



# ConiDisc & RubFlaker

## High Density Processing & Hot Dispersion

The ConiDisc is a high consistency stock processing machine which was newly developed. It is used at either low temperature below 100°C or high temperature around 120°C. The filling consists of conical part and disc plate part, resulting in longer retention of fibers within the friction chamber. By such principle, the ConiDisc gives much stronger brushing and kneading of fibers compared to conventional high speed disc type disperser. Better dispersion and appearance quality can be achieved for deinking and brown grade stock processing. The ConiDisc also can be used as a high consistency refining for brown grade stock, and improves paper property such as burst strength, ring-crush etc.

### FEATURES AND BENEFITS

1. Superior dispersion of wax, ink and sticky, etc.
2. Better improvement of fiber characteristics, paper property.
3. Both function (Kneader and High Speed Disc) can be achieved by a single machine.
4. Easy operation and easy maintenance.



Conventional Single Disc Refiner "RubFlaker" is also available in Aikawa  
The difference between RubFlaker and ConiDisc is only filling, and the mechanism is common for both machine.

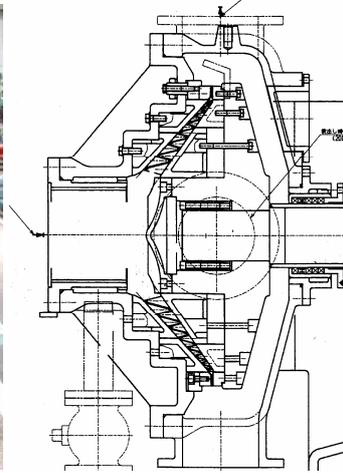
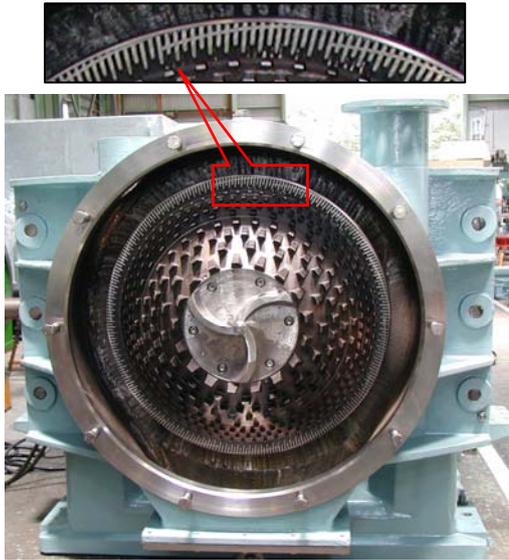


### Applications

- Stock Dispersion to improve uniformity of product..
- Defibering of wet strength paper.
- High consistency refining to improve paper property.
- Ink and Sticky Dispersion for deinking plant
- Wax and Sticky Dispersion for brown stock plant.
- Compact bleaching by FAS or H<sub>2</sub>O<sub>2</sub>

# ConiDisc & RubFlaker

## OPERATION



The ConiDisc consists of conical part and disc plate at outside of the filling as shown on the picture. The conical part gives strong friction between fibers providing longer retention time of stock in this zone, and the disc plate part works as a high speed disc type disperser to obtain uniform appearance quality.

The RubFlaker is a conventional single disc refiner, of which typical application is high consistency refining to improve fiber strength.

Standard Specification & Capacity of ConiDisc

	Maximum Installed Motor	Rotation (RPM)		Max. Capacity (BDT/D)		
		50Hz	60Hz	Case-1	Case-2	Case-3
CD24	700KW	1000	1200	190	150	120
CD30				300	235	185
CD36	1000KW	1000	1200	400	320	250
CD38				450	360	280
CD42	1400KW	1000	1200	600	480	340
CD44				660	525	370



Case-1: Compact Bleaching Application (Required Power = 2KW/T/D)

Case-2: Hot Dispersion Application (Required Power = 2.5KW/T/D)

Case-3: High Density Refining Application (Required Power = 3.5KW/T/D)

Installed Motor KW is calculated as below;

Ex. 300T/D throughput, hot dispersion application;

Required specific power = 2.5 KW/T/D .

