JAGTAP

FILTRATION / SEPARATION / DEWATERING

your reliable filtration partner

JAGTAP
SCREW PRESS

Provides high capacity and excellent solids capture in a fully enclosed system with simplified operation.

www.jagtapengineering.com

ABOUT US

Jagtap Engineering's business is primarily focused around the design and manufacturing of welded wedge wire screen and filtration products for various process industries.

The Jagtap filtration products are leading the industry in superior constructions, durability and quality. with a proven record it is a simple choice for reliable filtrations process.

The JAGTAP
SCREW PRESS

Our dewatering screw press, which serves to dewater the sludge to 25% dry-matter content, can provide efficient di-moisturizing of sludge. In terms of quality, this equipment surpasses traditional sedimentation sludge removal.

This dewatering / thickening / compacting screw press has been designed to be used primarily in wastewater treatment plants, but can also be used for dewatering / thickening / compacting both industrial water and wastewater in food- processing operations.

If a dewatering press is already incorporated into the new WWTP design, costs related to the construction of sedimentation tanks are eliminated as this equipment can also be used for thickening secondary sludge directly from activation.

DEWATERING / THICKENING / COMPACTING BOTH INDUSTRIAL WATER AND WASTEWATER IN FOOD- PROCESSING OPERATIONS

WINERY

DAIRY

MUNICIPAL WASTE WATER

The design features of the JE Screw Presses give greater screen areas than found in conventional presses. The hopper section has a screen area covering 180º of the periphery of the screw to allow drainage of free water. The main screen section has a full 360° screen area.

FEATURES

- Automatic operation
- High quality and Reliability
- Continuous functioning
- Quick and easy installation
- Low energy consumption
- Innovative washing system
- Dewatering and discharge in one equipment
- Manufactured in stainless steel AISI 304 and 316(L)
- Welding pickled and passiviated
- Easy removable covers for hygienic inspection

CAPACITY

The rated capacity of the JE Screw Press is proportional to the bulk density of the material to be pressed, as well as the slippage characteristic of the material. The ability of the material to give up its moisture, its particle size, and its fibrous content are factors to be considered. The capacity and the water removed during pressing can be varied by adjusting the cone pressure. Adjusting this pressure assures maximum dewatering over a wide range of feed rates, permitting good turndown from rated capacity.

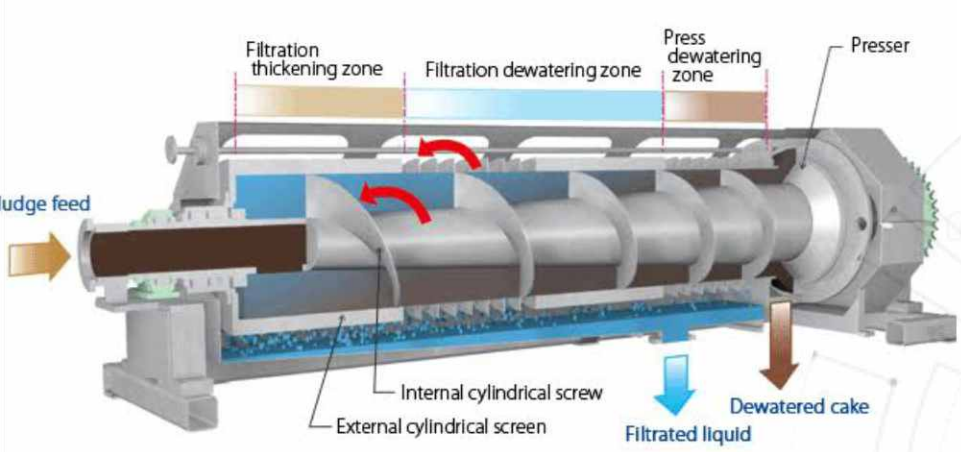
MAINTENANCE

The JE Screw press has been recognized for the exceptionally low maintenance costs associated with it. Easy access to all component parts keeps maintenance time to a minimum. Use of off-the-shelf components (gearbox, bearings, air cylinder, etc.) reduces maintenance costs and assures trouble-free operation. The all-fabricated design facilitates in-plant repairs if become necessary.

