

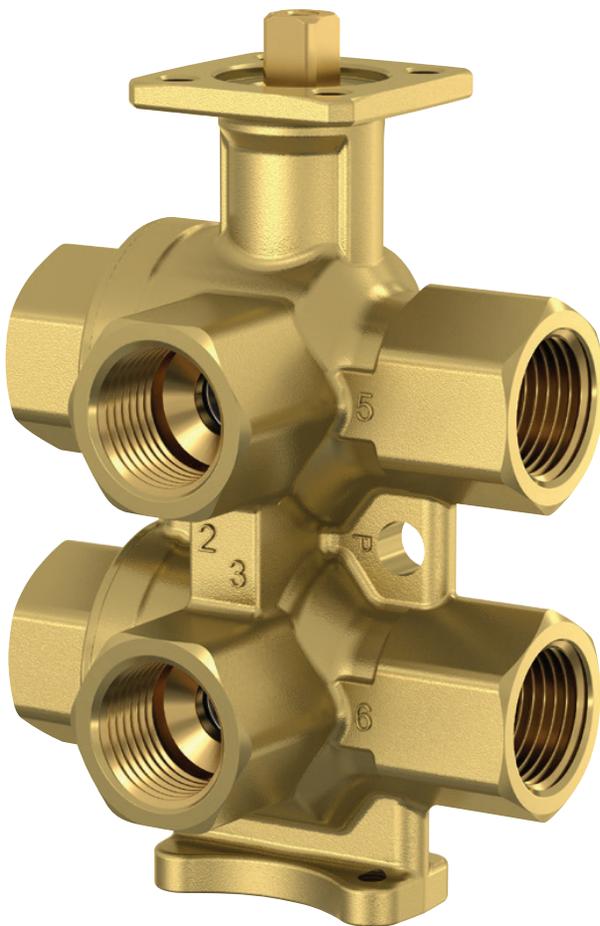


NEXUS

*Nexus Valve
Tribus*

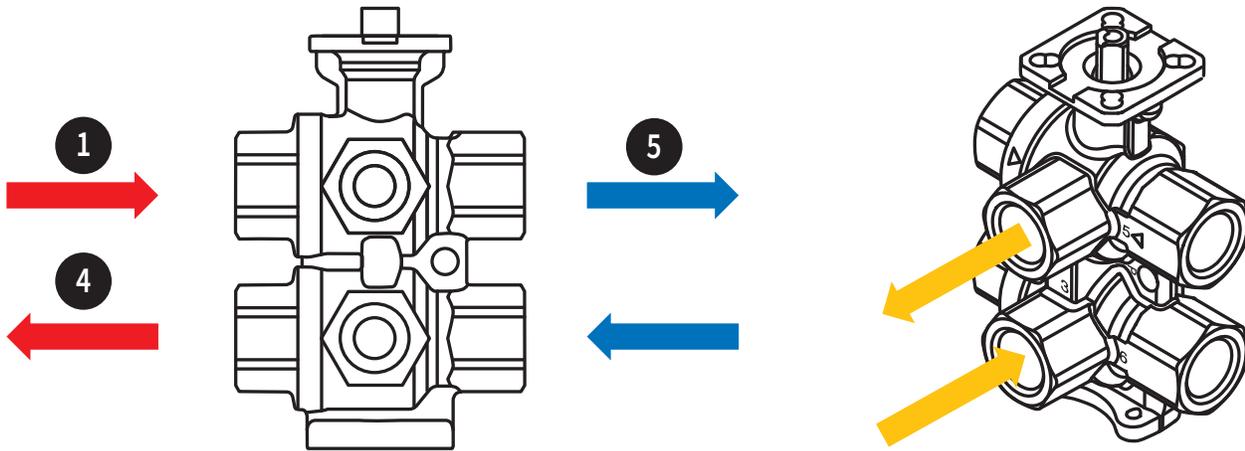
6-Way Valve

Installation - Operation - Maintenance



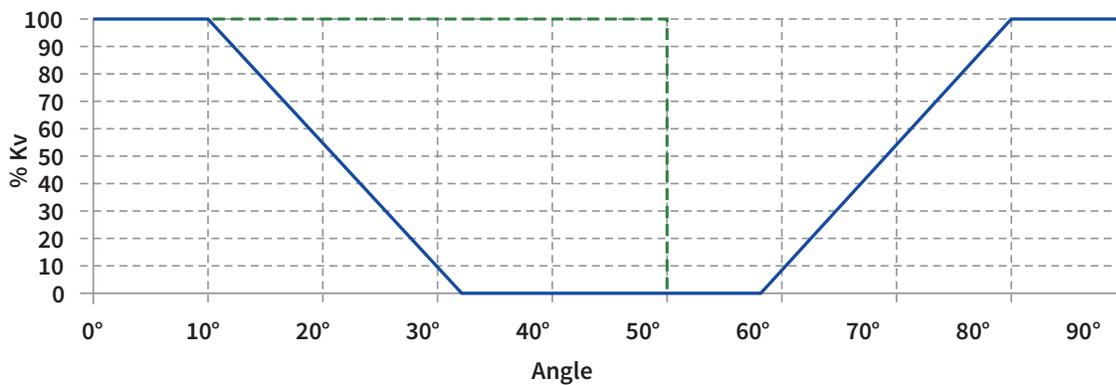
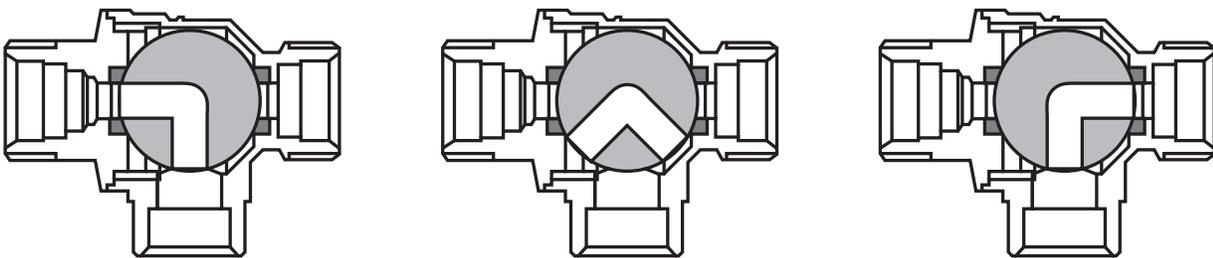
www.nexusvalve.com

1. PORT CONNECTIONS

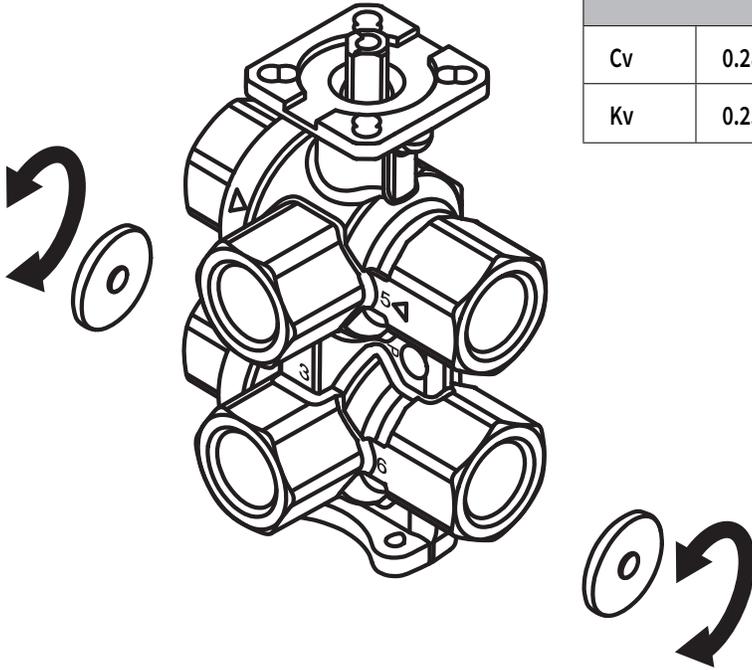


| Sequence 1 | | Sequence 2 | | To/From Coil | |
|--------------------------------------|---|---------------------------------------|---|--------------------------------|--------------------------------|
| Port | Port | Port | Port | Port | Port |
| Hot water supply / Heating flow line | Hot water return / Heating flow return line | Cold water supply / Cooling flow line | Cold water return / Cooling return line | Supply / Flow line from device | Return / Return line to device |

