



# MODENTIC



**Class 150~2500**

**Soft Seated Ball Valves**

**Metal Seated Ball Valves**

**High & Low Temperature**

**Super Alloy Valves**

**High Purity Ball Valves**

**API 603/600 Gate/Globe/Check Valves**



# VALVES



<http://www.Modentic.com.tw>

<http://www.ValveBus.com>



## Modentic Industrial Corp.

Partner with Modentic, you have chosen the reliable company of the valve design and engineering, we guarantee the durability and consistent quality of our products, The manufacturing documentation are always provided very detailed to ensure the traceability and easy maintenance, you never have to worry about the products do not perform as expected. We want you to be a lifelong partner of our dedicated work team, and we welcome your feedback about our performance all the time, which is an important extra value for our company.

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Products support the needs of local & overseas users in more than 50 countries of the world. Based on the management philosophy of "Best delivery. Service & Quality".

Modentic sets the pace to ensure customer's satisfaction.

Range of Service:

API607 Fire Safe Approved Ball Valves Series 1/2"~8"

Metal Seat Ball Valves 1/2"~16"

High Pressure Ball Valves 1/2"~2"

V-Flow Ball Valves 1/4"~6"

High Purity Ball Valves / Sanitary Ball Valve 1/2"~4"

Electric Automation Valves

Pneumatic Automation Valves

Floating Flanged Ball Valves 1/2"~12"

Trunnion Mounted Ball Valves Series 2"~36"

Screwed Ball Valves 1/4"~4"

S.S. Screwed Gate, Globe & Check Valves 1/4"~3"

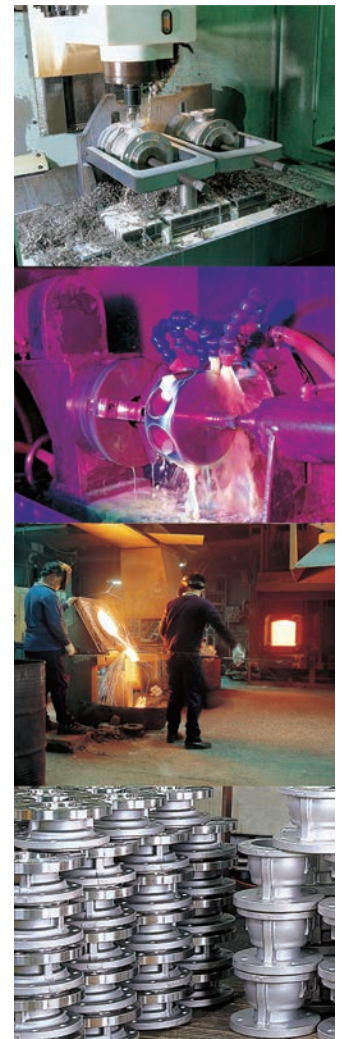
S.S. Flanged Gate, Globe & Check Valves 1/2"~24"

C.S. Flanged Gate, Globe & Check Valves 2"~48"

Strainers 1/2"~16"

Needle Valves 1/8"~1"

Super Alloy Valves



**ALL PRODUCTS SUPPLIED BY  
MODENTIC ARE UNDER  
PRODUCTS LIABILITY INSURANCE.**



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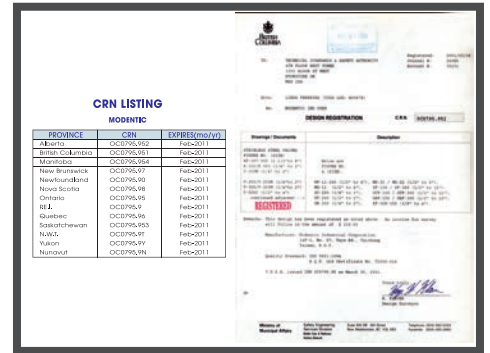
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ISO 9001



PED



CRN



API 607 Fire Safe Approved



# CERTIFICATION

MODENTIC www.modentic.com.tw

Products Liability Insurance | ISO 9001 | CRN | TA-LUFT | PED | ABS | ATEX  
 API 607 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> / ISO 10497-5 / BS 6755 Part II Fire Safe Approved

ABS



ATEX



TA-LUFT





## TWO WAY BALL VALVES

### MD-51



#### Design Feature

- Reduced Bore
- 1/2" – 6" (DN15 - DN150)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 Class 150/300
- ANSI B16.5 Class 150/300 RF

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### MD-81



#### Design Feature

- Reduced Bore
- 1" – 12" (DN25 - DN300)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 Class 150/300
- ANSI B16.5 Class 150/300 RF

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### MD-52



#### Design Feature

- Full Bore
- 1/2" – 8" ( DN15 - DN200)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 Class 150/300
- DIN 3202 F4/F5
- JIS B2002
- ANSI B16.5 Class 150/300 RF
- EN1092-1 PN10/16/25/40 RF
- JIS 2010 10K

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M/ SS 316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### MD-82



#### Design Feature

- Full Bore
- 1/2" – 12" ( DN15 - DN300)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 Class 150/300
- DIN 3202 F1/F4/F5
- ANSI B16.5 Class 150/300 RF
- EN1092-1 PN10/16/25/40 RF

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M/ SS 316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### MD-27



#### Design Feature

- Full Bore
- 1/2" – 6" ( DN15 - DN150)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 Class 150/300/600
- DIN 3202 F1/F4/F5
- JIS B2002
- ANSI B16.5 Class 150/300/600 RF
- EN1092-1 PN10/16/25/40 RF
- JIS 2010 10K/20K

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M/ SS 316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### MD-22J



#### Design Feature

- Full Bore
- 1/2" – 6" ( DN15- DN150)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.5 Class 150 RF
- EN1092-1 PN10/16
- JIS 2010 10K

<b>Body</b>	ASTM A351 Gr.CF8M (EN1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	50%PTFE + 50%S.S.
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)



## TWO WAY BALL VALVES

### MD-55



#### Design Feature

- Full Bore
- 1/2" – 6" ( DN15 - DN150)
- Blow-out proof stem
- Anti-static design
- ISO 5211 Direct mounting
- ANSI B16.10 Class 150  
DIN 3202 F4/F5
- ANSI B16.5 Class 150 RF  
EN1092-1 PN16 RF

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)

### MD-57



#### Design Feature

- Full Bore
- 1/2" – 6" ( DN15 - DN150)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- Fact To Face : MFG Standard
- ANSI B16.5 Class 150 RF  
EN1092-1 PN16 RF

<b>Body</b>	ASTM A351 Gr. CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)

### MD-28

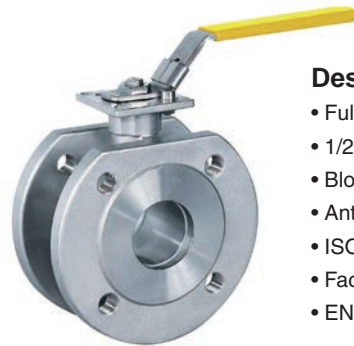


#### Design Feature

- Full Bore
- 1/2" – 6" ( DN15 - DN150)
- Blow-out proof stem
- Anti-static design
- ISO 5211 Direct mounting
- ANSI B16.10 Class 150/300/600  
DIN 3202 F1/F4/F5  
JIS B2002
- ANSI B16.5 Class 150/300/600 RF  
EN1092-1 PN10/16/25/40 RF  
JIS 2010 10K/20K

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)

### MD-57D



#### Design Feature

- Full Bore
- 1/2" – 4" ( DN15- DN100)
- Blow-out proof stem
- Anti-static design
- ISO 5211 Direct mounting
- Fact To Face : MFG Standard
- EN1092-1 PN16 RF

<b>Body</b>	ASTM A351 Gr.CF8M (EN 1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)



# FIRE SAFE APPROVED BALL VALVES

## MD-51FS-150/300

API 607 4th



### Design Feature

- Reduced Bore
- 3/4" – 6" ( DN20 - DN150)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 class 150/300
- ANSI B16.5 class 150/300 RF

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	RTFE (15% glass fiber filled)
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

## MD-52FS-150/300

API 607 4th



### Design Feature

- Full Bore
- 1/2" – 6" ( DN15 - DN150)
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 class 150/300
- ANSI B16.5 Class 150/300 RF

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M/ SS 316
<b>Seat</b>	RTFE (15% glass fiber filled)
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

## MD-82-150/300

API 607 6th / ISO 10497-5 / BS 6755 Part II



### Design Feature

- Full Bore
- 1/2"~8"(DN 15~DN 200)
- Blow-out-proof stem design
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 Class 150/300
- ANSI B16.5 Class 150/300 RF

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	RTFE (15% glass fiber filled)
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

## MD-82 PN 16/40

API 607 6th / ISO 10497-5 / BS 6755 Part II



### Design Feature

- Full Bore
- 1/2"~8"(DN 15~DN 200)
- Blow-out-proof stem design
- Anti-static design
- ISO 5211 mounting flange
- DIN 3202 F1/F4/F5
- EN 1092-1 PN 10/16/25/40 RF

<b>Body</b>	1.4408
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	RTFE (15% glass fiber filled)
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

## V-255FS • V-255M

API 607 4th



### Design Feature

- ANSI B16.34 class 600 design
- Blow-out proof stem
- Anti-static design
- ISO5211 mounting flange
- Handle with locking device
- End Connection: Threaded, Socket weld, Butt weld

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE (15% glass fiber filled)
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working pressure</b>	1/4"- 1" 2000 psi, 1-1/4"-2" 1500 psi
	DN8 - DN25 : PN140, DN32 - DN 50 : PN100

V-255FS • Full Bore • 1/4"- 2" (DN8-DN50)

V-255FSA • Reduced Bore • 1/2" – 2-1/2" (DN15-DN65)



## FIRE SAFE APPROVED BALL VALVES

### V-755FS

API 607 6th / ISO 10497-5 / BS 6755 Part II



#### Design Feature

- ANSI B16.34 Class 600 design
- Blow-out-proof stem design
- Anti-static design
- ISO 5211 mounting flange
- Forged Steel components
- Handle with locking device
- End Connection: Threaded, Socket weld, Butt weld

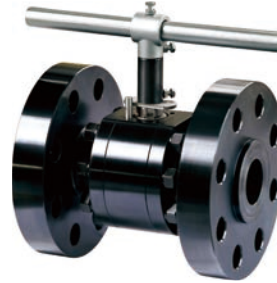
V-755FS • Full Bore • 1/2" – 2" (DN15-DN50)

V-755FSA • Reduced Bore • 1/2" – 2" ( DN15-DN50 )

<b>Body</b>	ASTM A105 / F316
<b>Ball / Stem</b>	SS 316
<b>Seat</b>	RTFE (15% glass fiber filled)
<b>Working pressure</b>	1500 psi ( PN 100)
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### HPV-43FS

API 607 5th / ISO 10497-5 / BS 6755 Part II



#### Design Feature

- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- ANSI B16.10 Class 1500/2500
- ANSI B16.5 Class 1500/2500 RTJ

HPV-43FS-1500 • Full Bore • 1/2" – 2" (DN15 - DN50)

HPV-43FS-2500 • Full Bore • 1/2" – 2" (DN15 - DN50)

<b>Body</b>	AISI1025 / AISI316 ( bar material )
<b>Ball / Stem</b>	CF8M / 17-4PH
<b>Seat</b>	Delrin / Peek
<b>Temperature Range</b>	-4 to 176°F (-20 to 80 °C) for Delrin
	-4 to 500°F (-20 to 260 °C) for PEEK

### HPV-40FS

API 607 5th / ISO 10497-5 / BS 6755 Part II



#### Design Feature

- ANSI B16.34 Class 1500 design
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- End Connection: Threaded, Socket weld, Butt weld

HPV-40FS • 3600 Psi • Full Bore • 1/4" – 2" (DN8 - DN50)

HPV-40FSA • 3600 Psi • Reduced Bore • 1/4" – 2" (DN8 - DN50)

<b>Body</b>	AISI1025 / AISI316 ( bar material )
<b>Ball / Stem</b>	CF8M / 17-4PH
<b>Seat</b>	Delrin / Peek
<b>Working pressure</b>	3000 psi ( PN 260 )
<b>Temperature Range</b>	-4 to 176°F (-20 to 80 °C) for Delrin
	-4 to 500°F (-20 to 260 °C) for PEEK

### HPV-41FS

API 607 5th / ISO 10497-5 / BS 6755 Part II



#### Design Feature

- ANSI B16.34 Class 2500 design
- Blow-out proof stem
- Anti-static design
- ISO 5211 mounting flange
- End Connection: Threaded, Socket weld, Butt weld

HPV-41FS • 6000 Psi • Full Bore • 1/4" – 2" (DN8 - DN50)

HPV-41FSA • 6000 Psi • Reduced Bore • 1/4" – 2" (DN8 - DN50)

<b>Body</b>	AISI1025 / AISI316 ( bar material )
<b>Ball / Stem</b>	CF8M / 17-4PH
<b>Seat</b>	Delrin / Peek
<b>Working pressure</b>	6000 psi ( PN 420 )
<b>Temperature Range</b>	-4 to 176°F (-20 to 80 °C) for Delrin
	-4 to 500°F (-20 to 260 °C) for PEEK



## TRUNNION MOUNTED CASTING

### MD-53 • 3 PIECES



#### Design Feature

- Reduced Bore
- 18" – 36" (DN450 - DN900)
- API 6FA fire safe design
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 Class 150/300/600
- ANSI B16.5 Class 150/300/600 RF
- ASME B16.47 for 26" & up

<b>Body</b>	ASTM A216 Gr.WCB / CF8M
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	PTFE / Nylon
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### MD-54 • 3 PIECES



#### Design Feature

- Full Bore
- 16" – 36" (DN400 - DN900)
- API 6FA fire safe design
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 Class 150/300/600
- ANSI B16.5 Class 150/300/600 RF
- ASME B16.47 for 26" & up

<b>Body</b>	ASTM A216 Gr.WCB / CF8M
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	PTFE / Nylon
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### MD-67 • 2 PIECES



#### Design Feature

- Reduced Bore
- 3" – 20" (DN80 - DN500)
- API 6FA fire safe design
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 Class 150/300
- ANSI B16.5 Class 150/300 RF

<b>Body</b>	ASTM A216 Gr.WCB / CF8M
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE / Nylon
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### MD-68 • 2 PIECES



#### Design Feature

- Full Bore
- 2" – 16" (DN50 - DN400)
- API 6FA fire safe design
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 Class 150/300
- ANSI B16.5 Class 150/300 RF

<b>Body</b>	ASTM A216 Gr.WCB / CF8M
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE / Nylon
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)



## TRUNNION MOUNTED FORGEING

### MD-63



#### Design Feature

- Reduced Bore
- 3" – 36" (DN80- DN900)
- 3 pcs design
- API 6FA fire safe design
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 Class 150-2500
- ANSI B16.5 Class 150-2500
- ASME B16.47 for 26" & up

<b>Body</b>	ASTM A105 / F316
<b>Ball / Stem</b>	F316 / F316
<b>Seat</b>	PTFE / Nylon
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)

### MD-64



#### Design Feature

- Full Bore
- 2" – 16" (DN50- DN400)
- 3 pcs design
- API 6FA fire safe design
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 Class 150-2500
- ANSI B16.5 Class 150-2500
- ASME B16.47 for 26" & up

<b>Body</b>	ASTM A105 / F316
<b>Ball / Stem</b>	F316 / F316
<b>Seat</b>	PTFE / Nylon
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)



## METAL SEATED BALL VALVES

MD-52Q-150/300

Floating Type

Metal Seated, API 6FA Fire Safe Design



### Design Feature

- Full Bore
- 1/2" – 8" (DN15 - DN200)
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 Class 150/300
- ANSI B16.5 Class 150/300 RF

Body	ASTM A351 Gr.CF8M
Ball / Stem	CF8M + Hard Cr. / SS 316
Seat	SS 316 + Stellite #6
Tightness Rates	$\Delta P$ : ASME / FCI 70-2 Class IV

MD-52QT-150/300

Trunnion Mounted Type

Metal Seated



### Design Feature

- Full Bore
- 4" – 8" (DN100 - DN200)
- Blow-out proof stem
- Anti-static design
- Trunnion mounted type
- ANSI B16.10 Class 150/300
- ANSI B16.5 Class 150/300 RF

Body	ASTM A351 Gr.CF8M
Ball / Stem	CF8M + Hard Cr. / SS 316
Seat	SS 316 + Stellite #6
Tightness Rates	$\Delta P$ : ASME / FCI 70-2 Class IV

MD-54Q-150/300

Trunnion Mounted Type

Metal Seated, API 6FA Fire Safe Design



### Design Feature

- Full Bore
- 2" – 16" (DN50 - DN400)
- Three pieces body design, Trunnion mounted type
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 Class 150/300/600
- ANSI B16.5 Class 150/300/600 RF

Body	ASTM A351 Gr.CF8M
Ball / Stem	CF8M + Hard Cr. / SS 316
Seat	SS 316 + Stellite #6
Tightness Rates	$\Delta P$ : ASME / FCI 70-2 Class IV

V-255Q

API 6FA Fire Safe Design



### Design Feature

- Full Bore
- 1/2" – 2" (DN15 - DN50)
- Blow-out proof stem & anti-static design
- Handle with locking device
- ISO 5211 mounting flange
- End Connections : Threaded End, Socket Weld Butt Weld

### • Design Specifications : ANSI B16.34 Class 600

#### • Working Pressure(CWP) :

1/2" – 1" 2000 psi (DN15 - DN25 PN 140bar)

1-1/4" – 2" 1500 psi (PN 100bar)

Body	ASTM A351 Gr.CF8M (1.4408)
Ball / Stem	CF8M + Hard Cr. / SS 316
Seat	SS 316 + Stellite #6
Tightness Rates	$\Delta P$ : ASME / FCI 70-2 Class IV



## MULTI WAY FLANGED BALL VALVES SIDE ENTRY

### KF-314 • 3 WAYS • L / T PORT



#### Design Feature

- Full Bore
- 1/2" – 6" ( DN15 - DN150)
- Split body , Floating type
- Blow-out proof stem
- Anti-static design
- ISO 5211 direct mounting for 1/2"-3"  
ISO 5211 mounting flange for 4"-6"
- Fact To Face : MFG Standard
- ANSI B16.5 Class 150 RF  
EN 1092-1 PN10/16/25/40 RF  
JIS 2010 10K

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### KF-315 • 4 WAYS • L/T/DOUBLE L PORT



#### Design Feature

- Full Bore
- 1/2" – 6" ( DN15 - DN150)
- Split body , Floating type , Solid ball
- Blow-out proof stem
- Anti-static design
- ISO 5211 direct mounting for 1/2"-3"  
ISO 5211 mounting flange for 4"-6"
- Fact To Face : MFG Standard
- ANSI B16.5 Class 150 RF  
EN 1092-1 PN10/16/25/40 RF  
JIS 2010 10K

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)



## MULTI WAY FLANGED BALL VALVES TOP ENTRY

### KF-307 • 3 WAYS • L / T PORT



#### Design Feature

- Full Bore
- 1-1/2" – 12" ( DN40 - DN300)
- Split body , Trunnion mounted type
- Anti-static design
- ISO 5211 mounting flange
- Fact To Face : MFG Standard
- ANSI B16.5 Class 150 / 300 RF  
EN 1092-1 PN10/16/25/40 RF

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

### KF-308 • 4 WAYS • L/T/DOUBLE L PORT



#### Design Feature

- Full Bore
- 1-1/2" – 8" ( DN40 - DN200)
- Split body , Trunnion mounted type
- Anti-static design
- ISO 5211 mounting flange
- Fact To Face : MFG Standard
- ANSI B16.5 Class 150 / 300 RF  
EN 1092-1 PN10/16/25/40 RF

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356°F (-20 to 180 °C)

ONE PIECE REDUCED PORT

<p><b>ONE PIECE BALL VALVE</b></p> <p>01 <b>Threaded End</b>          02 <b>Blow-out-proof Stem Design</b>          03 Temperature Range : -4 to 356 °F (-20 to 180 °C)          04 BODY : ASTM A351 Gr.CF8M (1.4408)          05 BALL : SS316 / CF8M          06 STEM : SS316          07 SEAT : PTFE</p>	 <p><b>V-83</b> 800 psi (PN40) • 1/4" - 2"</p>	 <p><b>V-103H</b> 800 psi (PN40) • 1/4" - 2"</p>
 <p><b>V-110H</b> 800 psi (PN40) • 1/4" - 2"</p>	 <p><b>V-103P</b> 800 psi (PN40) • 1/4" - 2" Option : Locking device</p>	 <p><b>V-104H</b> 2000 psi (PN140) • 1/4" - 1" 1500 psi (PN100) • 1-1/4" - 2"</p>

TWO PIECES FULL PORT

<p><b>TWO PIECES BALL VALVE</b></p> <p>01 <b>Threaded End</b>          02 <b>Blow-out-proof Stem Design</b>          03 Temperature Range : -4 to 356 °F (-20 to 180 °C)          04 BODY : ASTM A351 Gr.CF8M (1.4408)          05 BALL : CF8M          06 STEM : SS316          07 SEAT : PTFE / RTFE</p>	 <p><b>V-168</b> 1000 psi (PN63) • 1/4" - 2"</p>	 <p><b>V-109 • M3 LENGTH</b> 1000 psi (PN63) • 1/4" - 3"</p>
 <p><b>V-166 • M3 LENGTH</b> 2000 psi (PN140) • 1/4" - 1" 1500 psi (PN100) • 1-1/4" - 2"</p>	 <p><b>V-204</b> 1000 psi (PN63) • 1/4" - 2"</p>	 <p><b>V-106</b> 1000 psi (PN63) • 1/4" - 2", 800 psi (PN40) • 2-1/2" - 3" Option : Locking device</p>

TWO PIECES REDUCED PORT

<p><b>TWO PIECES BALL VALVE</b></p> <p>01 <b>Threaded End</b>          02 <b>Blow-out-proof Stem Design</b>          03 Temperature Range : -4 to 356 °F (-20 to 180 °C)          04 BODY : ASTM A351 Gr.CF8M (1.4408)          05 BALL : CF8M          06 STEM : SS316          07 SEAT : PTFE / RTFE</p>	 <p><b>V-108</b> 2000 psi (PN140) • 1/4" - 1" 1500 psi (PN100) • 1-1/4" - 2"</p>	 <p><b>V-011</b> 800 psi (PN40) • 1/4" - 1"</p>
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## THREE PIECES BALL VALVES

### V-105



#### Design Feature

- Full Bore
- 1/4" – 4" ( DN8 - DN100)
- Blow-out proof stem
- End connections : Threaded end  
Socket Weld end / Butt Weld end  
3A Tube end / Tri-Clamp end
- Options :
  1. Locking device
  2. Face to Face : DIN 3202 M3/S13

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working Pressure</b>	1/4" - 2" 1000 psi (PN63) 2-1/2" - 4" 800 psi (PN40)

### V-105M



#### Design Feature

- Full Bore
- 1/4" – 4" ( DN8 - DN100)
- Blow-out proof stem
- ISO 5211 mounting flange
- Locking handle
- End connections : Threaded end  
Socket Weld end / Butt Weld end
- Options :
  - Face to Face : DIN 3202 M3/S13

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working Pressure</b>	1/4" - 2" 1000 psi (PN63) 2-1/2" - 4" 800 psi (PN40)

### V-105F



#### Design Feature

- Full Bore
- 1/2" – 4" ( DN15 - DN100)
- Blow-out proof stem
- End connections : Flanged
- Face to Face : EN558-1 F1
- Flange dia. :  
EN1092-1 PN40/PN16 RF
- Option : Locking device

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working Pressure</b>	800 psi (PN40)

### V-105W



#### Design Feature

- Full Bore
- 1/2" – 4" ( DN15 - DN100)
- Blow-out proof stem
- End connections :  
Ext. Butt Weld
- Option : Locking device

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working Pressure</b>	1/2" - 2" 1000 psi (PN63) 2-1/2" - 4" 800 psi (PN40)

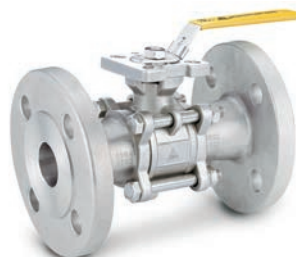
### V-158 SERIES

- Full Bore • Blow-out proof stem • Anti-static design • Direct mounting type • Locking device handle
- Temperature Range : -4 to 356 °F ( -20 to 180 °C)
- BODY **CF8M** • BALL **CF8M** • STEM **SS316** • SEAT **RTFE**
- Working Pressure 1/4" – 2" 1000psi (PN63) 2-1/2" – 4" 800psi (PN40)



V-158

Threaded • Socket Weld • Butt Weld end  
3A Tube end • Tri-Clamp end  
Option - Face to Face : DIN3202 M3/S13



V-158F

Face to Face : EN558-1 F1  
Flanged end PN40 / 16 RF  
Size : 1/2" – 4"



V-158W

Extended Butt Weld end  
Size : 1/2" – 4"



## THREE PIECES BALL VALVES

### V-155



#### Design Feature

- Full port : 1/4" – 2-1/2" (DN8-DN65)
- Reduced port : 3/8" – 2-1/2" (DN10-DN65)
- Blow-out proof stem , Anti-static design
- ISO 5211 mounting flange
- Handle with locking device
- End connection :Thread end, Socket weld, Butt weld end

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>Working Pressure</b>	1/4"- 1" 2000 psi (PN 140 )
	1-1/4" – 2" 1500 psi (PN100 )
	2-1/2" 1000 psi (PN 63)

### V-255



#### Design Feature

- Full port : 1/4" – 2" (DN8-DN50)
- Reduced port : 1/2" – 2-1/2" (DN15-DN65)
- Blow-out proof stem, Anti-static design
- ISO 5211 mounting flange
- Handle with locking device
- End connection :Thread end, Socket weld, Butt weld end

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>Working Pressure</b>	1/4"- 1" 2000 psi ( PN 140 )
	1-1/4"- 2" 1500 psi ( PN100 )

### V-355



#### Design Feature

- Blow-out proof stem, Anti-static design
- Direct mounting type
- End connection :Thread end, Socket weld, Butt weld end
- Handle with locking device

Full Port • 1/4" – 4" (DN8 - DN100)  
Reduced Port • 1/2" – 4" (DN15 - DN100)

<b>Body</b>	ASTM A351 Gr. CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>Working Pressure</b>	1/4"- 1" 2000psi (PN 140)
	1-1/4" – 2" 1500 psi (PN 100)
	2-1/2" – 4" 1000 psi (PN 63 )



## FORGED BALL VALVES

### V-114H



#### Design Feature

- Reduced Bore / 1 PIECE design
- 1/4" - 2" (DN8-DN50)
- Blow-out proof stem
- Design per ANSI B16.34
- End connection : Threaded end

<b>Body / Stem</b>	ASTM A105N
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working Pressure (CWP)</b>	2000 psi (PN140) for 1/4"-1"
	1500 psi (PN100) for 1-1/4"-2"

### V-755



#### Design Feature

- Reduced Bore / 3 PIECES design
- 1/4"-2" (DN 8-DN 50)
- Blow-out-proof stem design
- Forged Steel components
- Four Point ISO 5211 mounting Pad Bolt Circle
- Available carbon and Stainless Steel construction
- End Connection: Threaded, Socket weld, Butt weld

<b>Body</b>	ASTM A105 / F316
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	RTFE (15% glass fiber filled)
<b>Working pressure</b>	1500 psi
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 480 °C)

### V-616



#### Design Feature

- 2 PIECES design
- Blow-out proof stem
- End connection : Threaded end

Full Bore • 1/4" – 3/8" (DN8 - DN10)  
Reduced Bore • 1/2" – 2" (DN15 - DN50)

<b>Body</b>	ASTM A105N
<b>Ball</b>	SS316 / CF8M
<b>Stem / Seat</b>	SS316 / MG241
<b>End Connections</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working Pressure (CWP)</b>	2000 psi (PN140) for 1/4" - 1"
	1500 psi (PN100) for 1-1/4" - 2"

**V-FLOW BALL VALVES**

VF-27



**Design Feature**

- 1/2" – 6" ( DN15 - DN150)
- ISO 5211 Mounting Flange
- Blow-out proof stem
- Anti-static design
- Face to Face : DIN 3202 F1/F4/F5  
ANSI B16.10 CLASS 150/300/600  
JIS B2002
- Flange dia. : EN1092-1 PN10/16/25/40 RF  
ANSI B16.5 CLASS 150/300/600 RF  
JIS 2010 10K/20K

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	50%PTFE + 50%S.S

VF-28



**Design Feature**

- 1/2" – 6" ( DN15 - DN150)
- ISO 5211 Direct Mounting Flange
- Blow-out proof stem
- Anti-static design
- Face to Face : DIN 3202 F1/F4/F5  
ANSI B16.10 CLASS 150/300/600  
JIS 2002
- Flange dia. :  
EN1092-1 PN 1016/25/40 RF  
ANSI B16.5 CLASS 150/300/600 RF  
JIS 2010 10K/20K

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	50%PTFE + 50%S.S

VF-158



**Design Feature**

- 1/4" – 4" ( DN8 - DN100)
- Blow-out proof stem
- Anti-static design
- Direct Mounting Type
- Handle with locking device

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	50%PTFE + 50%S.S.
<b>Working Pressure</b>	1/2" – 2" 1000 psi (PN63)
	2-1/2" – 4" 800 psi (PN40)
<b>End Connections</b>	Threaded end / Socket weld end Butt weld end / Flange PN 16/40 RF

VF-155



**Design Feature**

- 1/4" – 2-1/2" (DN8 - DN65)
- Blow-out proof stem
- Anti-static design
- ISO 5211 Mounting Flange
- Handle with locking device

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	50%PTFE + 50%S.S
<b>Temperature Range</b>	Threaded / Butt weld / Socket weld end
<b>End Connections</b>	1/4" – 1" 2000 psi (PN140)
<b>Working Pressure</b>	1-1/4" – 2" 1500 psi (PN100)
	2-1/2" 1000 psi (PN 63)

VF-355

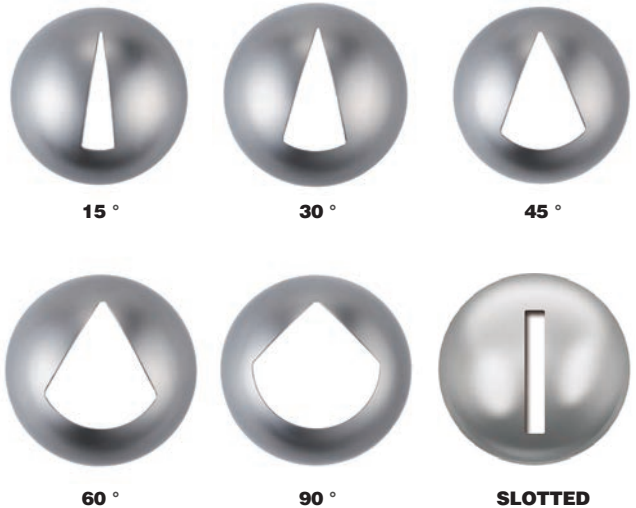


**Design Feature**

- 1/4" – 4" (DN8 - DN100)
- Blow-out proof stem
- Anti-static design
- Direct Mounting Type
- Handle with locking device

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	50%PTFE + 50%S.S
<b>End Connections</b>	Threaded / Butt weld / Socket weld end
<b>Working Pressure</b>	1/4" – 1" 2000 psi (PN140)
	1-1/4" – 2" 1500 psi (PN100)
	2-1/2" – 4" 1000 psi (PN 63)

BALL PORT





## HIGH PRESSURE BALL VALVES

Other materials are available upon request

### HPV-30

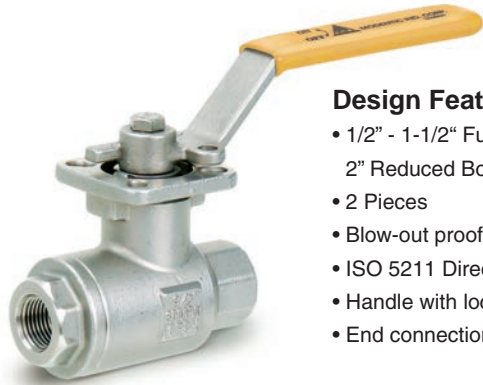


#### Design Feature

- 1/4" - 1-1/2" Full Bore  
2" Reduced Bore
- 2 Pieces body design
- Blow-out proof stem
- ISO 5211 mounting flange
- Handle with locking device
- End connection : Threaded end

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	Derlin / Peek
<b>Temperature Range</b>	-4 to 176 °F (-20 to 80 °C) for Derlin -4 to 500 °F (-20 to 260 °C) for Peek
<b>Working pressure(CWP)</b>	3000 psi (PN210)

### HPV-84

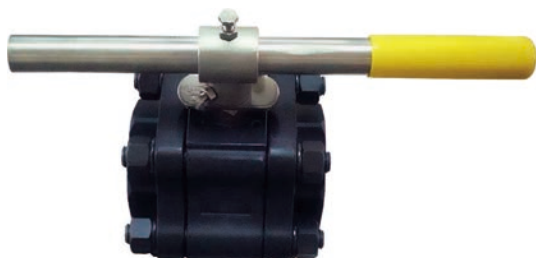


#### Design Feature

- 1/2" - 1-1/2" Full Bore  
2" Reduced Bore
- 2 Pieces
- Blow-out proof stem
- ISO 5211 Direct mounting flange
- Handle with locking device
- End connection : Threaded end

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	Derlin / Peek
<b>Temperature Range</b>	-4 to 176 °F (-20 to 80 °C) for Derlin -4 to 500 °F (-20 to 260 °C) for Peek
<b>Working pressure</b>	3000 psi (PN210)

### V-256



V-256FS • Full Bore • 1/2" – 2" (DN15-DN50)  
V-256FSA • Reduced Bore • 1/2" – 2" ( DN15-DN50 )

### HPV-40 • HPV-41



#### Design Feature

- ISO 5211 mounting flange
- Blow-out proof stem
- Anti-static design
- Bar material body

**HPV-40** 3600 Psi Full Bore • 1/4" – 2" (DN8 - DN50)

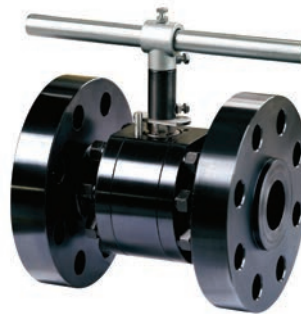
**HPV-41** 6000 Psi Full Bore • 1/4" – 2" (DN8 - DN50)

**HPV-40A** 3600 Psi Reduced Bore • 1/4" – 2" (DN8 - DN50)

**HPV-41A** 6000 Psi • Reduced Bore • 1/4" – 2" (DN8 - DN50)

<b>Body</b>	AISI 1025 / AISI316 (Bar material)
<b>Ball / Stem</b>	CF8M / 17-4PH
<b>Seat</b>	Derlin / Peek
<b>Temperature Range</b>	-4 to 176 °F (-20 to 80 °C) for Derlin -4 to 500 °F (-20 to 260 °C) for Peek
<b>Working pressure(CWP)</b>	HPV-40 3600 psi (PN260) HPV-41 6000 psi (PN420)

### HPV-43



#### Design Feature

- 1/2" - 2"
- Design per ANSI B16.34 Class 1500 / 2500
- ISO 5211 mounting flange
- Blow-out proof stem
- Anti-static design
- ANSI B16.10 class 1500/2500
- ANSI B16.5 class 1500/2500 RTJ

<b>Body</b>	AISI1025 / AISI316 ( bar material )
<b>Ball / Stem</b>	CF8M / 17-4PH
<b>Seat</b>	Delrin / Peek
<b>Temperature Range</b>	-4 to 176°F (-20 to 180 °C) for Delrin -4 to 500°F (-20 to 260 °C) for Peek

#### Design Feature

- ANSI B16.34 Class 900 design
- Blow-out-proof stem
- Anti-static design
- ISO 5211 mounting flange
- End Connection: Threaded, Socket weld, Butt weld

<b>Body</b>	ASTM A216 Gr.WCB / CF8M
<b>Ball / Stem</b>	CF8M / 17-4 PH
<b>Seat</b>	RTFE (15% glass fiber filled)
<b>Working pressure</b>	2220 psi (PN 150)
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)

**MULTI WAY BALL VALVES**

**K-301 3 Way L / T port**



**Design Feature**

- Standard Bore
- 1/4" – 2" (DN8 - DN50)
- Blow-out proof stem
- 2 seats design for L port
- 3 seats design for T port

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>End Connection</b>	Threaded end
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)
<b>Working Pressure</b>	1/4" – 2" 1000 psi (PN 63)

**K-302 3 Way L / T port**



**Design Feature**

- Standard Bore
- 1/4" – 2" (DN8 - DN50)
- Blow-out proof stem
- 3 seats design

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>End Connection</b>	Threaded end
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)
<b>Working Pressure</b>	1/4" – 2" 1000 psi (PN 63)

**K-303 3 Way L / T port**



**Design Feature**

- Standard Bore
- 1/4" – 3" (DN8 - DN80)
- Blow-out proof stem
- 3 seats design
- ISO 5211 mounting flange

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>End Connection</b>	Threaded end
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)
<b>Working Pressure</b>	1/4" – 3" 1000 psi (PN 63)

**K-364 3 Way L / T port**



**Design Feature**

- Full Bore
- 1/4" – 1-1/2" (DN8 - DN40)
- Blow-out proof stem
- 3 seats design
- ISO 5211 mounting flange

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>End Connection</b>	Threaded end
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)
<b>Working Pressure</b>	1/4" – 1-1/2" 1000 psi (PN 63)

**K-318 3 Way L / T port**



**Design Feature**

- Standard Bore
- 1/4" – 2" (DN8 - DN50)
- Blow-out proof stem
- 3 seats design
- ISO 5211 direct mounting to actuator

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	RTFE
<b>End Connection</b>	Threaded end
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)
<b>Working Pressure</b>	1/4" – 2" 1000 psi (PN 63)

**K-338 3 Way L / T port**



**Design Feature**

- Full Bore
- 1/4" – 2" (DN8 - DN50)
- Blow-out proof stem
- 3 seats design
- ISO 5211 direct mounting to actuator

<b>Body</b>	ASTM A351 Gr.CF8M (1.4408)
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>End Connection</b>	Threaded end
<b>Temperature Range</b>	-4 to 356 °F (-20 to 180 °C)
<b>Working Pressure</b>	1/4" – 2" 1000 psi (PN 63)



## MULTI WAY BALL VALVES

### K-306 3 Way L / T port



#### Design Feature

- Standard Bore
- 1/4" – 2" (DN8 - DN50)
- Blow-out proof stem
- 2 seats design
- ISO 5211 mounting flange

Body	ASTM A351 Gr.CF8M (1.4408)
Ball / Stem	CF8M / SS316
Seat	PTFE
End Connection	Threaded end
Temperature Range	-4 to 356 °F (-20 to 180 °C)
Working Pressure	1/4" – 2" 1000 psi (PN 63)

### K-314 3 Way L / T port

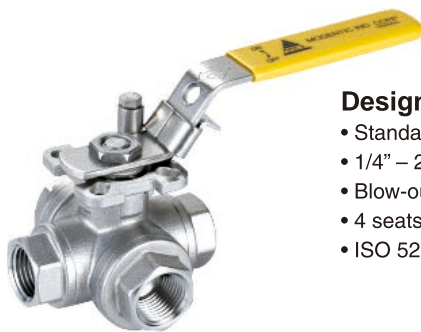


#### Design Feature

- Full Bore
- 1/2" – 3" (DN8 - DN80)
- Blow-out proof stem
- 4 seats design
- ISO 5211 direct mounting to actuator

Body	ASTM A351 Gr.CF8M (1.4408)
Ball / Stem	CF8M / SS316
Seat	RTFE
End Connection	Threaded end / Butt welding / Socket welding
Temperature Range	-4 to 356 °F (-20 to 180 °C)
Working Pressure	1/2" – 3" 1000 psi (PN 63)

### K-434 4 Way L / T / X port



#### Design Feature

- Standard Bore
- 1/4" – 2" (DN8 - DN50)
- Blow-out proof stem
- 4 seats design
- ISO 5211 mounting flange

Body	ASTM A351 Gr.CF8M (1.4408)
Ball / Stem	CF8M / SS316
Seat	PTFE
End Connection	Threaded end
Temperature Range	-4 to 356 °F (-20 to 180 °C)
Working Pressure	1/4" – 2" 1000 psi (PN 63)

### K-435 4 Way L / T / X port

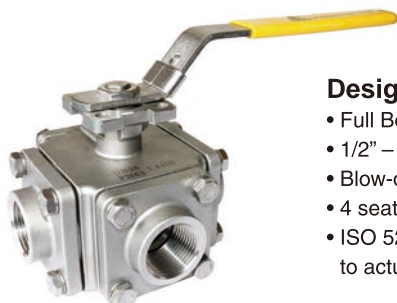


#### Design Feature

- Full Bore
- 1/4" – 1-1/2" (DN8 - DN40)
- Blow-out proof stem
- 4 seats design
- ISO 5211 direct mounting to actuator

Body	ASTM A351 Gr.CF8M (1.4408)
Ball / Stem	CF8M / SS316
Seat	RTFE
End Connection	Threaded end / Butt welding / Socket welding
Temperature Range	-4 to 356 °F (-20 to 180 °C)
Working Pressure	1/4" – 1-1/2" 1000 psi (PN 63)

### K-315 4 Way L / T / X port



#### Design Feature

- Full Bore
- 1/2" – 3" (DN15 - DN80)
- Blow-out proof stem
- 4 seats design
- ISO 5211 direct mounting to actuator

Body	ASTM A351 Gr.CF8M (1.4408)
Ball / Stem	CF8M / SS316
Seat	RTFE
End Connection	Threaded end / Butt welding / Socket welding
Temperature Range	-4 to 356 °F (-20 to 180 °C)
Working Pressure	1/4" – 3" 1000 psi (PN 63)

### K-316 5 Way LL / LT / TL port



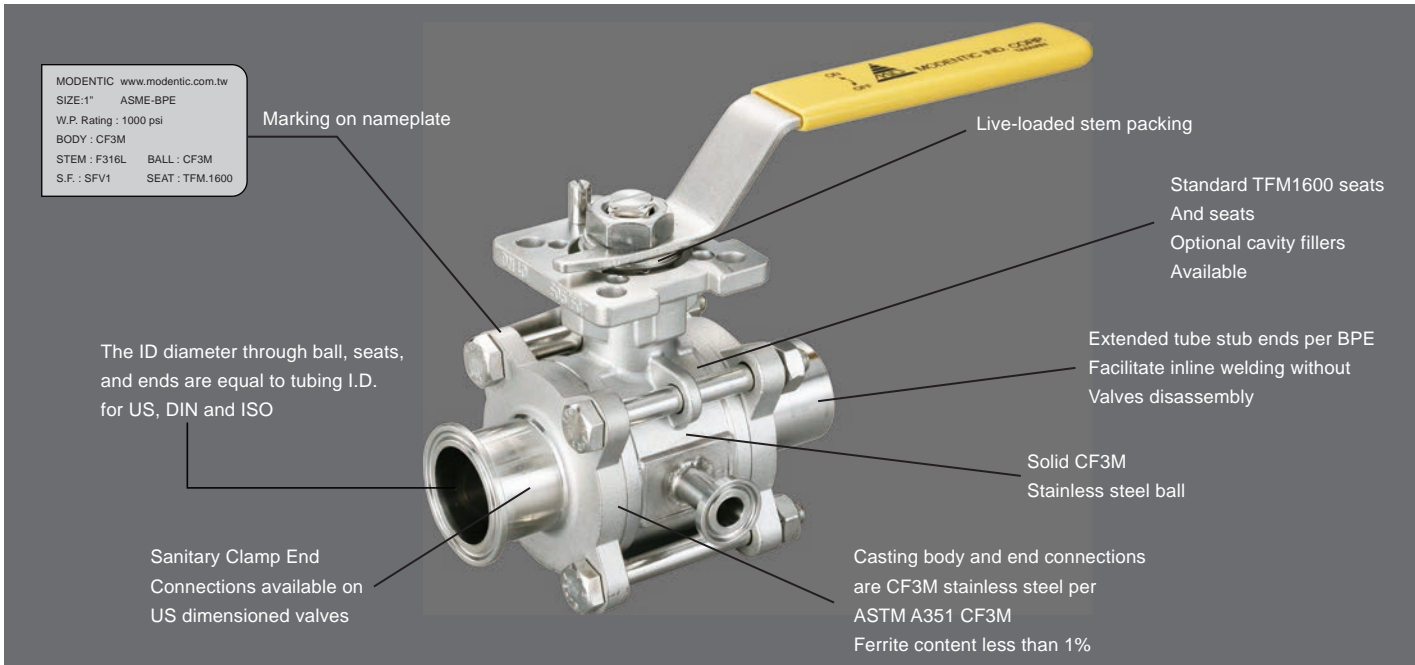
#### Design Feature

- Full Bore
- 1/4" – 4" (DN8 - DN100)
- Blow-out proof stem
- 5 seats design
- ISO 5211 direct mounting to actuator

Body	ASTM A351 Gr.CF8M (1.4408)
Ball / Stem	CF8M / SS316
Seat	RTFE
End Connection	Threaded end / Butt welding / Socket welding
Temperature Range	-4 to 356 °F (-20 to 180 °C)
Working Pressure	1/4" – 4" 1000 psi (PN 63)



## We Offer Both Cast Ball Valves & Forged Ball Valves.



### Metallic Materials of construction

Available in both forged and cast pieces of stainless steel, all wetted metallic surfaces of clean ball valves are constructed from stainless steel, which are capable of withstanding the temperature, pressure, and chemical corrosiveness assuring the purity and integrity of the products. In addition to SS316L and CF3M; higher grade materials are available upon request, such as AL-6XN, Nickel Alloys, Stainless steel Duplex.

