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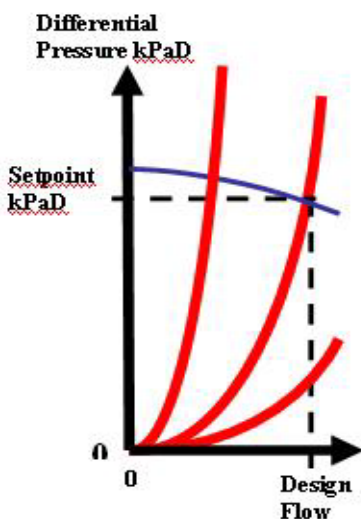
DYNAMIC (AUTOMATIC) BALANCING VALVES

1. INTRODUCTION

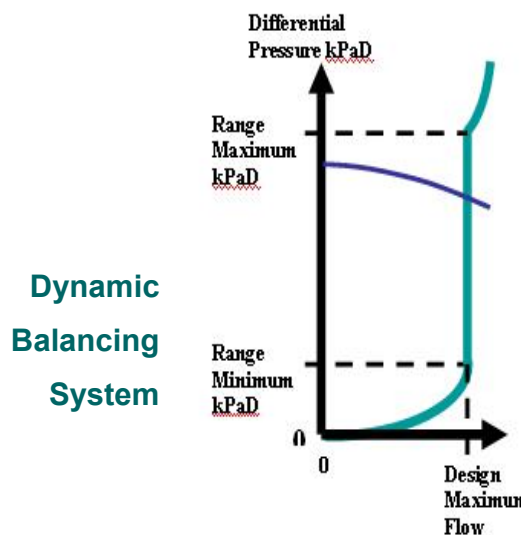


All buildings, larger than single houses, **need balancing valves** to be installed in the heating, cooling and air conditioning pipe networks, in order to achieve the right water distribution to the various piping branches and equipment.

Automatic dynamic balancing valves keep the actual flow rate constant and equal to the design flow rate, over a specified operating differential pressure range, and need no time-consuming commissioning. The dynamic balancing valves **have important advantages** compared to the static balancing valves that are mostly used till now. These advantages are described analytically in the following pages.



**Static
Balancing
System**



**Dynamic
Balancing
System**

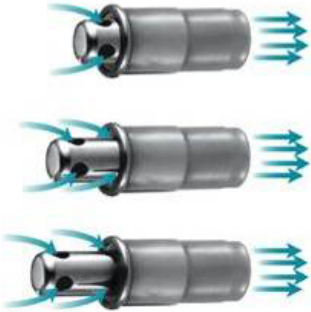
FlowCon produces a complete range of dynamic balancing valves, such as, preset flow control valves up to DN800, externally adjustable valves, as well as combinations of electric temperature control and dynamic balancing valves.

Chryssafidis S.A. is the exclusive distributor of FlowCon valves in Greece making them available also in the Bulgaria and FY RO Macedonia. Keeping significant stock of the main types, provides immediate and specialized support for the complete product range of **FlowCon**.

2. APPLICATION FIELD:

- HVAC and cooling installations in residential and industrial installations, as well as in any other installation where constant water flow is needed.
- Irrigation networks with diameters equal or larger than 100mm where restriction of maximum water consumption is necessary.
- Other applications where maximum flow should be restricted.

3. ΑΡΧΗ ΛΕΙΤΟΥΡΓΙΑΣ:



The dynamic balancing valves are composed by the body and the regulating element.

Depending on the differential pressure between upstream and downstream of the valve, a spring loaded element adjusts the orifice of the valve and keeps the actual flow equal to the design flow.

There are four types of regulating cartridges:



- **STAINLESS STEEL** - Preset by the manufacturer



- **COMPOSITE CARTRIDGES** - Adjustable from the user before assembling to the valve

- **E-JUST CARTRIDGES** - Externally adjustable



- **SME** - Cartridges for use with electric and thermal actuators. They are externally adjustable after removing first the actuator.



All types of regulating cartridges are exchangeable between them in the basic valve types, providing large flexibility of selection.

Based on the required type of control, the maximum flow or the flow range and the expected pressure range e.g. the available circulator, the correct regulating element is selected.

The adjustment of the regulating cartridges is based on a two digit scale settings via a special key.

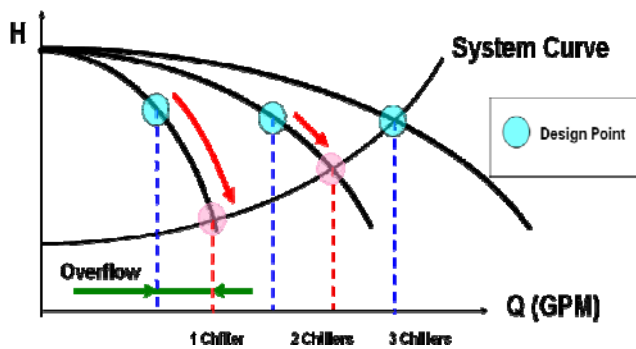
4. ADVANTAGES OF DYNAMIC BALANCING COMPARED TO STATIC BALANCING:

For the designer

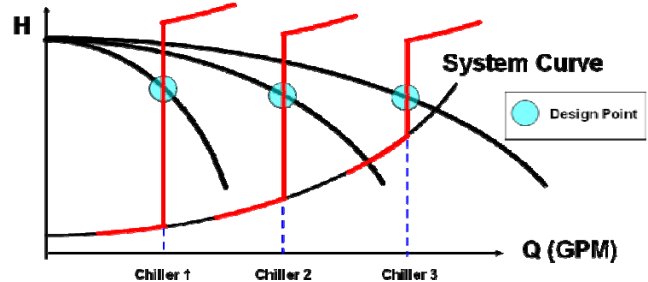
Less time needed to define the necessary equipment for a hydraulic balanced system.

