

ASCO™ Solenoid Valves

For High Pressure Fluids

Direct Operated, 3/8" tapped

2/2 NC-NO

Series

263

- High operating pressure
- RoHS compliance
- AC/DC interchangeability of the coil (10,1 W/11,6 W and 17,1 W/22,6 W)
- Valves do not require a minimum operating pressure
- Large selection of seal materials providing wide chemical compatibility
- Compliance with UL and CSA standards
- The solenoid valves satisfy all relevant EU directives

General

Differential pressure See «SPECIFICATIONS» [1 bar = 100 kPa]
Maximum viscosity 65 cSt (mm²/s)
Response time 5 - 25 ms

| fluids (*) | temperature range (TS) | seal materials (*) |
|----------------------------|------------------------|--------------------|
| air, inert gas, water, oil | -25°C to +80°C | NBR (nitrile) |

Materials in contact with fluid

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

| | |
|-------------------------|------------------------------------|
| Body | Brass or Stainless steel, AISI 304 |
| Shading coil | Copper or Silver |
| Core tube | Stainless steel, AISI 305 |
| Core and plugnut | Stainless steel, AISI 430F |
| Springs | Stainless steel, AISI 302 |
| Seal | NBR |
| Disc | NBR |
| Core guide | CA |

Electrical characteristics

Coil insulation class F/H (AC) or H (DC)
Connector Spade plug (cable Ø 6-10 mm)
Connector specification ISO 4400 / EN 175301-803, form A
Electrical safety IEC 335
Electrical enclosure protection Moulded IP65 (EN 60529)
Standard voltages DC (=) : 24V - 48V
 AC (-) : 24V - 48V - 115V - 230V/50 Hz
 (Other voltages and 60 Hz on request)

| operator ambient temperature range (TS) (°C) | power ratings | | | | replacement coil ⁽¹⁾ | |
|--|---------------|----------------|----------------|----------------|---------------------------------|------------|
| | inrush ~ (VA) | holding ~ (VA) | hot/cold = (W) | hot/cold = (W) | ~ | = |
| -25 to +55 | 30 | 16 | 8,1 | 7,7/ 10,6 | 238213-059 | 238513-006 |
| | 45 | 20 | 11,1 | 12,5/18,6 | 238213-157 | 238513-106 |
| | 50 | 25 | 10,1 | 8,5/11,6 | 238613-059 | 238913-006 |
| | 70 | 40 | 17,1 | 15,1/22,6 | 238613-159 | - |
| | 70 | 40 | 17,1 | 15,1/22,6 | 238813-159 | 238913-106 |

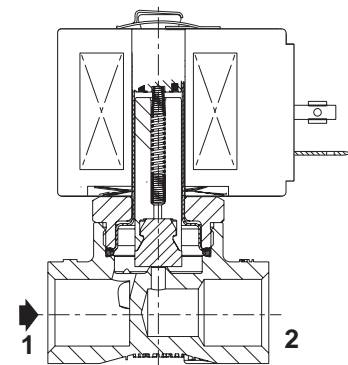
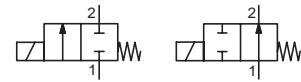
⁽¹⁾ All 238 basic numbers are UL & CSA approved and marked with the UR (recognised component) & CSA logos.

Options

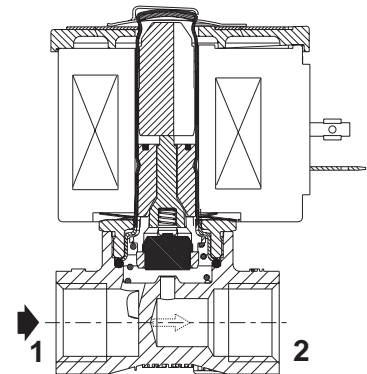
- Seals and disc (τ) ⁽²⁾ (fluid temperature range)
 - FPM (fluoroelastomer): -15°C to +100°C (coil class F) -15°C to +120°C (coil class H)
 - EPDM (ethylene-propylene), 0°C to +100°C
 - CR (chloroprene), 0°C to +80°C
 - PTFE: -15°C to +100°C (coil class F) -15°C to +120°C (coil class H)
- Oxygen service, FPM disc and seals, see "15-DIGIT PRODUCT CODE"
- Connector with visual indication and peak voltage suppression or with cable length of 2 m
- Explosionproof enclosures for use in zones 1/21-2/22, categories 2-3 to ATEX Directive 2014/34/EU (See page: 19)

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

⁽²⁾ The minimum ambient temperature of the solenoid valve is determined by the limitations of minimum temperature indicated.



