

Fiber Cleaning Process

05 | 2011



Z-sifter™ – typical applications

Sunds MDF's Z-Sifter™ with its unique zig-zag plate design is specially developed for the MDF industry.

The Z-Sifter™ removes efficiently light and heavy contaminants such as wood residues, glue lumps, fiber deposits, minerals and metals, latex and similar substances that would have a detrimental effect on the board quality.

Furthermore, it protects the machinery down stream, particularly when producing thin board.

The optional fiber heating and moisturizing system offers higher press production capacity.



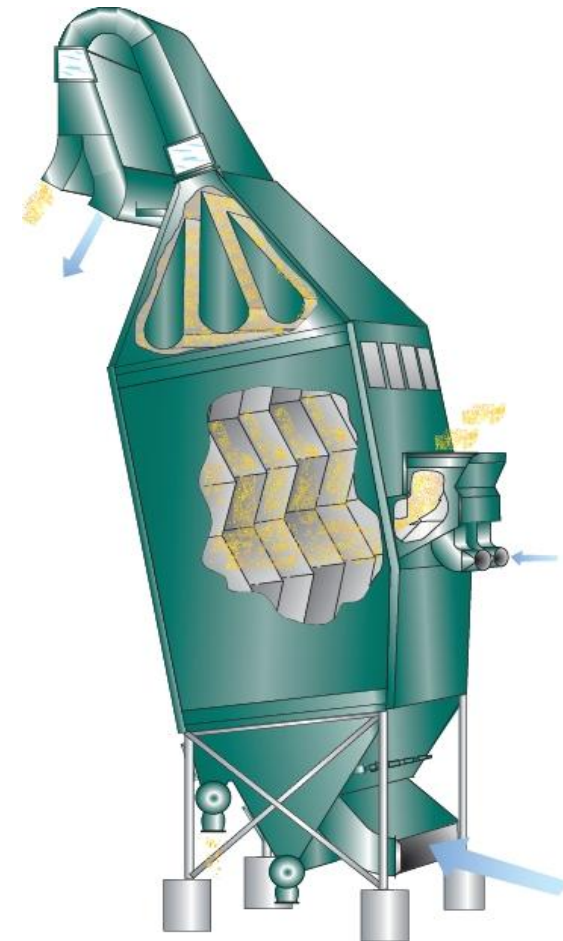
Z-sifter™ – technical specification



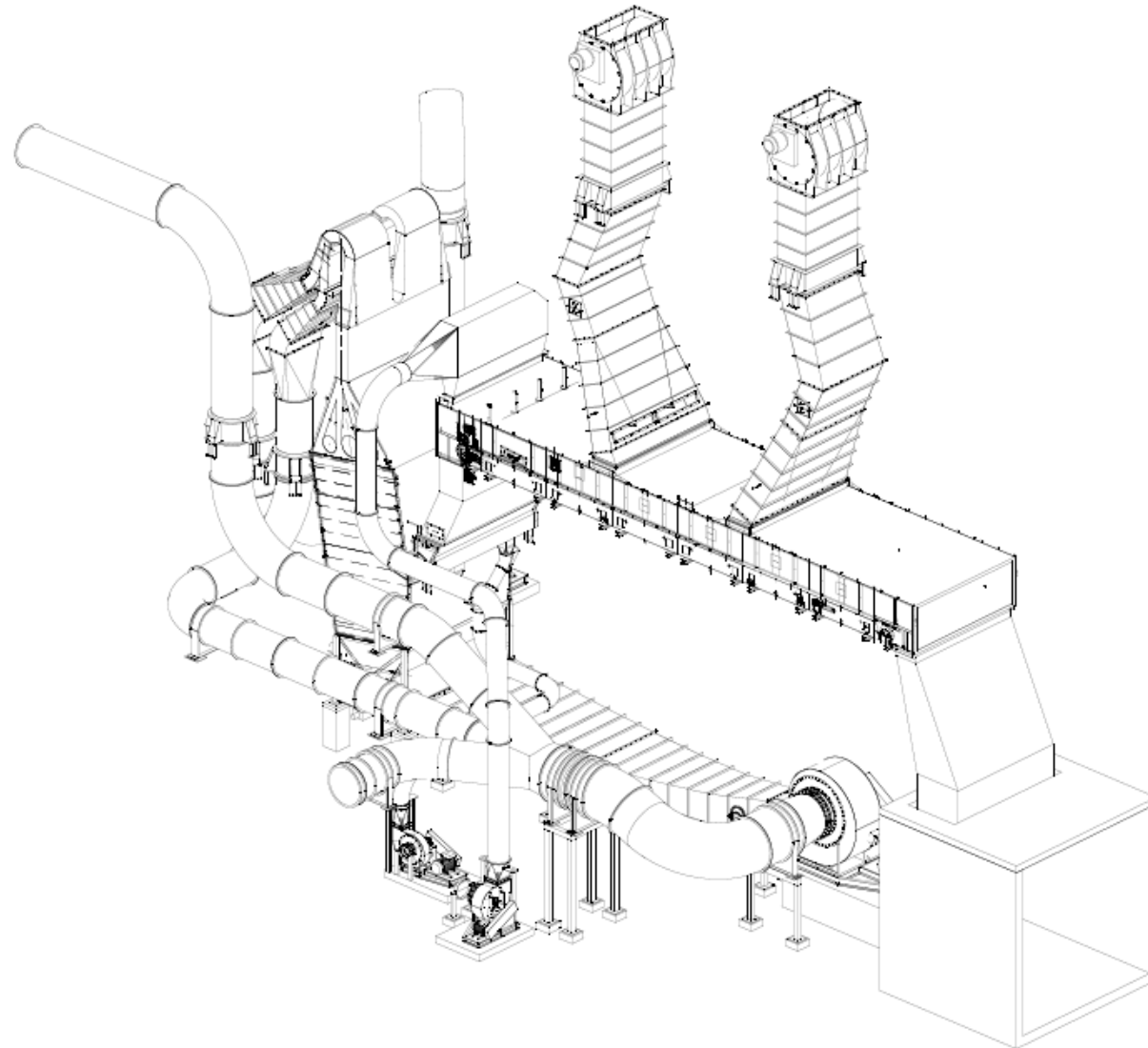
Width	Depth	Typical capacity	Rubberwood capacity
(m)	(m)	(kg/h) eff. wet	(kg/h) eff. wet
2.75	1.57	18 000	13 700
2.75	2.27	26 100	19 800
2.75	3.00	34 500	26 100
3.5	1.57	22 900	17 400
3.5	2.27	33 200	25 200
3.5	3.00	43 800	33 300
4.0	1.57	26 200	19 900
4.0	2.27	37 900	28 800
4.0	3.00	50 100	38 000

