

Conflo® Refiners for Stock Preparation and Recycled Fiber



Stock preparation refining is one of the most important stages in the papermaking process. Not only does it affect the smooth running of the paper machine, but refining also determines the quality of the paper and its properties.

Recognizing this, Sunds Defibrator has invested intense efforts in the development of refining and related filling technology.

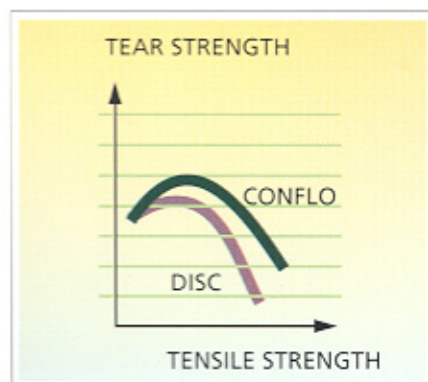
Refiner Development 1950 -1996

Double Disc refiner	Year	Conventional Conical refiner
	1954	JC-1
	1955	JC-2
	1961	JC-0
DD-900	1962	
DD-550	1967	
DD-720	1967	
DD-1100	1979	

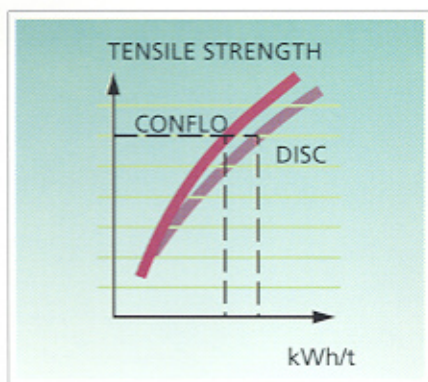
Improvement of existing models 1960 - 1980

CONFLO®

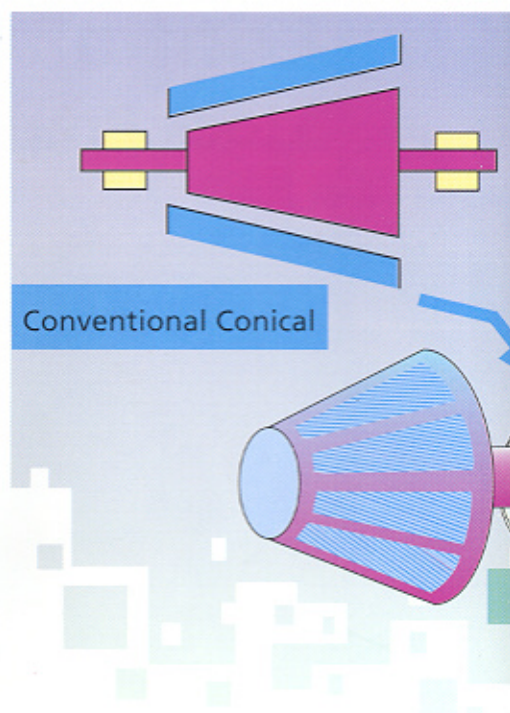
1983	Conflo JC-01
1986	Conflo JC-03
1987	Conflo JC-00
1988	Conflo JC-02
1989	Conflo JC-04
1995	Conflo JC-05



The improved strength achieved with a CONFLO® refiner makes it possible to increase the amount of recycled fibers and fillers in the end product.



Lower specific refining energy combined with high efficiency means significantly lower total energy consumption.



