

water in motion



6 Handpumps, hoses + accessories

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.



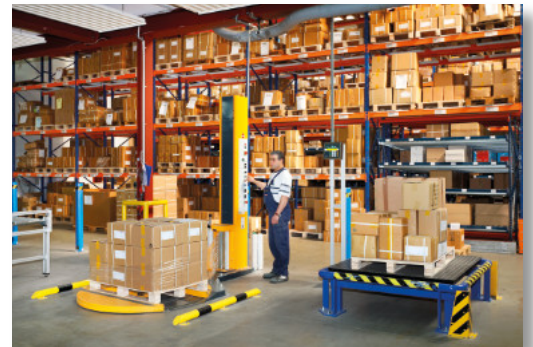
The company is based in Tönisvorst



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



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Im Dohm 3 | D-57462 Olpe

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

E-Mail: info@schloesser-armaturen.de

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E-Mail: info@heinrichschulte.com

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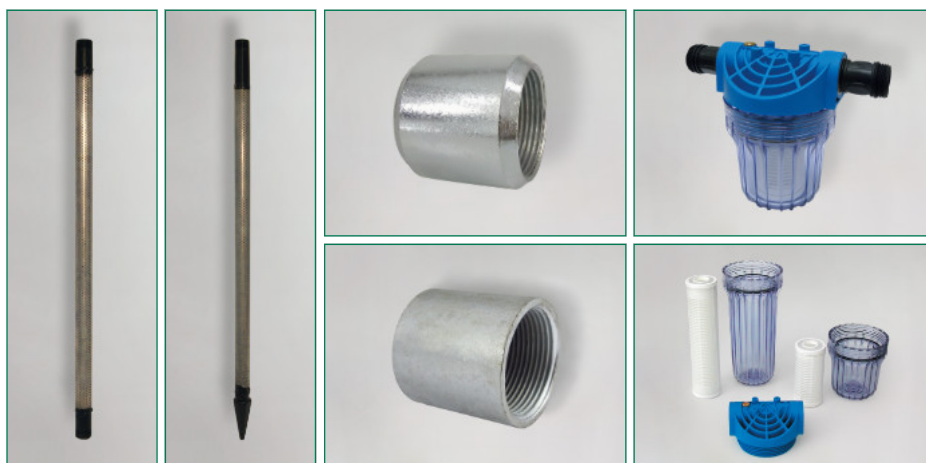
Hand pumps, wall fountains, fountain stand + accessories

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

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Hoses

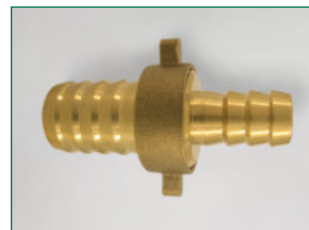
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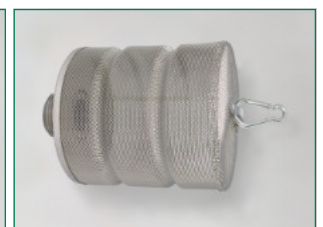
Pump check valves + foot valves

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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



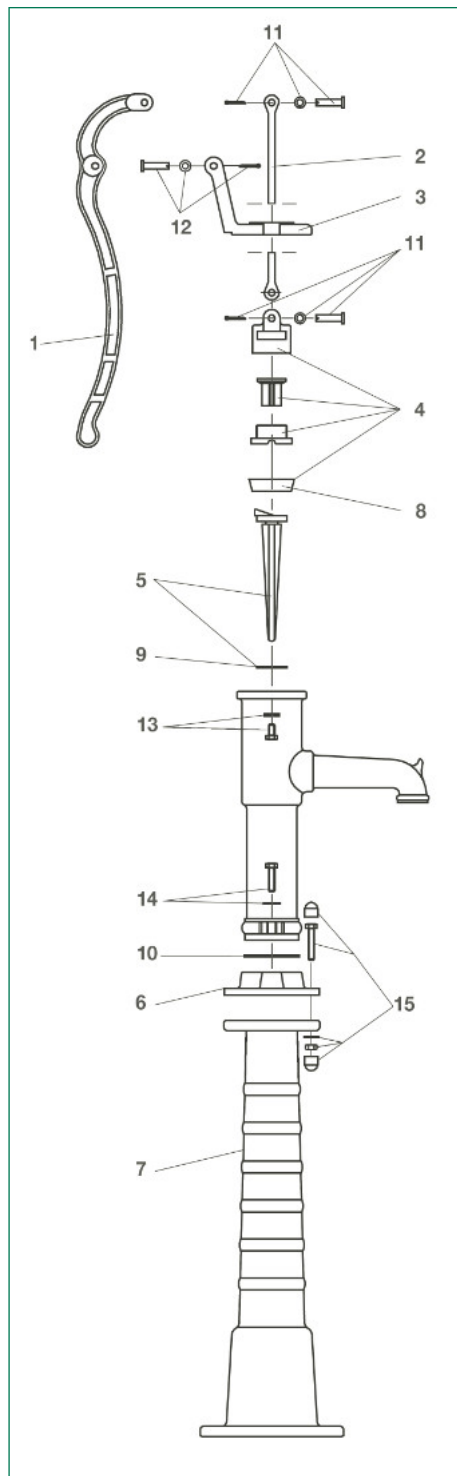
Pump stand for hand pump with round flange

for hand pump Type 75

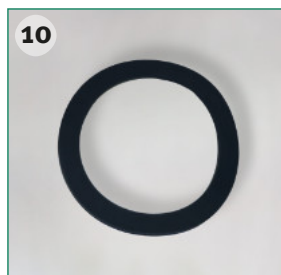
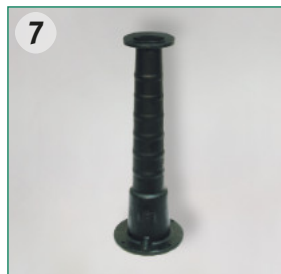
Item-No.:	Colour:	Packing unit:
11003 0	green	1/34
11006 1	black	1/34