DESCRIPTION OF THE EQUIPMENT:

Sludge water is carried to the dewatering screw press using a feeder pump, which pumps sludge water to the first inlet chamber, where the flow to the other part of the press screw is optimized by means of an overflow. When sludge water leaves the inlet chamber and enters the mixing chamber, aflocculent/polymer is added which makes solid particles aggregate into so-called “flocks”. This process occurs in the mixing chamber while sludge water is slowly mixed with the flocculent by a blade shaft. Thus treated sludge water with flocks flows via an overflow towards the screw, which is the basic mechanism of the press. The graduated pitch screw gradually compresses the material as it passes through the main screen cylinder of the press. The press liquor is forced through the opening in the screen.

The press sludge cake encounters resistance at the discharge of the cylinder in the form of a cone mounted on a ram. As the material reaches the discharge point, the cone exerts final pressing action to achieve maximum dewatering. The cone system allows easy adjustment of the resistance to cake discharge.



Air cylinders, springs, or counterweights actuate the cone assembly, depending on the model. It is available in both rotating and non-rotating versions. The standard, non-rotating cone is used for pulpy, fibrous and less slippery materials, while the revolving cone model is required to permit pressing of slippery, low fiber content materials that tend to "channel" in a standard screw press.

The standard drive arrangement for the JE Screw Press is a gear reducer directly coupled to the screw shaft. Variable speed drive arrangements, are available to allow maximizing capacity as feed characteristics change. This type of drive is recommended either when different products are to be processed or when major seasonal variations occur.

The press is fed from the top at the drive end through a rectangular flanged hopper. The press cake discharges at the far end, between the bed frame beams below the cone section. Press liquor drainage is through standard or sanitary pipe connections; these are attached to the pan under the screen section.

Filtrate water returns to the wastewater treatment plant, where it can be biologically treated. Sludge which is discharged from the end of the machine can be transported, for instance, by means of a belt conveyor.

JE SCREW PRESS IS A GEAR REDUCER DIRECTLY COUPLED TO THE SCREW SHAFT. VARIABLE SPEED DRIVE ARRANGEMENTS

The press sludge cake encounters resistance at the discharge of the cylinder in the form of a cone mounted on a ram. As the material reaches the discharge point, the cone exerts final pressing action to achieve maximum dewatering.

SCREENS

The screen frames can be readily opened or removed for ease of cleaning and screen maintenance. The screens of the JE Screw Press are available in a variety of arrangements and wedge wire screen slot sizes, commonly in the 0.2 mm to 3 mm. Selection is determined by the material being pressed and the desired pressing results.

LOW AND EASY MAINTENANCE

Comprehensive range of screw presses to suit virtually any industrial application

Model No.	Max Hydraulic flow (m3/h)*	Max solids load (kg/h)
Je280	02	90
Je440	04	180
Je620	10	350
Je800	20	540

Sludge Type Municipal & Biological	Feed Solids (%)	Cake Solids (%)	Solids Recovery (%)
Waste Sludge	0.2-1.5	17-25	98
Digested	1.6-6	16-28	97
Primary	1-4	25-40	95

All capacities, dimensions, and weights are approximate. Capacities will vary for different sludge types. Please note that these capacities are maximums. The hydraulic capacity would be applicable for sludge with a solids concentration of under 1%. The solids throughput capacity would be applicable for sludge with a solids concentration of over 3%. The press should not be expected to exceed either of these numbers in any installation. Consult JEW for a more accurate assessment of capacity for your application.

JE Screw Press offers superior performance in terms of sludge dryness and power consumption over other conventional dewatering systems:

- Reduced sludge disposal costs
- High performance & efficiency
- Very slow speed screw, < 5 rpm
- Very low energy requirement
- Low maintenance requirements
- All stainless steel construction and fully enclosed
- Intermittent and low wash water requirements

Innovation & Excellence since 30 years

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