



NON-RETURN & FLAP VALVES



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FLAP VALVES

The principal applications for flap valves are for surface water drainage associated with river, estuary and sea water outfalls to prevent backflow into the sewer and for final effluent outfalls from wastewater treatment works to prevent flood damage within the works.

NON-RETURN VALVES

Non-return valves or backwater valves are used within sewerage and drainage systems to eliminate the risk of flood damage by the backflow of sewage or flood water into properties through low level entries such as low level drain gullies, toilets and washing machine outlets. The Environment Agency in their publication on damage limitation for properties at risk from flooding and the Government guidance note "Preparing for Floods" both recommend the installation of non-return valves (anti-flooding devices) on all such drains and sewers.

The Building Regulations 2000, Approved Document H, recommends the installation of non-return valves on drains from basements in low risk areas and on all drains in areas with a high risk of flooding or sewer surcharge.

These valves are also used in commercial and industrial applications where non-pressure flow control is required (e.g. fish farming).

MATERIALS

FLAP VALVES

- | | |
|-------------|---|
| Body & Flap | - Glass reinforced plastic using a isophtalic polyester resin with surface isophtalic gel coat |
| Hinge | - Self lubricating Ertacetal plastic |
| Seal | - Ethylene Propylene Diene Monomer (EPDM) to BS EN 681-1
Optional nitrile (NBR) seal available |
| Fittings | - Grade 1.4401 (316) austenitic stainless steel to BS EN 10088-2 |



NON-RETURN VALVES

MISSION RANGE DN100 to DN300

- | | |
|-------------|--|
| Body & Flap | - PVCu |
| Seal | - Ethylene Propylene Diene Monomer (EPDM) to BS EN 681-1 |



MISSION COMMERCIAL RANGE DN250 to DN500

- | | |
|-------------|---|
| Body & Flap | - Glass reinforced plastic using a isophtalic polyester resin with surface isophtalic gel coat |
| Hinge | - Self lubricating Ertacetal plastic |
| Seal | - Ethylene Propylene Diene Monomer (EPDM) to BS EN 681-1
Optional nitrile (NBR) seal available |
| Fittings | - Grade 1.4401 (316) austenitic stainless steel to BS EN 10088-2 |



MISSION DOMESTIC RANGE DN100 to DN300

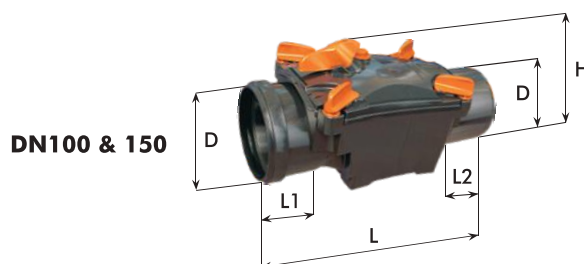
A range of PVCu non-return valves complying with the requirements of BS EN 13564 - 'Anti-flooding devices for buildings'. Sizes DN100 to DN200 are certified by the German Institute LGA.

These valves are watertight to a pressure of 0.5 bar (5m Head).

These valves have a spigot and socket with integral seal as standard for direct connection to solid walled PVCu pipe. They can be connected to other pipe material using Mission Rubber Flexible Couplings - contact our sales office for more information.

DOUBLE FLAP WITH LOCKING LEVER

Nominal Size	D	L1	L2	L	H	Reference
DN100	110	63	65	350	184	12R1148
DN150	160	82	83	491	226	12R1648



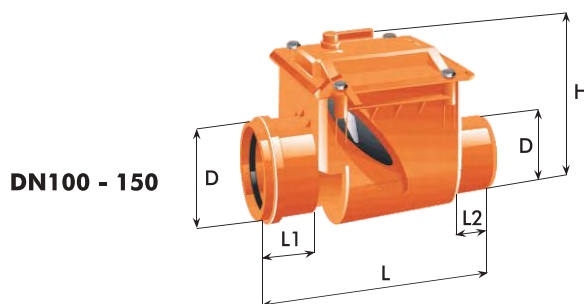
DN100 & 150



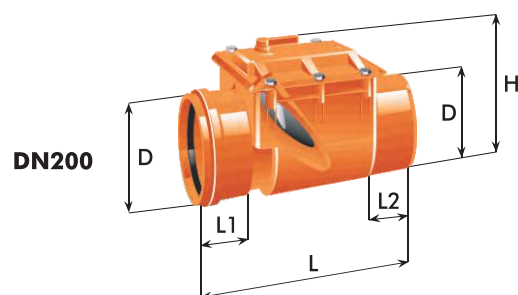
- **RECOMMENDED FOR FOUL**
- **RODENT RESISTANT AS STANDARD**
- **COMPLY WITH INTERNATIONAL STANDARDS FOR SEWAGE PIPE CONNECTIONS**

