# Pressure Operated Bypass Valves

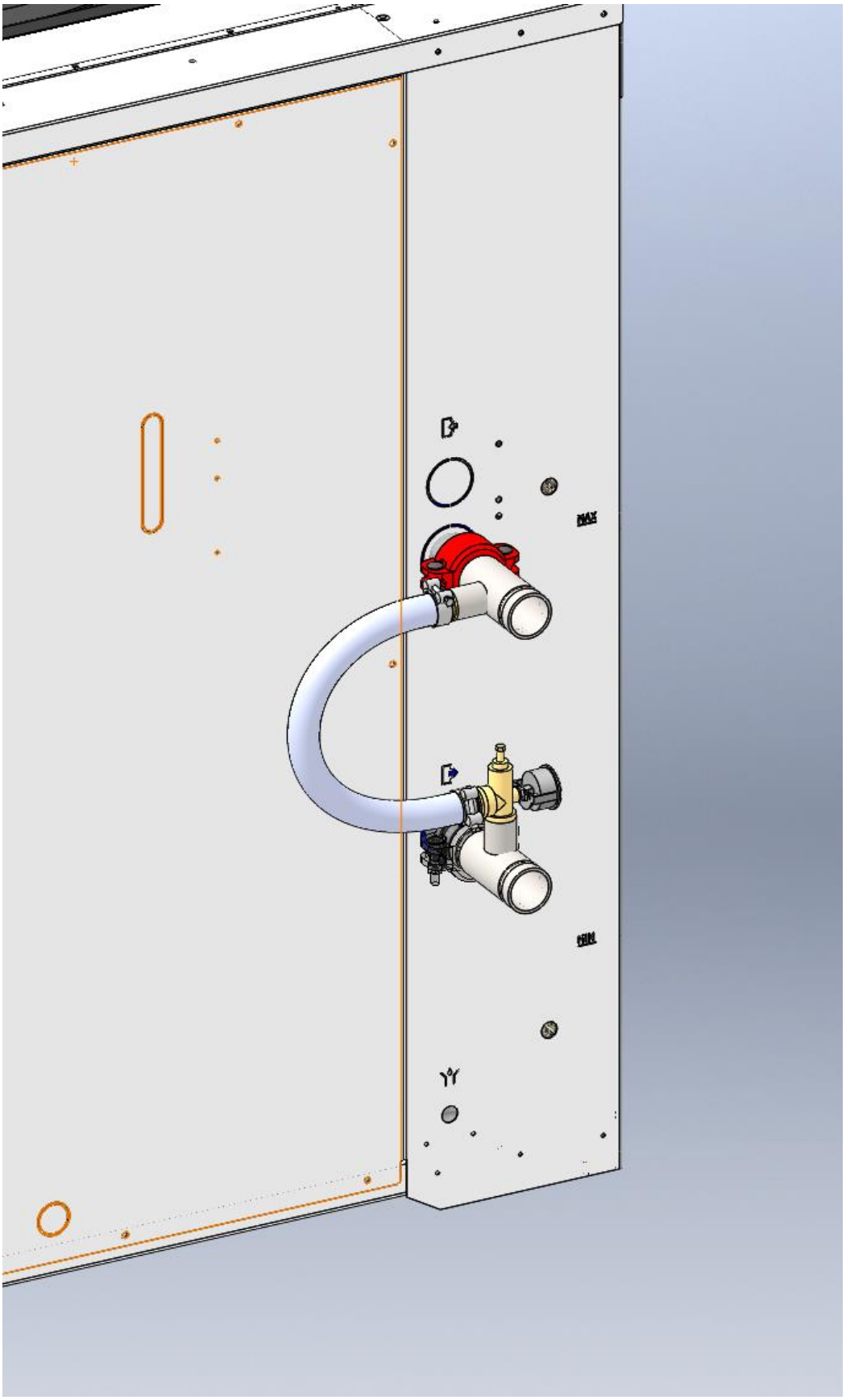
The Bypass Valve is an important part of any small to medium size process chiller application. **The Primary function** is to protect the chiller should any number of situations impede flow.

**Located between the supply and return on the outlet of the chiller it is designed to open should the pressure in the closed loop go beyond the preset level.**

Example: The Supply valve is inadvertently closed or the machinery being cooled has it's own throttling valve, that opens or closes when cooling is needed. Both situations cause an increase in the pressure of the supply loop. The POBV will respond to the increased pressure by opening and begin bypassing water or Glycol to the Return Line. The chiller will sense the reduction in load and adjust the number of compressors running or shut off completely. The pump will continue to run the loop in Bypass mode. Once the inlet switch on the load machine opens, the chiller will respond by closing the bypass valve, thus supplying chilled water or Glycol to the loop. The chiller will sense the increase in RWT and restart the compressor (s)

**The Secondary Function** will also allow a single PURESTREAM CHILLER with Adaptable load Operation to supply Chilled Water or Glycol to multiple loads.

