

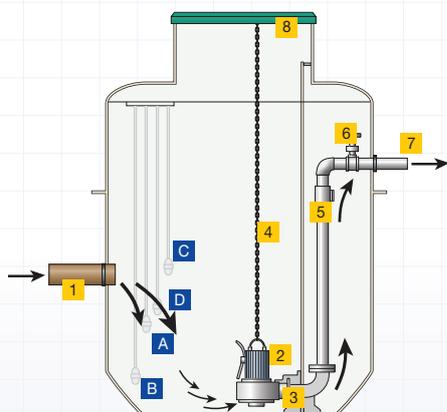
# PUMP CHAMBERS >

FOR PUMPING SEWAGE AND WATER TO MAINS

When discharge to mains is required, but to do so by gravity is impractical, a pump chamber system will be needed. Although available as floor-mounted units for indoor applications such as basements, the vast majority are installed outdoors at levels to suit on-site conditions and topography.

The Marsh range incorporates systems for pumping surface water or domestic sewage to mains, septic/PSTP effluent to drainage fields/watercourses, and bespoke systems for larger domestic and industrial applications.

- > Where foul water drainage from a domestic property is to be pumped to the mains the effluent receiving chamber should be sized to contain 24-hour inflow to allow for disruption in service, the minimum daily discharge being taken as 150 litres per person per day.
- > For other building types the capacity of the receiving chamber should be based on the calculated daily demand of the water intake for the building, or when only a proportion of the foul sewage is to be pumped then the capacity should be based pro-rata.
- > If the sewer is to be 'adopted' by a local water authority, please contact Marsh Industries as Sewers for Adoption (SFA) specification and additional local authority related criteria may apply.



## HOW DOES IT WORK?

Each pump chamber contains a number of float switches linked to a control panel that automatically controls flow and levels.

In a **single pump chamber** there are three float switches:

Float A: Actuates the pump cycle until level drops to low level

Float B: Low level float stops the pump

Float C: High level alarm – positioned above the pump actuator float (min 100mm)

For twin pump chamber operation there is an additional float switch (Float D) – usually positioned 150mm above first actuator (A) – which actuates the second pump in periods of higher flow.

After each cycle the pumps alternate to extend pump life and are designed to run for a minimum of 60 seconds with no more than 15 starts per hour.

## KEY

- |                             |                    |
|-----------------------------|--------------------|
| 1 Inlet                     | 5 Non-return valve |
| 2 Submersible pump          | 6 Isolation valve  |
| 3 Pump guide rails/pedestal | 7 Outlet           |
| 4 Pump retrieval chains     | 8 Access cover     |

## PUMP CHAMBER BENEFITS

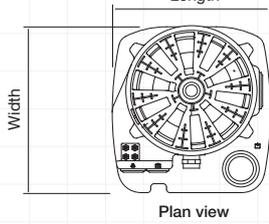
- > Designed to BSEN12050 for structural strength and water-tightness and to BSEN752 to comply with hydrostatic and electrical requirements
- > Smooth internal walls and integral pump well improves pump efficiency and eliminates 'dead spots' which can lead to odours and septicity
- > Pre-assembled pipework for fully automatic operation (pump/control equipment separate).
- > Heavy duty (industrial) 'peardrop' floats and Lowara (Xylem) pumps throughout ensure robust, reliable design and maximum efficiency of pump with minimal clogging or wear
- > Unique 'keying-in' lip to assist anchoring into concrete surround
- > High level alarm as standard
- > Variable invert depths and orientations to suit individual site conditions

## Bates Environmental >

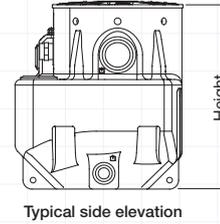
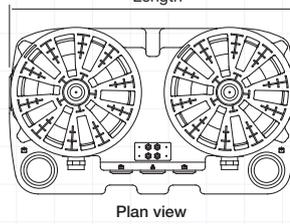
58 - 64 Station Street  
 Donington, Spalding  
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[www.bates-environmental.co.uk](http://www.bates-environmental.co.uk)



