

Flap Valves, Stop Logs & Handstops



Business Philosophy

- Integrity in management
- Quality of product

HISTORY

HAM BAKER is a name most professionals in the water and wastewater industries will instinctively associate with high quality precision-engineered products. Established over 100 years ago the original company has undergone many changes over the last century and more recently changes of ownership.

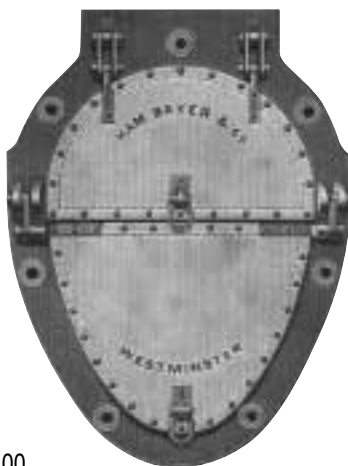
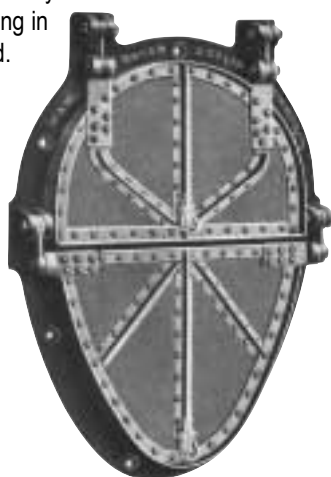
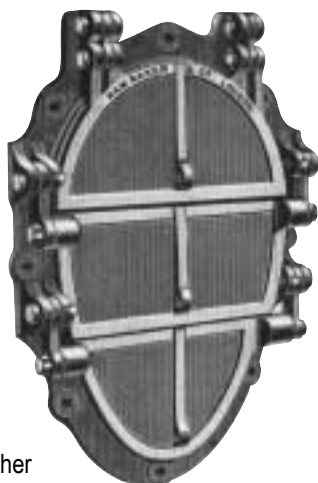
The company is acknowledged as the world's leading designer and manufacturer of penstocks and flap valves. Penstocks and other fluid control products manufactured by Ham Baker can be found operating in almost every country in the world.

The history of the company began in 1884 as a partnership between Frederick Ham, William Baker and Claude Sansom in London and began manufacturing penstocks in 1886, trading under the name of Ham Baker & Company Ltd. In 1902, Hartleys (Stoke-on-Trent) Ltd was founded as a family owned business in Stoke-on-Trent by William Hartley, who gained his early engineering training in the locomotive industry. Initially the company manufactured general engineering items and began specialising in the manufacture of equipment for the water and wastewater industries in 1904.

The two companies merged in 1998 to create a product range unrivalled throughout the world.

In 2002 the company was acquired by the WTB Group of Bristol and continues its proud 100 year history as a leading innovator in the fields of water and wastewater engineering.

The company now produces a range of products in cast iron, ductile iron, stainless steel and plastic to deal with every aspect of fluid control.



15 Reasons Why customers choose Ham Baker Hartley

1. Reputation

We hold an esteemed reputation globally, for well engineered, high quality equipment.

2. Service

Unsurpassed in service, our team of professionals will help you to find the most effective solution. All our personnel have e-mail contactability, even whilst away from the office. The business world is moving faster exponentially, and we aim always, to move with it.

3. People

We pride ourselves on building long-term, strong relationships with both suppliers and customers to enable us to better understand and meet customer needs.

4. Range

Unique size range with manufacturing capability up to 3m square flap valves.

5. Quality

Our products exceed the requirements of British, and American Waterworks Association, Standards and, indeed, exceed the quality of most of our competitors. All products are manufactured under a BS EN ISO 9001:2000 certified quality assurance system.

6. Delivery

No other company delivers any faster than us. Spares and Fastrack products are often delivered within hours.

7. Flexibility

One of the very few companies who cater for non-standard requirements. "You draw it... we'll build it".

8. Partnerships: Experienced in Framework Arrangements

We have worked with and continue to work with a number of Water and Sewage Companies in the UK who are committed to value for money when using Ham Baker Hartley. A sign of value for money and peace of mind.

9. One Stop Shop

Recognised as the only 'one-stop shop' in flap valves. Design, proposals, specification, supply, fix, repair, spares, aftercare, consultation. Why diversify your time, or multiply the risks with several suppliers, when you can have all the contacts under one roof?

10. Peace of Mind

Readily available library of technical information, built up over 100 years, gives you peace of mind regarding design and maintenance. We have flap valves still in practical working order after over 90 years of continuous service.

11. Brand Name

Ham Baker and Hartley are household names of stability, in the water treatment business. Most of our competition is unknown to the end user.

12. Continued Innovation

We are at the leading edge of design and development.

13. Unique

Coplastix flap valves are the most cost effective flap valves available. Designed and built only by Ham Baker Hartley. More cost effective (i.e. lower cost of ownership) than stainless steel or cast iron.

14. Retro Engineering

Designs are on file from over 60 years ago, to enable parts to be re-engineered, to service older flap valves, meaning lower cost of manufacture, with exact specification.

15. Price

Our products are competitively priced and represent excellent over life-time value for money, when considering all aspects of ownership; cost, installation, maintenance, and long-term performance.



Flap Valves, Stop Logs & Handstops

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Registration number 15751

Flap Valves - General

The primary application of flap valves is for surface water drainage associated with rivers, estuaries and sea water outfalls to prevent reverse flow conditions. Flap valves can be utilised on final effluent outfalls for sewage treatment plant to prevent flood damage within the works.

The flap valves should be positioned on the outfall structure to avoid the build-up of debris around the invert area which could prevent the valve operating correctly. Sufficient fall-away should be provided between the invert of the flap valve and the base of the outfall structure.

Flap valves are designed for all types of pipe end closures to prevent entrance of back water. These valves are supplied in various configurations to fit most installation needs. An inclined seating plane is used to ensure that the valve will operate a 'positive close' position.

Flap valve application on sea water outfalls should be given careful consideration due to turbulence of flow across the flap, particularly when severe wave action is involved, resulting in dislocation of the flap relative to its seals. Wherever possible the flap valve should be located in a shielded position to minimise the effects of severe wave action.

Ham Baker Hartley manufactures a comprehensive range of flap valves. Generally, most flap valves are of single door type but double door types are also available. The cast iron series of flap valves is constructed from traditional materials utilising the most modern production techniques to provide a robust and reliable product. Flap valves can be supplied for wall, flange or thimble mounting applications.

FEATURES AND BENEFITS

The traditional material for flap valves is cast iron with its proven reputation for strength and durability. Ham Baker Hartley however, offer a range of materials each with their own features and benefits in addition to their range of cast iron flap valves.

FLAP VALVES

Circular Cast Iron

- 80 to 2000mm diameter
- Metal to metal seals for durability and low leakage rates
- Robust construction for durability
- Wall or pipe mounted
- Double door flap valves available for reduced head loss
- Integral cast lifting lugs as standard
- Seals resistant to erosion by grit
- Double hung to ensure full face sealing

Rectangular Cast Iron

- 400 to 2000mm square
- Metal to metal seals for durability and low leakage rates
- Robust construction for durability
- Wall or pipe mounted
- Double door flap valves available for reduced head loss
- Integral cast lifting lugs as standard
- Seals resistant to erosion by grit
- Double hung to ensure full face sealing

Circular Coplastix®

- 100 to 600mm diameter
- Low cost
- Flush face helps prevent debris build-up
- Resilient seating with low head loss
- Corrosion resistant
- Low operating (cracking) head due to light weight
- Wall or flange mounted
- 100 and 150mm diameter totally maintenance free - no moving parts
- Reduced maintenance

Rectangular Coplastix®

- 400 to 2000mm square
- Low cost
- Flush face helps prevent debris build-up
- Custom built to suit project requirements
- Corrosion resistant
- Low operating (cracking) head due to light weight
- Double hung to ensure full face sealing
- Replaceable mechanically fixed seals
- Reduced maintenance

Flexible

- Up to 1500mm square
- No maintenance required
- Suitable for direct wave action
- Corrosion resistant
- Hinge forms integral part of door

Stainless Steel

- 400 to 2000mm square
- Corrosion resistant - available in a range of stainless steels
- Custom built to suit project requirements
- Double hung to ensure full face sealing
- Low operating (cracking) head due to light weight
- Reduced maintenance

STOPLOGS

Aluminium

- Stainless steel frame as standard
- Corrosion resistant
- Lightweight construction
- Manual lifting for Standard Range by lifting pole
- Low friction seating arrangement
- Semi-Automatic lifting beam available
- Replaceable mechanically fixed seals
- Suitable for both on and off seat pressure

Coplastix®

- Stainless steel frame as standard
- Corrosion resistant
- Manual lifting for Standard Range by lifting pole
- Low friction seating arrangement
- Semi-Automatic lifting beam available
- Replaceable mechanically fixed seals
- Suitable for both on and off seat pressure

HANDSTOPS

- Stainless steel frames as standard
- Corrosion resistant
- Lightweight construction
- Low maintenance
- Custom built
- Low friction seating arrangement

Cast Iron Flap Valves

CIRCULAR FLAP VALVE

This range of flap valves has a circular aperture, single door and double hinges. For flap valves up to 600mm dia the sealing faces are of angular section and secured to the frame and door by a force fit. For sizes above 700 to 2000mm dia the sealing faces are of rectangular section and are secured to the frame and door using countersunk taper headed screws in the same material as the sealing face. The flap valve is suitable for mounting on a vertical wall or flange for static seating heads up to 6 metres.

OPTIONS

- Fixing Bolts can be supplied on request

Flange Mounting

Flap valves for flange mounting applications are generally supplied with connections to BS EN 1092-2 : 1997 PN16 rated flanges as standard. Due to the low operating duty only a proportion of the specified full number of holes is used for fixing the flap valve.

Certain sizes are supplied with alternative drillings as standard. (See table on page 6).

Note: It is recommended that at least 300mm fall away is provided at the invert to prevent fouling of the bottom of the door.

