



## BLÜCHER UK Ltd

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**Agrément  
Certificate  
No 86/1751**  
Fourth issue\*

Designated by Government  
to issue  
European Technical  
Approvals

## BLÜCHER DRAINAGE SYSTEM

Système de canalisations d'évacuation  
Abflußleitungen

# Product




• THIS CERTIFICATE RELATES TO THE BLÜCHER ABOVE GROUND DRAINAGE SYSTEM, THE COMPONENTS OF WHICH ARE REFERRED TO IN THE ACCOMPANYING DETAIL SHEETS.

• The system is for use in domestic, commercial and public buildings in accordance with BS EN 12056-1 to 3 and 5 : 2000 for the conveyance of surface water and domestic sewage as is permitted to be discharged into public sewers by the Water Industry Act 1991, and surface water and sewage as is permitted and defined by the Sewerage (Scotland) Act 1968 and the Water and Sewerage Services (Northern Ireland) Order 1973.

continued

## Regulations — Detail Sheet 1

### 1 The Building Regulations 2000 (England and Wales)

 The Secretary of State has agreed with the British Board of Agrément the requirements of the Building Regulations to which drainage fittings can contribute in achieving compliance. In the opinion of the BBA, the Blücher Drainage System, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement:	H1(1)	Foul water drainage
Comment:		The Blücher Drainage System will convey the flow of foul or surface water and minimise the risk of blockages or leakage. See the marked sections of these Front Sheets.
Requirement:	H3	Rainwater drainage
Comment:		The Blücher Drainage System will convey the flow of foul or surface water and minimise the risk of blockages or leakage. See the marked sections of these Front Sheets.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The system is acceptable. See the marked sections of these Front Sheets.

continued

• *Components of the system can be used individually or in combination as described in the Detail Sheets.*

*These Front Sheets must be read in conjunction with the accompanying Detail Sheets, which provide information specific to particular products.*

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## 2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, the Blücher Drainage System, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation:	10	Fitness of materials
Standard:	B2	Selection and use of materials, fittings, components and other manufactured products
Comment:		The system is acceptable. See the marked sections of these Front Sheets.
Regulation:	24	Drainage and sanitary facilities
Standard:	Part M2	Drainage system of a building
Comment:		The system will meet the relevant requirements of this Regulation. See the marked sections of these Front Sheets.

## 3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, the Blücher Drainage System, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The system is acceptable. See the marked sections of these Front Sheets.
Regulation:	N4	Underground foul drainage
Comment:		The system will meet the relevant requirements of this Regulation. See the marked sections of these Front Sheets.
Regulation:	N7	Rain-water drainage
Comment:		See the marked sections of these Front Sheets.

## 4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

In the opinion of the BBA, there is no information in this Certificate which relates to the obligations of the client, planning supervisor, designer and contractors under these Regulations.

## Design Data

### 5 Performance of joints



5.1 The joints will not be adversely affected by thermal movement when correctly made.

5.2 The joints will remain watertight under conditions of pipeline movement in excess of those expected to occur in normal good drainage practice.

### 6 Resistance to chemicals



The stainless steel products will be unaffected by those types and quantities of chemicals likely to be found in waste water from wet floors or effluents from domestic appliances.

### 7 Resistance to elevated temperatures



The products will have adequate resistance to the temperatures likely to occur in the effluents defined in this Certificate.

### 8 Practicability of installation



Installation of the products can be achieved easily under normal site conditions.

### 9 Maintenance

9.1 Sections of the system can be removed easily and replaced.

9.2 With the access plugs removed the pipework can be rodded easily using either cane or polypropylene rods with a cleaning coil head.

9.3 The removable traps are cleaned easily.

### 10 Durability



When used within the conditions and recommendations given in this Certificate the products will have adequate durability.

## Installation

### 11 General

11.1 Installation must be carried out in accordance with the Certificate holder's fixing instructions and BS EN 12056-1 to 3 and 5 : 2000.

11.2 Floors fitted with Blücher Floor Drains must be designed to allow the water to flow freely to the gratings and incorporate an effective damp-proof membrane in accordance with CP 102 : 1973, BS 8102 : 1990 and BS 8215 : 1991.

### 12 Procedure

12.1 EuroPipe pipe spigot ends are slightly chamfered to facilitate making the joints. To make the joint, the spigot end must be smeared with lubricant and the pipe pushed fully home into the socket and withdrawn by from 3 mm to 5 mm.

12.2 If a EuroPipe pipe has to be cut, this must be undertaken with either the Blücher cutting and bevelling tool or a fine-toothed metal saw. When a saw is used the pipe end should be cut square, deburred and chamfered prior to jointing.

12.3 It is important to ensure that EuroPipe pipes are adequately supported at every connection at a maximum spacing of 3 m. Additional brackets are required at junction positions and changes of direction.

12.4 Connections to other pipe materials (eg vitrified clay, cast iron, etc) are possible, being either compatible or by the use of adaptors.

## Additional Information

The management systems of Blücher Metal A/S have been assessed and registered as meeting the requirements of EN ISO 9001 : 1994 by the Danish Standards Association, Certificate No 35.1.

## Bibliography

BS 8102 : 1990 *Code of practice for protection of structures against water from the ground*

BS 8215 : 1991 *Code of practice for design and installation of damp-proof courses in masonry construction*

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*

BS EN 12056 *Gravity Drainage Systems inside Buildings*

BS EN 12056-1 : 2000 *General and performance requirements*

BS EN 12056-2 : 2000 *Sanitary pipework, layout and calculation*

BS EN 12056-3 : 2000 *Roof drainage, layout and calculation*

BS EN 12056-5 : 2000 *Installation and testing. Instructions for operation, maintenance and use*

EN ISO 9001 : 1994 *Quality systems. Model for quality assurance in design, development, production, installation and servicing*

### 13 Conditions

13.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

13.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

13.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked by the BBA or its agents; and

(c) are reviewed by the BBA as and when it considers appropriate.

13.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

13.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, the Blücher Drainage System is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 86/1751 is accordingly awarded to BLÜCHER UK Ltd.

On behalf of the British Board of Agrément

Date of Fourth issue: 28th September 2001

  
Chief Executive

*\*Original Certificate was awarded to BM Stainless Steel Drains and issued on 16th October 1986. This revised version issued to include change of Certificate holder's name, reference to the revised national Building Regulations and associated text, reference to the Water Industry Act 1991 and reference to the CDM Regulations.*

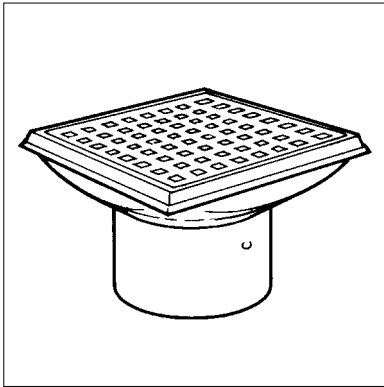


BLÜCHER UK Ltd

Certificate No 86/1751

**DETAIL SHEET 5****BLÜCHER FLOOR DRAINS**

## Product



- THIS DETAIL SHEET REPLACES DETAIL SHEET 3 AND RELATES TO BLÜCHER FLOOR DRAINS.
- The products are installed easily and joints will remain watertight under all normal service conditions.
- The floor drains are for internal use to receive wastewater from wet floors and/or domestic appliances on the same floor level.
- Installations will require prior approval from the appropriate Local Authority Environmental Health Department.

