DERWENT FLOW CONTROL

avfi

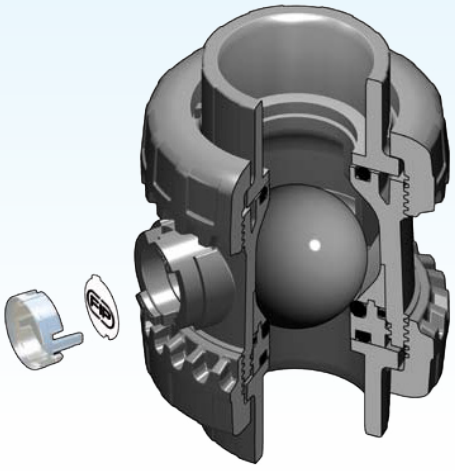
FSX

FIP BALL CHECK VALVE

Introducing an advanced method of installation for a long trouble free service. The FIP SXE check valve permits fluid to flow in one direction only.

FEATURES

- Permits fluids to flow in one direction only
- Jointing by solvent welding or threaded connections
- The valve is only suitable for liquids with a specific gravity less than 1.37 g/cm3
- **Easyfit system:** based on the principle of the bevel gear pair has been applied to design the mechanism that controls the rotation of the union nuts during the valve installation. The use of Easyfit multifunctional handle is the best solution to carry out maintenance operations in narrow spaces with limited access to the valve location
- Easy removal of the valve body from the system, allowing quick replacement of O-Rings and seats
- Compact design with the true union installation dimensions according to EN 1452 “short”
- Safe locked and adjustable seal carrier
- Easyfit hergonomic multifunctional handle with the union nut rotation control and seat carrier adjustment wrench. Easyfit custom labelling system as standard



APPLICATIONS

FIP PVC-U is suitable for conveying foodstuffs and drinking water and meets the necessary standards and regulations.

TECHNICAL DATA

Size range:	DN10 – DN50
Pressure Rating:	16 bar at 20°C

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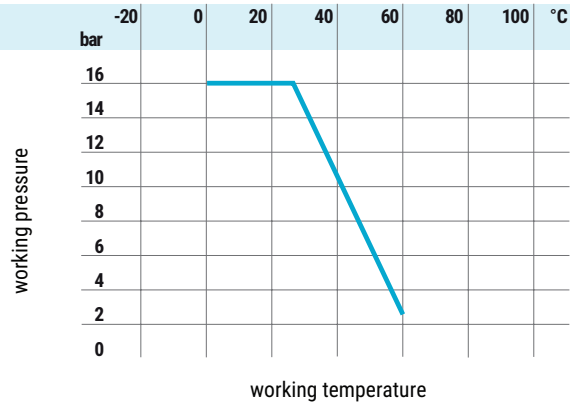
LEGENDS	
d	nominal outside diameter of the pipe in mm
DN	nominal internal diameter in mm
R	nominal size of the thread in inches
PN	nominal pressure in bar (max. working pressure at 20° C - water)
g	weight in grams
PVC-U	un-platicized polyvinyl chloride

LEGENDS	
EPDM	Ethylene propylene rubber
FPM (FKM)	vinylidene fluoride rubber
PTFE	Polyoxymethylene
PE	polyethylene
SDR	Standard Dimension Ratio = d/s

TECHNICAL DATA

1



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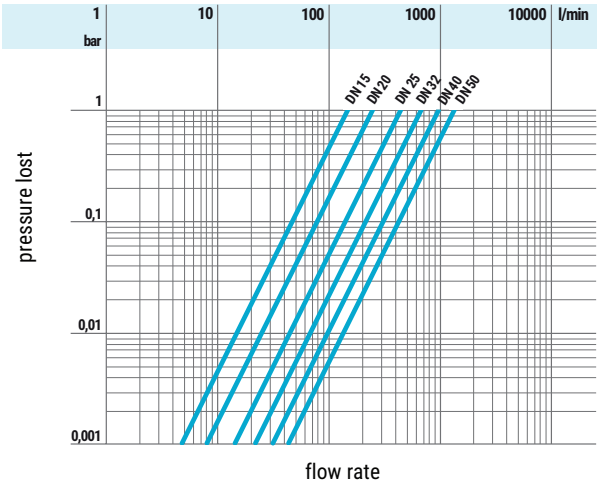


1 Pressure/temperature rating forwater and harmless fluids to which the material is RESISTANT. In other cases a reduction of therated PN is required. (25 years with safety factor).

