

Case history brief:

Location:	Arzignano, Italy
Application:	Clarification of water after biological oxidation tank
Capacity:	2100 m ³ /hr on 4 lines
Clarification:	Suspended solids removal
Chemicals:	Poly 7l/m ³
Installation:	2005

Case history features:

The water treatment plant of Arzignano was built in the 70's with aim to treat municipal water coming from 40.000 inhabitants, mixed with effluents coming from more than 160 tanneries, connected directly via a dedicated polyethylene sewage system. The loading entering the plant is equivalent to 1,5 millions inhabitants.

KWI was asked to supply a solution for the sludge clarification after biological treatment; the old solution, providing a common sedimentation technology, could not manage to stand the aggressive corrosion originating from the sludge. KWI proposed four SDC 68 units all made in AISI 316 Ti in concrete tanks; each SDC unit has a double scoop for a diameter of 20,8 mt.



The pressurization system, due to the highly corrosive water, is all made with PE piping and uses special pressure vessels.

The total flow is treated on 3 lines with one for spare; each unit is so designed for the following operating parameters:

Raw water:		Outcoming water:	
Flow:	2100 m ³ /hr		
Supplied air:	30 Nm ³ /h		
TSS (max):	17500Kg/h		
TSS (load):	17 kg/m ² /h		
TSS:	8000 ppm	TSS:	< 90 ppm
		Sludge consistency:	>2%

The units are successfully operating and the performance supplied are resulting better than expected both in terms of TSS in outcoming water (down to 30 ppm) and of sludge consistency (up to 3,5 %). The special construction allows the units to resist the corrosion without affecting performances.



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