25006 February 2018

Product Catalogue for Marine Drains and Pipes

BLÜCHER® Marine Sanitary Discharge System





BLÜCHER®

A WATTS Brand

Representatives

BLÜCHER is represented by local specialists within marine applications around the World.
If a local specialist for your area is not listed below, please contact our HQ Marine Sales.

Country	Representative
Argentina	Ferreyra & Asociados S.H.
Australia	Marine Plant Systems Pty. Ltd
Brazil	Rui Neiva Representacoes LtdaChile
Chile	Maquinarias & Inv. Tecnicas S.A.
China	TECWAY International (Marine) Ltd
Croatia	CROCON d.o.o
Finland	Polarputki OY
Germany	VIRTUS GmbH
Greece	EPE S.A.
India	Hi-Point Services (I) Pvt. Ltd
Italy	Stelio Bardi SRL
Japan	Harada Corporation

Country	Representative
Netherlands	Nicoverken Marine Services B.V.
Poland	Altro Shipping Co. Ltd
Romania	Danube Rainbow Ltd
Russia	JAMA-Engineering
Singapore	Technique Marine Services Pte Ltd
South Korea	Jeitek Corporation
Spain	Pasch Y Cia S.A.
Taiwan	Union Group
Turkey	DOP Ltd
UAE	Technology Ventures Middle East FZC
USA	EMS European Metric Steel
Vietnam	MTS International JSC

HQ Marine Sales - Denmark: Tel.: +45 99 92 08 00 . marine@blucher.com

Approved drainage solutions for marine

BLÜCHER® EuroPipe is a complete stainless steel sanitary pipework system approved for installation in ships. It is the natural choice of the shipbuilding industry when looking for safe, lightweight, easy-to-install and low-maintenance solutions.
The push-fit joint is completely interchangeable between either gravity or vacuum discharge systems. In addition to sanitary discharge it is also suitable for central vacuum cleaning systems, garbage disposal systems, etc. The benefits of being able to use the same pipework system throughout the vessel, regardless of the type of system employed, can offer significant installation savings.
The advantages at a glance:

- All in stainless steel
- Available in OD 40, 50, 75, 110, 125, 160 and 200 mm in standard lengths from 0,15 to 6 metres
- Fast and simple installation due to push-fit socket and spigot end jointing
- Easily combined with other pipe materials
- Low weight of material and only 1-1,50 mm wall thickness
- Completely interchangeable between vacuum and gravity installations
- Designed in accordance with EN1124

BLÜCHER® Drain Marine have been developed in conjunction with leading shipyards worldwide. As a result, the product offering meets the specific demands of each individual installation regardless of the deck construction. BLÜCHER® Marine drains are suitable for welding in the deck and some for non-welded installation, can be fitted with a removable water trap (providing full rodding access from above) and are available to suit any deck finish. The advantages at a glance:

- All in stainless steel
- Modular system providing numerous possible combinations
- Multi-adjustable
- A solution for any deck finish
- Removable water trap providing efficient water seal and easy rodding access from above
- Protective cover on all lower parts

BLÜCHER® Channel stainless steel drainage channels are modular deck drainage solutions for use in galleys, pantries, door openings, outside deck areas, etc. Drainage channels are available to suit all deck finishes with a range of gratings developed to suit the varying load-bearing and flow demands. Outlets are available with a removable water trap and where applicable a filter basket to prevent solids discharging into the drainage system. Customised components are available on request.

- All in stainless steel
- Modular system providing numerous possible combinations
- Multi-adjustable
- Excellent flow and self-cleansing properties
- Perfect hygiene
- Wide range of gratings
- **Separate product catalogue available on request.**

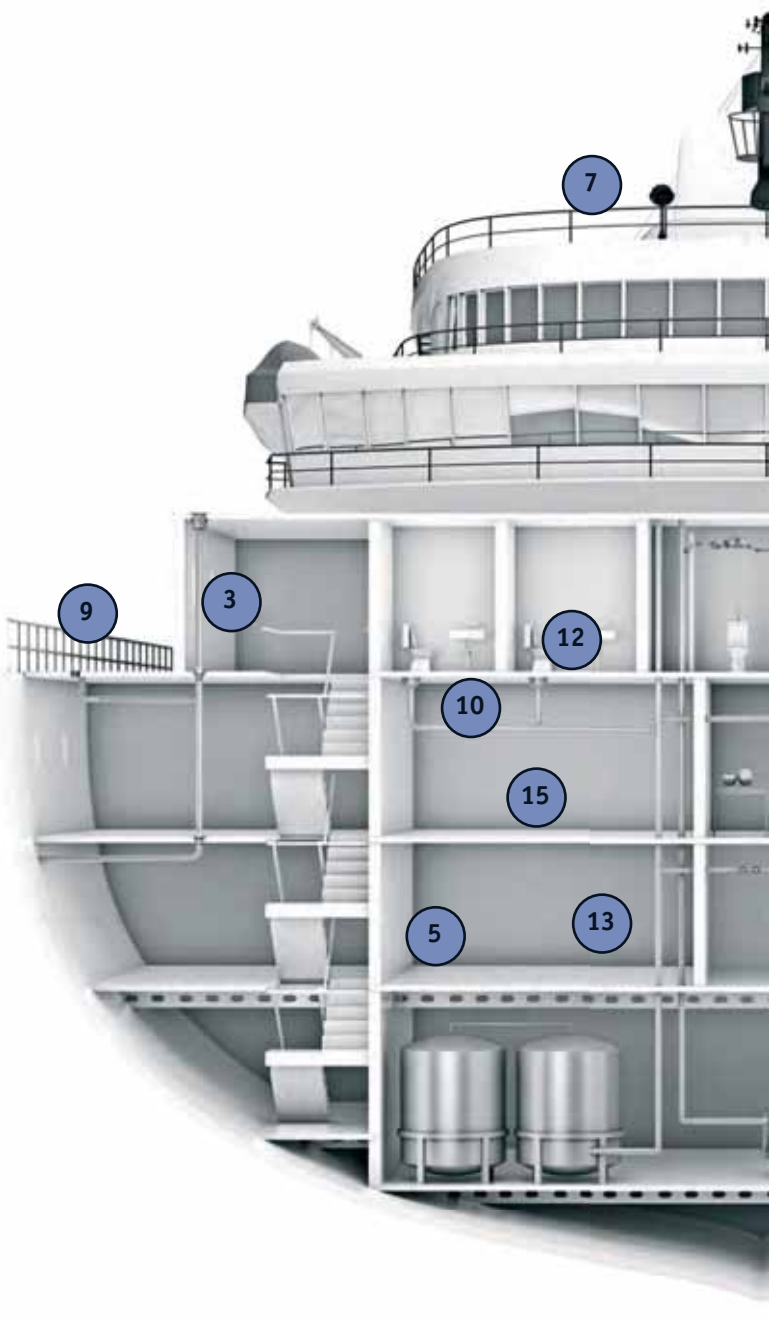
Product database at www.blucher-marine.com

Where to use

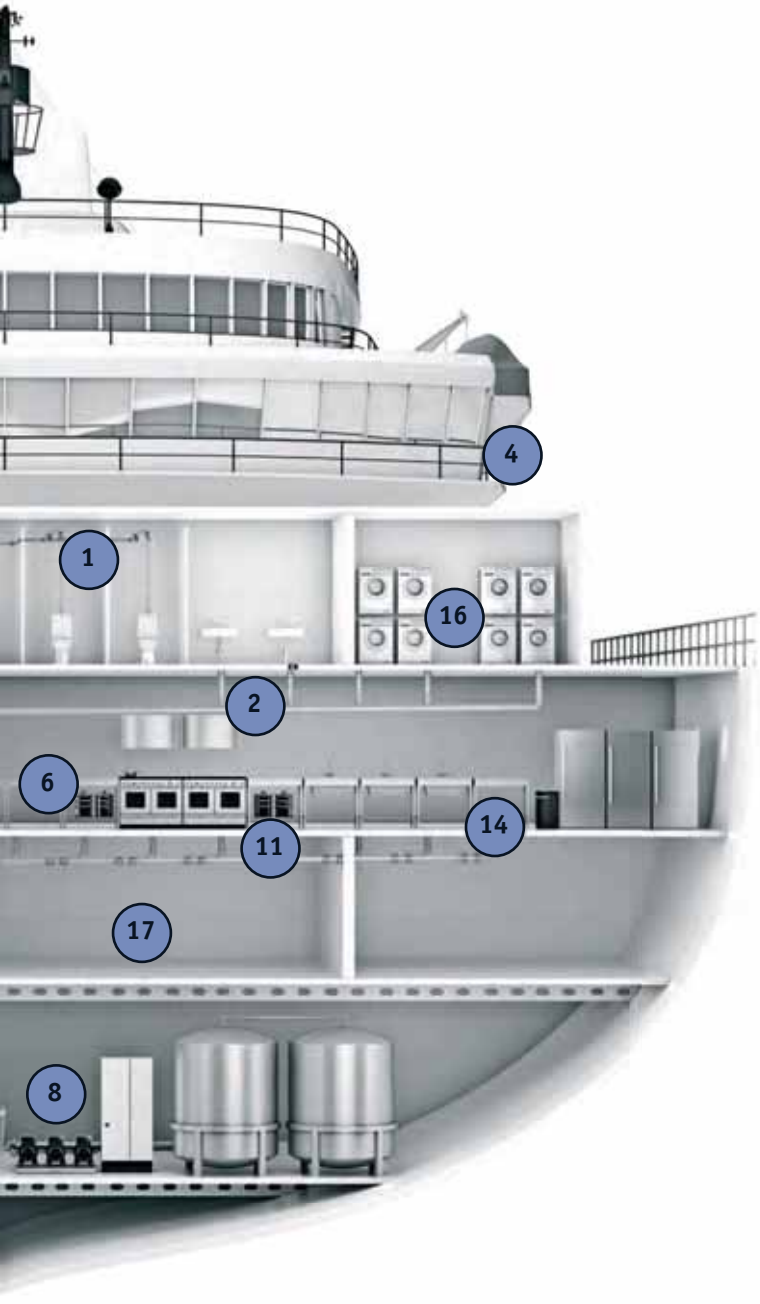
BLÜCHER® EuroPipe

Selected applications:

1. Black water - vacuum and gravity
2. Grey water
3. Deck drain piping
4. Outside/balcony piping
5. Central vacuum cleaning system (CVC)
6. Food waste systems
7. Ventilation pipes
8. Drainage piping for engine rooms



BLÜCHER



BLÜCHER® Drain Marine

Selected applications:

9 Balconies

10 Cabin areas

11 Galley areas

12 Shower drains

13 Public areas

BLÜCHER® Channel

Selected applications:

14 Galley areas/pantries

15 Corridors

16 Laundry rooms

17 **BLÜCHER® Grease Separator**

Safe Solutions for Marine

Since the early 1980's, BLÜCHER's sanitary discharge system for marine applications has been the first-choice sanitary discharge system for newbuilding and refitting of ships in Denmark, quickly followed by leading shipyards world-wide.

To date BLÜCHER® sanitary discharge system has been installed in more than 3000 vessels worldwide ranging from cruise liners, luxury yachts and ferries to merchant ships, naval vessels and off-shore facilities. BLÜCHER is the preferred supplier to several of the largest shipyards worldwide, among them Meyer Group, Fincantieri, STX Europe France, MV Werften, Daewoo.

Sanitary Discharge Systems

The BLÜCHER® sanitary discharge system is a modular system providing numerous possible combinations and a solution for any deck or bulkhead construction. In addition to the extensive standard product range, BLÜCHER also offers purpose-made items on request to ensure that any drainage requirement can be satisfied.

All BLÜCHER® drainage products are made in stainless steel grade AISI 316L or optionally grade AISI 304. In some products, in which part components are used that are not exposed to sewage water and consequently not affecting the functionality or lifetime of the product, these part components may be made from other materials or alloys than specified for the complete products. The stainless steel material is ideally suitable for high-quality drainage systems:

- Fire resistant
- High strength - low weight
- Excellent hygienic properties
- Environmentally friendly

Furthermore it is corrosion resistant, resistant to impacts and thermal stress and hardly any maintenance is required.

In the BLÜCHER® drainage products these inherent qualities of stainless steel are enhanced by careful product design, thus resulting in:

- Long product life expectancy
- Ease of installation
- Whole-life cost advantages
- Excellent flow capacities

All penetrations are fire-tested and approved according to IMO Res. A 754(18)/IMO 2010 FTP code part 3.

All BLÜCHER® products are chemically descaled and passivated in order to enhance the natural corrosion resistance and provide a uniform matt-silver surface finish.

All stainless steel components are manufactured largely from recycled materials and are 100% recyclable.

Danish Design and production

Founded in Denmark in 1965, BLÜCHER has developed into a leading manufacturer of stainless steel drainage systems. Today, BLÜCHER is an international company and with subsidiaries and representations worldwide. The BLÜCHER Group employs more than 350 staff worldwide.

Customers all over the world appreciate our know-how, dedicated service and common sense.

Through quality stainless steel products and drainage solutions that lead waste water away, BLÜCHER is committed to the promise of keeping up the flow.

The BLÜCHER® drainage products are manufactured in Denmark using the most modern production methods and in accordance with the internationally recognised quality standards ISO 9001 and ISO 14001. Furthermore, the most respected classification societies endorse the BLÜCHER® drainage products worldwide.


Selected references around the World

Vessels, hospitals, schools, commercial kitchens, the food and beverage industry and the pharmaceutical industry are among the customers that benefit from BLÜCHER stainless steel drainage systems.

Marine

More than 3000 vessels in more than 30 countries since 1982.
For a complete list of references, please visit **www.blucher-marine.com**

Housing

BLÜCHER® stainless steel floor drains and pipe system are used all over the World in Scandinavian-style wet bathrooms in single and multi-storey buildings.

Commercial

Queen Mary Hospital, Hvidovre hospital, Princess Alexandra Hospital, Blackpool Victoria Hospital, Queen Elizabeth Hospital, St. James Hospital, University College London Hospital, Sportcentrum Fitness First, Càszar Swimming Pool, Sports & Aquatic Centre, International Grammar School, Collège Bellevue, Elite University, Universitat Pompeu Fabra, Augustenborgskolan, Canadian International School, North Texas State University, Elderly Citizens Home Adelaide, Old Peoples Home Budapest, Maryland State Prison, Uppsala Polishus, Oslo Opera, Hilton Hotels, Hotel Marriot, Sofitel, Novotel, The Ritz Carlton Bahrain, McDonalds, Burger King, Pizza Hut, Le Louvre, Bahrain National Museum, Ministère de L´Industri, State Library of Victoria, Royal Danish Theatre, Copenhagen Zoo, Hong Kong Disneyland, Dubai Mall, IKEA, Tesco, Coop, Metro, Carrefour, Lidl, Woolworths, Gardamoen Oslo, Copenhagen Airport, Heathrow Airport, Barcelona Airport, New Athens Airport, Orly Airport, Arlanda Airport, Helsinki Airport.

Industrial

Pfizer, GSK, Astra Zeneca, Johnson & Johnson, Aventis, Kraft, Nestlé, Danish Crown, Daloon, Tulip, Knorr, Singapore Airport Catering, Ahlgreens, Estrella, Kelloggs, CocaCola, Pepsi, Heineken, Carlsberg, Whitbread Breweries, Budweiser, Tropicana Juice Processing, Absolut Vodka. Nestlé, Arla Food, Danone, Unilever, Almarai Dairy. Mercedes, Renault, L'Oreal, Sony, BASF, 3M, IBM World Headquarters, Honeywell, Colgate Palmolive, Royal Copenhagen, Hella.

Approvals and certificates

BLÜCHER® sanitary discharge system holds the MED Certification and type approvals of leading classification authorities.

MARINE EQUIPMENT DIRECTIVE
DNV·GL
2014/90/EU

TYPE APPROVED PRODUCT
DNV·GL
DNVGL.COM/AF

Lloyd's Register

ABS
AMERICAN BUREAU OF SHIPPING
EQUIPMENT TYPE APPROVAL PROGRAM

RINA
1861

BUREAU VERITAS
1828
BUREAU VERITAS

BLÜCHER® EuroPipe are shock and vibration tested by:

TNO
TNO Built Environment and Geosciences

Achilles JQS
empowered by Achilles
Qualified

Russian Maritime Register

RUSSIAN MARITIME REGISTER OF SHIPPING
1913

Table of contents

BLÜCHER® DRAIN MARINE

BLÜCHER® WATERLINE

BLÜCHER® CHANNEL

BLÜCHER® GREASE SEPARATOR

BLÜCHER® EUROPIPE

TECHNICAL INFORMATION

New in this catalogue - see next page

New products in this catalogue

BLÜCHER® DRAIN MARINE

- Vacuum drain
- Removable water trap, low (for cabin drain type 491)
- Ø50 mm P trap for wash basins and kitchen sinks
- Filter basket for removable two-part lower trap (type 502.052.110 MS)

BLÜCHER® WATERLINE

- Shower channels

BLÜCHER® CHANNEL

- Channels and kitchen channels for galleys, pantries and decks

BLÜCHER® GREASE SEPARATORS

- Grease separators

BLÜCHER® EUROPIPE

- Bend 22,5°
- Pipe with access (type 840)
- Bend with access (type 822)
- Universal flange adapter for ANSI, JIS and DIN
- Pipe hanger in galvanized steel
- Socket plug with ½" female thread

Drains for marine applications

Multi-adjustable
For any deck finish
Modular system

Applications
- Showers, toilets, wet cabins, galleys, pantries, deck areas and workshop areas
- Cruise liners, yachts, commercial vessels, navy vessels and off-shore

Details
- Protective cover on all lower parts
- Matt-polished surface
- Low 6mm frame height
- Grate with screw lock
- Stainless steel AISI 316L/EN1.4404 or optionally AISI 304/EN1.4301
- Hygienic design

Variants
- Side inlets Ø32/Ø40 mm
- Vertical or horizontal outlet
- For welding into deck, with or without welding sleeve, or for installation without welding by means of screw-lock system

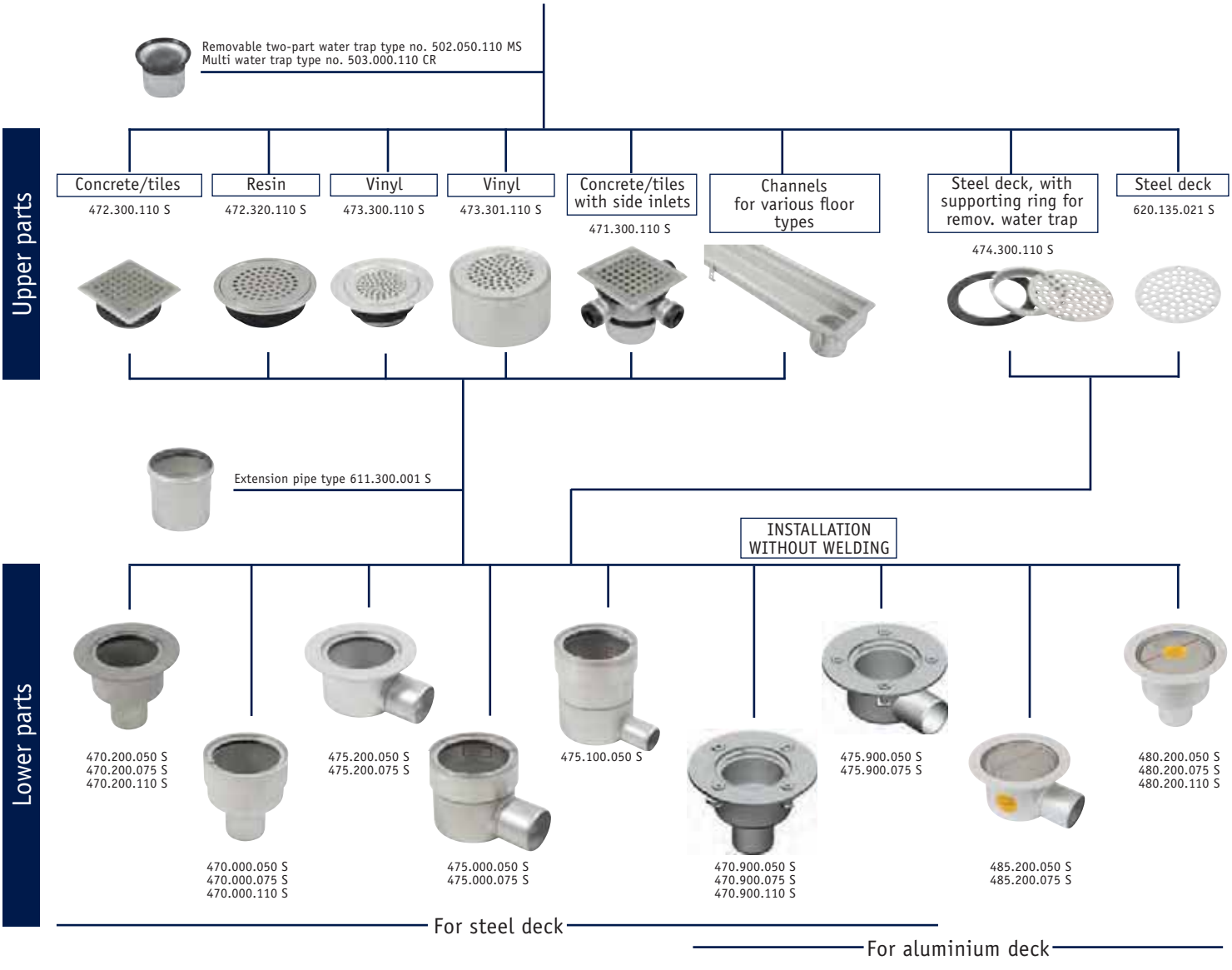
Options
- Removable water trap
- Design gratings available

