



SXE-SSE DN 10÷50

PVC-U

Easyfit True Union ball and spring check valve





N.P.V.EQUIPMENT LTD.,PART.

SXE-SSE DN 10÷50

The Easyfit check valve line developed with Giugiaro Design offers two different versions: SXE with ball shutter and SSE with spring loaded shutter. Easyfit check valves stand out for the innovative installation method that guarantees reliable service over time. This valve is also equipped with the customisable Labelling System.

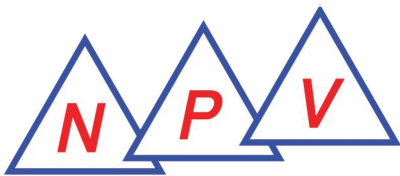


EASYFIT TRUE UNION BALL AND SPRING CHECK VALVE

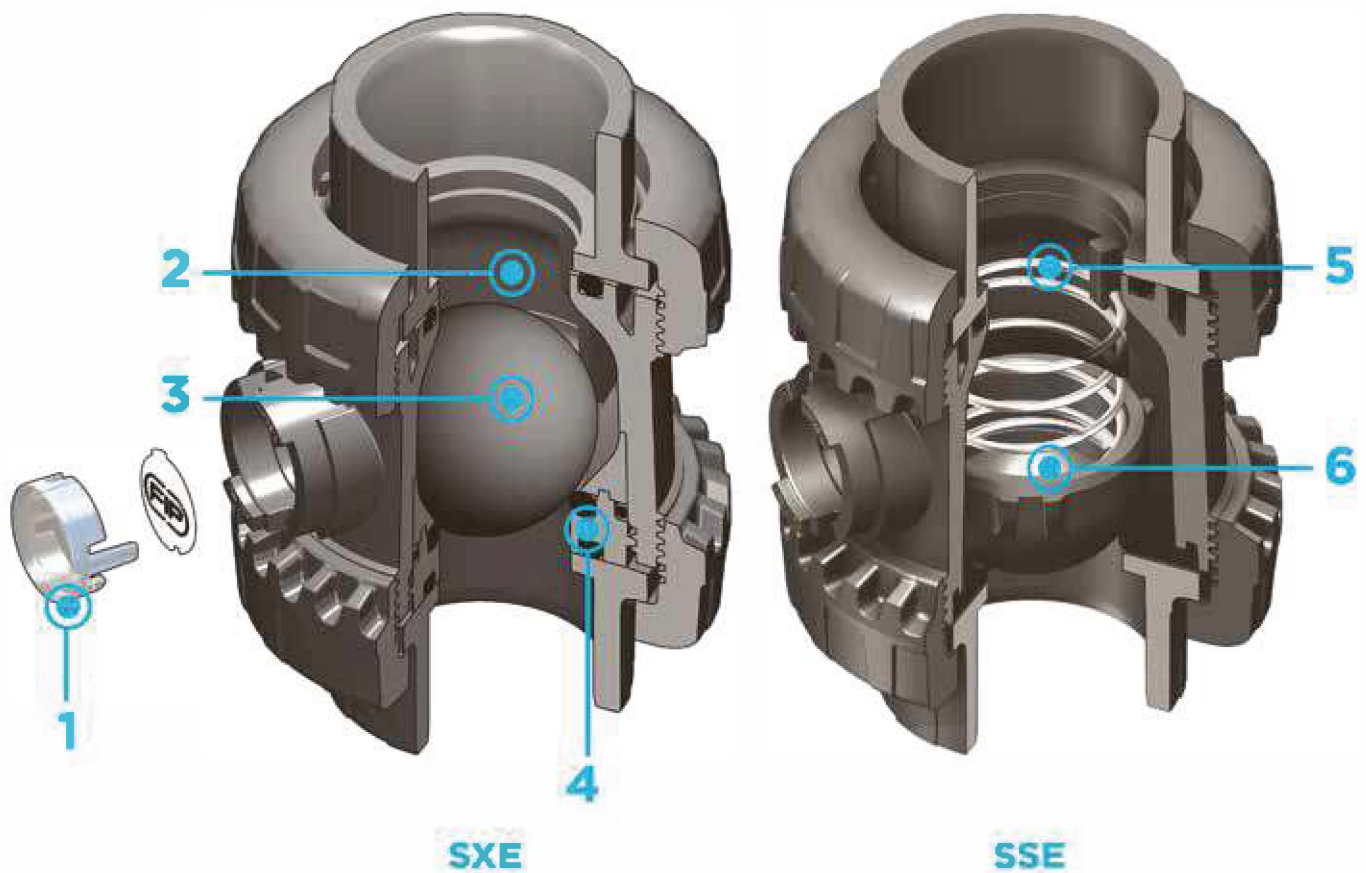
- Connection system for solvent weld and threaded joints
- **Valve material compatibility (PVC-U)** with water conveyance, drinking water and other food substances according to current regulations
- **PN16 True Union** valve body made for PVC-U injection moulding and European Directive 2014/68/EU (PED) compliant for pressurised equipment. ISO 9393 compliant test requirements
- **Short face to face dimension** according to international regulation ISO 7508 series III and European regulation EN 1452 "short" and fully interchangeable with VXE and VEE DN 10÷50 ball valve models
- Union nuts with rack for tightening adjustment via Easyfit handle or via Easy-torque adjustment kit (available as accessories)
- **Vertical** (preferable for SXE model) and **horizontal installation** potential

Technical specifications

Construction	SXE: Easyfit True Union ball check valve with locked carrier. SSE: Easyfit True Union spring check valve
Size range	DN 10 ÷ 50
Nominal pressure	PN 16 with water at 20 °C
Temperature range	0 °C ÷ 60 °C
Coupling standards	Solvent welding: EN ISO 1452, EN ISO 15493, BS 4346-1, DIN 8063, NF T54-028, ASTM D 2467, JIS K 6743. Pipe coupling capacity according to EN ISO 1452, EN ISO 15493, DIN 8062, NF T54-016, ASTM D 1785, JIS K 6741. Thread: ISO 228-1, DIN 2999, ASTM D 2464, JIS B 0203.
Reference standards	Criteri Costruttivi: EN ISO 16137, EN ISO 1452, EN ISO 15493 Metodi e requisiti dei test: ISO 9393 Installation criteria: DVS 2204, DVS 2221, UNI 11242
Valve material	PVC-U
Seal material	EPDM, FKM
Spring material (SSE)	Available in STAINLESS steel 316, Hastelloy C276, A316 PTFE encapsulated (DN 32, DN 40 and DN 50 only)



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- 1 Customisable Labelling System:** built-in LCE module on the valve body made up of transparent protection plug and customisable tag holder using the LSE set (available as accessory). The customisation potential lets you identify the valve on the system according to specific needs.
- 2 Optimised dynamic fluid design:** energy savings thanks to the improved valve Kv value with consequent pressure drop reduction
- 3 High surface finish ball shutter:** **wear reduction**, increase in working life and reduced valve maintenance. Ideal for conveying dirty fluids, even with suspended solids and filaments thanks to the special design that permits **internal valve selfcleaning**
- 4 Locked ball seat carrier:** safe dismantling for maintenance with the Easyfit multifunctional handle or Easytorque kit
- 5 Ideal for horizontal installations:** **perfect seal even with low back pressure. Silent** and durable even with strong vibrations and pulsating fluid
- 6 PVC-U shutter and springs** available made of STAINLESS steel 316, Hastelloy C276, A316 PTFE encapsulated: maximum reliability in a **wide field of applications** from salt water to aggressive acids

