

PITBULL MODELS S4C(EX) and S4S(EX) 4" SUBMERSIBLE PUMPS

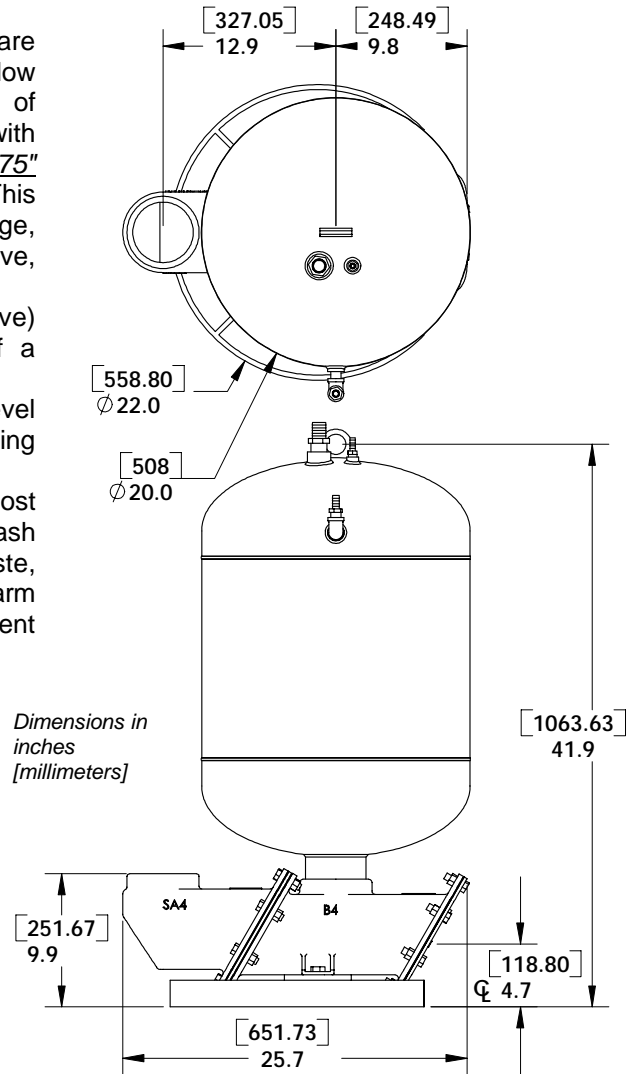
Pump models S4C(EX)-steel and S4S(EX)-316SS are expanded versions of 4" submersibles for increased flow capacity. They are capable of pumping a wide variety of debris, solids, sludges, solvents and chemicals. Outfitted with CIPC full port check valves, these 4" units can pump a 3.75" diameter solid at low to medium flows and high heads. This makes the EX models capable of handling some truly large, difficult solids. Whether long and fibrous or large and abrasive, solids easily pass through the it's large diameter flow path.

Flow capacity can also be doubled (see flow curve) when combining two of these pumps under the control of a EP250F4-Dual or AP200XF4-Dual panel.

The control systems are designed for true low level operation, which minimizes standing liquid and solids settling problems.

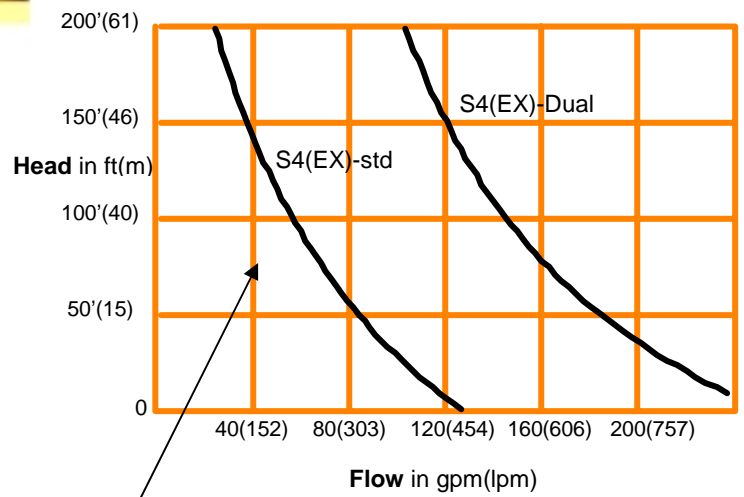
Applications for these PITBULL® pumps are almost limitless. Wood yard sumps, coal handling sumps, bottom ash and clinker sumps, machining chips, packing plant waste, poultry offals, feathers, raw sewage, battery sludge, tank farm sumps, slop oils, lime slurry, sand/silt; the list of excellent applications is extensive.

These pumps are typically used with flow inducement to help pull in bridging solids or viscous mixtures while providing low level operation.



Dimensions in inches [millimeters]

MAXIMUM FLOW CURVE



Pump can operate anywhere left of the curves.

