# COMPACT 3-WAY BALL VALVE WITH FLANGES, WITH MOUNTING FLANGE FOR AUTOMATION (ECO).

Type:

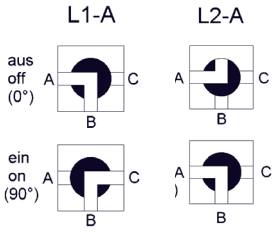
**NFC19**

**Description:**

- compact design
- reduced passageway
- ball with L-bore
- flange acc. to EN1092-1 - PN16
- top flange acc. to EN ISO 5211
- antistatic device starting from DN40
- blow out safe, spindle mounted from inside
- stainless steel hand lever
- any installation position

**Range of application:**

- material optimized 3-way ball valve with flanges for industrial applications
- space-saving installation by compact construction
- top flange for direct actuator mounting
- pneumatic and electric automatable
- working pressure PN16
- temperature range: -20°C up to +180°C (see pressure temperature diagram)

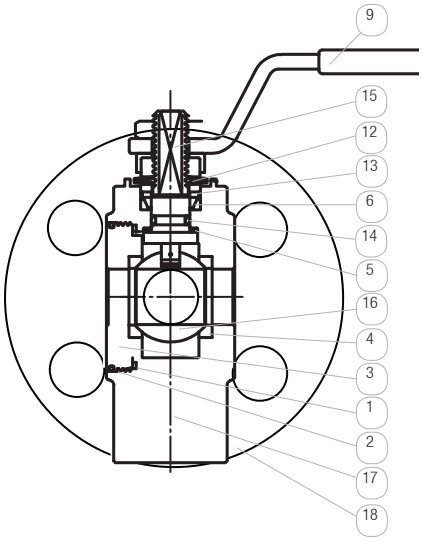



**Comments**

Optionally we can supply the **stainless steel design** starting from DN32 made of solid material. All types are also available with **flanges acc. to ANSI150 and ANSI300**.

From DN15 to DN32 the ball valves are available with an antistatic device.

**L-bore:** Different switch positions are possible, please specify with your order. The ball position is marked on the spindle! (L=L-bore, A=automation)




| pos. | part | standard VA | | standard ST | | optional material | |
|---|---|---|---|---|---|---|---|
| 1 | primary sealing | PTFE | | PTFE | | | |
| 2 | secondary sealing | NBR | | NBR | | | |
| 3 | body screw connection | 1.4401 / 1.4408 | | A 105 | | | |
| 4 | seat sealing | PTFE | T | PTFE | T | PTFE-fibre glass reinforced* | G |
| | | | | | | PTFE/graphite/carbon | U |
| 5 | friction ring | PTFE | | PTFE | | | |
| 6 | sealing for spindle | PTFE | T | PTFE | T | | |
| 9 | hand lever | 1.4301 | | St 37 coated | | | |
| 12 | disc spring | 1.4310 | | 50CrV4 | | | |
| 13 | thrust ring | 1.4305 | | 1.4305 | | | |
| 14 | o-ring | FKM | | FKM | | | |
| 15 | spindle | 1.4401 | | 1.4301 | | | |
| 16 | ball | 1.4401 | 0 | 1.4301 | 0 | | |
| 17 | body | 1.4401 | 0 | A 105 | J | | |
| 18 | flange | 1.4541 | | 1.0037 | | | |

*higher temperature resistance with other seat sealing:

- PTFE fibre-glass reinforced: -10°C up to 195°C medium temperature
- PTFE graphite/carbon: -10°C up to +210°C medium temperature

**options:**

- SV: spindle extension
- SP: gland extension
- EB: relief well
- OF: free of oil and grease
- SF: free of silicone
- ZG: certificate 3.1
- FW: free spindle

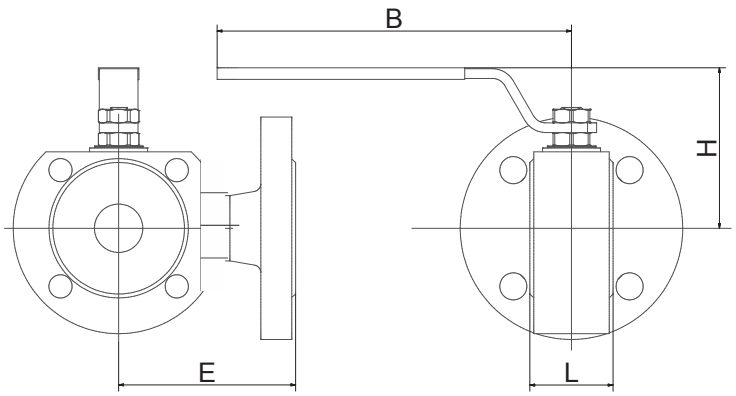
**For electric actuated valves only:**

- AP: accumulator security pack
- PT: potentiometer
- PO: positioning system

**For pneumatic actuated valves only:**

- SD: sound absorber
- AD: exhaust air regulator
- PV: pilot valve For details see data sheet "GMV3197", "GMV3163" (3/2 way) and "MVA01" (5/2 way). Other types on request.
- PS: positioning indicator
  For details see data sheet "MCM2" (mechanical), "MCN2" (inductive, with ATEX 94/9/EC) and "MCS2" (inductive). Other types on request.