Required net motor power = 2.5 x 300 = 750 KW

Installed motor should be (750/0.9 = 833) 850KW

Standard Specification & Capacity of RubFlaker

	Maximum Installed Motor	Rotation (RPM)		Max. Capacity (BDT/D)	
		50Hz	60Hz	Case-1	Case-2
RF24	400KW	1500	1200	95	180
RF32	700KW	1000	1200	175	315
RF36	900KW	1000	1200	220	405
RF40	1100KW	1000	900	270	495
CD42	1250KW	1000	900	315	560

Case-1: Capacity for heavy duty processing  
required specific power of 3.5KW/T/D

Case-2: Capacity for light duty processing  
required specific power of 2KW/T/D)



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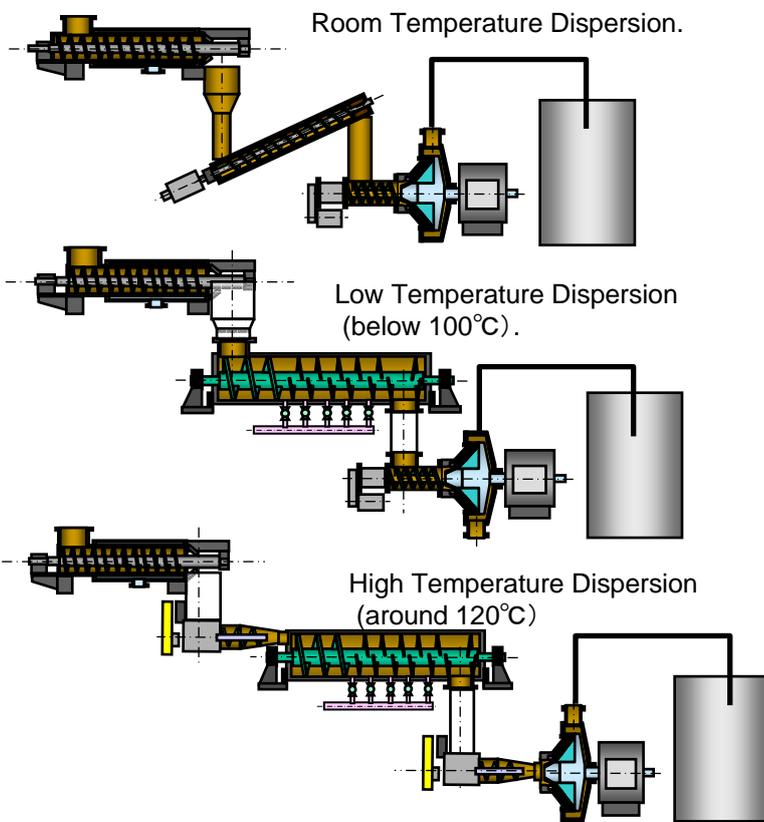
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# ConiDisc Application

High Density Processing & Hot Dispersion



## FEATURES AND BENEFITS

- Stock Dispersion to improve uniformity of product.
- Defibering of wet strength paper.
- High consistency refining to improve paper property.
- Ink and Sticky Dispersion for deinking.
- Wax and Sticky Dispersion for brown grade stock processing plant.
- Compact bleaching by FAS or H<sub>2</sub>O<sub>2</sub>