An example would be in the brewing industry or any cooling loop that has previously been setup to run with City Water. Water is diverted around the brewing process depending on what step the process is in. Often these systems have a switch that opens and closes to feed water into the cooling jacket in the fermentation tank or in the Wort Chiller. In a chiller without a Bypass Valve this would not be possible as closing the valve would DEADHEAD the pump. The POBV will open to allow the system to continue to run at a lower loop flow and also scale back the refrigeration effect to match the load.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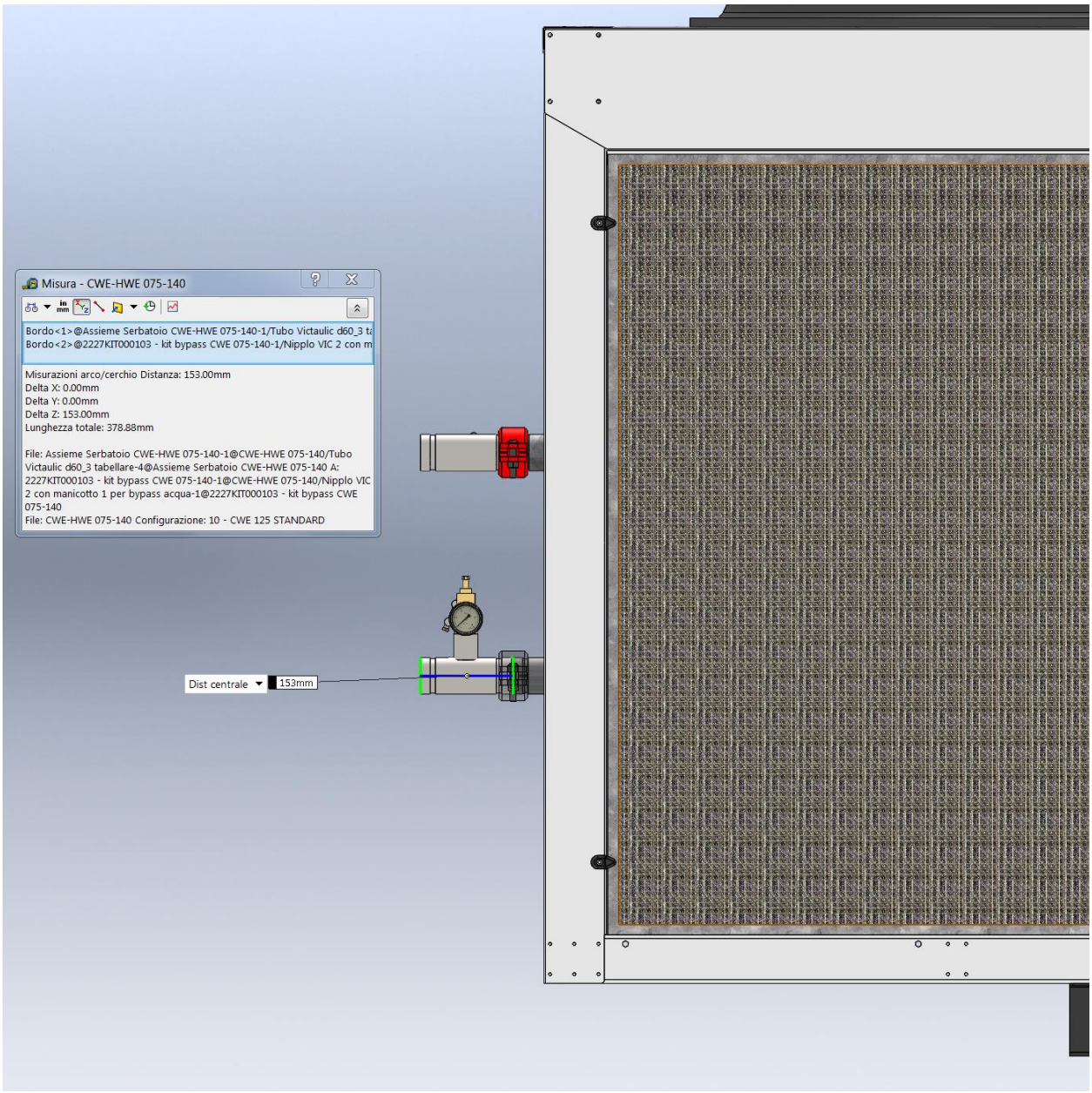



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