

PD FILTER CONVEYOR Instruction Manual

(Please refer to Chip Conveyor Instruction Manual)

1 Outline

This machine is a scraper type chip conveyor with a high-accuracy PD filter.

Chips are scraped out of the machine and coolant flows to the clean tank through the screen mesh.

The PD filter is automatically washed by backwash of the coolant, enabling the filter to operate continuously.

2 Components

(1) Backwash Pump

Used for automatic washing of the screen mesh.

(2) PD (Polygon Drum) Filter PD

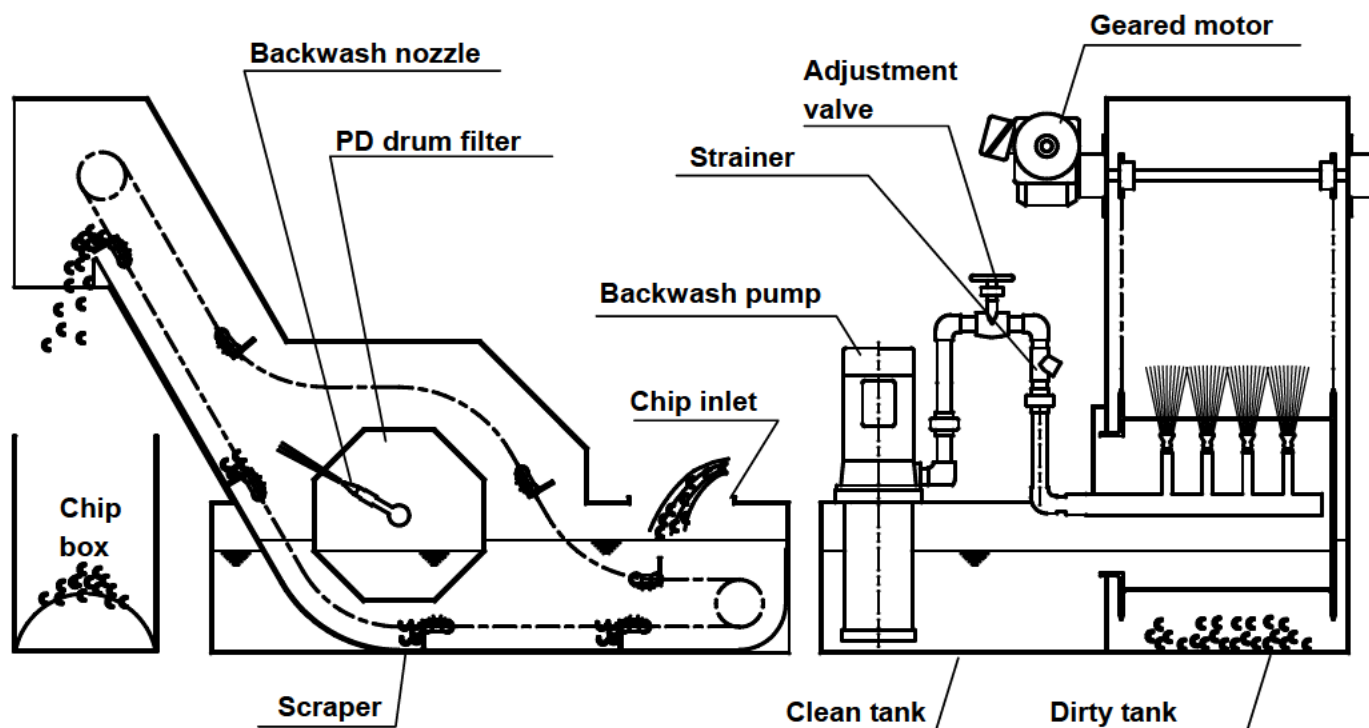
A screen mesh is attached to the octagonal drum. Only clean coolant filtered through the screen mesh is fed to the clean tank. The PD filter rotates by the conveyor chain drive.

(3) Strainer

Removes foreign substances in the backwash piping.

(4) Adjustment Valve

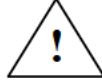
Adjusts the amount of backwash coolant.