Series
- Series 47X for stainless steel deck
- Series 48X for aluminium deck

Product database at www.blucher-marine.com

Marine drains

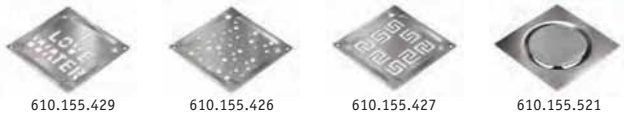
Combinable drain parts



Complete drains

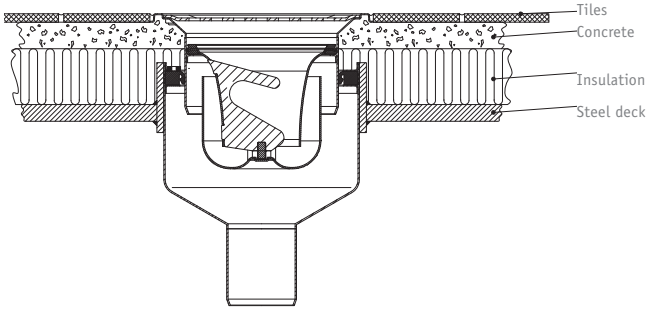
Cabin drain with water trap
for steel decks
491.200.050 VS

Optional gratings for marine drains

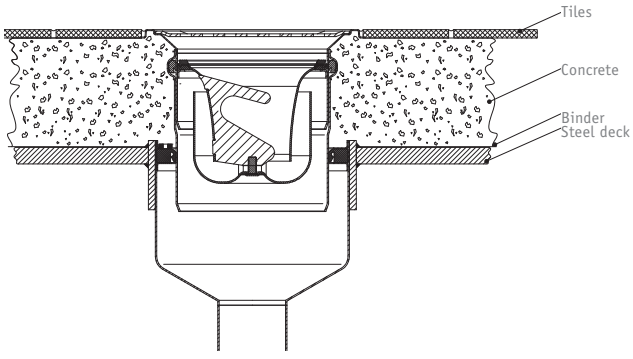


Installation examples

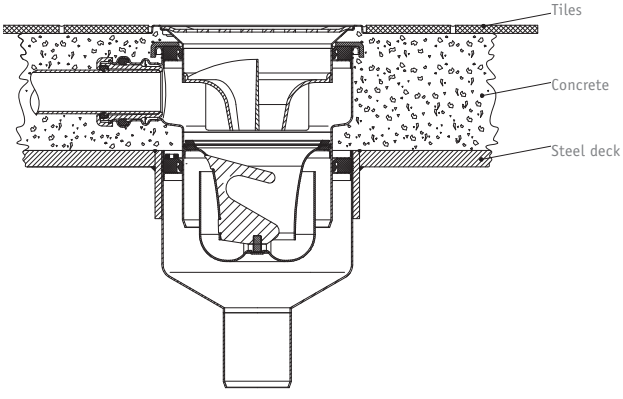
Tiled deck incl. water trap



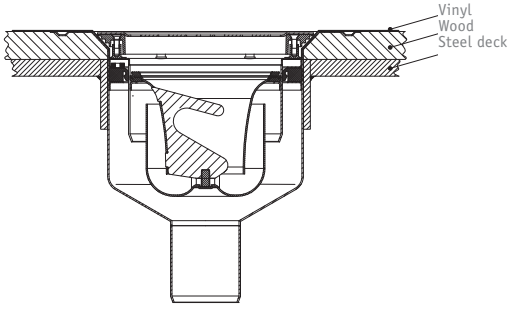
Tiled deck incl. water trap and extension pipe



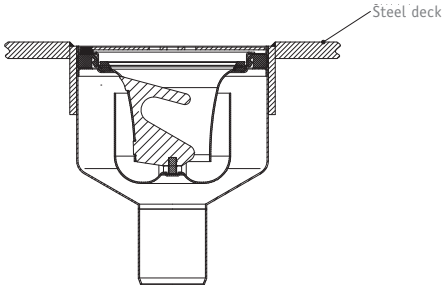
Tiled deck incl. water trap and side inlets



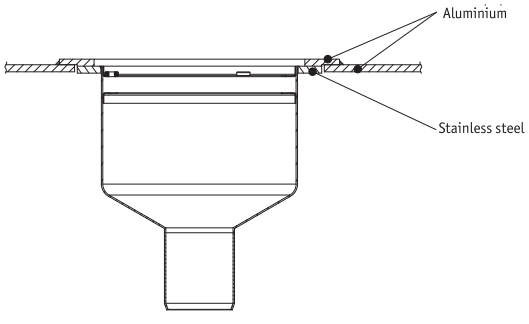
Vinyl deck incl. water trap



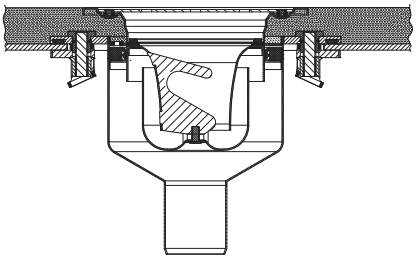
Steel deck



Aluminium deck

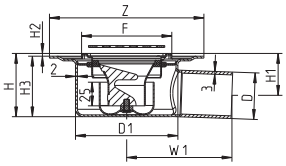


Epoxy resin on steel deck, installation without welding



ADJUSTABLE CABIN DRAIN TYPE 491

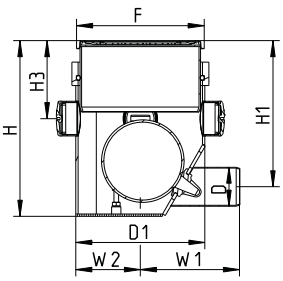
WITH REMOVABLE WATER TRAP



Type no.	EAN no.	EC/MED (Deck)	D	D1	F	Z	H	H1	H2	H3	W1	Kg
491.200.050 VS	5705499131857	A0-A60	50	110	97x97	Ø166	68-78	45-55	3-13	65	113	1,24

VACUUM DRAIN TYPE 480

WITH SIDE INLETS

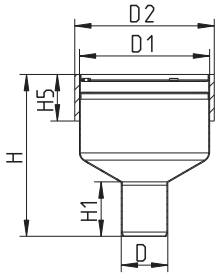


Type no.	EAN no.	D	D1	F	H	H1	H3	W1	W2
480.150.050	5705499116199	50	166	155x155	217-257	182-220	92-132	128	83

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

LOWER PART FOR MARINE DRAIN TYPE 470.000

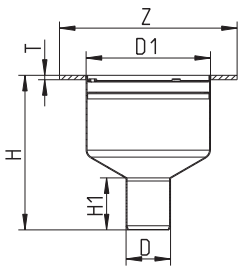
WITH WELDING SLEEVE



Type no.	EAN no.	EC/MED (Deck)	D	D1	H	H1	H5	D2	Kg
470.000.050 S	5705499106145	A0-A60	50	140	174	58	50	150	1,73
470.000.075 S	5705499106169	A0-A60	75	140	172	63	50	150	1,60
470.000.110 S	5705499106183	A0-A60	110	140	146	75	50	150	1,70

LOWER PART FOR MARINE DRAIN TYPE 470.200

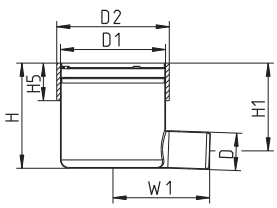
WITH WELDING FLANGE



Type no.	EAN no.	EC/MED (Deck)	D	D1	Z	H	H1	T	Kg
470.200.050 S	5705499106206	A0-A60	50	140	Ø200	174	58	5	1,30
470.200.075 S	5705499106220	A0-A60	75	140	Ø200	172	63	5	1,40
470.200.110 S	5705499106244	A0-A60	110	140	Ø200	141	75	5	1,24

LOWER PART FOR MARINE DRAIN TYPE 475.000

WITH WELDING SLEEVE

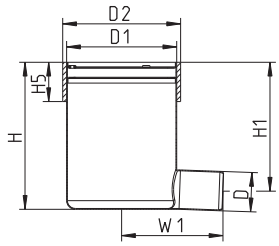


Type no.	EAN no.	EC/MED (Deck)	D	D1	H	H1	H5	W1	D2	Kg
475.000.050 S	5705499106268	A0-A60	50	140	140	117	50	129	150	1,85
475.000.075 S	5705499106282	A0-A60	75	140	140	105	50	134	150	1,80

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

LOWER PART FOR MARINE DRAIN, HIGH MODEL TYPE 475.100

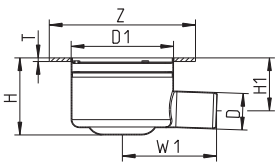
WITH WELDING SLEEVE



Type no.	EAN no.	EC/MED (Deck)	D	D1	H	H1	H5	W1	D2	Kg
475.100.050 S	5705499106305	A0-A60	50	140	187	164	50	129	150	1,90

LOWER PART FOR MARINE DRAIN TYPE 475.200

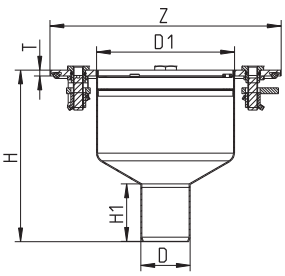
WITH WELDING FLANGE



Type no.	EAN no.	EC/MED (Deck)	D	D1	Z	H	H1	W1	T	Kg
475.200.050 S	5705499106329	A0-A60	50	140	Ø200	106	72	129	5	1,30
475.200.075 S	5705499106343	A0-A60	75	140	Ø200	106	71	134	5	1,35

LOWER PART FOR MARINE DRAIN TYPE 470.900

NON-WELDED

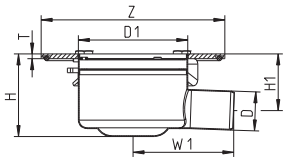


Type no.	EAN no.	EC/MED (Deck)	D	D1	Z	H	H1	T	Kg
470.900.050 S	5705499133318	A0-A60	50	140	Ø235	174	58	6	2,35
470.900.075 S	5705499133325	A0-A60	75	140	Ø235	172	63	6	2,37
470.900.110 S	5705499133332	A0-A60	110	140	Ø235	141	75	6	2,33

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

LOWER PART FOR MARINE DRAIN TYPE 475.900

NON-WELDED



Type no.	EAN no.	EC/MED (Deck)	D	D1	Z	H	H1	W1	T	Kg
475.900.050 S	5705499133349	A0-A60	50	140	Ø235	106	72	129	6	2,35
475.900.075 S	5705499133356	A0-A60	75	140	Ø235	106	71	134	6	2,47

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Stainless steel drains and penetrations for aluminium structures



Welding directly into aluminium
Complete standard system
One system - one supplier

PATENT

Applications
The products are suitable in particular for cruise liners, luxury yachts, ferries and other maritime vessels, where high strength combined with low weight is essential.

Details
Stainless steel drains and penetrations with a combined aluminium and stainless steel flange. This combination makes it possible to weld stainless steel directly into aluminium decks and bulkheads.
Please also see installation instructions for drains for aluminium structures, no. 760878, or contact BLÜCHER for separate installation instructions.

Materials
Flange: Stainless steel and aluminium
Other: Stainless steel - AISI 316L

Tests
A salt mist test of the product range has been carried out at the Force Institute in Denmark.

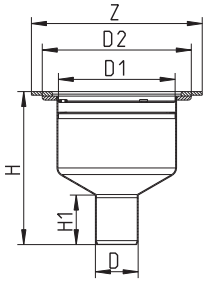
All products are MED approved according to IMO Res. A. 754(18)/IMO 2010 FTP code part 3.

Installation without welding

Stainless steel drains and penetrations are also available for installation without welding into aluminium decks.

LOWER PART FOR MARINE DRAIN TYPE 480

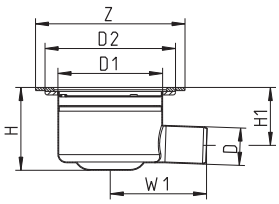
WITH BIMETAL FLANGE



Type no.	EAN no.	EC/MED (Deck)	D	D1	Z	H	H1	D2	Kg
480.200.050 S	5705499121841	A0-A60	50	140	Ø200	179	58	175	1,00
480.200.075 S	5705499121858	A0-A60	75	140	Ø200	177	63	175	1,50
480.200.110 S	5705499121889	A0-A60	110	140	Ø200	151	75	175	1,50

LOWER PART FOR MARINE DRAIN TYPE 485

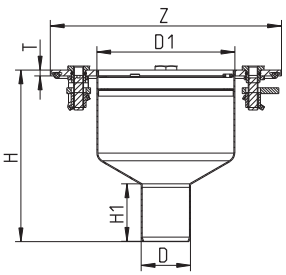
WITH BIMETAL FLANGE



Type no.	EAN no.	EC/MED (Deck)	D	D1	Z	H	H1	W1	D2	Kg
485.200.050 S	5705499121865	A0-A60	50	140	Ø200	111	78	128	175	1,50
485.200.075 S	5705499121872	A0-A60	75	140	Ø200	111	76	133	175	1,56

LOWER PART FOR MARINE DRAIN TYPE 470.900

NON-WELDED

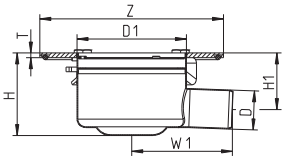


Type no.	EAN no.	EC/MED (Deck)	D	D1	Z	H	H1	T	Kg
470.900.050 S	5705499133318	A0-A60	50	140	235	174	58	6	2,35
470.900.075 S	5705499133325	A0-A60	75	140	235	172	63	6	2,37
470.900.110 S	5705499133332	A0-A60	110	140	235	141	75	6	2,33

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

LOWER PART FOR MARINE DRAIN TYPE 475.900

NON-WELDED

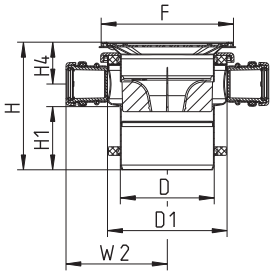


Type no.	EAN no.	EC/MED (Deck)	D	D1	Z	H	H1	W1	T	Kg
475.900.050 S	5705499133349	A0-A60	50	140	235	106	72	129	6	2,35
475.900.075 S	5705499133356	A0-A60	75	140	235	106	71	134	6	2,47

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

UPPER PART FOR MARINE DRAIN TYPE 471.300

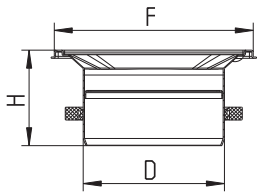
WITH SIDE INLETS



Type no.	EAN no.	D	D1	F	H	H1	H4	W2	Kg
471.300.110 S	5705499106367	110	140	155	150-160	74	49-59	119	3,00

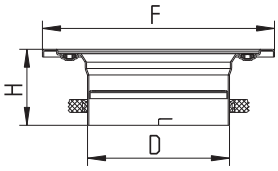
3 inlets (Ø32/40mm)

UPPER PART FOR MARINE DRAIN TYPE 472.300



Type no.	EAN no.	D	F	H	Kg
472.300.110 S	5705499106381	110	155x155	74	0,70

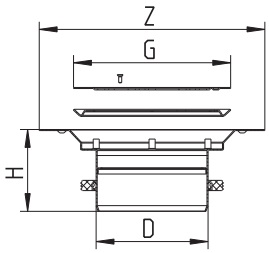
UPPER PART FOR MARINE DRAIN TYPE 472.320



Type no.	EAN no.	D	F	H	Kg
472.320.110 S	5705499118537	110	Ø180	59	0,57

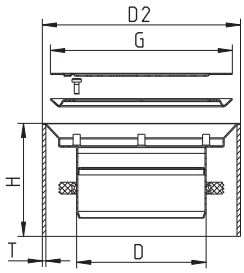
All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

UPPER PART FOR MARINE DRAIN TYPE 473.300



Type no.	EAN no.	D	Z	G	H	Kg
473.300.110 S	5705499106404	110	Ø222	Ø155	81	0,80

UPPER PART FOR MARINE DRAIN TYPE 473.301

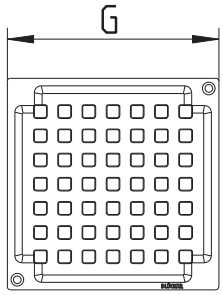


Type no.	EAN no.	D	G	H	D2	T	Kg
473.301.110 S	5705499107517	110	Ø155	96	168	3	0,80

For welding into floating decks

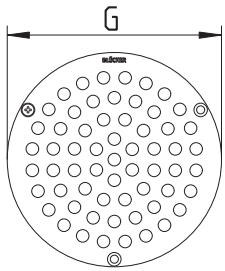
All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

GRATING SQUARE VIENNA



Type no.	EAN no.	G	T	Screws	Kg
610.155.421	5705499102116	140x140	2	2	0,33
610.155.421 S	5705499102130	140x140	2	2	0,33

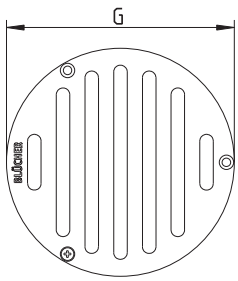
GRATING CIRCLE VIENNA



Type no.	EAN no.	G	T	Screws	Kg
620.135.021 S	5705499106466	Ø135	2	3	0,18

GRATING CIRCLE, 8 MM SLOTS

FOR BAREFOOT AREAS



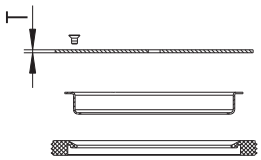
Type no.	EAN no.	G	T	Kg
620.135.028 S	5705499135008	Ø135	2	0,23

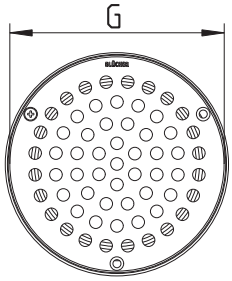
If the slots in the grating are to fit in a specific direction, the position of the screw holes in the drain is to be taken into account prior to installation of the drain.

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

GRATING CIRCLE VIENNA

WITH SUPPORTING RING FOR WATER TRAP

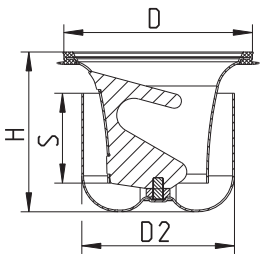




Type no.	EAN no.	G	T	Screws	Kg
474.300.110 S	5705499106428	Ø135	2	3	0,20

REMOVABLE TWO-PART WATER TRAP TYPE 502.050

WITH EPDM SEALING RING

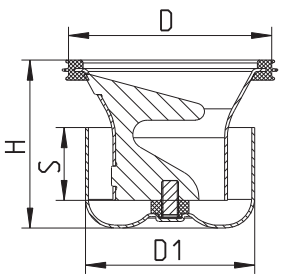


Type no.	EAN no.	D	H	S	D2	Max Flow (l/s)	Kg
502.050.110 MS	5705499133257	108	89	50	85	1.7	0,36

Fits into all drains except type 475.200 and 485.200 produced before 2008.
Accurate flow rate depending on type of drain and grating.

