



CIVILS

HDPE Flap Valves - DN100-600

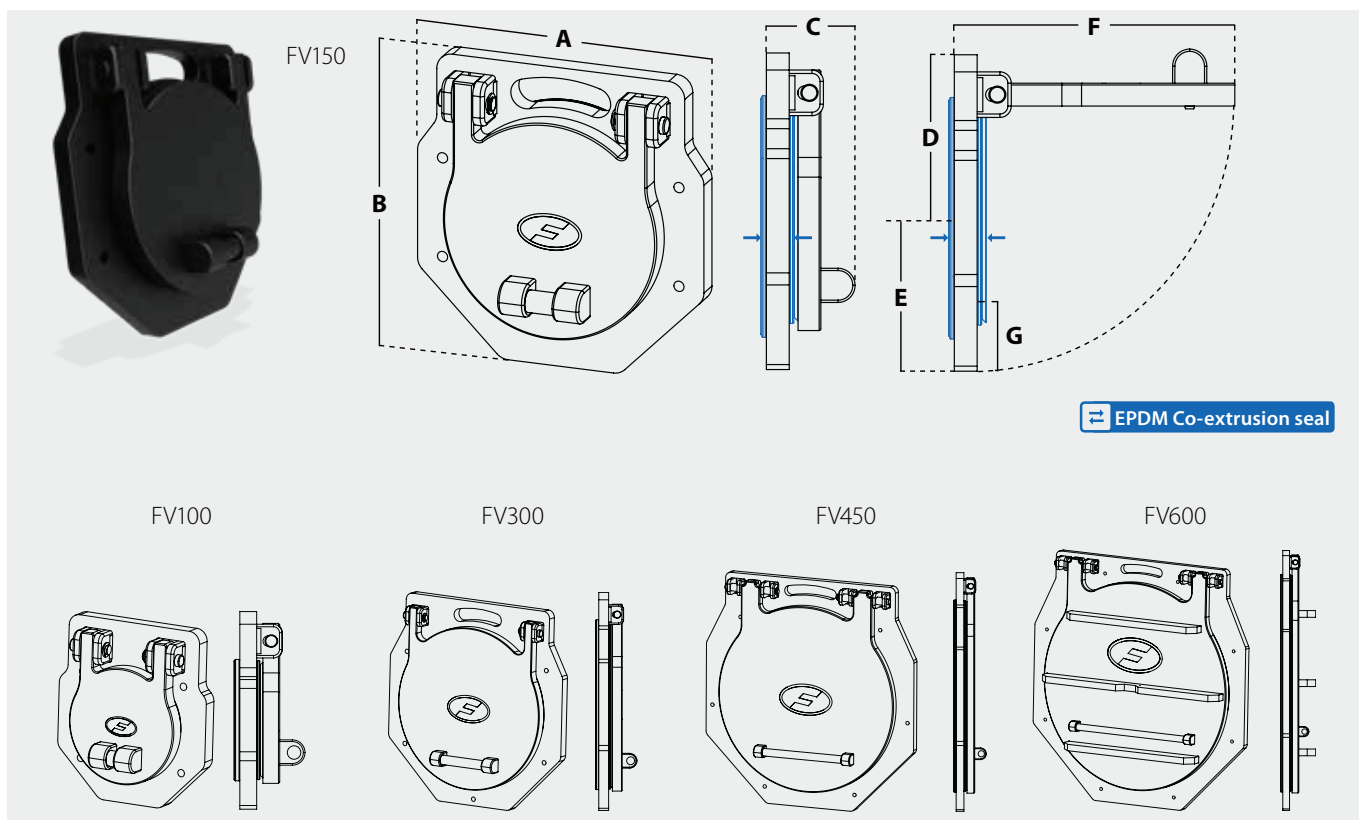
- The Fernco range of Flap Valves are suitable for pipes from DN100 to DN600
- Co-extrusion seal making installation quicker and easier with no need for additional tapes or sealants
- HDPE material is reliably strong yet lightweight for installation convenience
- HDPE design for protection against the environment
- Manufactured to class 5 standard of DIN 19569-4 and BS7775
- 316 stainless steel as standard
- Up to 50 year life expectancy with regular inspection and appropriate maintenance.



