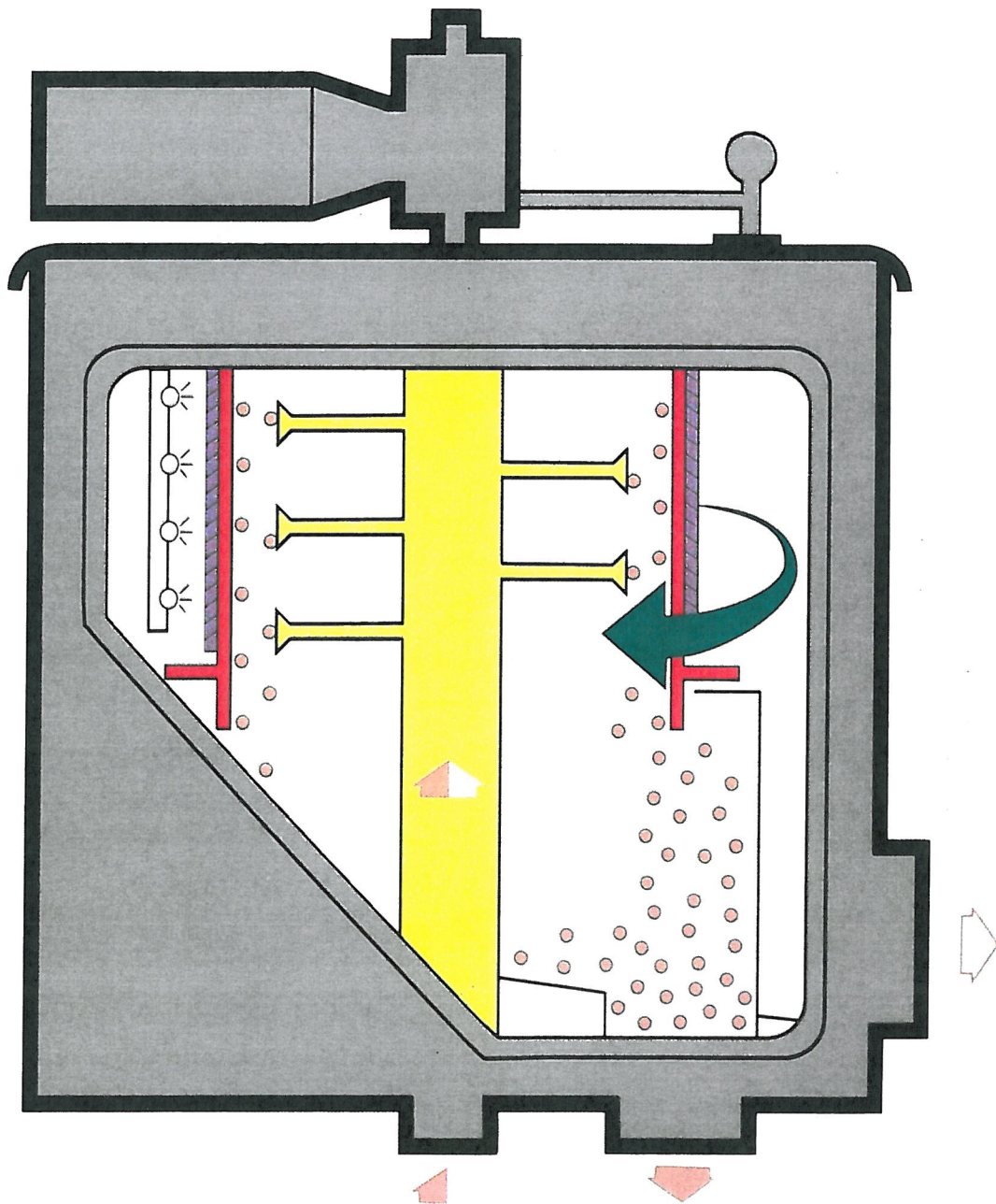


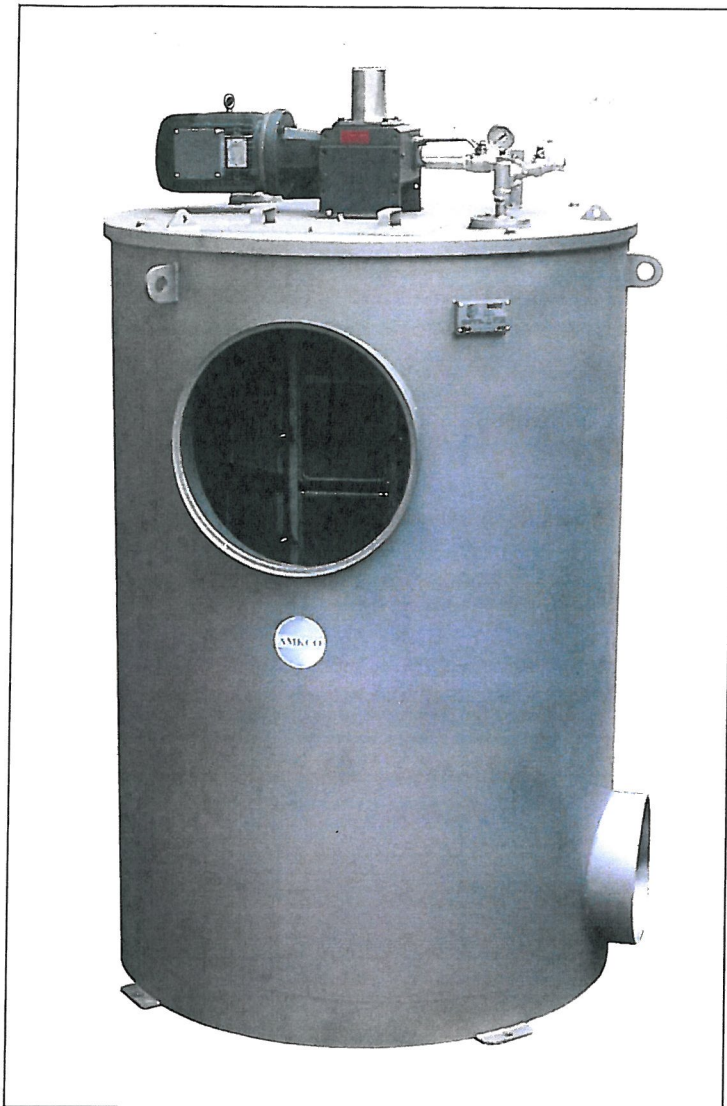


AMKCO WHITE WATER SIEVE

SAVE WATER



OBJECTIVE: TO PRODUCE SHOWER QUALITY WATER



HOW IT WORKS?

The AMKCO White Water Sieve (WWS) utilizes high flow-rate, fine mesh centrifugal screening to remove all particles larger than the screen mesh opening, with no dependence on differences in specific gravity.

The incoming flow enters the unit with approximately 3 meters of hydraulic head. This flow travels up through the center feed pipe of the WWS and out distribution pipes which present the feed against the inner surface of the revolving screens.

A low centrifugal force generated by the rotating screen cage is sufficient to force the white water through the screens at high rates while allowing the rejected fibers to move down the inner surface in a concentrated stream. This reject action is assisted by continuously operating, high pressure, external spray nozzles directed at the outside of the rotating screen.

The high pressure sprays clean every screen opening several times each second. The backspray liquid can be the screened white water from the WWS so no fresh water need to be used.

