Z1186-ST AND Z1188-ST SERIES

ZURN ENGINEERED OIL INTERCEPTORS WITH INTEGRAL STORAGE TANKS

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice

PURPOSE

For nearly sixty years, Zurn Oil Interceptors have been used in plumbing waste systems to help protect property and the environment against explosion, fire and pollution.

HOW THE ZURN OIL INTERCEPTOR OPERATES

The baffle plate opposite the inlet of the oil interceptor defuses the flow into the interceptor and lessens the turbulence of the oil-laden water as it enters the intercepting chamber. Solids and sludge carried in the water are stopped by the baffle and held in the solids retaining bucket between the inlet and the flow-retarding baffle. Such accumulation can then be removed. The resulting, quiet, even flow of water through the interceptor permits the oils and other light density substances to rise to the surface by the "flotation" principle of separation. Maximum separation and interception is affected in proportion to the elimination of turbulence of waste water within the interceptor to the point of practically eliminating it.

INSTALLATION CONSIDERATIONS

Install the interceptor as close as practical to the fixture or fixtures being serviced. The interceptor may be set on the floor, partially recessed in the floor, with top flush with the floor, or fully recessed below the floor to suit piping and structural conditions.

Anticipate sufficient clearance for removal of the interceptor cover for cleaning. Also, take into consideration the placement of the flow control fitting, and ventilation requirements. See recommended installation drawing (Fig.1).

RECOMMENDED INSTALLATIONS

Commercial Uses	Industrial Uses
Filling and Service Stations	Machine Shops
Maintenance Garages	Refineries
Airport Hangars	Fabrication & Welding Plants
Laundries & Cleaning Establishments	Foundries
Parking Facilities	

SIZING

The rate of flow through the drainage line (GPM) and into the Interceptor is the main consideration in selecting the proper sized oil interceptor. In addition, the viscosity characteristics and probable amounts of oils and other light density substances to be separated should be taken into consideration, since the volume involved may influence the intercepting chamber size. As the size of the interceptor increases, the flow rate and quantity of oil that it separates efficiently also increases. If the oil interceptor is undersized, an overload condition will develop and oil will pass through the interceptor in the waste water and into the drainage system. Overload conditions may also cause water levels in the trap to rise. Therefore, water will be drawn off over the oil draw-off gate plate.

FLOW CONTROL

An oil interceptor correctly designed to separate oil and light density substances from waste water will not, by itself, govern or regulate the flow of water through it at all times. The Zurn flow control fitting (Z-1108) must be installed properly in every installation to sufficiently assure the flotation separation of the entrained substances, which are to be intercepted at maximum efficiency.

The flow control fitting, designed with an integral orifice, gives a pre-determined optimum flow rate and assures the elimination of turbulence in the oil interceptor, which could otherwise occur from sudden surges through the drainage line.

The orifice openings are related to the size and flow rating of the oil interceptor. It should also be noted that standard orifice sizing is for gravity flow conditions, where no pressure build-up is considered. If the maximum recommended flow is exceeded, the efficiency of the interceptor will decrease considerably. If necessary, additional flow control fittings should be installed at all sources of flow.

VENTING

The Zurn oil interceptor with integral storage tank is furnished with 2" ips vent connections located on all sides of the unit to accommodate the installation of the vent piping. Three of the vent connections are located on the oil storage tank, and one vent connection is located on the interceptor body upstream of the double wall trap seal. It is important that the unit be vented using any one of the vent connections provided. This will allow any of the volatile gases rising from the intercepted substances to be carried from the interceptor and storage tank to the atmosphere.

ADJUSTABLE DRAW-OFF

The Zurn oil interceptor with integral storage tank is furnished with an adjustable oil draw-off gate plate . This draw-off creates a passageway for intercepted oils to travel from the main separation chamber to the oil storage tank. The oil draw-off consists of an adjustable gate plate on the inside of the intercepting chamber. The adjustable gate plate can be raised or lowered inside of the interceptor chamber to the proper height for draining off the separated oils and similar light density substances that have separated and floated to the surface of the interceptor chamber.

Thus, after the oils and other substances have accumulated inside the interceptor, they will drain from the interceptor chamber by gravity flow over the internal gate plate. The gate plate shall be adjusted so that it's top edge is 1/8" above the operating water flow level in the interceptor chamber. There is no need to manually skim or dip out the oil, since the oil will drain off by gravity flow over the draw-off gate plate after it has been properly adjusted and tightened.