NC function



NO function

Specifications

| pipe size | orifice size | flow coefficient Kv | | operating pressure differential (bar) | | | | | | power coil (W) | | thread type | dimensions / type ⁽¹⁾ | 15-DIGIT PRODUCT CODE | | | | | | | | | | | |
|--|--|---------------------|------|---------------------------------------|-----|-----------|------|---------|-----|----------------|------|-------------|----------------------------------|-----------------------|-----------------|---------------|------------|---------------|---------------|---------|---------|---|--|--|--|
| | | | | max. (PS) | | | | | | | | | | brass | stainless steel | voltage code | | | | | | | | | |
| | | | | air (*) | | water (*) | | oil (*) | | | | | | | | 24 V/50 Hz | 48 V/50 Hz | 115 V/50 Hz | 230 V/50 Hz | 24 V/DC | 48 V/DC | | | | |
| | | | | min. | ~ | = | ~ | = | ~ | | | | | = | ~ | | | | | | | = | | | |
| (mm) | (m ³ /h) | (l/min) | | | | | | | | | | | | | | | | | | | | | | | |
| Without manual operator | | | | | | | | | | | | | | | | | | | | | | | | | |
| NC - Normally closed, NBR seal and disc | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/8 | 3,2 | 0,3 | 5 | 0 | 12 | 8 | 12 | 6,5 | 6 | 5 | 8,1 | 10,6 | G* 01 | E263K002S1N00 | - | | | | | | | | | | |
| | | | | | 18 | 10 | 17 | 8 | 9,5 | 7 | 11,1 | 18,6 | G* 01 | E263K003S1N00 | - | | | | | | | | | | |
| | | | | | 23 | 7,5 | 20 | 7 | 14 | 5 | 10,1 | 11,6 | G* 02 | E263K232S1N00 | E263K190S1N00 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K190S1N00 | | | | | | | | | | |
| | | | | | 34 | 17 | 26 | 17 | 24 | 10 | 17,1 | 22,6 | G* 02 | E263K115S1N00 | E263K191S1N00 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K191S1N00 | | | | | | | | | | |
| | 4 | 0,45 | 7,5 | 0 | 14 | 3,5 | 12 | 3,5 | 6,5 | 3 | 10,1 | 11,6 | G* 02 | E263K200S1N00 | E263K331S1N00 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K331S1N00 | | | | | | | | | | |
| | | | | | 20 | 7,5 | 14 | 7,5 | 13 | 6 | 17,1 | 22,6 | G* 02 | E263K118S1N00 | E263K193S1N00 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K193S1N00 | | | | | | | | | | |
| | | | | | 5,6 | 0,63 | 10,5 | 0 | 3,5 | 2 | 3,5 | 2 | 2 | 1,9 | 8,1 | 10,6 | G* 01 | E263K119S1N00 | - | | | | | | |
| | | | | | | | | | | | | | | | | | G* 02 | E263K124S1N00 | E263K195S1N00 | | | | | | |
| 7,1 | 0,76 | 12,7 | 0 | 6,5 | 2 | 5,5 | 2 | 4,5 | 2 | 10,1 | 11,6 | NPT 02 | - | 8263K195S1N00 | | | | | | | | | | | |
| | | | | | | | | | | | | G* 02 | E263K206S1N00 | E263K332S1N00 | | | | | | | | | | | |
| NO - Normally open, NBR seal and disc | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/8 | 3,2 | 0,3 | 5 | 0 | 11 | 6,5 | 10 | 6,5 | 8,5 | 4,5 | 10,1 | 11,6 | G* 02 | E263K070S1N00 | E263K080S1N00 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K080S1N00 | | | | | | | | | | |
| | | | | | 14 | 9 | 13 | 7,5 | 12 | 6,5 | 17,1 | 22,6 | G* 02 | E263K100S1N00 | E263K104S1N00 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K104S1N00 | | | | | | | | | | |
| | | | | | 4 | 0,47 | 7,8 | 0 | 6 | 4 | 6 | 3,5 | 4,5 | 3 | 10,1 | 11,6 | G* 02 | E263K071S1N00 | E263K081S1N00 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K081S1N00 | | | | | | |
| | 5,6 | 0,72 | 12 | 0 | 8 | 5 | 7,5 | 4 | 7 | 3,5 | 17,1 | 22,6 | G* 02 | E263K101S1N00 | E263K105S1N00 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K105S1N00 | | | | | | | | | | |
| | | | | | 3 | 2 | 3 | 1,7 | 2,5 | 1,7 | 10,1 | 11,6 | G* 02 | E263K072S1N00 | E263K082S1N00 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K082S1N00 | | | | | | | | | | |
