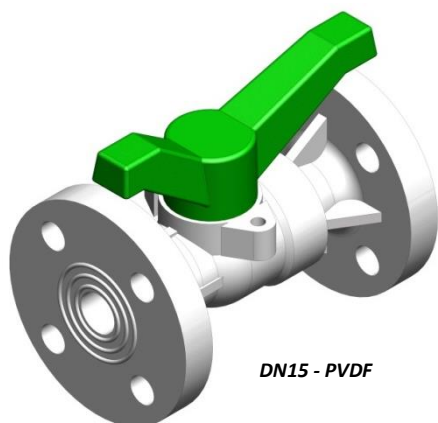


## 2 WAY - BALL VALVE - FLANGED COMPACT - DN15 (1/2") TO DN50 (2")

PPGF, PVDF, PP- EL

Conform to the 2014/68/EU Directive



DN15 - PVDF



DN50 - PPGF

## MAIN FEATURES

- Flanged compact ball valve, 2-piece construction limiting interfaces for an optimal sealing.
- Solid Flanges for an optimum resistance.
- Full Bore.
- Safety plate locking body and adjusting piece, avoiding any accidental adjustment and ensuring a perfect alignment of the flange holes.
- Color Handle and safety plate indicating type of Seals (Red = EPDM, Green = FPM, blue = FEP/FFPM)
- Inner Shape promoting flow and limiting retention zones.
- Moulded Sealing rings on Flanges. (Prevents the deformation of the Gasket).
- Protected Handle Stops.
- 2 lateral fixing points for valve installation or actuation
- Easy to actuate manual valve to desired control (Electric or Pneumatic) by removable handle.
- The PP-EL version is electro conductive due to a load of graphite (Electric Surface's Resistance inferior to 10<sup>5</sup> Ohm).

## STANDARDS & APPROVALS



DGS/SD7A N°571 : Circular on the terms and conditions for the verification of the sanitary conformity of the constituent materials of accessories or subassembly accessories, consisting of organic elements in contact with water intended for human consumption (Food Grade Approval)



Products complying with the requirements of EN ISO Standard 15848-1 (Class B) and German standard TA-Luft VDI 2440, which define external leak criteria for leaktight systems



NR320 : Certification scheme of materials and equipment for the classification of marine units

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peru@safi-america.com

## DIMENSIONS

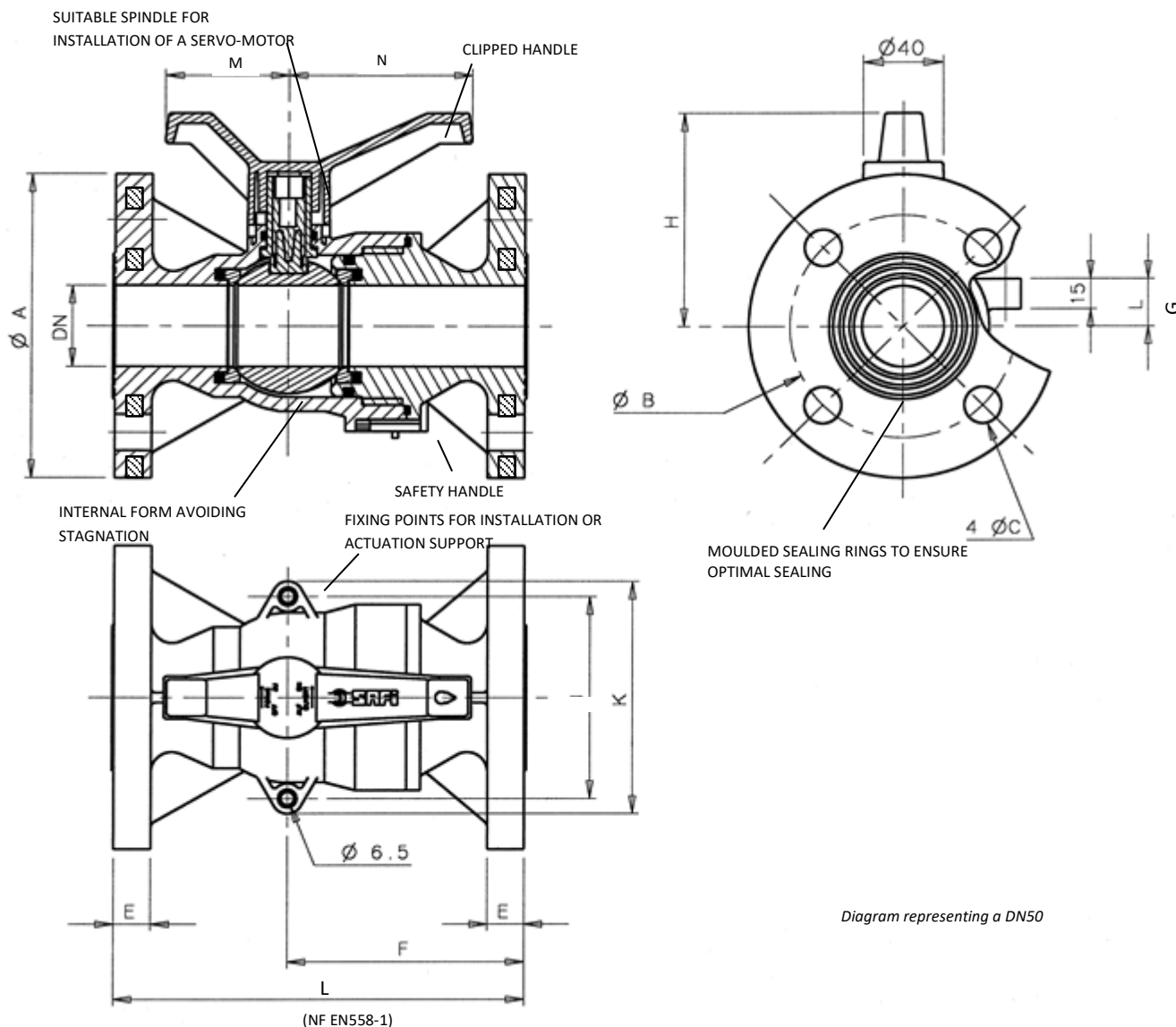
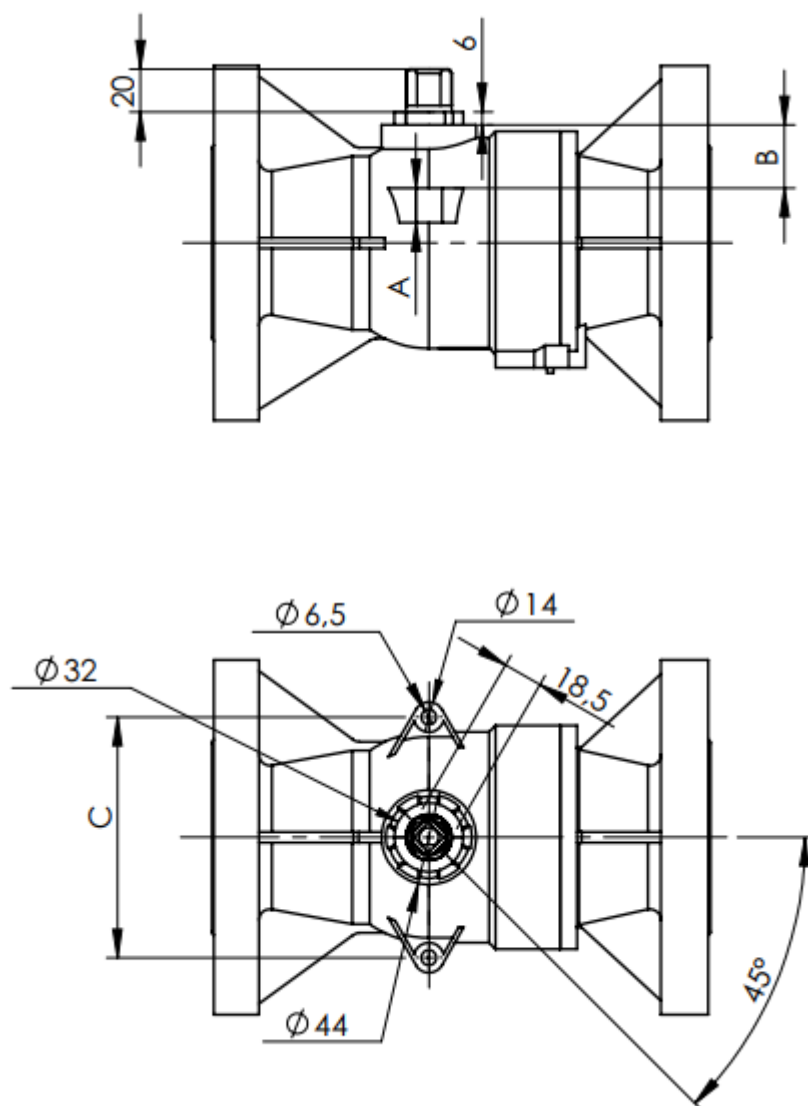