MATERIAL SPECIFICATION

Frame

Constructed in BS EN 1561 min. 250 cast iron designed for wall, thimble or pipe mounting applications.

Door

Constructed in BS EN 1561 min. 250 cast iron designed to withstand static seating heads up to 6 metres.

Sealing Faces

Copper alloy sealing faces to BS EN 1982 : 1999 are supplied as the standard material for ranges up to 600mm dia and for the ranges 700 to 2000mm dia phosphor bronze to BS EN 12167 : 1998. Sealing faces are set to 0.1mm feeler gauge non-acceptance to provide an effective seal.

Hinge Links

Manufactured in Spheroidal Graphite cast iron.



Fasteners

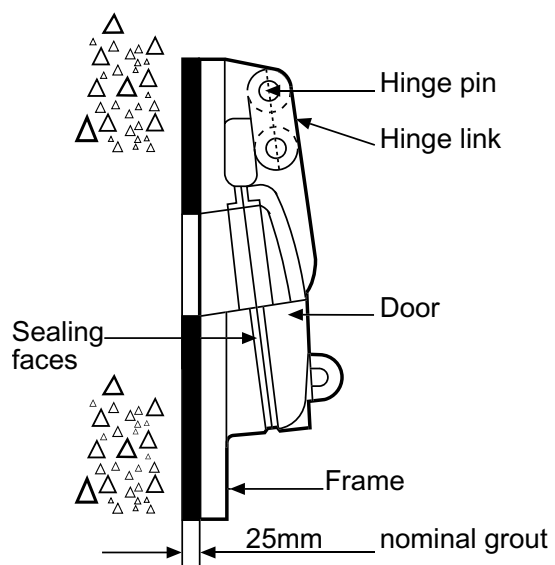
Standard fasteners are supplied in stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Hinge Pins

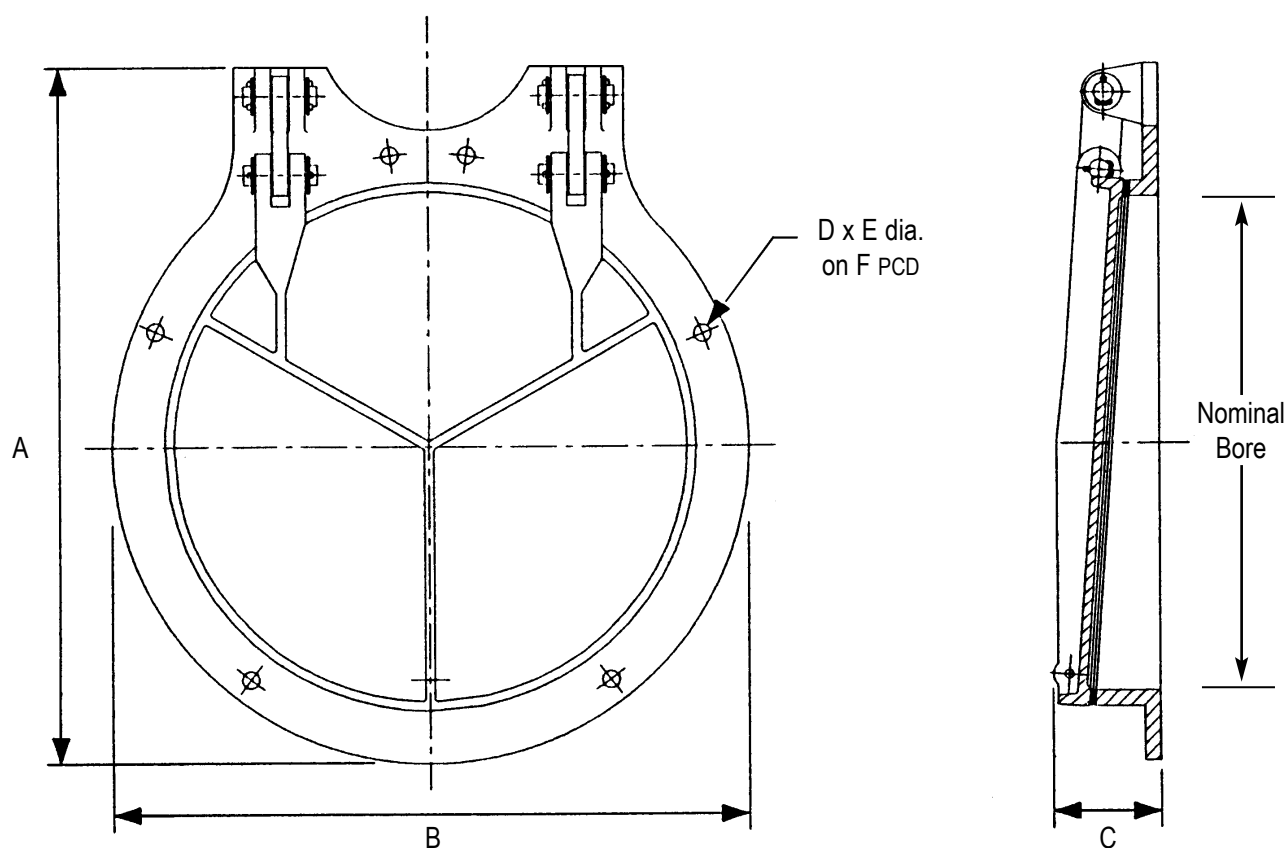
Manufactured from stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Tidal and Sea Water applications

See Technical Details page 21.



HALF SECTION AND HALF ELEVATION
THROUGH CIRCULAR FLAP VALVE



NOMINAL BORE	A	B	C	D	E	F	BOLT DIAMETER	ASSEMBLY WEIGHT (kg)
DIMENSIONS IN MILLIMETRES								
80	255	200	100	4	18	160	M16	7
100	275	220	100	4	18	180	M16	8
150	343	285	100	4	18	240	M16	12
200	404	340	125	4	18	295	M16	21
(1) 225 (9")	443	370	120	4	18	325	M16	27
250	485	400	120	4	18	355	M16	34
300	538	455	125	4	24	410	M20	39
350	635	520	160	4	24	470	M20	50
(1) 375 (15")	651	552	160	4	24	495	M20	60
400	691	580	165	4	24	525	M20	67
450	750	640	165	4	24	585	M20	87
500	808	715	140	4	24	650	M20	110
600	950	840	170	4	28	770	M24	165
700	1025	910	175	6	28	840	M24	191
(1) 750 (30")	1093	995	170	6	28	925	M24	198
800	1128	1025	175	6	28	950	M24	205
900	1289	1175	210	6	28	1050	M24	315
1000	1372	1260	220	6	28	1170	M24	363
(1) 1100 (42")	1473	1360	230	6	28	1251	M24	427
1200	1624	1485	270	8	28	1390	M24	531
1400	1828	1675	265	8	28	1590	M24	768
(2) 1500 (60")	1949	1820	270	8	28	1710	M24	942
1600	2055	1930	280	8	28	1820	M24	1071
1800	2252	2130	315	8	28	2020	M24	1176
2000	2487	2400	370	10	28	2230	M24	1554

(1) Note: Drilling to BS10 Table 'D'

(2) Note: Ham Baker Hartley standard drilling; consult Technical Department for details



RECTANGULAR FLAP VALVE

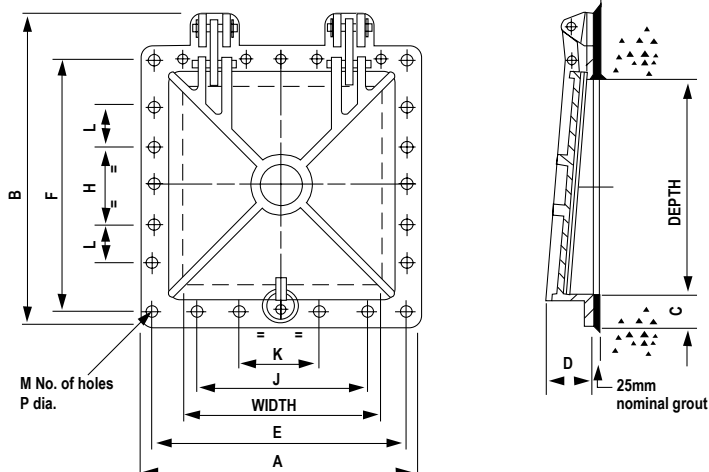
This range of flap valves have a square/rectangular aperture, single door and double hinges. The sealing faces are secured on the frame and door with long taper countersunk pegs of the same material as the sealing faces. The flap valve is suitable for mounting on a vertical wall or thimble for seating heads up to 6 metres.

Note: It is recommended that at least 300mm fall away is provided at the invert to prevent fouling of the bottom of the door.

OPTIONS

- Fixing Bolts can be supplied on request

STANDARD RECTANGULAR FLAP VALVE



MATERIAL SPECIFICATION

Frame

Constructed in BS EN 1561 min. 250 cast iron designed for wall or thimble mounting applications.

Door

Constructed in BS EN 1561 min. 250 cast iron designed to withstand seating heads up to 6 metres.

Sealing Faces

Phosphor bronze sealing faces to BS EN 12167 : 1998 are supplied as the standard material. Sealing faces are set to 0.1mm feeler gauge non-acceptance to provide an effective seal.

Hinge Links

Manufactured from mild steel to BS 4360 Grade 43A.

Fasteners

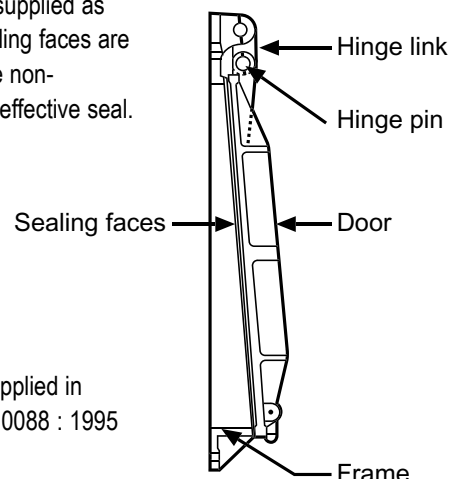
Standard fasteners are supplied in stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Hinge pins

Manufactured from stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Tidal and Sea Water applications

See Technical Details page 21.



