PRESECO
CLEAN WATER

PMT

DRUM THICKENERS

Man-made water purification is always a combination of mechanical, biological and chemical treatments. As knowledge and know-how develop, biological purification becomes more and more important and its role gains increasingly in significance. Just as in nature and with as few chemicals as possible or even with none at all.

PRESECO
LICENCED BY NATURE

DRUM THICKENERS

PMT

The PMT drum thickener operates with a two-phase thickening process. The first phase is flocculation, which takes place in the flocculation reactor basin where the sludge and polyelectrolyte solution are mixed together. Separation of the sludge and water begins in the flocculation reactor. It is advisable to add the polyelectrolyte solution to the sludge as early as possible prior to introduction into the flocculation reactor e.g. in the intake area of the low-speed sludge pump. Agglomeration of the sludge flocks improves considerably as the reaction time increases.

The mixing of sludge and polymer solution is carried out with the help of a medium-speed propeller mixer. The speed of the mixer may be adjusted by means of a frequency converter.

The second phase of the thickening process is dewatering in the rotary drum. Water flows out through the filter surface of the drum and sludge is transported via the spiral screw along the length of the drum to its end.

A spiral screw is located inside the drum. The screw is connected to the surface of the drum and to the central shaft. The central shaft is part of the drum's frame.

The spiral screw transports the sludge along the drum and finally out of its end.

The construction, consisting of the central shaft, spiral screw and the drum surface prevents the sludge from flowing unchecked through the drum from beginning to end.

The speed of the drum rotation may be adjusted by frequency converter.

The spiral screw mixes the sludge inside the drum with the result that the water is removed from the sludge very efficiently. The thickener's horizontal position may be raised by 10 degrees so that the discharge side is higher.

The major advantage of the PMT drum thickener compared with conventional belt thickeners is the drum's rotary motion which increases the gravitation pressure on the screening surface and forms rolling flocks which significantly improves water separation and filtration.

Even with very lean sludge (<1%), the dry solids content after thickening normally reached is between 6–9%

Cleaning of the drum surface is carried out by pressurised water jets. There is a nozzle inside the drum thickener's housing for washing the surface. The washing process is controlled by means of an adjustable timer program.

The surface of the PMT drum thickener is made of stainless steel or a woven polyester filter fabric.

The drum thickener has a closed and compact design, which makes the equipment easy to position and eliminates unpleasant odours and problems caused by splash water.

PMT drum thickeners are available with the most varied capacities ranging from 1 to 100 m^3/h.

Operating costs are very low due to minimal maintenance and a low power consumption of only 0.37–0.75kW!

PMT	Drum diameter (mm)	Drum length (mm)	Capacity (kgDS/h)	Weight (kg)	Motor (kW)	Flow (m^3/h)
400/1300/V	400	1300	120	180	0.37	3-8
400/1800/V	400	1800	200	200	0.37	4-13
500/1800/V	500	1800	300	220	0.55	6-20
500/2300/V	500	2300	400	280	0.55	8-30
500/2700/V	500	2700	500	320	0.55	10-40
600/2700/V	600	2700	600	360	0.75	12-50
600/3200/V	600	3200	700	450	0.75	14-60
600/3700	600	3700	800	500	0.75	16-70
700/3200	700	3200	1000	800	1.1	20-80
700/3700	700	3700	1500	800	1.1	30-90

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