

G5.0 Sewage Grinder / Macerator

Refer to Section 11 and Section 22 of the Pricing Schedules.

G5.1 Supply of Macerator Models

An open in-channel macerator, with a voracious twin shaft grinder, capable to handling raw sewage flows of up to 50m³/h for the Hankey Sewage Pump Station and 120m³/h for the Centerton Sewage Pump Station, manufactured by Franklin Miller, supplied by Gorman-Rupp Pumps, such as Taskmaster Model SS1000, or similar, shall be provided and installed, to ease the strain on the sewage pumps.

The proposed position of the Macerator shall be as shown on Drawing 5024-PH3-C102. This will facilitate in grinding up all foreign objects entering the manhole via the gravity sewer network. The macerator shall be capable of grinding up material such as cloths, clothing, rubber, wood, stones, plastic containers and cables etc. into fine material.

(A full-bore isolation valve shall also be fitted upstream of the macerator in order to isolate the Macerator manhole during routine maintenance. Similar, a flow meter shall be fitted onto the single pipeline downstream of the Macerator, logging the flow entering the pump station. This will be connected to the telemetry system for observation and data logging.)

The macerator shall be manufactured :

- a) Capable to grind steel, wood, sticks, plastic, bricks, rocks, rubber, cloth, tin, cardboards, paper and sludge to fine particles;
- b) Stainless Steel body construction;
- c) Cutters (bi-directional) and shafting shall be constructed from T316 stainless steel, and fused with a coating on the cutting surfaces;
- d) Two cutter stacks intermeshed, with cutter cartridges combining thin cutter blades,
- e) A heavy-duty, inline, direct coupled, gear driven 5,5kW 3-Phase motor will be supplied and connected above the macerator, fully submersible (IP68), and explosion proof.

G5.2 Installation of Macerator Models

The macerator shall be installed in a prefabricated Fibre Reinforced Plastic (FRP) wastewater manhole, 1,5m dia (60"), upstream of the pump station inlet chamber.

The FRP manhole shall be :

- a) completely pre-manufactured to suit site conditions and the in-line macerator;
- b) installed at depth of 2,6m (min) to protrude a min of 200mm above FGL.
- c) watertight and corrosion resistant;
- d) supplied with electrical control box, installed in the Main Control Panel inside the Pump Station building;
- e) Supplied with installation grinder guide rails,
- f) Supplied with FRP horizontal grids inside manhole, to cover sewage channel and serve as a standing platform for maintenance purposes;
- g) Supplied with a hinged "domestic hatch-style" lockable cover.