2 Pressure loss chart

3

DN	10	15	20	25	32	40	50
bar	0,2	0,2	0,2	0,2	0,2	0,2	0,2

3 Minimum back pressure for drop tight service (valve in horizontal Position)

4

DN	10	15	20	25	32	40	50
k_{v100}	80	200	385	770	1100	1750	3400

4 Flow coefficient k_{v100}*

*k_{v100} is the number of litres per minute of water at a temperature of 20° C that will flow through a valve with a one-bar pressure differential at a specified rate. The kv100 values shown in the table are calculated with the valve completely open

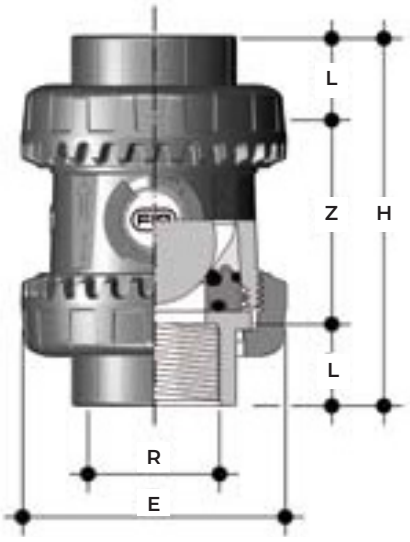
DIMENSIONS (MM)

FIP have produced a complete range of check ball valves whose couplings comply with the following standards: Solvent welding: ISO 727, UNI EN1452, DIN 8063, NF T54-028, BS4346/1, ASTM 2467 coupling to pipes complying with ISO 161/1, UNI EN 1452, DIN 8062, NF T54-016, BS 3506, BS 3505, ASTM F 441. Threaded couplings: UNI ISO 228/1, DIN 2999, BS 21 ASTM 2464, ANSI B1.20.1

SXEIV - Easyfit BALL CHECK VALVE with metric series plain female ends

DN	PN	L	Z	H	E	g	d
10	16	14	54	82	54	145	16
15	16	16	50	82	54	148	20
20	16	19	53	91	63	190	25
25	16	22	59	103	72	300	32
32	16	26	68	120	85	460	40
40	16	31	77	139	100	675	50
50	16	38	98	174	118	1080	63

SXEFX - Easyfit BALL CHECK VALVE with BS parallel threaded female ends



DN	PN	L	Z	H	E	g	R
10	16	11,4	59,2	82	54	145	3/8”
15	16	15	60	90	54	148	1/2”
20	16	16,3	60,4	93	63	190	3/4”
25	16	19,1	71,8	110	72	300	1”
32	16	21,4	84,2	127	85	460	1 1/4”
40	16	21,4	88,2	131	100	675	1 1/2”
50	16	25,7	109,6	161	118	1080	2”

DIMENSIONS (MM)

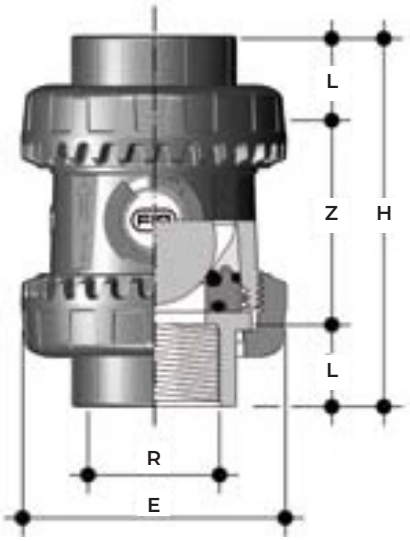
SXELV - Easyfit BALL CHECK VALVE with BS series plain female ends

DN	PN	L	Z	H	E	g	d
15	16	16,5	49	82	54	148	1/2"
20	16	19	53	91	63	190	3/4"
25	16	22,5	58	103	72	300	1"
32	16	26	68	120	85	460	1 1/4"
40	16	30	79	139	100	675	1 1/2"
50	16	36	102	174	118	1080	2"

SXEAV - Easyfit BALL CHECK VALVE with ASTM series plain female ends

DN	PN	L	Z	H	E	g	d
15	16	22,5	51	96	54	148	1/2"
20	16	25,5	54	105	63	190	3/4"
25	16	28,7	59,5	117	72	300	1"
32	16	32	72	136	85	460	1 1/4"
40	16	35	77	147	100	675	1 1/2"
50	16	38,2	97,6	174	118	1080	2"