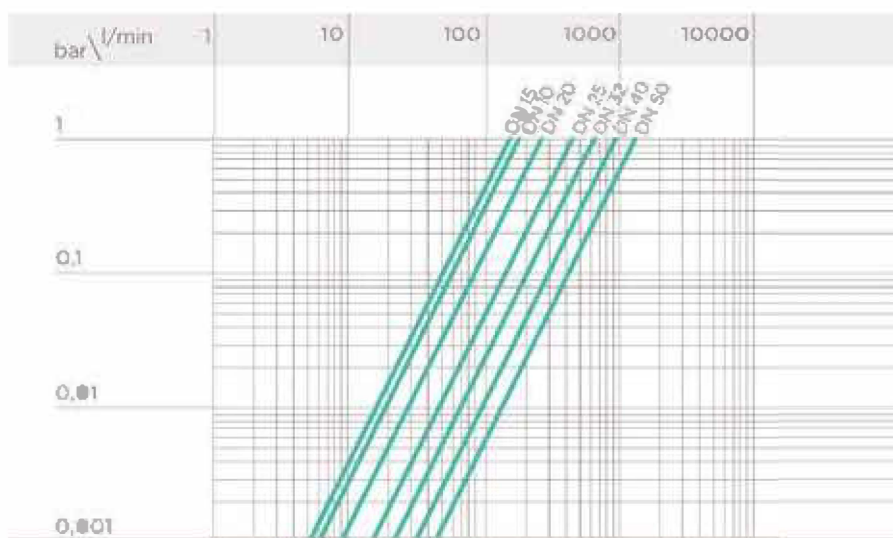
TECHNICAL DATA

PRESSURE VARIATION ACCORDING TO TEMPERATURE

For water and harmless fluids to which the material is classified as CHEMICALLY RESISTANT. In other cases, a reduction of the nominal PN pressure is required (25 years with safety factor).



PRESSURE DROP GRAPH



K_v100 FLOW COEFFICIENT

The K_v100 flow coefficient is the Q flow rate of litres per minute of water at a temperature of 20°C that will generate $\Delta p = 1$ bar pressure drop at a certain valve position. The K_v100 values shown in the table are calculated with the valve completely open.

DN	10	15	20	25	32	40	50
K _v 100 l/min	172	152	258	433	643	928	1343

MINIMUM VALVE SEALING PRESSURE

The PVC-U SXE valve can only be used with liquids with specific weight under 1.37g/cm³.

DN	10	15	20	25	32	40	50
SXE (bar)	0,2	0,2	0,2	0,2	0,2	0,2	0,2
SSE (bar)	0,08	0,08	0,08	0,08	0,08	0,08	0,08

The information in this leaflet is provided in good faith. No liability will be accepted concerning technical data that is not directly covered by recognised international standards. FIP reserves the right to carry out any modification. Products must be installed and maintained by qualified personnel.

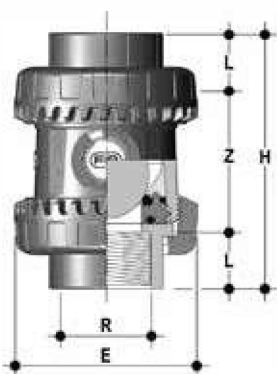
DIMENSIONS



SXEIV

Easyfit ball check valve with female ends for solvent welding, metric series

d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
16	10	16	54	82	14	54	145	SXEIV016E	SXEIV016F
20	15	16	54	82	16	50	148	SXEIV020E	SXEIV020F
25	20	16	63	91	19	53	190	SXEIV025E	SXEIV025F
32	25	16	72	103	22	59	300	SXEIV032E	SXEIV032F
40	32	16	85	120	26	68	460	SXEIV040E	SXEIV040F
50	40	16	100	139	31	77	675	SXEIV050E	SXEIV050F
63	50	16	118	174	38	98	1080	SXEIV063E	SXEIV063F



SXEFV

Easyfit ball check valve with BSP threaded female ends

R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
3/8"	10	16	54	82	11,4	59,2	145	SXEFV038E	SXEFV038F
1/2"	15	16	54	90	15	60	148	SXEFV012E	SXEFV012F
3/4"	20	16	63	93	16,3	60,4	190	SXEFV034E	SXEFV034F
1"	25	16	72	110	19,1	71,8	300	SXEFV100E	SXEFV100F
1" 1/4	32	16	85	127	21,4	84,2	460	SXEFV114E	SXEFV114F
1" 1/2	40	16	100	131	21,4	88,2	675	SXEFV112E	SXEFV112F
2"	50	16	118	161	25,7	109,6	1080	SXEFV200E	SXEFV200F



SXELV

Easyfit ball check valve with female ends for solvent welding, BS series

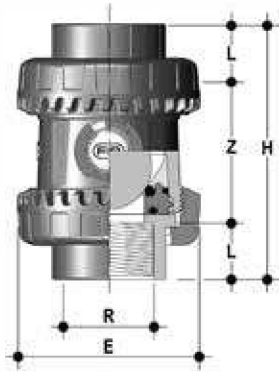
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
3/8"	10	16	54	78	14,5	49	153	SXELV038E	SXELV038F
1/2"	15	16	54	82	16,5	49	148	SXELV012E	SXELV012F
3/4"	20	16	63	91	19	53	190	SXELV034E	SXELV034F
1"	25	16	72	103	22,5	58	300	SXELV100E	SXELV100F
1 1/4"	32	16	85	120	26	68	460	SXELV114E	SXELV114F
1 1/2"	40	16	100	139	30	79	675	SXELV112E	SXELV112F
2"	50	16	118	174	36	102	1080	SXELV200E	SXELV200F



SXEAV

Easyfit ball check valve with female ends for solvent welding, ASTM series

d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
1/2"	15	16	54	96	22,5	51	148	SXEAV012E	SXEAV012F
3/4"	20	16	63	105	25,5	54	190	SXEAV034E	SXEAV034F
1"	25	16	72	117	28,7	59,5	300	SXEAV100E	SXEAV100F
1 1/4"	32	16	85	136	32	72	460	SXEAV114E	SXEAV114F
1 1/2"	40	16	100	147	35	77	675	SXEAV112E	SXEAV112F
2"	50	16	118	174	38,2	97,6	1080	SXEAV200E	SXEAV200F



SXENV

Easyfit ball check valve with female ends, NPT thread

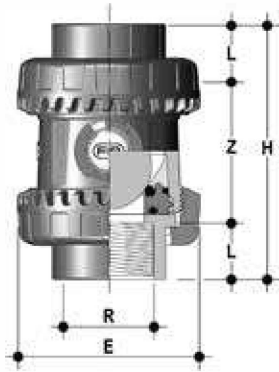
R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
3/8"	10	16	54	82	13,7	54,6	145	SXENV038E	SXENV038F
1/2"	15	16	54	90	17,8	54,4	148	SXENV012E	SXENV012F
3/4"	20	16	63	93	18	57	190	SXENV034E	SXENV034F
1"	25	16	72	110	22,6	64,8	300	SXENV100E	SXENV100F
1 1/4"	32	16	85	127	25,1	76,8	460	SXENV114E	SXENV114F
1 1/2"	40	16	100	131	24,7	81,6	675	SXENV112E	SXENV112F
2"	50	16	118	161	29,6	101,8	1080	SXENV200E	SXENV200F



SXEJV

Easyfit ball check valve with female ends for solvent welding, JIS series

d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
1/2"	15	16	54	110	30	50	160	SXEJV012E	SXEJV012F
3/4"	20	16	63	123	35	53	235	SXEJV034E	SXEJV034F
1"	25	16	72	139	40	59	325	SXEJV100E	SXEJV100F
1 1/4"	32	16	85	156	44	68	490	SXEJV114E	SXEJV114F
1 1/2"	40	16	100	187	55	77	680	SXEJV112E	SXEJV112F
2"	50	16	118	228	63	102	1150	SXEJV200E	SXEJV200F



