

water in motion

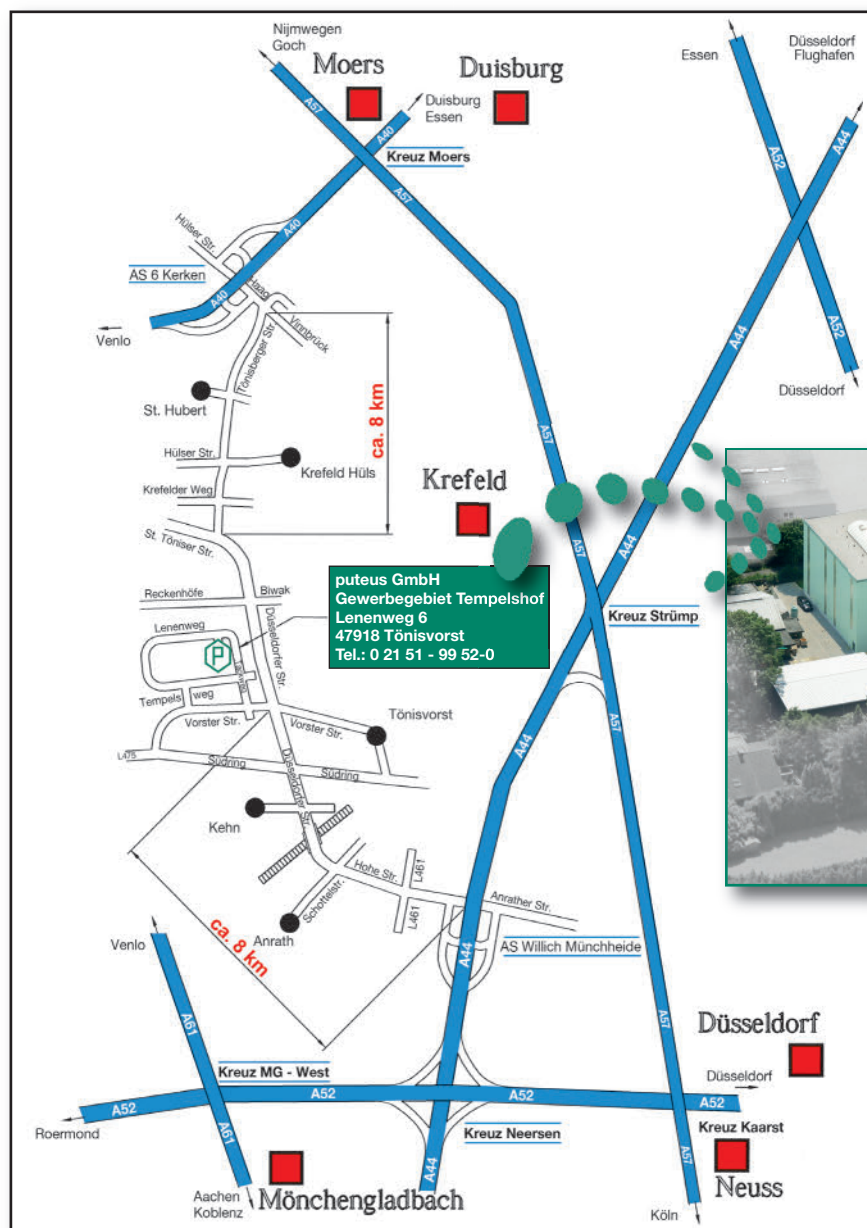


6 Handpumps, hoses + accessories

How to find us?

How to reach us?

Phone: +49-(0) 2151-9952-0 • Fax: +49-(0)2151-9952-99 • e-mail: info@puteus.de



Distance Tönisvorst — airport

Düsseldorf		34 km
Weeze		66 km
Köln/Bonn		71 km
Dortmund		91 km

Contact:

Prefix:

+49(0)2151...

Phone

Fax

E-Mail

Management

Hans de Gruyter
Purchasing/Finance
Peter de Gruyter
Distribution

9952-22

9952-25

h-degruyter@puteus.de

Management Assistance

9952-42

9952-45

b-brender@puteus.de

Sales Manager

9952-50

9952-55

verkauf@puteus.de

Sales Department, Germany

9952-52

9952-55

verkauf@puteus.de

Sales Department, Export

9952-60

9952-55

export@puteus.de

Customer Service and order processing

9952-12

9952-15

vertrieb@puteus.de

Accounting Department

9952-22

9952-24

finanzen@puteus.de

Import/Export customs clearance

9952-23

9952-24

finanzen@puteus.de

Puteus GmbH, a manufacturing and distributing company, was founded in 1979 by the parents of the present share holders. Puteus experienced a rapid development - from a supplier for products of the gardening and irrigation sector to a large range of the heating, plumbing- and garden components.



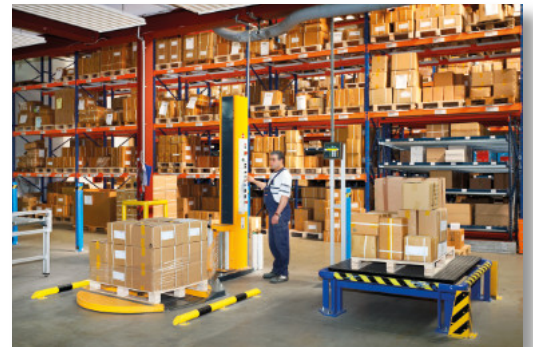
The company is based in Tönisvorst



The high-bay warehouse

Our modern warehouse with a capacity of 10.000 pallets and a picking area for further 3.000 pallets allows short delivery times.

In addition to our standard product range we also design and manufacture lots of OEM products for the sanitary and heating industries in production sites spread all over the world. Many of our products meet the different requirements and regulations, e.g. DVGW, PA-certificates, KIWA, ACS or SVGW.



Whether the customer orders full pallet units ...



... we supply individually and promptly.

Qualified employees in all areas of the company use their skills to satisfy your individual needs – from the standard fitting to the construction of customer-specific items.

In our German production sites we own different production lines, electroplating and modern robot plants, tool- and mould making as well as turnery and metalwork departments.



... or wishes smaller packing units ...



Ready for shipment.

The owner-managed family company **puteus GmbH** was the starting point for a group of companies of, today, about 250 employees. It has set itself the target of combining optimal quality and service and – at the same time – responding flexibly and promptly to the changes in the market. We are distinguished both by continuous development of knowledge and quality improvements of our products that are in the interest of our customers as well as commitment and curiosity for what is new and feasible.

These following companies also belong to the de Gruyter-Stach-Group



► Schlösser Armaturen GmbH & Co. KG

Im Dohm 3 | D-57462 Olpe

Phone: +49-27 61-607-0 | Fax: +49-27 61-607-10

E-Mail: info@schloesser-armaturen.de

Commercial register entry:

AG Siegen | HRA 8076 | UST-IDNR DE 814 779 086 | Sitz Olpe

CEO: Henning de Gruyter | Olaf Stach

Water and heating connection valves

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heating fittings · water meters

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Grünlandweg 11 | D-58640 Iserlohn

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Exclusive sanitary taps and mixers



► Heinrich Schulte GmbH & Co. KG

Giesestrasse 30 | D-58636 Iserlohn

Phone: +49-23 71-90 90-0 | Fax: +49-23 71-90 90-99

E-Mail: info@heinrichschulte.com

Commercial register entry:

AG Iserlohn | HRA 2276

UST-IDNR DE 233 202 839 | Sitz Iserlohn

CEO: Henning de Gruyter | Olaf Stach

Exclusive sanitary taps and mixers

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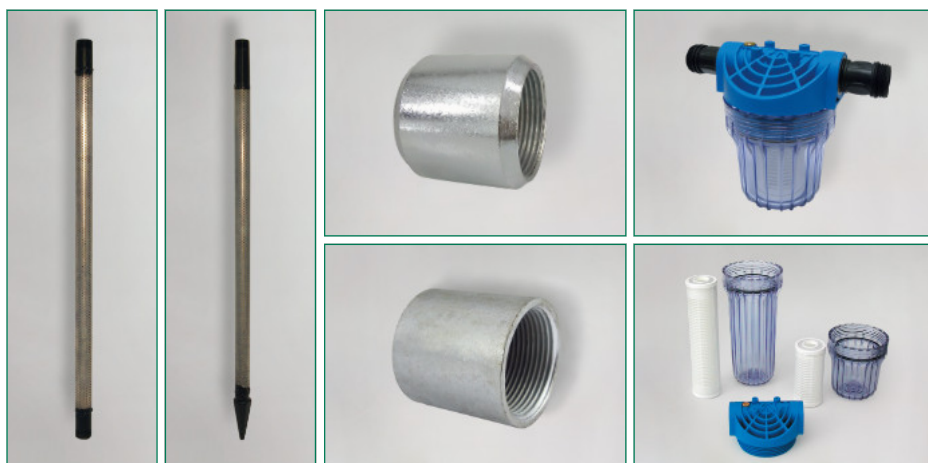
Hand pumps, wall fountains, fountain stand + accessories

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Pipes, sockets, well points with perforated pipe + pump prefilters

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Hoses

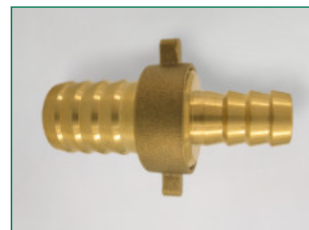
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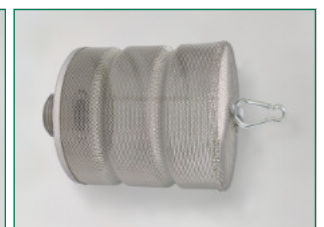
Pump check valves + foot valves

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Stainless steel pre-filters

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Hand pump with round flange, Type 75

Gray cast iron, handle adjustable in all directions, suction head 7 meter water column, Type 75

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Connection:	Colour:	Packing unit:
11002 3	1 1/4"	green	1/40
11005 4	1 1/4"	black	1/40



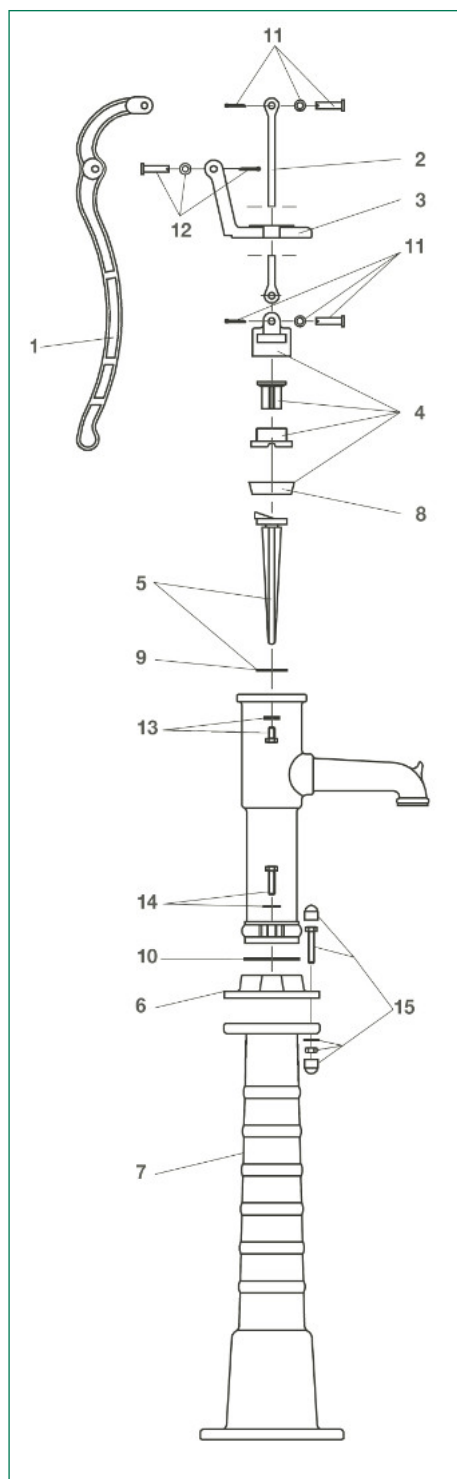
Pump stand for hand pump with round flange

for hand pump Type 75

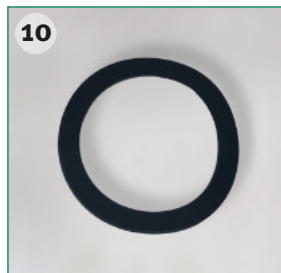
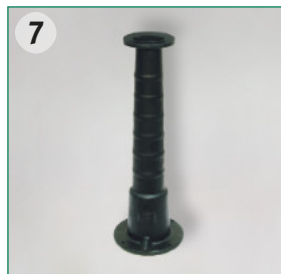
Item-No.:	Colour:	Packing unit:
11003 0	green	1/34
11006 1	black	1/34



Spare parts for hand pumps (11002, 11005, 11001)



No.:	Description:	Type:	Item-No.:
1	Handle		11011 5
2	Plunger rod		11012 2
3	Top plate		11016 0
4	Plunger (complete)	Type 75	11015 3
5	Check valve with sealing		11010 8
6	Round flange		11013 9
7	Pump stand green	Type 75	11003 0
7	Pump stand black	Type 75	11006 1
8	Piston sealing (leather)	Type 75	11020 7
9	NBR sealing for check valve		11023 8
10	Flange sealing (NBR)		11022 1
11	Bolts and splints for plunger		11091 7
12	Bolts and splints for handle		11090 0
13	Screw kit, top plate		11094 8
14	Screw kit, round flange		11093 1
15	Screw kit, pump stand		11095 5



Hand pump with side flange, Type 75

Same as before, however, with side (wall) flange for mounting on walls etc., particularly suitable for connection in combination with electric pumps, suction head 7 meter water column

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Connection:	Colour:	Packing unit:
11001 6	1 1/4"	green	1/33
11007 8	1 1/4"	black	1/33



Side flange for hand pump, Type 75

For hand pump (11001) Type 75, green, flange for mounting on walls etc..

Item-No.:		Packing unit:
11014 6	green (11001)	/100
Screw-set for side flange (screws, nuts, washers)		
11092 4		



Sealing kit

For hand pump Type 75, with piston seal (leather), seals for check valve and flange (NBR), self-service packaging

Item-No.:	Packing unit:
19407-E	10/100



Screw kit

To fix the hand pump type 75 to the pump stand. Suitable for items 11002 + 11003 (green), 11404 + 11405 and 11005 + 11006 (black). The screw kit consists of 4 screws and 4 nuts, and 8 black and 8 green caps.

Item-No.:	Packing unit:
11095-E	10/250



Rose pump



Small nostalgic pump with rose ornaments, Type 75, gray cast iron, painted black, suction head 7 meter water column, connection 1 1/4", registered design

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Connection:	Colour:	Packing unit:
11404 5	1 1/4"	black	1/34

Pump stand for rose pump

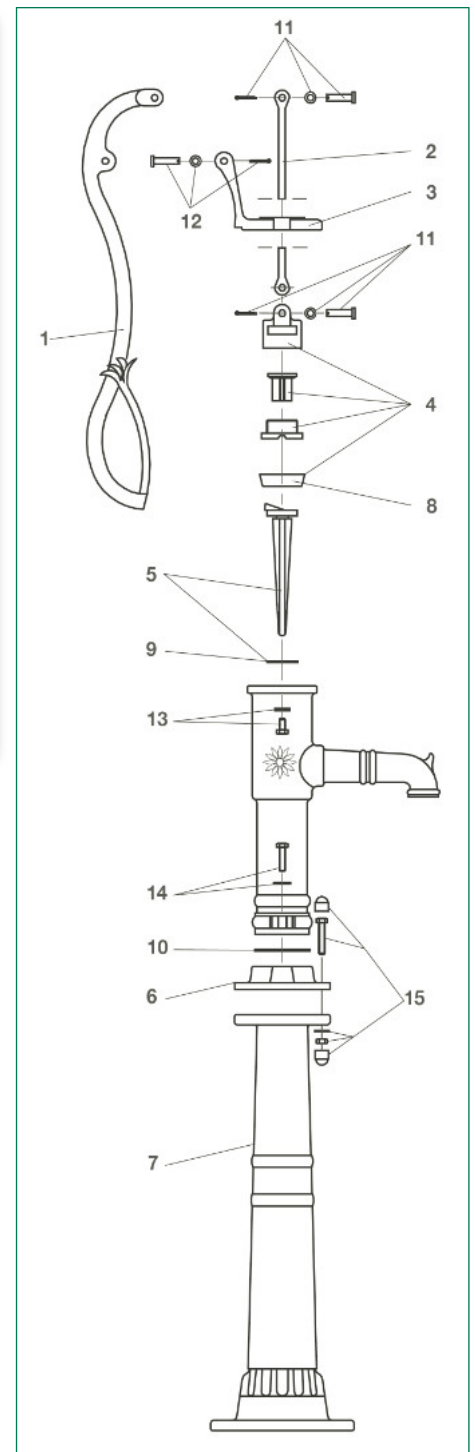


Painted black, registered rose design

Item-No.:	Colour:	Packing unit:
11405 2	black	1/34

Spare parts for rose pump (11404)

No.:	Description: * See pictures on page 8	Type:	Item-No.:
1	Handle		11081 8
2	Plunger rod *		11012 2
3	Top plate		11082 5
4	Plunger *	Type 75	11015 3
5	Check valve with sealing *		11010 8
6	Round flange		11083 0
7	Pump stand black	Type 75	11405 2
8	Piston sealing (leather) *	Type 75	11020 7
9	NBR sealing for check valve *		11023 8
10	Flange sealing (NBR) *		11022 1
11	Bolts and splints for handle		11090 0
12	Bolts and splints for plunger		11091 7
13	Screw kit, top plate		11094 8
14	Screw kit, round flange		11093 1
15	Screw kit, pump stand * page 9		11095 5
16	Sealing kit * page 9	Type 75	19407-E



Side flange for rose pump

For rose pump (11404), Type 75, black, flange for mounting on walls etc..

Item-No.:	Packing unit:
11080 1	/100



Great nostalgic pump



Gray cast iron, painted black, suction head 7 meter water column, connection 1 1/4", plunger 75 mm, total height ca. 154 cm

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Connection:	Colour:	Packing unit:
11409 0	1 1/4"	black	1/10

Fountain bowl for great nostalgic pump

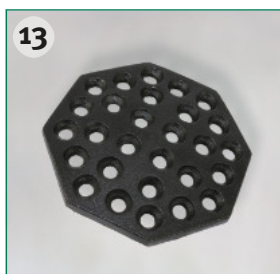
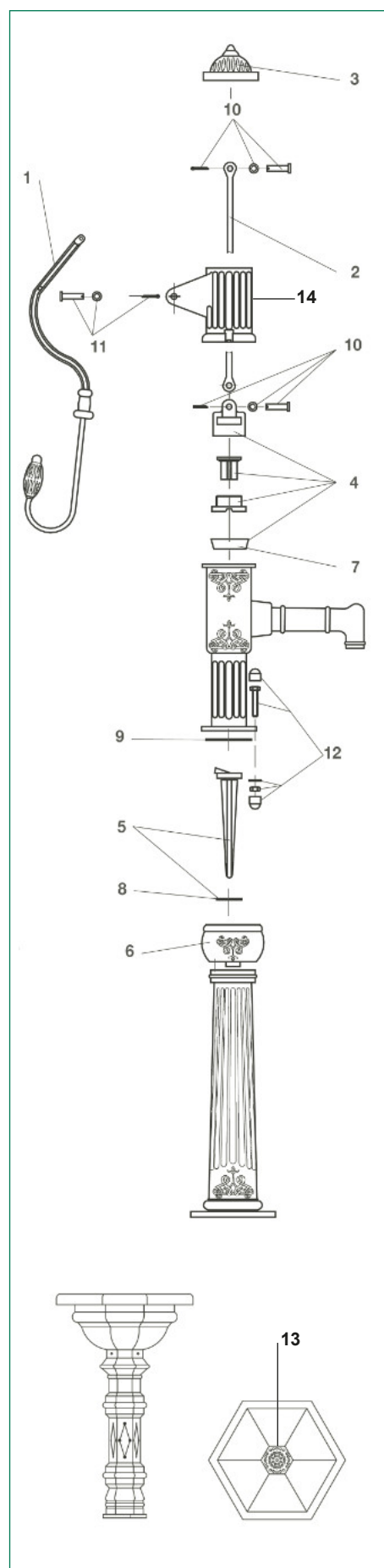


As a complement to the great nostalgic pump (11409), gray cast iron, painted black, height ca. 65 cm, can also be used as flower bowl

Item-No.:	Colour:	Packing unit:
15104 0	black	1/8

Spare parts for great nostalgic pump (11409, 15104)

No.:	Description: * See pictures on page 8	Type:	Item-No.:
1	Handle		11085 6
2	Plunger rod *		11012 2
3	Top plate		11417 5
4	Plunger (complete) *	Type 75	11015 3
5	Check valve with sealing *		11010 8
6	Top for pillar		11086 3
7	Piston sealing (leather) *	Type 75	11020 7
8	NBR sealing for check valve *	Type 75	11023 8
9	Ball flange sealing top (NBR) *		11422 9
9	Ball flange sealing bottom (NBR) *		11423 6
10	Bolts and splints for plunger		11091 7
11	Bolts and splints for handle		11090 0
12	Screw kit, pump stand * page 9		11095 5
13	Grid for fountain bowl		15105 7
14	Support for handle		11087 0



