

HDPE Flap Valves

Sizes from DN100 & above



- The Fernco standard range of Flap Valves fit pipes from DN100 to DN600.
- HDPE design for protection against the environment.
- HDPE material is reliably strong yet lightweight for installation convenience.
- Manufactured to the highest class 5 standard of DIN 19569-4.

*** Larger sizes available on request**

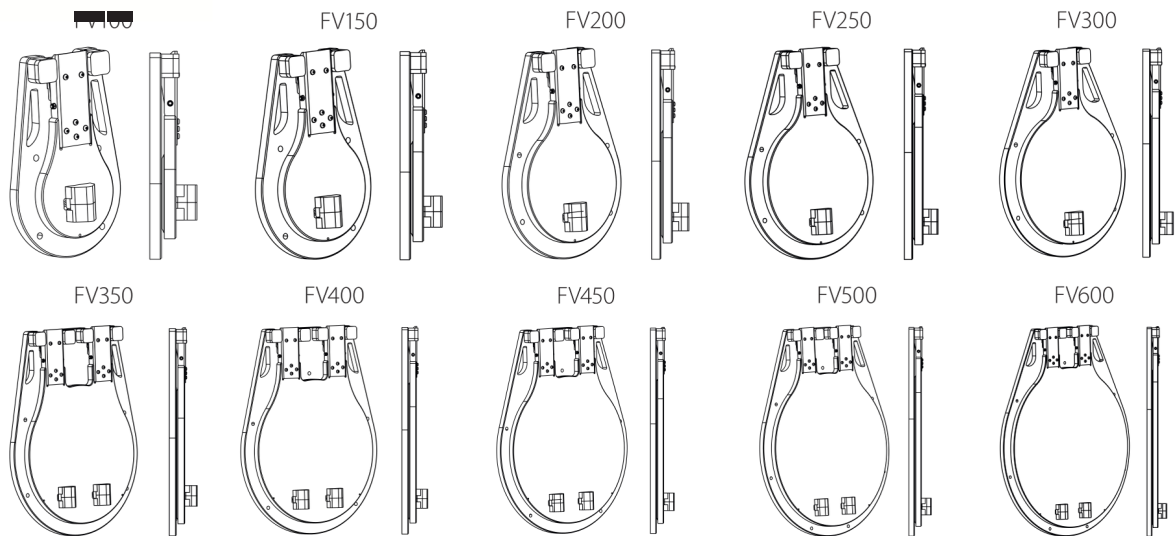
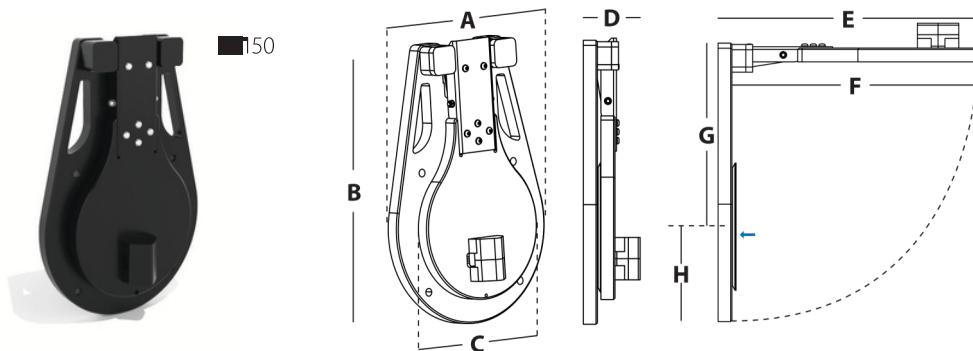
Fernco have a new and improved range of high quality Flap Valves made from HDPE (High Density Polyethylene). The Flap Valve acts as a Non-Return Valve for the prevention of backflow associated with rivers, estuaries etc. The lightweight product is easy to install and corrosion resistant.