TO REDUCE

- FRESH WATER USE
- INCOMING CHEMICAL TREATMENT
- OUTGOING WASTE TREATMENT

TO INCREASE

- FIBER RECOVERY
- PAPER MACHINE SPEED
- RETURN ON INVESTMENT

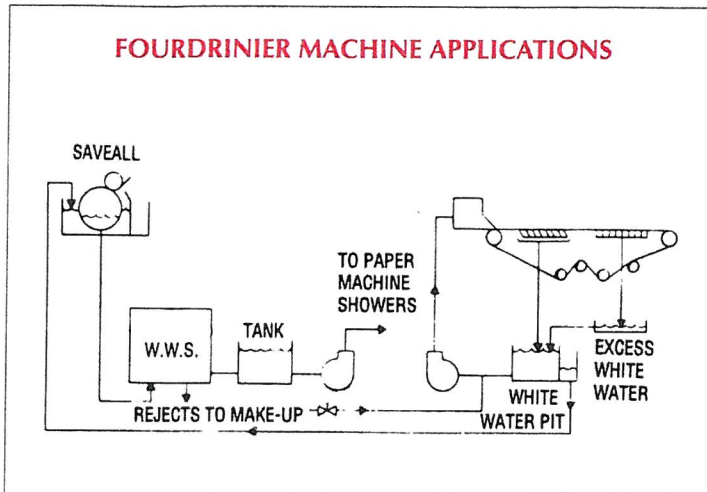
MATERIAL — STD

- OUTER SHELL — 304 SS
- ALL INTERNAL
WETTED SURFACES— 304 SS
- GASKETS — NEOPRENE
- VIEW WINDOW— LEXAN

TYPICAL APPLICATIONS

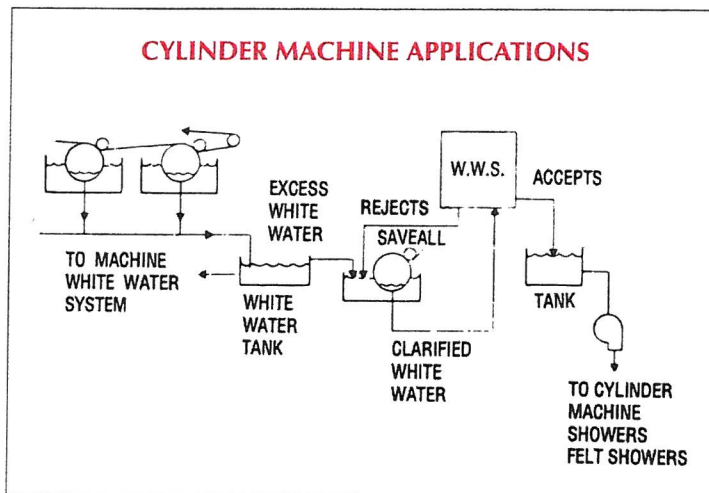
"Typical" Pulp and Paper Industry applications of the WWS have many variations of these schemes. Each paper machine has its own design which will make each installation just a little different.

FOURDRINIER MACHINE APPLICATIONS



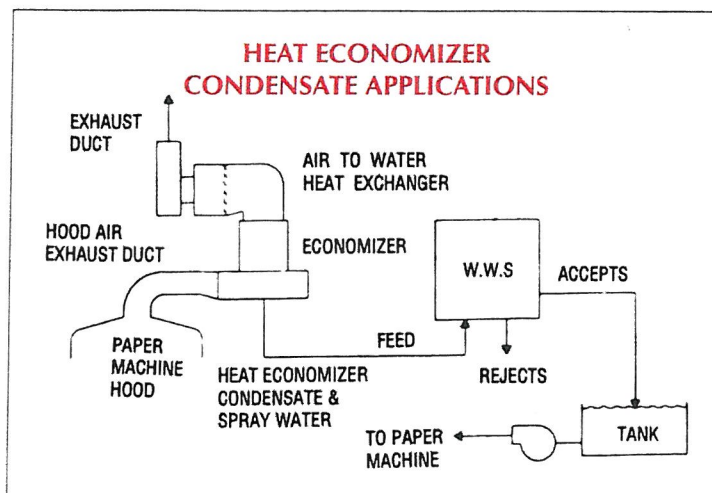
These should be the most common type of applications with the WWS being installed as "insurance" against material getting to the showers and other end uses that could cause operating problems. We have shown a Disc type save-all in the flow diagrams, but the flow set-up would be basically the same regardless of the type. The filtered water from the WWS would be ready for shower water use with no further filtration required.

CYLINDER MACHINE APPLICATIONS



The mesh required is typically 105 micron opening and depending on the concentration of fiber, 150 mesh M. G. or the 165 TBC would be used. The market grade (M. G.) screen is stronger and can accept higher fiber concentration.