Diagram representing a DN50

DN	ØA	ØB			ØC							PPGF / PP-EL		PVDF						WEIGHT	
		DIN	ANSI	BS	DIN	ANSI	BS	E	F	G	H	J	K	J	K	L	M	N		PPGF/PP-EL	PVDF
15	95	65	60	66,7	14	16	14	14	73	6	75	57	70	56	69	130	57	73		0,5 Kg	0,75 Kg
20	105	75	70	73	14	16	14	16	83	6	75	57	70	56	69	150	57	73		0,6 Kg	0,92 Kg
25	115	85	79,5	82	14	16	14	16	90	12,5	95	73	87	72	85,8	160	60	90		1,05 Kg	1,00 Kg
32	140	100	89	87,3	18	16	14	18	106,5	16,5	99	90	104	88,5	103	180	60	90		1,60 Kg	1,45 Kg
40	150	110	98,4	98,4	18	16	14	18	116	23,5	106	100	115	98,5	113,5	200	60	90		1,95 Kg	1,95 Kg
50	165	125	120,6	114,3	18	19	18	20	131	28,5	111	112	127	110,5	125	230	60	90		2,45 Kg	2,60 Kg

DIN = Drilling in accordance with EN 1092-1 PN10/PN - ANSI = Drilling in accordance with EN1759-1/ASME B16.5 Class 150 BS = Drilling in accordance with BS10-Table D



