

Revolutionary Design

DEWA FPD multi-stage series sludge dewaterer is a combination of B T N (belt thickener) and FP (pressing unit), designed for the most demanding and large capacity applications. The FPD is an in-built thickening / dewatering unit based on the unique design feature and up to date technology. The FPD multistage dewaterer is rather easy to modify according to the characteristic of the sludge as well as throughput and cake solids requirements.

One of the unique feature of the FPD is that the gravity section (BTN) can be operated as an individual sludge thickening unit or it can be configured with FP as a combine sludge dewaterer.

Moreover, the gravity section (BTN) can be modified to facilitate high flow rates.

Totally enclosed design construction enables to contain odour within the machine. This means, the requirements of ancillary equipment for odour removal is rather minimal compared with traditional belt press unit, which require venting of the entire dewatering room.

Today, DEWA recognised as the pacesetter in the field of sludge dewatering and it's systems and approaches have proven that they are far more economical, reliable, efficient and commensurable with any of it's kind dewaterer.

Pneumatic and electrical devices

Tensioning and alignments of the belt maintained automatically by pneumatic system. This flexible and sophisticated system provides continuous and smooth control without the need for operator intervention. In the event of pressure failure, the system will signal to MCC to initiate necessary alarm. All the pneumatic components e.g. cylinders, valves, regulators, gauges as well as electrical components e.g. limit switches are located outside of the belt filter press frame, which makes easy to observe them visually all the time.

As an option, hydraulic system for the belt tensioning and alignment is also available. This includes hydraulic power pack, valves and control unit to operate hydraulic functions.

Gravity zone

An extra large gravity zone provides effective thickening even at high flow rates. A specially designed ploughs enable to open and turn the sludge mat and allow penetrating excess water from the gravity zone. Transverse support beams, which are located underneath the filter cloth, provide a slight downward pressure for improved water removal and prevent formation of surface tension.

Wedge and low-pressure dewatering zones

Wedge dewatering zone uses the gravitation force to reduce the volume of the sludge in preparing for pressing. Transverse support beams, which are located underneath the filter cloth, provide a slight downward pressure for improved water removal and prevent formation of surface tension. In the low-pressure zone, the sludge is passing through large perforated drum (s), specially drilled roll that aids filtrate removal. In addition, sludge is direct to liner pressure as it is conveying in between the upper and lower belts.

Odour extraction

The monocoque construction of the DEWA belt filter press enables to contain the odour within the machine, so it is rather easy to extract from the suction pipe which locates under the cover of the belt filter press. This revolutionary design concept creates clean and odour-free working environment.

Totally enclosed with conveyor

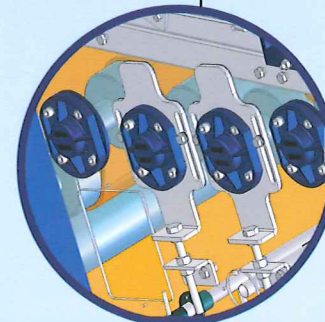
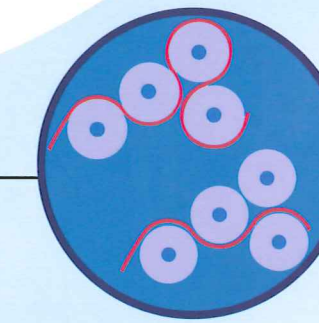
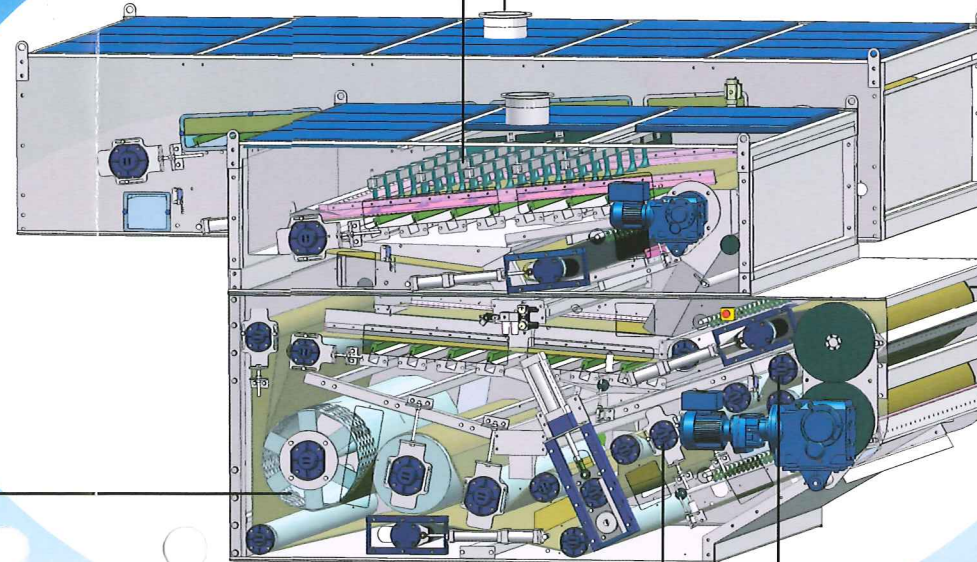
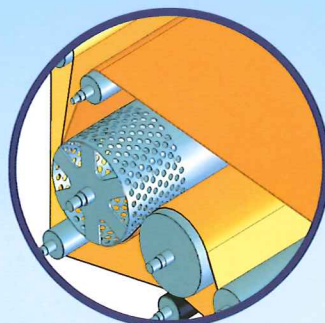
Due to strict health regulation imposed by EU directive as well as other authorities around the world, DEWA has designed this new innovative system to fulfil these requirements. The conveyor can integrate with the FPD unit totally enclosed to avoid the odour and other detriments, which are generally realising from the dewatering process.