SXENV - Easyfit BALL CHECK VALVE with NPT threaded female ends



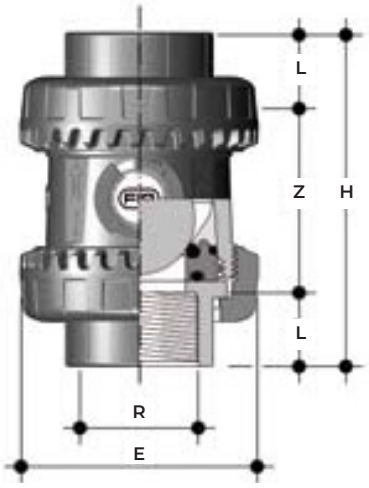
DN	PN	L	Z	H	E	g	R
10	16	13,7	13,7	82	54	145	3/8"
15	16	17,8	17,8	90	54	148	1/2"
20	16	18	18	93	63	190	3/4"
25	16	22,6	22,6	110	72	300	1"
32	16	25,1	25,1	127	85	460	1 1/4"
40	16	24,7	24,7	131	100	675	1 1/2"
50	16	29,6	29,6	161	118	1080	2"

DIMENSIONS (MM)

SXEJV - Easyfit BALL CHECK VALVE with JIS series plain female ends

DN	PN	L	Z	H	E	g	d
15	16	30	50	110	54	160	1/2"
20	16	35	53	123	63	235	3/4"
25	16	40	59	139	72	325	1"
32	16	44	68	156	85	490	1 1/4"
40	16	55	77	187	100	680	1 1/2"
50	16	63	102	228	118	1150	2"

SXEGV - Easyfit BALL CHECK VALVE with JIS threaded female ends



DN	PN	L	Z	H	E	g	R
15	16	16	50	82	54	148	1/2"
20	16	19	53	91	63	190	3/4"
25	16	22	59	103	72	300	1"
32	16	25	70	120	85	460	1 1/4"
40	16	26	87	139	100	675	1 1/2"
50	16	31	112	174	118	1080	2"

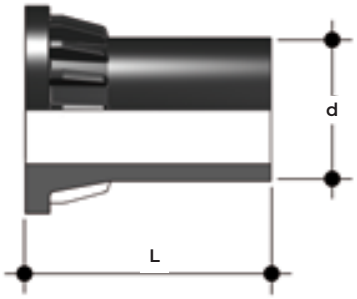
SXEBEV - Easyfit BALL CHECK VALVE with PE100 SDR 11 metric series long spigot ends for butt fusion

or elec with SXEGV - Easyfit BALL CHECK VALVE with SDR 11 metric series long spigot ends for butt fusion or electrofusion (CVDE)

DN	PN	L	Z	H	E	g	d
15	16	41	72	154	54	150	20
20	16	52	82	186	63	225	25
25	16	54,5	90	199	72	310	32
32	16	56	105	217	85	485	40
40	16	58	120	236	100	700	50
50	16	66	136	268	118	1150	63

ACCESSORIES

CVDE - END CONNECTOR IN PE100 long spigot, for electrofusion or butt welding SDR 11



DN	d	L	Part number
15	20	55	CVDE11020
20	25	70	CVDE11025
25	32	74	CVDE11032
32	40	78	CVDE11040
40	50	84	CVDE11050
50	63	91	CVDE11063

LCE - TRANSPARENT SERVICE PLUG with tag holder

DN	d	R	Part number
10 - 15	16 - 20	3/8" - 1/2"	LCE020
20	25	3/4"	LCE025
25	32	1"	LCE032
32	40	1 1/4"	LCE040
40	50	1 1/2"	LCE050
50	63	2"	LCE063

LSE - Label design and print kit for Easyfit handle

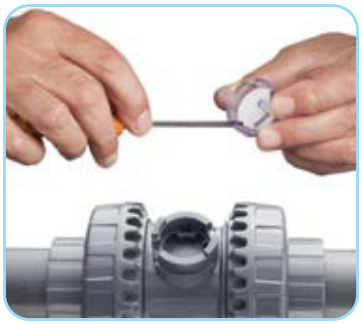
DN	d	R	Part number
10 - 15	16 - 20	3/8" - 1/2"	LSE020
20	25	3/4"	LSE025
25	32	1"	LSE032
32	40	1 1/4"	LSE040
40	50	1 1/2"	LSE050
50	63	2"	LSE063