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

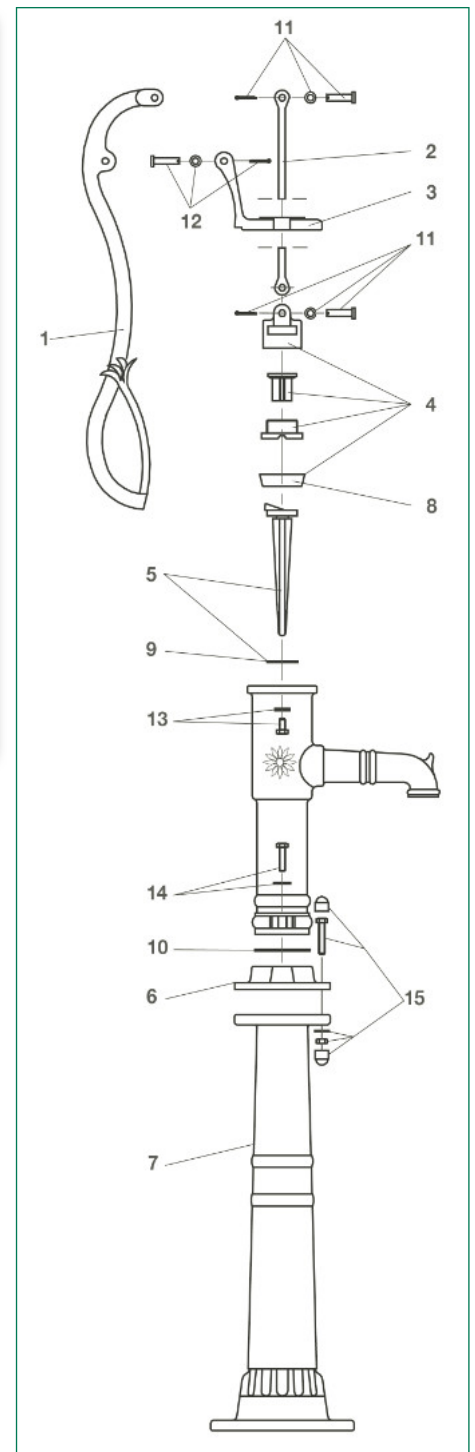


Painted black, registered rose design

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

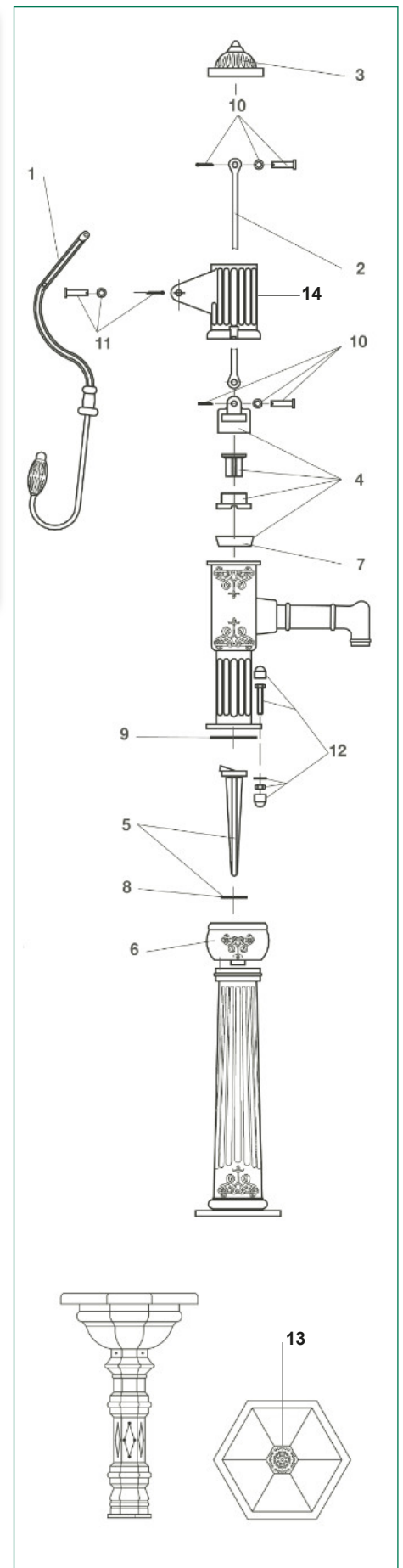
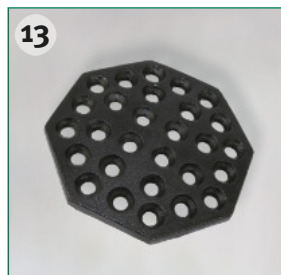


As a complement to the great nostalgic pump (11409), gray cast iron, painted black, height ca. 65 cm, can also be used as flower bowl

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

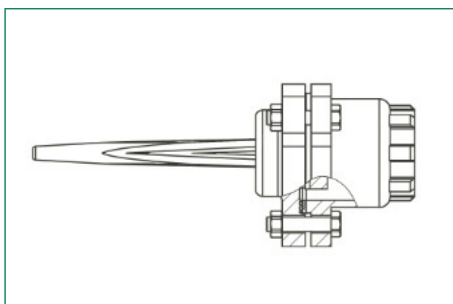
Item-No.:	Connection:	Colour:	Packing unit:
11408 3	1 1/4"	black	1/5

Check valve for pumps



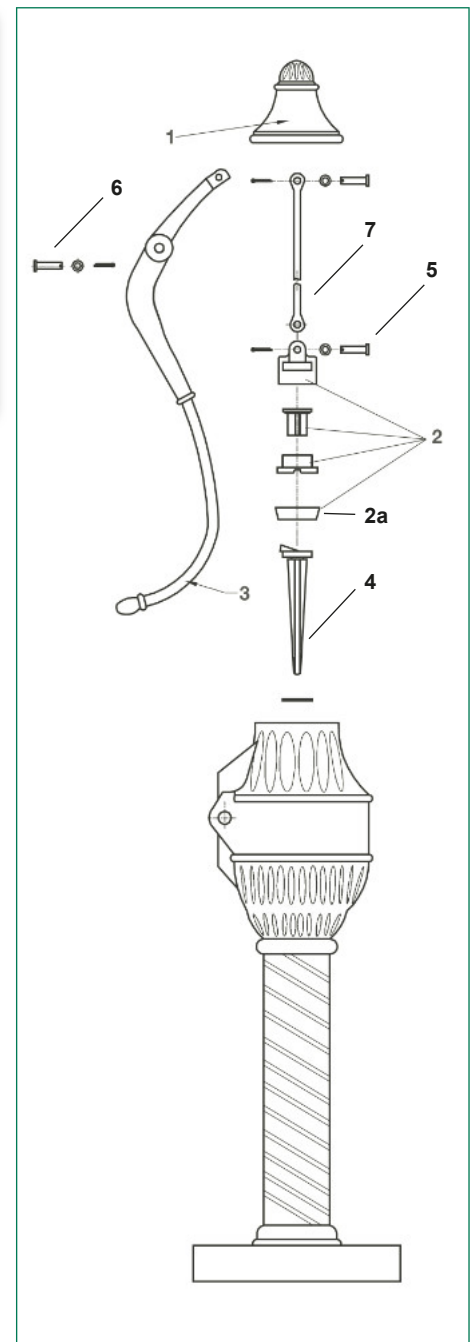
Cast iron, painted green, EPDM sealing, only suitable for vertical installation

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)



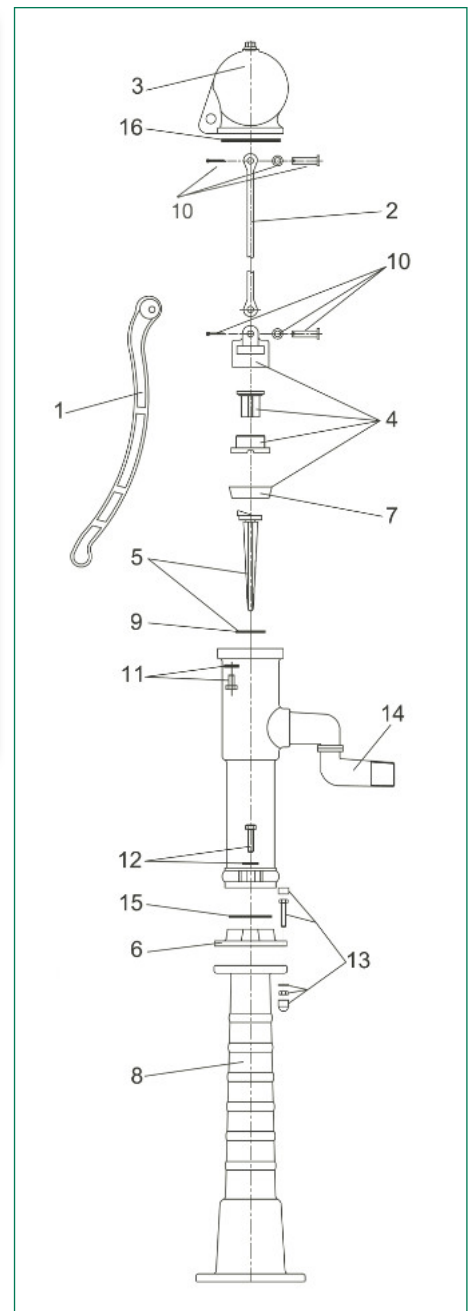
Cast iron, painted green, particularly suitable for playgrounds, Type 75, suction head 7 meter water column, connection 1 1/4", can be combined with pillar 11003

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“



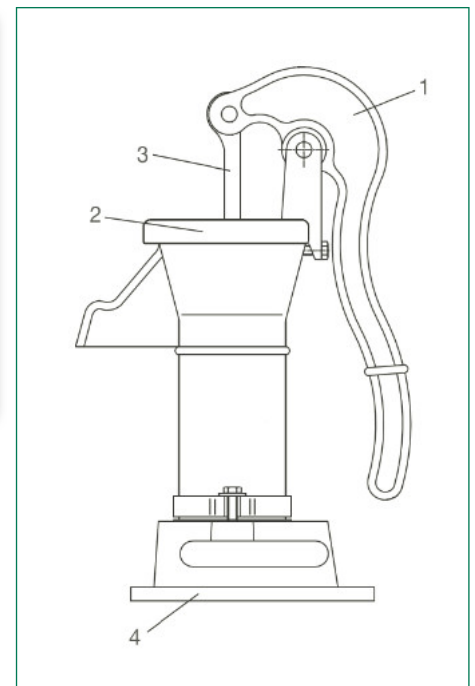
Cast iron, painted black, suction head 7 meter water column, connection 1 1/4", plunger 75 mm

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)



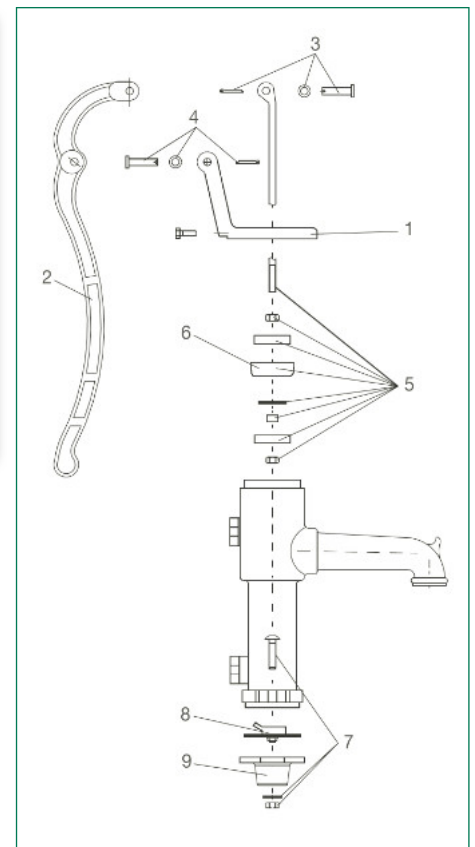
Cast iron, painted green, for mounting on walls, etc., plunger 60 mm, suction head 7 meter water column

