Black Clawson

ULTRA-V™ SCREEN

VERTICAL PRESSURE SCREEN

- Patented up-flow design
- Positive heavy reject removal
- Invertible cylinder extends life
- No internal dilution required

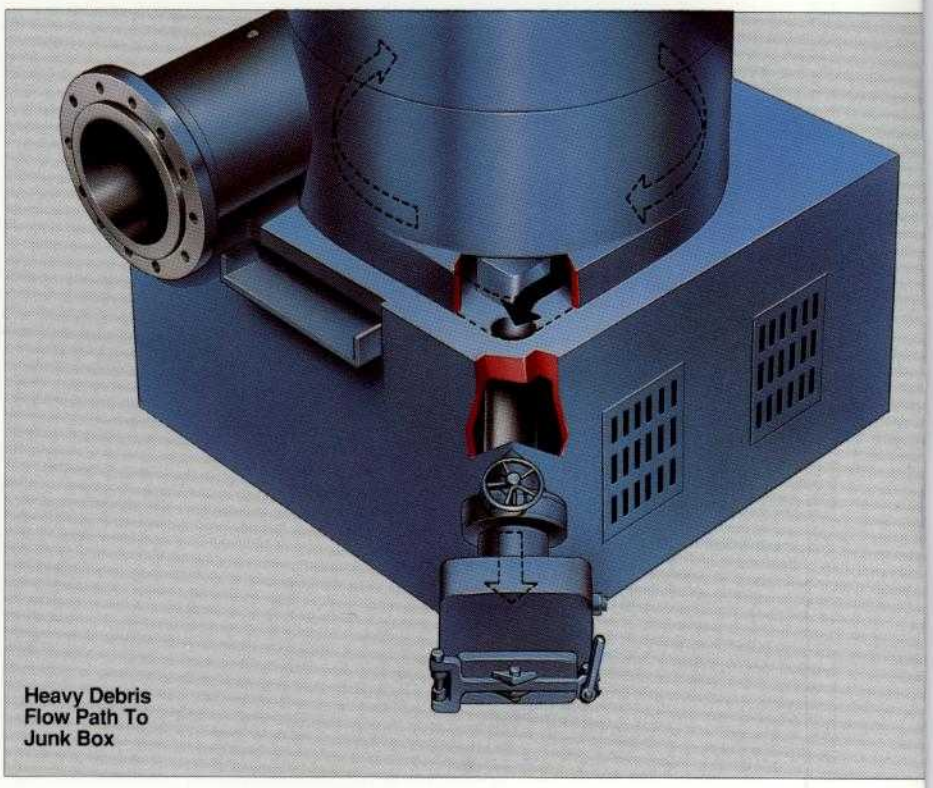
Black Clawson Company
Bulletin No. 78-SBB

Black Clawson Ultra-V Vertical Pressure Screen

The Black Clawson Ultra-V vertical pressure screen line features proven design concepts for today's paper industry. It was developed by the most experienced screen builder in the industry.

The Ultra-V screen, with its patented up-flow design, gives unsurpassed performance and reliability for applications in pulp mills, beater rooms, broke systems and paper machine approach flow systems.

Many contaminants found in the papermaking slurry are lightweight particles floating in the liquid. Conventional vertical screens are fed at the top and rejects are discharged at the base of the screen body. Contaminants remain in the screening area far too long, potentially recontaminating the slurry, before being driven downward to the reject chamber. Additionally, heavy contaminants passing through the screening area can catch in the rotor mechanism, causing serious damage to the screen cylinder and rotor.



Black Clawson's new Ultra-V screen eliminates both problems with its **bottom inlet, patented up-flow design**. Lightweight particles naturally travel to the top reject outlet for quick removal along with any entrained air. Heavy debris is rejected in the bottom, substantially reducing the possibility of damage to the rotor and/or screen cylinder.

The **up-flow design virtually eliminates any vortex** in the screen which may cause vibration, surging or stringing.

The new body design, coupled with the well proven operation of a foiled rotor, gives unparalleled performance and reliability.

The latest cylinder design technology can be used with these screens to suit any application requirement. As they occur, new developments in rotor design can also be used to their best advantage.