Z-sifter™ - advantages

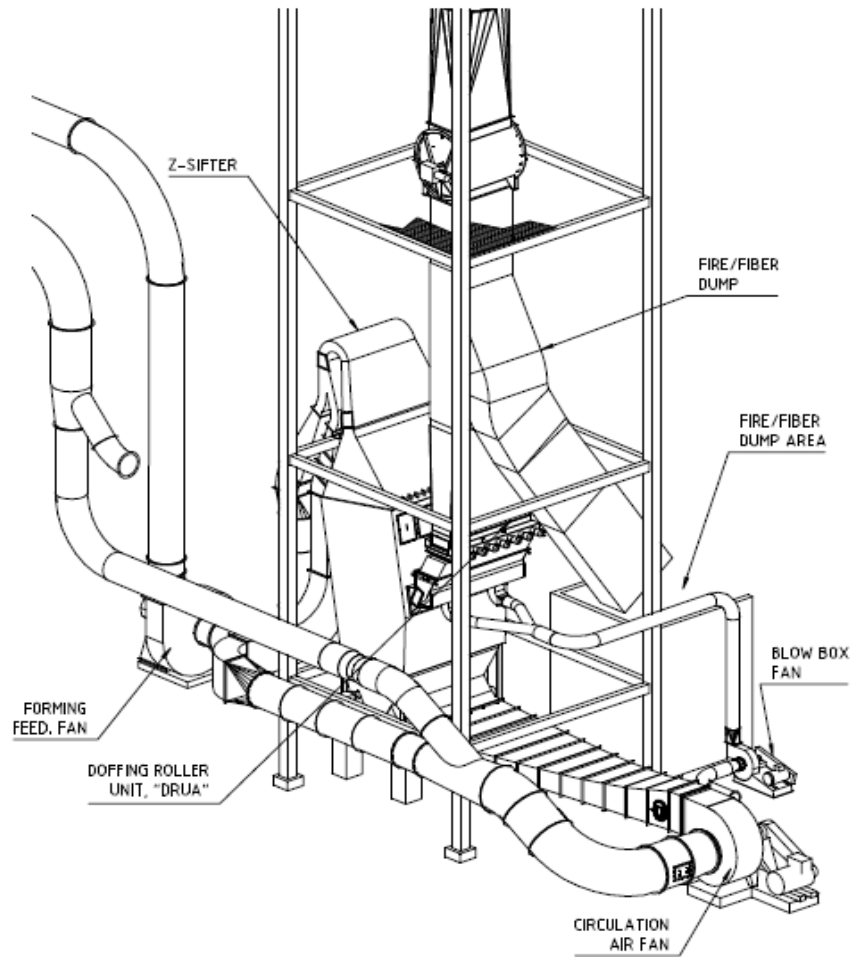
- Outstanding sifting performance
- Fully automatic and integrated in the overall PLC system
- No re-calibration of sifter needed when changing production capacity
- One single Z-Sifter™ up to 50 t/h throughput
- Fiber heating as option, up to 50°C fiber mat temperature at press inlet
- The only proven sifting technology for rubber wood



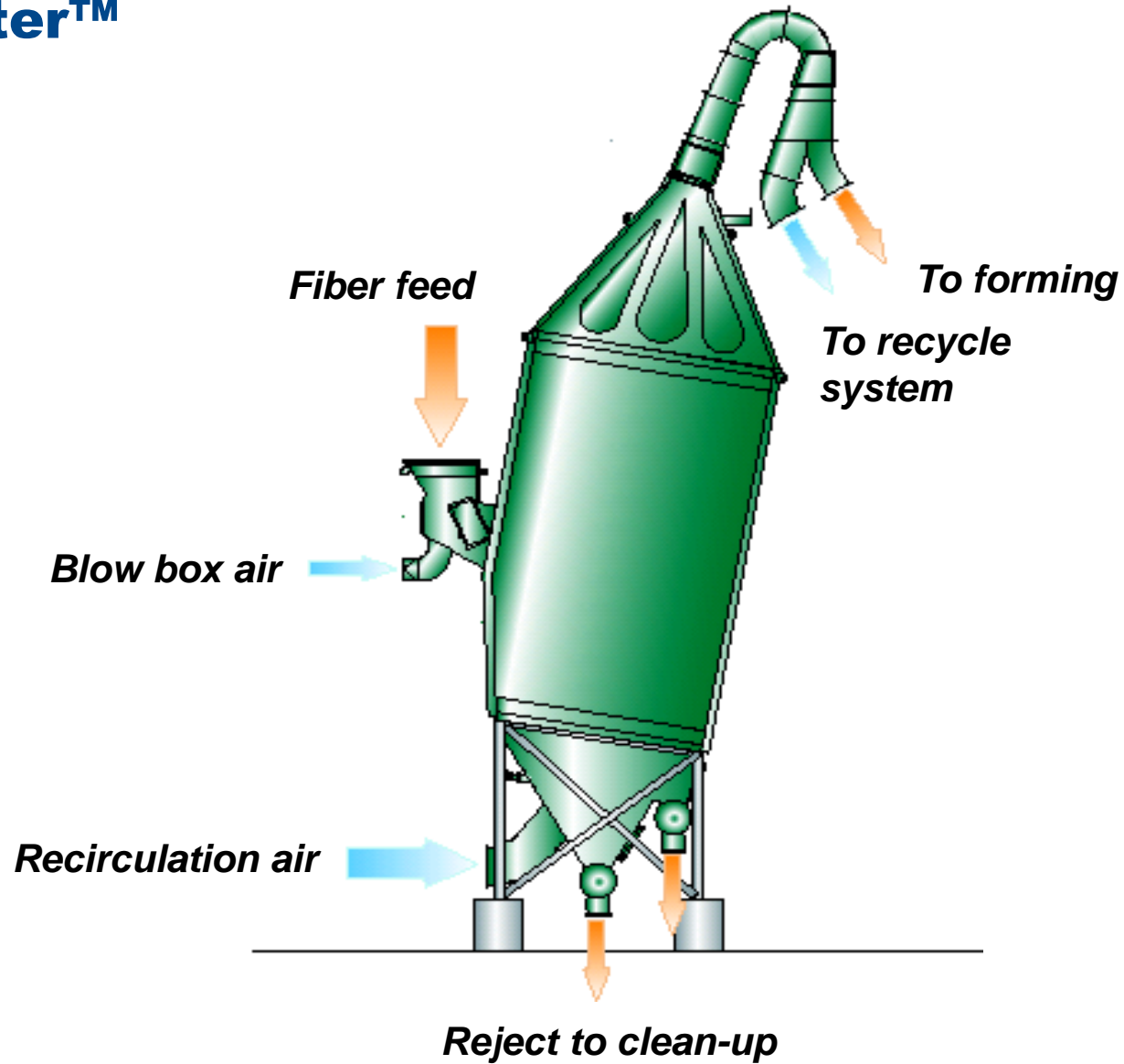
Z-sifter™ with DDC (Dryer Discharge Conveyor)



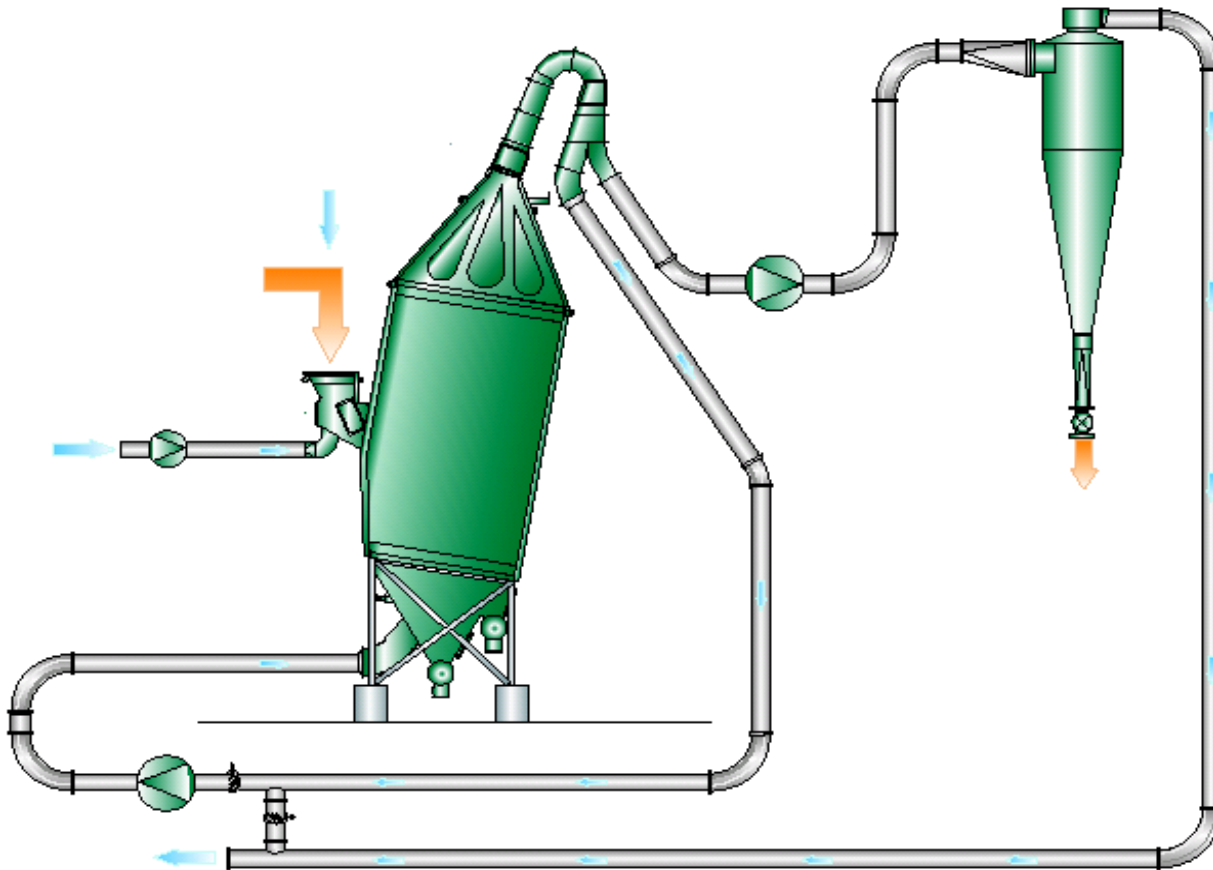
Z-sifter™ with DRUA (Doffing Roller Unit)