2. ACTUATOR SEQUENCE

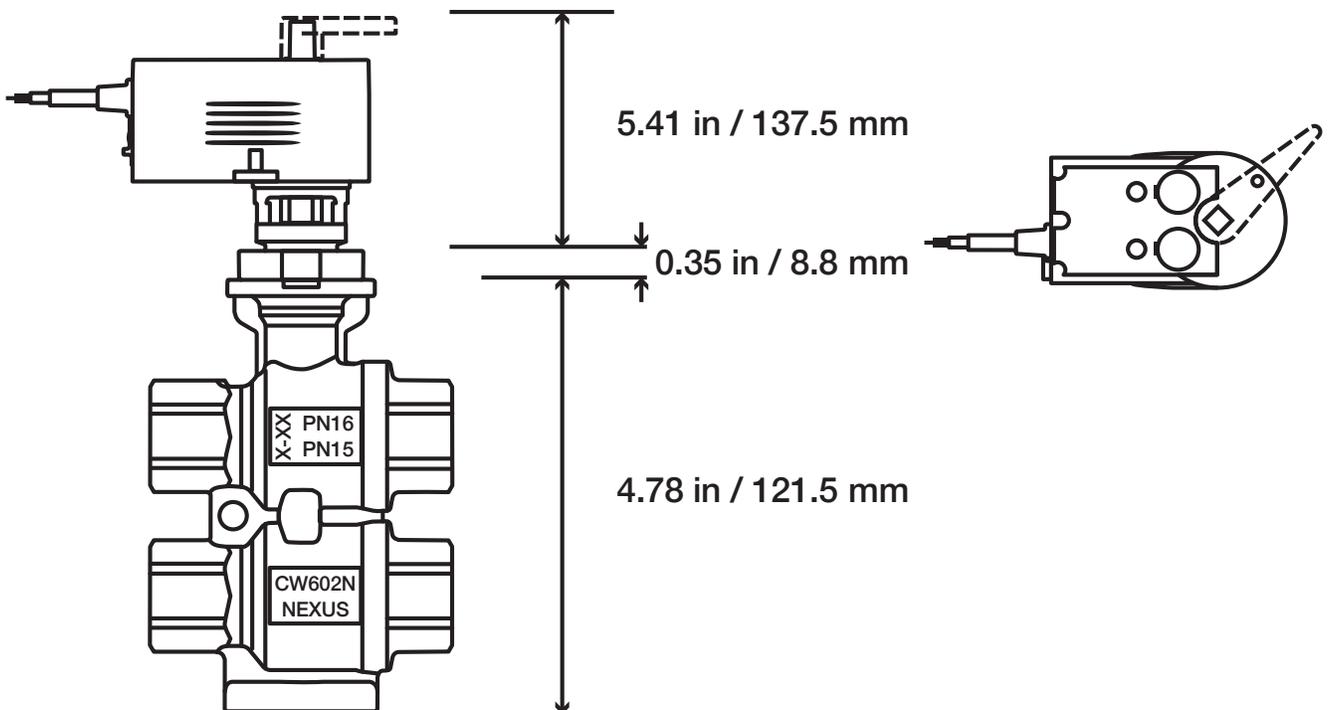


3. Cv / Kv VALUES



| Inserts | | | | | | | |
|---------|-------|-------|-------|-------|-------|------|------|
| Cv | 0.289 | 0.462 | 0.728 | 1.156 | 1.503 | 1.85 | 2.81 |
| Kv | 0.25 | 0.40 | 0.63 | 1.00 | 1.296 | 1.6 | 2.42 |

4. DIMENSIONS



TECHNICAL DESCRIPTION AND FEATURES

DESCRIPTION

The **NexusValve Tribus** or 6-Way valve is for hydronic heating and cooling systems. It replaces four 2-way valves and four actuators required to connect a 4-pipe system to a single cell with a single valve and one actuator. The unique feature of the Tribus 6-Way Valve reduces installation cost, reduces power consumption, and is ideal for chilled beams and radiant ceiling applications. The rotation of 2 balls, mechanically connected to one stem, opens supply and return ways on one side (i.e. heating) and closes at the same time the other side (i.e. cooling) (pic.1). That avoids any mixing between flows and reduce potential energy losses.

The **NexusValve Tribus** is delivered with a kit of 6 stainless steel disks, that gives flexibility in flow rate adjustment by picking adequate disk with Cv/ Kv value displayed on it. Independent CV's insert discs can be selected to individually balance flow rates for heating and cooling. The single data point 0-10 Vdc modulating control with zero percent leakage, in the closed position, provided optimum climate control even with different designs flows for maximum energy efficiency and occupant comfort (pic.2).