SINGLE FLAP WITH LOCKING LEVER

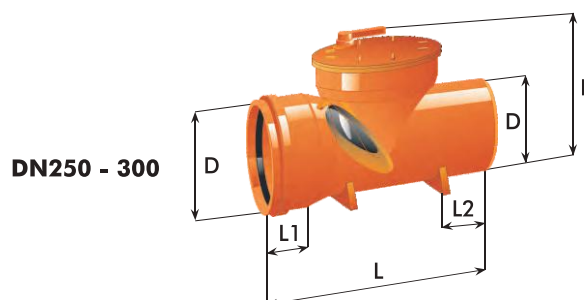
Nominal Size	D	L1	L2	L	H	Reference
DN100	110	61	61	307	230	1555551
DN100R	110	61	61	307	230	1555651
DN150	160	74	74	337	255	1551691
DN150R	160	74	74	337	255	1551791
DN200	200	86	100	451	300	1552091
DN250	250	102	130	520	374	1552591
DN300	315	115	165	620	445	1553091



DN100 - 150



DN200



DN250 - 300

R = Stainless Steel Flap
D = Outside Diameter Spigot

MISSION COMMERCIAL RANGE MULTI

DN250 to DN500

A range of GRP one-way flap valves designed for installation inside a pipe network using Mission Rubber Standard Couplings and Bushes.

ADVANTAGES

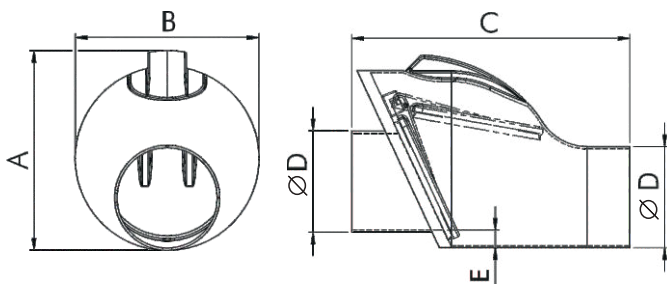
- Resistant to 1 bar (10m head) back pressure
- Low weight for ease of installation yet with high mechanical strength
- Resistant to all normal sewage effluents operating at normal temperatures (below 80° C) and not containing harmful industrial effluents.
- Seals at a low level of back pressure
- Easily connected to any type of pipe material by means of couplings (not included)
- Low maintenance



DN300 - DN500

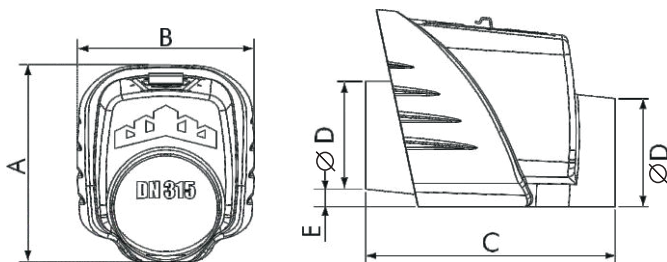
Note: Coupling required but dependent on size of pipework

DN250

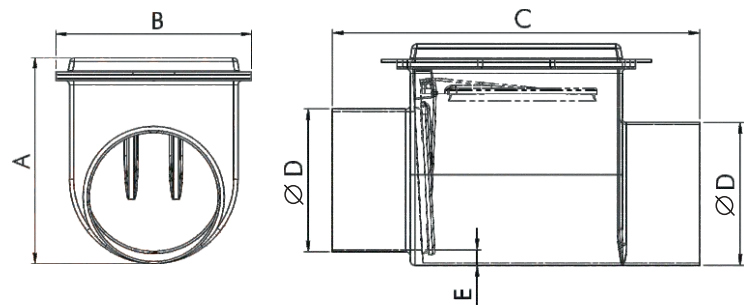


DN250

DN300 to DN400



DN500



REFERENCE	DN	A	B	C	D	E	Wgt(kg)
MULTI250	250	485	455	730	260	60	14
MULTI315	300	578	520	735	324	33	16
MULTI400	400	592	615	897	410	35	26
MULTI500	500	700	710	1245	515	55	43