HOW TO SET ADJUSTABLE DRAW-OFF

The Zurn oil interceptor with integral storage tank should be completely installed and all connections made, including the adjustable draw-off gate plate. If the gate plate was not set at it's highest position, loosen all bolts securing the gate plate as well as those above the gate plate. Slide the gate plate up to it's highest position and tighten in place.

Clean water is then run through the oil interceptor at the gpm flow rate that the interceptor will be operating at. This establishes the operating water level. Mark the operating water level on the inside of the intercepting chamber next to the gate plate and a mark 1/8" above the operating level mark. The marking of the operating water level must be done while there is water flowing through the interceptor. If the mark is established at the static water level, excess amounts of water will pass over the draw-off gate plate when the flow rate through the interceptor increases to its operating level. In this case, the draw-off gate plate would become submerged.

Loosen the bolts securing the gate plate and slide the gate plate down so that the top edge is at the 1/8" mark above the operating water level mark. Tighten bolts securing the gate plate at this level. After the oil interceptor is put into operation and a film of oil and low density substances has accumulated at the surface, the adjustable draw-off setting should be checked by taking samples while the oil interceptor is in operation. If the gate plate is properly set to the correct height, the drawn-off oil should have no water in it. If it is apparent that water is present in the drawn-off oil, the adjustable gate plate should be moved up until only oil travels over the draw-off gate plate.

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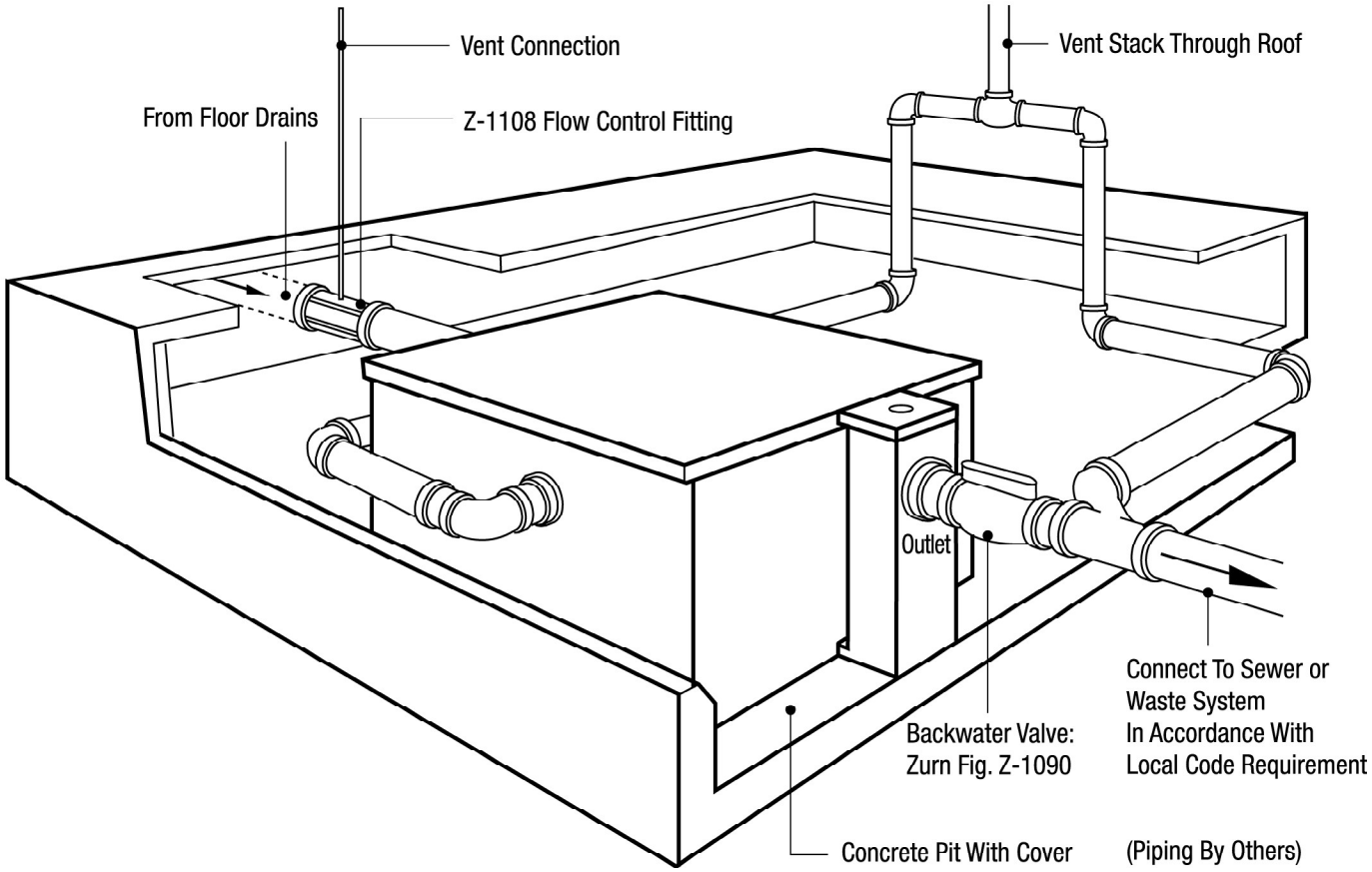
MAINTENANCE