Tea pot pump



Original Irish village pump, cast iron, painted black, suction head 6 meter water column, connection 1 1/4", total height ca. 140 cm, plunger 90 mm

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

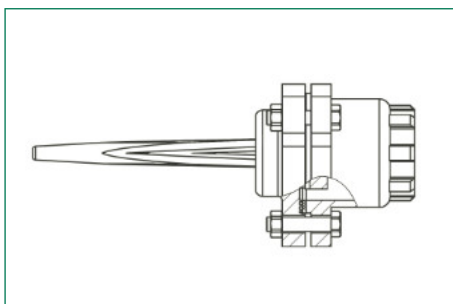
Item-No.:	Connection:	Colour:	Packing unit:
11408 3	1 1/4"	black	1/5

Check valve for pumps



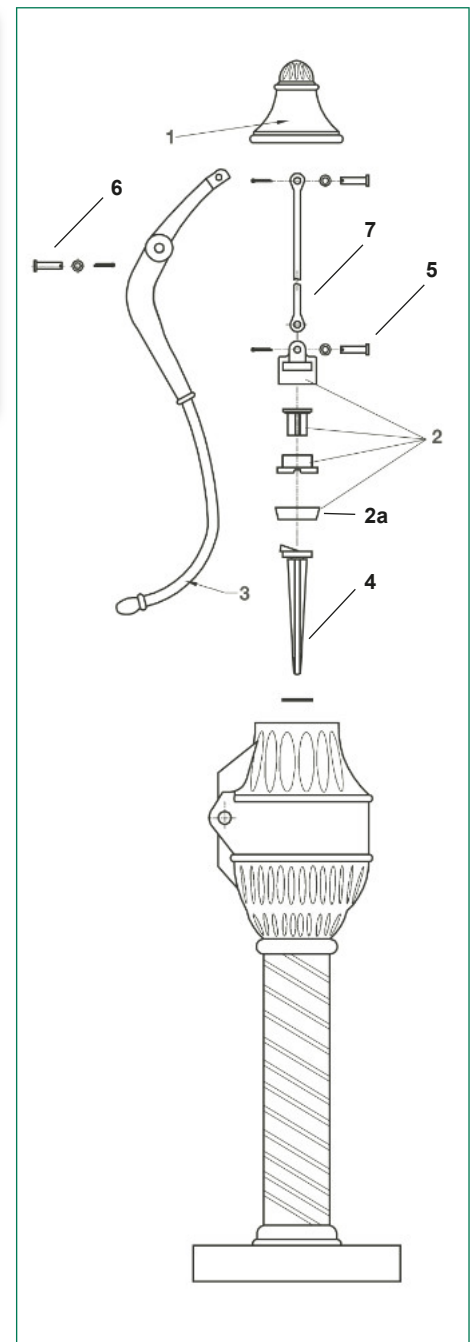
Cast iron, painted green, EPDM sealing, only suitable for vertical installation

Description:	Item-No.:
Cast iron, painted green, connection 1 1/4"	11027 6
Sealing for check valve 11027	11027-Dichtung



Spare parts for tea pot pump (11408)

No.:	Description: * See pictures on page 8	Type:	Item-No.:
1	Top plate		11089 4
2	Plunger (complete) 90 mm	Type 90	11045 0
2a	Piston collar (Leather)	Type 90	11018 4
3	Handle		11088 7
4	Check valve with sealing *		11010 8
5	Bolts and splints for plunger	Type 90	11091 7
6	Bolts and splints for handle		11090 0
7	Plunger rod	Type 75	11012 2



Suction and pressure pump (playground pump)



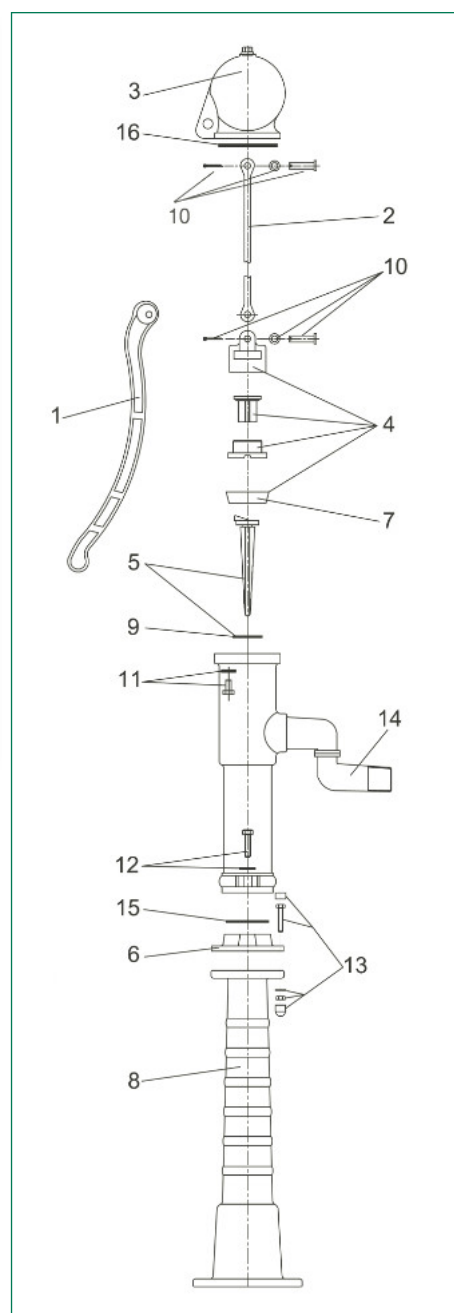
Cast iron, painted green, particularly suitable for playgrounds, Type 75, suction head 7 meter water column, connection 1 1/4", can be combined with pillar 11003

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Connection:	Colour:	Packing unit:
11103 7	1 1/4"	green	1/23

Spare parts for suction and pressure pump

No.:	Description: * See pictures on page 8	Type:	Item-No.:
1	Handle		11107 5
2	Plunger rod *		
3	Top plate		11106 8
4	Plunger (complete) *	Type 75	11015 3
5	Check valve with sealing *		11010 8
6	Round flange *		11013 9
7	Piston sealing (leather) *	Type 75	11020 7
8	Pump stand * page 7	Type 75	11003 0
9	NBR sealing for check valve *		11023 8
10	Bolts and splints for plunger	Type 75	11091 7
11	Screw kit, top plate		11094 8
12	Screw kit, round flange *		11093 1
13	Screw kit, pump stand * page 9		11095-E
14	Outlet end piece with sealing + screws		11108 2
15	Flange seal (bottom) NBR *		11022 1
16	Flange seal (ball head)		11109 9



Hand pump „Pitcherpump“



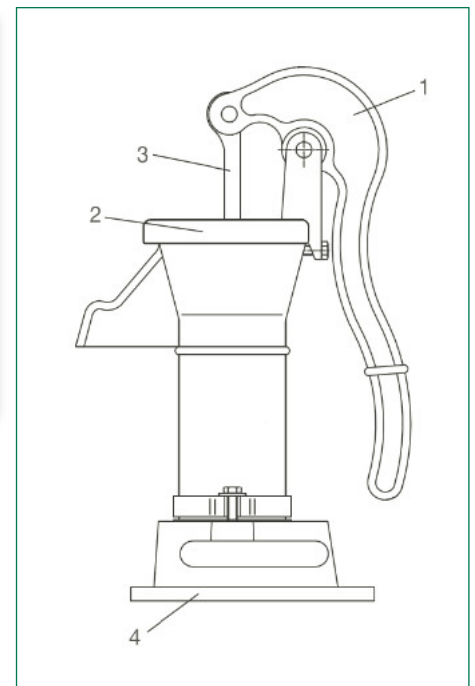
Cast iron, painted black, suction head 7 meter water column, connection 1 1/4", plunger 75 mm

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Colour:	Packing unit:
11202-CIP	black	1/60

Spare parts for „Pitcherpump“ (11202)

No.:	Description:	Type:	Item-No.:
1	Handle		11221 8
2	Top plate		11226 3
3	Plunger rod		11229 4
4	Flange		11223 2
5	Check valve		11220 1
6	Leather sealing	Type 75	11228 7
7	Plunger 75 mm	Type 75	11225 6
8	Leather sealing for check valve		11227 0



Hand pump with wall flange, Type 2 (Belgian pump)



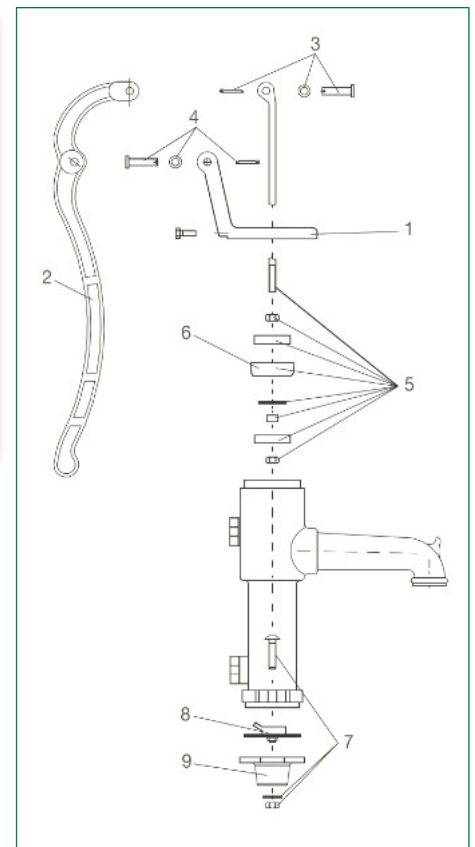
Cast iron, painted green, for mounting on walls, etc., plunger 60 mm, suction head 7 meter water column

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Colour:	Packing unit:
11101 3	green	1/36

Spare parts for Belgian pump (11101)

No.:	Description: * See pictures on page 8	Type:	Item-No.:
1	Top plate		11116 7
2	Handle		11111 2
3	Bolts and splints for plunger upside	Type 60	11091 7
4	Bolts and splints for handle		11090 0
5	Plunger (complete)	Type 60	11115 0
6	Piston sealing (leather)	Type 60	11120 4
7	Screw kit, round flange *		11093 1
8	Check valve		11110 5
9	Foot flange		11113 6

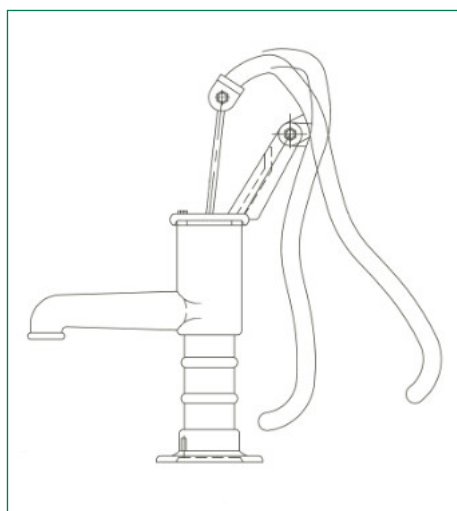


Mini hand pump



Cast iron, painted black, approx. 48 cm high, connection 1 1/4", without plunger and check valve, pump as decoration

Item-No.:	Colour:	Packing unit:
11240-OPL-OCHK	black	60



Accessories for mini hand pump



Description:

Item-No.:

Hose connector 1/2" x 1 1/4" (plastic)

34168-KU

Spiral hose, black 1/2", inside diameter 13 mm, 50 m

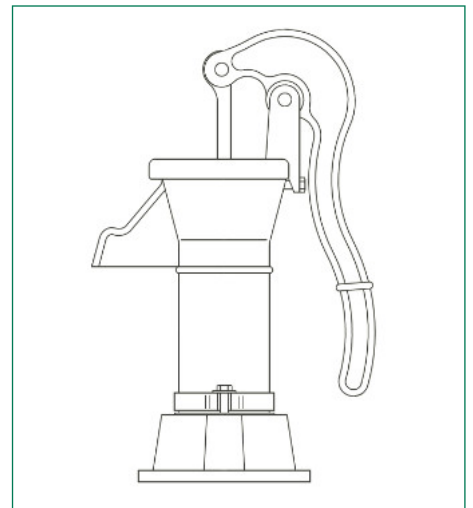
39031 9



Mini hand pump

Like „Pitcherpump“ (11202), but only about 31 cm high, cast iron, painted black, connection 1", without plunger and check valve, pump as decoration

Item-No.:	Colour:	Packing unit:
11204-OPL	black	100



Column fountain

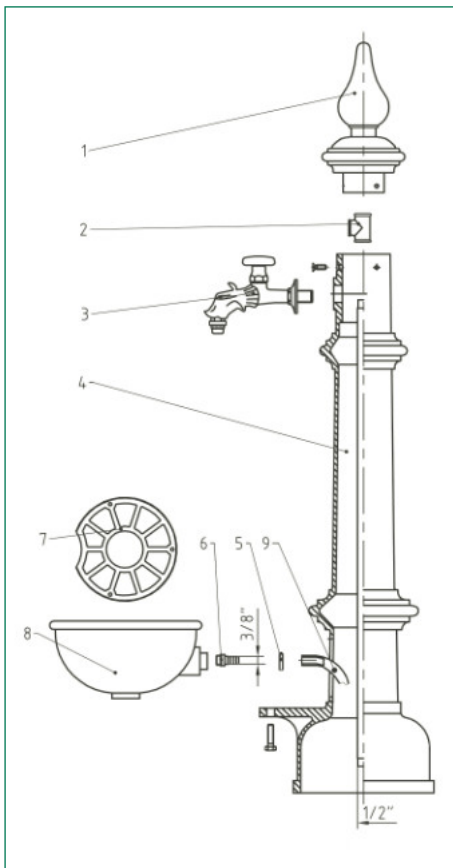


Fully operational, cast iron, painted green, height approx. 122 cm, with nostalgic outlet valve made of brass, 1/2" connection thread at the pillar flange

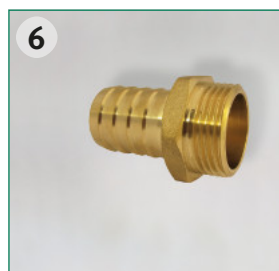
Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Connection:	Colour:	Packing unit:
15121-E	1/2"	green	1/10

Spare parts for column fountain (15121)



No.:	Description:	Item-No.:
1	Top plate	15125 5
2	T-piece, outflow blind	41301-15121
3	Outlet valve with rosette, G 1/2"	52071-15121
4	Column of the fountain	15120 0
5	Hose clamp zinc-plated	34201 1
6	Hose tail	34331 5
7	Strainer	15126 2
8	Bowl	15127 9



Wall fountain

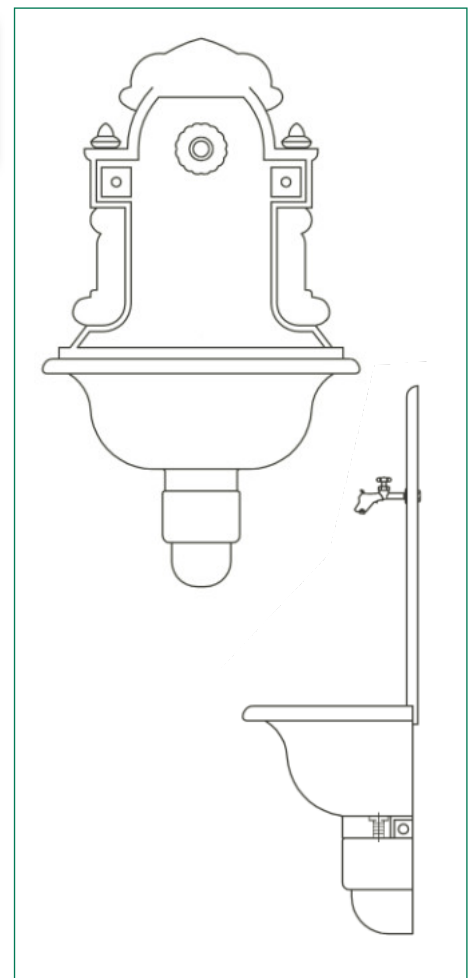
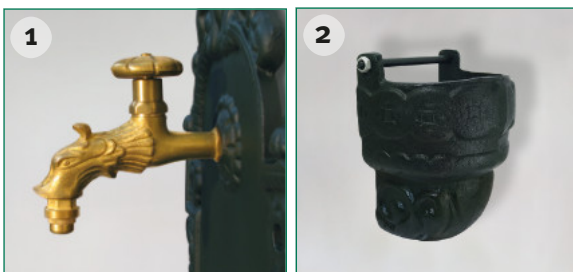
Fully operational, cast iron, painted green, height approx. 75 cm, width approx. 44 cm, with nostalgic outlet valve made of brass, 1/2" rear connection

Item-No.:	Connection:	Colour:	Packing unit:
15131-E	1/2"	green	1/10



Spare parts for wall fountain (15131)

No.:	Description:	Item-No.:
1	Outlet valve without rosette, G 1/2"	52071-15131 6
2	Grating cover	15135 4



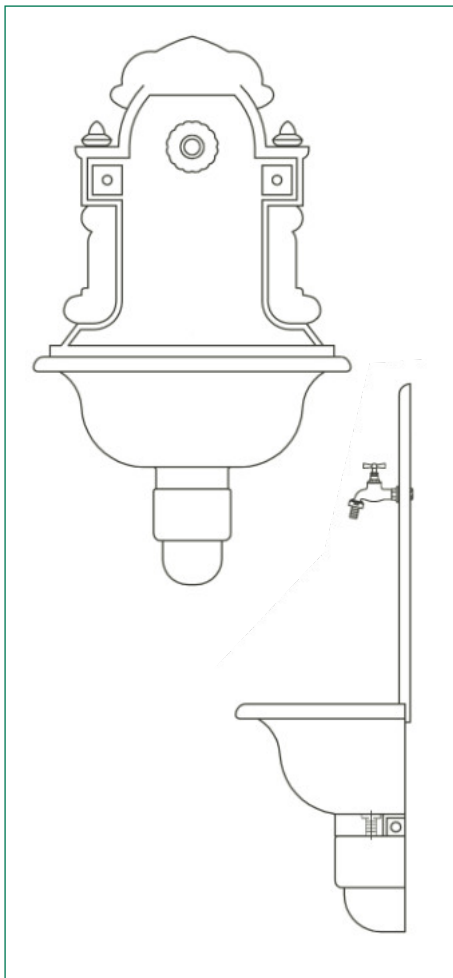
Wall fountain



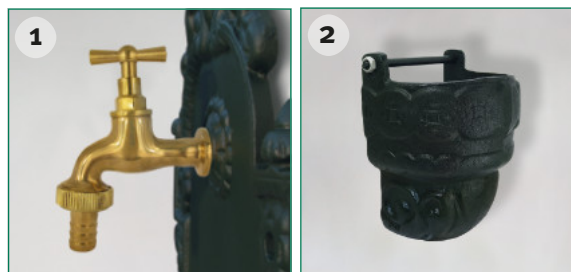
Fully operational, cast iron, painted green, height approx. 75 cm, width approx. 44 cm, with smooth outlet valve made of brass, 1/2" rear connection

Item-No.:	Connection:	Colour:	Packing unit:
15132-E	1/2"	green	1/10

Spare parts for wall fountain (15132)



No.:	Description:	Item-No.:
1	Outlet valve without rosette, G 1/2"	52185-15132 0
2	Grating cover	15135 4



Diaphragm pump

Suction and pressure pump made of cast iron, painted green, rubber membrane with rubber ball valve, both sides counter flange with female thread, suction head 7 meter water column, approx. 0,65l/per stroke, for pure and dirty, non-aggressive liquids, no „sludge pump“, for vertical installation, suction side bottom

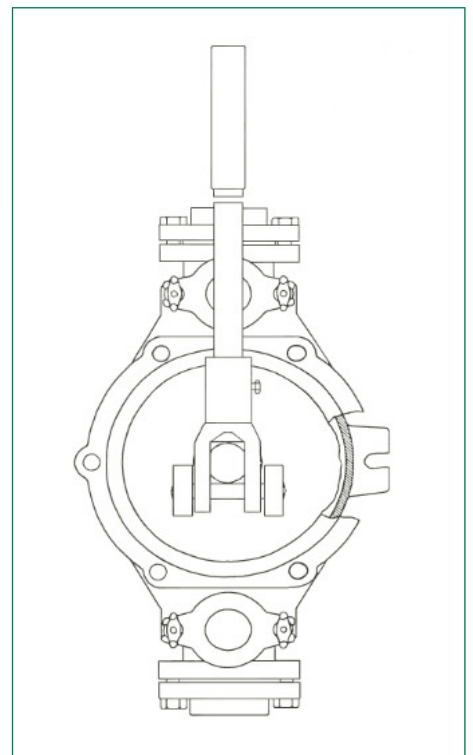
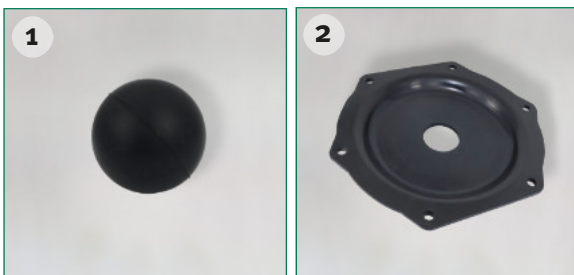
Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Connection:	Colour:	Packing unit:
11026 9	1 1/2"	green	1/37



