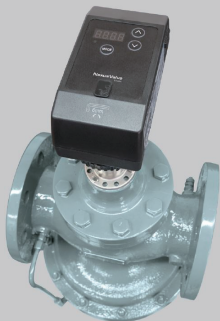




# OPERATING MANUAL

**Pressure Independent  
Control Valve**  
(DN65-250/ 2-1/2"-10")

***NexusValve***  
*Vivax*



## Purpose

### Flow Control

Accurately controlling a flow at a small fan coil, ventilation unit and large HVAC. (HVAC stands for Heating, Ventilation, and Air Conditioning)

### Flow Maintenance

Maintaining the precise flow required in each section not subject to differential pressure fluctuation.

### Auto Balancing

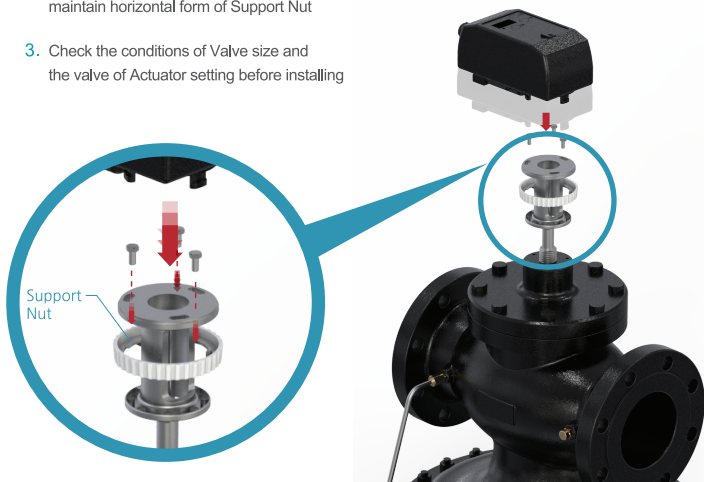
Continuously executing control and auto balancing according to load changes.

### Field Setting & Changing

Setting or changing the max. Flow required in a field by means of a combination of actuator switches.

## How to Assemble an Actuator and Valve

1. Make sure to check WIRE connection before installing
2. When assembling Support Nut and Actuator, maintain horizontal form of Support Nut
3. Check the conditions of Valve size and the valve of Actuator setting before installing



## Features

- Flow control from low to high flow of cold/hot water by the only one valve.
- Max. flow settable in a field.
- Both control and balancing functions simultaneously executed.
- Precise flow control because of the structure not subject to differential pressure fluctuation.
- Differential pressure/temperature measurable by the measurement point of differential pressure/temperature.
- Noise free diaphragm structure.
- Dimensions by applying design flow without Cv calculation.

## Actuator Specifications


Operating time	60 ~ 330 sec (full open ⇔ full close)
Control input	<ul style="list-style-type: none"> <li>· Voltage Input (0~10VDC, 2~10VDC)</li> <li>· Current Input (0~20mA, 4~20mA)</li> <li>· On-Off Input (24V: Open, 0V: Close)</li> <li>· 3-Point-Floating Input (P3 24V: Open, P4 24V: Close)</li> <li>· PWM Control (0,1~5,0Sec, 0,1~25Sec)</li> <li>· Internal Input</li> </ul>
Torque	<ul style="list-style-type: none"> <li>· Running : 8.0 N·m</li> <li>· Stall : 10 N·m</li> </ul>
Feedback	0 ~ 10V , 2 ~ 10V, 0 ~ 20mA, 4 ~ 20mA
Surrounding temp.	-20°C ~ 60°C
Wire	24AWG
Cover material	Plastic
Power	24V DC 50/60HZ
Power consumption	Running 5W/ Standby 2.5W
Movement velocity	1 RPM / 1,5 RPM(Optional)
Water resistance level	IP54
Weight	1.1kg







- 1 DISPLAY** : 4 Digit FND Display
- 2** : UP
- 3** : DOWN
- 4 MODE** : Functions/settings  
(Pressing it twice goes to function mode)

## MODE





Once power is on  will be displayed and value of valve will be set to 

**Do not set the buttons at this stage** If you set the button when value is  control will not be fully functional due to misleading rate of flow value.