NOMINAL OPENING WIDTH x DEPTH	A	B	C	D	E	F	G	H	J	K	L	M	P	BOLT DIA.
DIMENSIONS IN MILLIMETRES														
300 x 300	510	630	100	150	460	460	25	-	-	-	-	4	22	M20
450 x 450	610	700	80	200	560	560	25	-	-	-	-	4	22	M20
600 x 600	760	935	80	173	710	710	25	-	-	-	-	4	22	M20
750 x 750	1015	1110	125	220	915	915	50	-	-	-	-	8	22	M20
900 x 900	1170	1320	125	200	1070	1070	50	-	-	-	-	8	22	M20
1000 x 1000	1260	1430	130	240	1160	1160	50	-	-	-	-	8	26	M24
1200 x 1200	1470	1650	135	240	1370	1370	50	-	-	-	-	8	26	M24
1400 x 1400	1760	1910	180	280	1660	1660	50	1220	1220	-	-	12	26	M24
1500 x 1500	1880	2030	180	290	1790	1790	50	1220	1220	-	-	12	26	M24
1600 x 1600	1960	2110	180	320	1860	1860	50	1300	1300	-	-	12	26	M24
1800 x 1800	2160	2335	180	330	2060	2060	50	1500	1500	-	-	12	26	M24
2000 x 2000	2400	2610	200	410	2300	2300	50	640	1700	500	640	16	26	M24
2100 x 2100	2500	2710	200	410	2400	2400	50	670	1800	600	675	16	26	M24
2000 x 1000	2300	1470	150	316	2200	1200	50	1200	700	-	-	12	26	M24
2400 x 1200	2660	1740	130	310	2560	1360	50	1360	854	-	-	12	26	M24
3000 x 1500	3280	2055	140	345	3180	1680	50	500	2480	830	500	16	26	M24

Note: For larger sizes please consult our Technical Department



CIRCULAR & RECTANGULAR DOUBLE DOOR FLAP VALVES

This range of flap valves has a circular or square/rectangular aperture.

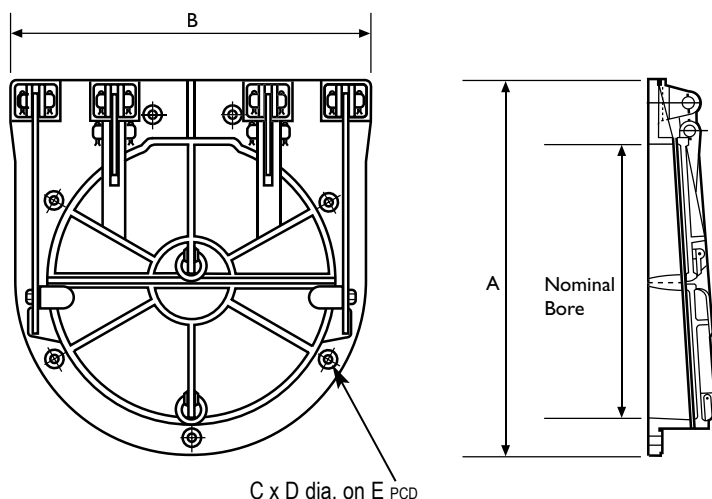
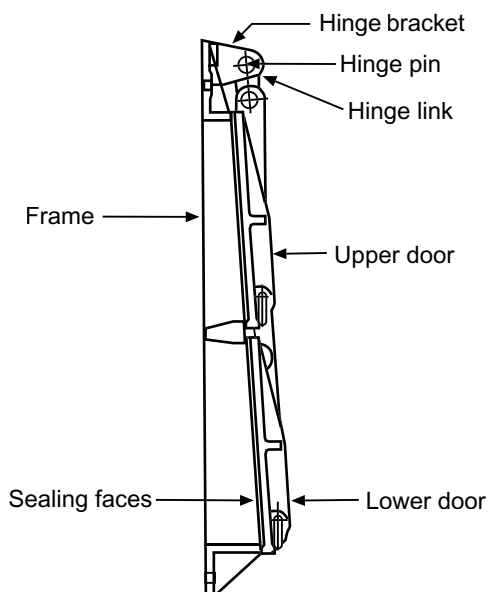
The sealing faces are secured to the frame and doors with long taper countersunk pegs of the same material as the sealing faces. The frame/door connection is by hinge links and hinge pins. The double door flap valve offers a reduction in head loss when compared to the single door version of the same size. The flap valve is suitable for mounting on a vertical wall or thimble for seating heads up to 6 metres.

OPTIONS

- Fixing Bolts can be supplied on request

Note: It is recommended that at least 300mm fall away is provided at the invert to prevent fouling of the bottom of the door.

SECTION THROUGH FLAP VALVE



Circular Double Door, Double Hung Flap Valve

MATERIAL SPECIFICATION

Frame

Constructed in BS EN 1561 min. 250 cast iron designed for wall or thimble mounting applications.

Door

Constructed in BS EN 1561 min. 250 cast iron designed to withstand seating heads up to 6 metres.

Sealing Faces

Phosphor bronze sealing faces to BS EN 12167 : 1998 are supplied as the standard material. Sealing faces are set to 0.1mm feeler gauge non-acceptance to provide an effective seal.

Hinge Links

Manufactured from mild steel to BS 4360 Grade 43A.

Hinge Brackets

Constructed in BS EN 1561 min. 250 cast iron.

Hinge Pins

Manufactured from stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Fasteners

Standard fasteners are supplied in stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Tidal and Sea Water applications

See Technical Details page 21.

NOMINAL	Fig. No.	A	B	C	D	E	BOLT DIA.
DIMENSIONS IN MILLIMETRES							
600	1	920	840	8	26	770	M24
700	2	1005	910	8	26	840	M24
750	2	1065	970	8	26	895	M24
900	3	1300	1125	8	26	1050	M24
1000	3	1390	1255	8	26	1170	M24
1200	3	1645	1485	8	26	1390	M24
1400	4	1870	1740	8	26	1620	M24
1500	2	1970	1840	8	26	1720	M24
1800	4	2270	2140	8	26	2020	M24



Fixing Points for Circular Double Door, Double Hung Flap Valve

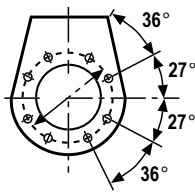


FIG. 1

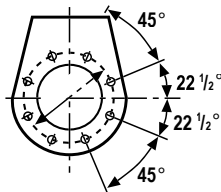


FIG. 2

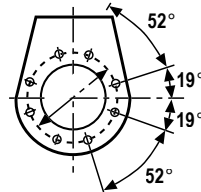


FIG. 3

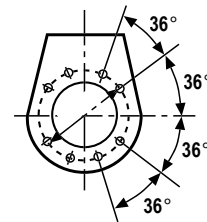
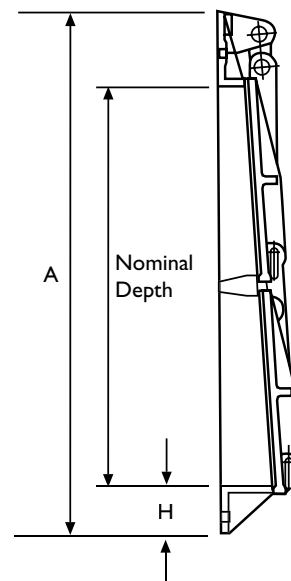
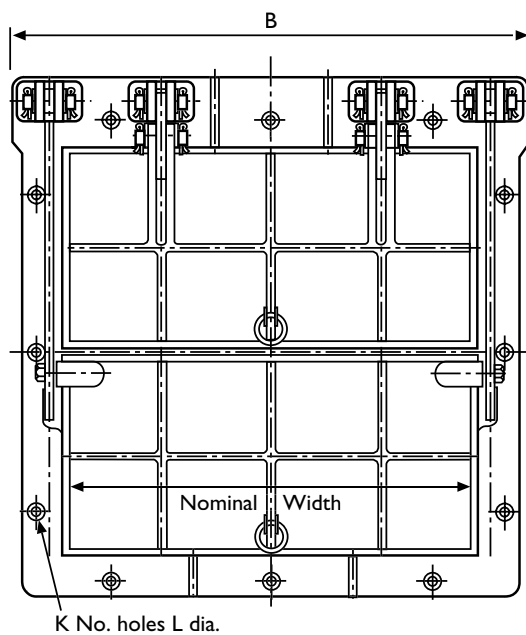


FIG. 4



Rectangular Double Door, Double Hung Flap Valve

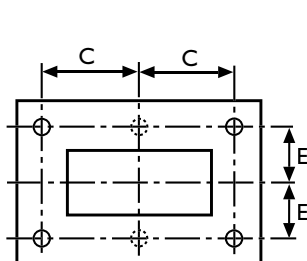


FIG. 5

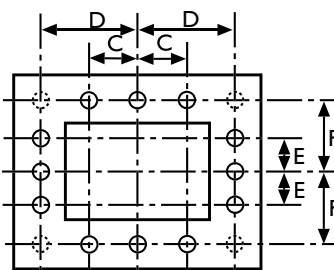


FIG. 6

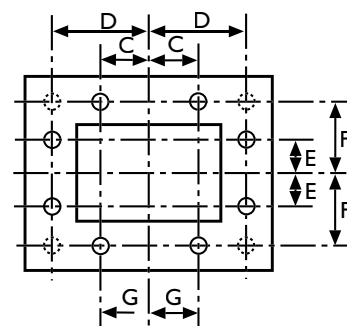


FIG. 7

NOMINAL OPENING WIDTH & DEPTH	Fig. No.	A	B	C	D	E	F	G	H	K	L	BOLT DIA.
DIMENSIONS IN MILLIMETRES												
600 x 600	5	940	889	387	-	375	-	-	114	6	22	M20
900 x 900	6	1295	1257	406	584	356	533	-	127	10	26	M24
1200 x 1200	6	1665	1530	475	715	400	715	-	165	10	26	M24
1350 x 1350	6	1842	1791	559	800	406	787	-	165	10	26	M24
1500 x 1500	6	1981	1930	610	890	445	890	-	178	10	26	M24
1800 x 1800	7	2286	2248	781	1035	521	1041	787	178	12	26	M24
2100 x 1500	7	1925	2470	300	1185	300	875	450	175	12	26	M24
2400 x 1500	7	1925	2770	300	1335	300	875	450	175	12	26	M24

Coplastix® Flap Valves

DESCRIPTION

Coplastix® flap valves are designed and manufactured for use in modern industrial and domestic effluent environments and for protected river and sea outfalls with gravity flows. Utilisation of the latest synthetic material combined with the strength of stainless steel provides a range of flap valves having high strength and rigidity but which are very sensitive to small differential heads. Rectangular flap valves are available in sizes 450mm sq. up to 2000mm sq. as standard. Larger and smaller sizes are available to suit individual requirements.