Z-Sifter™

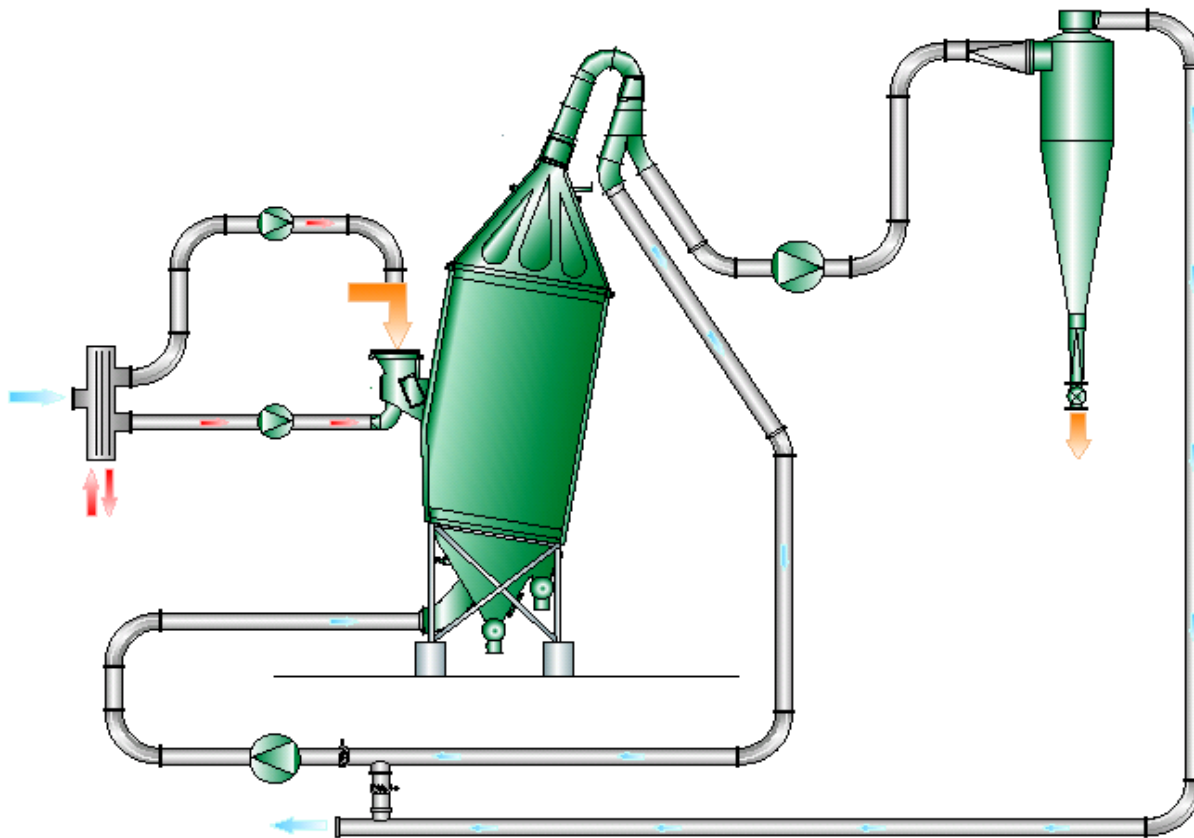


Z-Sifter™ without fiber heating



- Z-Sifter™
- Blow box system
- Circulation system
- Forming feeding system

Z-Sifter™ with fiber heating



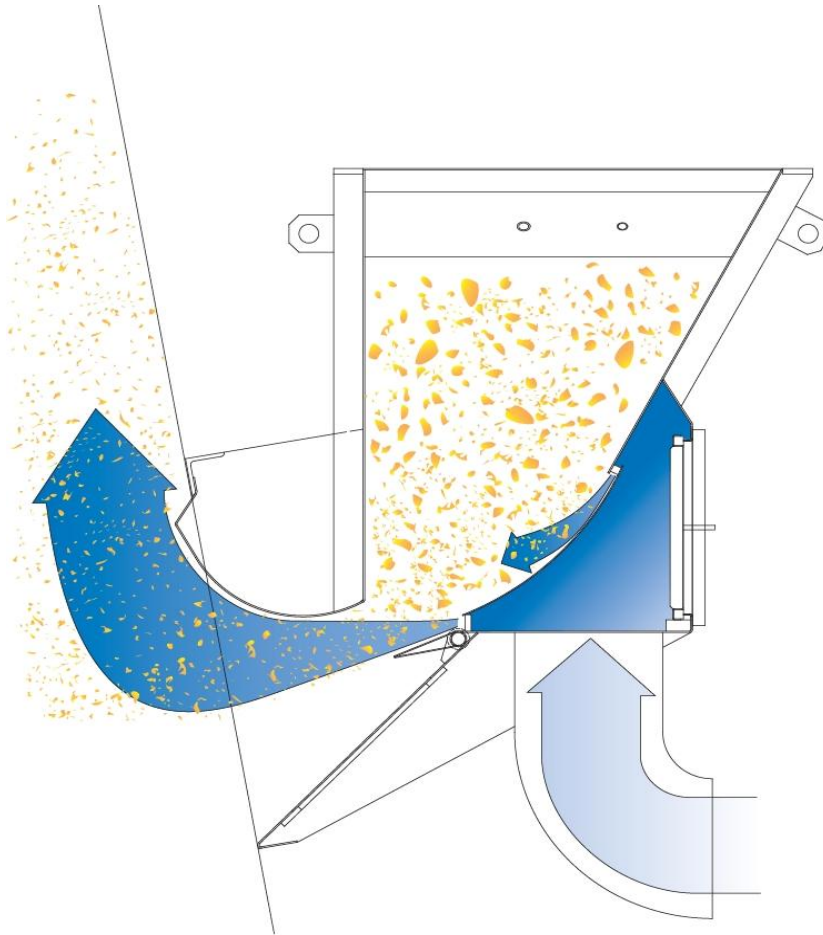
- Z-Sifter™
- Blow box system
- Circulation system
- Supply air system
- Fiber heating
- Forming feeding system

