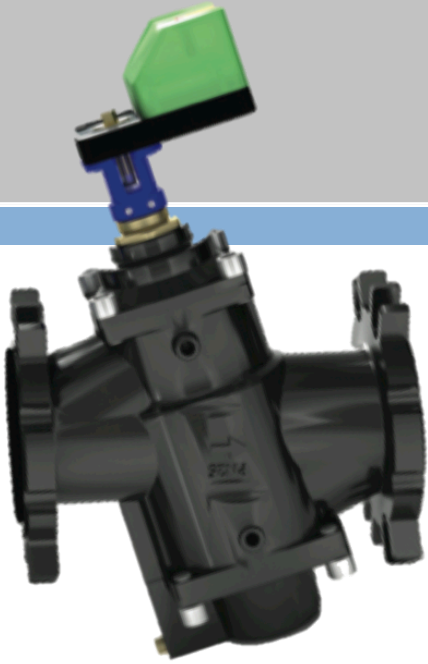


# FlowMate

Dynamic Balancing Control Valve



**Moon series**

# MOON SERIES

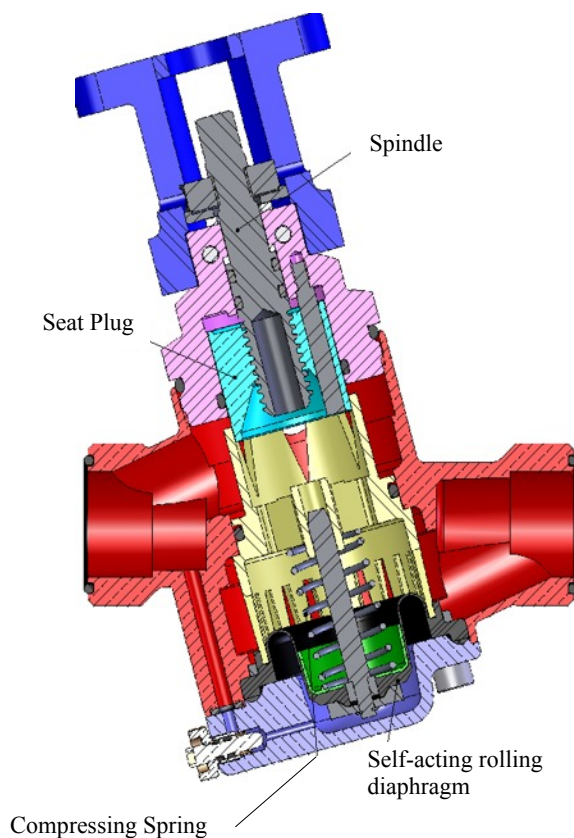
## The innovative FlowMate Dynamic Balancing Control Valve, solution to today's High Performance Green Buildings

### State of The Art Design

The innovative FlowMate Dynamic Balancing Control Valve combines multiples functions into one device. It simultaneously serves as an automatic balancing valve, a differential pressure controller, a modulating control valve and a flowrate monitoring and feedback device, providing automatic balancing at full and part load while keeping flowrate constant at  $\pm 5\%$  of the desired flowrate.

### Operating Principle

The operating principle is simple with the smart integrated design of control valve and the differential pressure controller. The self-acting rolling diaphragm is counteracting a compressing spring. This self-action will result into a mostly constant pressure drop across the controlled position of the seat plug which functions as the control valve. The actuation of the seat plug is achieving through turning the spindle by the high performance microprocessor actuator. This results in precise and **Pressure Independent Flow Control**.



### Features & Benefits

#### Built for Energy Saving

Always operate at desired flow rate and high  $\Delta T$ ; less pressure drop, no excess flow and oversized pump, reducing pump energy consumption and achieving high energy efficiency.

#### Linear Control Characteristic

Provide almost linear control characteristic, delivering excellent controllability.

#### Comfort

100% valve authority at all times, ensuring system performance at desired level. Constant flow can be kept even under power or control signal failure, providing continuous comfort built environment.

#### High Performance Microprocessor Actuator

The valve comes with high performance microprocessor actuator, guaranteeing valve performance and full compatibility with major BMS.

#### No Calculation

The  $K_v$  value and valve authority don't need to be calculated anymore, because FlowMate valve ensures 100% authority with all settings and differential pressures.

#### Lean System Design & Quick to Start Up

Fewer branch balancing valves and no reverse return pipe work are needed, saving installation space, labor cost, and commissioning time. High system flexibility, no need to re-balance the system even the project is staged or modified.