APPLICATIONS

Secondary Fiber/Pulp Mill Pressure Screen Applications

Maximum Recommended Foil RPM/Required Horsepower

Screen Size	CYLINDER TYPES - SLOTS				CYLINDER TYPES - HOLES				Maximum Connected Power
	PS/PSL/PSB		UHS		UP		PH/PHL		
	Maximum RPM	Required Power	Maximum RPM	Required Power	Maximum RPM	Required Power	Maximum RPM	Required Power	
V-100	780	KW 45 HP 60	650	KW 56 HP 75	650	KW 56 HP 75	730	KW 45 HP 60	KW 56 HP 75
V-200	780	KW 75 HP 100	650	KW 93 HP 125	650	KW 93 HP 125	730	KW 75 HP 100	KW 112 HP 150
V-300	780	KW 93 HP 125	--	--	650	KW 112 HP 150	730	KW 112 HP 150	KW 112 HP 150
V-400	630	KW 149 HP 200	--	--	490	KW 187 HP 250	590	KW 187 HP 250	KW 187 HP 250
V-500	530	KW 224 HP 300	--	--	400	KW 224 HP 300	470	KW 224 HP 300	KW 224 HP 300
V-600	375	KW 298 HP 400	--	--	300	KW 298 HP 400	330	KW 298 HP 400	KW 298 HP 400

Capacity: Many factors affect screen capacity. Specifics should be discussed with Black Clawson to insure proper sizing. However, to assist those who need approximate sizes, the following capacity guide can be used.

Cylinders with Slots ..... 0.75 to 1.5 ODST/D / Connected Horsepower
Cylinders with Holes ..... 1.0 to 2.0 ODST/D / Connected Horsepower

Paper Machine Approach Flow Screen Applications

Screen Size	Typical RPM	Required Power	Nominal Capacity
V-100	400	KW 11 - 19 HP 15 - 25	LPM 7570 GPM 2000
V-200	400	KW 15 - 30 HP 20 - 40	LPM 11,355 GPM 3000
V-300	400	KW 22 - 37 HP 30 - 50	LPM 17,033 GPM 4500
V-400	320	KW 37 - 56 HP 50 - 75	LPM 26,495 GPM 7000
V-500	265	KW 45 - 75 HP 60 - 100	LPM 47,313 GPM 12,500
V-600	200	KW 56 - 112 HP 75 - 150	LPM 60,560 GPM 16,000
V-700	200	KW 56 - 112 HP 75 - 150	LPM 68,130 GPM 18,000
V-800	160	KW 75 - 112 HP 100 - 150	LPM 94,625 GPM 25,000
V-900	160	KW 112 - 149 HP 150 - 200	LPM 151,400 GPM 40,000

Design Features

- Inlet pipe at bottom, discharge pipe at higher level—eliminates any pipe crossing
- Heavy, rugged base with open design provides easy access to belts, sheaves and retainer bolts
- Heavy duty drive and seal assembly can be removed as a unit reducing downtime for required maintenance
- Easy access to cylinder and rotor for cleaning, adjustment, inspection and removal
- Less headroom needed for cylinder removal
- 316L stainless construction for all wetted parts
- Units designed for 125 psi maximum operating pressure to meet increasing demands

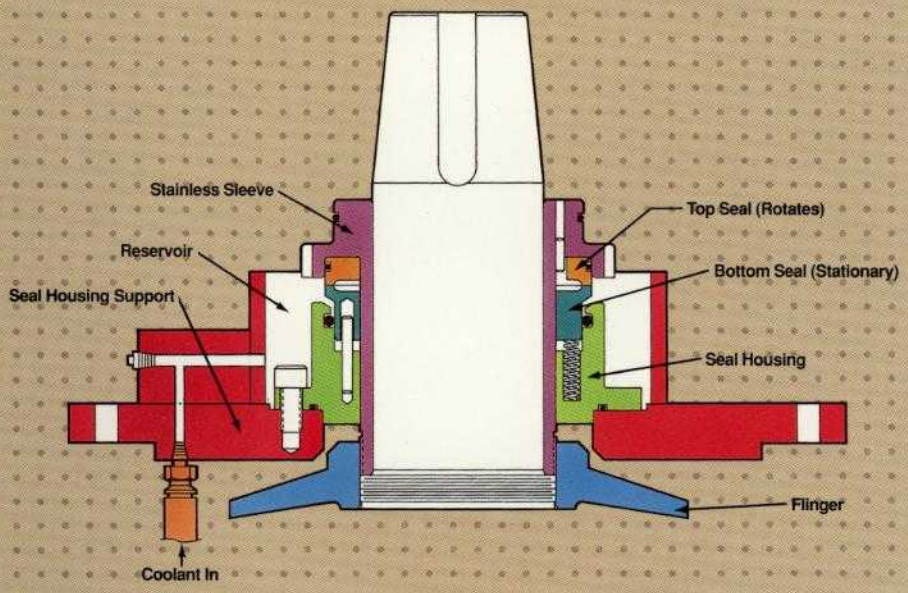
Benefits

- Heavy debris rejected to a junk box in bottom, preventing wear and damage to rotor/screen cylinder—saves downtime
- Lightweight debris and air removed immediately through top reject
- More efficient—debris remains in screening zone for less time, substantially lowering the possibility of recirculation
- Lower inlet pressure requirements
- All screen cylinder designs, i.e. smooth, contoured, etc., can be used