REMOVABLE WATER TRAP, LOW MODEL TYPE 502.025

WITH EPDM SEALING RING

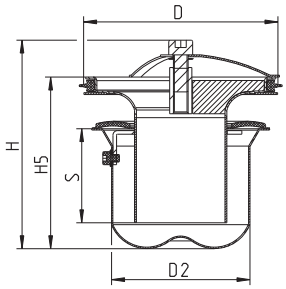


Type no.	EAN no.	D	H	S	D1	Max Flow (l/s)	Kg
502.025.075 S	5705499131833	73	59	25	59	0.4	0,15

Accurate flow rate depending on type of drain and grating.

REMOVABLE MULTI WATER TRAP TYPE 503

WITH CR SEALING RING, PREVENTS SMELL AND BACK FLOW

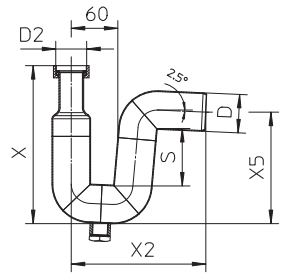


Type no.	EAN no.	D	H	H5	S	D2	Max Flow (l/s)	Kg
503.000.110 CR	5705499131918	108	113	93	51	75	1.2	0,39

Accurate flow rate depending on type of drain and grating.

P-TRAP 87,5° TYPE 525

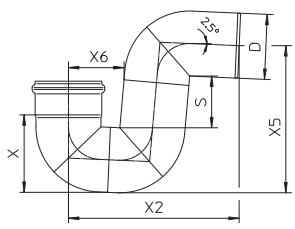
WITH COUPLING AND DRAIN PLUG



Type no.	EAN no.	D	S	D2	X	X2	X5	Kg
525.032.050 S	5705499114065	50	74	1¼"	205	175	145	0,95
525.040.050 S	5705499114072	50	74	1½"	205	175	145	0,90
525.050.050 S	5705499114089	50	74	2"	205	175	145	0,88

BSP thread.

P-TRAP 87,5° TYPE 525.090

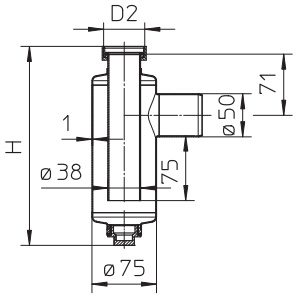


Type no.	EAN no.	D	S	X	X2	X5	X6	Max Flow (l/s)	Kg
525.090.050 S	5705499101461	50	74	67	175	145	60	1.7	0,45
525.090.075 S	5705499101478	75	81	93	222	189	74	2.5	0,84
525.090.110 S	5705499101485	110	89	132	289	249	94	3.4	1,49
525.090.125 S	5705499117974	125	110	158	330	292	102	4.4	1,88

Accurate flow rate depending on installation.

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

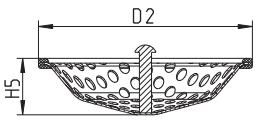
BOTTLE WATER TRAP TYPE 505



Type no.	EAN no.	H	D2	Kg
505.032.050 S	5705499101447	250	1¼"	0,95
505.040.050 S	5705499101454	233	1½"	0,85
505.050.050 S	5705499114058	243	2"	1,20

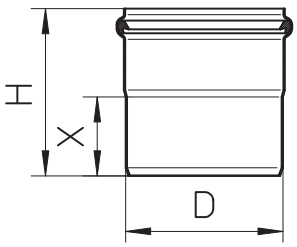
75 mm water seal. BSP thread.

FILTER BASKET FOR REMOVABLE TWO-PART WATER TRAP



Type no.	EAN no.	H5	D2
502.000.000 S	5705499124101	24	106

EXTENSION PIPE TYPE 611



Type no.	EAN no.	D	H	X	Kg
611.300.001 S	5705499106442	110	117	55	0,40

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

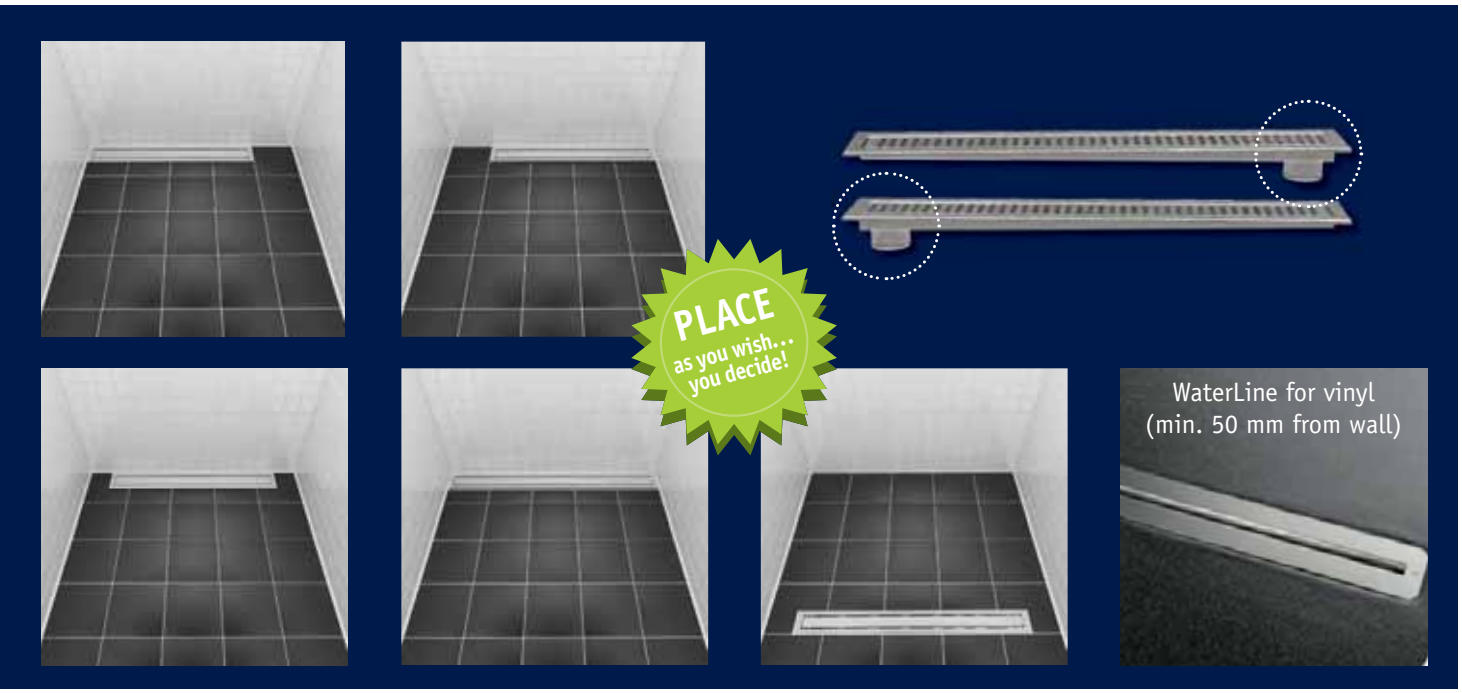
MOUNTING BITS NV22

FOR NON-WELDED PENETRATIONS & DRAINS

Type no.	EAN no.
001.900.001	5705499001082

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Shower channels for marine applications



Height-adjustable
No permanent connection between wall and floor

Applications
For tiled and vinyl flooring in:
- Cabins

Details
- **NEW: One model for concrete/tiles can be installed with outlet left or right and against wall(s) or away from walls**
- 20 mm frame width
- 50 mm end outlet
- All in stainless steel AISI 304/EN 1.4301, brush finish
- Adjustable frame height
- Secured grate providing rat stop

Options
- OD40 mm outlet part without water trap
- Range of different water traps
- Side inlet connection
- 6 different design gratings

Variants
- 300-700-800-900-1000 mm standard lengths
- Up to 2000 mm length as customized channel

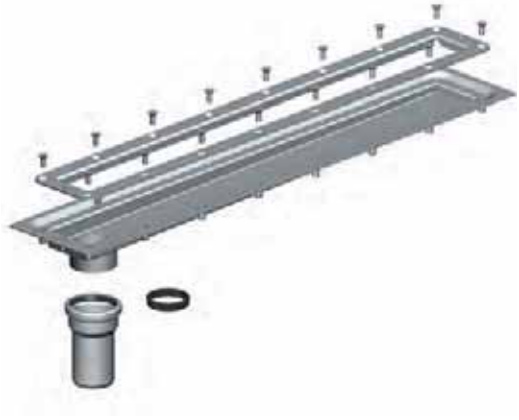
Series
- Series 178 for tiled floors without membrane
- Series 275 for vinyl floors
- Series 378 for tiled floors with liquid membrane
- Series 398 for tiled floors with sheet membrane

Product database at www.blucher-marine.com

Complete drains

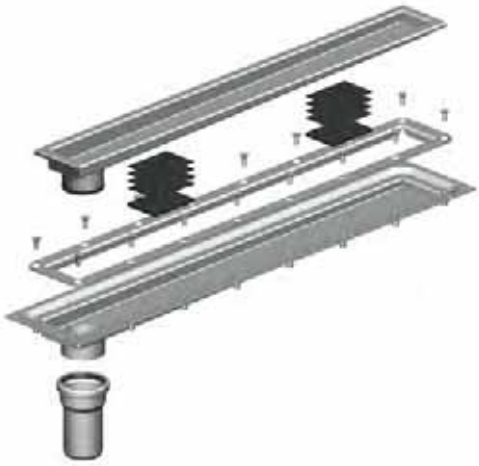
Series 178 for tiled floor without membrane

Series 275 for vinyl floor



Series 378 for tiled floor with liquid membrane

Series 398 for tiled floor with sheet membrane



Complete shower channel

Channel
Series 178 1-part channel or series 275, 378 and 398 adjustable 2-part shower channel. Standard OD50 mm end outlet included.
Series 378 and 398 come with rubber pads for height adjustment.
Series 378 comes with removable mounting brackets.

Grating
No standard grating is included - selected design grating to be ordered separately.

Water trap
Water trap with casing and stand pipe not included - to be ordered separately. To be fitted during installation of the channel, cannot be retro-fitted.

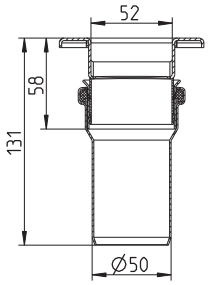
Side inlet OD40 mm is an accessory - to be ordered separately.

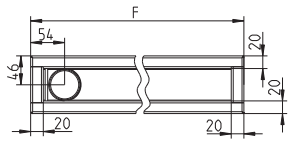
Installation examples

See WaterLine designs at **blucher-marine.com**

without membrane

SHOWER CHANNEL WATERLINE TYPE 178



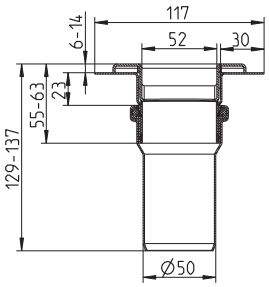


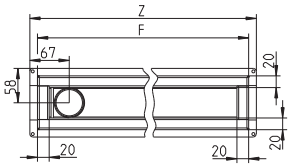
Type no.	EAN no.	Name	F
178.030.056.20	5705499138108	300	274
178.070.056.20	5705499138429	700	674
178.080.056.20	5705499138115	800	774
178.090.056.20	5705499138122	900	874
178.100.056.20	5705499138139	1000	974

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

with liquid membrane

SHOWER CHANNEL WATERLINE TYPE 378



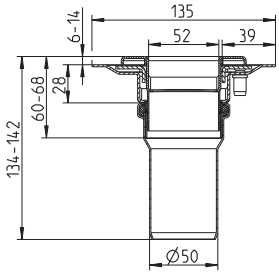


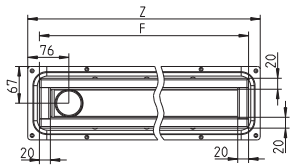
Type no.	EAN no.	Name	F	Z
378.030.056.20	5705499138368	300	274	300
378.070.056.20	5705499138146	700	674	700
378.080.056.20	5705499138153	800	774	800
378.090.056.20	5705499138160	900	874	900
378.100.056.20	5705499138177	1000	974	1000

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

with sheet membrane

SHOWER CHANNEL WATERLINE TYPE 398

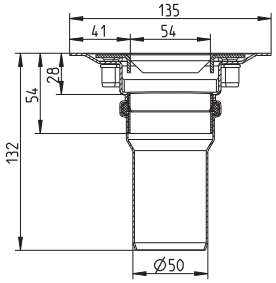


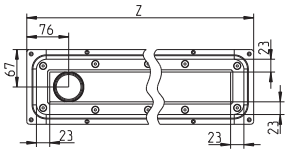


Type no.	EAN no.	Name	F	Z
398.070.056.20	5705499138375	700	674	717
398.080.056.20	5705499138382	800	774	817
398.090.056.20	5705499138399	900	874	917
398.100.056.20	5705499138412	1000	974	1017

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

SHOWER CHANNEL WATERLINE TYPE 275



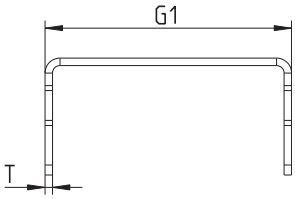


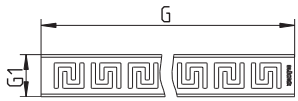
Type no.	EAN no.	Name	Z
275.070.056.20	5705499122527	700	717
275.080.056.20	5705499122534	800	817
275.090.056.20	5705499122541	900	917
275.100.056.20	5705499122558	1000	1017

Required distance from wall to long side of channel = 50mm
Required distance from wall to end of channel = 100mm

Gratings

GRATING LINE ATHENS

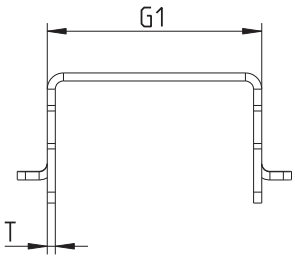


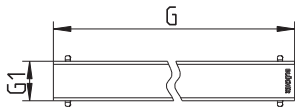


Type no.	EAN no.	G	G1	T	Max Flow (l/s)
697.005.030	5705499122794	232	50	1.5	0.7
697.005.070	5705499122800	632	50	1.5	0.9
697.005.080	5705499122817	732	50	1.5	0.9
697.005.090	5705499122824	832	50	1.5	0.9
697.005.100	5705499122831	932	50	1.5	0.9

If used with water trap type 510, please note that max flow through water trap is 0.8 l/s.

GRATING LINE COPENHAGEN

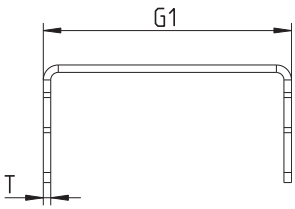


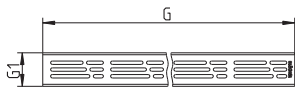


Type no.	EAN no.	G	G1	T	Max Flow (l/s)
697.004.030	5705499119251	232	40	1.5	0.9
697.004.070	5705499119268	632	40	1.5	1.1
697.004.080	5705499119275	732	40	1.5	1.1
697.004.090	5705499119282	832	40	1.5	1.1
697.004.100	5705499119299	932	40	1.5	1.1

If used with water trap type 510, please note that max flow through water trap is 0.8 l/s.

GRATING LINE DETROIT



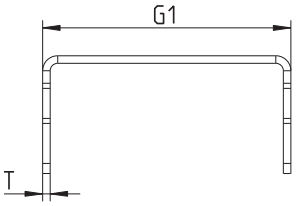


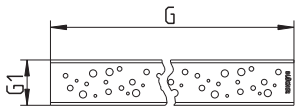
Type no.	EAN no.	G	G1	T	Max Flow (l/s)
697.006.030	5705499122862	232	50	1.5	0.6
697.006.070	5705499122879	632	50	1.5	0.7
697.006.080	5705499122886	732	50	1.5	0.7
697.006.090	5705499122893	832	50	1.5	0.7
697.006.100	5705499122909	932	50	1.5	0.7

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Gratings

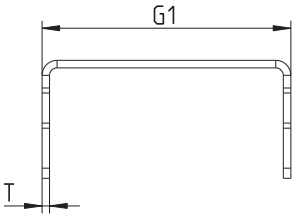
GRATING LINE OSLO

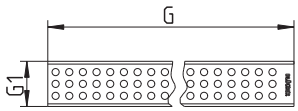




Type no.	EAN no.	G	G1	T	Max Flow (l/s)
697.008.030	5705499122725	232	50	1.5	0.4
697.008.070	5705499122732	632	50	1.5	0.5
697.008.080	5705499122749	732	50	1.5	0.5
697.008.090	5705499122756	832	50	1.5	0.5
697.008.100	5705499122763	932	50	1.5	0.5

GRATING LINE VIENNA

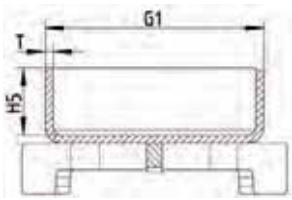


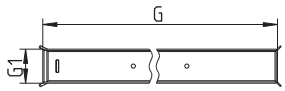


Type no.	EAN no.	G	G1	T	Max Flow (l/s)
697.003.030	5705499119206	232	50	1.5	0.7
697.003.070	5705499119213	632	50	1.5	0.9
697.003.080	5705499119220	732	50	1.5	0.9
697.003.090	5705499119237	832	50	1.5	0.9
697.003.100	5705499119244	932	50	1.5	0.9

If used with water trap type 510, please note that max flow through water trap is 0.8 l/s.

GRATING LINE TOKYO





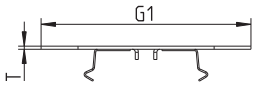
Type no.	EAN no.	G	G1	H5	T	Max Flow (l/s)
697.009.030	5705499126983	224	42	13	1.5	0.8
697.009.070	5705499126990	624	42	13	1.5	0.8
697.009.080	5705499127003	724	42	13	1.5	0.8
697.009.090	5705499127010	824	42	13	1.5	0.8
697.009.100	5705499127027	924	42	13	1.5	0.8

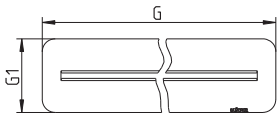
All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Gratings

GRATING LINE COPENHAGEN VINYL

FOR WATERLINE SHOWER CHANNEL FOR VINYL FLOORS





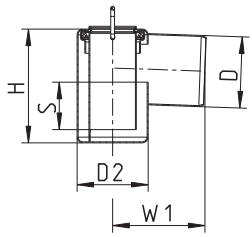
Type no.	EAN no.	G	G1	T	Max Flow (l/s)
697.104.070	5705499122565	685	103	1.5	0.6
697.104.080	5705499122572	785	103	1.5	0.6
697.104.090	5705499122589	885	103	1.5	0.6
697.104.100	5705499122596	985	103	1.5	0.6

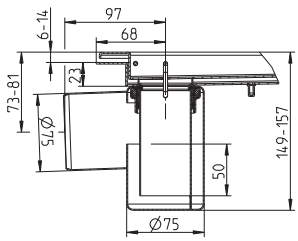
All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Water traps

WATER TRAP FOR WATERLINE

TO BE BUILT IN - CANNOT BE RETRO-FITTED



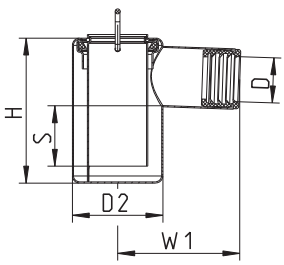


Type no.	EAN no.	D	H	S	W1	D2	Max Flow (l/s)
510.000.075	5705499120011	75	120	50	97	75	0.8

Accurate flow rate depending on type of grating.

