

J+A Jeta® Grit Trap

High performance, compact grit removal unit

Key features & benefits

- Excellent grit removal performance
- Compact design for reduced footprint
- Fully automatic, low headloss system
- Integral grit washing action
- Suitable for above ground or below ground installation
- No submerged contact points for reduced maintenance
- Rejects lighter grits and organics

How we create value

- Highly effective grit capture reduces wear and prolongs life of downstream plant and equipment
- Removes the need for complex grit cleaning systems
- Proven reliability reduces operational costs
- Low Head loss design eliminates additional pumping



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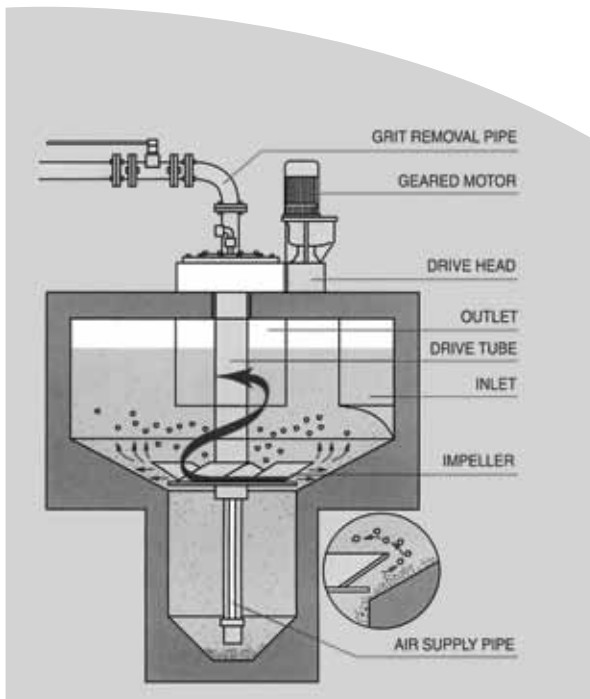
General Information

Grit removal is a prerequisite of wastewater treatment to make the ongoing effluent a manageable and consistent medium when it enters the next phase of treatment.

Screening or comminution of the main flow would ideally be performed prior to grit removal, but in cases where grit is to be removed from entirely raw sewage, additional washing and classification is necessary before dewatering. The Jeta® grit trap provides the highest possible grit removal performance in both these circumstances.

How it works

The Jeta grit trap is a compact, circular trap located in the main stream of the inlet system. Effluent enters tangentially, flows around the tank and exits parallel to the inlet. Grit settles within the lower hopper and is transferred to the washing, classification and dewatering plant by a pumping system. With its sloping sides and specially arranged impeller, the Jeta grit trap provides maximum separation of heavy mineral solids (grit) while rejecting larger and lighter solids, which remain in the water flow. Removing these heavy solids protects the rest of the downstream plant from wear, ensuring greater efficiency and reduced maintenance for the rest of the plant.



This well established method of grit removal has an installation list of over 1000 units worldwide.

The Jeta grit trap is the result of thorough design and development by J+A. Ovivo is now proud to deliver all J+A products worldwide.

- Low cost
- Low energy usage
- Simple, slow rotating mechanism
- Easy to maintain

Alternative grit lifting methods include:

- Air-lift pump
- Recessed impeller grit/solids pump

Alternative classifiers include:

- Screw classifier
- Rake classifier
- Grit washer
- Hydrocyclones



Two positive zones are set up within the inlet chamber. The outer zone is quiescent, and thus allows the grit and other light solids to settle on the inclined floor of the chamber.

The impeller's predetermined speed produces radial forces that allow the grit to fall into the collection hopper. This force also acts on the lighter solids, preventing them from entering the hopper. They are thus retained in the water flow. The inner zone is made to spiral, and provides an uplift current for lighter solids. These elevated solids then exit the trap. The classifying effect produced can be controlled by adjusting the impeller speed.

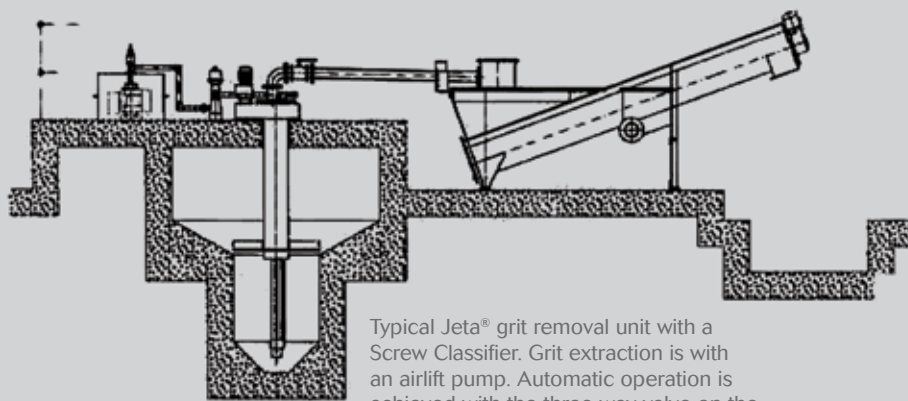
The most popular installed arrangement for the Jeta grit trap is shown in the photograph (right).

The circular tank is constructed in concrete and the bridge is cast on site. The impeller drive mechanism is located on the bridge, and can be either belt or gear driven. The centrally mounted airlift pump reaches to the bottom of the tank and delivers the grit/water mixture to the separately mounted Screw Classifier. Excess water and

classified solids are returned to the grit removal chamber. Grit scouring and the airlift pump are controlled automatically from the blower unit through a three-way valve arrangement. Grit removal systems supplied in the past can be updated by installing the new Jeta mechanism.