### • Low Ferrite content

Because ferrite in process piping promotes roughing, especially in the weld, so users should always choose the equipment with low ferrite, Modentic controls ferrite <1% for SS316L forged valves; and ferrite <3% for CF3M cast valves.

### • Tube connection feature to facilitate automatic orbital welding

- ◆ ASME BPE compliant extended tube so that welding can be performed without valve disassembled, tangent lengths furnished to standard ASME/BPE table DT-4.
- ◆ Sulfur content on tube ends 0.005%~.0.017% to ensure consistent weldability. Chemical composition for automatic weld end furnished to ASME BPE-Part DT-3.

### • Hygienic Clamp end in accordance with US dimensions

### • Tube bore design

To minimize the pressure drops and to facilitate the drainability, the concept of uninterrupted flow tube bore feature is designed throughout the flow path tube bore feature is designed throughout the flow path including ball, seats and end connections.

### • Seat & Seals

All nonmetallic material chosen are FDA 21 CFR 177/USP23 Class VI compliant-ASME/BPE SD-3.4.2; Design according to SD-3.6.1, SG-4.1.1.6, SG-4.1.1.8

**\* Cavity filler seats are available upon request (not recommended for steam service)**

### • Surface Finish

This is one of the major characteristic addressed to high purity equipment. ASME/BPE provide criteria of product contact surface finished for bioprocessing equipment the standard internal surface finish for Modentic high purity ball valves are mechanical polished to Ra20(0.5um), ASME/BPE SFV1; finer grade of surface treatment can be accomplished by electro-polished to achieve SF4 Ra15(0.38µm).

The reading of the surface finish will be always a major report in our MTR.

### • Temperature rating : -40°C~180°C (-40°F~356°F)

**• Pressure rating:**

- ◆ 1/2”~2” 1000psi PN63
- ◆ 2-1/2”~4”720psi PN40
- ◆ Steams puressure of 150 psig at 350°F

**• Purge port (Upon the users' request)**

For C.I.P. or S.I.P. application, valves have body and end piece bosses for ports.

**Purge port type and size are provided as per following**

- ◆ Valve size 1-1/2” and less 1/4” female compression fitting
- ◆ Valve size 2” and upper 1/2” female compression fitting

**• ISO 5211 Intergral Actuator Mounting pad design**

**• Packing**

Modentic high purity ball valves are finally tested and packed in a clean environment. Each valves is protected with end caps, and sealed in a transparent plastic bag.

**Benefits of forged valves**

- ◆ Lower Porosity and smoother Surfaces that can reduce surface contamination
- ◆ Stronger corrosion resistance

**Benefits of cast valves**

- ◆ Lower cost
- ◆ Small batches of production acceptable

**Automation Ball Valves**

Modentic helps you to mount automation devices for your ball valves, include actuators, limit switch box; positioner.....for the need specific to the application.

**•) Table Sf-5 Acceptance Criteria For Interior Surface Finishes of Valve Bodies**

Anomaly of Indication	Acceptance Criteria
<b>Cluster of pits</b>	No more than 4 pits per each 1/2 in.x 1/2in. Inspection window. The cumulative total of all relevant pits shall not exceed 0.040in.
<b>Demarcation</b>	If <5% of the total area when visually inspected and Ra max. is met.
<b>Dents</b>	None accepted.
<b>Grit lines</b>	If Ra max. is met.
<b>Nicks</b>	If depth <0.010 in.
<b>Pits</b>	If diameter <0.020 in. and bottom is shiny. Pits <0.003 in. diameter are irrelevant and acceptable.
<b>Porosity</b>	If diameter <0.010 in. and bottom is shiny.
<b>Scratched</b>	If lenth <0.25in., depth<0.003in., and Ra max. is met.
<b>Surface cracks</b>	None accepted.
<b>Surface inclusions</b>	If Ra max. is met and there is no liquid penetrant indication.
<b>Surface residuals</b>	None accepted, visual inspection.
<b>Surface roughness (Ra)</b>	See Table SF-6.
<b>Weld slag</b>	None accepted.

**Adupted from ASME/BPE-2005**

**•) Table Sf-6 RA Reading for Valves**

Mechanically Polished [Note (1)]		
Surface Designation ASME BPE	Ra, Max.	
	μ-in.	μm
SF1	20	0.51
SF2	25	0.64
SF3	30	0.76
Mechanically Polished and Electropolished		
Surface Designation ASME BPE	Ra, Max.	
	μ-in.	μm
SF4	15	0.38
SF5	20	0.51
SF6	25	0.64

**GENERAL NOTES:**

- (a) All Ra reading are taken across the lay, wherever possible.
- (b) No Single Ra reading shall exceed the Ra max. value in this table.
- (c) Other Ra reading are avaiable if agreed upon between owner/suer and manufacturer, not to exceed values in this table.

**NOTE:**

(1) Or any other finishing methos that meets the Ra max.

**Adupted from ASME/BPE-2005**

**•) Surface Roughness for Grit Finishes(Ra.)**

Abrasive grit No.	μ-in.	μm
500	4 to 10	0.10 to 0.25
320	6 to 15	0.15 to 0.38
240	8 to 20	0.20 to 0.51
180	25 max	0.64 max
120	45 max	1.14 max
60	140 max	3.56 max

**GRIT:**

Measure the number of scarches per liner inch of abrasive pad. Higher numbers indicate a smoother finish.

RMS: Defined as Root Mean Square roughness, this method measure a smple for peaks and valleys. Lower number indicate a smoother finish.

Ra:Know as the Arithmetic Mean, this measurement represents the average value of all peaks and valleys. Lower numbers indicate a smooth finish.



## BAR / FORGED SS316L

### MD-955EB / TC



#### Design Feature

- Tube Bore
- 1/2" – 2" (DN15 - DN50)
- Blow-out proof stem
- Design per ANSI B16.34 / BPE
- ISO 5211 mounting flange
- End connections : Clamp end  
BPE / ISO / DIN Ext. Tube end
- Working pressure : 1500 psi

Body	ANSI 316L
Ball / Stem	CF3M / SS 316L
Seat	TFM1600
Temperature Range	-40 to 356 °F ( -40 to 180 °C)

### MD-938 • MD-968



#### Design Feature

- Tube Bore
- 1/2" – 2" (DN15 - DN50)
- Blow-out proof stem
- Design per ANSI B16.34 / BPE
- ISO 5211 mounting flange
- End connections :  
BPE / ISO / DIN Ext. Tube end
- Working pressure : 1500 psi

Body	ANSI 316L
Ball / Stem	CF3M / SS316L
Seat	TFM1600
Temperature Range	-40 to 356 °F ( -40 to 180 °C)

### MD-918EB / TC



#### Design Feature

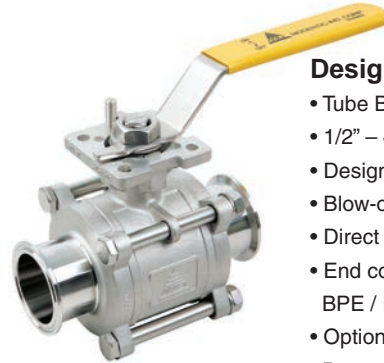
- Tube Bore
- 1/2" – 2" (DN15 - DN50)
- Blow-out proof stem
- Design per ANSI B16.34 / BPE
- End connections : Clamp end  
BPE / ISO / DIN Ext. Tube end

Body	ASTM A182 Gr. F316L
Ball / Stem	CF3M / SS316L
Seat	TFM1600
Temperature Range	-40 to 356 °F (-40 to 180 °C)
Working Pressure	1000 psi



## CAST CF3M With Ferrite content less than 3% sulfur content 0.005-0.017%

### MD-928EB / TC



#### Design Feature

- Tube Bore
- 1/2" – 4" ( DN15 - DN100)
- Design per ANSI B16.34 / BPE
- Blow-out proof stem
- Direct mounting
- End connections : Clamp end  
BPE / ISO / DIN Ext. Tube end
- Option : Cavity seat, Extended stem  
Purge port

Body	ASTM A351 Gr.CF3M
Ball / Stem	ASTM A351 Gr.CF3M / SS316L
Seat	TFM1600
Temperature Range	-40 to 356 °F ( -40 to 180 °C)
Working Pressure	1000 psi for 1/2" - 2" 720 psi for 2-1/2" - 4"

### V-255EB / TC



#### Design Feature

- Tube Bore
- 1/2" – 2" ( DN15 - DN50)
- Design per ANSI B16.34 / BPE
- Blow-out proof stem
- ISO mounting flange
- End connections : Clamp end/  
BPE / ISO / DIN Ext. Tube end
- Option : Cavity seat, Extended stem,  
Purge port

Body	ASTM A351 Gr.CF3M
Ball / Stem	ASTM A351 Gr.CF3M / SS316L
Seat	TFM1600
Temperature Range	-40 to 356 °F ( -40 to 180 °C)
Working Pressure	1000 psi for 1/2" - 2"

### K-384EB / TC



#### Design Feature

- Tube Bore, L / T port
- 1/2" – 3" ( DN15 - DN80)
- Design per ANSI B16.34 / BPE
- Blow-out proof stem
- Direct mounting
- End connections : Clamp end/  
BPE / ISO / DIN Ext. Tube end

Body	ASTM A351 Gr.CF3M
Ball / Stem	ASTM A351 Gr.CF3M / SS316L
Seat	TFM1600
Temperature Range	-40 to 356 °F ( -40 to 180 °C)
Working Pressure	1000 psi for 1/2" - 1" 720 psi for 1-1/2" - 3"



# SANITARY BALL VALVES

## V-Z05EB / TC



Option : Locking device, Cavity filler seat

## V-Z05MEB / TC



ISO 5211 mounting flange

Option : Cavity filler seat

## V-Z58EB / TC



ISO 5211 direct mounting

Option : Cavity filler seat

### Design Feature

- Tube Bore
- 1/2" – 4" (DN15 - DN100)
- Blow-out proof stem
- End connection : Clamp end, 3A Tube end, DIN 11850 Tube end

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS 316
<b>Seat</b>	TFM1600
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working pressure</b>	1000 psi ( PN 63 ) 1/2" – 2" 800 psi ( PN 40 ) 2"-1/2" – 4"

## K-338TC



### Design Feature

- Tube Bore, 3 way L / T port
- 1/2" – 2" ( DN15 - DN50)
- Blow-out proof stem
- Direct mounting type
- End connection : Clamp end
- Option : Cavity filler seat

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working pressure</b>	720 psi ( PN 40 )

## K-364TC



### Design Feature

- Tube Bore, 3 way L / T port
- 1/2" – 2" ( DN15 - DN50)
- Blow-out proof stem
- ISO 5211 mounting type
- End connection : Clamp end
- Option : Cavity filler seat

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working pressure</b>	720 psi ( PN 40 )

## K-Z04EB / TC



### Design Feature

- Tube Bore, 3/4 way L / T port
- 1/2" – 4" ( DN15 - DN100)
- Direct mounting type
- ISO 5211 mounting flange type
- End connection : Clamp end, 3A Tube end
- Option : Cavity filler seat

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working pressure</b>	720 psi ( PN 40 )

## K-434TC



### Design Feature

- Tube Bore, 4 way L / T port
- 1/2" – 2" ( DN15 - DN50)
- Blow-out proof stem
- ISO 5211 direct mounting
- End connection : Clamp end
- Option : Cavity filler seat

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Ball / Stem</b>	CF8M / SS316
<b>Seat</b>	PTFE
<b>Temperature Range</b>	-4 to 356 °F ( -20 to 180 °C)
<b>Working pressure</b>	720 psi ( PN 40 )



# API 602 FORGED GATE • GLOBE • CHECK VALVES

Other materials are available upon request

**FGT-800 / 1500 • BOLTED BONNET**  
**PGT-1500 / 2500 • PRESSURE SEAL**



### Design Feature

- Forged Gate valve
- 1/2" – 2" (DN15 - DN50)
- Rising stem, non rising handwheel
- O.S. & Yoke, solid wedge
- Reduced port
- ASME B16.34 Class 800/1500/2500
- Option :
- 1. Welded bonnet type for class 800/1500
- 2. Full port

<b>Body</b>	ASTM A105N
<b>Disc / Stem</b>	ASTM A182 F6 / ASTM A276 410
<b>End connections</b>	Socket weld, NPT thread, Butt weld end

**FGTF-150 / 300 / 600 • BOLTED BONNET**  
**PGTF-1500 / 2500 • PRESSURE SEAL**



### Design Feature

- Forged Gate valve
- 1/2" – 2" (DN15 - DN50)
- Rising stem, non rising handwheel
- O.S. & Yoke, solid wedge
- Integral flange design
- Reduced port
- Option :
- 1. Welded bonnet type for class 150/300/600
- 2. Full port

<b>Body</b>	ASTM A105N
<b>Disc / Stem</b>	ASTM A182 F6 / ASTM A276 410
<b>Face to Face</b>	ASME B16.10 Class 150/300/600 RF
<b>Flange Dia.</b>	ASME B16.5 Class 150/300/600 RF

**FGB-800 / 1500 • BOLTED BONNET**  
**PGB-1500 / 2500 • PRESSURE SEAL**



### Design Feature

- Forged Globe valve
- 1/2" – 2" (DN15 - DN50)
- Rising stem, rising handwheel
- O.S. & Yoke, Plug disc
- Reduced port
- ASME B16.34 Class 800/1500/2500
- Option :
- 1. Welded bonnet type for class 800/1500
- 2. Full port

<b>Body</b>	ASTM A105N
<b>Disc / Stem</b>	ASTM A182 F6 / ASTM A276 410
<b>End connections</b>	Socket weld, NPT thread, Butt weld end

**FGBF-150 / 300 / 600 • BOLTED BONNET**  
**PGBF-1500 / 2500 • PRESSURE SEAL**



### Design Feature

- Forged Globe valve
- 1/2" – 2" (DN15 - DN50)
- Rising stem, rising handwheel
- O.S. & Yoke, Plug disc
- Integral flange design
- Reduced port
- Option :
- 1. Welded bonnet type for class 150/300/600
- 2. Full port

<b>Body</b>	ASTM A105N
<b>Disc / Stem</b>	ASTM A182 F6 / ASTM A276 410
<b>Face to Face</b>	ASME B16.10 Class 150/300/600 RF
<b>Flange Dia.</b>	ASME B16.5 Class 150/300/600 RF

**FPC-800 / 1500 • BOLTED BONNET**  
**PPC-1500 / 2500 • PRESSURE SEAL**



### Design Feature

- Forged Check valve
- 1/2" – 2" (DN15 - DN50)
- Piston type
- Reduced port
- ASME B16.34 Class 800/1500/2500
- Option :
- 1. Welded bonnet type for class 800/1500
- 2. Swing type (FSC- 800 / 1500)
- 3. Full port

<b>Body</b>	ASTM A105N
<b>Disc</b>	ASTM A182 F6
<b>End connections</b>	Socket weld, NPT thread, Butt weld end

**FPCF-150 / 300 / 600 • BOLTED BONNET**  
**PPCF-1500 / 2500 • PRESSURE SEAL**



### Design Feature

- Forged Check valve
- 1/2" – 2" (DN15 - DN50)
- Piston type
- Integral flange design
- Reduced port
- Option :
- 1. Welded bonnet type
- 2. Swing type (FSF- 800 / 1500)
- 3. Full port

<b>Body</b>	ASTM A105N
<b>Disc</b>	ASTM A182 F6
<b>Face to Face</b>	ASME B16.10 Class 150/300/600 RF
<b>Flange Dia.</b>	ASME B16.5 Class 150/300/600 RF



## API 600 / API 603 FLANGED GATE • GLOBE • CHECK VALVES

Other materials are available upon request

### GTF-150 / 300 / 600 / 900 / 1500 / 2500



#### Design Feature

- Design per API 600
- 2" – 48" (DN50 - DN1200)
- Rising stem, non rising handwheel
- O.S. & Yoke, flexible wedge
- Bolted bonnet design

<b>Body / Stem</b>	ASTM A216 Gr.WCB / A182 Gr.F6
<b>Disc</b>	ASTM A216 Gr.WCB + 13% Cr. coated
<b>Face to Face</b>	ASME B16.10 Class 150/300/600/900/1500/2500
<b>Flange Dia.</b>	ASME B16.5 Class 150/300/600/900/1500/2500

### GTF-150 / 300 / PN / JIS



#### Design Feature

- Design per API 603
- 1/2" – 24" (DN15 - DN600)
- Rising stem, non rising handwheel
- O.S. & Yoke, flexible wedge, integral seats
- Bolted bonnet design

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Disc / Stem</b>	ASTM A351 Gr.CF8M / A182 Gr.F316
<b>Face to Face</b>	ASME B16.10 Class 150/300 / EN558-1 F1/F4/F5
<b>Flange Dia.</b>	ASME B16.5 Class 150/300 RF EN1092-1 PN 10/16/25/40/ JIS10K

### GBF-150 / 300 / 600 / 900 / 1500 / 2500



#### Design Feature

- Design per ANSI B16.34 / BS1873 / API600
- 2" – 24" (DN50 - DN600)
- Rising stem, rising handwheel
- O.S. & Yoke, flexible wedge
- Bolted bonnet design

<b>Body / Stem</b>	ASTM A216 Gr.WCB / A182 Gr.F6
<b>Disc</b>	ASTM A216 Gr.WCB + 13% Cr. coated
<b>Face to Face</b>	ASME B16.10 Class 150/300/600/900/1500/2500
<b>Flange Dia.</b>	ASME B16.5 Class 150/300/600/900/1500/2500

### GBF-150 / 300 / PN / JIS



#### Design Feature

- Design per ANSI B16.34 / BS1873 / API603
- 1/2" – 14" (DN15 - DN350)
- Rising stem, rising handwheel
- O.S. & Yoke, flexible wedge, Conical seat design
- Bolted bonnet design

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Disc / Stem</b>	ASTM A351 Gr.CF8M / A182 Gr.F316
<b>Face to Face</b>	ASME B16.10 Class 150/300 / EN558-1 F1/F4/F5
<b>Flange Dia.</b>	ASME B16.5 Class 150/300 RF EN1092-1 PN 10/16/25/40/ JIS10K

### SF-150 / 300 / 600 / 900 / 1500 / 2500



#### Design Feature

- Design per API 600
- 2" – 36" (DN50 - DN900)
- Swing type
- Bolted bonnet design

<b>Body</b>	ASTM A216 Gr.WCB
<b>Disc</b>	ASTM A216 Gr.WCB + 13% Cr. coated
<b>Face to Face</b>	ASME B16.10 Class 150/300/600/900/1500/2500
<b>Flange Dia.</b>	ASME B16.5 Class 150/300/600/900/1500/2500

### SF-150 / 300 / PN / JIS



#### Design Feature

- Design per ANSI B16.34 / BS1868 / API603
- 1/2" – 14" (DN15 - DN350)
- Swing type
- Conical seat design
- Bolted bonnet design

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Disc</b>	ASTM A351 Gr.CF8M
<b>Face to Face</b>	ASME B16.10 Class 150/300 / EN558-1 F1/F4/F5
<b>Flange Dia.</b>	ASME B16.5 Class 150/300 RF EN1092-1 PN 10/16/25/40/ JIS10K



## CHECK VALVES AND FLANGED STRAINERS

### MV-1220



#### Design Feature

- Design per API 594
- 1-1/2" – 60" (DN40 - DN1500)
- Wafer type Dual plate

- Flange dia. : ASME B16.5, ISO 7005 / BS10-Table A/D/E/F
- JIS B2338 / API 605

<b>Body</b>	Cast / Ductile Iron
	Stainless / Carbon Steel
<b>Plate</b>	SS316 / SS304 / WCB
<b>Seat</b>	NBR / EPDM / Viton / Metal
<b>Pressure Rating</b>	ASME B16.5 Class 150/300/600/900/1500/2500
	EN1092-1 PN 10/16/25/40
	JIS 5K/10K/20K

### MV-1222



#### Design Feature

- 2" – 24" (DN50 - DN600)
- Wafer type Swing Check Valves

<b>Body</b>	Carbon / Stainless Steel
<b>Plate</b>	SS316 / SS304
<b>Seat</b>	NBR / EPDM / Viton / PTFE / Metal
<b>Flange Dia.</b>	Class 150 / 300 / PN 10 / 16 / 25 / 40

### MV-1225

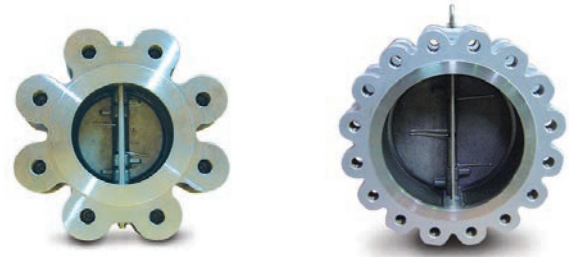


#### Design Feature

- 2" – 24" (DN50 - DN600)
- Wafer type Check Valves

<b>Body</b>	Carbon / Stainless Steel
<b>Plate</b>	SS316 / SS304
<b>Seat</b>	NBR / EPDM / Viton / PTFE / Metal
<b>Pressure rating</b>	Class 150/300/600/900
	PN 10/16/25/40
	JIS 5K/10K/20K

### MV-1221



#### Design Feature

- Design per API 594
- 1-1/2" – 24" (DN40 - DN600)
- Lug type Dual plate

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Plate</b>	ASTM A351 Gr.CF8M / A182 Gr.F316
<b>Flange Dia.</b>	ASME B16.5 Class 150/300/600 RF
	EN1092-1 PN 10/16/25/40
	JIS 5K/10K/20K

### WA-001



#### Design Feature

- 1/2" – 8" (DN15 - DN200)
- Wafer type Spring Check Valves

<b>Body</b>	EN 1.4408
<b>Disc / Spring</b>	EN 1.4408 / SS316
<b>Face to Face</b>	DIN 3202 K4
<b>Pressure rating</b>	PN 40 for DN15-DN100
	PN 25 for DN125-DN150

### FLANGED STRAINER YF-150 / 300 / PN / JIS



#### Design Feature

- 1/2" – 16" (DN15 - DN400)
- Y type Strainer

<b>Body</b>	ASTM A351 Gr.CF8M
<b>Screen</b>	SS304
<b>Face to Face</b>	MFG. Standard
<b>Flange Dia.</b>	B 16.5 Class 150 / 300 RF
	EN1092-1 PN 10/16/25/40 RF
	JIS 10K



## SUPER ALLOY VALVES MATERIAL LIST

Other metal materials other than the above listed can be offered upon request

### Material Conversation Chart

Material code	Nominal	Casting			Bar or forged		
	Designation	ASTM	DIN	UNS	ASTM	DIN	UNS
<b>Austenitic Stainless Steel</b>							
SS304	18Cr-8Ni	A351 CF8	1.4308	J92600	A276 304	1.4301	S30400
SS304L	18Cr-8Ni-LC	A351 CF3	1.4306	J92500	A276 304L	1.4306	S30403
SS316	18Cr-9Ni-2Mo	A351 CF8M	1.4408	J92900	A276 316	1.4401	S31600
SS316L	18Cr-9Ni-2Mo-C<0.03%	A351 CF3M	1.4404	J92800	A276 316L	1.4404	S31603
SS317	18Cr-12Ni-3.5Mo	A351 CG8M		J93000	A276 317	1.4449	S31700
SS317L	18Cr-12Ni-3.5Mo-C<0.03%	A351 CG3M		J92999	A276 317L	1.4438	S31703
SS347	18Cr-10Ni-Nb	A351 CF8C	1.4552	J92710	A276 347	1.4550	S34700
904L	19Cr-23Ni-4.0Mo				AISI 904L	1.4539	N08904
Alloy 20	29Ni-20.5Cr-3.5Cu-2.5Mo	A351 CN7M	1.4536	J95150	B473	2.466	N08020
<b>Super Austenitic Stainless Steel</b>							
254Mo	20Cr-18Ni-6.5Mo-N-Cu	A351 CK3MCuN	1.4547	J93254	A276		S31254
<b>Nickel based Alloy</b>							
Nickel CZ100	97Ni	A494 CZ-100	2.4066	N02100			
Monel 400	67Ni-30Cu	A494 M-35-1	2.4365	N24135	B164	2.4360	N04400
Hastelloy B	67Ni-28Mo-5Fe	A494 N-12MV	2.4882	N30012	B335	2.4819	N10001
Hastelloy B2	67Ni-30Mo-1Fe	A494 N-7M	2.4617		B335	2.4856	N10665
Hastelloy C	58Ni-16Cr-16Mo-6Fe-4W	A494 CW12MW	2.4686	N30002	B574	2.4819	N10002
Hastelloy C276	64Ni-18Cr-18Mo	A494 CW6M	2.4819	N30107	B574	1.7752	N10276
Hastelloy C22	58Ni-21Cr-14Mo-4Fe-3W	A494 CX2MW	9.4602	N26022	B574	2.4602	N06022
Inconel 600	78Ni-15Cr-5Fe	A494 CY-40	2.4816	N06040	B166	2.4817	N06600
Inconel 625	65Ni-22Cr-9Mo-3.5Nb	A494 CW6MC	2.4856	N26625	B446	2.4856	N06625
<b>Duplex Stainless Steel</b>							
1A	25Cr-5Ni-Mo-Cu	A890 CD4Mu	1.4507	J93370	A790 31260		S31260
1B	25Cr-5Ni-Mo-Cu-N	A890/995CD4MCuN	1.4507	J93372	A790 31260		
2A	24Cr-10Ni-Mo-N	A995 CE8MN		J93345			
2205/4A	22Cr-5Ni-Mo-N	A890/995 CD3MN	1.4462	J92205	A790 31803	1.4462	S31803
<b>Super Duplex Stainless Steel</b>							
2507/ 5A	25Cr-7Ni-4Mo-N	A890/995 CE3MN		J93404	A479 32750	1.4410	S32750
Z100/ 6A	25Cr-7Ni-3Mo-Cu-N-W	A890/995 CD3MWCuN	1.4468	J93380	A479 32760	1.4460	S32760
Ferrallium 255/1C	25Cr-6Ni-Mo-Cu-N	A890 CD3MCuN		J93373	A479 39277		S39277
329	25Cr-7Ni-3Mo-N		1.4507		A479 32760	1.4460	S32900
<b>Titanium</b>							
Grade 2		B367 C2			B348 C2		
Grade 5	6Al-4V	B367 C5			B348 C5		

 **SUPER ALLOY VALVES**

**CASTING BALL VALVES**



V-006



V-255



MD-82



MD-54

**BAR MATERIAL BALL VALVES**



VS-06



HPV-40/41



HPV-43

**API 600 / API 603 Design Gate • Globe • Check Valves**



Gate Valve  
GTF



Globe Valve  
GBF



Check Valve  
SF

**OTHERS**



Check Valve  
MV-1220  
Wafer Type



Check Valve  
MV-1221  
Lug Type



Needle Valve  
NV-0060  
NV-0061



## SCREWED END GATE • GLOBE • CHECK • NEEDLE VALVES AND STRAINERS

### GATE VALVES GT-200



#### Design Feature

- 1/2" – 2" (DN15 - DN50)
- Non-Rising stem, solid disc

Body / Disc	ASTM A351 Gr.CF8M (EN1.4408)
Packing	PTFE
Working Pressure	200 PSI / PN16
End Connection	Threaded end

### GLOBE VALVES GB-200



#### Design Feature

- 1/4" – 2" (DN8 - DN50)
- Rising stem, solid disc

Body / Disc	ASTM A351 Gr.CF8M (EN1.4408)
Packing	PTFE
Working Pressure	200 PSI / PN16
End Connection	Threaded end

### STRAINERS YS-800



#### Design Feature

- 1/4" – 3" (DN8 - DN80)
- Y-type Strainer

Body	ASTM A351 Gr.CF8M (EN1.4408)
Screen / Packing	SS316 / PTFE
Working Pressure	800 PSI / PN40
End Connection	Threaded end

### GLOBE YGB-800



#### Design Feature

- 1/4" – 3" (DN8 - DN80)
- Rising stem, solid disc

Body / Disc	ASTM A351 Gr.CF8M (EN1.4408)
Packing	PTFE
Working Pressure	800 PSI / PN40
End Connection	Threaded end

### CHECK VALVES SC-200



#### Design Feature

- 1/4" – 3" (DN8 - DN80)
- Swing type

Body / Disc	ASTM A351 Gr.CF8M (EN1.4408)
Body seal	PTFE
Working Pressure	200 PSI / PN16
End Connection	Threaded end

### CHECK VALVES YSP-800



#### Design Feature

- 1/4" – 2" (DN8 - DN50)
- Y type Spring type

Body / Disc	ASTM A351 Gr.CF8M (EN1.4408)
Spring	SS316
Working Pressure	800 PSI / PN40
End Connection	Threaded end

### CHECK VALVES WA-002



#### Design Feature

- 1/4" – 4" (DN8 - DN100)
- 3 pieces
- Spring type

Body / Disc	ASTM A351 Gr.CF8M (EN1.4408)
Body seal	PTFE
Working Pressure	800 PSI / PN40
End Connection	Threaded end, Socket weld, Butt weld end

### NEEDLE VALVES



NV-0060

NV-0061

NV-0062

NV-0063

- NV-0060 NV-0062 Female X Female screwed end

- NV-0061 NV-0063 Male X Female screwed end

- 1/8" ~1" (DN8 ~ DN25)

- CWP : 6000 psi

- Body : SS 316 ( Investment casting )



# PNEUMATIC ACTUATED VALVES

### Limit Switch Box

- LSB 100 Weather Proof
- LSB 300 Extension Proof
- LSB 500 Special Material Housing

### Air Filter

- AFC 1500/1000 series
- BFC 2000/3000/4000 series

### Positioner

- PPL / PPR Pneumatic-Pneumatic
- EPL / EER Electro-Pneumatic

### Solenoid Valve

- 4V-310 5/2 way for Spring return
- 3V-310 3/2 way for Double acting

### Actuator

- Double Acting
- Spring Return

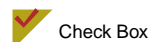
## Available Range

- Screwed Ball Valve 1/4" - 4"
- Flanged Ball Valve 1/2" - 12"
- Multi-way Ball Valve 1/2" - 8"
- Butterfly Valve 1-1/2" - 16"



### GUIDE TO SEND US YOUR INQUIRY

WORKING CONDITIONS		OPERATION	ACCESSORRIE AND THEIR SPEC	
Working Temperature __°C	Working Pressure __Psi	Double Acting	Limit Switch Box	Positioner
Air supply to the actuator __Psi	Medium Sticky or not	Spring Return	Solenoid Valves	Air Filter



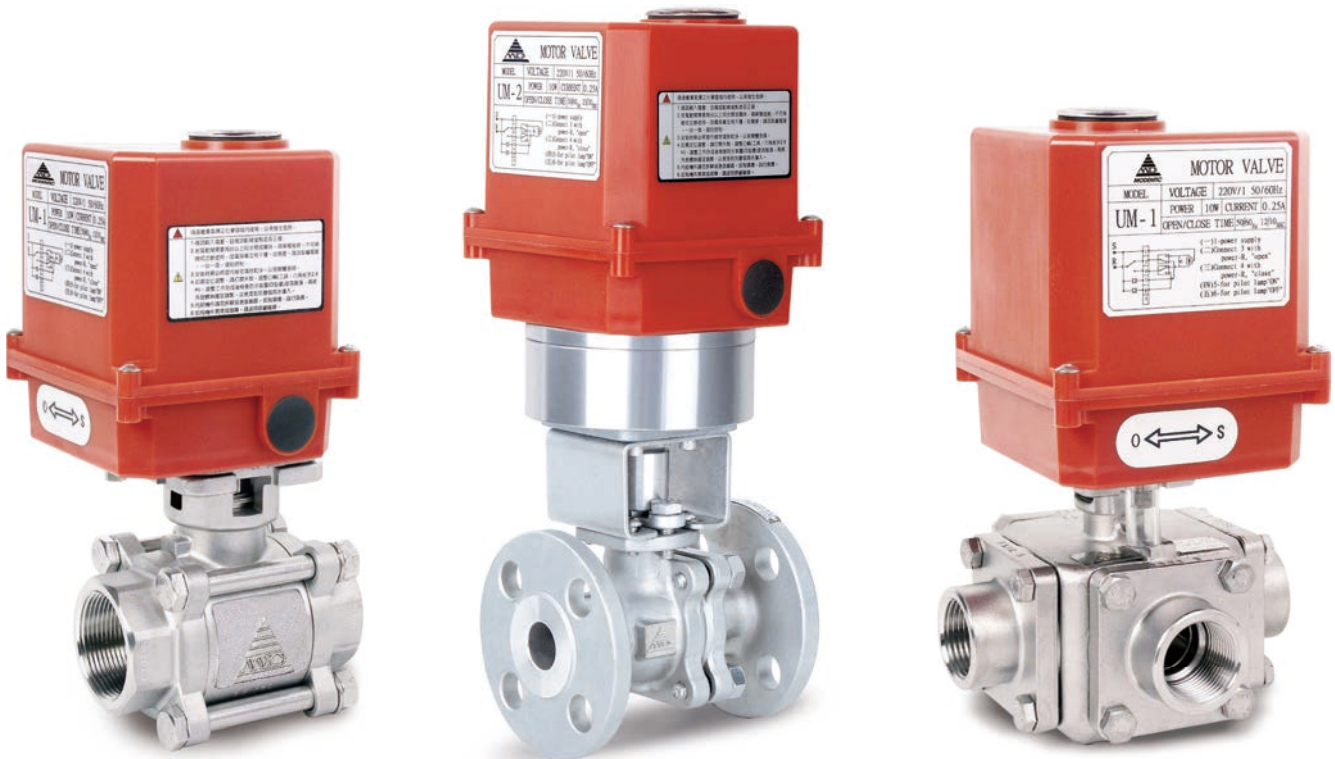


# ELECTRIC ACTUATED VALVES

Actuator with CSA, UL 429 approval

## Available Range

- Screwed Ball Valve** 1/4" - 4"
- Flanged Ball Valve** 1/2" - 12"
- Multi-way Ball Valve** 1/2" - 6"
- Butterfly Valve** 1-1/2" - 16"



### GUIDE TO SEND US YOUR INQUIRY

WORKING CONDITIONS		OPTION		
110V AC	Working Pressure_Psi	Temperature Controller	Limit Switch ( 2 units )	Heater
220V AC				
24V AC	Working Temperature_°C	Replay	Modulating Controller	Modulating Control Box
24V DC				

Check Box



# TECHNICAL FEATURES

## P Virgin PTFE

Inert to most chemicals, low coefficient of friction recommended for water foodstuff and corrosive chemicals.

