

SLUDGE DEWATERING EQUIPMENTS
BELT PRESSES UNITS



We produce Belt Press Systems, which are one of our areas of specialization. With wide capacity range and various material choices. Our company, in addition to TSEK, ISO 14001 Environmental Management System and OHSAS Certificates, is accredited for ISO 9001-2000 Quality Management System.



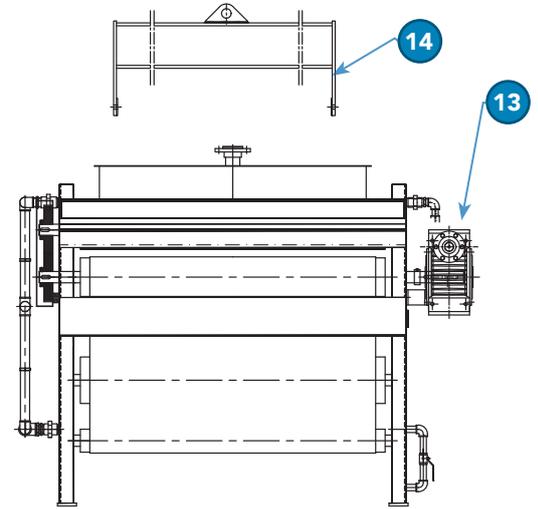
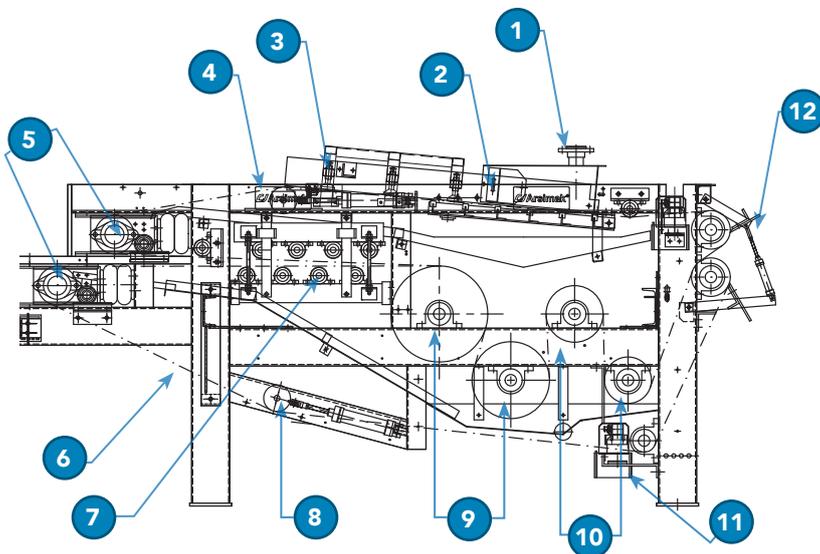
BELT FILTER PRESS USAGE AREAS

- Food and Beverage Industry
- Industrial Sludges
- Biological Sludge
- Metal Industry
- Mining Industry
- Chemistry Industry
- Pulp and Paper Industry
- Leather Industry

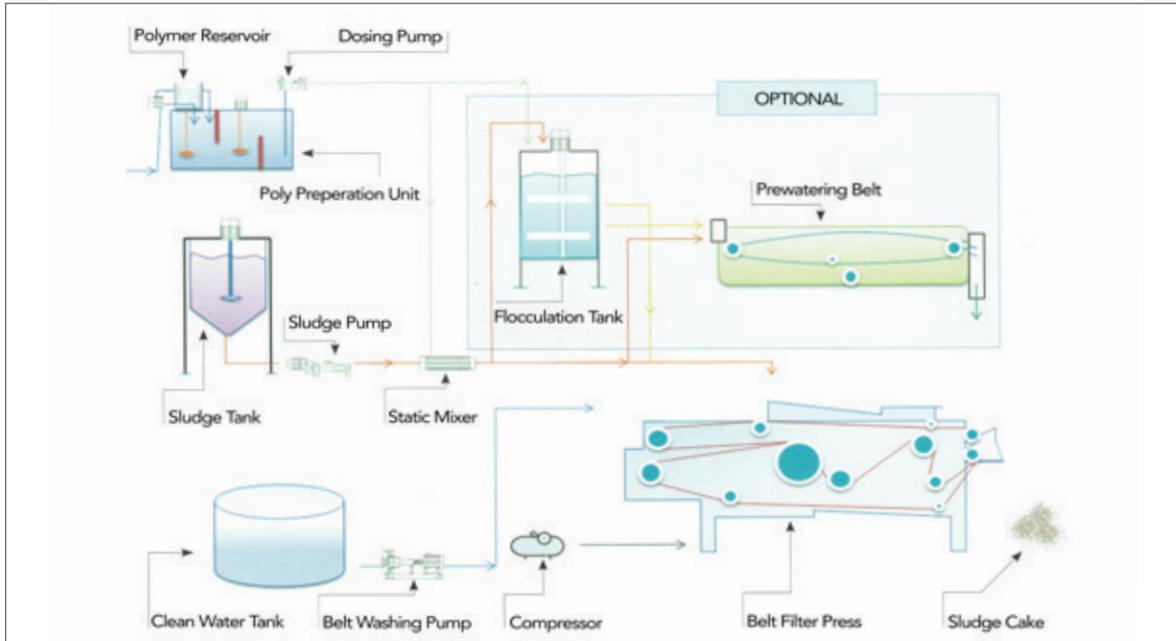
BENEFITS OF BELT FILTER PRESSES UNITS

With its continuously working system, low energy consumption and high capacity characteristics, Belt Press is a broadly applicable product preferred for Municipal and Industrial Zones waste treatment facilities. Belt Presses are high capacity equipments performing dewatering by using pressureresistant belts for the drum compression pressure.