Easyfit TOOL

DN	d	R	Part number
10 - 15	16 - 20	3/8" - 1/2"	HAVXE020
20	25	3/4"	HAVXE025
25	32	1"	HAVXE032
32	40	1 1/4"	HAVXE040
40	50	1 1/2"	HAVXE050
50	63	2"	HAVXE063

SX EASYFIT CUSTOMIZATION

The tag holder is embedded in the transparent plug end can be easily removed to be used for self labelling on its blank side. To fix the label, previously printed with the EASYFIT Labelling System software, see the following instructions:



SX EASYFIT INSTALLATION

System easyfit

The SXE valve may be installed both in vertical position (upward flow) or horizontal position with minimum back pressure of 0,2 bar.

Before proceeding with installation please carefully follow these instructions:

- Check the pipes to be connected to the valve are axially aligned in order to avoid mechanical stress on the threaded union joints.
- Unscrew the union nuts from the valve body and slide them onto the pipe.
- Solvent weld or screw the valve end connectors onto the pipe ends. For correct jointing see “Installation Procedure”.

TORQUE WRENCH EASYTORQUE

After union nuts hand-tightening, it is recommended to employ the Easytorque wrench (available as ac-cessory) to complete the nut tighte-ning in accordance to the torques indicated on instruction attached to the Easytorque wrench; following this procedure will ensure the best instal-lation and operation of the valve.

SX EASYFIT INSTALLATION

The SXE valve is maintenance free, in the case of normal operating con-ditions. In case of leakage or wear, before carrying out any maintenance, intercept the fluid upstream of the valve. Ensure that it doesn't remain in pressure (vent downstream if necessary).

FIG.1

FIG.2

FIG.3

1 Completely drain the liquid residue from the valve that might be aggressive for the operator and if possible wash with water.

2 To allows easier nut untightening it is possible to use the handle-tool of VXE valves (available as an accessory). This handle-tool may be used to tighten the nuts as well, before employing the Easytorque wrench (Fig.1).

3 Unscrew the Ball seat support (10) by means the Easyfit tool (sup-plied as accessory) (Fig.2).

4 Remove all internal components

5 Carry out the necessary maintenance

6 Reassemble the valve following the exploded view on the following pages

7 Screw the ball seat support (10) by means the Easyfit tool (Fig. 2) or by means the Easytorque wrench key in accordance to the tighte-ning torque values indicated on the instruction of the Easytorque kit (Fig 3).

NOTE - When assembling the valve components, it is advisable to lubricate the O-rings. Do not use mineral oils as they attack EPDM rubber.