SXEGV

Easyfit ball check valve with female ends, JIS thread

R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
1/2"	15	16	54	82	16	50	148	SXEGV012E	SXEGV012F
3/4"	20	16	63	91	19	53	190	SXEGV034E	SXEGV034F
1"	25	16	72	103	22	59	300	SXEGV100E	SXEGV100F
1 1/4"	32	16	85	120	25	70	460	SXEGV114E	SXEGV114F
1 1/2"	40	16	100	139	26	87	675	SXEGV112E	SXEGV112F
2"	50	16	118	174	31	112	1080	SXEGV200E	SXEGV200F



SXEBEV

Easyfit ball check valve with PE100 SDR 11 male ends for butt welding or electrofusion welding (CVDE)

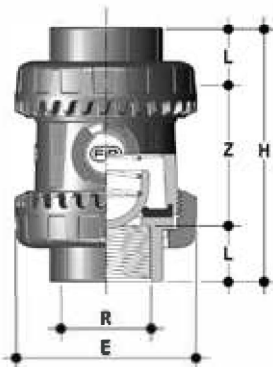
d	DN	E	H	L	Z	g	EPDM code	FKM code
20	15	54	154	40,5	73	150	SXEDEV020E	SXEDEV020F
25	20	63	189	54	81	225	SXEDEV025E	SXEDEV025F
32	25	72	203	56	91	310	SXEDEV032E	SXEDEV032F
40	32	85	221	56	109	485	SXEDEV040E	SXEDEV040F
50	40	100	246	60,5	125	700	SXEDEV050E	SXEDEV050F
63	50	118	276	65,5	145	1150	SXEDEV063E	SXEDEV063F



SSEIV

Easyfit spring check valve with female ends for solvent welding, metric series

d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
16	10	16	54	82	14	54	146	SSEIV016E	SSEIV016F
20	15	16	54	82	16	50	149	SSEIV020E	SSEIV020F
25	20	16	63	91	19	53	188	SSEIV025E	SSEIV025F
32	25	16	72	103	22	59	292	SSEIV032E	SSEIV032F
40	32	16	85	120	26	68	445	SSEIV040E	SSEIV040F
50	40	16	100	139	31	77	640	SSEIV050E	SSEIV050F
63	50	16	118	174	38	98	1010	SSEIV063E	SSEIV063F



SSEFV

Easyfit spring check valve with BSP threaded female ends

R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
3/8"	10	16	54	82	11,4	59,2	146	SSEFV038E	SSEFV038F
1/2"	15	16	54	90	15	60	149	SSEFV012E	SSEFV012F
3/4"	20	16	63	93	16,3	60,4	188	SSEFV034E	SSEFV034F
1"	25	16	72	110	19,1	71,8	292	SSEFV100E	SSEFV100F
1" 1/4	32	16	85	127	21,4	84,2	445	SSEFV114E	SSEFV114F
1" 1/2	40	16	100	131	21,4	88,2	640	SSEFV112E	SSEFV112F
2"	50	16	118	161	25,7	109,6	1010	SSEFV200E	SSEFV200F



SSELV

Easyfit spring check valve with female ends for solvent welding, BS series

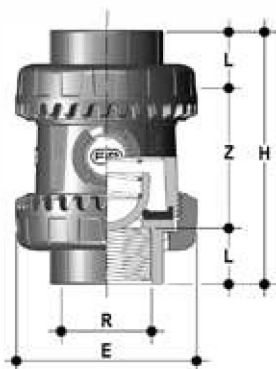
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
3/8"	10	16	54	78	14,5	49	154	SSELV038E	SSELV038F
1/2"	15	16	54	82	16,5	49	149	SSELV012E	SSELV012F
3/4"	20	16	63	91	19	53	188	SSELV034E	SSELV034F
1"	25	16	72	103	22,5	58	292	SSELV100E	SSELV100F
1" 1/4	32	16	85	120	26	68	445	SSELVT14E	SSELVT14F
1" 1/2	40	16	100	139	30	79	640	SSELVT12E	SSELVT12F
2"	50	16	118	174	36	102	1010	SSELV200E	SSELV200F



SSEAV

Easyfit spring check valve with female ends for solvent welding, ASTM series

d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
1/2"	15	16	54	96	22,5	51	149	SSEAV012E	SSEAV012F
3/4"	20	16	63	105	25,5	54	188	SSEAV034E	SSEAV034F
1"	25	16	72	117	28,7	59,5	292	SSEAV100E	SSEAV100F
1" 1/4	32	16	85	136	32	72	445	SSEAV114E	SSEAV114F
1" 1/2	40	16	100	147	35	77	640	SSEAV112E	SSEAV112F
2"	50	16	118	174	38,2	97,6	1010	SSEAV200E	SSEAV200F



SSENV

Easyfit spring check valve with female ends, NPT thread

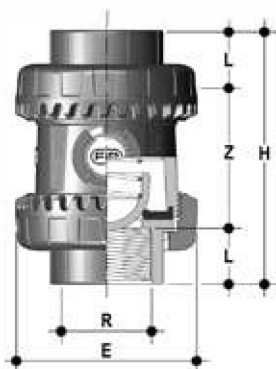
R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
3/8"	10	16	54	82	13,7	54,6	146	SSENV038E	SSENV038F
1/2"	15	16	54	90	17,8	54,4	149	SSENV012E	SSENV012F
3/4"	20	16	63	93	18	57	188	SSENV034E	SSENV034F
1"	25	16	72	110	22,6	64,8	292	SSENV100E	SSENV100F
1" 1/4	32	16	85	127	25,1	76,8	445	SSENV114E	SSENV114F
1" 1/2	40	16	100	131	24,7	81,6	640	SSENV112E	SSENV112F
2"	50	16	118	161	29,6	101,8	1010	SSENV200E	SSENV200F



SSEJV

Easyfit spring check valve with female ends for solvent welding, JIS series

d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
1/2"	15	16	54	110	30	50	161	SSEJV012E	SSEJV012F
3/4"	20	16	63	123	35	53	233	SSEJV034E	SSEJV034F
1"	25	16	72	139	40	59	317	SSEJV100E	SSEJV100F
1" 1/4	32	16	85	156	44	68	475	SSEJV114E	SSEJV114F
1" 1/2	40	16	100	187	55	77	645	SSEJV112E	SSEJV112F
2"	50	16	118	228	63	102	1080	SSEJV200E	SSEJV200F



SSEGV

Easyfit spring check valve with female ends, JIS thread

R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
1/2"	15	16	54	82	16	50	149	SSEGV012E	SSEGV012F
3/4"	20	16	63	91	19	53	188	SSEGV034E	SSEGV034F
1"	25	16	72	103	22	59	292	SSEGV100E	SSEGV100F
1" 1/4	32	16	85	120	25	70	445	SSEGV114E	SSEGV114F
1" 1/2	40	16	100	139	26	87	640	SSEGV112E	SSEGV112F
2"	50	16	118	174	31	112	1010	SSEGV200E	SSEGV200F

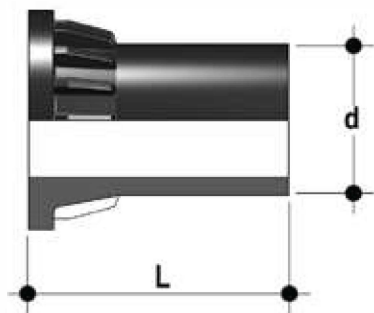


SSEBEV

Easyfit spring check valve with PE100 SDR 11 male end connectors for butt welding or electrofusion (CVDE)

d	DN	E	H	L	Z	g	EPDM code	FKM code
20	15	54	154	40,5	73	151	SSEBEV020E	SSEBEV020F
25	20	63	186	54	81	223	SSEBEV025E	SSEBEV025F
32	25	72	199	56	91	302	SSEBEV032E	SSEBEV032F
40	32	85	217	56	109	470	SSEBEV040E	SSEBEV040F
50	40	100	236	60,5	125	665	SSEBEV050E	SSEBEV050F
63	50	118	268	65,5	145	1080	SSEBEV063E	SSEBEV063F