Spare parts for diaphragm pump (11026)

No.:	Description:	Item-No.:
1	Ball of rubber, black	11026-Kugel
2	Membran	11026-Membrane
3	Oilmembran	11026-Ölmembrane



Double piston pump

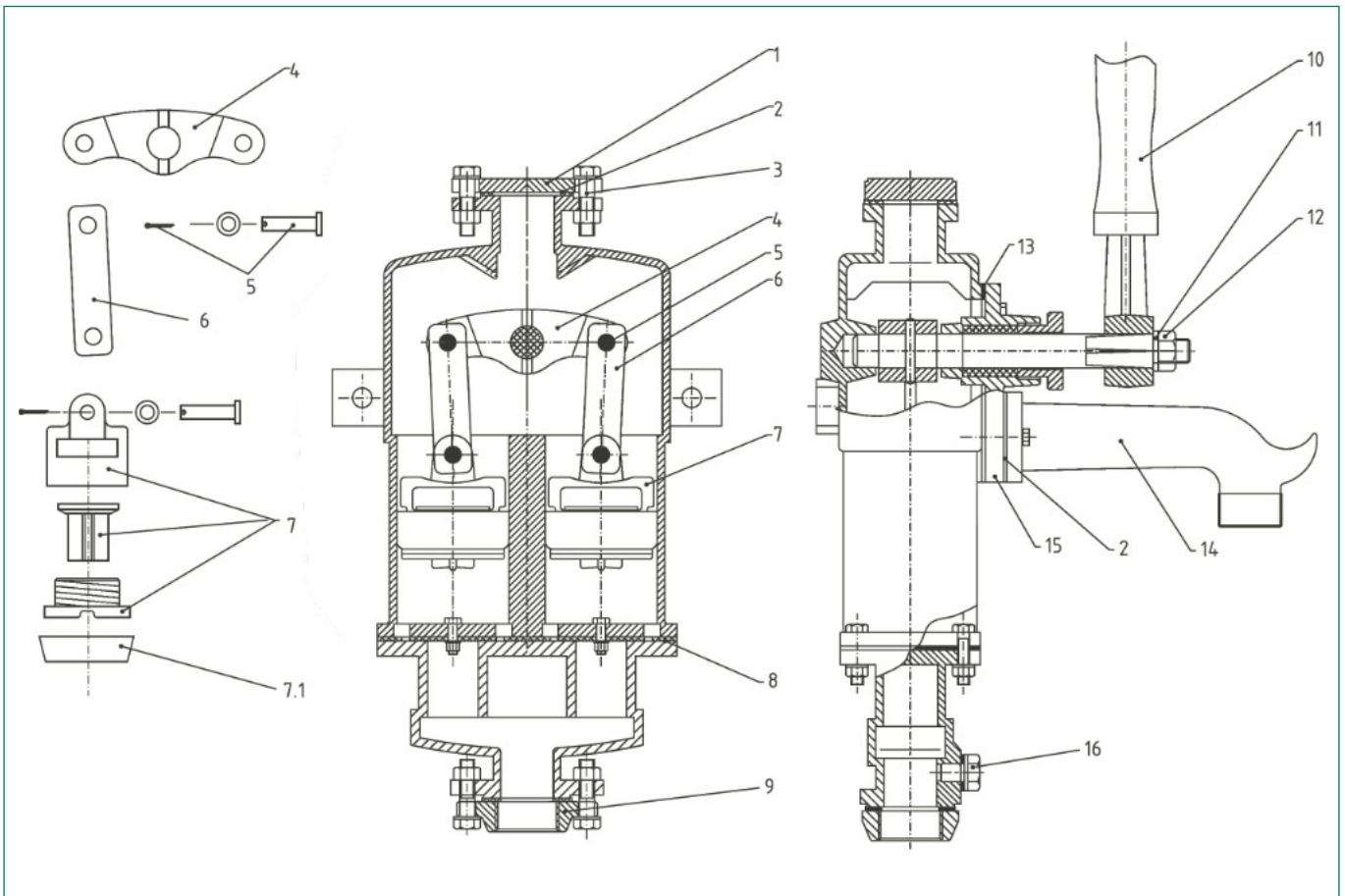


For installation in upright position, double-piston pump made of cast iron, painted black, Type 75, connection 1 1/4", suction head 7 meter water column

Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

Item-No.:	Connection:	Colour:	Packing unit:
11604 9	1 1/4"	black	1/30

Spare parts for double piston pump (11604)



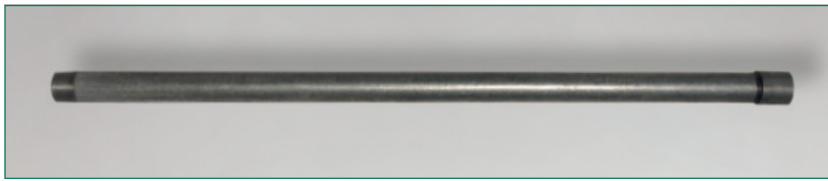


No.:	Description: * See pictures on page 8	Item-No.:
1	Blind flange	11604-01
2	Flange sealing	11604-02
3	Screw, washer, nut	11604-03
4	Drive shaft incl. rocker	11604-04
5	Bolts and splints	11604-05
6	Piston rod	11604-06
7	Plunger (complete), long version	11015-lang
7.1	Piston sealing (leather) *	11020 7
8	Seal plate, without non-return weight	11604-08
9	Threaded flange 1 1/4"	11604-09
10	Handle	11604-10
11	Washer	11604-11
12	Handle nut	11604-12
13	Sealing	11604-13
14	Tap G 1 1/4"	11604-14
15	Axle- and outlet flange	11604-15
16	Drain plug (complete)	11604-16

Note

Our pumps, wall and standing fountains are provided with a protective coating for transport purposes by the manufacturer. This first layer of paint is not considered to be a permanent corrosion protection or optical coating.

Steel well pipe



According to DIN EN 10255 Class M (DIN 2440), galvanized, male thread at both ends. with one socket

Connection:	Length approx.:	Item-No.:	Packing unit:
1 1/4"	30 cm	21104 1	5/ 50
1 1/4"	50 cm	21204 8	5/ 100
1 1/4"	100 cm	21304 5	5/300
1 1/4"	150 cm	21404 2	5/ 100
1 1/4"	200 cm	21504 9	5/ 100
1 1/2"	100 cm	21305 2	5/250
1 1/2"	150 cm	21405 9	5/ 100
1 1/2"	200 cm	21505 6	5/ 100
2"	100 cm	21306 9	5/ 150
2"	150 cm	21406 6	5/ 100
2"	200 cm	21506 3	5/ 100

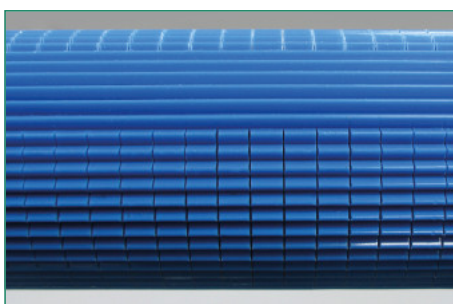
Steel well pipe, heavy version



Higher wall thickness according to DIN 2441, galvanized

Connection:	Length approx.:	Item-No.: with socket	Item-No.: without socket
1 1/4"	100 cm	23304 3	23704 1
1 1/4"	150 cm	23404 0	23714 0
1 1/4"	200 cm		23724 9
1 1/2"	100 cm	23305 0	23705 8
1 1/2"	150 cm		23715 7
1 1/2"	200 cm		23725 6
2"	100 cm		23706 5
2"	150 cm		23716 4
2"	200 cm		23726 3

Plastic filter pipe



Blue, ribbed surface

Item-No.:	Connection:	Packing unit:
18247-KR	1 1/4" x 1000 KU 40/03	-/-

Made of polystyrene

Item-No.:	Connection:	Packing unit:
18249 5	1 1/4"	-/-

End cap to plastic filters



Eg. can be offered for rent, drilling spindle: Ø approx. 12,5 cm, made of high quality cast iron, total length: approx. 1 meter, with attachable cross handle with square tube and screw fixation what allows left and right turnings. Additional extensions 1 meter are possible up to a total length of max. 7 meters (depending on soil conditions). Possible applications: pre-drillings in well construction, drilling of holes for fence posts or drilling against wet soils to break up the ground. Colour: black with red painted drilling spindle.

Description:	Item-No.:	Connection:	Length:	Packing unit:
Drill	19301 9	125 mm Ø	100 cm	1/ 50
Extension	19302 6		100 cm	1/200

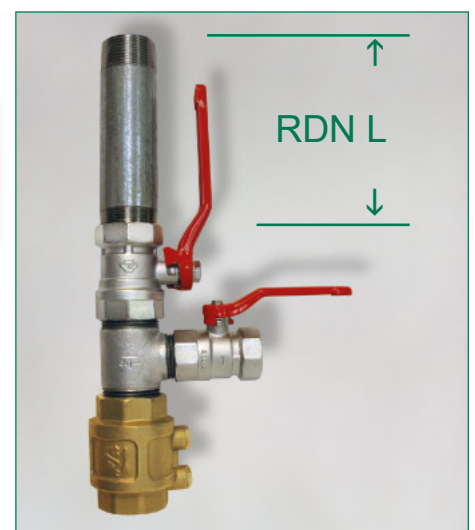
puteus soil auger



With ball valves and check valve for venting, for a simultaneous connection of hand and electric pump, self-service packaging

Item-No.:	Connection:	Length:	Packing unit:
19203-E	1 1/4"	RDN 150 mm	5/15
19204-E	1 1/4"	RDN 200 mm	

puteus double pump connector



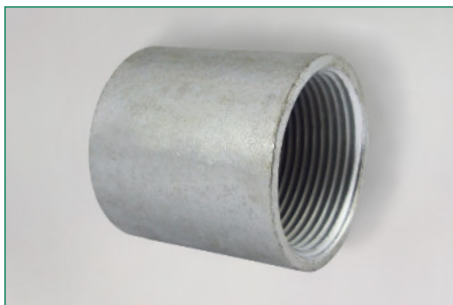
Drive cap



Solid steel, galvanized, for driving tubes into the ground, 1 1/4"

Item-No.:	Execution:	Packing unit:
19614-E	self-service packaging with socket (without illu.)	10/500
19619 5	loose	10/500

Steel socket (16)



According to EN 10241 (DIN 2986)

Item-No.:	Item-No.:	Conn.:	DN:	Thr.-length:	Length:	Ø	Packing unit:
galvanized	black						
-	21989 4	1/4"	8	25	25	18,5	10/700
22000 5	21990 0	3/8"	10	26	26	21,3	10/600
22001 2	21991 7	1/2"	15	34	34	26,6	10/500
22002 9	21992 4	3/4"	20	36	36	31,8	10/300
22003 6	21993 1	1"	25	43	43	39,5	10/160
22004 3	21994 8	1 1/4"	32	48	48	48,3	10/120
22005 0	21995 5	1 1/2"	40	48	48	54,5	10/80
22006 7	21996 2	2"	50	56	56	66,2	/ 50
22007 4	21997 9	2 1/2"	65	65	65	82	/ 33
22008 1	21998 6	3"	80	71	71	95	/ 24
22009 8	21999 3	4"	100	83	83	121,4	/ 12

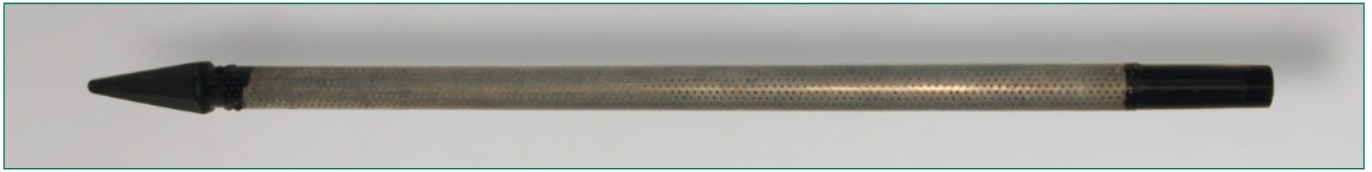
Socket, heavy version



Galvanized, extra strong, ideal for well construction

Item-No.:	Connection:	Packing unit:
22024 1	1 1/4"	10/100

Well point with brass jacket



Galvanized steel, mesh-covered with perforated stainless steel sheet as a protective jacket, top of gray cast iron

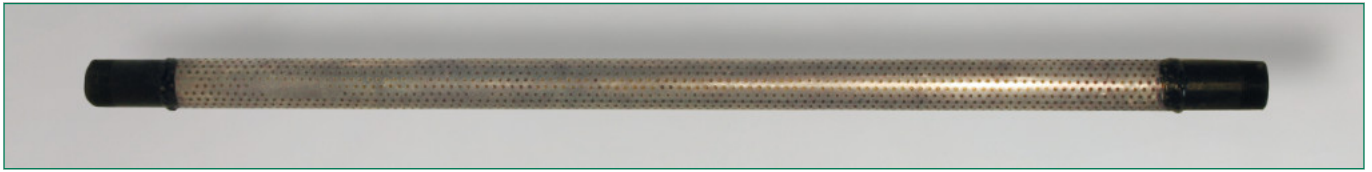
Item-No.:	Length approx.:	Connection:	Packing unit:
18104 7	115 cm	1 1/4"	100
18105 4	130 cm	1 1/2"	100
18106 1	130 cm	2"	50



Version with stainless steel wire mesh and stainless steel jacket

Item-No.:	Length approx.:	Connection:	Packing unit:
18104-VA	115 cm	1 1/4"	100
18105-VA	130 cm	1 1/2"	100
18106-VA	130 cm	2"	50

Filter extension pipe for well points



Allows an arbitrarily long filter section, type 18104

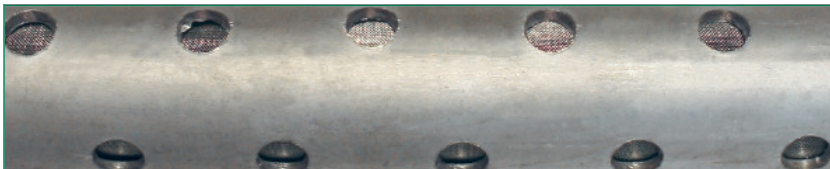
Item-No.:	Length ca.:	Connection:	Packing unit:
18204 4	100 cm	1 1/4"	100
18205 1	100 cm	1 1/2"	100
18206 8	100 cm	2"	50

Well point with brass gauze inserts



No more problems with stones, clay soils, etc. (no pushing-up of the filter mesh), inner stainless steel filter mesh with plastic tube and final welded steel ring

Item-No.:	Length approx.:	Connection:	Packing unit:
18304 1	115 cm	1 1/4"	100
18305 8	115 cm	1 1/2"	100



Important note:

Before driving the well point into the ground the vertical hole must be drilled down the water table – eg. with the help of a soil auger – to avoid damages to the well points and well pipes. To remove fine sand or silt inside the well point jet water into the well pipe with a garden hose inserted to the bottom.

Pre-filter for electric pumps

Indispensable for all electric pumps, especially with dirty or sand containing media, housing and cover made of impact-proof plastic, brass female threads 1". Venting screw made of brass. Filter cartridge 150 micron, replaceable and washable. In single box including two plastic nipples 1" and O-ring. Working pressure max. 8 bar, operating temperature: +5°C to +40°C.

Item-No.:	Connection:	Pack. unit:
55001-E	5" for jet pumps	1/24
55002-E	9 3/4" for domestic water works	1/12



Spare parts for pre-filter

	suitable for:	55001-E	55002-E
		Item-No.:	Item-No.:
Housing		55003 4	55004 1
Cover		55014 0	55014 0
Venting screw		55008 9	55008 9
O-ring for venting screw		55007 2	55007 2
O-ring for filter		55005 8	55005 8



Single wall bracket

Wall bracket made of plastic, without screws

Item-No.:	Packing unit:
55019 4	-/50



Key for pre-filter

Item-No.:	Packing unit:
55012 6	-/-

Key



Sealing kit for pre-filter



3-piece set of replacement seals for pump pre-filter, consisting of an O-ring, and two gaskets for the filter cartridges. Suitable for item 55001-E und 55002-E. Self-service packaging.

Item-No.:

55015-E

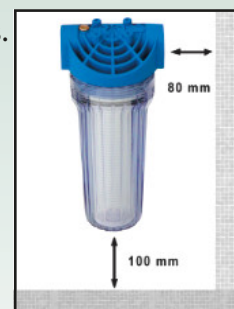
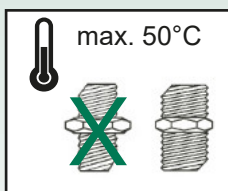
Packing unit:

10/100

Important tips for the use of pre-filters and filter cartridges

Please note the following points:

- Do not exceed the maximum temperature and working pressure.
- Do not expose the filter to direct sunlight or frost.
- Minimum distance to the ground: 100 mm / to the wall: 80 mm.
- Do only use connection fittings with cylindrical threads.
- Seal with PTFE tape. Do not use hemp, silicone or curing fluids.
- Handle with care: Do not knock or drop the filter.
- Clean only with a sponge and water, do not use benzene, alcohol or hydrocarbenised liquids.
- Only for liquids with neutral pH.
- Check all screw connections for tightness before use.



Replacing the filter cartridges

- Before opening the filter interrupt water supply, then open vent valve and allow air to escape.
- Open the lid only with special key.
- Remove the old filter cartridge, clean glass container as described.
- Insert a new filter cartridge in the correct position.
- Check the o-ring seat before placing the lid on the container.
- Close the lid, open water supply, only close vent valve until all air has escaped.
- Allow water to run some time before using it.

Polypropylene filter basket



suitable for:

55001-E

55002-E

mesh size 150µ (micron), max. 60°C operating temperature,
max. 3000l/h, Ø 60 mm

Item-No.:

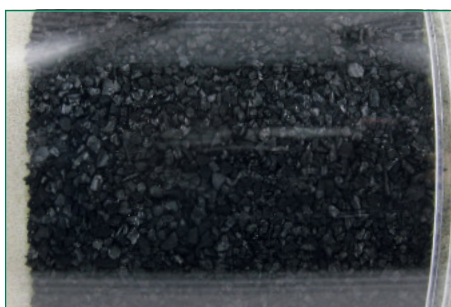
Item-No.:

for sediment (for example sand, mud, rust) up to 150 micron

55011 9

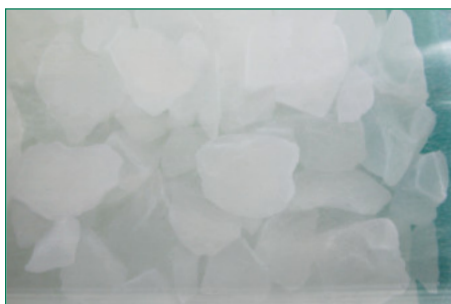
55013 3

Activated carbon filter



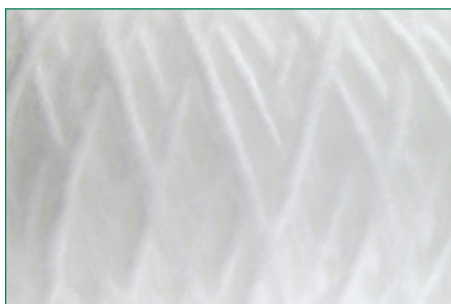
	suitable for:	55001-E	55002-E
max. 30°C operating temperature, max. 500l/h, Ø 70 mm	Item-No.:		Item-No.:
for fine sediment and for the reduction of chlorine and organic contaminants		55021 8	55023 2

Polyphosphate cristal filter



	suitable for:	55001-E	55002-E
max. 30°C operating temperature, max. 1500l/h, Ø 70 mm	Item-No.:		Item-No.:
to reduce lime (no water softener!)		55031 7	55033 1

Polypropylene filter



	suitable for:	55001-E	55002-E
max. 80°C operating temperature, max. 1000l/h, Ø 61 mm	Item-No.:		Item-No.:
(coiled) for sediment up to about 10 micron		55041 6	55043 0

Hoses

Suction and pressure hose



Colour light green with white spiral, abrasion and kink resistant, smooth inside, (from - 5°C up to + 50°C)

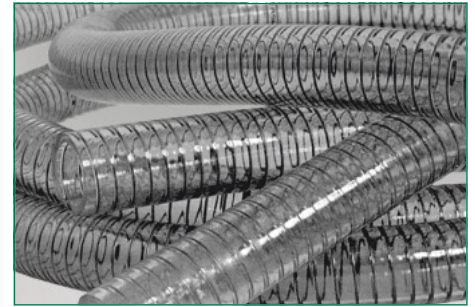
Item-No.:	m/roll:	Item-No.:	m/roll:	Connec.:	Inside: Ø (mm)	Operating- pressure: (bar)
39102 6	50	39202 3	25	3/4"	19	8
39103 3	50	39203 0	25	1"	25	7
39104 0	50	39204 7	25	1 1/4"	32	6
39105 7	50	39205 4	25	1 1/2"	38	6,5
39046 3	50	-	-	-	40	6
39045 6	50	-	-	-	45	6
39106 4	50	39206 1	25	2"	51	5
39047 0	50	-	-	-	60	4,5
39109 5	50	-	-	2 1/2"	63	4
39049 4	50	-	-	-	70	4
39107 1	50	39050 0	25	3"	76	3,5
39048 7	50	-	-	-	90	3
39108 8	50	39208 5	25	4"	102	3

