



Design Concepts

Eaton's Carter 6-inch Bottom Loading Valves and accompanying Level Sensor are designed for use in refuelers where bottom loading/off-loading rates over 600 gpm (2271 l/min) are desired. There are two internal valves available. Model 64128 is used for both loading and off-loading. Model 64118 is used for loading only. Off-loading requires the use of air pressure to open the internal valve. Both valves are used with Eaton's Carter Model 64079 Level Sensor or as an alternative, they can be used with an optic probe control. Bottom loading control is accomplished automatically when the tank liquid level reaches the pre-set level sensor. Both of the available internal valves can be purchased for use with either a single or dual level sensor, as explained below.

There are no moving parts or seals in Eaton's Level Sensor which, when used with Eaton's Bottom Loading Valves, will provide high-level bottom loading control. There are no wearing parts in the unit, hence it lasts indefinitely. Truck vibration will have no effect on the sensor, unlike float valves, which are subject to vibration damage. It is available with an optional mounting stud for adjustable level control. The stud is located outside of the collector/drain can for better level control. A collector/drain can and precheck feature are provided as standard equipment.

Features

- Air connection on Model 64128 (not applicable to Option C) is made outside of the tank within the mounting flange of the unit. There is no need to breach the tank wall for this connection nor install a separate line to the unit. All air pressure is contained within the valve.
- Pilot valve is identical on all Eaton's Bottom Loading Valves, resulting in lower maintenance costs

- There is no through-hole in the diaphragm in the pilot to cause leakage and ultimate failure
- Either single level or dual level control available. Dual level control, when used with Model 64079B Level Sensor, provides better shut-off level accuracy and lower surge pressures resulting from closing at very high rates of flow.
- 50 psi (3.447 bar) minimum air pressure and standard air controlling valves (not furnished by Eaton) required for off-loading with Model 64128. No off-loading control provided on Model 64118.
- Internal valve mates standard TTMA sump flange. A flange type is also available to mate the non-standard Whittaker tank flange.
- Low pressure loss. Can load to 1,200 gpm (4542 l/min).
- Can be used with optic high level sensing system

Installation Tips

- Install the internal valve from the outside of the tank with sufficient flexible line between the pilot(s) and the level sensor for easier removal and maintenance
- Inlet line to Model 64079 Level Sensor from pressure source (adapter) must be at least 3/8-inch diameter tubing. It should be routed from a port on the bottom loading adapter, such as

Models 6958 or 61528 that have ports designed for this application. (See catalog sheet TF100-77 for adapter choices.) Routing the inlet pressure source closer to the internal valve may not allow sufficient pressure for the system to function correctly. If the optional mounting stud (Option A) is used sufficient length of flexible tubing should be used to allow for adequate adjustment.

- Line between the pilot on Model 64128A Bottom Loading Valve and Model 64079 Level Sensor should be 1/4-inch diameter for best operation. Pressure surging may occur if larger tubing is used.
- If desired, a separate precheck system may also be routed from the adapter to the precheck port on Model 64079, although the same effect can be achieved by installing a 3/8-inch spring-loaded, normally open ball valve in the inlet pressure line. It will be necessary to adjust the precheck gate in the bottom of the Model 64079 to make the precheck effective in either case. This is a trial and error adjustment. Note that there are no "tuning" plugs on the Model 64079 Level Sensor as on the Whittaker Model F613. A simple "gate" type valve in the bottom of the precheck can provides adjusting of the precheck flow.

- **It is essential for safety reasons to install a plastic tube to the drain fitting on the bottom of the Model 64079 Level Sensor.**

Draining fuel from the level sensor, if not collected and drained properly, could generate a static discharge, which could lead to a fire.

- The optional mounting stud is located outside of the precheck and drain cans on the Eaton level sensor. Unlike the Whittaker F613, there are no holes to plug with loose O-rings if the stud is used.
- If installed correctly, the level in the tank can be adjusted over a wide range simply by screwing the stud up or down to the desired level
- If the Eaton internal valve is to be used with an optic probe system, a three-way solenoid valve must be installed in the pressure line from the adapter. When the tank level is below the probe the inlet pressure should be routed to the pilot on the internal valve to cause it to open. When the optic probe is sensing fuel (level below the probe) the pilot on the internal valve must be vented to tank and the inlet pressure shutoff. This will cause the internal valve to close and stop the bottom loading process.

Equivalent Part Numbers – Whittaker To Eaton

The table below presents the equivalent Eaton models to replace Whittaker units.

Item Description	Whittaker Model	Eaton Model	Comments
6-inch internal valve for off-loading only	F620	64128 or 64128C	Air pressure required for off-loading. If Whittaker F620 is being replaced then use Model 64128C for a direct replacement, otherwise use Model 64128.
6-inch internal valve for bottom loading and off-loading	F620A or B	64128A, AC, B or BC	Either single or dual pilots available. Air required for off-loading. See comment regarding Whittaker replacement above
6-inch internal valve for bottom loading only	None	64118A or B	No off-loading capability, a separate internal valve has to be used. No Whittaker equivalent.
Level sensor, no options	F613	64079	Precheck and collector drain cans standard on Eaton unit
Level sensor with mounting stud	F613A	64079A	Mounting stud located outside of precheck and drain cans for better control
Dual level sensor with mounting stud	F613B	64079B	Same comment as above

One or more of the options shown in the table (right) may be added to change the function or configuration of Models 64128 or 64118A (exceptions as noted).