Z-Sifter™



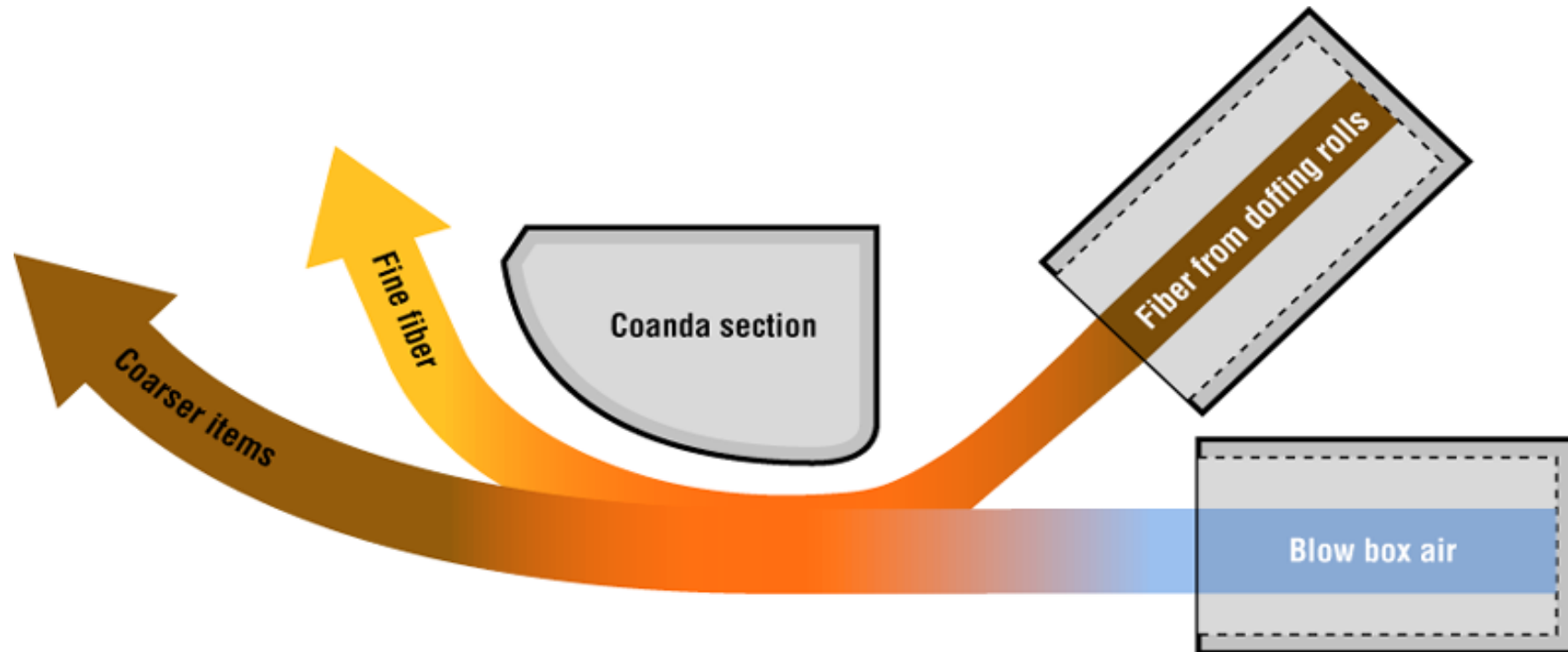
- Inlet section with blow box and coanda section
- Sifter section with ZigZag
- Reject hopper
- Separation bend