※ Safety function:

if it does not read  value and  is still displayed, press  button will set value as 

## Actuator setting method

- Double click  button to switch to setting mode
- In Setting mode, use / button to change setting value
- Press  button again to switch to other functions

SET	Setting	Display	Display meaning	Operating method	Notes
<b>S-01</b>	Input and select display method	<i>FLo</i>	'Flow'	Press $\Delta$ / $\nabla$ to select method of input and press MODE to finish.	※ Control with INT Mode flow value (if operating on body, control with flow value)
		<i>PErc</i>	'%'		※ Control with INT Mode % value (if operating on body, control with % value)
<b>S-02</b>	Select Input	<i>0-10</i>	voltage	Set to Voltage JOG	Voltage between Pn3 - Pn1: 0V~10V
		<i>2-10</i>	voltage	Set to Voltage JOG	Voltage between Pn3 - Pn1: 2V~10V
		<i>0-20</i>	Current	Set to Current JOG Voltage	Electric current between Pn3 - Pn1 : 0mA~20mA
		<i>4-20</i>	Current	Set to Current JOG Voltage	Electric current between Pn3 - Pn1 : 4mA~20mA
		<i>on-F</i>	On/OFF	24V: Open, 0V: Close	Voltage between Pn3 - Pn1: 24V : Open, 0V: Close
		<i>rt</i>	-	-	Flow data update
		<i>3-FL</i>	3Point Floating Input	P3 23V: Open, p4 24V: Close	Voltage between Pn3 - Pn1: 24V: Open Voltage between Pn3 - Pn1: 24V: Close
		<i>P-05</i>	PWM 5Sec	PWM control (0.1~5.0 Sec)	0.1Sec : 0%, 5Sec : 100%
		<i>P-25</i>	PWM 25Sec	PWM control (0.1~25 Sec)	0.1Sec : 0%, 25Sec : 100%
<i>int</i>	Internal input	Enter from main body	Operates with main body setting (controls with Set1 setup)		