## R 15% glass filled PTFE

Withstands higher pressure than virgin PTFE. Good resistance to wear and deformation under load.

## C Carbon filled PTFE

Specially for steam and thermal oil, low coefficient of friction inert to most media.

## H Glass and Metal Oxide filled PTFE

Withstands higher temperature and pressure than filled PTFE. good resistance under load. not recommended for foodstuff.

## K Carbon filled PEEK

Suitable for elevated temperatures. good resistance under high pressure loads, low coefficient of friction, suitable for many corrosive applications.

## L Virgin PEEK

Similar to filled PEEK but higher coefficient of friction, suitable for nuclear. Tobacco FDA and clean applications.

## D Delrin

Suitable for high pressures good resistance to wear and deformation under load. temperature limit 80°C. Must not be used in presence of oxygen.

## T PCTFE

Cryogenic applications such as oxygen hydrogen, nitrogen and more. suitable for temperature up to -260°C.

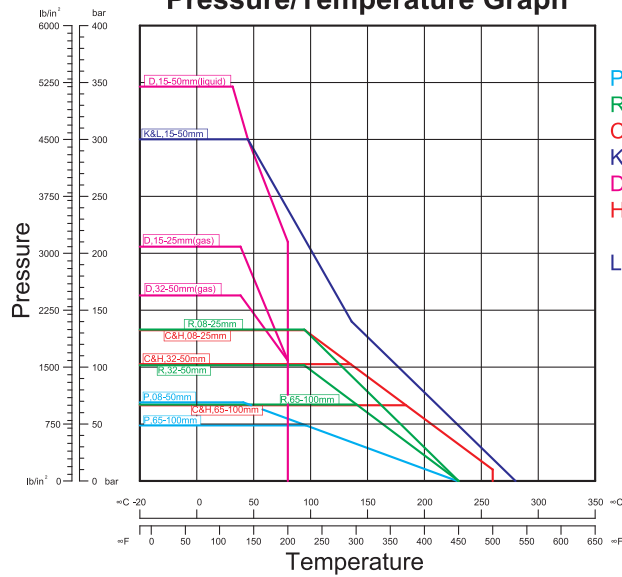
### SEAT MATERIAL:

- soft seat pure-PTFE PTFE glass fiber reinforced
- PCTFE PEEK
- metal seat coated armour plating
- carbon seat

### SEAT DESIGN:

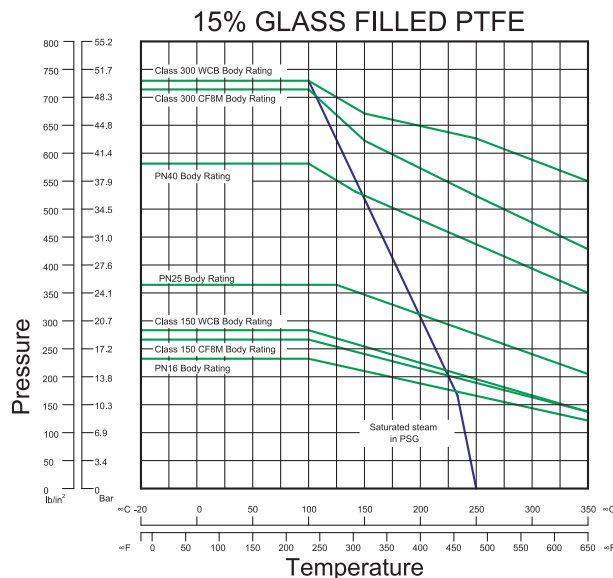
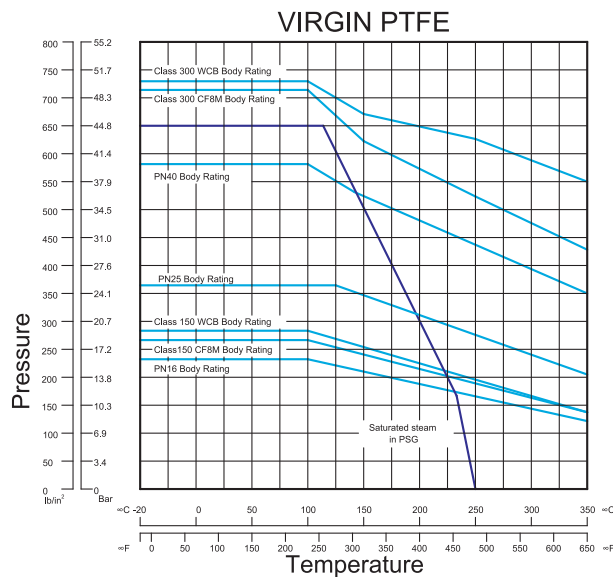
- pressure relief
- pre loaded
- spring loaded
- fire-safe-design

## Screwed Ball Valves Pressure/Temperature Graph



- P Virgin PTFE
- R 15% glass filled PTFE
- C Carbon Filled PTFE.
- K Carbon filled PEEK
- D Delrin
- H Glass and Metal Oxide filled PTFE
- L Virgin PEEK

## Flanged Ball Valves Pressure/Temperature Graph





**PRODUCTS RANGE:**

<b>Soft Seated Ball Valves</b> ASME Class 150~1500	1/4" ~ 36"
<b>Metal Seated Ball Valves</b> ASME Class 150~600	1/2" ~ 16"
<b>Trunnion Mounted Ball Valves</b>	2" ~ 36"
<b>V-Flow Ball Valves</b>	1/2" ~ 6"
<b>High Purity Ball Valve</b>	1/2" ~ 4"

Pressure range : 1.DIN PN10~PN420

2.API 150psi~10,000psi

Temperature range : -40°C to 500°C (-40°F to 1022°F)

The screenshot shows the Modentic Group website interface. At the top, it says 'Modentic Group | VALVEBUS.com'. Below this is a navigation menu with 'ABOUT US', 'SEARCH ENGINE', 'SEARCH BY FIG. NO.', 'VALVES OVERVIEW', 'PRODUCT RANGE', and 'CONTACT US'. The main content area features a 'Valves Search Engine' section with a pressure range of '1.DIN PN10~PN420' and a temperature range of '-190°C to 550°C (-310°F to 1022°F)'. There are several images of different valve types. Below the images are three search options: 'SEARCH BY SPECIFICATION', 'SEARCH BY MODENTIC FIGURE NUMBER', and 'VALVES OVERVIEW'. At the bottom of the screenshot, there are several certification logos including 'FIRE SAFE APPROVED', 'TA-Luft', 'ATEX II 200', 'Modentic Valves Catalog', and 'MODENTIC API607 Valves'.

For more information on any articles in this catalogue, please contact:



**MODENTIC INDUSTRIAL CORPORATION**

14F-1, No.57, Daya Rd., North Dist.,  
Taichung City 404, Taiwan (R.O.C.)

TEL : 886-4-22071786 FAX : 886-4-22071696

E-mail: md\_sales@ms.modentic.com.tw

http://www.modentic.com.tw

http://www.valvebus.com

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# WAFFER BUTTERFLY VALVE WITH ELASTOMER SEAT VANNE PAPILLON ENTRE BRIDES AVEC SIÈGE ÉLASTOMÈRE

**NORTECH**

ENG

DESIGN STANDARD:  
API609, EN593, BS 5155

PRESSURE RATING:  
PN 10, PN16, 200PSI, 285PSI

FACE TO FACE:  
ISO5752, EN558 series 20(wafer short)

MOUNTING BETWEEN FLANGES:  
EN 1092/DIN/ISO PN10/16, ANSI CLASS125/150

OPERATION:  
Handle lever/Gear Box/Acuators

TEST STANDARD:  
API598/DIN3230/EN 12266-1/BS6755/ISO5208

FRA

CONCEPTION SUIVANTE LES NORMES:  
API609, EN593, BS 5155

PRESSION DE SERVICE:  
16 Bar

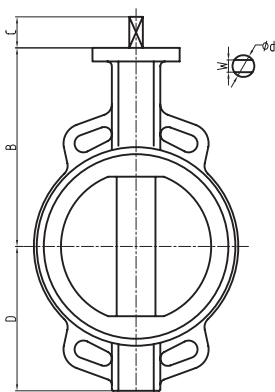
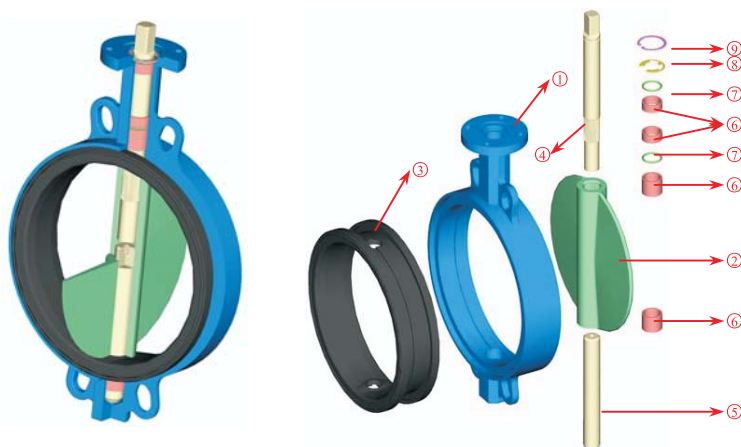
FACE À FACE SUIVANTE LES NORMES:  
ISO5752, EN558 série 20

MONTAGE ENTRE-BRIDES:  
EN 1092/DIN/ISO PN10/16, ANSI CLASS125/150

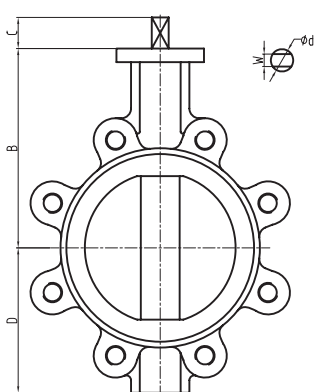
COMMANDE:  
Poignées/Réducteurs/Actionneurs

PRESSION D' ESSAI SUIVANTE LES NORMES:  
API598/DIN3230/EN 12266-1/BS6755/ISO5208

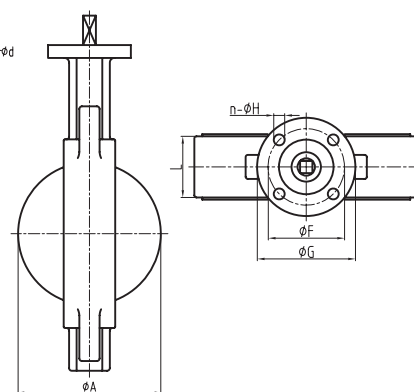
NO.	Description/ Désignation	Material/Matière
1	Body/Corps	Ductile iron/Fonte GS
2	Disc/Papillon	Ductile iron/Fonte GS
		ASTMA351 CF8M
		ASTM B148 C95800
3	Seat/Siège	NBR
		EPDM
		PTFE
4	Upper shaft/ Axe Supérieure	SS/INOX SS 316
5	Lower shaft/ Axe inférieure	SS 410 SS 431
6	Bearing/Bague	PTFE
7	O-ring	NBR
8	Split pin/Goupille	Steel/Acier
9	Retainer ring	SS/INOX



Semi-lug type/  
à oreilles de centrage



Fully lug type/  
à oreilles taraudées



DN	NPS	A	B	C	D	E	F	G	n×φH	ISO5211	L	W	D
50	2"	52.6	142	19	73.5	11	70	90	4×φ10	F7	43	10	12.6
65	2.5"	64.4	155	19	80.5	11	70	90	4×φ10	F7	46	10	12.6
80	3"	78.9	161	19	93	11	70	90	4×φ10	F7	46	10	12.6
100	4"	104.1	180	19	110	11	70	90	4×φ10	F7	52	12	15.77
125	5"	123.4	193	19	122.8	14	70	90	4×φ10	F7	56	14	18.92
150	6"	155.96	205	19	139	14	70	90	4×φ10	F7	56	14	18.92
200	8"	202.87	250	25	175	17	102	125	4×φ12	F10	60	17	22.1
250	10"	250.88	282	40	208	22	102	125	4×φ12	F10	68	22	28.45
300	12"	301.9	326	40	244	22	102	125	4×φ12	F10	78	24	31.6

**WAFER BUTTERFLY VALVE WITH REINFORCED SEAT**  
**VANNE PAPILLON ENTRE BRIDES AVEC SIÈGE RENFORCÉ**

**NORTECH**

**ENG**

**DESIGN STANDARD:**  
API609, EN593, BS 5155

**PRESSURE RATING:**  
PN 10, PN16, 200PSI, 285PSI

**FACE TO FACE:**  
ISO5752, EN558 series 20(wafer short)

**MOUNTING BETWEEN FLANGES:**  
EN 1092/DIN/ISO PN10/16, ANSI CLASS125/150

**OPERATION:**  
Gear Box/Acuators

**TEST STANDARD:**  
API598/DIN3230/EN 12266-1/BS6755/ISO5208

**FRA**

**CONCEPTION SUIVANTE LES NORMES:**  
API609, EN593, BS 5155

**PRESSION DE SERVICE:**  
16 Bar

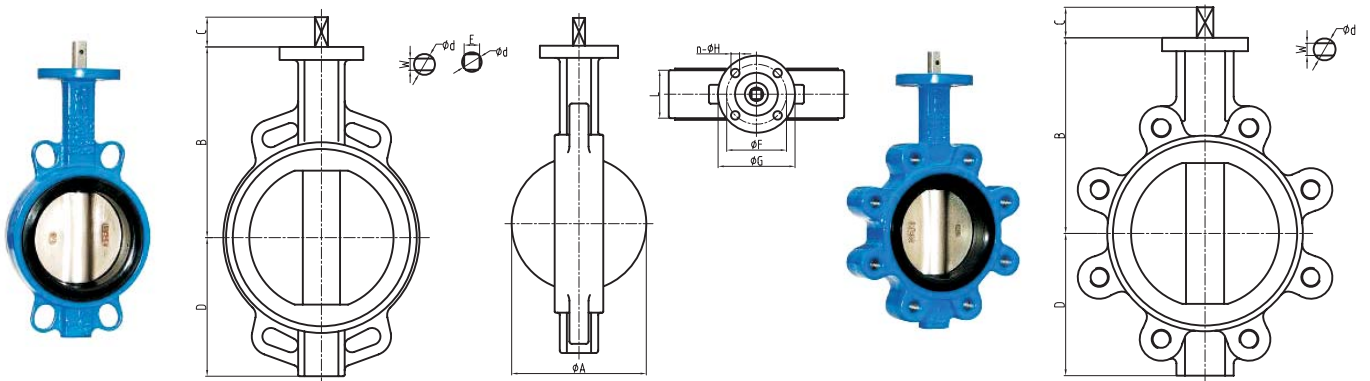
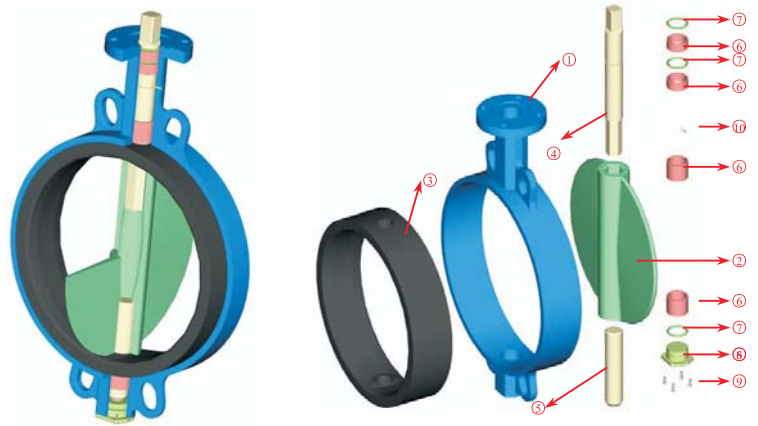
**FACE À FACE SUIVANTE LES NORMES:**  
ISO5752, EN558 série 20

**MONTAGE ENTRE-BRIDES:**  
EN 1092/DIN/ISO PN10/16, ANSI CLASS125/150

**COMMANDE:**  
Réducteurs/Actionneurs

**PRESSION D' ESSAI SUIVANTE LES NORMES:**  
API598/DIN3230/EN 12266-1/BS6755/ISO5208

NO.	Description/ Désignation	Material/Matière
1	Body/Corps	Ductile iron/Fonte GS
2	Disc/Papillon	Ductile iron/Fonte GS
		ASTM A351 CF8M
		ASTM B148 C95800
3	Seat/Siège	NBR
		EPDM
		PTFE
4	Upper shaft/ Axe Supérieure	SS/INOX SS316
5	Lower shaft/ Axe inférieure	SS410 SS431
6	Bearing/Bague	PTFE
7	O-ring	NBR
8	Bottom cover/ Couvercle en bout	Ductile iron/Fonte GS
9	Bolt/Boulon	Steel/Acier
10	Screw/Vis	S.Steel/Inox



Semi-lug type/  
à oreilles de centrage

Fully lug type/  
à oreilles taraudées

DN	NPS	A	B	C	D	E	F	G	n×φH	ISO5211	L	W	D
400	16"	390.1	400	52	316	22	140	175	4×φ18	F14	102/88	27	33.15
450	18"	441.1	422	52	341	27	140	175	4×φ18	F14	114/107	27	38
500	20"	492.3	480	64	373	27	140	175	4×φ18	F14	127	32	41.15
600	24"	593	562	70	459	36	165	210	4×φ23	F16	154	36	50.65

ENG

DESIGN STANDARD:  
API609, EN593, BS 5155

PRESSURE RATING:  
PN 10, PN16, 200PSI, 285PSI

FACE TO FACE:  
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FRA

CONCEPTION SUIVANTE LES NORMES:  
API609, EN593, BS 5155

PRESSION DE SERVICE:  
16 Bar

FACE À FACE SUIVANTE LES NORMES:  
ISO5752, EN558 série 20

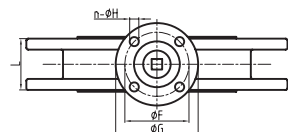
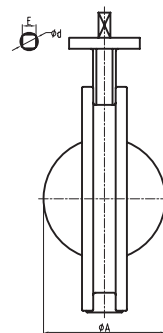
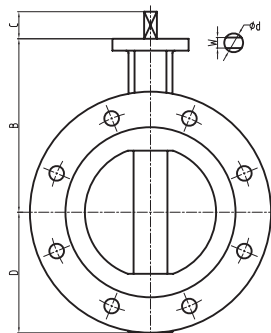
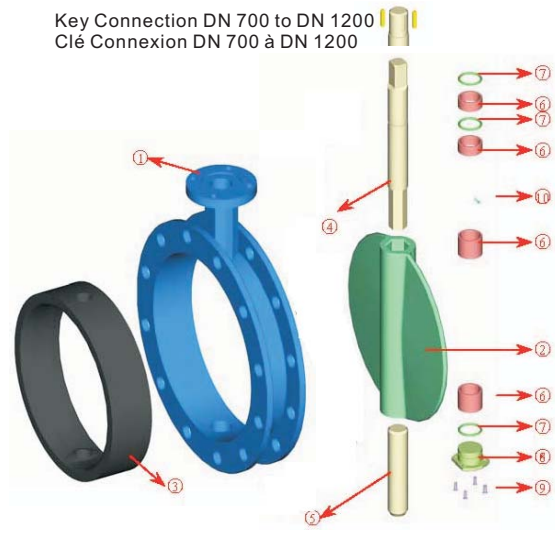
MONTAGE ENTRE-BRIDES:  
EN 1092/DIN/ISO PN10/16, ANSI CLASS125/150

COMMANDE:  
Réducteurs/Actionneurs

PRESSION D' ESSAI SUIVANTE LES NORMES:  
API598/DIN3230/EN 12266-1/BS6755/ISO5208

NO.	Description/ Désignation	Material/Matière
1	Body/Corps	Ductile iron/Fonte GS
2	Disc/Papillon	Ductile iron/Fonte GS
		ASTMA351 CF8M ASTM B148 C95800
3	Seat/Siège	NBR
		EPDM
		PTFE
4	Upper shaft/ Axe Supérieure	SS/INOX SS316
5	Lower shaft/ Axe inférieure	SS410 SS431
6	Bearing/Bague	PTFE
7	O-ring	NBR
8	Bottom cover/ Couvreclé en bout	Ductile iron/Fonte GS
9	Bolt/Boulon	Steel/Acier
10	Screw/Vis	S.Steel/Inox

Key Connection DN 700 to DN 1200  
Clé Connexion DN 700 à DN 1200



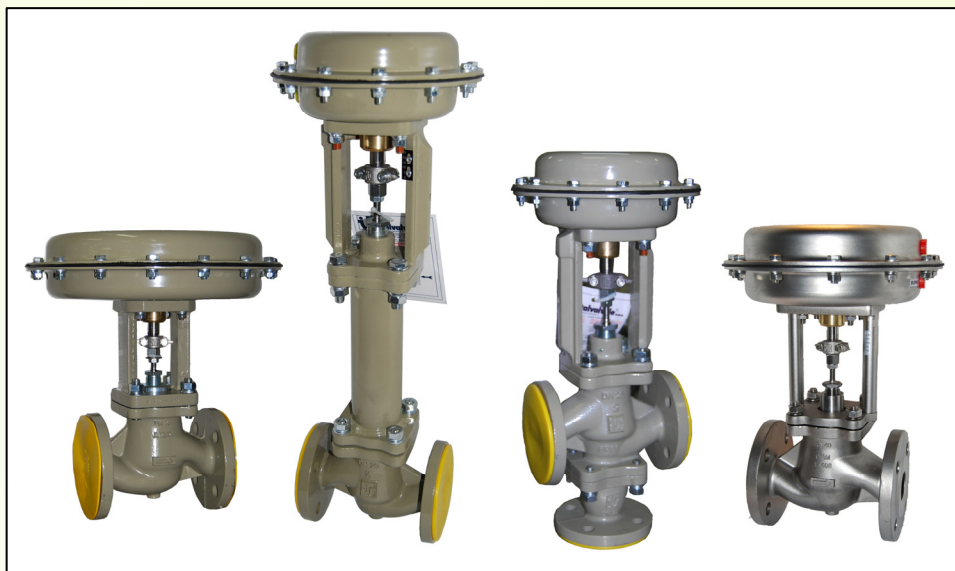
DN	NPS	A	B	C	D	E	F	G	n×φH	ISO5211	L	W	D	
400	16"	390.1	400	52	316	22	140	175	4×φ18	F14	102/88	27	33.15	
450	18"	441.1	422	52	341	27	140	175	4×φ18	F14	114/107	27	38	
500	20"	492.3	480	64	373	27	140	175	4×φ18	F14	127	32	41.15	
600	24"	593	562	70	459	36	165	210	4×φ23	F16	154	36	50.65	
DN	NPS	A	B	C	D	F	G	n×φH	ISO5211	L	a	b	c	d
700	28"	694.9	624	82	528	254	300	8×φ18	F25	165	5	16	55	63
750	30"	744.3	660	82	560	254	300	8×φ18	F25	165	5	16	55	63
800	32"	795.6	672	82	600	254	300	8×φ18	F25	190	5	16	55	63
900	36"	864	720	130	659	254	300	8×φ18	F25	203	6	20	75	100
1000	40"	964	800	130	726	254	300	8×φ18	F25	216	7	22	85	125
1200	48"	1160	951	150	868	298	350	8×φ23	F30	254	8	28	105	140

TO DOWNLOAD TECHNICAL SHEETS, CONSULT OUR WEBSITE IN CATALOGUE SECTION

# PNEUMATIC VALVES SERIES SBS

## FAMILY 04 CONTROL VALVES

Valves series SBS are modulating globe valves, with 2 or 3 ways. They mount a multi-spring pneumatic diaphragm actuator. Their plug is available with linear or equipercentual characteristic, with soft, metallic or stellated seal. They are available with flanged connections in accordance with standards EN 1092-2 PN16, EN 1092-1 PN40 and ANSI B16.5 class 150.



### TECHNICAL DATA

<b>Model</b>	Globe Valve – Unidirectional - 2 / 3 ways			
<b>Material</b>	EN 1561 GJL-250	EN 1563 GJS-500-7	ASTM A216 WCB	CF8M
<b>DN</b>	15 # 80	15 # 150	15 # 80	
<b>Max Allowed P</b>	16 BAR		40 BAR (30 BAR with bellows)	
<b>End</b>	Flanged PN 16 - EN 1092-2		Flanged PN 40 - EN 1092-1	
<b>Seal</b>	PEEK – Metallic – Stellite			
<b>Seal Class (EN12266-1)</b>	Grade A with PEEK seal Grade B with metallic and stellite seal (stellite plug is advisable with $\Delta p > 10$ bar)			
<b>Plug Characteristic</b>	Linear - Equipercentual			
<b>Stroke</b>	15 mm (20 mm on demand) DN 15#80 – 30 mm DN 100#150			
<b>Max T</b>	+200°C with PEEK seal			
	+250°C with PEEK and bellows			
	+300°C with metallic seal and/or stellite with bellows			
<b>Min T</b>	-10°C (liquid phase)			
			-28 °C (with bellows)	-40 °C (with bellows)
<b>Air Connection</b>	1/8" GAS (actuator Ø 200) 1/4" GAS (actuator Ø 275, Ø 360, Ø 430).			
<b>Feeding Fluid</b>	Instrument Air			
<b>Feeding Pressure</b>	3÷15 psi, 6÷18 psi, 6÷30 psi, 9÷32 psi, 3÷9 psi, 9÷15 psi.			
<b>Versions / Optionals</b>	Normally Closed – Normally Open – With bellows for high/low temperatures – Manual Override – Pneumatic Positioner – Electropneumatic Positioner – I/P Converter - FR Group			
<b>MATERIALS</b>				
<b>Body</b>	EN 1561 GJL-250	EN 1563 GJS-500-7	ASTM A216 WCB	CF8M
<b>Bonnet</b>	EN 1561 GJL-250	ASTM A216 WCB + Fe 430 B DN 15#80 EN 1563 GJS-500-7 DN 100#150		CF8M + S30400
<b>Plug</b>	<b>T.PK.</b>	CF8 + S30400 + PEEK		CF8M + S31600 + PEEK
	<b>T.M.</b>	CF8 + S30400		CF8M + S31600
<b>Packing</b>	PTFE + PTFE caricato GRAFITE			
<b>Body Seals</b>	NOVATEC			
<b>Actuator</b>	Fe P04		Fe P04	S30400
<b>Nuts and Bolts</b>	Zinc-Plated Steel			S30400

## Max Differential Pressure $\Delta p$ for SBS Valves - DN 15÷80 2 Ways

							$\Delta p$						Numbers for Valves Choice	
Control Signal (psi) <sup>(1)</sup>							3/15	6/18	6/30	9/32	3/9	9/15		
Control Signal (bar)							0,2/1	0,42/1,26	0,4/2,1	0,6/2,24	0,2/0,6	0,6/1,0		
Max Control Pressure (bar)							1,2	1,4	2,2	2,4	0,8	1,2		
DN	Ø Seat <sup>(2)</sup> [mm]	Stroke <sup>(3)</sup> [mm]	Kvs		CV		Ø Actuator [mm]	Alphabet Letters for Valves Choice						
			Linear	Equiperc.	Linear	Equiperc.		A	B	C	D	R	S	
15	15	15	4,3	4,5	5	5,2	200	13	26	26	39	13	39	5
			275	32	40	40	40	32	40	6				
	20	15	5	5	5,8	5,8	200	7	14	14	21	7	21	101
			275	18	36	36	40	18	40	102				
20	20	15	8	7,5	9,3	8,7	200	7	14	14	21	7	21	13
			275	18	36	36	40	18	40	14				
			360	40	40	40	40	40	40	15				
25	26	15	11,8	11,3	13,7	13,1	200	4	8	8	12	4	12	25
			275	10	20	20	30	10	30	26				
			360	20	40	40	40	20	40	27				
			430	23,5	40	40	40	23,5	40	28				
32	31	15	20	15,2	23,3	17,7	200	4	8	8	12	4	12	37
			275	10	20	20	30	10	30	38				
			360	20	40	40	40	20	40	39				
			430	23	40	40	40	23	40	40				
40	38	15	26	22,3	30,2	25,9	200	2,8	5,6	5,6	8,4	2,8	8,4	49
			275	7	14	14	20	7	20	50				
			360	14	28	28	40	14	40	51				
			430	16	32	32	40	16	40	52				
50	48	15	38,4	34,6	44,7	40,2	200	1,6	3,2	3,2	4,8	1,6	4,8	61
			275	4	8	8	12	4	12	62				
			360	8	16	16	24	8	24	63				
			430	9	18	18	27	9	27	64				
65	63	15	74,1	62,7	86,3	73,0	200	1	2	2	3	1	3	75
			275	2,5	5	5	7,5	2,5	7,5	76				
			360	5	10	10	15	5	15	77				
			430	5,8	11	11	16	5,8	16	78				
80	78	15	89,8	76,0	104,5	88,5	200	0,6	1,2	1,2	1,5	0,6	1,5	90
			275	1,5	3	3	4	1,5	4	91				
			360	3	6	6	8,5	3	8,5	92				
			430	3,5	7	7	10,5	3,5	10,5	93				
100	92	30	115		134		430 S <sup>(4)</sup>	2,5	5	5	7,5	2,5	7,5	5
			430 D <sup>(5)</sup>	5	10	10	15	5	15	6				
125	115	30	190		222		430 S	1,5	3	3	4,5	1,5	4,5	11
			430 D	3	6	6	9	3	9	12				
150	125	30	250		292		430 S	1	2	2	3	1	3	17
			430 D	2	4	4	6	2	6	18				

<sup>(1)</sup> For N.O. (Normally Open) valves, maximum pilot signal must be the sum of two limit signals; for example, for a N.O. valve with 3-15 pilot signal you must bring at 18 psi (3+15) maximum pilot signal to obtain same value of  $\Delta p$  of corresponding N.C. valve.

For 3-way valves,  $\Delta p$  makes reference to closed way with feeding pressure. To obtain the same  $\Delta p$  on the other way, follow same procedure indicated for N.O. valves.

<sup>(2)</sup> For reduced bore valves, contact our Technical Department.

<sup>(3)</sup> Valves with 20-mm stroke are available on request.

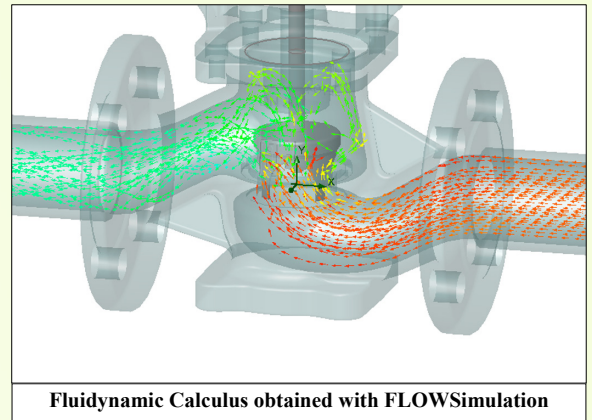
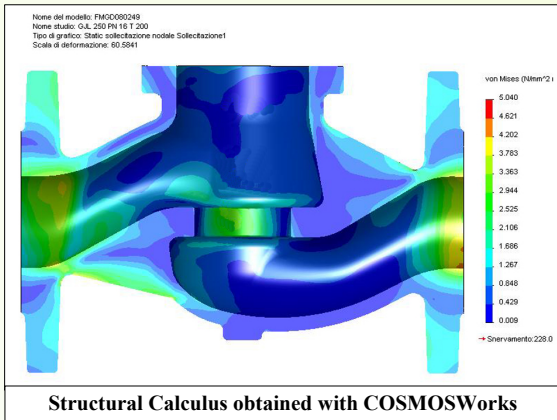
<sup>(4)</sup> "S" means single actuator

<sup>(5)</sup> "D" means double actuator

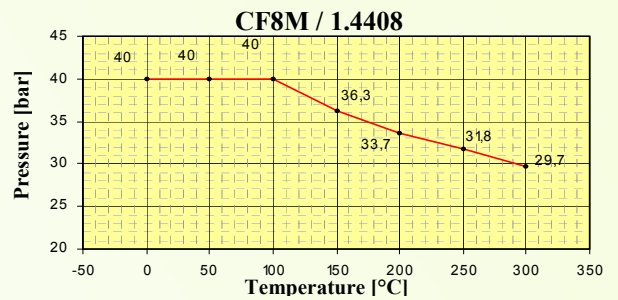
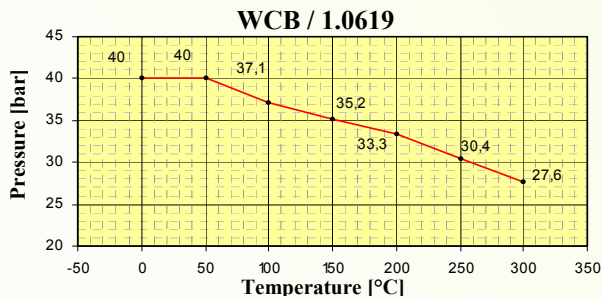
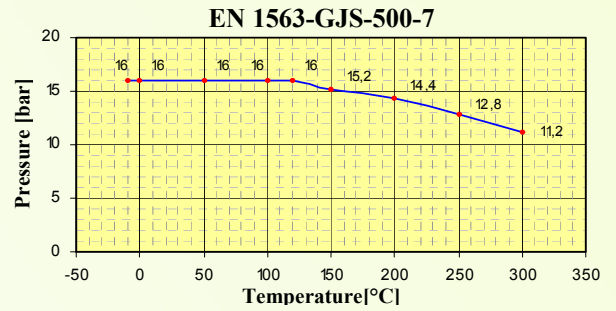
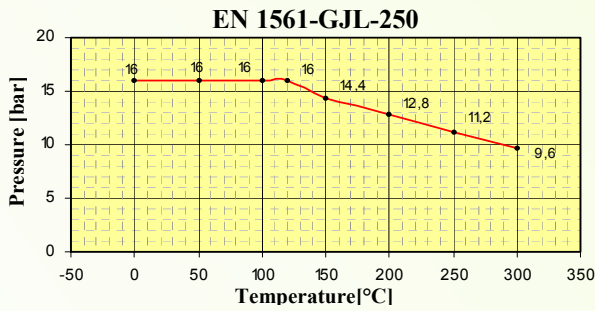
Max  $\Delta p$  is obtained without feeding pressure (*only for N.C. valves*).

Kv has been calculated with fluidynamics software FLOWSimulation in accordance with standard EN 1267:2001 and refers to a 2-way valve.