This Detail Sheet must be read in conjunction with the Front Sheets, which give the products' position regarding the Building Regulations, general information relating to the product and the Conditions of Certification, respectively.

## Technical Specification

### 1 Description

1.1 Blücher Floor Drains are available in the sizes and dimensions shown in Figures 1 to 4 as either washdown/shower outlet floor drains or industrial floor drains.

1.2 The washdown/shower outlet floor drains are produced from 1 mm thick austenitic stainless steel sheet, grade 304 or 316L, to BS 1449-2 : 1983.

1.3 The washdown/shower outlet gratings have a polished finish and are nominally 150 mm square and 2 mm thick for tiled floors and 155 mm diameter and 1 mm thick for vinyl floors.

1.4 Side inlets, where provided, have adaptors to 1¼" or 1½" BSP thread (female).

1.5 Water traps (50 mm minimum depth) are the removable type (see Figure 2) and outlets are 50 mm, 75 mm or 110 mm diameter.

1.6 The industrial floor drains are produced from 1.25 mm thick steel sheet (not polished) to the same material specification as the washdown/shower outlet floor drains.

1.7 Industrial floor drains have interchangeable polished gratings either 3 mm thick with slotted holes or 10 mm thick with perimeter opening.

1.8 Water traps of 52 mm minimum depth for the industrial floor drains are the removable type (see Figure 4).

1.9 Blücher Floor Drains are cold formed from sheet and seam joints are made using MIG (metal inert gas) welding.

1.10 Sealing rings are bought in to the Certificate holder's specification.

1.11 Continuous quality control is carried out throughout the manufacturing process, including visual and dimensional checks and loading tests.

### 2 Delivery and site handling

2.1 Blücher Floor Drains are supplied in cardboard boxes.

2.2 The products are of robust construction but rough handling (eg dropping on concrete) could cause distortion of the seal areas. Any items suffering this damage should be discarded.

### 3 General

Blücher Floor Drains are satisfactory for use to receive wastewater from wet floors and/or domestic appliances on the same floor level.

### 4 Strength

4.1 Blücher Floor Drains will have adequate resistance to the likely loadings associated with installation and normal service conditions.

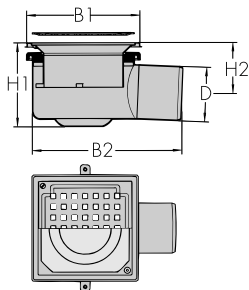
4.2 The polished washdown/shower outlet gratings are suitable for pedestrian loads of up to 200 kg.

4.3 The 3 mm thick industrial gratings are suitable for wheel loads of up to 750 kg.

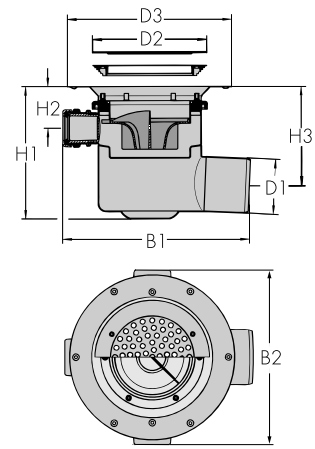
4.4 The 10 mm thick industrial gratings are suitable for wheel loads of up to 4500 kg.

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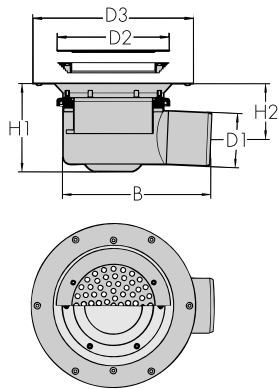
Figure 1 Floor drains (all dimensions in mm)



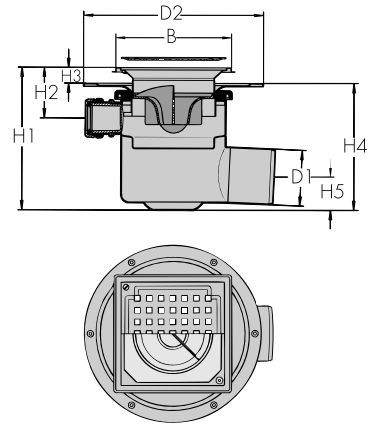
Type No	D	B1	B2	H1	H2
110.300.050	50	155	200	115-145	82-112
110.300.075	75	155	205	115-145	70-100



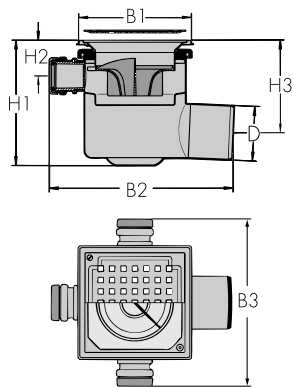
Type No	D1	D2	D3	B1	H1	H2	H3
211.300.075	75	155	222	252	184-194	57-67	139-149



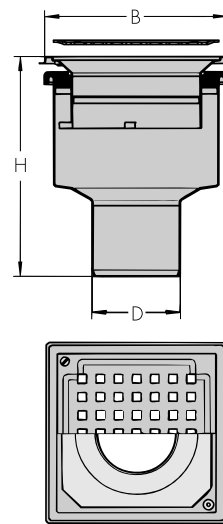
Type No	D1	D2	D3	B	H1	H2
210.300.050	50	155	222	200	123-153	90-120
210.300.075	75	155	222	205	123-153	78-108



Type No	D1	D2	B	H1	H2	H3	H4	H5
311.300.075	75	240	155	180-210	53-83	6-21	174-189	45



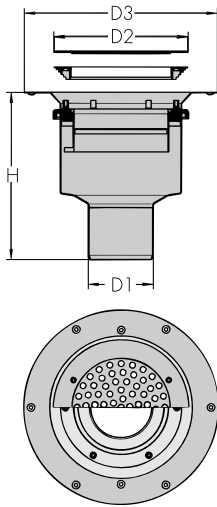
Type No	D	B1	B2	H1	H2	H3
111.300.075	75	155	252	176-186	50-60	131-141



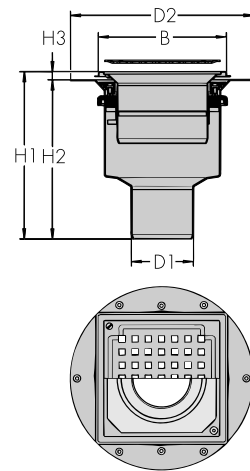
Type No	D	B	H
150.300.110	110	155	164-194

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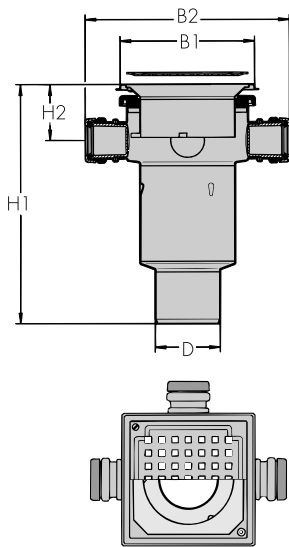
Figure 1 (continued)



