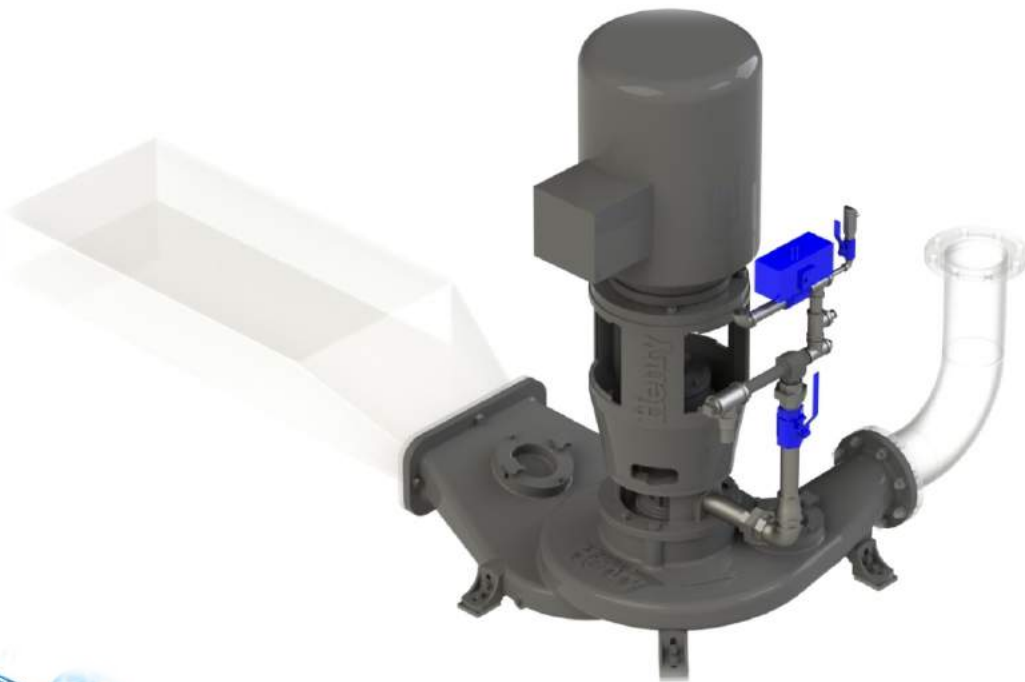


555 Van Camp Road Bowling Green, OH 43402  
Telephone: (419) 352 - 7501  
Fax: (419) 352 - 0224  
[www.henryfilters.com](http://www.henryfilters.com)

# HENRY FILTERS **Henry**®



## **Zero Pump**

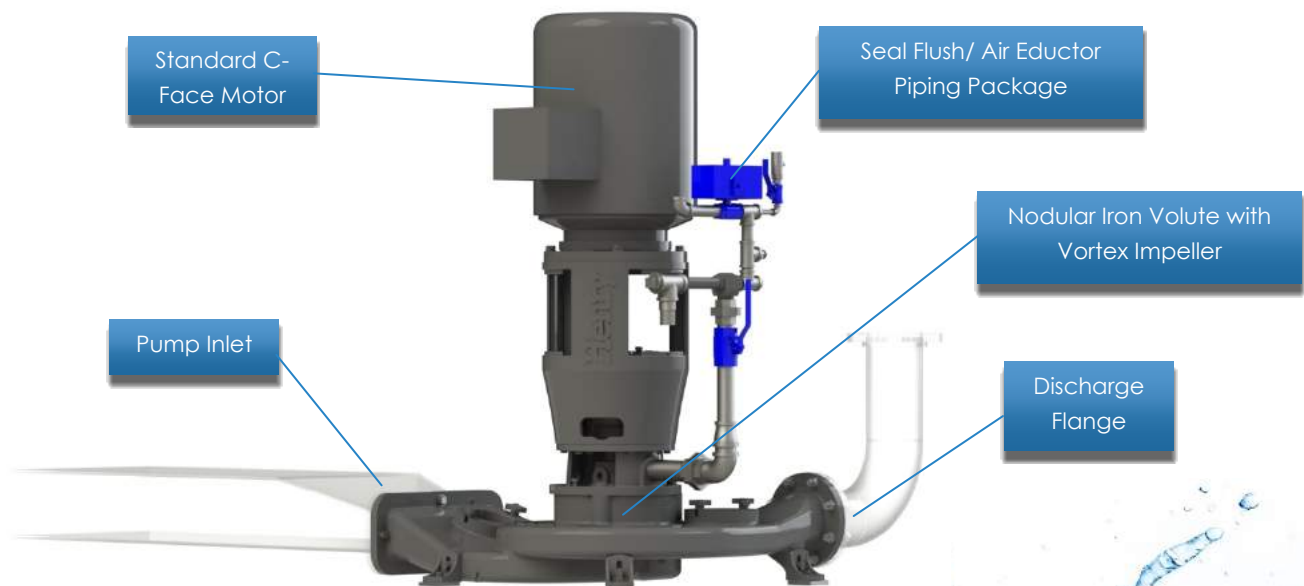
# Design

## Technology

The Henry Zero pump is a special designed pump for the transfer of coolant and chips, without the use of sump tanks. Zero pumps are available in three standard sizes. This allows application on small flows, up to large flows to be achieved. Each pump size is based on a vortex (recessed) impeller design where the impeller is not subject to direct contact of the chips. This vortex design allows passage of chips, including ones that are short strings and small "nests". The design of the Zero pumps also allows passage of solids up to 2" in diameter.