Circular flap valves are available in sizes 100mm bore to 600mm bore only.

Note: It is recommended that at least 300mm fall away is provided at the invert to prevent fouling of the bottom of the door.

CIRCULAR FLAP VALVE 'UNIFLAP' (Patented)

Standard Size Range

100mm and 150mm nominal bore.

Pressure Rating

5.0 metres seating, static head.



MATERIAL SPECIFICATION

Frames and Doors

Manufactured from rigid pvc and moulded integrally. Suitable for mounting on a vertical wall or PN10/16 flange.

Door Seals

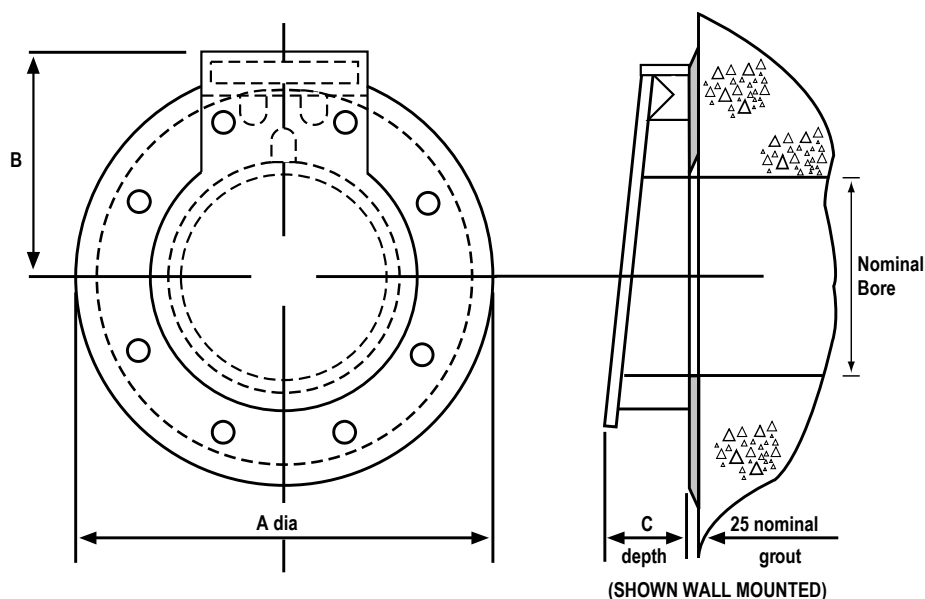
Incorporated within the frame and door mouldings.

Fixing Bolts

Can be supplied on request.
(4 No. supplied as standard).

Tidal and Sea Water applications

See Technical Details page 21.



NOMINAL BORE	A DIA.	B	C DEPTH	No. OF (1) 14 DIA. HOLES	P.C.D.
DIMENSIONS IN MILLIMETRES					
100	220	110	65	8	180
150	285	146	70	8	240

(1) Note: 4 No. bolts supplied as standard



CIRCULAR FLAP VALVE

Standard Size Range

200mm to 600mm nominal bore.

Pressure Rating

Flap valves as manufactured above are suitable for static pressures up to 5 metres above invert and can be used in sewage, potable water, rivers, estuaries etc. All flap valves are designed to suit individual requirements.

These flap valves are not suitable for locations subject to direct pumping duties with sudden maximum flow and shut-off characteristics.

Mounting

Standard fixing arrangements are:-

- Wall mounting.
- Flange fixing to BS EN 1092-2 : 1997 PN 16 rated flanges.

Note: It is recommended that at least 300mm fall away is provided at the invert to prevent fouling of the bottom of the door.

MATERIAL SPECIFICATION

Frames and Doors

Manufactured from rigid plastic (pvc) with neoprene closed cell resilient seal fixed to door.

Hinge Lugs

Manufactured from rigid plastic (pvc) and bolted to both frame and door.

Hinge Pins

Manufactured from stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Fixing Bolts

Can be supplied on request.

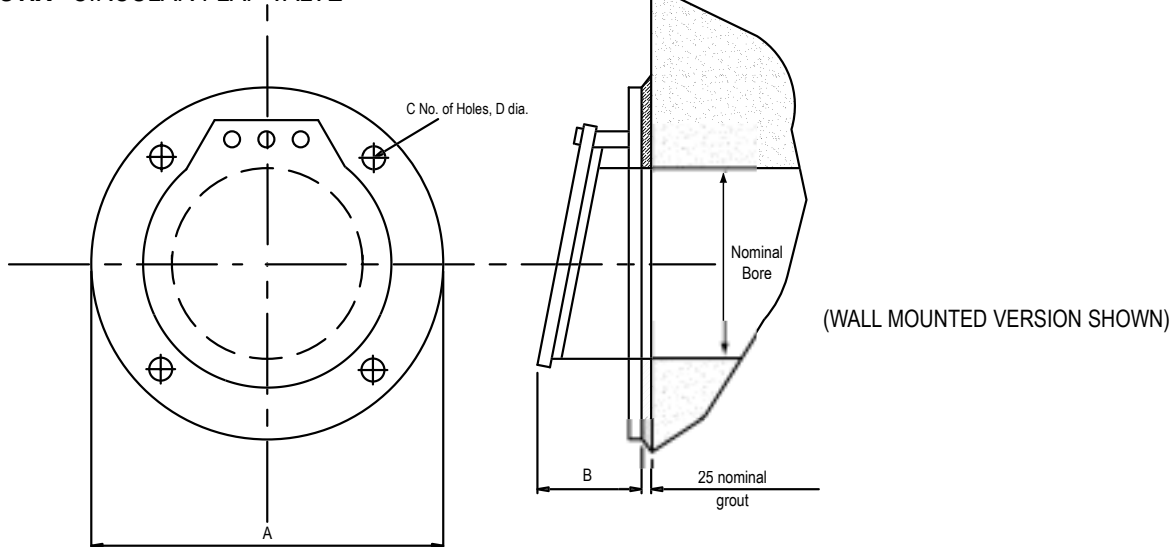
Fasteners

Standard fasteners are supplied to BS EN 10088 : 1995 grade 1.4401 (316).

Tidal and Sea Water applications

See Technical Details page 21.

COPLASTIX® CIRCULAR FLAP VALVE



NOMINAL BORE	A	B	FOR WALL MOUNTING				FOR PIPE MOUNTING			
			C	D	P.C.D.	BOLT DIA.	C	D	P.C.D.	BOLT DIA.
DIMENSIONS IN MILLIMETRES										
198	340	115	4	4	295	M16	6	6	295	M16
227	368	118	4	4	324	M16	4	18	324	M16
253	400	121	4	6	355	M16	6	18	355	M16
301	455	126	4	6	410	M20	6	18	410	M16
338	520	130	4	6	470	M20	8	22	470	M20
386	580	135	4	6	525	M20	8	22	525	M20
435	640	140	4	6	585	M20	8	22	585	M24
484	715	145	4	6	650	M20	8	22	650	M24
580	840	156	4	6	770	M24	8	26	770	M24

1. All holes positioned off vertical centres except 400 NB. This is drilled on centre for wall mounting.



RECTANGULAR FLAP VALVE

Standard Size Range

400mm square up to 2000mm square or any rectangular size within these limitations. Larger sizes can be accommodated depending on pressure and duty.

Pressure Rating

Flap valves as manufactured above are suitable for static pressures up to 5 metres above invert and can be used in sewage, potable water, rivers, estuaries etc. All flap valves are designed to suit individual requirements.

These flap valves are not suitable for locations subject to direct pumping duties with sudden maximum flow and shut-off characteristics.

Mounting

Standard fixing arrangement is wall fixing onto a flat vertical wall.

Note: It is recommended that at least 300mm fall away is provided at the invert to prevent fouling of the bottom of the door.

MATERIAL SPECIFICATION

Frames

Top, bottom and side pressed members produce a sloping surface which will guarantee closure in balanced or dry conditions.

Frames are manufactured from stainless steel to BS EN 10088 : 1995 grades 1.4301 (304) or 1.4401 (316).

Doors

Manufactured as a composite sandwich construction comprising a lightweight, rigid, cellular core with a fully welded steel box section matrix between two outer skins of a rigid, compressed composite plastic. The latter is ultraviolet stabilised and non-toxic and all materials are internally chemically bonded and sealed.

Frame Seal

Is an EPDM (Ethylene Propylene Di Methyl) wiper type seal having an angled lip seal. EPDM is chosen for its greater resistance over neoprene to ultraviolet degradation. The seal is fixed with a corrosion resistant retaining strip and stainless steel fasteners.

Hinge Links

Manufactured from stainless steel to BS EN 10088 :1995 grade 1.4301 (304).

Hinge Pins

Manufactured from stainless steel to BS EN 10088 :1995 grade 1.4301 (304).

Fixing Bolts

Can be supplied on request.