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

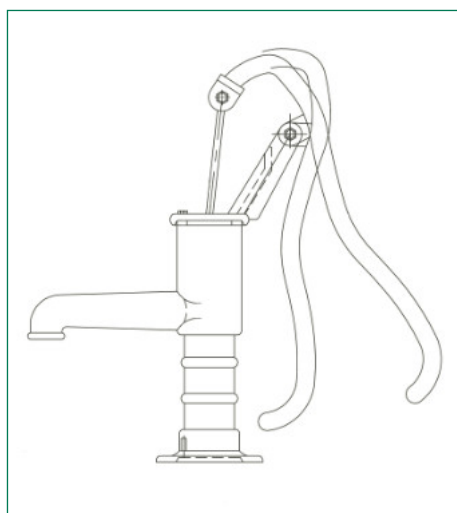


Mini hand pump



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

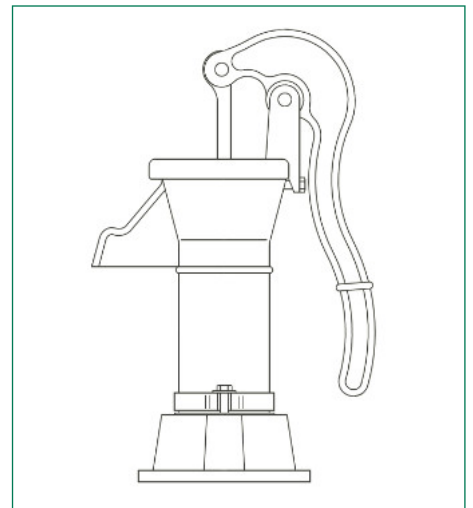
39031 9



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

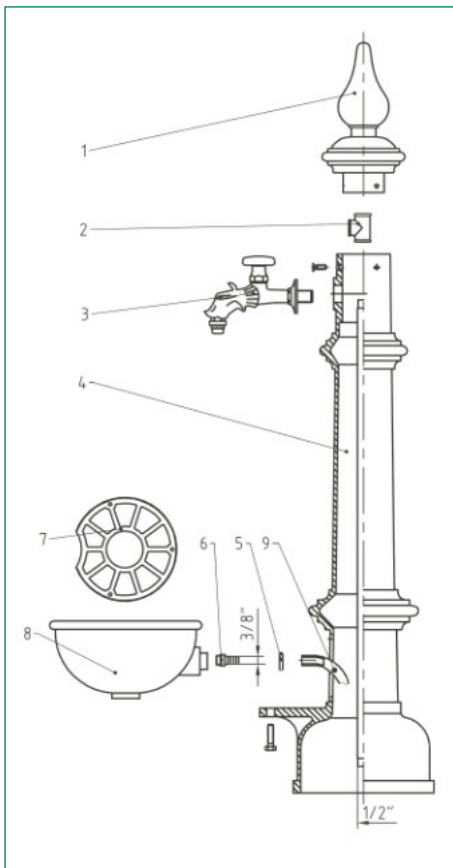


Fully operational, cast iron, painted green, height approx. 122 cm, with nostalgic outlet valve made of brass, 1/2" connection thread at the pillar flange

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

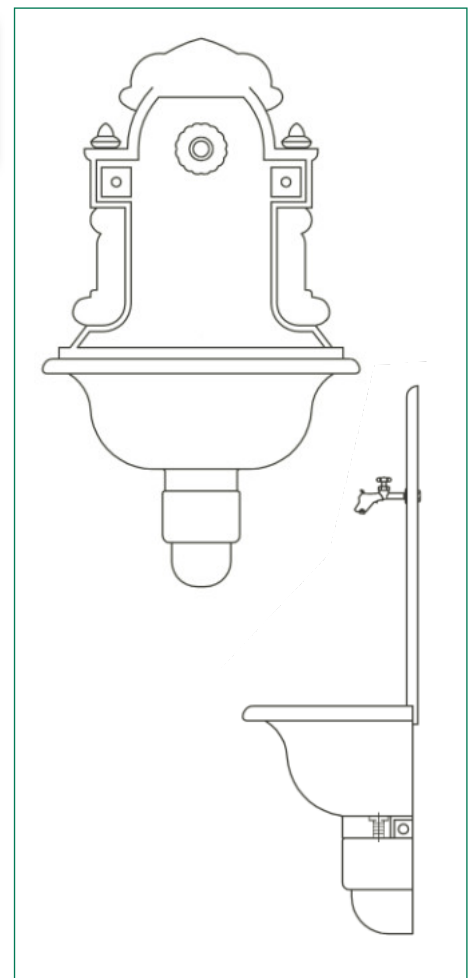
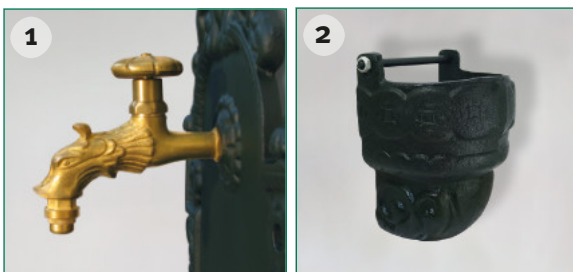
Fully operational, cast iron, painted green, height approx. 75 cm, width approx. 44 cm, with nostalgic outlet valve made of brass, 1/2" rear connection

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



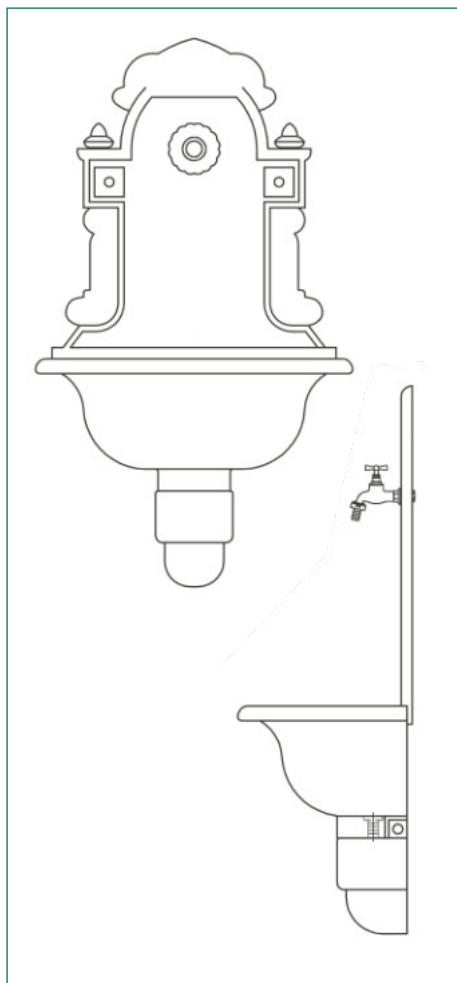
Wall fountain



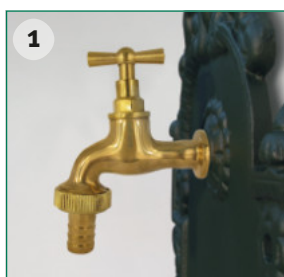
Fully operational, cast iron, painted green, height approx. 75 cm, width approx. 44 cm, with smooth outlet valve made of brass, 1/2" rear connection

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

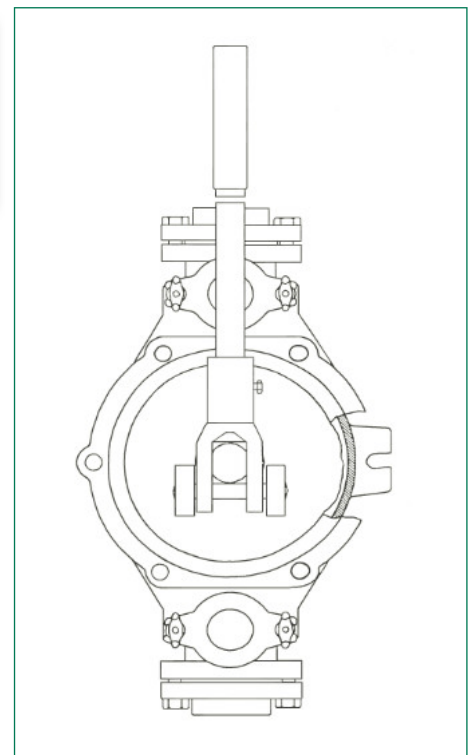
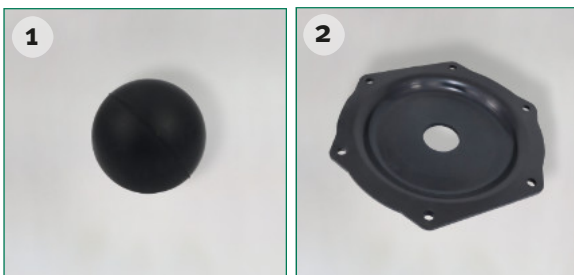
Note: Not suitable for drinking water, pumps are not frost proof and must be emptied before the frost period