DN	A	B	C
25	15	26	73
32	15	26	90
40	15	26	100
50	15	26	112

## PARTS LIST

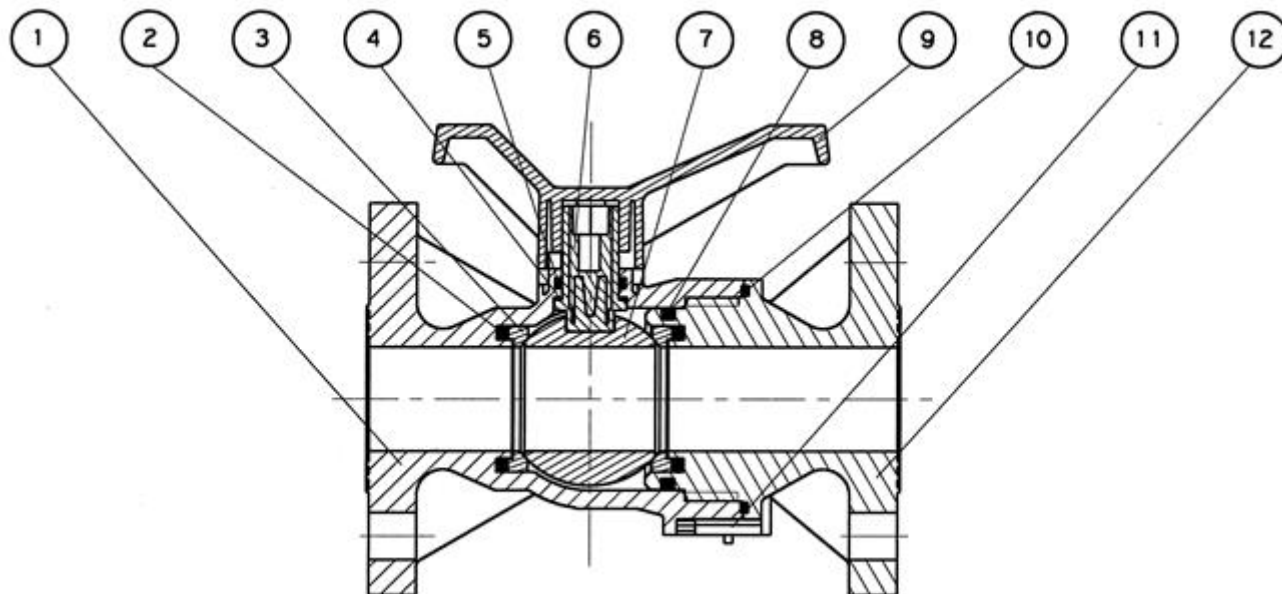


Diagram representing a DN50

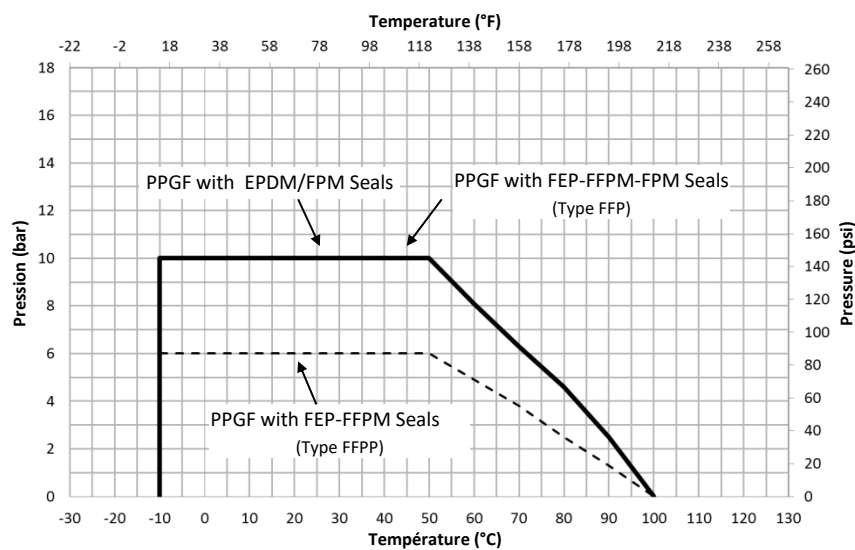
N°	DESCRIPTION	With EPDM seals		With FPM seals		With FEP-FFPM seals Type « FFP » (FEP under seat + FFPM on spindle + FEP & FPM on adjusting end)		With FEP-FFPM seals Type « FFPP » (FEP under seat + FFPM on spindle + FEP on adjusting end)	
		Material	Qty	Material	Qty	Material	Qty	Material	Qty
1	DIN FLANGED MAIN BODY	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1
	ANSI FLANGED MAIN BODY	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1
2*	SEAT O-RING	EPDM	2	FPM**	2	FEP	2	FEP	2
3*	SEAT	PTFE	2	PTFE	2	PTFE	2	PTFE	2
4*	FRICTION WASHER	PTFE	1	PTFE	1	PTFE	1	PTFE	1
5*	SPINDLE O-RING***	EPDM	1	FPM**	1	FFPM	1	FFPM	1
6*	SPINDLE	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1
7*	BALL	PP-H, PVDF	1	PP-H, PVDF	1	PP-H, PVDF	1	PP-H, PVDF	1
8*	MAIN BODY O-RING	EPDM	1	FPM**	1	FPM**	1	-	-
9	HANDLE	PPGF (Red)	1	PPGF (Green)	1	PPGF (Blue)	1	PPGF (Blue)	1
10*	O-RING	-	-	-	-	FEP	1	FEP	1
11	SAFETY PLATE	PPGF (Red)	1	PPGF (Green)	1	PPGF (Blue)	1	PPGF (Blue)	1
12	DIN FLANGED SECONDARY BODY	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1
	ANSI FLANGED SECONDARY BODY	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1	PPGF, PVDF, PP-EL	1

(\*) Spare parts    (\*\*) FPM type SAFKM5    (\*\*\*) 2x spindle o-ring for DN15 to DN20 and 1x spindle o-ring for DN25 to DN50

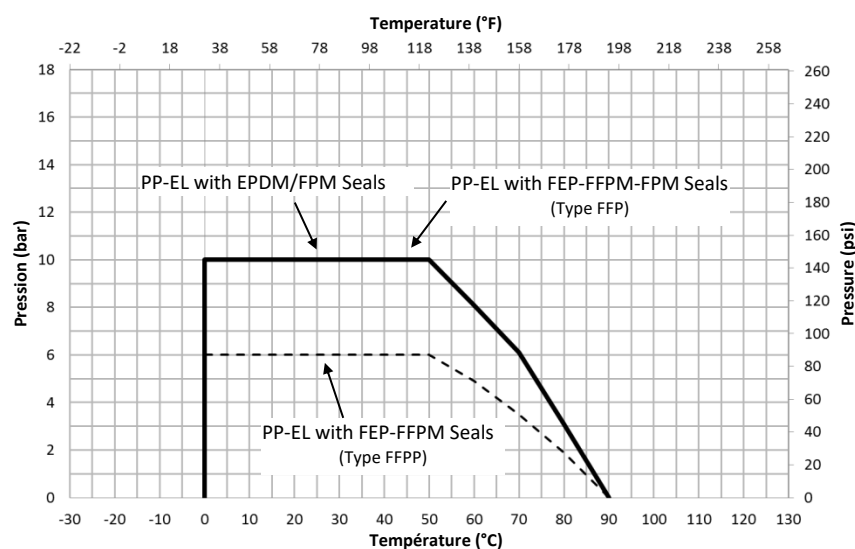
DIN = Drilling in accordance with EN 1092-1 PN10/PN16    ANSI = Drilling in accordance with EN1759-1/ASME B16.5 Class 150

PP-EL Version = Black handle regardless of the type of seals.

