TSURUMI PUMP

Multi-Disc Dehydrator JD

Efficient Dehydration by “Gravity-Filtration” and “Capillarity”

Special Features

- **Inherits the features of ND and DS series dehydrators**

“One-touch” automatic operation is available. By combining optionally available coagulant dissolution equipment, fully unattended continuous operation is possible. It features low operation noise and vibration, and minimum malodor spreading.

- **Energy saving**

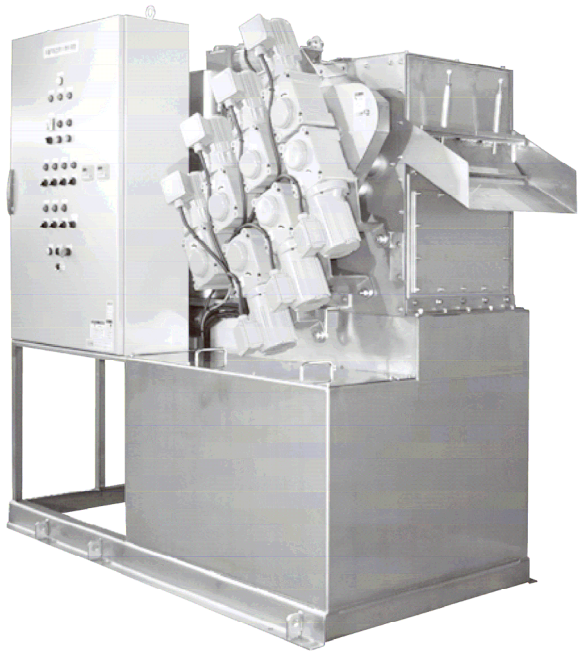
The product uses resin made discs in combination with stainless steel discs, and the configuration has been considerably simplified. The driving system utilizing Tsurumi’s unique VFD system and the flushing system utilizing a submersible pump have realized a great reduction in the energy consumption. (Compared with existing models: reduced by 50% or more in power output, 60% or more in water consumption)

- **Improved maintainability**

Simplified filter element and configuration made the maintenance works simpler than existing models.

- **More compact design**

The control panel and the flushing tank have been integrated. Installation work can be easier. Weight of the equipment has been reduced. (Compared with existing models: reduced by approximately 30%)



Specifications

Model	Treating Capacity (kg-DS/h)	Total Motor Output (kW)	Dimensions (mm)				Weight (kg)	
			Width of Filtering Rollers	Overall Length	Overall Width	Overall Height	Dry	Operating
JD-500	12 - 40	1.65	500	2207	1035	1827	1100	1600
JD-750	18 - 60	1.85	750	2242	1285	1829	1300	1950
JD-1000	24 - 80	2.6	1000	2242	1535	1829	1500	2350

- The treating capacity varies depending on the characteristics and concentration of sludge.

  General guide for treating rates per 1000mm’s width filtering roller; 40kg-DS/h for excess sludge, 50kg-DS/h for wastewater and sewage treatment sludge, 60kg-DS/h for DAF froth and livestock waste sludge. It is suggested that model selection be made with an adequate allowance.

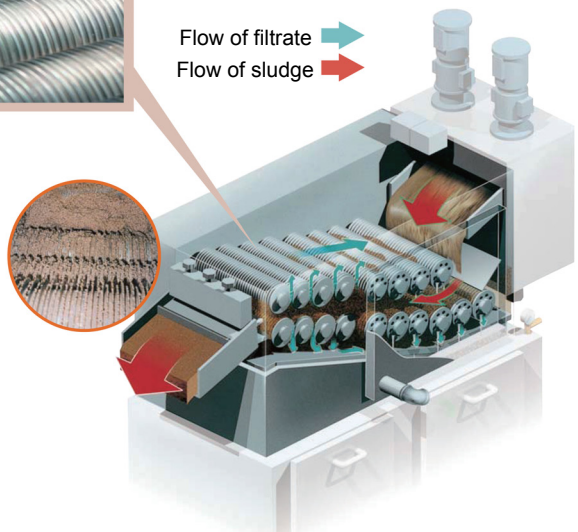
- The motor output indicates the total output of the motors mounted in the unit. The equipment outside the product such as sludge supply pump and polymeric coagulant mixing equipment, etc. are not considered.

Applications

- Excess sludge from Jokasou (packaged sewage treatment equipment), wastewater treatment plants, livestock wastewater treatment plants, and industrial wastewater treatment plants
- DAF (=Dissolved Air Floatation) froth including oil-contained sludge
- Coagulation settling sludge
- Sludge made by the mixture of above sludge

Operating Principle of the Dehydrator

The JD series Dehydrator dewaters organic sludge by a "Multi-Disc" system and enables highly efficient collection of solids with lower energy consumption.



A number of filtering rollers, each of which consists of a stainless steel shaft and multiple thin discs, are placed in two rows, upper and lower. The rollers close to the sludge inlet form the filtration section, and the rollers closed to the outlet form the dehydration section.

As the incoming flocculated sludge travels through the filtration section, only the filtrate passes through the slits between discs.