## Process

Coolant and chips, discharging from a single machine or several machines, enter the inlet of the Henry Zero pump via a trough or chute. Utilizing the "vortex" design of the pump operation, the coolant and chips are transferred from the pump to a filter system, overhead pipe or return trough. Each pump assembly also includes a liquid driven Penberthy jet pump to evacuate any collected air and assist in the priming of the pump at initial start. These Zero pumps can be mounted directly to the plant floor or be installed into a containment spill tank to ensure a dry floor installation.



Standard C-Face Motor

Seal Flush/ Air Eductor Piping Package

Nodular Iron Volute with Vortex Impeller

Pump Inlet

Discharge Flange



# Zero Pump Operation

## Operation

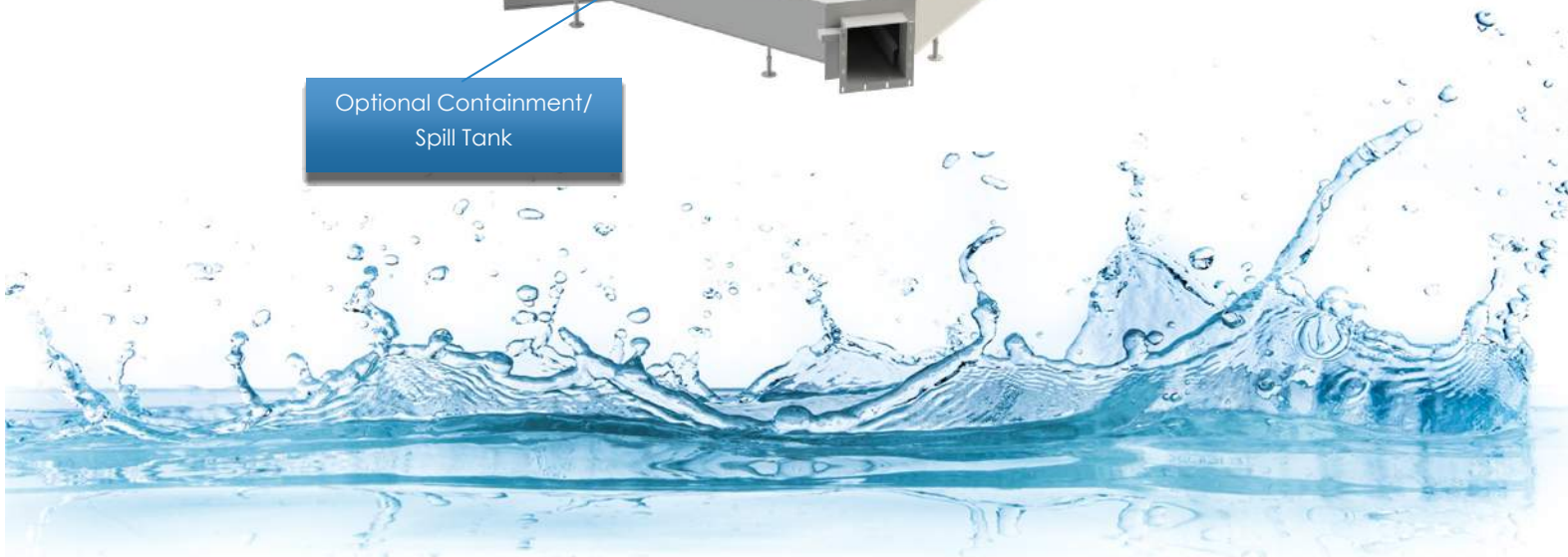
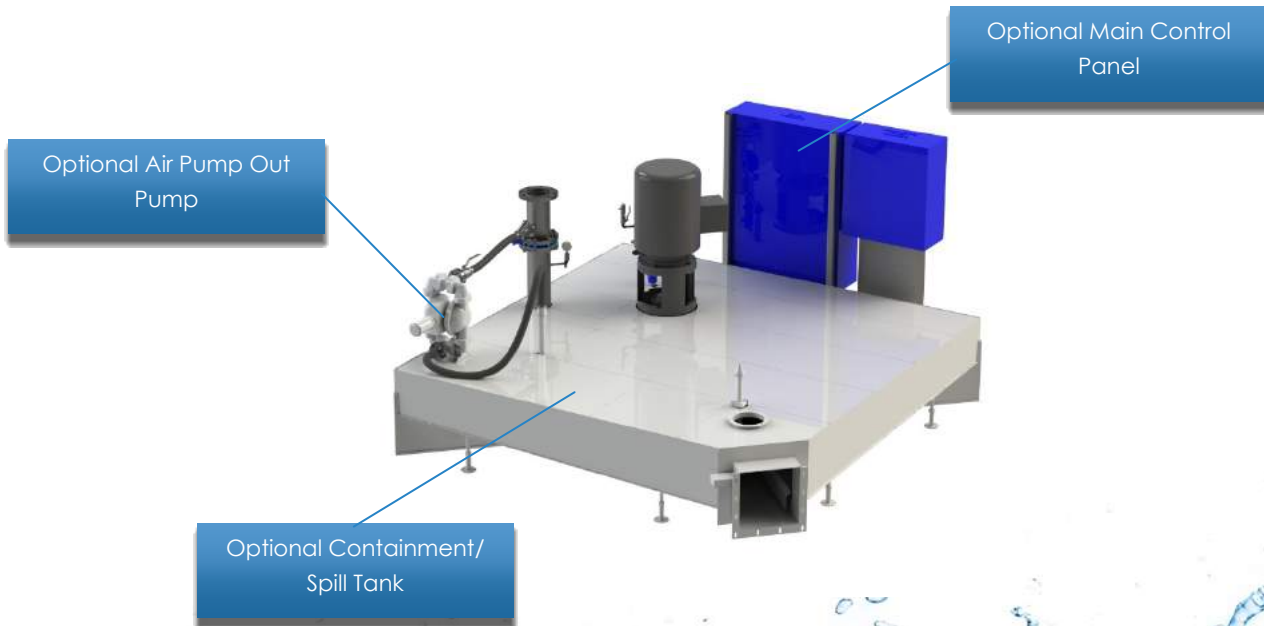
The Henry Zero pump can be designed to automatically start upon sensing fluid in the inlet housing or feed trough.