CONFLO® combines the favorable features of:

Jordan-type conventional conical refiner

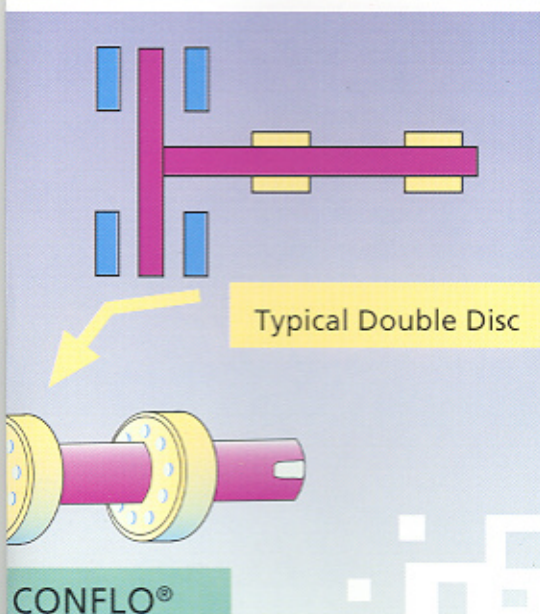
- long cone
- good homogeneous refining result
- accurate gap control

Disc refiner

- easy fillings change
- fine fillings patterns
- high installed power

With the in-house experience of both conventional conical refiners and double disc refiners, the new CONFLO® was designed to combine the favorable features of both refiner concepts.

The combination of the most favorable features of both refiner types was one of the key targets for the new conical CONFLO® refiner.



CONFLO® vs Disc Refiner

CONFLO® produces strength properties at lower drainage resistance (or higher freeness) than disc refiners due to:

- one stable gap
- better flow pattern due to utilization of centrifugal forces
- longer refining zone, longer retention time and larger refining surface area

With our various CONFLO® fillings designs we can meet the individual requirements for most typical short- and long-fiber refining applications, including recycled fiber treatment.

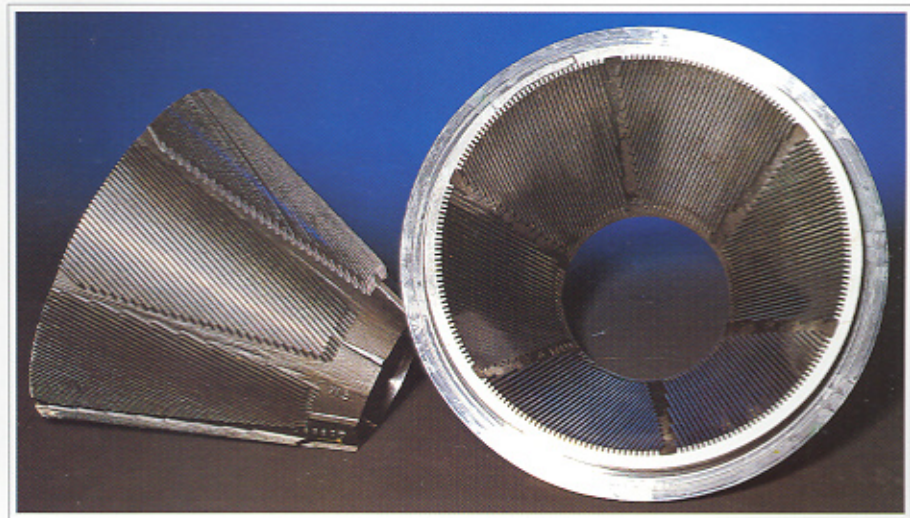
Based on customer feedback and extensive fiber research programs in our own pilot plant, Sunds Defibrator is continually designing new fillings for emerging papermaking needs.

The CONFLO® refiner is intended to enhance the bonding ability of fibers with a minimum increase in drainage resistance (minimized freeness drop) and a minimum decrease of fiber length. Other key design objectives include low energy consumption and easy maintenance.

In addition to quality improvement and possible increases in productivity, major savings can be achieved by the option of using lower quality or lower cost raw material components. The lower energy consumption is due to lower no load power and smaller diameter fillings compared with disc refiners.