Hoses with fixed lengths

38243 7	4	-	-	1"	25	7
38253 6	5	-	-	1"	25	7
38273 4	7	-	-	1"	25	7
38263 5	10	-	-	1"	25	7
38283 3	15	-	-	1"	25	7
38244 4	4	-	-	1 1/4"	32	6
38254 3	5	-	-	1 1/4"	32	6
38274 1	7	-	-	1 1/4"	32	6
38264 2	10	-	-	1 1/4"	32	6
38284 0	15	-	-	1 1/4"	32	6

Heavy version spiral hose, transparent with galvanized steel spiral. For the use as suction- or pressure hose with pumps with high suction power

Spiral hose for pumps



Item-No.:	m/roll:	Size:	Inside Ø (mm)	Outside Ø (mm)	Working-/ berst pres. (bar)	Vakuum /water column (m)	Temperatures:
39301 3	60	1/2"	13	19,2	8/14	9	- 15°C - + 65°C
39302 0	60	3/4"	19	26	7/21	9	- 15°C - + 65°C
39303 7	60	1"	25	33	6/18	9	- 15°C - + 65°C
39304 4	60	1 1/4"	32	40,2	5/15	9	- 15°C - + 65°C
39305 1	30	1 1/2"	38	47	5/15	9	- 15°C - + 65°C
39306 8	30	2"	51	61,4	5/15	8	- 15°C - + 65°C

(other sizes up to inside Ø 152 mm [6"] available on request)

Suction and pressure hose (pond hose)

Colour black, heavy version



Item-No.:	m/roll:	Connection:	Inside: Ø (mm)	Operating- pressure: (bar)
39031 9	50	1/2"	13	9
39032 6	50	3/4"	19	9
39033 3	50	1"	25	8
39034 0	50	1 1/4"	32	7
39035-38	50	1 1/2"	38	7
39035 7	50	1 1/2"	40	6
39036 4	50	2"	51	5

Consisting of green spiral hose, one side with stainless steel foot valve (51303), one side with suction coupling made of brass (33403) completely assembled with hose clamps, size 1 "

Suction set



Item-No.:	Length:	Packing unit:
38343 4	4 meters	6/24
38353 3	7 meters	7/21

(other versions on request)

Suntos® quality hose



Garden hose, yellow, UV-resistant, knitted reinforcement, kink resistant, highly flexible, resistant to hot and cold temperatures(- 10° C to + 50° C)

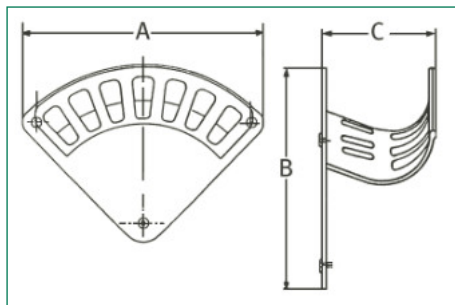
Item-No.:	m/roll:	Connec.:	Inside: Ø (mm)	Burst pressure: (bar)	Packing unit:
37201 8	20	1/2"	12,5	36	99
37301 5	30	1/2"	12,5	36	66
37501 9	50	1/2"	12,5	36	42
37252 0	25	3/4"	19	27	30
37502 6	50	3/4"	19	27	16
37112 7	100	3/4"	19	27	4
37253 7	25	1"	25	24	10
37503 3	50	1"	25	24	6
37504 0	50	1 1/4"	32	18	a. A.
37505 7	50	1 1/2"	38	12	a. A.
37506 4	50	2"	50	12	a. A.

Aluminum wall hose bracket



Form A, suitable for hoses and cables, with 3 holes for mounting

Item-No.:	Size: A (width) B (height) C (deep)	Packing unit:
38111 9	S = 190 x 140 x 70 mm	-/-
38112 6	M = 260 x 190 x 105 mm	-/-
38113 3	L = 335 x 245 x 135 mm	-/-
38114 0	XL = 415 x 300 x 190 mm	-/-



Hose or cable channels and bridges

When cables or hoses cannot be concealed or diverted our moulded rubber hose channels and ramps help to protect them against vehicle, forklift or pedestrian traffic. Our portable ramps and bridges have got two large channels for running cables, hose lines or electric wires. They can be used in indoor or outdoor areas with vehicles weighing up to 20 tons. Reflective stripes on both sides ensure a high visibility.

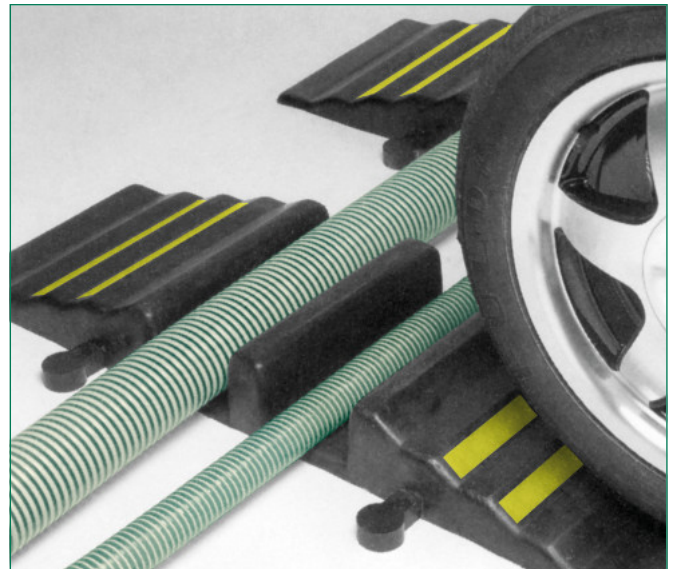
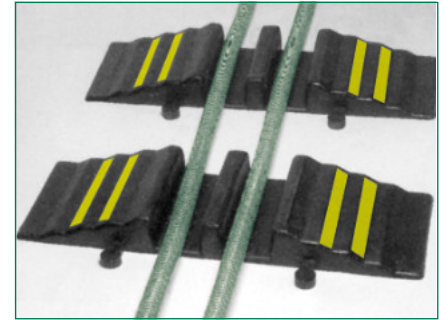
The hose bridges have got a modular design with patented joint bars that allow to connect several ramps together to cover larger length of hose lines. Both channels and bridges are robust and unbreakable and the same time easily adjust themselves to the underground.

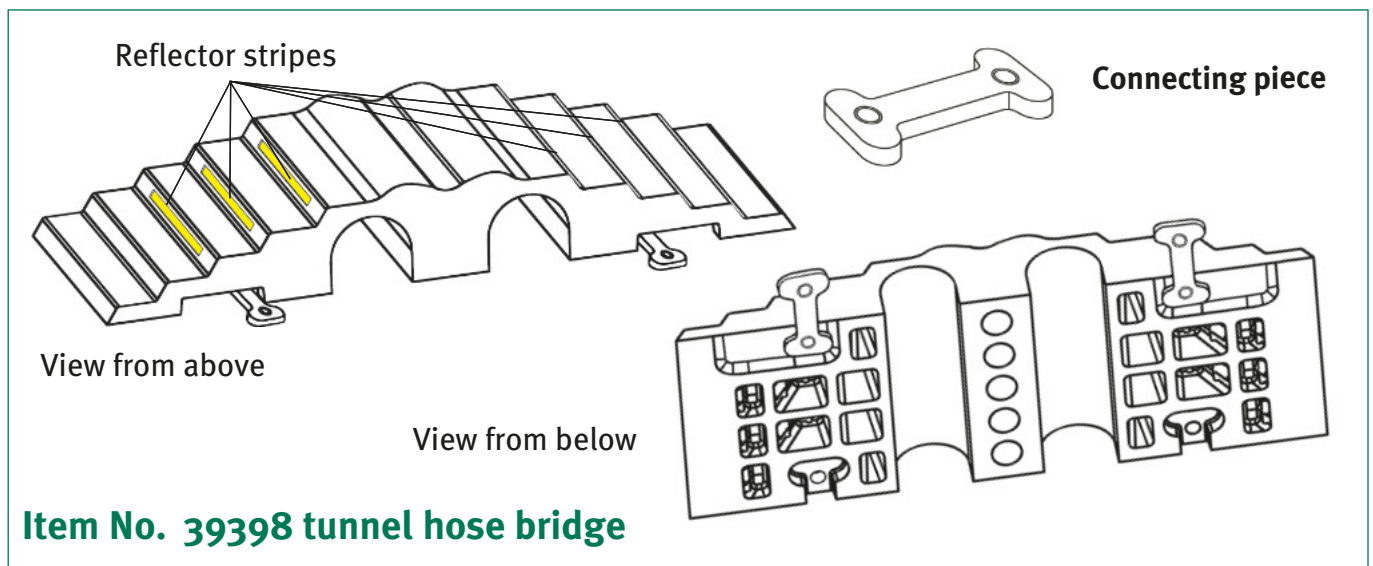
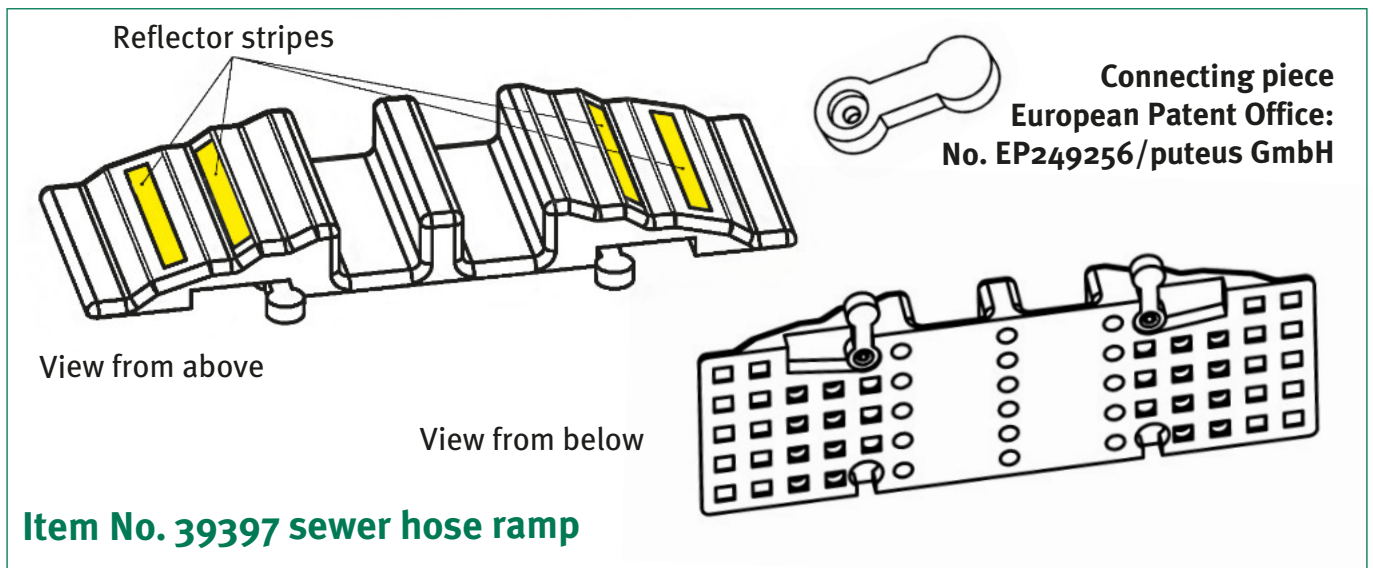
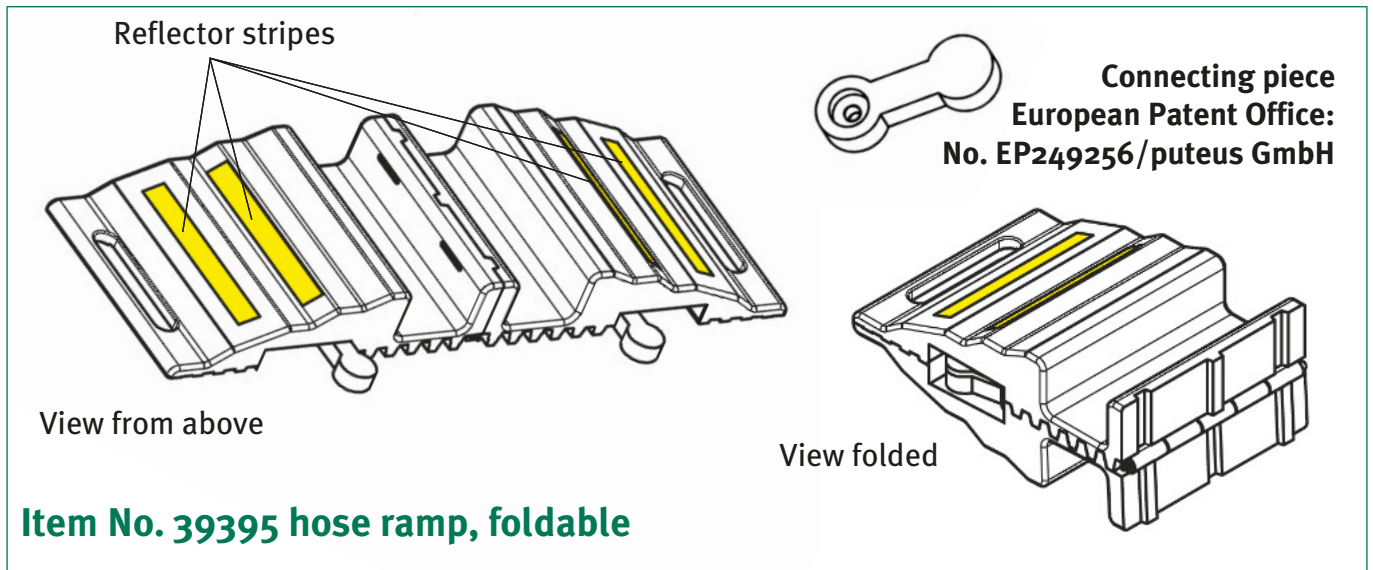
Our hose protection ramps will be delivered on pallets or in mesh boxes.

Areas of application:

- for fire and rescue operations
- at construction sites
- on golf courses
- for agricultural use

You receive prices on inquiry.





Technical data:

- Length approx. 870 mm
- Width approx. 295 mm
- Height approx. 95 mm
- Channel width approx. 100 mm
- Channel height approx. 70 mm
- Weight approx. 15 kg
- Load capacity max. 5 tons



Hose ramp, foldable



Channel hose ramp, foldable, from reinforced solid rubber with internal ply similar to DIN 14820, with 2 channels

Item-No.:	Dimension channel:	Packing unit:
39395 2	3" x 3 1/2"	1/48

Technical data:

- Length approx. 870 mm
- Width approx. 295 mm
- Height approx. 90 mm
- Channel width approx. 100 mm
- Channel height approx. 75 mm
- Weight approx. 11,5 kg
- Load capacity max. 5 tons

Channel hose ramp



Channel hose ramp from reinforced solid rubber with internal ply similar to DIN 14820, with 2 channels

Item-No.:	Dimension channel:	Packing unit:
39397 6	3" x 3 1/2"	1/33

Technical data:

- Length approx. 850 mm
- Width approx. 300 mm
- Height approx. 140 mm
- Channel width approx. 100 mm
- Channel height approx. 90 mm
- Weight approx. 19 kg
- Load capacity max. 5 tons

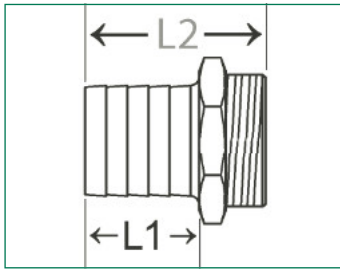
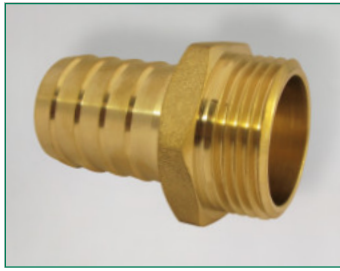
Tunnel hose bridge



Hose bridge from reinforced solid rubber with internal ply similar to DIN 14820, with 2 channels

Item-No.:	Dimension channel:	Packing unit:
39398 3	4"	-/-

1/3 Male hose tail, brass

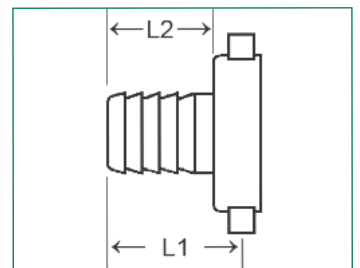


Hot-pressed, plain, for the assembly with hose clamps, male thread

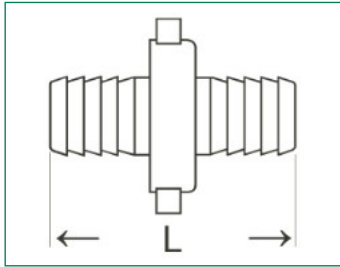
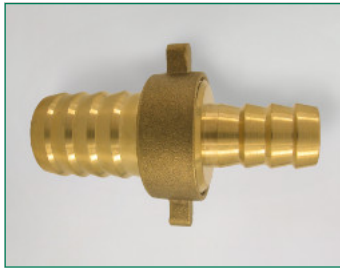
Item-No.:	Connec.:		Connec.:	Length:		Packing unit:
	plain brass	Spout mm		male thr.	L1 L2	
34321 6	1/4"	6	1/4"	25	39	50/1000
34327 8	1/4"	6	1/2"	25	42	25/1000
34323 0		8	1/4"	25	39	50/ 750
34325 4		8	3/8"	25	39	25/1000
34322 3		8	1/2"	25	43	25/1000
34330 8	3/8"	10	1/4"	25	39	50/ 850
34350 6	3/8"	10	3/8"	25	39	25/ 700
34340 7	3/8"	10	1/2"	25	42	25/ 400
34331 5	1/2"	13	3/8"	30	44	25/ 500
34351 3	1/2"	13	1/2"	30	47	25/ 400
34341 4	1/2"	13	3/4"	25	44	25/ 250
34329 2	5/8"	16	1/2"	30	47	25/ 400
34332 2	3/4"	19	1/2"	30	47	25/ 350
34352 0	3/4"	19,5	3/4"	30	49	25/ 200
34342 1	3/4"	19	1"	30	50	25/ 150
34333-10848	1"	25	3/4"	35	50	25/ 250
34353 7	1"	25,5	1"	35	56	25/ 150
34343 8	1"	25	1 1/4"	35	55	10/ 80
34334-10848	1 1/4"	32	1"	38,5	55	25/ 250
34354 4	1 1/4"	32	1 1/4"	39	59	10/ 70
34355 1	1 1/2"	40	1 1/2"	47	71	4/ 48
34366 7	2"	51	2"	54	80	4/ 32
34356-VD	2"	50	2"	69,6	93	4/ 32
34357 5	2 1/2"	64,5	2 1/2"	64	91	4/ 24
34358 2	3"	76	3"	74	111	2/ 24
34358-VD	3"		3"	87	114	2/ 12
34359 9	4"	102	4"	100	140	1/ 8

2/3 Hose coupling made of brass

Item-No.: plain	Item-No.: chrome plated	Spout:	Thread:	Length:		Packing unit: plain	Packing unit: chrome plated	Replacement seal Pack. unit: 100
L1	L2							
34110 6	-	3/8"	3/8"	34	22	25/ 550	-	33920-KTW
34100 7	35100 6	3/8"	1/2"	35	23,5	25/ 550	25/450	-
34125 0	35125 9	3/8"	3/4"	35,5	23,3	25/ 350	25/350	34125-KTW
34101 4	35101 3	1/2"	3/4"	36	23,8	25/ 350	25/350	33921-KTW
34107 6	-	5/8"	1/2"	36	24,5	25/400	-	33927-KTW
34106 9	-	5/8"	3/4"	37,8	25,6	25/400	-	33926-KTW
34102 1	35102 0	3/4"	1"	39,5	26,5	25/250	25/200	33922-KTW
34103 8	-	1"	1 1/4"	53	35	10/ 120	-	33923-KTW
34104 5	-	1 1/4"	1 1/2"	59,5	40	10/ 60	-	33924-KTW
34111 3	35111 2	1/2"	1/2"	36	24,5	25/400	25/400	33931-KTW
34112 0	35112 9	3/4"	3/4"	39,5	27,3	25/ 350	25/300	33932-KTW
34113 7	35113 6	1"	1"	45,5	32,5	25/ 150	-	33933-KTW
34114 4	-	1 1/4"	1 1/4"	58	40	10/ 70	-	34114-KTW
34115 1	-	1 1/2"	1 1/2"	63	43,5	10/ 60	-	34115-KTW
34105 2	-	1 1/2"	2"	85,5	60	10/ 50	-	-
34116 8	-	2"	2"	84,5	59	5/ 30	-	34116-KTW
34121 2	35121 1	1/2"	1"	41,5	28,5	25/200	25/200	34121-KTW
34122 9	-	1/2"	1 1/4"	41,5	23,5	-	-	34122-KTW



