

PFR PIPE FLOCCULATOR

Coagulation and Flocculation by controlled Turbulence

The PFR pipeflocculator is a plugflow reactor in which processes such as coagulation, flocculation, demulsification, precipitation and pH control can take place under highly controlled and well defined conditions.

The above mentioned processes take place under turbulent flow conditions. At the chemical injection points the pipe diameter is adapted to ensure instantaneous mixing of chemicals and wastewater. Through the cross-section of a pipe the mixing intensity is virtually homogeneous. Reaction time is determined by the pipelength and flowrate and based on the exact requirements, no excess is required. In the plugflow reactor the process can be influenced at any time as opposed to tankreactors, where only one condition per tank can be maintained.

Generally speaking a pipe flocculator is used where a coagulant, a flocculant and optionally a chemical for pH correction are dosed in sequence for the removal of turbidity and/or COD or precipitants.

The use of a pipe flocculator in combination with a flotation system can give COD removals of upto 95%.

K-Pack Systems has a wide experience in chemical treatment, particularly in the use and selection of coagulants and flocculants in combination with a PFR pipe flocculator. The PFR pipe flocculator is exceptionally suitable for our latest developments in the non-toxic bio-degradable coagulants and flocculants range.





Specific details and characteristics

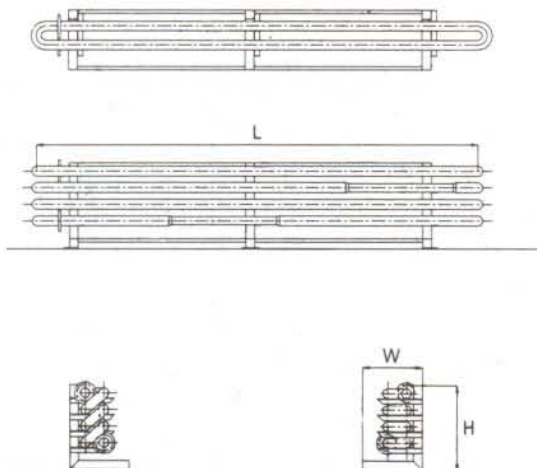
- ◆ High quality and durable materials like HDPE, PVC, MS pipes
- ◆ No shortcircuiting and hardly any backmixing.
- ◆ No retention time distribution.
- ◆ Homogeneous mixing throughout the cross section.
- ◆ Completely predictable and controlled mixing environment.
- ◆ No moving parts.
- ◆ No additional energy source.
- ◆ All required process conditions and chemical additions in a single unit.
- ◆ Uniform floc growth.
- ◆ Small space requirements.
- ◆ Exchangeable mixing pieces.

Available models

- ◆ Standards units are available upto a flow of 400 m³/hr.
- ◆ Customized units for special applications.

K-Pack Systems engineers can preform onsite tests to determine

- ◆ Process parameters for coagulation
- ◆ Flocculation - separation.
- ◆ Chemical and additive requirements.
- ◆ Maximum achievable reductions in pollution load.



K-PACK FLOCCULATOR

Flocculator type	m ³ Qmin	Qmax	Connection in mm	Lmm x	Wmm x	Hmm	=Weight kg.
PFL 002	1.2	1.8	32	2600	340	700	35
PFL 033	2.0	3.2	40	2600	380	700	45
PFL 004	3.5	6.0	50	2600	400	700	60
PFL 010	6.0	10	63	4000	430	720	75
PFL 015	10	15	75	4000	495	720	90
PFL 020	15	25	90	4000	540	780	115
PFL 030	25	37	110	4000	600	930	140
PFL 045	35	50	125	4000	640	990	170
PFL 060	45	65	140	4300	695	1050	210
PFL 080	65	90	160	4300	760	1130	260
PFL 100	85	120	180	4500	830	1210	340
PFL 140	105	160	200	4500	900	1290	385
PFL 180	140	210	225	5300	970	1390	500
PFL 240	180	270	250	5300	1090	1685	730
PFL 300	240	350	280	5300	1160	1610	850