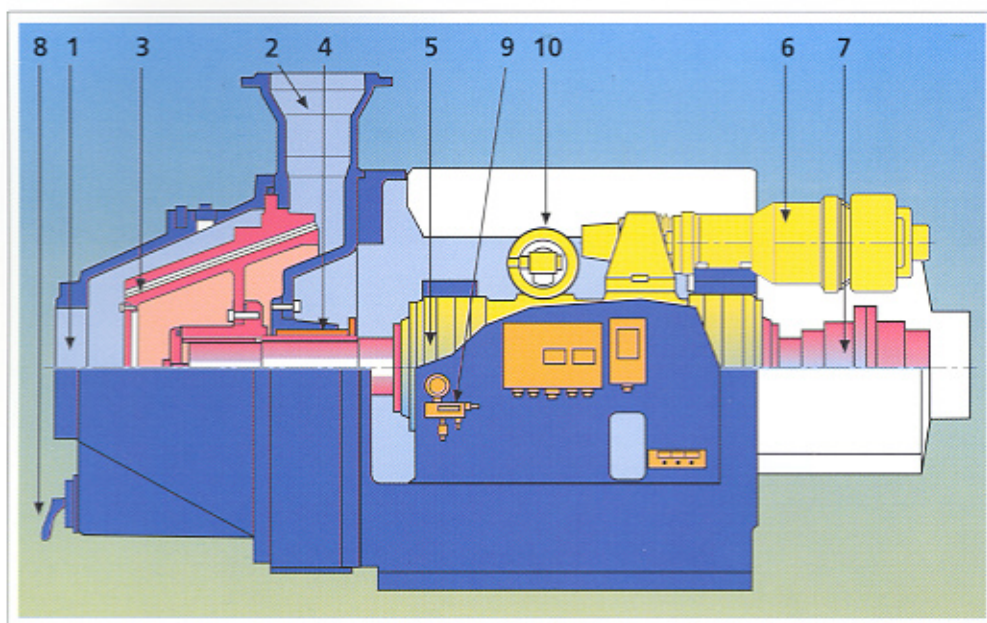
Main benefits of CONFLO® refining for papermakers

- **Better paper quality**
 - better bonding characteristics
 - longer and stronger fibers
- **Higher paper production**
 - easier dewatering and drying
 - properties at lower SR /higher CSF
 - fewer web breaks
- **Better raw material economy**
 - more fillers and lower cost fibers
 - better retention of fillers and fines
- **Lower refining costs**
 - lower total energy consumption
 - easier maintenance, quicker change of fillings
 - longer life of fillings



Today's very wide selection of fillings ensure that CONFLO® refiners always have better energy efficiency compared with disc refiners. Practical mill cases often show 10 - 30% energy savings and in some cases, even higher savings can be achieved.

Technical Description



- 1) Stock inlet
- 2) Stock outlet
- 3) Fillings
- 4) Shaft sealing
- 5) Shaft assembly
- 6) Loading device
- 7) Gear coupling
- 8) Junk removal
- 9) Sealing water flowmeter
- 10) Lubricating system

CONFLO® type	JC-00	JC-01	JC-02	JC-03	JC-04	JC-05
Capacity range TPD *)	5-50	5-250	25-350	50-500	100-750	300-1000
Motor power kW	37-110	75-315	160-500	250-800	600-1500	1250-2800
Motor power hp	50-150	100-400	250-650	350-1100	800-2000	1700-3750
Speed range rpm	600-1500	530-1200	470-1000	420-750	325-600	300-600
Weight (without motor) kg	780	1300	2600	3700	6700	11000
Weight (without motor) lbs	1720	2860	5725	8150	14760	24230
Length/Width/Height, mm	1508/810/720	1765/850/900	2200/960/1070	2350/1100/1350	2775/1300/1620	2880/1790/2000
Length/Width/Height, inches	59/32/28	69/33/35	87/38/42	93/43/53	109/51/64	113/70/79

All CONFLO refiners are designed for operation in consistency of 2-6 %

*)The capacity is to be defined case by case depending on the pulp quality and refining requirements.

Leading the world in fiber processing®

Stock Preparation and Recycled Fiber Core Division

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