



## MODEL F4S

CLASS: Corrosive sludge and slurry handling

CONSTRUCTION: Stainless Steel

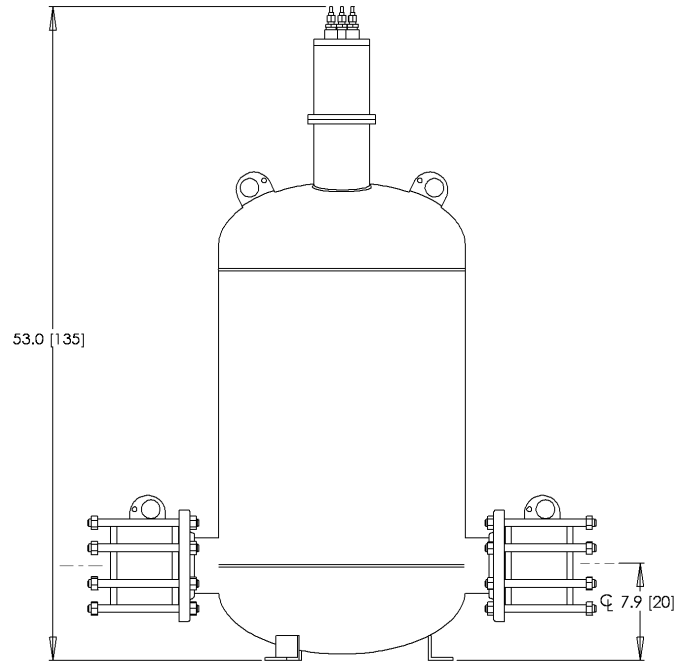
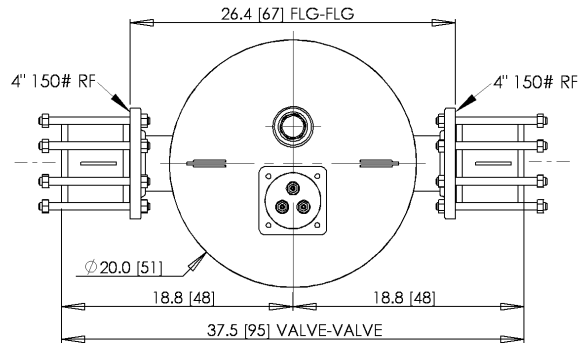
CAPACITY: 0-195 gpm [738 lpm]

DISCHARGE PRESSURE: 0-125 psi [8.6 Bar]

MAX SOLID: 3.75" [9.5 cm]

### CONFIGURATION OPTIONS

- ELECTRO-PNEUMATIC CONTROL (for non-explosion proof environments)
- GRAVITY FILLED
- FLOW INDUCED (vacuum assisted fill)
- HIGH TEMPERATURE (212F/100C)



*Large stroke volume = low cycle and wear rates*

*Low internal velocities = low erosive wear*

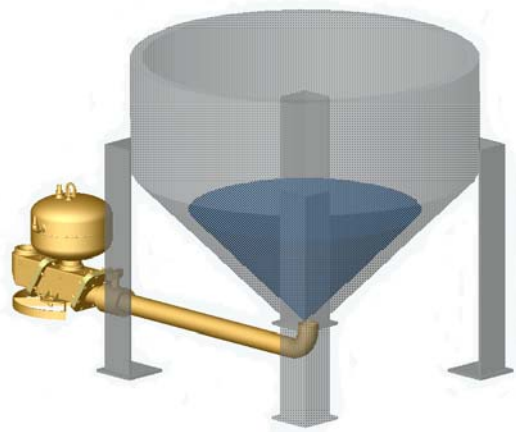
### APPLICATION EXAMPLES

Clarifier sludge transfer, sludge de-watering feed to plate and frame filter press, belt filter press, rotary drum filter, muds, BOF sludge, municipal primary and secondary sludge, sand, silt, stone cutting run-off, TiO<sub>2</sub> transfer and de-watering, diatomaceous earth, coal fines, mill scale, hot slurries. Fluids must be water-based/conductive.

