

Advantages of The CAF[®] System in The Paper Industry

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FUNCTION

In the forefront of innovative and proven wastewater technology, the HydroCal CAF system is a flotation system designed for the removal of suspended solids, fibers, and clays from Paper Mill whitewater and effluent streams. It automatically separates these materials from the liquid waste and renders them suitable for separate disposal giving the paper mill the option to recycle back the clean water and the fibers. Depending on the type of paper mill, and the type of products being produced at the mill, the recycling of the fiber recovered from the HydroCal CAF may not be acceptable back in the process and need to be disposed of via land fill or other means. The removal of these materials is essential for two reasons: 1) by removing the suspended solids from the effluent with the use of the HydroCal CAF System, the paper mill can reuse the clarified water from the CAF unit back directly to the showers or other uses of the paper machines; 2) in the event that the plant requires secondary treatment (such as biological) the use of the HydroCal CAF Flotation System can reduce the organic loading by 40-70%, which in turn reduces the energy consumption of the Biological treatment plant by 40-70%. This will also reduce overall size of the biological treatment plant.

Additional advantages include sewer charge savings, energy savings, water savings, recycled fiber, and reduced maintenance costs.

DESIGN CONCEPTS

The hydroCal CAF system is innovative. Its unique design features imaginatively solve technical and economic problems associated with solids flotation methods of the past. The HydroCal CAF system is NOT a Dissolved Air Flotation system

and, therefore, does not suffer from the settlement and blocking problems associated with this form of treatment. In addition, the HydroCal CAF system is one of the most economic flotation systems ever produced, with respect to both capital and operating costs.

The HydroCal CAF Flotation has been proven to be the most accepted pretreatment technology for paper plants throughout the world due to low capital cost and high performance.

OPERATION

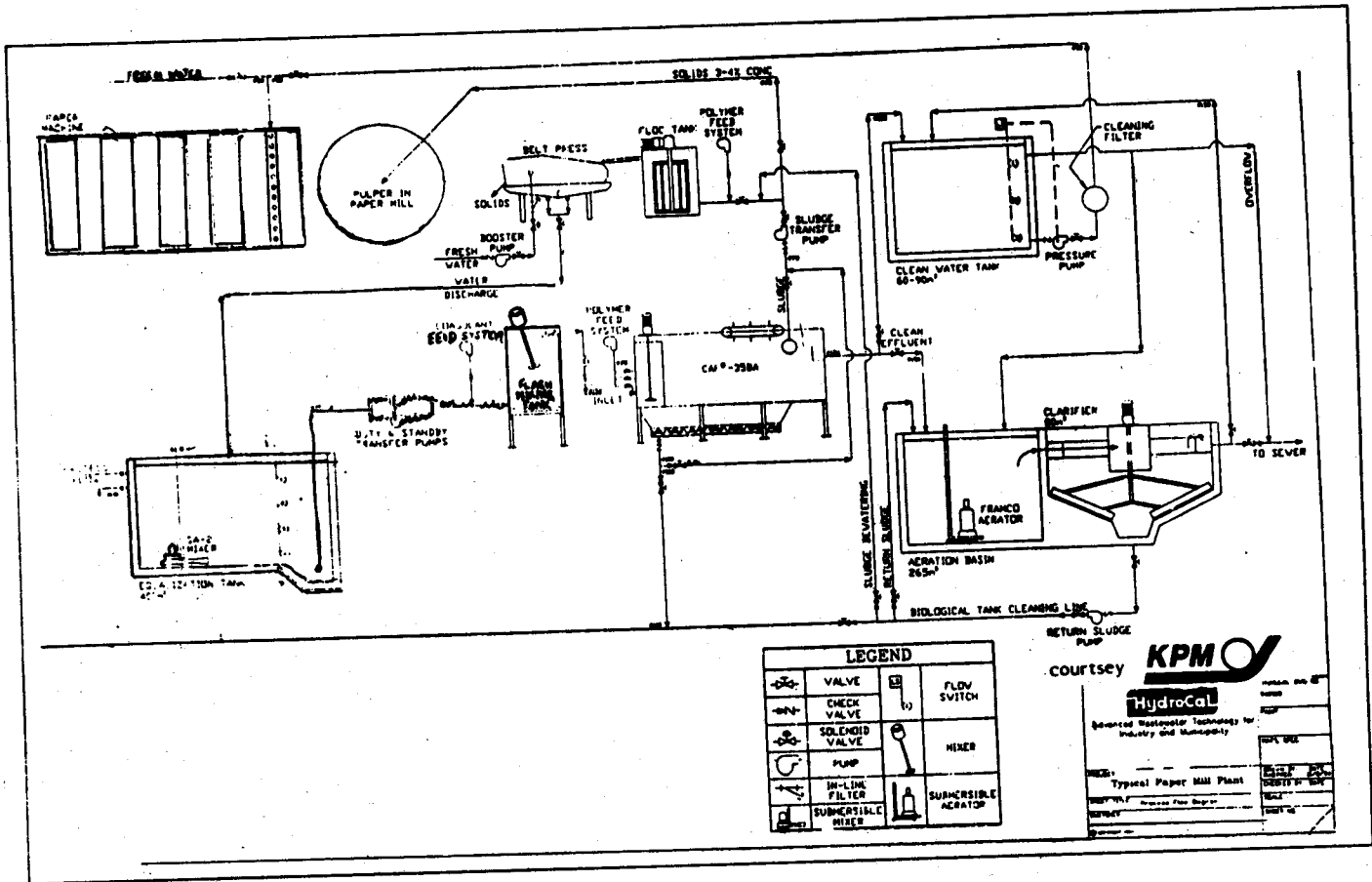
The HydroCal CAF system is extremely simple to operate, contains no complex mechanical equipment, and requires no manual involvement. It is an extremely efficient solids removal system, with very low maintenance costs.

PERFORMANCE

HydroCal CAF system models are available for flow rates up to 4,000 GPM. Special designs for higher flow rates can also be provided. Flow rates to the system do not require balancing and excellent performance can be achieved even with intermittent flow, although balancing is preferred.

Suspended solids removal efficiencies in excess of 95 - 98% are common. Where suspended solids contribute to the BOD levels removal of these

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solids will reduce the BOD loading.

OPERATING COSTS

The HydroCal CAF system has a total power requirement of only 3 to 12 HP. Maintenance and manual attendance are minimal.

INSTALLATION

The CAF system is supplied as a complete package, with all tanks, mechanical and electrical equipment. It can be installed at ground level or in an elevated position. Installation time is reduced to a minimum.

ADVANTAGES

- (i) CAF Units require only 3 to 12 HP.
- (ii) No recirculation pumps are required.
- (iii) No air compressor or plant air is required.
- (iv) No pressure vessels required.
- (v) No high pressure pumps are required.
- (vi) No floc pre-mix chamber or tank required.
- (vii) No flash mixer required.
- (viii) No air control valves to be calibrated.
- (ix) No service of parts inside tank to maintain - All moving parts are easily accessible.
- (x) No cleaning of jets or nozzles.
- (xi) No under ground plumbing required.
- (xii) Low energy requirements.
- (xiii) Low capital cost and quick payback on investment.

LEGEND			
	VALVE		FLOW SWITCH
	CHECK VALVE		MIXER
	SOLIDS VALVE		SUBMERSIBLE AERATOR
	PUMP		
	IN-LINE FILTER		
	SUBMERSIBLE MIXER		

courtesy **KPM**

HydroCal

Advanced Wastewater Technology for Industry and Municipality

Typical Paper Mill Plant