Fernco have a new and improved range of high-quality Flap Valves made from HDPE (High-Density Polyethylene). The Flap Valve acts as a Non-Return Valve for the prevention of backflow associated with rivers, estuaries etc. The lightweight product is easy to install, corrosion resistant and has significant improvements in leakage rates at both low and high heads of pressure.

Flap Valve Standard Range

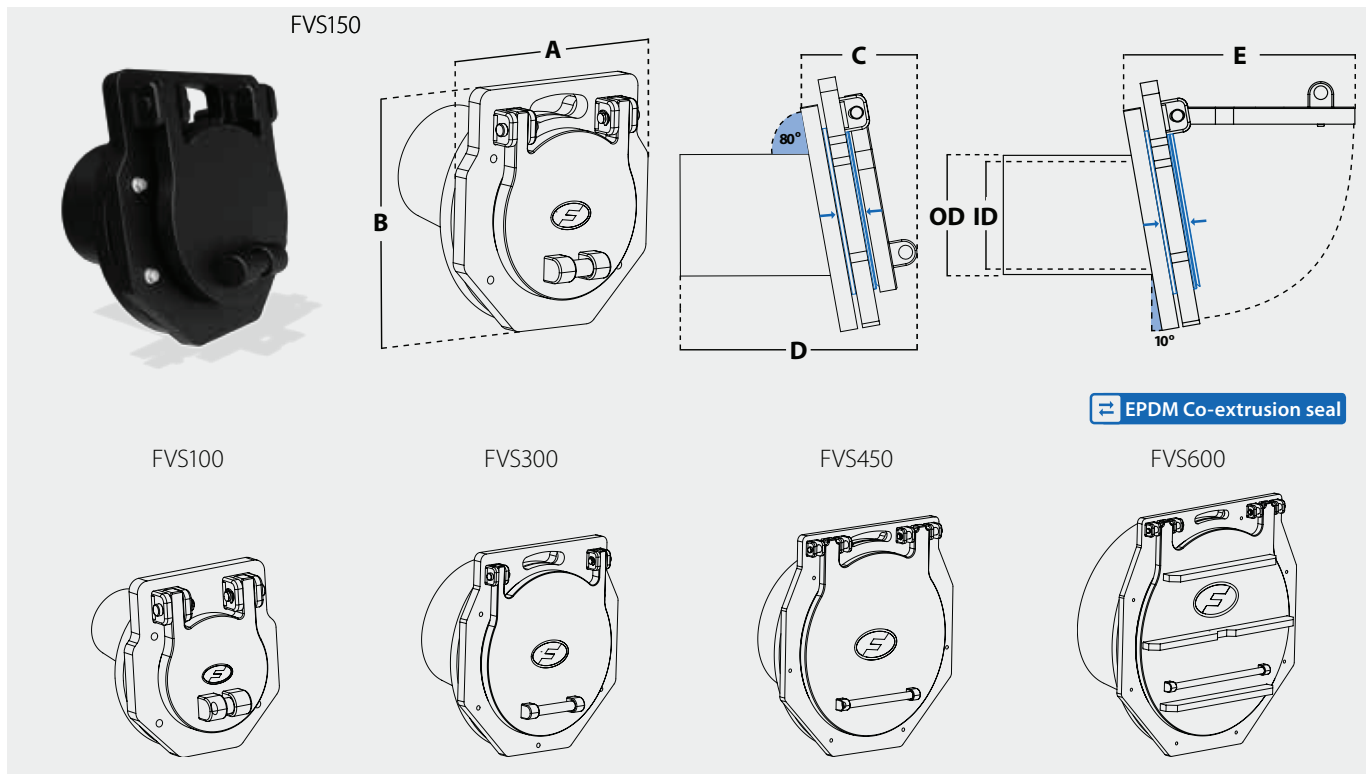
Wall Mounted	Spigot Mounted	Tidal Wall Mounted	Flange Mounted	Application
FV100	FVS100/FVS110	FVT100	FVF100	DN100 pipe
FV125	FVS110/FVS125	-	FVF125	DN125 pipe
FV150	FVS150/FVS160	FVT150	FVF150	DN150 pipe
FV200	FVS200/FVS225	FVT200	FVF200	DN200 pipe
FV225	FVS225	FVT225	FVF225	DN225 pipe
FV250	FVS250/FVS280	FVT250	FVF250	DN250 pipe
FV300	FVS280/FVS300	FVT300	FVF300	DN300 pipe
FV350	FVS350	-	FVF350	DN350 pipe
FV400	FVS400	FVT400	FVF400	DN400 pipe
FV450	FVS450	-	FVF450	DN450 pipe
FV500	FVS500	FVT500	FVF500	DN500 pipe
FV600	FVS600/FVS630	FVT600	FVF600	DN600 pipe
Larger sizes available on request				