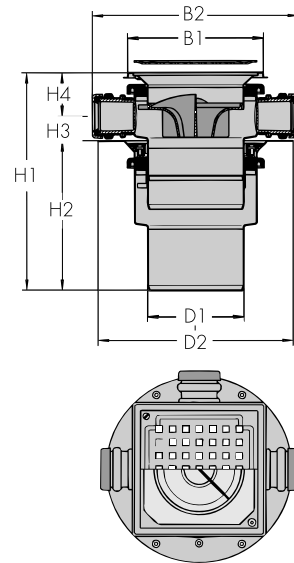
Type No	D1	D2	D3	H
250.300.110	110	155	222	171-201



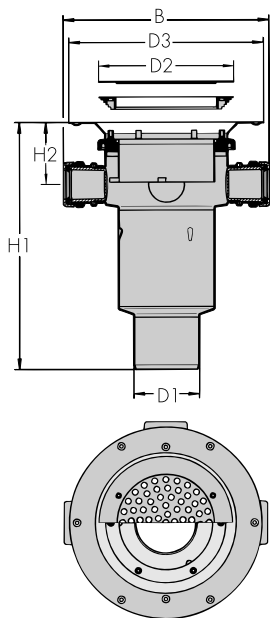
Type No	D1	D2	B	H1	H2	H3
352.300.110	110	222	155	181-236	171-186	10-50



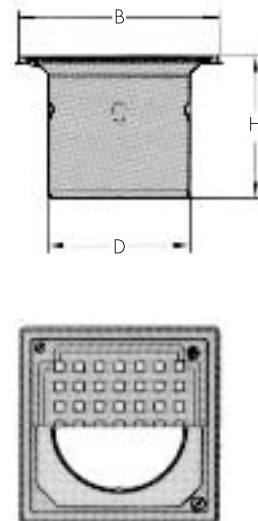
Type No	D	B1	B2	H1	H2
151.300.110	110	155	235	189-219	65-95



Type No	D1	D2	B1	B2	H1	H2	H3	H4
353.300.110	110	222	155	235	294-314	171-186	28-68	50-60



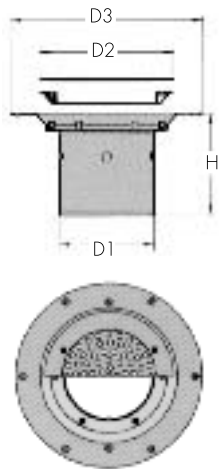
Type No	D1	D2	D3	B	H1	H2
251.300.110	110	155	222	235	196-226	71-101



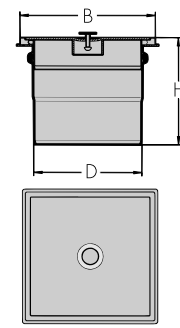
Type No	D	B	H
160.300.10	110	155	112

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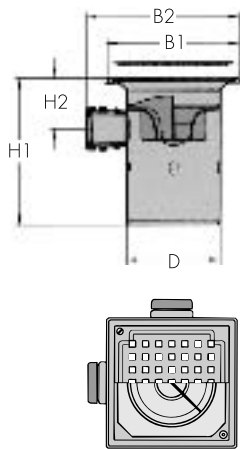
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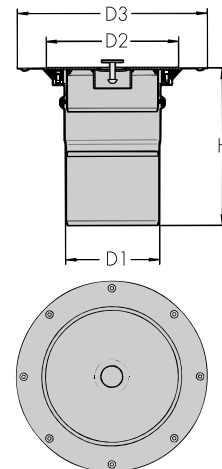
Type No	D1	D2	D3	H
260.300.110	110	155	222	119



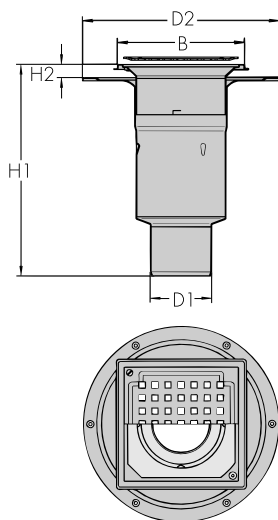
Type No	D	B	H	Type
144.150.110 S	110	155	120	pull nipple
144.155.110 S	110	155	120	screw fixed
144.155.110.10 S	110	155	167	heavy duty
144.200.160.S	160	200	159	pull nipple
144.205.160 S	160	200	159	screw fixed



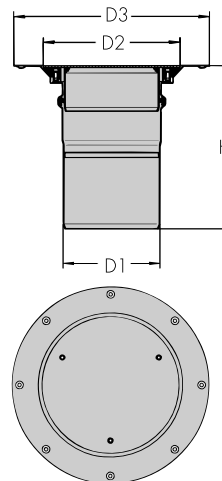
Type No	D	B1	B2	H1	H2
161.300.110	110	155	180	174	60



Type No	D1	D2	D3	H	Type
244.150.110	110	155	222	185	pull nipple



Type No	D1	D2	B	H1	H2
360.300.110	110	240	155	161-176	6-21



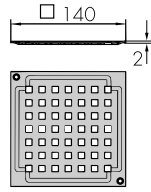
Type No	D1	D2	D3	H	Type
244.155.110	110	155	222	185	screw fixed

For clean room applications consult Certificate holder's technical services department. Tel: 01937 838007.

continued

Figure 1 (continued)

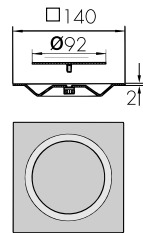
## Light duty grating



Type No	Description
610.155.421	screw lock grating (2 mm)
610.155.421 BP	screw lock blank plate (2 mm)

To suit nominal 155 mm square topped floor drains.

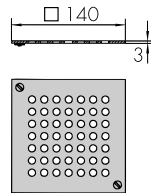
## 'O' grating



Type No	Description
610.155.521	'O' grating

To suit nominal 155 mm square topped floor drains.

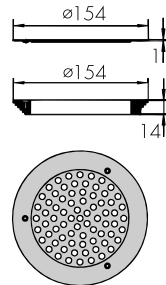
## Medium duty grating



Type No	Description
610.155.425	screw lock grating (3 mm)

To suit nominal 155 mm square topped floor drains.

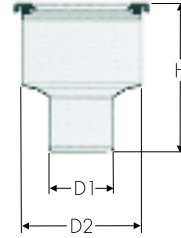
## Light/Medium duty grating



Type No	Description
620.155.011	screw lock grating (1 mm)
620.155.011 BP	screw lock blank plate (1 mm)
620.155.021	screw lock grating (2 mm) <sup>(1)</sup>
620.155.000	nylon clamping ring only

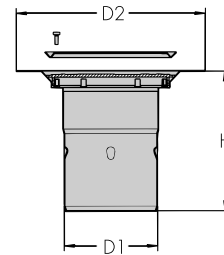
(1) Not illustrated.

