

HDPE Wall Mounted Flap Valves

- DN100-1500

Flap Valves from Fernco are a durable, engineered solution for reliable flood and back flow protection. Our comprehensive range of Flap Valves are manufactured from High-Molecular Weight Polyethylene (PE500 / HMWPE) and 316 marine grade stainless steel (1.4401) as standard. Fernco's patented EPDM co-extrusion seal design ensures ease and consistency of installation, with no need for additional sealants or tapes to be installed on site.

Fernco's range of HDPE Flap Valves deliver excellent corrosion resistance, UV stability, and a long service life with minimal maintenance to meet the requirements of any project. All standard Fernco Flap Valves are rated to at least 7mWC (metre water column) on-seating pressure. The Flap Valves greatly exceed the performance requirements of BS7775 and Class 5 of DIN16569-4 and offer up to a 60-year design life.



A Wall Mounted Flap Valve is a passive non-return valve designed to prevent backflow in drainage systems, particularly in environments prone to variable water levels such as rivers, estuaries, and flood-prone areas.

Fernco's Flap Valve range is designed to suit a wide variety of installation scenarios, pipe types, and site conditions. Available in multiple mounting configurations - including Wall, Spigot, Flange, Tidal and custom options - each valve is engineered for durability and performance, ease of installation, and long-term backflow prevention.

The Fernco HDPE Flap Valve is a one-way passive non-return valve engineered to prevent backflow from endangering commercial and residential drainage. Installed at the discharge end of pipelines or culverts, it allows water to exit freely while automatically closing against reverse pressure, safeguarding the upstream system from flooding or contamination.

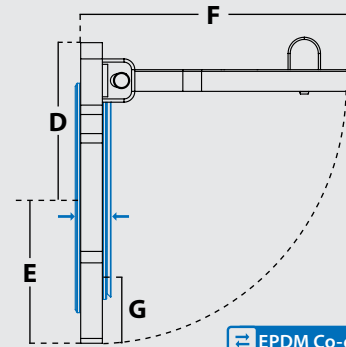
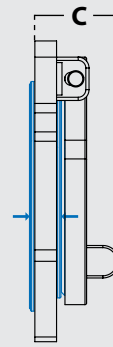
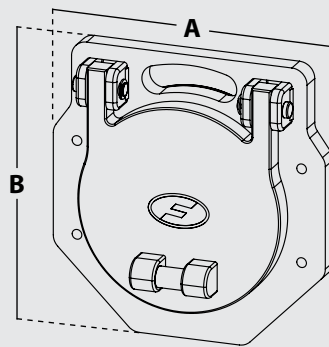
Manufactured from High-Molecular Weight Polyethylene (HMWPE / PE500), the Fernco Flap Valve range delivers exceptional durability and reliability, even in the harshest marine environments. The HMWPE construction makes the Flap Valves lightweight for ease of handling and installation yet robust enough to withstand the demands of tidal forces, submersion, and flood-prone environments. Compared to other alternatives, the Fernco Flap Valves offer a significant reduction in opening pressure, minimising the volume of stagnant water retained behind the gate while providing excellent long-term corrosion resistance.

The Flap Valves use a patented sealing technology that performs under both low and high pressures while eliminating the variance in installation quality. An integrated EPDM sponge seal ensures a watertight seal between the mounting surface and valve, removing the need for any additional sealing materials.



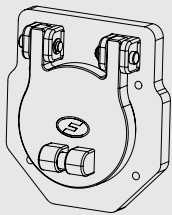


FV150

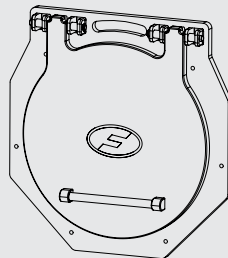


EPDM Co-extrusion seal
(FV150+)