Code	DN	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Mounting Hole PCD (mm)	Pressure (mwc)	WEIGHT (kg)
FV100	100	212	235	79	129	106	208	56	183	7	1.29
FV125	125	254	268	79	142	127	233	65	225	7	1.68
FV150	150	274	291	79	154	137	248	62	240	7	1.89
FV200	200	341	349	79	179	170	298	70	312	7	2.72
FV225	225	351	367	79	191	176	323	64	315	7	2.96
FV250	250	379	392	79	202	190	346	65	350	7	3.37
FV300	300	429	442	79	228	214	397	64	400	7	4.23
FV350	350	499	517	79	268	249	472	74	460	7	5.69
FV400	400	544	565	79	293	272	522	72	515	7	6.69
FV450	450	594	615	79	318	297	572	72	565	7	7.85
FV500	500	649	667	99	343	324	622	74	620	7	10.07
FV600	600	754	770	99	393	377	722	77	725	7	13.55

Flap Valve	Mounting Holes	Part Code	Description
FV100	4	FVMS-01	Flap Valve Mounting Set A4 Stainless Steel Bolts and Chemical Anchors 4xM8
FV125			
FV150			
FV200			
FV225	5	FVMS-02	Flap Valve Mounting Set A4 Stainless Steel Bolts and Chemical Anchors 5xM8
FV250			
FV300			
FV350	6	FVMS-03	Flap Valve Mounting Set A4 Stainless Steel Bolts and Chemical Anchors 6xM8
FV400			
FV450			
FV500	8	FVMS-04	Flap Valve Mounting Set A4 Stainless Steel Bolts and Chemical Anchors 8xM8
FV600			





Code	DN	Spigot OD (mm)	Spigot ID (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Pressure (mwc)	WEIGHT (kg)
FVS100	100	90	83	212	235	125	264	234	7	2
FVS110	110	110	102	212	235	125	267	234	7	2
FVS125	125	125	115	254	268	130	267	260	7	2.7
FVS150	150	140	123	254	268	130	271	260	7	2.9
FVS160	160	160	148	274	291	135	279	274	7	3.1
FVS200	200	180	159	274	291	135	277	274	7	3.5
FVS225	225	200	184	340	349	144	284	327	7	4.6
FVS250	250	225	211	351	267	146	288	350	7	4.8
FVS280	280	250	235	379	392	150	293	374	7	5.6
FVS300	300	280	263	379	392	151	296	376	7	5.6
FVS350	350	315	300	429	442	157	300	425	7	6.8
FVS400	400	355	333	499	517	167	309	490	7	10.3
FVS450	450	400	375	544	565	173	307	543	7	12.7
FVS500	500	450	422	594	615	178	369	597	7	14.7
FVS525	525	500	469	649	667	195*	378*	648	7	17.8
FVS600	600	560	526	685	698	199*	393*	673	7	20
FVS630	630	630	591	754	770	224*	405*	748	7	25.5

*Dimension taken from end of spigot to front plate rib.

