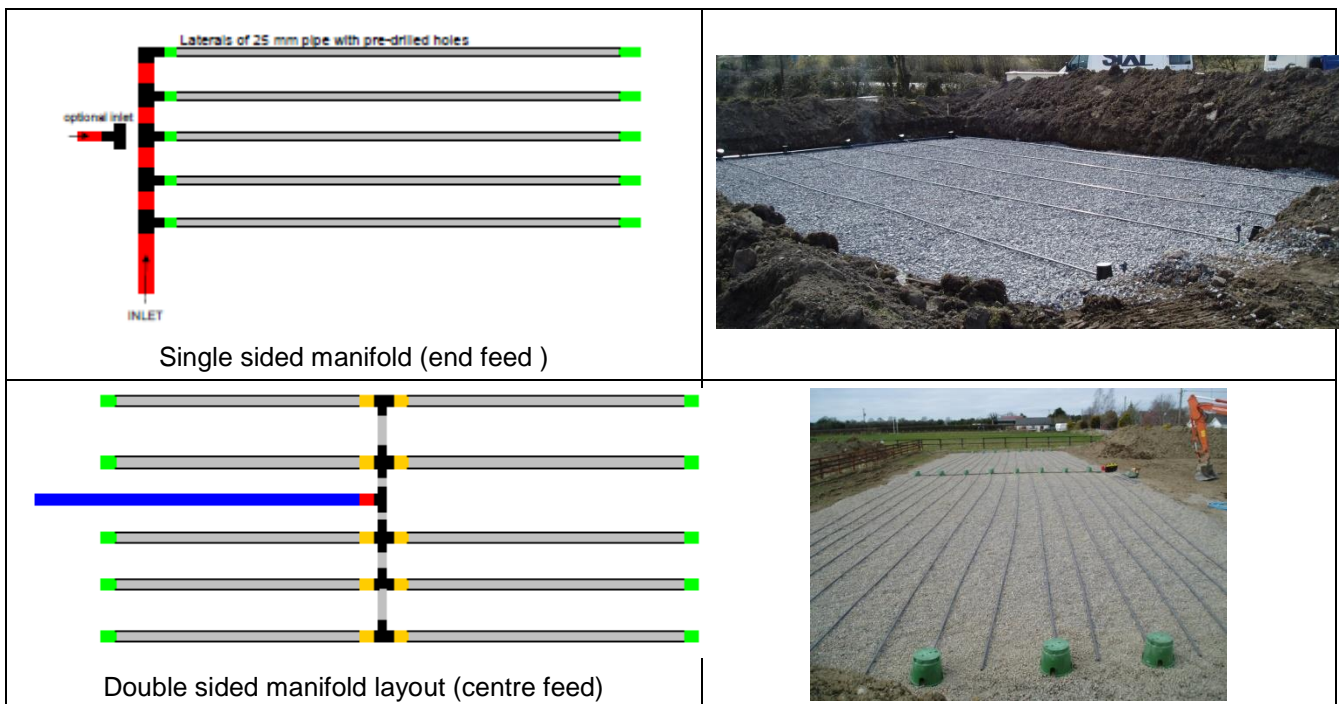


Pressure Pipe Distribution Networks - Domestic and Commercial

We provide domestic and commercial site specific designed systems for pressurised effluent distribution pipe networks for sand filters and polishing filters, for raised mounds and low pressure pipe (LPP) in-ground level systems. All our pipe networks include calculated pump capacity and pump tank dose volume requirements which are critical design elements for the pumping system to operate effectively. We supply complete turnkey treatment and sub-surface infiltration systems, including installation, commissioning and certification so the total system selection and operation is matched to each site. We are fully insured for the design and construction of all our systems and we offer specialist presentations for associations, professionals and local authority reviewers.

Pipe Configuration.

We supply two main types of pressure systems single sided manifold (end feed) and double sided manifold (centre feed). Regular inspection and servicing of the pumping components and pipe network is recommended. Ball valves housed in valve boxes are provided at the head and end of each of the laterals to allow flushing of solids from the pipe network during servicing.



Site Specific Specifications and Criteria include:

- System head: total dynamic head (TDH) incl. elevation, design pressure and friction losses.
- Pumping distance and the diameter of the pump line (rising main) to avoid excessive pressure loss.
- Design flow and type and strength of wastewater to be dosed.
- Slope and contours of the site. Generally the lateral lines should be placed along the site contours at right angles to the slope or fall on the site.
- Long and narrow percolation area is preferred to square shape to increase oxygen flow into the area and move water away from the point of infiltration.



Large and Commercial Systems

Large pressure pipe networks can be successfully designed and operated but they need careful consideration to be effective. For example, to maintain a reasonable pump capacity the network design can be divided into distinct cells or zones and dosed in sequence from a single pump using our indexing valve. We can supply complete design guidance and install and commission all large pipe networks. Grease and fats must be removed before the network but the flushing mechanism will assist keep small amounts from blocking the pipes. We are fully insured for professional indemnity covering systems design and construction.

Design and Operating Principles

The design and operating principles of a pressure pipe system are the same for all pipe networks, raised mounds, in ground LPP systems. The system design is based on calculating the flow (litres/min) from each hole (orifice) when multiplied by the number of orifices gives the total network design flow. The number and diameter of the holes must be matched by the capacity of the pump. To pressurise the pipe network, the volume of water pumped each pump run must be sufficient to sustain the flow through the network for long enough to get a good supply of water to the furthest orifices in the pipe laterals.

The advantage of a pressure distribution system is that the water can be pumped throughout the pipe network and spread over the infiltration area more effectively than by gravity. The choice of pump and the volume of the pump tank or pump compartment are critical design elements to avoid partial dosing of some areas with possible overloading and leakage.