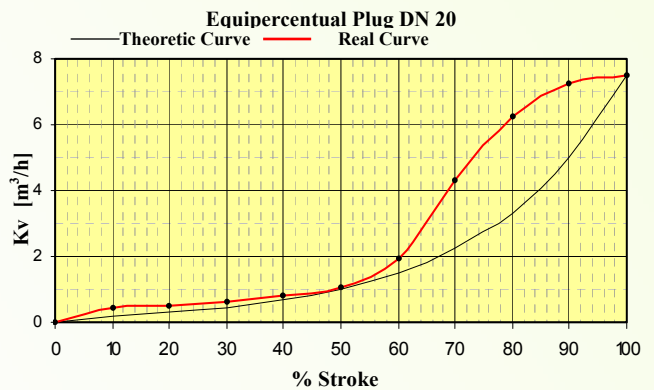
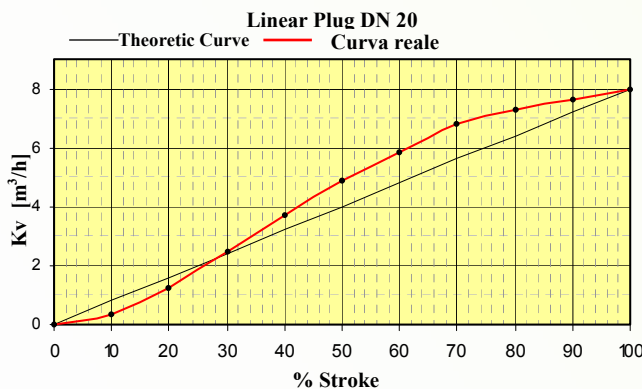
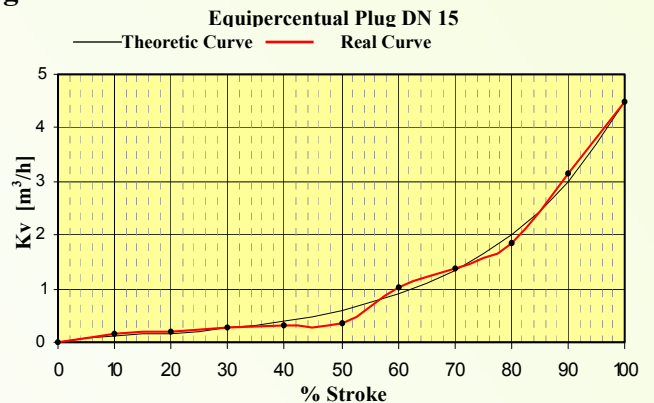
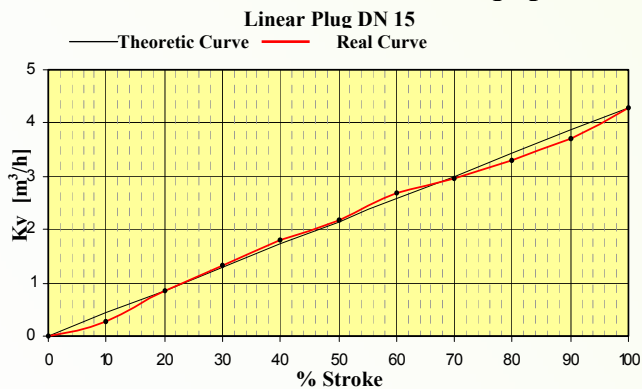
# Project Calcula Samples

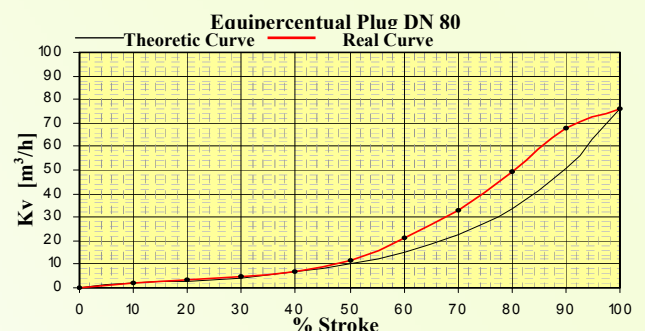
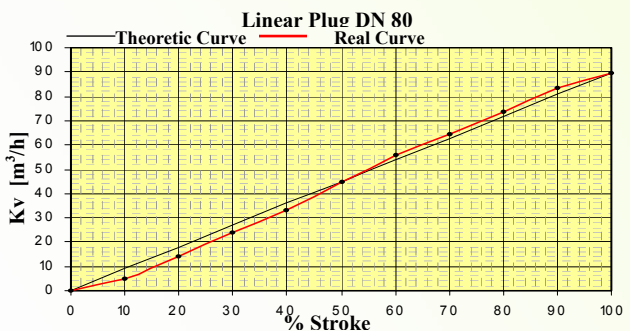
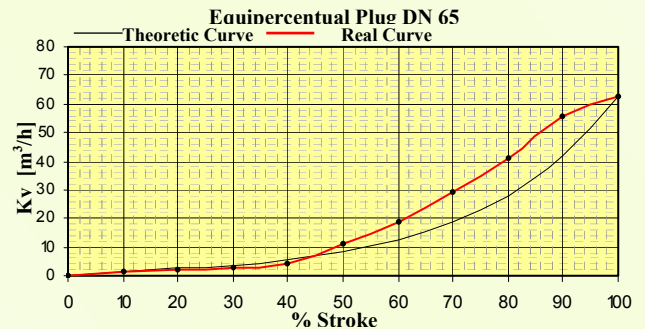
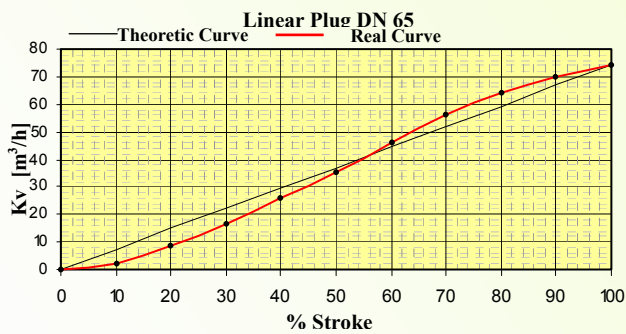
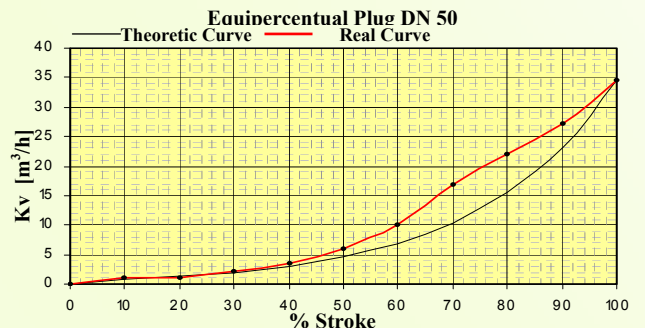
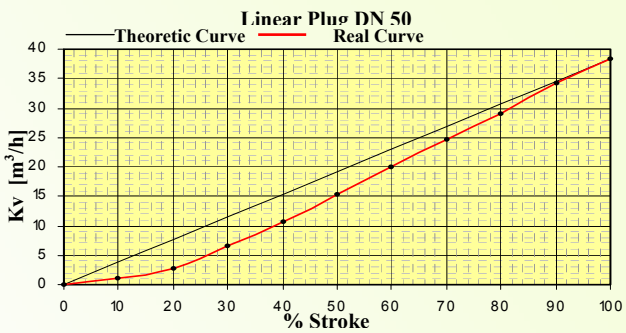
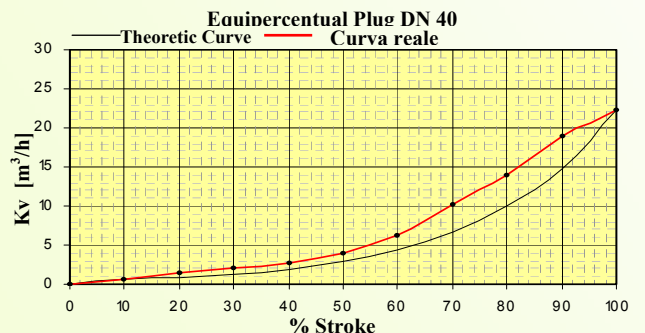
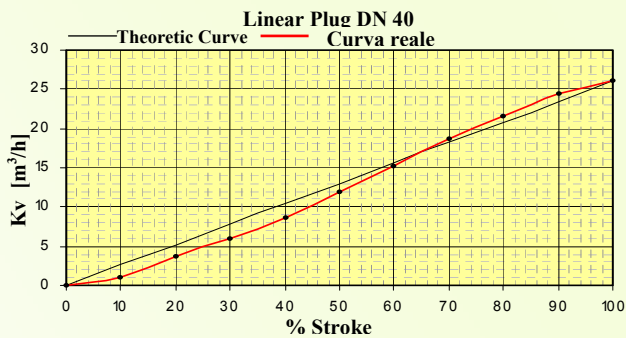
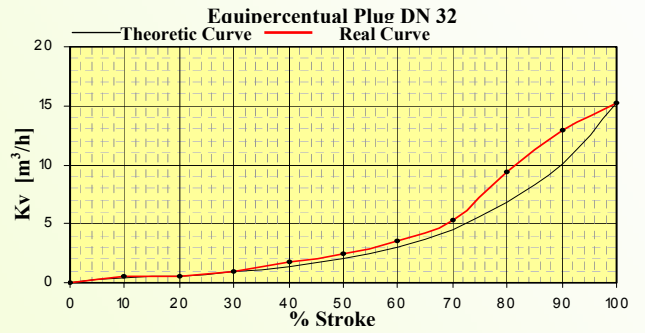
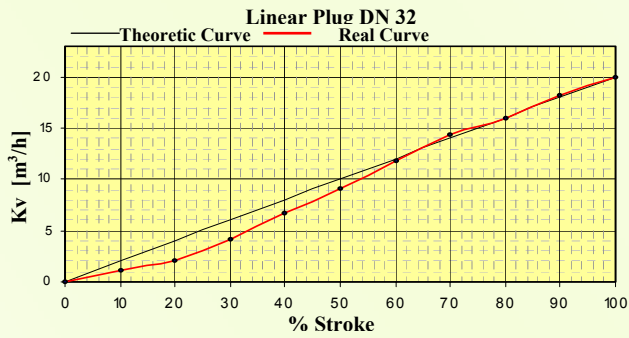
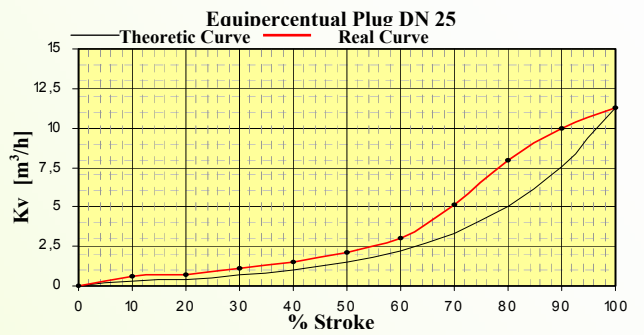
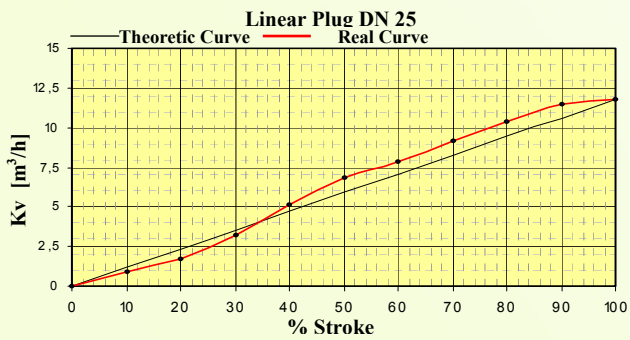


## Pressure/Temperature Relationship for Cast-Iron Bodies

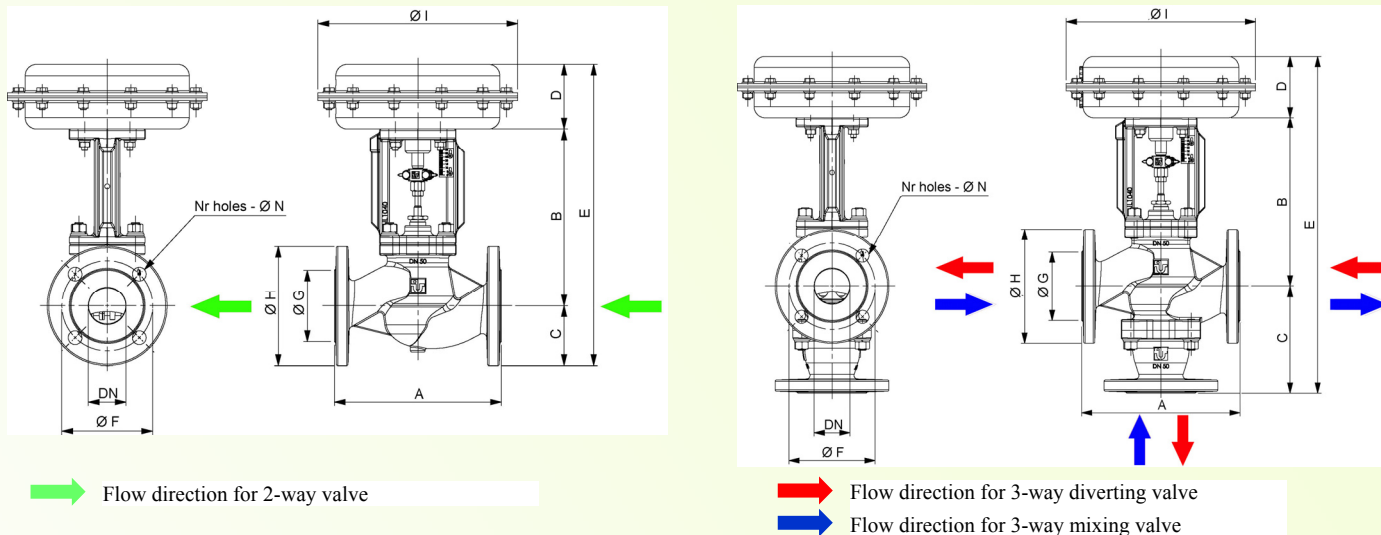


## Curves and Flows of Linear and Equipercutal Plugs





## Dimensions



➔ Flow direction for 2-way valve

➔ Flow direction for 3-way diverting valve

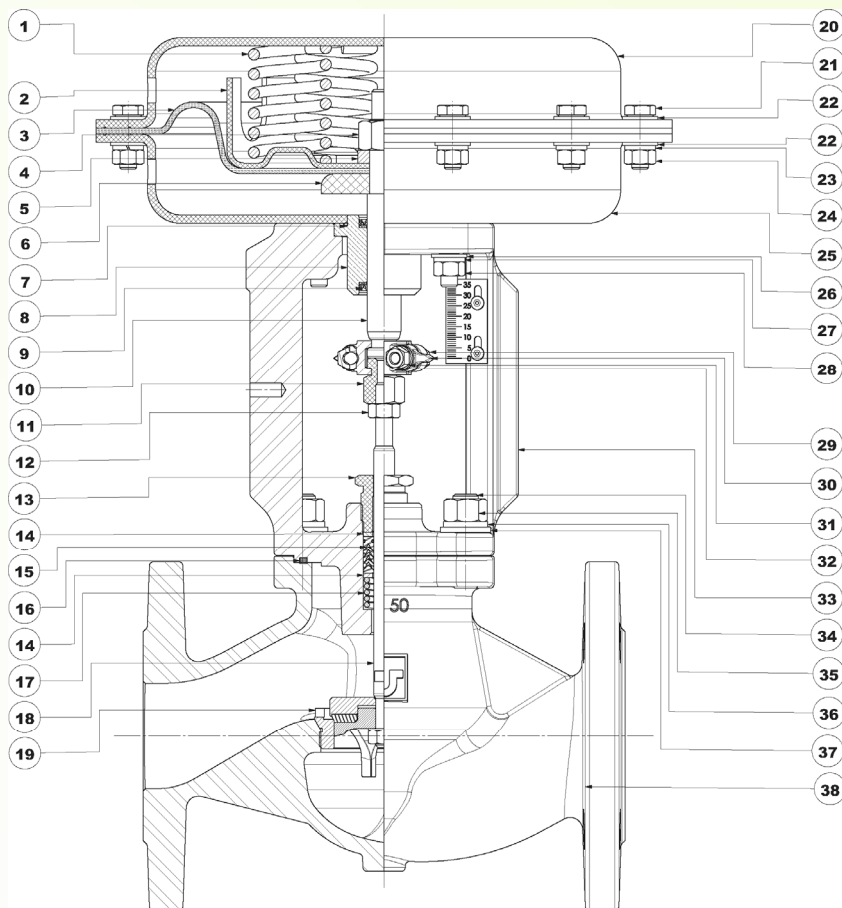
➔ Flow direction for 3-way mixing valve

DN	A	B	C (2 vie)	C (3 vie)	D			E (2 ways)			E (3 ways)			Ø F	Ø G	Ø H	Ø I	Ø N		N° Holes	
					Ø I Actuator			Ø I Actuator			Ø I Actuator							PN 16	PN 40	PN 16	PN 40
					200	275 360	430	200	275 360	430	200	275 360	430								
15	130	227	47,5	112	77	88,5	123	351,5	363	397,5	416	427,5	462	65	45	95	A seconda del Δp di tenuta (200-275-360-430)	14		4	
20	150	227	52,5	112	77	88,5	123	356,5	368	402,5	416	427,5	462	75	58	105		14		4	
25	160	227	57,5	125	77	88,5	123	361,5	373	407,5	429	440,5	475	85	65	115		14		4	
32	180	248	70	145	77	88,5	123	395	406,5	441	470	481,5	516	100	76	140		19	18	4	
40	200	245	75	145	77	88,5	123	397	408,5	443	467	478,5	513	110	84	150		19	18	4	
50	230	245	82,5	161	77	88,5	123	404,5	416	450,5	483	494,5	529	125	99	165		19	18	4	
65	290	299	120	237	77	88,5	123	496	507,5	542	613	624,5	659	145	118	185		19	18	4	8
80	310	298	121	239	77	88,5	123	496	507,5	542	615	626,5	661	160	132	200		19	18	8	
100	350	384	192,5	265	/	/	123	/	/	699,5	/	/	772	180	158	220		18	/	8	/
125	400	407	215,5	318	/	/	123	/	/	745,5	/	/	848	210	188	250		18	/	8	/
150	480	432	245	382	/	/	123	/	/	800	/	/	937	240	212	285		22	/	8	/

Dimensions are express in mm.

## Parts SBS 2 Ways

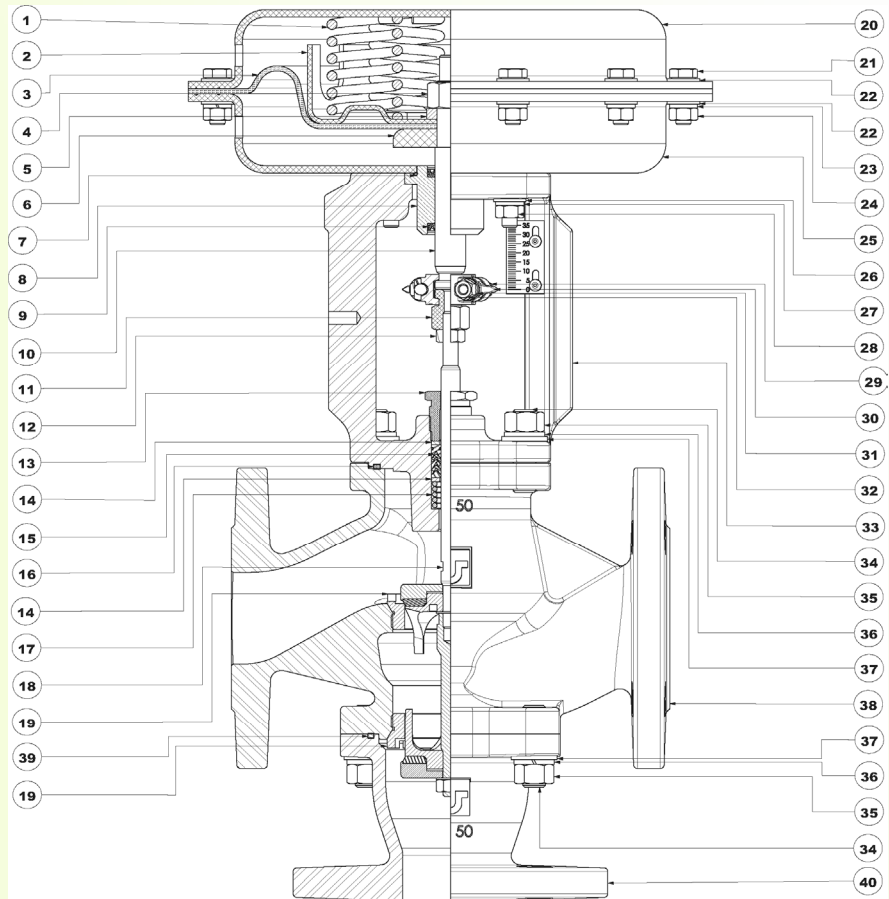
N°	DESCRIPTION
1	Actuator Spring
2	Spring-bearer Disc
3	Membrane
4	Hexagonal Nut
5	Spacer Washer
6	Counter-Disc diaphragm
7	OR
8	Guide Bushing
9	BA Gasket
10	Actuator Stem
11	Adjusting Nut
12	Hexagonal Nut
13	Packing Screw
14	Spacer Washer
15	Packing
16	Body Gasket
17	Packing Spring
18	Plug
19	Seat
20	Upper Head
21	Hexagonal-Head Screw
22	Plan Washer
23	Elastic Washer
24	Hexagonal Nut
25	Lower Head
26	Plan Washer
27	Elastic Washer
28	Hexagonal Nut
29	Hexagonal-Head Screw
30	Disc with indicator
31	Elastic Washer
32	Hexagonal Nut
33	Bonnet/Intermediate Body
34	Prisoner
35	Hexagonal Nut
36	Elastic Washer
37	Plan Washer
38	Body



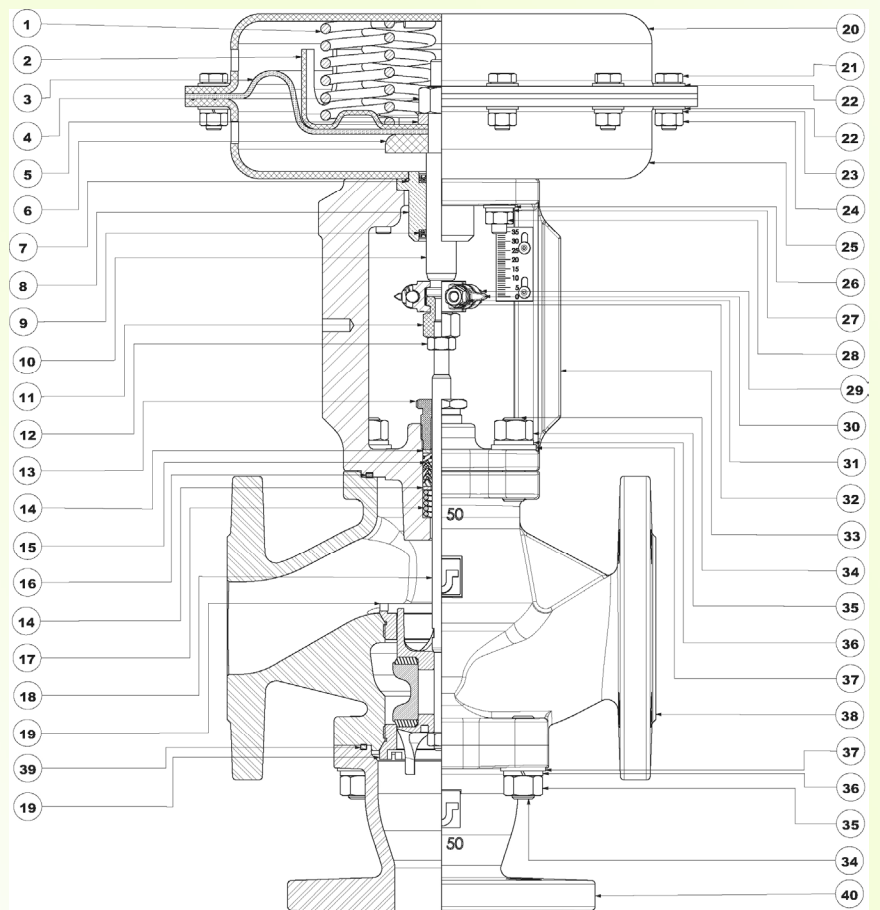
## Parts - SBS 3 Ways - Diverting/Mixing

N°	DESCRIPTION
1	Actuator Spring
2	Spring-bearer Disc
3	Membrane
4	Hexagonal Nut
5	Spacer Washer
6	Counter-Disc diaphragm
7	OR
8	Guide Bushing
9	BA Gasket
10	Actuator Stem
11	Adjusting Nut
12	Hexagonal Nut
13	Packing Screw
14	Spacer Washer
15	Packing
16	Body Gasket
17	Packing Spring
18	Plug
19	Seat
20	Upper Head
21	Hexagonal-Head Screw
22	Plan Washer
23	Elastic Washer
24	Hexagonal Nut
25	Lower Head
26	Plan Washer
27	Elastic Washer
28	Hexagonal Nut
29	Hexagonal-Head Screw
30	Disc with indicator
31	Elastic Washer
32	Hexagonal Nut
33	Bonnet/Intermediate Body
34	Prisoner
35	Hexagonal Nut
36	Elastic Washer
37	Plan Washer
38	Body
39	Bottom Gasket
40	Bottom

### Diverting



### Mixing



TO DOWNLOAD THE SHEETS OF OUR PRODUCTS, REFER TO OUR WEBSITE IN THE CATALOGUE SECTION

## SBS SERIES ELECTRICAL VALVES

### FAMILY 04 CONTROL VALVES

The SBS electrical control valves are 2- or 3-way modulating ball valves, with an axial electrical actuator.

They are equipped with a shutter with linear or equipercentage typical curve and a soft or metal seal.

They are flanged in accordance with the standards EN 1092-2 – PN 16, EN 1092-1– PN 40 and ANSI B16.5 class 150.



#### TECHNICAL DATA

<b>Valve type</b>	2- or 3-way globe valve, unidirectional (N.C. angle way in the 3-way STD version).		
<b>Material</b>	EN 1561 GJL-250	EN 1563 GJS-500-7	ASTM A216 WCB
<b>DN</b>	15 # 80	15 # 150	15 # 80
<b>Max. allowed P</b>	16 BAR		40 BAR (30 BAR with bellows)
<b>Connections</b>	Flanged PN 16 according to EN 1092-2		Flanged PN 40 according to EN 1092-1
<b>Seal</b>	PEEK – metal – stellite		
<b>Seal class</b>	Level A for PEEK seal Level B for metal and stellite seal (the stellite seal is recommended for $\Delta p > 10$ bar) In accordance with the standard UNI EN 12266-1		
<b>Shutter features</b>	equipercentage, linear		
<b>Shutter stroke</b>	15 mm (20 mm upon request) DN 15#80 – 30 mm DN 100#150		
<b>Max temperature</b>	+200°C PEEK seal (standard version)		
	+250°C PEEK seal with bellows		
	+300°C metal and/or stellite seal with safety bellows		
<b>Min. temperature</b>	-10°C (in liquid phase standard version)		
	-28 °C (with bellows)		-40 °C (with bellows)
<b>Electrical connections</b>	Electrical connections with screw (max 2.5 mm <sup>2</sup> )		
<b>Power supply</b>	24 V AC/DC (230 V AC upon request)		
<b>Control signal</b>	0#10 V / 4#20 mA / 2 or 3 POINTS		
<b>Degree of protection</b>	IP66		
<b>Activation time</b>	15 mm stroke: 28 s - 56 s - 84 s / 20 mm stroke: 40 s - 80 s - 120 s		
<b>Versions</b>	normally closed, normally open, bellows for high/low temperatures, emergency lever		

#### MATERIALS

<b>Body material</b>	EN 1561 GJL-250	EN 1563 GJS-500-7	ASTM A216 WCB	CF8M
<b>Middle section</b>	ASTM A216 WCB + Fe 430 B15#80 EN 1563 GJS-500-7 + Fe 430 B DN 100#150			CF8M + S30400
<b>Shutter</b>	<b>T.PK.</b>	CF8 + S30400 + PEEK		CF8M + S31600 + PEEK
	<b>T.M.</b>	CF8 + S30400		CF8M + S31600
<b>Packing gland</b>	PTFE+GRAPHITE-LOADED PTFE			
<b>Body gaskets</b>	NOVATEC or GRAPHITE+KEVLAR			
<b>Electric motor</b>	PC and steel alloys			
<b>Connecting screws</b>	Galvanized steel			S30400

## $\Delta p$ valves SBS DN 15÷150 2-way electrical control

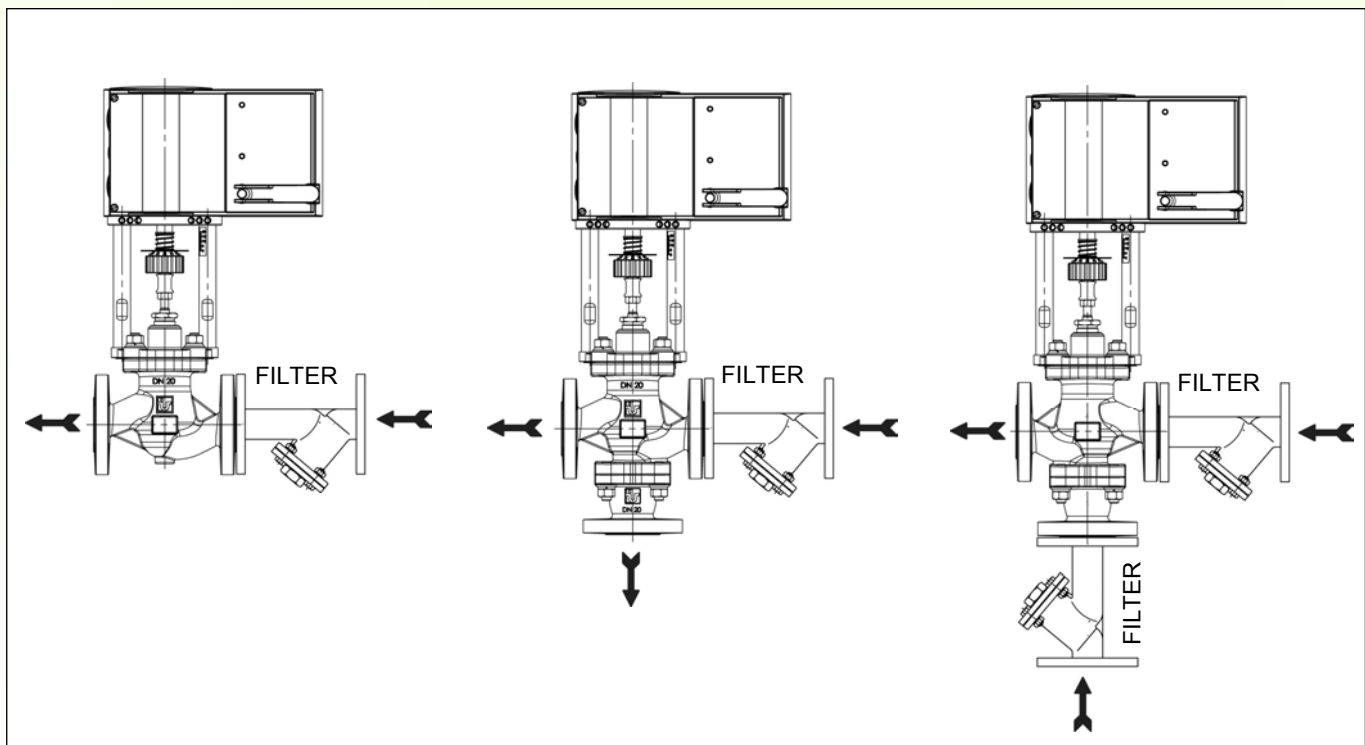
DN	$\Phi$ ff. <sup>(1)</sup> [mm]	Stroke <sup>(2)</sup> [mm]	Kvs		CV		Motor type	$\Delta p$ Valve
			Linear shutter	Equiperc. shutter	Linear shutter	Equiperc. shutter		
15	15	15	4.3	4.5	5	5.2	SUT 2000	40
	20	15	5	5	5.8	5.8	SUT 2000	40
20	20	15	8	7.5	9.3	8.7	SUT 2000	40
25	26	15	11.8	11.3	13.7	13.1	SUT 2000	28
32	31	15	20	15.2	23.3	17.7	SUT 2000	20
40	38	15	26	22.3	30.2	25.9	SUT 2000	14
50	48	15	38.4	34.6	44.7	40.2	SUT 2000	8
65	63	15	74.1	62.7	86.3	73.0	SUT 2000	5
80	78	15	89.8	76.0	104.5	88.5	SUT 2000	3
100	92	30	/	115	/	134	SUT 2000	2
125	115	30	/	190	/	222	SUT 2000	1,3
150	125	30	/	250	/	292	SUT 2000	0,8

(1) For valves with reduced seat please contact our technical office

(2) Upon request we can supply 20 mm stroke valves

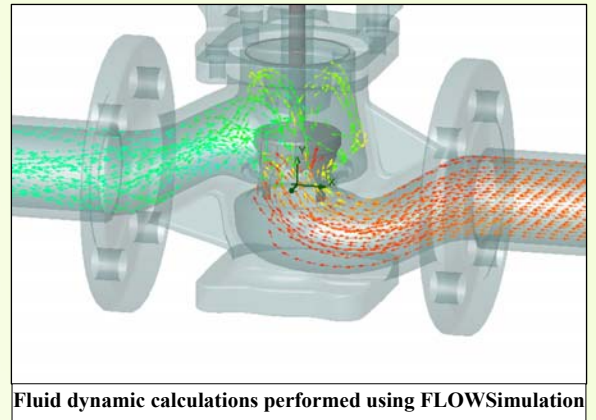
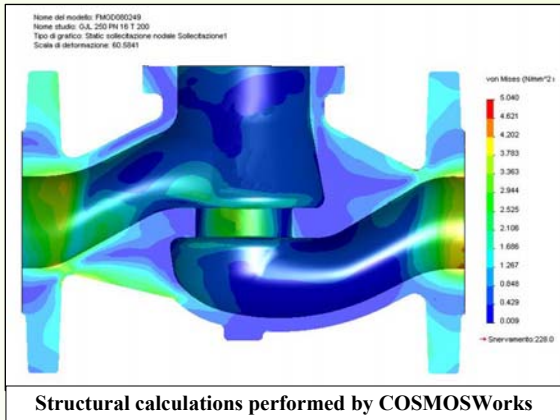
The Kv has been calculated using the FLOWSimulation fluid dynamics program in accordance with the UNI EN 1267:2001 standard and refers to a 2-way valve

### Installation diagrams of the electrically controlled SBS valves

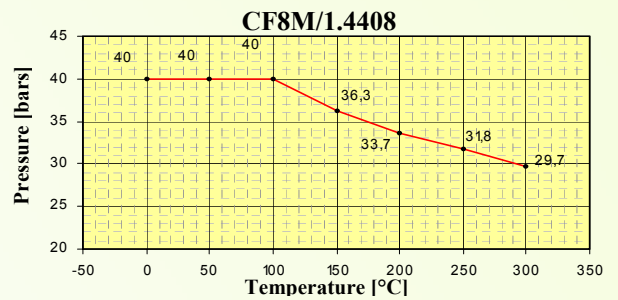
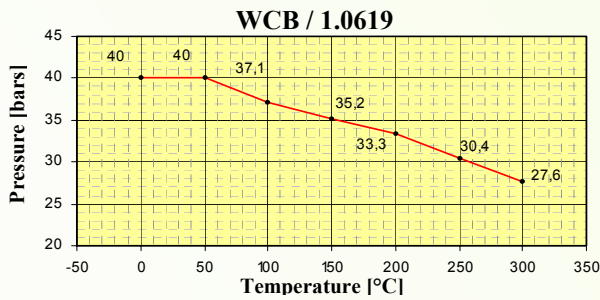
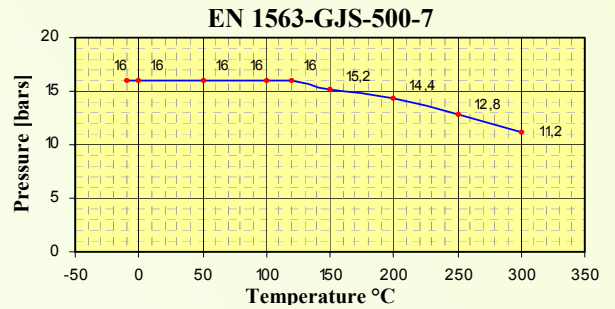
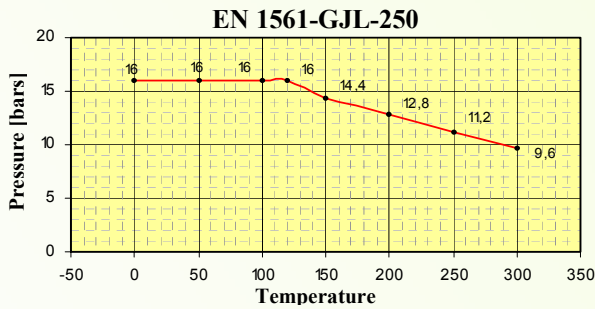


It is important that you install a filter on the valve inlets to prevent any slugs or impurities from damaging the valve seat or shutter, prejudicing proper operation.

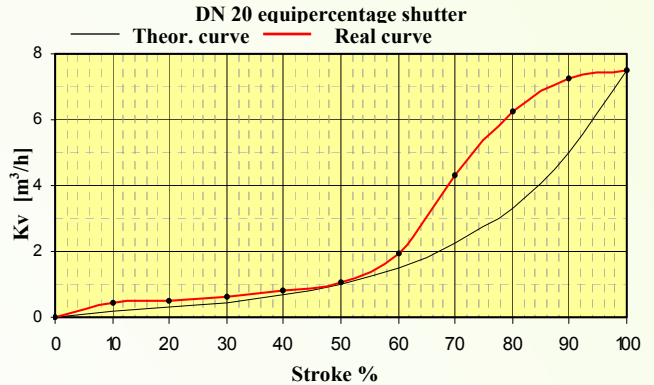
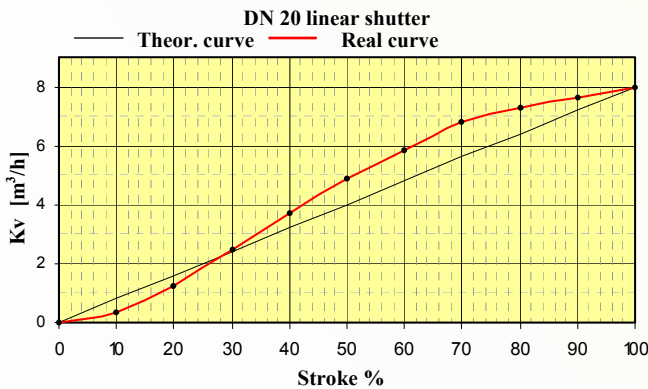
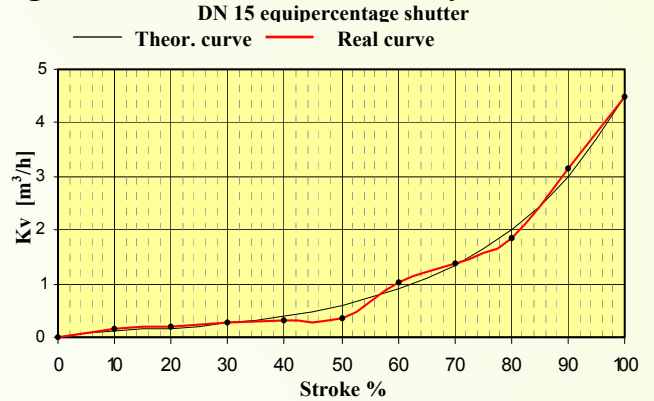
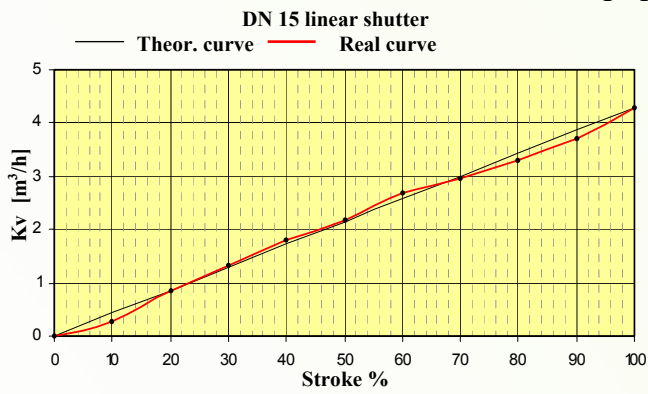
# Examples of design calculations