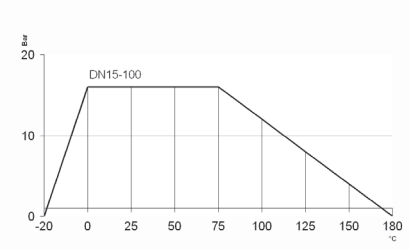
For details about the order code see "Order information". An overview of the complete material code you can find at the beginning of each product section of the product catalogue.




| match code | size [inch] | nominal pressure | nominal size [mm] | L [mm] | E [mm] | H [mm] | B [mm] | CV* [m³/h] | brea-kaway torque Nm] | weight [kg] |
|---|---|---|---|---|---|---|---|---|---|---|
| **NFC19-52-1xTOT** | DN15 | PN16 | 10 | 35 | on request | 65 | 140 | n/a | 4.8 | 2.2 |
| **NFC19-53-1xTOT** | DN20 | PN16 | 15 | 38 | on request | 70 | 140 | n/a | 8.5 | 3 |
| **NFC19-54-1xTOT** | DN25 | PN16 | 20 | 43 | on request | 82 | 180 | n/a | 11.3 | 4 |
| **NFC19-55-1xTOT** | DN32 | PN16 | 25 | 54 | 105 | 85 | 180 | n/a | 19 | 6 |
| **NFC19-56-1xTOT** | DN40 | PN16 | 32 | 66 | 105 | 102 | 230 | n/a | 28 | 8.5 |
| **NFC19-57-1xTOT** | DN50 | PN16 | 40 | 83 | on request | 110 | 230 | n/a | 39 | 8.8 |
| **NFC19-58-1xTOT** | DN65 | PN16 | 50 | 103 | on request | 137.5 | 333 | n/a | 59 | 20.5 |
| **NFC19-59-1xTOT** | DN80 | PN16 | 65 | 122 | on request | 150 | 333 | n/a | 84.5 | 27 |
| **NFC19-60-1xTOT** | DN100 | PN16 | 78 | 153 | on request | 165 | 370 | n/a | 168 | 41 |

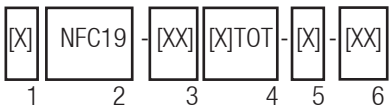
***CV value:** The nominal flow rate CVs acc. to VDI/VDE 2173 shows the water quantity in cubic meter per hour with the valve fully opened, Δp=1 and the water temperature between 5°C and 30°C.

****Breakaway torque:** all data is determined with water at max Δp and normal ambient temperature. Multiplicator for frictional media is 1.3. If your configuration has special sealing material or your application has critical media consultation is obligatory.




**Pressure temperature diagram**

The pressure temperature diagram refers to the ball valve of this type. For the actuated units the actuator limits the permissible pressure range to the operating pressure as indicated above, as long as this is lower than the pressure range of the ball valve. If your application has strong temperature variations, you may need additional options like a relief well, to meet the figures. Please tell us your temperature variations with your order.




**Order information:**

**1: automation:**

- no specification: manually operated
- D: pneumatic double acting
- S: pneumatic single acting
- E: electric actuated

**2: type: NFC19**

**3: connection size:**

- 52 60 (DIN, see table)
- 82-90 (ANSI, on request)

**4: materials:**

- 1. digit: body material
  O = stainless steel
  J = steel
- 2. digit: sealing for spindle
  T = PTFE
- 3. digit: ball material
  O = stainless steel
- 4. digit: seat sealing
  T = PTFE
  G = PTFE fibre-glass reinforced
  U = PTFE graphite / carbon

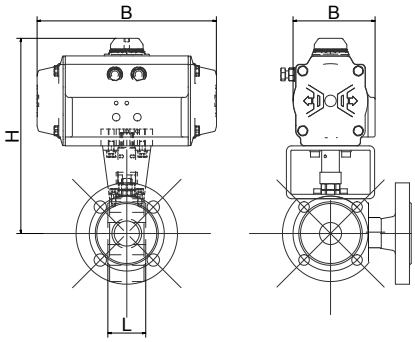
**5: actuator:**

- no specification: steel hand lever
- automated: see column "actuator"

**6: options (see "options")**

Please ask for field specifications that are not listed in this data sheet.

Before installation please consider the installation and maintenance manual, especially the safety indications!