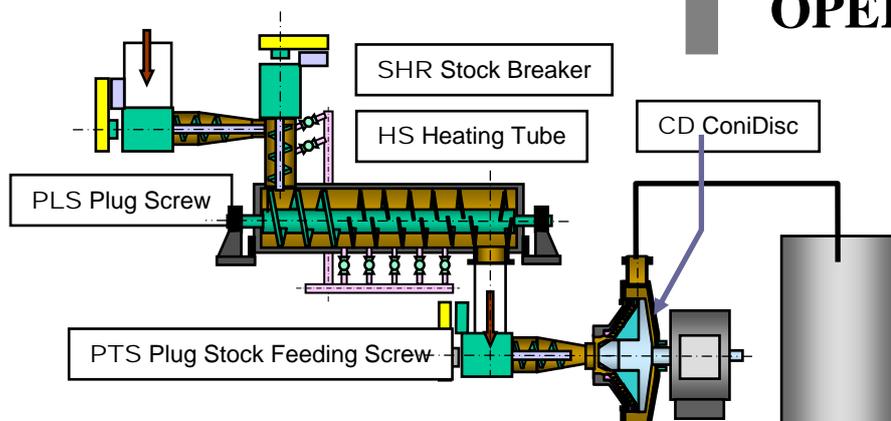
Heating Tube

Model	Tube Size
HS90	Φ 0.9-5.3L
HS100	Φ 1.0-5.3L
HS120	Φ 1.2-5.3L
HS140	Φ 1.4-6.0L



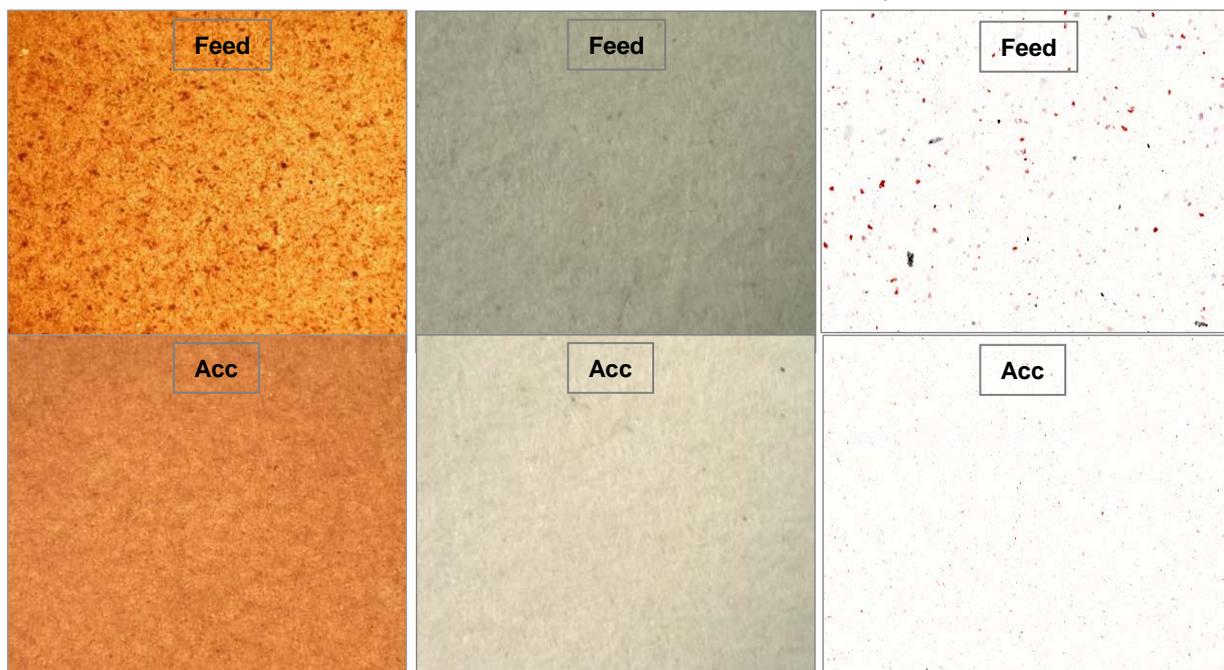
# ConiDisc Hot Dispersion System

## OPERATION



	Installed Motor	Incidental Equipments				
		PLS	SHR	HS	PTS	
CD24	700KW	PLS20(22KW)	SHR20(5.5KW)	HS90(22KW)	PTS20(22KW)	
CD30		PLS22(30KW)	SHR22(7.5KW)	HS100(30KW)	PTS22(30KW)	
CD36/38		1000KW	PLS25(37KW)	SHR25(11KW)	HS120(37KW)	PTS25(37KW)
CD42/44		1400KW	PLS30(55KW)	SHR30(15KW)	HS140(55KW)	PTS30(55KW)

