

HYDROVEX® TIPPER
FLOW MEASURING DEVICE
CSO, SSO, Stormwater Management

WATER TECHNOLOGIES

HYDROVEX® Tipper Flow Measuring Device

Application

Precise measurement of small flows is often difficult to achieve. None of the conventional measurement methods (weir, Palmer-Bowlus, Parshall flume, inductive flow meters, etc.) are able to offer an effective solution. These small flows are accompanied by reduced velocities that create important settling conditions and dramatically lower the accuracy of the measurement. The HYDROVEX® Tipper Flow Measuring Device, which operates without

any source of external energy, was designed to collect and measure these small flows. The monitored flow can even fall to zero long periods.

Typical applications for the HYDROVEX® Tipper include measuring flows produced by a single household, small industry, roof or parking catchments as well as landfill or mine infiltration water and dam leaks, to name a few.

Operation

A filling pipe located above the HYDROVEX® Tipper fills the compartment which is in the upright position, whereas the other is in the tipped position and empty. When the water level within the compartment reaches the activation level, the bucket tips and empties the liquid. The tipping takes place due to a shift in the center of gravity of the filled bucket. The released liquid is drained to the outlet, while the filling pipe starts filling the other compartment now in the upright position.

A mechanical counter records each filling cycle. The number of counts, multiplied by the total filling volume, gives the flow per unit of time. Once the volume has been noted, the counter can be manually set back to zero. As an option, the unit can be fitted with a magnetic limit switch that will count the pulses and record the information remotely. The magnetic switch can be supplied to meet explosion proof requirements.

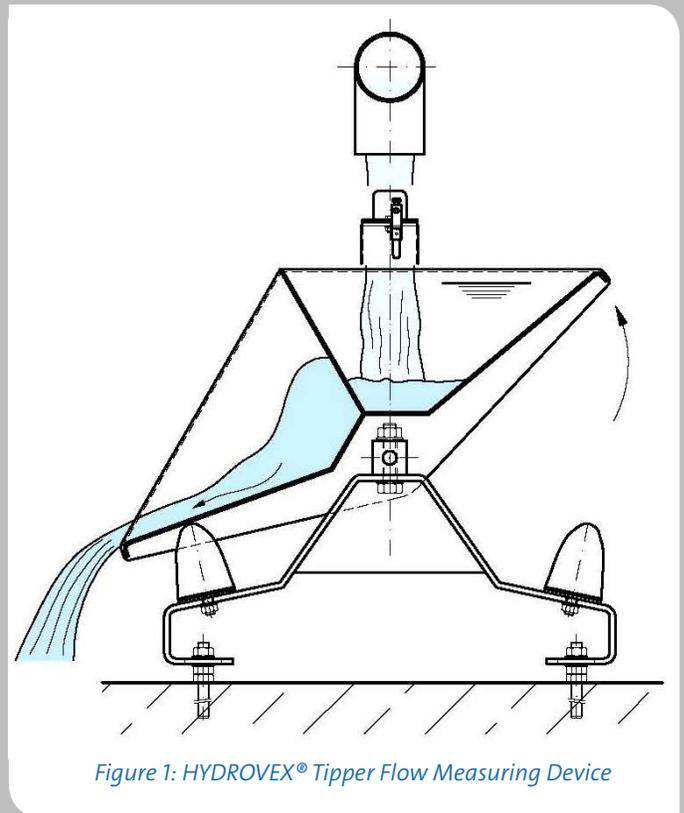


Figure 1: HYDROVEX® Tipper Flow Measuring Device

Construction

The filling bucket of the HYDROVEX® Tipper is fabricated entirely of 304 stainless steel, and has a flushing angle of 20° from the horizontal axis. This ensures that highly loaded fluids can be reliably and efficiently discharged.

The unit is fitted with bearings on a stainless steel shaft safely located under the unit. The base plate and

the supports are made of 304 stainless steel while the bumpers are made of neoprene.

Upon request, the HYDROVEX® Tipper can also be fabricated of 316 stainless steel for additional corrosion resistance.

Selection

The Hydrovex® Tipper is available in the following standard sizes & volumes.

