BILFINGER WATER TECHNOLOGIES

JOHNSON SCREENS® Spiral Sieve Compactor MID / MID-T

TASK

Fine screening of waste water in sumps or pumping stations by perforated screen panel, including subsequent conveyance, washing, dewatering, compacting and discharge of screenings.

SOLUTION

The JOHNSON SCREENS® Spiral Sieve Compactor MID / MID-T is designed to be installed in municipal and industrial wastewater treatment plants. JOHNSON SCREENS® Spiral Sieve Compactors provide the solution to facilitate screenings separation, washing, dewatering and compacting of solids and improving the performance and reliability of sewer systems.

FUNCTION

Spiral Sieve Compactors Type MID are combined machines consisting of screen panel, spiral conveyor and press unit. During operation, liquids flow into the screen basket, solids with a larger diameter than the hole / gap width are captured. A continuous layer of solids is thus formed on the surface of the screen basket, reducing free passage and causing upstream level of the liquid to increase. A level measuring device monitors the respective level of the liquid and at a pre-set inlet water level the drive of the spiral screen is automatically activated to convey the solids up to the compaction zone prior to being discharged. Cleaning brushes fixed to the periphery at the lower section of the spiral will clean the screen basket surface and as a result of the cleaning and discharging processes the level of the liquid drops and the spiral screen drive switches off automatically.

PRODUCT VARIANTS AND DESIGN SIZES

- Nominal screen diameter: 200 – 700 mm
- Channel depth: 800 – 2,000 mm
- Discharge height: customised
- Gap (wedge wire or perforation): 0.25 – 10 mm
- Installation angle: 35 – 45 °

Spiral sieve compactors are available as tank version (MID-T). In this design, the spiral screen is installed at an angle of 35 ° and integrated into a stainless steel receiving tank. This design is completely encapsulated in a stainless steel casing.

BENEFITS

- Fine screening, washing and dewatering in one unit
- Simple retrofitting
- Complete hygienic stainless steel encapsulation on request
- No bearing in contact with the effluent
- Quick and easy installation
- High operational reliability :
  – no blockages or pigtailing
  – no pressing of screenings through the sieve surface
- No service water required in the pressing zone
- Outlet totally free to avoid any blockage on the discharge
- Reliable and automatic self-cleaning operation

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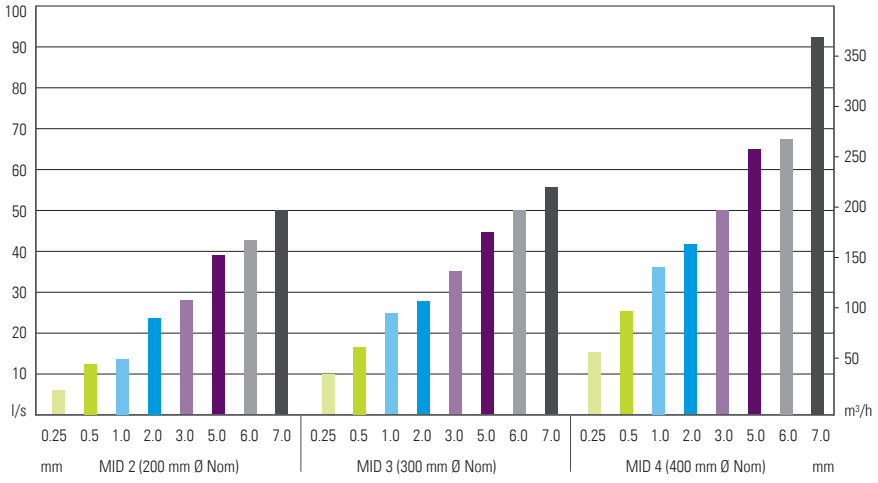
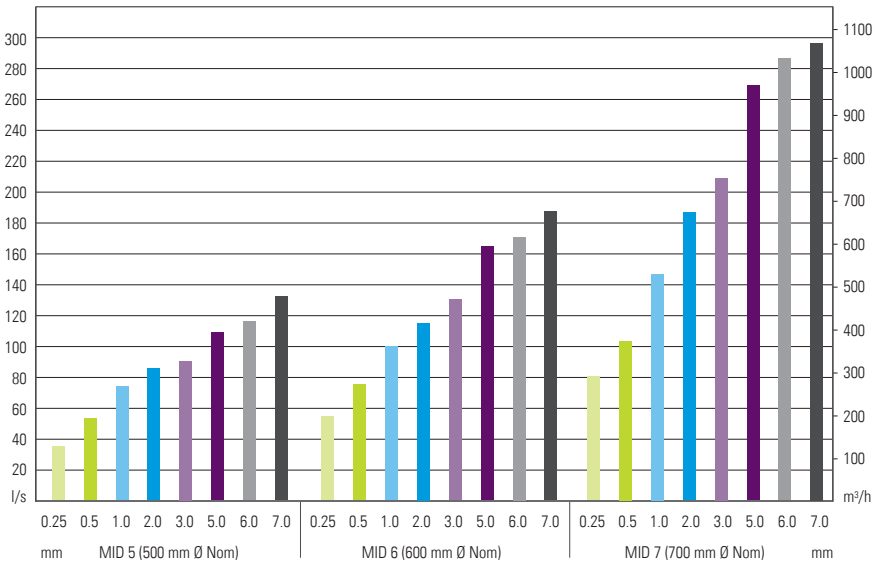
Flow chart MID 2–4



Flow chart MID 5–7



MATERIALS

Casing, supports, screen basket, wear bars:	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

- Screen panel as as perforated plate (2–10 mm) or wedge wire sieve (0.25–6 mm)
- Spiral brush made of stainless steel AISI 304
- Hygienic bagging of screenings type longopac 70 mt
- Manual or automatic flushing of the screen zone
- Manual or automatic flushing of transport zone
- Anti-freeze heating for transport and compaction zone
- Control panel with level indicator

APPLICATIONS AND FIELDS OF OPERATION

The JOHNSON SCREENS® Spiral Sieve Compactor MID / MID-T is suitable for fine screening and can be employed in municipal or industrial wastewater treatment plants.

UNIQUE FEATURES

All the main parts of the screen are bolted to ensure a fast and easy maintenance without removing the screen from the channel. Subdivided cleaning brushes guarantee an easy and fast exchange. Machine supplied with safety microswitch to prevent possible accidents during operation.

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