Blow box

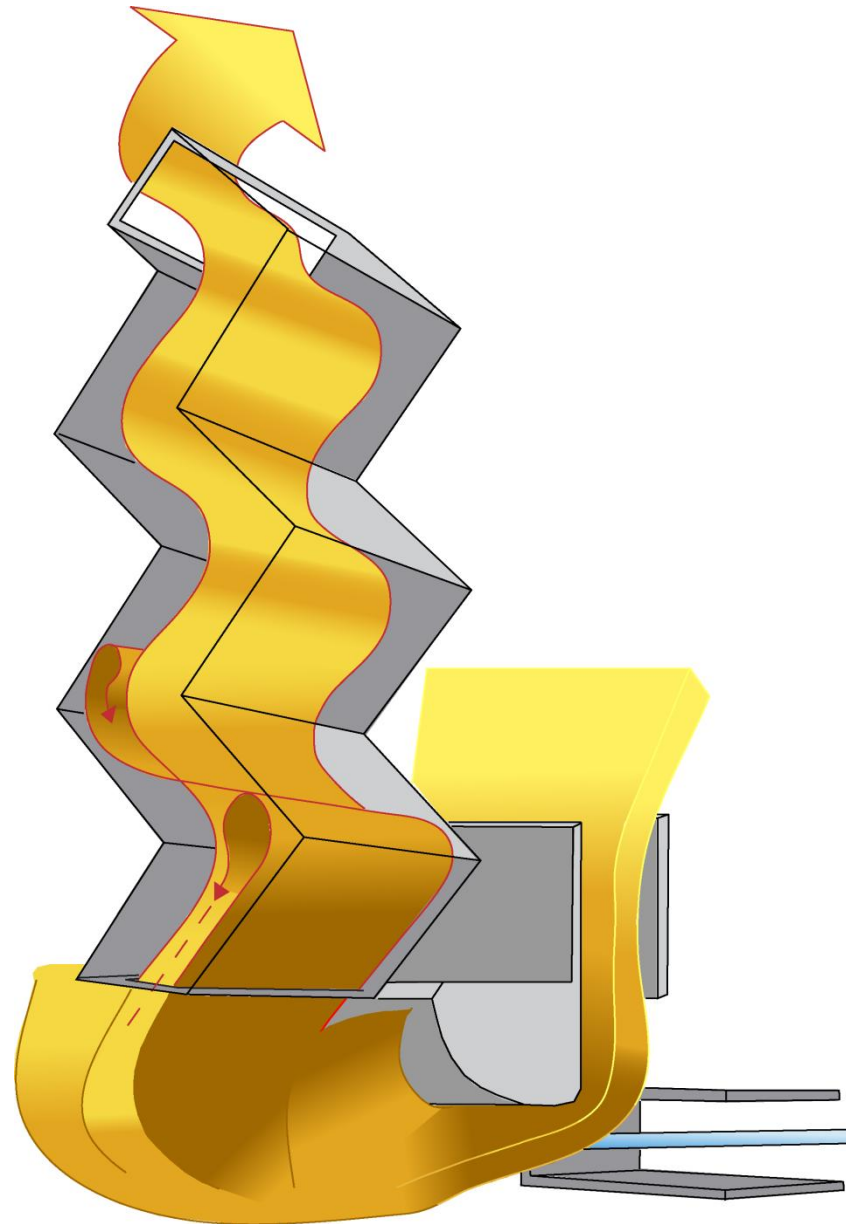


- Injects the material into the sifter
- Breaks fiber lumps into single fibers

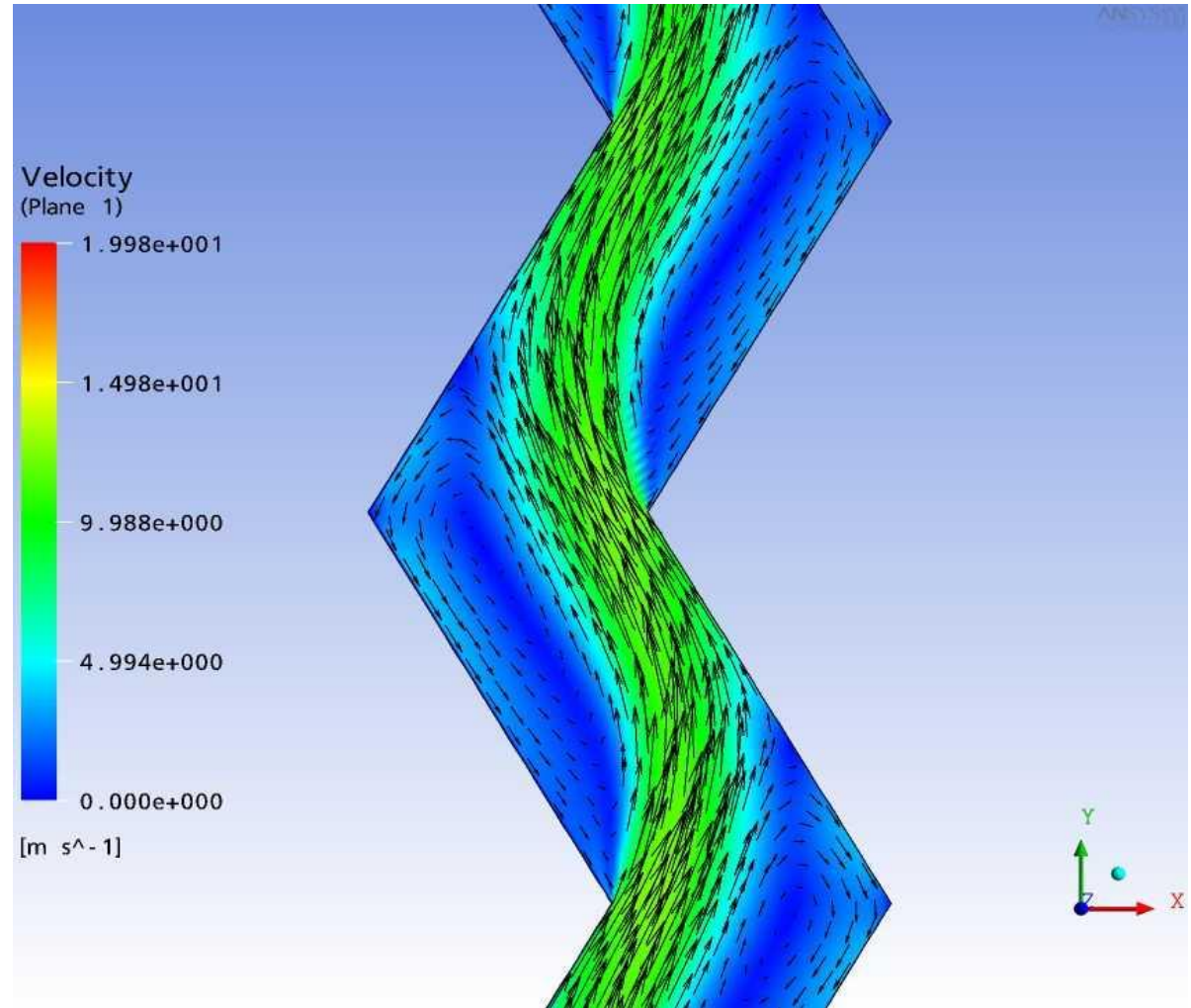
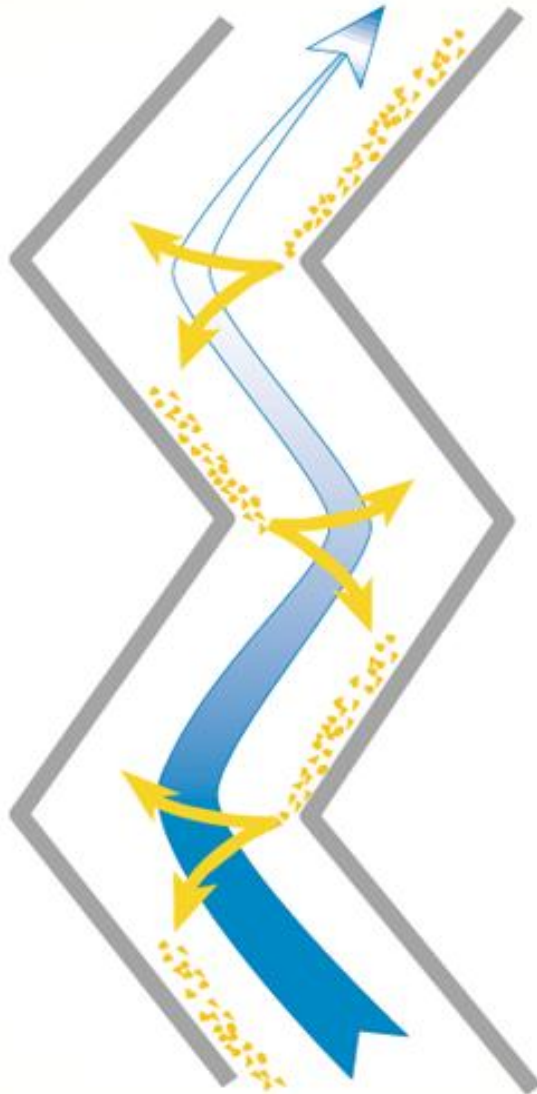
Coanda section