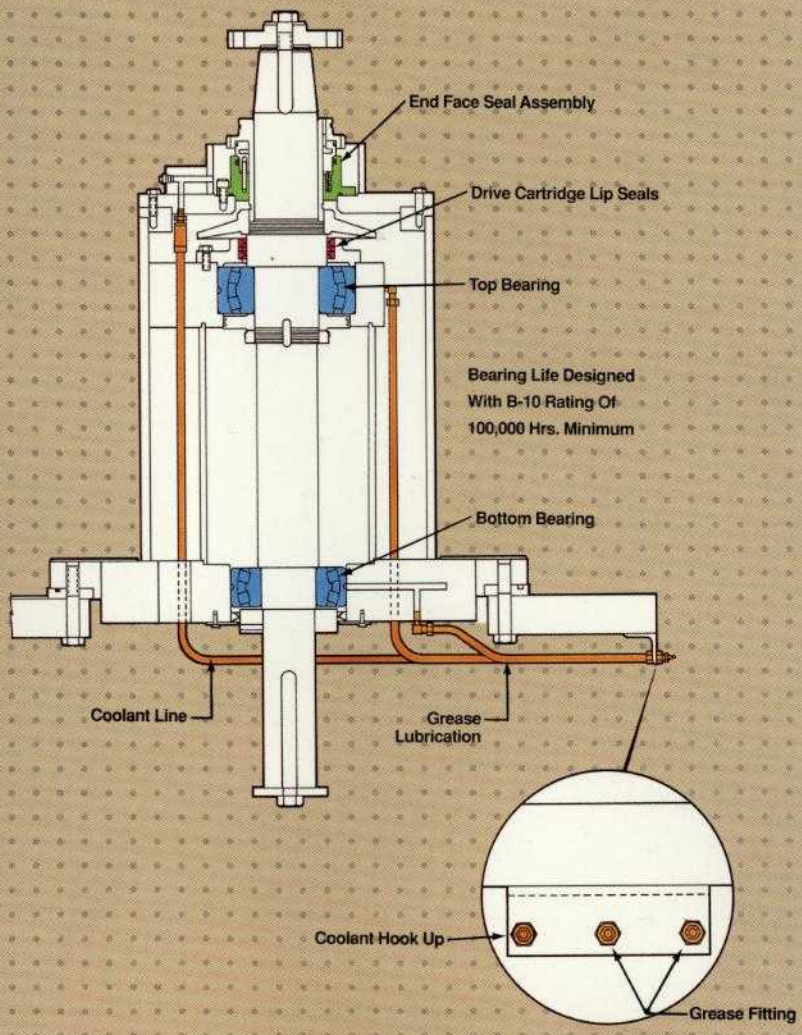
Sectional Body Construction:

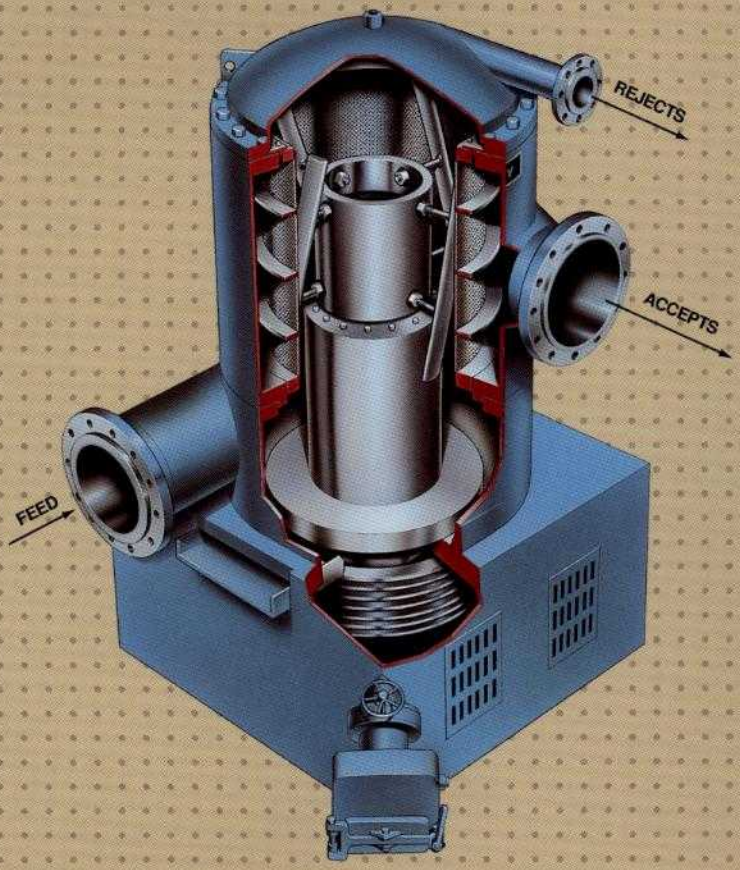
1. Manufacturing can proceed immediately after receipt of order—approval prints not required to locate nozzles
2. Cylinder and accept nozzle located exclusively on one body section and both flanges have bottom tapped holes—accept chamber has no place for fiber hang-up or string making
3. Cylinders can be inverted to extend the life of contoured surfaces