Periodic checks of the oil level in the oil storage compartment is recommended. The accumulated oil in the storage compartment should be pumped out before the oil level has risen to the gate plate height. As these periodic checks are made, a general inspection of the interceptor, plumbing connections and gasketing should be made. Any required maintenance needed should be performed at this time.

FIG. 1

Pictured is a Zurn oil interceptor with integral storage tank installed in a pit with vent connections. It is installed with a Z-1108 flow control fitting and a Z-1090 backwater valve.



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OPERATION

Figure number 2 below shows the conditions inside the interceptor in a “non-operating mode. It can be seen that the oil has separated itself from the water. The oil is floating on the surface of the water in the main separation compartment and the top of the oil is below the top of the adjustable oil draw-off gate plate (see “how to set adjustable draw off” section).

FIG 2.

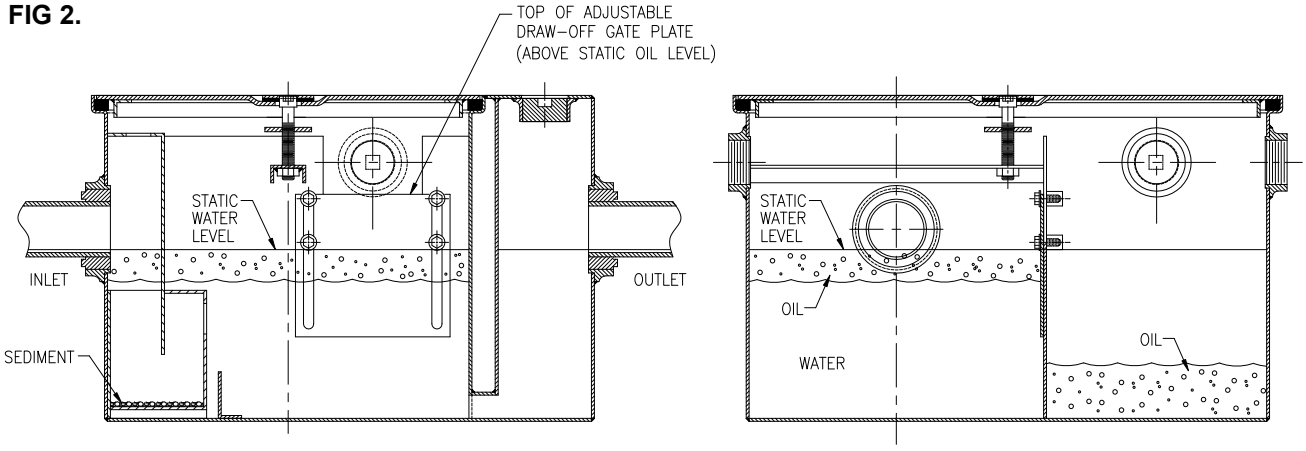

Figure number 3 below shows the conditions inside the interceptor in an “operating” or “flowing” mode. The oil/water mixture flows from the inlet piping into the interceptor and causes the oil/water level to rise. The mixture is directed downward into and through a removable sediment bucket. Heavier particles and sediment are collected in the bucket while the oil/water mixture continues through the bucket and is directed into the main separation compartment. The oil separates from the water by rising to the top and is now on the surface of the water. the oil/water level inside the interceptor has risen to a level which puts the layer of oil above the top of the adjustable draw-off gate plate allowing the oil to “spill” over the top of the gate plate and into the oil storage compartment. The water exits the main separation compartment through the outlet opening at the bottom of the unit passing through the outlet trap and into the discharge waste system plumbing.

FIG 3.