Hinge Brackets

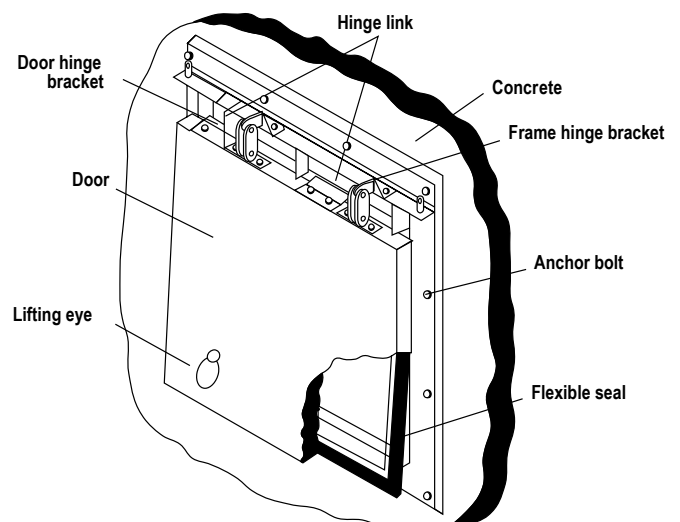
Manufactured from cast iron to BS EN 1561 as standard and fitted with sintered bronze bushes.

Fasteners

Standard fasteners are supplied in stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

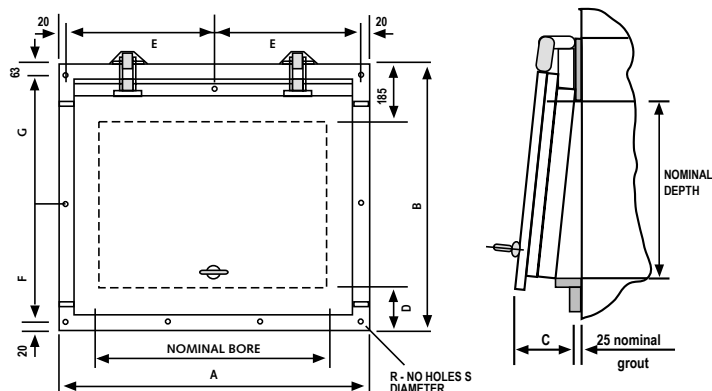
Tidal and Sea Water applications

See Technical Details page 21.



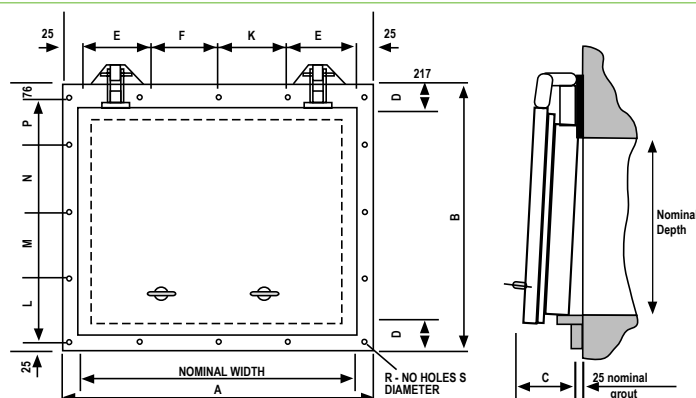


Standard Double Hung Flap Valves - Fig 1. Small range



NOMINAL OPENING WIDTH x DEPTH	A	B	C	D	E	F	G	R	S	BOLT DIA.
DIMENSIONS IN MILLIMETRES										
400 x 400	620	695	215	110	290	306	306	8	16	M12
450 x 450	670	745	215	110	315	331	331	8	16	M12
500 x 500	720	795	215	110	340	356	356	8	16	M12
550 x 550	770	845	215	110	365	381	381	8	16	M12
600 x 600	820	895	215	110	390	406	406	8	16	M12
650 x 650	870	945	215	110	415	431	431	8	16	M12
700 x 700	920	995	215	110	440	456	456	8	16	M12
750 x 750	970	1045	215	110	465	481	481	8	16	M12
800 x 800	1020	1095	215	110	490	506	506	8	16	M12
850 x 850	1070	1145	215	110	515	531	531	8	16	M12
900 x 900	1120	1195	215	110	540	556	556	8	16	M12
950 x 950	1170	1245	215	110	565	581	581	8	16	M12

Standard Double Hung Flap Valves - Fig 2. Medium and Large range



NOMINAL OPENING WIDTH x DEPTH	A	B	C	D	E	F	K	L	M	N	P	R	S	BOLT DIA.
DIMENSIONS IN MILLIMETRES														
1000 x 600	1270	952	255	135	610	-	-	425	-	426	-	8	22	M20
1000 x 1000	1270	1352	255	135	610	-	-	417	417	417	-	10	22	M20
1100 x 700	1370	1052	255	135	660	-	-	475	-	476	-	8	22	M20
1100 x 1100	1370	1452	255	135	660	-	-	450	451	450	-	10	22	M20
1200 x 800	1470	1152	255	135	475	470	-	525	-	526	-	10	22	M20
1200 x 1200	1470	1552	255	135	475	470	-	483	485	483	-	12	22	M20
1300 x 900	1570	1252	255	135	505	510	-	574	-	575	-	10	22	M20
1300 x 1300	1570	1652	255	135	505	510	-	517	517	517	-	12	22	M20
1400 x 900	1670	1252	255	135	540	540	-	574	-	575	-	10	22	M20
1400 x 1400	1670	1752	255	135	540	540	-	550	551	550	-	12	22	M20
1500 x 1000	1770	1352	255	135	575	570	-	417	417	417	-	12	22	M20
1500 x 1500	1770	1852	255	135	575	570	-	583	585	583	-	12	22	M20
1600 x 1100	1920	1477	275	160	620	620	-	457	457	-	457	12	27	M24
1600 x 1600	1920	1977	275	160	620	620	-	468	468	468	467	14	27	M24
1800 x 1200	2120	1577	275	160	515	515	515	490	491	-	490	14	27	M24
1800 x 1800	2120	2177	275	160	515	515	515	518	518	518	517	16	27	M24
2000 x 1300	2320	1677	275	160	565	565	565	524	524	-	523	14	27	M24
2000 x 2000	2320	2377	275	160	565	565	565	568	568	568	567	16	27	M24

Note: For larger sizes please consult our Technical Department

Stainless Steel Flap Valves

Standard Size Range

400mm square up to 2000mm square or any rectangular size within these limitations. Larger sizes can be accommodated depending on pressure and duty.

Pressure Rating

Suitable for static pressures up to 5 metres above invert and can be used in sewage, potable water, rivers, estuaries etc. All flap valves are designed to suit individual requirements.

Mounting

Standard fixing arrangement is wall fixing onto a flat vertical wall.

Note: It is recommended that at least 300mm fall away is provided at the invert to prevent fouling of the bottom of the door.

OPTIONS

Can be manufactured from a grade of stainless steel to suit customer requirements.

MATERIAL SPECIFICATION

Frames / Doors

Top, bottom and side pressed members produce a sloping surface which will guarantee closure in balanced or dry conditions.

Manufactured from stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Frame Seal

Is an EPDM (Ethylene Propylene Di Methyl) wiper type seal having an angled lip seal. EPDM is chosen for its greater resistance over neoprene to ultraviolet degradation. The seal is fixed with a corrosion resistant retaining strip and stainless steel fasteners.

Hinge Links

Manufactured from stainless steel to BS EN 10088 : 1995 grade 1.4301 (304).

Hinge Pins

Manufactured from stainless steel to BS EN 10088 : 1995 grade 1.4301 (304).

Fixing Bolts

Can be supplied on request.

Hinge Brackets

Manufactured from stainless steel to BS EN 10088 : 1995 grade 1.4301 (304).

Fasteners

Standard fasteners are supplied in stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Tidal and Sea Water applications

See Technical Details page 21.

FOR DETAILS PLEASE CONSULT OUR TECHNICAL SALES DEPARTMENT

Flexible Flap Valves

DESCRIPTION

This range of flap valves is ideal when mounted direct onto the face of a sea wall subject to wave action, designed as a first line of defence.

Standard Size Range

500mm square up to 1500mm square or any rectangular size within these limitations. Larger sizes can be accommodated depending on pressure.

Mounting

Standard fixing arrangement is wall fixing onto a flat vertical wall.

Note: It is recommended that at least 300mm fall away is provided at the invert to prevent fouling of the bottom of the door.

MATERIAL SPECIFICATION

Frames

Top, bottom and side pressed members produce a sloping surface which will guarantee closure in balanced or dry conditions.

Frames are manufactured from stainless steel to BS EN 10088 : 1995 grades 1.4401 (316) or 1.4301 (304).



Doors

Constructed from material which is a specially developed and reinforced Coplastix-GP high performance natural rubber compound. Its excellent properties are ideally suitable for use as flexible flap valve doors.

Hinge

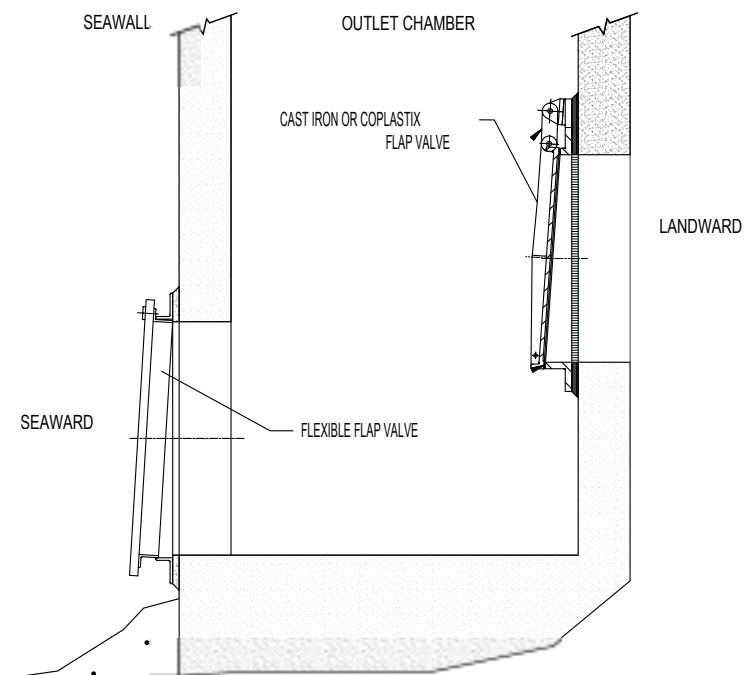
The hinge is an integral part of the Coplastix-GP door.