Feed & Outlet stock of ConiDisc Hot Dispersion



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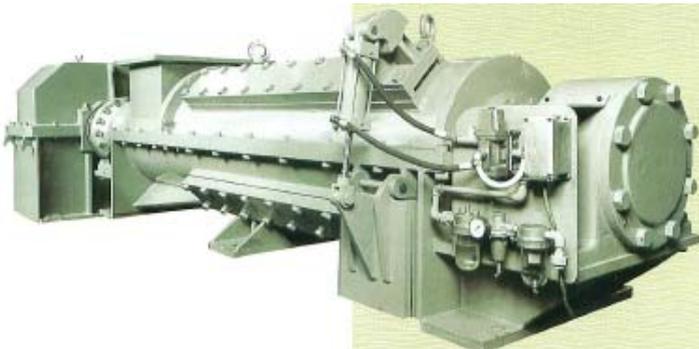
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# Kneading Disperser

The Most Economical Dispersion



## FEATURES AND BENEFITS

Aikawa "Kneading Disperser" is a single shaft high consistency processing machine, which operates at about 30% stock consistency and at the temperature below 100°C. The effective combination of rotor and stator provides powerful kneading action, rubbing fibers each other, resulting in excellent achievement for defibering and dispersing. With the simple construction, easy operation and maintenance, Aikawa "Kneading Disperser" is the most economical dispersing machine.

1. Lowest freeness drop with no fiber strength loss.
2. Successful dispersion of wax, paraffin, and difficult inks, such as offset, Xerox and laser print.
3. Excellent defibering of wet strength paper due to the strong shearing force between fibers.
4. Agglomeration or rolling of hot melt and stickies contaminants for easy removal in down stream screening.
5. Low energy consumption for low operating cost..

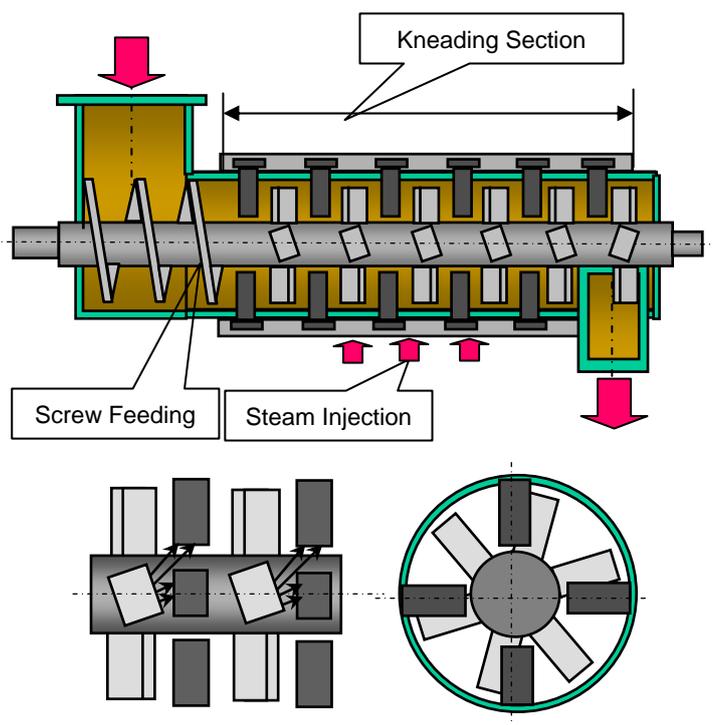


## Applications

- Ink separation from fibers or Deink plant.
- Ink dispersion to proper sizes for Deink plant.
- Various chemical mixing for Deink plant.
- Wax and paraffin dispersion for Brown grade plant.
- Agglomeration of sticky contaminants for Brown grade plant.
- Complete defibering of flakes for Brown grade plant.