## Reducing type

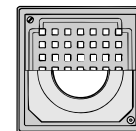
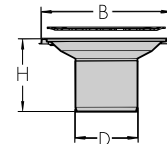


Type No	D1	D2	H
150.000.050 S	50	140	177
150.000.075 S	75	140	173
150.000.110 S	110	140	148

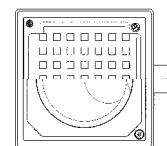
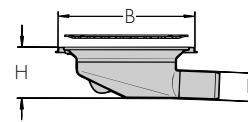
## Membrane flange type



Type No	D1	D2	H
440.226.110	110	222	164



Type No	B	D	H
140.300.050	155	50	88



Type No	B	D	H
181.300.042	155	32	58

continued

Figure 1 (continued)

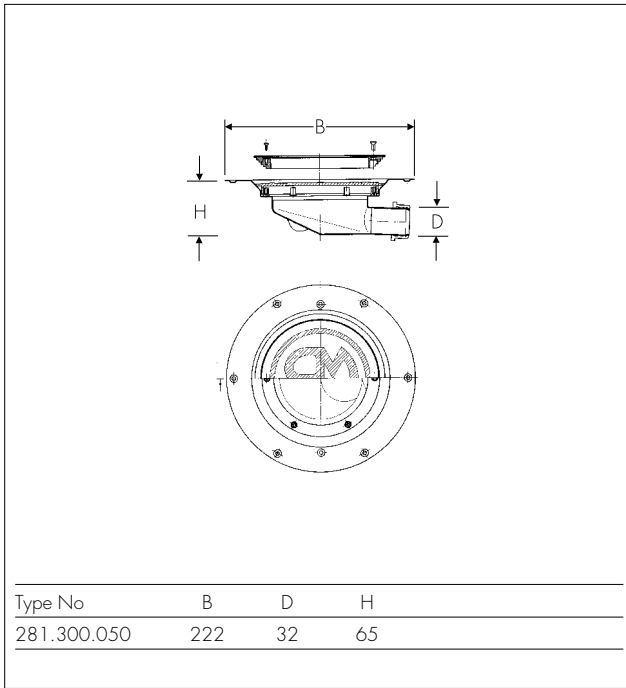


Figure 2 Removable water trap

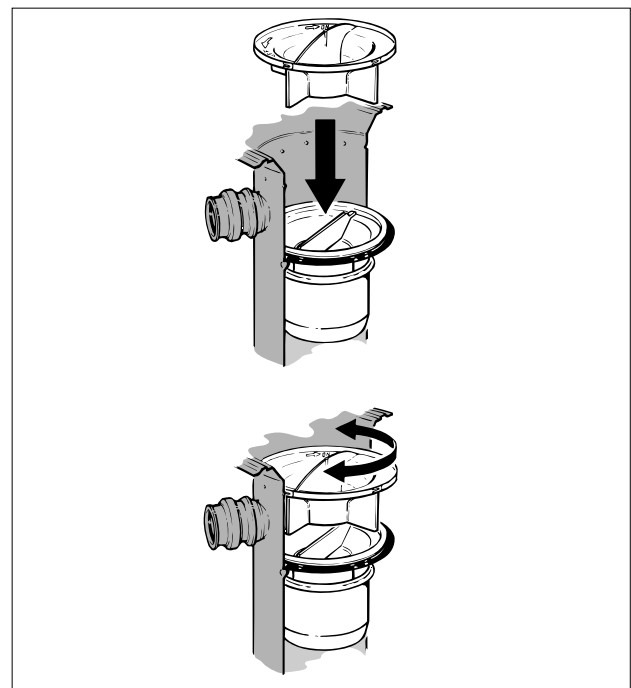
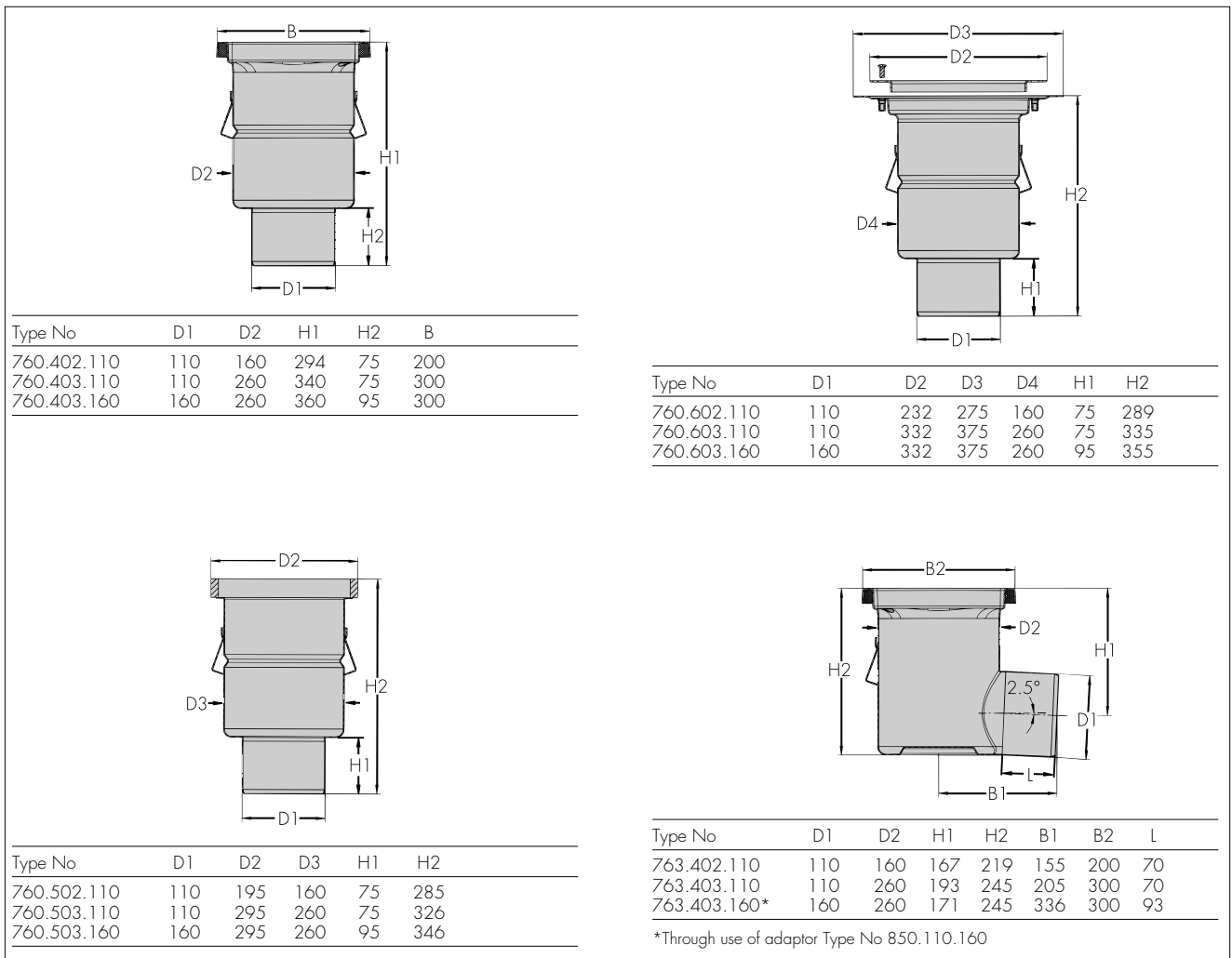
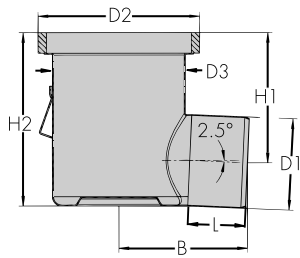