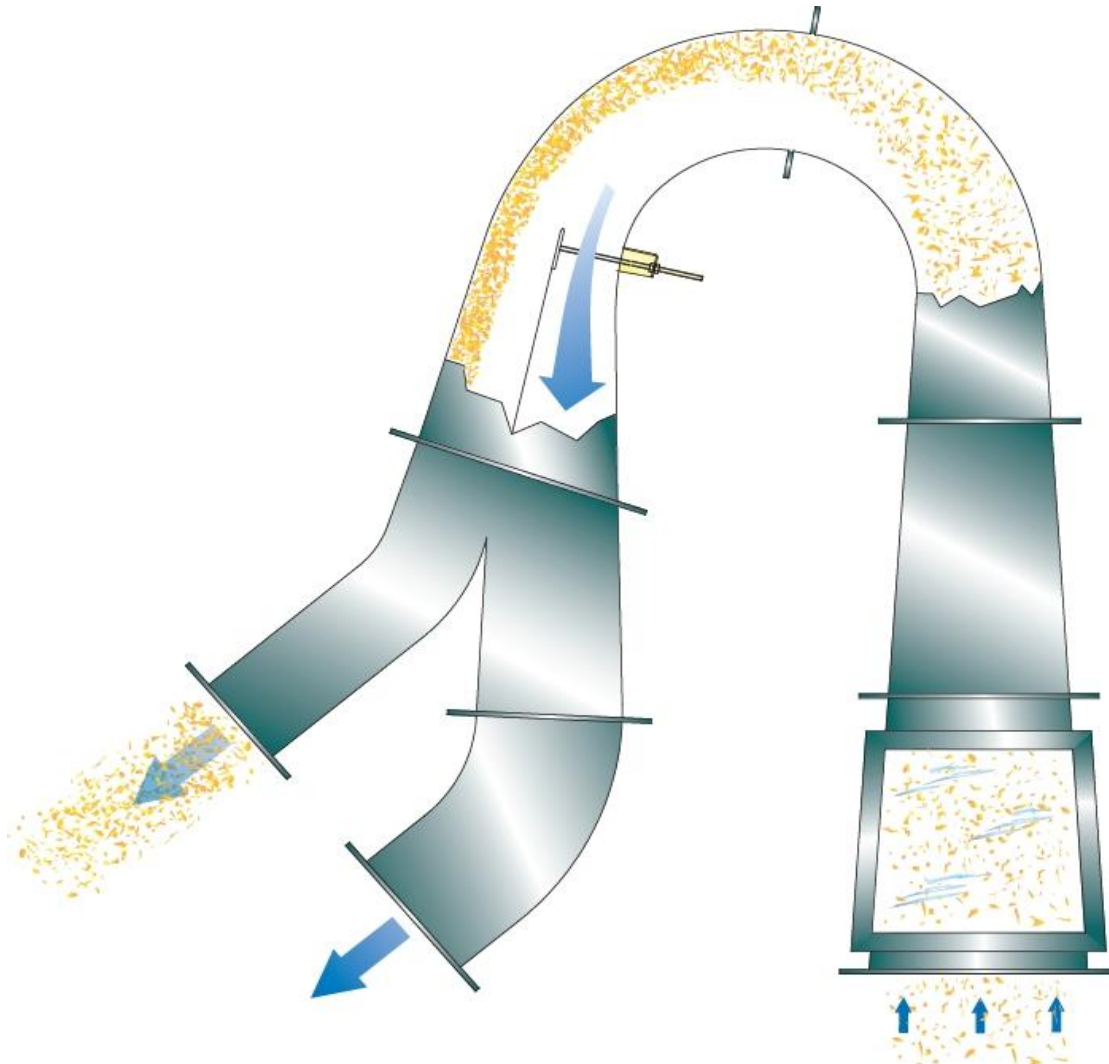
ZigZag section



Separation

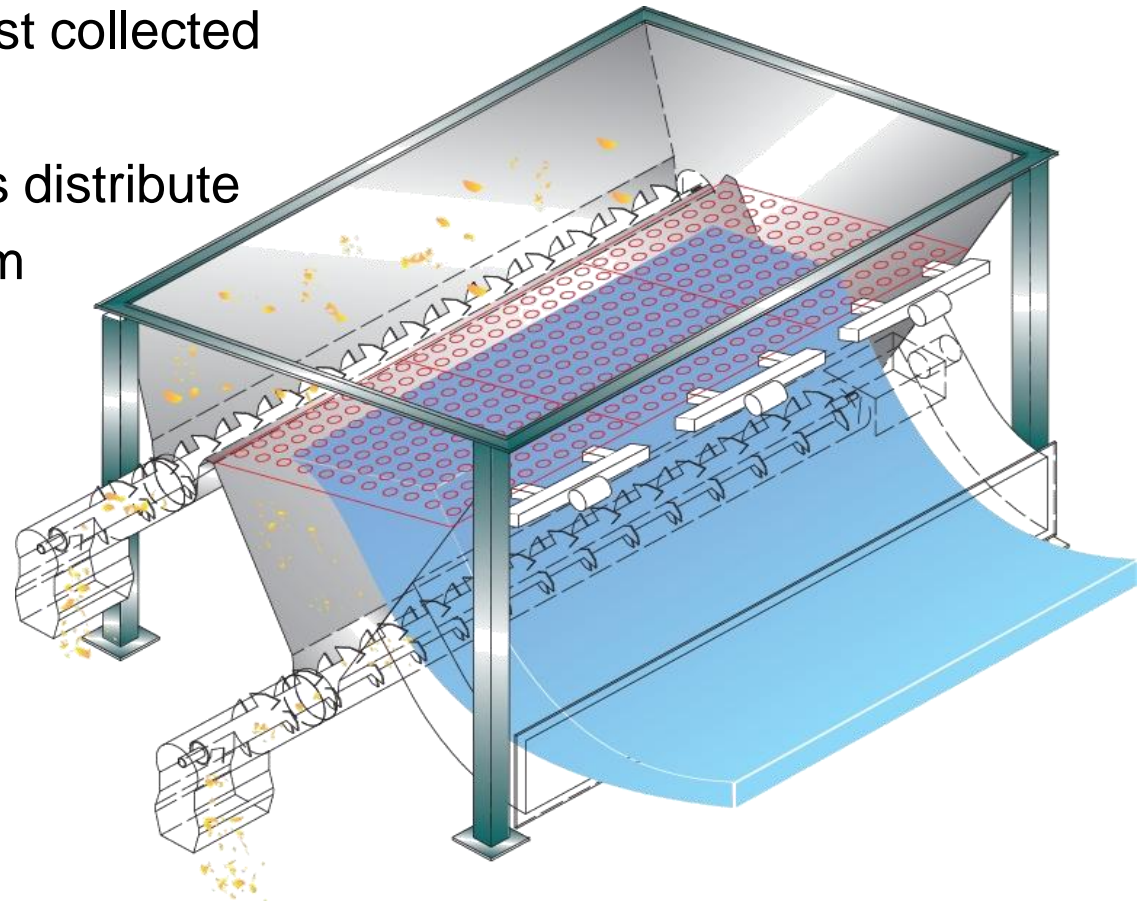


Outlet separation bend

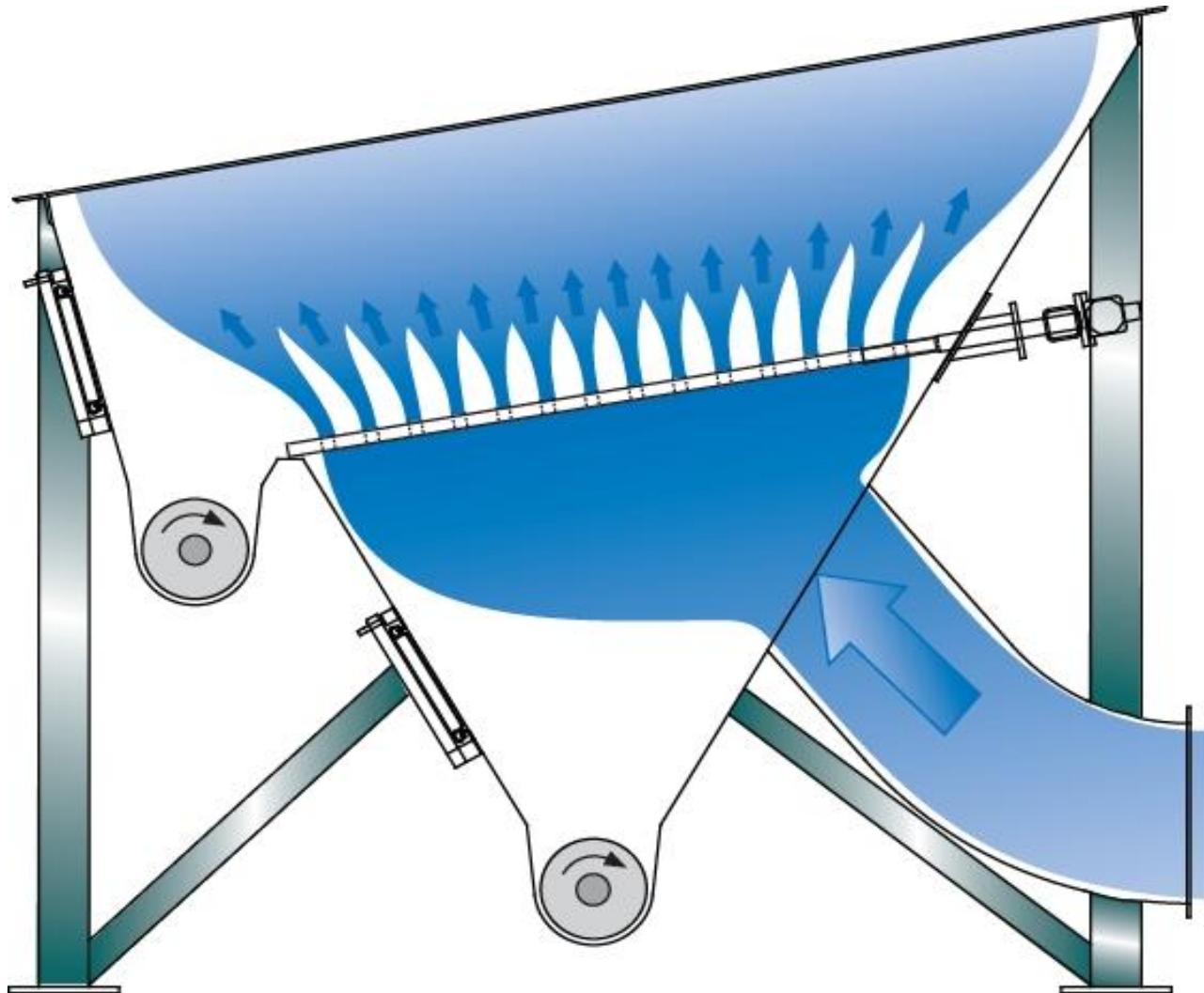


Reject hopper including distribution plate

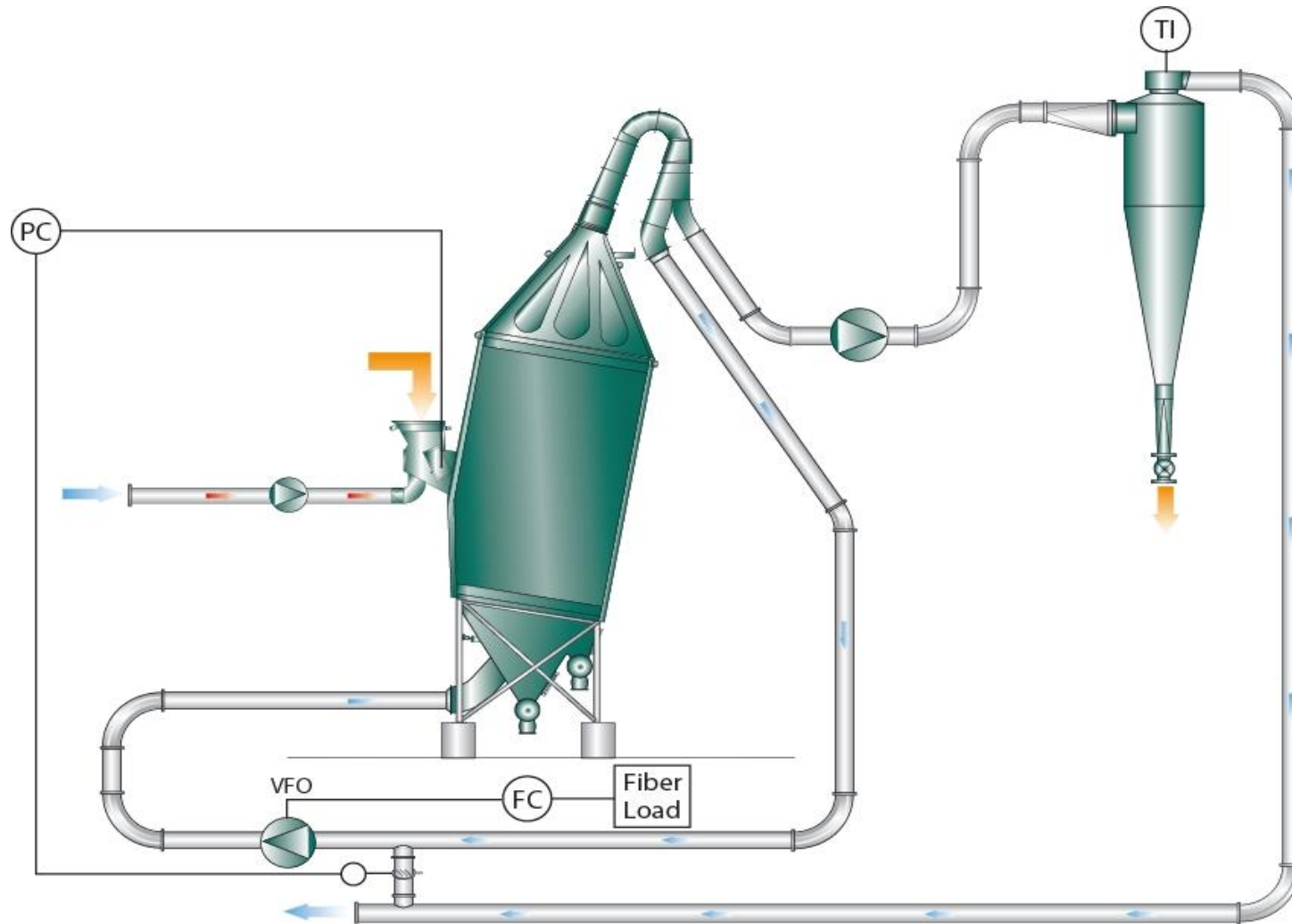