#### Simultaneous Dual Max Flowrate Settings

The microprocessor-actuator can accept 2 max flowrate settings to cope with different applications, which can be automatically activated through BMS signals. These two settings can be chilled water flow in the summer and hot water flow in the winter. Or they can be normal flow and non-peak hours application for energy saving purpose.

#### System Monitoring At All Times

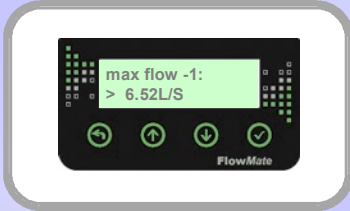
LCD display of max flow setting and current flowrate. Both fault alarm signal and flowrate can be feedback to the BMS.

#### Field Serviceable

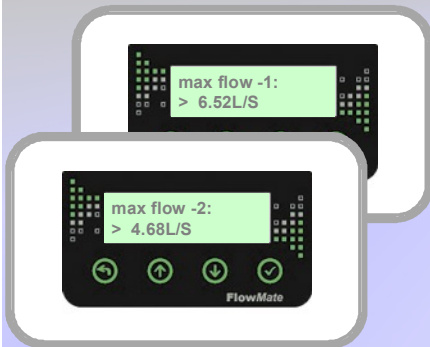
The cartridge can be changed without removing valve from line, reducing labor and down time.

In 1969: Man takes first step on the Moon.  
As Commander Neil Armstrong put his left foot down first, he declared:  
“That’s one small step for man, one giant leap for mankind.”

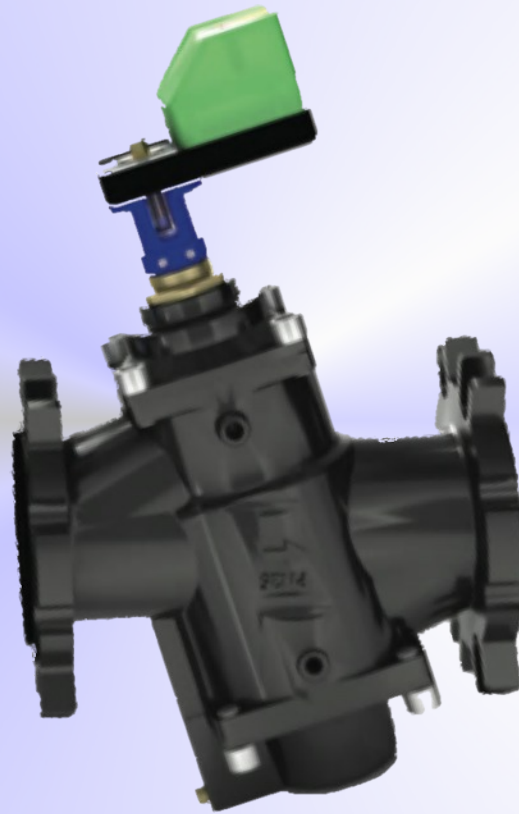
## Install and Start Up in Minutes...



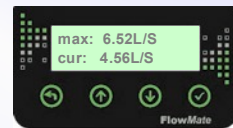
Easy Setup Wizard with Simple Key-in Buttons



Simultaneous Settings of Dual Max Flowrate; Flowrate Switching in *seconds*



Illuminated Enclosure  
**GREEN:** Normal  
**RED:** Fault



LCD Display of Max Flow Setting and Current Flowrate

Feedback



BMS

**System Monitoring All the Time**

### Mechanically Specification

Static Pressure:	2500 kPa
Temperature rating median:	-10°C to 120°C
Temperature rating ambient:	-10°C to 60°C
Accuracy of controlled flowrate:	+/-5%
Maximum close off pressure	700 kPa
Close off leakage:	≤0.05% of max controlled flow
Material:	
- Body	Forged brass / Ductile Iron
- Internal Component	Stainless steel / POM
- Diaphragm / O-ring	EPDM

### Electrical Specification

Power supply:	24V AC (+/- 10%) 30V DC (+/- 15%)
Power consumption:	<15VA @ 24V AC
Frequency:	50/60 Hz
Control input selectable:	2 -10V DC / 4 - 20mA
Feed back output:	4-20mA*
Fault output:	Dry contact
Insulating:	IP54