ACCESSORIES



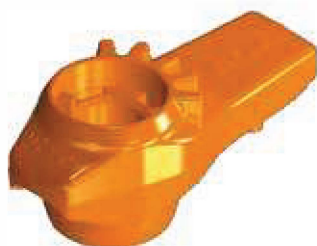
CVDE

Long spigot PE100 end connectors for joints with electrofusion fittings or for butt welding

d	DN	PN	L	SDR	Code
20	15	16	55	11	CVDE11020
25	20	16	70	11	CVDE11025
32	25	16	74	11	CVDE11032
40	32	16	78	11	CVDE11040
50	40	16	84	11	CVDE11050
63	50	16	91	11	CVDE11063

Easyfit handle

Easyfit multifunctional handle for union nut tightening SXE-SSE DN 10÷50



d	DN	Code
16 - 20	10 - 15	HAVXE020
25	20	HAVXE025
32	25	HAVXE032
40	32	HAVXE040
52	40	HAVXE050
63	50	HAVXE063

EASYTORQUE KIT

Kit for union nut tightening adjustment and ball seat carrier for Easyfit DN 10÷50 valves.



d	DN	Union nut tightening torque*	Seat carrier tightening torque*	Code
3/8"-1/2"	10-15	5 N m - 3,69 Lbf ft	3 N m - 2,21 Lbf ft	KET01
3/4"	20	5 N m - 3,69 Lbf ft	3 N m - 2,21 Lbf ft	KET01
1"	25	6 N m - 4,43 Lbf ft	4 N m - 2,95 Lbf ft	KET01
1" 1/4	32	7 N m - 5,16 Lbf ft	4 N m - 2,95 Lbf ft	KET01
1" 1/2	40	8 N m - 5,90 Lbf ft	5 N m - 3,69 Lbf ft	KET01
2"	50	10 N m - 7,38 Lbf ft	6 N m - 4,43 Lbf ft	KET01

*calculated in ideal installation conditions

LSE

Customisation and label printing set for Easyfit handle made up of precut adhesive sheets and software for guided label creation.



d	DN	SXE-SSE code
16	10	-
20	15	-
25	20	-
32	25	LSE020
40	32	LSE025
50	40	LSE032
63	50	LSE032

CUSTOMISATION

Fig. 1



Fig. 2



Fig. 3



SXE and SSE DN 10÷50 Easyfit valves are equipped with a customisable Labelling System.

This system lets you create special labels to affix to the valve body. This makes it extremely easy to apply company logos, identification serial numbers or service indications such as, for example, the valve function in the system, the transported fluid, but also specific information for customer service, such as the customer name or installation date or location on the valves.

The specific LCE module is a standard supply and is made up of a rigid transparent water-resistant PVC plug and white tag holder made of the same material, one side of which bears the FIP logo (fig. 1).

The holder, inserted in the plug, can be removed and, once overturned, used for customisation by applying labels printed with the software supplied with the LSE set.

Proceed as follows to apply the label on the valve:

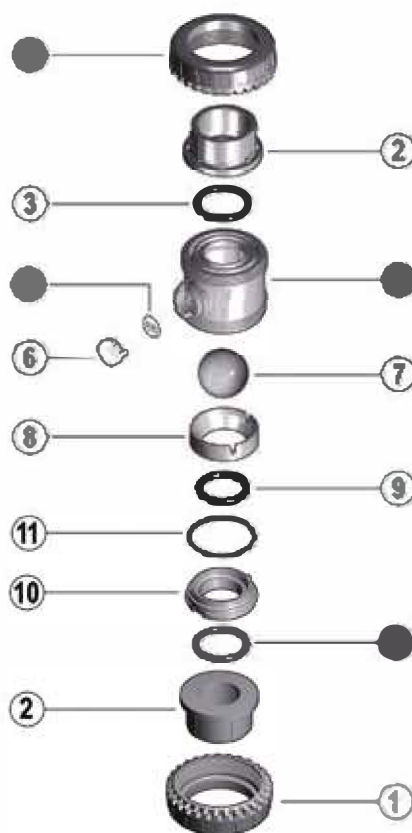
- 1) Extract the transparent plug from the seat on the valve body (fig. 1).
- 2) Extract the tag holder from the transparent plug (fig. 2).
- 3) Apply the adhesive label on the tag holder to align the profiles matching the tab position.
- 4) Re-insert the tag holder in the transparent plug so that the label is protected from the elements.
- 5) Replace the transparent plug in its seat on the valve body.

COMPONENTS

EXPLODED VIEW



SSE



SXE

- | | | |
|---|--|---|
| 1 Union nut (PVC-U - 2) | 6 Transparent protection plug (PVC - 1) | 9 Ball seat O-Ring (EPDM, FKM - 1) |
| 2 End connector (PVC-U - 2) | 7 Ball (PVC-U - 1) | SXE |
| 3 Socket seal O-Ring (EPDM, FKM - 2) | SXE | 9 Shutter gasket (EPDM, FKM - 1) |
| 4 Body (PVC-U - 1) | 7 Shutter (PVC-U - 1) | SSE |
| 5 Tag holder (PVC - 1) | SSE | 10 Ball seat carrier (PVC-U - 1) |
| | 8 Gland packing ring (PVC-U - 1) | 11 Radial seal O-Ring (EPDM,FKM - 1) |
| | | 12 Spring (STAINLESS steel* - 1) |

* Also available made of Hastelloy C276 or A316 PTFE encapsulated (for DN 40 and DN 50 only)
The component material and quantity supplied are indicated in the parentheses.

DISASSEMBLY

SXE

SXE valves do not require maintenance in normal operating conditions. In the event of leaks or wear, before performing maintenance, cut-off fluid upstream from the valve and make sure it is de-pressurised (downstream drain if necessary).

- 1) Fully drain residual liquid that could be aggressive for the operator and, if possible, circulate water to internally clean the valve.
- 2) To easily unscrew the union nuts when dismantling, use the Easyfit multifunctional handle (supplied as an accessory) (fig. 4) or Easytorque kit (fig. 5-6).
- 3) Unscrew the seal carrier (10) with the Easyfit multifunctional handle (fig. 7) or Easytorque kit (fig. 8).
- 4) Remove all internal components.

SSE

In the event of leaks or wear, before performing maintenance, cut-off fluid upstream from the valve and make sure it is de-pressurised (downstream drain if necessary).

- 1) Fully drain residual liquid that could be aggressive for the operator and, if possible, circulate water to internally clean the valve.
- 2) To easily unscrew the union nuts when dismantling, use the Easyfit multifunctional handle (supplied as an accessory) (fig. 4) or Easytorque kit (fig. 5-6).
- 3) Extract the ball seat O-ring (9).
- 4) Remove all internal components.

ASSEMBLY

SXE

- 1) Reconstruct the valve following the exploded view on the previous page
- 2) Tighten the ball seat carrier (10) using the Easyfit multifunctional handle (fig. 7) or Easytorque wrench (fig. 8) according to the torque indicated in the enclosed instructions. This way valve installation and excellent operations are guaranteed
- 3) Position the valve between the end connectors (2) and tighten the union nuts clockwise (1) using the Easyfit multifunctional handle (fig. 4) or Easytorque kit (fig. 5-6), being sure the socket seal O-ring (3) does not exit the seats.

SSE

- 1) Reconstruct the valve following the exploded view on the previous page.
- 2) Position the valve between the end connectors (2) and tighten the union nuts clockwise (1) using the Easyfit multifunctional handle (fig. 4) or Easytorque kit (fig. 5-6), being sure the socket seal O-ring (3) does not exit the seats.



Note: during assembly operations, it is advisable to lubricate the rubber seals. Mineral oils are not recommended for this task as they react aggressively with EPDM rubber.

