

Submersible Pumps Overview

Ejector pumps are required in applications where wastewater cannot flow by means of gravity at a velocity rate greater than 2' (0.6 m) per second.

Design Styles:

- **Vertical suspended type** - Motor is exposed outside of basin, supported on the cover with an extended motor shaft connected to the pump housing and impeller, which are located inside the basin.
- **Close coupled submersibles** - Motor is connected directly to the pump housing and impeller with a short shaft and no part of the pump is exposed outside of the basin.

These styles are available with either an explosion-proof or non-explosion-proof motor. Often, an explosion-proof motor is not practical, but sometimes required by code.

Characteristics:

Solids-handling pump Ability to pump high flow Solids-handling capacity from 2" through 4" (51 - 102 mm) Lower-head residential to municipal lift stations Pumping everything from sanitary sewage to rainwater to a gravity sewer system Typical flow rates: 80 - 4,000 GPM (18 - 908 m³/hr)

Grinder pump Pumps low flow against high head Grinds solids instead of passing them Residential or commercial locations Often pumping to a pressure sewer system but also used in gravity sewers if high vertical lifts or long horizontal runs are present in system Typical flow rate: 10 - 200 GPM (2 - 45 m³/hr)

Effluent Pump Pump used to move septic tank effluent High head, low flow pumping performance 1/2" - 3/4" (13 - 19 mm) solids capacity Used in septic tank systems to move effluent from the dosing chamber to either an onsite treatment system or pressure sewer Typical flow rate: 10 - 50 GPM (2 - 11 m³/hr)

Sump pump Used for moving groundwater away from building foundations Low flow against low head Minimal solids capacity Typical flow rate: 10 to 250 GPM (2 - 57 m³/hr)