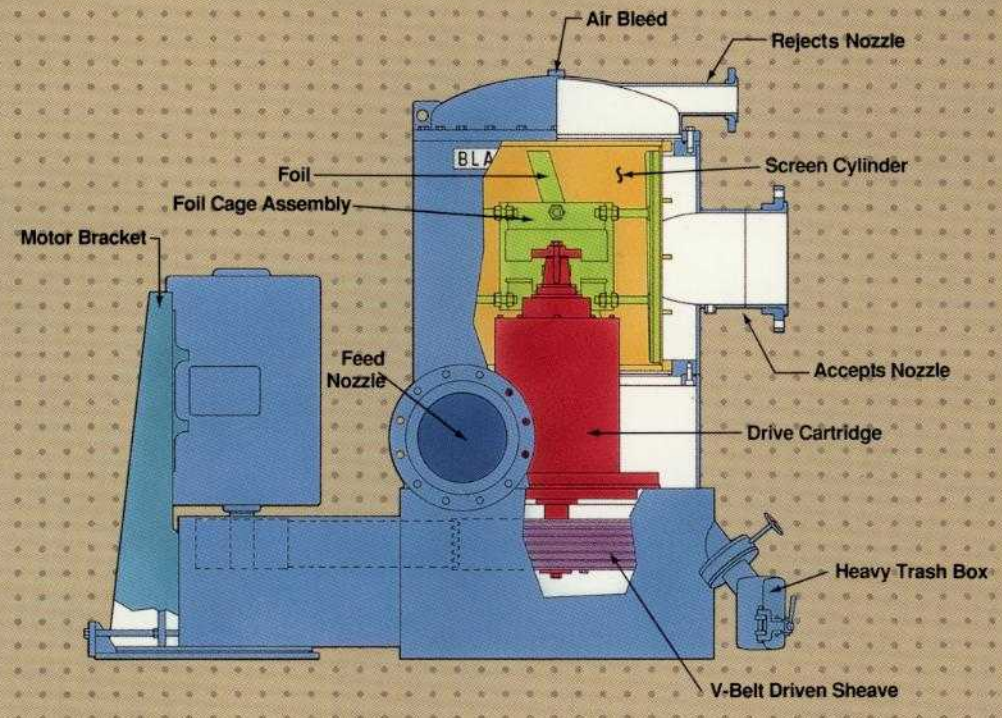
End Face Seal Assembly



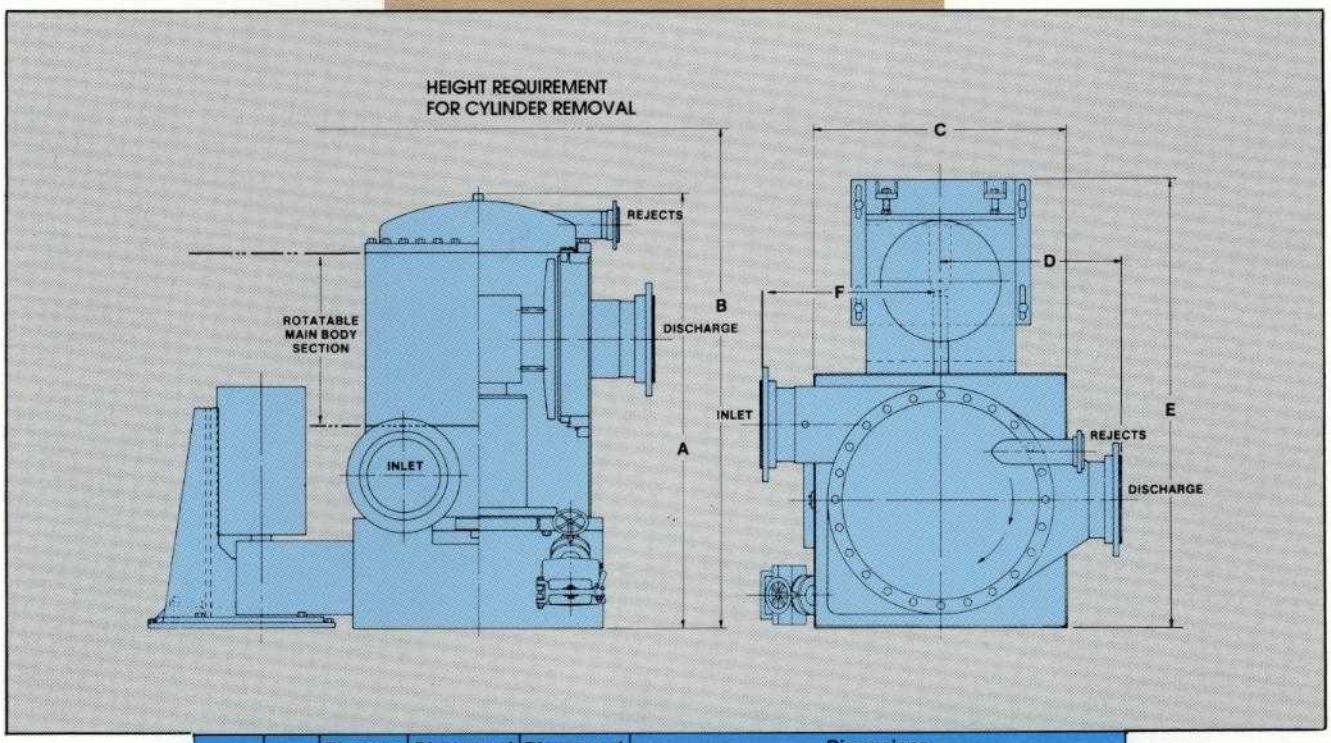
Cartridge Drive Assembly
(Shown w/End Face Seal Assembly)




REJECTS
ACCEPTS
FEED


Air Bleed
Rejects Nozzle
Foil
Screen Cylinder
Foil Cage Assembly
Motor Bracket
Feed Nozzle
Accepts Nozzle
Drive Cartridge
Heavy Trash Box
V-Belt Driven Sheave

Ultra-V Screen



Model		Diameter of Inlet	Diameter of Discharge	Diameter of Top Reject	Dimensions					
					A	B	C	D	E	F
100	mm	203	203	102	1365	1575	991	762	2083	762
	in.	8.00	8.00	4.00	53.75	62.00	39.00	30.00	82.00	30.00
200	mm	254	254	102	1651	1900	991	762	2083	762
	in.	10.00	10.00	4.00	65.00	75.00	39.00	30.00	82.00	30.00
300	mm	305	305	102	1822	2300	991	762	2083	762
	in.	12.00	12.00	4.00	71.75	90.50	39.00	30.00	82.00	30.00
400	mm	356	356	102	2013	2750	1145	838	2413	838
	in.	14.00	14.00	4.00	79.25	108.25	45.00	33.00	95.00	33.00
500	mm	406	457	152	2496	3370	1295	990	2819	990
	in.	16.00	18.00	6.00	98.25	132.63	51.00	39.00	111.00	39.00
600	mm	457	610	152	2743	3505	1600	1118	3683	1118
	in.	18.00	24.00	6.00	108.00	138.00	63.00	44.00	145.00	44.00
700	mm	457	762	152	2864	3782	1600	1118	3683	1118
	in.	18.00	30.00	6.00	112.75	148.88	63.00	44.00	145.00	44.00
800	mm	610	762	152	2851	3800	1956	1575	4572	1575
	in.	24.00	30.00	6.00	112.25	149.50	77.00	62.00	180.00	62.00
900	mm	762	914	152	3613	5130	1956	1575	4572	1651
	in.	30.00	36.00	6.00	142.25	202.00	77.00	62.00	180.00	65.00

GENERAL DIMENSIONS – NOT CERTIFIED
FOR CONSTRUCTION OR INSTALLATION

Black Clawson Company

Excellence by Design

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