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

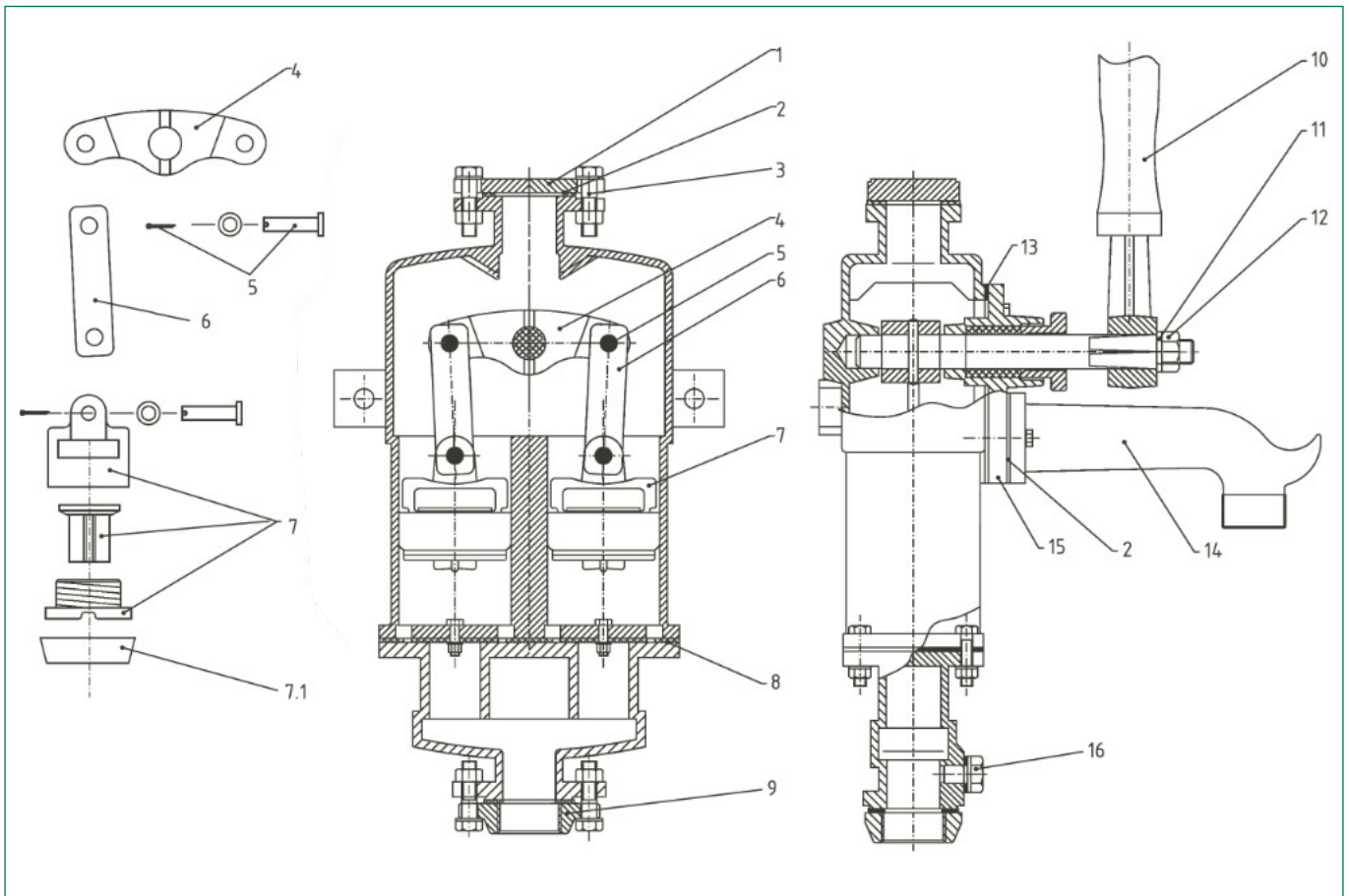


For installation in upright position, double-piston pump made of cast iron, painted black, Type 75, connection 1 1/4", suction head 7 meter water column

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)



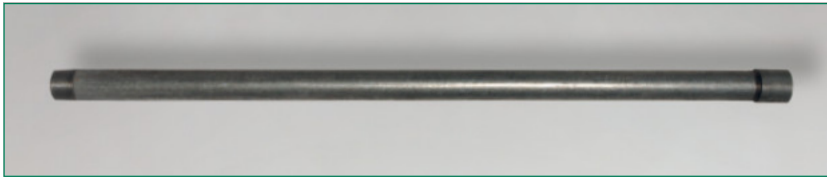


No.:	Description: * See pictures on page 8	Item-No.:
1	Blind flange	11604-01
2	Flange sealing	11604-02
3	Screw, washer, nut	11604-03
4	Drive shaft incl. rocker	11604-04
5	Bolts and splints	11604-05
6	Piston rod	11604-06
7	Plunger (complete), long version	11015-lang
7.1	Piston sealing (leather) *	11020 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

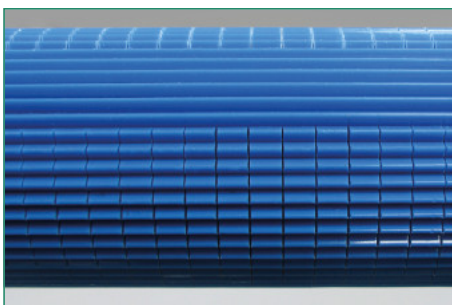
Steel well pipe, heavy version



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

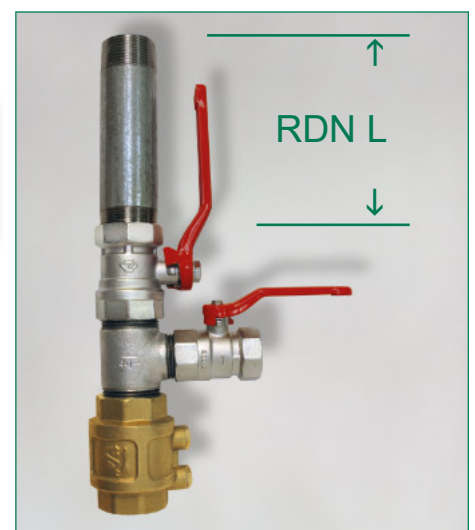
puteus soil auger



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



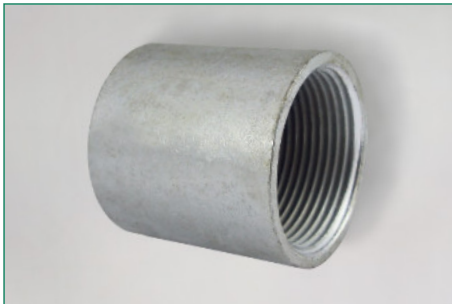
Drive cap



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

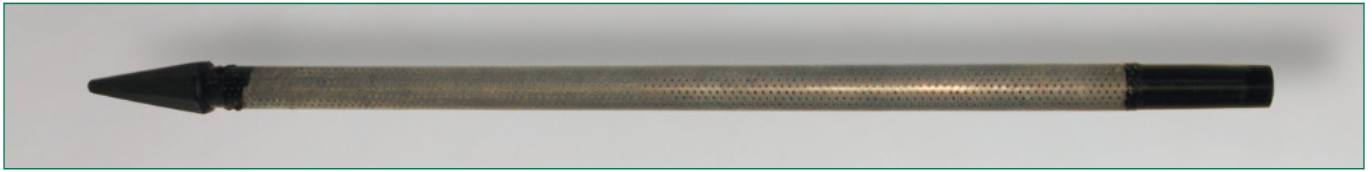
Socket, heavy version



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

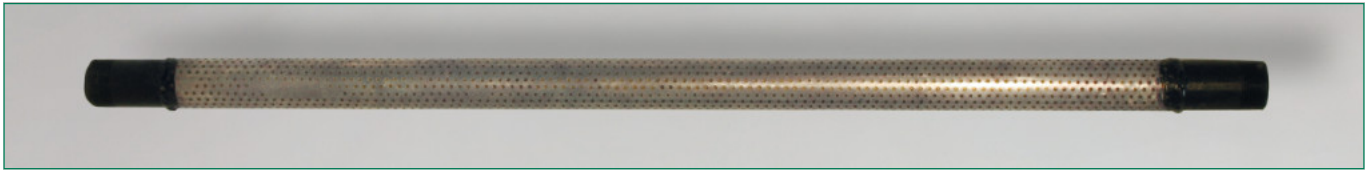
Item-No.:	Length approx.:	Connection:	Packing unit:
18104 7	115 cm	1 1/4"	100
18105 4	130 cm	1 1/2"	100
18106 1	130 cm	2"	50



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

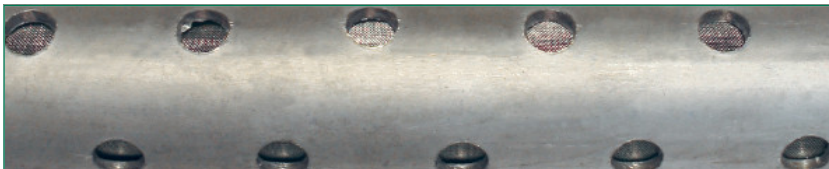
Item-No.:	Length ca.:	Connection:	Packing unit:
18204 4	100 cm	1 1/4"	100
18205 1	100 cm	1 1/2"	100
18206 8	100 cm	2"	50

