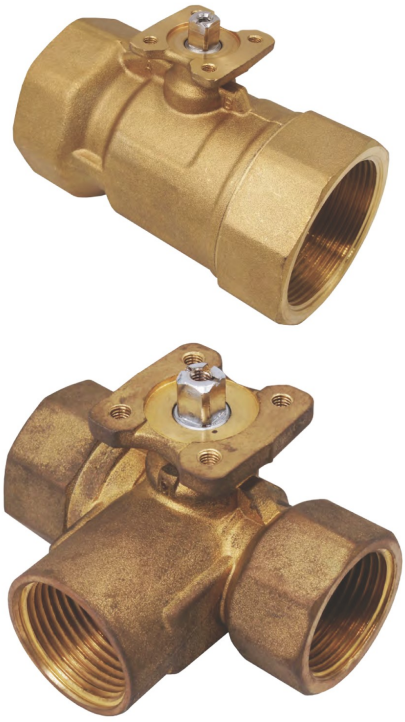
NENUTEC®

INNOVATIVE MEMBER OF SWISSTEC

# NVCB 7000 characterized ball valves

**2-way & 3-way**



The appearance of the product may differ from the illustration. Technical specifications are subject to change.

## NVCB 7000 SERIES

NVCB characterised disc ball valve is mainly use in the HVAC system to regulate the flow of water and steam in response to the demand of a controller.

- Complete range from DN 15 to DN 50 DN 15 to DN 50.
- Way, 3 way mixing / diverting
- Forged brass body
- Low leakage factor of up to 0.01% of Kvs
- High close-off pressure actuator satisfies demanding requirements of high-rise buildings and high pressure pumping systems
- PN 20 system operating pressure
- Equal percentage flow characteristic

## TECHNICAL SPECIFICATION

| | | | |
|---|---|---|---|
| **Valve Body Pressure Rating** | 2000 kPa (PN20) meets requirements of ANSI B16.15, Class 250 | | |
| **Rated fluid / ambient temperature limits** | 5 to 95°C water at an ambient temperature of 40°C | | |
| **Shipping & storage temperature limits** | -40 to 70°C | | |
| **Nominal diameter** | See Table 1: VALVE ORDERING CODES | | |
| **Media** | Chilled, hot water, up to 50% glycol solutions and 15% (103 kPa) saturated steam | | |
| **Seat Leakage** | 0.01% of KVs | | |
| **Pipe connections** | BSP or NPT | | |
| **Maximum close off pressure** | See Table 2: MAXIMUM CLOSE-OFF PRESSURE [kPa] WITH ACTUATOR | | |
| **Body material** | Brass trim | Body | Forged brass |
| | | Stem | Brass |
| | | Seat | EPDM |
| | | Seal | HNVR double O-ring |
| **Flow characteristics** | 2-way | equal percentage | |
| | 3-way | Equal percentage of inline port A & linear for port B bypass | |

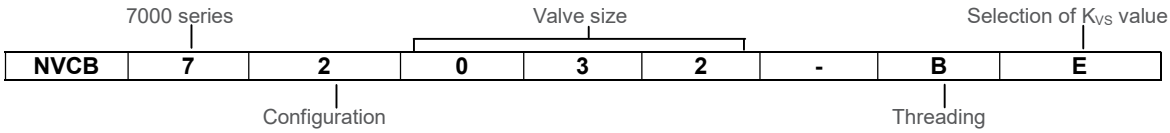
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## TABLE 1: VALVE ORDERING CODES




| | |
|---|---|
| **VALVE BODY TYPE** | **NVCB 7 = NVCB 7000 Series Characterised Ball Valve** |
| **CONFIGURATION** | 2 = 2 - Way 3 = 3 - Way |
| **VALVE SIZE** | 015 = DN15 |
| | 020 = DN20 |
| | 025 = DN25 032 = DN32 |
| | 040 = DN40 |
| | 050 = DN50 |
| **PIPE THREAD** | B = BSP N = NPT |
| **FLOW CHARACTERISTIC (FOR 3-WAY VALVE ONLY)** | M = Mixing (2 in, 1 out) |
| | D = Diverting (1 in, 2 out) |