\* 2-10V or 0-10V also available

# High Performance Dynamic Balancing Control Valve for Your Green Buildings

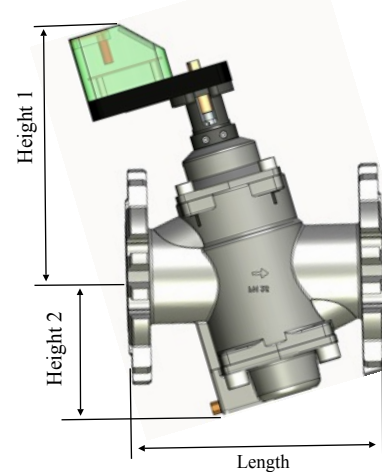
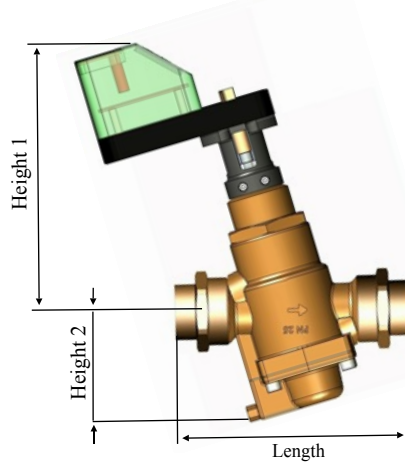
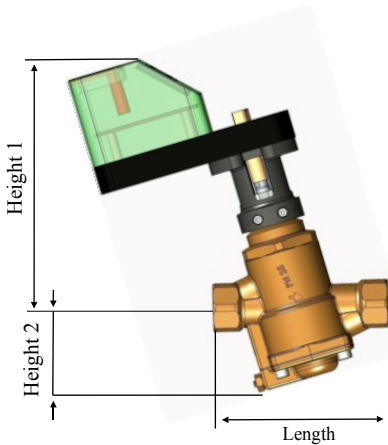
## Part no and Flowrate

Part no.	DP Range (kPa)	Flowrate (m <sup>3</sup> /hr)	Flowrate (GPM)	Connection
E015M	40-500	0.6-7.3	2.6-32.1	DN15 Female
E020M	40-500	0.6-7.3	2.6-32.1	DN20 Female
E025M	40-500	0.6-7.3	2.6-32.1	DN25 Female
E032S	30-500	2.1-11.8	9.2-52.0	DN32 Female
E032M	40-500	2.3-12.3	10.1-54.2	DN32 Female
E040S	30-500	2.1-11.8	9.2-52.0	DN40 Female
E040M	40-500	2.3-12.3	10.1-54.2	DN40 Female
E050M	40-500	2.3-12.3	10.1-54.2	DN50 Female
E050L	60-600	2.4-14.0	10.6-61.6	DN50 Female

Part no.	DP Range (kPa)	Flowrate (m <sup>3</sup> /hr)	Flowrate (GPM)	Connection
E065S	30-500	4.9-29.4	21.6-129.4	DN65 Multi Flange
E065M	40-500	5.0-40.4	22.0-177.9	DN65 Multi Flange
E080S	30-500	4.9-29.4	21.6-129.4	DN80 Multi Flange
E080M	40-500	5.0-40.4	22.0-177.9	DN80 Multi Flange
E100M	40-500	5.0-40.4	22.0-177.9	DN100 Multi Flange
E100L	60-600	5.8-45.0	25.5-198.1	DN100 Multi Flange
E125S	30-500	8.0-60.0	35.2-264.2	DN125 Multi Flange
E125M	40-500	8.8-72.8	38.7-320.5	DN125 Multi Flange
E125L	60-600	9.6-80.0	42.3-352.2	DN125 Multi Flange
E150S	30-500	12.0-100.0	52.8-440.3	DN150 Multi Flange
E150M	40-500	15.0-120.0	66.0-528.3	DN150 Multi Flange
E150L	60-600	18.0-150.0	79.2-660.4	DN150 Multi Flange

## Dimension & Weight

Part no.	Connection	Length mm	Height 1 mm	Height 2 mm	Weight kg
E015	DN15 Female	135	192	66	3.4
E020	DN20 Female	135	192	66	3.5
E025	DN25 Female	135	192	66	3.7
E032	DN32 Female	167	232	94	5.5
E040	DN40 Female	177	232	94	5.8
E050	DN50 Female	177	232	94	5.9
E065 / E080	DN65/80 Multi size flange	274	320	150	22
E100	DN100 Multi size flange	274	320	150	22
E125	DN125 Multi size flange	334	368	196	35.5
E150	DN150 Multi size flange	420	407	245	67



Flowmate Ltd.

Innovative Product Design

Designed and Engineered in Denmark

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