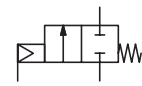




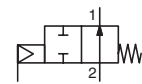
VALVES

pressure operated
Food contact version
stainless steel body, threaded ports, 3/8 to 2 1/2

NC



NO



2/2
Series
E290

FEATURES

- Valve in conformity with Regulation (EC) 1935-2004, the material of the wetted parts are listed in the chart of the Annex I of Regulation (EC) 1935/2004)
- All the material of the wetted parts are conform with FDA CFR21
- High flow due to angled seat design
- Anti-waterhammer design (fluid entry under the disc)
- Vacuum operation up to 10⁻² mbar
- Wide range of piston-type operators (32 - 50- 63 - 90 -125 mm dia.) rotatable through 360°, for maximum performance at different minimum pilot pressures
- High performance, maintenance-free stuffing box
- The valves satisfy Pressure Equipment Directive 2014/68/EU, category 1 (DN > 25) or article 4.3 (DN ≤ 25)
- The valves in conformity with IEC 61508 Standard (2010 route 2_H version) certified with integrity levels: SIL 2 for HFT = 0
- Valve in conformity with the provisions of the directive RoHS 2 (EU 2001/65)

GENERAL

| | |
|----------------------------|---|
| Differential pressure | See «SPECIFICATIONS» [1 bar =100 kPa] |
| Maximum allowable pressure | 16 bar |
| Ambient temperature range | -10°C to +60°C |
| Maximum viscosity | 600 cSt (mm ² /s) |
| Pilot fluid | Filtered air or water ⁽¹⁾ |
| Max. pilot pressure | 10 bar |
| Min. pilot pressure | See below and following page |
| Pilot fluid temperature | -10°C to +60°C |
| Response time | See page 7 (www.asco.com) |

| fluids (*) | temperature range | disc seal (*) |
|---|-------------------|---------------|
| DN ≤ 50: air and gas groups 1 & 2 DN 65: air and gas group 2 all DN: water, oil, liquids groups 1 & 2 and steam | - 10°C to + 184°C | PTFE |

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

| | Stainless steel body | All AISI 316L |
|----------------------|----------------------|--------------------------|
| Valve body | AISI 316L | AISI 316L ⁽²⁾ |
| Stuffing box housing | AISI 316L | AISI 316L ⁽²⁾ |
| Stem | Stainless steel | AISI 316L |
| Disc | Stainless steel | AISI 316L |
| Stuffing box packing | PTFE chevrons | PTFE chevrons |
| Wiper seal | PTFE | PTFE |
| Disc seal | PTFE | PTFE |
| Valve body seal | PTFE | PTFE |

OTHER MATERIALS

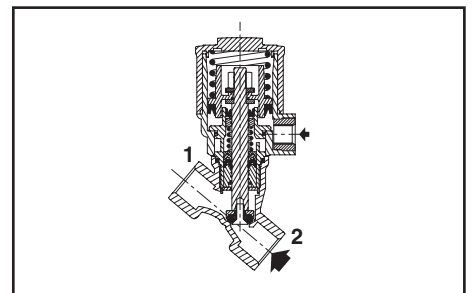
| | |
|----------------------------|---|
| Operator | Glass fibre filled PA |
| Optical position indicator | PA 12, supplied standard on valves with 63, 90 and 125 mm operators |

⁽¹⁾ For dia. 32, 50, 63, 90 and 125 mm operators: At service fluid temperatures inside the valve body above 100°C, it is prohibited to pilot the valve with water.

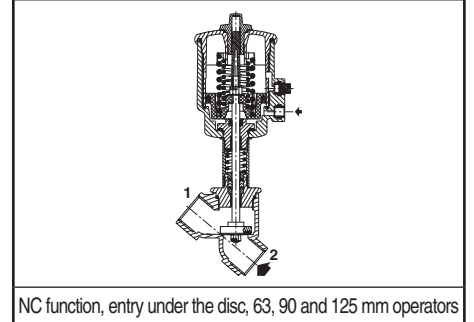
⁽²⁾ NET-INOX passivation treatment included.