- Upper reject screw collects the rejected material and feeds it out of the sifter
- Lower reject screw collects dust collected under the distribution plate
- Distribution plate with vibrators distribute the airflow evenly in the bottom



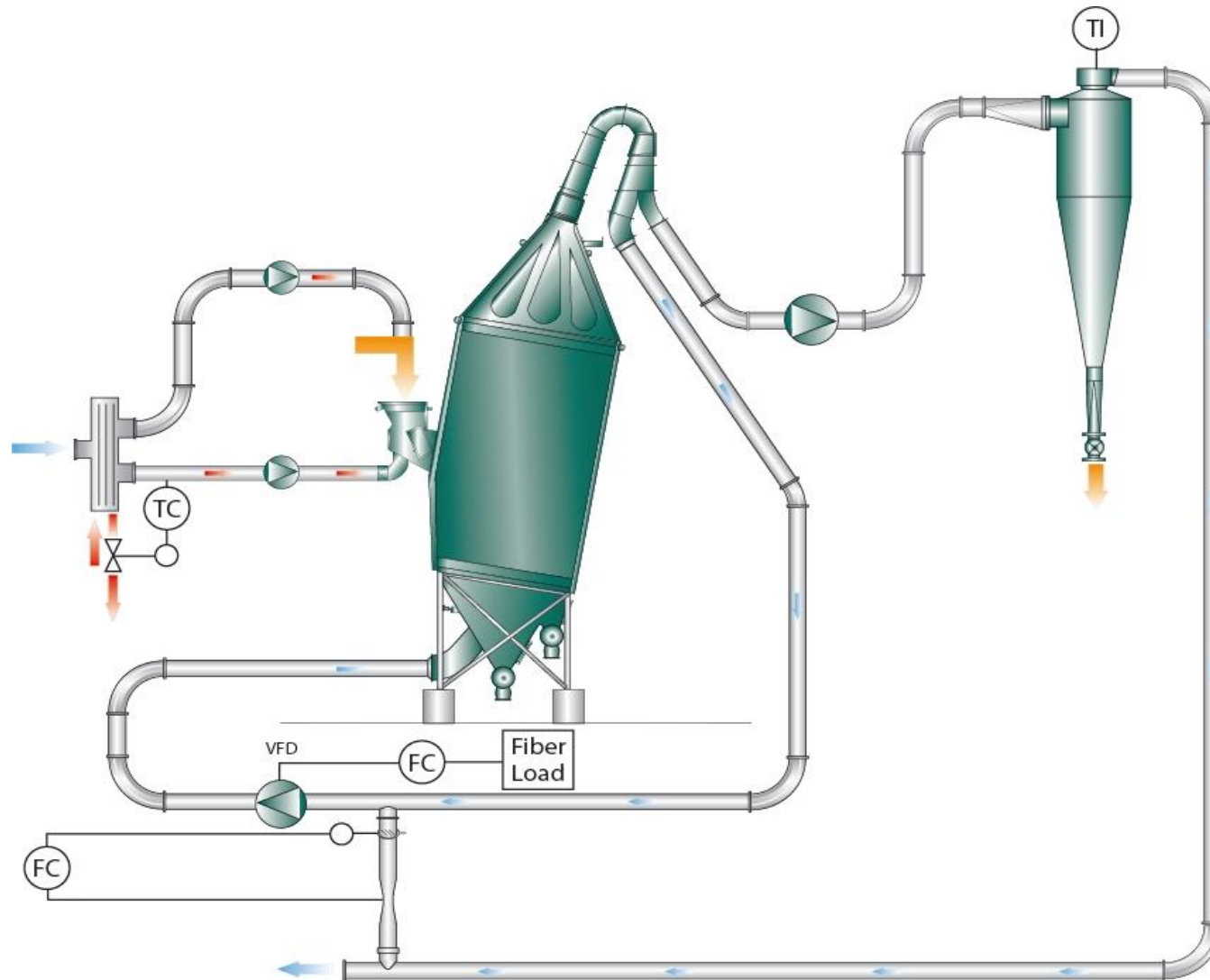
Reject hopper including distribution plate