Belt Presses can be operated uninterruptedly and display low energy costs.



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|---------------------------------|--------------------------|
| 1 SLUDGE INLET | 8 DIRECTION DRUM |
| 2 PREDEWATERING BELT | 9 FOREHEAD PRESSURE ZONE |
| 3 DIRECTION DRUM | 10 COMPRESSION DRUM |
| 4 UPPER BELT | 11 BELT WASHING |
| 5 BELT TENSIONNING | 12 CAKE DISCHARGE |
| 6 LOWER BELT | 13 DRIVE UNIT |
| 7 CAKE THICKNESS CONTROL SYSTEM | 14 LIFTING APARATUS |



WORKING SYSTEM OF ARSIMAK BELT FILTER PRESSES UNITS

1. Liquid slurries are collected in a sludge storage tank used for averaging volumes and concentrations.
2. Polymer is added to the sludge taken from the main drum and transferred to the flocculation drum to perform flocculation step.
3. The optional pre-dewatering belt can be used for the pre-dewatering of the flocculated sludge.
4. Then, the sludge obtained from the pre-dewatering step is transferred to the belt press.
5. By compressing the sludge overspread on the moving belts between the drums, the dewatering process is performed. The cleaning step is constituted by the cleaning of the cake formed in the filter press after the opening of this latter.
6. The sludge cake is separated from the system while passing through the skimming drums.
7. While passing through the washing device, the belts are washed off their sludge particles and pursue the dewatering process.

BELT FILTER PRESS TECHNICAL SPECIFICATIONS

Model:		ABF 100	ABF 120	ABF 150	ABF 200	ABF 250
Belt Width	mm	1000	1200	1500	2000	2500
Sludge Capacity	m ³ /h	3-12	4-14	5-18	7-24	9-30
Belt Washing water request	m ³ /h	7.0	8.5	11	14	17
Drive Power	kW	1.1	1.5	1.5	2.2	2.2
Weight	kN	4200	4500	4800	6550	7850

TECHNICAL DETAILS

SLUDGE TYPE	SOLID CONTENT OF SLUDGE%	G/KG (POLIMER)	THROUGHPUT KG-DS/H-M	SOLID OF CAKE
Domestic Mixed Raw Sludge	2-6	3-8	120-350	25-38
Domestic Excess Activated Sludge	1-3	5-10	70-150	18-25
Sewage Digested Sludge	3-6	3-6	150-400	24-38
Slaughter Excess Activated Sludge	1-3	5-10	50-140	18-22
Slaughter 1st Sedimentation + Activated + Coagulation	2-4	5-8	80-150	18-26
Alcohol Industry Sedimentation + Activated Sludge	2-3	5-10	60-100	18-23
Chemical Activated Sludge	1-3	4-10	50-70	13-17
Food Industry Activated Sludge	1-2	4-8	50-80	15-18
Paper Mill Sludge	2-5	2-4	100-450	25-45
Stone Sludge	2-4	1-2	600-800	65-75
Painting Sludge	1.5-2.5	6-9	50-130	17-30
Metal Sludge	3-5	2-6	100-350	25-38
Leather Sludge	3-5	3-8	50-150	22-38
Dyeing Sludge	1.5-2.5	4-10	50-140	17-22
Gliding Sludge	1.5-2.5	2-6	50-240	16-25

BELT FILTER PRESSES SYSTEMS

Flocculation system

Flocculation is the name given to the process allowing the sludge to reach a composition suitable for dewatering process by addition of polymer and creation of the molecule chain called flok.

Frame

The main structure conveys the belt system constituted by the rotating drums. It is hot dipped galvanized or stainless steel to ensure the corrosion resistance.

Rollers

Within the belt press system, different drums with various functions are present. These drums are coated to obtain a sharp surface, thus protected against corrosion. Our standard series are 2 belt presses. These belts are made of high resistance filter material displaying high level filtration capacity.

Discharge Blades

The sludge going through the last drums is separated from the belt with plastic skimmers and transferred to the container or transporting belt

Belt Tensioning system

The skimming system is performed by sensitive pneumatic system and is adjusted not to damage the belt in long-term. Similarly, the belt stretching system must be adjusted to prevent it from reducing the belt physical life.

Belt tracking system

To allow the movement of the belt sliding on the drums without any right-left movements, an automatic belt correction system is present. In case of belt sliding in the continuously working system, the belt is fixed by moving the drums with pneumatic bellows. As the belt presses are continuously working systems, this property is very important.

Bearings

These bearings presenting a minimum of 100.000 hours physical life possess special rollers. These pieces are among the most important pieces of the Belt Press System.

Belt washing systems

The system, equipped with 2 different wash stations, can perform the washing of the lower and upper belts separately. The particles that can lead to blockage on the belt can be easily cleaned up by unblocked self cleaning nozzles present in the wash system.

Drainage

The water extracted from the sludge during the dewatering step and the water coming from the belt washing are sent away from the system by the drainage line.

Drive unit

Drum propulsion system can be adjusted with the frequency conveyor.

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