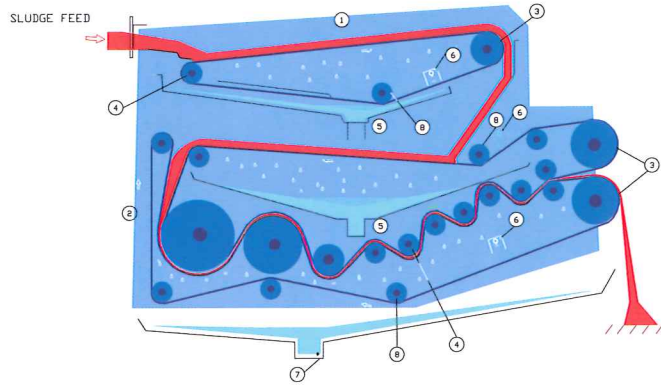
Nip arrangements

In order to obtain maximum cake dryness, the DEWA FPD multi-stage has been designed with several roller arrangements possibilities. With an additional rollers and modified belt path, the total exposure time of the cake can be extended considerably.

Bearings

All bearings are located outside of the frame and easy to inspect and maintain them without dismantling any component. Roller bearings are lifetime rated comprise with special DEWA housing and sealing arrangements. Alternatively, lubrication free, polyethylene sleeve bearings are available for e.g. food processing etc. industry. Special DEWA designed roller adjustment mechanism allows adjusting the rollers of the wedge and pressing zones individually. Due to this distinctive advantage, the dewatering of difficult sludge can carry out smoothly.





1. Predewatering Zone
2. Pressing Zone
3. Drive Rollers
4. Tensioning Roller
5. Filtrate Tray
6. Belt Washing System
7. Filtrate Discharge (Optional)
8. Belt Steering Rollers

FPD CAPACITY CHART
(with standard gravity table)

MODEL	FPD 11	FPD 16	FPD 21	FPD 26	FPD 31
Belt width mm	1100	1600	2100	2600	3100
Effective filtrate area m ²	12.5	18.0	25.5	30.0	36.0
Sludge flow m ³ /h	5-20	10-40	20-60	35-80	50-100
DS capacity kg DS/h	150-450	300-600	450-1000	700-1500	900-2000

FPD DIMENSION CHART
(with standard gravity table)

MODEL	FPD 11	FPD 16	FPD 21	FPD 26	FPD 31
Length mm	3400	3400	3400	3400	3400
Width mm	1910	2410	2950	3450	3950
Height mm	2130	2130	2130	2130	2130
Weight kg	2200	2900	4000	4400	5000
Power kW	1.12	1.12	2.05	2.05	2.05

BTN/FP CAPACITY CHART
(with extended gravity table)

MODEL	BTN 1035	BTN 1535	BTN 2035	BTN 2535	BTN 3035
	FP 11	FP 16	FP 21	FP 26	FP 31
Belt width mm	1100	1600	2100	2600	3100
Effective filtrate area m ²	14	21	28	35	42
Sludge flow m ³ /h	20-30	20-60	40-100	60-150	80-200
DS capacity kg DS/h	150-450	300-600	450-1000	700-1500	900-2000

BTN/FP DIMENSION CHART
(with extended gravity table)

MODEL	BTN 1035	BTN 1535	BTN 2035	BTN 2535	BTN 3035
	FP 11	FP 16	FP 21	FP 26	FP 31
Length mm	5300	5300	5300	5300	5300
Width mm	1950	2450	2950	3450	3950
Height mm	2300	2300	2300	2300	2300
Weight kg	2400	3200	4300	4800	5500
Power kW	1.85	1.85	3.0	3.0	4.4

Dewaco Ltd receives the rights to modify these specifications
NOTE: The dimensions are given without filtrate tray and mounting bed



DEWA
FPD Multi-Stage
Belt Filter Press



Advantages

- The largest available filtration areas for optimum throughput and dry solids.
- High flexibility relating to feed concentration and throughput.
- Easy to modify to suit any application.
- Low operating cost (flocculent, energy, water).
- Closed construction, no separate odour cabin required.
- Continuous, fully automated operation.
- High dry solids contents, thus low cost for disposal.
- Compact configuration, thus low space requirements.
- Low requirement of spare parts and expandable parts.
- Customer Satisfaction Guaranteed

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