Flap Valve Standard Range

WALL/FLANGE MOUNTED	SPIGOT MOUNTED	APPLICATION
FV100 FV150 FV200 FV250	FVS100 FVS150	DN100 pipe
FV300 FV350 FV400	FVS200 FVS250	DN150 pipe
FV450 FV500 FV600	FVS300 FVS350	DN200 pipe
	FVS400 FVS450	DN250 pipe
	FVS500 FVS600	DN300 pipe
		DN350 pipe
		DN400 pipe
		DN450 pipe
		DN500 pipe
		DN600 pipe

*** Larger sizes available on request**

Wall/Flange Mounted Flap Valve Technical Specifications



CODE	DN	MOUNTING SET	BOLT (QTY)	CHEMICAL ANCHOR CAPSULES (QTY)	A (MM)	B (MM)	C (MM)	D (MM)	E (MM)	F (MM)	G (MM)	H (MM)	MOUNTING HOLE PCD (MM)	PRESSURE (MWC)	WEIGHT (KG)
FV100	100	FVMS-01	4	4	224	355	154	80.	325	305	240	112	190	10	2.18
FV150	150	FVMS-01	4	4	274	405	204	7	375	355	265	137	240	10	2.70
FV200	200	FVMS-01	4	4	324	455	254	80.	425	405	290	162	290	10	3.34
FV250	250	FVMS-01	4	4	374	505	304	7	475	455	315	187	340	10	4.03
FV300	300	FVMS-01	4	4	424	555	354	80.	525	505	340	212	390	10	4.83
FV350	350	FVMS-01	4	4	474	605	404	7	575	555	365	237	440	8	7.03
FV400	400	FVMS-02	5	5	524	655	454	80.	625	605	390	262	490	6	7.94
FV450	450	FVMS-02	5	5	574	705	504	7	675	655	415	287	540	5	8.96
FV500	500	FVMS-03	7	7	624	755	554	80.	725	705	443	312	590	4	10.04
FV600	600	FVMS-03	7	7	724	855	654	7	825	805	490	362	690	3	12.34

* Larger sizes available on request

Fernco Flap Valves are intended for end-of-pipe installation and can be mounted...

- On a vertical or inclined wall (mounting set available)

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Mounting Set includes...

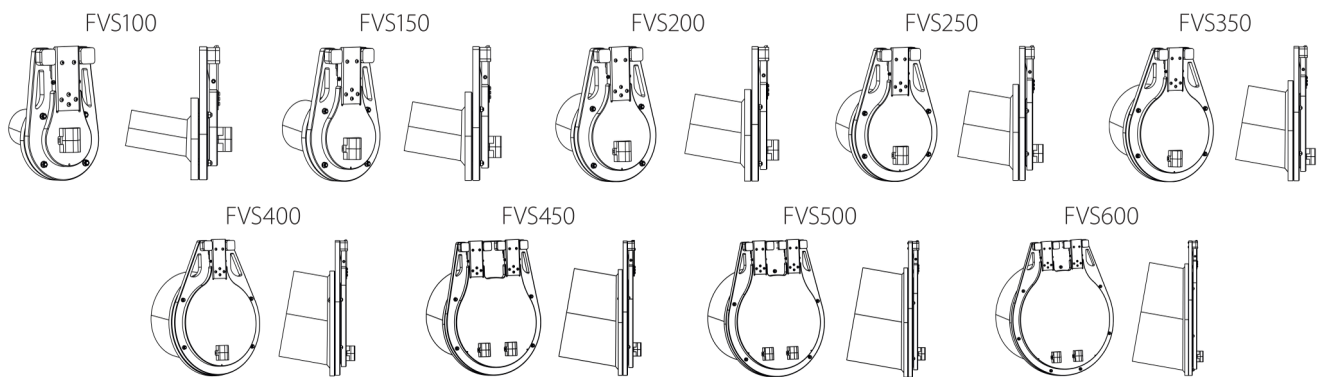
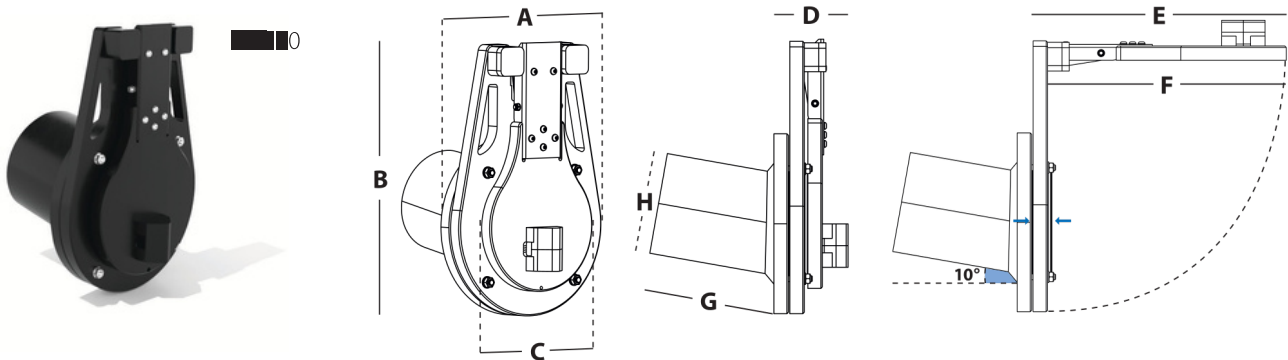
- M8 capsules & fixings for DN100-600 sizes
- Chemical resin capsules
- Stainless Steel 1.4401 (316) anchor fixings