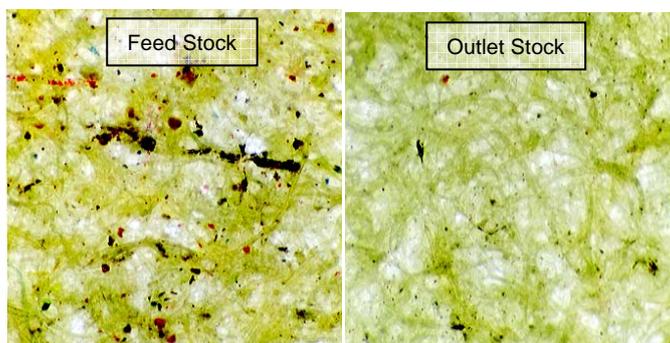
# Kneading Disperser

## OPERATION



The Kneading Disperser is mainly composed of a shaft which is fitted a feeding screw and kneading fingers, as well as of a body with stationary fingers on its inner surface. Stock is fed into the Kneading fingers by an auger screw section. The angled rotating fingers on the single shaft rotates between stationary fingers. This creates a shearing action required to disperse the contaminants.

Steam, if necessary, is introduced into the Disperser through several orifices equally spaced on the body. The developed mechanical friction force to which the stock is submitted between the rotary and stationary fingers is sufficient to bring the temperature up to 50°C without steam. The large rotor and stator clearance of about 20mm minimizes fiber breakdown allowing for minimum freeness drop. Stock is discharged through an adjustable air operated pressure trap, which is controlled according to the absorbed power.



Standard Specification & Capacity of KD Kneading Disperser

Model	Installed Motor (KW)	Rotation R.P.M.	Rotor Diameter	Kneading Length	Throughput (Tons/Day)
KD1	90-150	150-200	460mm	980mm	36-60
KD2	160-260	110-150	560mm	1513mm	64-105
KD2S	220-440	90-130	680mm	1850mm	88-176
KD3	300-660	80-120	780mm	2200mm	120-264
KD4	500-1300	60-95	910mm	2890mm	200-520

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# UV-Breaker

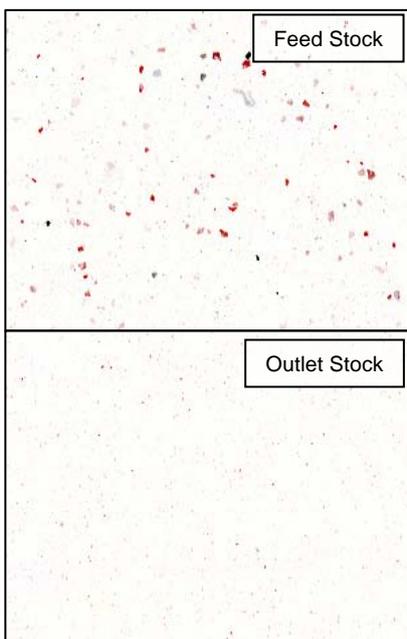
The Newest Development of Disperser



## FEATURES AND BENEFITS

The UV-Breaker is the latest developed "Kneading Disperser", which is a quite unique high consistency stock processing machine having 4 rotating shafts. On each shaft, specially designed fingers are fixed and those shafts rotate at different speed respectively. Due to long residence time of stock, strong and uniform friction between fibers created by so many fingers, UV (Ultra Violet) ink is securely dispersed to be easily removed by floatation process in the down stream.

The UV-Breaker is, of course, used as a disperser for the other kinds of inks such as non-impact printing, and quite excellent dispersion is achieved compared to the conventional dispersing machines.



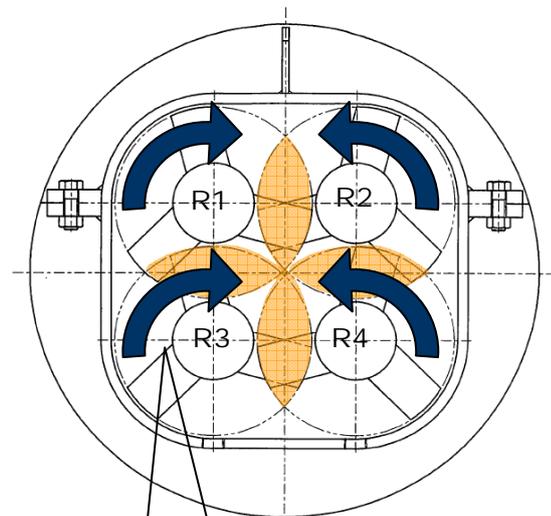
## Applications

Major Application:

