS CLOSE AS POSSIBLE TO THE PUMP SUCTION PIPING. PRECOAT LINE 2 PIPE DIAMETERS SMALLER THAN EFFLUENT PIPE DIAMETER. (NO LESS THAN 2")
D9	SYSTEM FILL	MANUALLY OPERATED BUTTERFLY VALVE, NORMALLY OPEN.
D10	DRAIN VALVE	MANUALLY OPERATED BUTTERFLY VALVE, NORMALLY CLOSED, WITH EXTENSION. BOLTED DIRECTLY TO TANK BOTTOM (MEDIA DUMP / RINSE) DRAIN LINE MUST BE PLUMBED INDEPENDENTLY TO WASTE. (AUTOMATED OPTION AVAILABLE)
D11	IN-LINE SIGHT GLASS	INSTALL IN-LINE SIGHT GLASS ON THE PRECOAT LINE SO THAT IT CAN BE VIEWED WHILE STANDING AT THE FILTER CONTROL PANEL
D12	RMF CONTROL PANEL	NONE
D13	FILTER REGULATOR	
D14	VACUUM TRANSFER UNIT	
D15	VACUUM TRANSFER HOSE	
D16	VACUUM TRANSFER PIPING & FITTINGS	
D17	VACUUM TRANSFER VALVE	BALL VALVE 1.5" TRUE UNION, NORMALLY CLOSED.
D18	VACUUM VENT VALVE	BALL VALVE 1.5" TRUE UNION, NORMALLY CLOSED. VACUUM DRAIN LINE MUST BE PLUMBED INDEPENDENTLY TO WASTE
D19	VACUUM HOSE VALVE WITH HOSE	BALL VALVE 1.5" TRUE UNION, NORMALLY CLOSED.
D20	AIR COMPRESSOR	OPTIONAL
D21	WATER SEPARATOR	OPTIONAL

FILTER ACCESSORY COMPONENTS - AVAILABLE UPON REQUEST		
MARK	REFERENCE	NOTES
F22	GREEN DRIVE VFD	WITH BY-PASS
F23	ETS UV TREATMENT SYSTEM CONTROLLER	THIS IS A PACKAGE
F24	ETS UV TREATMENT SYSTEM	SHOWN WITH AUTOMATED OPTION
F25	ETS UV EZ STRAINER	
F26	ETS UV BYPASS	GEAR OPERATED BUTTERFLY VALVE, NORMALLY CLOSED.
F27	ETS UV ISOLATION	GEAR OR LEVER OPERATED BUTTERFLY VALVE, NORMALLY OPEN. (2) REQUIRED
F28	CHECK VALVE	FOR SELF PRIMING PUMPS, CHECK VALVE MUST BE INSTALLED ON SUCTION PIPE BELOW WATER LEVEL.
F29	GUARDIAN™ STRAINER	HAIR & LINT STRAINER
F30	STRAINER ISOLATION	LEVER OR GEAR OPERATED BUTTERFLY VALVE, NORMALLY OPEN.
F31	PRECOAT REDUCING TEE	NONE
F32	PUMP THROTTLE VALVE	GEAR OPERATED BUTTERFLY VALVE, NORMALLY OPEN.
F33	RECIRCULATING PUMP	NONE
F34	PUMP BASE	
F35	3/4" PRECOAT LINE VENT VALVE	NORMALLY CLOSED, PRECOAT LINE MUST BE PLUMBED INDEPENDENTLY TO WASTE.
F36	3/4" PRECOAT LINE VENT VALVE	SHOWN WITH AUTOMATED OPTION
F37	1/2" SHUT OFF VALVE	NONE
F38	FLOW METER	4-20 ma OUTPUT

R-3/18/16