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FVMS-01

Spigot Mounted Flap Valve Technical Specifications



CODE	DN	A (MM)	B (MM)	C (MM)	D (MM)	E (MM)	F (MM)	G (MM)	H (MM)	H + BUSH* (MM)	PRESSURE (MWC)	WEIGHT (KG)
FVS100	100	204	335	134	102.7	305	285	166	90	114	10	2.91
FVS150	150	249	380	179	102.7	350	330	175	140	156	10	3.84
FVS200	200	274	405	204	102.7	375	355	182	180	196	10	4.60
FVS250	250	324	455	254	102.7	425	405	190	225	249	10	6.00
FVS300	300	374	505	304	102.7	475	455	199	280	312	10	7.75
FVS350	350	424	555	354	102.7	525	505	206	315	347	8	9.43
FVS400	400	424	555	354	102.7	525	505	213	355	403	6	10.36
FVS450	450	474	605	404	102.7	575	555	271	400	448	5	15.25
FVS500	500	524	655	454	102.7	625	605	279	450	498	4	18.24
FVS600	600	624	755	554	102.7	725	705	299	560	624	3	25.82

* Larger sizes available on request

All spigot mounted Flap Valves are supplied with a self adhesive strip of Sealing Tape. The Sealing Tape should be applied to the Flap Valve spigot to create a seal against the internal surface of the host pipe.

Connect with a Standard Coupling to strengthen the installation:

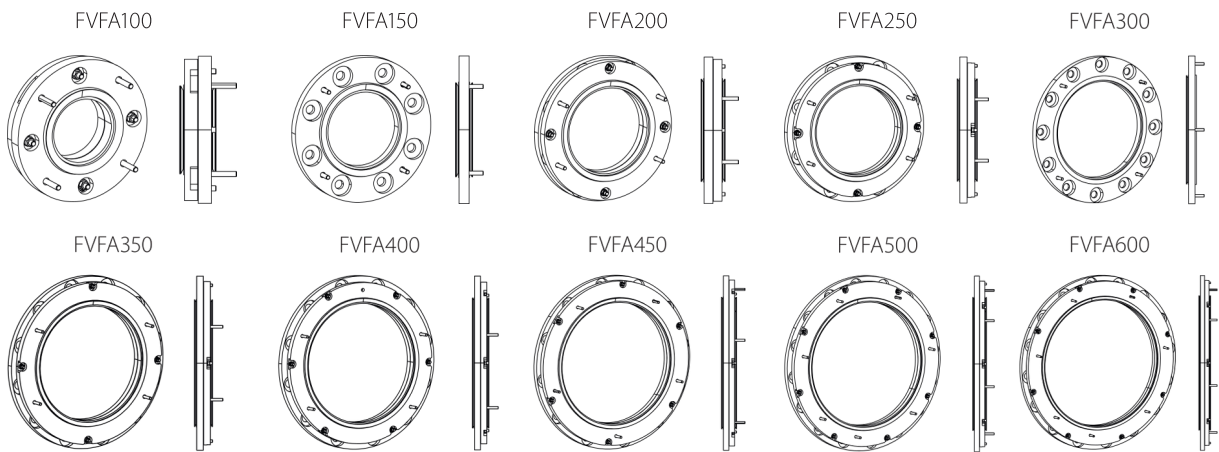
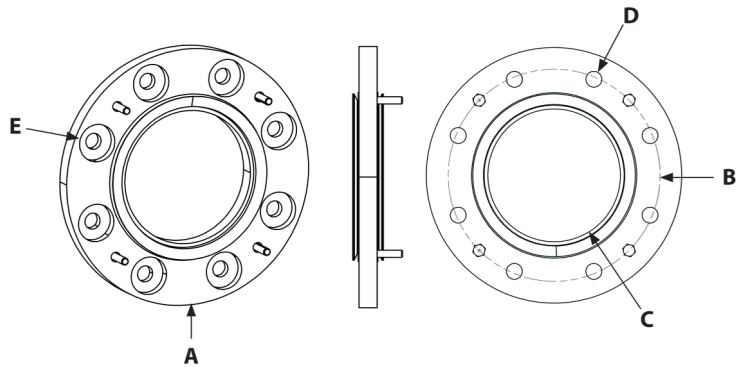
- EPDM rubber conforming to BS EN 681:1
- Stainless steel shear band for extra support
- Permanently maintains water tight seal
- Couplings conform to BS EN 295:4
- Bush may be required depending on the outside diameter of the main pipe