Fig. 4



Fig. 5



Fig. 6



Fig. 7



INSTALLATION

SXE-SSE valves can be installed both vertically (upward flow) or horizontally (SXE with a minimum 0.2 bar back pressure). Before proceeding with installation, please follow these instructions carefully:

- 1) Check that the pipes to be connected to the valve are aligned in order to avoid mechanical stress on the threaded joints.
- 2) Unscrew the union nuts (1) from the body (4) and insert them in the pipe segments.
- 3) Solvent weld or screw the end connectors (2) onto the pipe segments.
- 4) Position the valve body between the end connectors (fig. 9).
- 5) Fit the union nuts on the valve body and manually tighten clockwise until they become hard to turn; do not use wrenches or other tools that can damage the union nut surfaces.
- 6) For easy union nut tightening in assembly, use the Easyfit multifunctional handle (supplied as an accessory).
- 7) Overturn the handle and insert it on the stem so the handle teeth (A) match the union nut teeth (B) (fig. 10).
- 8) Turn the handle counter-clockwise to fully tighten the union nut (fig. 10). The rotation directions to tighten (TIGHTEN) and loosen (UNTIGHTEN) the union nuts are indicated on the handle (fig. 11). Generally, if pipes are not offset, a single turn is sufficient for correct tightening.
- 9) Repeat point 7 for the other union nut. Note: A small force applied on the handle develops a torque much higher than manual tightening. You can also, using the Easytorque kit (fig. 5-6), supplied as an accessory, tighten union nuts using a torque wrench to quantify the force and thus monitor the stress applied to the thermoplastic threads according to the installation indications in the instructions enclosed with the kit.
- 10) If necessary, support pipes with FIP pipe clip model ZIKM and DSM distance plates.

WARNINGS

Do not use compressed air or other gases to test thermoplastic lines.
Always avoid sudden closing manoeuvres and protect the valve against accidental manoeuvres.
Leave a straight section of pipe of length equal to 5 times the nominal diameter before and after the valve.

Fig. 8



Fig. 9



Fig. 10



Fig. 11





SXE-SSE DN 65÷100

PVC-U

Easyfit True Union ball and spring check valve





N.P.V.EQUIPMENT LTD.,PART.

SXE-SSE DN 65÷100

The Easyfit check valve line developed with Giugiaro Design offers two different versions: SXE with ball shutter and SSE with spring loaded shutter. Easyfit check valves stand out for the innovative installation method that guarantees reliable service over time. This valve is also equipped with a customisable Labelling System.



EASYFIT TRUE UNION BALL AND SPRING CHECK VALVE

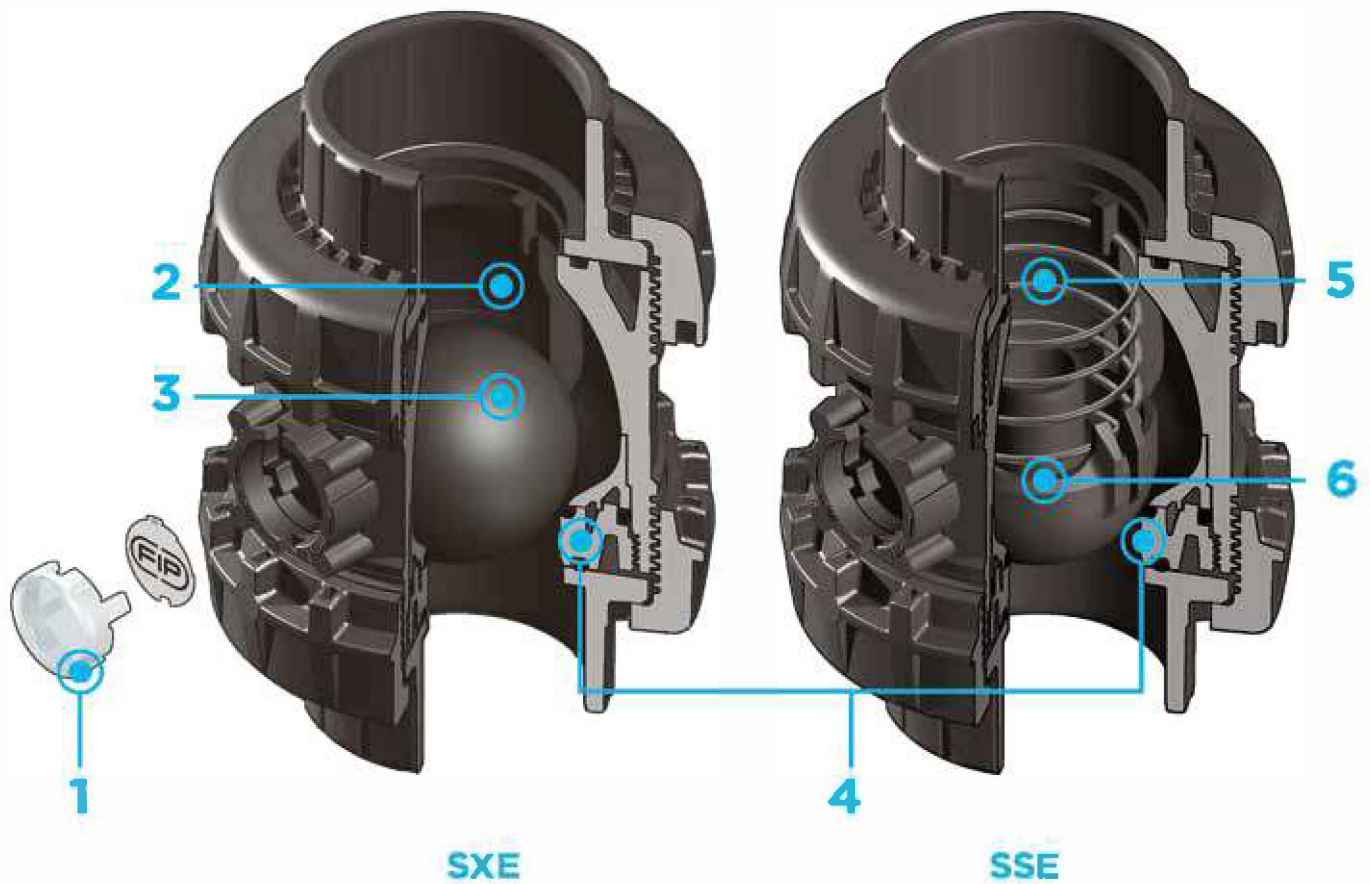
- Connection system for solvent weld and threaded joints
- **Valve material compatibility** (PVC-U) with water, drinking water and other food substance conveyance according to **current regulations**
- **PN16 True Union valve body** made for PVC-U injection moulding and European Directive 2014/68/EU (PED) compliant for pressurised equipment. ISO 9393 compliant test requirements
- Easy radial dismounting and fully interchangeable with VEE and VXE 65-100 valve models
- Union nut profile that perfectly adapts to the Easyfit multifunctional handle hooked insert (available as an accessory) that lets you control union nut rotation
- **Vertical** (preferable for SXE model) and **horizontal installation** potential

Technical specifications

Construction	SXE: Easyfit True Union ball check valve with locked carrier SSE: Easyfit True Union spring check valve with locked carrier
Size range	DN 65 ÷ 100
Nominal pressure	PN 16 with water at 20 °C
Temperature range	0 °C ÷ 60 °C
Coupling standards	Solvent welding: EN ISO 1452, EN ISO 15493, BS 4346-1, DIN 8063, NF T54-028, ASTM D 2467, JIS K 6743. Pipe coupling capacity according to EN ISO 1452, EN ISO 15493, DIN 8062, NF T54-016, ASTM D 1785, JIS K 6741. Thread: ISO 228-1, DIN 2999, ASTM D 2464, JIS B 0203.
Reference standards	Construction criteria: EN ISO 16137, EN ISO 1452, EN ISO 15493 Test methods and requirements: ISO 9393 Installation criteria: DVS 2204, DVS 2221, UNI 11242
Valve material	PVC-U
Seal material	EPDM, FKM (standard size O-Ring)
Spring material (SSE)	Available in STAINLESS Steel 316, A316 PTFE encapsulated



N.P.V.EQUIPMENT LTD.,PART.