INSTALLATION

Follow accepted industry standards for threading into the threads of the valve:

- US models ½" FNPT
- European models - Rp ½"

Ensure actuator rotates the 6-Way Valve from full open for Ports 1-2-3-4 and rotated 90° for full open of Ports 5-2-3-6. The position of the ball can be identified from the marking on the stem or according to the position of the manual lever of the actuator. The setup procedure of the actuator describes in the manual supplied with each actuator. Ensure a leak proof connection of all 6 ports by rotating the actuator or stem through sequence 1 and sequence 2 before commissioning the installation. Sweated adapters must be assembled to the valve before sweating pipe to the adapters. Care should be taken when sweating pipes to adapters in the 6-way valve that the valve seats do not become over heated. Wrap a wetted heat sink around the valve to ensure that internal seat do not melt. Failure to protect the valve seats may result in leaks through circuits. Hose adapters, press adapters, and push adapters must be threaded into ½" FNPT (½" Rp) threads before connecting hoses and pipes.

The **NexusValve Tribus** should be actuated by rotary actuators. For more information about the actuator, please, see the installation and maintenance manual for actuator supplied with each actuator in the box.

Valve mounted position: The valve may be mounted vertically or horizontally. Care should be taken to ensure a leak in the valve or connections does not drain onto the actuator. The position with stem below isn't allowed.

Mounting Bracket (option): The valve and the actuator tend to be heavy and care should be taken to ensure the weight does not load the piping or hoses. To aid the installation, an L bracket should be used to support the weight. Two vertical holes allow mounting to walls or struts. The two horizontal holes allow mounting of the 6 Way Valve with two M5 screws.

Dimensions and Clearance Requirements according to pic. 4

ADJUSTMENT

Disk Insertion Process

1. Select required Cv disk from supplied bag. Note Cv is marked on one side of disk and Kv is marked on the opposite side of disk. The Cv will always be the larger of the two numbers.
2. Insert the selected disk into port 4 or port 6.
3. Using a Retaining Ring Pliers compress the retaining ring and insert into valve port 4 or 6. Ensure retaining ring is located in the slot trapping and hold the disk in place. The retaining ring and Cv disk should not be removable by shaking or pounding of the valve.
4. Ensure that the ring and Cv disk are secure before continuing installation.

Typical installations

1. Cv / Kv inserts in port 4 and port 6
2. PICV or Flow control valve on return line to port 3 (In this position – flow would be the same (unless control of PICV valve with additional actuator) for hot and cold flow)
3. PICV or flow control valve on return lines 4 and 6 – this allows for controlling cold and heat independently

Changing of the Cv/Kv values of Ports 4 and 6

The Cv and Kv of the valve without an insert is: Circuits 1-2, 5-2, 3-4, and 3-6 is Cv2.8/ Kv2.4

The Cv/Kv through return circuit 3-4 and 3-5 may be changed by inserting Cv/Kv disks in ports 4 and 6. Each disk is marked with the Cv and Kv of the disk. The larger number will be the Cv value. These Cv/Kv disks may be selected from the options according to pic. 3

TECHNICAL DESCRIPTION AND FEATURES

MAINTENANCE

The NexusValve Tribus, 6-Way valves and rotary actuators are maintenance free. But it's recommended to turn the valves actuator at least once a week to avoid sticking the valve in one position.

Before any kind of service work is carried out, it is essential to isolate the actuator from the power supply (by disconnecting the power) and isolate the valve from the system.

Pressure:

Maximum allowable working pressure (PN) *

240 PSI / 16 bar

Maximum differential pressure

35 PSI / 2.5 bar

Temperature:

Minimum and maximum working temperature (Ts)

-40°F (-40°C) ÷ 265°F (130°C)

Compatible fluids:

Water-glycol mixtures

water, hydronic fluids

to 50%

Connections:

Pipeline connection threads

US models ½" NPT, European Rp ½"

Actuator connection

F03 and FS04 per EN ISO 5211

Regulation parameters:

Flow characteristic (the actuator)

Linear, On-Off Control

Angle rotation

90°

Leakage rate:

EN 12666-1-A

DESIGN:

Body

DZR brass

Ball

chrome plated CW614N

Stems seals

EPDM

Ball valve seats

PTFE

Cv / Kv washer

CW602N

Retaining C-Clips

Stainless Steel

SAFETY PROVISIONS

Keep parts in their original packaging and unpack them shortly before use. Never exceed maximum setting pressure. The 6-way control valve must be installed by qualified personnel, according to the provisions set forth by the national regulations concerning safety.

Failure to comply with these instructions may lead to an incorrect installation, poor operation or maintenance, which may cause the device malfunctioning and may damage property, items or people. While using the connection fittings make sure that everything is hydraulically sealed: water leaks, even when small, may cause considerable damage. If water temperature exceeds 122°F (50°C), take the necessary actions to avoid serious burns and hazards to people. Each device is carefully checked before shipments.

