

Henry On-floor "Zero Pump" System



Wide range of flow capacity for large and small machines

Vortex-type pump allows chips, short strings and small "nests" to be pumped

Recessed-impeller design allows solids up to 2" (50mm) in diameter to be pumped

The on-floor design eliminates need for excavations or recessed pits

Air-evacuation system maintains prime under foamy conditions, and assists re-priming during intermittent flow periods

Short shaft on impeller eliminates need for thrust bearings in coolant & chip areas, increasing reliability

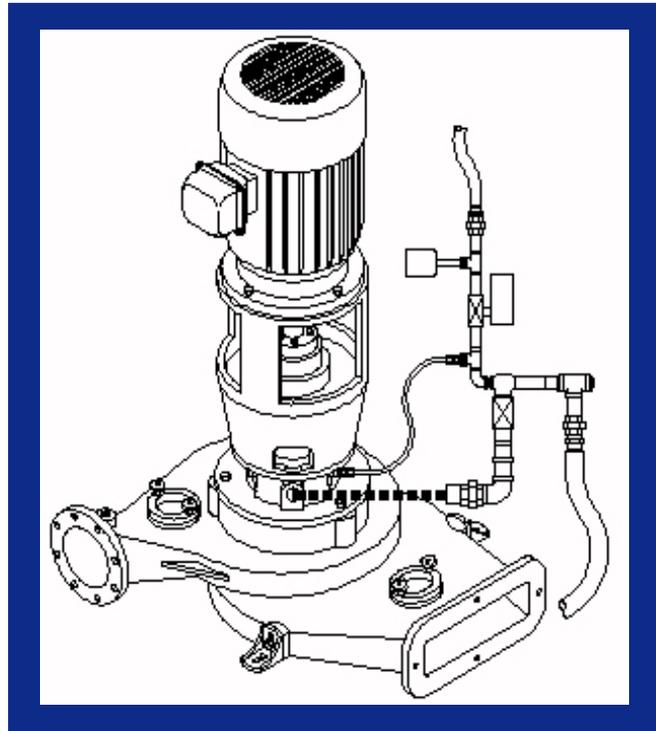
Optional overflow containment tank around pump prevents floor spills from emergency shut downs



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Sequence of Operation

1. Clean, filtered coolant must be available in the supply pipe of the Zero Pump System.
2. The supply coolant pressure is sensed by the System, allowing the System to be started. An auto-valve opens to send clean coolant to the pump seal and to the air evacuation unit.
3. Whether by pressure sensing, interlocking, or manual starting, the System is started. The air evacuation unit assists the pump in quickly priming and, with the coolant-seal feed line, allow the pump to run continuously - whether machines are running or not.



Interlocking

1. The System is interlocked with the filter via a coolant pressure switch. Should the coolant's pressure stop, the pressure switch opens. The machine should sense this and either already be stopped, or proceed immediately with shutdown. The Zero Pump System will continue to run a short while (up to one minute) to evacuate remaining coolant from the machine troughs.
2. The System is interlocked with the machine(s) to assure incoming coolant is always pumped away. If the pump is stopped, the interlock allows the machine to initiate a critical process shutdown, stopping the coolant and chips from entering the pump. In the engineering stage, we determine whether the pump and trough can contain this shutdown volume, and may add a containment box around the pump to hold the excess.