### KVs Selection

| DN / $K_{VS}$ | 15 | | 20 | | 25 | | 32 | | 40 | | 50 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2-way | 3-way | 2-way | 3-way | 2-way | 3-way | 2-way | 3-way | 2-way | 3-way | 2-way | 3-way |
| C | 1.0 | 1.0 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| C1 | 1.6 | 1.6 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| D | 2.5 | 2.5 | 4.0 | 4.0 | 6.3 | 6.3 | 10.0 | 10.0 | 16.0 | 16.0 | 25.0 | 25.0 |
| E | 4.0 | 4.0 | 6.3 | 6.3 | 10.0 | 10.0 | 16.0 | 16.0 | 25.0 | 25.0 | 40.0 | 40.0 |
| F (FULL PORT) | 6.3 | 6.3 | 10.1 | 10.1 | 16.0 | 16.0 | 25.0 | 25.0 | 40.0 | 40.0 | 63.0 | 63.0 |

## TABLE 2: MAXIMUM CLOSE-OFF PRESSURE [kPa] WITH ACTUATOR

| MAXIMUM CLOSE-OFF PRESSURE [kPa] | | | | | | | |
|---|---|---|---|---|---|---|---|
| **MODEL** | **TORQUE (Nm)** | **DN15** | **DN20** | **DN25** | **DN32** | **DN40** | **DN50** |
| NAB...- 05 | 5 | 1000 | 1000 | 1000 | 1000 | 690 | 400 |
| NEB...- 05 | 5 | 1000 | 1000 | 1000 | 1000 | 690 | 400 |
| NAB...- 10 | 10 | 1400 | 1400 | 1400 | 1400 | 1000 | 1000 |
| NEB...- 10 | 10 | 1400 | 1400 | 1400 | 1400 | 1000 | 1000 |

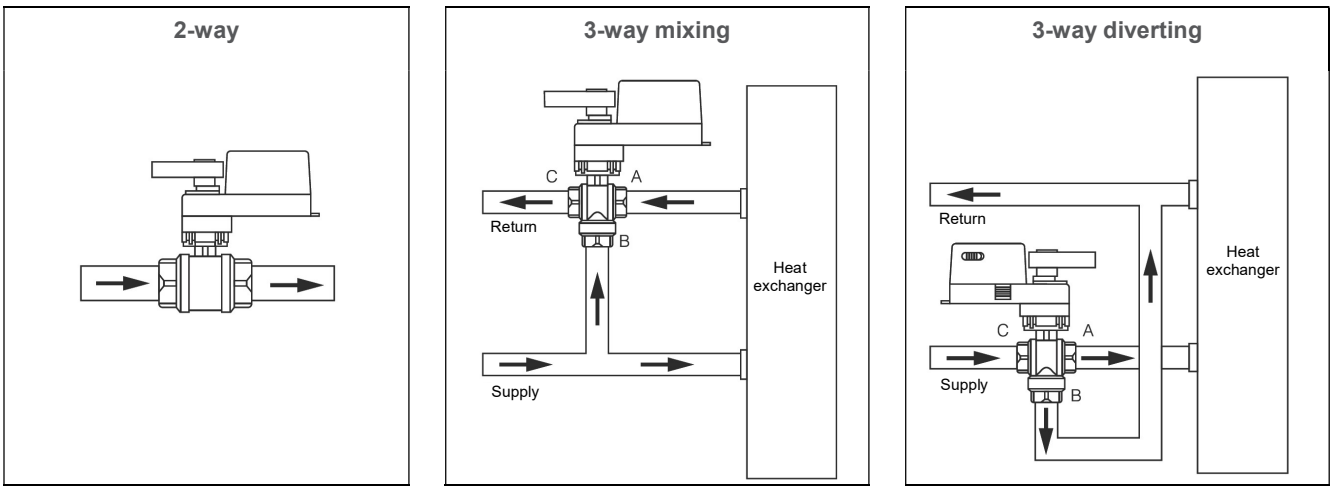
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## PIPING DIAGRAMS