WATER TRAP FOR WATERLINE

TO BE BUILT IN - CANNOT BE RETRO-FITTED

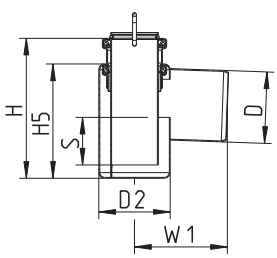


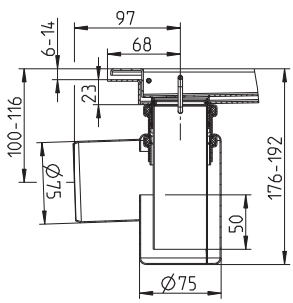
Type no.	EAN no.	D	H	S	W1	D2	Max Flow (l/s)
510.000.059	5705499126907	50	120	50	101	75	0.7

Accurate flow rate depending on type of grating.
Adaptor for D=1½" included

WATER TRAP FOR WATERLINE, HIGH MODEL

TO BE BUILT IN - CANNOT BE RETRO-FITTED





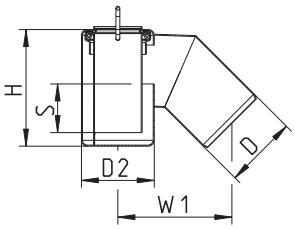
Type no.	EAN no.	D	H	H5	S	W1	D2	Max Flow (l/s)
510.002.075	5705499123067	75	147	120	50	97	75	0.8

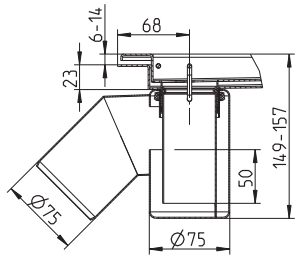
Accurate flow rate depending on type of grating.

Water traps

WATER TRAP 45° FOR WATERLINE

TO BE BUILT IN - CANNOT BE RETRO-FITTED



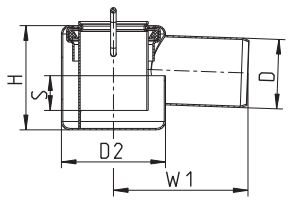


Type no.	EAN no.	D	H	S	W1	D2	Max Flow (l/s)
510.003.075	5705499123074	75	120	50	117	75	0.8

Accurate flow rate depending on type of grating.

WATER TRAP FOR WATERLINE, LOW MODEL

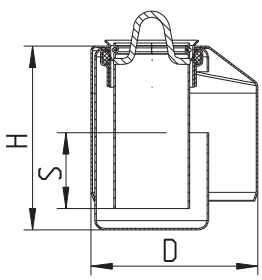
TO BE BUILT IN - CANNOT BE RETRO-FITTED



Type no.	EAN no.	D	H	S	W1	D2
510.025.050	5705499134711	50	75	25	97	75

WATER TRAP FOR WATERLINE, VERTICAL MODEL

TO BE BUILT IN - CANNOT BE RETRO-FITTED



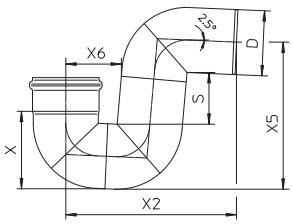
Type no.	EAN no.	D	H	S
510.004.110	5705499138535	110	121	50

Accurate flow rate depending on type of grating.

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Water traps

P-TRAP 87.5° TYPE 525.090



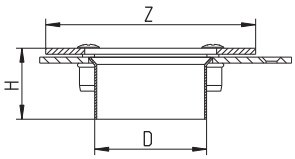
Type no.	EAN no.	D	S	X	X2	X5	X6	Max Flow (l/s)
525.090.050 S	5705499101461	50	74	67	175	145	60	1.7

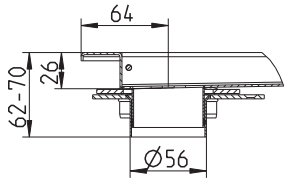
Accurate flow rate depending on installation.

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Others

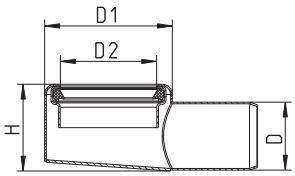
FLANGE FOR WATERLINE

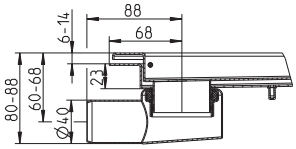




Type no.	EAN no.	D	Z	H
326.005.000	5705499121513	56	105x105	36

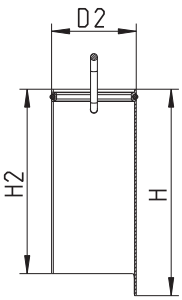
LOWER PART FOR WATERLINE





Type no.	EAN no.	D	D1	H	D2
620.300.028	5705499120288	40	75	51	56

STAND PIPE FOR WATERLINE WATER TRAP



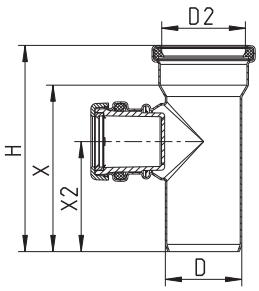
Type no.	EAN no.	H	H2	D2
620.300.021	5705499120035	122	109	50

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Others

CONNECTING PIECE FOR WATERLINE

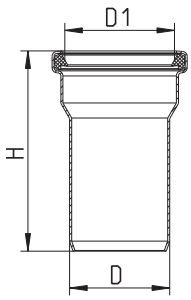
WITH SIDE INLET

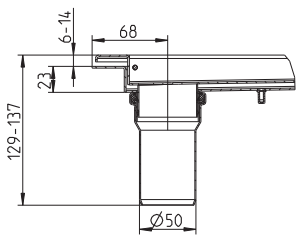


Type no.	EAN no.	D	H	D2	X	X2
620.300.036	5705499123692	50	135	56	109	72

Side inlet Ø32mm fits Ø40mm as well.

CONNECTING PIECE FOR WATERLINE

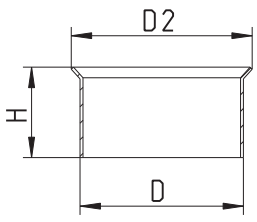




Type no.	EAN no.	D	D1	H
620.300.022	5705499120042	50	56	100

CONNECTING PIECE FOR WATERLINE

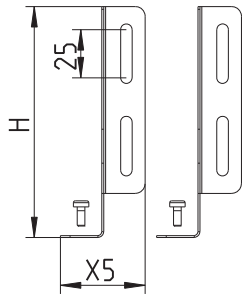
FOR TYPE 17X

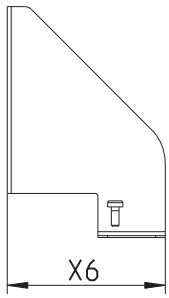


Type no.	EAN no.	D	H	D2
620.300.023	5705499120059	56	31	62

Others

MOUNTING BRACKETS FOR WATERLINE

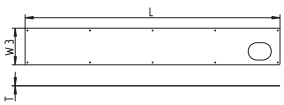




Type no.	EAN no.	H	X5	X6
620.300.037	5705499123814	120	44	82

MOUNTING SET FOR WATERLINE

FOR WOODEN SUBFLOOR



Type no.	EAN no.	L	W3	T
379.011.000	5705499127836	1100	158	0.7

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Standard and customised channels for galleys, pantries and decks

NEW

Standard or customised solutions
Hygienic design
Gratings for any purpose and load class

Applications
For galleys, pantries, door openings, outside deck areas, etc. Availabe to suit all deck finishes.

Details
- Standard lengths 1 - 6 m (slot channels up to 12 m)
- Longitudinal and cross fall
- Several standard widths
- 2 mm material thickness standard, up to 4 mm material thickness in customized solutions
- 20 mm frame width
- Anchor tangs
- Gratings for weight loads from 250 to 12000 kg
- Combinable with BLÜCHER® Drain Marine accessories
- Stainless steel AISI304/EN 1.4301 or AISI316L/EN 1.4404

Variants
- Outlet placed in end or center
- With or without outlet box
- With or without membrane flange

Options
- Removable water trap or P-trap
- Filter basket and sand bucket

Extras
- Reinforced frames for heavy weight loads
- Stabiliser angle and adjustable legs
- Protective strip and grating lock device

Specialised in customised channels

Product database at www.blucher-marine.com

Design your own solution

Material AISI 304 or 316
All BLÜCHER® Channels are available in stainless steel type AISI 304 or 316.

Thickness of the channel
The BLÜCHER® Channel product program is produced largely from 2 mm stainless steel providing the highest levels of stability and durability.

Width and length of channel
Standard length is 1 - 6 m (slot channels up to 12 meters) and several standard widths are available.

Extra flanges
BLÜCHER® Channels can be with or without membrane flange. Consider if extra flanges are required.

Total installation heights
What is your requirements to min. and max. height?

Outlet dimension
Choose between our many Ø110 mm lower parts outlets.
We also have Ø160 mm lower parts.

Number of outlets
Outlet can be placed in the end or center. Is a single outlet appropriate or is more necessary?

Customized solutions constitute 80% of our total channels production

Complete channels and kitchen channels

Selected grating depending on load class and application

Optional filter basket

Optional removable water trap

Channel

Lower part from BLÜCHER® Drain Marine. A60 approved

Selected grating depending on load class and application

Optional filter basket

Optional removable water trap

Channel

Lower part from BLÜCHER® Drain Marine. A60 approved

Be inspired...

Type 670	Channel for concrete, tiled and resin floors
Width:	150, 200, 300 or 400 mm
Length:	1 - 6 metres

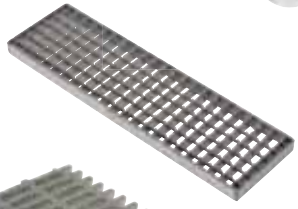
Type 671	Channel with outlet box for concrete, tiled and resin floors
Width:	150 mm
Length:	1 - 6 metres

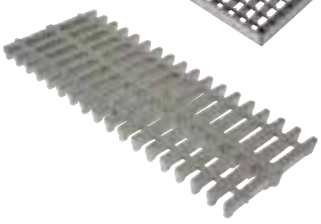
Type 673	20 mm slot channel with outlet box for concrete, tiled and resin floors
Width:	20 mm
Length:	1 - 12 metres
Grating:	For outlet box only

Type 674	Channel with 50 mm liquid membrane flange for concrete, tiled and resin floors
Width:	150, 200, 300 or 400 mm
Length:	0,9 - 6 metres

Type 677	8 mm slot channel with 50 mm liquid membrane flange for concrete, tiled and resin floors
Width:	8 mm
Length:	1-3 metres

Type 672	Channel for vinyl floors
Width:	150, 200, 300 or 400 mm
Length:	0,9 - 6 metres





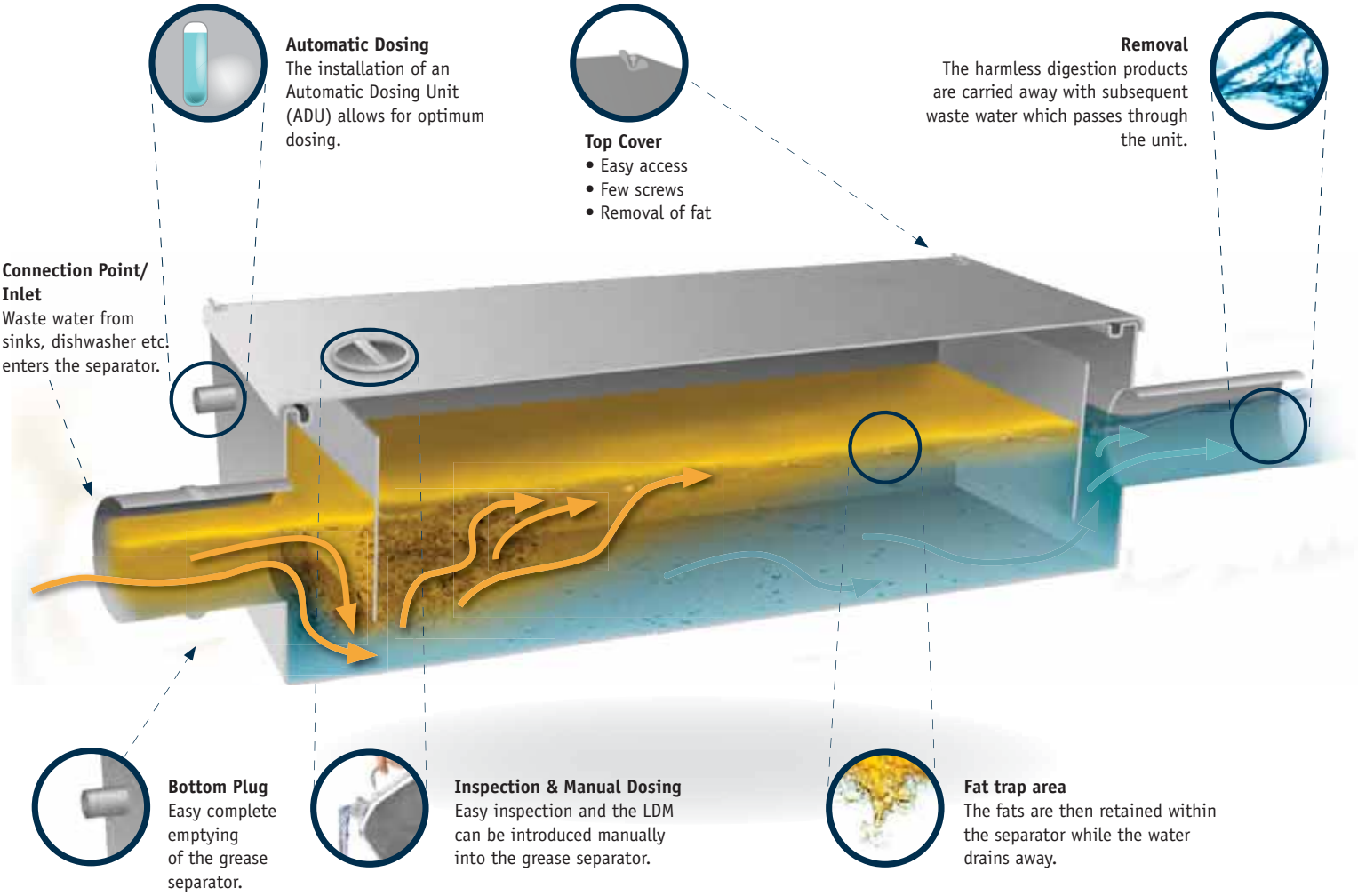
Mesh grating
696.223.XXX.XX
Suitable for galleys where gratings with large opening are necessary to ensure quick discharge of fluids through the grating. Non-skid. Light-weight. Can be cleaned in industrial dishwasher.

HygienicPro grating
697.250.XXX.XX
Suitable where high load class, hygiene and design are parameters and fully welded.

Effective Grease Control

BLÜCHER® Grease Separators are a modern evolution of the traditional grease/fat trap.

The theory behind BLÜCHER® Grease Separators is that they should act as a point of treatment for a liquid digestion media (LDM). The digestion media can be introduced either manually or automatically.



Automatic Dosing
The installation of an Automatic Dosing Unit (ADU) allows for optimum dosing.

Top Cover
- Easy access
- Few screws
- Removal of fat

Removal
The harmless digestion products are carried away with subsequent waste water which passes through the unit.

Connection Point/ Inlet
Waste water from sinks, dishwasher etc. enters the separator.

Bottom Plug
Easy complete emptying of the grease separator.

Inspection & Manual Dosing
Easy inspection and the LDM can be introduced manually into the grease separator.

Fat trap area
The fats are then retained within the separator while the water drains away.

BLÜCHER MARINE Grease Separators

Item 1 – type number 970-14155-01
Stainless steel Grease Separator Grade AISI 304
Size LxWxD: 684mm x 578mm x 289mm
Inlet and outlet: OD 110mm
Meals per day: 35
Recommended dosing media ml/day: 100*

Item 2 – type number 970-14155-03
Stainless steel Grease Separator Grade AISI 304
Size LxWxD: 756mm x 506mm x 502mm
Inlet and outlet: OD 110mm
Meals per day: 85
Recommended dosing media ml/day: 100*

Item 3 – type number 970-14155-05
Stainless steel Grease Separator Grade AISI 304
Size LxWxD: 756mm x 506mm x 702mm
Inlet and outlet: OD 110mm
Meals per day: 160
Recommended dosing media ml/day: 150*

Item 4 – type number 970-14155-07
Stainless steel Grease Separator type Grade AISI 304
Size LxWxD: 1006mm x 506mm x 702mm
Inlet and outlet: OD 110mm
Meals per day: 210
Recommended dosing media ml/day: 200*

Item 5 – type number MODD1/CABINET
Stainless steel dosing unit and housing
The unit comes complete with pre-programmed mains operated peristaltic pump + 5 litres of dosing medium in a 12.5 litre bottle and all connecting tubes with 2 metres of cable to connect to the mains electricity supply.

Item 7 – type number MODD1
Only dosing unit without housing and Liquid Digestion Media

Item 8 – Liquid Digestion Media
Liquid type no. 691160 (12 litres bottle – for automatic dosing)
Powder type no. 691180 (18 kg comes in a pack of 24 numbers)

Pipes and fittings for marine applications

Push-fit system
Light-weight
Fire tested A0-A60, classified as A1

Applications

- Sanitary discharge, central vacuum cleaning or garbage disposal
- Cruise vessels, yachts, commercial vessels, navy vessels, offshore
- Completely interchangeable between vacuum and gravity systems

Details

- Standard dimensions from OD 40 up to OD 200mm
- Standard lengths from 0.15-6 metres
- 1-1,50 mm wall thickness
- EPDM lip sealing ring standard
- Complete range of fittings
- Complete range of approvals
- Stainless steel AISI 316L/EN1.4404 or AISI 304/ EN1.4301

Variants

- Range of sealing rings
- Customised solutions available on request

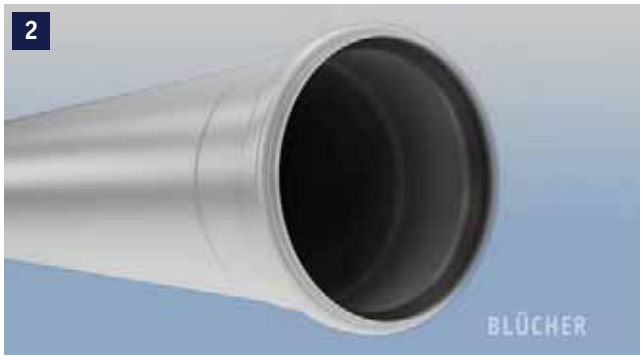
Options

- Range of pipe hangers
- Easily combined with other pipe materials by means of adaptors
- Electrical or manual pipe cutters available for easy cutting on site

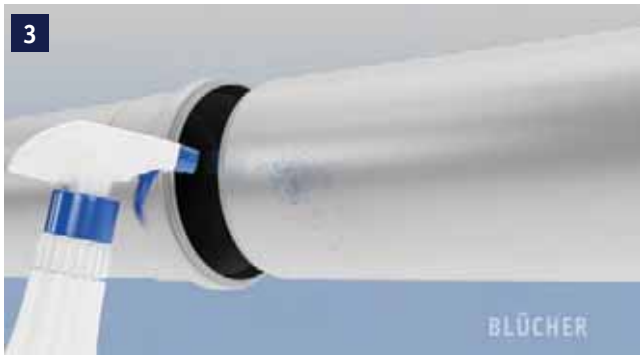
Product database at www.blucher-marine.com

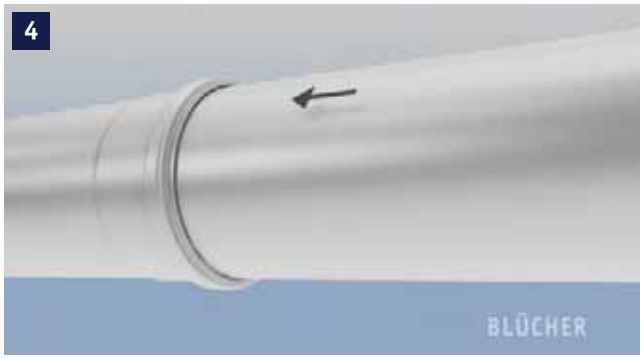
Installation guide for BLÜCHER® EuroPipe

Manual pipe cutter



Jointing of socket and spigot end





1. Cutting
Use BLÜCHER manual or electrical pipe cutter to cut the pipes. The pipes can then be installed without subsequent finishing.

N.B! Fittings may **not** be cut.