No need to calculate valve kv value.

Certainty that the specified flow is equal to the actual flow – No overflow even under different loads

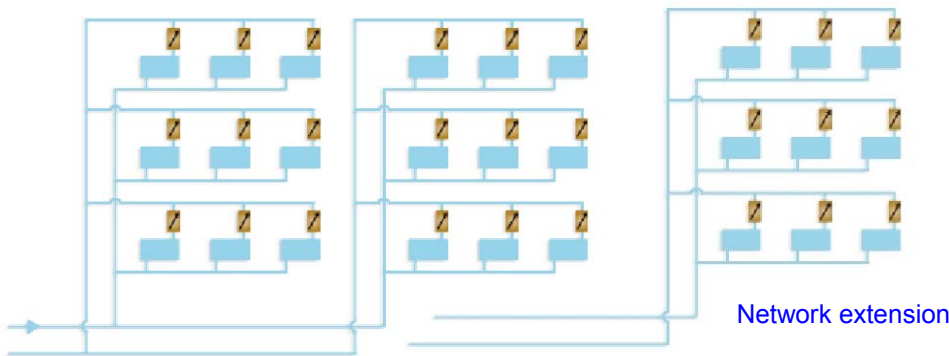


Static Balancing System

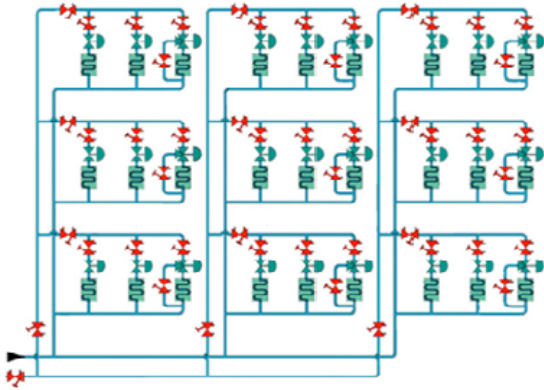


Dynamic Balancing System

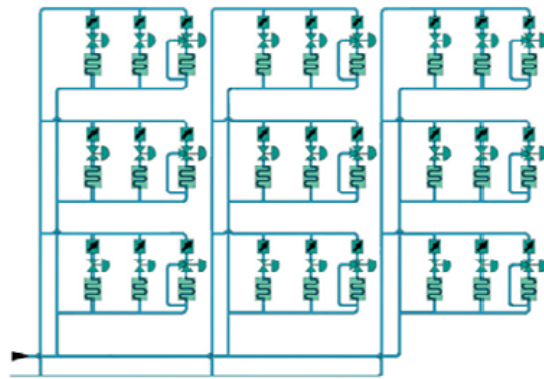
Flexibility if the system is modified after the initial installation – Shutting down a branch or adding an extension does not influence the flow rates through the other valves of the system.



Fewer balancing valves needed - No need of valves in branches and columns.



Static Balancing System



Dynamic Balancing System

No further balancing required in the system when FlowCon balancing valves are installed at terminals.

For the installer

Minimized commissioning time due to automatic balancing of the system.

Removable cartridge solution **simplifies flushing** procedure.

No minimum straight pipe lengths required before or after the valve.

For the user

High comfort due to proper distribution of water throughout the system. - Dynamic balancing valves achieve better accuracy and stability in flow rate control, therefore achieving better the design conditions.

Less energy consumption due to faster response, in-creased system stability and prevention of overflow.

5. AVAILABLE PRODUCT RANGE in stock:

CODE ITEM	M
277004-09	Type A : Dynamic Balancing Valves, to be used with externally adjustable cartridges E-Just
277104-09	Type AB : Dynamic Balancing Valves with pressure measurement points, to be used with externally adjustable cartridges E-Just
27902x 27905x	E-Just : Externally adjustable cartridges for valves type A and AB For flow adjustment from 100 to 16.100 It/h
277909-14	Type SH : Flanged Externally Adjustable Dynamic Balancing Valves For flow adjustment from 5.310 to 106.000 It/h



Flow rates up to 3.856 m³/h and **differential pressure up to 880 kPa** can be adjusted with the **Wafer** type mentioned in the next page.

6. OTHER FlowCon PRODUCTS:



Pressure Independent Temperature Control and Automatic Balancing Valve with 100% Authority

SME 15 - 25 mm



Dynamic Self Balancing Control Valve

SM 15-150 mm



Plug-in Insert for Temperature Control of Automatic Balancing Valves

EVS 15 - 25 mm



Dynamic Balancing Valve with Temperature Control

EVC 15 - 25 mm

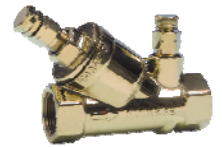


Balanced Temperature Control Valve

ABM 15-40mm

Automatic Flow Control Valve with Pressure Regulation

K 15-80mm

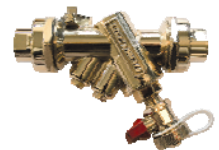


Dynamic Balancing Valve with Externally Adjustable Cartridge and Isolating Ball Valve

ABV 15-40mm

Dynamic Balancing Valve with Externally Adjustable Cartridge, Isolating Ball Valve and Strainer

ABS 15-40mm



Automatic Balancing Valve with Pre-Set Cartridges

Wafer 100-800mm

Grooved End 50-500mm



Thermostatic Valve for Domestic Water

T-JUST 15-25mm