MODEL F3S

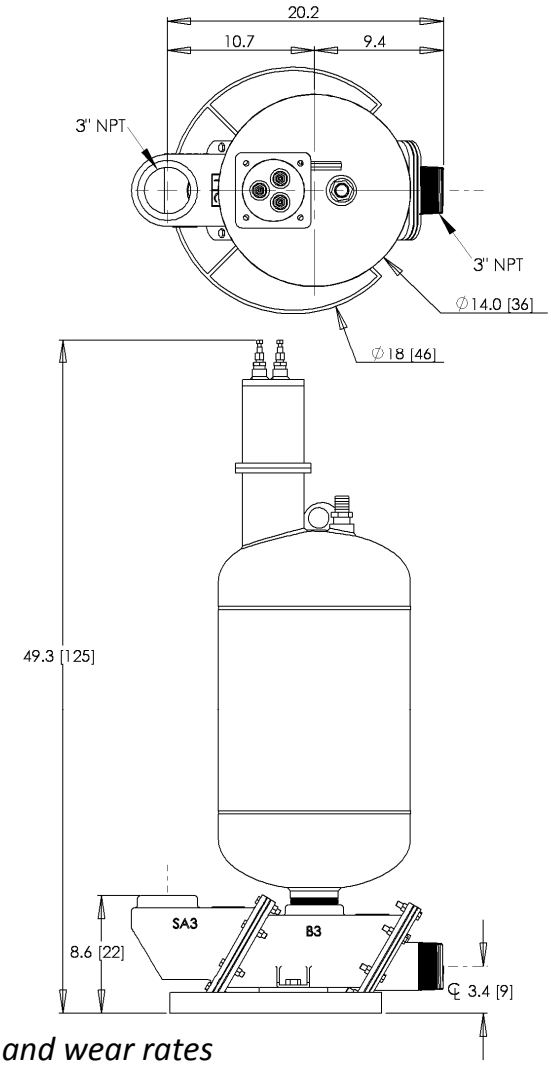
CLASS: Corrosive sludge and slurry handling

CONSTRUCTION: 316 Stainless Steel

CAPACITY: 0-84 gpm [318 lpm]

DISCHARGE PRESSURE: 0-125 psi [8.6 Bar]

MAX SOLID: 3” [7.6 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

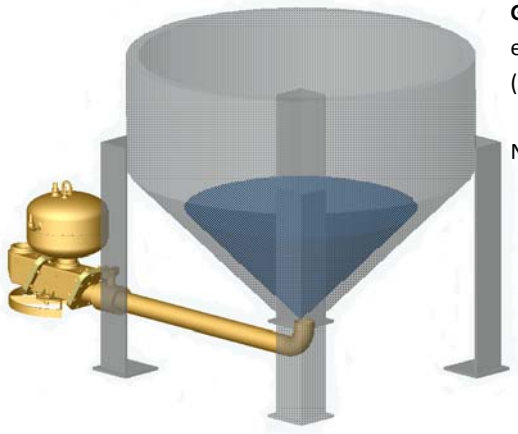
APPLICATION EXAMPLES

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, TiO2 transfer and de-watering, diatomaceous earth, coal fines, mill scale, hot slurries. Fluid must be water-based/conductive.

QUICK SPECS

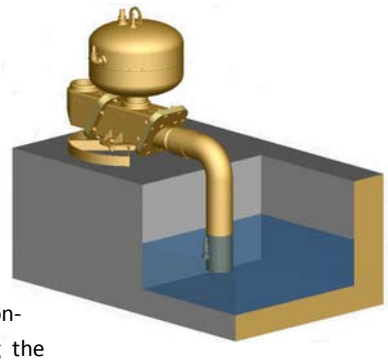
- Weight: 143 lbs [65 kg]
- Stroke Volume: 14 gal [53 l]
- Operating Levels: ‘Gravity’ - 30” [76 cm]
  Optional Suction Lift: ‘Flow Induced’ - 120” [3 m] maximum lift
  (see reverse side for explanation)
- Panel Required: DP310

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 30" above grade).

No compressed air is required for the fill stroke.



F3 flow inducement (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# **F3S /_ /_ _ _**

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

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

PANEL OPTIONS
DP310G3 = electro-pneumatic, dual probe, gravity fed.
DP310F3 = electro-pneumatic, dual probe, flow induced.

Panel Requirements: Compressed air or dry gas, unlubricated, recommended 80 psi delivered through 3/4" pipe or equal and 110 vac (<1 A) power.

Example:
F3S/N/DP310G3 = 3" 316SS filter press feed pump with nitrile seats, DP310G3 control panel.

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										
220 ft	67.1	11	22	33	44	55	Operating Flow Capacity:				
200 ft	61.0	10	20	30	41	51	***anywhere** in shaded area.*				
180 ft	54.9	9	19	28	37	46	Air consumption: *pick*				
160 ft	48.8	8	17	25	34	42	*closest cell to your flow &*				
140 ft	42.7	8	15	23	30	38	*pressure*				
120 ft	36.6	7	13	20	27	33	40	47	53	60	67
100 ft	30.5	6	12	17	23	29	35	41	46	52	58
80 ft	24.4	5	10	15	20	25	30	35	39	44	49
60 ft	18.3	4	8	12	16	20	24	28	33	37	41
40 ft	12.2	3	6	10	13	16	19	22	26	29	32
20 ft	6.1	2	5	7	9	12	14	16	19	21	23
10 ft	3.0	2	4	6	8	10	11	13	15	17	19
	GPM	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
	lpm	38	76	114	151	189	227	265	303	341	379

DP310G3 Panel

Example 1 (gravity fill): 60 gpm @ 20 ft TDH requires 14 SCFM

*Note for flow inducement: add 0.36 x gpm to the air consumption.

Example 2 (flow induced): 60 gpm @ 20 ft using suction lift. Since 60 gpm at 20 ft uses 14 scfm (from chart), then add 0.36 scfm per gpm to the consumption; in this case 60 x 0.36 scfm or 21.4 scfm. The total consumption is 14 + 21.4 = 35.4 scfm.