- 1 Customisable Labelling System:** built-in LCE module on the valve body made up of transparent protection plug and customisable tag holder using the LSE set (available as accessory). The customisation potential lets you **identify the valve on the system** according to specific needs
- 2 Optimised dynamic fluid design:** energy savings due to the improved valve Kv value and consequent reduced pressure drop

- 3** High surface finish ball shutter: **reduced wear**, longer working life and reduced valve maintenance. Ideal to convey dirty fluids, even with suspended fluids or filaments, thanks to the special design that permits **internal valve selfcleaning**
- 4** **Locked ball seat carrier:** safe dismantling for maintenance with the Easyfit multifunctional handle
- 5** Ideal for horizontal installations: **perfect seal even with low back**

- pressure. Silent** and durable even with strong vibrations and pulsating fluid
- 6** PVC-U shutter and springs available in STAINLESS Steel 316, A316 PTFE encapsulated: maximum reliability in a **wide field of applications** from salt water to aggressive acids

TECHNICAL DATA

PRESSURE VARIATION ACCORDING TO TEMPERATURE

For water and harmless fluids to which the material is classified as CHEMICALLY RESISTANT. In other cases, a reduction of the nominal PN pressure is required (25 years with safety factor).



PRESSURE DROP GRAPH



K_v100 FLOW COEFFICIENT

The K_v100 flow coefficient is the Q flow rate of litres per minute of water at a temperature of 20°C that will generate $\Delta p = 1$ bar pressure drop at a certain valve position. The K_v100 values shown in the table are calculated with the valve completely open.

DN	65	80	100
Kv100 l/min	2586	3444	5093

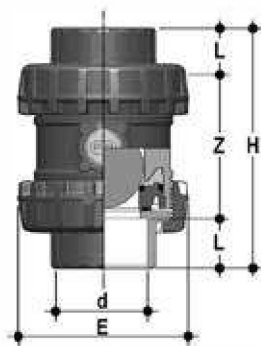
MINIMUM VALVE SEALING PRESSURE

The PVC-U SXE valve can only be used with liquids with specific weight under 1,37g/cm³.

DN	65	80	100
SXE (bar)	0,2	0,2	0,2
SSE (bar)	0,08	0,08	0,08

The information in this leaflet is provided in good faith. No liability will be accepted concerning technical data that is not directly covered by recognised international standards. FIP reserves the right to carry out any modification. Products must be installed and maintained by qualified personnel.

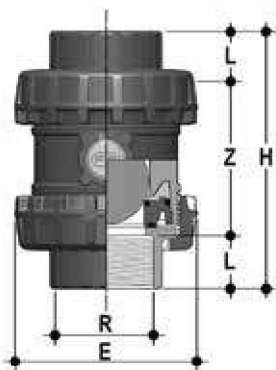
DIMENSIONS



SXEIV

Easyfit ball check valve with female ends for solvent welding, metric series

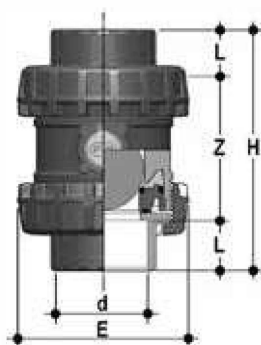
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
75	65	16	157	211	44	123	2605	SXEIV075E	SXEIV075F
90	80	16	174	248	51	146	3300	SXEIV090E	SXEIV090F
110	100	16	212	283	61	161	5770	SXEIV110E	SXEIV110F



SXEFV

Easyfit ball check valve with BSP threaded female ends

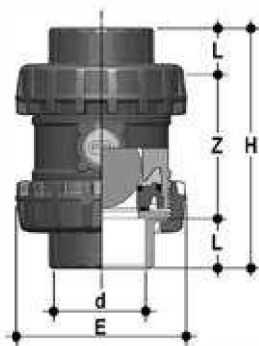
R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	30,2	150,6	2605	SXEFV212E	SXEFV212F
3"	80	16	174	248	33,3	181,4	3300	SXEFV300E	SXEFV300F
4"	100	16	212	283	39,3	204,4	5770	SXEFV400E	SXEFV400F



SXELV

Easyfit ball check valve with female ends for solvent welding, BS series

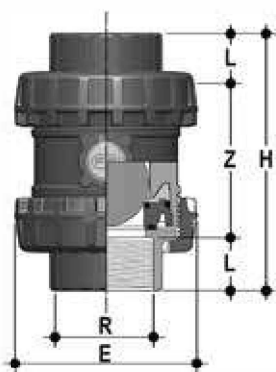
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	44	123	2605	SXEIV075E	SXEIV075F
3"	80	16	174	248	51	146	3300	SXELV300E	SXELV300F
4"	100	16	212	283	63	157	5770	SXELV400E	SXELV400F



SXEAV

Easyfit ball check valve with female ends for solvent welding, ASTM series

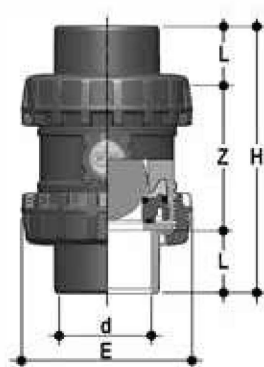
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	44,5	122	2605	SXEAV212E	SXEAV212F
3"	80	16	174	248	48	152	3300	SXEAV300E	SXEAV300F
4"	100	16	212	283	57,5	168	5770	SXEAV400E	SXEAV400F



SXENV

Easyfit ball check valve with female ends, NPT thread

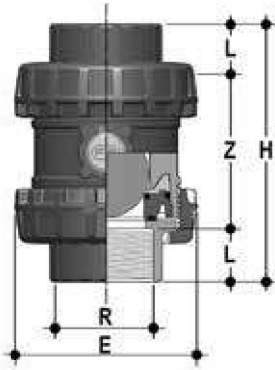
R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	33,2	144,6	2605	SXENV212E	SXENV212F
3"	80	16	174	248	35,5	177	3300	SXENV300E	SXENV300F
4"	100	16	212	283	37,6	207,8	5770	SXENV400E	SXENV400F



SXEJV

Easyfit ball check valve with female ends, NPT thread

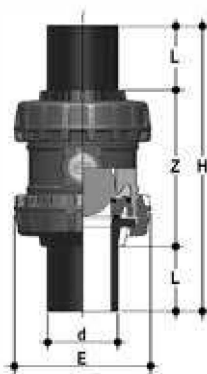
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	243	61	121	2605	SXEJV212E	SXEJV212F
3"	80	16	174	272	64,5	143	3300	SXEJV300E	SXEJV300F
4"	100	16	212	332	84	164	5770	SXEJV400E	SXEJV400F



SXEGV

Easyfit ball check valve with female ends, JIS thread

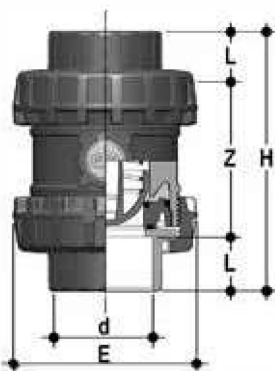
R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	35	141	2605	SXEGV212E	SXEGV212F
3"	80	16	174	248	40	168	3300	SXEGV300E	SXEGV300F
4"	100	16	212	283	45	193	5770	SXEGV400E	SXEGV400F



SXEBEV

Easyfit ball check valve with PE100 SDR 11 male end connectors for butt welding or electrofusion (CVDE)

