

HUBER Screw Press Q-PRESS®



The new generation of our well-proven sludge dewatering press

- even more efficient
- increased reliability of operation
- optimized operating costs

►► Sludge dewatering

Flocculated sludge is pumped into a cylindrical screen basket wherein an auger slowly rotates. The diameter of the auger's shaft increases towards the end of the basket and the gap between its flights decreases. The volume between basket, shaft and flights continuously decreases, and the pressure thus increases, as the sludge is moved through the basket. Sludge water is pressed through the basket's screen.

The auger pushes the increasingly thicker sludge towards the annular clearance, defined by a circular opening and an adjustable discharge cone therein. The cone is pressed against the opening by pneumatic cylinders, thus maintaining a defined sludge pressure at the discharge end.

Scrapers on the screw shaft permanently clean the filter basket from the inside. A stationary spray bar backwashes it periodically and segment by segment by segment from the outside without interrupting the dewatering process.

►► Innovation

Energy efficiency:

The screw drives exceed the current energy efficiency standards of electric motors. Due to maximised electrical efficiency the HUBER Screw Press Q-PRESS® can therefore be operated with higher solids throughputs.

Dewatering results:

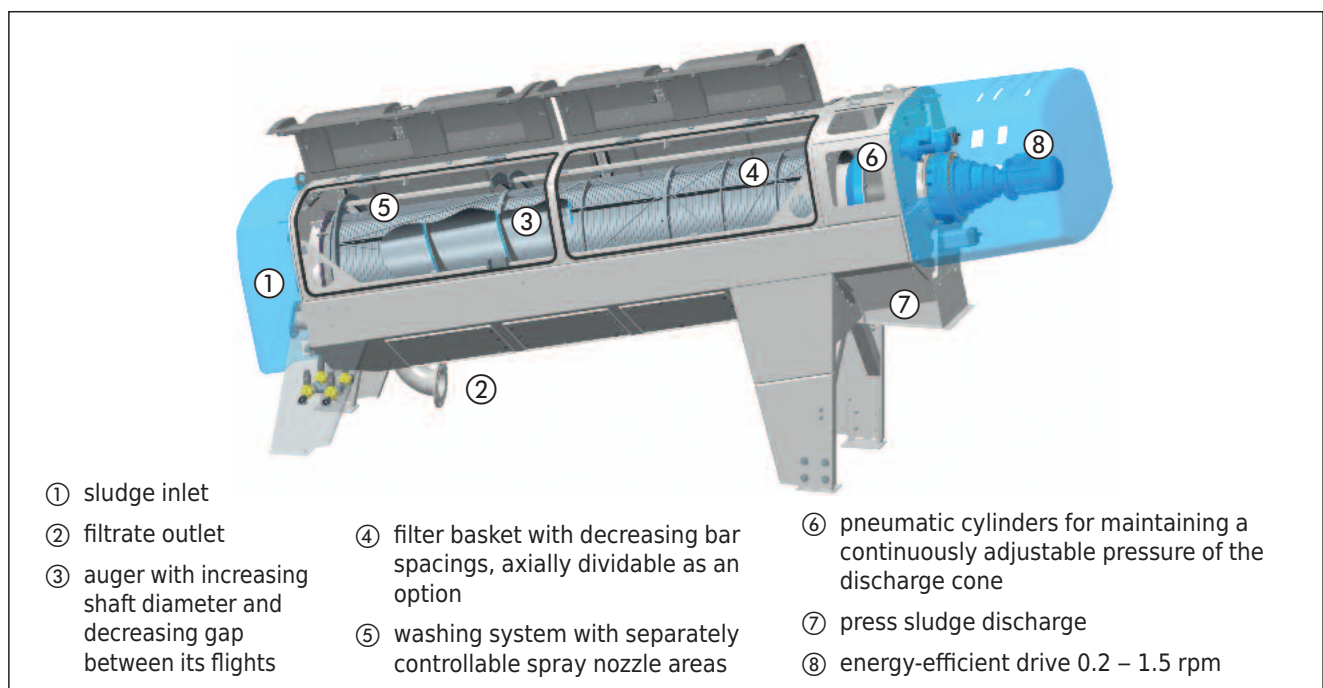
Unique scrapers on the screw shaft permanently and reliably clean the inner filter surface with every rotation of the screw. Additionally, the scrapers are optimally arranged to increase cleaning frequency. Free water can thus very easily run off. As a result, dewatering efficiency increases and flocculant consumption is reduced.

Due to the significantly enlarged open filter surface filter baskets with the same bar spacings are able to handle higher hydraulic loads without impairment of filtrate quality.

The outside of the filter is cleaned without interrupting the dewatering process. The predewatering and press zone can be washed independently of each other. Rewetting of press sludge through washing is reduced to a minimum especially in the press zone without neglecting the important washing in the predewatering zone.

Maintenance:

As an option, the three segments of the filter baskets are available as axially divided segments. Only the upper half of the basket needs to be removed for maintenance. The lower half of the filter basket can be removed from the screw shaft by means of a special mechanism but remains inside the filtrate chamber of the Q-PRESS® during maintenance. This saves a lot of time, reduces space requirements and the need for using lifting devices for maintenance.