*Spigot mounted Flap Valves in most cases will be supplied with a bush to reduce the difference in pipe diameters of the spigot on the Flap Valve and the pipe that it is being installed to. This will enable the supplied coupling to be installed correctly. Please ensure supplied OD and ID measurements are accurate so the correct bush can be specified with the Spigot Flap Valve.



Flange Mounted Flap Valve Technical Specifications

Flange Specification AS2129-Table D





CODE	DN	A (MM)	B (MM)	C (MM)	D (MM)	E (MM)	WEIGHT (KG)
FVFA100	100	224	190	100	18	26	1.48
FVFA150	150	289	235	150	18	42	0.96
FVFA200	200	335	292	200	18	42	2.48
FVFA250	250	405	356	250	22	47	3.27
FVFA300	300	455	406	300	22	47	1.87
FVFA350	350	525	470	350	26	54	4.60
FVFA400	400	580	521	400	26	54	5.26
FVFA450	450	640	584	450	26	54	6.32
FVFA500	500	705	641	500	26	54	7.16
FVFA600	600	825	756	600	30	65	9.15

* Flange Specification AS2129-Table D as standard, other specifications available 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
- Up to 100 year life expectancy with regular inspection and appropriate maintenance.

Cracking Head

NOMINAL DIAMETER	Maximum Opening Pressure (Cracking Head) Above Water* (mm)	 Inclination (°)	Maximum Opening Pressure (Cracking Head) Above Water* (mm)	 Inclination (°)
100	31	0	59	10
150	29	0	58	10
200	30	0	59	10
250	30	0	63	10
300	31	0	65	10
350	33	0	67	10
400	33	0	70	10
450	33	0	72	10
500	33	0	77	10
600	33	0	84	10

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

Product Characteristics

Handles to aid installation & handling



 Integrated slot for a lifting rope

Product Specification for Flap Valve	
Product Code(s)	FVXXX or FVSXXX
Description	Wall, Flange or Spigot Mounted Flap Valves
Size Range	DN100 to DN600
Materials	HDPE Backplate and Flap EPDM integrated seal Stainless Steel (316) hinge plate and fixtures
Standards	Fernco Flap Valves satisfy the requirements of DIN19569-4, ISO 9001:2015

Installation

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.
- 5a. 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.
6. Slide the coupling back over the bush or spigot ensuring the coupling is centred over the joint.
7. 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.

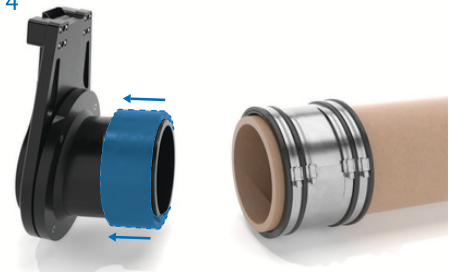
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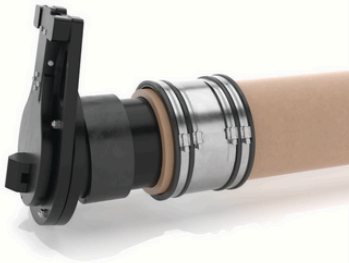
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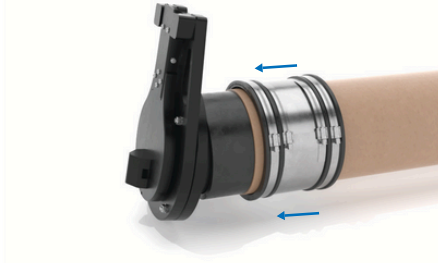
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Close Up