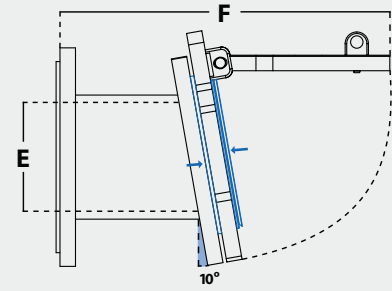
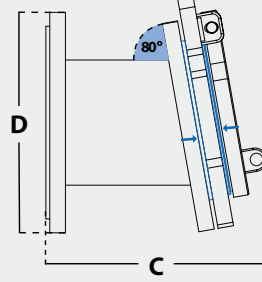
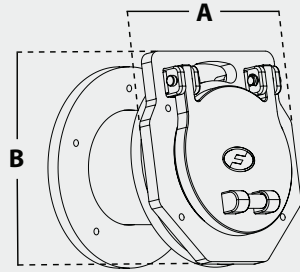
Spigot mounted Flap Valves can be connected to a pipe in two ways.

1. By using a Fernco Shear banded coupling to connect the spigot flap valve to the connecting pipe, this method will offer superior stability of the valve. The valve can be sized specific to the connecting pipe's outside diameter and therefore remove the need to seal inside the pipeline and restrict bore.
2. By inserting the spigot inside of the pipe and securing into position using a supplied EPDM sealing tape. For this option simply select the spigot size (column G) which will fit inside the pipe.

Please ensure supplied OD and ID measurements are accurate so the correct bush can be specified with the Spigot Flap Valve.