Fasteners

All fasteners used in the construction of flexible flap valves are in stainless steel to BS EN 10088 : 1995 grade 1.4401 (316).

Fixing Bolts

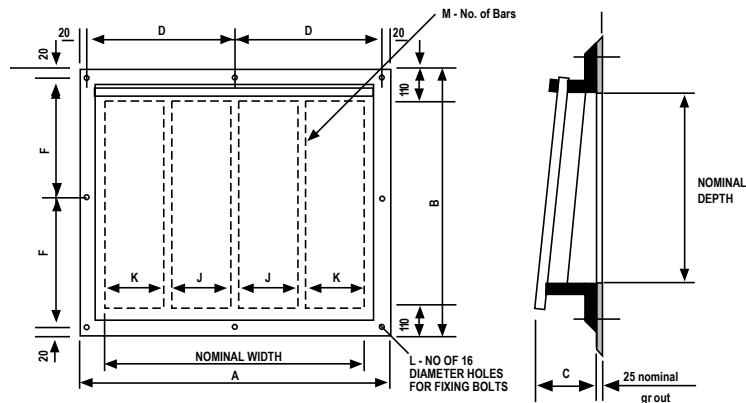
Can be supplied on request.



TYPICAL ARRANGEMENT FOR SEA OUTFALL



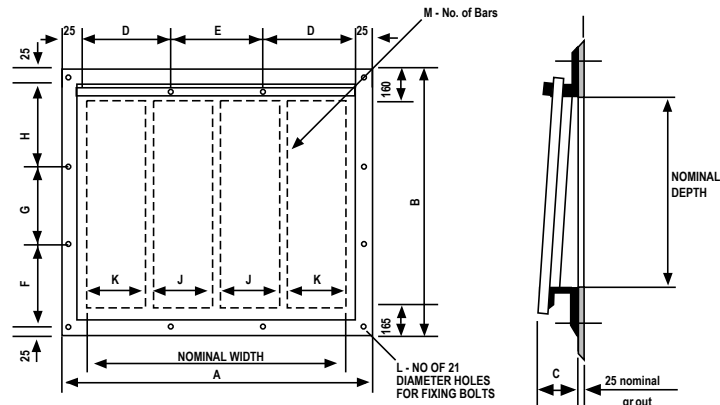
Standard Rectangular Flexible Flap Valves - Fig 1. Small range.



Standard Rectangular Flexible Flap Valves - Fig 1.

NOMINAL OPENING WIDTH x DEPTH	A	B	C	D	E	F	G	H	J	K	L	M
DIMENSIONS IN MILLIMETRES												
500 x 500	720	720	160	340	-	340	-	-	244	-	8	1
600 x 600	820	820	160	390	-	390	-	-	188	194	8	2
700 x 700	920	920	160	440	-	440	-	-	210	220	8	2
800 x 800	1020	1020	160	490	-	490	-	-	175	187	8	3
900 x 900	1120	1120	160	540	-	540	-	-	200	212	8	3

Standard Rectangular Flexible Flap Valves - Fig 2. Large range



Standard Rectangular Flexible Flap Valves - Fig 2.

NOMINAL OPENING WIDTH x DEPTH	A	B	C	D	E	F	G	H	J	K	L	M
DIMENSIONS IN MILLIMETRES												
1000 x 600	1320	925	195	635	-	437	-	438	225	237	8	3
1000 x 1000	1320	1325	195	635	-	425	425	425	225	237	10	3
1100 x 700	1420	1025	195	685	-	487	-	488	195	208	8	4
1100 x 1100	1420	1425	195	685	-	458	459	458	195	208	10	4
1200 x 800	1520	1125	195	490	490	537	-	538	175	188	10	5
1200 x 1200	1520	1525	195	490	490	492	491	492	175	188	12	5
1300 x 900	1620	1225	195	520	530	587	-	588	190	205	10	5
1300 x 1300	1620	1625	195	520	530	525	525	525	190	205	12	5
1400 x 900	1720	1225	195	560	550	587	-	588	208	221	10	5
1400 x 1400	1720	1725	195	560	550	558	559	558	208	221	12	5
1500 x 1000	1820	1325	195	590	590	425	425	425	225	237	12	5
1500 x 1500	1820	1825	195	590	590	592	591	592	225	237	12	5

Aligate™ Aluminium Stop Logs

DESCRIPTION

Aligate™ stoplogs are designed and manufactured to suit modern industrial and domestic effluent environments.

A lightweight log designed to meet those applications where aluminium alloys are suitable for the environment.

Stoplogs are suitable for isolation duties and weir applications where single piece stop gates would be too heavy to lift or where multiple door sections are required.

Stoplogs are only suitable for water pressures up to the height of the top log.

Standard Size Range

600mm square up to 2000mm square, or any rectangular size within these limitations.

MOUNTING OPTIONS

Standard fixing arrangements are:-

- Channel fixing into prepared rebates in channel walls and floor (Type CC).
- Wall fixing onto a flat vertical wall with invert recessed into floor (Type WC).
- Wall fixing onto a flat wall with invert fixing to the wall (Type WW).
- Side wall fixing onto a flat vertical channel with the invert fixing to the channel floor (Type SF).

Special fixing arrangements:-

- Any combination of a), b), c) and d) on request.

INSTALLATION

There is a clearance between the frame and the logs so that the Stop Logs can be installed easily. It is normal for the Stop Logs to be installed into a flow of water. Therefore the logs are pushed over by the flow and so produce a seal against the frame. If the Stop Logs are installed dry, then the rate that the flow is introduced to the logs should be controlled, to ensure that the logs are moved over to seal on the frame. If the rate that the flow is put onto the logs is low, then it will be necessary to ensure that the logs are moved over to contact the frame to ensure an effective seal.

MATERIAL SPECIFICATION

Frames

Normally supplied in three sections for ease of handling and installation. Manufactured from stainless steel to BS EN 10088 : 1995 grades 1.4401 (316) or 1.4301 (304).

Seals

The sealing arrangement for the Aligate™ stoplogs combine the use of Coplastix® resilient and low friction synthetic materials.

Side Seals

The seals are normally secured to the frame, but depending upon the width/depth combination for the larger range the seals are secured to each log.

Inter Log Seals

These are twin seals fitted to the bottom edge of each log to permit on or off-seating pressures.

Fixing Bolts Can be supplied on request.

Lifting facility

Each log is provided with 2 stainless steel lifting pins, located on the log faces to permit lifting by:

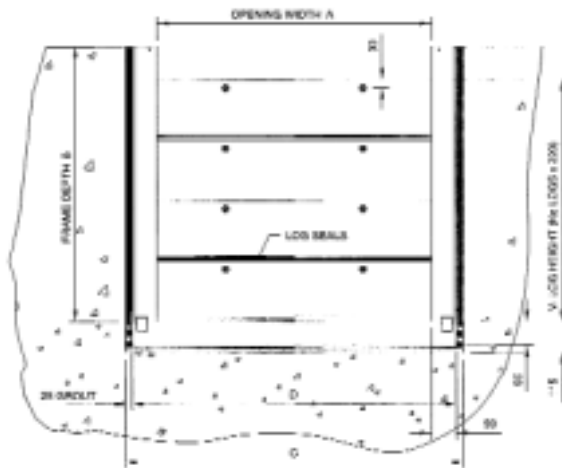
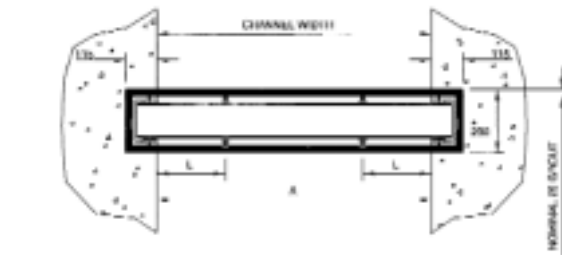
A Manual Lifting Pole

B Semi-Automatic Lifting Beam.

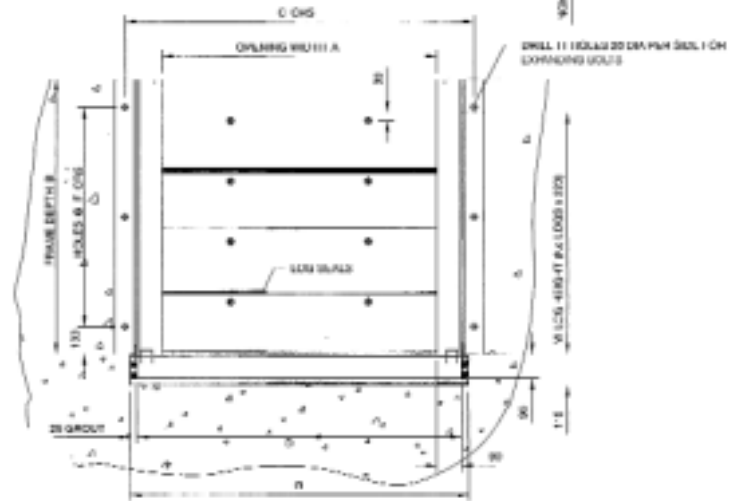
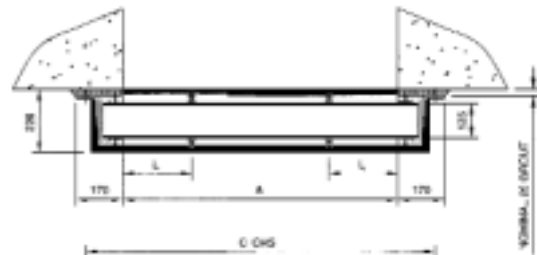
Please contact our Technical Sales Department for details.