Figure 3 Industrial floor drains (all dimensions in mm)

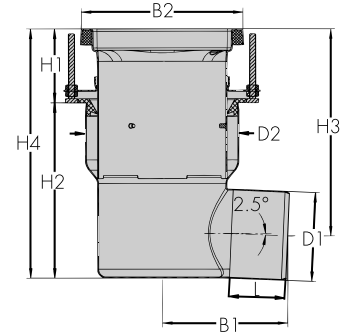


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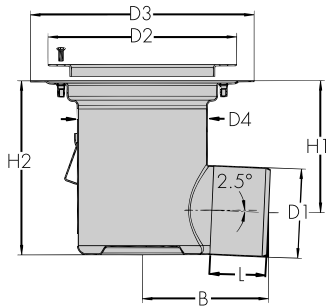
Figure 3 (continued)



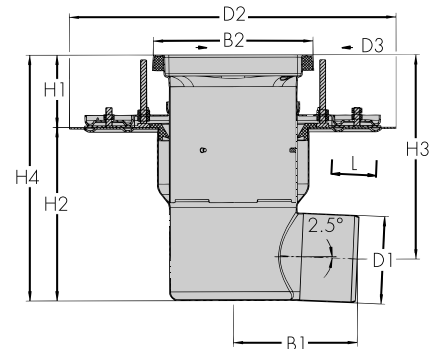
Type No	D1	D2	D3	H1	H2	B	L
763.502.110	110	195	160	157	209	155	70
763.503.110	110	295	260	176	228	205	70
763.503.160*	160	295	260	155	228	336	93



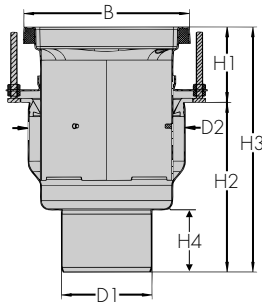
Type No	D1	D2	H1	H2	H3	H4	B1	B2	L
743.402.110	110	199	91-151	217	256-316	308-368	155	200	70
743.403.110	110	293	91-151	222	261-321	313-373	205	300	70
743.403.160*	160	293	91-151	245	256-305	313-373	336	300	93



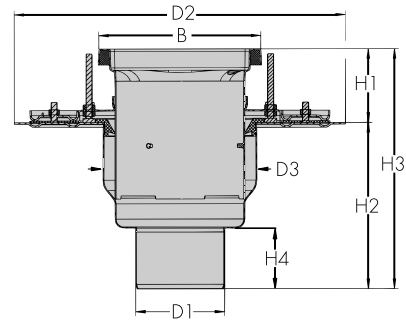
Type No	D1	D2	D3	D4	H1	H2	B	L
763.602.110	110	232	275	160	162	214	155	70
763.603.110	110	332	375	260	188	240	205	70
763.603.160*	160	332	375	260	172	240	336	93



Type No	D1	D2	D3	H1	H2	H3	H4	B1	B2	L
771.402.110	110	409	190	91-151	217	256-316	308-368	155	200	70
771.403.110	110	507	293	91-151	222	261-321	313-373	205	300	70
771.403.160*	160	507	293	91-151	222	261-321	313-373	336	300	93



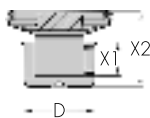
Type No	D1	D2	H1	H2	H3	H4	B
740.402.110	110	190	91-151	205	296-356	75	200
740.403.110	110	293	91-151	250	341-401	75	300
740.403.160	160	293	91-151	270	361-421	95	300



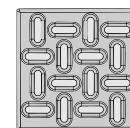
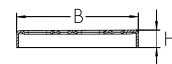
Type No	D1	D2	D3	H1	H2	H3	H4	B
775.402.110	110	409	190	91-151	205	296-356	75	200
775.403.110	110	507	293	91-151	250	341-401	75	300
775.403.160*	160	507	293	91-151	270	361-421	95	300

\*Through use of adaptor Type No 850.110.160

Figure 4 Water traps, grates and filters for industrial drains



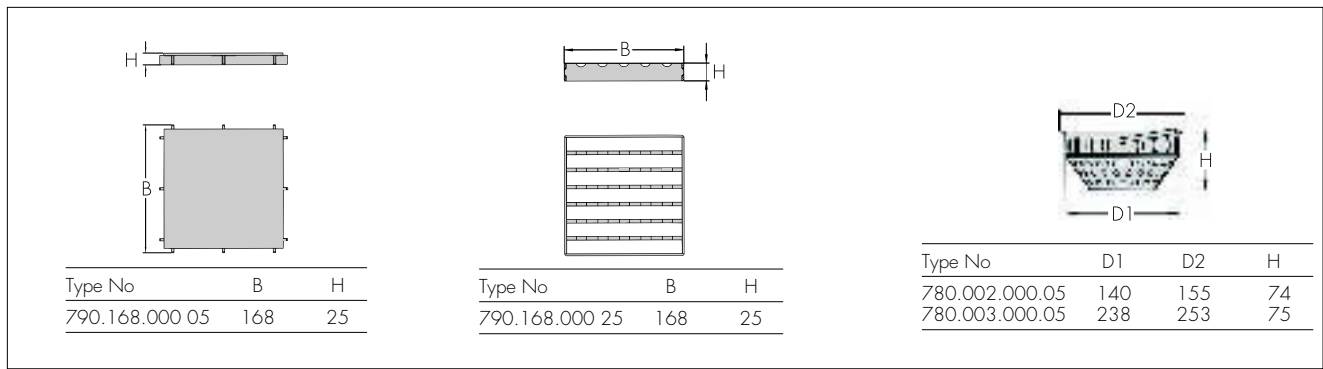
Type No	D	X1	X2
562.002.000	107	52	115
562.003.000	197	52	128



Type No	B	H
790.168.000 03	168	24

continued

Figure 4 (continued)



## 5 Flow characteristics

5.1 The floor drainage gullies have satisfactory flow characteristics.

5.2 The flow capacities are listed in Table 1.

Table 1 Flow capacities of traps<sup>(1)</sup>

Trap type	Flow capacity (ls <sup>-1</sup> ) with 20 mm head
562.202.000	2.8
562.003.000	5.7

(1) The flow capacity given here is the worst case for the 110 mm and 160 mm outlet drain with the trap, filter basket and grating in place.

## Technical Investigations

The following is a summary of the technical investigations carried out in relation to Blücher Floor Drains.

## 6 Tests

Tests were carried out to determine:

- dimensional accuracy
- ease of jointing
- resistance to loading
- flow capacity
- watertightness.