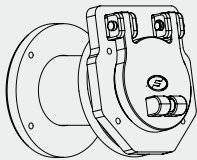


FVT150

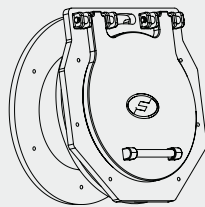


EPDM Co-extrusion seal

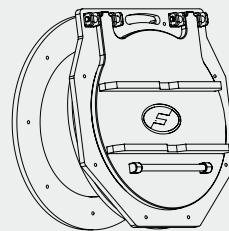
FVT100



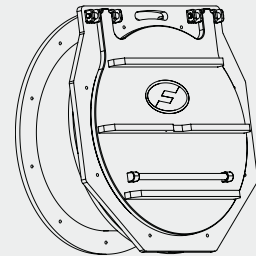
FVT300



FVT500



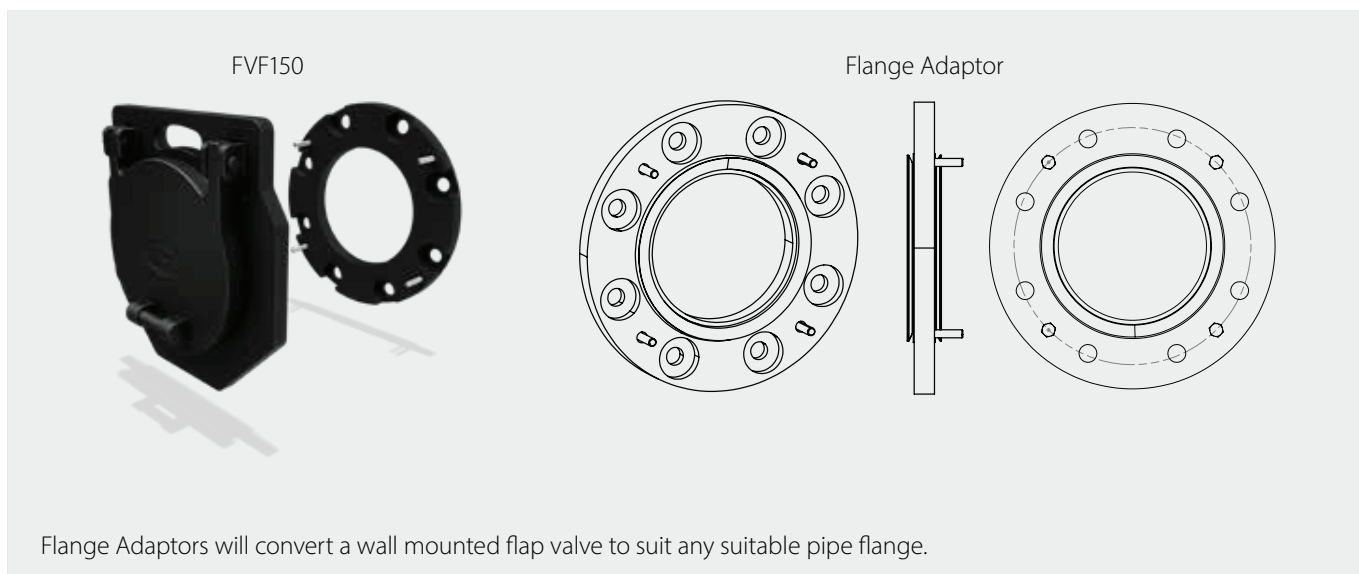
FVT600



Code	DN	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Pressure (mwc)	WEIGHT (kg)
FVT100	100	212	235	267	212	102	376	7	2.6
FVT150	150	274	291	279	260	148	419	7	3.8
FVT200	200	351	267	288	340	211	493	7	6.3
FVT225	225	379	392	288	370	235	517	7	6.8
FVT250	250	379	392	296	385	263	521	7	6.8
FVT300	300	429	442	300	450	300	567	7	8.5
FVT400	400	544	565	367	595	422	788	7	17.2
FVT500	500	685	698	393*	695	526	868	7	23.6
FVT600	600	754	770	405*	780	591	930	7	28.8

Flap Valve	Mounting Holes	Size
FV100	4	M8
FV150	5	
FV200		
FV225		
FV250	6	
FV300	8	
FV400		
FV500		
FV600		
	10	





Code	Flange Code	DN	Flange Specification
FVF100	FVFA100-1	100	BS4504 / ISO 7005 (DIN) PN10 /PN16
	FVFA100-2	100	AS2129 Table C/D AS4087 PN14/PN16
FVF125	FVFA125-1	125	BS4504 / ISO 7005 (DIN) PN10 /PN16
	FVFA125-2	125	AS2129 Table C/D/E AS4087 PN14/PN16
FVF150	FVFA150-1	150	BS4504 / ISO 7005 (DIN) PN10/PN16
	FVFA150-2	150	AS2129 Table C/D AS4087 PN14/PN16
FVF200	FVFA200-1	200	BS4504 / ISO 7005 (DIN) PN10
	FVFA200-2	200	BS4504 / ISO 7005 (DIN) PN16
	FVFA200-3	200	AS2129 Table C/D AS4087 PN14/PN16
FVF250	FVFA250-1	250	BS4504 / ISO 7005 (DIN) PN10
	FVFA250-2	250	BS4504 / ISO 7005 (DIN) PN16
	FVFA250-3	250	AS2129 Table C/D AS4087 PN14/PN16
FVF300	FVFA300-1	300	BS4504 / ISO 7005 (DIN) PN10
	FVFA300-2	300	BS4504 / ISO 7005 (DIN) PN16
	FVFA300-3	300	AS2129 Table C/D/E AS4087 PN14/PN16
FVF350	FVFA350-1	350	BS4504 / ISO 7005 (DIN) PN10
	FVFA350-2	350	BS4504 / ISO 7005 (DIN) PN16
	FVFA350-3	350	AS2129 Table C/D/E
FVF400	FVFA400-1	400	BS4504 / ISO 7005 (DIN) PN10
	FVFA400-2	400	BS4504 / ISO 7005 (DIN) PN16
	FVFA400-3	400	AS2129 Table C/D/E AS4087 PN14/PN16
FVF450	FVFA450-1	450	BS4504 / ISO 7005 (DIN) PN10
	FVFA450-2	450	BS4504 / ISO 7005 (DIN) PN16
	FVFA450-3	450	AS2129 Table C/D/E AS4087 PN14/PN16
FVF500	FVFA500-1	500	BS4504 / ISO 7005 (DIN) PN10
	FVFA500-2	500	BS4504 / ISO 7005 (DIN) PN16
	FVFA500-3	500	AS2129 Table C/D/E
FVF600	FVFA600-1	600	BS4504 / ISO 7005 (DIN) PN10
	FVFA600-2	600	BS4504 / ISO 7005 (DIN) PN16
	FVFA600-3	600	AS2129 Table C/D AS4087 PN14/PN16

