BILFINGER WATER TECHNOLOGIES

JOHNSON SCREENS® Grit Washer MN / FW

TASK

Reduction of disposal cost by lowering the amount of the organic content in the washed grit / sand.

SOLUTION

The JOHNSON SCREENS® Grit Washer MN / FW offers a wide range of sand removal or sand washing systems with a variety of constructional and technological designs. The JOHNSON SCREENS® Grit Washer MN / FW provides washed wastewater sand with a reduction of organic matter of up to 97 %. Moreover, there is significant reduction in the amount of residue sand for disposal and a considerable reduction of transport costs.

FUNCTION

The JOHNSON SCREENS® Grit Washer MN / FW consists of a shaftless spiral conveyor, sedimentation hopper, grit agitator and washing system. When the water mixture contaminated with grit and organic matter discharges into the sedimentation hopper, slow rotational movement is produced by an agitator. This rotational movement, together with the inclination of the walls, induces the grit and sand into the spiral in order to achieve 95 % removal of particles ≥ 0.2 mm grain size. Furthermore, wash water enters into the bottom of the hopper and, aided by an agitator with propeller, the grit and sand particles abrade against each other, scouring any attached organic matter from their surface. Eventually, the grit is conveyed by the spiral screw, washed, dewatered and discharged into a container or conveyed for eventual disposal. A motorised valve evacuates the organics from the sedimentation hopper.

PERFORMANCE

Grit Washer Type	MN 30 FW	MN 80 FW	MN 100 FW
max. flow rate (m^3/h)	30	80	100
max. sand separating capacity (m^3/h)	1.00	1.00	1.00

BENEFITS

- High quality and reliability at low cost
- Quick and easy installation
- Easy operation and maintenance:
  – main parts of the machine are in bolted section to grant good access for inspection and maintenance
- High capture-rate of solids
- Low maintenance due to simple and robust stainless steel construction
- High operational reliability:
  – no pigtailing or clogging due to the shaftless spiral
- Low operating costs due to direct drive with low power consumption
- Low wear and tear due to low rotational speed
- No compressed air required
- Well designed construction ensures a long service life

BILFINGER WATER TECHNOLOGIES

MATERIALS

Tanks, covers, supports and wearing liners:	stainless steel AISI 304L or AISI 316L
Spirals:	special Micro Alloy Steel St52 (carbon steel in accordance with JOHNSON SCREENS® standard), alternatively AISI 304L or AISI 316L

OPTIONS

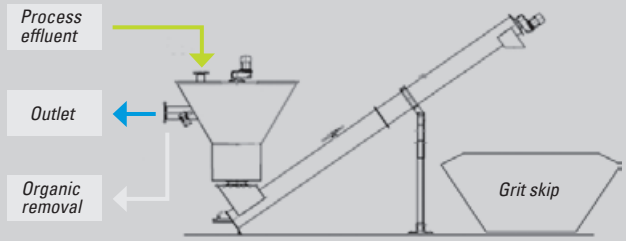
- Wearing liners made of HARDOX material
- Heating and insulation for outdoor installation / winter operations
- Continuous bagging system
- Control panel type PLC including grit level sensor

APPLICATIONS AND FIELDS OF OPERATION

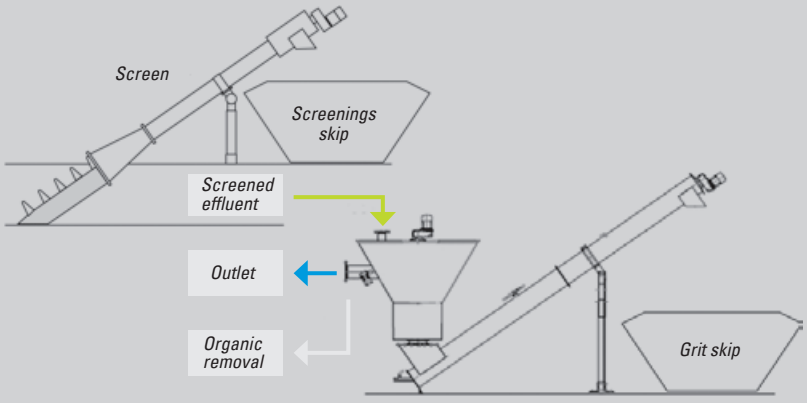
- Sand washing and dewatering:
  - of grit trap settlings from municipal and industrial wastewater treatment plants
  - of sediments from production and processing wastewater
- As a grit trap in small wastewater treatment plants

Typical arrangements

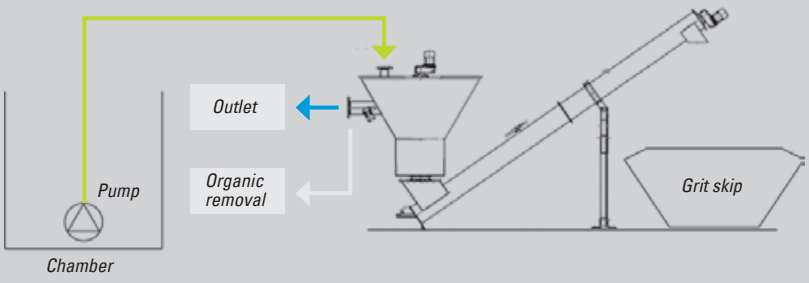
01 _ Grit recovery form processing plant



02 _ Wastewater treatment works



03 _ Grit chamber



Water Technologies

Bilfinger Water Technologies GmbH
Global Business Unit Water Treatment

Office Italy
Bilfinger Johnson Water Technologies Srl
Via Pitagora, 30
41010 Limidi, Soliera (MO)
Italy
Phone +39 059 525720
Fax +39 059 525443

Headquarters
Passavant-Geiger-Strasse 1
65326 Aarbergen
Germany
Phone +49 6120 28-0
Fax +49 6120 28-2182

info.water@bilfinger.com
www.water.bilfinger.com