Table showing dimensions for typical sizes

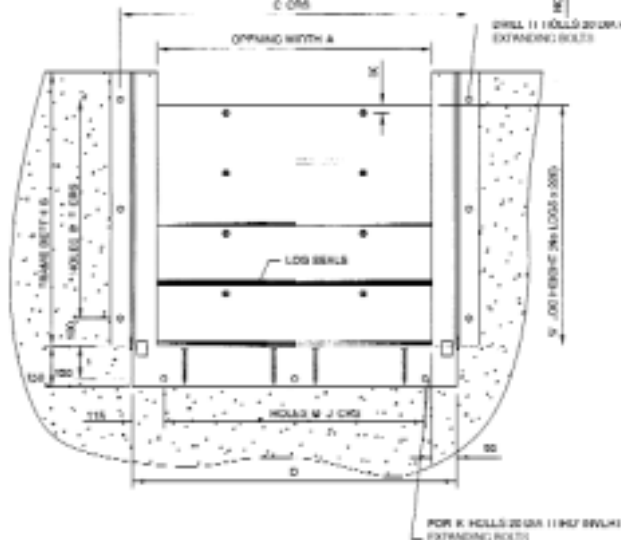
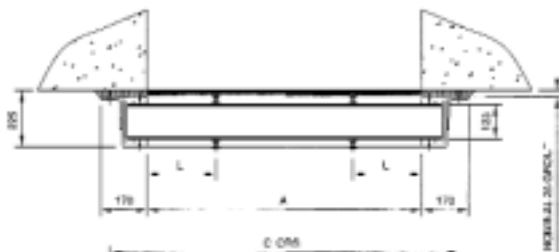
SIZE		VARIABLES						WALL MOUNTED INVERT		FLOOR MOUNTED INVERT		M
Width A	Depth B	C	D	F	G	H	L	J Wall	K Wall	J Floor	K Floor	
Holes												
DIMENSIONS IN MILLIMETRES												
600	600	870	780	400	830	2	100	550	2	-	1	To suit requirements
700	700	970	880	500	930	2	100	325	3	-	1	
800	800	1070	980	600	1030	2	100	375	3	-	1	
900	900	1170	1080	350	1130	3	100	425	3	-	1	
1000	1000	1270	1180	400	1230	3	270	475	3	-	1	
1100	1100	1370	1280	450	1330	3	270	525	3	-	1	
1200	1200	1470	1380	500	1430	3	270	575	3	-	1	
1300	1300	1570	1480	550	1530	3	270	416	4	600	3	
1400	1400	1670	1580	600	1630	3	270	450	4	600	3	
1500	1500	1770	1680	430	1730	4	270	483	4	600	3	
1600	1600	1870	1780	460	1830	4	270	516	4	600	3	
1700	1700	1970	1880	500	1930	4	270	550	4	600	3	
1800	1800	2070	1980	530	2030	4	270	583	4	600	3	
1900	1900	2170	2080	560	2130	4	270	462	5	600	3	
2000	2000	2270	2180	600	2230	4	270	487	5	600	3	



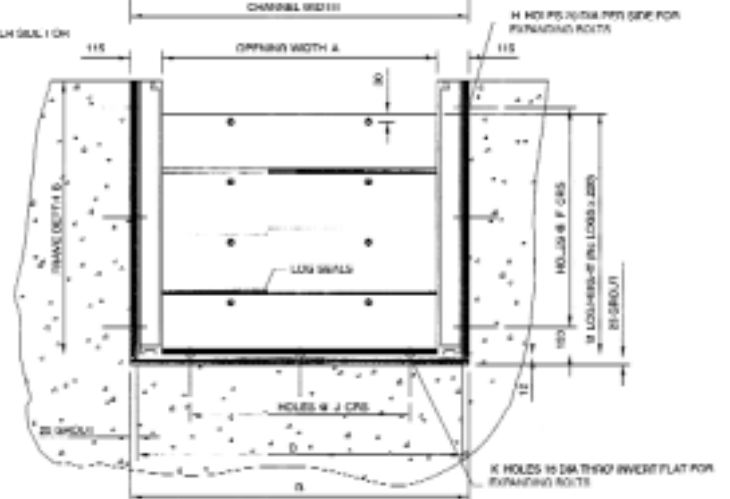
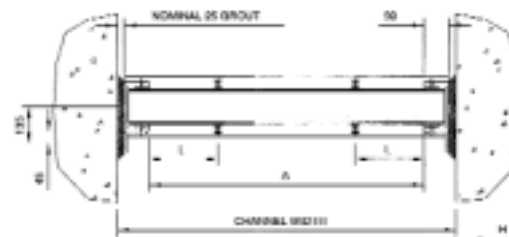
MOUNTING TYPE CC



MOUNTING TYPE WC



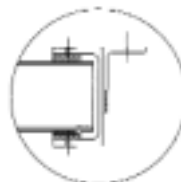
MOUNTING TYPE WW



MOUNTING TYPE SF



SECTION WITH 100mm x 100mm x 200mm



ENLARGED SEAL DETAIL
CO-PLASTIC RESILIENT SEALS
MOUNTED TO 1mm

Plastigate Handstops

DESCRIPTION

Plastigate handstops are designed and manufactured to suit modern industrial and domestic effluent environments. Utilisation of the latest synthetic materials combined with the use of steel or stainless steel provides a range of handstops suitable for use in most water, sewage and effluent treatment plants.

The handstops are available in sizes ranging from 100mm square, up to 900mm square as standard. Larger sizes are available but weight and lifting effort should be considered.

Special fixing arrangements can be accommodated.

OPTIONS

Standard Size Range

- 100mm square to 900mm square or any rectangular size within these limitations.

Mounting

Standard Fixing arrangements are:-

- Channel fixing into prepared rebates in channel walls and floor (Type C)
- Wall fixing onto a flat vertical wall with invert recessed into floor (Type W).

Special fixing arrangements are:-

- Side wall fixing.
- Wall fixing at invert.
- Any combination of a), b), c) and d).

MATERIAL SPECIFICATION

Frames

Manufactured from stainless steel to BS EN 10088 : 1995 grades 1.4401 (316) or 1.4301 (304).

Frame Seals

The sealing arrangement for Plastigate handstops combines the use of Coplastix® resilient and low friction synthetic materials secured to the frame to cater for both on and off-seating pressures.

Doors

Manufactured from rigid PVCu with vertical side stiffeners and welded horizontal reinforcing ribs as necessary. Minimum thickness is 12mm.

Invert Seal

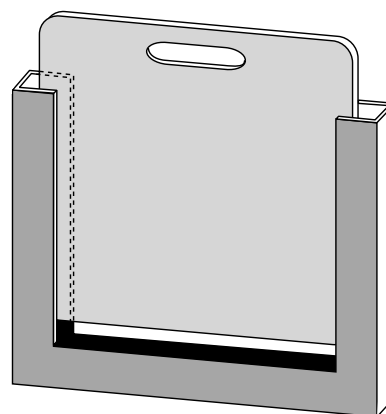
PVC resilient closed cell secured to the invert member of the frame.

Lifting Handles

Integral handholes or Tee type handles, stainless steel can be provided. (see tables page 21)

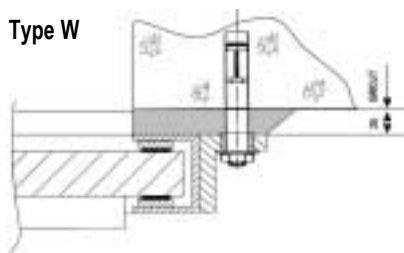
Fixing Bolts

Can be supplied on request.

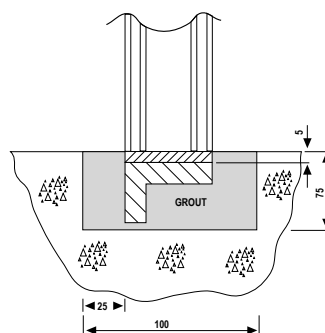


Standard handstops up to 500mm wide have one hand slot; handstops over 500mm wide have two. Alternatively, stainless lifting handles - to a specified length - are supplied when required.

Type W

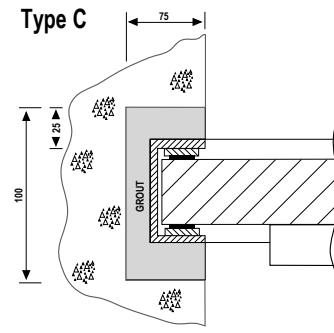


Installation detail for wall-mounting handstops using expanding bolts.



Detail of the recess for flush mounting of the handstop invert in a channel floor.

Type C

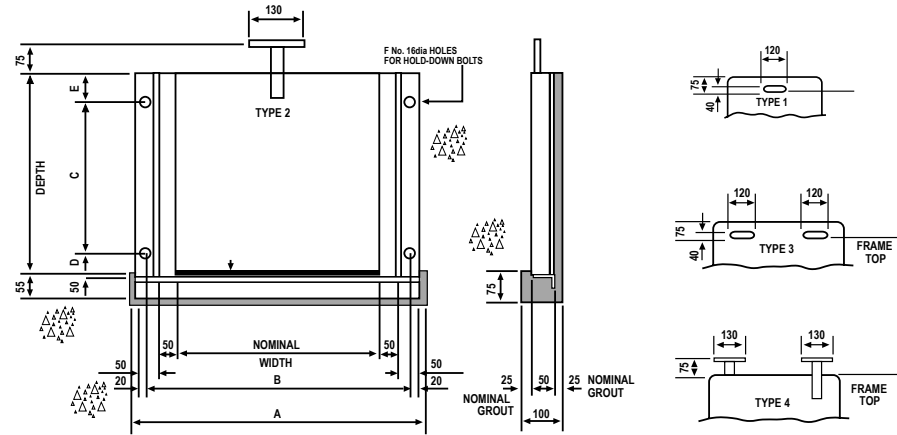


Detail of the recess in a wall for mounting of handstops in a channel wall.