Model	Total Volume (V)	Maximum Flow (Qmax)	Length (L)	Width (B)	Swivel height (h)	Overall Height (H)	Weight
	L [Gal]	L/s [gpm]	mm [in]	mm [in]	mm [in]	mm [in]	Kg [lbs]
FT-2	2 [0.53]	0.25 [4]	286 [11.3]	213 [8.4]	283 [11.1]	331 [13.3]	8 [18]
FT-5	5 [1.32]	0.63 [10]	389 [15.3]	303 [11.9]	342 [13.5]	387 [15.2]	15 [33]
FT-10	10 [2.64]	1.3 [20.6]	470 [18.5]	361 [14.2]	371 [14.6]	414 [16.3]	22 [48]
FT-16	16 [4.23]	2.0 [31.7]	557 [21.9]	413 [16.3]	420 [16.5]	464 [18.3]	30 [66]
FT-25	25 [6.60]	3.1 [49.1]	640 [25.2]	455 [17.9]	469 [18.5]	513 [20.2]	42 [92]
FT-40	40 [10.57]	5.0 [79.3]	749 [29.5]	515 [20.3]	523 [20.6]	568 [22.4]	50 [110]

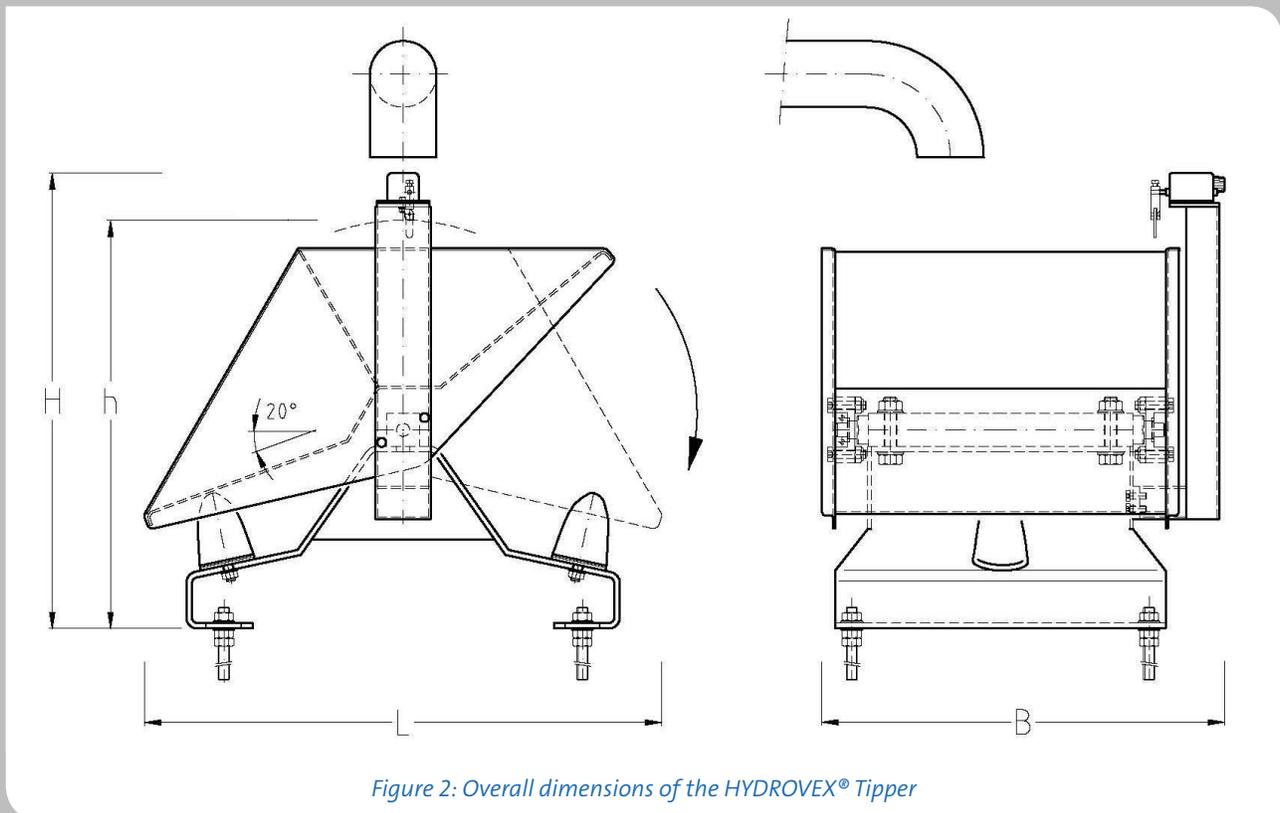


Figure 2: Overall dimensions of the HYDROVEX® Tipper

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