**Attention!**

To avoid corrosion inside the spring chamber for single acting actuators caused by aggressive ambient air we recommend pilot valves with integrated air recirculation.

## DNFC19 / SNFC19

High quality pneumatic actuator made of alloy with air connection according to NAMUR and positioning indicator. The actuator works with the rack/bevel method. For further details see the technical data sheet "DR/SC".

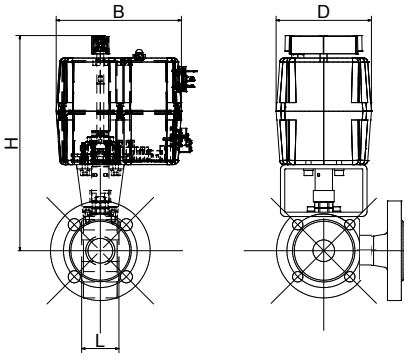
Types double acting (the actuator opens and closes with compressed air) and single acting (the actuator opens with compressed air and closes with spring pressure).

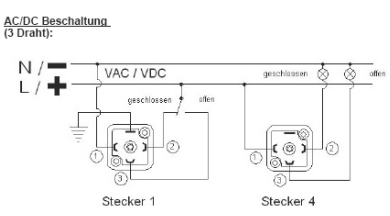
The actuators are configured for use with fluid, gas and antifriction medium. **For critical media it is strictly recommended to inform us!**

**Description:**

- working pressure: 0 - 16 bar
- pilot pressure: 6 - 8 bar
- medium temperature: -20°C up to +120°C (at max. ambient temperature 40°C)

| | double acting: DKFA19 | | | | | single acting: SKFA19 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| match code | actuator | H [mm] | B [mm] | D [mm] | weight [kg] | actuator | H [mm] | B [mm] | D [mm] | weight [kg] |
| xNFC19-52-1xT0T- | DR010 | 165 | 118 | 62 | 3.15 | SC010-K | 165 | 118 | 62 | 3.3 |
| xNFC19-53-1xT0T- | DR010 | 170 | 118 | 62 | 3.95 | SC030-G | 187 | 153.5 | 84.5 | 5 |
| xNFC19-54-1xT0T- | DR015 | 178.5 | 136 | 72 | 5.3 | SC030-I | 194.5 | 153.5 | 84.5 | 6 |
| xNFC19-55-1xT0T- | DR030 | 201 | 153.5 | 84.5 | 7.9 | SC060-G | 228 | 203.5 | 93 | 9.6 |
| xNFC19-56-1xT0T- | DR030 | 215 | 153.5 | 84.5 | 10.6 | SC060-K | 232 | 203.5 | 93 | 12.1 |
| xNFC19-57-3xT0T- | DR060 | 239 | 203.5 | 93 | 12 | SC100-I | 252 | 241 | 106 | 13.6 |
| xNFC19-58-1xT0T- | DR060 | 262 | 203.5 | 93 | 23.8 | SC150-I | 287 | 259 | 118 | 27.2 |
| xNFC19-59-1xT0T- | DR100 | 285 | 241 | 106 | 31.3 | SC220-H | 325 | 304 | 136 | 36.9 |
| xNFC19-60-1xT0T- | DR220 | 356 | 304 | 136 | 50.3 | SC450-I | 605.5 | 394.5 | 166 | 59.3 |




## ENFC19

High-quality electric actuator in compact design with a body made of high-strength plastics. It has a high-performance motor and a gear drive made of metal. A central control room heater and an electronic torque limiter are equipped as standard. For further details see the technical data sheet "J".

**Description:**

- working pressure: 0 - 16 bar
- deviating medium temperature -20°C up to +100°C (at max. ambient temperature of 40°C)

| match code | actuator | H [mm] | B [mm] | D [mm] | weight [kg] |
|---|---|---|---|---|---|
| ENFC19-52-3xT0T- | J210- | 157.5 | 169 | 104 | 3.15 |
| ENFC19-53-3xT0T- | J210- | 160.5 | 169 | 104 | 3.95 |
| ENFC19-54-3xT0T- | J210- | 166 | 169 | 104 | 5.05 |
| ENFC19-55-3xT0T- | J320- | 195 | 177 | 110 | 7.7 |
| ENFC19-56-3xT0T- | J335- | 221 | 177 | 110 | 10.7 |
| ENFC19-57-3xT0T- | J355- | 253 | 177 | 110 | 11.6 |
| ENFC19-58-1xT0T- | J385- | 276 | 177 | 110 | 23.9 |
| ENFC19-59-3xT0T- | J2140- | 354 | 235 | 214 | 32.8 |
| ENFC19-60-1xT0T- | J2140- | 365 | 235 | 214 | 47.5 |

**connection voltage type:**

- 19: 24V AC/DC up to 240V AC/ DC
- other voltages on request