Wall Mounting Handstops

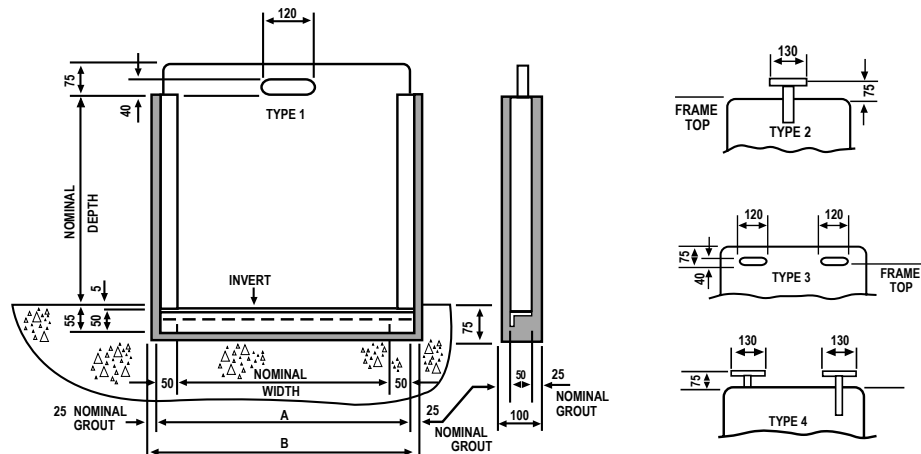
Type W



TYPE OF LIFT	NOMINAL OPENING WIDTH X DEPTH	A	B	C	D	E	F
DIMENSIONS IN MILLIMETRES							
(1 or 2)	150 x 150	400	310	-	80	70	2
(1 or 2)	200 x 200	450	360	-	130	70	2
(1 or 2)	250 x 250	500	410	130	50	70	4
(1 or 2)	300 x 300	550	460	180	50	70	4
(1 or 2)	350 x 350	600	510	230	50	70	4
(1 or 2)	400 x 400	650	560	280	50	70	4
(1 or 2)	450 x 450	700	610	330	50	70	4
(1 or 2)	500 x 500	750	660	380	50	70	4
(3 or 4)	550 x 550	800	710	350	100	70	4
(3 or 4)	600 x 600	850	760	400	100	100	4
(3 or 4)	650 x 650	900	810	450	100	100	4
(3 or 4)	700 x 700	950	860	500	100	100	4
(3 or 4)	750 x 750	1000	910	550	100	100	4
(3 or 4)	800 x 800	1050	960	600	100	100	4
(3 or 4)	850 x 850	1100	1010	650	100	100	4
(3 or 4)	900 x 900	1150	1060	700	100	100	4

Channel Mounting Handstops

Type C



TYPE OF LIFT	NOMINAL OPENING WIDTH X DEPTH	A	B
DIMENSIONS IN MILLIMETRES			
(1 or 2)	150 x 150	250	300
(1 or 2)	200 x 200	300	350
(1 or 2)	250 x 250	350	400
(1 or 2)	300 x 300	400	450
(1 or 2)	350 x 350	450	500
(1 or 2)	400 x 400	500	550
(1 or 2)	450 x 450	550	600
(1 or 2)	500 x 500	600	650
(3 or 4)	550 x 550	650	700
(3 or 4)	600 x 600	700	750
(3 or 4)	650 x 650	750	800
(3 or 4)	700 x 700	800	850
(3 or 4)	750 x 750	850	900
(3 or 4)	800 x 800	900	950
(3 or 4)	850 x 850	950	1000
(3 or 4)	900 x 900	1000	1050

Technical Details

PREPARATION AND PROTECTIVE COATING - CAST IRON

Specifies the preparation and coating for the standard paint system. The preparation and protective coating listed is Ham Baker Hartley standard. Alternative preparations can be offered on request.

Standard Paint Specification	Application	Surface treatment
PS4	SEWAGE / SEAWATER:	1. Grit blast to near white 2. Zinc spray 75 microns 3. Mist coat to obtain continuous film for subsequent paint applications 4. Apply epoxy 2 pack epoxy coal tar minimum D.F.T. 125 microns 5. Apply minimum D.F.T. 15 micron of primer 6. Apply final coat bitumastic minimum D.F.T. 125 microns

TIDAL AND SEAWATER APPLICATIONS

Turbulence of flow across flaps due to severe wave action may cause the doors to be disturbed from their equilibrium and could result in damage to the sealing faces. Consideration should be given to the building of baffles across the valve or situating the valve in a chamber with a flexible rubber flap valve situated on the seaward side of the chamber.

For tidal and sea-water applications the following material specifications are recommended:

Sealing Faces	Phosphor bronze to BS EN : 12167 : 1998
Hinge Links	Stainless steel to BS EN 10088 : 1995 grade 1.4401 (316) fitted with phosphor bronze bushes to BS EN 12167 : 1998
Hinge Pins	Stainless steel to BS EN 10088 : 1998 grade 1.4401 (316)

LEAKAGE

The leakage rate of all flap valves are as follows:

Heads of less than a metre	= 2.5 litres per minute / metre of seal
Heads of greater than a metre	= 1.25 litres per minute / metre of seal

CRACKING HEAD

The heads required to crack open the flap valve doors are as follows:

Cast Iron

For 80mm - 900mm diameter 55mm - 85mm

For 1000mm - 2000mm diameter 120mm - 160mm

Coplastix

For 100mm - 600mm diameter 20mm - 50mm

Please note that these figures are given for guidance only; for specific valves and application please consult our Technical Department.

Fastrack Flap Valves

'Fastrack' Flap Valves is a quick and easy way to buy flap valves and penstocks for urgent situations, which require delivery within days rather than weeks. Most flap valves can be despatched within 24 hours of order receipt.*

Ham Baker Hartley have made a firm commitment to providing customers with complete solutions, by investing in large stock levels of popular standard ranges of flap valves and penstocks, as illustrated below.

A dedicated 'Fastrack' system and sales support team is also in place to ensure high levels of customer service and fast, efficient delivery of proven quality products.

Call us today and ask for 'Fastrack' Flap Valves.

*Subject to credit status.

Fastrack Hotline:

Tel: +44 (0) 1782 203611

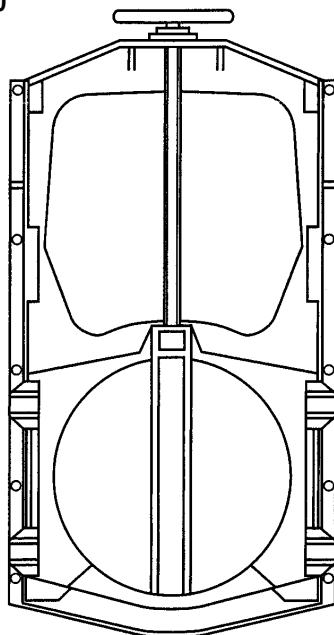
Fax: +44 (0) 1782 203639

Also Available

CAST IRON SERIES 60

Circular Penstock

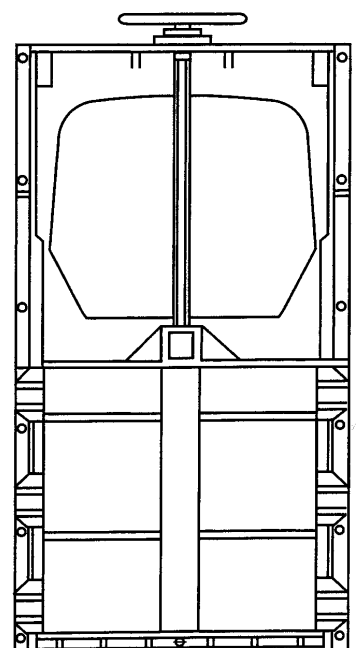
100mm Dia. to 1000mm Dia.



CAST IRON SERIES 60/30

Square Penstock

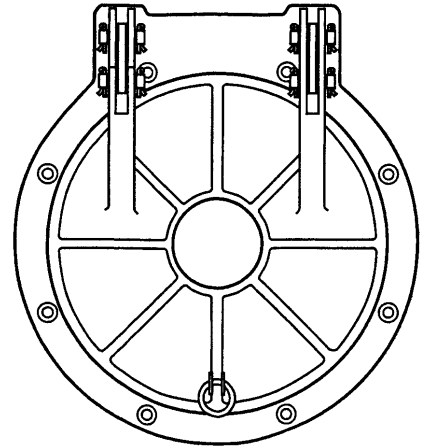
150mm sq. to 1200mm sq.



CAST IRON SERIES

Flap Valves

80mm Dia. to 2000mm Dia.



Enquiry Questionnaire

Certain basic data is essential to allow selection of the correct equipment against a specification.

Please ensure that the following information is given for each item of your enquiry:

FLAP VALVES

1. Quantity required.
2. Circular or rectangular opening.
3. Size of opening.
4. Materials for door and frame.
5. Single door or double door.
6. Wall or pipe mounting.
7. Working duty (gravity, pumped flow, tidal wave action etc.)
8. Liquid in which the flap valve is to operate.
(receiving water not discharge liquid)

STOP LOGS AND HANDSTOPS

1. Quantity required.
2. Size of opening; width and depth (total height of stop logs).
3. Maximum working head.
4. On-seating or Off-seating.
5. Type of operating equipment - manual or lifting gear.
6. Liquid in which stop logs or handstop is to operate.
7. Material for the frames.
8. Wall, side wall or channel mounting.

INTERNATIONAL STANDARDS

BS EN ISO 9001 : 2000	Quality Management System : Requirements
BS EN 1092-2 : 1997	Flanges and their joints; Circular flanges for pipes, valves, fittings and accessories; PN designated; Cast Iron Flanges
BS EN 1561 : 1997	Founding - Grey Cast Irons
BS EN 1982 : 1999	Copper and Copper Alloys : Ingots and Castings
BS EN 10025 : 1993	Hot rolled products of non-alloy structured steels. Technical delivery conditions.
BS EN 10088 : 1995	Stainless steels. Technical delivery conditions.
BS EN 121671 : 1998	Copper and Copper Alloys : Profiles and rectangular bar for general purposes.
BS 10 : 1962	Specification for flanges and bolting for pipes, valves and fittings.