Partial section of a HUBER Screw Press Q-PRESS®

►► Advantages

High dewatering

- defined sludge volume reduction in the screw press
- continuously adjustable counterpressure at the discharge end
- filtrate discharge enhanced by gravity due to inclined installation
- unique scraper system for permanent cleaning of the inner filter surface
- significantly increased free filter surface
- continuous dewatering

Reliable operation with little downtime

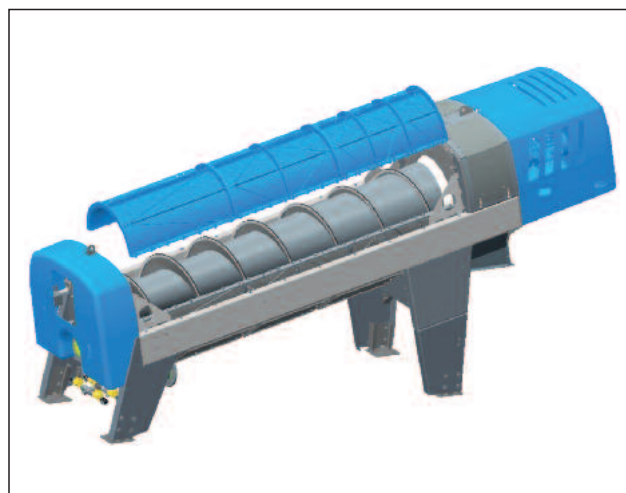
- virtually no wear because of < 1.5 rpm screw rotation speed
- sturdy stainless steel design
- dividable filter baskets available as an option
- special filter dividing mechanism
- easy access through large inspection openings
- minimal space requirements for maintenance
- simple self-monitoring control strategy
- proven in hundreds of installations

Minimum operation costs

- outstanding energy efficiency
- specific power consumption < 8 kWh/t_{DR}
- little operator attention (< 20 min/day)
- high solids capture rate $> 97\%$

Low total investment costs

- compact design and small footprint
- easy connection of the screw conveyor
- optional tube flocculator
- integrated support legs
- simple control system
- vibration-free, virtually noiseless operation
- fully enclosed design



HUBER Screw Press Q-PRESS® inclined installation with optionally dividable screen baskets



Sturdy wedge wire basket made of stainless steel



Stationary mounted screw press for 3 m³/h

➤➤ Special applications of the Q-PRESS®

Dewatering of thin sludges

Due to pump feeding, large volumes of sludge water are removed already in the pre-dewatering zone. This permits cost-efficient dewatering of thin sludges with a solids concentration < 1%.

Benefits

- sludge dewatering without the need for prior thickening
- typical dewatering results of 18 – 25% DS
- sludge volume reduction up to > 97% in a single step
- saves investment and operation costs for preceding sludge thickening
- little operator attention required

Variable sludge characteristics

Dewatering performance is usually impaired and operator attention increased by frequently varying sludge quality.

Our HUBER Screw Press Q-PRESS® automatically selfadjusts to over- and underloading. A control loop makes sure that optimal operation is always maintained.

Benefits

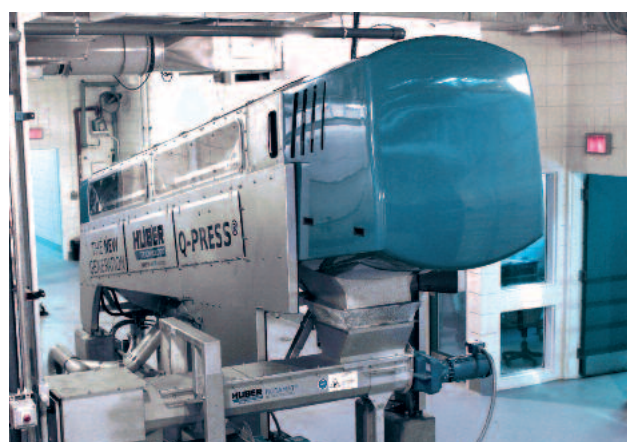
- always optimum performance
- flexible with varying sludge qualities
- minimised operator attention
- reliable operation

➤➤ Unit sizes / performance

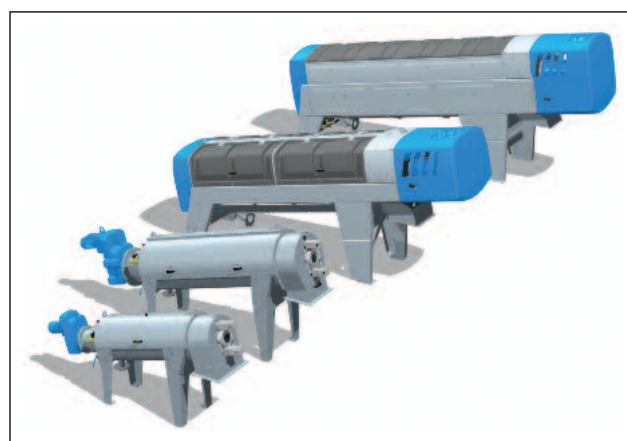
Size	Throughput [kg _{TR} /h]	Drive [kW]	Weight [t]
280	15 - 90	0.55	0.7
440.2	30 - 180	1.5	1.5
620.2	60 - 350	2.3	2.7
800.2	90 - 540	4.1	3.5



Contract dewatering with a trailer-mounted HUBER Screw Press Q-PRESS®



HUBER Screw Press Q-PRESS® 800.2 for 20 m³/h



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