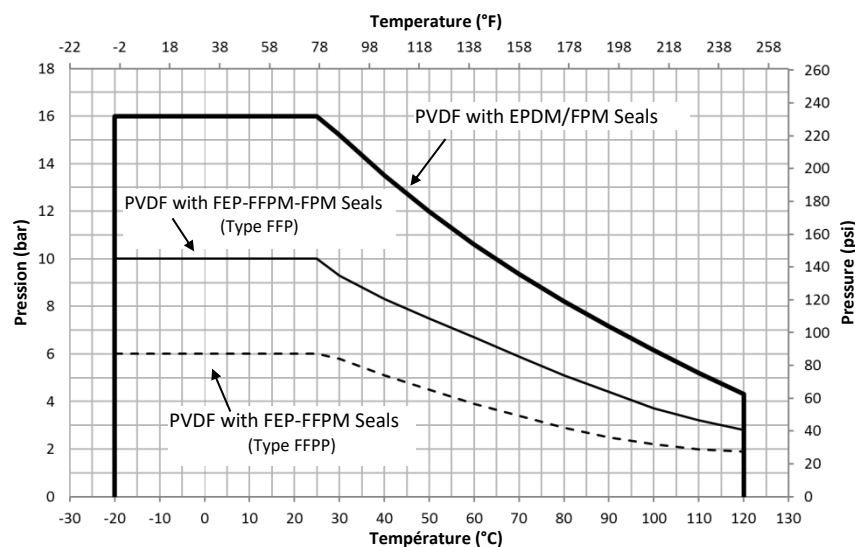
## PRESSURE/ TEMPERATURE CURVES



PPGF



PP-EL



PVDF

## Pressure/Temperature Summary

Type of Seals	Working Pressure	Working Temperature	
		PPGF	PP-EL
EPDM	10 bars at 20°C	- 10°C to +100°C	0°C to +90°C
FPM	10 bars at 20°C	- 10°C to +100°C	0°C to +90°C
FEP-FFPM-FPM - Type « FFP » (FEP under seats+ FFPM on spindle)	10 bars at 20°C	- 10°C to +100°C	0°C to +90°C
FEP-FFPM - Type « FFPP » (FEP under seats + FFPM on spindle + FEP on adjusting end)	6 bars at 20°C	- 10°C to +100°C	0°C to +90°C

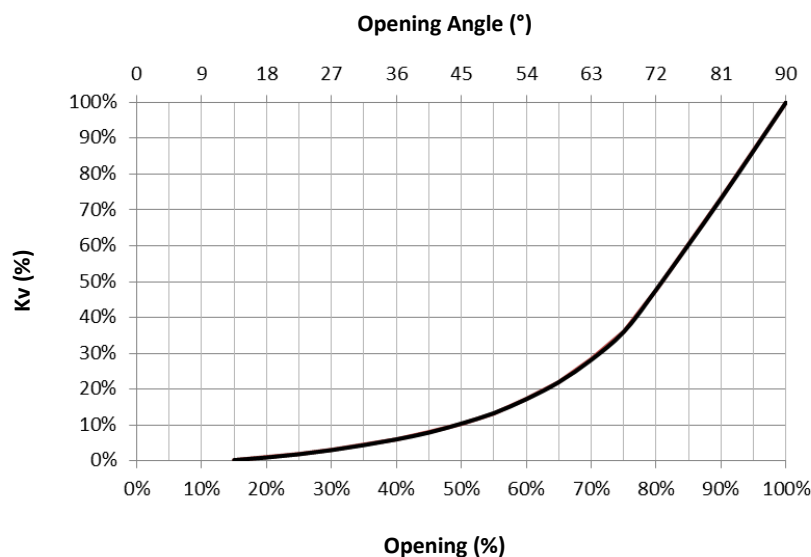
Type of Seal	Working Pressure	Working Temperature
		PVDF
EPDM	16 bars at 20°C	- 20°C to +120°C
FPM	16 bars at 20°C	- 20°C to +120°C
FEP-FFPM-FPM - Type « FFP » (FEP under seats + FFPM on spindle)	10 bars at 20°C	- 20°C to +120°C
FEP-FFPM - Type « FFPP » (FEP under seats + FFPM on spindle + FEP on adjusting end)	6 bars at 20°C	- 20°C to +120°C

The mechanical characteristics of the FPM and FFPM seals subjected to an ambient temperature below –5°C require the implementation of proper insulation on the valves equipped with such seals. Contact us for more information.

## PRESSURE LOSS

DN	Kv (m <sup>3</sup> /h)
15	12,6
20	24,2
25	44,6
32	66,0
40	109,3
50	189,9

Our valves are guaranteed for an average fluid velocity in the pipeline of  $\leq 2$  m/s. Please contact us with the working conditions for any higher speed.



## CHEMICAL RESISTANCE

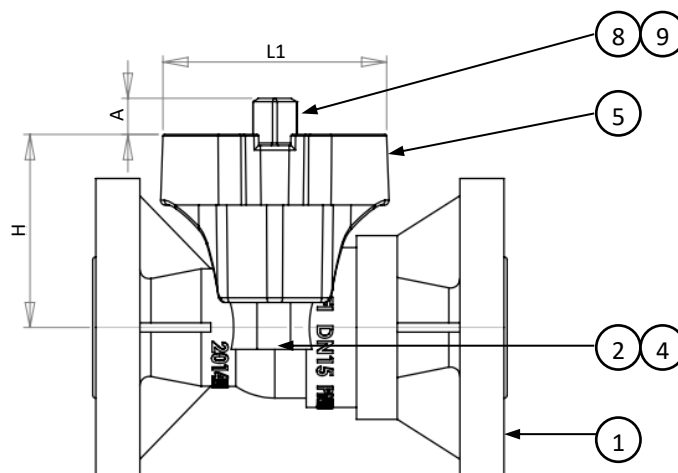
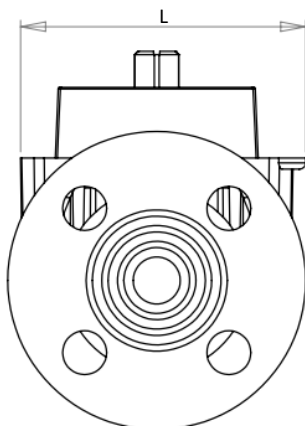
The chemical resistance of the valve is subject to the type of fluid, the temperature, the pressure, as well as the materials and seals of the valve.

Please contact us to have a personalized analysis of the resistance of one of our products to a given fluid

You can also consult, for information only, the table given in ISO 10358. However, this table cannot be considered as a recommendation by SAFI who could not be held liable for the use of this document.