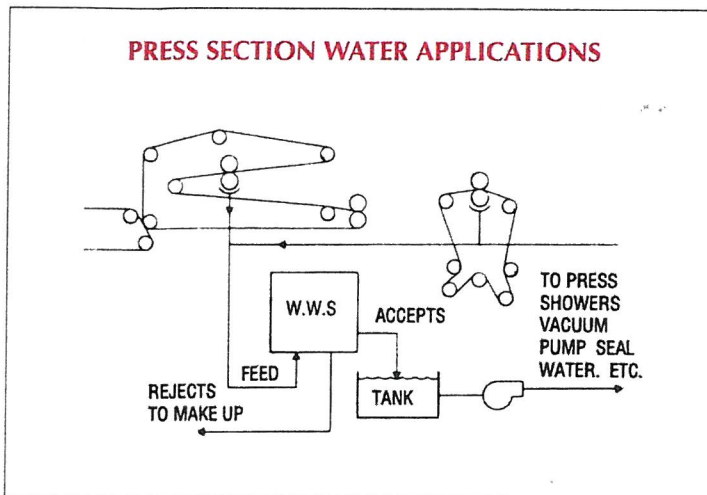
HEAT ECONOMIZER CONDENSATE APPLICATIONS



Concentration and spray water is bleed from the economizer circuit to recover fibre being airborne from the dryer. The normally 165 TBC will recover the fiber for return to make-up. Fines and dust will pass through the screen.

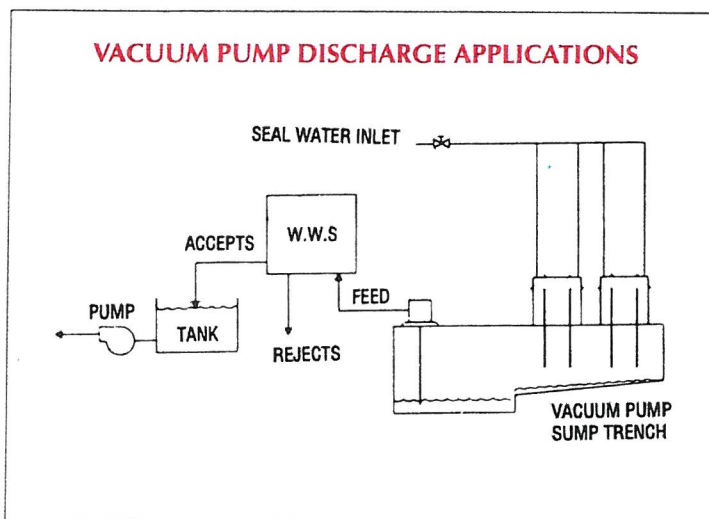
TYPICAL APPLICATIONS

PRESS SECTION WATER APPLICATIONS



Press water usually contains felt hairs and other things not wanted in the paper machine system and they must be removed before the water can be reused. The system shown in the flow diagram has a WWS filtering the press water to remove the objectionable solids and allows the clean purge water to be recycled. The solids can be disposed of as trash. This system can be expanded to handle other water not used for pulp dilution, such as pump scale water and heat exchanger water. A 100 Micron or 150 mesh screen is normally used.

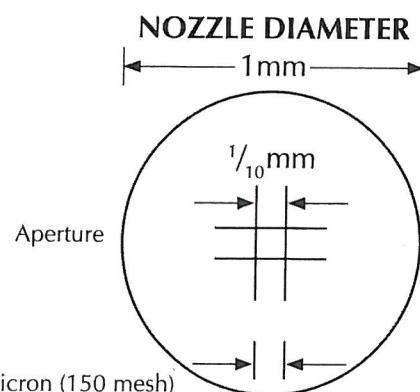
VACUUM PUMP DISCHARGE APPLICATIONS



The system shown in the flow diagram for this scheme is designed to allow recycle of vacuum pump water, which accounts for quite a large volume of effluent from most paper machines. The system is quite basic with the water being picked up from a common vacuum pump discharge trench or from individual vacuum pump sumps and receivers and pumped to one or more WWS's. Cold fresh water is injected into the system if the temperature of the recycled filtered water goes above the point where vacuum pump efficiency is affected. The purge water from the WWS contains a small amount of fibre in most cases, and can be recycled through the paper machine white water system. The typical screen mesh used is 44 micron opening (325 mesh).

HOW TO SELECT SIEVE MESH

Experience in hundreds of installations have shown that Nozzles remain clear when the Mesh aperture is 0.10 ($\frac{1}{10}$) of the shower Nozzle opening.

