

MN/FW - Grit Classifiers

- *Pre-treatment of Domestic & Municipal Waste Waters*
- *Recovery & Solids Processing from Industrial Discharges*



Grit Separation,
Grit Wash & Dewatering



MAIND

With over 4,000 installations around the world, MAIND has developed a good reputation with a philosophy of offering high quality at low cost. This has served to provide equipment to smaller industries or applications where previously it was considered unviable and offers a lower purchasing cost for larger applications.

MN-FW Grit Classifiers

MAIND MN-FW grit classifiers offer a solution to removing, washing and dewatering grit and sand, in addition to protecting downstream mechanical equipment and improve the performance and reliability of drainage systems.

The Grit Classifier consists of a shaft-less spiral screw conveyor and conical hopper. Effluent flows into the hopper where the grit and sand settles out. Settled grit is conveyed, washed and dewatered within the screw conveyor, then disposed of into a container

MN-FW Grit Classifier Operation

Effluent contaminated with grit and organic matter discharges into the top of the hopper close to the periphery where a coerced, slow rotational movement is produced and aided by the central stirrer. This rotational movement together with sufficient retention for variations of particle settling velocities induce the grit and sand to spiral and settle by gravity to attain > 95 % removal of 0.20 – 0.25 mm (200 µm – 250 µm) size grit particles.

Maintained flow velocities prevent any suspended organic matter from settling with the mineral. Furthermore, wash water enters from the screw classifier into the bottom of the hopper and, aided by the central stirrer, the grit and sand particles abrade against each other scouring any attached organic matter from their surface. This scouring process is further enhanced by air agitation. Eventually, the grit is conveyed by the screw classifier, washed, dewatered and discharged into a container. Removal of organic matter > 97 % is attainable.

Suspended organic matter discharges from the classifier hopper at intermittent frequencies and can either be returned to the flow and onward to secondary treatment or back to the works inlet.

The option of continuous bagging systems are available to receive the grit and abate odour, the grit can then be sealed without any personal contact.



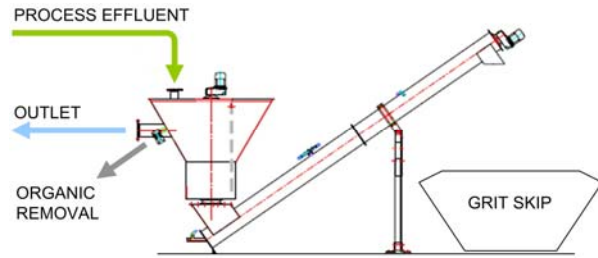
Availability

MN-FW Grit Classifiers are available in two models.

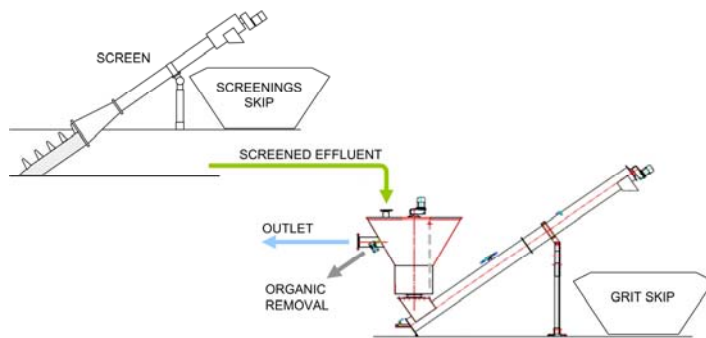
Type	Inlet Flow (l/s)	Inlet Flow (m ³ /h)
MN 30 FW	8	30
MN 80 FW	22	80

Typical Arrangements

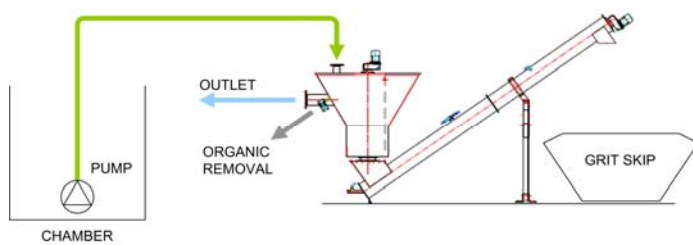
Grit recovery from processing plant



Waste Water Treatment Works



Grit Chamber



To suit other requirements, the MAIND range also includes alternative processes for grit or sand separation including:

Combined Systems with the option of fats, oil and grease removal



Compact Combined Systems



Grit and Sand Separators



MN-FW Grit Classifiers – an Excellent Compact Solution ...

MN-FW Grit Classifiers can be retrofitted to existing systems or new works to prevent blockage or deterioration of drainage performance and for the protection of downstream equipment against premature wear or failure.

Specifications

Flow Capacities

Up to 22 l/s (80 m³/h)

Fabrication

Stainless steel: 304 (BS EN 10088 1.4301)

Stainless steel: 316 (BS EN 10088 1.4401)

Grit removal efficiency

≥ 95% grain size ≥ 200 µm (0.2 mm)

Volatile organic reduction

≥ 97%

Organic content

≤ 3%

Dewatering efficiency

90% dry residue

The Benefits

- high quality and reliability at low costs
- quick and easy installation
- retrofit capability
- stainless steel fabrication
- reliable and automatic self cleaning operation
- protection of downstream plant and drains

Typical Applications

- Small sewage treatment works
- Municipal waste water treatment works
- Industrial effluent discharges
- Receiving grit from sewers or gullies
- Grit recovery from processing plant

Other products from MAIND include:

- ⇒ Screw Compactors
- ⇒ Screw Conveyors, Horizontal, Inclined or Vertical
- ⇒ SLUDGLESS Sludge Thickening & Dewatering
- ⇒ Combined Systems
- ⇒ Coarse and Fine Screens

Contact MAIND for further information regarding other products or screen variants.

We reserve the right to amend any detail without notice.
Please ensure you have the latest information.
Issue MN/FW 12.09 (en)

MAIND Screening Systems



M Range Screens; available for channel mount or supplied in stainless steel tank, ≤ 300 l/s



SP Range Screens for high solids content



TOP Range Screen, Grit & Grease Removal, ≤ 350 l/s



M Range Tanker reception screens with Bauer connection



GSR Range Sludge reception - Rapid tanker emptying



MINYSCREEN probably the smallest low cost screw screen available on today's market

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UNI EN ISO 9001:2000
Quality Certification
No: 50 100 7256