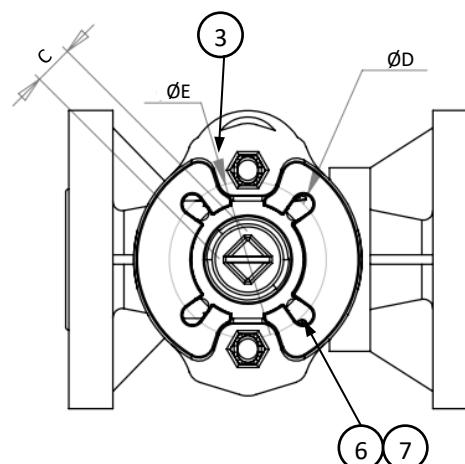


## OPTION: MOUNTING KIT (ISO 5211)



N°	QTY	DESCRIPTION	MATERIAL
1	1	2-Way Ball Valve DN15 to DN50	PPGF, PVDF, PP-EL
2	2	Screw TCHC 6x50	SS 316
3	2	Nut HU6 nylock	SS 316
4	2	Washer MU6x14	SS 316
5	1	Bracket F04/F05/F07 Fixings	PPGF
6	4	Screw TCHC M5x25 for a F04 Fixing	SS 316
		Screw TCHC M6x25 for a F05 Fixing	
		Screw TCHC M8x25 for a F07 Fixing	
7	4	Washer MU5x12 for a F04 Fixing	SS 316
		Washer MU6x14 for a F05 Fixing	
		Washer MU8x16 for a F07 Fixing	
8	1	Drive MS14 ou MS17	SS 316
9	1	Adapter FS14/MS17	SS 316
		Adapter FS14/Male Star of 22	

Diagramm representing assembly on a DN50



DN	A	H	L	L1	ISO 5211 FIXINGS								
					F04			F05			F07		
					C*	ØD**	ØE**	C*	ØD**	ØE**	C*	ØD**	ØE**
15	15	62	91	71	11 or 14	Ø5	Ø42	11 or 14	Ø6	Ø50	-	-	-
20	15	62	91	71	11 or 14	Ø5	Ø42	11 or 14	Ø6	Ø50	-	-	-
25	17	69	114	91	11, 14, 17 or 22	Ø5	Ø42	11, 14, 17 or 22	Ø6	Ø50	11, 14, 17 or 22	Ø8	Ø70
32	17	73	114	91	11, 14, 17 or 22	Ø5	Ø42	11, 14, 17 or 22	Ø6	Ø50	11, 14, 17 or 22	Ø8	Ø70
40	17	80	132	91	11, 14, 17 or 22	Ø5	Ø42	11, 14, 17 or 22	Ø6	Ø50	11, 14, 17 or 22	Ø8	Ø70
50	17	84	132	91	11, 14, 17 or 22	Ø5	Ø42	14, 17 or 22	Ø6	Ø50	11, 14, 17 or 22	Ø8	Ø70

Other Dimensions: On Request

\*According to

\*\* Multistandard bracket

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## Available Kits

DN	ISO 5211 FIXINGS (CONNECTION/SQ* 45°)		WEIGHT OF KIT	PRODUCT CODE
DN15-20	F04/F05	11	0,228 Kg	KIT0130
	F04/F05	14	0,235 Kg	KIT0131
	F04/F05	17	0,244 Kg	KIT0132
DN25-32	F04/F05/F07	11	0,287 Kg	KIT0171
	F04/F05/F07	14	0,350 Kg	KIT0133
	F04/F05/F07	17	0,359 Kg	KIT0134
	F04/F05/F07	22**	0,399 Kg	KIT0135
DN40-50	F04/F05/F07	11	0,288 Kg	KIT0172
	F04/F05/F07	14	0,351 Kg	KIT0136
	F04/F05/F07	17	0,360 Kg	KIT0137
	F04/F05/F07	22**	0,400 Kg	KIT0138

\*SQ = Square Drive 45°

\*\*DSQ = Double Square Drive

## Valve torque for actuation

DN	VALVE TORQUE FOR ACTUATION	
	PPGF/PP-EL	PVDF
DN15	10 N.m	8 N.m
DN20		
DN25	10 N.m	10 N.m
DN32		
DN40		
DN50	14 N.m	16 N.m

The « valve torque for actuation » is the required torque to open the valve when  $dP=PN$  and including a safety coefficient.

## OPTION: PNEUMATIC ACTUATION

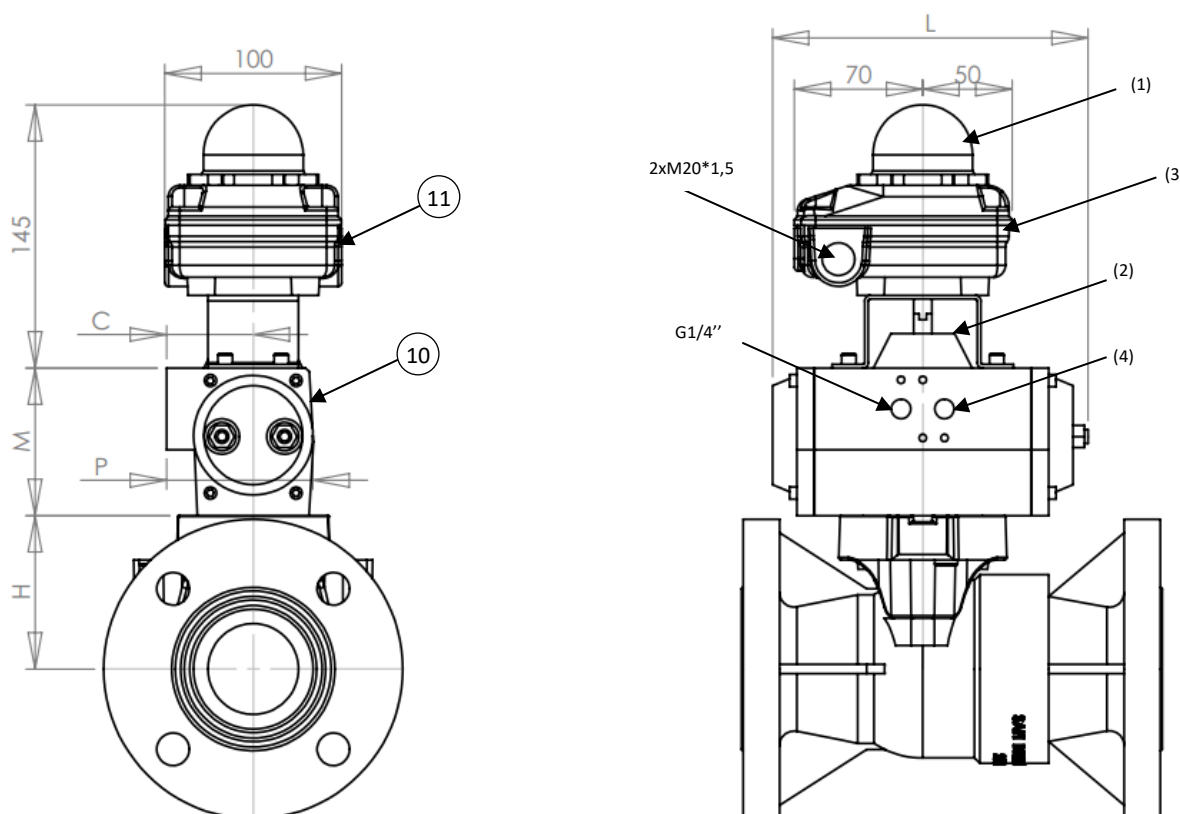


Diagram representing assembly on a DN50

Item	QTY	DESCRIPTION	MATERIAL
10	1	Actuator Double Acting or Fail Safe	Polyamide or Aluminium or Stainless Steel
11	1	Limit Switch Box (option)	Aluminium or Stainless Steel