3 Remarks for Use

(1) Transfer of chips

Chips accumulated on the bottom of the conveyor are scraped by the scraper and fed under the PD filter. When chips are larger than 50mm or $\phi 50\text{mm}$, they may be caught by the mesh.



CAUTION

- Loading of large chips over 50mm or $\phi 50\text{mm}$ or intensive loading of a large amount of chips may damage the screen mesh or cause overloading of the conveyor.

※ Ability for transportation of the conveyer: In the case of a constant interval, fixed quantity

(2) Conveyor Operation

This conveyor should be used in the continuous operation mode.



CAUTION

- DO NOT operate the machine in the intermittent mode. It may cause clogging of the screen mesh and accumulation of chips on the conveyor because backwash cleaning of the screen mesh is conducted intermittently. This results in overloading of the conveyor and breakage of the screen mesh.

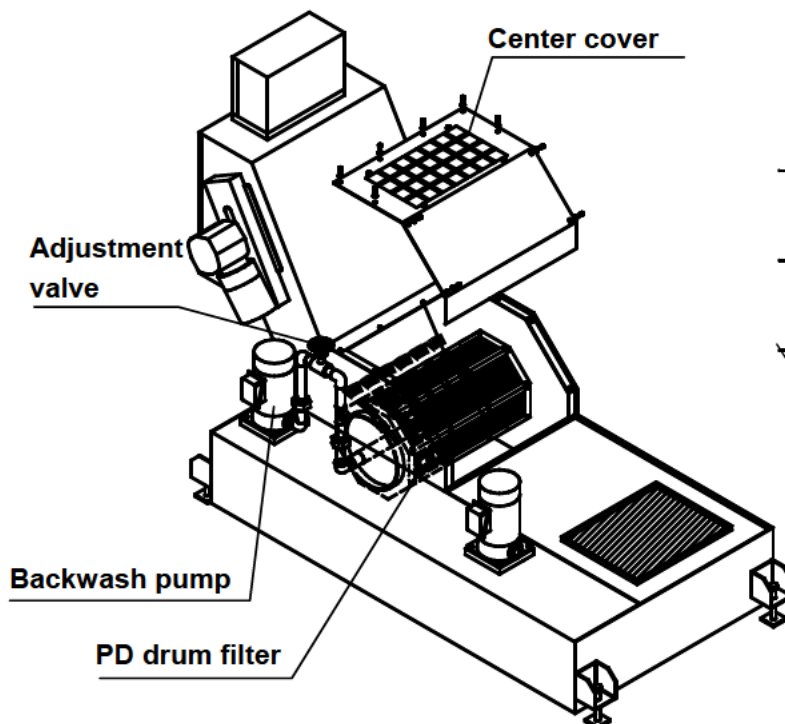
(3) Adjustment of Backwash Pump

Adjust the amount of the coolant for the backwash pump prior to machine operation so that the coolant discharged from the nozzle tip mixes with the adjoining coolant when it passes through the screen mesh. (The entire area of the screen mesh should be washed.)

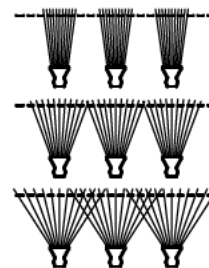


CAUTION

- A shortage of coolant may cause clogging of the screen mesh and an excessive amount of coolant may cause overflow or lathering.



■ Adjustment of the amount of the coolant



Shortage

Proper

Too much

※ Too much coolant may cause bubbling.