SPECIFICATIONS

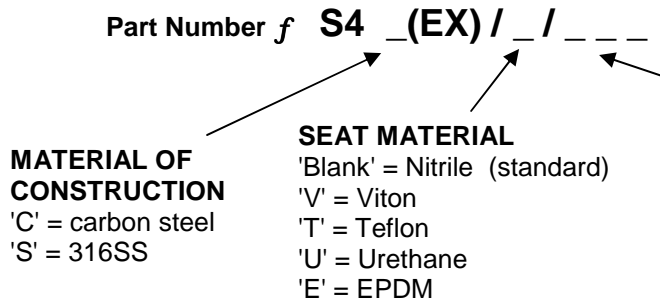
- } Weight: 188 lbs/67kg
- } Piping: 4 inch NPT
- } Control panel: AP200 (all-pneumatic)
- } Volume: 28 gal/106 liters
- } Maximum discharge head: 100 psi/6.9 Bar
- } Maximum solid: 3.75 inch/95 mm diameter
- } Flow induced operating level
 - 10 inches/25 cm (liquid depth)
- } Suction lift (requires optional adapter)
 - 36 inches/406 cm (water) for full flow; flow is de-rated as lift increases. 168 inches/427 maximum/shut-off lift.

REQUIREMENTS

- } Compressed air or dry gas, >40 psi/2.8 Bar
- } 3/4" NPT air supply inlet

See reverse side for air consumption, ordering information and installation recommendations.
CIPC BULLETIN #S4EX07 ©CIPC 2007

Model and options selection:



PANEL OPTIONS

'EP250F4' = electro-pneumatic panel, flow induced.
'AP200XF4' = all-pneumatic panel, flow induced.
'AP200' = all-pneumatic panel, gravity fill operation.
'EP250F4-Dual' = electro-pneumatic panel, flow induced (for two pumps).
'AP200XF4-Dual' = all-pneumatic panel, flow induced (for two pumps).

Standard units:

#S4C(EX)/EP250F4 = a steel submersible pump with steel checks and nitrile seats, EP250F4 electropneumatic, flow induced panel.
#S4S(EX)/EP250F4 = a 316SS submersible pump with 316SS checks and nitrile seats, EP250F4 electropneumatic, flow induced panel.

Optional examples:

#S4C(EX)/U/EP250F4-Dual = two steel submersible pumps with steel checks and urethane seats, EP250F4-Dual electropneumatic, flow induced panel.
#S4S(EX)/V/AP200XF4 = a 316SS submersible pump with 316SS checks and viton seats, AP200XF4 all-pneumatic, flow induced control panel

A complete pump contains: pump, inlet and discharge check valves, the control panel and 15' of nitrile/polyester braided airlines.

Both standard panels, EP250F4 electro-pneumatic and the AP200XF4 all-pneumatic are designed for low level, vacuum filled (flow induced) operation.

Description of options:

The AP200 control panel is designed for gravity filled pumps. It requires approximately 36" of liquid (enough to fill the pump chamber) for the panel to cycle. It will automatically match cycles to inflow rate. A manual on/off flow inducer, FI4, can be added for temporary low level operation.

Valve seat selection:

Nitrile - Good all-purpose elastomer. Medium chemical, oil and solvent resistance, good strength, use to 170°F.
Viton - Excellent resistance to oxidizers and solvents. Medium strength, use to 250°F.
Teflon - Best chemical resistance of all. Inert to acids, bases and solvents. Lower cycle life, non-elastomeric, use to 300°F.
Urethane - Best resistance to abrasion. Toughest of the elastomers, with mild chemical resistance, use to 150°F.
EPDM - Good heat and acid/base resistance. Tougher than viton but poor solvent resistance, use to 300°F.

AIR CONSUMPTION in SCFM

Head Flow	10 ft	20 ft	40 ft	60 ft	80 ft	100 ft	140 ft	180 ft	220 ft
20 gpm	3.8	4.7	6.4	8.1	9.9	11.6	15.1	18.5	22
40 gpm	7.6	9.4	12.8	16.3	19.7	23.2	30.1	37.1	44
60 gpm	11.4	14	19.2	24.4	29.6	34.8	45.2	55.6	66
80 gpm	15.2	18.7	25.6	32.6	39.5	46.4	60.3	74.1	88
100 gpm	19	23.4	32	40.7	49.4	58	75.3	92.7	110
140 gpm	26.6	32.7	44.8	57	69.1	81.2	105.5	129.7	154
220 gpm	41.8	51.4	70.5	89.5	108.6	127.6	165.7	203.9	242
300 gpm	57	70.1	96.1	122	148	174	226	278	330

Example: 80 gpm @ 20 ft TDH requires 18.7 SCFM



COMMONLY ASKED INSTALLATION/APPLICATION QUESTIONS

How much air will it actually use?

The Pitbull ® matches your incoming flow rate. So when the inflow drops to half, the air consumption is cut in half too. Actual air consumption is usually much less than shown unless inflow is constant.

Where is the control panel mounted?

Place within the 15' radius of the airlines, above the pump. Longer lines can be ordered (consult CIPC for performance implications).

Can the airlines be hard-piped?

Yes they can, but the ID's of our standard lines need to be matched.

Can the piping be reduced?

Smaller piping causes higher head and velocity, and the pump may pass things the piping can't. Try to avoid dropping more than one pipe size.