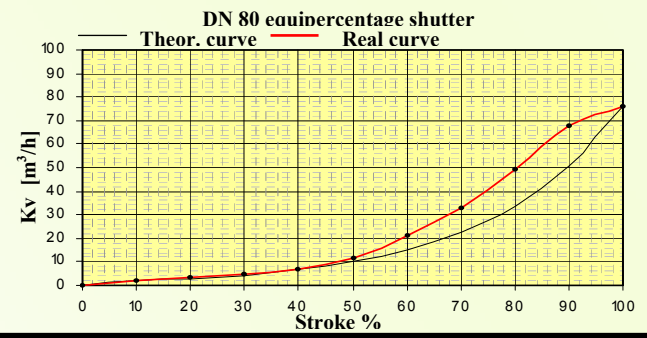
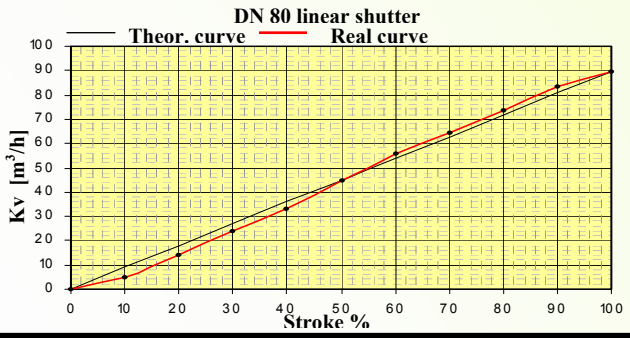
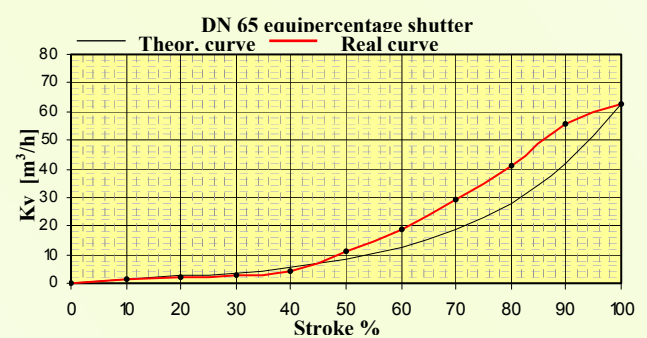
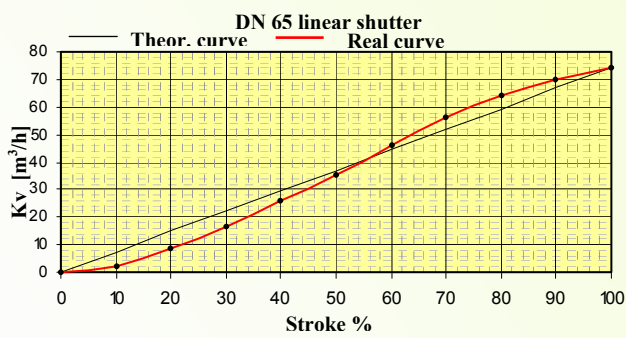
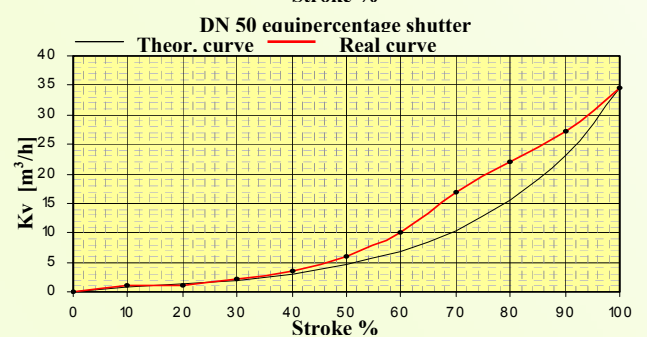
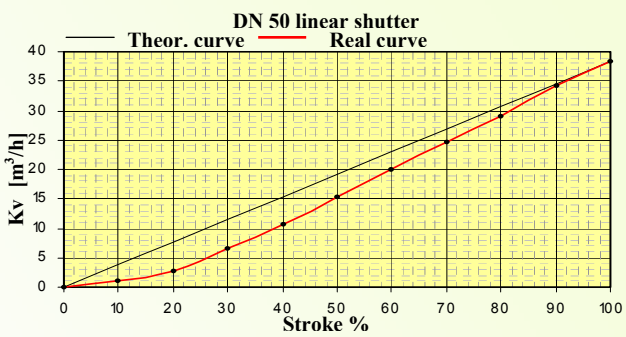
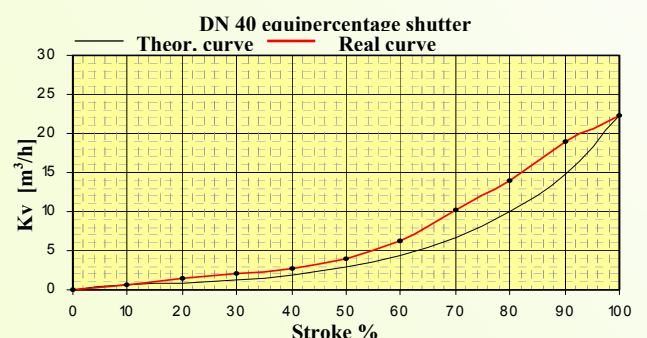
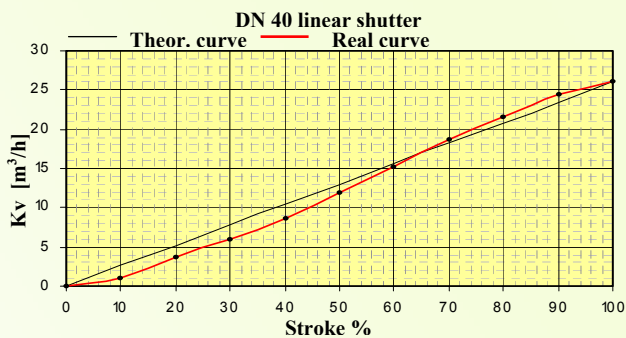
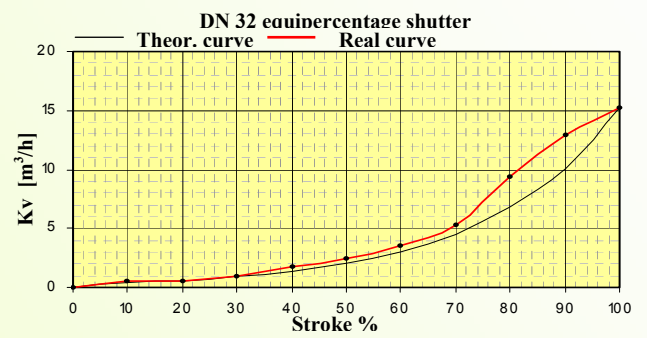
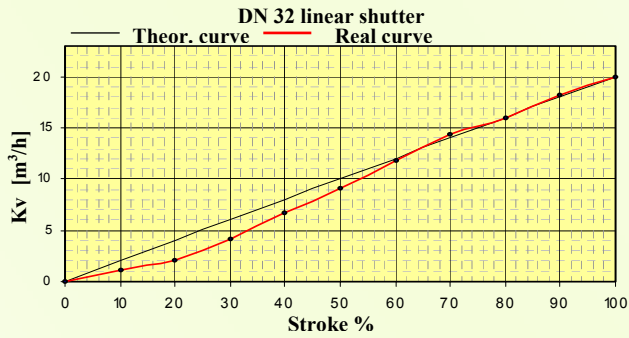
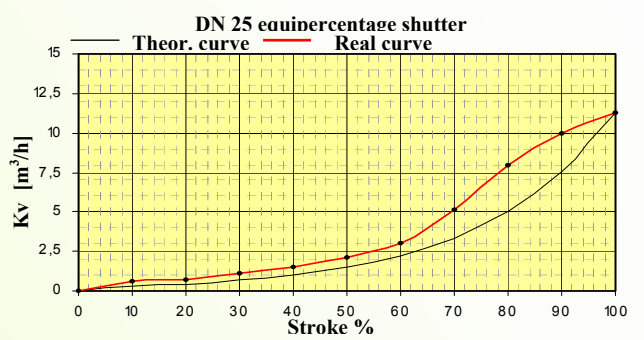
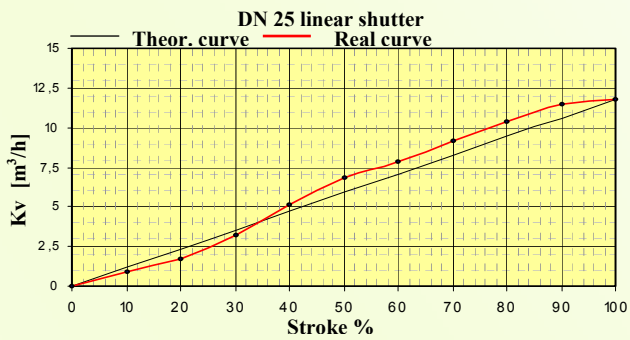


## Pressure/temperature ratios for SBS cast iron bodies

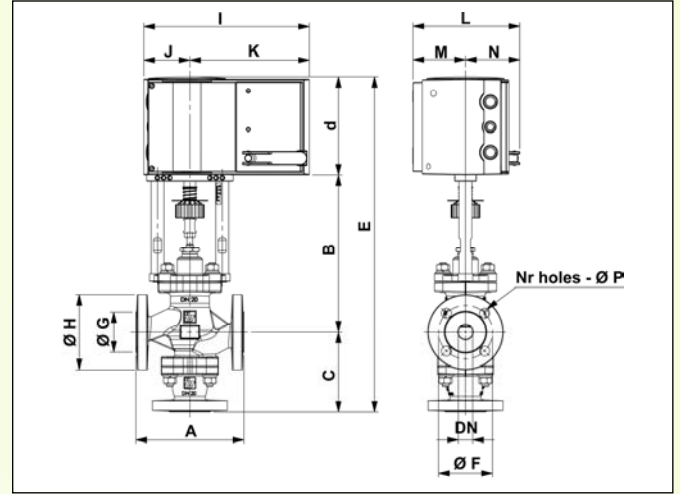
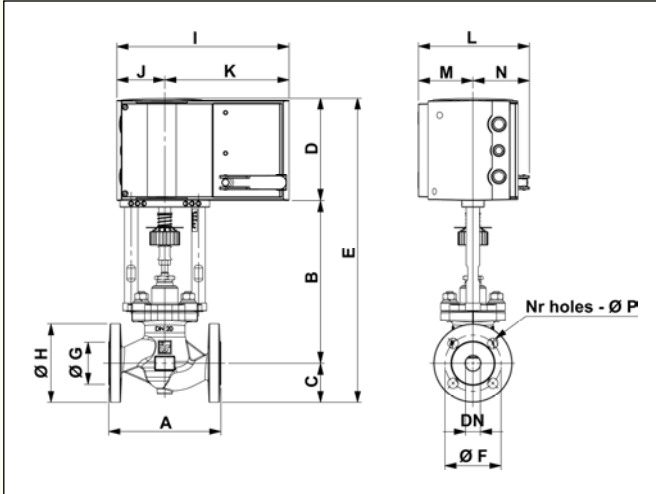


## Curves and flow rates of the Linear and Equipercantage shutters of the SBS for 2-way valves





## Dimensions



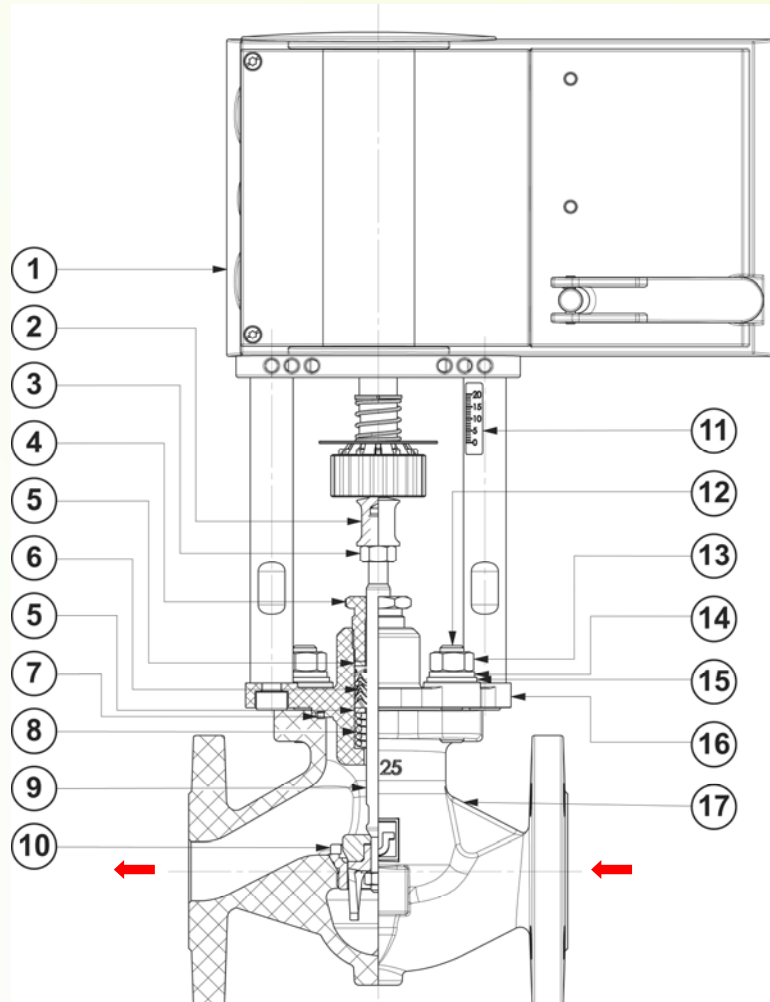
DN	A	B	C (2-way)	C (3-way)	D	E (2-way)	E (3-way)	Ø F	Ø G	Ø H	I	J	K	L	M	N	Ø P		No. of holes	
																	PN 16	PN 40	PN 16	PN 40
15	130	219	47.5	112	137	403.5	468	65	45	95	230	64	166	148.5	73	75.5	14		4	
20	150	219	52.5	112	137	408.5	468	75	58	105	230	64	166	148.5	73	75.5	14		4	
25	160	219	57.5	125	137	413.5	481	85	65	115	230	64	166	148.5	73	75.5	14		4	
32	180	240	70	145	137	447	522	100	76	140	230	64	166	148.5	73	75.5	19	18	4	
40	200	237	75	145	137	449	519	110	84	150	230	64	166	148.5	73	75.5	19	18	4	
50	230	237	82.5	161	137	456.5	535	125	99	165	230	64	166	148.5	73	75.5	19	18	4	
65	290	289	120	237	137	546	663	145	118	185	230	64	166	148.5	73	75.5	19	18	4	8
80	310	288	121	239	137	546	664	160	132	200	230	64	166	148.5	73	75.5	19	18		8
100	350	360	192.5	265	137	689.5	762	180	158	220	230	64	166	148.5	73	75.5	18		8	
125	400	383	215.5	318	137	735.5	838	210	188	250	230	64	166	148.5	73	75.5	18		8	
150	480	408	245	382	137	790	927	240	212	285	230	64	166	148.5	73	75.5	22		8	

Dimensions are in mm

## 2-way SBS electrical valve components

No.	DESCRIPTION
1	Axial electric motor
2	Valve/Motor joint
3	Hexagon nut
4	Packing gland screw
5	Distance ring washer
6	Packing gland
7	Body gasket
8	Packing gland spring
9	Shutter
10	Seat
11	Stroke graduated label
12	Stud-bolt
13	Hexagon nut
14	Spring washer
15	Flat washer
16	Intermediate body with closing flange
17	Valve body

→ Flow direction

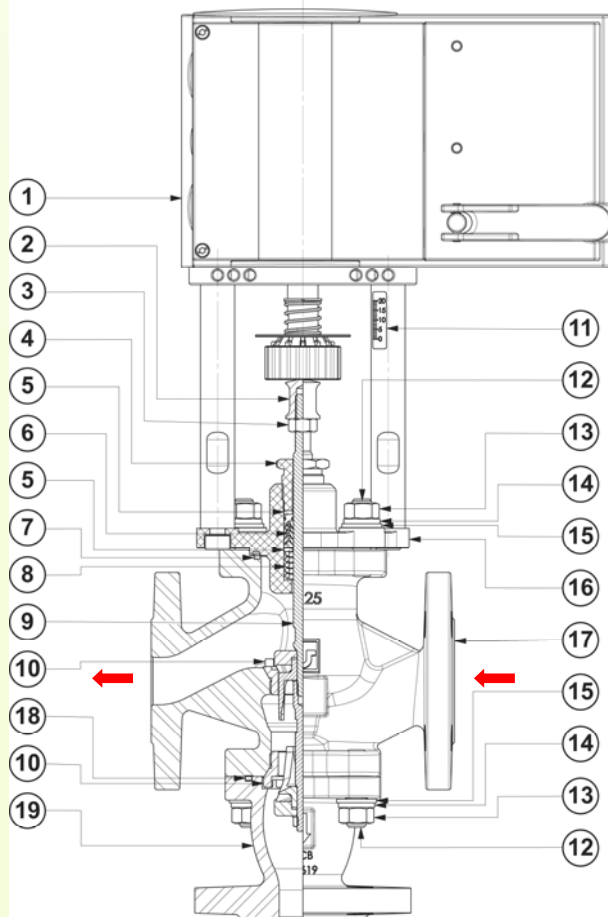


### 3-way deviation/mixer electrical valve components

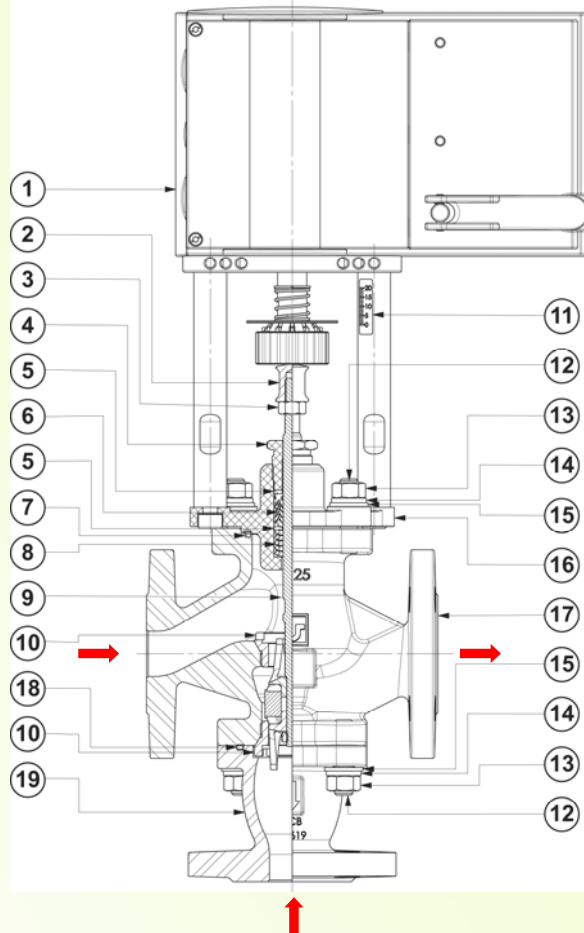
No.	DESCRIPTION
1	Axial electric motor
2	Valve/Motor joint
3	Hexagon nut
4	Packing gland screw
5	Distance ring washer
6	Packing gland
7	Body gasket
8	Packing gland spring
9	Shutter
10	Seat
11	Stroke graduated label
12	Stud-bolt
13	Hexagon nut
14	Spring washer
15	Flat washer
16	Intermediate body with closing flange
17	Valve body
18	Bottom base gasket
19	Bottom base

→ Flow direction

Deviation



Mixer



## VALVOLE A SFERA PNEUMATICA 3 PEZZI 3 PIECES PNEUMATIC BALL VALVES

FAMIGLIA 03 – GRUPPI 40-41-72 / FAMILY 03 – GROUPS 40-41-72

Le valvole a sfera trovano la loro applicazione in un'ampia gamma di settori industriali: idraulico, chimico, alimentare, farmaceutico, ecc.

La caratteristica principale è di avere una ridottissima perdita di carico.

L'attrito tra la sfera e le guarnizioni in RTFE è molto ridotto, con conseguente vantaggio di una limitata usura delle stesse.

Tutte le valvole sono collaudate prima di lasciare il nostro stabilimento.

Prodotto che può non essere fabbricato in Italia.

*Ball valves can be employed in many industrial fields: hydraulic, chemical, food, pharmaceutical, etc.*

*Their main characteristic is to have a very low pressure drop.*

*Friction between ball and RTFE gaskets is very low, thus limits gasket wear.*

*All of them are tested before leaving our factory.*

*This item can be not of national production.*



Valvole a sfera pneumatica 3 pezzi  
3 Pieces Pneumatic Ball Valves

### Dati tecnici

**Annotaz. generali:** ogni valore di pressione di seguito indicato è valore di pressione relativa  
**Valvole destinate a fluidi del gruppo 2 (direttiva 97/23/CE).** Per l'utilizzo con fluidi del gruppo 1 (direttiva 97/23/CE) contattare il nostro ufficio tecnico.

**DN:** 1/4" ÷ 4"

**Connessioni:** filettate femmina  
a saldare di tasca  
a saldare di testa

**Pmax amm.:** 64 bar (DN 1/4"÷1"), 25 bar (1"1/4), 10 bar (DN 1"1/2÷4")

**Tmax amm.:** +200 °C

**Tmin amm.:** -10 °C (in fase liquida).

### Technical Data

**General notice:** all the pressure values indicated hereinafter are gauge pressure values.

**Valves destined to fluids of group 2 (directive 97/23/EC).** For use with fluids of group 1 (directive 97/23/EC) contact our technical department

**ND:** 1/4" ÷ 4"

**Connections:** female threaded  
socket welding  
butt welding

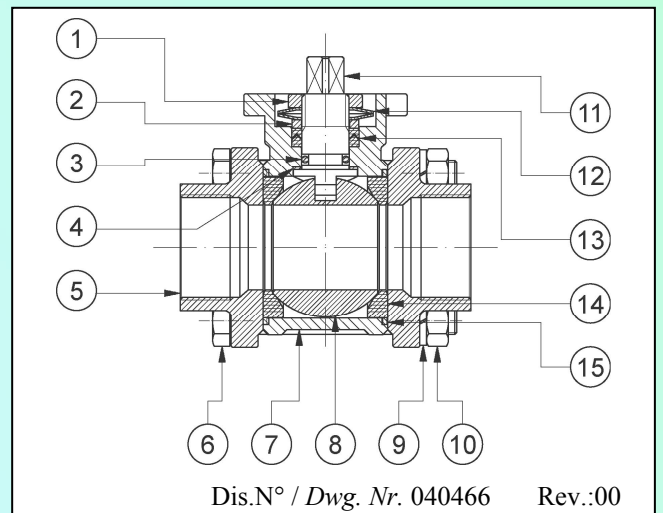
**Pmax allow.:** 64 bar (ND 1/4"÷1"), 25 bar (ND 1"1/4), 10 bar (ND 1"1/2÷4")

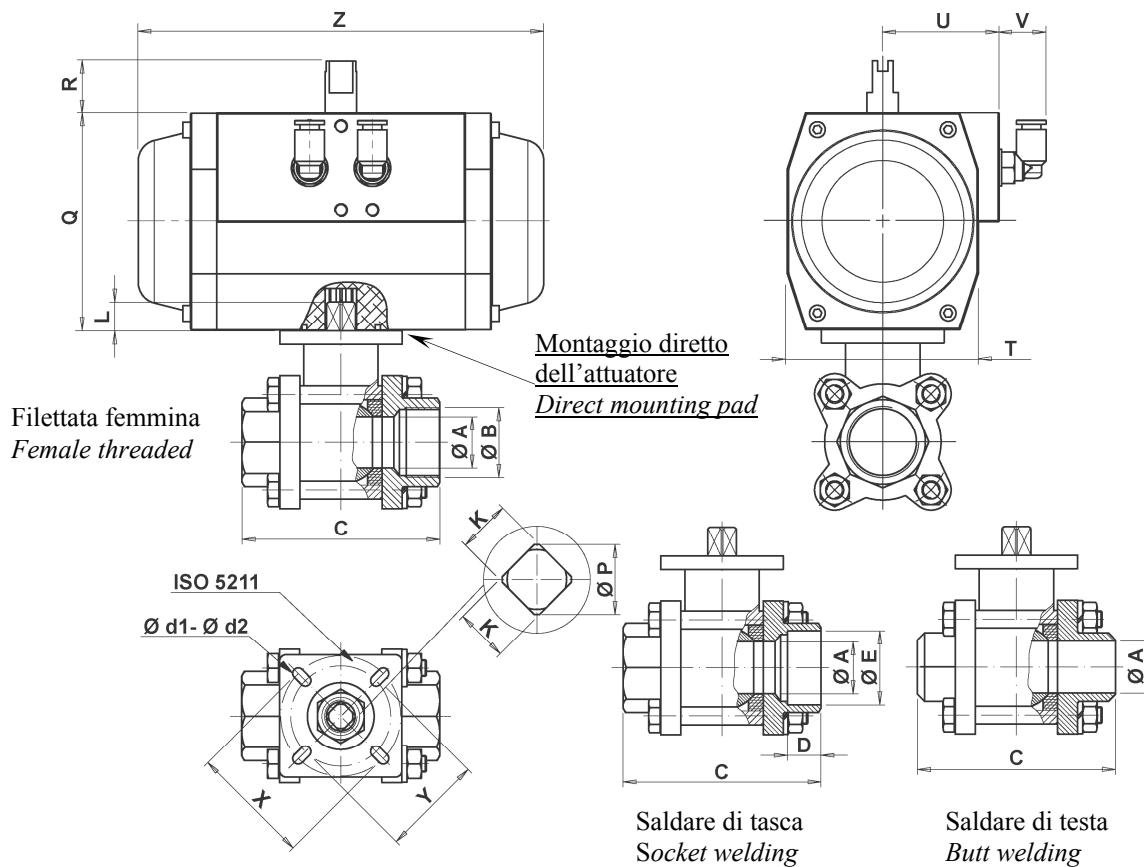
**Tmax allow.:** +200 °C

**Tmin allow.:** -10 °C (in liquid state).

### Tabella Particolari / Details table

P. N° D. Nr	Q.tà Q.ty	Descrizione Drescription	Materiale Material
1	1	Dado esagonale / Hexagonal nut	AISI 304
2	1	Rondella premistoppa / Packing gland washer	AISI 304
3	1	Guarnizione OR / O-Ring gasket	VITON
4	1	Guarnizione alberino / Shaft gasket	PTFE
5	2	Testata / End cap	AISI 316
6	4 / 6	Vite testa es. / Hexagonal head screw	AISI 304
7	1	Corpo valvola / Body valve	AISI 316
8	1	Sfera / Ball	AISI 316
9	4 / 6	Rondella elastica / Spring washer	AISI 304
10	4 / 6	Dado esagonale / Hexagonal nut	AISI 304
11	1	Alberino / Shaft	AISI 316
12	1	Molla a tazza / Cup spring	Acc./ Steel
13	1	Pacco premistoppa / Packing gland	PTFE
14	2	Guarnizione sfera / Ball gasket	RTFE
15	2	Guarnizione corpo / body gasket	PTFE





Dis. N° / Dwg. Nr.: 040467 Rev. :00

**Dimensioni d'ingombro / Overall dimensions**

DN / ND	1/4"	3/8"	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"
Ø A	11,2	12,7	15	20	25,4	31,8	38,1	50,8	65	76	100
Ø B	1/4"	3/8"	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"
C	54	60	64	73	81	95	108	125	180	190	230
D	10	10,8	12,6	14,1	15	16,9	17	17	29,5	30,7	39
Ø E	14,2	17,5	21,8	27,2	34,1	42,7	49	61	77	90,2	115,3
K	9	9	9	9	9	9	14	14	17	17	17
L	7,6	7,6	8	9,6	11	11	16,1	16,8	18	18	18
ISO 5211	F03/F04	F03/F04	F03/F04	F04/F05	F04/F05	F04/F05	F04/F05	F05/F07	F05/F7	F07/F10	F07/F10
Ø X	42	42	42	50	50	50	50	70	70	102	102
Ø Y	36	36	36	42	42	42	42	50	50	70	70
Ø d1	6	6	6	7	7	7	7	9	9	10,5	10,5
Ø d2	5,5	5,5	5,5	6,5	6,5	6,5	6,5	7	7	9	9
Ø P	12	12	12	12	12	12	18	18	22	22	22
Q	67	67	67	83	83	83	83	100	110	125	142
R	20	20	20	20	20	20	20	20	20	20	30
T	60	60	60	73	73	73	73	85	98	110	128
U	41	41	41	44,5	44,5	44,5	44,5	49,5	53	58	69
V	18	18	18	18	18	18	18	18	18	18	18
Z	142	142	142	155	155	155	155	213	236	276	310
Attuatore DE ITAL DE ITAL Actuator	ITAL 10	ITAL 10	ITAL 10	ITAL 20	ITAL 20	ITAL 20	ITAL 20	ITAL 30	ITAL 35	ITAL 40	ITAL 45

(le misure sono espresse in mm / measures are expressed in mm)

**A TERMINI DI LEGGE È PROIBITO RIPRODURRE O COMUNICARE A TERZI IL CONTENUTO DELLA PRESENTE SCHEDA  
ACCORDING TO THE LAW IT IS FORBIDDEN TO REPRODUCE OR COMMUNICATE THE CONTENTS OF THIS LEAFLET TO THIRD PARTIES**

# VALVOLE A SFERA FLANGIATE FLANGED BALL VALVES

## FAMIGLIA 03 – GRUPPI 42-72 / FAMILY 03 – GROUPS 42-72

Le valvole a sfera trovano la loro applicazione in un'ampia gamma di settori industriali: idraulico, chimico, alimentare, farmaceutico, ecc.

La caratteristica principale è di avere una ridottissima perdita di carico.

L'attrito tra la sfera e le guarnizioni in PTFE è molto ridotto, con conseguente vantaggio di una limitata usura delle stesse.

Tutte le valvole sono collaudate prima di lasciare il nostro stabilimento.

Prodotto che può non essere fabbricato in Italia.

*Ball valves can be employed in many industrial fields: hydraulic, chemical, food, pharmaceutical, etc.*

*Their main characteristic is to have a very low pressure drop.*

*Friction between ball and PTFE gaskets is very low, thus limits gasket wear.*

*All of them are tested before leaving our factory.*

*This item can be not of national production.*



**Valvole a sfera Flangiata  
Flanged Ball Valves**

### Dati tecnici

**Annotaz. generali:** ogni valore di pressione di seguito indicato è valore di pressione relativa  
**Valvole destinate a fluidi del gruppo 2 (direttiva 97/23/CE).** Per l'utilizzo con fluidi del gruppo 1 (direttiva 97/23/CE) contattare il nostro ufficio tecnico.

**DN:** 1/2" ÷ 8"

**Connessioni:** Flangiate PN 16 – PN 40 – ANSI 150

**Pmax amm.:** 16 bar

**Tmax amm.:** +200 °C

**Tmin amm.:** -10 °C (in fase liquida).

### Technical Data

**General notice:** all the pressure values indicated hereinafter are gauge pressure values.

**Valves destined to fluids of group 2 (directive 97/23/EC).** For use with fluids of group 1 (directive 97/23/EC) contact our technical department

**ND:** 1/2" ÷ 8"

**Connections:** Flanged PN 16 – PN 40 – ANSI 150

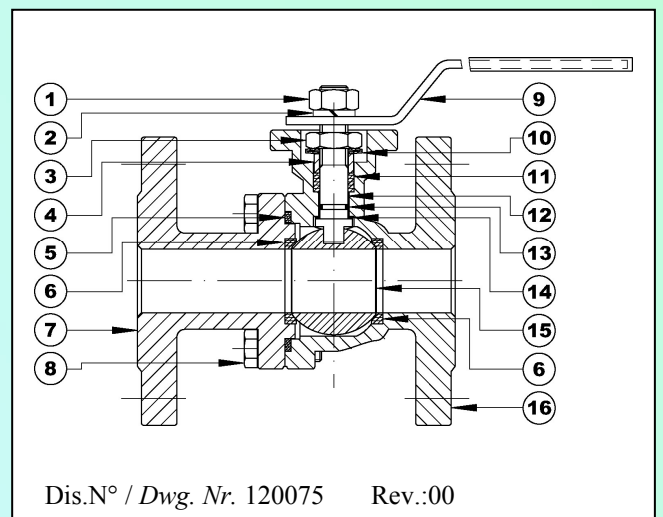
**Pmax allow.:** 16 bar

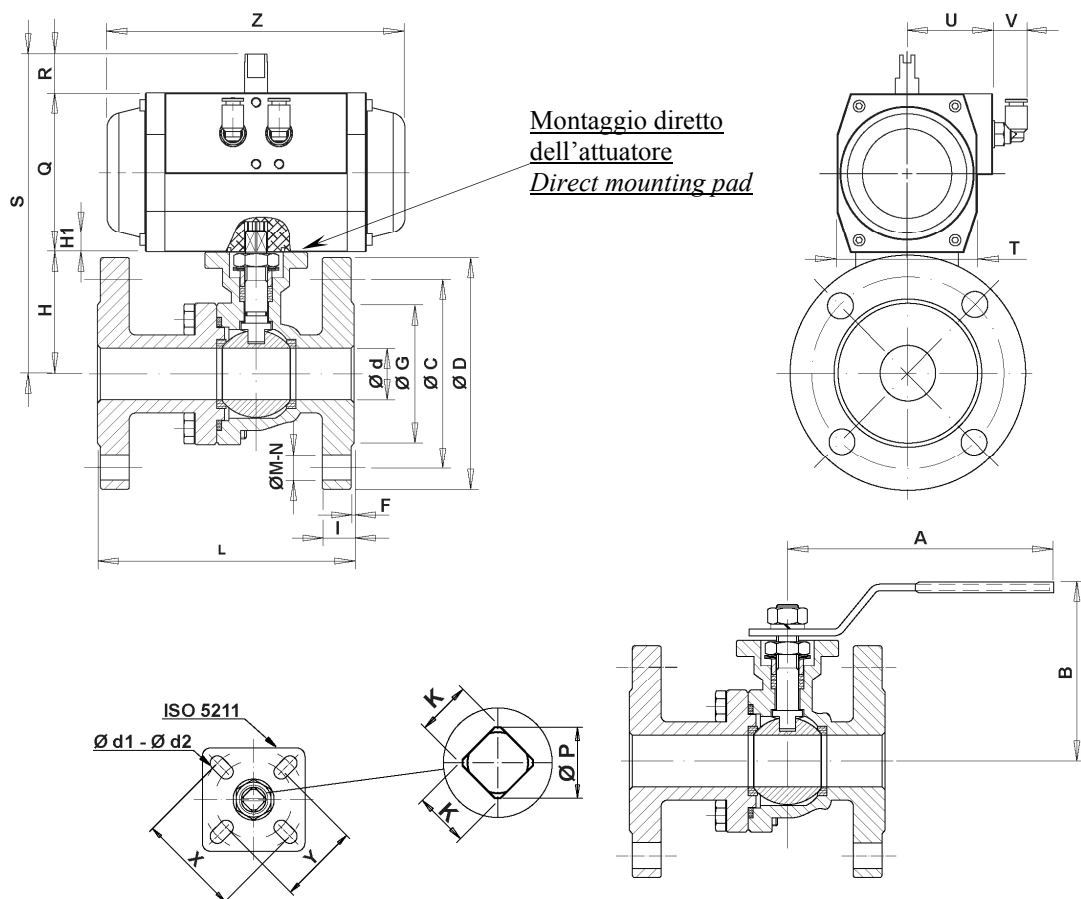
**Tmax allow.:** +200 °C

**Tmin allow.:** -10 °C (in liquid state).

### Tabella Particolari / Details table

P. N° D. Nr	Descrizione Description	Materiale Material
1	Dado esagonale / Hexagonal nut	AISI 304
2	Rondella elastica / Spring washer	AISI 304
3	Dado esagonale / Hexagonal nut	AISI 304
4	Rondella premistoppa / Packing gland washer	AISI 304
5	Guarnizione corpo / Body gasket	PTFE
6	Guarnizione sfera / Ball gasket	PTFE
7	Testata / End cap	AISI 316
8	Vite testa es. / Hexagonal head screw	AISI 304
9	Leva / Handle	AISI 304
10	Molla a tazza / Cup spring	Acc / Steel
11	Pacco premistoppa / Packing gland	PTFE
12	Alberino / Shaft	AISI 316
13	Guarnizione OR / O-Ring gasket	VITON
14	Guarnizione alberino / Shaft gasket	PTFE
15	Sfera / Ball	AISI 316
16	Corpo valvola / Valve body	AISI 316





Dis. N° / Dwg. Nr.: 120076 Rev. :00

**Dimensioni d'ingombro / Overall dimensions**

DN / ND	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"
d	15	20	25	32	40	50	65	80	100	125	150	200
A	115	115	165	165	200	200	250	250	300	-	-	-
B	95	95	101,5	109	110	130	145	155	182,5	-	-	-
C	65	75	85	100	110	125	145	160	180	210	240	295
D	95	105	115	140	150	165	185	200	220	250	285	340
G	45	58	68	78	88	102	122	138	158	188	212	268
I	14	16	16	16	16	16	18	20	20	22	22	24
F	2	2	2	2	3	3	3	3	3	3	3	3
M	14	14	14	18	18	18	18	18	18	18	22	22
N	4	4	4	4	4	4	4	8	8	8	8	12
L	115	120	125	130	140	150	170	180	190	325	350	400
H	55	60	66,5	74	80	90	105	115	142,5	170	190	259
H1	9	11	11	11	15	15	18	18	23	28	28	25
K	9	9	11	11	14	14	17	17	22	27	27	36
ISO 5211	F03/F04	F04/F05	F04/F05	F04/F05	F05/F07	F05/F07	F07/F10	F07/F10	F10/F12	F10/F12	F10/F12	F14
X	42	50	50	50	70	70	102	102	125	125	125	140
Y	36	42	42	42	50	50	70	70	102	102	102	-
d1	6	7	7	7	9	9	10,5	10,5	12,5	12,5	12,5	17
d2	5,5	6,5	6,5	6,5	7	7	9	9	10,5	10,5	10,5	-
P	12	12	14	14	18	18	22	22	28	36	36	48
Q	83	100	100	100	110	110	125	142	142	176	200	250
R	20	20	20	20	20	20	20	30	30	30	30	50
S	158	180	186,5	194	210	220	250	287	314,5	376	420	559
T	73	85	85	85	98	98	110	128	128	160	175	215
U	44,5	49,5	49,5	49,5	53	53	58	69	69	-	-	-
V	18	18	18	18	18	18	18	18	18	18	18	18
Z	155	213	213	213	236	236	276	310	310	388	468	563
Attuatore DE ITAL DE ITAL Actuator	ITAL 20	ITAL 30	ITAL 30	ITAL 30	ITAL 35	ITAL 35	ITAL 40	ITAL 45	ITAL 45	ITAL 55	ITAL 60	ITAL 80

(le misure sono espresse in mm / measures are expressed in mm)

**A TERMINI DI LEGGE È PROIBITO RIPRODURRE O COMUNICARE A TERZI IL CONTENUTO DELLA PRESENTE SCHEDA  
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## VALVOLE A SFERA MANUALI 3 PEZZI

### 3 PIECES MANUAL BALL VALVES

**FAMIGLIA 03 – GRUPPI 40-41 / FAMILY 03 – GROUPS 40-41**

Le valvole a sfera trovano la loro applicazione in un'ampia gamma di settori industriali: idraulico, chimico, alimentare, farmaceutico, ecc.

La loro caratteristica principale è di avere una ridottissima perdita di carico.

L'attrito tra la sfera e le guarnizioni in RTFE è molto ridotto, con conseguente vantaggio di una limitata usura delle stesse.

Tutte le valvole sono collaudate prima di lasciare il nostro stabilimento.

Prodotto che può non essere fabbricato in Italia.

*Ball valves can be employed in many industrial fields: hydraulic, chemical, food, pharmaceutical, etc.*

*Their main characteristic is to have a very low pressure drop.*

*Friction between ball and RTFE gaskets is very low, thus limits gasket wear.*

*All of them are tested before leaving our factory.*

*This item can be not of national production.*



**Valvole a sfera manuali 3 pezzi**  
**3 pieces manual Ball Valves**

#### Dati tecnici

**Annotaz. generali:** ogni valore di pressione di seguito indicato è valore di pressione relativa  
**Valvole destinate a fluidi del gruppo 2 (direttiva 97/23/CE).** Per l'utilizzo con fluidi del gruppo 1 (direttiva 97/23/CE) contattare il nostro ufficio tecnico.

**DN:** 1/4" ÷ 4"

**Connessioni:** filettate femmina (versione "T")  
 a saldare di tasca (versione "S")  
 a saldare di testa (versione "B")

**Pmax amm.:** 64 bar (DN 1/4"÷1"), 25 bar (DN 1"1/4), 10 bar (DN 1"1/2÷4")

**Tmax amm.:** +200 °C

**Tmin amm.:** -10 °C (in fase liquida).

#### Technical Data

**General notice:** all the pressure values indicated hereinafter are gauge pressure values.

**Valves destined to fluids of group 2 (directive 97/23/EC).** For use with fluids of group 1 (directive 97/23/EC) contact our technical department

**ND:** 1/4" ÷ 4"

**Connections:** female threaded ("T" version)  
 socket welding ("S" version)  
 butt welding ("B" version)

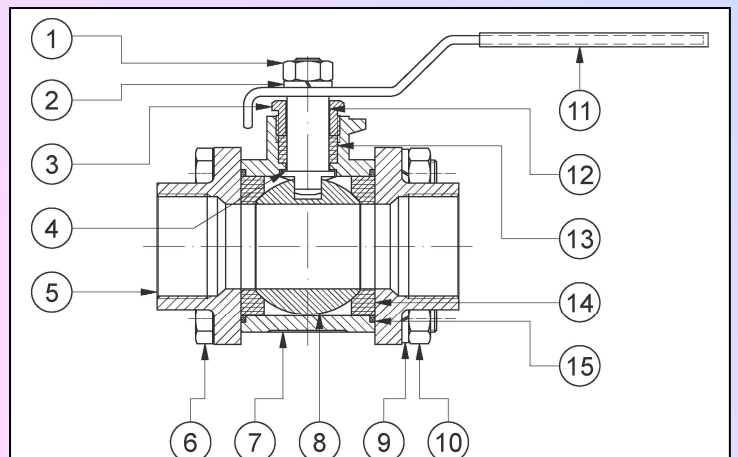
**Pmax allow.:** 64 bar (ND 1/4"÷1"), 25 bar (ND 1"1/4), 10 bar (ND 1"1/2÷4")

**Tmax allow.:** +200 °C

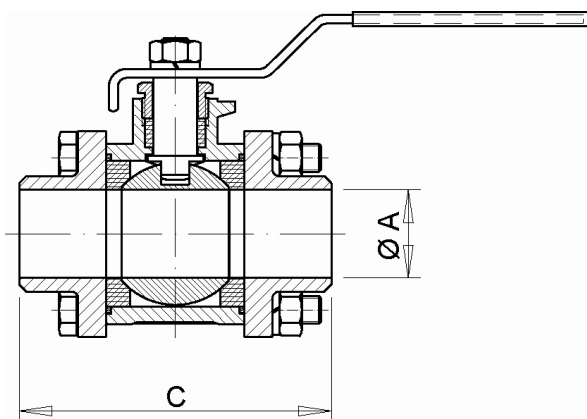
**Tmin allow.:** -10 °C (in liquid state).