MULTI - N DN200 to DN600

A range of flap valves designed for direct connection to any type of drain or sewer pipe using Mission Rubber Standard Couplings and Bushes

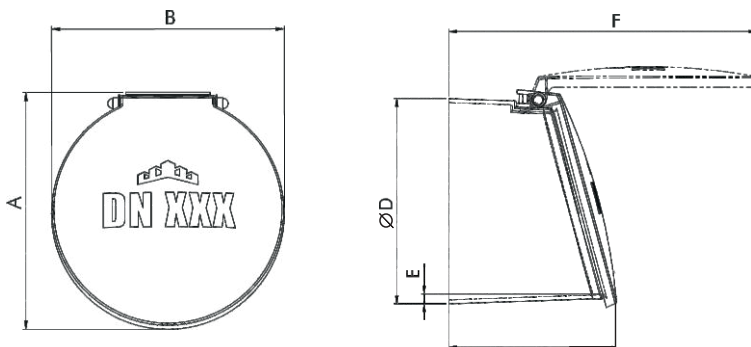
ADVANTAGES

- Eliminates need for concrete headwall or pipe flange for fixing e.g. can be connected to the spigot of an outfall pipe passing through gabions
- No drilling required
- Fast and easy installation
- Designed to fit onto any kind of pipe work



Note: Coupling required but dependent on size of pipework

REFERENCE	DN	A	B	C	D	E	F	Wgt(kg)
MULTI200N	200	224	216	205	202	11	345	1.2
MULTI250N	250	284	280	218	263	12	399	1.9
MULTI315N	300	335	332	269	318	15	480	3.0
MULTI400N	400	420	417	291	405	16	570	5.5
MULTI500N	500	528	522	316	506	17	678	9.0
MULTI600N	600	659	655	352	638	18	808	13.5



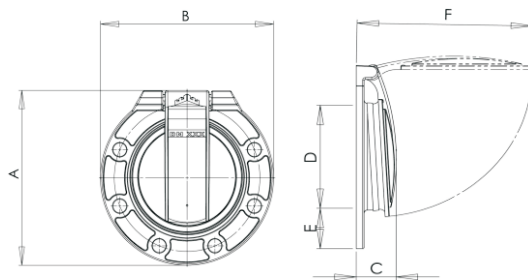
ECOFLAP B

DN100, DN150, DN200

A range similar to the MULTI - BD range but made from recycled [glass reinforced polyamide](#).

ADVANTAGES

- Very [economic](#) flap valve
- Lightweight for fast and easy installation
- No need for cement grout when fixing to a headwall
- Resistant to 1 bar (10m head)



REFERENCE	DN	A	B	C	D	E	F	Wgt(kg)
EF100B	100	225	220	45	110	55	188	0.4
EF150B	150	285	285	55	160	63	244	0.6
EF200B	200	342	342	65	200	75	296	0.9



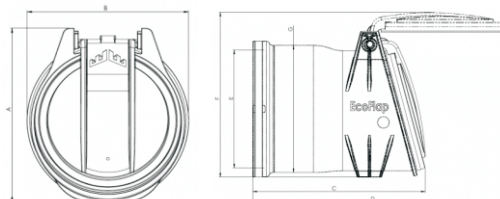
ECOFLAP N new

DN100, DN150, DN200

A range of socketed end of line flap valves [to connect directly to PVCu drainage pipes](#) made from [glass reinforced polyamide](#).

ADVANTAGES

- Very [economic](#) flap valve
- [Socket collar can be removed](#) to connect to any other pipe material (other than PVCu) when using a Mission Flexible Coupling
- Lightweight for fast and easy installation
- Resistant to 1 bar (10m head)



REFERENCE	DN	A	B	C	D	E	F	G	Wgt(kg)
EF100N	100	125	116	149	216	110	141	109	0.3
EF150N	150	178	176	192	299	160	200	169	0.6
EF200N	200	221	220	229	365	200	250	211	1.0



MULTI - NB

DN200 to DN1500

A range of medium diameter flap valves with an inclined flap and PN 10 flange. Integral EPDM rubber sealing rings for sealing to concrete headwall.