SPECIFICATIONS

| piping (ISO 6708) | flow coefficient Kv | pilot pressure (bar) | operating pressure differential (bar) | | | | | | operator diameter | catalogue number | |
|--|---------------------------|----------------------------|--|---|---|--------------------------|------------------------------|-----------------|----------------------|---------------------|--|
| | | | min. | max. | | | operator diameter (mm) | stainless steel | | all AISI 316L | |
| | | | | air, inert gas, aggressive fluids (*) | water, oil, liquids, aggressive liquids (*) | steam (*) (≤184°C) | | | | | |
| NC - Normally closed, entry under the disc ⁽¹⁾ | | | | | | | | | | | |
| 3/8 | 10 | 2,8 47 | 4 10 0 | 16 | 16 | 10 | 32 | E290A791FB | E290A845FB | | |
| 1/2 | 15 | 4,1 68 | 4 10 0 | 12 | 12 | 10 | 32 | E290A792FB | E290A846FB | | |
| | | 4,9 82 | 4 10 0 | 16 | 16 | 10 | 50 | E290A393FB | E290A402FB | | |
| | | | 2,5 10 0 | 16 | 16 | 10 | 63 | E290B045FB | E290B088FB | | |
| 3/4 | 20 | 6,5 108 | 4 10 0 | 6 | 6 | 6 | 32 | E290A793FB | E290A847FB | | |
| | | 9,4 157 | 4 10 0 | 10 | 10 | 10 | 50 | E290A394FB | E290A403FB | | |
| | | | 16 16 | 10 | 63 | E290B048FB | E290B091FB | | | | |
| 1 | 25 | 12,8 213 | 4 10 0 | 6 | 6 | 6 | 50 | E290A395FB | E290A404FB | | |
| | | 16,5 275 | 4 10 0 | 10 | 10 | 10 | 63 | E290B053FB | E290B096FB | | |
| | | | 16 16 | 10 | 90 | E290B054FB | E290B097FB | | | | |
| 1 1/4 | 32 | 27 450 | 4 10 0 | 6 | 6 | 6 | 63 | E290A059FB | E290A102FB | | |
| | | | 12 12 | 10 | 90 | E290A060FB | E290A103FB | | | | |
| | | 29 483 | 4 10 0 | 16 | 16 | 10 | 125 | E290A646FB | E290A650FB | | |
| | | | 2,5 10 0 | 16 | 16 | 10 | 125 | E290A645FB | E290A649FB | | |