Other flange or mounting adaptors can be manufactured on request

HDPE Benefits

- Lighter weight than traditional cast iron flap valves, leading to easier installation and lower installation costs
- High strength HDPE will withstand being struck by rocks and other debris present in marine and river environments, which could shatter lighter weight plastics
- Environmentally resistant and maintenance free material
- Not at risk from theft as no inherent scrap value
- Very low moisture absorption rate, improving suitability in maritime and submerged environments
- The material is UV stable and is resistant to degradation from sunlight exposure

Product Characteristics

Handle to aid installation & handling



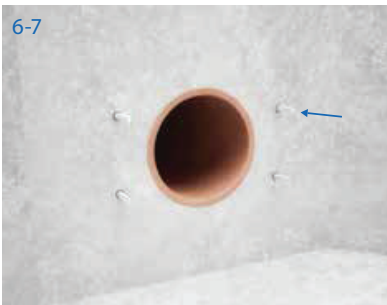
EPDM Co-extrusion seal

Cracking Head

Nominal Diameter	Wall/Flange Mounted		Spigot/Tidal Mounted	
	Maximum Opening Pressure (Cracking Head) Above Water* (mm)	Inclination (*)	Maximum Opening Pressure (Cracking Head) Above Water* (mm)	Inclination (*)
00	26	0	50	10
125	25	0	50	10
150	24	0	50	10
200	23	0	50	10
225	22	0	52	10
250	22	0	54	10
300	22	0	57	10
350	22	0	61	10
400	22	0	61	10
450	22	0	65	10
500	22	0	69	10
600	22	0	76	10

These values do not take into account any disturbing external factors such as currents or bulky debris.

	Wall/Flange Mounted
Product Code(s)	FVXXX, FVSXXX, FVTXXX
Description	Wall, Spigot, Tidal or Flange Mounted Flap Valves
Size Range	DN100 to DN600
Materials	HDPE Backplate and Flap EPDM integrated seal conforming to BS EN 681-1:1996 Stainless Steel (316) Glass filled nylon (GFN)
Standards	Fernco Flap Valves satisfy the requirements of DIN19569-4, ISO 9001:2015 and BS7775
Recommended Max Temperature	Constant 80°C Intermittent 100°C



Installation Guide

Wall Mounted Flap Valve

1. Offer the Flap Valve to the wall in the desired fixing position, ensuring the hinges are at 12 o'clock.
2. Mark the drill positions where the wall mounting holes are present and use a spirit level to make sure the Flap Valve is straight.
3. Remove the Flap Valve and drill holes where marked using a suitable drill. Use the correct size drill bit as indicated in the table below. Ensure the hole depth is consistent with the requirements indicated in the table below.
4. Clean debris away from the drilled holes and wall surface.
5. Insert the chemical capsules into the hole.
6. Using a suitable drill, drill the bolts provided into the holes and chemical capsules, until the depth of the hole has been reached.
7. Detach the drill from the bolt and remove excess residue from around the hole. Leave the chemical to cure, curing time is indicated in the table below.
8. Offer the Flap Valve over the bolts, tighten on the supplied washers and nuts to the recommended torque as given in the table below.