#### Tabella Particolari / Details table

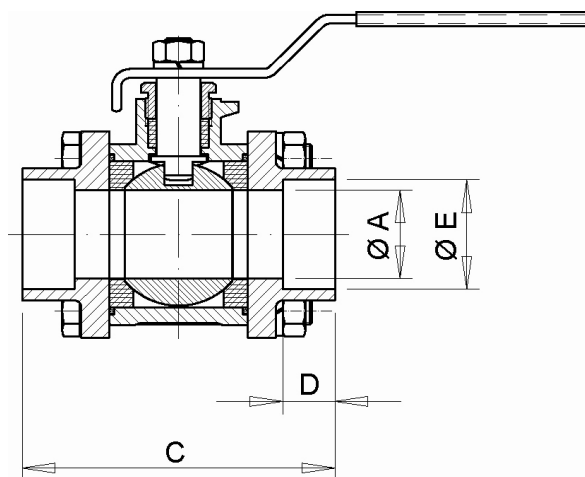
P. N° D. Nr	Q.tà Q.ty	Descrizione Drescription	Materiale Material
1	1	Dado esagonale / Hexagonal nut	AISI 304
2	1	Rondella elastica / Spring washer	AISI 304
3	1	Vite premistoppa / Packing gland screw	AISI 304
4	1	Guarnizione alberino / Shaft gasket	PTFE
5	2	Testata / End cap	AISI 316
6	4 / 6	Vite testa es. / Hexagonal head screw	AISI 304
7	1	Corpo valvola / Body valve	AISI 316
8	1	Sfera / Ball	AISI 316
9	4 / 6	Rondella elastica / Spring washer	AISI 304
10	4 / 6	Dado esagonale / Hexagonal nut	AISI 304
11	1	Leva / Lever	Fe 360
12	1	Alberino / Shaft	AISI 316
13	1	Pacco premistoppa / Packing gland	PTFE
14	2	Guarnizione sfera / Ball gasket	RTFE
15	2	Guarnizione corpo / body gasket	PTFE



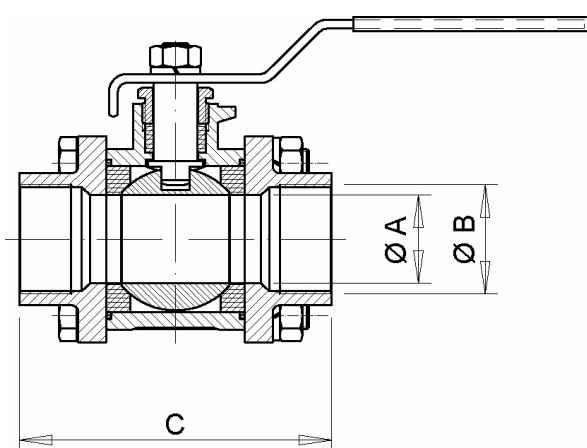
Valvola a sfera tipo "B" / "B" type Ball Valve



Valvola a sfera tipo "S" / "S" type Ball Valve



Valvola a sfera tipo "T" / "T" type Ball Valve



Dis. N° /Dwg. Nr.: 040465 Rev. :00

**Dimensioni d'ingombro valvole tipo "B" / Overall dimensions of "B" type valves**

DN / ND	1/4"	3/8"	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"
Ø A	11,5	12,7	15	20	25	31,8	38	50	65	80	100
C	54	60	63,5	72,5	81	110	108	121,5	157,5	190	225

(le misure sono espresse in mm / measures are expressed in mm)

**Dimensioni d'ingombro valvole tipo "S" / Overall dimensions of "S" type valves**

DN / ND	1/4"	3/8"	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"
Ø A	11,5	12,5	15	20	25	32	38	50	65	80	100
C	54	60	63,5	72,5	81	95	108	121,5	157,5	190	225
D	10	10	10	13	13	13	13	16	16	16	22
Ø E	14,2	17,5	21,8	27,4	34,1	42,7	49	61	77	90,2	115,3

(le misure sono espresse in mm / measures are expressed in mm)

**Dimensioni d'ingombro valvole tipo "T" / Overall dimensions of "T" type valves**

DN / ND	1/4"	3/8"	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"	2" 1/2	3"	4"
Ø A	11,6	12,7	15	20	25	32	38	50	65	76	100
Ø B	1/4" GAS	3/8" Gas	1/2" GAS	3/4" GAS	1" GAS	1" 1/4 GAS	1" 1/2 GAS	2" GAS	2" 1/2 GAS	3" GAS	4" GAS
C	54	60	64	73	95	95	110	125	180	190	230

(le misure sono espresse in mm / measures are expressed in mm)

**A TERMINI DI LEGGE È PROIBITO RIPRODURRE O COMUNICARE A TERZI IL CONTENUTO DELLA PRESENTE SCHEDA  
ACCORDING TO THE LAW IT IS FORBIDDEN TO REPRODUCE OR COMMUNICATE THE CONTENTS OF THIS LEAFLET TO THIRD PARTIES**

## ATTUATORI PNEUMATICI ROTATIVI SERIE ITAL

## ROTATIONAL PNEUMATIC ACTUATORS SERIES ITAL

Gli attuatori pneumatici serie ITAL rappresentano la soluzione ideale alle necessità di attuazione di tutte le tipologie di valvole rotative.

Realizzati in alluminio anodizzato adatto anche a impieghi in ambiente esterno, sono del tipo pignone-cremagliera.

Sono disponibili nella versione a doppio o semplice effetto (ritorno a molla), con la possibilità di registrazione dell'angolo di rotazione.

Le forature di accoppiamento al corpo valvola sono in accordo alle norma ISO 5211/DIN 3337/VDI VDE 3845 Namur così come le forature superiori e laterali per l'accoppiamento degli accessori.

*Pneumatic actuators series ITAL are ideal solution to any necessity of actuation of any rotational valve.*

*Made with anodized aluminum suitable for external use too, they are based on technology pinion-rack.*

*They are available in double and single-effect version (spring return), with possibility of adjusting angle of rotation.*

*Drillings for coupling to valve body are in accordance with standards ISO 5211/DIN 3337/VDI VDE 3845 Namur as well as upper and side drillings for coupling to accessories.*



### Dati tecnici – Technical Data

**Corpo attuatore - Actuator Body:** Lega d'alluminio anodizzato - *Anodized Aluminum Alloy*

**Testate - Heads:** Lega d'alluminio pressofuso (riv. epossidico) - *Pressure Die-Cast Aluminum Alloy (epoxy coating)*

**Pistoni - Pistons:** Lega d'alluminio pressofuso - *Pressure Die-Cast Aluminum Alloy*

**Albero - Pinion:** Acciaio al carbonio E.N.P. - *Carbon Steel E.N.P.*

**Guida pistone - Piston Guide:** Delrin

**O-Ring - O-Rings:** BUNA N

**Molle - Springs:** Acciaio armonico (riv. cataforesi) - *Harmonic Steel (cataphoresis coating)*

**Viti e bulloni - Bolts and Nuts:** AISI304

**Tmax - Max T:** +80 °C (standard - *standard*) +150°C (a richiesta - *on demand*)

**Tmin - Min T:** -20 °C (standard - *standard*) -50°C (a richiesta - *on demand*)

**P aliment. - Feeding P:** 2 - 8 bar (D.E. - *D.E.*) 3 - 8 bar (S.E. - *S.E.*)

**P aliment.max - Max Feeding P:** 10 bar

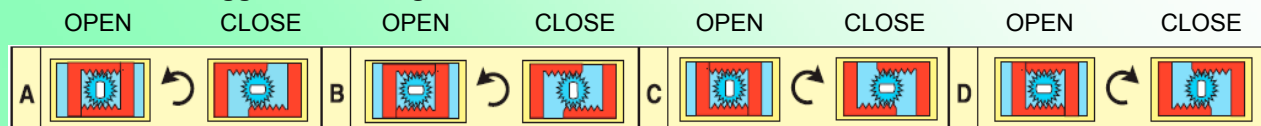
**Fluido aliment.- Feeding Fluid:** Aria filtrata lubrificata e non - *Filtered and Lubricated/Non-Lubricated Air*

**Connessione - Connection:** Quadra - Poligonale *Square - Polygonal*

**Accessori - Accessories:** Elettrovalvola pilota - Box finecorsa - Posizionatore - Comando manuale  
*Pilot Solenoid Valve - Micro-Switch Box - Positioner - Manual Override*

**Certificazioni - Certificates:** CE - PED - ATEX - SIL - GOST

## Varianti di montaggio - Mounting Variations



## Tabella consumi aria - Air Consumption Table

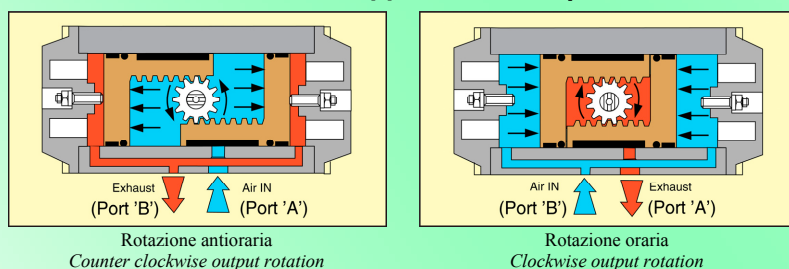
Taglia Size	CONSUMO ARIA (litri) - AIR CONSUMPTION (litres)											
	00	10	20	30	35	40	45	50	55	60	80	100
Apertura Opening	0,04	0,08	0,12	0,24	0,48	0,68	1	1,4	1,6	3,2	5,3	14,2
Chiusura* Closure*	0,05	0,1	0,16	0,44	0,56	0,96	1,6	2,16	2,56	4	8,6	16,5

\*solo per versione a doppio effetto - for double-effect version only

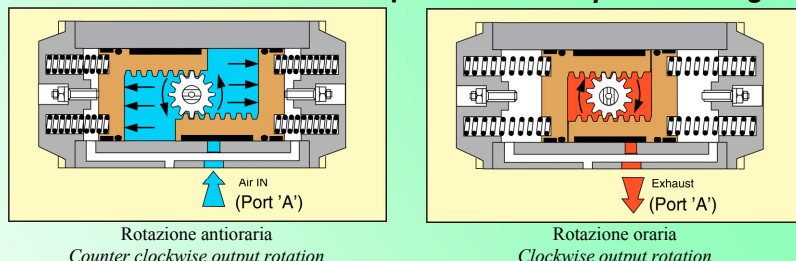
## Tabella tempi manovra [secondi] - Manouvre Time Table [second]

Taglia Size	00	10	20	30	35	40	45	50	55	60	80	100
Doppio Effetto Double Effect	0,5	0,5	0,7	0,8	0,9	0,95	1	1,25	1,5	1,75	3,5	5,5
Semplice Effetto Single Effect	-	0,5	0,7	0,8	0,9	0,95	1	1,5	2	2,5	5	7,5

## Funzionamento Attuatore Doppio Effetto - Operation Double Effect Actuator



## Funzionamento Attuatore Semplice Effetto - Operation Single Effect Actuator

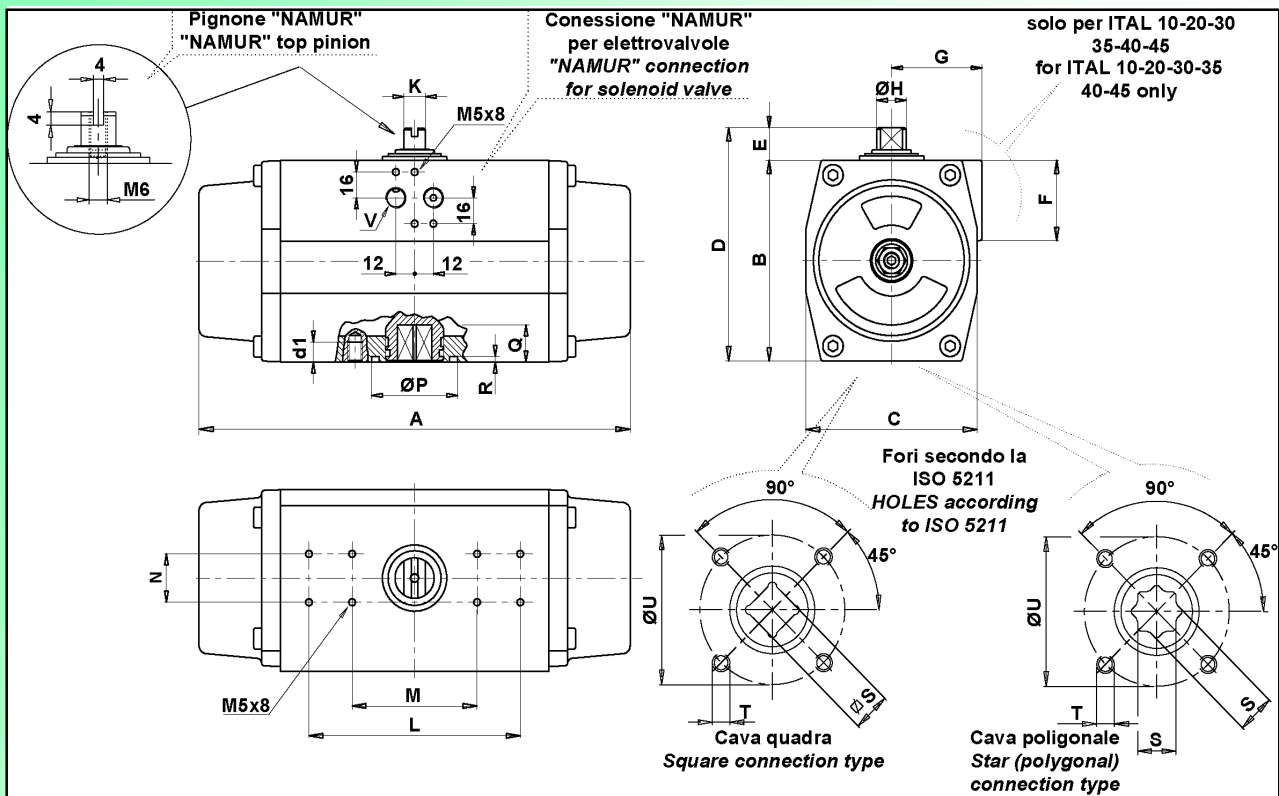


## Tabella momenti torcenti - Doppio Effetto - Torque Moment Table - Double Effect

Taglia Size	MOMENTO TORCENTE (Nm) - TORQUE MOMENT (Nm)						
	PRESSIONE DI ALIMENTAZIONE (bar) - FEEDING PRESSURE (bar)						
	2	3	4	5	6	7	8
00	2,4	3,6	4,8	6	7,3	8,5	9,7
10	5,9	8,9	11,8	14,8	17,7	21,7	24,8
20	9,5	14,1	18,8	23,5	28,2	32,9	37,6
30	20	30	40	50	60	70	80
35	34	51	68	85	102	119	136
40	48	71	95	119	142	168	192
45	87,2	130,8	174,4	218	261,6	305,2	348,8
50	111	167	222	278	333	388,5	444
55	157,6	236,4	315,3	394,1	473	551,8	630,6
60	227	340	454	567	680	794,5	908
80	426	638	851	1064	1276	1491	1704
100	1078	1617	2156	2695	3234	3773	4312

**Tabella momenti torcenti - Semplice Effetto - Torque Moment Table - Single Effect**

MOMENTO TORCENTE (Nm) - TORQUE MOMENT (Nm)															
Taglia	Nr. Molle	PRESSIONE ALIMENTAZIONE (bar) - FEEDING PRESSURE (bar)												Spinta molle	
		3		4		5		6		7		8			
Size	Nr.Springs	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	Spring Stroke	
10	2	6,5	5,4	9,4	8,3	12,4	11,3	15,3	14,2	19,3	18,2	22,4	21,3	3,5	2,4
	4	4,1	1,9	7,0	4,8	10,0	7,8	12,9	10,7	16,9	14,7	20,0	17,8	7,0	4,8
	6	-	-	-	-	7,6	4,3	10,5	7,2	14,5	11,2	17,6	14,3	10,5	7,2
20	2	10,3	8,5	15,0	13,2	19,7	17,9	24,4	22,6	29,1	27,3	33,8	32,0	5,6	3,8
	4	-	-	11,2	7,6	15,9	12,3	20,6	17,0	25,3	21,7	30,0	26,4	11,2	7,6
	6	-	-	-	-	12,1	6,7	16,8	11,4	21,5	16,1	26,2	20,8	16,8	11,4
30	2	22,0	18,0	32,0	28,0	42,0	38,0	52,0	48,0	62,0	58,0	72,0	68,0	12,0	8,0
	4	-	-	24,0	16,0	34,0	26,0	44,0	36,0	54,0	46,0	64,0	56,0	24,0	16,0
	6	-	-	-	-	26,0	14,0	36,0	24,0	46,0	34,0	56,0	44,0	36,0	24,0
35	2	41,5	30,0	58,5	47,0	75,5	64,0	92,5	81,0	110	98,0	127	115	21,0	9,5
	4	-	-	43,0	20,0	60,0	37,0	77,0	54,0	94,0	71,0	111	88,0	48,0	25,0
	6	-	-	-	-	47,0	22,0	64,0	39,0	81,0	56,0	106,4	73,0	63,0	38,0
40	2	52,7	42,4	76,7	66,4	101	90,4	124	113	150	139	174	175	28,6	18,3
	4	-	-	58,0	38,0	82,0	62,0	105,0	85,0	131,0	111,0	155,0	132,0	57,0	37,0
	6	-	-	-	-	64,0	33,0	87,0	56,0	113,0	82,0	137,0	88,8	86,0	55,0
45	2	96,8	77,5	140	121	184	165	228	208	271	252	315	296	53,3	34,0
	4	62,8	24,2	106	67,8	150	111	194	155	237	199	281	242	107	68,0
	6	-	-	72,4	14,4	116	58,0	160	102	203	145	247	189	160	102
50	2	124	99,4	179	154	235	210	290	265	345	321	401	376	67,6	43,3
	4	-	-	136	87,0	192	143	247	198	303	254	358	309	135	86,0
	6	-	-	-	-	148	75,0	203	130	259	186	314	241	203	130
55	2	176	133	259	215	338	294	416	373	495	452	574	531	100	57
	4	120	33	202	115	281	194	360	273	439	352	517	431	200	133
	6	-	-	145	15	224	94	303	173	382	252	461	331	300	170
60	2	257	200	371	314	484	427	597	540	712	655	825	768	140	83
	4	-	-	287	174	400	287	513	400	628	515	741	628	280	167
	6	-	-	-	-	316	147	429	260	544	375	657	488	420	251
80	2	478	386	691	599	904	812	1116	1024	1331	1239	1704	1452	252	160
	4	-	-	531	347	744	560	956	772	1171	987	1384	1200	504	320
	6	-	-	-	-	584	308	796	520	1011	735	1224	948	756	480
100	2	1181	957	1720	1496	2259	2032	2798	2574	3337	3113	3876	3652	660	436
	4	-	-	1284	837	1823	1376	2362	1915	2901	2454	3440	2993	1319	872
	6	-	-	-	-	-	-	1909	1254	2448	1793	2987	2332	1980	1325



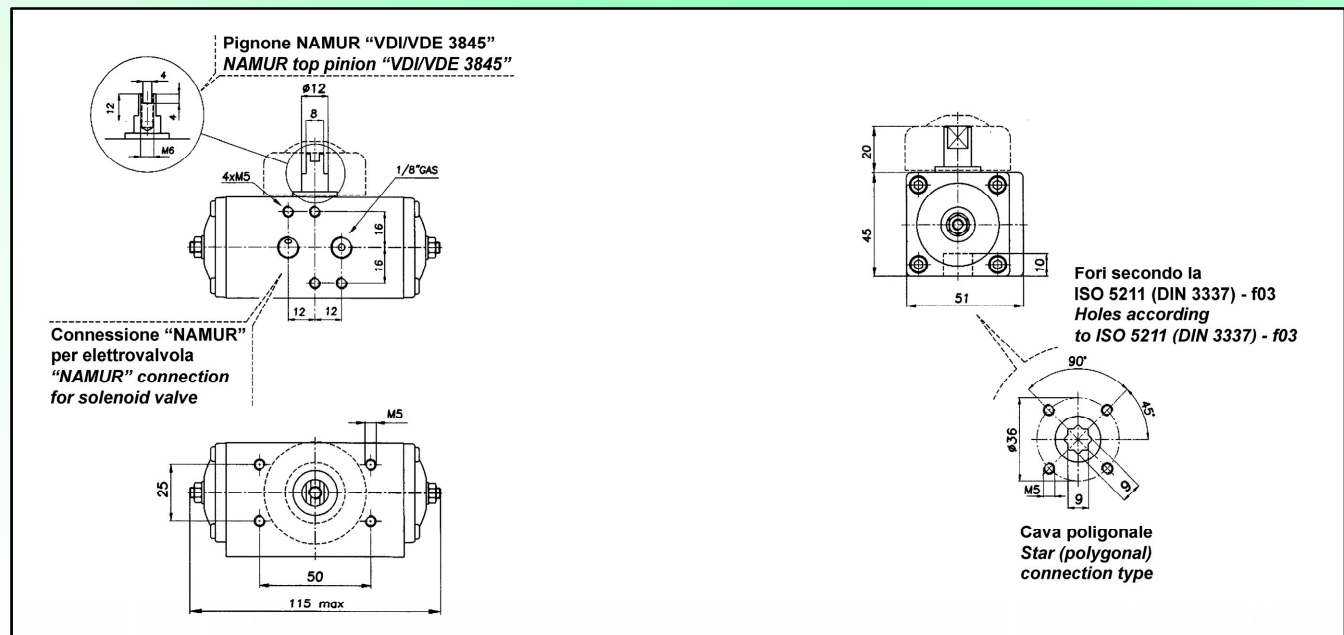
**Tabella dimensionale (mm) - Dimension Table (mm)**

Taglia Size	A	B	C	D	E	F	G	H	K	L	M	N	P	Q	R	∅S-S	T	d1	U	V	ISO 5211 standard	ISO 5211 speciale
10	142	67	60	87	20	42	41	12	8	-	80	30	25	10	2	9/11*	M5/M6	8/9	36/50	1/8"	F03/F05	F04
20	155	83	73	103	20	42	44,5	12	8	-	80	30	30/35	12	2	11/14*	M5/M6	8 o 9	42/50	1/4"	** F04/F05	-
30	213	100	85	120	20	50	49,5	14	10	-	80	30	35	20	3	14/17*	M6/M8	10/12	50/70	1/4"	F05/F07	-
35	236	110	98	130	20	50	53	19	14	-	80	30	35	22	3	17/22*	M8	12	70	1/4"	F07	F05/F07
40	276	125	110	145	20	50	58	19	14	-	80	30	55	22	3,5	17/22*	M8/M10	12/15	70/102	1/4"	F07/F10	-
45	310	142	128	172	30	58	69	28	20	130	80	30	55	24	3,5	17*/22	M10	15	102	1/4"	F10	F07
50	366	155	140	185	30	-	-	28	20	130	80	30	70	24	3,5	17*/27	M10	15	102	1/4"	F10	F07/F12
55	388	176	160	206	30	-	-	36	28	130	80	30	85	29	3,5	22*/27	M12	18	125	1/4"	F12	F10
60	468	200	175	230	30	-	-	36	28	130	80	30	85	29	3,5	22*/27	M12	18	125	1/4"	F12	F10
80	563	250	215	300	50	-	-	48	32	130	-	30	100	38	5	27*/36	M16	24	140	1/4"	F14	F12
100	750	335	290	385	50	-	-	48	32	130	-	30	130	50	5	36*/46	M20	30	165	1/4"	F16	F14

\* Dimensione su richiesta (potrebbe essere a cava quadra) - \*\* Foratura da specificare in fase d'ordine - La foratura ISO 5211 è disponibile nella versione standard o in quella speciale e mai in entrambe

\* Dimension on demand - \*\* Drilling to be specified - Standard or special drilling are available singularly

**Tabella dimensionale taglia 00 (mm) - Dimension Table Size 00 (mm)**



**A TERMINI DI LEGGE È PROIBITO RIPRODURRE O COMUNICARE A TERZI IL CONTENUTO DELLA PRESENTE SCHEDA**

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## FFF VALVES

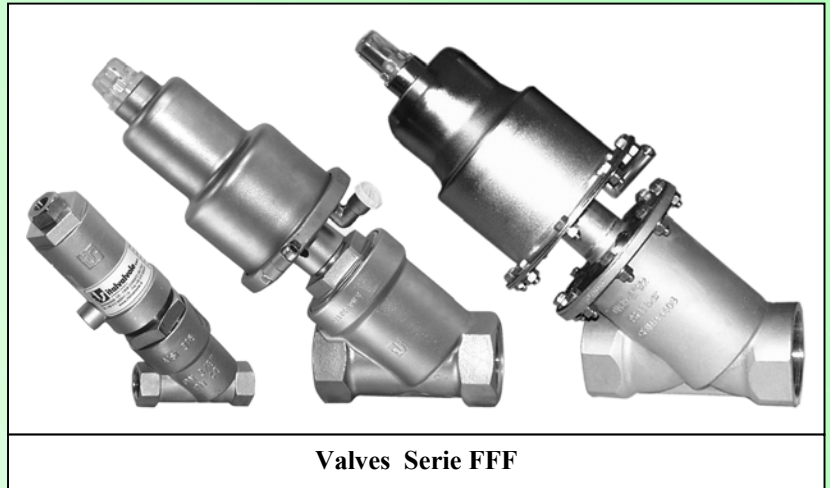
### FAMILY 01 – GROUP 66

Our company policy, aiming at the continuous research of a higher and higher quality and at the study of new products, brought us to the construction of FFF series valves. We have tried to combine in this product high quality and cost cutting.

FFF gate valves, offered in a wide range of models with threaded fittings or to be socket welded, are able to provide the best solution to on-off problems of fluids, liquids, gases and vapours.

Since they are manufactured with limited overall dimensions, they make assembly operations and the requested maintenance easier.

The particular ease of maintenance, the teflon seal on the stem, the use of pressed and microfused components make these valves be one of the most industrialised products of the sector.



#### Technical data

**General notice:** all the pressure values indicated hereinafter are gauge pressure values.

**Valves destined to fluids of group 2 (directive 97/23/EC). For use with fluids of group 1 (directive 97/23/EC) contact our technical department**

**ND:** 15 ÷ 65

**Connections:** Female GAS threaded.  
Socket welding.

**Pmax allowable (PS):** 16 bar .

**Pmin allowable:** 0 bar

**Seal:** PTFE, EPDM, EPDM lined with PTFE.

**Tmax allowable:** 170 °C with PTFE seal; 130 °C with EPDM seal; 150° EPDM lined with PTFE seal.

**Tmin allowable** 0 °C (liquid phase).

**Flow direction:** 2-way globe valve, with unidirectional angle body.

**Air connection:** 1/8" GAS.

**Supply fluid:** instrument air.

**Supply pipes:** Pipe inner diameter = 4 mm, min. outer diameter = 6 mm, able to bear the supply Pmax under the environment conditions.

**P min. (supply):** 6 bar..

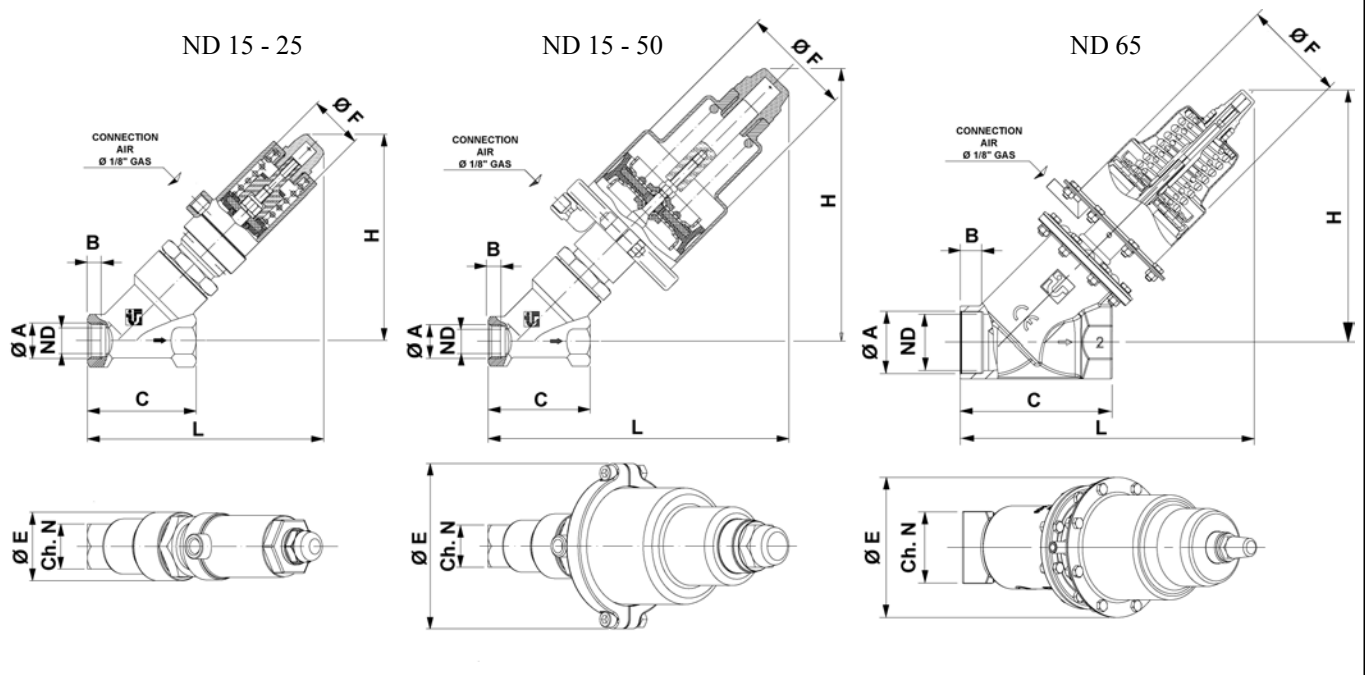
**Versions:** with visual indicator; with inductive sensors; with magnetic sensors; with pneumatic switches, electromechanic limit switches, with solenoid valve and with stroke limiting device.

#### Table air consumption

DRIVE PRESSURE	FFF VALVE AIR CONSUMPTION [ NI / cycle]			
	Servocontrol Ø 32	Servocontrol Ø 70	Servocontrol Ø 80	Servocontrol Ø 125
6 bar	0,085	0,824	1,182	4,982

#### Table seal Δp (bar)

Ø Servocontrol	ND 15	ND 20	ND 25	ND 32	ND 40	ND 50	ND 65
32	7	4	2,5	/	/	/	/
70	16	14	9,5	6,5	4	2,5	/
80	/	/	16	16	11	7	/
125	/	/	/	/	/	/	12

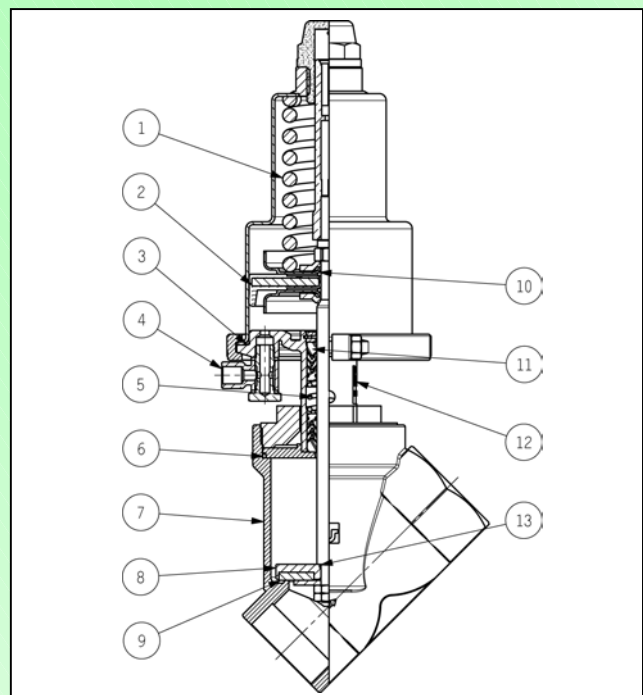


**Dimension table for FFF valves ND 15 + 65 standard** (Measures are expressed in millimetres)

ND	A		B		C	E	F	H	L	N	Approximate Weight (Kg)	Kv
	Threaded	Socket welding	Threaded	Socket welding								
15	1/2"	22	8	11	65	41	32	122,5	140,5	27	0,84	4
						105	70	172,5	190,5			
20	3/4"	27,5	9	12	75	48	32	126,5	146,5	32	0,96	7,5
						105	70	176,5	196,5			
25	1"	34	12	15	90	52	32	131	157,5	39	1,14	12
						105	70	181	207,5			
						115	80	198	224,5			
32	1 1/4"	43	14	17	110	105	70	193	228	49	2,70	19
						115	80	210	245			
40	1 1/2"	49	14	17	120	105	70	198,5	232,5	55	3,10	30
						115	80	215,5	249,5			
50	2"	61	16	19	150	105	70	209,5	247,5	68	3,95	45
						115	80	226,5	264,5			
65	2 1/2"	26	26	26	185	171	125	307,5	358,5	88	10,7	79

**Details table**

D.N°	DESCRIPTION	MATERIAL
1	Servocontrol spring	STEEL FOR SPRING
2	TDUOP gasket	NBR/ACC.
3	O-Ring gasket	GACO
4	Air connections	BRASS
5	Packing gland spring	AISI 316
6	Body gasket	PTFE
7	Body valves	CF8M / 1.4408
8	Plug holder	S31600 / 1.4401
9	Cap	PTFE
		EPDM lined with PTFE
		EPDM
10	O-Ring gasket	GACO
11	Packing gland	PTFE-GRAFITE
12	Intermediate body	CF8-S31600 / 1.4308-1.4401
13	O-Ring gasket	FPM

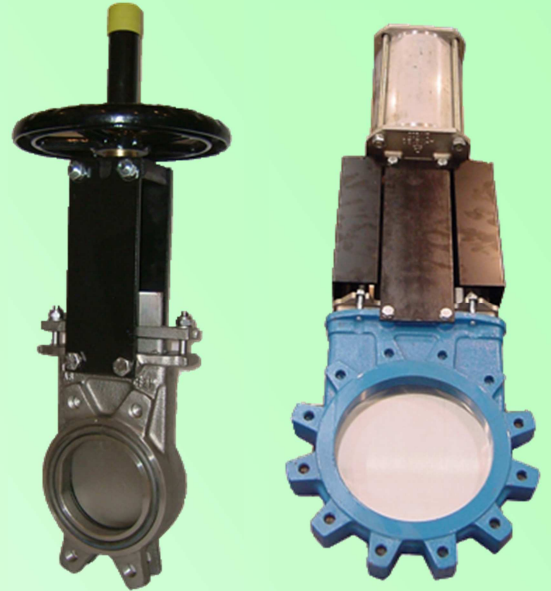


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## VALVOLA A GHIGLIOTTINA VGH/C - KNIFE VALVE VGH/C

Realizzate con differenti materiali, le valvole a ghigliottina rappresentano la soluzione ideale in differenti settori quali: trattamento acque, scarichi industriali, trasporto pneumatico, produzione della carta o per l'intercettazione di polveri, sospensioni o fluidi con particelle anche grossolane.