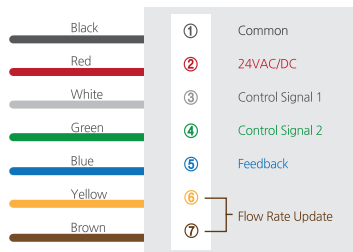
SET	Setting	Display	Display meaning	Operating method	Notes
<b>5-03</b>	Min flow setting	Display Min flow value	Display "Min" flow setting	Press $\Delta / \nabla$ to select flow input and press MODE to finish	Min flow value should be less than Max flow value
<b>5-04</b>	Max flow setting	Display Max flow value	Display "Max" flow setting	Press $\Delta / \nabla$ to select flow input and press MODE to finish	Max flow value should be larger than Min flow value
<b>5-05</b>	Check setting value & current value	<i>Fd-F</i>	Display "Flow/Feedback value"	Press $\Delta / \nabla$ to select display and press MODE to finish	FND (display method)
		<i>Fd-P</i>	Display "% Feedback value"		
		<i>St-F</i>	Display "Flow" setting value		
		<i>St-P</i>	Display "% setting value"		
<b>5-06</b>	Rotation angle adjustment	Max valve Rotation angle	Max pulse value adjustment	Press $\Delta / \nabla$ to select flow input and press MODE to finish	#Do not alter, Correct maximum rotation angle for each valve
<b>5-07</b>	Rotation angle offset adjustment	$0(\pm 10\%)$	Display digits	Press $\Delta / \nabla$ to select values ( $\pm 10.0$ ) and press MODE to finish	Increase/decrease flow by $\pm 10\%$
<b>5-08</b>	Select valve occasion when no power	<i>CLoS</i>	Valve is closed when no power	If no power select Open or Close as valve location	Option
		<i>oPEn</i>	Valve is opened when no power		
<b>5-09</b>	Select Flow unit	<i>Lit</i>	SI unit	Press $\Delta / \nabla$ to select select curve and press MODE to finish	SMS unit: L/min SMF unit: m3/hour
		<i>GAL</i>	GPM unit		Unit: gal/min
<b>5-10</b>	Select Flow curve	<i>L In</i>	Control by input flow value	Press $\Delta / \nabla$ to select select curve and press MODE to finish	Linear Curve (1 Convert to value of 1st Graph)
		<i>EPEr</i>	Control by input curve		Equal Percentage Curve (Convert to value of 2nd Graph)
<b>5-11</b>	Min. control Volt Calibration	Min. Volt analogue value	Adjust min Volt value	Press $\Delta / \nabla$ to select min. Volt value and press MODE to finish	Read min. Volt from set value
<b>5-12</b>	Volt Calibration	Max. Volt analog value	Adjust max Volt value	Press $\Delta / \nabla$ to select max. Volt value and press MODE to finish	Read max. Volt from set value
<b>5-13</b>	Select speed of rotation	PE01	Speed of rotation 1rpm	3 types of selection options 1. AUTO (1~1.5 auto adjustment) 2. PE01 (1rpm) 3. PE15 (1.5rpm)	
		PE15	Speed of rotation 1.5rpm		
		AUTO	rpm automatic adjustment		
<b>5-14</b>	Select Feedback method	0-10	Feedback method (Voltage)	From control centre/room select type of feedback signal	
		2-10			
		0-20	Feedback method (Current)		
		0-20			

\* Depending on th **5-09** setting, maximum flow rate value may be altered

## Control while in operation (INT mode)

- In Setting mode change **5-02** function to INT mode
- Input can be set as much as 0~100% or 0~ max flow rate depending on the **5-01**
- **Erro** code appears in FND reassemble the parts

# Actuator Wiring & Programming



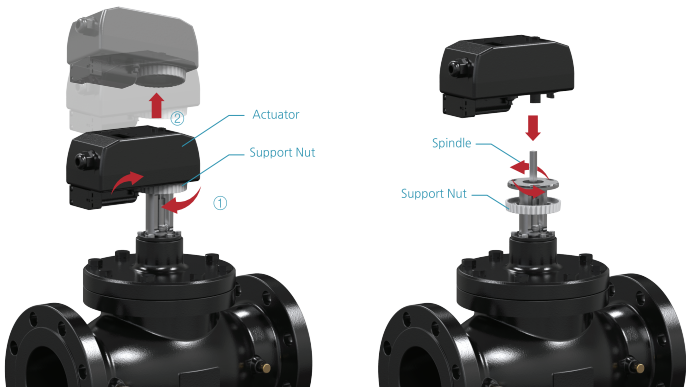
- ①, ② connects to power line
- ③, ④ connects as per specification (refer to manual)
- ⑤ is only for feedback line
- ⑥, ⑦ Flow Rate Update
- Possible for extra Remote control connection (Option)

Functions	No.	1	2	3	4	5	6	7
	Color	Black	Red	White	Green	Blue	Yellow	Brown
Internal control	Common	24VAC/DC				Feed Back		
Voltage control	Common	24VAC/DC	0~10VDC					
			2~10VDC					
Electric current control	Common	24VAC/DC	0~20mA					
			4~20mA					
On/OFF Control	Common	24VAC/DC	24VDC (Open)					
			0VDC(Close)					
3 Point Floating Control	Common	24VAC/DC	Drive CW(Close)	Drive CCW(Open)				
			24DC (Open)	24DC				
PWM Control	Common	24VAC/DC	PWM Control					
			Signal					

※ For digital type, as it is sensitive to the electric noise generated by other electric equipment, to prevent from the noise it is recommended to connect 1k ohm, 0.5W to ③ and ① or ④ and ①

※ Contact head office for PWM control and 3 Point Floating control

## Manual Operation



► Follow instructions below referring to the picture above.