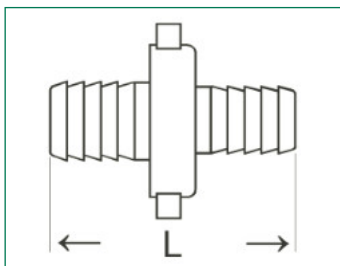
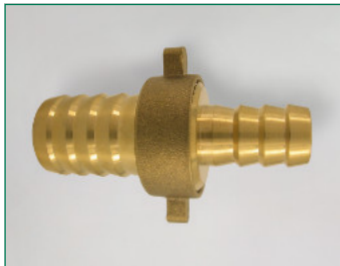
3/3 Screw connection made of brass



Flat sealing, including seals of NBR, hot-pressed

Item-No.:	Connection: Spout	Connection: Thread	Length: L	Packing unit:
34131 1	1/2"	3/4"	60	25/250
34180 9	3/8"	1/2"	56,5	10/250
34137 3	5/8"	1/2"	60	25/250
34136 6	5/8"	3/4"	66	25/200
34132 8	3/4"	1"	69	25/125
34133 5	1"	1 1/4"	86	10/60
34134 2	1 1/4"	1 1/2"	105	4/40
34181 6	1/2"	1/2"	60	25/250
34182 3	3/4"	3/4"	66,5	25/150
34183 0	1"	1"	51	10/100
34184 7	1 1/4"	1 1/4"	101	10/50
34185 4	1 1/2"	1 1/2"	109,5	5/40

3/3 hose connector, brass, reduced



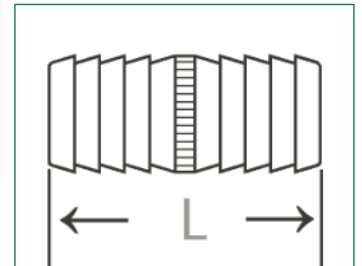
Flat sealing, including NBR seal, hot-pressed

Item-No.:	Connection: Spout	Connection: Thread	Length: L	Packing unit:
34130 4	3/4" x 1/2"	3/4"	64	25/200

Hose connector made of brass

Solid brass

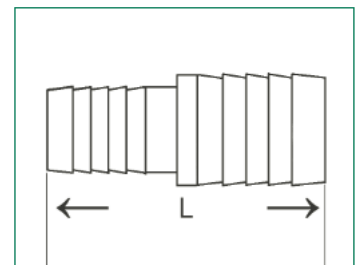
Item-No.:	Connection:	Length: L	Packing unit:
34300 1	3/8"	47	50/1000
34301 8	1/2"	48	25/ 650
34309 4	5/8"	49	25/ 450
34302 5	3/4"	53	25/ 350
34303 2	1"	58	25/ 200
34304 9	1 1/4"	63	10/ 140
34305 6	1 1/2"	84	10/ 60
34306 3	2"	90	10/ 40



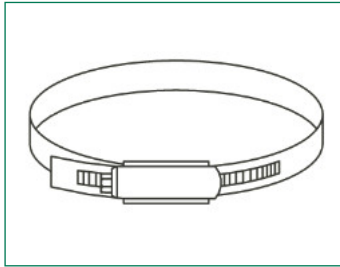
Hose connector made of brass

Solid brass, reduced

Item-No.:	Connection:	Length: L	Packing unit:
34311 7	1/2" x 3/4"	55	25/350



Hose clamps 9 mm (W1)



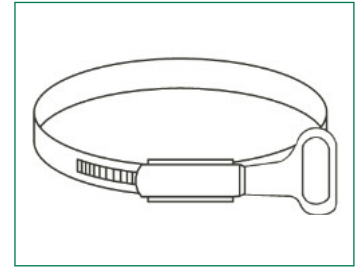
Made of galvanized steel according to DIN 3017, bandwidth 9 mm, wrench size 7 mm

Item-No.:	Clamping range:	Packing unit:
34210 3	8 - 12 mm	100/ 1000
34216 5	8 - 16 mm	100/ 2000
34200 4	10 - 16 mm	100/ 1000
34201 1	12 - 22 mm	100/ 600
34202 8	16 - 27 mm	100/ 600
34203 5	20 - 32 mm	100/ 600
34204 2	25 - 40 mm	100/ 600
34205 9	35 - 50 mm	100/ 400
34206 6	40 - 60 mm	50/ 400
34211 0	50 - 70 mm	50/ 400
34207 3	60 - 80 mm	50/ 400
34239 4	60 - 170 mm	-/-
34208 0	70 - 90 mm	50/ 400
34209 7	80 - 100 mm	50/ 400
27080 2	80 - 130 mm	20/ 300
34212 7	90 - 110 mm	20/ 300
34213 4	100 - 120 mm	20/ 300
34215 8	110 - 130 mm	20/ 300
34218 9	120 - 140 mm	20/ 360
34219 6	130 - 150 mm	10/ 300
34214 1	140 - 160 mm	20/ 300
27081 9	150 - 170 mm	20/ 200
34217 2	160 - 180 mm	10/ 300
34220 2	190 - 210 mm	10/ 100

Hose clamps 9 mm (W1) with blue wing screw

Made of galvanized steel to DIN 3017, bandwidth 9 mm

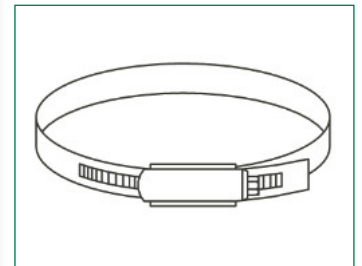
Item-No.:	Clamping range:	Packing unit:
34200-Knebel	10 - 16 mm	10/ 100
34202-Knebel	16 - 27 mm	10/ 100



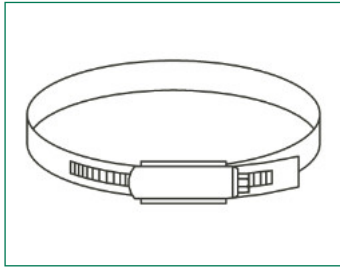
Hose clamps 12 mm (W1)

Made of galvanized steel to DIN 3017, bandwidth 12 mm

Item-No.:	Clamping range:	Packing unit:
34221 9	12 - 22 mm	100/600
34222 6	16 - 27 mm	100/600
34223 3	20 - 32 mm	100/600
34224 0	25 - 40 mm	100/400
34225 7	35 - 50 mm	100/400
34226 4	40 - 60 mm	50/400
34227 1	50 - 70 mm	50/400
34228 8	60 - 80 mm	50/200
34229 5	70 - 90 mm	25/ 200
34230 1	80 - 100 mm	25/ 200
34237 0	90 - 110 mm	-/-
34231 8	100 - 120 mm	20/ 200
34235 6	140 - 160 mm	10/ 200
34236 3	160 - 180 mm	10/ 100



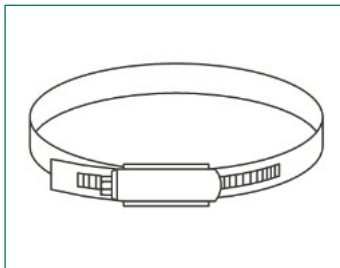
Stainless steel hose clamps 9 mm (W2)



Band and housing made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, zinc plated steel screw, bandwidth 9 mm

Item-No.:	Clamping range:	Packing unit:
34240 0	8 - 12 mm	100/1000
34241 7	10 - 16 mm	100/1000
34242 4	12 - 22 mm	100/ 600
34243 1	16 - 27 mm	100/ 600
34244 8	20 - 32 mm	100/ 600
34245 5	25 - 40 mm	100/ 600
34246 2	35 - 50 mm	100/ 400
34247 9	40 - 60 mm	50/ 400
34248 6	50 - 70 mm	50/ 400
34249 3	60 - 80 mm	50/ 400
34259 2	60 - 215 mm	-/-
34250 9	70 - 90 mm	50/ 400
34251 6	80 - 100 mm	50/ 400
34252 3	100 - 120 mm	20/ 300

Stainless steel hose clamps 12 mm (W2)

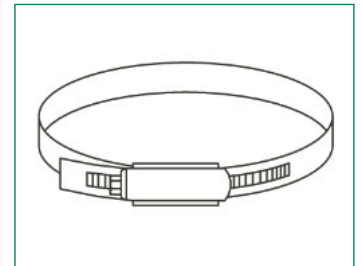


Band and housing made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, zinc plated steel screw, bandwidth 12 mm

Item-No.:	Clamping range:	Packing unit:
34263 9	16 - 27 mm	100/600
34264 6	20 - 32 mm	100/600
34265 3	25 - 40 mm	100/400
34275 2	30 - 45 mm	-/-
34266 0	35 - 50 mm	100/400
34267 7	40 - 60 mm	50/400
34268 4	50 - 70 mm	50/400
34269 1	60 - 80 mm	50/200
34270 7	70 - 90 mm	25/200
34271 4	80 - 100 mm	25/200
34276 9	90 - 110 mm	10/ 300
34272 1	100 - 120 mm	10/ 300
34277 6	110 - 130 mm	20/200
34273 8	120 - 140 mm	-/-
34274 5	140 - 160 mm	-/-
34278 3	160 - 180 mm	10/100
34279 0	200 - 220 mm	10/100

Stainless steel hose clamps 9 mm (W4)

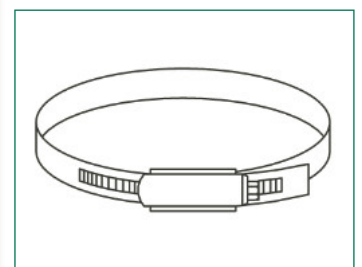
Band, housing and screw made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, bandwidth 9 mm



Item-No.:	Clamping range:	Packing unit:
35210 2	8 - 12 mm	100/ 1000
35216 4	8 - 16 mm	100/2000
35200 3	10 - 16 mm	100/ 1000
35201 0	12 - 22 mm	100/ 600
35202 7	16 - 27 mm	100/ 600
35203 4	20 - 32 mm	100/ 600
35204 1	25 - 40 mm	100/ 600
35213 3	30 - 45 mm	-/-
35205 8	35 - 50 mm	100/ 800
35206 5	40 - 60 mm	50/ 400
35211 9	50 - 70 mm	50/ 400
35207 2	60 - 80 mm	50/ 400
35208 9	70 - 90 mm	50/ 400
35209 6	80 - 100 mm	50/ 400
35212 6	90 - 110 mm	20/ 300

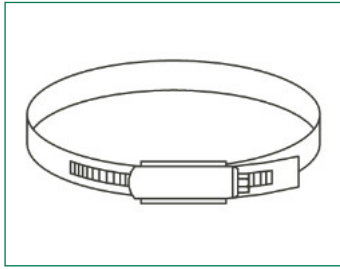
Stainless steel hose clamps 12 mm (W4)

Band, housing and screw made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, bandwidth 12 mm



Item-No.:	Clamping range:	Packing unit:
34281 3	12 - 22 mm	100/600
34282 0	16 - 25 mm	100/600
34283 7	20 - 32 mm	100/600
34284 4	25 - 40 mm	100/400
34285 1	35 - 50 mm	100/400
34286 8	40 - 60 mm	50/400
34288 2	70 - 90 mm	25/ 200
34289 9	80 - 100 mm	25/ 200
27310 0	60 - 80 mm	50/ 200
27312 4	100 - 120 mm	20/ 200
27311 7	110 - 130 mm	10/ 200
27318 6	160 - 180 mm	10/ 100

Stainless steel hose clamps 9 mm (W5)

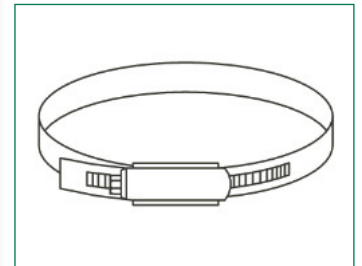


Band, housing and screw made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, bandwidth 9 mm

Item-No.:	Clamping range:	Packing unit:
27200 4	8 - 12 mm	100/1000
27201 1	8 - 16 mm	100/1000
27202 8	10 - 16 mm	100/1000
27203 5	12 - 22 mm	100/ 600
27204 2	16 - 27 mm	100/ 600
27205 9	20 - 32 mm	100/ 600
27206 6	25 - 40 mm	100/ 600
27207 3	35 - 50 mm	100/ 400
27208 0	40 - 60 mm	50/ 400
27209 7	50 - 70 mm	50/ 400
27210 3	60 - 80 mm	50/ 400
27211 0	70 - 90 mm	50/ 400
27212 7	80 - 100 mm	50/ 400
27213 4	80 - 130 mm	25/ 200
27214 1	90 - 110 mm	20/ 300
27215 8	100 - 120 mm	20/ 300
27216 5	110 - 130 mm	20/ 300
27217 2	120 - 140 mm	20/ 360
27218 9	130 - 150 mm	20/ 300
27219 6	140 - 160 mm	10/ 300
27220 2	150 - 170 mm	10/ 300
27221 9	160 - 180 mm	10/ 300
27222 6	190 - 210 mm	10/-

Stainless steel hose clamps 12 mm (W5)

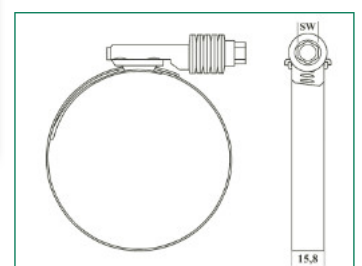
Band, housing and screw made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, bandwidth 12 mm



Item-No.:	Clamping range:	Packing unit:
27230 1	12 - 22 mm	100/600
27231 8	16 - 27 mm	100/600
27232 6	20 - 32 mm	100/600
27233 2	25 - 40 mm	100/400
27234 9	35 - 50 mm	100/400
27235 6	40 - 60 mm	50/400
27236 3	50 - 70 mm	50/400
27237 0	60 - 80 mm	50/200
27238 7	70 - 90 mm	25/200
27239 4	80 - 100 mm	25/200
27243 1	90 - 110 mm	20/200
27240 0	100 - 120 mm	20/200
27241 7	140 - 160 mm	10/200
27244 8	150 - 170 mm	-/-
27242 4	160 - 180 mm	10/300
27245 5	180 - 200 mm	-/-
27246 2	230 - 250 mm	-/-

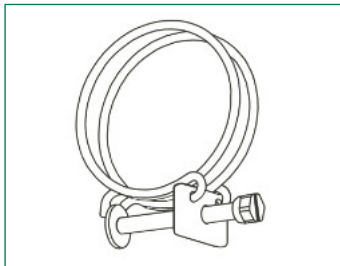
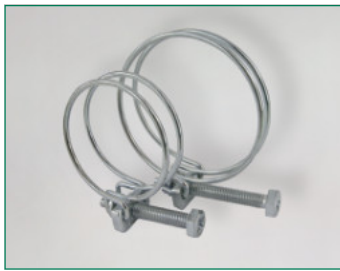
Heavy duty clamps (W4)

This special clamp is made entirely of stainless steel and is used where there are vibrations and large temperature fluctuations, which can cause the hose assemblies to expand and contract. The clamp maintains a constant pressure around the hose and prevents leaks.



Item-No.:	Clamping range:	Band width:	Wrench size:	Pack. unit:
S-3828-067	45 - 67 mm	15,8 mm	M10	-/150
S-3828-079	57 - 79 mm	15,8 mm	M10	-/150
S-3828-092	70 - 92 mm	15,8 mm	M10	-/150
S-3828-105	83 - 105 mm	15,8 mm	M10	-/100
S-3828-118	95 - 118 mm	15,8 mm	M10	-/100

Double-wire hose clamps (W1)



Ideal for the use with spiral hoses, made of galvanized steel, width about 8 mm

Item-No.:	Clamping range:	Packing unit:
27020 8	16 - 19 mm	50/1000
27021 5	18 - 21 mm	50/1000
27022 2	20 - 23 mm	50/1000
27023 9	22 - 25 mm	50/1000
27024 6	24 - 28 mm	50/ 500
27025 3	28 - 32 mm	50/ 400
27026 0	32 - 36 mm	50/ 400
27027 7	36 - 41 mm	50/ 400
27028 4	41 - 46 mm	50/ 400
27029 1	43 - 48 mm	50/ 400
27030 7	47 - 53 mm	50/ 200
27031 4	51 - 58 mm	50/ 200
27032 1	57 - 63 mm	50/ 200

Classes of materials for worm drive clamps or heavy duty clamps

Desig.:	Material:	Requirement:
W1	Coated steel	Low requirements on the corrosion resistance
W2	Housing and band stainless steel 1.4016; Screw coated steel	Low to medium requirements on the corrosion resistance
W4	Completely made of steel 1.4301 (V2A or comparable steel)	High requirements on the corrosion resistance
W5	Completely made of chromium-nickle-molybdenum steel 1.4571 (V4A oder 1.4401)	Resistant to sea water and difficult to magnetize; highest requirements on the corrosion resistance

Other hose clamps variations on inquiry

Endless clamp with foldable housing



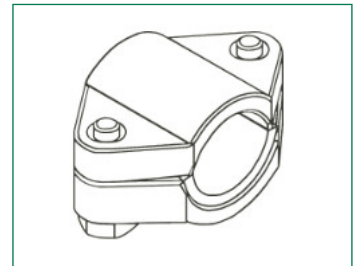
2-parts, band stainless steel 1.4104, housing and screw zinc plated steel, bandwidth 9 mm

Item-No.:	Clamping range:	Bandwidth:	Packing unit:
SE-3075	50-165 mm	9 mm	

2-parts with galvanized hexagon head bolts and nuts, ideal for tightening pump-spiral hoses

Item-No.:	Clamping range:	Bandwidth:	Packing unit:
34402 2	25 - 27 mm	3/4"	10/200
34403 9	31 - 34 mm	1"	10/200
34404 6	38 - 41 mm	1 1/4"	10/150

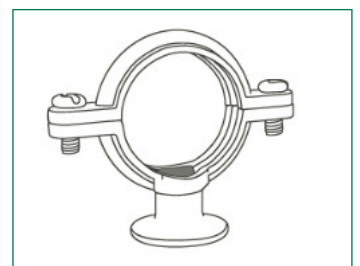
Clamp ring, brass



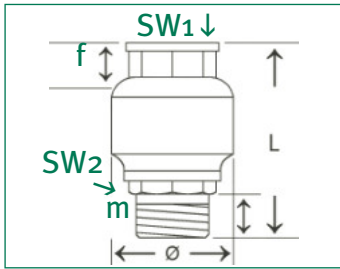
Pipe clamps made of Zamac or alternatively with brass coating, 2 galvanized steel cross-head screw, female thread M7

Item-No.:	Clamping range:	Bandwidth:	Packing unit:
Zamac	Brass		
27279 0	27279-MS	8 mm	50/2000
27280 6	27280-MS	10 mm	200/1400
27281 3	27281-MS	12 mm	200/1400
27282 0	27282-MS	15 mm	200/1200
27283-16		16 mm	50/1000
27283-17		17 mm	50/1000
27283 7	27283-MS	18 mm	150/ 750
27284-19		19 mm	70/ 840
27284-20		20 mm	60/ 720
27284-21		21 mm	60/ 720
27284 4	27284-MS	22 mm	150/ 600
27285-24		24 mm	50/ 500
27285-25		25 mm	50/ 500
27285 1	27285-MS	27 mm	90/ 540
27286 8	27286-MS	28 mm	86/ 425
27287 5	27287-MS	32 mm	65/ 325
27288 2	27288-MS	34 mm	60/ 300
27289 9	27289-MS	40 mm	55/ 275
27290 5	27290-MS	42 mm	50/ 250
27290-43		43 mm	50/ 250
27291-48		48 mm	40/ 200
27291 2	27291-MS	50 mm	50/ 200
27270-60		60 mm	25/ 125
27270 7		63 mm	25/ 125
27271-76		76 mm	25/ 100

Zamac pipe clamp



Pump check valve



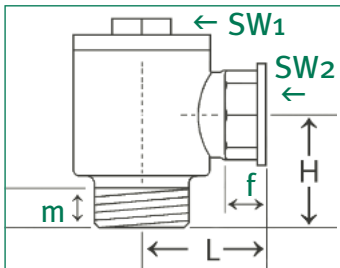
Brass, heavy version, closing cone with rubber seal, female thread/male thread, straight form, only suitable for vertical installation

Item-No.:	Conne.:	Thread length:		Length:		Wrench size:		Packing unit:
		F x M	L	Ø		SW1	SW2	
51023 6	1"	16/18	90	56		38	38	3/27
51024 3	1 1/4"	20/18	100	68		48	48	4/16

Spare parts o-ring EPDM:

51025 0	1"	for 51023	48 x 2 mm		
51026 7	1 1/4"	for 51024	58 x 2,5 mm		

Pump check valve



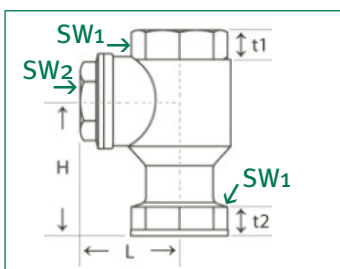
Brass, heavy version, closing cone with rubber seal, female thread/male thread, angle type, only suitable for vertical installation

Item-No.:	Conne.:	Thread length:		Length:	Heigth:	Wrench size:		Packing unit:
		F x M	L			SW1	SW2	
51033 5	1"	14/18	50	50		23	38	2/16
51034 2	1 1/4"	21/20	56	58		23	48	2/16