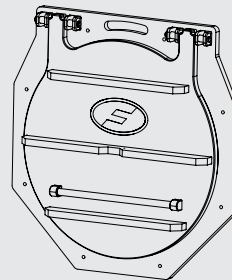
FV100



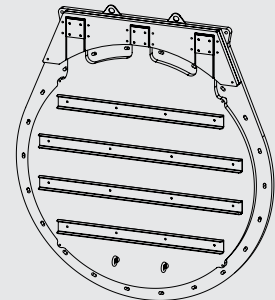
FV450



FV600



FV1100



Product 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	77	129	106	207	56	183	7	1
FV125	125	254	268	77	142	127	233	65	225	7	2
FV150	150	274	291	79	154	137	248	62	240	7	2
FV200	200	341	349	79	179	170	298	71	312	7	3
FV225	225	351	367	79	191	176	322	63	315	7	3
FV250	250	379	392	79	202	190	346	65	350	7	3
FV300	300	429	442	79	228	214	396	65	400	7	4
FV350	350	499	517	79	268	249	472	74	460	7	6
FV400	400	544	565	79	293	272	522	72	515	7	7
FV450	450	594	615	79	318	297	572	72	565	7	8
FV500	500	649	667	99*	343	324	622	75	620	7	10
FV600	600	754	770	99*	393	377	721	77	725	7	14
FV700	700	895	1080**	134*	632**	448	961	98	850	7	37
FV800	800	995	1180**	134*	682**	498	1061	98	950	7	44
FV900	900	1095	1280**	134*	732**	548	1161	98	1050	7	52
FV1000	1000	1195	1380**	134*	782**	598	1261	98	1150	7	60
FV1100	1100	1410	1592**	128***	886**	705	1450	155	1330	7	85
FV1200	1200	1510	1692**	128***	936**	755	1550	155	1430	7	95
FV1300	1300	1610	1792**	128***	986**	805	1650	155	1530	7	106
FV1400	1400	1710	1892**	128***	1036**	855	1750	155	1630	7	116
FV1500	1500	1810	1992**	128***	1086**	905	1850	155	1730	7	128

*Dimension taken from the back of the wall plate to front plate strengthening ribs.

**These values are taken from the top of the lifting bracket.

*** Dimension taken from the back of the wall plate to the front edge of lifting eye.

i Larger sizes available on request

Wall Mounting Kit Installation Requirements

Bolt Size	Drill Bit Required	Drilled Depth	Recommended Tightening Torque
M8	10mm	80mm	4Nm
M12	14mm	100mm	8Nm

HDPE Benefits

- The material's low level of relative molecular branching allows for tightly packed polymer chains, increasing intermolecular forces and resulting in a high strength-to-weight ratio.
- Exceptionally durable material that is resistant to impact and weather conditions.
- Very low moisture absorption rate, improving suitability in maritime and submerged environments.
- Recyclable material, while having no scrap value, eliminating the risk of theft.
- Resistant to most common chemicals, acids, bases and solvents due to the inherent chemical inertness of the material.
- The material is UV stable meaning it is resistant to degradation from sunlight exposure.
- Non-toxic, inert material that is safe for use in water systems.
- HDPE has an operating temperature of -30 degrees Celsius to 130 degrees Celsius.
- Lighter weight than traditional cast iron or stainless steel Flap Valves leading to safer, easier installation and lower costs.

Product Characteristics

Handle to aid installation & handling



EPDM Co-extrusion seal

Cracking Head

Nominal Diameter	Wall Mounted	
	Maximum Opening Pressure (Cracking Head) Above Water*(mm)	Inclination (°)
100	28	0
125	26	0
150	25	0
200	24	0
225	23	0
250	23	0
300	22	0
350	22	0
400	22	0
450	22	0
500	35	0
600	37	0
700	53	0
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1100	36	0
1200	36	0
1300	35	0
1400	35	0
1500	34	0