- (1) Visual position indicator of Limit Switch Box.
- (2) Visual position indicator of Actuator
- (3) Limit Switch Box (option)
- (4) NAMUR mounting pattern for electro pneumatic control

## Pneumatic Actuators recommendation according to DN and Material of the Valves

### POLYAMIDE Actuator

DN	ACTUATOR	ISO 5211 FIXINGS (CONNECTION/DSS*)		H	C	L	M	P	WEIGHT of Actuator in Kg	PRODUCT CODE	MATERIAL
DN15-20 in PPGF or PVDF	Double Acting (DA)	F04	11	See dimensions for each DN on page 6	41	119	70	67	0,57	2007-73A	Actuator in Polyamide
	Fail Safe	F05	14		51	160	90	86	1,39	2007-73M (NC) 2007-75M (NO)	
DN25 to 50 in PPGF or DN25 to 40 in PVDF	Double Acting (DA)	F05	14		41	119	70	67	0,57	2007-73A	
	Fail Safe	F05	14		51	160	90	86	1,39	2007-73M (NC) 2007-75M (NO)	
DN50 in PVDF	Double Acting (DA)	F05	14		51	160	90	70	1,19	2007-73B	
	Single Acting (SA)	F07	17		66	175	111,5	101	2,34	2007-73N (NC) 2007-75N (NO)	

\*DSS = Double Square Socket

(Actuator model for a recommended air supply of 5.6 Bars)

### ALUMINIUM Actuator

DN	ACTUATOR	ISO 5211 FIXINGS (CONNECTION/DSS*)		H	C	L	M	P	WEIGHT of Actuator in Kg	PRODUCT CODE	MATERIAL
DN15-20 in PPGF or PVDF	Double Acting (DA)	F04	11	See dimensions for each DN on page 6	40	119	71	67	0,91	2007-83A	Actuator in Aluminium
	Fail Safe	F05	14		47	175	81	81	1,69	2007-84C (NC) 2007-85C (NO)	
DN25 to 50 in PPGF or DN25 to 40 in PVDF	Double Acting (DA)	F04	14		47	175	81	81	1,5	2007-83A	
	Fail Safe	F05	14		47	175	81	81	1,69	2007-84C (NC) 2007-85C (NO)	
DN50 in PVDF	Double Acting (DA)	F05	14		47	175	81	81	1,5	2007-83C	
	Fail Safe	F05	17		54	186	98	96	2,53	2007-84D (NC) 2007-85D (NO)	

\*DSS = Double Square Socket

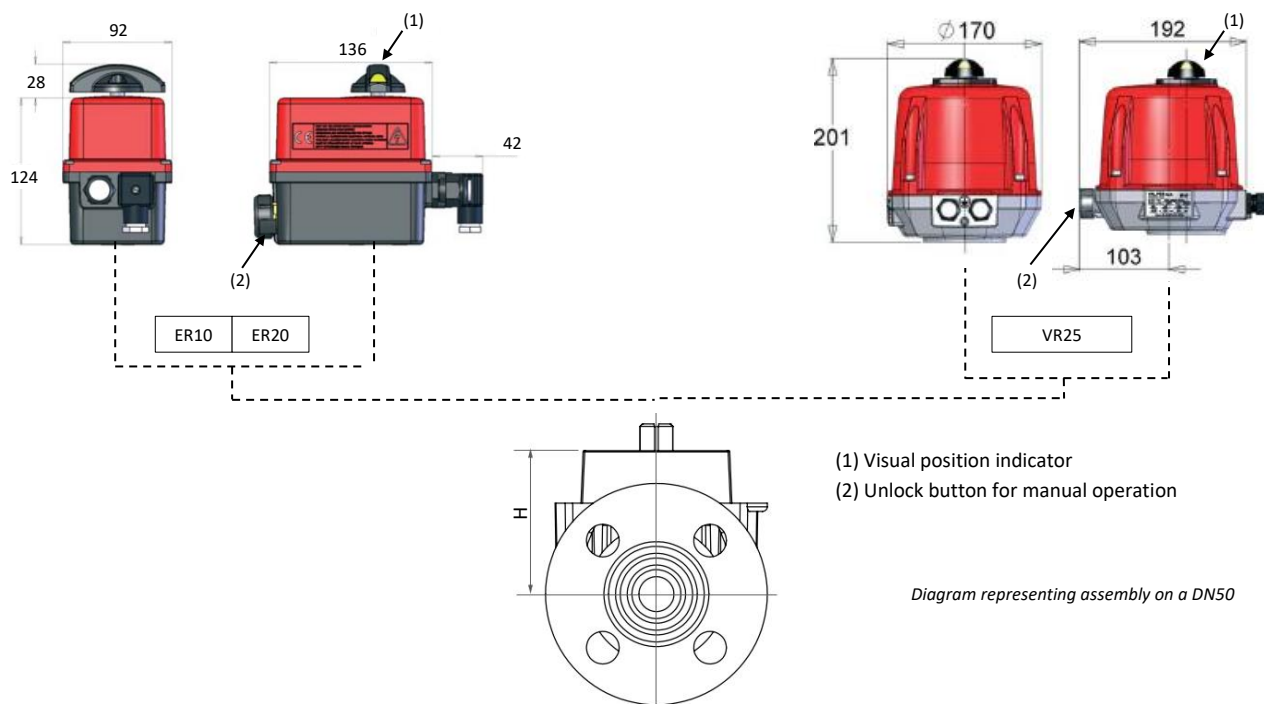
(Actuator model for a recommended air supply of 5.6 Bars)

NC= Normally Closed – NO = Normally Open

Find all the information concerning these actuators by consulting our TDS-ACTPN-0001 product sheet.