Spare parts o-ring EPDM:

51035 9	1"	for 51033	48 x 2 mm		
51036 6	1 1/4"	for 51034	58 x 2,5 mm		

Pump check valve



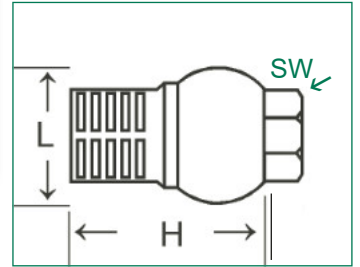
Brass, either straight or angle type by unscrewing the closure cap, PN 10, on both sides female threaded, closing cone with rubber seal, only suitable for vertical installation

Item-No.:	Conne.:	Thread-length:		Length:	Heigth:	Wrench size:		Packing unit:
		t1	t2			SW1	SW2	
51083 0	1"	15	14	44	63	39	30	2/36

Foot valve made of brass

For pumps, suction strainer with slots, valve clap made of brass with rubber seal, only suitable for vertical installation

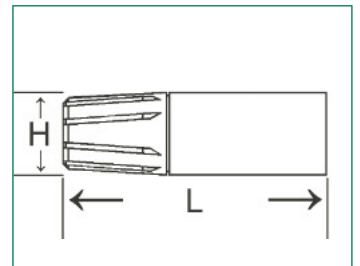
Item-No.:	Connec.:	Thread-length:	Length: L	Heigth: H	Wrench size: SW	Packing unit:
51321 3	1/2"	-	39	60	27	12/96
51322 0	3/4"	-	45	69	34	12/48
51323 7	1"	-	51	80	40	18/54
51324 4	1 1/4"	-	61	92	49	8/24
51325 1	1 1/2"	-	68	100	55	3/18
51326 8	2"	-	80	117	66	2/12



Brass foot valve for driven wells

With suction strainer, valve clap made of brass with rubber seal, only suitable for vertical installation

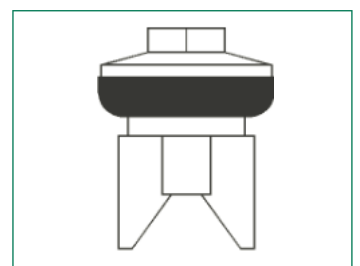
Item-No.:	Outside Ø	Connec.:	Thread-length:	Length: L	Heigth: H	Packing unit:
51352 7	ca. 31,0 mm	3/4"	17	99	30,5	10/60
51353 4	ca. 36,5 mm	1"	20	114	36	16/48



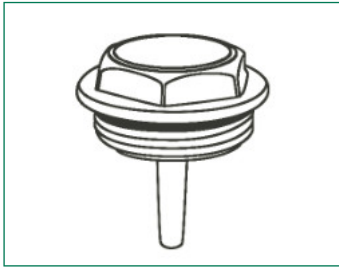
Closing cone with rubber moulded seal

Spare parts for pump check valves

Item-No.:	Match to item:	Connection:	Packing unit:
51090 8	51083 0	1"	25/350
51088 5	Seal loose	1"	10
51089 2	Seal loose	1 1/4"	10



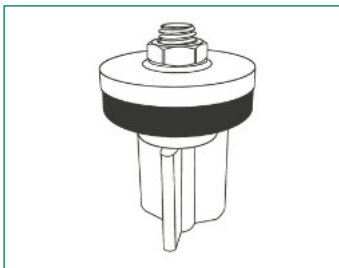
Cap with seal



Spare parts for pump check valves

Item-No.:	Match to item:	Connection:	Packing unit:
51080 9	51083	1"	10/250

Valve cone with seal



Spare parts for pump check valves

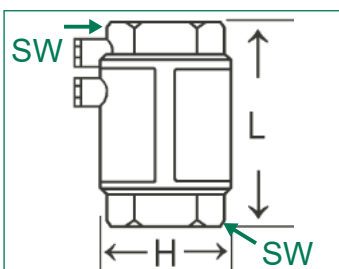
Complete, with seal (illu.)

Item-No.:	for item-No.:	Connection:	Packing unit:
51020 5	51023 6 + 51033 5	1"	10/250
51030 4	51024 2 + 51034 2	1 1/4"	10/180

Rubber seal for sealing cone (without illu.)

Item-No.:	for item-No.:		
51020 5	51021 2		
51030 4	51031 1		

Check valve made of brass



With double venting, heavy version, stainless steel swing check valve, 2 bleed screws, therefore particularly suitable for well construction, in winter no disassembly or risk of frost in the well system

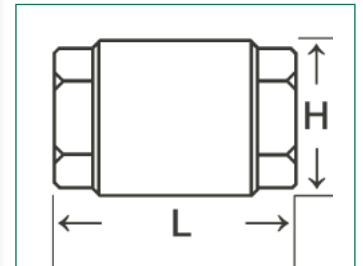
Item-No.:	Connec.:	Thread-length:	Length: L	Heigth: H	Wrench size: SW	Packing unit:
51042 7	3/4"	13	68	44	32	10/120
51043 4	1"	13	71	50	39	6/ 30
51044 1	1 1/4"	15	82	62	49	4/ 40
51045 8	1 1/2"	15	92,5	73	56	2/ 24

Spare parts:

51048 9	Vent screw
51049 6	Replacement seal

With spring, valve disc made of plastic with rubber seal, also suitable for horizontal mounting, female thread/female thread

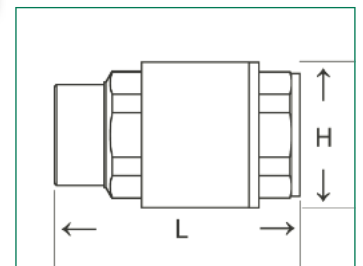
Check valve made of brass (System York)



Item-No.:	Connection:	Length: L	Height: H	PN:	Packing unit:
51000 7	3/8"	45	34	10	10/120
51001 4	1/2"	45	34	10	10/120
51002 1	3/4"	48	42	10	10/100
51003 8	1"	53	47	10	6/ 60
51004 5	1 1/4"	58	59	8	5/ 25
51005 2	1 1/2"	69	68	8	6/ 24
51006 9	2"	77	80	8	2/ 18
51007 6	2 1/2"	-	-	-	2/ 8
51008 3	3"	-	-	-	2/ 8
51009 0	4"	-	-	-	2/ 4

Check valve made of brass (System York)

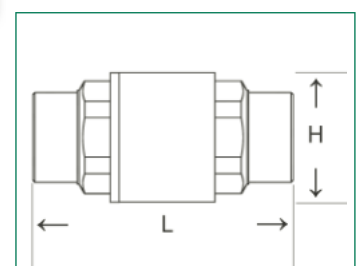
With spring, valve disc made of plastic with rubber seal, also suitable for horizontal mounting, female thread/male thread, PN 10



Item-No.:	Connection:	Length: L	H	PN:	Packing unit:
51122 6	3/4"	61	36,5	10	15/90
51123 3	1"	69	44	10	15/60

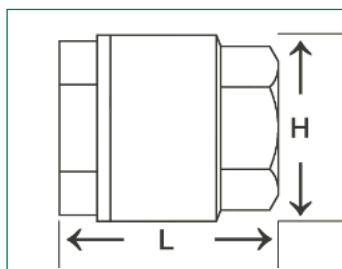
Check valve made of brass (System York)

With spring, valve disc made of plastic with rubber seal, also suitable for horizontal mounting, male thread/male thread, PN 10



Item-No.:	Connection:	Length: L	H	PN:	Packing unit:
51132 5	3/4"	70	36,5	10	15/ 75
51133 2	1"	80	44	10	12/48

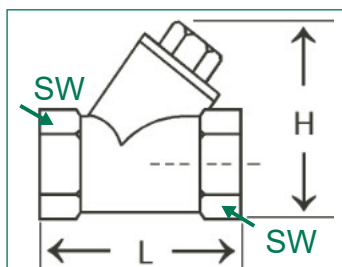
Check valve made of brass (Europa)



Long version, with spring, valve disc made of brass with rubber seal, also suitable for horizontal mounting

Item-No.:	Connection:	Thread-length:	Length: L	Height: H	PN:	Packing unit:
51101 1	1/2"	-	34,5	58,5	25	10/170
51102 8	3/4"	-	41,5	65	25	8/ 120
51103 5	1"	-	48	74,5	25	8/ 88
51104 2	1 1/4"	-	60,5	83	18	6/ 54
51105 9	1 1/2"	-	71	93	18	4/ 36
51106 6	2"	-	87	101	18	2/ 24
51107 3	2 1/2"	-	-	-	-	1/ 12
51108 0	3"	-	-	-	-	1/ 8

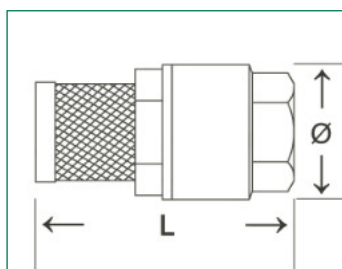
Socket strainers



F x F, sand filter made of brass with fine-mesh screen made of stainless steel 1.4301

Item-No.:	Conn.:	Mesh size: mm	Thread length:		Length:		Wrench size: SW:	Packing unit:
			F	F	L	H		
51400 5	3/8"	0,5	11,5	11,5	54	48,5	25	16/128
51401 2	1/2"	0,5	11,5	11,5	54	48,5	25	15/ 90
51402 9	3/4"	0,5	11	11	70	63	31	15/ 60
51403 6	1"	0,5	12	12	78	70	39	10/ 40
51404 3	1 1/4"	1,3	16	16	96	89	48	5/ 20
51405 0	1 1/2"	1,3	22	22	120	-	55	2/ 16
51406 7	2"	1,3	26	26	150	-	70	2/ 8

Foot valve made of brass



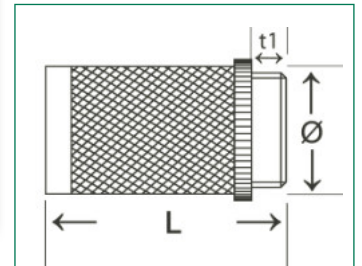
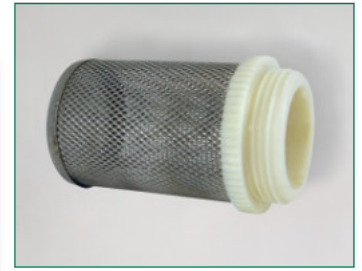
With spring, valve disc made of plastic with rubber seal, fine mesh strainer made of stainless steel mesh

Item-No.:	Conne.:	Length: L	Ø	PN:	Pack. unit:
51301 5	1/2"	70	34	10	20/240
51302 2	3/4"	71,5	42	10	10/ 120
51303 9	1"	82,5	47	10	6/ 90
51304 6	1 1/4"	97	59	8	6/ 60
51305 3	1 1/2"	112	68	8	4/ 48
51306 0	2"	129	80	8	4/ 16
51307 7	2 1/2"	155	103	-	4/ 16
51308 4	3"	171	111	-	4/ 8
51309 1	4"	181	146	-	2/ 8

Stainless steel pre-filter

From fine-mesh stainless steel with plastic threaded connection, **without** eyelet

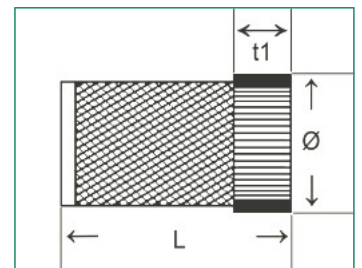
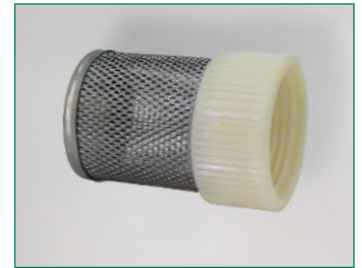
Item-No.:	Connection:	Thread-length: t1	Length: L	Ø	Packing unit:
51311 4	1/2"	8	40	27,5	18/432
51312 1	3/4"	7	45	34	15/300
51313 8	1"	10	54	40	15/300
51314 5	1 1/4"	10	61	48	10/100
51315 2	1 1/2"	10	69	58	5/100
51316 9	2"	12	84	68	5/100
51317 6	2 1/2"	14	100	83	-/-
51319 0	4"	16	152,5	129	-/-



Stainless steel pre-filter female

Fine-mesh stainless steel with plastic threaded connection, **without** eyelet

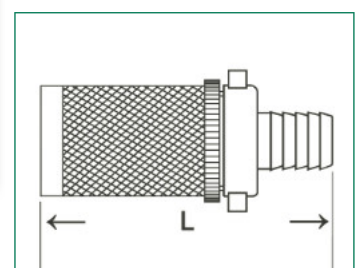
Item-No.:	Connection:	Thread length: t1	Length: L	Ø	Packing unit:
51313-IG	1"	13	57	31	15/300



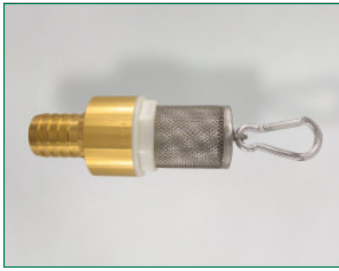
Stainless steel pre-filter

From fine-mesh stainless steel with plastic threaded connection and removable hose connection, **without** eyelet

Item-No.:	Connection:	Length: L	Packing unit:
51331 2	1/2"	70	-/-
51332 9	3/4"	73	-/-
51333 6	1"	90	-/-
51334 3	1 1/4"	105	-/-
like 51333, only with non-detachable nut (without illu.)			
51333-10882	1"		-/-

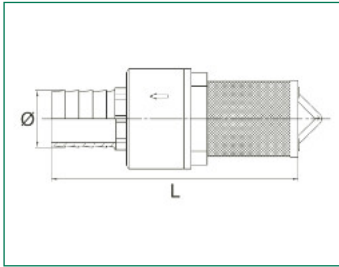


Foot valve made of brass



From fine-mesh stainless steel with plastic threaded connection, **with** eyelet and carbine (for 51363) and tube spout made of brass

Item-No.:	Connec.:	Threadlength:	Length:		Packing unit:
		t1	L	Ø spout	
S-3064-1"	1" x G 1"		116,5	27 mm	/100
S-3064-1 1/4"	1 1/4" x 1 1/4"		120,5	32 mm	-/-

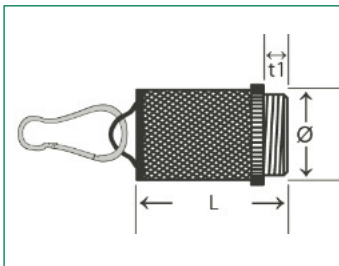


Stainless steel pre-filter

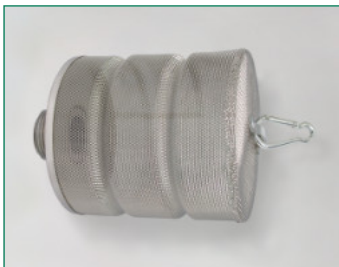


From fine-mesh stainless steel with plastic threaded connection, **with** eyelet and carbine

Item-No.:	Connec.:	Threadlength:	Length:		Packing unit:
	male	t1	L	Ø	
S-91	1"	10	52,5	35 mm	10/180

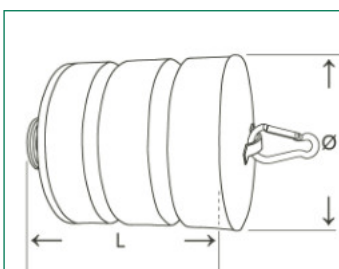


Stainless steel pre-filter



From fine-mesh stainless steel with eyelet and carbine, male thread 1" stainless steel

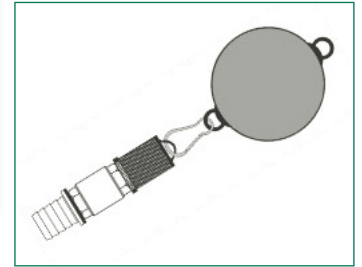
Item-No.:	Connec.:	Threadlength::	Length:		Packing unit:
	male		L	Ø	
S-1504	1"	14	132	100 mm	1/13



For rainwater cisterns or the like, black PE-ball (Ø 145 mm) with two eyelets, foot valve, stainless steel strainer, hose tail 1"

Item-No.:	Connection:	Packing unit:
51363 3	1" x Ø 35 mm	1/10
51364 0	1" x Ø 100 mm	1/ 8
Individual components (depending on version)		
S-1668	Ø 145 mm	Float ball black
S-91	male 1" x Ø 35 mm	Stainless steel pre-filter with eyelet
S-1504	male 1" x Ø 100 mm	Stainless steel pre-filter with eyelet
S-3064-1"	1" x G 1"	Check valve with spring and hose tail
S-91-Haken-B		Stainless steel spring hook

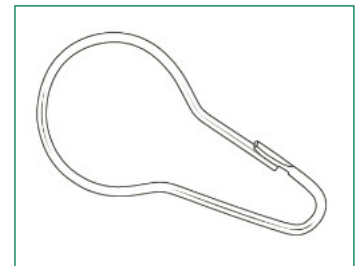
Floating suction filter



Spare parts for filters, stainless steel spring hook, pear shape

Item-No.:	Suitable for item:	Connection: B x L x Ø	Packing unit:
S-91-Haken-B	S-91 + S-1504 + 51363 + 51364	35 x 65 x 2,3 mm	/400

Replacement spring hook



Spare parts for filters, snap hook aluminium/stainless steel, painted, anodized

Item-No.:	Suitable for item:	Connection: B x L x Ø	Packing unit:
S-91-Karabiner	S-91 + S-1504 + 51363 + 51364	26 x 51 x 5 mm	500/2000

Replacement snap hook

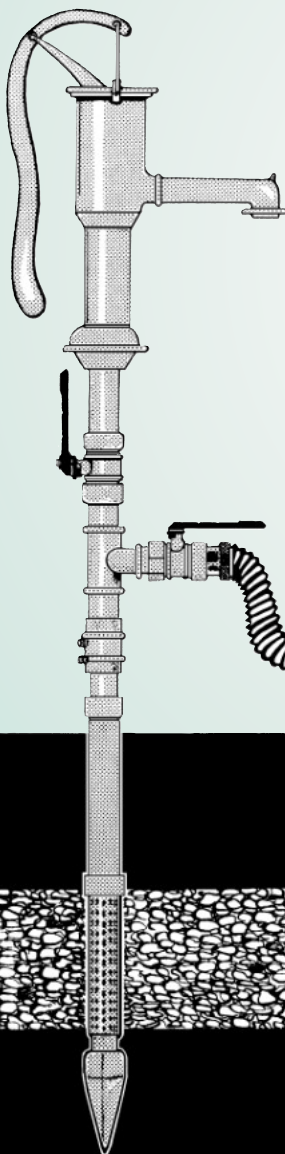


Instructions for the construction of a driven well

Before starting the well construction you should check the soil conditions. If planned for private use in garden irrigation only the construction of a well often can be started without authorisation. Regional restrictions are possible. The water-producing zone and water table should not be deeper than seven meters. It should consist of gravelly sand. You will get information about the legal situation, depth of groundwater table, nature of the subsoil and water quality (no sources of pollution) by the local authorities (e.g. municipal waterworks or geological survey offices).

Once all these questions are solved you can start with the construction. Begin by digging a pilot hole by using an auger at least until you reach the aquifer. Augers can be borrowed or bought e.g. from some specialist shops or garden centres. After two or three revolutions the auger has always to be pulled out to clean the drill head. Never strike the auger's handle with a hammer or any similar implement.

Now you can start to drive in the well point with its perforated pipe (18104/18304) which is then connected to solid steel pipes (21304) until the point penetrates the aquifer. Cover the end of the pipes with a drive cap (19614, with steel socket) to protect the seals when driving the well point downwards by hitting it with a hammer or pipe driver. Check that the pipe remains vertical. Please make sure that the threads are carefully sealed with hemp, PTFE or similar seal material when connecting them with sockets. Repeat these steps until the water table depth has been exceeded by at least two or three meters. The filter pipe has to be fully immersed into the water bearing zone so that the pump will not suck in air.



After that feed a hosepipe down the pipe and use water to flush out dirt and sand. The water should drain into the ground.

Only now the three-sided junction pipe with shut off valves (19203) can be connected to the handpump as well as to the electric pump. Take care that all threads are sealed carefully.

To connect the well to the motor pump you will need a 1" suction hose (39103), two suction couplings 1" (33403), two hose clamps (34203) and one male threaded express coupling 1" (33203).

You should heaten the hose with hot water and then mount it immediately to the greased hose tails. Please do not tighten the clamp's screw too much to avoid damaging the hose when it cools down again.

At first all pumps (e.g. 11002, 11001) have to be filled with water before pumping. It would be best to pump water by hand first.

Warnings: Pipes and filters have to be cleared by rinsing with water before connecting them to the electric pump.