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

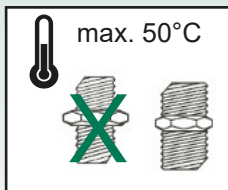
Packing unit:

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.



max. 50°C



SILICONE



PASTE



PTFE-TAPE



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.:

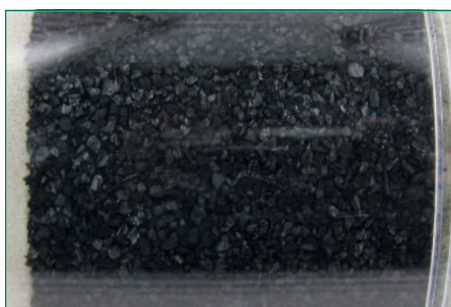
Item-No.:

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

55011 9

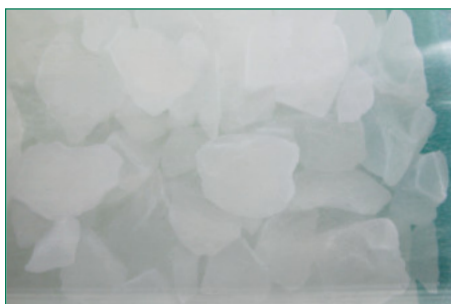
55013 3

Activated carbon filter



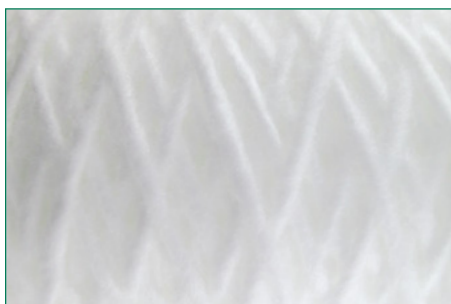
	suitable for:	55001-E	55002-E
max. 30°C operating temperature, max. 500l/h, Ø 70 mm	Item-No.:		Item-No.:
for fine sediment and for the reduction of chlorine and organic contaminants		55021 8	55023 2

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)

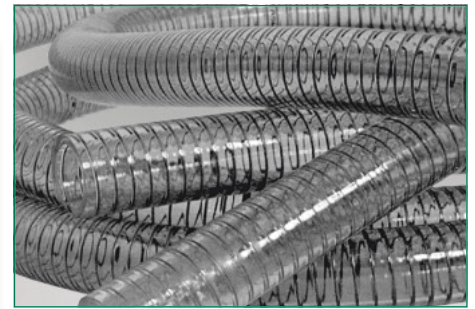
Item-No.:	m/roll:	Item-No.:	m/roll:	Connec.:	Inside: Ø (mm)	Operating- pressure: (bar)
39102 6	50	39202 3	25	3/4"	19	8
39103 3	50	39203 0	25	1"	25	7
39104 0	50	39204 7	25	1 1/4"	32	6
39105 7	50	39205 4	25	1 1/2"	38	6,5
39046 3	50	-	-	-	40	6
39045 6	50	-	-	-	45	6
39106 4	50	39206 1	25	2"	51	5
39047 0	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)

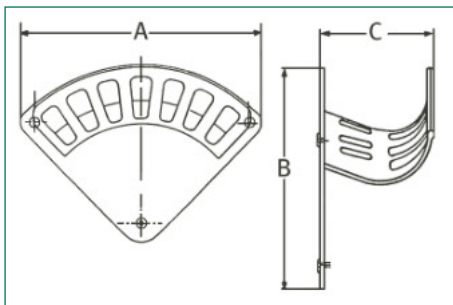
Item-No.:	m/roll:	Connec.:	Inside: Ø (mm)	Burst pressure: (bar)	Packing unit:
37201 8	20	1/2"	12,5	36	99
37301 5	30	1/2"	12,5	36	66
37501 9	50	1/2"	12,5	36	42
37252 0	25	3/4"	19	27	30
37502 6	50	3/4"	19	27	16
37112 7	100	3/4"	19	27	4
37253 7	25	1"	25	24	10
37503 3	50	1"	25	24	6
37504 0	50	1 1/4"	32	18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

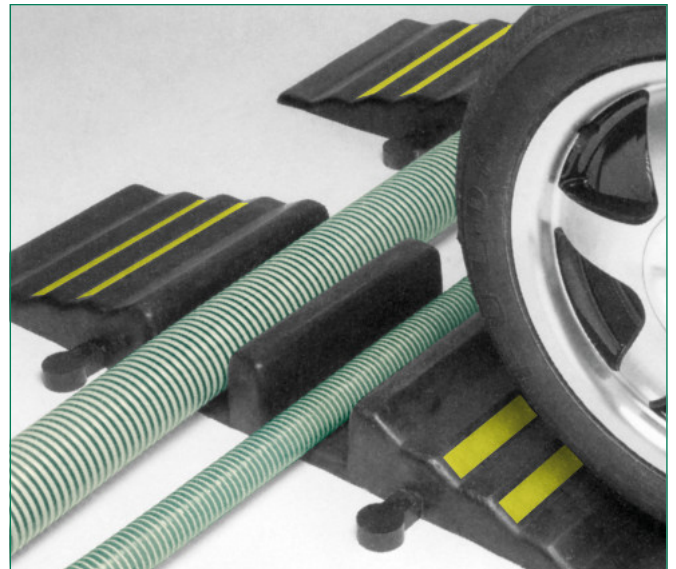
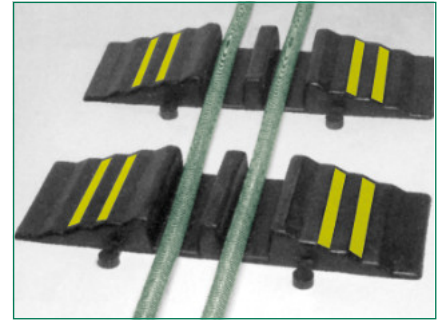
The hose bridges have got a modular design with patented joint bars that allow to connect several ramps together to cover larger length of hose lines. Both channels and bridges are robust and unbreakable and the same time easily adjust themselves to the underground.