## 7 Other investigations

7.1 An evaluation of data was made to assess:

- impact resistance
- flow characteristics
- resistance to chemicals
- practicability of installation
- ease of cleaning
- effect of elevated temperatures
- durability.

7.2 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

## Bibliography

- BS 1449 *Steel plate, sheet and strip*
- BS 1449-2 : 1983 *Specification for stainless and heat-resisting steel plate, sheet and strip*



On behalf of the British Board of Agrément

Date of issue: 28th September 2001

*P. C. Newson*  
Chief Executive


**BLÜCHER UK Ltd**
**BLÜCHER EUROPIPE PIPES,  
FITTINGS AND ADAPTORS**
**Certificate No 86/1751**
**DETAIL SHEET 6**
*Second issue\**

## Product



• *THIS DETAIL SHEET REPLACES DETAIL SHEET 4 AND RELATES TO BLÜCHER EUROPIPE PIPES, FITTINGS AND ADAPTORS.*

• *The products are installed easily and joints will remain watertight under all normal service conditions.*

• *The products are durable and will have a life in excess of 50 years.*

*This Detail Sheet must be read in conjunction with the Front Sheets, which give the products' position regarding the Building Regulations, general information relating to the products, and the Conditions of Certification, respectively.*

## Technical Specification

### 1 Description

1.1 Blücher EuroPipe Pipes, Fittings and Adaptors are available in the types shown in Figure 1.

1.2 EuroPipe pipes are available in diameters of 50 mm, 75 mm, 110 mm, 125 mm, 160 mm, and 200 mm, each with one socket incorporating a groove containing a ring-seal Type WC to BS EN 681-1 : 1996.

1.3 The range of fittings includes 87.5° single branches, a double ring-seal socketed coupling, sliding ring-seal socketed couplings, a ring-seal socketed extension piece, a socket plug, an 87.5° P-trap and 87.5°, 45°, 30° and 15° single socketed bends. Each is available in diameters of 50 mm, 75 mm, 110 mm and 160 mm and some are also available in diameters of 125 mm and 200 mm (see Figure 1). The sockets of every fitting incorporate a groove containing a ring-seal to BS EN 681-1 : 1996, Type WC.

1.4 Increasers and reducers are used to connect sockets to spigots (see Table 1).

Table 1 Increasers and reducers

	Spigot diameter (mm)	Socket diameter (mm)
<b>Increasers</b>	200	160
	160	125
	160	110
	125	110
	110	75
	110	50
	75	50
<b>Reducers</b>	75	110
	50	110
	50	75

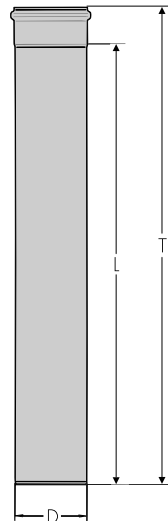
1.5 EuroPipe pipe is compatible with 110 mm, 160 mm and 200 mm diameter PVC pipe and can be connected to clay, concrete, and cast-iron pipe and other sizes of PVC pipe with adaptors.

### 2 Delivery and site handling

EuroPipe Pipes, Fittings and Adaptors are supplied in cardboard boxes. Pipes stacked loose should be prevented from rolling.

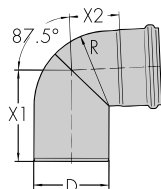
Figure 1 Product range (all dimensions in mm)

## EuroPipe pipes with one socket



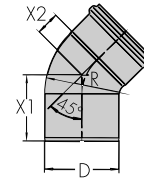
Type No	D	T	L
811.300.200	200	3090	3000
811.200.200	200	2090	2000
811.100.200	200	1090	1000
811.050.200	200	590	500
811.600.160	160	6071	6000
811.400.160	160	4071	4000
811.300.160	160	3071	3000
811.200.160	160	2071	2000
811.100.160	160	1071	1000
811.050.160	160	571	500
811.025.160	160	321	250
811.300.125	125	3060	3000
811.200.125	125	2060	2000
811.100.125	125	1060	1000
811.025.125	125	310	250
811.600.110	110	6054	6000
811.400.110	110	4054	4000
811.300.110	110	3054	3000
811.200.110	110	2054	2000
811.100.110	110	1054	1000
811.050.110	110	554	500
811.025.110	110	304	250
811.015.110	110	204	150
811.600.075	75	6050	6000
811.400.075	75	4050	4000
811.300.075	75	3050	3000
811.200.075	75	2050	2000
811.100.075	75	1050	1000
811.050.075	75	550	500
811.025.075	75	300	250
811.015.075	75	200	150
811.600.050	50	6040	6000
811.400.050	50	4040	4000
811.300.050	50	3040	3000
811.200.050	50	2040	2000
811.100.050	50	1040	1000
811.050.050	50	540	500
811.025.050	50	290	250
811.015.050	50	190	150

## 87.5° stainless steel bends



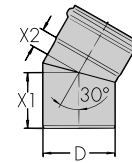
Type No	D	X1	X2	R
820.090.050	50	86	40	50
820.090.075	75	107	53	75
820.090.110	110	134	73	110
820.090.125	125	145	85	125
820.090.160	160	181	105	171
820.090.200	200	397	307	300

## 45° stainless steel bends



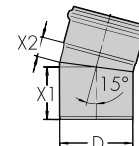
Type No	D	X1	X2	R
820.045.050	50	60	26	50
820.045.075	75	76	33	75
820.045.110	110	93	43	110
820.045.125	125	111	50	125
820.045.160	160	131	55	172
820.045.200	200	234	144	400

## 30° stainless steel bends



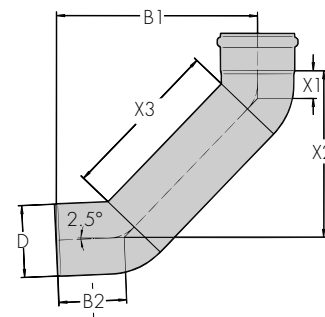
Type No	D	X1	X2
820.030.050	50	57	16
820.030.075	75	71	21
820.030.110	110	85	28
820.030.125	125	98	28
820.030.160	160	110	40
820.030.200	200	137	45

## 15° stainless steel bends



Type No	D	X1	X2
820.015.050	50	54	12
820.015.075	75	66	16
820.015.110	110	78	21
820.015.125	125	84	19
820.015.160	160	99	29
820.015.200	200	123	31

## 87.5° stainless steel long radius bend

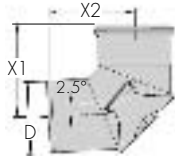


Type No	D	B1	B2	X1	X2	X3
899.4341B	50	159	72	26	116	104
899.4341C	75	216	87	32	166	156
821.090.110	110	307	103	42	255	250
820.090.160	160	354	130	54	288	250

continued

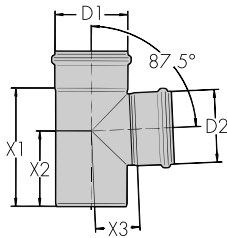
Figure 1 Product range (all dimensions in mm) (continued)

## 87.5° stainless steel access bend



Type No	D	X1	X2
822.090.075	75	112	102
822.090.110	110	143	132
822.090.160	160	200	209