| | | | | | 7,1 | 0,83 | 13,8 | 0 | 4 | 2 | 3,5 | 2 | 3,5 | 2,1 | 17,1 | 22,6 | G* 02 | E263K102S1N00 | E263K106S1N00 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K106S1N00 | | | | | | |
| With maintained manual operator | | | | | | | | | | | | | | | | | | | | | | | | | |
| NC - Normally closed, NBR seal and disc | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/8 | 3,2 | 0,3 | 5 | 0 | 23 | 7,5 | 20 | 7 | 14 | 5 | 10,1 | 11,6 | G* 02 | E263K232S1N01 | E263K190S1N01 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K190S1N01 | | | | | | | | | | |
| | | | | | 34 | 17 | 26 | 17 | 24 | 10 | 17,1 | 22,6 | G* 02 | E263K115S1N01 | E263K191S1N01 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K191S1N01 | | | | | | | | | | |
| | | | | | 4 | 0,45 | 7,5 | 0 | 14 | 3,5 | 12 | 3,5 | 6,5 | 3 | 10,1 | 11,6 | G* 02 | E263K200S1N01 | E263K331S1N01 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K331S1N01 | | | | | | |
| | 5,6 | 0,63 | 10,5 | 0 | 20 | 7,5 | 14 | 7,5 | 13 | 6 | 17,1 | 22,6 | G* 02 | E263K118S1N01 | E263K193S1N01 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K193S1N01 | | | | | | | | | | |
| | | | | | 7,1 | 0,76 | 12,7 | 0 | 6,5 | 2 | 5,5 | 2 | 4,5 | 2 | 10,1 | 11,6 | G* 02 | E263K124S1N01 | E263K195S1N01 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K195S1N01 | | | | | | |
| | | | | | 7,1 | 0,76 | 12,7 | 0 | 8,5 | 4 | 6,5 | 4 | 6,5 | 4 | 17,1 | 22,6 | G* 02 | E263K206S1N01 | E263K332S1N01 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K332S1N01 | | | | | | |
| With maintained manual operator | | | | | | | | | | | | | | | | | | | | | | | | | |
| NC - Normally closed, NBR seal and disc | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/8 | 3,2 | 0,3 | 5 | 0 | 4 | - | 4 | - | 3 | - | 10,1 | - | G* 02 | E263K125S1N01 | E263K197S1N01 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K197S1N01 | | | | | | | | | | |
| | | | | | 6,5 | 3 | 5,5 | 3 | 4,5 | 3 | 17,1 | 22,6 | G* 02 | E263K210S1N01 | E263K333S1N01 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K333S1N01 | | | | | | | | | | |
| | | | | | 7,1 | 0,76 | 12,7 | 0 | 2,5 | 1,3 | 2,5 | 1,1 | 2,5 | 1,1 | 17,1 | 22,6 | G* 02 | E263K073S1N00 | E263K083S1N00 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K083S1N00 | | | | | | |
| | With maintained manual operator | | | | | | | | | | | | | | | | | | | | | | | | |
| | NC - Normally closed, NBR seal and disc | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3/8 | 3,2 | 0,3 | 5 | 0 | 23 | 7,5 | 20 | 7 | 14 | 5 | 10,1 | 11,6 | G* 02 | E263K232S1N01 | E263K190S1N01 | | | | | | | | | |
| | | | | | | | | | | | | | | NPT 02 | - | 8263K190S1N01 | | | | | | | | | |
| | | | | | | 34 | 17 | 26 | 17 | 24 | 10 | 17,1 | 22,6 | G* 02 | E263K115S1N01 | E263K191S1N01 | | | | | | | | | |
| | | | | | | | | | | | | | | NPT 02 | - | 8263K191S1N01 | | | | | | | | | |
| 4 | | | | | | 0,45 | 7,5 | 0 | 14 | 3,5 | 12 | 3,5 | 6,5 | 3 | 10,1 | 11,6 | G* 02 | E263K200S1N01 | E263K331S1N01 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K331S1N01 | | | | | | |
| 5,6 | | 0,63 | 10,5 | 0 | 20 | 7,5 | 14 | 7,5 | 13 | 6 | 17,1 | 22,6 | G* 02 | E263K118S1N01 | E263K193S1N01 | | | | | | | | | | |
| | | | | | | | | | | | | | NPT 02 | - | 8263K193S1N01 | | | | | | | | | | |
| | | | | | 7,1 | 0,76 | 12,7 | 0 | 6,5 | 2 | 5,5 | 2 | 4,5 | 2 | 10,1 | 11,6 | G* 02 | E263K124S1N01 | E263K195S1N01 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K195S1N01 | | | | | | |
| | | | | | 7,1 | 0,76 | 12,7 | 0 | 8,5 | 4 | 6,5 | 4 | 6,5 | 4 | 17,1 | 22,6 | G* 02 | E263K206S1N01 | E263K332S1N01 | | | | | | |
| | | | | | | | | | | | | | | | | | NPT 02 | - | 8263K332S1N01 | | | | | | |