### Marmicro Single



### Marmicro Twin

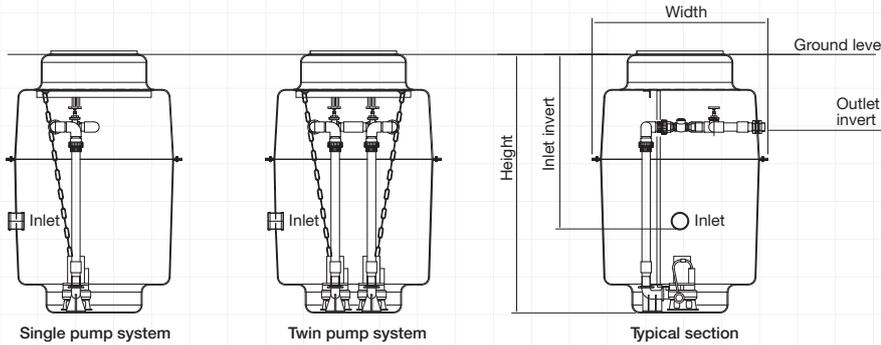


## MARMICRO SPECIFICATIONS

For small flows from a single dwelling

Model	Length	Width	Height	Inlet		Outlet		Total storage Litres
				Invert	Ø	Invert	Ø	
Marmicro Single	700	740	840	350	110	250	50	270
Marmicro Twin	1270	740	840	350	110	250	50	550

All dimensions in mm



All pump chambers are available for dirty water (DW) or sewage (SW), in single pump (SP) and twin pump (TP) configurations.

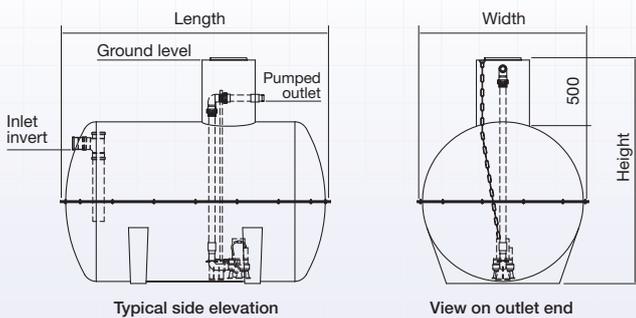
Pump chambers are usually bespoke. The dimensions given on this page are for guidance only

## VERTICAL SPECIFICATIONS

For housing projects and small commercial developments

Model	Diameter	Height	Inlet		Outlet		Storage below invert	Total storage Litres
			Invert	Ø	Invert	Ø		
Mini	600	1100	500	110	300	63	120	234
Midi	600	1500	500	110	300	63	280	421
Maxi	600	2000	500	110	300	63	421	561
CPS1	1100	1100	500	110	300	63	470	867
CPS2	1100	1500	700	110	300	63	780	1183
CPS3	1100	2200	900	110	300	63	1025	1735
CPS4	1100	2600	900	110	300	63	1340	2050
CPS5	1700	2100	900	110	300	63	2440	3700
CPS6	1700	3400	900	110	300	63	4000	6000

All dimensions in mm



## HORIZONTAL SPECIFICATIONS

For larger housing projects, and commercial/industrial developments

Model	Length	Width	Height	Inlet		Outlet		Total storage Litres
				Invert	Ø	Invert	Ø	
AT2800	3000	1250	1750	800	110	300	63	2800
AT3800	4000	1250	1750	800	110	300	63	3800
AT4500	2650	1600	2100	800	110	300	63	4500
AT6000	2950	1900	2400	800	160	300	63	6000
AT8000	3640	1900	2400	800	160	300	63	8000
AT10000	4200	1900	2400	800	160	300	63	10000
AT12000	5200	1900	2400	800	160	300	63	12000
AT14000	5840	1900	2400	800	160	300	63	14000
AT16000	6700	1900	2400	800	160	300	63	16000
AT18000	7500	1900	2400	800	160	300	63	18000
AT20000	8100	1900	2400	800	160	300	63	20000

All dimensions in mm