ADVANTAGES

- Lightweight for fast and easy installation
- Inclined flap for additional security against backflow
- No need for cement grout when fixing to headwall
- Hinged design ensures flap closure when no discharge
- Resistant to 1 bar (10m head)

REFERENCE	DN	A	B	C	D	E	F	Wgt(kg)
MULTI200NB	200	343	343	147	180	81	285	1.6
MULTI250NB	250	395	395	161	245	78	339	2.0
MULTI315NB	300	448	448	185	290	80	400	3.7
MULTI400NB	400	570	570	210	375	99	478	6.5
MULTI500NB	500	676	676	240	469	102	589	9.7
MULTI600NB	600	788	788	275	593	93	717	14.3
MULTI700NB	700	1003	935	450	700	120	1030	46.0
MULTI800NB	800	1125	1035	523	800	120	1440	53.0
MULTI1000NB	1000	1330	1264	520	1013	110	1400	80.0
MULTI1200NB	1200	1525	1440	690	1200	130	1620	115.0
MULTI1400NB	1400	1770	1640	800	1400	120	1840	160.0
MULTI1500NB	1500	1860	1740	855	1500	120	1980	180.0

DN200 - 600



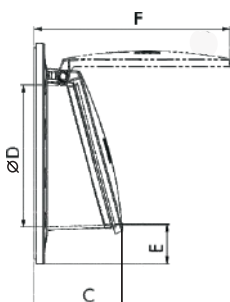
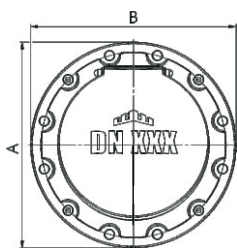
DN700,800,1200 - 1500



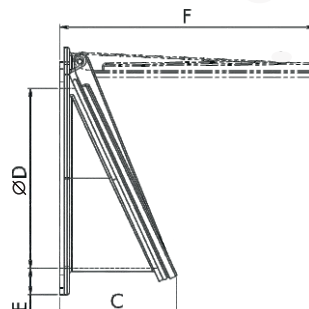
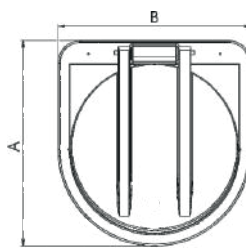
DN1000



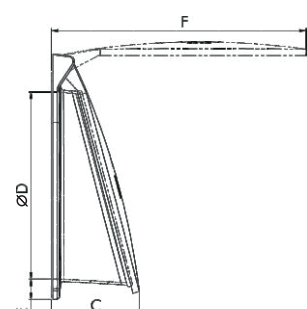
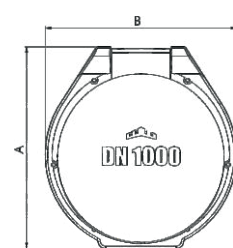
DN200 - DN600



DN700,800,1200 - DN1500



DN1000



FLAP VALVE TECHNICAL DATA

REFERENCE	PCD	HOLES	
		Number	Diameter (mm)
MULTI200NB	295	4	Ø10
MULTI250NB	350	4	Ø10
MULTI315NB	400	4	Ø10
MULTI400NB	515	4	Ø10
MULTI500NB	620	4	Ø10
MULTI600NB	725	4	Ø10
MULTI700NB	820	6	Ø10
MULTI800NB	915	6	Ø10
MULTI1000NB	1160	6	Ø21
MULTI1200NB	1320	6	Ø15
MULTI1400NB	1515	7	Ø15
MULTI1500NB	1615	7	Ø15

NOTE:

PCD = PITCH CIRCLE DIAMETER OF THE BOLT HOLES

Flanges drilled to BS EN 1092 PN 10 pitch circle diameter as standard except those marked in **blue**.

Standard bolt holes in the flanges are not drilled to BS EN 1092 diameters (see table) but can be supplied to special order.

GENERAL LOCATIONS

Flap valves should be fixed so as to avoid the accumulation of debris around the invert which could prevent the valve operating correctly.

TIDAL LOCATIONS

Turbulence of flow due to severe wave action will shorten the working life of a flap valve. Therefore it is recommended that careful consideration is given to the positioning of valves and they are installed within an outfall bay or otherwise protected from direct wave action by baffles.

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