⁽¹⁾For dimensions, see drawing(s) for each construction type on the following page(s).
(*) Ensure that the compatibility of the fluids in contact with the materials is verified.

Configurator - CAD Files

15-DIGIT PRODUCT CODE
E 263 K 002 S1 N00 H1

Thread connection

E = ISO 228/1 & ISO 7/1 (combination thread, G*)
8 = NPT (SAE 71051)

Product series

263

Revision letter

K = Initial release

Valves version

Voltage - class

FL = 24 V / 50 Hz - class F
FR = 48 V / 50 Hz - class F
FT = 115 V / 50 Hz - class F
F8 = 230 V / 50 Hz - class F
HL = 24 V / 50 Hz - class H
HR = 48 V / 50 Hz - class H
HT = 115 V / 50 Hz - class H
H8 = 230 V / 50 Hz - class H
H1 = 24 V DC - class H
H9 = 48 V DC - class H

Options

Without manual operator

N00 = NBR disc and seals
V00 = FPM disc and seals
VNO = FPM disc and seals for Oxygen service
E00 = EPDM disc and seals
J00 = CR disc and seals
T00 = PTFE disc and seals ⁽¹⁾

With maintained manual operator

N01 = NBR disc and seals
V01 = FPM disc and seals
VN1 = FPM disc and seals for Oxygen service
E01 = EPDM disc and seals
J01 = CR disc and seals

Electrical interface & explosion proof options

S1 = With spade plug connector
FN = Aluminium enclosure, 1/2 NPT conduit, IECEx/ATEX
II 2G Ex db IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to NF prefix)⁽²⁾
FT = Aluminium enclosure, 20 mm conduit, IECEx/ATEX
II 2G Ex db IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to NFET prefix)⁽²⁾
FS = AISI 316L enclosure, 1/2 NPT conduit, IECEx/ATEX
II 2G Ex db IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to WSNF prefix)⁽²⁾
FU = AISI 316L enclosure, 20 mm conduit, IECEx/ATEX
II 2G Ex db IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to WSNFET prefix)⁽²⁾
MV = Steel enclosure, M20 cable gland, IECEx/ATEX
II 2G Ex eb mb IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to EM prefix)⁽²⁾
MT = Steel enclosure, 20 mm conduit, IECEx/ATEX
II 2G Ex eb mb IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to EMET prefix)⁽²⁾
MN = Steel enclosure, 1/2 NPT conduit, IECEx/ATEX
II 2G Ex eb mb IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to EMT prefix)⁽²⁾
MW = AISI 316 enclosure, M20 cable gland, IECEx/ATEX
II 2G Ex eb mb IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to WSEM prefix)⁽²⁾
MU = AISI 316 enclosure, 20 mm conduit, IECEx/ATEX
II 2G Ex eb mb IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to WSEMET prefix)⁽²⁾
MS = AISI 316 enclosure, 1/2 NPT conduit, IECEx/ATEX
II 2G Ex eb mb IIC Gb / II 2D Ex tb IIIC Db, zone 1-21 (equivalent to WSEMT prefix)⁽²⁾
A7 = Moulded enclosure, epoxy encapsulated, integrated cable, IECEx/ATEX
II 2G Ex mb IIC Gb / II 2D Ex mb IIIC Db, zone 1-21 (equivalent to PV prefix)⁽²⁾
SG = Moulded coil with connector, epoxy encapsulated, ATEX
II 3GD Ex ec IIC Gc / II 3GD Ex tc IIIC Dc, zone 22 (equivalent to SG prefix)⁽²⁾⁽³⁾