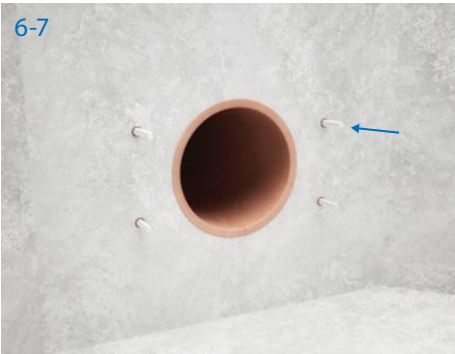
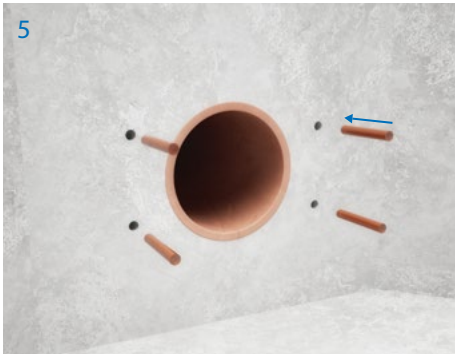
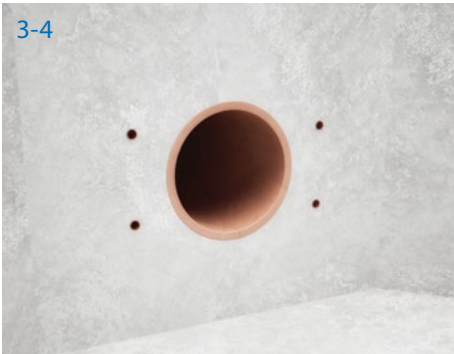
*These values do not take into account any disturbing external factors such as currents or bulky debris.

Product Specification for Wall Mounted Flap Valve

Product Code(s)	FVXXX
Description	Wall Mounted Flap Valves
Size Range	DN100 to DN1500
Materials	HDPE Backplate and Flap EPDM integrated seal conforming to BS EN 681-1:1996 Stainless Steel (316) Glass filled nylon (GFN)
Standards	WRc Approved Fernco Flap Valves exceed the requirements of DIN19569-4, ISO 9001:2015 and BS7775
Recommended Max Temperature	Constant 80°C Intermittent 100°C



Installation



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, use a spirit level to ensure the Flap Valve is level.
3. Remove the Flap Valve and drill holes where marked using a suitable hammer drill. Use the correct size drill bit as indicated in table 1. Ensure the hole depth is consistent with the requirements indicated in table 1.
4. Dust and debris must be cleaned from all drilled holes and the wall surface.
5. Carefully insert the resin capsules into the drilled holes.
6. Attach the threaded rod into the chuck of a suitable hammer drill, drive the threaded rod into the capsule until it reaches the bottom of the hole.
7. Detach the drill from the threaded rod and remove excess residue from around the hole. Leave the resin to cure, curing time is indicated in table 2.
- 8/9. Offer the Flap Valve over the threaded rods, tighten the supplied washers and nuts to the recommended torque as given in table 1.

Table 2: Resin Capsule Cure Time

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

Table 1: Wall Mounting Kit Installation Requirements

Bolt Size	Drill Bit Required	Drilled Depth	Recommended Tightening Torque
M8	10mm	80mm	4Nm
M12	14mm	100mm	8Nm

*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.

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.

Fernco Flap Valves hold WRc Approved™ status. The WRc Approved™ scheme is recognised and established within the construction industry; providing suppliers, buyers and end-users confidence that the products are fit for purpose. The scheme reduces risks in procurement by ensuring quality, performance and installation processes have been tested with the most stringent of requirements, in conformance with BS7775 and Class 5 of DIN16569-4.



Fernco offers a range of Flap Valves designed to provide a robust and reliable solution for preventing backflow flooding that carry the assurance of WRc approval.

Environment

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

Supply

Fernco are proud members of the Builders Merchants Federation (BMF). All Fernco products are supplied through a national and global network of distribution and merchant partners. For stockist details, contact Fernco.

Technical Support

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

Contact Fernco Technical Department:

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Email: technical@fernco.co.uk

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PROJECT SUPPORT

Need help with the specification or have an ongoing project?

Send your enquiries to projects@fernco.co.uk and our dedicated team will help you with your application.

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