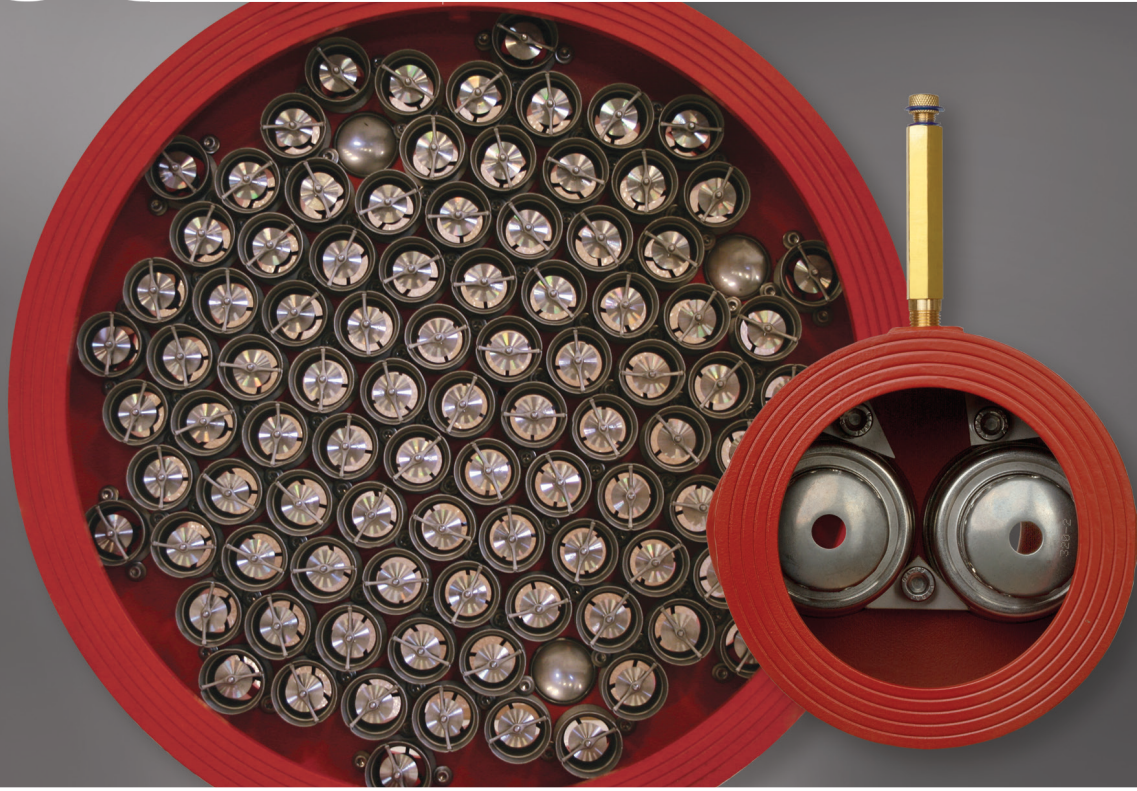


# FlowCon Wafer



## The High Flow Valve Series

The FlowCon Wafers are designed to meet the higher capacity flow limiting requirements. Applications are many: from air handling units and boiler flow control in common HVAC systems over multiple chillers or pump balancing system in high-rise buildings to industrial applications.

The FlowCon Wafers utilize precision calibrated stainless steel inserts to achieve the desired flow rate. With multiple inserts mounted in parallel within the valve housing, the sum of each installed insert's flow rate equals the total flow rate for the valve.

Below its pressure differential range, the insert is simply a fixed orifice device. This allows a modulating valve in the same circuit to operate with valve authority up to the flow rate specified. Once in its  $\Delta P$  range, the spring mounted insert-cup slides within the insert housing adjusting the effective open orifice area to the exact point, where the specified flow rate will be delivered. As  $\Delta P$  increases, the orifice area closes and vice versa. In multi-insert sizes, all inserts will operate simultaneously. When the pressure differential range is exceeded, the insert again

becomes a fixed orifice device. This ensures that, even under extreme conditions, no part of the system is starved or shut down.