All pumps have to be emptied before the frost period starts to avoid damage caused by frost. We recommend the use of a check valve with drain pipes (51044).

your puteus GmbH 

General Terms and Conditions of Sale of puteus GmbH

Section 1 Area of application, form

1. These General Terms and Conditions of Sale apply to all our business relationships with our Customers (hereinafter also referred to as Buyers). The General Terms and Conditions of Business apply only if the Buyer is an entrepreneur (Section 14 BGB (German Civil Code)), a legal entity under public law or a special fund under public law.
2. The General Terms and Conditions of Business apply, in particular, to contracts for the sale and/or delivery of movable Goods ("Goods"), irrespective of whether or not we manufacture the Goods ourselves or purchase them from suppliers (Sections 433, 650 BGB). Unless otherwise agreed, the General Terms and Conditions valid at the time of the Buyer's order or, in any case, as stated in the version last communicated to the Buyer in text form, shall also apply as a framework agreement to similar future contracts, without us being required to refer to them again in each individual case.
3. Our General Terms and Conditions of Business apply exclusively. Any varying, conflicting or supplementary general terms and conditions of business of the Buyer shall only become an integral part of the contract if and to the extent that we have expressly agreed to their validity. This consent requirement applies in all cases, for example including if the Buyer refers to their general terms and conditions of Business when placing an order and we do not expressly object to this.
4. Individual agreements (e.g. framework supply agreements, quality assurance agreements) and any information contained in our order confirmations, take precedence over the General Terms and Conditions of Business. In the case of doubt, trade clauses shall be interpreted in accordance with the Incoterms® issued by the International Chamber of Commerce in Paris (ICC), as stated in the version valid at the time of entering into the contract.
5. Legally relevant declarations and notifications by the Buyer in relation to the contract (e.g. setting deadlines, providing notification of defects, withdrawal or reduction), as well as subsequent amendments to the contract, are subject to the written form. The written form within the meaning of these General Terms and Conditions of Business includes written and text form (e.g. letter, e-mail). This does not affect statutory formal requirements or further proof, in particular in cases of doubt regarding the legitimacy of the party issuing a statement.
6. References to the validity of statutory provisions are for clarification purposes only. Even without such clarification, the statutory provisions shall, therefore, apply, unless they are directly amended or expressly excluded in these General Terms and Conditions of Business.

Section 2 Entering into a contract

1. Our offers are subject to change without notice and are non-binding, unless they are expressly marked as having binding force or contain a specific acceptance period. Our Customer may accept orders or contracts within 14 days of receipt.
2. Information made available by us regarding the subject matter of delivery or service (e.g. weights, dimensions, utility values, load-bearing capacity, tolerances and technical data or data sheets), as well as representations thereof (e.g. drawings and illustrations), are only approximate, unless the usability for the contractually agreed purpose requires precise conformity. They are not warranted characteristics, but descriptions or identifications of the delivery. Standard variations and variations due to legal regulations or technical improvements, as well as the replacement of parts with equivalent parts, are permissible, provided they do not impair the usability for the contractually intended purpose. Public statements (e.g. advertising statements, general promotions) made by us or other third parties (e.g. manufacturers) do not constitute an agreement regarding the quality and, in particular, do not contain any promise of guarantee.
3. The written contract, including these General Terms and Conditions of Business, is solely authoritative in respect of our legal relationship with the Buyer. This fully reflects all agreements between us and our Customer regarding the subject matter of contract. Verbal commitments made by us prior to entering into the contract are not legally binding, and verbal agreements between us and the Buyer shall be replaced by the written contract, insofar nothing to the contrary is expressly agreed between us and the Buyer in each case. Supplementary information or amendments to the agreement entered into, including these General Terms and Conditions of Business, are subject to the written form in order to be deemed valid. Telecommunication transmission, e.g. by e-mail, is sufficient to safeguard the written form requirement.
4. The order of Goods by the Buyer applies as a binding contractual offer. Insofar as nothing to the contrary is specified in the order, we shall be entitled to accept this contract offer within 4 weeks of receiving it. Acceptance may be stated either in writing (e.g. by order confirmation) or by delivering the Goods to the Buyer.

Section 3 Samples, product data

1. Delivered samples shall be invoiced at the contract prices and are to be remunerated.
2. The provisions of Section 454 BGB (purchase on trial basis) do not apply to the provision of samples.
3. Insofar as we make product data available to our Customers (e.g. drawings, technical data, data sheets, calculations and estimates) for products purchased by them, such product data may only be used and referenced in direct connection with the sale or resale of the products purchased from us. Furthermore, product data is subject to strict confidentiality. The same applies to visual representations and images (uniformly referred to as representations) that we provide or make available (e.g. on the internet or on our homepage).
4. We expressly prohibit the use of our product data and/or representations thereof to advertise competing products. Using our product data and representations beyond the scope of the distribution of our products for technical and/or sales-related purposes of any kind is similarly prohibited.

Section 4 Delivery period, force majeure, delay in delivery, partial deliveries

1. The delivery period shall be agreed individually or specified by us upon acceptance of the order. The periods and dates we state for deliveries and services are always only approximate, unless a fixed period or date has been expressly agreed. If we are unable to meet binding delivery periods for reasons for which we are not responsible (non-availability of the service), we shall inform the Buyer of this without delay and simultaneously provide notification of the expected new delivery period. The delivery period shall be deemed to have been complied with if, by the end of this period, the Goods have left our factory, or we have notified the Customer that they are ready for dispatch. If shipment has been agreed, delivery periods and delivery dates refer to the time of handover to the forwarding agent, carrier or other third party commissioned with the transport operation.
2. With regard to the start of the delivery period, it is taken for granted that all technical questions have been clarified.
3. We may demand that Customers extend delivery periods or postpone delivery dates by the period during which our Customer fails to fulfil their contractual obligations to us (e.g. failure to cooperate properly in the case of sampling).
4. We shall not be liable for the impossibility of delivery or for delays in delivery insofar as these are attributable to force majeure or other events that were not foreseeable at the time of entering into the contract (e.g. operational disruptions of any kind; difficulties in procuring materials or energy; transport delays; strikes; lawful lockouts; shortages of labour, energy or raw materials; difficulties in obtaining necessary official approvals; pandemics or epidemics; official measures or the non-delivery, incorrect delivery or late delivery by suppliers despite a congruent covering transaction entered into by us) for which we are not responsible. We shall be entitled to withdraw from the contract if such events render delivery or performance significantly more difficult or impossible for us, and the hindrance is not only temporary. In the event of temporary obstacles, the delivery or service deadlines shall be extended, or the

delivery or service dates postponed by the duration of the hindrance plus a reasonable start-up period. If the Buyer cannot reasonably be expected to accept the delivery or service as a result of the delay, they may withdraw from the contract by notifying us in writing without delay.

5. We are only entitled to make partial deliveries if (i) the partial delivery is usable for the Buyer as part of the contractual purpose, (ii) delivery of the remaining ordered Goods is ensured, and (iii) this does not result in significant additional expenditure or additional costs for the Buyer (unless we agree to bear such costs).
6. The occurrence of delay in the delivery on our part, it shall be determined in accordance with the statutory provisions, subject to the proviso that delay shall only occur after a written reminder and expiry of a reasonable additional period, insofar as a fixed-date transaction does not apply.
7. This does not affect the Buyer's rights in accordance with Section 8 of these General Terms and Conditions of Business and our statutory rights, in particular in the event of an exclusion of the obligation to perform (e.g. due to impossibility or unreasonableness of performance and/or subsequent performance).

Section 5 Delivery, call-off, transfer of risk, default in acceptance

1. Delivery shall be made ex works, which shall also be the place of performance for the delivery and any subsequent performance. The Goods shall be shipped to another destination (sales shipment) at the Buyer's request and expense. Insofar as nothing to the contrary is agreed, we shall be entitled to determine the type of shipment (in particular, the transport company, shipping route and packaging).
2. If delivery on call has been agreed, all call-offs must be made by the Buyer within 12 months of entering into the contract at the latest, insofar as nothing to the contrary is agreed in writing.
3. The risk of accidental loss of and accidental deterioration in the Goods shall pass onto the Buyer upon delivery at the latest. In the case of sales shipments, the risk of accidental loss of and accidental deterioration in the Goods, as well as the risk of delay, shall pass onto the carrier, freight forwarder or other person or company designated to perform the shipment, at the time the goods are handed over. If acceptance has been agreed, this shall be authoritative over the transfer of risk. In other respects, the statutory provisions of the law governing work and service contracts apply accordingly to an agreed acceptance. The handover or acceptance shall be deemed to have occurred if the Buyer defaults in acceptance.
4. If the Buyer defaults in acceptance, fails to cooperate or delays our delivery for any other reason for which the Buyer is responsible, we shall be entitled to demand compensation for the resulting damage, including additional expenses (e.g. storage costs). The same applies following the passing of risk. If we store the Goods, the storage costs shall be 0.25% of the invoice amount of the delivery items for each full week that they are stored. This does not affect proof of higher damages and our legal claims (particularly reimbursement of additional expenses, reasonable compensation, termination). The asserted storage costs are to be counted towards further-reaching monetary claims. The Buyer is entitled to furnish proof that we have incurred no damage at all, or only significantly less damage than the value of the above lump sum.
5. We shall only insure the shipment against theft, breakage, transport damage, fire and water damage or other insurable risks at the Buyer's express request and expense.
6. The Buyer undertakes to return to us free of charge any reusable packaging we use. In the absence of statutory regulations to the contrary, disposable packaging must be disposed of by the Customer at their own expense.
7. If acceptance is required, the object of sale shall be deemed accepted if • Delivery has been completed, • We have notified the Buyer of this with reference to the deemed acceptance in accordance with this sub-section, and requested the Buyer to accept the item, • 20 working days have passed since delivery, or the Buyer has started to use the object of sale (e.g. has further processed the delivered object of sale (e.g. installation in a building) or resold it) and, in this case, 10 working days have passed since delivery, and • The Buyer has failed to accept the Goods within this period for a reason other than a defect reported to us that renders using the object of sale impossible or significantly impairs such use.

Section 6 Prices, terms and conditions of payment

1. Insofar as nothing to the contrary is agreed in individual cases, our prices in EUR valid at the time of entering into the contract shall apply, ex works, plus statutory value added tax. Additional or special services shall be charged separately. Insofar as the agreed prices are based on our list prices and delivery is to occur more than four months after entering into the contract, our list prices valid at the time of delivery shall apply (in each case less an agreed percentage or fixed discount).
2. a) In the case of sales shipments, the Buyer shall bear the transport costs ex works and the cost of any transport insurance requested by the Buyer. b) Any customs duties, fees, taxes and other public charges shall be borne by the Buyer.
3. The purchase price falls due and is payable within 14 days of invoicing and delivery or acceptance of the Goods.
4. The Buyer shall be in default upon expiry of the above payment period. During the period of default, interest shall be charged on the purchase price at the applicable statutory default interest rate (9 percentage points above the base rate in accordance with Section 288 (2) BGB). We reserve the right to assert a claim for further-reaching damage caused by default. This does not affect our claim to commercial interest on arrears (Section 353 HGB (German Commercial Code)) in dealings with merchants.
5. The Buyer shall only be entitled to set-off or retention rights, insofar as his claim has become res judicata, is recognised, is undisputed, or results from the same contract under which the affected delivery was made.
6. If, after entering into the contract, it becomes apparent (e.g. as a result of an application led for the institution of insolvency proceedings) that our claim to the purchase price is at risk due to the Buyer's inability to pay, we shall be entitled to refuse performance in accordance with the statutory provisions and, if necessary, withdraw from the contract after setting a period (Section 321 BGB). In the case of contracts for the manufacture of non-fungible Goods (custom-made/one-off products), we may state our withdrawal immediately. This does not affect the statutory provisions regarding the dispensability of setting a period. In the event of late payment, we shall be entitled to withhold further deliveries until outstanding invoice amounts, including interest, have been settled.

Section 7 Reservation of title, tools

1. We shall retain ownership of the sold Goods up until all our current and future claims, resulting from the purchase contract and an ongoing business relationship (secured claims), have been paid in full.
2. The reserved Goods may not be pledged to third parties or transferred as security before the secured claims have been paid in full. The Buyer is to notify us without delay in writing if an application is led for the institution of insolvency proceedings. The same applies in the event of an application for insolvency under self-administration or proceedings under the StaRUG (German Act on the Restructuring of Companies) or insofar as third parties (e.g. seizures) gain access to the Goods in our possession.
3. In the event of a breach of the contract by the Buyer, in particular non-payment of the due purchase price, we shall be entitled to withdraw from the contract in accordance with the statutory provisions and/or demand the return of the Goods as a result of the reservation of title. The demand for surrender does not simultaneously include a statement of withdrawal. Rather, we are entitled to demand only the return of the Goods and reserve the right to withdraw. If the Buyer fails to pay the due purchase price, we may only assert these rights if we have previously set the Buyer a reasonable period for payment in vain, or if such a period is dispensable according to the statutory provisions.

4. Until withdrawn in accordance with sub-section c) below, the Buyer shall be authorised to resell and/or process the reserved Goods in the ordinary course of business. In such a case, the following provisions apply in addition. The Customer shall store the Goods for us free of charge and shall be liable for the proper condition of the Goods. a) The reservation of title extends to the full value of the products created by processing or combining our Goods, whereby we are deemed the manufacturer. If the third party's ownership rights remain in force in the event of processing or combining with third party Goods, we shall acquire co-ownership in proportion to the invoice values of the processed, mixed or combined Goods. In other respects, the same shall apply to the resulting product as what applies to the delivered reserved Goods. b) The Buyer hereby assigns to us as security all claims against third parties resulting from the resale of the Goods or products, either in full or in the amount of our potential co-ownership share, in accordance with the above sub-section. We accept the assignment. The Buyer's obligations referred to in sub-section 2 also apply with regard to the assigned claims. c) The Buyer remains authorised to collect the claim alongside us. We undertake not to collect the claim, as long as the Buyer meets his payment obligations to us, there are no shortcomings in respect of his ability to pay and, we do not assert our reservation of title by exercising a right in accordance with sub-section 3. However, if this is the case, we may demand that the Buyer informs us of the assigned claims and their debtors, makes available all information necessary for collection, hands over the relevant documents, and informs the debtors (third parties) of the assignment. In addition, we shall be entitled in such a case to withdraw the Buyer's authority to resell and process the reserved Goods. d) If the realisable value of the securities exceeds our claims by more than 10%, we shall release securities of our choice at the Buyer's request.

5. a) Tools shall not become the Buyer's property, including if full costs are charged. They remain our property, unless expressly agreed otherwise. b) We draw attention to the fact that we shall scrap or otherwise recycle tools two years after the last parts have been manufactured.

Section 8 Buyer's warranty claims

1. Insofar as nothing to the contrary is specified below, the statutory provisions shall apply to the Buyer's rights in the event of material defects and defects in title, including incorrect or short delivery or faulty instructions. In all cases, this does not affect the special statutory provisions governing the sale of consumer Goods (Sections 474 et seq. BGB) or the Buyer's rights resulting from separately issued guarantees.

2. Our liability for defects is based primarily on the agreement entered into regarding the quality and intended use of the Goods. All product descriptions and manufacturer specifications that are the subject matter of the individual contract shall be deemed to be quality agreements in this sense. If the quality has not been agreed, the statutory provisions shall be used to assess whether or not a defect applies (Section 434 (3) BGB). We accept no liability for public statements made by the manufacturer or other third parties (e.g. advertising claims). 3. The warranty shall lapse if the Buyer modifies the delivery item or has it modified by third parties without our consent, and this renders it impossible or unreasonably difficult to rectify the defect. In any case, the Buyer shall bear the additional cost of rectifying the defect resulting from the modification.

4. We are generally not liable for defects that the Buyer is aware of at the time of entering into the contract or is unaware of due to gross negligence (Section 442 BGB). Furthermore, in the case of the Buyer's claims for defects, it is taken for granted that the Buyer has fulfilled his statutory obligations to inspect and provide notification of defects (Sections 377, 381 HGB). In the case of Goods intended for installation or further processing, an inspection is to be performed without delay at all times prior to installation/processing. If a defect becomes apparent upon delivery, inspection, or at any subsequent time, we are to be notified of this in writing without delay. In any case, written notification of obvious defects is to be provided within seven working days of delivery, and written notification of defects that are not apparent upon inspection is to be provided within the same time period once such defects are identified. If the Buyer fails to conduct the proper inspection and/or provide notification of defects, our liability for defects for which notification is not provided, is not provided in good time, or is not properly provided, is excluded in accordance with the statutory provisions. In the case of Goods intended for fitting, attachment or installation, this shall also apply if the defect only became apparent after processing as a result of a breach of one of these obligations. In such a case, the Buyer shall have no claims for reimbursement of corresponding costs ("Dismantling and installation costs").

5. a) If the delivered item is faulty, we may initially choose whether or not to provide subsequent performance by eliminating the fault (subsequent improvement) or by delivering a fault-free item (substitute delivery). If the type of subsequent performance chosen by us is unreasonable for the Buyer in individual cases, the Buyer may reject it. This does not affect our right to refuse subsequent performance under the statutory conditions. At our request, an existing delivery item is to be returned to us carriage paid. In the event of a justified complaint, we shall reimburse the costs of the cheapest shipping method. However, this shall not apply if the costs are increased by the fact that the delivery item is located at a place other than the place of intended use. b) In the event of defects in Goods from other manufacturers, which we are unable to rectify for licensing or practical reasons, we shall be entitled, at our discretion, to assert our warranty claims against the manufacturer or Supplier at the Buyer's expense or assign them to the Buyer. Warranty claims against us for such defects shall only apply under the other conditions and in accordance with these General Terms and Conditions of Business if the legal enforcement of the aforementioned claims against the manufacturer or Supplier was unsuccessful or offers no prospects of success, for example, due to insolvency.

6. We are entitled to render the required subsequent performance dependent on the Buyer paying the due purchase price. However, the Buyer is entitled to retain a portion of the purchase price that is proportionate to the defect.

7. The Buyer is to grant us the time and opportunity required to rectify the defect, in particular, to hand over for inspection the Goods for which a complaint has been lodged. In the event of a substitute delivery, the Buyer is to return the faulty item to us at our request in accordance with the statutory provisions. However, the Buyer has no right to demand a return. Subsequent performance shall neither include the removal, dismantling or uninstalling of the faulty item, nor the fitting, attachment or fitting of a non-faulty item, if we did not originally undertake to render these services. This does not affect claims by the Buyer for reimbursement of corresponding costs ("Dismantling and installation costs").

8. We shall bear or reimburse the expenses required for the purpose of inspection and subsequent performance, in particular transport, travel, labour and material costs and, where applicable, removal and installation costs, in accordance with the statutory provisions and these General Terms and Conditions, if a defect actually exists. Otherwise, we may demand reimbursement from the Buyer for the costs incurred as a result of the unjustified request to rectify the defect, if the Buyer knew or could have realised that in fact no defect existed.

9. In urgent cases, e.g. if operational safety is at risk or to prevent disproportionate damage, the Buyer has the right to rectify the defect himself and demand that we reimburse him for the objectively required expenses incurred in that regard. We are to be notified without delay, if possible, in advance, of any such action taken by the Buyer. The right to independently take such action shall not apply if we were entitled to refuse corresponding subsequent performance in accordance with the statutory provisions.

10. If a reasonable period set by the Buyer for subsequent performance has expired in vain, or is dispensable according to the statutory provisions, the Buyer may withdraw from the purchase contract or reduce the purchase price in accordance with the statutory provisions. However, there is no right of withdrawal in the case of an insignificant defect.

11. The Buyer's claims for reimbursement of expenses in accordance with Section 445a (1)

BGB are excluded, unless the last contract in the supply chain is a consumer Goods purchase (Sections 478, 474 BGB). The Buyer's claims for damages or reimbursement of expenses in vain (Section 284 BGB) shall only exist in the event of defects in the Goods in accordance with the following provisions in Section 9 and Section 11.

12. In the case of the sale of used movable items, rights resulting from defects and all claims for damages are excluded. The above provisions on the exclusion of claims for damages in the case of used Goods neither apply to damage resulting from loss of life, physical injury or detrimental effects on health if we are responsible for the breach of duty, nor to other damage resulting from an intentional or grossly negligent breach of duty on our part. Breaches of duty by our legal representatives or vicarious agents are deemed equivalent breaches. This does not affect claims in accordance with the German Product Liability Act or the assumption of a guarantee or procurement risk.

Section 9 Other liability

1. Insofar as nothing to the contrary is specified in these General Terms and Conditions of Business, including the following provisions, we shall be liable for any breach of contractual and non-contractual obligations in accordance with the statutory provisions.

2. We shall be liable for damages – irrespective on whichever grounds these apply, – as part of fault-based liability in cases of intent and gross negligence. In cases of simple negligence, we shall only be liable, subject to statutory limitations of liability (e.g. diligence in our own affairs; insignificant breach of duty), a) for damages resulting from the loss of life, physical injury or detrimental effects on health, b) for damages resulting from the breach of an essential contractual obligation (an obligation the fulfilment of which is essential for the proper execution of the contract and on whose compliance the contractual partner regularly relies and may rely). However, in such a case, our liability is limited to compensation for foreseeable, common damage.

3. The limitations of liability resulting from sub-section 2 shall also apply to third parties and in the event of breaches of duty by persons (including for their benefit) for whose fault we are responsible under statutory provisions. The above exclusions and limitations of liability apply, in particular, to the same extent in favour of our executive bodies, legal representatives, employees and other vicarious agents. They shall neither apply in cases in which a defect has been fraudulently concealed, or a guarantee has been provided for the quality of the Goods, nor shall they apply to claims by the Buyer in accordance with the German Product Liability Act.