NC function, entry under the disc, 32 and 50 mm operators



NC function, entry under the disc, 63, 90 and 125 mm operators

SPECIFICATIONS

| piping (ISO 6708) | | flow coefficient Kv | | pilot pressure (bar) | | operating pressure differential (bar) | | | operator diameter | catalogue number | | |
|--|----|-----------------------------|------|----------------------------|------|--|---|---|--------------------------|---------------------|-----------------|---------------|
| pipe size (G*) | DN | (m ³ /h) (l/min) | | min. | max. | min. | max. | | | (mm) | stainless steel | all AISI 316L |
| | | | | | | | air, inert gas, aggressive fluids (*) | water, oil, liquids, aggressive liquids (*) | steam (*) (≤184°C) | | | |
| NC - Normally closed, entry under the disc ⁽¹⁾ | | | | | | | | | | | | |
| 1 1/2 | 40 | 45 | 750 | 4 | 10 | 0 | 4 | 4 | 4 | 63 | E290A063FB | E290A106FB |
| | | 48 | 800 | 4 | 10 | 0 | 8 | 8 | 8 | 90 | E290A064FB | E290A107FB |
| | | | | 2,5 | 10 | 0 | 16 | 16 | 10 | 125 | E290A495FB | E290A508FB |
| 2 | 50 | 59 | 983 | 4 | 10 | 0 | 10 | 10 | 10 | 125 | E290A494FB | E290A507FB |
| | | 66 | 1100 | 2,5 | 10 | 0 | 2,5 | 2,5 | 2,5 | 63 | E290A067FB | E290A110FB |
| | | | | 6 | 10 | 0 | 6 | 6 | 6 | 90 | E290A068FB | E290A111FB |
| 2 1/2 | 65 | 94 | 1567 | 4 | 10 | 0 | 10 | 10 | 10 | 125 | E290A498FB | E290A511FB |
| | | 111 | 1850 | 4 | 10 | 0 | 2 | 2 | 2 | 90 | E290A500FB | E290A513FB |
| | | | | 6 | 10 | 0 | 6 | 6 | 6 | 125 | E290A501FB | E290A514FB |
| NO - Normally open, entry under the disc | | | | | | | | | | | | |
| 3/8 | 10 | 2,8 | 47 | IX (*) | 10 | 0 | 16 | 16 | 10 | 32 | E290A794FB | E290A848FB |
| 1/2 | 15 | 4,1 | 68 | IX (*) | 10 | 0 | 16 | 16 | 10 | 32 | E290A795FB | E290A849FB |
| | | 4,9 | 82 | I (*) | 10 | 0 | 16 | 16 | 10 | 50 | E290A396FB | E290A405FB |
| 3/4 | 20 | 6,5 | 108 | IX (*) | 10 | 0 | 16 | 16 | 10 | 32 | E290A796FB | E290A850FB |
| | | 9,4 | 157 | I (*) | 10 | 0 | 16 | 16 | 10 | 50 | E290A397FB | E290A406FB |
| | | | | II (*) | 10 | 0 | 16 | 16 | 10 | 63 | E290B070FB | E290B113FB |
| 1 | 25 | 16,5 | 275 | II (*) | 10 | 0 | 16 | 16 | 10 | 63 | E290B071FB | E290B114FB |
| | | | | III (*) | 10 | 0 | 16 | 16 | 10 | 90 | E290B072FB | E290B115FB |
| | | | | II (*) | 10 | 0 | 16 | 16 | 10 | 63 | E290A073FB | E290A116FB |
| 1 1/4 | 32 | 27 | 450 | III (*) | 10 | 0 | 16 | 16 | 10 | 90 | E290A074FB | E290A117FB |
| | | 29 | 483 | IV (*) | 10 | 0 | 16 | 16 | 10 | 125 | E290A647FB | E290A651FB |
| 1 1/2 | 40 | 45 | 750 | II (*) | 10 | 0 | 11 | 11 | 10 | 63 | E290A075FB | E290A118FB |
| | | 48 | 800 | III (*) | 10 | 0 | 16 | 16 | 10 | 90 | E290A076FB | E290A119FB |
| 2 | 50 | 59 | 983 | IV (*) | 10 | 0 | 16 | 16 | 10 | 125 | E290A502FB | E290A515FB |
| | | 66 | 1100 | II (*) | 10 | 0 | 7 | 7 | 7 | 63 | E290A077FB | E290A120FB |
| | | | | III (*) | 10 | 0 | 13 | 13 | 10 | 90 | E290A078FB | E290A121FB |
| 2 1/2 | 65 | 94 | 1567 | IV (*) | 10 | 0 | 16 | 16 | 10 | 125 | E290A503FB | E290A516FB |
| | | 111 | 1850 | III (*) | 10 | 0 | 7 | 7 | 7 | 90 | E290A504FB | E290A517FB |
| | | | | IV (*) | 10 | 0 | 16 | 16 | 10 | 125 | E290A505FB | E290A518FB |
| NC - Normally closed, entry above the disc (version recommended for rapid-cycling steam applications) | | | | | | | | | | | | |
| 3/8 | 10 | 2,8 | 47 | X (*) | 10 | 0 | 10 | - | 10 | 32 | E290A797FB | - |
| 1/2 | 15 | 4,1 | 68 | X (*) | 10 | 0 | 10 | - | 10 | 32 | E290A798FB | - |
| | | 4,9 | 82 | V (*) | 10 | 0 | 10 | - | 10 | 50 | E290A399FB | - |
| 3/4 | 20 | 6,5 | 108 | VI (*) | 10 | 0 | 10 | - | 10 | 63 | E290B079FB | - |
| | | 9,4 | 157 | X (*) | 10 | 0 | 10 | - | 10 | 32 | E290A799FB | - |
| | | | | V (*) | 10 | 0 | 10 | - | 10 | 50 | E290A400FB | - |
| 1 | 25 | 12,8 | 213 | VI (*) | 10 | 0 | 10 | - | 10 | 63 | E290B080FB | - |
| | | 16,5 | 275 | VI (*) | 10 | 0 | 10 | - | 10 | 63 | E290A401FB | - |
| | | | | VII (*) | 10 | 0 | 10 | - | 10 | 90 | E290A082FB | - |
| 1 1/4 | 32 | 27 | 450 | VII (*) | 10 | 0 | 10 | - | 10 | 90 | E290A137FB | - |
| | | VI (*) | 10 | 0 | 10 | - | 10 | 63 | E290A083FB | - | | |
| 1 1/2 | 40 | 45 | 750 | VII (*) | 10 | 0 | 10 | - | 10 | 90 | E290A084FB | - |
| | | VI (*) | 10 | 0 | 9 | - | 9 | 63 | E290A085FB | - | | |
| 2 | 50 | 59 | 983 | VII (*) | 10 | 0 | 10 | - | 10 | 90 | E290A086FB | - |
| | | VI (*) | 10 | 0 | 10 | - | 10 | 90 | E290A086FB | - | | |
| 2 1/2 | 65 | 94 | 1567 | VII (*) | 10 | 0 | 10 | - | 10 | 90 | E290A625FB | - |