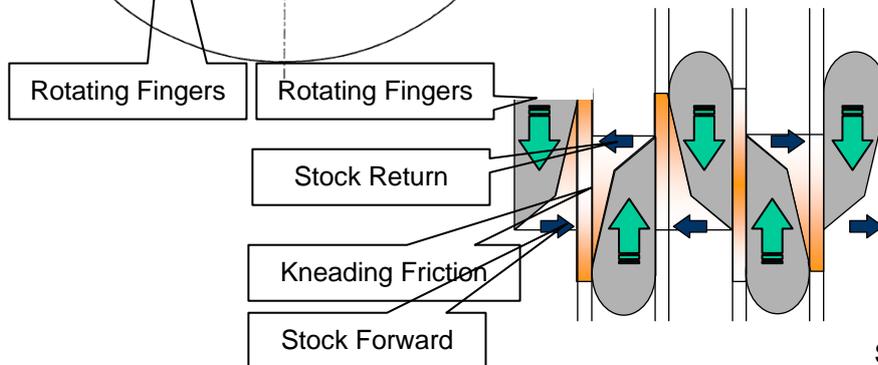
- UV ink dispersion for Deinking plant.
- Dispersion of hard deinking Ink (non-printing ink).
- Strong chemical mixing for Deink plant.

# UV-Breaker Designed for UV ink

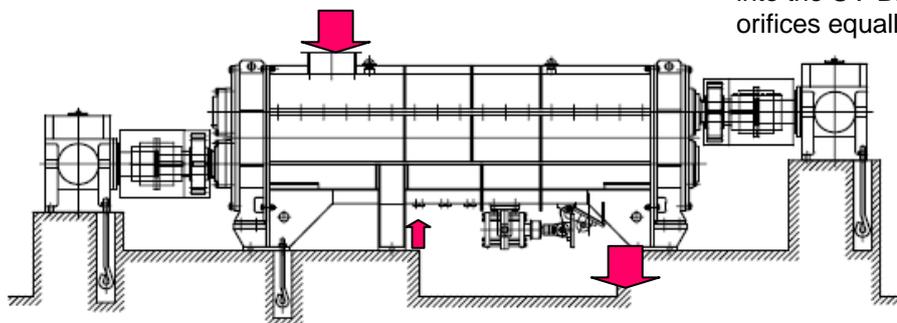
## OPERATION



The UV-Breaker is mainly composed of four (4) shafts which are fitted a feeding screw and kneading fingers. Stock is fed into the Kneading fingers by an auger screw section. The angled rotating fingers on the four (4) shaft rotates with different speed and different direction respectively. This differential speed creates a strong shearing action between fibers, and the differential direction ensures uniform stock mixture. Accordingly UV ink is dispersed to fine particles which can be floated by the floatation cell located down stream.



Steam, if necessary, is introduced into the UV-Breaker through several orifices equally spaced on the body



Standard Specification & Capacity of UV-Breaker  
Motors are installed on both side, two sets of motors are required.

	Installed Motor (KW)	Rotation R.P.M	Rotor Diameter	Kneading Length	Kneading Volume	Throughput (Tons/day)
UVB100	150-220	22-50	700mm	1510mm	1.6m <sup>3</sup>	100-150
UVB200	300-450	22-50	780mm	2310mm	2.7m <sup>3</sup>	200-300



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# Stock Thickening

## Inclined Extractor & Screw Press



### FEATURES AND BENEFITS

Two thickening equipments are available, one is an Inclined Extractor which is used for thickening stock from an inlet consistency between 2 and 4% to an outlet consistency between 10 and 20%, the other is a Screw Press which is used to thicken the stock from around 10% consistency to 30%.

The Inclined Extractor is used for washing and dewatering all type of stocks. The clearance between spiral and screen cylinder is maintained adequately, so that the screen plate is wiped clean and plugging is always prevented.