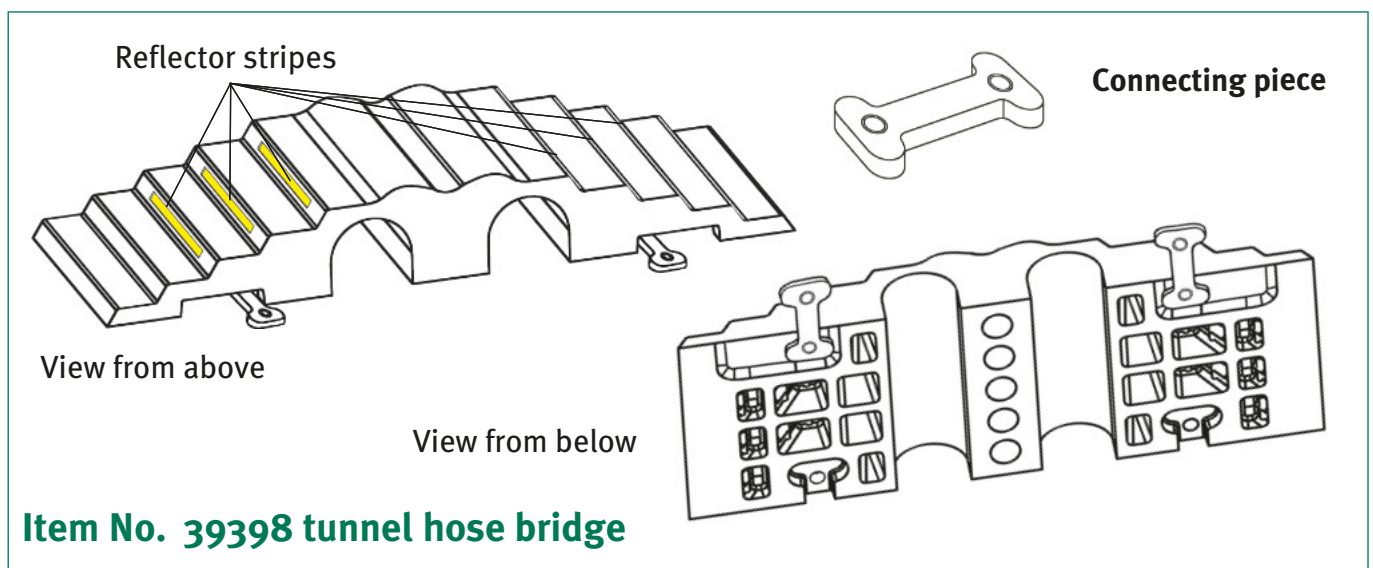
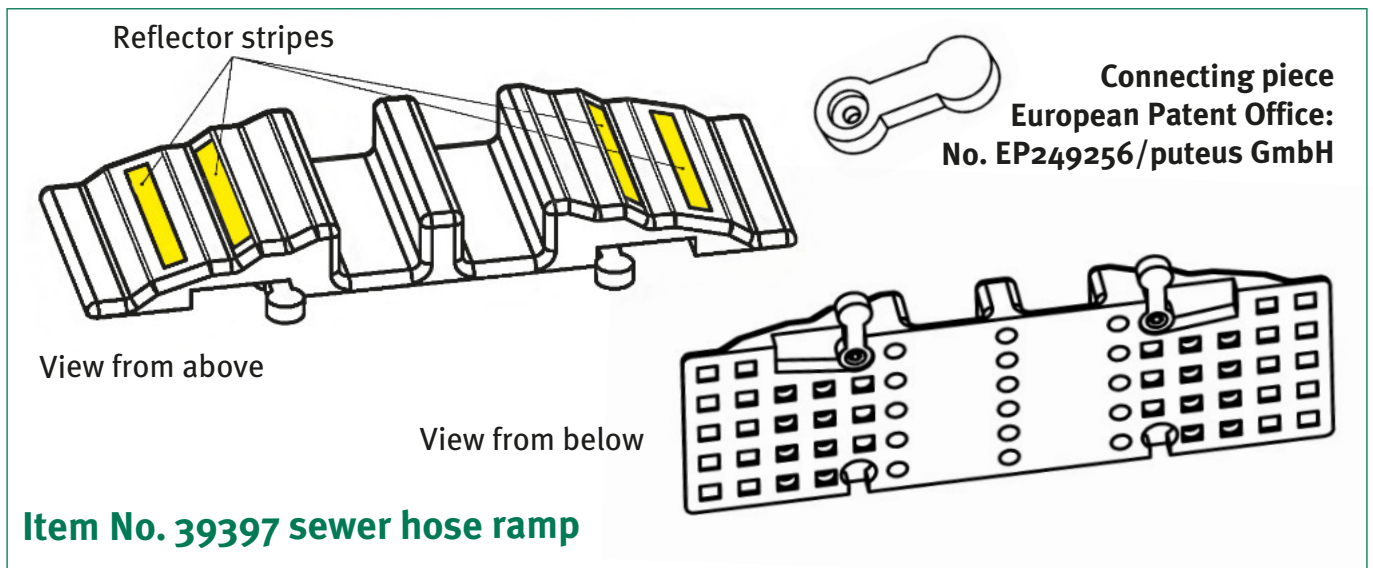
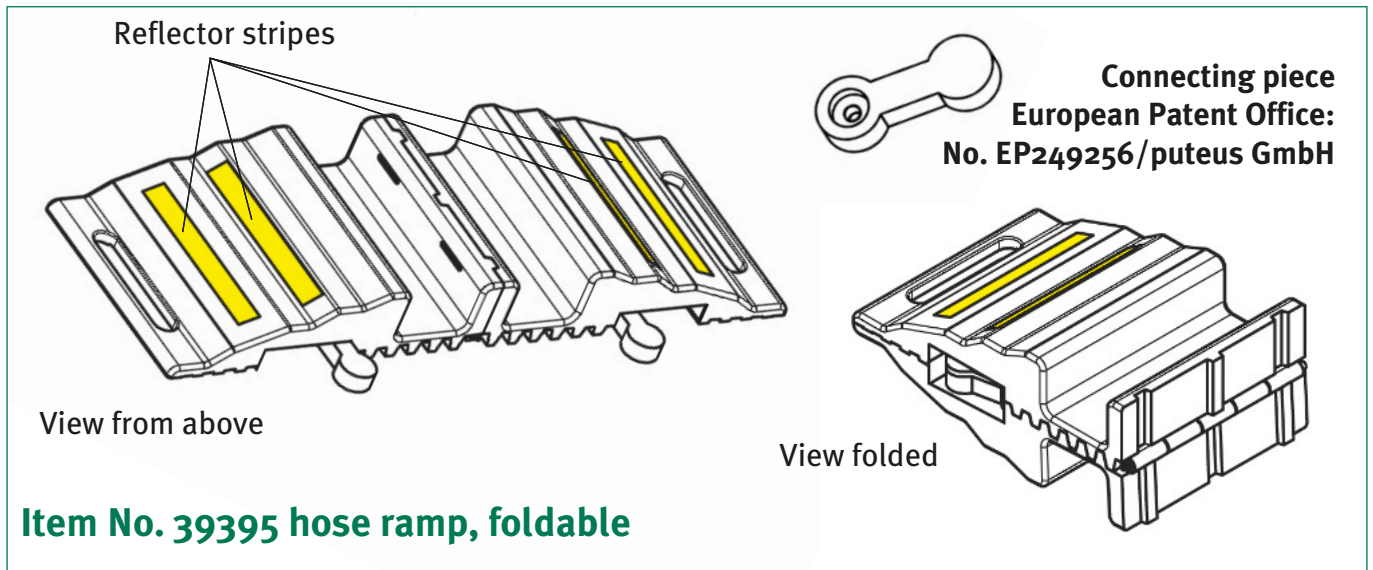
Our hose protection ramps will be delivered on pallets or in mesh boxes.

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

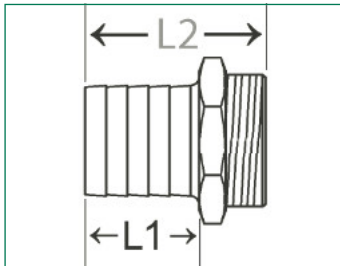
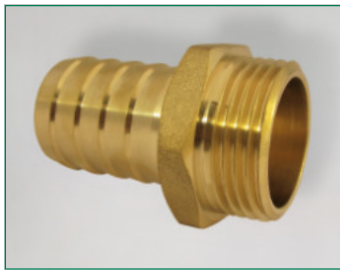


Tunnel hose bridge

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

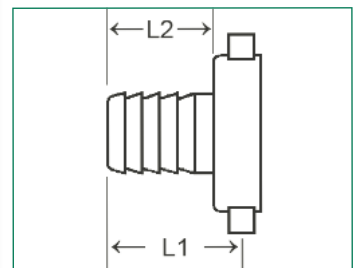


Hot-pressed, plain, for the assembly with hose clamps, male thread

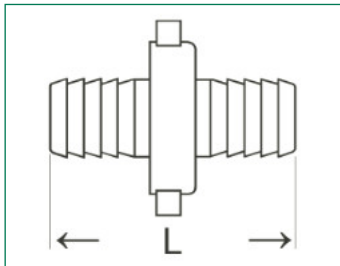
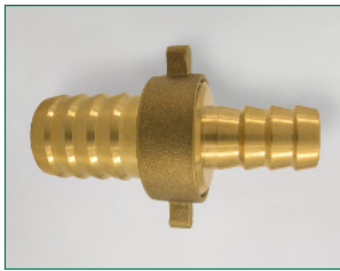
Item-No.:	Connec.:		Connec.:	Length:		Packing unit:
	plain brass	Spout mm		male thr.	L1 L2	
34321 6	1/4"	6	1/4"	25	39	50/1000
34327 8	1/4"	6	1/2"	25	42	25/1000
34323 0		8	1/4"	25	39	50/ 750
34325 4		8	3/8"	25	39	25/1000
34322 3		8	1/2"	25	43	25/1000
34330 8	3/8"	10	1/4"	25	39	50/ 850
34350 6	3/8"	10	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



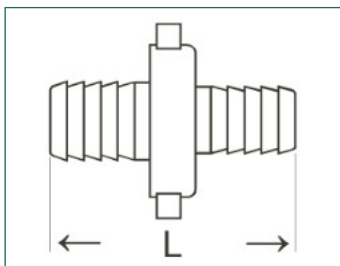
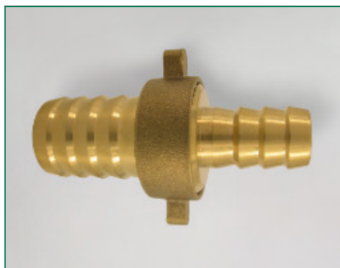
3/3 Screw connection made of brass



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



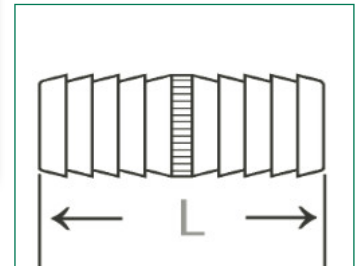
Flat sealing, including NBR seal, hot-pressed

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

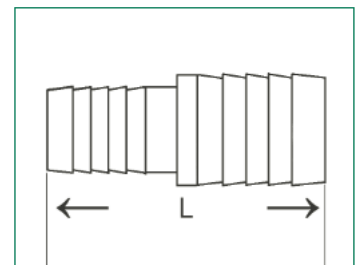
Item-No.:	Connection:	Length: L	Packing unit:
34300 1	3/8"	47	50/1000
34301 8	1/2"	48	25/ 650
34309 4	5/8"	49	25/ 450
34302 5	3/4"	53	25/ 350
34303 2	1"	58	25/ 200
34304 9	1 1/4"	63	10/ 140
34305 6	1 1/2"	84	10/ 60
34306 3	2"	90	10/ 40



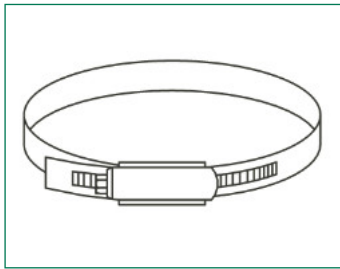
Hose connector made of brass

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)