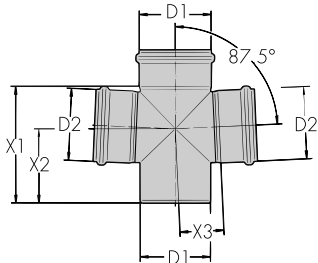
## 87.5° stainless steel branches



Type No	D1	D2	X1	X2	X3
830.050.050	50	50	106	71	36
830.050.075	75	50	139	98	49
830.075.075 <sup>(1)</sup>	75	75	139	90	52
830.050.110	110	50	132	93	66
830.075.110	110	75	152	104	70
830.110.110 <sup>(1)</sup>	110	110	183	117	69
830.075.125	125	75	187	110	77
830.110.125	125	110	205	127	76
830.125.125	125	125	220	135	72
830.110.160	160	110	236	152	94
830.160.160 <sup>(1)</sup>	160	160	288	184	104
830.160.200	200	160	293	186	124
830.200.200 <sup>(1)</sup>	200	200	333	206	128

(1) To comply with BS EN 12056 Sanitary Pipework, use branch type 838.xxx.xxx or type 839.xxx.xxx

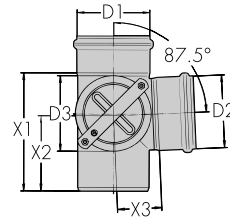
## 87.5° stainless steel 180° double branch (AISI 316 L only)



Type No	D1	D2	X1	X2	X3
831.050.050 S	50	50	106	71	36
831.050.075 S	75	50	139	98	49
831.050.110 S	110	50	132	93	66
831.075.075 S <sup>(1)</sup>	75	75	139	90	52
831.075.110 S	110	75	152	104	70
831.110.110 S <sup>(1)</sup>	110	110	183	117	69
831.110.160 S	160	110	236	152	94
831.160.160 S <sup>(1)</sup>	160	160	288	184	104

(1) To comply with BS EN 12056 Sanitary Pipework, use branch type 836.xxx.xxx S

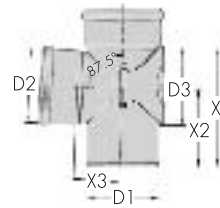
## 87.5° stainless steel access branch (AISI 316 L only)



Type No	D1	D2	D3	X1	X2	X3
833.050.110 S	110	50	117	183	144	67
833.075.110 S	110	75	117	183	135	71
833.110.110 S <sup>(1)</sup>	110	110	117	183	117	69
833.110.160 S	160	110	167	288	204	94
833.160.160 S <sup>(1)</sup>	160	160	167	288	184	104

(1) To comply with BS EN 12056 Sanitary Pipework, use branch type 838.xxx.xxx or type 839.xxx.xxx with access pipe type 840.xxx.xxx

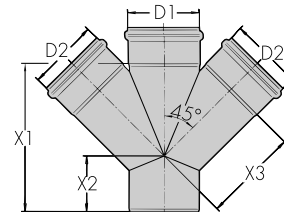
## 87.5° stainless steel rear access branch (AISI 316 L only)



Type No	D1	D2	D3	X1	X2	X3
834.050.075 S	75	50	83	139	98	49
834.075.075 S <sup>(1)</sup>	75	75	83	139	98	49
834.050.110 S	110	50	117	183	143	106
834.075.110 S	110	75	117	183	135	69
834.110.110 S <sup>(1)</sup>	110	110	117	183	117	69
834.110.160 S	160	110	167	288	204	93
834.160.160 S <sup>(1)</sup>	160	160	167	288	184	102

(1) To comply with BS EN 12056 Sanitary Pipework, use branch type 838.xxx.xxx or type 839.xxx.xxx with access pipe type 840.xxx.xxx

## 45° oblique stainless steel 180° double branch (AISI 316 L only)

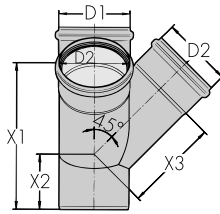


Type No	D1	D2	X1	X2	X3
836.050.050 S	50	50	128	57	76
836.050.075 S	75	50	144	56	94
836.050.110 S	110	50	147	42	119
836.075.075 S	75	75	179	74	110
836.075.110 S	110	75	182	60	135
836.110.110 S	110	110	233	88	149
836.110.160 S	160	110	258	80	186
836.160.160 S	160	160	328	115	222

continued

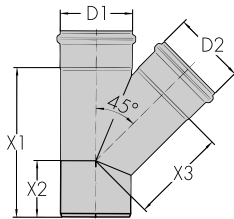
Figure 1 Product range (all dimensions in mm) (continued)

### 45° oblique stainless steel 90° double branch (AISI 316 L only)



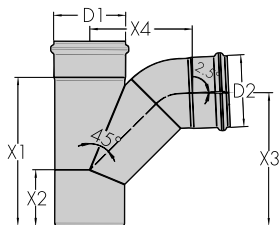
Type No	D1	D2	X1	X2	X3
837.050.050 S	50	50	128	57	76
837.050.075 S	75	50	144	56	94
837.050.110 S	110	50	147	42	119
837.075.075 S	75	75	179	74	110
837.075.110 S	110	75	182	60	135
837.110.110 S	110	110	233	88	149
837.110.160 S	160	110	258	80	186
837.160.160 S	160	160	328	115	222

### 45° oblique stainless steel access branches



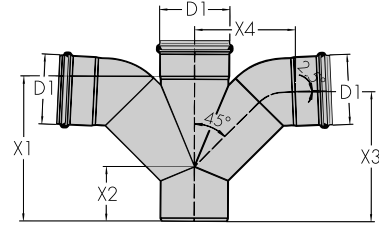
Type No	D1	D2	X1	X2	X3
838.050.050	50	50	128	57	76
838.050.075	75	50	144	56	94
838.050.110	110	50	147	42	119
838.075.075	75	50	179	74	110
838.075.110	110	75	182	60	135
838.110.110	110	110	233	88	149
838.110.125	125	110	250	90	154
838.125.125	125	125	273	103	170
838.110.160	160	110	258	80	186
838.160.160	160	160	328	115	222
838.160.200	200	160	359	123	250
838.200.200	200	200	415	151	274

### 87.5° swept stainless steel branches



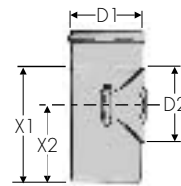
Type No	D1	D2	X1	X2	X3	X4
839.050.050	50	50	128	57	117	84
839.050.075	75	50	144	56	128	97
839.050.110	110	50	147	42	132	115
839.075.075	75	75	179	74	157	113
839.075.110	110	75	182	60	160	130
839.110.110	110	110	233	88	209	160
839.110.160	160	110	258	80	227	186
839.160.160	160	160	328	115	293	225

### 87.5° double swept stainless steel branch



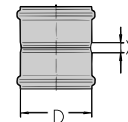
Type No	D1	X1	X2	X3	X4
879.110.110	110	233	88	209	160