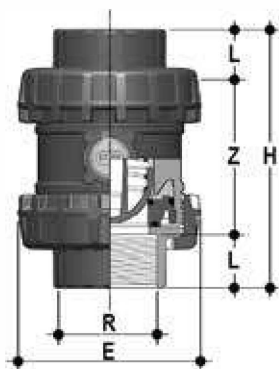
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
75	65	16	157	331	71	189	2605	SXEBEV075E	SXEBEV075F
90	80	16	174	367	88	191	3300	SXEBEV090E	SXEBEV090F
110	100	16	212	407	92	223	5770	SXEBEV110E	SXEBEV110F



SSEIV

Easyfit spring check valve with female ends for solvent welding, metric series

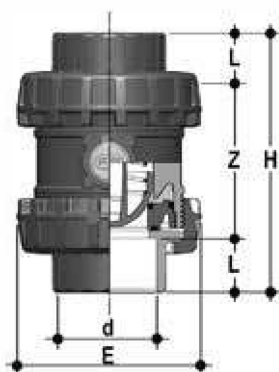
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
75	65	16	157	211	44	123	2480	SSEIV075E	SSEIV075F
90	80	16	174	248	51	146	3090	SSEIV090E	SSEIV090F
110	100	16	212	283	61	161	5370	SSEIV110E	SSEIV110F



SSEFV

Easyfit spring check valve with female ends for solvent welding, metric series

R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	30,2	150,6	2480	SSEFV212E	SSEFV212F
3"	80	16	174	248	33,3	181,4	3090	SSEFV300E	SSEFV300F
4"	100	16	212	283	39,3	204,4	5370	SSEFV400E	SSEFV400F



SSELV

Easyfit spring check valve with female ends for solvent welding, BS series

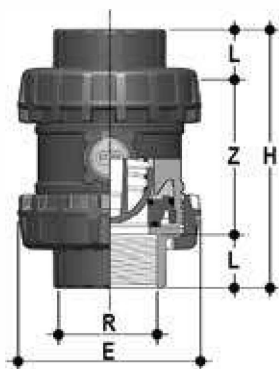
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	44	123	2480	SSEIV075E	SSEIV075F
3"	80	16	174	248	51	146	3090	SSELV300E	SSELV300F
4"	100	16	212	283	63	157	5370	SSELV400E	SSELV400F



SSEAV

Easyfit spring check valve with female ends for solvent welding, ASTM series

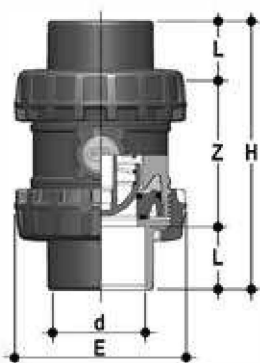
d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	44,5	122	2480	SSEAV212E	SSEAV212F
3"	80	16	174	248	48	152	3090	SSEAV300E	SSEAV300F
4"	100	16	212	283	57,5	168	5370	SSEAV400E	SSEAV400F



SSENV

Easyfit spring check valve with female ends, NPT thread

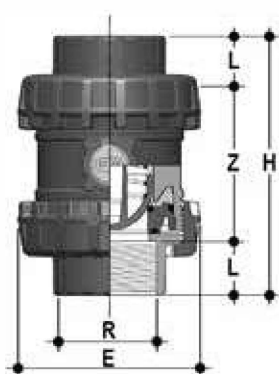
R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	33,2	144,6	2480	SSENV212E	SSENV212F
3"	80	16	174	248	35,5	177	3090	SSENV300E	SSENV300F
4"	100	16	212	283	37,6	207,8	5370	SSENV400E	SSENV400F



SSEJV

Easyfit spring check valve with female ends for solvent welding, JIS series

d	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	243	61	121	2480	SSEJV212E	SSEJV212F
3"	80	16	174	272	64,5	143	3090	SSEJV300E	SSEJV300F
4"	100	16	212	332	84	164	5370	SSEJV400E	SSEJV400F



SSEGV

Easyfit spring check valve with female ends, JIS thread

R	DN	PN	E	H	L	Z	g	EPDM code	FKM code
2" 1/2	65	16	157	211	35	141	2480	SSEGV212E	SSEGV212F
3"	80	16	174	248	40	168	3090	SSEGV300E	SSEGV300F
4"	100	16	212	283	45	193	5370	SSEGV400E	SSEGV400F

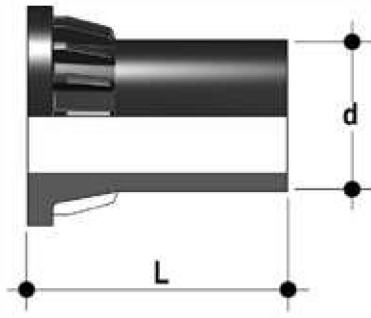


SSEBEV

Easyfit spring check valve with PE100 SDR 11 male end connectors for butt welding or electrofusion (CVDE)

d	DN	E	H	L	Z	g	PN	EPDM code	FKM code
75	65	157	331	71	189	2480	16	SSEBEV075E	SSEBEV075F
90	80	174	367	88	191	3090	16	SSEBEV090E	SSEBEV090F
110	100	212	407	92	223	5370	16	SSEBEV110E	SSEBEV110F

ACCESSORIES



CVDE

Long spigot PE100 end connectors for joints with electrofusion fittings or for butt welding

d	DN	PN	L	SDR	Code
75	65	16	111	11	CVDE11075
90	80	16	118	11	CVDE11090VXE
110	100	16	127	11	CVDE11110VXE



EASYFIT HANDLE DN 65÷100

Easyfit multifunctional handle for union nut tightening SXE-SSE DN 65÷100

d	DN	Code
75	65	HSVXE075
90	80	HSVXE090
110	100	HSVXE110



LSE

Customisation and label printing set for Easyfit handle made up of precut adhesive sheets and software for guided label creation.

d	DN	SXE - SSE code
75	65	LSE063
90	80	LSE063
110	100	LSE063

CUSTOMISATION



SXE and SSE DN 65÷100 Easyfit valves are equipped with a customisable Labelling System.

This system lets you create special labels to affix to the valve body. This makes it extremely easy to apply company logos, identification serial numbers or service indications such as, for example, the valve function in the system, the transported fluid, but also specific information for customer service, such as the customer name or installation date or location on the valves.

The specific LCE module is a standard supply and is made up of a rigid transparent water-resistant PVC plug and white tag holder made of the same material, one side of which bears the FIP logo.

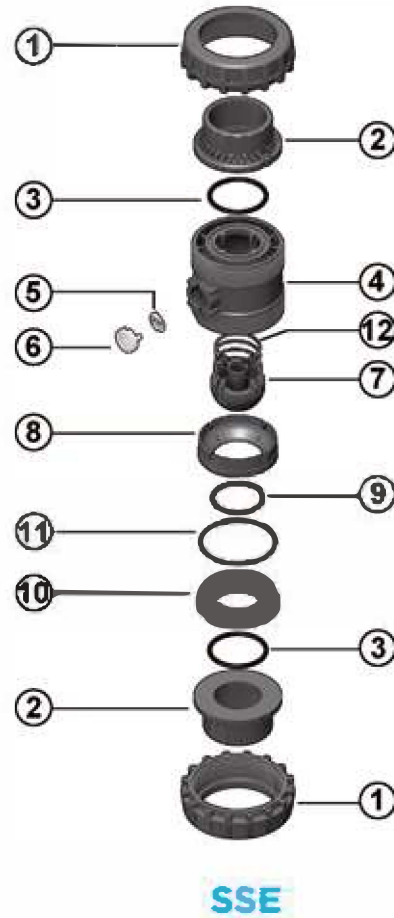
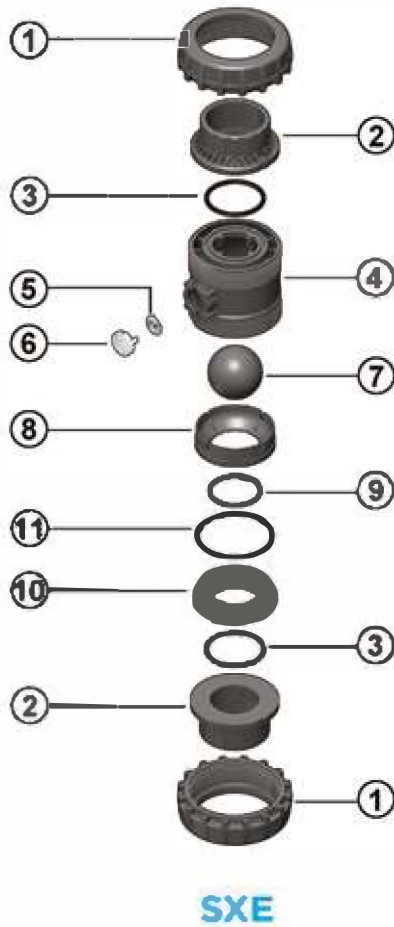
The holder, inserted in the plug, can be removed and, once overturned, used for customisation by applying labels printed with the software supplied with the LSE set.