2. Check of lip seal
Check that the lip sealing ring is correctly installed in the socket.

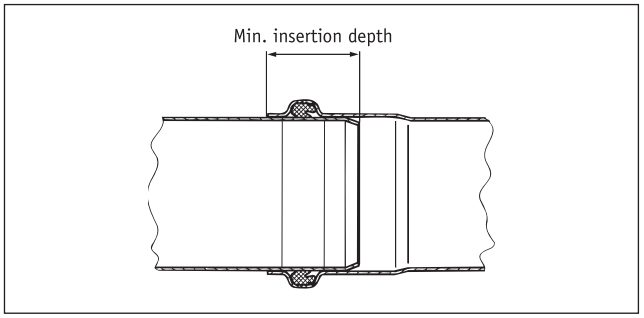
3. Cleaning
If necessary, clean lip seal and socket before jointing.
Apply lubricant.

4. Jointing
Joint the pipes with a slightly turning movement.

Electrical pipe cutter

A detailed user guide is provided when buying or lease an electrical pipe cutter

Insertion depth

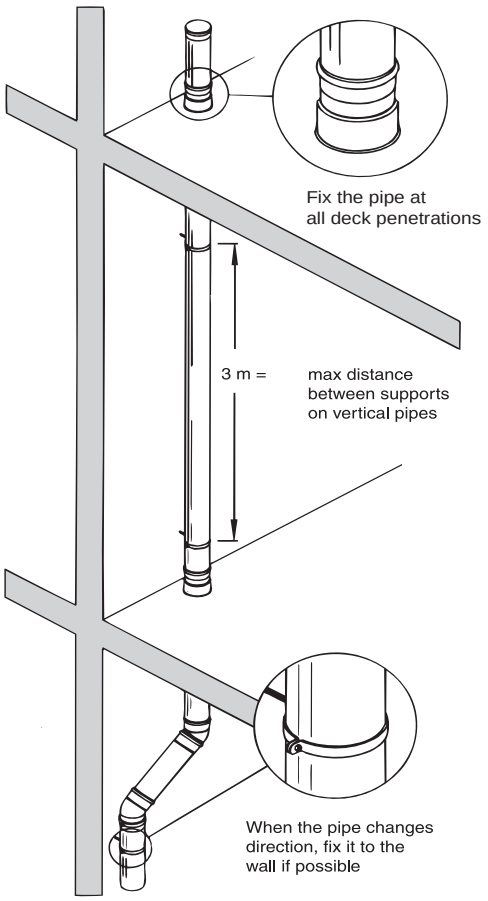


Pipe dimension in mm	Max. insertion depth from end of socket to spigot end	Min. insertion depth from end of socket to spigot end
OD 40 mm	46 mm	30 mm
OD 50 mm	47 mm	30 mm
OD 75 mm	55 mm	35 mm
OD110 mm	62 mm	40 mm
OD125 mm	65 mm	47 mm
OD160 mm	76 mm	50 mm
OD200 mm	98 mm	63 mm

Installation videos available at www.blucher-marine.com

Suspension of drainage pipes

Vertical piping

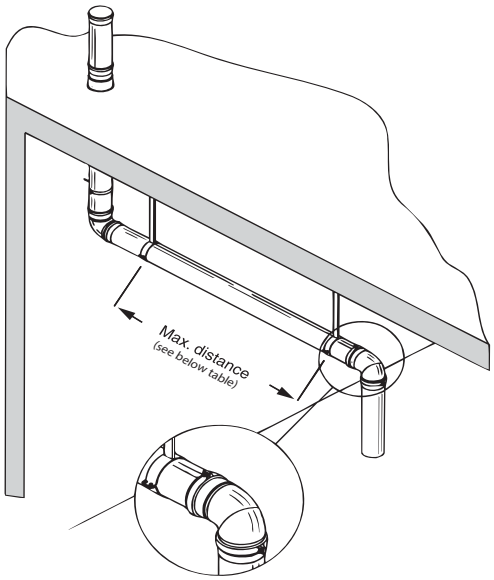


One fixing point per deck is normally sufficient.
As opposed to plastic pipes, stainless steel pipes require only one pipe hanger per 3 metres, resulting in less sound and faster installation. Where larger inlets are connected, the downpipe must be secured immediately below the inlet.

Note: If other brackets are used, always use liner, i.e. rubber, between pipe and bracket.

The pipework system must be properly supported and fixed to prevent the socket and the spigot end from sliding apart under all anticipated conditions. If this is impossible (e.g. lack of space or fixing points) or extra security is required, clamps may also be used. Clamps must be used at each deck/bulkhead penetration.

Horizontal piping



Horizontal pipe runs are always to be installed with a gradient. If no self-cleansing calculation is available, a gradient of 20 ‰ is recommended in gravity systems. Horizontal pipe runs in vacuum systems are to be installed in accordance with the recommendations of the vacuum system supplier.

Dim.	Distance between supports*
mm	m[1)]
40	2,0
50	2,2
75	2,5
110	2,8
125	3,0
160	3,3
200	3,3

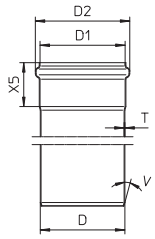
* The distance between the suspended fixing points must be calculated on the basis of a permissible 1 mm bending of the pipe. The deflection for a single mounting is calculated for a water-filled pipe.

1) Applies to flat lengths of pipe. Where there are fittings in the suspended piping, the mounting points must be so placed that either the branch or the through pipe is held directly behind the sleeve. If this is not possible, the span must be reduced to half the quoted values or, as an alternative, safety clamps may be installed for stability.

BLÜCHER® EuroPipe joints are flexible up to 2° without this affecting the leakage tightness. This means that the pipework system will remain tight despite minor vibrations, while on the other hand the flexibility in the pipe joints make pipe installation easy.

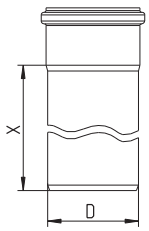
DIMENSIONAL DRAWING, SOCKET AND SPIGOT END

PIPES AND FITTINGS



Type no.	EAN no.	D	D1	D2	X5	T	V (°)
811.XXX.040		40	41	52	41	1	20
811.XXX.050		50	51	61	42	1	20
811.XXX.075		75	76	87	50	1	20
811.XXX.110		110	111	123	57	1	20
811.XXX.125		125	126	140	60	1	20
811.XXX.160		160	161	177	72	1.25	20
811.XXX.200		200	201	219	90	1.5	20

STRAIGHT PIPE WITH ONE SOCKET TYPE 811



Type no.	EAN no.	D	X	Kg
811.015.040 S	5705499412642	40	150	0,20
811.025.040 S	5705499412666	40	250	0,29
811.050.040 S	5705499412680	40	500	0,68
811.075.040 S	5705499412703	40	750	0,78
811.100.040 S	5705499412727	40	1000	1,02
811.150.040 S	5705499412741	40	1500	1,50
811.200.040 S	5705499412765	40	2000	1,99
811.300.040 S	5705499412789	40	3000	2,96
811.400.040 S	5705499412802	40	4000	3,92
811.500.040 S	5705499412826	40	5000	4,89
811.600.040 S	5705499412840	40	6000	5,86
811.015.050 S	5705499400212	50	150	0,25
811.025.050 S	5705499400298	50	250	0,38
811.050.050 S	5705499400373	50	500	0,68
811.075.050 S	5705499400458	50	750	1,00
811.100.050 S	5705499400533	50	1000	1,25
811.150.050 S	5705499400618	50	1500	1,90
811.200.050 S	5705499400694	50	2000	2,45
811.300.050 S	5705499400786	50	3000	3,82
811.400.050 S	5705499400861	50	4000	5,06
811.500.050 S	5705499400946	50	5000	6,31
811.600.050 S	5705499401028	50	6000	7,56
811.015.075 S	5705499400236	75	150	0,41
811.025.075 S	5705499400311	75	250	0,58
811.050.075 S	5705499400397	75	500	1,00
811.075.075 S	5705499400472	75	750	1,50
811.100.075 S	5705499400557	75	1000	1,95
811.150.075 S	5705499400632	75	1500	2,75
811.200.075 S	5705499400717	75	2000	3,70
811.300.075 S	5705499400809	75	3000	5,78
811.400.075 S	5705499400885	75	4000	7,66
811.500.075 S	5705499400960	75	5000	9,54
811.600.075 S	5705499401042	75	6000	11,42
811.015.110 S	5705499400250	110	150	0,61
811.025.110 S	5705499400335	110	250	0,87
811.050.110 S	5705499400410	110	500	1,50
811.075.110 S	5705499400496	110	750	2,15
811.100.110 S	5705499400571	110	1000	2,85
811.150.110 S	5705499400656	110	1500	4,30
811.200.110 S	5705499400731	110	2000	5,40
811.300.110 S	5705499400823	110	3000	8,34
811.400.110 S	5705499400908	110	4000	11,26
811.500.110 S	5705499400984	110	5000	14,00
811.600.110 S	5705499401066	110	6000	16,78
811.015.125 S	5705499410846	125	150	0,70
811.025.125 S	5705499408225	125	250	1,01
811.050.125 S	5705499408249	125	500	1,78
811.075.125 S	5705499408256	125	750	2,55
811.100.125 S	5705499408270	125	1000	3,32
811.150.125 S	5705499408294	125	1500	4,86
811.200.125 S	5705499408317	125	2000	6,40
811.300.125 S	5705499408324	125	3000	9,47
811.400.125 S	5705499410921	125	4000	12,55

Continues on next page

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

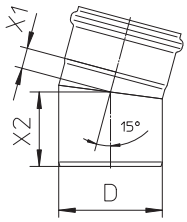
STRAIGHT PIPE WITH ONE SOCKET TYPE 811

Type no.	EAN no.	D	X	Kg
Continued from previous page				
811.500.125 S	5705499410945	125	5000	15,63
811.600.125 S	5705499410969	125	6000	18,71
---		---	---	---
811.015.160 S	5705499400274	160	150	1,19
811.025.160 S	5705499400359	160	250	1,69
811.050.160 S	5705499400434	160	500	2,96
811.075.160 S	5705499400519	160	750	4,22
811.100.160 S	5705499400595	160	1000	5,48
811.150.160 S	5705499400670	160	1500	8,02
811.200.160 S	5705499400755	160	2000	10,54
811.300.160 S	5705499400847	160	3000	15,59
811.400.160 S	5705499400922	160	4000	20,64
811.500.160 S	5705499401004	160	5000	25,69
811.600.160 S	5705499401080	160	6000	30,74
---		---	---	---
811.015.200 S	5705499411522	200	150	1,96
811.025.200 S	5705499411539	200	250	2,77
811.050.200 S	5705499410853	200	500	4,62
811.075.200 S	5705499411546	200	750	6,47
811.100.200 S	5705499410877	200	1000	8,32
811.200.200 S	5705499410884	200	2000	15,71
811.300.200 S	5705499410891	200	3000	23,10

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

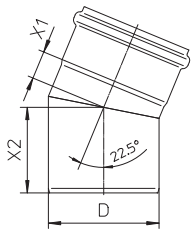
- Bends

BEND 15° TYPE 820.015



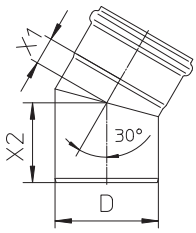
Type no.	EAN no.	D	X1	X2	Kg
820.015.040 S	5705499412864	40	15	53	0,12
820.015.050 S	5705499401134	50	19	53	0,15
820.015.075 S	5705499401158	75	21	65	0,28
820.015.110 S	5705499401172	110	25	78	0,47
820.015.125 S	5705499408614	125	19	84	0,56
820.015.160 S	5705499401196	160	29	99	1,08
820.015.200 S	5705499410976	200	31	123	1,99

BEND 22.5° TYPE 820.023



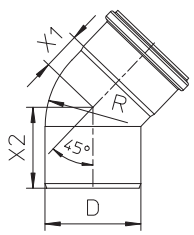
Type no.	EAN no.	D	X1	X2	Kg
820.023.050 S	5705499408621	50	15	57	0,15
820.023.075 S	5705499401219	75	21	71	0,29
820.023.110 S	5705499408638	110	28	85	0,51
820.023.160 S	5705499408645	160	39	109	1,18

BEND 30° TYPE 820.030



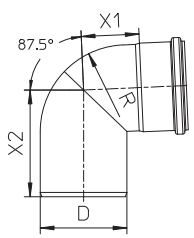
Type no.	EAN no.	D	X1	X2	Kg
820.030.040 S	5705499412888	40	18	55	0,13
820.030.050 S	5705499401233	50	23	57	0,16
820.030.075 S	5705499401257	75	25	70	0,28
820.030.110 S	5705499401271	110	33	86	0,51
820.030.125 S	5705499408669	125	28	98	0,63
820.030.160 S	5705499401295	160	40	110	1,15
820.030.200 S	5705499410983	200	45	137	2,20

BEND 45° TYPE 820.045



Type no.	EAN no.	D	X1	X2	R	Kg
820.045.040 S	5705499412901	40	21	58	40	0,13
820.045.050 S	5705499401318	50	27	60	50	0,17
820.045.075 S	5705499401332	75	34	76	75	0,30
820.045.110 S	5705499401356	110	43	93	110	0,56
820.045.125 S	5705499408683	125	58	111	125	0,73
820.045.160 S	5705499401370	160	57	128	172	1,55
820.045.200 S	5705499414011	200	61	151	200	2,38

BEND 87.5° TYPE 820.090



Type no.	EAN no.	D	X1	X2	R	Kg
820.090.040 S	5705499412925	40	32	79	40	0,16
820.090.050 S	5705499401394	50	41	87	50	0,21
820.090.075 S	5705499401417	75	54	108	75	0,39
820.090.110 S	5705499401431	110	74	136	110	0,67
820.090.125 S	5705499408737	125	93	161	125	1,68
820.090.160 S	5705499401455	160	103	184	171	2,10

Continues on next page

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

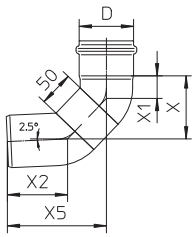
- Bends

BEND 87.5° TYPE 820.090

Type no.	EAN no.	D	X1	X2	R	Kg
Continued from previous page						
820.090.200 S	5705499414042	200	116	216	200	3,00

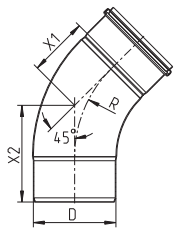
Please notice for the land based UK market:
To comply with BS EN 12056 Gravity Drainage inside Buildings use 821 bend at offsets and base of stack.

BEND, LONG RADIUS 87.5°, 50 MM TYPE 821.000



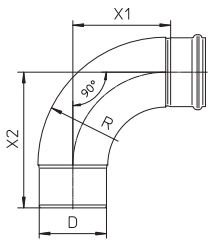
Type no.	EAN no.	D	X	X1	X2	X5	Kg
821.000.050 S	5705499404012	50	77	26	72	120	0,30
821.000.075 S	5705499404036	75	90	32	86	141	0,50

BEND, LARGE RADIUS 45° TYPE 825.045



Type no.	EAN no.	D	X1	X2	R	Kg
825.045.200 S	5705499410990	200	144	234	300	4,18
825.045.250 S	5705499121612	250	187	280	375	6,53
825.045.315 S	5705499413830	315	204	320	400	10,78

BEND, LARGE RADIUS 87.5° TYPE 825.090

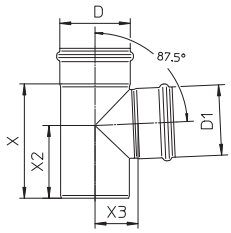


Type no.	EAN no.	D	X1	X2	R	Kg
825.090.200 S	5705499411423	200	307	397	300	6,41

Please notice for the land based UK market:
To comply with BS EN 12056 Gravity Drainage inside Buildings use 821 bend at offsets and base of stack.

- Branches

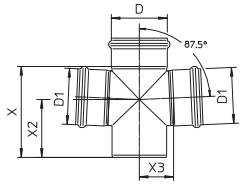
BRANCH 87.5° TYPE 830



Type no.	EAN no.	D	D1	X	X2	X3	Kg
830.040.040 S	5705499412949	40	40	101	69	30	0,22
830.040.050 S	5705499412963	50	40	106	71	35	0,26
830.050.050 S	5705499401615	50	50	106	71	35	0,27
830.050.075 S	5705499401639	75	50	139	98	49	0,44
830.050.110 S	5705499401653	110	50	132	93	66	0,64
830.075.075 S	5705499401691	75	75	139	90	52	0,50
830.075.110 S	5705499401714	110	75	152	104	69	0,76
830.075.125 S	5705499408959	125	75	187	110	77	0,94
830.110.110 S	5705499401738	110	110	183	117	69	0,88
830.110.125 S	5705499408980	125	110	205	127	77	1,25
830.110.160 S	5705499401752	160	110	236	152	93	1,83
830.125.125 S	5705499409017	125	125	220	135	82	1,17
830.160.160 S	5705499401776	160	160	288	184	104	2,40
830.160.200 S	5705499411003	200	160	293	186	125	3,45
830.200.200 S	5705499411010	200	200	333	206	128	4,17

Please notice for the land based UK market:
To comply with BS EN 12056 Gravity Drainage inside Buildings, when using non reducing branch consider branch type 838, 848 or 839

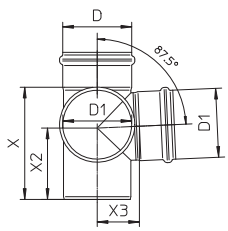
DOUBLE BRANCH 87.5° TYPE 831



Type no.	EAN no.	D	D1	X	X2	X3	Kg
831.050.050 S	5705499401790	50	50	106	71	35	0,36
831.050.075 S	5705499401813	75	50	139	98	49	0,54
831.050.110 S	5705499401837	110	50	132	93	66	0,72
831.075.075 S	5705499401851	75	75	139	90	52	0,66
831.075.110 S	5705499401875	110	75	152	104	69	0,89
831.110.110 S	5705499401899	110	110	183	116	69	1,13
831.110.160 S	5705499401912	160	110	236	152	94	2,05
831.160.160 S	5705499401936	160	160	288	184	104	2,91

Please notice for the land based UK market:
To comply with BS EN 12056 Gravity Drainage inside Buildings, when using non reducing branch consider branch type 836.

DOUBLE BRANCH 87.5° TYPE 832

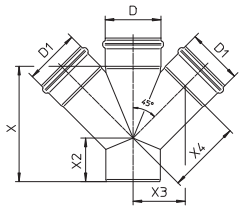


Type no.	EAN no.	D	D1	X	X2	X3	Kg
832.050.050 S	5705499401950	50	50	106	71	35	0,36
832.050.075 S	5705499401974	75	50	139	98	49	0,54
832.050.110 S	5705499401998	110	50	132	93	66	0,72
832.075.075 S	5705499402018	75	75	139	90	52	0,66
832.075.110 S	5705499402032	110	75	152	104	69	0,89
832.110.110 S	5705499402056	110	110	183	116	69	1,13
832.110.160 S	5705499402070	160	110	236	152	94	2,07
832.160.160 S	5705499402094	160	160	288	184	104	2,91

Please notice for the land based UK market:
To comply with BS EN 12056 Gravity Drainage inside Buildings, when using non reducing branch consider branch type 837.

