JETA® GRIP TRAP

High performance, compact grit removal unit





Bringing water to life[®]

This well established method of grit removal has an installation list of over 2,500 units worldwide.

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.

The Jeta grit trap is the result of thorough design and development by J+A. It is designed to work in conjuction with Ovivo grit classifiers.



KEY FEATURES



FLEXIBLE suitable for above ground or below ground installation



EASY MAINTENANCE No submerged maintenance points





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.

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 (below).

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.

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



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.

Each of the 270 and 360 design grit traps can be supplied with an annulus baffle system for improving capture.

JETA[®] Grit Trap 270 Dimensions



| 270 TYPE | | DIA | LOW DIA | INLET WIDTH | W.L. | CONE BOTTOM | HOPPER HEIGHT | SLOPE HEIGHT | CHANNEL DEPTH | I.B. TO SLOPE | outlet Width | CHAMBER HEIGHT | CHANNEL LENGTH 4XC |
|----------|-----|-----|---------|----------------|---------|----------------|------------------|-----------------|------------------|------------------|-----------------|-------------------|--------------------------|
| MODEL | MDG | A | В | с | D | E | F | G | н | J | к | L | М |
| 50 | 1 | 6' | 3' 4'' | 1' 0'' | 8'' | 1' 0'' | 4' 7'' | 1' 0'' | 2' 7'' | 1' 0'' | 2' 0'' | 3' 7'' | 4' 0'' |
| 100 | 2.5 | 7' | 3' 4'' | 1' 3'' | 1' 0'' | 1' 0'' | 4' 7'' | 1' 0'' | 2' 7'' | 1' 0'' | 2' 6'' | 3' 7'' | 5' 0'' |
| 200 | 4 | 8' | 3' 4'' | 1' 6'' | 1' 4'' | 1' 0'' | 4' 9'' | 1' 4'' | 3' 0'' | 1' 0'' | 3' 0'' | 4' 0'' | 6' 0'' |
| 300 | 7 | 10' | 3' 4'' | 2' 0'' | 1' 6'' | 1' 0'' | 4' 11'' | 1' 6'' | 3' 5'' | 1' 0'' | 4' 0'' | 4' 5'' | 8' 0'' |
| 550 | 12 | 12' | 4' 11'' | 2' 6'' | 1' 11" | 1' 4'' | 5' 7'' | 2' 0'' | 3' 7'' | 1' 8'' | 5' 0'' | 5' 3'' | 10' 0'' |
| 900 | 20 | 16' | 4' 11'' | 3' 3'' | 2' 6'' | 1' 4'' | 7' 3'' | 3' 3'' | 4' 4'' | 1' 8'' | 6' 6'' | 6' 1'' | 13' 0'' |
| 1300 | 30 | 18' | 4' 11'' | 3' 6'' | 3' 4'' | 1' 4'' | 7' 3'' | 3' 3'' | 5' 0'' | 2' 0'' | 7' 0'' | 7' 0'' | 14' 0'' |
| 1750 | 40 | 19' | 4' 11'' | 4' 0'' | 3' 10'' | 1' 4'' | 8' 3'' | 4' 3'' | 5' 6'' | 2' 6'' | 8' 0'' | 8' 1'' | 16' 0'' |
| 2000 | 50 | 20' | 4' 11'' | 4' 6'' | 4' 4'' | 1' 4'' | 8' 3'' | 4' 3'' | 6' 4'' | 2' 6'' | 9' 0'' | 8' 10'' | 18' 0'' |
| 2500 | 70 | 24' | 4' 11'' | 5' 6'' | 5' 6'' | 1' 4'' | 8' 3'' | 4' 3'' | 7' 6'' | 2' 6'' | 11' 0'' | 10' 0'' | 22' 0'' |
| 3500 | 100 | 28' | 4' 11'' | 6' 7'' | 6' 6'' | 1' 4'' | 9' 6'' | 5' 0'' | 8' 6'' | 2' 6'' | 13' 0'' | 11' 0'' | 26' 4'' |

JETA® Grit Trap 360 Dimensions





| 360 TYPE | | DIA | LOW DIA | INLET/ OUTLET WIDTH | W.L. | CONE BOTTOM | HOPPER HEIGHT | SLOPE HEIGHT | CHANNEL DEPTH | INLET HEIGHT | CHAMBER HEIGHT | CHANNEL INLET LENGTH | INNER ANNULUS DIA |
|----------|-----|-----|---------|---------------------------|---------|----------------|------------------|-----------------|------------------|-----------------|-------------------|----------------------------|-------------------------|
| MODEL | MDG | A | В | с | D | E | F | G | н | J | L | м | N |
| 50 | 1 | 6' | 3' 4'' | 1' 0'' | 11" | 1' 0'' | 4' 7'' | 1' 0'' | 2' 8'' | 1' 0'' | 4' 0'' | 7' 7'' | 4' 0'' |
| 100 | 2.5 | 7' | 3' 4'' | 1' 4'' | 1' 4'' | 1' 0'' | 4' 7'' | 1' 0'' | 3' 0'' | 1' 4'' | 4' 9'' | 8' 6'' | 4' 0'' |
| 200 | 4 | 8' | 3' 4'' | 1' 8'' | 1' 8'' | 1' 0'' | 4' 9'' | 1' 4'' | 3' 5'' | 1' 8'' | 5' 5'' | 9' 5'' | 4' 0'' |
| 300 | 7 | 10' | 3' 4'' | 2' 0'' | 2' 0'' | 1' 0'' | 4' 11'' | 1' 6'' | 3' 9'' | 2' 0'' | 6' 6'' | 11' 4'' | 6' 0'' |
| 550 | 12 | 12' | 4' 11'' | 2' 8'' | 2' 3'' | 1' 4'' | 5' 7'' | 2' 0'' | 4' 2'' | 2' 8'' | 7' 5'' | 12' 6'' | 6' 0'' |
| 900 | 20 | 16' | 4' 11'' | 3' 4'' | 2' 6'' | 1' 4'' | 7' 3'' | 3' 3'' | 4' 5'' | 3' 0'' | 8' 2'' | 15' 0'' | 9' 0'' |
| 1300 | 30 | 18' | 4' 11'' | 3' 8'' | 3' 2'' | 1' 4'' | 7' 3'' | 3' 3'' | 5' 3'' | 3' 4'' | 9' 2'' | 16' 10'' | 10' 0'' |
| 1750 | 40 | 19' | 4' 11'' | 3' 11'' | 3' 11'' | 1' 4'' | 8' 3'' | 4' 3'' | 6' 0'' | 3' 4'' | 9' 11'' | 18' 5'' | 11' 0'' |
| 2000 | 50 | 20' | 4' 11'' | 3' 11'' | 4' 11'' | 1' 4'' | 8' 3'' | 4' 3'' | 7' 0'' | 3' 4'' | 11' 1'' | 20' 7'' | 12' 0'' |
| 2500 | 70 | 24' | 4' 11'' | 4' 6'' | 6' 1'' | 1' 4'' | 8' 3'' | 4' 3'' | 8' 4'' | 4' 3'' | 13' 4'' | 24' 2'' | 13' 0'' |
| 3500 | 100 | 28' | 4' 11'' | 6' 6'' | 7' 3'' | 1' 4'' | 9' 6'' | 5' 0'' | 9' 6'' | 5' 8'' | 15' 10" | 26' 7'' | 16' 0'' |

Ovivo USA, LLC 4246 Riverboat Road, Suite 300 Salt Lake City, UT 84123

ovivowater.com



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