- ① Rotate Support Nut clockwise
- ② Detach Actuator
- ③ Rotate Spindle anti-clockwise using a tool, then
- ④ Re-insert Actuator

## Generals

- Take care of water quality properly, clean up and get rid of impurities.
- Install an strainer in front of valve body and make sure that no damage or blocking happens due to impurities.
- Make sure that a valve should not be closed completely when filling water in the system
- Do not exceed max. differential pressure control limit.

## ⚠ Warning

- Do not touch with wet hands.
- Do not contain or put an actuator close to heating source. (heater, microwave and etc)
- Free of charge repair service is not supported if the Actuator is altered, disassembled or repaired without permission.
- The actuator should avoid rain or moisture when being installed outside.
- Do not apply impact to the actuator.
- After connecting an actuator with a valve, do not hold the actuator freely to rotate or lift.

## Warranty Obligation

- Warranty cannot be secured unless the recommendations in the installation & operation manual are met.
- The latest update can be checked on the website ([www.samyangsys.com](http://www.samyangsys.com)).

## Contact data

### Deutschland

#### Meibes System-Technik GmbH

Ringstraße 18  
04827 Gerichshain, Germany  
Phone: +49 34292 713-0  
Fax: +49 34292 713-808  
info@meibes.com  
www.meibes.de

### Czechia, Slovaška

#### Meibes s.r.o.

Bohnicka 28/5  
18100 Praha 8, Czech Republic  
Phone: +420 2 8400108-1  
Fax: +420 2 8400108-0  
info@meibes.cz  
www.meibes.cz

### Polska, Eesti, Latvija, Lietuva

#### PUZ Meibes Sp. z o.o.

ul. Gronowska 8  
64100 Leszno, Poland  
Phone: +48 65 52949-89  
Fax: +48 65 52959-69  
info@meibes.pl  
www.meibes.pl

### Российская Федерация (Россия)

#### Meibes Rus LLC

8-ya Tekstilshchikov st. 11/2  
109129 Moskau, Russian Federation  
Phone: +7 495 7272026  
moscow@meibes.ru  
www.meibes.ru

### France

#### Flamco s.a.r.l.

ZI du Vert Galant 1, rue de la Garenne 1  
95310 Saint Ouen l'Aumône, France  
Phone: +33 01 34219191  
Fax: +33 01 30378219  
info@flamco.fr  
flamcogroup.com/fr

### Nederland

#### Flamco Group

Amersfoortseweg 9  
3750 GM Bunschoten, Netherlands  
Phone: +31 33 2997500  
Fax: +31 33 2986445  
info@flamcogroup.com  
flamcogroup.com

### Great Britain

#### Flamco Limited

Washway Lane  
WA10 6PB St Helens, Merseyside, Great Britain  
Phone: +44 01744 7447-44  
Fax: +44 01744 7447-00  
info@flamco.co.uk  
flamcogroup.com/uk-en

### United States of America

#### Nexus Valve

East 121st Stree 9982  
IN 46037 Fishers, United States of America  
Phone: +1 317 257-6050  
Fax: +1 800 900-8654  
info@nexusvalve.com  
www.nexusvalve.com

### دوحته الما هيبرجلا تارامال

#### Flamco Middle East

Jebel Ali  
PO Box 262636 Jebel Ali, United Arab Emirates  
Phone: +971 4 8819540  
info@flamco-gulf.com  
flamco-gulf.com

### 中国

#### Flamco Heating Accessories

(Changshu) Ltd, Co.  
Nantong Rd 1  
Changshu, China  
Phone: +86 512 52841731  
yecho@flamco.com.cn  
flamcogroup.com/cn