Contact Us, for other type of Actuators or Limit Switch Boxes

## OPTION: ELECTRIC ACTUATION

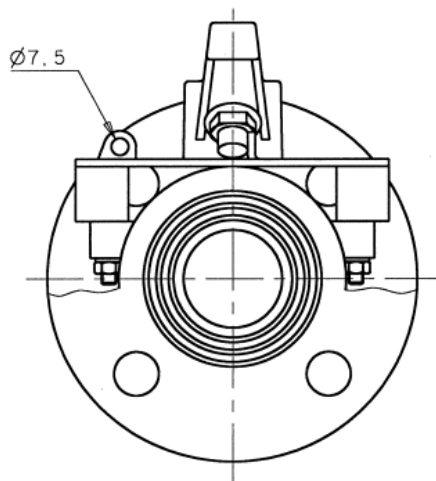


DN	MODEL	ISO 5211 FIXINGS (CONNECTION/DSS*)		H	WEIGHT KG	PRODUCT CODE	MATERIAL	ROTATION 90°
DN 15 to 40 in PPGF or PVDF	ER10 (15-30V AC 12-48VDC)	F03-F04	EF14	See dimensions for each DN on page 6	1 à 1,2	2907-39B	PA6	12s
	ER10 (90-240V AC 90-350VDC)	F03-F04	EF14		1 à 1,2	2907-39A	PA6	12s
	VR25 (400V three phase)	F05-F07	EF17		3,1 à 3,5	2907-50I	Alu + PA6	7s
DN 50 in PPGF or PVDF	ER20 (15-30V AC 12-48VDC)	F05	EF14		1 à 1,2	2907-40A	PA6	12s
	ER20 (90-240V AC 90-350VDC)	F05	EF14		1 à 1,2	2907-40C	PA6	12s
	VR25 (400V three phase)	F05-F07	EF17		3,1 à 3,5	2907-50I	Alu + PA6	7s

\*DSS = Double Square Socket

Find all the information concerning these actuators by consulting our TDS-ACTEL-0001 product sheet

## OPTION: LOCKING SYSTEM



N°	QTY	DESCRIPTION	MATERIAL
1	2	NUT M6	SS 316
2	2	WASHER M6	SS 316
3	2	SCREW M6x25	SS 316
4	1	LOCKING PLATE DN15 to 50	SS 304+Epoxy
5	1	NUT M12	SS 316
6	1	WASHER M12	SS 316
7	1	SCREW M12x40	SS 316
8	1	DRILLED HANDLE	PPGF