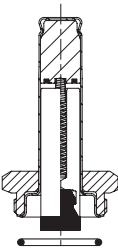
⁽¹⁾ Max. operating pressure limited to 75% of standard value.

⁽²⁾ Search prefix in Emerson.com/asco to get detailed technical information.

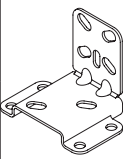
Please note that the valve pressure ratings with some of the ATEX enclosures will be reduced.

To obtain the correct pressure rating please check the landing pages of the "2-Way Solenoid Valve DIN Configurator".

⁽³⁾ Coils class F only.

| | | Spare parts kits no. (*) | | | | | | | | | | | | | |
|---|----------------------|--------------------------|-----|-----------------|------|-----|------|---------|---------|-----------------|------|-----|------|-----|-----|
| | | AC (~) | | | | | | | DC (=) | | | | | | |
| | | NBR | FPM | FPM (oxygen) | EPDM | CR | PTFE | NBR | FPM | FPM (oxygen) | EPDM | CR | PTFE | | |
|  | E263K002 | M200001 | N00 | V00 | VN0 | E00 | J00 | T00 | M200005 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K003 | M200001 | N00 | V00 | VN0 | E00 | J00 | T00 | M200006 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K054 | M200020 | N00 | V00 | VN0 | E00 | J00 | T00 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K070 | M200016 | N00 | V00 | VN0 | E00 | J00 | T00 | M200032 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K071 | M200017 | N00 | V00 | VN0 | E00 | J00 | T00 | M200033 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K072 | M200018 | N00 | V00 | VN0 | E00 | J00 | T00 | M200034 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K073 | M200019 | N00 | V00 | VN0 | E00 | J00 | T00 | M200035 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K080/081/082/083 | M200018 | N00 | V00 | VN0 | E00 | J00 | T00 | M200034 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K100/101/102/103 | M200022 | N00 | V00 | VN0 | E00 | J00 | T00 | M200038 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K104/105/106/107 | M200040 | N00 | V00 | VN0 | E00 | J00 | T00 | M200040 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K115/118 | M200007 | N00 | V00 | VN0 | E00 | J00 | T00 | M200007 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K119 | M200001 | N00 | V00 | VN0 | E00 | J00 | T00 | M200007 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K124/125 | M200007 | N00 | V00 | VN0 | E00 | J00 | T00 | M200007 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K190/191/193 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K195/197 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K197 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K200/206/210/232 | M200007 | N00 | V00 | VN0 | E00 | J00 | T00 | M200007 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | E263K331/332/333 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | 8263K080/081/082/083 | M200018 | N00 | V00 | VN0 | E00 | J00 | T00 | M200034 | N00 | V00 | VN0 | E00 | J00 | T00 |
| | 8263K104/105/106/107 | M200040 | N00 | V00 | VN0 | E00 | J00 | T00 | M200040 | N00 | V00 | VN0 | E00 | J00 | T00 |
| 8263K190/191/193 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | |
| 8263K195/197 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | |
| 8263K331/332/333 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | M200008 | N00 | V00 | VN0 | E00 | J00 | T00 | |

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

| | | Accessories code |
|---|--|------------------|
|  | Mounting bracket Steel version (AISI 1010 / 1.1121) | M200094A00 |
| | Mounting bracket Stainless steel version (AISI 304 / 1.4301) | M200095A00 |

Installation

- The solenoid valves can be mounted in any position without affecting operation
- Solenoid valves have 2 mounting holes in body
- Thread connection “E” have standard thread according to ISO 228/1 and ISO 7/1
- Thread connection “8” have standard thread = NPT (SAE 71051)
- Installation/maintenance instructions are included with each valve