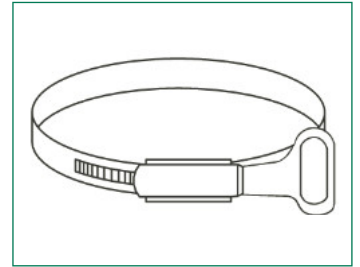
Made of galvanized steel according to DIN 3017, bandwidth 9 mm, wrench size 7 mm

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

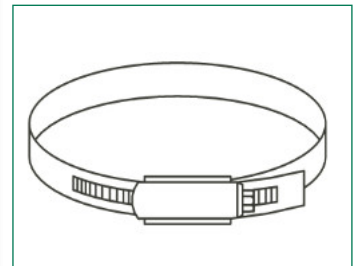
Item-No.:	Clamping range:	Packing unit:
34200-Knebel	10 - 16 mm	10/ 100
34202-Knebel	16 - 27 mm	10/ 100



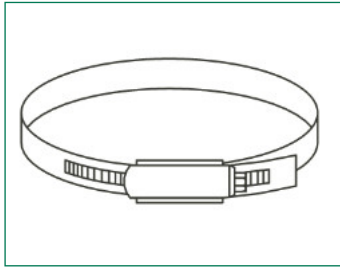
Hose clamps 12 mm (W1)

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



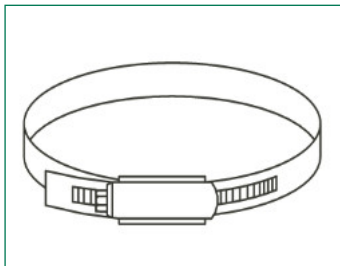
Stainless steel hose clamps 9 mm (W2)



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)

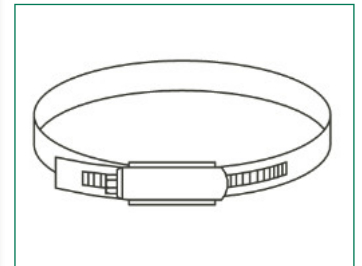


Band and housing made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, zinc plated steel screw, bandwidth 12 mm

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)

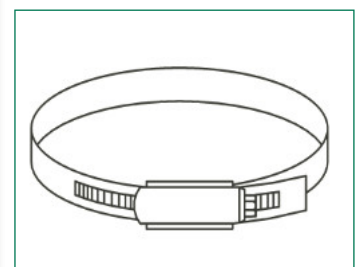
Band, housing and screw made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, bandwidth 9 mm



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

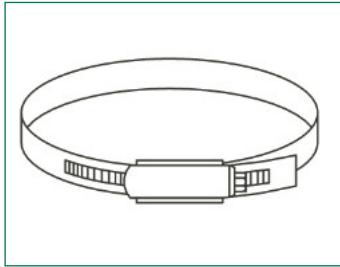
Stainless steel hose clamps 12 mm (W4)

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)



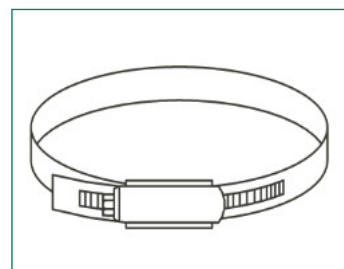
Band, housing and screw made of stainless steel or equivalent corrosion-resistant steel in accordance with DIN 3017, bandwidth 9 mm

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

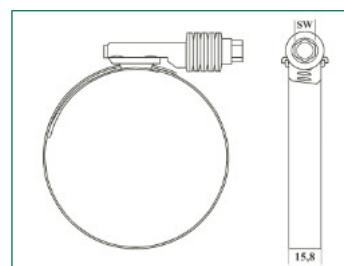
Item-No.:	Clamping range:	Packing unit:
27230 1	12 - 22 mm	100/600
27231 8	16 - 27 mm	100/600
27232 6	20 - 32 mm	100/600
27233 2	25 - 40 mm	100/400
27234 9	35 - 50 mm	100/400
27235 6	40 - 60 mm	50/400
27236 3	50 - 70 mm	50/400
27237 0	60 - 80 mm	50/200
27238 7	70 - 90 mm	25/200
27239 4	80 - 100 mm	25/200
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	-/-



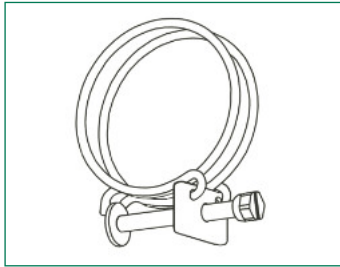
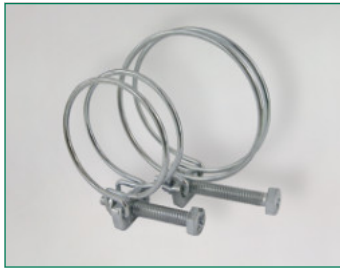
Heavy duty clamps (W4)

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



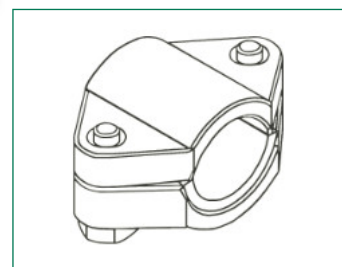
2-parts, band stainless steel 1.4104, housing and screw zinc plated steel, bandwidth 9 mm

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

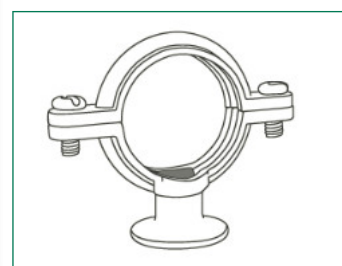
Clamp ring, brass



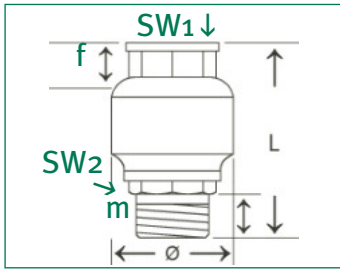
Pipe clamps made of Zamac or alternatively with brass coating, 2 galvanized steel cross-head screw, female thread M7

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



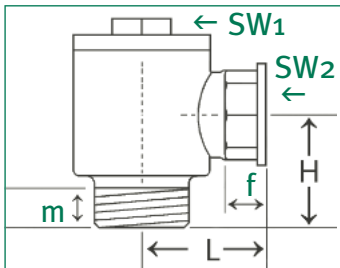
Brass, heavy version, closing cone with rubber seal, female thread/male thread, straight form, only suitable for vertical installation

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



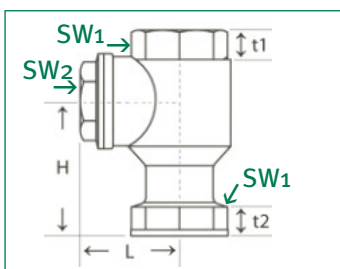
Brass, heavy version, closing cone with rubber seal, female thread/male thread, angle type, only suitable for vertical installation

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



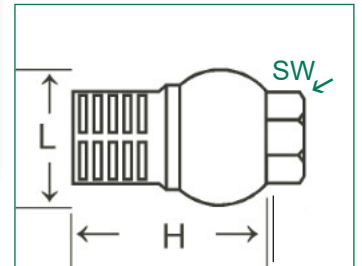
Brass, either straight or angle type by unscrewing the closure cap, PN 10, on both sides female threaded, closing cone with rubber seal, only suitable for vertical installation

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

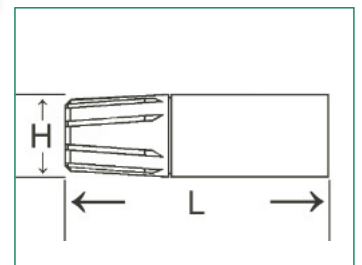
Item-No.:	Connec.:	Thread-length:	Length: L	Heigth: H	Wrench size: SW	Packing unit:
51321 3	1/2"	-	39	60	27	12/96
51322 0	3/4"	-	45	69	34	12/48
51323 7	1"	-	51	80	40	18/54
51324 4	1 1/4"	-	61	92	49	8/24
51325 1	1 1/2"	-	68	100	55	3/18
51326 8	2"	-	80	117	66	2/12



Brass foot valve for driven wells

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

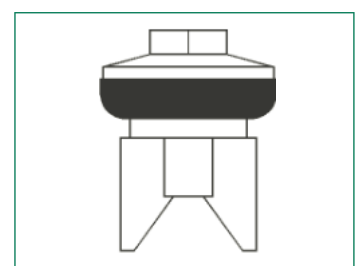
Item-No.:	Outside Ø	Connec.:	Thread-length:	Length: L	Heigth: H	Packing unit:
51352 7	ca. 31,0 mm	3/4"	17	99	30,5	10/60
51353 4	ca. 36,5 mm	1"	20	114	36	16/48



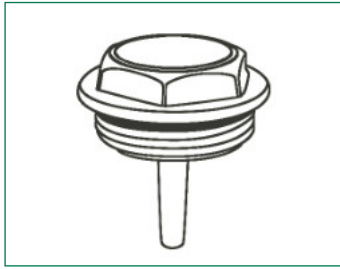
Closing cone with rubber moulded seal

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



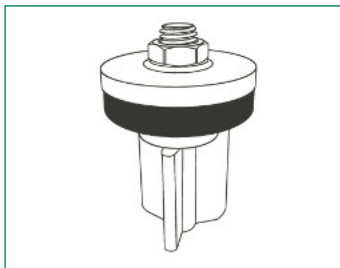
Cap with seal



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

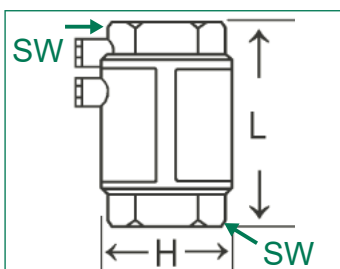
Complete, with seal (illu.)