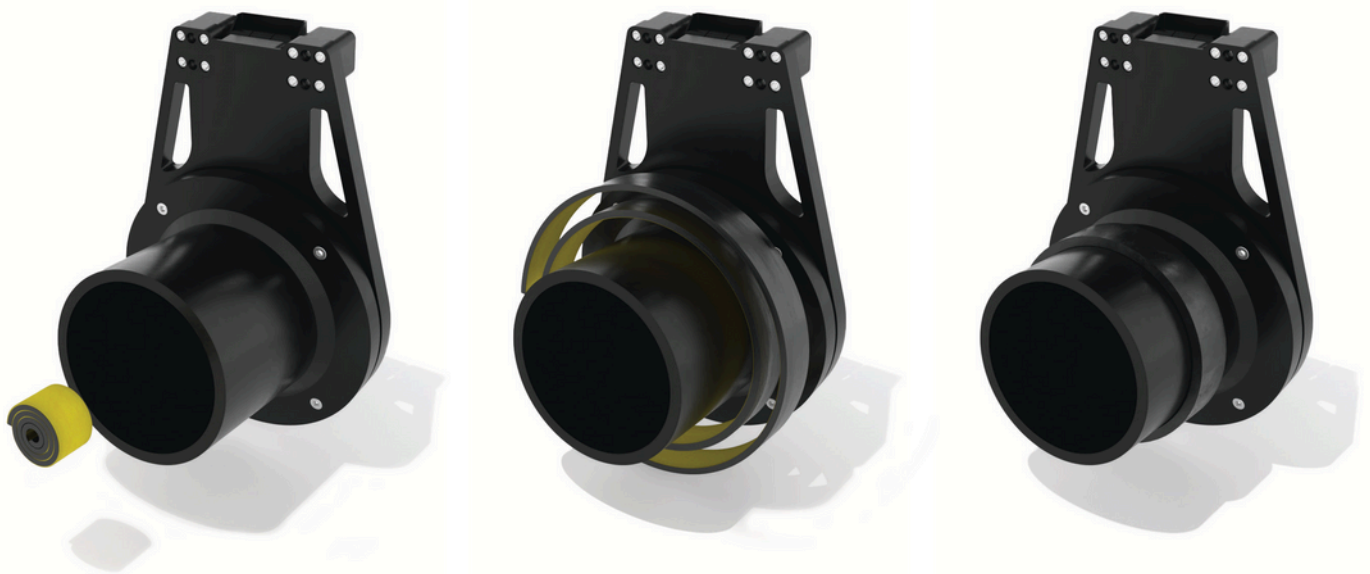


*It is important that you confirm the OD and ID of the pipe you are installing onto, to ensure we can specify the correct Flap Valve. In some cases it may be recommended that the spigot face should be butted against the pipe face. In this scenario, treat the spigot as a pipe and follow the installation procedure found on the coupling label.

Installation

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

FLAP VALVE	SPIGOT OD (MM)	SEALING TAPE THICKNESS (MM)	MAX NUMBER OF LAYERS	SEALING TAPE CUT LENGTH (MM)	TAPE - PIPE ID RANGE (PIPE BORE MM)
FVS100	90	5	3.5	1400	92-125
FVS150	140	5	3.5	2000	142-175
FVS200	180	5	4.5	3500	182-225
FVS250	225	5	4.5	4500	227-275
FVS300	280	5	4.5	5500	282-315
FVS350	315	5	4	5000	317-355
FVS400	355	5	4.5	6500	357-400
FVS450	400	5	5	8000	402-450
FVS500	450	5	5	8600	450-505
FVS600	560	5	4.5	10000	562-610

Installation

Installation Guide - Wall Mounted Flap Valve

1. Offer the Flap Valve to the wall in the desired fixing position, ensuring the hinge mechanism is at 12 o'clock.
2. Mark drill positions where the wall mounting holes are present.
3. Remove the Flap Valve and drill holes where marked using a 10mm 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 drill holes and wall surface.
5. Insert the chemical capsules into the hole.
6. Using a hammer drill, drill the bolts provided into the holes and chemical capsules, until the depth of the hole has been reached. Excess capsule residue may disperse from the hole so use care when inserting the bolts.
7. Leave the chemical to cure, curing time indicated in the table below. During this time, clean the mounting surface of the back plate. Apply the supplied sealing tape to the back plate, ensure the seal is fully aligned with the mounting holes. Cut holes through the tape corresponding to the mounting holes of the flap valve.
8. Offer the Flap Valve over the bolts, tighten on the supplied washers and nuts. Recommended torque is given in the table below.



