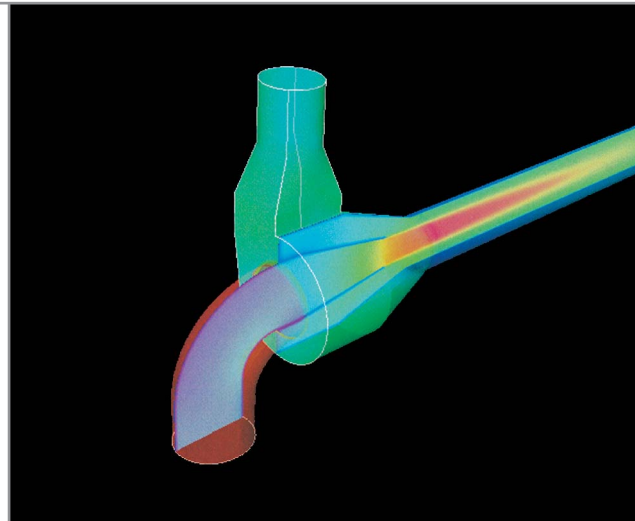


Vacuum Collection System



The Hamworthy vacuum collection system uses differential air pressure to transport sewage from the toilet bowls, and other sanitary fittings, to the Super Trident Sewage Treatment Plant (STP) or independent collection tank.

Operation

Each fitting is connected directly to the vacuum main via integral toilet discharge valves or vacuum interface valves (VIVs).

Vacuum is created by recirculating the sewage through one or more venturi ejectors and is maintained by pumps automatically controlled by vacuum switches on the incoming vacuum mains. An ejector valve shuts when the vacuum pump(s) stop running maintaining vacuum in the piping system.

Vacuum is generated only in the piping system, the treatment plant or collection tank remains under atmospheric pressure. This allows the STP or collection tank to be any shape or even built into the vessel's structure.

Standard Features

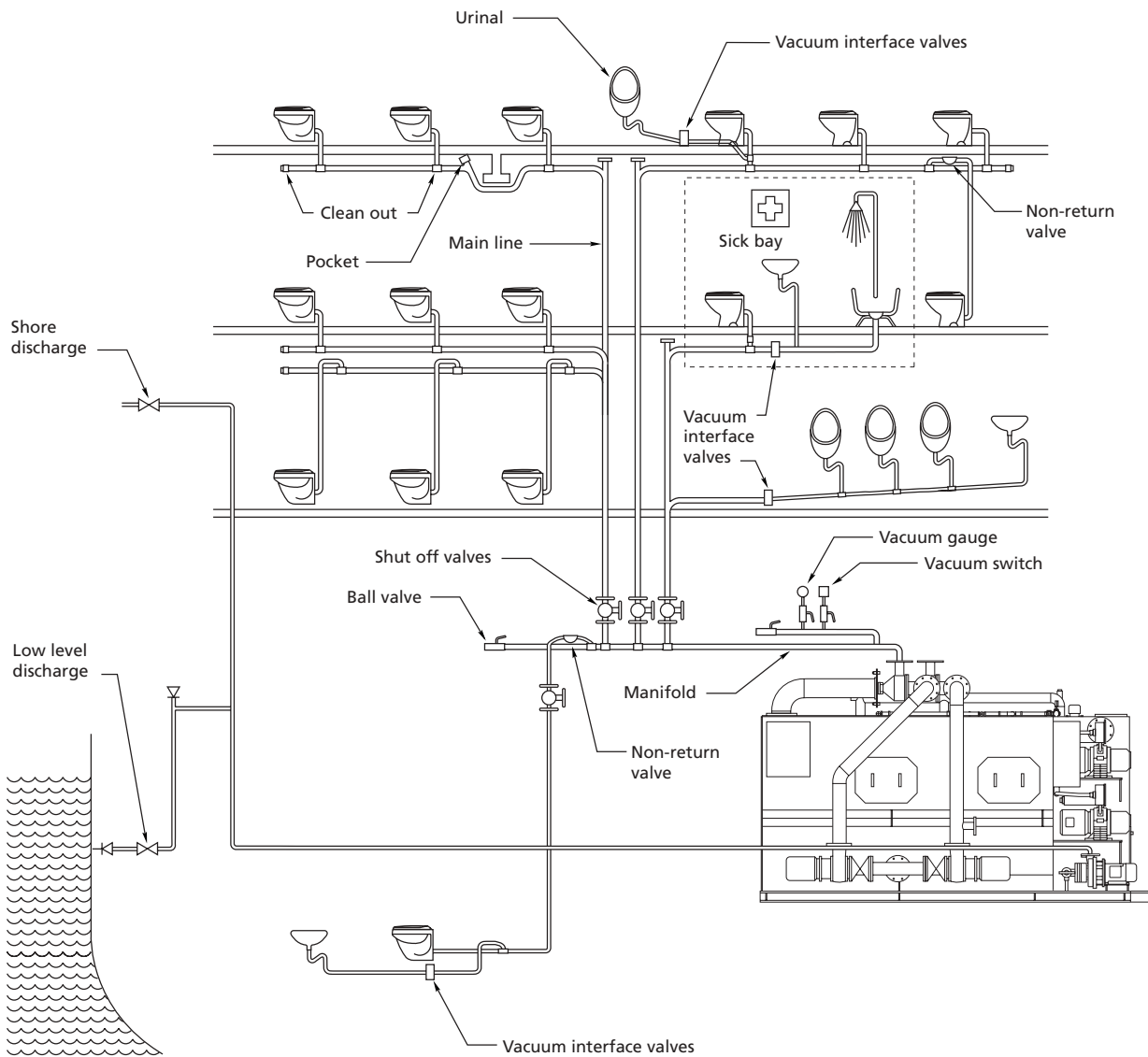
- ▶ Ejectors can be mounted direct to STP for modular construction without need for separate collection tank
- ▶ Only small amount of flush water needed compared to conventional gravity systems
- ▶ Vertical Lift capability
- ▶ Smaller diameter piping, independent of slope
- ▶ Reduced peak loadings allow use of smaller sewage treatment plant than for gravity systems
- ▶ Ejector performance optimised using Computational Fluid Dynamics (CFD)

Optional Features

- ▶ Grey water vacuum collection to separate grey water collection tank(s)
- ▶ Retrofit to existing tanks
- ▶ Foam suppressant
- ▶ PLC interface with data logger
- ▶ Overboard discharge from vacuum circulation pump
- ▶ Controlled feed/transfer equipment

Vacuum Collection System Water Systems

Vacuum Collection System Schematic



System Sizing

Multiple ejectors would be selected dependant upon the number of facilities and length of pipe runs.



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The manufacturers reserve the right to alter the specification and data to incorporate improvements in design. Certified drawings will be issued on request.

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