Option Description

A	Adds pilot valve to basic unit (Model 64128 only — Model 64118A cannot be ordered without pilot valve) to provide bottom loading control when used with Model 64079 jet level sensor or optic sensing probe system
B	Adds dual pilot valves to either unit for use with either two Model 64079 level sensors or one Model 64079B level sensor to improve accuracy of the tank shutoff level or to reduce surge at closure
C	Mounting flange to mate Whittaker F620 6-inch valve
D	Model 64128 only. Replaces standard seals with Viton seals.

**Model 64128
6-inch Internal Off-Loading Valve**

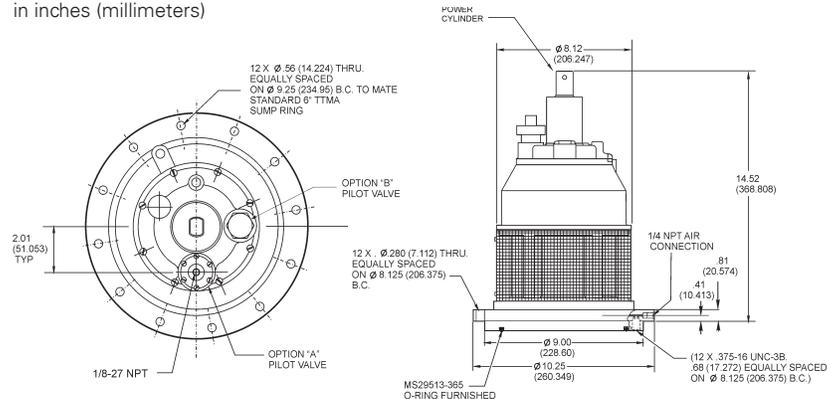
Provides off-loading by use of air pressure

Temperature Range:

Standard seals —
-40°F to 140°F
(-40°C to 60°C)

Viton seals (available as option D on Model 64128 only) —
0° to 140°F
(-17.7°C to 60°C)

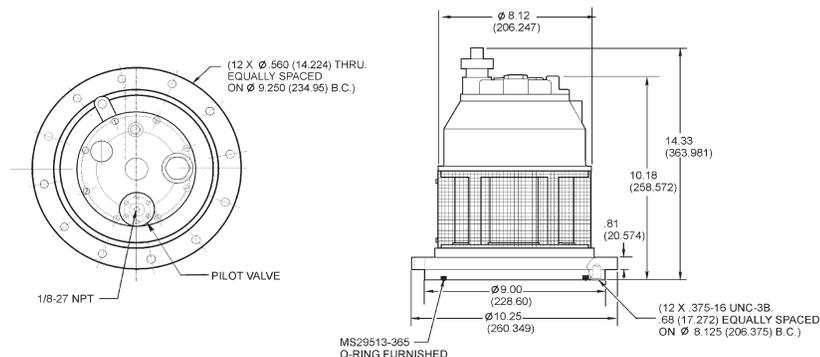
Dimensions shown in inches (millimeters)



**Model 64118A
6-inch Bottom Loading Valve**

Not available without pilot valve

For use for loading the refueler only, no off-loading capability.

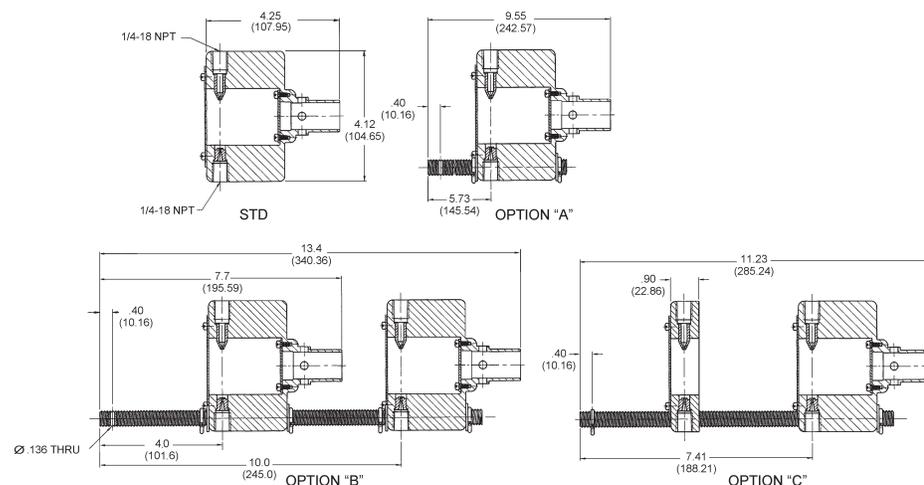


Model 64079 Level Sensor

Options A, B or C may be added to the basic 64079 model number to achieve the degree of customization desired.

Option Description

A	Adds stud to basic unit to provide mounting and level adjustment., 1/2-13 UNC-2B thread
B	Dual jet level sensor
C	Jet level sensor with short body level sensor



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Form No. TF100-94C
May 2013