*Made with different materials, knife valves are ideal solution for applications in different sectors: water treatment, industrial drains, paper production, pneumatic transport or for interception of powders, suspensions or fluids with big particles..*



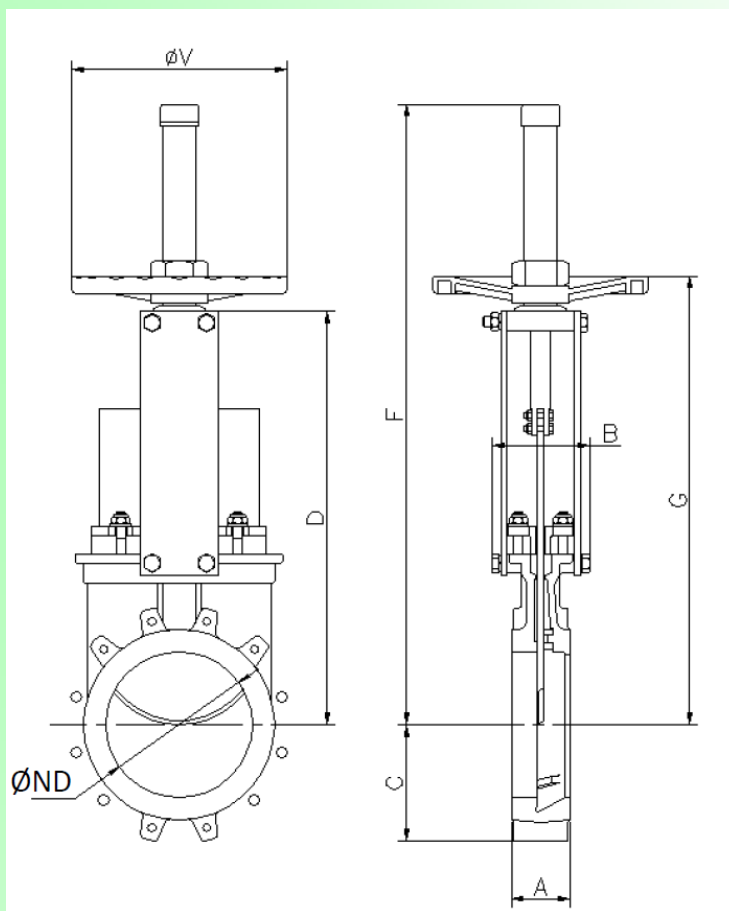
### Dati tecnici – Technical Data

<b>Diametri - Bores:</b>	50 - 1200
<b>Corpo - Body:</b>	GG25 – AISI304 - AISI316
<b>Paratoia – Gate:</b>	AISI304 – AISI316
<b>Stelo - Stem:</b>	AISI420 – AISI304
<b>Packing - Packing:</b>	EPDM – FKM - PTFE – SILICONE - Metal/Metal
<b>O-Ring – O-Ring :</b>	NBR – EPDM - PTFE
<b>Rating - Rating:</b>	PN10
<b>Connessioni – Ends:</b>	Wafer EN1092-1 PN10 Lug EN1092-1 PN10
<b>Versioni – Models:</b>	Rising Stem – Non-Rising Stem
<b>Comando – Control:</b>	Manuale – Attuatore pneumatico – Motore elettrico <i>Manual – Pneumatic Actuator – Electric Engine</i>

### Tabella rating - Rating Table According

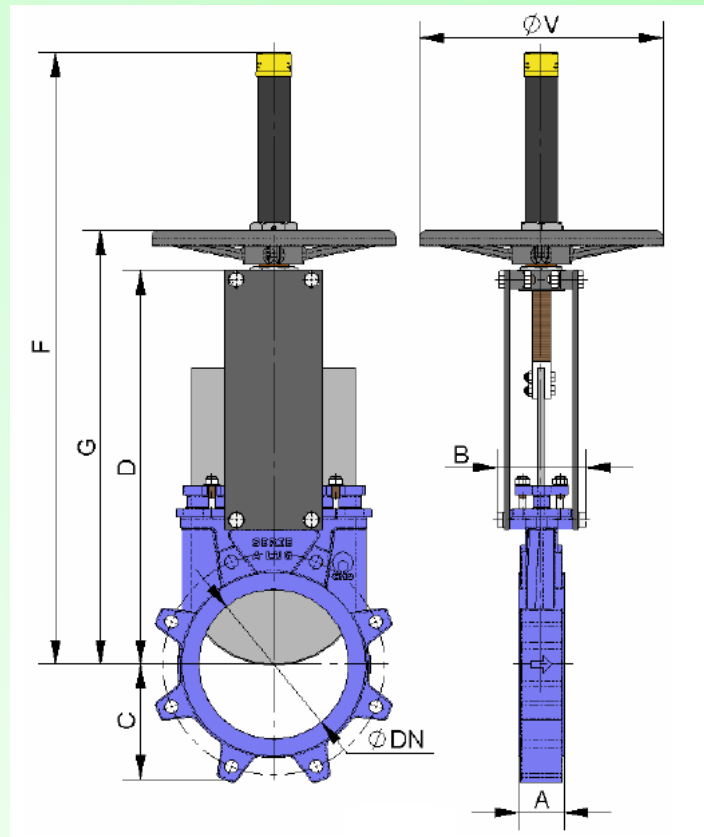
<b>DN</b>	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800
<b>PN</b>	10	10	10	10	10	8	7	5	5	4	4	3	3	3	2	2

**Tabella dimensionale – Wafer - Dimension Table - Wafer**



DN	A	B	C	D	F	G	V	Nm	Kg
50	40	91	61	241	410	280	225	2	7
65	40	91	68	268	437	308	225	3	8
80	50	91	91	294	463	333	225	5	9
100	50	91	104	334	503	373	225	8	11
125	50	101	118	367	586	407	225	12	13
150	60	101	130	419	638	458	225	13	17
200	60	118	159	525	816	578	325	26	28
250	70	118	196	626	1017	679	325	29	40
300	70	118	230	726	1117	779	325	42	56
350	96	290	254	797	1337	906	450	63	94
400	100	290	287	903	1443	1012	450	78	116
450	106	290	304	989	1629	1098	450	82	162
500	110	290	340	1101	1741	1210	450	97	191
600	110	290	398	1307	2047	1416	450	140	264
700	110	320	453	1506	2246	1656	620	180	441
800	110	320	503	1720	2560	1870	620	238	568
900	110	320	583	1953	2893	2103	620	301	736
1000	110	320	613	2137	3177	2287	800	375	921

Tabella dimensionale – Lug - *Dimension Table – Lug*



DN	A	B	C	D	F	G	V	Nm	Kg
50	40	91	61	241	410	280	225	2	8
65	40	91	68	268	437	308	225	3	10
80	50	91	91	294	463	333	225	5	12
100	50	91	104	334	503	373	225	8	13
125	50	101	118	367	586	407	225	12	15
150	60	101	130	419	638	458	225	13	20
200	60	118	159	525	816	578	325	26	32
250	70	118	196	626	1017	679	325	29	46
300	70	118	230	726	1117	779	325	42	64
350	96	290	254	797	1337	906	450	63	105
400	100	290	287	903	1443	1012	450	78	132
450	106	290	304	989	1629	1098	450	82	183
500	110	290	340	1101	1741	1210	450	97	212
600	110	290	398	1307	2047	1416	450	140	294
700	110	320	453	1506	-	-	-	180	-
800	110	320	503	1720	-	-	-	238	-
900	110	320	583	1953	-	-	-	301	-
1000	110	320	613	2137	-	-	-	375	-



**Ex** ATEX / **KC** / **NEPSI** flameproof



**IECEX** / **Ex** ATEX / **KC** intrinsically safe

## Specifications

	EPR	
	Rotary Type (Cam Feedback)	
	Single	Double
Input Signal	4~20 mA DC (Note. 1)	
Input Resistance	235 ± 15 Ω	
Air Supply	Max. 7.0 bar (100 psi) free of oil, water, and moisture	
Operating Angle	60 ~ 100° (Note. 2)	
Pneumatic Connections	PT(Rc) 1/4 or NPT 1/4	
Electrical Connections	PF(G) 1/2 or NPT 1/2	
Protection Class	ATEX Eex md IIB T5, KC Ex dmb IIB+H <sub>2</sub> T6 IECEX / ATEX Ex ia IIC T6, KC Ex ia IIC T6, IP66	
Ambient Temperature	-20 ~ +70°C	
Pressure Gauge	Stainless steel	
Output Characteristics	Linear	
Linearity	Within ± 1.0 % F.S	Within ± 1.5 % F.S
Sensitivity	Within ± 0.5 % F.S	
Hysteresis	Within 1.0 % F.S	
Repeatability	Within ± 0.5 % F.S	
Air Consumption	5 LPM (Sup. 1.4 kgf/cm <sup>2</sup> )	
Flow Capacity	80 LPM (Sup. 1.4 kgf/cm <sup>2</sup> )	
Material	Aluminum die-cast	
Weight	3.5 kg (with terminal box) 3.2 kg (without terminal box)	

**Note** : 1) 1/2 split range is available for 4-12mA input signal or 12-20mA input signal  
2) Operating angle can be adjusted to 0~60° or 0~100°

**Robust valve control device giving a confidence in reliable performance and outstanding durability under harsh working environments**

## Features

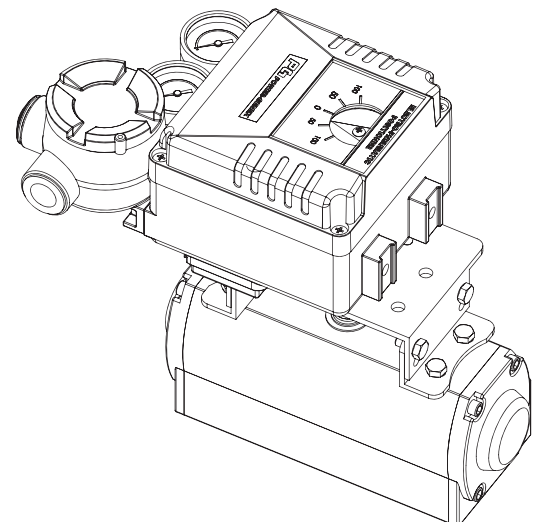
- ▶ Easy maintenance
- ▶ Precise calibration with simple SPAN and ZERO adjustments
- ▶ Simple conversion to direct acting or reverse acting
- ▶ 1/2 split range available
- ▶ Rugged aluminum housing with corrosion-resistant coating
- ▶ Vibration resistant design
- ▶ Stainless steel gauges standard
- ▶ Restricted pilot valve orifice kit for small actuators included
- ▶ **Ex** ATEX-certified (flameproof Eex md IIB T5)
- ▶ **KC** KC-certified (flameproof Ex dmb IIB+H<sub>2</sub> T6)
- ▶ **NEPSI** NEPSI-certified (flameproof Ex dmb IIB+H<sub>2</sub> T6)
- ▶ **IECEX** IECEX-certified (intrinsically safe Ex ia IIC T6)
- ▶ **Ex** ATEX-certified (intrinsically safe Ex ia IIC T6)
- ▶ **KC** KC-certified (intrinsically safe Ex ia IIC T6)
- ▶ EMC-certified

## Options

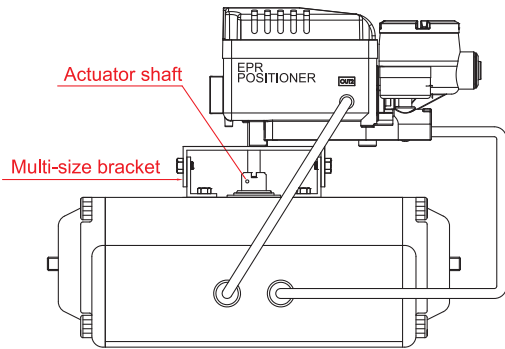
- ▶ Position transmitter (4...20 mA output signal)
- ▶ 2 x SPDT limit switch
- ▶ 2 x P&F proximity sensor NJ2-V3-N
- ▶ Visual dome indicator ▶ High temperature



**With Dome Indicator**

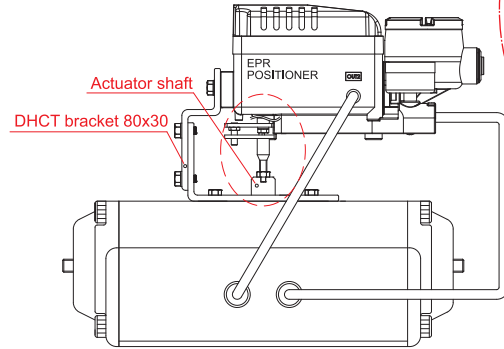


## Mounting



NAMUR Type Mounting

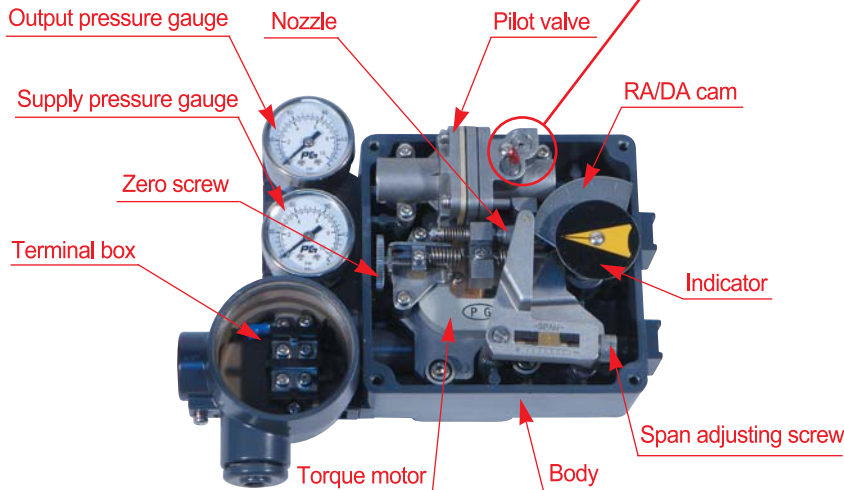
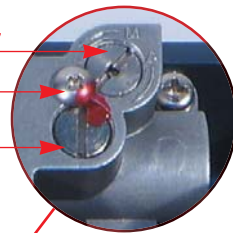
Note that feedback lever shaft "A" should be placed in the orifice of fork lever "B" and they should be in perfect alignment with a rotary actuator output shaft



Fork Lever Type Mounting

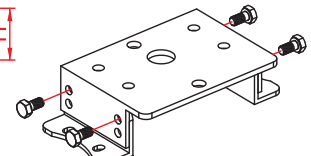
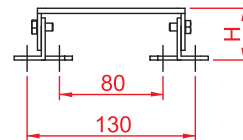
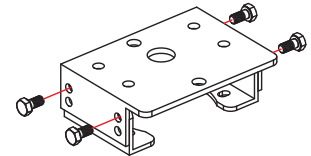
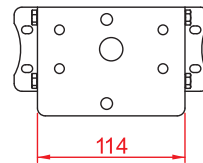
## Internal View

Auto/Manual screw  
Stopper screw  
Seat adjuster



## Multi-size Bracket

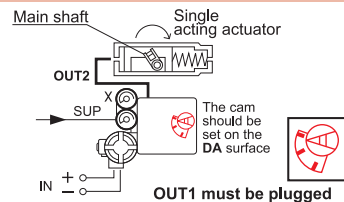
TYPE	H
80 x 30 x 20H	41
80 x 30 x 30H	51
130 x 30 x 20H	41
130 x 30 x 30H	51
130 x 30 x 50H	71



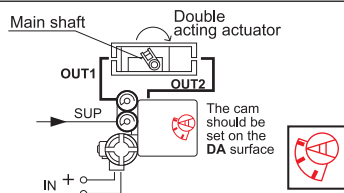
## Air Connections

### Direct Acting (DA)

As the input signal increases, Actuator stem rotates clockwise.

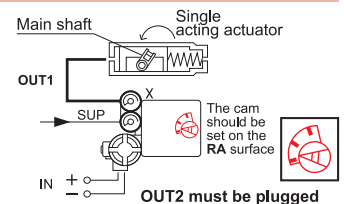


As the input signal increases, Actuator stem rotates clockwise.

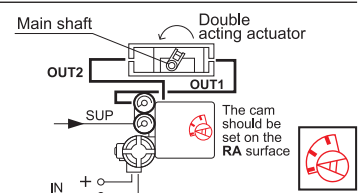


### Reverse Acting (RA)

As the input signal increases, Actuator stem rotates counter clockwise.

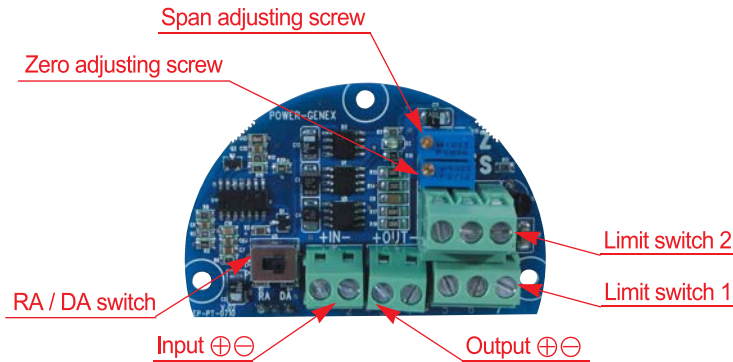


As the input signal increases, Actuator stem rotates counter clockwise.

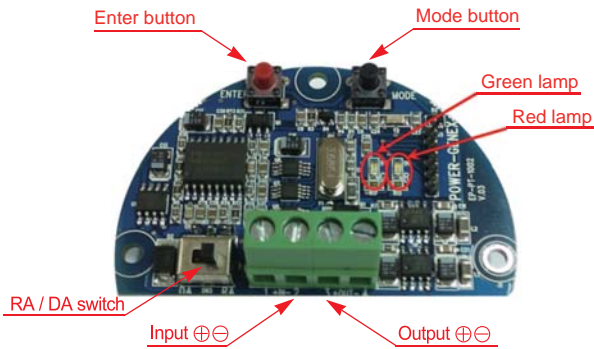


## Position Transmitter Options (Built-in Type)

### 1. Board View

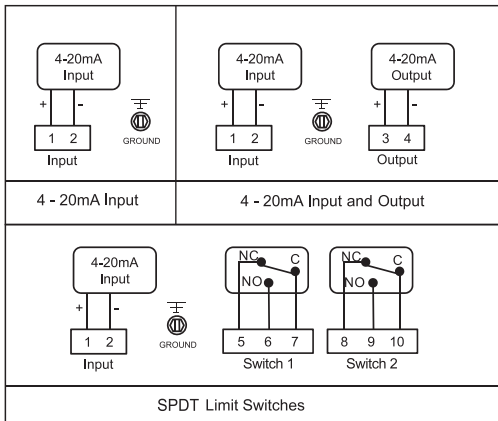


< Analog position transmitter & Limit switches board >



< Smart position transmitter board >  
( ZERO / SPAN Auto setting )

### 3. Wiring Diagram



### 4. SPDT Limit Switches

#### a. Specifications

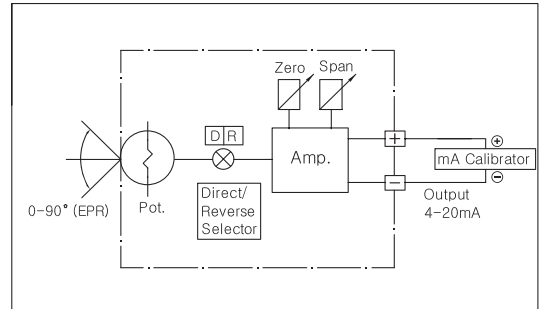
Contacts	SPDT Form C
AC Rating	16 A 1/2 HP 125/250 VAC
DC Rating	0.6 A 125 VDC / 0.3 A 250 VDC
Adjustment	Cams with set screws (L-wrench included for setting)

### 2. Position Transmitter (4-20mA output signal)

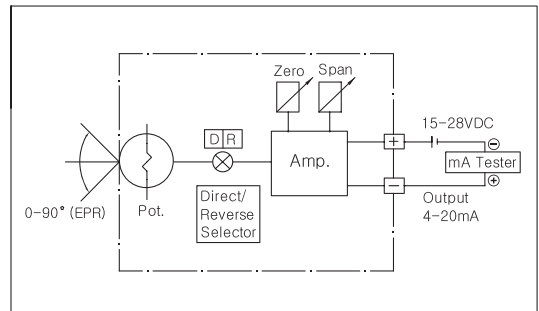
#### a. Specifications

Power Supply Rating	5.5 - 30 VDC loop power
Recommended Power Supply	24 VDC
Output Signal	4 - 20 mA, 2-wire
Operating Temperature	-20° to 70°C
Load Impedance	0 ~ 600 ohms
Max. Output	30 mA DC
Linearity	±1.0 %
Hysteresis	1.0 % of full scale
Repeatability	±0.5 % of full scale
Adjustment	Zero and Span in terminal box

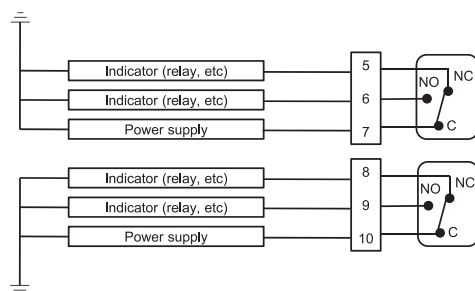
#### b. with mA calibrator



#### c. with multimeter



#### b. Wiring and Application



## How to Order

### EPR

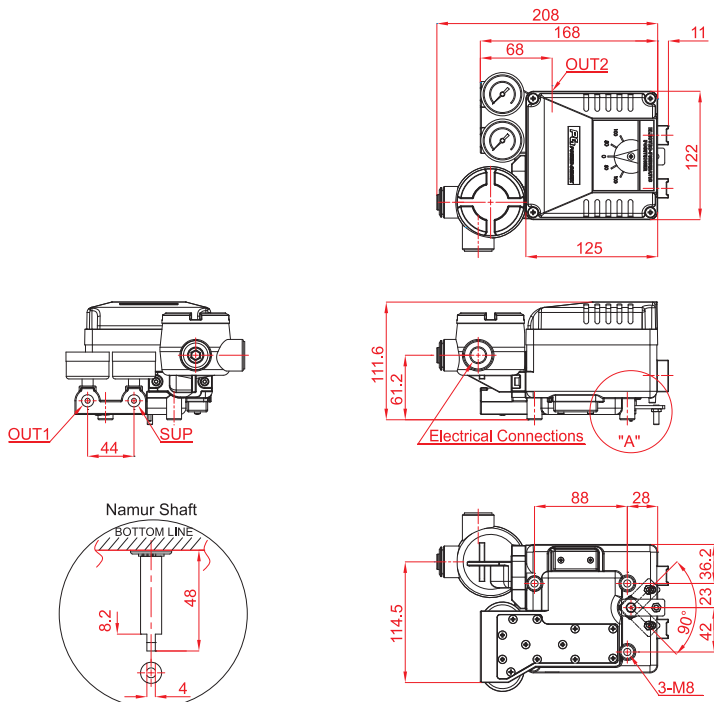
Protection Class	Feedback Shaft	Pressure Gauge (SUP. OUT)	Pilot Valve Orifice	Position Feedback	Connection Threads	Dome Indicator	High Temp	Mounting Bracket
------------------	----------------	---------------------------	---------------------	-------------------	--------------------	----------------	-----------	------------------

Description	Code
<b>Protection Class :</b>	F : KC flameproof Ex dmb IIB+H <sub>2</sub> T6 NEPSI flameproof Ex dmb IIB+H <sub>2</sub> T6 D : KC flameproof Ex dmb IIC T5 A : ATEX flameproof Eex md IIB T5 I : IECEx intrinsically safe Ex ia IIC T6 ATEX intrinsically safe Eex ia IIC T6 K : KC intrinsically safe Ex ia IIC T6 W : Weatherproof to IP66
<b>Feedback Lever :</b>	A : NAMUR shaft (direct mounting) B : Fork lever M6 x 40L C : Fork lever other size on request
<b>Pressure Gauge :</b>	1 : 6bar (90psi) 2 : 10bar (150psi)
<b>Pilot Valve Orifice :</b>	S : Standard (Actuator volume over 180 ) M : Small orifice ( 1.0 or 0.7 ) (Actuator volume over 90 ~180 )
<b>Position Feedback : (only for weatherproof type)</b>	N : None (standard) O : Position transmitter (4 ~ 20mA output signal) L : 2 x SPDT limit switch P : 2 x proximity sensor P&F NJ2-V3-N M : O + L Q : O + P

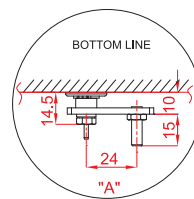
Description	Code
<b>Connection Threads : (pneumatic - electrical)</b>	3 : PT(Rc) 1/4 - PF(G) 1/2 (standard) 4 : NPT 1/4 - NPT 1/2 5 : PT(Rc) 1/4 - M20 x 1.5
<b>Dome Indicator :</b>	N : Flat indicator (standard) D : Dome indicator
<b>High Temperature : (only for weatherproof type)</b>	T : 70 °C (standard) H : 120 °C (without position feedback option) 85 °C (with position feedback option)
<b>Mounting Bracket :</b>	N : None R : Multi-size NAMUR bracket for DIN VDI/VDE 3845 (130x30x50 bracket on request) F : PG bracket 80x30 for Fork lever type E : Multi-size NAMUR bracket for Fork lever type (130x30x50 bracket on request)

## Dimensions

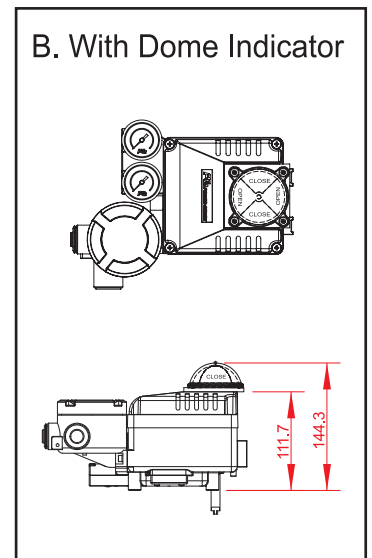
### A. With Flat Indicator



Fork Lever



### B. With Dome Indicator





**ATEX / KC / NEPSI flameproof**



**IECEX / ATEX / KC intrinsically safe**

## Specifications

	EPL	
	Linear Type (Lever Feedback)	
	Single	Double
Input Signal	4~20 mA DC (Note. 1)	
Input Resistance	235 ± 15 Ω	
Air Supply	Max. 7.0 bar (100 psi) free of oil, water, and moisture	
Standard Stroke	10 ~ 80mm (Note. 2)	
Pneumatic Connections	PT(Rc) 1/4 or NPT 1/4	
Electrical Connections	PF(G) 1/2 or NPT 1/2	
Protection Class	Ex dmb IIB+H <sub>2</sub> T6 / Ex dmb IIC T5 Ex ia IIC T6 / IP66	
Ambient Temperature	-20 ~ +70°C (Note. 3)	
Pressure Gauge	Stainless steel	
Output Characteristics	Linear	
Linearity	Within ±1.0 % F.S	Within ±1.5 % F.S
Sensitivity	Within ±0.2 % F.S	Within ±0.5 % F.S
Hysteresis	Within 1.0 % F.S	
Repeatability	Within ±0.5 % F.S	
Air Consumption	5 LPM (Sup. 1.4 kgf/cm <sup>2</sup> )	
Flow Capacity	80 LPM (Sup. 1.4 kgf/cm <sup>2</sup> )	
Material	Aluminum die-cast	
Weight	3.3 kg (with terminal box) 3.0 kg (without terminal box)	

Note : 1) 1/2 split range is available for 4~12mA input signal or 12~20mA input signal  
2) Feedback lever can be extended to stroke 80 ~ 150mm

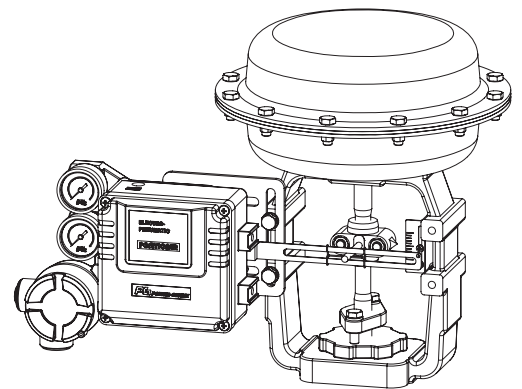
3) High temperature option : up to +120°C without feedback options  
up to +85°C with feedback options

## Features

- ▶ Easy maintenance
- ▶ Precise calibration with simple SPAN and ZERO adjustments
- ▶ Simple conversion to direct acting or reverse acting
- ▶ 1/2 split range available
- ▶ Rugged aluminum housing with corrosion-resistant coating
- ▶ Vibration resistant design
- ▶ Stainless steel gauges standard
- ▶ Restricted pilot valve orifice kit for small actuators included
- ▶ **ATEX-certified flameproof Ex md IIB T5**
- ▶ **KC-certified flameproof Ex dmb IIB+H<sub>2</sub> T6**
- ▶ **KC-certified flameproof Ex dmb IIC T5**
- ▶ **NEPSI-certified flameproof Ex dmb IIB+H<sub>2</sub> T6**
- ▶ **IECEX-certified intrinsically safe Ex ia IIC T6**
- ▶ **ATEX-certified intrinsically safe Ex ia IIC T6**
- ▶ **KC-certified intrinsically safe Ex ia IIC T6**

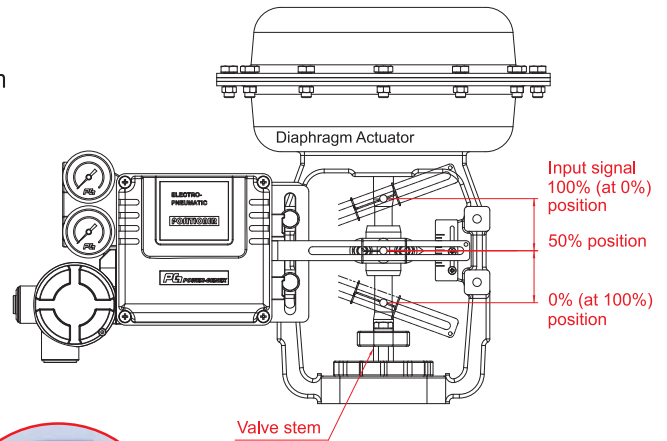
## Options

- ▶ Position transmitter (4...20 mA output signal)
- ▶ High temperature

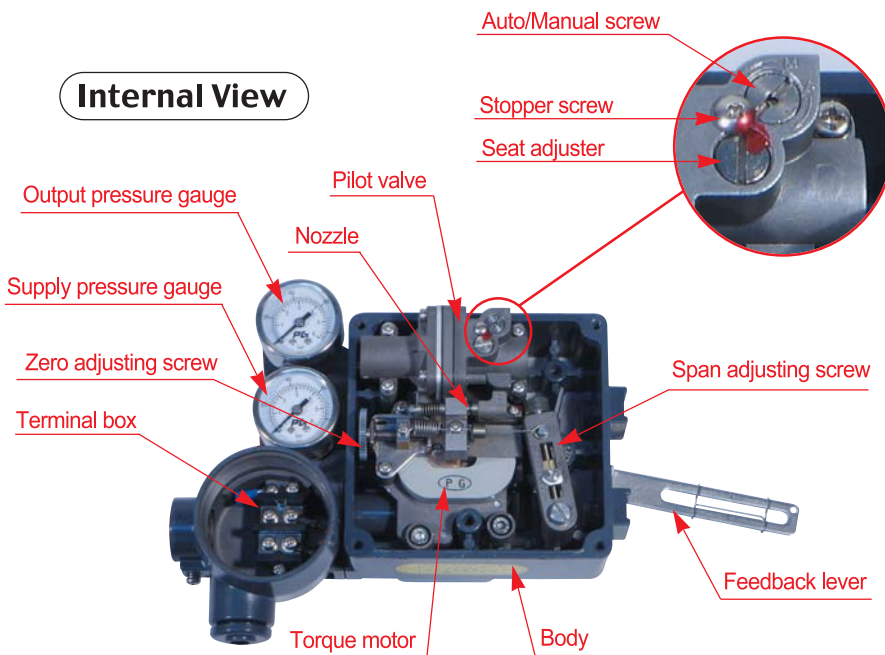


## Mounting

1. Install the EPL positioner so that the angle between the valve stem and the feedback lever can be  $90^\circ$  at 12mA input signal (50%) as shown to the right.
2. The operating angle of the EPL feedback lever is minimum  $10^\circ$  to maximum  $30^\circ$ .



## Internal View



## Air Connections

### Direct Acting (DA)

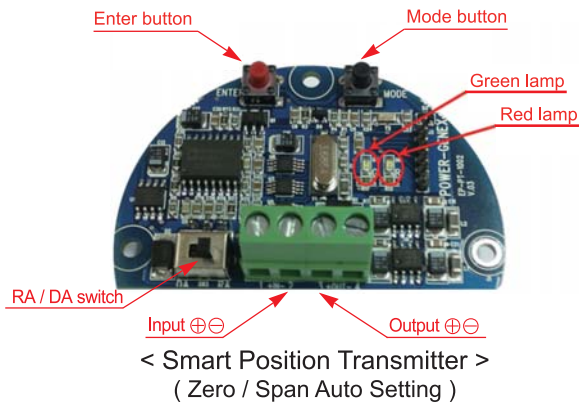
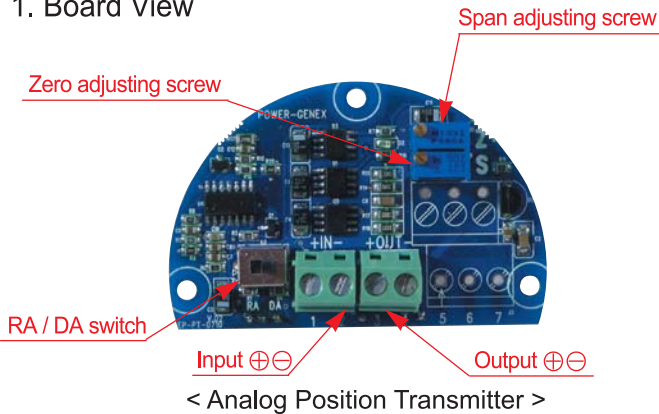
As the input signal increases, Valve stem moves downwards Actuator : DA Connection : out 1	
As the input signal increases, Valve stem moves downwards Actuator : DA Connection : out 2	
As the input signal increases, Valve stem moves downwards	

### Reverse Acting (RA)

As the input signal increases, Valve stem moves upwards Actuator : RA Connection : out 2	
As the input signal increases, Valve stem moves upwards Actuator : RA Connection : out 1	
As the input signal increases, Valve stem moves upwards	

## Position Transmitter Options (Built-in Type)

### 1. Board View

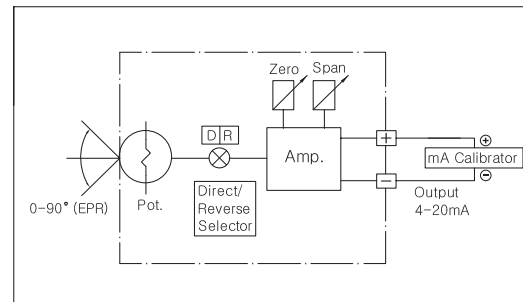


### 2. Position Transmitter (4-20mA output signal)

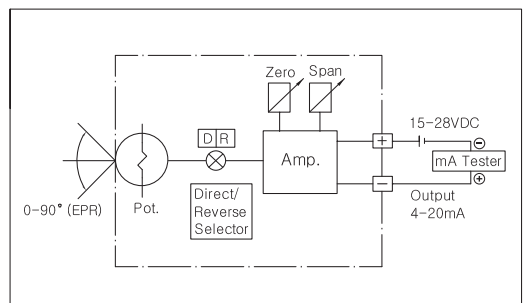
#### a. Specifications

Power Supply Rating	5.5-30 VDC loop power
Recommended Power Supply	24 VDC
Output Signal	4-20 mA, 2-wire
Operating Temperature	-20°C ~ +85°C
Load Impedance	0 ~ 600 ohms
Max. Output	30 mA DC
Linearity	±1.0 %
Hysteresis	1.0 % of full scale
Repeatability	±0.5 % of full scale
Adjustment	Zero and Span in terminal box

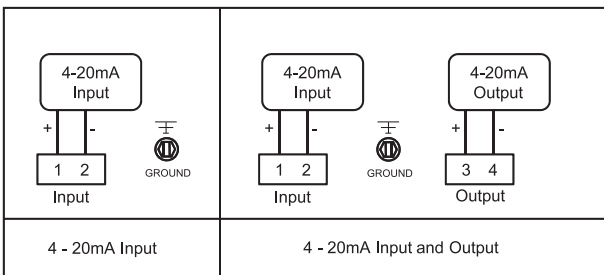
#### b. with mA calibrator



#### c. with multimeter

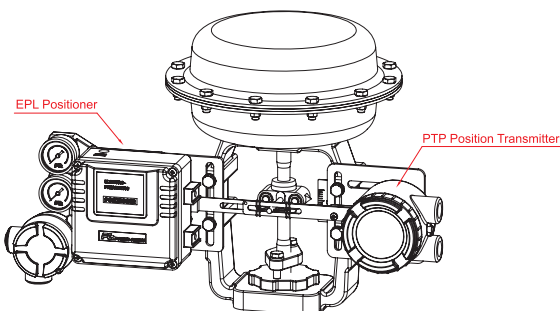


### 3. Wiring Diagram

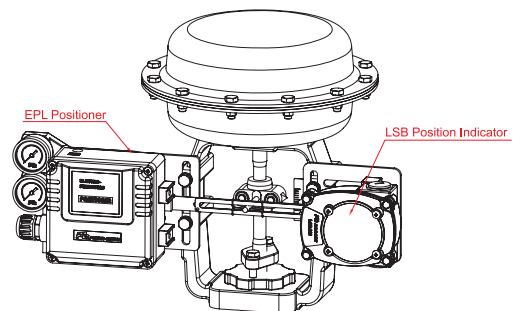


## Application for Limit Switches (External Type)

### 1) With explosion proof PTP-L



### 2) With non-explosion proof LSB-200

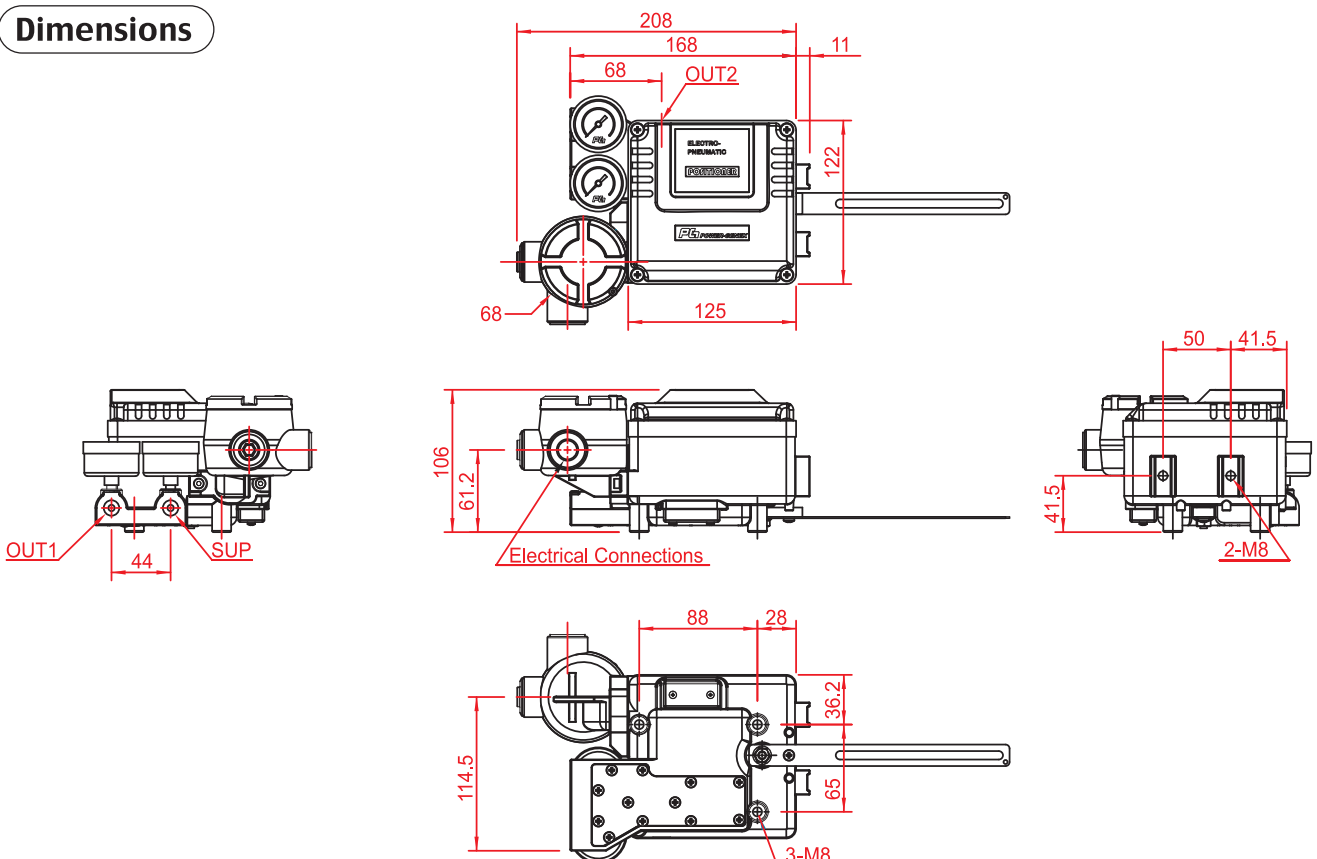


## How to Order

<b>EPL</b>	Protection Class	Feedback Lever	Pressure Gauge (SUP. OUT)	Pilot Valve Orifice	Position Feedback	Connection Threads	High Temp	Mounting Bracket
------------	------------------	----------------	---------------------------	---------------------	-------------------	--------------------	-----------	------------------

Description	Code	Description	Code
<b>Protection Class :</b>	F : KC flameproof Ex dmb IIB+H <sub>2</sub> T6 NEPSI flameproof Ex dmb IIB+H <sub>2</sub> T6 D : KC flameproof Ex dmb IIC T5 A : ATEX flameproof Eex md IIB T5 I : IECEx intrinsically safe Ex ia IIC T6 ATEX intrinsically safe Eex ia IIC T6 K : KC intrinsically safe Ex ia IIC T6 W : Weatherproof to IP66	<b>Position Feedback :</b> (only for weatherproof type)	N : None (standard) O : Analog position transmitter (4 ~ 20mA output signal) S : Smart position transmitter (4 ~ 20mA output signal)
<b>Feedback Lever :</b>	A : Stroke 10 ~ 40mm B : Stroke 10 ~ 80mm C : Stroke 80 ~ 150mm	<b>Connection Threads :</b> (pneumatic - electrical)	3 : PT(Rc) 1/4 - PF(G) 1/2 (standard) 4 : NPT 1/4 - NPT 1/2 5 : PT(Rc) 1/4 - M20 x 1.5
<b>Pressure Gauge :</b>	1 : 6 bar (90 psi) 2 : 10 bar (150 psi)	<b>High Temperature :</b> (only for weatherproof type)	T : 70 °C (standard) H : 120 °C (without position feedback option) 85 °C (with position feedback option)
<b>Pilot Valve Orifice :</b>	S : Standard(Actuator volume over 180cm <sup>3</sup> ) M : Small orifice (φ1.0 or φ0.7) (Actuator volume over 90 ~ 180cm <sup>3</sup> )	<b>Mounting Bracket :</b>	N : None L : IEC 60534-6-1

## Dimensions





Robust valve position monitor with good recognizable dome indicator and various switches and feedback options