4. In the event of a breach of duty that does not constitute a defect, the Buyer may only withdraw from the contract or terminate it if we are responsible for the breach of duty. The Buyer's right to arbitrarily terminate the contract (in particular in accordance with Sections 650 and 648 BGB) is excluded. In other respects, the statutory requirements and legal consequences apply.

Section 10 Industrial property rights, copyrights

1. In accordance with this Section 10, we provide a guarantee such that the delivery item is free from third party industrial property rights or copyrights. Each contracting party shall notify the other without delay in writing if claims are asserted against them for the infringement of such rights.

2. In the event that the delivery item infringes a third party's industrial property right or copyright, we shall, at our discretion and expense, modify or replace the delivery item in such a way that no third party rights are infringed, but the delivery item continues to fulfil the contractually agreed functions, or procure the right of use for the Buyer by entering into a licensing agreement with the third party. If we do not succeed in doing so within a reasonable period of time, the Buyer shall be entitled to withdraw from the contract or reduce the purchase price appropriately. Any claims for damages by the Buyer are subject to the limitations of these General Terms and Conditions of Business.

3. We reserve the right of ownership and copyright to all offers and cost estimates we submit, as well as any documents made available to our Customers, such as drawings, technical data, data sheets, illustrations, calculations, catalogues, models, tools and other documents and aids. The Customer may not make such items or documents available to third parties, disclose them, use them himself or via third parties, or reproduce them without our express consent. At our request, our Customer is to return the items to us in full and destroy any copies made if they are no longer required by the Customer in the ordinary course of business, or if negotiations do not result in the parties entering into a contract. This does not apply to the storage of data made available electronically for the purpose of standard data back-up.

4. If we manufacture according to the Buyer's instructions, or render services according to their specifications, the Buyer undertakes – contrary to the preceding sub-sections – to indemnify us and, as part of a contract for the benefit of third parties, our suppliers against any third party claims resulting from infringements of property rights/copyrights and the like that are asserted against us.

Section 11 Statute of limitations

1. Irrespective of Section 438 (1) No. 3 BGB, the general limitation period for claims resulting from material defects and defects of title is one year from delivery. If acceptance has been agreed, the limitation period shall commence upon acceptance.

2. If the Goods are items that have been used for a building in accordance with their normal use and have caused its faulty nature, the limitation period shall be 5 years from delivery in accordance with the statutory provision (Section 438 (1) No. 2 BGB). Similarly, this does not affect other special statutory provisions on the statute of limitations (in particular Section 438 (1) No. 1, (3), Sections 444, 445b BGB).

3. The above limitation periods under sales law also apply to contractual and non-contractual claims for damages by the Buyer based on a defect in the Goods, unless application of the regular statutory limitation period (Sections 195, 199 BGB) would lead to a shorter limitation period in individual cases. The Buyer's claims for damages in accordance with Section 9 (2) Sentence 1 and Sentence 2 a), and in accordance with the German Product Liability Act, shall fall under the statute of limitations exclusively in accordance with the statutory limitation periods.

Section 12 Reservation of title

1. Executing the contract is subject to the proviso that no obstacles arise due to government sanctions or other delivery restrictions under foreign trade law, and that no embargo or other sanctions prevent delivery. The Buyer undertakes to furnish information and documents required for delivery or import.

2. This does not affect the provision in Section 4 (4) (force majeure and self-supply etc.).

Section 13 Choice of law, place of jurisdiction, contract language

1. The law of the Federal Republic of Germany, excluding international uniform law, in particular the UN Convention on Contracts for the International Sale of Goods (CISG), applies to these General Terms and Conditions and the contractual relationship between us and the Buyer.

2. German is deemed the contract language.

3. If the Buyer is a merchant within the meaning of the German Commercial Code, a legal entity under public law or a special fund under public law, our registered office shall be deemed the exclusive – including international – place of jurisdiction for all disputes resulting directly or indirectly from the contractual relationship. The same applies if the Buyer is an entrepreneur within the meaning of Section 14 BGB. However, in all cases we shall also be entitled to bring legal action at the place of performance of the delivery obligation in accordance with these General Terms and Conditions of Business or a prior individual agreement, or at the Buyer's general place of jurisdiction. This does not affect legal provisions that have priority, in particular those relating to exclusive competences.

TECHNICAL INFORMATION

Size and weight

Unless otherwise stated, all dimensions are in millimeters (mm) and weights are in grams (g).

PN = nominal pressure in bars 1 bar 10N / cm² ⇒ ca. 10 m column of water

DN = nominal diameter in inches or mm 1" = 25,4 mm ⇒ ca. 25 mm

Nominal pressure is the maximum applicable pressure at the standard temperature, which, unless otherwise stated, is 20°C.

Nominal diameter is the excess pressure when all operational conditions are taken into consideration, including pressure surges. It depends on the operating temperature, the medium, the size of the component/valve, and, where applicable, the type of seal.

There are legal provisions or regulations that apply to certain areas of application and that take precedence over the guidelines provided in this catalog.

Medium

The details presented in this catalog with respect to pressure and temperature conditions refer to water.

Suitability for gases, oils, or glycolic or other media should be investigated in light of the operating pressure and operating temperature. Our applicability information may not be applied to media or operating conditions other than those that have been approved without our clearance.

Custom models

If there are no articles in our standard program that are suitable for your needs, we can also create custom models upon request. For this, we would need a detailed letter of inquiry with the corresponding number of units as well as drawings or sample parts.

Installation instructions

A) Screw thread

Connection dimensions and screw thread of complementary proportions must always be selected.

The screw thread should not be too strongly sealed with hemp or sealing tape, which is to say that after the hemp has been applied, the crest of the thread must still be visible. Sealing the thread too strongly will increase the pressure in the component. Over time, that pressure can cause cracks.

To avoid causing damage during installation, the components should be conventionally screwed in with the appropriate, customary tools, without excessive force and without lever extension.

Self-sealing valves must not be sealed further with hemp or sealing tape. The corresponding mating thread must be of sufficient length (min. 12 mm). Where applicable, components are only to be installed on the spanner flats provided for that purpose by means of a suitable spanner/pliers. Our products must be installed without tension in due consideration for the information above. Alignment, e.g., of connections that we provide by means of heating appliances, is prohibited because this can also cause tension cracks and secondary damage later on.

Where applicable, connecting different metals or alloys can cause corrosion, for which puteus GmbH cannot be held liable (e.g., connections between brass and stainless steel or copper with zinc-plated metals). These characteristics are to be checked before our products are installed. The components' pressure and sealing are to be carefully tested after installation. Where applicable, the installation instructions that are enclosed with the components are to be observed when doing so.

B) Gate valve

After disassembly/repairs/maintenance work, the upper section is only to be reassembled with a raised sealing wedge. Do not damage sealing surfaces/key seats. Sealing wedges cannot be replaced.

C) Socket slide valve

These must only be installed in closed position. Key seats must not be damaged by screwing in pipes by force.

D) Ball valves

To ensure operability, for example, only set ball valves on very low static and dynamic power. Where applicable, the component should be supported by appropriate measures (e.g., pipe clamps or similar). The torque to be applied to the ball valve must only be applied to the spanner flats at the end that is being screwed in, otherwise there is a risk that the ball valve could be unsealed or cracked. Likewise, bodies and ball valve screwing components must not be screwed against one another. Doing so would also cause leaks and/or the risk of breakage.

E) Pipe and hose connections

According to DIN EN 1717 pipe and hose connections for devices that contain non-potable water (e.g. washing machines) must be connected to a water intake using a backflow preventer to avoid any backflow of polluted water into the potable water line.

Recommendations for the use of ball valves

1. General information

Ball valves serve as shut-off valves for pressurized media. The manufacturer's information on flow media, operating pressure and temperature range must be respected. Using other than approved media may shorten the ball valve's lifespan or lead to a failure of the ball valve.

The installation may only be carried out in systems with equal pressures. Any possible pressure surges due to the quick-lock system must be taken into account as these may damage the piping system. The valve can be opened and closed by a 90° turn of the lever, intermediate positions of the lever are not allowed during the operating condition.

Ball valves should be stored in a dry place, free of dirt and without direct sunlight.

2. Installation and removal instructions

Ball valves may only be used in compliance with the requirements for their intended use. The installation must be carried out stress-free and with appropriate tools in a pressure less state only by qualified and trained staff. Do not turn the ball valve forcibly and do not use it to align the pipeline. The ball valve must be checked for damage before installation. Plumbing lines must be rinsed before first commissioning after maintenance and repairs.

Do not clamp the ball valve too tightly in a vise or something similar for pre-assembly in order to avoid damage and stress cracks on the body. According to the general installation instructions you must not seal the threads with too much hemp. The tips of the threads must remain visible. When installing the ball valve only use the designated spanner flat at the installation side to apply the counter-torque. Never apply the wrench to the body or to the side opposite of the installation side. Do not exceed the recommended tightening torque, any existing sensor plugs must be tightened to 15 Nm.

The handle must not be used as a mounting lever.

The use of quarter-turn ball taps is only allowed with free outflow to avoid a backflow of sewage into the pipeline. Quarter-turn ball taps are not suitable for the use in domestic water-pipe systems or as device connection taps. It is necessary to carry out functional and leak tests after installing and before the ball valve is put into operation for the first time.

3. Commissioning

Operating conditions and installation works must be checked again before commissioning. Notice: Due to a long-term storage or long downtimes the release torque may be much higher than the usual turning moment.

Before initial start-up or putting into operation after maintenance work the pipeline has to be deaerated. In case of pressure surges air bubbles may cause explosions or damages to the piping system. Therefore the pressure should only be slowly increased.

Ball valves at the end of a pipeline must be sealed professionally with a blind flange to avoid the valve being forcibly teared off. Caution! Danger!

The ball valve may not be operated with a tool that shall serve to increase the leverage (e.g. hammer, pliers, extension tubes etc.)

4. Maintenance and inspection

Depending on the assembly situation, ball valves have to be drained before the first frost sets in as well as before cleaning works. When emptying the valve the handle should be in a 45-degree-position to make sure that the dead space may be emptied, too. Tests for tightness, functionality and damages should be carried out regularly. Depending on the operating situation this should be done in shorter time intervals. During long periods of disuse the ball valve should be put into operation every few months to guarantee proper functioning.

Defective or corroded valves or valves that do not work properly must be replaced during maintenance work. Replacement and removal may only be carried out by qualified personnel whilst the pipeline is not under pressure.

5. Warnings

The manufacturer will not accept any liability for deficiencies caused by assembly errors, improper handling, the use of impermissible media or not allowed operating situations as well as for damages due to normal wear and tear.

Ball valves may not be used as throttle valves! They may only be used in a fully opened or closed situation to avoid damages to seals in the spherical area. Depending on the operating situation the ball valve's body can get very warm. Caution!

Legal health and safety regulations, national rules and technical rules and standards for certain operating and mounting situations have to be observed. Viscous fluids or hardenable media as well as certain chemical substances may impede the function or make it impossible. Please refer to the manufacturer's information.

Polluted or sandy media may cause damages to the seals. In case of neglecting the given information on working pressure or working temperature leaks may occur or the ball valve may tear apart. Caution! (as of November 2023)

Further Information:

Unless otherwise indicated or unless they are provided with drain plugs that are used to empty the valve before the frost season, no valves (taps, check valves, foot valves, gate valves, ball valves, etc.) are frost-resistant.

Our ball valves, valves and fittings have to be installed without mechanical tension. They must not be used for adjusting pipings.

Chrome plated surfaces, e.g., on bathroom fixtures or device connector valves, are sensitive to lime-dissolving agents, acidic cleaners, and all types of abrasives. These surfaces must only be cleaned with clear water and a soft cloth (leather).

Our pumps, wall and standing fountains are provided with a protective coating for transport purposes by the manufacturer. This first layer of paint is not considered to be a permanent corrosion protection or optical coating.

We offer no guarantee for wearing parts in the event of corrosion or malfunction due to very hard water or contaminated water lines (e.g., with respect to sealing or mixing jets) or due to improper assembly; chemical or mechanical events during transportation, storage, connection, repair, or use; or improper handling of products.

We provide the statutory guarantee for defects in our products that arise due to material or manufacturing defects or through normal use. Defects due to non-observance of the information above are excluded from that guarantee.

Previous documents cease to be valid upon publication of the catalog. Our catalog serves exclusively as a basis for wholesale, industrial, and technical information and work. It is not a sales document.

Returns are only permitted based on prior written agreement; this particularly applies to custom production. Return deliveries that are not prepaid will not be accepted.

Recommendations for the handling of hoses

A number of factors can have an impact on how long the hose lasts:

- application
- medium
- abrasion
- storage etc.

Therefore it is not possible to give a general information about the durability of a hose. The end user should regularly check the hose for leaks and replace it if necessary.

The rubber compound can change its characteristics over time because of its chemical properties. This process can be accelerated by improper use of the hose or other influences. Therefore we give the following recommendations:

Storage

1. Avoid long storage periods! Otherwise, a check is important at the 1st use.
2. Ideally you should store the hose at a temperature between +10°C and +25°C. Temperatures of less than 0°C or more than +40°C will damage the hose. Keep the hose away from all sources of heat! Avoid dry air as well as high air humidity!
3. No direct solar radiation or aggressive artificial light!
4. Airflow and ozone can ruin the material. Do not store near electric motors, high-voltage units etc. because of the danger of sparks or electrostatic charge or uncontrolled heating of eventually mounted metal couplings.
5. Different substances can affect the material of the hose. Therefore please avoid any contacts with: solvents, fuels, acids, disinfectants, wood preservers, volatile or organic chemical substances or mixtures. Manganese, iron, copper and copper alloys may affect some kinds of rubber mixtures.
6. Store loosely rolled and stress-free to avoid compressing the tube. Coiled hose should be stored in a horizontal position. Do not pile up and pay attention to the weight to avoid any deformations! If given by the supplier, please note the minimum bend radii to prevent kinks.
7. Check the hose for suitability and proper seat of mounted couplings before delivery or resale.
8. Clean the hose before re-storage (please check suitability of the cleaning agent !). This applies particularly in case of the use of chemical, explosive or abrasive materials. Checks for reusability are essential.

Use

1. Hoses should only be used in accordance to their intended purpose. The misuse – e.g. as towing rope – is not allowed.
2. Before using the hose you have to check its suitability with regard to its characteristics, type or size.
3. Exercise due diligence when transporting the hose. The hose may not be exposed to severe shocks or tensile forces across rough surfaces. Avoid twisting, kinks and knots.
4. Please note the mentioned operating pressures! If checking the hose for leaks, the pressure in a hose free of air bubbles must only be increased gradually until the maximum pressure is reached.
5. The hose has been developed to channel liquids which are approved by the manufacturer. This does not give the permission to immerse the hose in the liquids.
6. Please note the ambient temperature and the maximum operating temperature which depend on the medium. Keep hose line away from sources of heat!
7. The material of the hose must be resistant to all media used. Check this before use. Changes in the concentration of media, period of use or temperature may cause changes in the suitability and chemical resistance of the hose.
8. Varying degrees of abrasion may occur depending on the kind of medium used or pulling the hose across different surfaces. Therefore you have to control the wear and tear of the tube regularly.

9. Make sure that installed hoses and hose connections are protected against impurities to avoid a contamination of hose and medium; particularly when used with drinking water.
10. Do not install hose lines on driveways or rather protect them against running over. If necessary, use hose bridges or the like.
11. Mounted hose fittings or spray nozzles should not be used as end or shut-off valves as they are not constructed for that purpose. Do not expose them to a permanent water pressure to prevent the valve/nozzles from being torn off and/or avoid bursting of the hose. After finishing work the water supply to the hose has to be shut off.

Assembly and commissioning of hose lines in technical fields

Please note:

1. When using hoses fitted with connectors, ensure that they are the correct length. An extension through the use of several connecting hoses is not permissible.
2. Before putting a hose line into operation please check if it is in accordance with eligible regulations and directives, e.g. the instructions of the Trade Association Too2, §§14 and 15; the Industrial Safety Regulation (BetrSichV) or the Technical Rules for operating safety (TRBS).
3. Do not use a hose line if there are any visible damages!
4. Hose lines with given inspection intervals may not be used when the inspection date has expired. After repair or modification the hose line must be checked.
5. The hose line must be cleaned before putting it into operation. Do not forget to check the suitability of the cleaning agent!
6. With regard to electrostatic discharge the following instructions have to be observed: TRBS 2153
("Avoiding of ignition hazards due to electrostatic charges")
7. The hose line must be cleaned when changing from one to another flow medium to avoid a possible chemical reaction or contamination of the new medium.
8. For special applications or construction projects, it is essential to comply with the manufacturer's instructions.

Disposal

Please follow local regulations if you want to dispose hose materials and/or hose fittings.

Legal information: According to the Drinking Water Ordinance [esp. §§ 3 and 17], every tapping point of water that is not intended for human use must be permanently marked with a notice "no drinking water" and safeguarded against inappropriate use!

Tapping systems for non-drinking water that are installed in the household in addition to the drinking water supply system must be reported to the health authority!

Specifications and illustrations as well as descriptions and packing units are non-binding. They are purely informational and no legal obligation may be derived from them.

We reserve the right to make technical and formal changes in the interest of further technical development or that are necessary for financial reasons. Alterations and additions are made continuously.

We assume no liability for any printing errors or divergent illustrations. In the event of erroneous size information, the figures at the start of printing will no longer apply.

Conversion table inch/millimetre

inch fractional value	mm metric	inch fractional value	mm metric
1/8"	3,175 mm	1 3/4"	44,450 mm
1/4"	6,350 mm	2"	50,800 mm
3/8"	9,525 mm	2 1/4"	57,150 mm
1/2"	12,700 mm	2 1/2"	63,500 mm
5/8"	15,875 mm	2 3/4"	69,850 mm
3/4"	19,050 mm	3"	76,200 mm
7/8"	22,225 mm	3 1/4"	82,550 mm
1"	25,400 mm	3 1/2"	88,900 mm
1 1/4"	31,750 mm	3 3/4"	95,250 mm
1 1/2"	38,100 mm	4"	101,600 mm



We keep an eye on our qualities:

Both our quality and environmental management system have been certified on the standard basis DIN EN 9001 (Nov. 2015) and DIN EN 14001 (Nov. 2015). We face the challenge to guarantee highest qualities for our products and services. All raw materials and external products are checked for quality and suitability. Our own products are tested on a random basis during the production processes, final leaking and material tests are performed.

Our products meet several requirements, such as DVGW, SVGW, KTW, noise class tests (PA-Nr.), ACS and are also complying with binding DIN standards in respect to dimensions or noise behaviour.

With regard to the brass alloy puteus valves, fittings and the seals we use are in full compliance with the amended requirements of the drinking water ordinance. Long before the reference date in April 2017 we made sure that the regulations of the valuation basis of the Federal Environmental Agency (UBA) were implemented. These regulations apply to metallic materials which may get in contact with drinking water. They also include the list of materials that are in accordance with the drinking water hygiene (known as the "UBA Positive List"). On the basis of these standards our quality management has also been certified for the process to comply with the nickel values for valves, fittings and other components in drinking water under the terms of the drinking water regulations and recommendations of the Federal Environmental Agency.

Therefore we can ensure a high product quality for our customers because of our high quality awareness.



Disclaimer:

puteus GmbH | Lenenweg 6 | 47918 Tönisvorst
 Domizil Tönisvorst | AG Krefeld | HRB 9505 | UST-IDNR. DE 120 581 001 | ILN 40 12167 00000 3
 CEO: Hans de Gruyter | Peter de Gruyter
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Our packaging and labelling proposals

Four-colour cartons – version 1 –

with Euro-standard-holes, colour prints and product descriptions on the front-side, pictographs and installation dimensions on the back, top and bottom. Items that are available in carton packaging can be found in our catalogue. The item numbers are marked with an additional “-K”.



Four-colour cartons – version 2 –

Promotional four-colour cartons with product photos and descriptions.



Labels with EAN-barcodes

Nearly all articles can be labelled with EAN-codes. The self-adhesive and tear-resistant labels contain a product description, barcode and EAN-code.

The complete EAN-code consists of:

4012167 + item-no. + verification digit
(without “-E” or other extensions).



Self-service cards

These cards can be used for certain products of the irrigation sector. The cards are printed with article descriptions, sizes and EAN-codes.



Polybags

We offer customized polybags for single products. Each polybag can be printed according to your wishes.



Note: All information is subject to possible printing errors or changes in design or construction. Reprinting and photomechanical reproduction- also including excerpts - only with the authorization of puteus GmbH, Lenenweg 6, D-47918 Tönisvorst.



Other catalogs to our range:



1 Appliance connection fittings



2 Sanitary fittings, kitchen + bathroom



3 Garden fittings + valves



4 Fittings



5 Ball valves + heating valves



6 Hand pumps, hoses + accessories

www.eine-starke-gruppe.de

puteus GmbH

Lenenweg 6

D-47918 Tönisvorst

Tel.: +49 2151 9952-0

Fax: +49 2151 9952-99

E-mail: info@puteus.de

Web: www.puteus.de


heinrichschulte

puteus 

NIL
Armaturen


SCHLÖSSER
Armaturen


JÜRGEN SCHLÖSSER
ARMATUREN


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