Option : Stainless Steel 316 – Consult Us

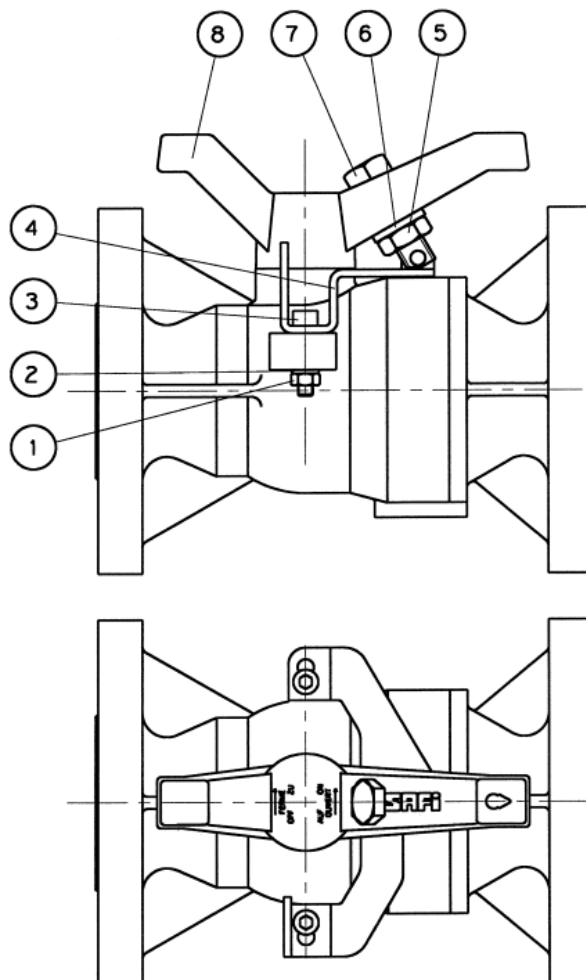


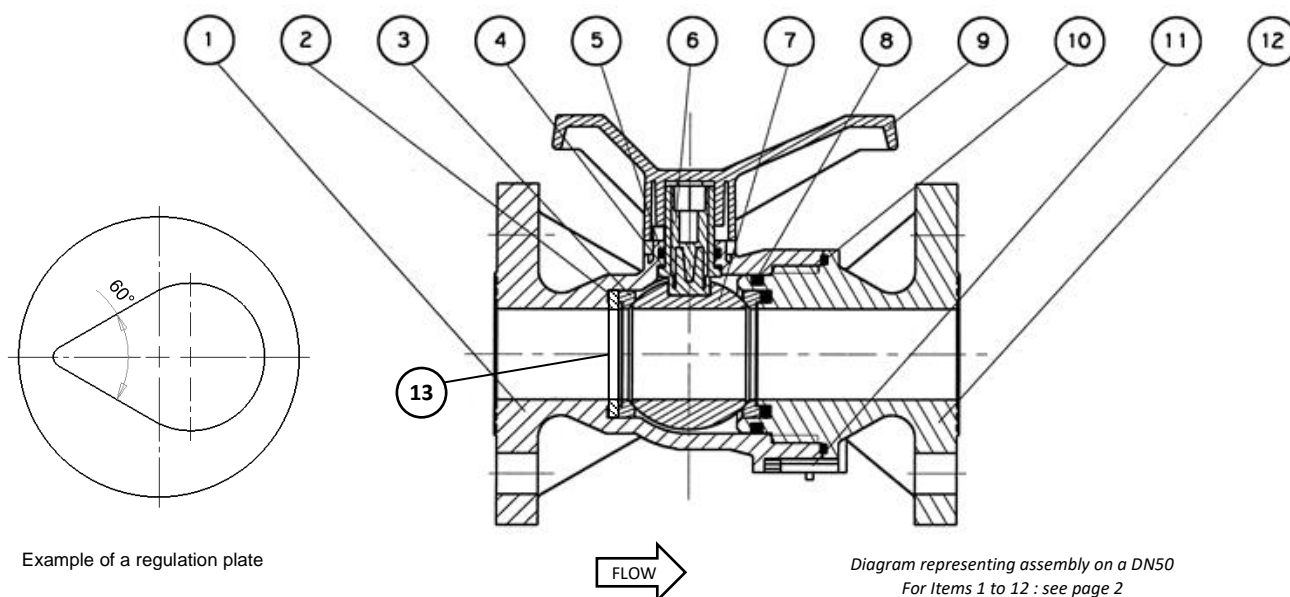
Diagram representing assembly on a DN50

### Assembly:

- 1) Locking plate # 4 is mounted on the 2-way SAFI compact valves. It can be added later if necessary.
- 2) Assembly is done with a 10mm open-end wrench and a 5mm hex key. A hole (Ø7) must be drilled in the handle. The Locking system does not include padlock.

DESCRIPTION	PRODUCT CODE		
	Ball Valve DN15-20	Ball Valve DN25-32	Ball Valve DN40-50
Locking System with RED handle (Red = Ball Valve with EPDM seals)	1102-06RTR	1102-06STR	1102-06UTR
Locking System with GREEN handle (Green = Ball Valve with FPM seals)	1102-06RTV	1102-06STV	1102-06UTV
Locking System with BLUE handle (Blue = Ball Valve with FEP/FFPM seals)	1102-06RTB	1102-06STB	1102-06UTB
Locking System with BLACK handle (Black = Ball Valve in PP AS regardless of the type of seals)	1102-06RTN	1102-06STN	1102-06UTN

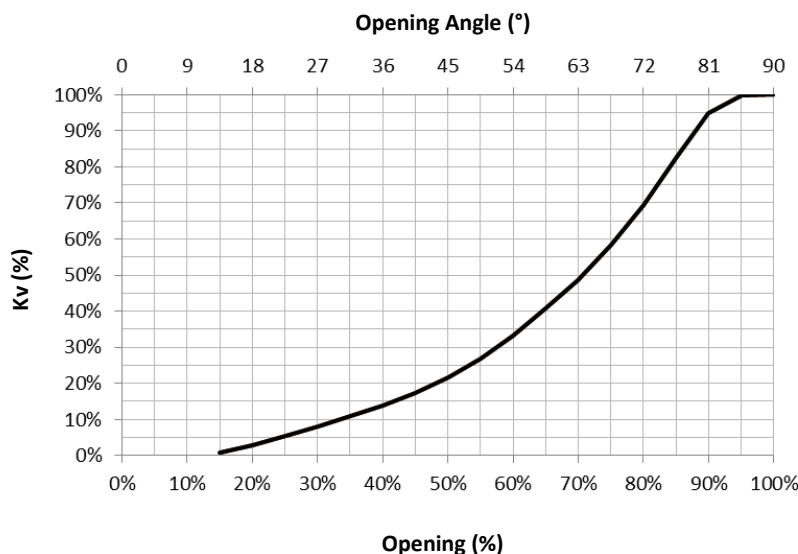
## OPTION: FLOW REGULATION PLATE



N°	DESCRIPTION	MATERIAL	QUANTITY
13	REGULATION PLATE	PVDF	1

DN	Kv (m <sup>3</sup> /h)
15	4,2
20	8,0
25	14,8
32	21,9
40	36,2
50	62,9

Kv defined according to EN 1267



## OTHER AVAILABLE OPTIONS

- . Manual Operation with Spring Return
- . Extended Stem
- . Thermal Insulation Extension
- . Limit Switch Box

Contact us, for more information on the Available Options.

## DETERMINING A PRODUCT CODE

TYPE	SPECIFICATION	DN	FITTING (Inlet)	FITTING (Outlet)	SEALS
<b>2014</b> = Compact PPGF <b>2029</b> = Compact PVDF <b>2091</b> = Compact PP-EL	<b>-</b> = Standard Ball Valve <b>O</b> = With Regulation Plate <b>Z</b> = Special Ball Valve	<b>00</b> = DN15 <b>01</b> = DN20 <b>02</b> = DN25 <b>03</b> = DN32 <b>04</b> = DN40 <b>05</b> = DN50	<b>F</b> = Flanges with drilling in accordance with EN 1092-1 PN10/PN16 (DIN) <b>G</b> = Flanges with drilling in accordance with EN1759-1/ASME B16.5 Class 150 (ANSI)	<b>F</b> = Flanges with drilling in accordance with EN 1092-1 PN10/PN16 (DIN) <b>G</b> = Flanges with drilling in accordance with EN1759-1/ASME B16.5 Class 150 (ANSI)	<b>A</b> = EPDM Food Grade <b>E</b> = EPDM <b>V</b> = FPM SAFKM5 for PPGF <b>Z</b> = FPM SAFKM5 for PVDF <b>P</b> = FEP under seats + FFPM on spindle + FEP & FPM on adjusting end <b>PP</b> = FEP under seats + FFPM on spindle + FEP on adjusting end

Example: 2029-05FFZ

2029	-	05	F	F	Z
Compact Ball Valve PVDF	Standard Ball Valve	DN50	Flange with drilling in accordance with EN 1092-1 PN10/PN16 (DIN)	Flange with drilling in accordance with EN 1092-1 PN10/PN16 (DIN)	FPM

Example: Ball Valve + Pneumatic ACTUATOR: 2014-00FFE + KIT0136 + 2007-73M

2014-05FFE	+	KIT0136	+	2007-73M
PPGF Compact Ball Valve STANDARD DN50 With Flanges drilling in accordance with EN1092-1 PN10/PN16 (DIN) EPDM Seals	+	MOUNTING KIT for a Single Acting Actuator	+	Pneumatic Actuator in Polyamide Single Acting(SA) Normally Closed (NC)

Example: Ball Valve DN50 PVDF + REGULATION PLATE + LOCKING SYSTEM: 2029O05FFZ + 1102-06UTV

2029O05FFZ	+	1102-06UTV
PVDF Compact Ball Valve Regulation Plate DN50 With Flanges drilling in accordance with EN1092-1 PN10/PN16 (DIN) FPM Seals	+	LOCKING SYSTEM for a DN40/50 Green Handle