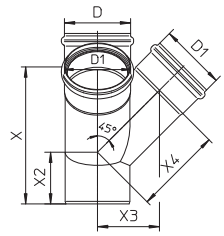
- Branches

DOUBLE BRANCH 45° TYPE 836



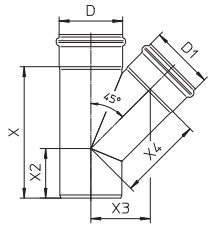
Type no.	EAN no.	D	D1	X	X2	X3	X4	Kg
836.050.050 S	5705499402117	50	50	128	57	54	76	0,59
836.050.075 S	5705499402131	75	50	144	56	66	94	0,69
836.050.110 S	5705499402155	110	50	147	42	84	119	0,80
836.075.075 S	5705499402179	75	75	183	74	78	110	1,15
836.075.110 S	5705499402193	110	75	182	60	95	135	1,31
836.110.110 S	5705499402216	110	110	233	88	105	149	2,10
836.110.125 S	5705499412574	125	110	250	90	110	155	1,65
836.110.160 S	5705499402223	160	110	258	80	131	186	2,85
836.125.125 S	5705499412581	125	125	273	103	120	170	2,10
836.160.160 S	5705499402230	160	160	331	120	156	221	5,28
836.200.200 S	5705499412598	200	200	415	151	194	274	5,28

DOUBLE BRANCH 45° TYPE 837



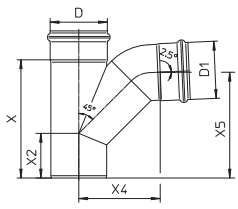
Type no.	EAN no.	D	D1	X	X2	X3	X4	Kg
837.050.050 S	5705499402254	50	50	128	57	54	76	0,49
837.050.075 S	5705499402278	75	50	144	56	66	94	0,67
837.050.110 S	5705499402285	110	50	147	42	84	119	0,92
837.075.075 S	5705499402292	75	75	183	74	78	110	1,43
837.075.110 S	5705499402308	110	75	182	60	95	135	1,31
837.110.110 S	5705499402322	110	110	233	88	105	149	2,07
837.110.160 S	5705499402339	160	110	258	80	131	186	2,07
837.160.160 S	5705499402346	160	160	331	120	156	221	4,02

OBLIQUE BRANCH 45° TYPE 838



Type no.	EAN no.	D	D1	X	X2	X3	X4	Kg
838.040.040 S	5705499413007	40	40	118	58	45	63	0,25
838.040.050 S	5705499413021	50	40	119	55	50	71	0,30
838.050.050 S	5705499402360	50	50	133	62	54	76	0,32
838.050.075 S	5705499402384	75	50	144	56	66	94	0,48
838.050.110 S	5705499402407	110	50	147	42	84	119	0,70
838.075.075 S	5705499402421	75	75	183	78	78	110	0,64
838.075.110 S	5705499402445	110	75	181	60	95	135	0,88
838.075.125 S	5705499409321	125	75	200	65	100	141	1,32
838.110.110 S	5705499402469	110	110	236	91	105	149	1,16
838.110.125 S	5705499409345	125	110	250	90	110	155	1,50
838.110.160 S	5705499402483	160	110	258	80	131	186	2,11
838.125.125 S	5705499409369	125	125	273	103	120	170	1,49
838.160.160 S	5705499402506	160	160	331	120	156	220	3,04
838.160.200 S	5705499411027	200	160	359	123	177	250	4,37
838.200.200 S	5705499411034	200	200	415	151	194	274	5,47

SWEPT BRANCH 87.5° TYPE 839

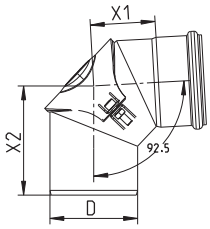


Type no.	EAN no.	D	D1	X	X2	X4	X5	Kg
839.050.050 S	5705499402520	50	50	133	62	84	121	0,44
839.050.075 S	5705499402544	75	50	144	56	97	128	0,60
839.050.110 S	5705499402568	110	50	147	42	115	132	0,81
839.075.075 S	5705499402582	75	75	183	78	114	160	0,87
839.075.110 S	5705499402605	110	75	182	60	130	160	1,11
839.110.110 S	5705499402629	110	110	236	91	161	212	1,64
839.110.160 S	5705499402643	160	110	258	80	186	227	2,53
839.160.160 S	5705499402667	160	160	331	120	223	298	4,52
839.200.200 S	5705499412611	200	200	415	151	428	434	6,13

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

- Access pipes and bends

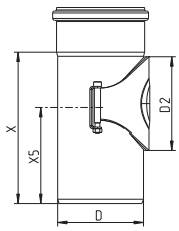
BEND 87.5° WITH ACCESS TYPE 822



Type no.	EAN no.	D	X1	X2
822.090.075 S	5705499401516	75	57	102
822.090.110 S	5705499401530	110	81	137
822.090.160 S	5705499401554	160	112	205

For non pressurized system

PIPE WITH ACCESS TYPE 840



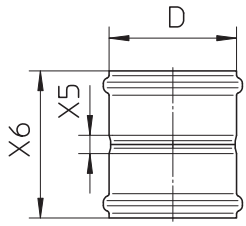
Type no.	EAN no.	D	D2	X	X5
840.075.075 S	5705499402681	75	80	139	92
840.110.110 S	5705499403800	110	120	194	123
840.111.110 S	5705499402704	110	120	253	187
840.125.125 S	5705499411058	125	120	195	128
840.160.160 S	5705499402728	160	120	277	208
840.200.200 S	5705499412215	200	120	288	208

For non pressurized system

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

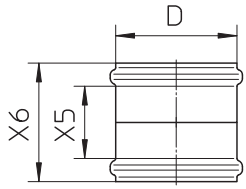
- Sockets

DOUBLE COUPLING TYPE 841



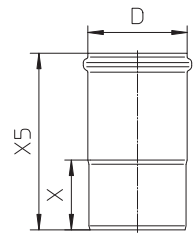
Type no.	EAN no.	D	X5	X6	Kg
841.040.040 S	5705499413045	40	20	104	0,13
841.050.050 S	5705499402742	50	13	97	0,15
841.075.075 S	5705499402766	75	20	120	0,26
841.110.110 S	5705499402780	110	16	130	0,45
841.125.125 S	5705499409482	125	20	140	0,54
841.160.160 S	5705499402803	160	20	162	1,05
841.200.200 S	5705499411065	200	20	200	1,85

DOUBLE SLIP COUPLING TYPE 842



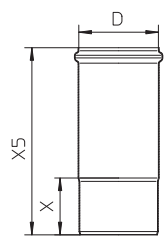
Type no.	EAN no.	D	X5	X6	Kg
842.040.040 S	5705499413069	40	76	104	0,13
842.050.050 S	5705499402810	50	71	97	0,12
842.075.075 S	5705499402827	75	91	120	0,21
842.110.110 S	5705499402834	110	97	130	0,45
842.125.125 S	5705499409550	125	104	140	0,47
842.160.160 S	5705499402841	160	118	162	1,05
842.200.200 S	5705499411072	200	147	200	1,82

EXPANSION SOCKET TYPE 843



Type no.	EAN no.	D	X	X5	Kg
843.095.040 S	5705499413083	40	55	150	0,17
843.105.050 S	5705499402865	50	57	159	0,21
843.115.075 S	5705499402889	75	62	175	0,36
843.125.110 S	5705499402902	110	79	200	0,57
843.140.125 S	5705499122510	125	100	240	0,81
843.182.160 S	5705499402926	160	122	292	1,55

EXPANSION SOCKET, LONG MODEL TYPE 869

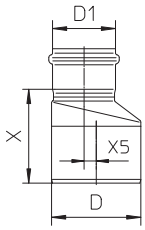


Type no.	EAN no.	D	X	X5	Kg
869.143.050 S	5705499410624	50	57	200	0,25
869.163.075 S	5705499410648	75	62	225	0,40
869.181.110 S	5705499410662	110	79	260	0,70
869.200.125 S	5705499412208	125	100	300	0,99
869.238.160 S	5705499410686	160	122	360	1,85
869.300.200 S	5705499121353	200	120	420	2,43

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

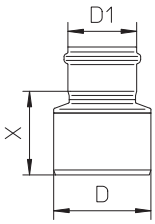
- Increasers and reducers

INCREASER ECCENTRIC TYPE 850



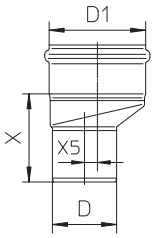
Type no.	EAN no.	D	D1	X	X5	Kg
850.040.050 S	5705499413397	50	40	85	5	0,16
850.050.075 S	5705499403091	75	50	87	7	0,22
850.050.110 S	5705499403114	110	50	114	25	0,38
850.075.110 S	5705499403152	110	75	116	15	0,42
850.075.160 S	5705499403176	160	75	178	37	1,20
850.110.125 S	5705499413410	125	110	109	8	0,49
850.110.160 S	5705499403213	160	110	140	22	1,06
850.125.160 S	5705499413427	160	125	138	18	0,95
850.160.200 S	5705499413434	200	160	165	20	1,67

INCREASER CONCENTRIC TYPE 850



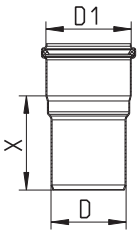
Type no.	EAN no.	D	D1	X	Kg
850.040.050 CS	5705499413991	50	40	65	0,13
850.050.075 CS	5705499409734	75	50	82	0,20
850.050.110 CS	5705499408454	110	50	94	0,30
850.075.110 CS	5705499409741	110	75	95	0,37
850.110.125 CS	5705499409758	125	110	103	0,52
850.110.160 CS	5705499408461	160	110	117	1,00
850.125.160 CS	5705499408478	160	125	145	1,00
850.160.200 CS	5705499411096	200	160	170	1,50

REDUCER ECCENTRIC TYPE 850



Type no.	EAN no.	D	D1	X	X5	Kg
850.075.050 S	5705499403121	50	75	80	7	0,28
850.110.050 S	5705499403183	50	110	99	25	0,50
850.110.075 S	5705499403190	75	110	104	15	0,55
850.125.110 S	5705499413359	110	125	96	8	1,00
850.160.110 S	5705499408485	110	160	123	22	1,08
850.160.125 S	5705499413366	125	160	136	18	0,50
850.200.160 S	5705499413373	160	200	153	20	1,77

REDUCER CONCENTRIC TYPE 850

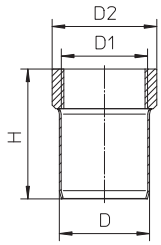


Type no.	EAN no.	D	D1	X	Kg
850.050.032 S	5705499403053	32	50	52	0,15
850.082.075 CS	5705499413465	75	82	94	1,00

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

- Adaptors

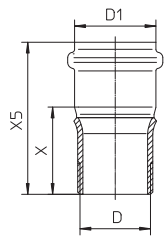
FEMALE ADAPTOR TYPE 885.0



Type no.	EAN no.	D	D1	H.	D2	Kg
885.032.040 S	5705499403954	40	1¼"	70	45	0,20
885.040.040 S	5705499403947	40	1½"	73	57	0,20
885.025.050 S	5705499403435	50	1"	93	40	0,18
885.032.050 S	5705499403459	50	1¼"	72	48	0,17
885.040.050 S	5705499403466	50	1½"	72	58	0,19
885.050.050 S	5705499403473	50	2"	77	67	0,22

BSP thread.

MALE ADAPTOR TYPE 886.0

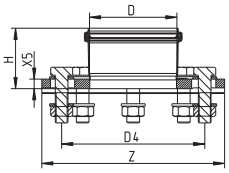


Type no.	EAN no.	D	D1	X	X5	Kg
886.050.032 S	5705499403480	1¼"	50	55	97	0,25
886.050.040 S	5705499403497	1½"	50	56	98	0,23
886.050.050 S	5705499403503	2"	50	56	98	0,27

BSP thread.

UNIVERSAL FLANGE TYPE 854.500

WITH SOCKET

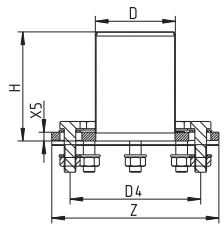


Type no.	EAN no.	D	Z.	H.	D4	X5	Kg
854.500.050 S	5705499138870	50	Ø160	58	94-126	10	0,85
854.500.075 S	5705499138894	75	Ø200	71	129-161	12	1,49
854.500.110 S	5705499138917	110	Ø230	76	163-192	12	2,16
854.500.125 S	5705499138931	125	Ø255	84	198-217	15	3,28
854.500.160 S	5705499138955	160	Ø285	102	228-244	15	3,72

Flanges with 4 screw joints (D=50-75mm)
Flanges with 8 screw joints (D=110-160mm)

UNIVERSAL FLANGE TYPE 854.510

WITH SPIGOT



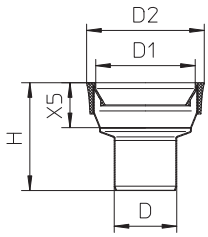
Type no.	EAN no.	D	Z.	H.	D4	X5	Kg
854.510.050 S	5705499138887	50	Ø160	150	94-126	10	0,95
854.510.075 S	5705499138900	75	Ø200	150	129-161	12	1,61
854.510.110 S	5705499138924	110	Ø230	150	163-192	12	2,32
854.510.125 S	5705499138948	125	Ø255	150	198-217	15	3,43
854.510.160 S	5705499138962	160	Ø285	150	228-244	15	3,72

Flanges with 4 screw joints (D=50-75mm)
Flanges with 8 screw joints (D=110-160mm)

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

- Toilet adaptors

TOILET ADAPTOR STRAIGHT TYPE 855.090

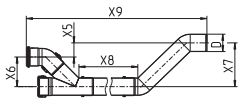


Type no.	EAN no.	D	D1	H.	D2	X5	Kg
855.090.075 S	5705499403299	75	110	130	133	55	0,42
855.090.110 S	5705499403305	110	110	126	133	55	0,39

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

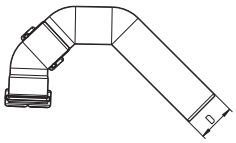
- Others

TRANSPORT POCKET TYPE 873



Type no.	EAN no.	D	X5	X6	X7	X8	X9	Kg
873.000.050 S	5705499131727	50	61	93	154	809	1224	2,16
873.000.075 S	5705499131734	75	61	128	188	819	1344	4,63

GOOSE NECK TYPE 874

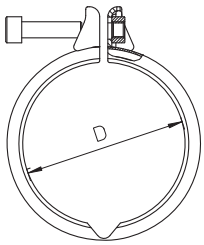


Type no.	EAN no.	D	Kg
874.000.050 S	5705499131703	50	0,78
874.000.075 S	5705499131710	75	1,38

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Clamps

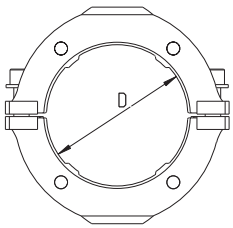
PIPE JOINT CLAMP TYPE 847



Type no.	EAN no.	D
847.040.040	5705499413090	40
847.050.050	5705499412420	50
847.075.075	5705499412437	75
847.110.110	5705499412444	110
847.125.125	5705499412451	125
847.160.160	5705499412468	160
847.200.200	5705499412475	200

Clamps are recommended to be used at each deck/bulkhead penetration and drain for marine installations.
Also available in stainless steel AISI316L/EN1.4404 on request.

PRESSURE PEAK PIPE JOINT CLAMP TYPE 847.001

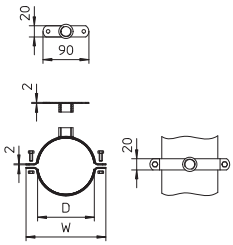


Type no.	EAN no.	D
847.001.040	5705499413106	40
847.001.050	5705499412499	50
847.001.075	5705499412505	75
847.001.110	5705499412529	110
847.001.125	5705499412536	125
847.001.160	5705499412543	160
847.001.200	5705499413939	200

Pipework can withstand brief pressure peaks when fitted with pressure peak joint clamps on all joints.
Not to be used instead of remotely operated valve.

Pipe hangers

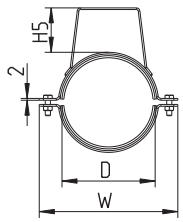
PIPE HANGER WITH EPDM RUBBER TYPE 895.012



Type no.	EAN no.	D	W
895.012.040 GS	5705499413113	40	90
895.012.050 GS	5705499403558	50	101
895.012.075 GS	5705499403565	75	126
895.012.110 GS	5705499403572	110	161
895.012.160 GS	5705499403589	160	211

With ½" BSP thread.
Also available in AISI 304 on request.

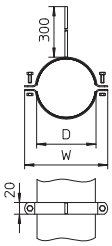
PIPE HANGER WITH EPDM RUBBER TYPE 895.200



Type no.	EAN no.	D	H5.	W
895.200.040 S	5705499413120	40	38	90
895.200.050 S	5705499410747	50	38	101
895.200.075 S	5705499410754	75	54	126
895.200.110 S	5705499410761	110	52	161
895.200.160 S	5705499410778	160	71	211

Also available in AISI 304 on request

PIPE HANGER WITH EPDM RUBBER TYPE 895.300

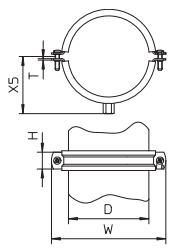


Type no.	EAN no.	D	W
895.300.040 GS	5705499413137	40	90
895.300.050 GS	5705499403633	50	101
895.300.075 GS	5705499403640	75	126
895.300.110 GS	5705499403657	110	161
895.300.160 GS	5705499403664	160	211

Also available in AISI 304 on request

PIPE HANGER WITH EPDM RUBBER TYPE 895.401

IN GALVANIZED STEEL



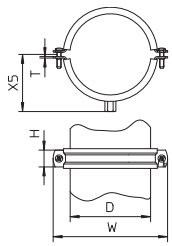
Type no.	EAN no.	D	H.	W	X5	T	Nut
895.401.040	5705499413144	40	20	83	41	1.25	M8/M10
895.401.050	5705499128024	50	20	97	49	1.25	M8/M10
895.401.075	5705499128031	75	23	122	61	2	M8/M10
895.401.110	5705499128048	110	23	157	78	2	M8/M10
895.401.125	5705499128055	125	23	169	84	2	M8/M10
895.401.160	5705499128062	160	25	233	108	3	M8/M10
895.401.200	5705499128079	200	25	273	122	3	M10

D=75mm fits D=82mm as well.

Pipe hangers

PIPE HANGER WITH EPDM RUBBER TYPE 895.403

IN STAINLESS STEEL



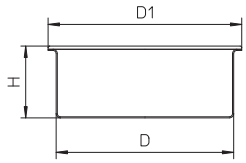
Type no.	EAN no.	D	H.	W	X5	T	Nut
895.403.040 S	5705499413168	40	20	85	32	1.5	M8
895.403.050 S	5705499128161	50	20	97	41	1.5	M8
895.403.075 S	5705499128178	75	20	118	51	2	M8
895.403.110 S	5705499128185	110	20	158	72	2.5	M10
895.403.125 S	5705499128192	125	20	170	78	2.5	M10
895.403.160 S	5705499128208	160	25	233	101	2.5	M10
895.403.200 S	5705499128215	200	25	273	123	3	M10

D=75mm fits D=82mm as well.
Also available in AISI 304 on request.

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Plugs

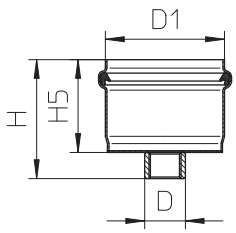
SOCKET PLUG TYPE 844.000



Type no.	EAN no.	D	D1	H.
844.000.040 S	5705499413175	40	50	47
844.000.050 S	5705499402933	50	58	50
844.000.075 S	5705499402940	75	85	45
844.000.110 S	5705499402957	110	120	45
844.000.125 S	5705499412222	125	135	43
844.000.160 S	5705499402964	160	170	45
844.000.200 S	5705499412239	200	210	50

Use of pipe joint clamp type 847 is necessary if any pressure in the pipe system is expected.

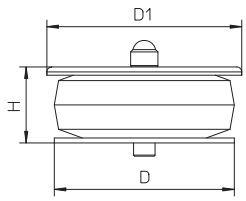
SOCKET PLUG TYPE 844



Type no.	EAN no.	D	D1	H.	H5.
844.069.050	5705499409567	½"	50	67	50
844.082.075	5705499409574	½"	75	78	61
844.087.110	5705499409581	½"	110	84	67

BSP thread.

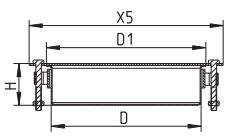
SOCKET PLUG TYPE 844.100



Type no.	EAN no.	D	D1	H.
844.100.050 S	5705499411393	50	59	31
844.100.075 S	5705499411409	75	83	36
844.100.110 S	5705499411416	110	118	36

Use of pipe joint clamp type 847 is recommended if the pressure in the pipe system is expected to exceed 0.5 bar for D<110mm and 0.3 bar for D=110mm.