Wall Mounting Kit Installation Requirements

Bolt Size	Drill Bit Required	Drilled Depth	Recommended Tightening Torque
M8	10mm	80mm	4Nm

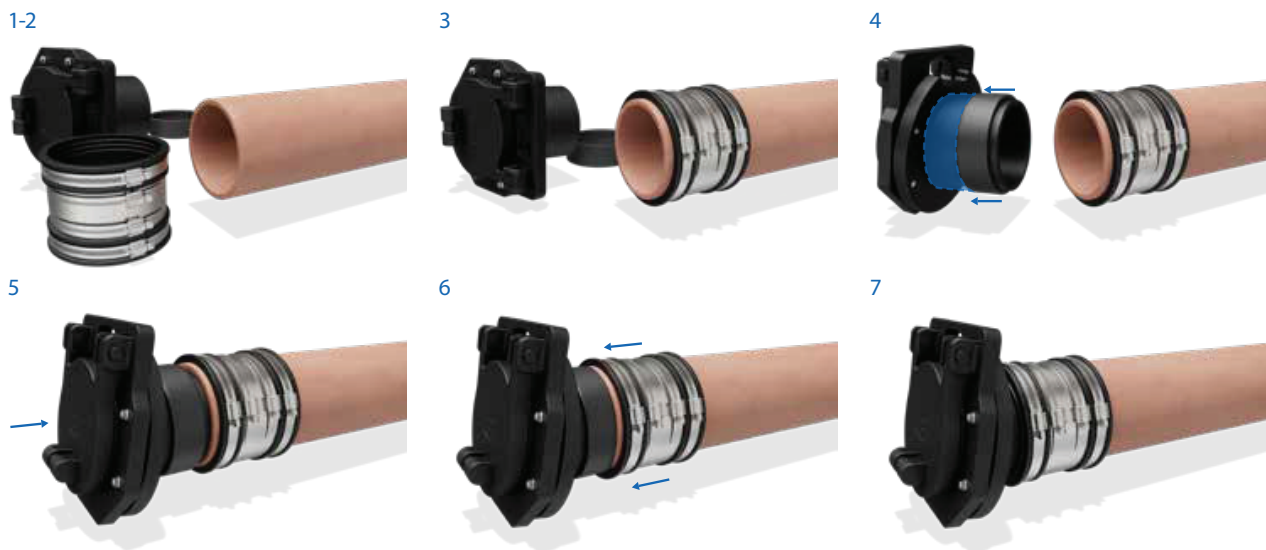
Temp °C	-15 – -10	-9 – -5	-4 – 0	+1 – +5	+6 – +10	+11 – +20	+21 – +30	+31 – +40
Cure Time	30 h	16 h	10 h	45 min	30 min	20 min	5 min	3 min



Installation Guide

Spigot Mounted Flap Valve using Flexible Coupling

1. Ensure the pipe end has a straight/flat surface for mounting.
2. Clean away any debris from the connecting surfaces of the pipe.
3. Slide the coupling onto the pipe.
4. Depending on the application, a bush may be required to increase the outside diameter of the Flap Valve spigot. At this stage place the supplied bush onto the spigot.
5. Insert the spigot section of the Flap Valve into the pipe until the pipe touches the bush. When inserting ensure the Flap Valve hinge mechanism is at 12 o'clock.
6. If a bush is not required, then proceed to measure and mark half the width of the coupling on the spigot. Then insert the spigot into the pipe until the mark meets the edge of the pipe*.
7. Slide the coupling back over the bush or spigot ensuring the coupling is centered over the joint.
8. Tighten the coupling evenly down to the pipe and Flap Valve. Ensure this is completed to the correct torque as indicated on the coupling label.