Fiber cleaning control principle: Pressure control



Fiber cleaning control principle: Airflow control



Z-Sifter™ control system

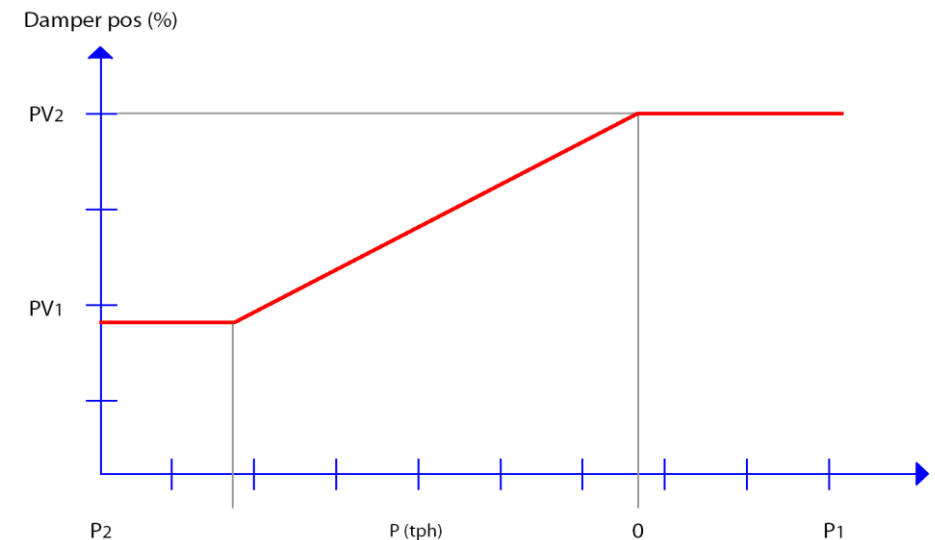
■ Pressure / airflow control

- Z-Sifter™ inlet pressure is automatically controlled with a damper in the return air duct

■ Velocity control

- lifting air velocity is controlled with a damper in the circulation duct in relation to the fiber flow in production mode and with a fixed position in stand-by mode

$$PV = \text{Offset} + \text{Production} \times \text{Ratio}$$



Z-Sifter™ Reference List

Plant name and location	Country	Start-up year	Width	Depth	Version	Raw material
Kijchai MDF	Thailand	2011	400	300	Ver. 4	
Mostovdrev	Belarus	2011	350	227	Ver. 4	
Nelson Pine line II MDF Furniture	New Zealand	2011	275	227	Ver. 4	100% softwood
East II	Iran	2011	350	227	Ver. 4	
Greenply	Poland	2011	400	300	Ver. 4	100% softwood
Vanachai, Line 5, Suratthani	India	2009	350	227	Ver. 4	
Kronospan	Thailand	2008	400	300	Ver. 3	
Huasheng	Poland	2008	350	227	Ver. 3	100% softwood
Pfleiderer	China	2008	275	227	Ver. 3	
Masisa SA	Poland	2007	400	300	Ver. 3	100% softwood
Nelson Pine line III	Chile	2007	400	300	Ver. 3	100% softwood
Berneck	New Zealand	2007	275	300	Ver. 3	100% softwood
Dongwha Merbok	Brasil	2007	350	300	Ver. 3	100% softwood
Advance Fibre	Malaysia	2007	275	300	Ver. 3	
Vanachai, Line 4, Suratthani	Thailand	2006	400	300	Ver. 3	
Nuova Rivart	Italy	2006	275	157	Ver. 3	
Alfa-Wood - Pindos S.A., Grevena	Greece	2005	275	157	Ver. 3	100% softwood
FINSA-Fibranor, Line 2, Rabade	Spain	2004	350	300	Ver. 3	100% softwood
Kronotex GmbH, Wittstock	Germany	2004	275	300	Ver. 3	100% softwood
MDF Hallein GmbH & Co KG, Hallein	Austria	2004	275	300	Ver. 3	100% softwood
Vanachai, Line 2, Ban Bueng, Chon Buri	Thailand	2004	350	300	Ver. 3	
FINSA-Orember, Orense	Spain	2003	400	227	Ver. 3	100% softwood
Robina Woods (Yichun) Limited, Robina Yichun II	China	2003	350	300	Ver. 3	
Vanachai, Line 2, Ban Bueng, Chon Buri	Thailand	2003	275	227	Ver. 3	
Sugar Cane & By-Products Dev. Co.	Iran	2002	275	227	Ver. 3	
Guangxi Sunway HDF, Wuzhou	China	2002	350	300	Ver. 3	
Weyerhaeuser Europe, (Medite), Line 2, Clonmel	Ireland	2001	275	227	Ver. 3	100% softwood
Weyerhaeuser Europe, (Medite), Line 2, Clonmel	Ireland	2001	275	227	Ver. 3	100% softwood

Z-Sifter™ Reference List

Plant name and location	Country	Start-up year	Width	Depth	Version	Raw material
FINSA-Fibranor, Line 1, Rabade	Spain	2000	275	227	Ver. 3	100% softwood
FINSA-Fibranor, Line 2, Rabade	Spain	2000	350	300	Ver. 3	100% softwood
Masisa Argentina II, Concordia	Argentina	2000	275	227	Ver. 3	100% softwood
Placas do Paraná, Jaguariaíva, Paraná	Brazil	2000	275	300	Ver. 3	100% softwood
Paneles Arauco SA (Alto Paraná SA), Puerto Piray	Chile	2000	275	300	Ver. 3	100% softwood
Paneles Arauco SA, Trupan II, Cholguan	Chile	2000	275	300	Ver. 3	100% softwood
Binder Holz GmbH, Hallein	Austria	1999	275	300	Ver. 3	100% softwood
Masisa do Brasil, Ponta Grossa, Paraná	Brazil	1999	275	300	Ver. 3	100% softwood
Metro MDF Co. Ltd., Line 2, Kanchanaburi	Thailand	1999	275	300	Ver. 3	
Fantoni S.p.A., PL 6, Osoppo	Italy	1998	400	200	Spec.	
FINSA-Padron, Line 2, Padron	Spain	1997	400	157	Ver. 3	100% softwood
Dongwha Fiberboard, (Golden Hope), Nilai, Seremban	Malaysia	1997	275	227	Ver. 3	
Plantation Timber Products Ltd., Line 2	China	1997	400	157	Ver. 2	
Fibramold. S.A., Cabrero	Chile	1996	275	157	Ver. 2	100% softwood
FINSA-Padron, Line 2, Padron	Spain	1996	275	227	Ver. 2	100% softwood
Guangxi Wuzhou Weihong Fiberboard Co. Ltd.	China	1996	400	157	Ver. 2	
Samling Corporation Sdn Bhd, Miri, Sarawak	Malaysia	1996	400	157	Ver. 1	
Agro Lines, Chacheongsao	Thailand	1995	400	157	Ver. 1	
Alpine MDF Ind. (Dominance), Wangaratta, Vic.	Australia	1995	275	227	Ver. 1	100% softwood
Fibranova, (Masisa), Coronel, Concepcion	Chile	1995	275	227	Ver. 1	100% softwood
Guthrie MDF Sdn Bhd, Kulim, Kedah	Malaysia	1995	275	227	Ver. 1	
Fibranova, (Masisa), Coronel, Concepcion	Chile	1995	275	227	Ver. 1	100% softwood
Masisa Argentina I, Concordia	Argentina	1995	275	227	Ver. 1	100% softwood
Rayonier NZ Ltd., Matura, Southland	New Zealand	1995	275	227	Ver. 1	100% softwood
Spanolux S.A., Vielsalm	Belgium	1995	400	227	Ver. 2	100% softwood
Hokushin Plywood Co., Line 3, Kishiwada	Japan	1994	400	157	Ver. 1	
Metro MDF Co. Ltd., Line 1, Kanchanaburi	Thailand	1994	400	157	Ver. 1	
Seihoku, Ishinomaki	Japan	1994	400	157	Ver. 1	