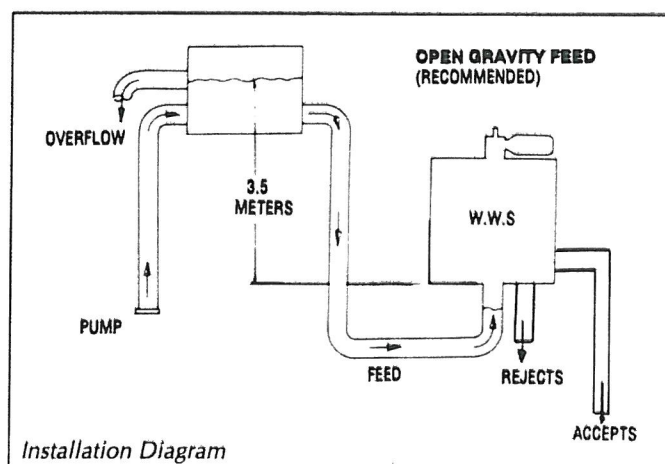
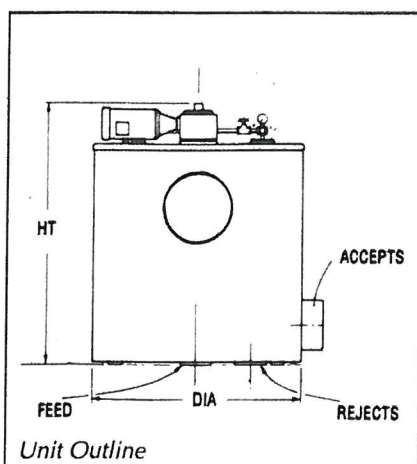


100 micron (150 mesh)

AMKCO WHITE WATER SIEVE — FACT SHEET

	WWS-30-2	WWS-30-3	WWS-30-4	WWS-30-5	WWS-30-6	WWS-60-4	WWS-60-5	WWS-60-6
SCREEN PANEL SIZE	10" x 20"	10" x 20" 10" x 10"	10" x 20"	10" x 20" 10" x 10"	10" x 20"	10" x 20"	10" x 20" 10" x 10"	10" x 20"
NUMBER OF 10" X 20" REQUIRED	9	9	18	18	27	36	36	54
NUMBER OF 10" X 10" REQUIRED	0	9	0	9	0	0	18	0
BACKSPRAY REQUIREMENT (GPM) AT 6Bars	20	30	40	50	60	80	100	120
HORSEPOWER	5	5	5	5	5	7-1/2	10	10
SHIPPING WT. (KG)	840	1,000	1,280	1,550	1,730	3,650	4,100	4,600
OPERATING WT. (KG)	1,200	1,450	1,730	2,020	2,230	4,550	5,000	5,500
HEIGHT (MM)	1,830	2,130	2,440	2,740	2,950	2,845	3,100	3,400
DIAMETER (MM)	1,370	1,370	1,370	1,370	1,370	2,135	2,135	2,135
FEED PIPE	8	8	8	8	8	12	12	12
ACCEPTS PIPE	10	12	16	16	16	18	18	18
REJECTS PIPE	8	10	10	10	10	12	12	12

Note: Standard Pipe Sizes in Inches.



UNIT CAPACITIES AND APPLICATION CONDITIONS

CONDITIONS	A	B	C	D	E
PERCENT FIBER (%)	0→0.05	0.05→0.1	0.1→0.5	0→0.05	0.05→0.1
PARTS PER MILLION (PPM)	0→500	500→1000	1000→5000	0→500	500→1000
SCREEN MESH	165	165	165	325	325
MICRON OPENING	105	105	105	44	44
PER CENT (%) REJECTS	<10	10	20	<10	10
CONDITIONS MODEL	CAPACITY — TONS PER HOUR				
	A	B	C	D	E
WWS-30-2	225	160	100	100	85
WWS-30-3	330	240	150	150	125
WWS-30-4	450	320	200	200	170
WWS-30-5	530	380	250	235	200
WWS-30-6	610	450	280	275	235
WWS-60-4	900	650	400	375	320
WWS-60-5	1075	780	500	450	380
WWS-60-6	1250	900	600	525	450

Note: Max. capacity is shown derated by up to 60% when fines is greater than 70% of total solids.

Manufactured in North America

Technical Representatives:



AMKCO PROCESS EQUIPMENT PTE LTD

51 Bukit Batok Crescent, #02-12 Unity Centre, Singapore 658077

Tel: (65) 6777 0601 • Fax: (65) 6777 8067 • e-mail: amkco@pacific.net.sg • www.AMKCO.com

©1999 Amkco Process Equipment Pte Ltd. All rights reserved. AMKCO logo are registered trademarks of Amkco Process Equipment Pte Ltd