The Screw Press is used for dewatering all types of stocks. The outlet stock consistency is adjusted by several dam shutters which are independently operated with air cylinders. In order to keep the stable outlet consistency, the air pressure is controlled by an automatic controller based on the absorbed power of the drive motor as an optional part.

1. Free from plugging problem of stock in the perforated screen tube.
2. Possible to adjust the outlet consistency up to 35%.
3. Excellent stability of run.
4. Great mechanic robustness and easy maintenance.

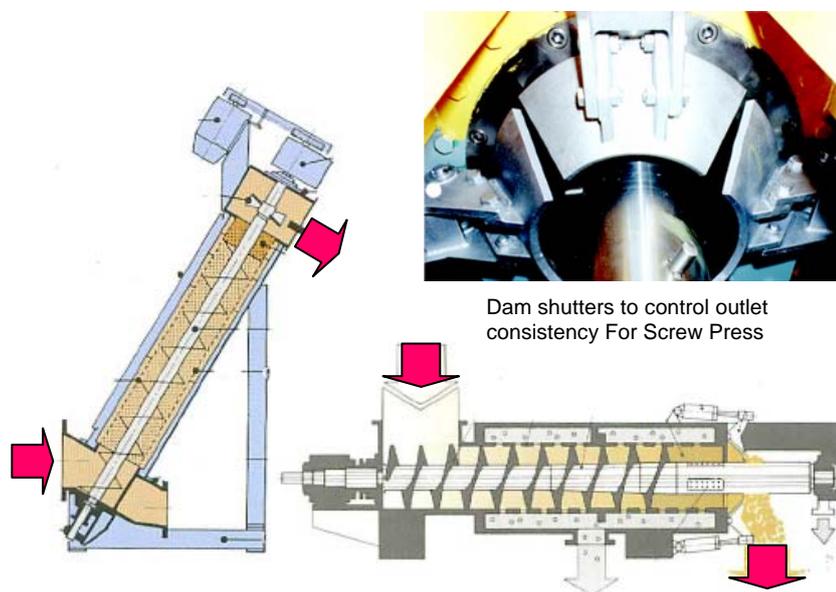


### Applications

- Ink and ash removal in deink process.
- Thickening of all types of stock.
- Recovery of chemicals.
- Reject thickening from screen and cleaners.

# Inclined Extractor & Screw Press

## OPERATION



Dam shutters to control outlet consistency For Screw Press

Stock is fed into the screen cylinder from the bottom part of the Inclined Extractor, and is carried up to the top by a conveying screw. During the progressive upwards motion of stock, the liquid is forced out and drains away through the perforations.

The screw Press is designed for gravity feed. Stock is conveyed by a screw and travels inside a perforated screen cylinder. During its advancing motion, the stock is compressed between the screw spires, a tapered shaft and the screen cylinder, and dewateres progressively.

Standard Specification & Capacity of Inclined Extractor, Screw Press



	Cylinder		Installed Motor (KW)	Feed Rate	(Ton/Day)
	Inside Dia.	Number		DIP	OCC
<b>Inclined EX.</b>					
1-MA9	236mm	1 pc.	(3.7-5.5) x 1 set	15	18
2-MA9	236mm	2 pieces	(3.7-5.5) x 2 sets	30	36
3-MA9	236mm	3 pieces	(3.7-5.5) x 3 sets	45	54
1-MB16	410mm	1 pc.	(11-15) x 1 set	50	60
2-MB16	410mm	2 pieces	(11-15) x 2 sets	100	120
3-MB16	410mm	3 pieces	(11-15) x 3 sets	150	180
<b>Screw Press</b>					
VA35	350mm	1(3 stages)	22-30	30	45
VA45	450mm	1(3 stages)	37-45	60	90
VA60	600mm	1(3 stages)	75-90	110	165
VA90	900mm	1(3 stages)	150-175	240	360

Standard hole diameter of the cylinder is 1.6mm for the Inclined Extractor, 2.0mm for the Screw Press. And Feed Rate means inlet capacity at the consistency of 3.0%.



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