It is important that you confirm the OD and ID of the pipe you are installing onto, to ensure we can specify the correct Flap Valve.

*In some cases it may be recommended that the spigot face should be butted against the pipe face. In this scenario, treat the spigot as a pipe and follow the installation procedure found on the coupling label.





Installation Guide

Spigot Mounted Flap Valve using Sealing Tape

1. Ensure the pipe end has a straight/flat surface for mounting.
2. Clean away any debris from the internal surface of the pipe.
3. Take the Sealing tape supplied with the Flap Valve, peel away the self-adhesive backing and wrap around the external surface of the Flap Valve spigot.
4. Ensure the outside diameter of the tape is now approximately 5mm larger than the internal diameter of the pipe to ensure a compressive fit.
5. Insert the spigot section of the Flap Valve into the pipe until the pipe end is flush with the Flap Valves back plate. When inserting ensure the Flap Valve hinge mechanism is at 12 o'clock.



Sealing Tape Sizes

Finished Product	Part Code	Description	Quantity (Metres)
EPDM Sealing Strip	FVSMS-01	EPDM Spigot Sealing Strip For Flap Valve Spigots DN100, DN125, DN150	2.05m
EPDM Sealing Strip	FVSMS-02	EPDM Spigot Sealing Strip For Flap Valve Spigots DN200, DN225, DN250	4.52m
EPDM Sealing Strip	FVSMS-03	EPDM Spigot Sealing Strip For Flap Valve Spigots DN300, DN350, DN400	6.14m
EPDM Sealing Strip	FVSMS-04	EPDM Spigot Sealing Strip For Flap Valve Spigots DN450, DN500, DN600	10m

Installation Guide

Flange Mounted Flap Valve

1. Using the corresponding flange installation kit (not provided), attach the Flange Adaptor to the flange. *(Please ensure the flange is installed in the correct orientation. The Flap Valve's final position should be with its hinge mechanism in the 12 o'clock location.)*
2. Align the mounting holes of the flap valve with the corresponding adaptor bolts, and slide the Flap Valve over.
3. Use the washer and nuts provided to tighten the Flap Valve into position. Ensure this is done equally and alternately (recommended torque of 4Nm).
**Flange bolts are not included*



Installation Guide

Tidal Mounted Flap Valve

1. Offer the Flap Valve to the wall in the desired fixing position, ensuring the top fixing bolt is at 12 o'clock.
2. Mark on the wall the drill positions where the wall mounting holes are present.
3. Remove the Flap Valve and drill holes where marked using a suitable drill and the correct size drill bit as shown in the table on page 7. Ensure the hole depth for all holes is consistent as shown in the table on page 7.
4. Clean debris away from the drill holes and wall surface.
5. Insert the chemical capsules into the hole.
6. Using a suitable drill, drill the bolts provided into the holes and chemical capsules, until the depth of the hole has been reached.
7. Detach the drill from the bolt and remove excess residue from around the hole. Leave the chemical to cure, curing time is shown in the table on page 7.
8. Offer the Flap Valve over the bolts, tighten on the supplied washers and nuts to the recommended torque as shown in the table on page 7.



General Information

Quality, Standards and Approvals

Fernco has been certified by the British Standards Institution (BSI) as a company of assessed capability, with a quality management system which meets the requirements of BS EN ISO 9001:2015

Fernco UK, part of a global group of companies, are the leaders in wastewater connection innovation; utilising the most advanced methods and techniques for precision-manufactured products, all of which comply with or exceed relevant British and European standards to ensure reliability and sustainability.

Environment

Fernco operate Environmental Management Systems which are certified to ISO 14001: 2015.

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