These pumps can be interlocked with each machine for control or be set up to operate totally independent.

As the pump starts, there is also a pressure sensing switch on the clean fluid feed line to the air evacuation system and seal flush housing. If the pressure switch loses pressure, at any time during operation of the Zero pump, an alarm will sound and the pump will go into an automatic shutdown.

Due to the vortex design, with minimal shaft length, these pumps can virtually run dry without coolant or chips entering from the machines.

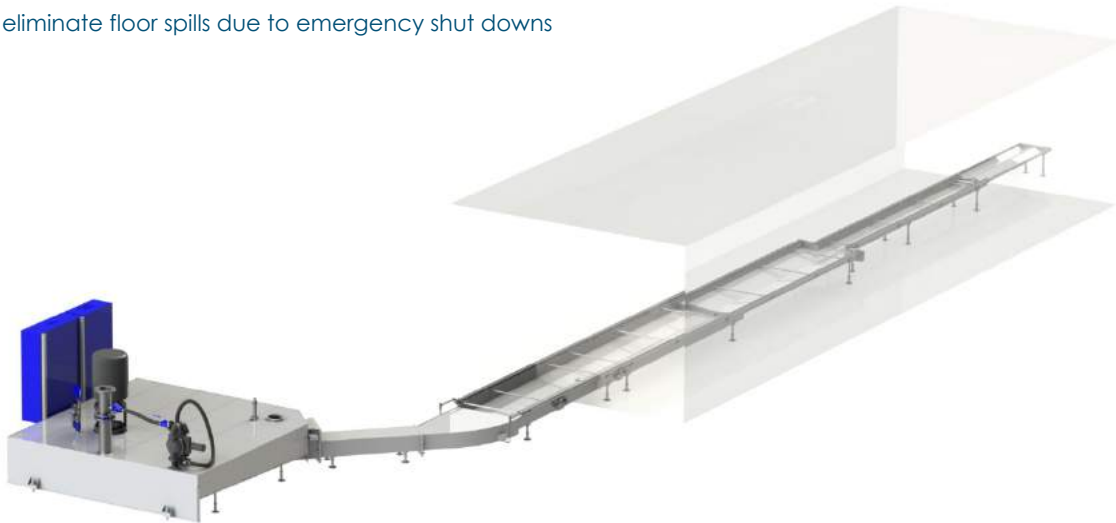
| Capacity   |   |
|--|---|
| Flowrate   | 200-2500 GPM  |
| Three Size   | 4" up to 600 GPM<br>6" up to 1300 GPM<br>10" up to 2500 GPM |
| Application  |   |
| Transfer of machining and grinding on aluminum, cast iron, steel, titanium, and other similar materials. |   |
| Stamping Operations  |   |
| Phosphate Systems  |   |
| Parts Washers  |   |
| Waste Water Systems  |   |



# Zero Pump

## System Benefits

- Three standard sizes for a wide range of flow applications
- Can support single machines or several machines
- Vortex (recessed) impeller design for passage of chips, including short stringy chips and small "nests"
- Ability to pass solids up to 2" in diameter
- On- floor installations for operation without need of in-floor sump tanks
- Low profile inlet eliminates the need for excavations or recessed pits
- Compact power frame design eliminates need for any bearings or shaft sleeves in the wetted area of pump, increasing the reliability of the assembly
- Air evacuation system maintains prime under foamy conditions and assist re-prime during intermittent flow periods
- Optional containment tanks are available around pump to eliminate floor spills due to emergency shut downs



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