 (*) Minimum pilot pressure varies with differential pressure, see page: 7 (www.asco.com)

(1) Calculation of the minimum pilot pressure at a ΔP of max. 10 bar with allowable backpressure (backpressure not recommended with liquids as waterhammer may occur).

 - 32 and 50 mm operators, 4 bar minimum pilot pressure version: add 2 bar to the minimum pilot pressure of chart V or X [see page: 7 (www.asco.com)]

 - 63, 90 and 125 mm operators, 4 bar minimum pilot pressure version: add 1,5 bar to the minimum pilot pressure of chart VI, VII or VIII [see page: 7 (www.asco.com)]

OPTIONS AND ACCESSORIES [see pages: 37 (www.asco.com) / 43 (www.asco.com)]

- Signaling box or compact signaling unit
- Stroke limiter for opening
- Manual safety device
- Optical position indicator on 32-50 mm operators, NC function
- Adapter plate for NAMUR pad mounting pilot (63-90-125 mm operators only)
- NET-INOX passivation treatment on stainless steel body valve
- ATEX 2014/34/EU versions for potentially explosive atmospheres (www.asco.com)
- Other pipe connections are available on request

INSTALLATION

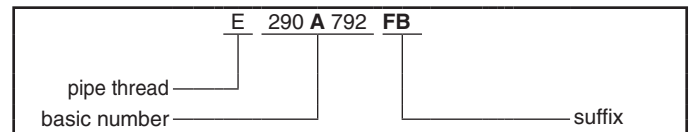
- The valves can be mounted in any position without affecting operation
- Compatible with ASTM 1, 2 and 3 oils
- Check temperature range of valve body and solenoid pilot valves for suitability. For probability of failure, contact us
- Pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1
- Installation/maintenance instructions are included with each valve

SPARE PARTS KITS

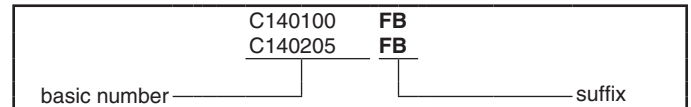
| DN | spare parts kit no. | |
|----|---------------------|-------------------|
| | Ø 32 mm | Ø 50-63-90-125 mm |
| 10 | C140100FB | - |
| 15 | C140101FB | C131204FB |
| 20 | C140102FB | C131205FB |
| 25 | - | C131206FB |
| 32 | - | C131207FB |
| 40 | - | C131208FB |
| 50 | - | C131209FB |
| 65 | - | C131622FB |

- Not available

ORDERING EXAMPLES:



ORDERING EXAMPLES KITS:

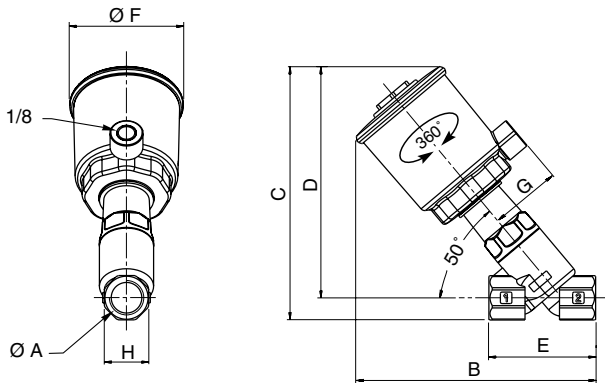


| 32 mm operator | 50 mm operator | 63, 90 and 125 mm operators |
|-------------------------------------|----------------|-----------------------------|
| | | |
| NO function | | |
| | | |
| NC function, fluid entry above disc | | |

DIMENSIONS (mm), WEIGHT (kg)

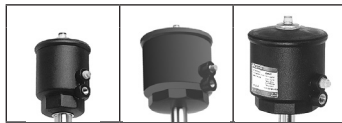


TYPE 01-02
32 and 50 mm operators
Fluid entry:
under the disc at 2
above the disc at 1

