



# Flygt hydro ejectors

MIXING & FLUSHING FOR RETENTION BASINS



# The Flygt JP4700 series

**During periods of heavy rain, large volumes of water can often be too much for a sewage system and wastewater treatment plant to handle. This can lead to overflowing, causing environmental, hygienic, and material damage.**

**By using retention basins the flow in a sewage system can be evened out, avoiding floods and maintaining an efficient treatment process at the treatment plant.**

## Solids removal

The water entering retention basins often contains solid particles and sediments, resulting in unpleasant odours and toxic gases, whilst the build up of organic matter often necessitates manual cleaning. By installing a Flygt hydro ejector the solids can easily be removed at the same time as the retention basin is emptied. And the need for manual cleaning is eradicated.

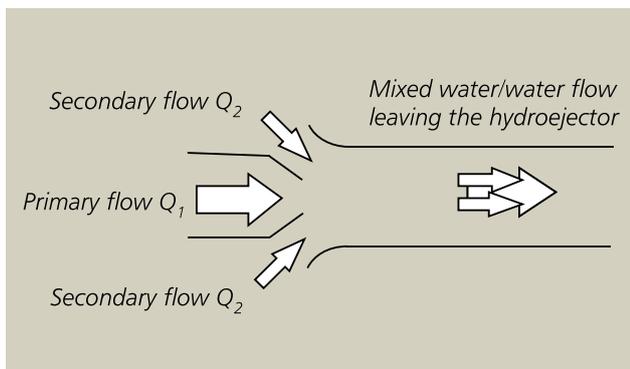
## Mixing & flushing

A hydro ejector performs two different operations depending on the level of the water.

1) When submerged the hydro ejector acts as a mixer by utilizing primary and secondary water flow:

- The primary flow ( $Q_1$ ) is pumped from the pump's hydraulic end and out through the nozzle into the ejector pipe. As the water travels through the nozzle the velocity increases, causing a reduction in pressure.
- This reduction in pressure causes the secondary flow ( $Q_2$ ). Water surrounding the pump is sucked through the ejector pipe where the primary and secondary flows meet, increasing the thrust and efficiency and producing a high power jet. This resuspends the pollutants until removal from the basin.

2) When the water level is low and the nozzle is no longer submerged, the hydro ejector automatically turns into



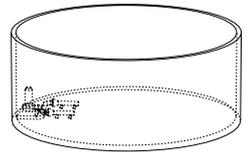
a flushing device. Water ( $Q_1$ ) is pumped through the hydraulic end and out through the ejector pipe, resulting in a powerful jet, which relieves the basin floor and walls of organic matter.

## Any tank size or shape

The high thrust hydro ejector can be used in almost any size or shape retention basin requiring:

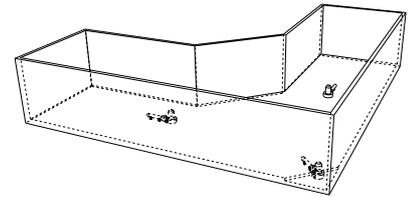
- bulk flow cleaning
- flushing of the basin
- or both options

The optimal position of a hydro ejector often varies in each retention basin as they can be practically any shape.



## Non-clogging

With the presence of solids in the stored water, clogging is always a potential problem. The Flygt hydro ejectors are therefore equipped with self-cleaning sustained-efficiency N-hydraulics, and have a large nozzle diameter to eliminate any clogging.



		JP4710	JP4715	JP4720
Rated power	50 Hz, kW	3.1	5.9	13.5
	60 Hz, kW (hp)	3.7 (5.0)	7.5 (10.0)	14.9 (20.0)
Flygt pump		N3102	N3127	N3153
Thrust, max	50 Hz, N	460	760	1,400
	60 Hz, N	430	820	1,400
Nozzle diam, mm (in)		80 (3.1)	102 (4.0)	120 (4.7)

## Systems engineering expertise

Dimensioning and layout are critical factors in maximizing performance. Using our expertise and intelligent tools, we analyze your requirements to identify the right mixer system to optimize your processes.

## Global service network

Should any problem occur with your Flygt products, professional assistance and original spare parts are always within easy reach through Xylem's extensive service network in 140 countries.