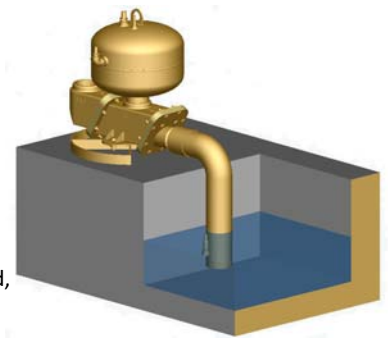
### QUICK SPECS

- Weight: 342 lbs [155 kg]
- Stroke Volume: 38 gal [144 l]
- Operating Levels: 'Gravity' - 34" [86 cm]  
Optional Suction Lift: 'Flow Induced' - 120" [3 m] maximum lift  
(see reverse side for explanation)
- Panel Required: DP310

**See reverse side for Specification Details, Flow Curve and Air Consumption**



**Gravity operation** (left) requires an operating level equal to or above the top of the pump (appr 34" above grade).  
No compressed air is required for the fill stroke.



**F4 flow induction** (right) uses an air powered, vacuum generator on the exhaust valve of the control panel. It applies vacuum to the pump during the fill stroke to pull fluid up into the pump. 10 ft of lift is the recommended maximum.

\*see note below chart for additional air consumption

Part# **F4S / / / - - -**

**SEAT MATERIAL**

- N = nitrile (standard)
- V = viton
- T = teflon
- UHD = hard urethane
- E = epdm
- K = kynar

**To specify a pump select a control panel (required) and seat option. Nitrile (std) 15 ft airlines are provided.**

**PANEL OPTIONS**

- DP310G4 = dual probe, gravity fed.
- DP310F4 = dual probe, flow induced.

**Example:**

F4S/N/DP310G4 = 4" 316SS filter press feed pump with nitrile seats, DP310G4 control panel.

**Panel Requirements:** Compressed air or dry gas, unlubricated, recommended 80 psi delivered through 1-1/4" pipe or equal and 110 vac (<1 A) power.

**Valve seat selection:**

- Nitrile - good all-purpose elastomer. Medium chemical, oil and solvent resistance, used up to 150°F.
- Viton - excellent resistance to oxidizers and solvents. Medium strength, used up to 250°F.
- Teflon - excellent chemical resistance to acids, bases and solvents. Lower cycle life, non-elastomeric, used up to 300°F.
- Hard Urethane - high durometer with good abrasion resistance with mild chemical resistance, used up to 150°F.
- EPDM - good heat and acid/base resistance but poor hydrocarbon resistance, used up to 300°F.
- PVDF (kynar) - excellent chemical resistance, toughness and resistance to cold flow (thermoplastic). Good cycle life and can be used up to 250°F.

**MAXIMUM FLOW CURVE**

*with air consumption in SCFM (gravity mode)*

HEAD meters	20	40	60	80	100	120	140	160	180	200	220	240
<b>220 ft</b> 67.1	22	44	66	88	110	132	154	Operating Flow Capacity: <i>anywhere in shaded area.</i>				
<b>200 ft</b> 61.0	20	41	61	81	101	122	142	Air consumption: <i>pick closest cell to your flow &amp; pressure</i>				
<b>180 ft</b> 54.9	19	37	56	74	93	111	130	120	136	151	166	181
<b>160 ft</b> 48.8	17	34	50	67	84	101	118	107	120	133	147	160
<b>140 ft</b> 42.7	15	30	45	60	75	90	105	93	104	116	128	139
<b>120 ft</b> 36.6	13	27	40	53	67	80	93	79	89	99	109	118
<b>100 ft</b> 30.5	12	23	35	46	58	70	81	65	73	81	89	98
<b>80 ft</b> 24.4	10	20	30	39	49	59	69	58	64	70	77	
<b>60 ft</b> 18.3	8	16	24	33	41	49	57	42	47	51	56	
<b>40 ft</b> 12.2	6	13	19	26	32	38	45	30	34	38	42	46
<b>20 ft</b> 6.1	5	9	14	19	23	28	33					
<b>10 ft</b> 3.0	4	8	11	15	19	23	27					
<b>GPM</b>	<b>20</b>	<b>40</b>	<b>60</b>	<b>80</b>	<b>100</b>	<b>120</b>	<b>140</b>	<b>160</b>	<b>180</b>	<b>200</b>	<b>220</b>	<b>240</b>
lpm	76	151	227	303	379	454	530	606	681	757	833	908

DP310G3 Panel



Example 1 (gravity fill): 140 gpm @ 20 ft TDH requires 33 SCFM

\*Note for flow induction: add 0.22 x gpm to the air consumption.

Example 2 (flow induced): 140 gpm @ 20 ft using suction lift. Since 140 gpm at 20 ft uses 33 scfm (from chart), then add 0.36 scfm per gpm to the consumption; in this case 140 x 0.22 scfm or 30.8 scfm. The total consumption is 33 + 30.8 = 63.8 scfm.