### stainless steel access pipe<sup>(1)</sup>



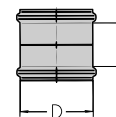
Type No	D1	D2	X1	X2
840.075.075	75	80	139	92
840.110.110	110	120	188	123
840.111.110	110	120	253	187
840.125.125	125	120	195	128
840.160.160	160	120	277	208

### stainless steel double ring-seal sockets



Type No	D	X
841.050.050	50	14
841.075.075	75	19
841.110.110	110	16
841.125.125	125	20
841.160.160	160	35
841.200.200	200	40

### stainless steel sliding ring-seal socket (AISI 316 L only)

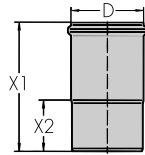


Type No	D	X
842.050.050 S	50	37
842.075.075 S	75	50
842.110.110 S	110	67
842.125.125 S	125	78
842.160.160 S	160	81
842.200.200 S	200	126

continued

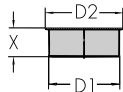
Figure 1 Product range (all dimensions in mm) (continued)

### stainless steel expansion socket (AISI 316 L only)

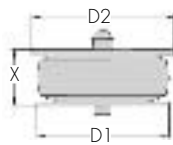


Type No	D	X1	X2
843.105.050 S	50	159	57
843.115.075 S	75	175	62
843.125.110 S	110	200	79
843.182.160 S	160	292	122

### stainless steel socket plugs (AISI 316 L only)

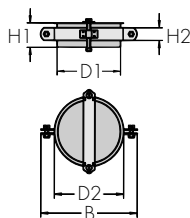


Type No	D1	D2	X
844.000.050 S	50	58	50
844.000.075 S	75	85	45
844.000.110 S	110	120	45
844.000.160 S	160	170	45



Type No	D1	D2	X
844.100.050 S	50	59	31
844.100.075 S	75	83	36
844.100.110 S	110	118	46

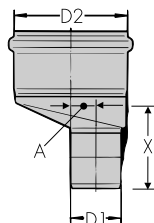
### stainless steel socket plug clamps (AISI 316 L only)



Type No	D1	D2	B	H1	H2
845.000.160 S	160	170	214	42	22

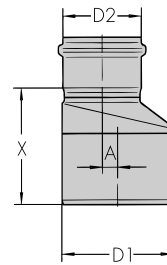
(NB includes socket plug)

### stainless steel eccentric reducers



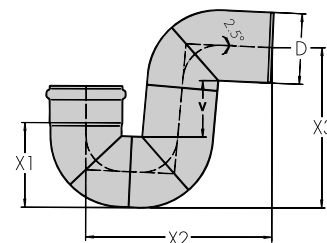
Type No	D1	D2	X	A
850.075.050 S	50	75	84	7
850.110.050 S	50	110	99	25
850.110.075 S	75	110	103	15

### stainless steel eccentric increasers



Type No	D1	D2	X	A
850.050.075	75	50	87	7
850.050.110	110	50	113	25
850.075.110	110	75	116	15
850.110.125	125	110	103	—
850.110.160	160	110	136	22
850.125.160	160	125	175	—
850.160.200	200	160	170	18

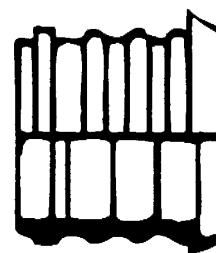
### 87.5° stainless steel traps (AISI 316 L only)



Type No	D	X1	X2	X3	Water Seal (M)
525.090.050 S	50	67	175	145	74
525.090.075 S	75	93	222	189	81
525.090.110 S	110	132	289	249	89
525.090.125 S	125	151	332	278	97
525.090.160 S	160	184	388	338	105

Cleaning eyes available at extra cost.

### plastic, copper or stainless steel

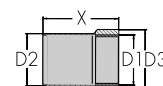


### Reducer (rubber)

To 50 mm dia EuroPipe Socket, enables nom 1¼" or 1½" pipes to be push-fit connected to 50 mm dia EuroPipe.

nom 1¼" Type No HW 58  
nom 1½" Type No HW 59

### threaded adaptors (AISI 316 L only)



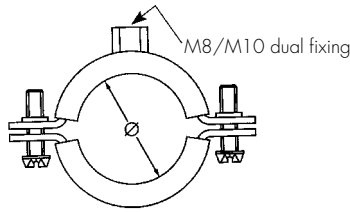
Type No	D1	D2	D3	X
885.032.050 S	1¼" FEM	50	45	72
885.040.050 S	1½" FEM	50	58	75
885.050.050 S	2" FEM	50	71	69

continued

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Figure 1 Product range (all dimensions in mm) (continued)

## Pipe brackets



### stainless steel

Type No	Pipe dia
595650	50
595690	75
595720	110
595730	125
595760	160
595770	200

### galvanized steel

Type No	Pipe dia
595860	50
595890	75
595930	110
595940	125
595960	160
595971	200

## Design Data

### 3 General

Blücher EuroPipe Pipes, Fittings and Adaptors are satisfactory for use in an above-ground drainage system designed and installed in accordance with BS EN 12056-1 to 3 : 2000.

### 4 Strength

4.1 The EuroPipe pipes, fittings and adaptors will have adequate resistance to the forms of loading associated with installation and normal service conditions.

4.2 The products are of robust construction but rough handling (eg dropping on concrete could cause distortion of the seal areas. Any items suffering this damage should be discarded.

4.3 The EuroPipe pipes and fittings should be protected from impacts, eg from heavy vehicles such as fork-lift trucks used on commercial premises.

### 5 Flow characteristics

A system comprising Blücher EuroPipe Pipes, Fittings and Adaptors will have satisfactory flow characteristics. Non-swept branch connections are restricted in accordance with BS EN 12056-1 to 3 : 2000, clause ND.3.24.

## Technical Investigations

The following is a summary of the technical investigations carried out on Blücher EuroPipe Pipes, Fittings and Adaptors.

### 6 Tests

Tests were carried out to determine:

- dimensional accuracy
- ease of jointing
- ease of jointing to pipes of other materials
- resistance to hydrostatic pressure
- resistance to impact.

### 7 Investigations

7.1 An evaluation of data was made to assess:

- system design
- resistance to chemicals
- practicability of installation
- ease of cleaning
- effect of elevated temperatures
- durability.

7.2 A visit to a site in progress was carried out to assess the practicability of installation.

7.3 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

## Bibliography

BS EN 681-1 : 1996 *Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Vulcanized rubber*

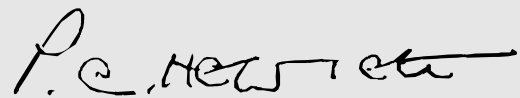
BS EN 12056-1 : 2000 *Gravity Drainage Systems inside Buildings — General and performance requirements*

BS EN 12056-2 : 2000 *Gravity Drainage Systems inside Buildings — Sanitary pipework, layout and calculation*

BS EN 12056-3 : 2000 *Gravity Drainage Systems inside Buildings — Roof drainage, layout and calculation*



On behalf of the British Board of Agrément



Date of Second issue: 30th September 2003

Chief Executive

*\*Original Detail Sheet issued 28th September 2001. This amended version includes additional products in the 125 mm and 200 mm sizes and amended details on inspection access fittings.*

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