Energy efficient heating and cooling systems require accurate flow control to ensure proper operation of primary plant equipment. Under typical conditions in large hydronic systems, the pressure fluctuates dramatically as pumps are switched on or circuits are isolated. FlowCon Wafers will help to safeguard equipment and ensure that flow through every active circuit remains constant and predictable.

- **Automatic and Dynamic balancing**  
- required max. flow is achieved and maintained.
- **100% pressure independent** - providing the correct flow while compensating for pressure fluctuations in the system.
- **Reliable and robust** pre-set stainless steel insert(s) with few moving parts.
- **Wide range** in sizes and flow rates up to DN1000 (40") and 2287 l/sec (36250 GPM).
- **High accuracy** of  $\pm 5\%$ .

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### Dynamic Flow Limiters

The FlowCon Wafers maintain correct flow despite pressure changes within the given  $\Delta P$  range (or the narrow common range when looking at multiple inserts with different ranges).

- Size: DN50-1000 (2"-40")
- $\Delta P$  ranges: 10-880 kPaD / 1-128 psid (divided over 7 spans)
- Flow range: 0.883-2287 l/sec / 14-36250 GPM
- Media temperature:
  - DN50-80 (2"-3"): -20°C to +135°C / -4°C to +275°F
  - DN100+ (4"-40"): -20°C to +175°C / -4°C to +347°F
- Static Pressure: DN50-80 (2"-3"): 2500 kPa / 360 psi
- DN100+ (4"-40"): 3400 kPa / 493 psi.

### Housings

The FlowCon Wafer housing is ductile iron and for double flange connection.

### Applications

Proper flow rate to a **cooling tower** is essential for adequate removal of heat from the **condenser** section of a **chiller**. Use of dynamic valves main-

tains even distribution to each condenser and prevents cooling tower flooding.

**Chillers** are often designed in parallel to allow equipment staging. This allows chillers to come on-line only when required during peak cooling hours. A FlowCon Wafer on each chiller prevents excess flow caused by over pumping during light load conditions and it assures flow rate to be within required range of the equipment.

In systems with **pumps** in parallel, the FlowCon Wafer is essential as the slightest difference in pump characteristics will result in pump overload and system inefficiency. Dissimilar or different sized pumps accentuate this problem.

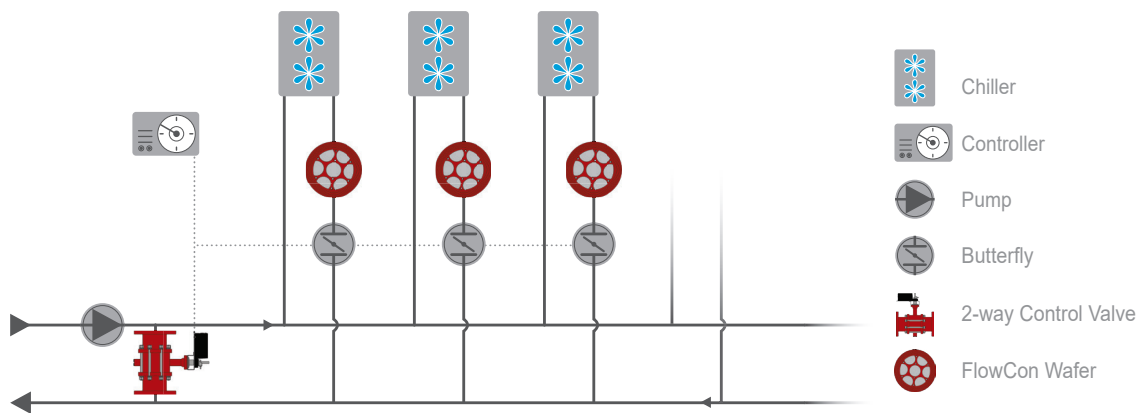
### Installation

Hydronic function of a FlowCon Wafer is not affected whether it is installed in the supply- or return-pipe and the valves may also be installed either horizontally or vertically.

For further information visit [www.flowcon.com](http://www.flowcon.com)

### Application Example

Cooling Tower with Flow Limiter.



**FlowCon**  
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