SOCKET PLUG TYPE 845.000



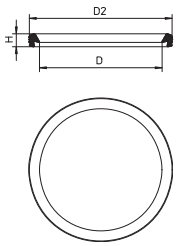
Type no.	EAN no.	D	D1	H.	X5
845.000.160 S	5705499403008	160	170	45	207

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Sealing rings

EPDM LIP SEALING RING BLACK TYPE 801

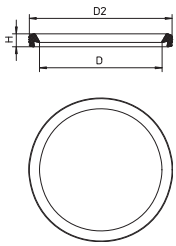
FOR STANDARD USE



Type no.	EAN no.	D	H	D2
801.EPDM.040	5705499403930	40	7.8	51.7
801.EPDM.050	5705499400038	50	7.8	61.8
801.EPDM.075	5705499400045	75	7.8	87.1
801.EPDM.110	5705499400069	110	8.9	124.2
801.EPDM.125	5705499408096	125	10.2	142.3
801.EPDM.160	5705499400076	160	11.5	180.1
801.EPDM.200	5705499410785	200	12.8	223.8

FPM LIP SEALING RING TYPE 801

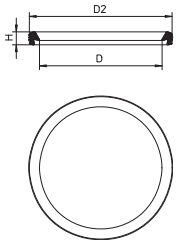
FOR HIGH TEMPERATURES



Type no.	EAN no.	D	H	D2
801.FPM.040	5705499413458	40	7.8	51.7
801.FPM.050	5705499408102	50	7.8	61.8
801.FPM.075	5705499408119	75	7.8	87.1
801.FPM.110	5705499408126	110	8.9	124.2
801.FPM.125	5705499410792	125	10.2	142.3
801.FPM.160	5705499408133	160	11.5	180.1
801.FPM.200	5705499410808	200	12.8	223.8

NBR LIP SEALING RING BLACK/YELLOW TYPE 801

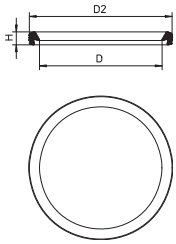
FOR USE WITH OIL



Type no.	EAN no.	D	H	D2
801.NBR.040	5705499413182	40	7.8	51.7
801.NBR.050	5705499400106	50	7.8	61.8
801.NBR.075	5705499400113	75	7.8	87.1
801.NBR.110	5705499400120	110	8.9	124.2
801.NBR.125	5705499410815	125	10.2	142.3
801.NBR.160	5705499400137	160	11.5	180.1
801.NBR.200	5705499410822	200	12.8	223.8

SI LIP SEALING TYPE 801

FOR USE IN FIRE-APPROVED PRODUCTS



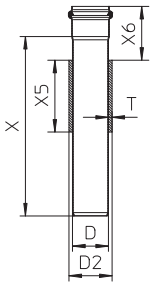
Type no.	EAN no.	D	H	D2
801.SI.040	5705499413199	40	7.8	51.7
801.SI.050	5705499408140	50	7.8	61.8
801.SI.075	5705499408157	75	7.8	87.1
801.SI.110	5705499408164	110	8.9	124.2
801.SI.125	5705499138795	125	10.2	142.3
801.SI.160	5705499408171	160	11.5	180.1

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

for steel decks and bulkheads

PENETRATION TYPE 866

WITH SLEEVE FOR WELDING

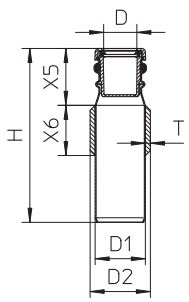


Type no.	EAN no.	EC/MED (Bulkhead)	EC/MED (Deck)	D	D2	X	X5	X6	T	Kg
866.025.040.10FS	5705499413267	A0-A60	A0-A60	40	50	250	100	75	5	0,83
866.025.050.10FS	5705499410099	A0-A60	A0-A60	50	60	250	100	75	5	1,00
866.025.075.10FS	5705499411126	A0-A60	A0-A60	75	85	250	100	75	5	1,50
866.025.110.10FS	5705499411140	A0-A60	A0-A60	110	120	250	100	75	5	2,20
866.025.125.10FS	5705499129397	A0-A60	A0-A60	125	135	250	100	75	5	2,63
866.025.160.10FS	5705499411171	A0-A60	A0-A60	160	170	250	100	80	5	3,80
866.025.200.10FS	5705499413328		A0-A60	200	210	250	100	110	5	5,25

Also available in other lengths on request.

PENETRATION FOR WASH BASIN TYPE 866.032

WITH SLEEVE FOR WELDING



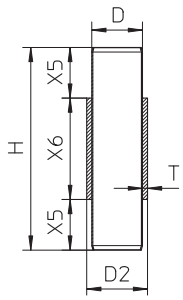
Type no.	EAN no.	D	D1	H.	D2	X5	X6	T	Kg
866.032.050.05 S	5705499403992	32	50	173	60	57	50	5	0,60

Inlet diameter can be changed to D=40mm

for steel decks and bulkheads

TOILET PENETRATION FOR VACUUM SYSTEM TYPE 867

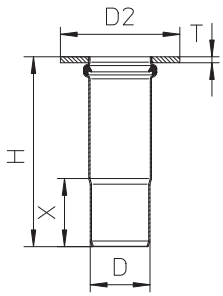
WITH SLEEVE FOR WELDING



Type no.	EAN no.	EC/MED (Bulkhead)	EC/MED (Deck)	D	H.	D2	X5	X6	T	Kg
867.020.040.10 S	5705499413274	A0-A60	A0-A60	40	200	50	50	100	5	0,90
867.020.050.10 S	5705499410549	A0-A60	A0-A60	50	200	60	50	100	5	0,90

FLANGED PENETRATION TYPE 868.1

WITH FLANGE FOR WELDING

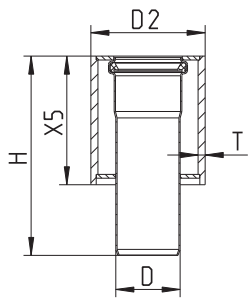


Type no.	EAN no.	EC/MED (Bulkhead)	EC/MED (Deck)	D	H.	D2	X	T	Kg
868.100.040FS	5705499413281	A0-A30	A0-A60	40	152	90	55	5	0,36
868.105.050FS	5705499411195	A0-A30	A0-A60	50	159	100	57	5	0,40
868.115.075FS	5705499411218	A0-A30	A0-A60	75	175	135	62	5	0,70
868.125.110FS	5705499411232	A0-A30	A0-A60	110	200	160	79	5	1,00

Also available in other lengths on request.

PENETRATION TYPE 870

WITH SLEEVE FOR WELDING



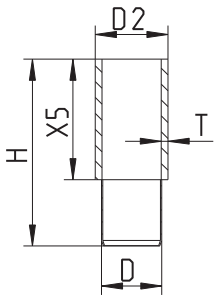
Type no.	EAN no.	EC/MED (Deck)	D	H.	D2	X5	T	Kg
870.000.040FS	5705499413298	A0-A60	40	151	90	100	5	1,45
870.000.050FS	5705499411256	A0-A60	50	155	90	100	5	1,47
870.000.075FS	5705499411270	A0-A60	75	167	108	100	4	1,74
870.000.110FS	5705499412161	A0-A60	110	167	140	100	4	2,29

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

for steel decks and bulkheads

PENETRATION TYPE 872

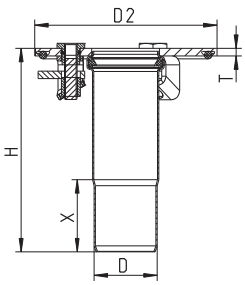
WITH SLEEVE FOR WELDING



Type no.	EAN no.	EC/MED (Bulkhead)	EC/MED (Deck)	D	H.	D2	X5	T	Kg
872.050.040 S	5705499413304	A0-A60	A0-A60	40	150	50	100	5	0,83
872.060.050 S	5705499411348	A0-A60	A0-A60	50	155	60	100	5	0,82
872.076.075 S	5705499411355	A0-A60	A0-A60	75	160	76	100	5	0,99
872.089.075 S	5705499411362	A0-A60	A0-A60	75	160	89	100	5	1,25
872.114.110 S	5705499411379	A0-A60	A0-A60	110	155	114	100	6	1,77

FLANGED PENETRATION TYPE 868.9

NON-WELDED



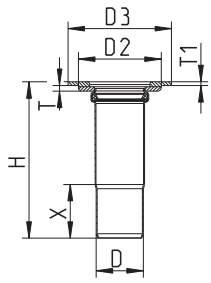
Type no.	EAN no.	EC/MED (Bulkhead)	EC/MED (Deck)	D	H.	D2	X	T	Kg
868.900.050FS	5705499413502	A0-A30	A0-A60	50	161	145	57	6	1,19
868.900.075FS	5705499413519	A0-A30	A0-A60	75	177	170	62	6	1,49
868.900.110FS	5705499413526	A0-A30	A0-A60	110	202	205	79	6	2,06

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

for aluminium decks and bulkheads

FLANGED PENETRATION TYPE 878

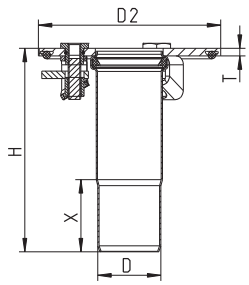
WITH BIMETAL FLANGE FOR WELDING



Type no.	EAN no.	EC/MED (Bulkhead)	EC/MED (Deck)	D	H.	D2	D3	X	T	T1	Kg
878.105.050FS	5705499121797	A0-A30	A0-A60	50	166	88	110	57	6	4	0,60
878.115.075FS	5705499121810	A0-A30	A0-A60	75	182	113	136	62	6	4	0,86
878.125.110FS	5705499121834	A0-A30	A0-A60	110	207	148	172	79	6	4	1,27

FLANGED PENETRATION TYPE 868.9

NON-WELDED



Type no.	EAN no.	EC/MED (Bulkhead)	EC/MED (Deck)	D	H.	D2	X	T	Kg
868.900.050FS	5705499413502	A0-A30	A0-A60	50	161	145	57	6	1,19
868.900.075FS	5705499413519	A0-A30	A0-A60	75	177	170	62	6	1,49
868.900.110FS	5705499413526	A0-A30	A0-A60	110	202	205	79	6	2,06

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

Jointing unit with group penetration

for welding into steel deck
or for non-welded installation into steel deck

Ideal for use e.g. in service spaces near cabin modules for instance in cruise liners, allowing all sanitary units of the cabin to be connected to one fire-approved deck penetration. The jointing unit can be pre-installed in the deck before the cabin units are fitted, thus avoiding subsequent welding.

With all penetrations for connections to and from the cabin in one place, the jointing unit contributes to making inspection and maintenance easy.

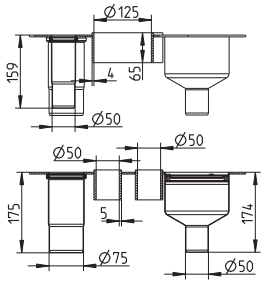
General information

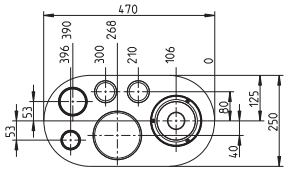
Fire class:	A0, A30 and A60
Approval no.:	MED-B-9545
Insulation:	Detailed information regarding insulation is available in the appendix to the certificate. For products in thick-walled sleeve, please contact the supplier
Materials:	The jointing unit is made from stainless steel grade AISI 316L and comes with SI and CR rubber sealings for the BLÜCHER® products.

* Fire-approved products which have been tested and approved according to IMO 2010 FTP Code Part 3.

for steel decks

GROUP PENETRATION TYPE 490.001

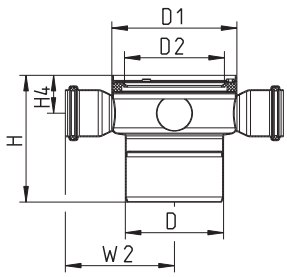




Type no.	EAN no.	EC/MED (Deck)	Kg
490.001.050 S	5705499127805	A0-A60	4,86

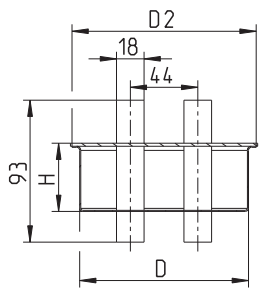
Other group penetrations available on request.

INTERMEDIATE SECTION FOR GROUP PENETRATION TYPE 479



Type no.	EAN no.	D	D1	H	H4	W2	D2	Kg
479.303.110 S	5705499127812	110	140	142	43	122	113	0,92

PLUG FOR GROUP PENETRATION TYPE 844.218



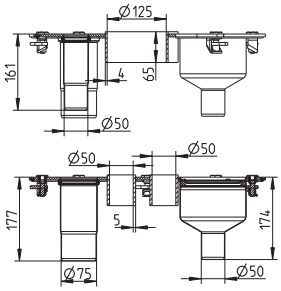
Type no.	EAN no.	D	H	D2
844.218.110 S	5705499127829	110	45	120

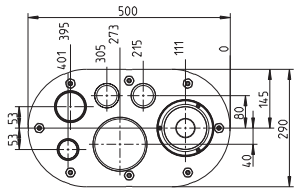
All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

for steel decks

GROUP PENETRATION TYPE 490.900

NON-WELDED





Type no.	EAN no.	EC/MED (Deck)	Kg
490.900.050 S	5705499413533	A0-A60	7,70

All dimensions in mm - If Stainless Steel grade AISI 304 / EN 1.4301 is required specify type no. without suffix S

MANUAL PIPE CUTTER

Cutting is done by a special disc cutter, which cuts and grips at the same time.

N.B.: Do not cut fittings.

Type no.	EAN no.	Designation
006.050.110	5705499000061	Manual pipe cutter (40 - 110 mm)
006.125.200	5705499001020	Manual pipe cutter (110 - 200 mm)
006.000.005	5705499000023	Spindle for 006.050.110
006.000.000	5705499000016	Cutting disc for 006.050.110
006.000.001	5705499001068	Cutting disc for 006.125.200 & 006.200.315

ELECTRICAL PIPE CUTTER

Cutting time:
Seconds.

Changeover time:
Changeover from one cutting disc to another can be effected within a matter of seconds.

Cutting quality:
The cutting motion has been developed to produce a bevelled leading edge to cut ends. As a result only the application of BLÜCHER jointing lubricant is required prior to jointing cut ends.

Power supply:
110 Volt/Min 2 kVA/60 Hz or 220 Volt/50 Hz.

Pipe diametres:
50-160 mm

N.B.: Do not cut fittings.

Type no.	EAN no.	Designation
800.050.160	5705499400021	Electrical pipe cutter 220 V
800.050.160 GB	5705499000184	Electrical pipe cutter 110 V, 16 A
800.050.160 US	5705499000191	Electrical pipe cutter 110 V, USA plug
800.030.006	5705499400014	Cutting disc
006.050.160	5705499124132	Support base for electrical pipe cutter

CUTTING OIL/JOINTING LUBRICANT

Jointing lubricant is applied to make jointing a simple action. After a few days the lubricant will dry out and lose its lubricity making subsequent demounting of a joint difficult. If subsequent demounting of joints can be envisaged then we can supply a silicone based lubricant that will not dry out. BLÜCHER jointing lubricant is based on a mild and harmless liquid detergent that is biologically degradable. BLÜCHER cutting oil is recommended for use with BLÜCHER® EuroPipe pipe cutters.

Type no.	EAN no.	Designation
007.000.000	5705499000078	Atomizer
007.100.050	5705499000085	Jointing lubricant 0.5 L
007.500.050	5705499000092	Cutting oil 0.5 L

Stainless steel

Fire resistant
- Non combustible
- No need for special fire insulation
- No toxic fumes released in case of fire

Light-weight
- Low weight - high strength
- Weight only one third of cast iron
- Larger pipes are easily handled by one man

Hygienic
- Low surface roughness
- High flow capacity
- No bacterial growth
- No blockages

Long life time
- Corrosion resistant
- Resistant to impact damages
- Resistant to temperature fluctuations

Type of material

Stainless steel is a clean, durable, corrosion resistant material with a design life expectancy of over fifty years.
The BLÜCHER® sanitary discharge system comes in 2 stainless steel grades, AISI 316L and AISI 304. BLÜCHER normally recommends the use of AISI 316L because the risk of corrosion, caused by an aggressive environment, is significantly reduced or eliminated entirely by choosing the molybdenum stainless steel type AISI 316L. Below are listed the recommended type of material for different applications.

In some products, in which part components are used that are not exposed to sewage water and consequently not affecting the functionality or lifetime of the product, these part components may be made from other materials or alloys than specified for the complete products.

During installation and until test/normal operation the sanitary discharge system is to be closed and not used in order to avoid contamination by corrosive substances.

Black water piping	Grey water piping	Grey water piping, Galleys	Deck drain piping	Outside piping visible
AISI 316L (AISI 304)	AISI 316L (AISI 304)	AISI 316L	AISI 316L*	AISI 316L**

* Pipes to be flushed regularly with fresh water
** Outside piping must be primed and painted

Material properties stainless steel

What is stainless steel?
The designation stainless steel covers a wide range of alloys with different properties. One property common to all stainless steels is that they contain at least 12% chromium.

The stainless steels can be divided into three main groups and a few mixed types according to the structure of the steel:
– Austenitic stainless steel
– Ferritic stainless steel
– Martensitic stainless steel

Austenitic stainless steel is the most important, representing approx. 90% of total stainless steel consumption. Austenitic steel is also the only stainless steel suitable for drainage installations, and it is, of course, the type used by BLÜCHER.

Importance of alloying elements
Austenitic stainless steel contains at least 18% chromium and 8% nickel – thus the well-known designation »18/8« steel. Corrosion resistance generally increases with increasing content of chromium. In alloys with 12-13% chromium, the passive layer is strong enough to prevent the steel from corroding in normal or mildly aggressive media. The main effect of the alloying element nickel is on the structure of the steel and its mechanical properties. The steel's structure is austenitic with an adequate content of nickel. In contrast to the pure chromium steels (ferritic stainless steel), this results in significant changes in the mechanical properties, such as increased workability and ductility, better resistance to thermal stress and improved weldability. The austenitic structure also results in a change in the physical properties of the steel. For example, the steel is not magnetic.
Nickel also increases resistance to corrosion caused by certain media. Molybdenum has the same effect on the structure as chromium, but it also has a strongly positive influence on corrosion resistance. Molybdenum-containing steel is normally designated »acid-resistant« because of the resistance of these steels to certain types of acids. But acid-resistant stainless steel will also have limited resistance to some media such as chlorine-containing media (see table of resistances).

Why is steel »stainless«?
The addition of chromium to the steel results in the building up of a passivating oxide film with a high content of chromium oxides. This oxide film protects the surface of the steel against oxygen in air and water.
An outstanding property of stainless steel is that the chromium oxide film automatically regenerates if the surface of the steel is exposed.
This restitution of the oxide film can only occur if the surface of the steel is completely clean and free of tempering agents and slag from welding processes and residues from tools made from ordinary carbon steel.
If this surface contamination is not removed, the steel may ultimately corrode. To prevent this, the steel surfaces should be cleaned after welding and processing, e.g. by means of so-called acid pickling of the stainless steel.
The pickling effectively removes all impurities from the surface of the steel and permits the reestablishment of a strong, uniform chromium oxide film. The pickling bath normally consists of 0.5-5% v/v HF (hydrofluoric acid) and 8-20% v/v HNO_3 (nitric acid) at a temperature of 25-60°C. This acid bath removes residues, the existing chromium oxide film and traces of iron, leaving the clean steel surface. The restitution of a strong chromium oxide film starts in the subsequent rinsing in water.

Material Specification

Material	AISI 316L 1.4404	AISI 304 1.4301
Analysis		
Carbon (C %)	Max. 0,03	Max. 0,07
Chromium (Cr %)	16,5 - 18,5	17,0 - 19,0
Nickel (Ni %)	11,0 - 14,0	8,5 - 10,5
Molybdenum (Mo %)	2,0 - 2,5	-
Manganese (Mn %)	Max. 2,0	Max. 2,0
Silicium (Si %)	Max. 1,0	Max. 1,0
Sulphur (S %)	Max. 0,030	Max. 0,030

Physical Properties

Structure	Austenitic (nonmagnetic)	Austenitic (nonmagnetic)
State	Non-annealed	
Specific gravity (g/cm³)	7,98	7,9
Melting point (°C)	Ca. 1400	Ca. 1400
Decortication temperature in air (°C)	800 - 860	800 - 860
Expansion coefficient 20 - 100 °C (m/m · °C)	$16,5 \bullet 10^{-6}$	$16,5 \bullet 10^{-6}$
Specific resistance (20° C) (Ohm · mm²/m)	0,75	0,73
Heat conductivity (20°C) (W/°C-m)	15	15
Specific heat (J/g · k)	0,5	0,5

Mechanical Properties

Ultimate tensile strength (Rm) (N/mm²)	490 - 690	500 - 700
Yield point (Rpo2) (N/mm²)	190	195
Modulus of elasticity (E) (20° C) (N/mm²)	$2,0 \bullet 10^5$	$2,0 \bullet 10^5$
Hardness Brinell (HB) (N/mm²)	120 - 180	130 - 180

Material properties stainless steel

Corrosion resistance
Austenitic chromium-nickel steel is resistant to many different chemical products and most detergents. BLÜCHER® drainage products are manufactured exclusively from this group and as such are suitable for use within the food, beverage, chemical, pharmaceutical, dairy, shipbuilding and commercial catering industries.