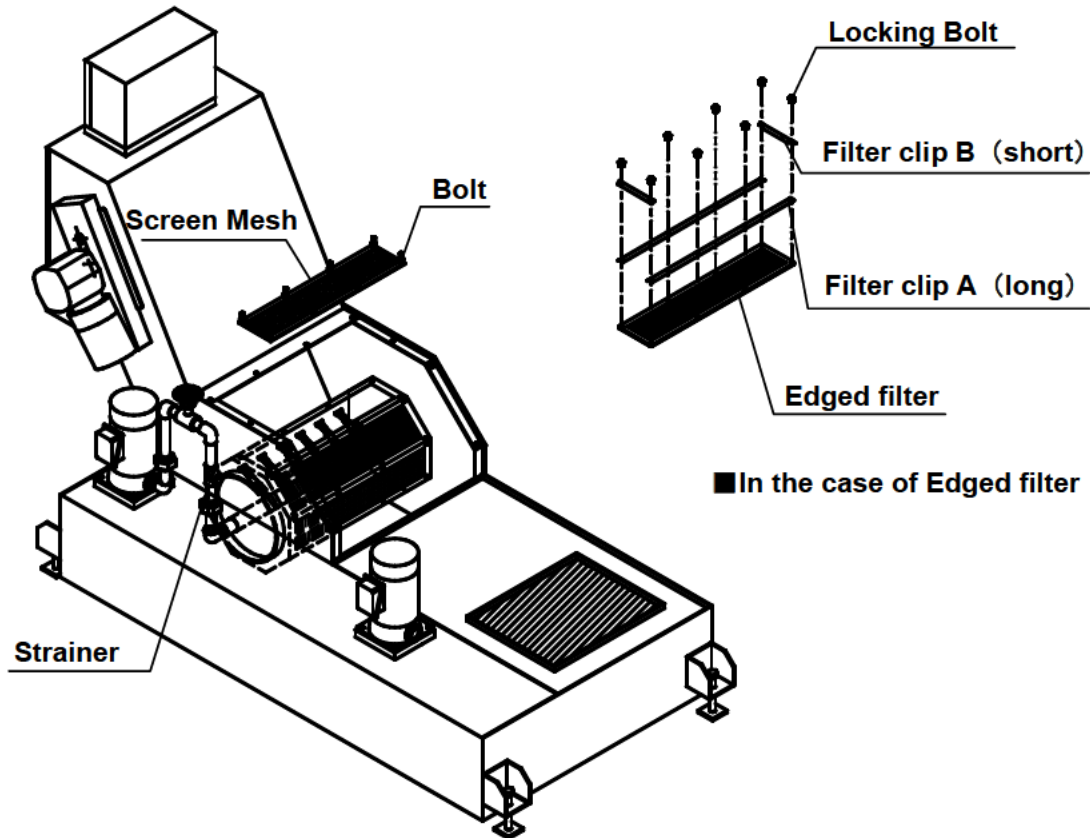
(4) Maintenance of the Screen Mesh

Even though it is cleaned by the backwash pump, the filter may become clogged because of conditions of use or wear and tear over the years. If the filter is not cleaned by backwash cleaning, dismantle the screen mesh and clean it by means of an air jet. In addition, if the filter wears out due to wear and tear over the years and accuracy decreases, it should be replaced.



WARNING

- When removing the screen mesh, be sure to confirm that the conveyor has been stopped. Otherwise, you may be caught by the chain or scraper.



(5) PD Filter Flow Rate

The PD filter's flow rate may change depending on the type of coolant and material of the chips.



CAUTION

- When an oil-based coolant of 15 cst or equivalent is used: Flow rate decreases to 75% of that of water-soluble coolant.
- When an oil-based coolant of 30 cst or equivalent is used: Flow rate decreases to 50% of that of water-soluble coolant.
- When the chip material is die cast: Flow rate decreases to 50% of that of iron and aluminum.
- If a large amount of coolant over the PD filter capacity is loaded, the dirty tank may overflow.

※Consult us when changing the type or viscosity of the coolant, or the material of the chips.

4 INSPECTION ITEMS

(1) Check that the coolant level is higher than level L prior to operation of the machine.

(2) Check that the proper amount of coolant is used while the machine is in operation.

(3) Clean the strainer regularly.



CAUTION

Continuous operation of the machine with the strainer clogged may cause clogging of the nozzle.

(4) Check the screen mesh regularly for breakage.



CAUTION

Continuous operation of the machine with the screen mesh damaged may decrease the effect of filtration. Replace the screen mesh immediately.