During the transportation, storage, please, follow the following provisions:

- minimum ambient temperature: -4°F (-20°C) (avoid humidity and condensation)
- clean, dry and dust free storage location

Nexus is in no way liable for any damage due to improper transport and/or handling; does not accept any type of responsibility for damages to the device or to devices connected to it, to people or property arising from improper use or the incorrect installation and put into operation of the product. Our general terms and conditions apply to our products, contact Nexus for details.

REMOVAL

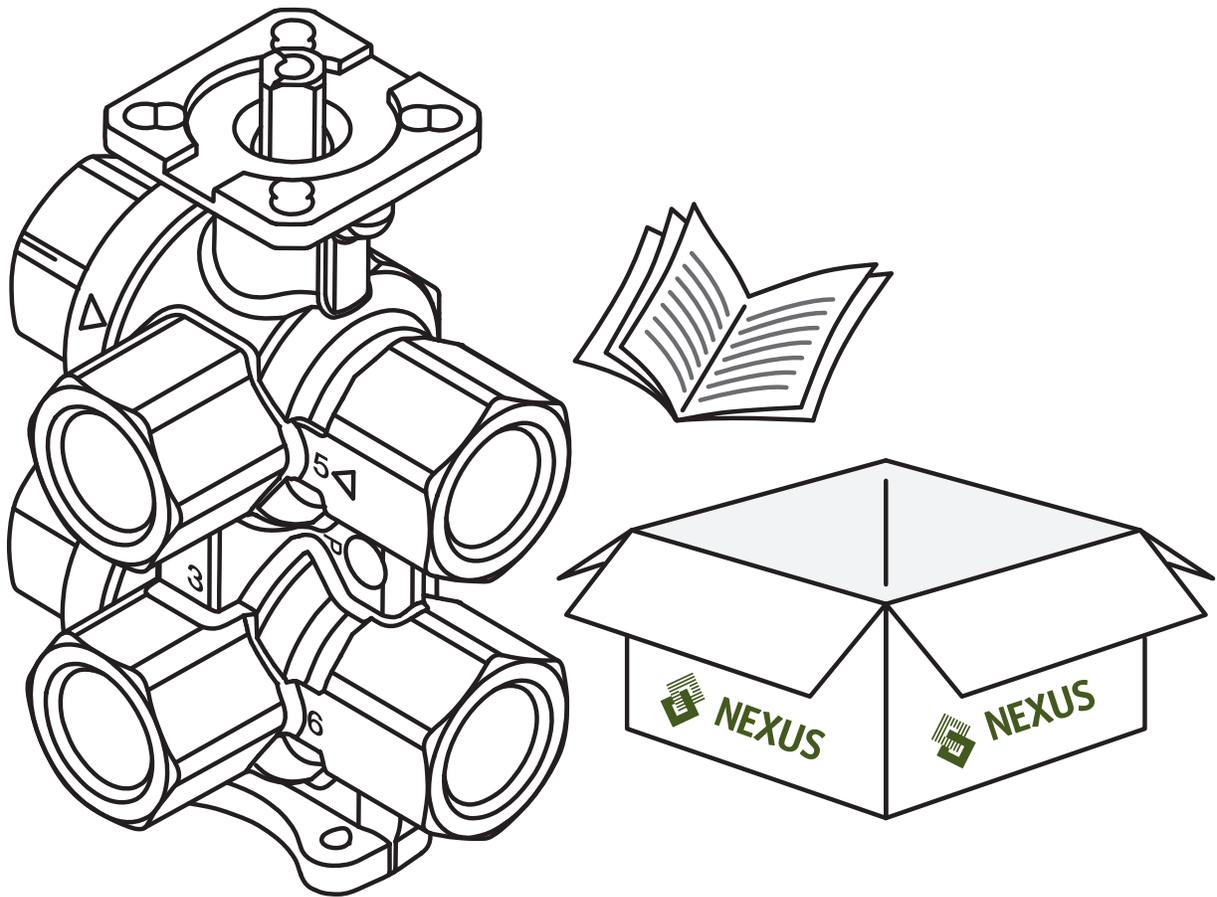


The product must be removed and disposed of according to the current national laws applicable in the country where the product was used. This product was created as part of the ISO 9001:2015 certified quality management system. Data reported in these instructions, such as the technical characteristics, illustrations and descriptions, are not binding and may vary without warning. For more information on the product, please contact Nexus or visit www.nexusvalve.com

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6-Way Valve

Installation - Operation - Maintenance



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