## Features

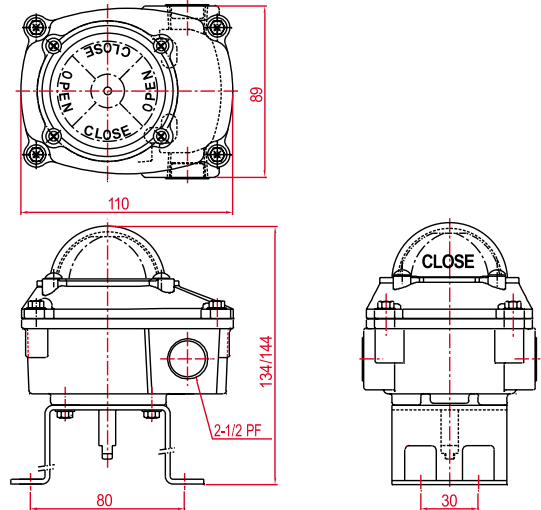
- ▶ Rugged aluminum die-cast housing
- ▶ NAMUR mounting
- ▶ Optional stainless steel housing (only for LSB-500)

## Specifications

### LSB-100

	Standard	Options
Enclosure	Weather proof IP67, O-ring sealed	IP 68
Outside coating	Epoxy-Polyester against corrosion	Nylon coating
Ambient temperature	-20°C - +80°C	Higher (~ +100°C) and lower (-40°C ~) temperature
Electrical connections	2 - PF1/2"	NPT1/2", M20x1.5, PG13.5
Terminal block	8 terminal strips (6 for switches, 2 for solenoid valve power)	
Position indicator	Dome type 0°-90°	3 way L-port, T-port
Mounting bracket	Stainless steel acc. to VDI/VDE3845, NAMUR type SS1 or SS2	SS3, MT1
Switches (sensors)	2-SPDT mechanical switch(Form C)	Proximity sensors (P & F, Autonics), Magnetic sensors
Body / Cover material	Aluminum die-cast	

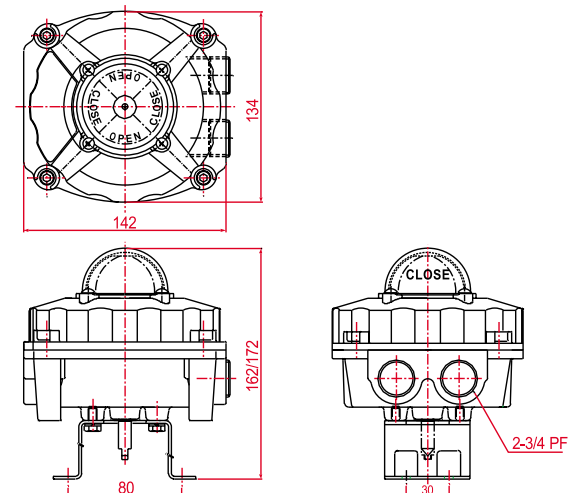
## Dimensions



LSB-100

### LSB-300 & LSB-500

	Standard	Options
Enclosure	Explosion proof Ex d IIC T6, IP67, O-ring sealed	IP 68
Outside coating	Epoxy-Polyester outside against corrosion	Nylon coating
Ambient temperature	-20°C - +80°C	Higher (~ 100°C) and lower (-40°C ~) temperature
Cable entries	2 - PF3/4"	NPT3/4", M25x1.5, M20 x 1.5
Terminal block	8 terminal strips (6 for switches, 2 for solenoid valve power)	
Position indicator	Dome type 0°-90°	3 way L-port, T-port
Mounting bracket	Stainless steel acc. to VDI/VDE3845 NAMUR type SS1 or SS2	SS3, MT1
Switches (sensors)	2-SPDT mechanical switch(Form C)	DPDT Switches Proximity sensors (P & F, Autonics) Magnetic sensors Position transmitter (output 0~1Kohm, 4-20mA DC)
Body / Cover material	Aluminum die-cast (LSB-300)	Stainless steel 316L (LSB-500)



LSB-300 & LSB-500

## How to Order

**LSB** —

Explosion proof class

Switch Type

Switch / Feedback Option

Electrical Connections

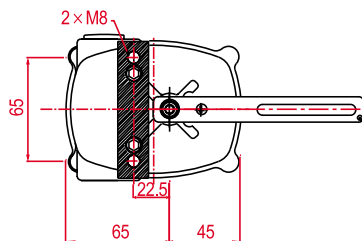
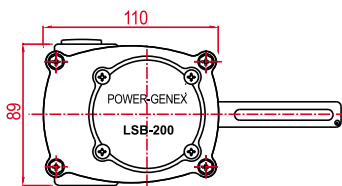
Indicator Option

Mounting Bracket

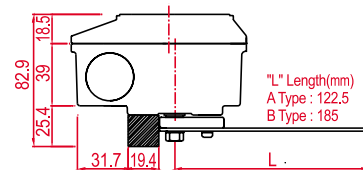
Description	Code
<b>Explosion proof class:</b>	1 : Weatherproof 2 : Linear type weatherproof 3 : Flameproof (Exd IIC T6)
<b>Switch Type:</b>	0 : Mechanical switches 1 : Proximity sensors
<b>Switch / Feedback Option:</b> - Mechanical switches and feedback	0 : 2 x SPDT 1 : 3 x SPDT 2 : 4 x SPDT 3 : 2 x SPST 4 : 2 x DPDT 5 : 2 x SPDT + 0-1kohm output 6 : 2 x SPDT + 4-20 mA output 7 : 2 x OMRON SPDT VX-012-1A3 gold-plated
- Proximity sensors	0 : AUTONICS PS17-5DNU 1 : P&F NJ2-V3-N 2 : P&F NJ4-12GK-SN 3 : P&F NBB2-V3-E2

Description	Code
<b>Electrical Connections:</b> - LSB-100 & 200	A : PF 1/2 (standard) B : NPT 1/2 C : M20 x 1.5 D : PG13.5
- LSB-300 & 500	E : PF 3/4 (standard) F : NPT 3/4 G : M25 x 1.5 C : M20 x 1.5
<b>Indicator Option:</b> (not available with LSB-200)	N : 2-way (standard) L : 3-way L-port T : 3-way T-port
<b>Mounting Bracket:</b> (not available with LSB-200)	0 : None 1 : 80x30x20 2 : 80x30x30 3 : 130x30x30 4 : Multi-size bracket

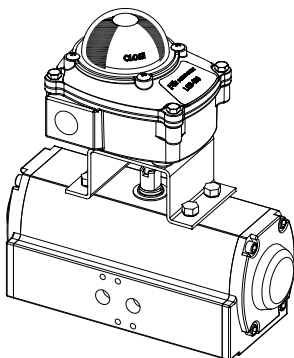
## Dimensions (LSB-200)



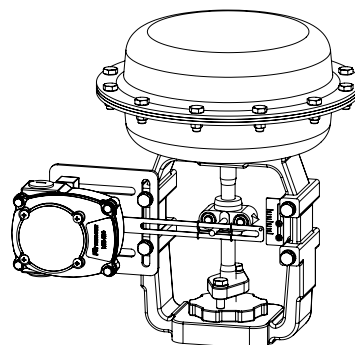
<BOTTOM VIEW>



## Mounting



LSB-100



LSB-200

### APPLICATION

General use : Pulp production, water, water treatment, waste water, chemical industry (powdery or crystallizing products), wine-producing, pulverized products (cement work, pneumatic transport, stocking).

### GENERAL CHARACTERISTICS

Function ON/OFF or regulation.  
Wafer threaded mounting ISO PN10.  
Unidirectional tightness, direction indication thanks to the arrow on the body.  
Small retention zone: the gate is guided in the body and has little clearance.  
Gland assembly: packing and O-ring (same material as seat joint) to assure the elasticity and decrease the operating force.  
Small head loss.  
Possibility to regulate thick fluids the adaptation of a diaphragm ring.

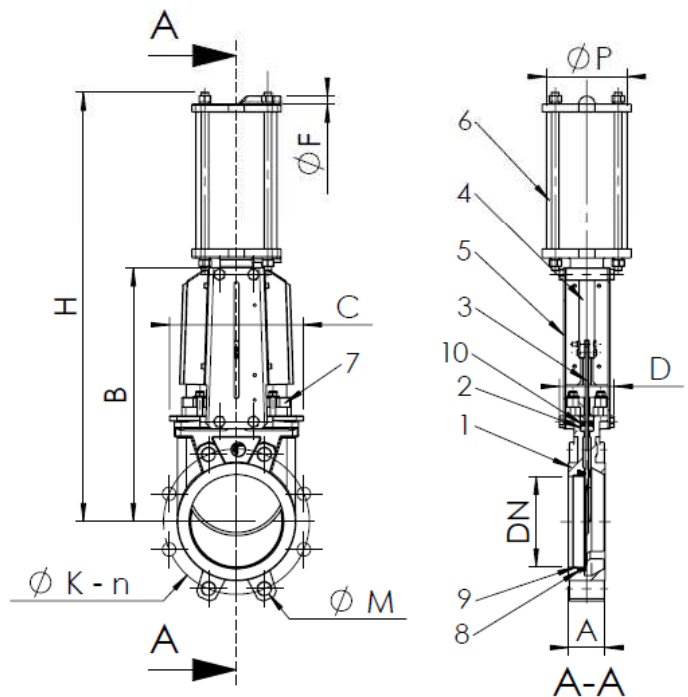
### CONSTRUCTION

11	2	Protection plate	Stainless steel 304	DIN : X5CrNi 18-10 ASTM : AISI 304 BS : 304 S15
10	1	O-ring	Nitril	
9**	1	Support ring	Stainless steel 316	DIN : X5CrNiMo18 10 ASTM : A 182 AIS 3 16 BS : 316 S16
8**	1	Gasket	Nitril	
7	1	Packing gland	Aluminium DN50-450 Steel DN500-600	
6	1	Pneumatic actuator	Aluminium	
5*	2	Support plate	Steel + epoxy	
4	1	Stem	Stainless steel 13%Cr	
3	1	Knife gate	X5CrNi 18-10	DIN : X5CrNi 18-10 ASTM : AISI 304 BS : 304 S15
2	2	Packing	PTFE	
1	1	Body	EN-GJL-250	DIN : GG 25 ASTM : A48 class 40B BS : 1452 Grade 250
Pos.	Qty.	Description	Material	

\* Pre-shaped parts up to DN 300.  
\*\* Missing parts on metal / metal tightness.

### DIMENSIONS

DN		A	B	C	D	Ø F	Ø P	H	Ø K	n	Ø M	Weight (kg)
mm	inch											
50	2"	40	240	124	83	1/4"	80	412	125	4	4-M16	7,5
65	2 1/2"	40	265	139	83	1/4"	80	458	145	4	4-M16	7,8
80	3"	50	290	154	83	1/4"	80	502	160	8	4-M16	8,4
100	4"	50	335	174	83	1/4"	100	562	180	8	4-M16	12,5
125	5"	50	373	189	93	1/4"	125	642	210	8	4-M16	16,4
150	6"	60	424	220	93	1/4"	125	718	240	8	4-M20	20,5
200	8"	60	533	275	108	1/4"	160	882	295	8	4-M20	35,8
250	10"	70	625	326	108	1/4"	200	1044	350	12	8-M20	52
300	12"	70	732	380	108	1/4"	200	1164	400	12	8-M20	72
350	14"	96	835	438	290	3/8"	250	1362	460	16	10-M20	129
400	16"	100	945	494	290	3/8"	250	1542	515	16	10-M24	144
450	18"	106	1040	547	290	1/2"	250	1677	565	20	14-M24	177
500	20"	110	1150	613	290	1/2"	382	1839	620	20	14-M24	260
600	24"	110	1354	716	290	1/2"	382	2145	725	20	14-M27	341
700	28"	110	1540	835	320	1/2"	426	2488	840	24	16-M27	556
800	32"	110	1750	972	320	1/2"	426	2798	950	24	16-M30	679
900	36"	110	1990	1041	320	1/2"	538	3162	1050	28	20-M30	840
1000	40"	110	2195	1152	320	1/2"	538	3452	1160	28	20-M33	1053
1200	48"	150	2390	1255	400	1/2"	538	4048	1380	32	22-M36	-





# KNIFE GATE VALVES WITH DOUBLE ACTING PNEUMATIC ACTUATOR

## AMM250

Mod. DS-250-01 Rev.0  
Pag. 2 / 2

### WORKING CONDITIONS

Maximum working pressure : DN 50-250 : 10 bar  
DN 300-450 : 7 bar  
DN 500-600 : 3 bar  
DN 700-1200 : 2 bar

Maximum temperature : -10°C / +80°C

Others materials on request (If marked)	Maximum temperature	
Metal / metal	T max : -10°C / +200°C.	<input type="checkbox"/>
White NBR	T max : -10°C / +80°C.	<input type="checkbox"/>
EPDM	T max : -20°C / +130°C.	<input type="checkbox"/>
Silicone	T max : -20°C / +170°C.	<input type="checkbox"/>
FPM (Type Viton®)	T max : -10°C / +170°C.	<input type="checkbox"/>
PTFE	T max : +4°C / +170°C.	<input type="checkbox"/>
CSM (Type Hypalon®)	T max : +4°C / +80°C.	<input type="checkbox"/>



Standard tightness



Tightness metal/metal

### STANDARDS

Manufacture according to the requirements of the European directive 97/23/CE «Equipments under pressure» : category III modulate H. (DN50 - 600)

On request : Product in accordance to european directive "Potentially explosive atmospheres" N° 94/9/EC : ATEX II 2 GD c and ATEX II 3 GD c.

Test procedures are established according to standard EN 12266-1, DIN 3230, BS 5154 and ISO 5208.

Connections according to standard EN 1092-2 and DIN 2501 : ISO PN10.



# KNIFE GATE VALVES WITH DOUBLE ACTING PNEUMATIC ACTUATOR IN STAINLESS STEEL **AMM250**

Mod. DS-250-02 Rev.0  
Pag. 1 / 2

### APPLICATION

General use : Pulp production, water, water treatment, waste water, chemical industry (powdery or crystallizing products), wine-producing, pulverized products (cement work, pneumatic transport, stocking).

### GENERAL CHARACTERISTICS

Function ON/OFF or regulation.  
Wafer threaded mounting ISO PN10.  
Unidirectional tightness, direction indication thanks to the arrow on the body.  
Small retention zone: the gate is guided in the body and has little clearance.  
Gland assembly: packing and O-ring (same material as seat joint) to assure the elasticity and decrease the operating force.  
Small head loss.  
Possibility to regulate thick fluids the adaptation of a diaphragm ring .

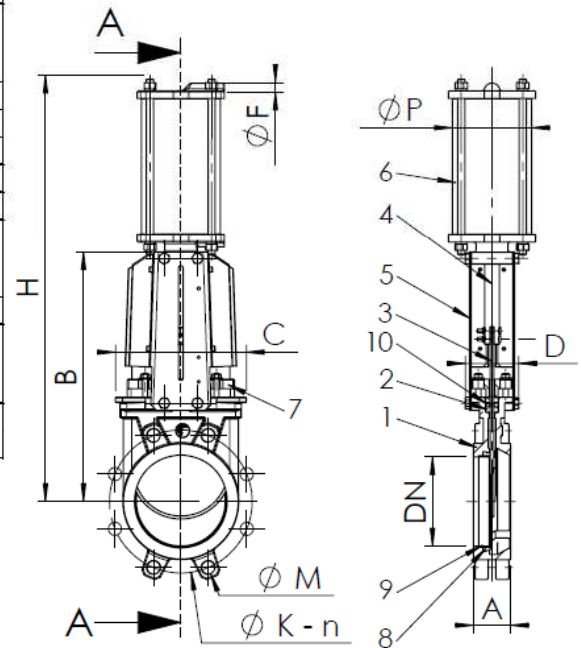
### CONSTRUCTION

11	2	Protection plate	Stainless steel 304	DIN : X5CrNi 18-10 ASTM : AISI 304 BS : 304 S15
10	1	O-ring	EPDM	
9**	1	Support ring	Stainless steel 316	DIN : X5CrNiMo18 10 ASTM : A 182 AIS 3 16 BS : 316 S16
8**	1	Gasket	EPDM	
7	1	Packing gland	Stainless steel	
6	1	Pneumatic actuator	Aluminium	
5*	2	Support plate	Steel + epoxy	
4	1	Stem	Stainless steel 13%Cr	
3	1	Knife gate	Stainless steel X5CrNiMo 17-12-2	DIN : X5CrNi 18-10 ASTM : AISI 304 BS : 304 S15
2	2	Packing	PTFE	
1	1	Body	Stainless steel GX5CrNiMo 19-11-2	DIN : G-X6CrNiMo18 10 ASTM : A 351 Grade CF8M BS : 316 C16
Pos.	Qty.	Description	Material	

\* Pre-shaped parts up to DN 300.  
\*\* Missing parts on metal-metal tightness.

### DIMENSIONS

DN		A	B	C	D	Ø F	Ø P	H	Ø K	n	Ø M	Weight (kg)
mm	inch											
50	2"	40	240	124	83	1/4"	80	412	125	4	4-M16	7,5
65	2 1/2"	40	265	139	83	1/4"	80	458	145	4	4-M16	7,8
80	3"	50	290	154	83	1/4"	80	502	160	8	4-M16	8,4
100	4"	50	335	174	83	1/4"	100	562	180	8	4-M16	12,5
125	5"	50	373	189	93	1/4"	125	642	210	8	4-M16	16,4
150	6"	60	424	220	93	1/4"	125	718	240	8	4-M20	20,5
200	8"	60	533	275	108	1/4"	160	882	295	8	4-M20	35,8
250	10"	70	625	326	108	1/4"	200	1044	350	12	8-M20	52,0
300	12"	70	732	380	108	1/4"	200	1164	400	12	8-M20	72,0
350	14"	96	835	438	290	3/8"	250	1362	460	16	10-M20	129,0
400	16"	100	945	494	290	3/8"	250	1542	515	16	10-M24	144,0
450	18"	106	1040	547	290	1/2"	250	1677	565	20	14-M24	177,0
500	20"	110	1150	613	290	1/2"	382	1839	620	20	14-M24	260,0
600	24"	110	1354	716	290	1/2"	382	2145	725	20	14-M27	341,0
700	28"	110	1540	835	320	1/2"	426	2488	840	24	16-M27	556,0
800	32"	110	1750	972	320	1/2"	426	2798	950	24	16-M30	679,0
900	36"	110	1990	1041	320	1/2"	538	3162	1050	28	20-M30	840,0
1000	40"	110	2195	1152	320	1/2"	538	3452	1160	28	20-M33	1053,0
1200	48"	150	2390	1255	400	1/2"	538	4048	1380	32	22-M36	-



**AMMtech srl**

Via Mascagni 15, 55016 Porcari (LU) Italy Tel (+39) 0583 210660 Fax (+39) 0583 294863  
www.amm-tech.it e-mail: info@amm-tech.it



**KNIFE GATE VALVES  
WITH DOUBLE ACTING  
PNEUMATIC ACTUATOR  
IN STAINLESS STEEL  
AMM250**

Mod. DS-250-02 Rev.0  
Pag. 2 / 2

**WORKING CONDITIONS**

Maximum working pressure : DN 50-250 : 10 bar  
 DN 300-450 : 7 bar  
 DN 500-600 : 3 bar  
 DN 700-1200 : 2 bar

Maximum temperature : -20°C / +130°C (Standard tightness)

Others materials on request (If marked)	Maximum temperature	
Metal / metal	T max : -10°C / +200°C.	<input type="checkbox"/>
NBR	T max : -10°C / +80°C.	<input type="checkbox"/>
White EPDM	T max : -20°C / +130°C.	<input type="checkbox"/>
Silicone	T max : -20°C / +170°C.	<input type="checkbox"/>
FPM (Type Viton®)	T max : -10°C / +170°C.	<input type="checkbox"/>
PTFE	T max : +4°C / +170°C.	<input type="checkbox"/>
CSM (Type Hypalon®)	T max : +4°C / +80°C.	<input type="checkbox"/>



Standard tightness



Tightness metal/metal

**STANDARDS**

Manufacture according to the requirements of the European directive 97/23/CE «Equipments under pressure» : fluids category III modulate H. (DN50-450)  
 On request : Product in accordance to european directive "Potentially explosive atmospheres" N° 94/9/EC : ATEX II 2 GD c and ATEX II 3 GD c.  
 Test procedures are established according to standard EN 12266-1, DIN 3230, BS 5154 and ISO 5208.  
 Connections according to standard EN 1092-1 and DIN 2501 : ISO PN10.

### APPLICATION

General use : Pulp production, water, water treatment, waste water, chemical industry (powdery or crystallizing products), wine-producing, pulverized products (cement work, pneumatic transport, stocking).

### GENERAL CHARACTERISTICS

Range : from DN 50 to DN 600.  
Function ON/OFF or regulation.  
Wafer threaded mounting ISO PN10.  
Unidirectional tightness, direction indication thanks to the arrow on the body.  
Small retention zone: the gate is guided in the body and has little clearance.  
Gland assembly: packing and O-ring (same materials as seat joint) to assure the elasticity and decrease the operating torque.  
Small head loss. Possibility to regulate thick fluids with the adaptation of a diaphragm ring.

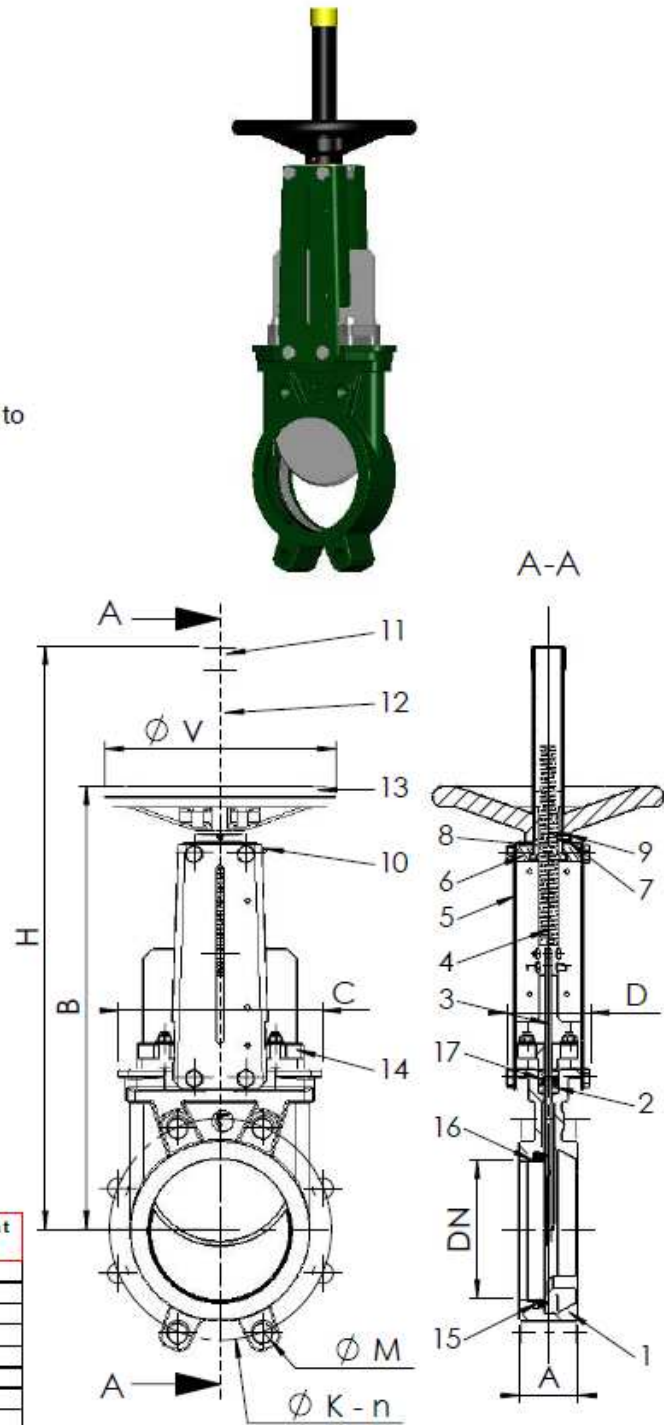
### CONSTRUCTION

17	1	O-Ring	Nitril	
16**	1	Support ring	Stainless steel 316	DIN: X5CrNiMo18 10 ASTM: A 182 AISI 316 BS: 970 316 S16
15**	1	Gasket	Nitril	
14	1	Packing gland	Aluminium (DN 50-450) Steel (DN 500-600)	
13	1	Handwheel	Cast iron EN-GJL-250	DIN: GG25 ASTM: A48 class 40B BS: 1452 Grade 250
12	1	Protection tube	Steel	
11	1	Cap	Plastic	
10	1	Greaser	Stainless steel	
9	1	Stop screw	Stainless steel	
8	1	Nut	Bronze	
7	1	Friction washer	Bronze	
6	1	Nut support	Zinc steel	
5*	2	Support plate	Steel + epoxy	
4	1	Stem	Stainless steel 13%Cr	
3	1	Gate	Stainless steel X5CrNi 18-10	DIN: X5CrNi 18 10 ASTM: A 182 AISI 304 BS: 1449-2 304 S15
2	2	Packing	PTFE	
1	1	Body	Cast iron EN-GJL-250	DIN: GG25 ASTM: A48 class 40B BS: 1452 Grade 250
Pos.	Qty.	Description	Material	

\* Pre-shaped parts up to DN 300.  
\*\* Missing parts on metal / metal tightness.

### DIMENSIONS

DN		A	B	C	D	Ø V	H	Ø K	n	Ø M	Weight (kg)
mm	inch										
50	2"	40	283	124	83	200	348	125	4	4 x M16	7,5
65	2 1/2"	40	308	139	83	200	388	145	4	4 x M16	9,0
80	3"	50	333	154	83	200	413	160	8	4 x M16	10,0
100	4"	50	378	174	83	200	488	180	8	4 x M16	11,5
125	5"	50	423	189	93	250	584	210	8	4 x M16	15,5
150	6"	60	474	220	93	250	635	240	8	4 x M20	18,5
200	8"	60	593	275	108	310	809	295	8	4 x M20	35,0
250	10"	70	685	326	108	310	946	350	12	8 x M20	47,0
300	12"	70	792	380	108	310	1118	400	12	8 x M20	61,0
350	14"	98	900	438	290	500	1282	460	16	10 x M20	117
400	16"	100	978	494	290	500	1441	515	16	10 x M24	151
450	18"	106	1105	547	290	500	1587	565	20	14 x M24	187
500	20"	110	1215	613	290	500	1809	620	20	14 x M24	205
600	24"	110	1418	716	290	500	2060	725	20	14 x M27	292



**WORKING CONDITIONS**

Maximum working pressure :

- DN 50-250 : 10 bar.
- DN 300-450 : 7 bar.
- DN 500-600 : 4 bar.

Maximum temperature : -10°C / + 80°C (Standard tightness)

Others materials on request (if marked)	Maximum temperature	
Metal / metal	T max : -10°C / +200°C.	<input type="checkbox"/>
White NBR	T max : -10°C / +80°C.	<input type="checkbox"/>
EPDM	T max : -20°C / +130°C.	<input type="checkbox"/>
Silicone	T max : -20°C / +170°C.	<input type="checkbox"/>
FPM (Type Viton®)	T max : -10°C / +170°C.	<input type="checkbox"/>
PTFE	T max : +4°C / +170°C.	<input type="checkbox"/>
CSM (Type Hypalon®)	T max : +4°C / +80°C.	<input type="checkbox"/>



Standard tightness



Tightness metal/metal

**STANDARDS**

Manufacture according to the requirements of the European directive 97/23/CE «Equipments under pressure» : category III modulate H.

On request : Product in accordance to european directive "Potentially explosive atmospheres" N° 94/9/EC : ATEX II 2 GD c and ATEX II 3 GD c.

Test procedures are established according to standards EN 12266-1, DIN 3230, BS 5154 and ISO 5208.

Connections between flanges according to standard EN 1092-2 and DIN 2501 ISO PN10.

### APPLICATION

General use : Pulp production, water, water treatment, waste water, chemical industry (powdery or crystallizing products), wine-producing, pulverized products (cement work, pneumatic transport, stocking).

### GENERAL CHARACTERISTICS

Range : from DN 50 up to DN 600.  
Function ON/OFF or regulation.  
Wafer threaded mounting ISO PN10.  
Unidirectional tightness, direction indication thanks to the arrow on the body.  
Small retention zone: the gate is guided in the body and has little clearance.  
Gland assembly: packing and O-ring (same material as seat joint) to assure the elasticity and decrease the operating torque.  
Small head loss.  
Possibility to regulate thick fluids the adaptation of a diaphragm ring .



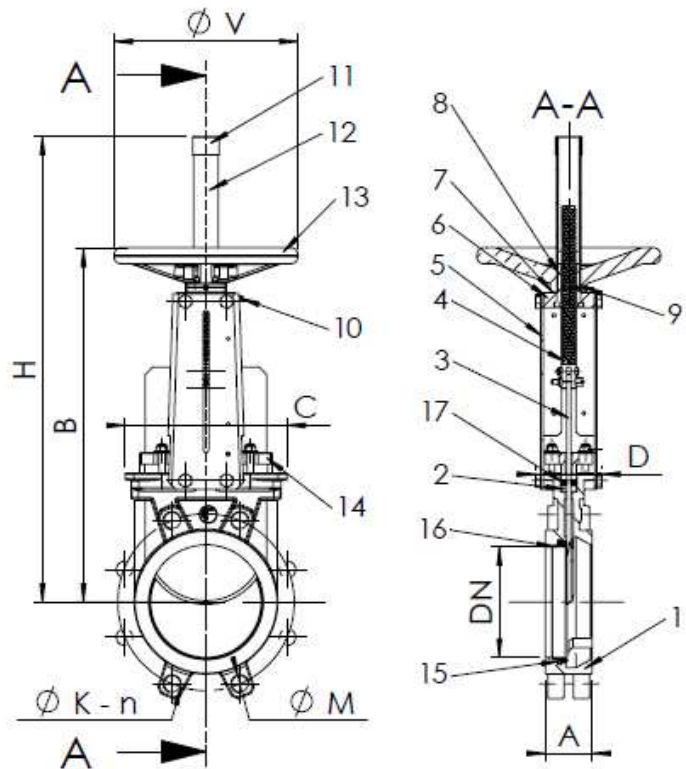
### CONSTRUCTION

17	1	O-Ring	EPDM	
16**	1	Support ring	Stainless steel 316	DIN : X5CrNiMo18 10 ASTM : A 182 AISI 316 BS : 316 S 16
15**	1	Gasket	EPDM	
14	1	Packing gland	Stainless steel	DIN : G-X6CrNiMo18 10 ASTM : A 351 grade CF8M BS : 316 C 16
13	1	Handwheel	Cast iron EN-GJL-250	DIN : GG25 ASTM : A 48 class 40B BS : 1452 grade 250
12	1	Protection tube	Steel	
11	1	Cap	Plastic	
10	1	Greaser	Stainless steel	
9	1	Stop screw	Stainless steel	
8	1	Nut support	Bronze	
7	1	Friction washer	Bronze	
6	1	Nut support	Zinc steel	
5*	2	Support plate	Steel + epoxy	
4	1	Stem	Stainless steel 13%Cr	
3	1	Gate	Stainless steel X5CrNiMo 17-12-2	DIN : X5CrNiMo18 10 ASTM : A 182 AISI 316 BS : 1449-2 316 S 16
2	2	Packing	PTFE	
1	1	Body	Stainless steel GX5CrNiMo 19-11-2	DIN : G-X6CrNiMo18 10 ASTM : A 351 grade CF8M BS : 316 C 16
Pos.	Qty.	Description	Material	

\* Pre-shaped parts up to DN 300.  
\*\* Missing parts on metal / metal tightness

### DIMENSIONS

DN		A	B	C	D	ØV	H	Ø K	n	Ø M	Weight (kg)
mm	inch										
50	2"	40	283	124	83	200	348	125	4	4 x M16	7,5
65	2 1/2"	40	308	139	83	200	388	145	4	4 x M16	8,8
80	3"	50	333	154	83	200	413	160	8	4 x M16	9,4
100	4"	50	378	174	83	200	488	180	8	4 x M16	11,5
125	5"	50	423	189	93	250	564	210	8	4 x M16	15,4
150	6"	60	474	220	93	250	635	240	8	4 x M20	18,5
200	8"	60	593	275	108	310	809	295	8	4 x M20	34,8
250	10"	70	685	326	108	310	946	350	12	8 x M20	47,0
300	12"	70	792	380	108	310	1118	400	12	8 x M20	61,0
350	14"	96	900	438	290	500	1282	460	16	10 x M20	117,0
400	16"	100	978	494	290	500	1441	515	16	10 x M24	151,0
450	18"	106	1105	547	290	500	1587	565	20	14 x M24	187,0
500	20"	110	1215	613	290	500	1809	620	20	14 x M24	205,0
600	24"	110	1418	716	290	500	2060	725	20	14 x M27	292,0



### WORKING CONDITIONS

Maximum working pressure : DN 50-250 : 10 bar  
 DN 300-450 : 7 bar  
 DN 500-600 : 4 bar

Maximum temperature : -20°C / +130°C (standard tightness).

Others materials on request (If marked)	Maximum temperature	
Metal / metal	T max : -10°C / +200°C.	<input type="checkbox"/>
NBR	T max : -10°C / +80°C.	<input type="checkbox"/>
White EPDM	T max : -20°C / +130°C.	<input type="checkbox"/>
Silicone	T max : -20°C / +170°C.	<input type="checkbox"/>
FPM (Type Viton®)	T max : -10°C / +170°C.	<input type="checkbox"/>
PTFE	T max : +4°C / +170°C.	<input type="checkbox"/>
CSM (Type Hypalon®)	T max : +4°C / +80°C.	<input type="checkbox"/>



Standard tightness



Metal-metal tightness

### STANDARDS

Manufacture according to the requirements of the European directive 97/23/CE «Equipments under pressure» : category III modulate H.

On request : Product in accordance to european directive "Potentially explosive atmospheres" N° 94/9/EC: ATEX II 2 GD c and ATEX II 3 GD c.

Test procedures are established according to standard EN 12266-1, DIN 3230, BS 5154 and ISO 5208  
 Connections according to standard EN 1092-2 and DIN 2501 : ISO PN10.

### APPLICATION

General use : Pulp production, water, water treatment, waste water, chemical industry (powdery or crystallizing products), wine-producing, pulverized products (cement work, pneumatic transport, stocking).

### GENERAL CHARACTERISTICS

Function ON/OFF or regulation.  
Wafer threaded mounting ISO PN10.  
Unidirectional tightness, direction indication thanks to the arrow on the body.  
Small retention zone: the gate is guided in the body and has little clearance.  
Gland assembly: packing and O-ring (same material as seat joint) to assure the elasticity and decrease the operating torque.  
Small head loss.  
Possibility to regulate thick fluids the adaptation of a diaphragm ring .

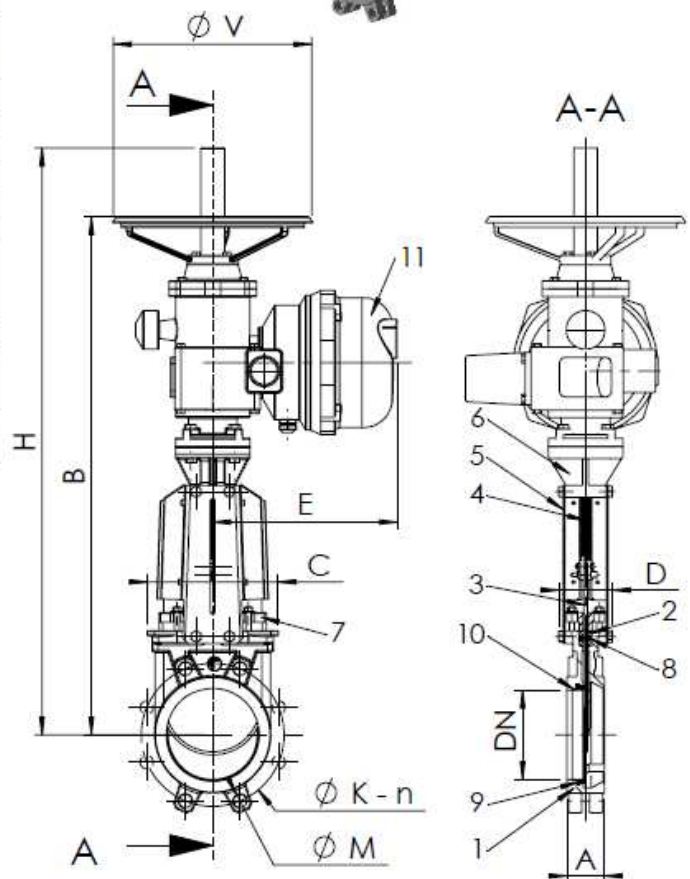
### CONSTRUCTION

11	1	Electric actuator		BERNARD
10**	1	Support ring	Stainless steel 316	DIN : X5CrNiMo18 10 ASTM : A 182 AIS 3 16 BS : 316 S16
9**	1	Gasket	EPDM	
8	1	O-ring	EPDM	
7	1	Packing gland	Stainless steel	
6	1	Nut support	Painted steel	
5*	2	Support plate	Steel + epoxy	
4	1	Stem	Stainless steel 13%Cr	
3	1	Knife gate	Stainless steel X5CrNi 18-10	DIN : X5CrNi 18-10 ASTM : AISI 304 BS : 304 S15
2	2	Packing	PTFE	
1	1	Body	Stainless steel GX5CrNiMo 19-11-2	DIN : G-X6CrNiMo 1810 ASTM : A48 class 40B BS : 1452 Grade 250
Pos.	Qty.	Description	Material	

\* Pre-shaped parts up to DN 300.  
\*\*Missing parts on metal/metal tightness.

### DIMENSIONS

DN	Actuator type	A	B	C	D	E	F	Ø V	H	Ø K	n	Ø M	Weight (kg)	
50	2"	SRA6	40	584	124	83	291	247	300	584	125	4	4-M16	28
65	2 1/2"	SRA6	40	609	139	83	291	247	300	609	145	4	4-M16	30
80	3"	SRA6	50	634	154	83	291	247	300	634	160	8	4-M16	31
100	4"	SRA6	50	679	174	83	291	247	300	679	180	8	4-M16	32
125	5"	SRA6	50	717	189	83	291	247	300	717	210	8	4-M16	37
150	6"	SRA6	60	768	220	93	291	247	300	768	240	8	4-M20	41
200	8"	SRA6	60	887	275	108	291	247	300	887	295	8	4-M20	58
250	10"	SRA6	70	979	326	108	291	247	300	998	350	12	8-M20	72
300	12"	ST14	70	1110	380	108	265	318	300	1157	400	12	8-M20	83
350	14"	ST14	98	1220	438	290	265	318	300	1305	460	16	10-M20	135
400	16"	ST14	100	1330	494	290	265	318	300	1473	515	16	10-M24	165
450	18"	ST30	106	1475	547	290	310	433	450	1628	565	20	14-M24	206
500	20"	ST30	110	1585	613	290	310	433	450	1778	620	20	14-M24	241
600	24"	ST30	110	1789	716	290	310	433	450	2079	725	20	14-M27	296



**WORKING CONDITIONS**

Maximum working pressure : DN 50-250 : 10 bar  
 DN 300-450 : 7 bar  
 DN 500-600 : 4 bar

Maximum temperature : -10°C / +80°C (Standard tightness)

Others material on request (If marked)	Maximum temperature	
Metal / metal	T max : -10°C / +200°C.	<input type="checkbox"/>
White Nitril	T max : -10°C / +80°C.	<input type="checkbox"/>
EPDM	T max : -20°C / +130°C.	<input type="checkbox"/>
Silicone	T max : -20°C / +170°C.	<input type="checkbox"/>
FPM (Type Viton®)	T max : -10°C / +170°C.	<input type="checkbox"/>
PTFE	T max : +4°C / +170°C.	<input type="checkbox"/>
CSM (Type Hypalon®)	T max : +4°C / +80°C.	<input type="checkbox"/>

**STANDARDS**

Manufacture according to the requirements of the European directive 97/23/CE «Equipments under pressure» : fluids category III modulate H.  
 Test procedures are established according to standard EN 12266-1, DIN 3230, BS 5154 and ISO 5208.  
 Connections according to standard EN 1092-2 and DIN 2501 : ISO PN10.



Standard tightness



Tightness metal/metal