**Mixing application:**
Fluid enters through two inlets (A & B) and exits through one outlet (C).

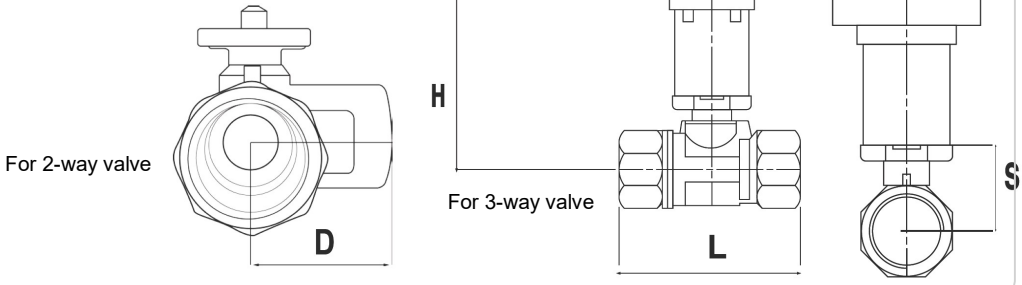
**Diverting application:**
Fluid enters through one inlet (C) and exits through two outlets (A & C).

## REMARK

3-way valve assemblies are shipped as standard with ball ports labeled as A, B and C accordingly. All 3-way ball valves are shipped 0° counterclockwise. For application requiring a different flow pattern, please consult your NENUTEC representative.

## DIMENSIONS OF VALVE BODY [mm]

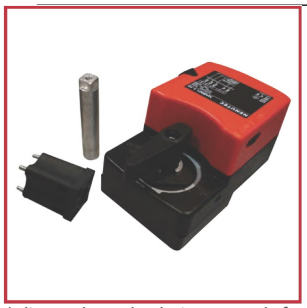
| DIMENSIONS | DN [mm] | A | B | H | L | S | D |
|---|---|---|---|---|---|---|---|
| 2 & 3-way: | 15 | 105 | 65 | 158 | 60 | 39 | 31 |
| | 20 | 105 | 65 | 158 | 67 | 44 | 32 |
| | 25 | 105 | 65 | 160 | 89 | 47 | 47 |
| | 32 | 140 | 85 | 190 | 99 | 53 | 49 |
| | 40 | 140 | 85 | 200 | 106 | 57 | 52 |
| | 50 | 140 | 85 | 210 | 123 | 62 | 69 |



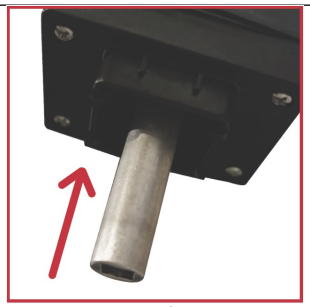
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## INSTALLATION INSTRUCTIONS



1. Items shown in photo are ready for assembling.



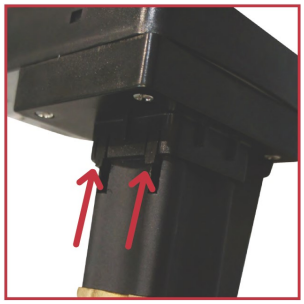
2. Place the the shaft into the actuator.



3. Tighten the screw from the actuator to secure the shaft.



4. Attach the bracket to the valve body and secure with all screws provided.



5. Position the valve body and latch onto the neck of the actuator in the correct direction



6. The assembled finished product should look like this and it is ready to use.

## APPLICATION OVERVIEW

The NVCB 7000 series feature are available in 2-way and 3-way configurations with threaded NPT or BSP connections. The valve can be ordered with NENUTEC ball valve actuator NAB... and NTC... / NPC... controller for a complete HVAC solution.

## IMPORTANT REMARKS

This product includes electrical and electronic components and may not be disposed as household waste. Please consider the local valid legislation.

| | |
|---|---|
| 24 $V_{AC/DC}$: | Connect via safety isolating transformer. |
| 230 $V_{AC}$: | To isolate from the main power supply, the system must incorporate a device which disconnects the phase conductor (with at least a 3mm contact gap.) |

Consult NENUTEC representatives for specific requirements and material selections for your intended application.

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The performance specifications are nominal and conform to acceptable industry standards. Nenutec shall not be liable for damages resulting from misapplication or misuse of its products.

## CUSTOMISED VERSION

NENUTEC offers you actuators in customised versions, e.g. with your own brand name, with colour-coordinated applications and with your particular demand on request.

For further information please contact us or our local representative.

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