Wall Mounting Kit Installation Requirements

WALL MOUNTING KIT	FLAP VALVE SIZE	BOLTS	DRILL BIT REQUIRED	DRILL DEPTH	RECOMMENDED TIGHTENING TOUQE
FVMS-01	100-350	M8	10mm	80mm	10Nm
FVMS-02	400-450	M8	10mm	80mm	10Nm
FVMS-03	500-600	M8	10mm	80mm	10Nm

Chemical Capsule Cure Time

TEMP °C	-15 - -10	-9 - -5	-4 - 0	+1 - +5	+6 - +10	+11 - +20	+21 - +30	+31 - +40
CURE TIME	30h	16h	10h	45 min	30 min	20 min	5 min	3 min

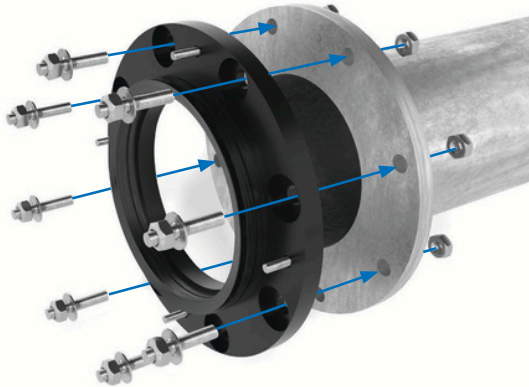
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Installation

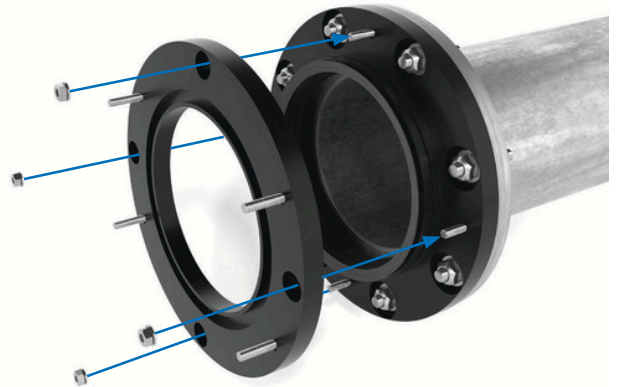
Installation Guide - Flange Mounted Flap Valve

- Using the corresponding flange installation kit (not provided), attach the Flange Adaptor to the flange. In most cases the Flange Adaptor will consist of 2 plates, separate the plates before installation (retain the steel fixtures). Once separated, align the first plate with the flange and secure it in place. (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.)
- Attach the second Flange Adaptor plate with the original fixtures retained from step 1.
- Align the mounting holes of the flap valve with the corresponding adaptor bolts, and slide the flap valve over.
- Use the washer and nuts provided to tighten the Flap Valve into position. Ensure this is done equally and alternately (recommended torque of 10Nm).

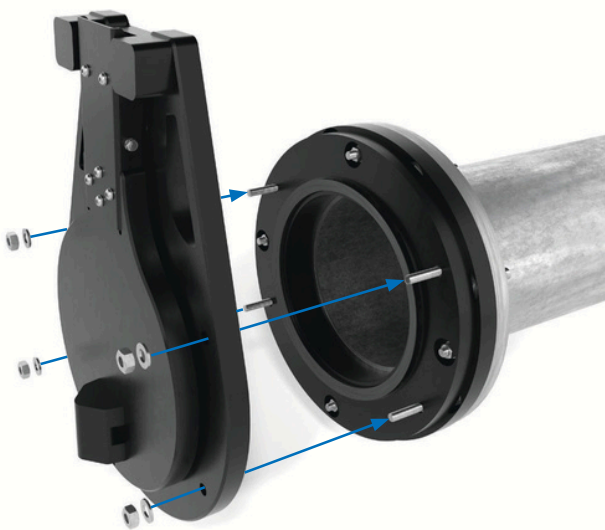
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General Information

Quality, Standards and Approvals

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 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

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

Supply

All Fernco products are supplied through a national and global network of distribution and merchant partners. For stockist details, contact Fernco.

Technical Support

Hydroflow Civil have a team of product experts on hand to support all customers with technical support and advice.

Contact Hydroflow Civil:

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