The sludge, condensed at the filtration section, is transferred to the dehydration section where it is additionally dewatered by the increased compression, as the rollers are so aligned that their gaps may become narrower as the sludge advances.

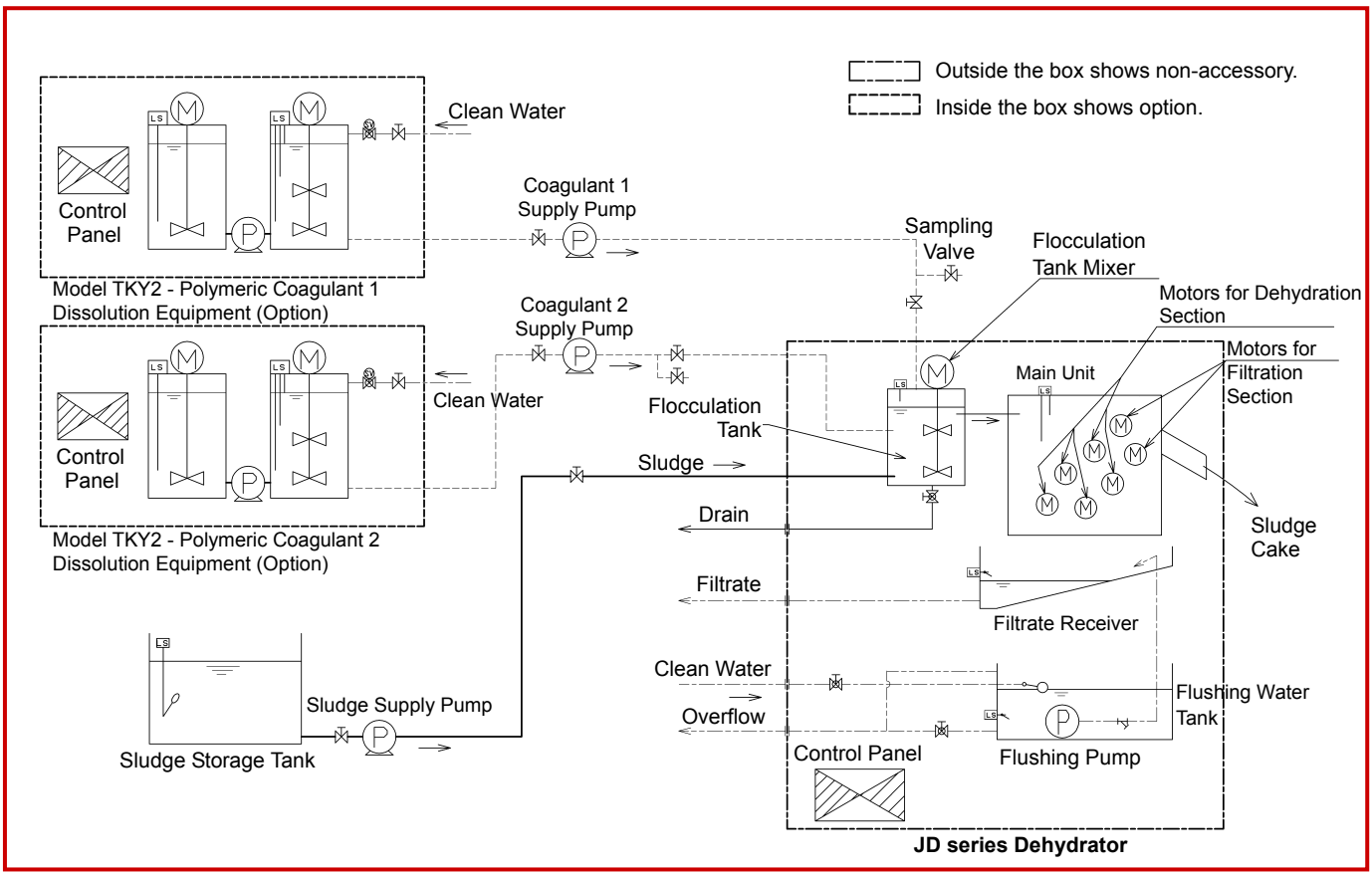
Since the rollers rotate at a very low speed, the sludge goes without being kneaded or exposed to unnecessary stress like other dehydrators.

Note: The above does not exactly illustrate the construction of JD series.

Flow Chart

The sludge is pumped from the sludge storage tank to the flocculation tank. A certain amount of coagulant dissolved water is supplied to the flocculation tank where the sludge is mixed with the coagulant and is transformed into flocs. The flocculated sludge then overflows the tank and goes to the dehydrator main unit. It is dehydrated there and is discharged outside as a sludge cake.

The product can be applied to the dehydration of sludge having various characteristics by utilizing the combination of polymeric coagulant 1 and coagulant 2. In addition, the polymeric coagulant dissolution equipment automatically dissolves the coagulant to a density that corresponds to the ullage of the dissolved coagulant, thus supporting the continuous and stable operation of the dehydrator.



Note: This flow chart shows that of the dehydrator for two coagulants.