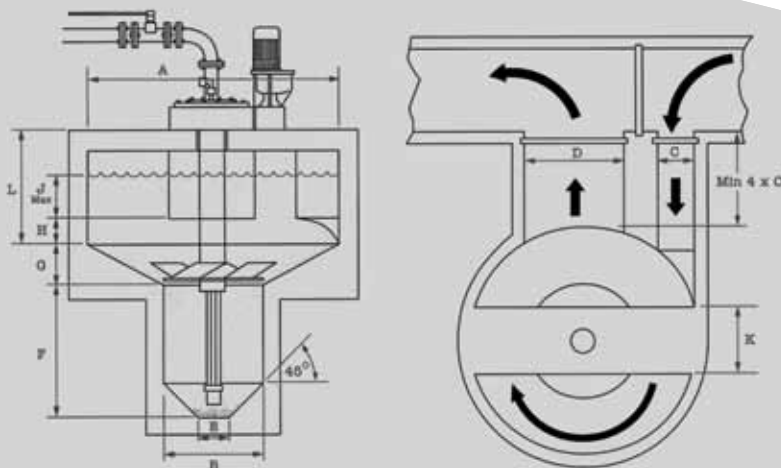
Complete Jeta[®] grit removal systems can be supplied in steel fabricated tanks. These are ideal for attachment to existing flow channels. Jeta[®] grit trap sizes up to the 550 size can be supplied in this form.



Typical Jeta[®] grit removal unit with a Screw Classifier. Grit extraction is with an airlift pump. Automatic operation is achieved with the three-way valve on the air supply from the blower equipment.

Standard design allows for the use in construction of the Jeta[®] chamber of pre-cast concrete rings & site formed civil structure.

Jeta[®] Grit Trap Dimensions in Meters



Size	Flow	A	B	C	D	E	F	G	H	J	K	L
50	50.00l/s 1MGD	1.83m 6.00ft	1.00m 3.28ft	0.31m 1.00ft	0.61m 2.00ft	0.30m 1.00ft	1.40m 4.59ft	0.30m 1.00ft	0.30m 1.00ft	0.20m 0.66ft	0.80m 2.62ft	1.10m 3.61ft
100	110.00l/s 3MGD	2.13m 7.00ft	1.00m 3.28ft	0.38m 1.25ft	0.76m 2.49ft	0.30m 1.00ft	1.40m 4.59ft	0.30m 1.00ft	0.30m 1.00ft	0.30m 1.00ft	0.80m 2.62ft	1.10m 3.61ft
200	180.00l/s 4MGD	2.43m 8.00ft	1.00m 3.28ft	0.45m 1.50ft	0.90m 3.00ft	0.30m 1.00ft	1.40m 4.59ft	0.40m 1.31ft	0.30m 1.00ft	0.40m 1.31ft	0.80m 2.62ft	1.15m 3.77ft
300	310.00l/s 7MGD	3.05m 10.00ft	1.00m 3.28ft	0.61m 2.00ft	1.20m 4.00ft	0.30m 1.00ft	1.55m 5.00ft	0.45m 1.50ft	0.30m 1.00ft	0.45m 1.50ft	0.80m 2.62ft	1.35m 4.43ft
550	530.00l/s 12MGD	3.65m 12.00ft	1.50m 5.00ft	0.75m 2.50ft	1.50m 5.00ft	0.40m 1.31ft	1.70m 5.58ft	0.60m 2.00ft	0.50m 1.64ft	0.58m 1.90ft	0.80m 2.62ft	1.45m 4.76ft
900	880.00l/s 20MGD	4.87m 16.00ft	1.50m 5.00ft	1.00m 3.28ft	2.00m 6.56ft	0.40m 1.31ft	2.20m 7.22ft	1.00m 3.28ft	0.50m 1.64ft	0.60m 2.00ft	0.80m 2.62ft	1.85m 6.00ft
1300	1,320.00l/s 30MGD	5.48m 18.00ft	1.50m 5.00ft	1.10m 3.61ft	2.20m 7.22ft	0.40m 1.31ft	2.20m 7.22ft	1.00m 3.28ft	0.60m 2.00ft	0.63m 2.00ft	0.80m 2.62ft	1.85m 6.00ft
1750	1,750.00l/s 40MGD	5.80m 19.00ft	1.50m 5.00ft	1.20m 4.00ft	2.40m 7.87ft	0.40m 1.31ft	2.50m 8.20ft	1.30m 4.26ft	0.75m 2.50ft	0.70m 2.30ft	0.80m 2.62ft	1.95m 6.40ft
2000	2,200.00l/s 50MGD	6.10m 20.00ft	1.50m 5.00ft	1.37m 4.50ft	2.74m 9.00ft	0.40m 1.31ft	2.50m 8.20ft	1.60m 5.25ft	0.90m 3.00ft	0.75m 2.50ft	0.80m 2.62ft	2.10m 6.89ft
3000	3,000.00l/s 70MGD	7.31m 24.00ft	1.50m 5.00ft	1.68m 11.00ft	3.35m 11.00ft	0.40m 1.31ft	2.50m 8.20ft	1.70m 5.58ft	0.58m 1.92ft	1.37m 4.50ft	0.80m 2.62ft	2.70m 8.86ft