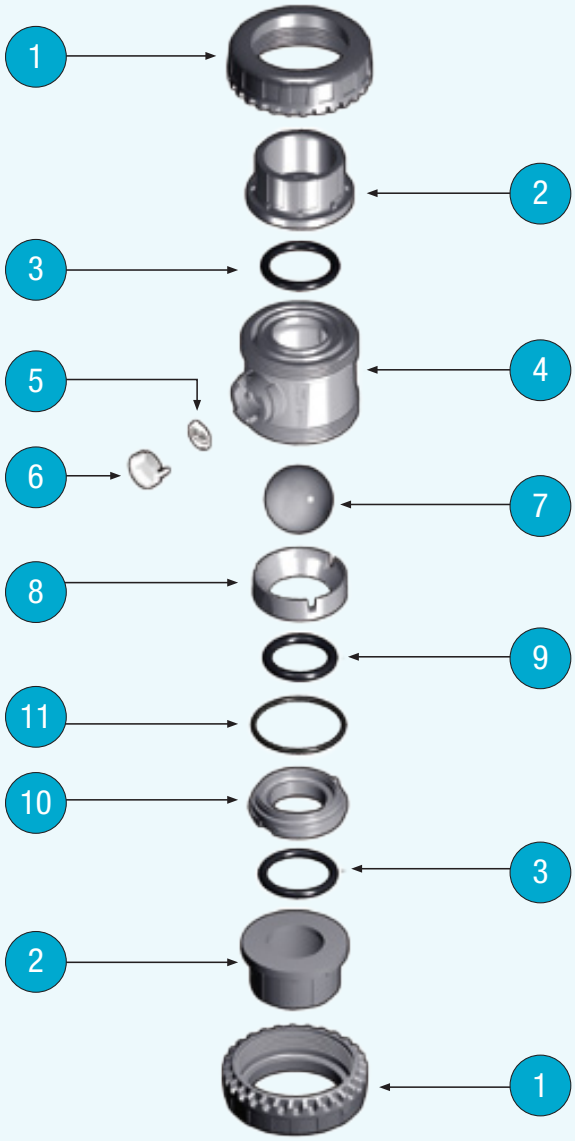
FSX
BALL CHECK VALVE

MATERIAL SPECIFICATIONS & PARTS LIST

NO.	DESCRIPTION	MATERIAL
1	Union nut	PVC-U
2	End connector	PVC-U
3	Socket seal (O-ring)	EPDM, FPM
4	Body	PVC-U
5	Tag holder	PVC
6	Transparent service plug	PVC-T

NO.	DESCRIPTION	MATERIAL
7	Ball	PVC-U
8	Packing-presser ring	PVC-U
9	Ball seal (O-ring)	EPDM, FPM
10	Support for ball seat	PVC-U
11	Radial seal (O-ring)	EPDM, FPM

DIMENSIONAL DRAWING



CODE

SXEAV		PG 4
d	EPDM	FPM
1/2”	SXEAV012E	SXEAV012F
3/4”	SXEAV034E	SXEAV034F
1”	SXEAV100E	SXEAV100F
1 1/4”	SXEAV114E	SXEAV114F
1 1/2”	SXEAV112E	SXEAV112F
2”	SXEAV200E	SXEAV200F

SXEIV		PG 3
d	EPDM	FPM
16	SXEIV016E	SXEIV016F
20	SXEIV020E	SXEIV020F
25	SXEIV025E	SXEIV025F
32	SXEIV032E	SXEIV032F
40	SXEIV040E	SXEIV040F
50	SXEIV050E	SXEIV050F
63	SXEIV063E	SXEIV063F

SXEBEV		PG 5
d	EPDM	FPM
20	SXEBEV020E	SXEBEV020F
25	SXEBEV025E	SXEBEV025F
32	SXEBEV032E	SXEBEV032F
40	SXEBEV040E	SXEBEV040F
50	SXEBEV050E	SXEBEV050F
63	SXEBEV063E	SXEBEV063F

SXEJV		PG 5
d	EPDM	FPM
1/2”	SXEJV012E	SXEJV012F
3/4”	SXEJV034E	SXEJV034F
1”	SXEJV100E	SXEJV100F
1 1/4”	SXEJV114E	SXEJV114F
1 1/2”	SXEJV112E	SXEJV112F
2”	SXEJV200E	SXEJV200F

SXEFX		PG 3
R	EPDM	FPM
3/8”	SXEFV038E	SXEFV038F
1/2”	SXEFV012E	SXEFV012F
3/4”	SXEFV034E	SXEFV034F
1”	SXEFV100E	SXEFV100F
1 1/4”	SXEFV114E	SXEFV114F
1 1/2”	SXEFV112E	SXEFV112F
2”	SXEFV200E	SXEFV200F

SXELV		PG 4
d	EPDM	FPM
1/2”	SXELV012E	SXELV012F
3/4”	SXELV034E	SXELV034F
1”	SXELV100E	SXELV100F
1 1/4”	SXELV114E	SXELV114F
1 1/2”	SXELV112E	SXELV112F
2”	SXELV200E	SXELV200F

SXEGV		PG 5
R	EPDM	FPM
1/2”	SXEGV012E	SXEGV012F
3/4”	SXEGV034E	SXEGV034F
1”	SXEGV100E	SXEGV100F
1 1/4”	SXEGV114E	SXEGV114F
1 1/2”	SXEGV112E	SXEGV112F
2”	SXEGV200E	SXEGV200F

SXENV		PG 4
R	EPDM	FPM
3/8”	SXENV038E	SXENV038F
1/2”	SXENV012E	SXENV012F
3/4”	SXENV034E	SXENV034F
1”	SXENV100E	SXENV100F
1 1/4”	SXENV114E	SXENV114F
1 1/2”	SXENV112E	SXENV112F
2”	SXENV200E	SXENV200F

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