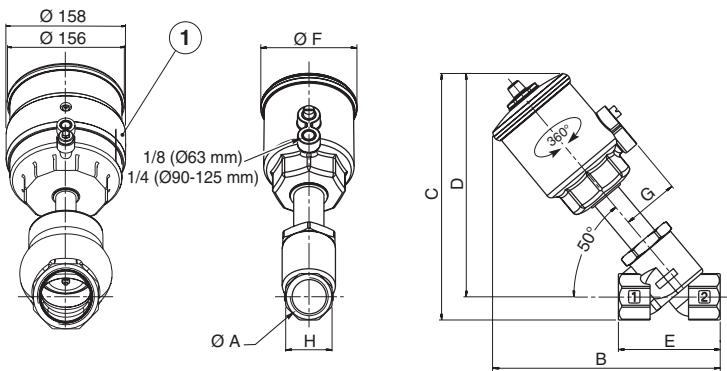


| type | operator diameter | ØA | B | C | D | E | ØF | G | ØH | weight ⁽¹⁾ |
|------|-------------------|-----|-------|-------|------|----|------|----|------|-----------------------|
| 01 | 32 mm | 3/8 | 92 | 93 | 81,5 | 55 | 43,5 | 27 | 23,5 | 0,35 |
| | | 1/2 | 99 | 97 | 83,5 | 65 | 43,5 | 27 | 28 | 0,4 |
| | | 3/4 | 107 | 104,5 | 88 | 75 | 43,5 | 27 | 30 | 0,45 |
| 02 | 50 mm | 1/2 | 142 | 154,5 | 141 | 65 | 69 | 43 | 27 | 0,9 |
| | | 3/4 | 150,5 | 159 | 143 | 75 | 69 | 43 | 32 | 1 |
| | | 1 | 155 | 165 | 145 | 90 | 69 | 43 | 41 | 1,4 |

⁽¹⁾ Weight of valve without pilot.
Solenoid pilot valves, see page: [49 \(www.asco.com\)](#) [32 and 50 mm operators].



TYPE 03-04-05
63, 90 and 125 mm operators
Fluid entry:
under the disc at 2
above the disc at 1



① Operator dia. 125 mm, NO function

| type | operator diameter | ØA | B | C | D | E | ØF | G | ØH | weight ⁽¹⁾ |
|------|-------------------|-------|-----|-------|-------|-----|-----|------|----|-----------------------|
| 03 | 63 mm | 1/2 | 170 | 182 | 169 | 65 | 85 | 50,5 | 27 | 1,2 |
| | | 3/4 | 175 | 185 | 170 | 75 | 85 | 50,5 | 32 | 1,3 |
| | | 1 | 179 | 192 | 172 | 90 | 85 | 50,5 | 41 | 1,7 |
| | | 1 1/4 | 217 | 229 | 204 | 110 | 85 | 50,5 | 50 | 2,1 |
| | | 1 1/2 | 224 | 245 | 215 | 120 | 85 | 50,5 | 60 | 2,9 |
| | | 2 | 249 | 259 | 224 | 150 | 85 | 50,5 | 70 | 3,7 |
| 04 | 90 mm | 1 | 197 | 209 | 189 | 90 | 118 | 67 | 41 | 2,3 |
| | | 1 1/4 | 236 | 246 | 221 | 110 | 118 | 67 | 50 | 2,7 |
| | | 1 1/2 | 243 | 262 | 232 | 120 | 118 | 67 | 60 | 3,5 |
| | | 2 | 267 | 276 | 241 | 150 | 118 | 67 | 70 | 4,3 |
| 05 | 125 mm | 2 1/2 | 299 | 300 | 257 | 190 | 118 | 67 | 86 | 6,3 |
| | | 1 1/4 | 284 | 298 | 273 | 110 | 156 | 86 | 50 | 5,2 |
| | | 1 1/2 | 291 | 313,5 | 283,5 | 120 | 156 | 86 | 60 | 6 |
| | | 2 | 315 | 328 | 293 | 150 | 156 | 86 | 70 | 6,8 |
| | | 2 1/2 | 347 | 352 | 308 | 190 | 156 | 86 | 86 | 8,9 |

⁽¹⁾ Weight of valve without pilot. Add 0,2 for dia. 125 mm operator NO.
Solenoid pilot valves, see pages: [49 \(www.asco.com\)](#) [63 mm operator] / [51 \(www.asco.com\)](#) [90 and 125 mm operators]

All leaflets are available on: www.asco.com