Proceed as follows to apply the label on the valve:

- 1) Remove the transparent plug from the housing on the valve body.
- 2) Extract the tag holder from the transparent plug.
- 3) Apply the adhesive label on the holder to align the profiles matching the tab position.
- 4) Reinsert the tag holder in the transparent plug so that the label is protected against the elements.
- 5) Replace the transparent plug in its seat on the valve body.

COMPONENTS

EXPLODED VIEW



- 1** Union nut (PVC-U - 2)
- 2** End connector (PVC-U - 2)
- 3** Socket seal O-Ring (EPDM, FKM - 2)
- 4** Body (PVC-U - 1)
- 5** Tag holder (PVC - 1)
- 6** Transparent protection plug (PVC - 1)

- 7** Ball (PVC-U - 1)
- SXE**
- 7** Shutter (PVC-U - 1)
- SSE**
- 8** Gland packing ring (PVC-U - 1)
- 9** Ball seat O-Ring (EPDM, FKM - 1)
- SXE**

- 9** Shutter gasket (EPDM, FKM - 1)
- SSE**
- 10** Ball seat carrier (PVC-U - 1)
- SXE**
- 10** Shutter seat O-ring (PVC-U - 1)
- SSE**
- 11** Radial seal O-Ring (EPDM, FKM - 1)
- 12** Spring (STAINLESS steel* - 1)

* Also available made of A316 PTFE encapsulated
The component material and quantity supplied are indicated in the parentheses.

DISASSEMBLY

SXE

SXE valves do not require maintenance in normal operating conditions. In the event of leaks or wear, before performing maintenance, cut-off fluid upstream from the valve and make sure it is de-pressurised (downstream drain if necessary).

- 1) Fully drain residual liquid that could be aggressive for the operator and, if possible, circulate water to internally clean the valve.
- 2) For easy union nut tightening in assembly, use the Easyfit multifunctional handle (supplied as an accessory).
- 3) Unscrew the ball seat carrier (10) with the Easyfit multifunctional handle: introduce the two protrusion on the top of the handle in the grooves in the carrier (10) and unscrew, extracting it counter-clockwise.
- 4) Remove all internal components.

SSE

In the event of leaks or wear, before performing maintenance, cut-off fluid upstream from the valve and make sure it is de-pressurised (downstream drain if necessary).

- 1) Fully drain residual liquid that could be aggressive for the operator and, if possible, circulate water to internally clean the valve.
- 2) For easy union nut tightening in assembly, use the Easyfit multifunctional handle (supplied as an accessory).
- 3) Unscrew the ball seat carrier (10) with the Easyfit multifunctional handle: introduce the two protrusion on the top of the handle in the grooves in the carrier (10) and unscrew, extracting it counter-clockwise.
- 4) Remove all internal components.

ASSEMBLY

SXE

- 1) Reconstruct the valve following the exploded view on the previous page.
- 2) Tighten the ball seat carrier (10) using the Easyfit multifunctional handle. This ensures optimal valve installation and operations (fig. 3).
- 3) Position the valve between the end connectors (2) and tighten the union nuts clockwise (1) using the Easyfit multifunctional handle (fig. 7) being sure the socket seal O-ring (3) does not exit the seats.

SSE

- 1) Reconstruct the valve following the exploded view on the previous page.
- 2) Tighten the ball seat carrier (10) using the Easyfit multifunctional handle. This ensures optimal valve installation and operations (fig. 3).
- 3) Position the valve between the end connectors (2) and tighten the union nuts clockwise (1) using the Easyfit multifunctional handle (fig. 7) being sure the socket seal O-ring (3) does not exit the seats.



Note: during assembly operations, it is advisable to lubricate the rubber seals. Mineral oils are not recommended for this task as they react aggressively with EPDM rubber.

Fig. 1



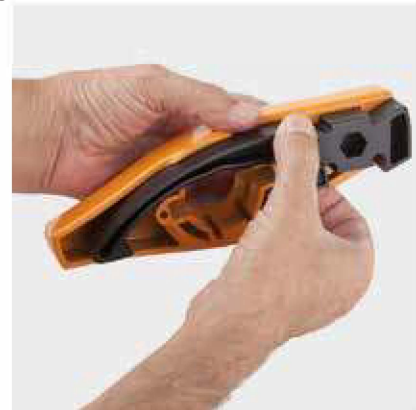
Fig. 2



Fig. 3



Fig. 4



INSTALLATION

SXE and SSE valves can be installed both vertically (upward flow) and horizontally (SXE with minimum 0.2 bar back pressure).

Before proceeding with installation, please follow these instructions carefully:

- 1) Check that the pipes to be connected to the valve are aligned in order to avoid mechanical stress on the threaded joints.
- 2) Unscrew the union nuts (1) from the body (4) and insert them in the pipe segments.
- 3) Solvent weld or screw the end connectors (2) onto the pipe segments.
- 4) Position the valve body between the end connectors (fig. 1).
- 5) Place the union nuts on the valve body and start tightening manually clockwise until they are hard to turn. Do not use wrenches or other tools that can damage the union nut surface (fig. 2).
- 6) For easy union nut tightening in assembly, use the Easyfit multifunctional handle (supplied as an accessory).
- 7) Extract the hooked insert in the handle (fig. 5) overturn it and fit it in the seat on the lower part of the handle (fig. 6).
- 8) Fit the tool on the external union nut profile until firmly and safely secured that allows for adequate torque without damaging the union nut in any way (fig. 7).
- 9) Repeat point 7 for the other union nut.
- 10) When tightened, remove the hooked insert and replace it in its seat in the handle.
- 11) If necessary, support the pipe with FIP pipe clip model ZIKM and DSM distance plates.

WARNINGS

Do not use compressed air or other gases to test thermoplastic lines.

Always avoid sudden closing manoeuvres and protect the valve against accidental manoeuvres.

Leave a straight section of pipe of length equal to 5 times the nominal diameter before and after the valve.

Fig. 5



Fig. 6

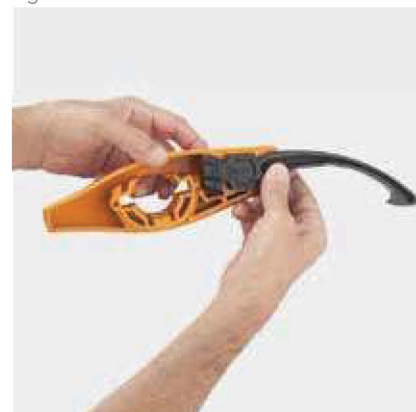


Fig. 7