When increased acid-resistance is required, and spot and crevice corrosion may occur, or in general for marine/off-shore use, molybdenum-alloyed chromium-nickel steels (AISI 316L) may be used.
These acid-resistant steels resist a number of organic and inorganic acids.
However, acid-proof steels are only partially resistant to solutions containing chlorides.

Impact resistance
The high tensile strength of stainless steel makes the material resistant to impact damage at all temperatures. Severe blows to the material may in certain cases cause dents, they are however unlikely to fracture the material.

Fire resistance
Stainless steel is non-combustible which means that pipes and drains made of stainless steel may penetrate deck/bulkhead partitions without the need for special fire insulation (e.g. intumescent fire collars). Furthermore, no toxic fumes or substances are released from stainless steel in the event of fire.

Thermal stress
Due to the very low heat expansion coefficient of stainless steel, BLÜCHER® drainage products are not adversely affected by temperature fluctuations occurring in drainage installations. Consequently, there are no special constraints that determine at what temperature BLÜCHER® products should be stored or installed.

Hygiene
Hygiene is an important issue, in particular on cruise vessels. From practical experience in hygienic installations (food preparation, health care etc.) it is documented that bacterial growth on stainless steel is significantly lower than on alternative materials (e.g. plastics). In addition an unused piece of stainless steel pipe has a very low surface roughness (K=0.00006 in. (0.0015 mm)). This low surface roughness minimises not only bacterial growth, but also the danger of sediments building up which may later lead to blockages.

Weight
BLÜCHER® drainage products are all produced in thin-walled stainless steel sheet making the most of the material's high strength to weight ratio.
This makes our product the superior choice when calculating the weight optimisation for the vessel or off-shore installation in question.

CHEMICAL RESISTANCE TABLE

The table is based on laboratory experiments with chemically pure substances. The values should therefore be regarded as for guidance only.

A = Very good service to operating limit of material B = Moderate service C = Limited or variable service D = Unsatisfactory	AISI 316 L Stainless	AISI 304 Stainless	EPDM	NBR	FPM
Acetone	A	A	A	D	D
Acetic acid (dilute.) 30% or 50%	A	A	A	B	B
Acetic acid 100%	A	A	A	C	C
Acetic anhydride	A	A	B	C	D
Aluminium chloride	D	D	A	A	A
Aluminium sulfate	A	D	A	A	A
Ammonium carbonate	A	A	A	D	-
Ammonium chloride/salmiac	B	C	A	A	-
Ammonium hydroxide	A	A	A	D	B
Amyl chloride	A	A	-	-	-
Aniline	A	A	B	D	C
Anilin hydrochloride	D	D	B	B	B
Barium chloride	B	B	A	A	A
Barium hydroxide	A	A	A	A	A
Benzaldehyde	A	A	A	D	D
Benzene	A	A	D	D	A
Benzoic acid	A	A	-	-	A
Borax/sodium borat	A	A	A	B	A
Boric acid	A	A	A	A	A
Bromine	D	D	-	-	A
Bromine chloride	D	D	A	B	A
Bromoethylene/vinyl bromide	A	A	-	-	-
Butanol	A	A	D	A	A
Butyl acetat	A	A	B	-	D
Butyric acid	A	A	-	-	-
Calcium bisulfate	A	A	D	A	A
Calcium chloride	B	B	A	A	A
Calcium hydroxide	A	A	A	A	A
Calcium hypochlorite	B	C	A	C	A
Carbon disulfide	A	A	-	-	-
Carbon tetrachloride	A	A	D	C	A
Chloroacetic acid (Mono)	D	D	B	-	-
Chlorine (dry)	A	A	-	-	A
Chlorobenzene	A	A	D	D	A
Chlorosulfonic acid	B	C	D	D	C
Copper chloride	B	B	A	A	A
Copper nitrate	A	A	-	-	-
Copper sulfate	A	A	A	A	A
Ether	A	A	-	-	-
Ethyl chloride	A	A	A	A	A
Fatty acid	A	A	D	B	A
Fluorine (dry)	A	A	-	-	-
Hydrofluoric acid	D	D	B	D	A
Formaldehyde	A	A	A	B	A
Formic acid	A	A	A	B	C
Furfural	A	A	B	D	D
Gallic acid	A	A	B	B	A
Hydrobromic acid	D	D	A	D	A
Hydrochloric acid	D	D	A	D	A
Hydrogen peroxide	A	A	C	D	B
Iodine (wet)	D	D	-	-	-
Kloroform	B	B	D	D	A
Lead acetate	A	A	A	B	-
Magnesium chloride	B	B	A	A	A
VALUES TO BE REGARDED AS FOR GUIDANCE ONLY					

A = Very good service to operating limit of material B = Moderate service C = Limited or variable service D = Unsatisfactory	AISI 316 L Stainless	AISI 304 Stainless	EPDM	NBR	FPM
Magnesium sulfate	A	A	A	A	A
Mercury	A	A	A	A	A
Methanol	A	A	A	A	C
Methyl chloride	A	A	C	D	A
Methylene chloride	B	B	D	D	B
Natphalene	A	A	D	D	A
Nickel chloride	B	B	A	A	A
Nickel sulfate	A	A	A	A	A
Nitric acid	C	C	C	D	A
Oxalic acid	C	C	A	B	A
Perchloric acid	D	D	B	-	A
Phorsphoric acid	A	A	B	D	A
Picric acid	A	A	B	B	A
Potassium bromide	A	A	-	-	-
Potassium carbonate	A	A	-	-	-
Potassium chlorate	A	A	-	-	-
Potassium cyanide	A	A	A	A	A
Potassium hydroxide	A	A	A	B	B
Potassium nitrate	A	A	A	A	A
Potassium permanganate	A	A	-	-	-
Potassium sulfate	A	A	A	A	A
Potassium sulfide	A	A	-	-	-
Potassium chloride	B	B	A	A	A
Prophylene dichloride	A	A	-	-	-
Silver nitrate	A	A	A	B	A
Soda (ash)/sodium	A	A	-	-	-
Sodium acetate	A	A	A	B	D
Sodium bicarbonate	A	A	A	A	A
Sodium bisulfate	A	C	-	-	-
Sodium bisulfite	A	A	A	A	A
Sodium bromide	B	B	-	-	-
Sodium chlorate	A	A	-	-	-
Sodium chloride	D	D	-	-	-
Sodium cyanide	A	A	A	A	A
Sodium fluoride	A	A	-	-	-
Sodium hydroxide	A	A	A	B	B
Sodium hypoklorite	D	D	B	B	A
Sodium nitrate	A	A	A	B	-
Sodium sulfate	A	A	A	A	A
Sodium sulfide	A	A	-	-	-
Sodium sulfite	A	A	-	-	-
Stannous chloride/tin chloride	B	C	B	A	A
Sulfur	A	A	A	D	A
Sulfur chloride	A	A	D	C	A
Sulfur dioxide	A	B	A	D	A
Sulfuric acid	D	D	B	D	A
Sulfurous acid	A	C	B	B	A
Thionyl chloride	A	A	D	-	A
Toluene/toluol	A	A	D	D	A
Trichloroethylene	A	A	D	C	A
Turpentine	A	A	D	A	A
Xylene/xylol	A	A	-	-	-
Zinc sulfate	A	A	-	-	-
VALUES TO BE REGARDED AS FOR GUIDANCE ONLY					

Assumptions: 20°C room temperature

References
Corrosion Data Survey, 1969 Edition, Nace
Corrosion Tables, Stainless Steels, 1979, Jernkontoret
Chemical Resistance of Plastic Piping Materials, Cabot Corporation, 1979

PLEASE NOTE!

Concentration level, length of exposure, temperature and in particular the combination of several chemicals have a direct influence on the resistance of stainless steel to certain chemicals.
Each application should therefore be carefully reviewed to determine the suitability of stainless steel.

In particular, be careful with the use of hydrous cleaning agents containing compounds of chlorine.

Material properties rubber seals

Rubber types

International designation	EPDM	NBR	FPM	SI	CR
Rubber type	Ethylene propylene	Nitrile	Fluorine (Viton®)	Silicone	Chloroprene
Nominal hardness IRHD	60 (+/-5)	60 (+/-5)	60(+/-5)	57(+/-5)	55 (+/-5)
Colour	Black	Black/yellow dot	Purple (new: green)	Red	Black
Tensile strength MPa	≥ 10 N/mm²	≥ 10 N/mm²	≥ 8 N/mm²	≥ 5,5 N/mm²	≥ 10 N/mm²
Elongation at rupture %	≥ 300%	≥ 300%	≥ 230%	≥ 250%	≥ 250%
Max. temperatur range	-40/+100° C -40/+212° F	-30/+80° C -22/+176° F	-25/+200° C -13/+392° F	-50/+230° C	-30/+110° C

Resistance

Wearability	2	2	2	2	3
Resistance to mineral oil	5	1	1	3	2
Resistance to vegetable oil	2	1	1	1	2
Resistance to gasoline	5	1	1	5	2
Resistance to aromatic compounds and hydrocarbons	5	2	1	3	3
Resistance to ketones	1	5	4	3	5
Resistance to ordinary diluted acids and alkalines	1	1	1	2	2
Resistance to ozone and weather stresses	1	3	1	1	1
Resistance to air diffusion	4	3	1	2	2

1 = Very good **2** = Good 3 = Moderate 4 = Limited service 5 = Low

BLÜCHER sealing rings are available in five different rubber qualities.

EPDM This sealing ring is black and made of ethylene propylene rubber. This is BLÜCHER's standard sealing ring and it is suitable for all rainwater and waste water installations where there is no oil or no petrol residues in the waste water.
The EPDM lip seal is a good all-round rubber quality suitable for a wide range of applications.

NBR This sealing ring is black with a yellow spot and made from nitrile rubber and is the sealing ring to be used where there are petrol or oil residues on the waste water (e.g. in association with oil and petrol separators at service stations, garages etc.).
The NBR lip sealing ring should not be used where there is a risk of temperatures above 80°C. NBR is not resistant to solvents.

FPM This sealing ring is purple (new: green) and made from fluorine rubber (Viton®).
This is BLÜCHER's sealing ring for special applications. The material is particularly heat-resistant and resistant to oil, solvents and strong acids. However, the FPM seal has only limited resistance to e.g. butyl acetate, acetone and methyl alcohol.

For advice regarding the suitability of the different rubber qualities, consult BLÜCHER.

SI This sealing ring is red and made from silicone rubber (VMQ). This is the BLÜCHER sealing ring used for fire safety. The SI sealing ring is only used in BLÜCHER´s special fire resistant pipe penetrations.

CR This sealing ring is black and made from chloroprene rubber. This is the BLÜCHER standard sealing for Marine drains. The material is flame retardant and has good heat resistance, mechanical and abrasion properties. It is resistant to most inorganic chemicals, except for oxidizing acids and halogens. Moderate resistance to oil residues.

Longitudinal expansion of drainage pipes

The figure below shows the relationship between pipe length L in m and longitudinal expansion Δl in mm for various temperature differences Δt.

Example: A 3 m pipe will expand by 2,5 mm at a temperature difference of 50˚C.

The increase in length for a given pipe length can also be calculated from the following formula.

Δl = 0,0165 x Δt x L

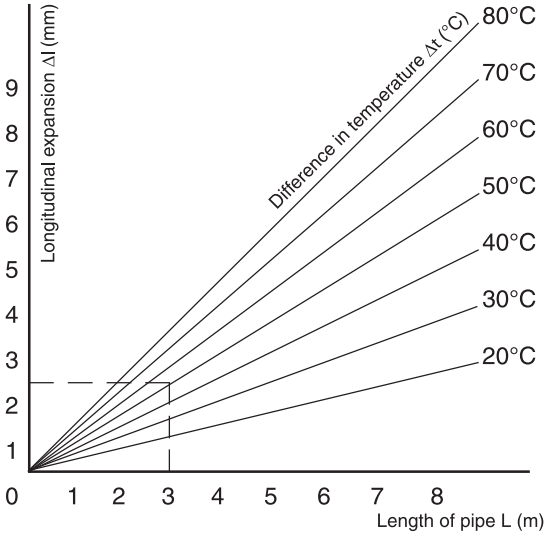
where

Δl = longitudinal expansion in mm
0,0165 = coefficient of expansion in mm/m/˚C
Δt = temperature difference in ˚C
(Δt = max. temp. in the pipe system
– temperature when pipe system installed)
L = length of the pipe system in m.

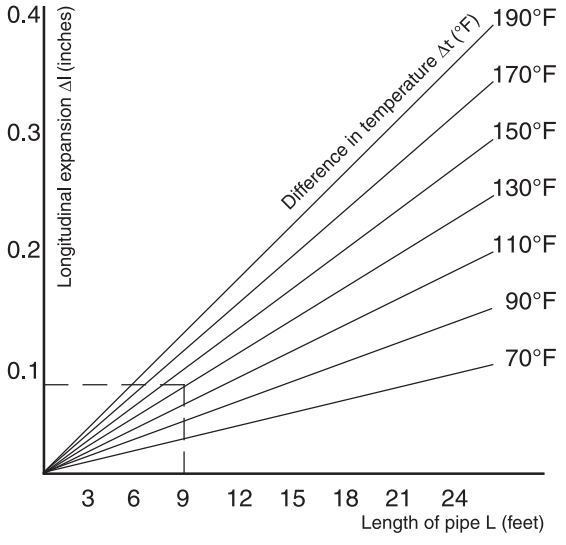
The longitudinal expansion can usually be absorbed in the socket joint.

Longitudinal expansion diagram

The below graphs demonstrate the relationship between pipe length (l) and longitudinal expansion Δ l) at various temperature differences (Δ t.)



Example: A pipe of 3 m expands longitudinally by approx. 2,5 mm at a temperature difference of 50° C.



Example: A pipe of 9 ft. expands longitudinally by approx. 0,097 ins. at a temperature difference of 130° F.

Measure conversion table

The below table states the general dimensions etc. of the BLÜCHER® sanitary discharge system converted into inch/ft.

Pipe sizes							
mm	040	050	075	110	125	160	200
inch	1,57	1,96	2,95	4,33	4,92	6,30	7,87

Pipe lengths										
mm	150	250	500	750	1000	1500	2000	4000	5000	6000
ft.	0,5	0,8	1,6	2,5	3,3	4,9	6,6	13,0	16,4	19,7

Drain outlets			
mm	050	075	110
inch	1,96	2,95	4,33

1 mm	=	0,03937 inch
1 m	=	3,281 ft.
1 bar	=	14,504 psi

BLÜCHER® EuroPipe Performance

BLÜCHER® EuroPipe is designed and manufactured in accordance with European standard EN1124, following which it is a vacuum and/or gravity system, not considered a pressure-carrying system. Due to the fact that BLÜCHER® EuroPipe pipes and fittings have push-fit joints, these may potentially slide apart if the system is pressurized.

To prevent such incidents from happening, BLÜCHER offers a range of pipe clamps, all of which are physical restraints designed to keep the pipe joints in place during normal operation and/or to prevent the pipe joints from sliding apart even if an unexpected pressure increase caused by a blockage, for instance from pipe clogging, should result in a temporary pressurization of the system.



Pipe Size	Gravity					Vacuum
	No clamp	847.xxx.xxx		847.001.xxx		
		std.	Dimples	Static	Peak	
Ø 40	0,5	2,0	3,0	3,0	10,0	-0,85
Ø 50	0,5	2,0	3,0	3,0	10,0	-0,85
Ø 75	0,5	2,0	3,0	3,0	10,0	-0,85
Ø 110	0,5	2,0	3,0	3,0	7,5	-0,60
Ø 125	0,5	1,0	3,0	3,0	6,0	-0,60
Ø 160	0,5	1,0	3,0	3,0	5,0	-0,60
Ø 200	0,2	0,5	2,5	2,5	4,0	-0,60

Leakage Testing

BLÜCHER recommends that the pipework system is tested for leakages before starting using the installation.

Gravity systems

Pipework installations to be tested at max. 0,5 bar, e.g. by blocking the installations on each deck and filling with water.

Vacuum systems

Pipework installations to be tested in accordance with the recommendations of the vacuum system supplier. BLÜCHER recommends max. -0,85 bar vacuum for OD 40 - 75 mm and max. -0,6 bar vacuum for pipe sizes bigger than OD 75 mm.

Maintenance

With the right choice of material, a BLÜCHER® sanitary discharge system can be used for most types of drainage installations requiring little maintenance, provided that a few precautions are taken during installation and operation.

During installation

During installation care must be taken to prevent contamination of the stainless steel by carbon steel in tools or otherwise touching the stainless steel. In itself, carbon steel will not cause corrosion of the stainless steel surface, but the carbon steel particles adhering to the stainless steel will rust and cause discolourings. Always use clean tools suitable for stainless steel without any adhering iron shavings or particles or rust, stainless steel wool/brushes and stainless steel brackets, screws, bolts, nuts, etc. in the stainless steel drainage system.

If welding, or use of carbon steel tools or similar is to take place close to a stainless steel installation, the stainless steel surface is to be protected until the work has been completed.

To prevent construction waste or chemicals used in connection with other construction work from being admitted to the sanitary discharge system during installation and completing of other construction work, it is very important to keep the sanitary discharge system closed and unused until all construction work has been completed.

All BLÜCHER® Marine drains lower parts come with a welding cover to ensure protection of the drainage system during installation. The sanitary discharge system must also be thoroughly cleaned and flushed on completion to ensure that any blockages or leaking joints are revealed before the sanitary system is put into use.

In operation

On delivery from BLÜCHER, all stainless steel surfaces have been passivated and are perfectly clean. In other words, the stainless steel has formed a corrosion-resistant oxide film over the entire surface.

To preserve the outstanding anti-corrosion properties of the stainless steel, surface contamination and deposits are to be prevented. The general rule is to clean the steel when it becomes dirty, which dependent on the environment- may be at intervals from 1 to 4 times each year. Highly polluted (industrial atmosphere) or salty air (marine conditions) as well as deposits of chlorine-containing cleaning agents or acid may cause discolourations and corrosion on lower grade stainless steel, but the risk of corrosion is considerably reduced or eliminated if grade AISI 316L is chosen for the installation.

Stainless steel is resistant to a wide range of chemicals and substances, but a few guidelines are to be observed as regards what substances can be discharged through the system:

Waste water containing substances that may cause deposits of sludge or solids such as sand, plaster or iron shavings may cause damage to the drainage system

Waste water containing chemicals to which the stainless steel is not resistant, e.g. hydrochloric acid, may cause corrosion. Modern cleaning processes use many chemicals, but care should be taken to ensure that the cleaning agent is suitable for stainless steel. Mechanical cleaning might be used as well. Contact the manufacturer of the cleaning agent if in doubt.

Prevent blockages by regularly flushing of the drainage system through drains and water traps and through other rodding access. Blockages owing to fat discharged through kitchen sinks may be prevented by using a grease separator.

Videos at www.blucher-marine.com

Installation videos

As a supplement to the printed installation instructions for the BLÜCHER® products used in marine applications, the following installation videos are available at www.blucher-marine.com (select the tab "Installation"):

BLÜCHER® EuroPipe
Cutting of pipes with electrical pipe cutter

BLÜCHER® Drain Marine
Installation in decks

BLÜCHER® EuroPipe
Cutting of pipes with manual pipe cutter

BLÜCHER® Drain Marine
Water trap

BLÜCHER® EuroPipe
Introduction to use and applications

BLÜCHER®
Non-welded penetrations

Other videos

Available at www.blucher-marine.com

BLÜCHER® Marine
Passenger safety

BLÜCHER® Marine
Company presentation

BLÜCHER® Marine
Combustible sanitary piping systems

BLÜCHER® WaterLine
Shower channels

BLÜCHER® EuroPipe

BLÜCHER® Channel

BLÜCHER® Drain

CS Grafisk - 2000.02.18 25006

BLÜCHER®
A WATTS Brand

T: +45 99 92 08 00 • marine@blucher.com • blucher-marine.com