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

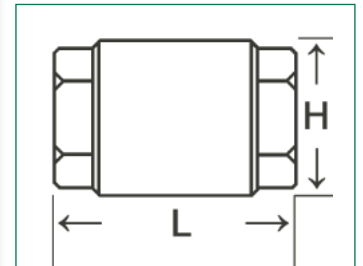
Item-No.:	Connec.:	Thread-length:	Length: L	Height: H	Wrench size: SW	Packing unit:
51042 7	3/4"	13	68	44	32	10/120
51043 4	1"	13	71	50	39	6/ 30
51044 1	1 1/4"	15	82	62	49	4/ 40
51045 8	1 1/2"	15	92,5	73	56	2/ 24

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

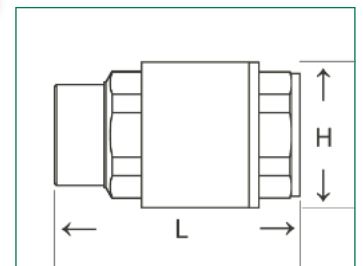
Check valve made of brass (System York)



Item-No.:	Connection:	Length:		Heigth:	PN:	Packing unit:
		L		H		
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)

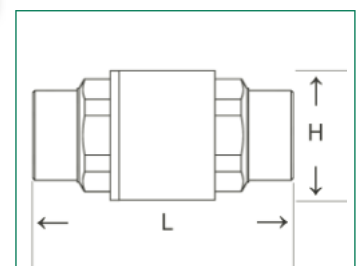
With spring, valve disc made of plastic with rubber seal, also suitable for horizontal mounting, female thread/male thread, PN 10



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

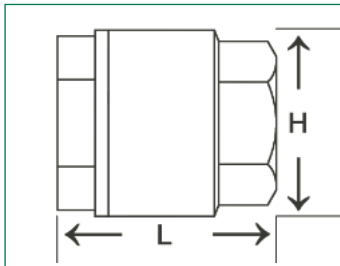
Check valve made of brass (System York)

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:		PN:	Packing unit:
		L	H		
51132 5	3/4"	70	36,5	10	15/ 75
51133 2	1"	80	44	10	12/48

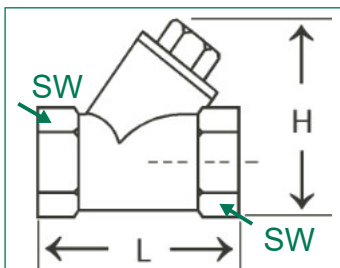
Check valve made of brass (Europa)



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

Item-No.:	Connection:	Thread-length:	Length: L	Heigth: 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

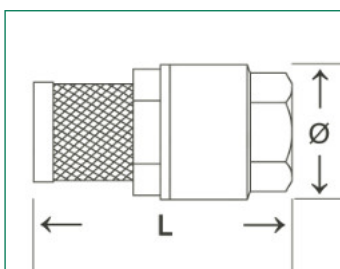
Socket strainers



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



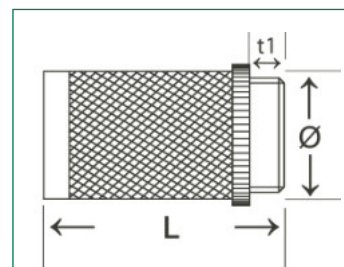
With spring, valve disc made of plastic with rubber seal, fine mesh strainer made of stainless steel mesh

Item-No.:	Conne.:	Length: L	Heigth: H	PN:	Pack. unit:
51301 5	1/2"	69	34	10	20/240
51302 2	3/4"	72	42	10	10/ 120
51303 9	1"	84	47	10	6/ 90
51304 6	1 1/4"	99	59	8	6/ 60
51305 3	1 1/2"	113	68	8	4/ 48
51306 0	2"	133	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

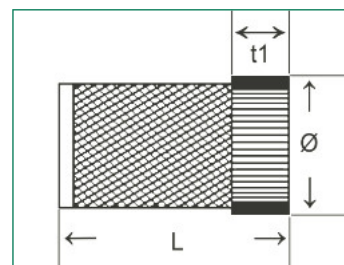
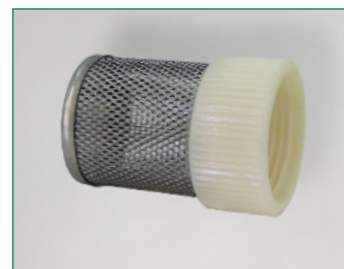
Item-No.:	Connection:	Thread-length: t1	Length: L	Ø	Packing unit:
51311 4	1/2"	8	40	27,5	18/432
51312 1	3/4"	7	45	34	15/300
51313 8	1"	10	54	40	15/300
51314 5	1 1/4"	10	61	48	10/100
51315 2	1 1/2"	10	69	58	5/100
51316 9	2"	12	84	68	5/100
51317 6	2 1/2"	14	100	83	-/-
51319 0	4"	16	152,5	129	-/-



Stainless steel pre-filter female

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

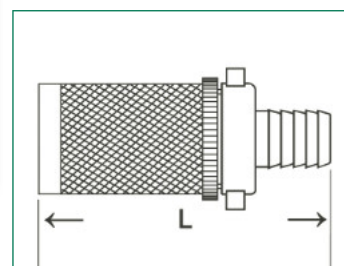
Item-No.:	Connection:	Thread length: t1	Length: L	Ø	Packing unit:
51313-IG	1"	13	57	31	15/300



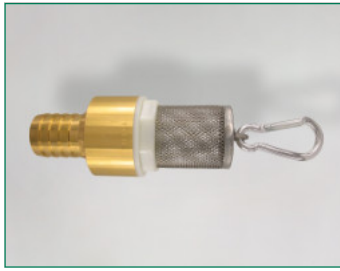
Stainless steel pre-filter

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"		-/-

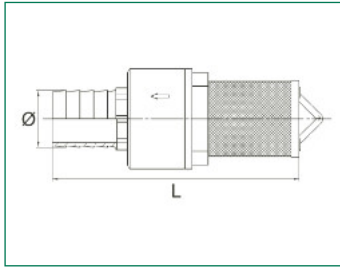


Foot valve made of brass



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	-/-

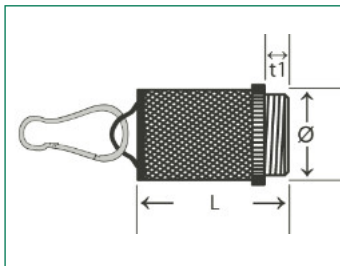


Stainless steel pre-filter

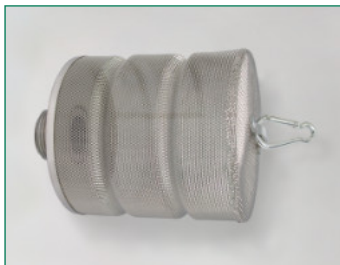


From fine-mesh stainless steel with plastic threaded connection, **with** eyelet and carbine

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

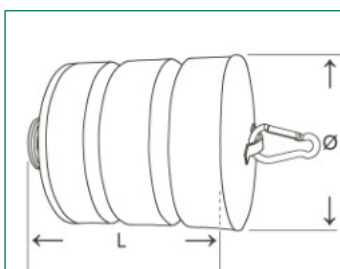


Stainless steel pre-filter



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

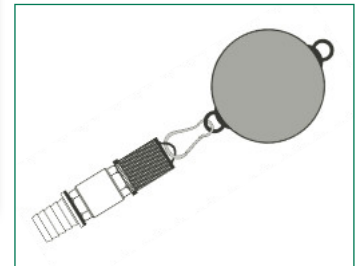
Item-No.:	Connec.:	Threadlength::	Length:		Packing unit:
	male		L	Ø	
S-1504	1"	14	132	100 mm	1/13



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

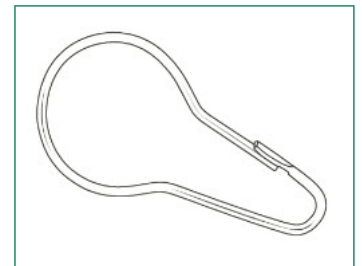
Floating suction filter



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

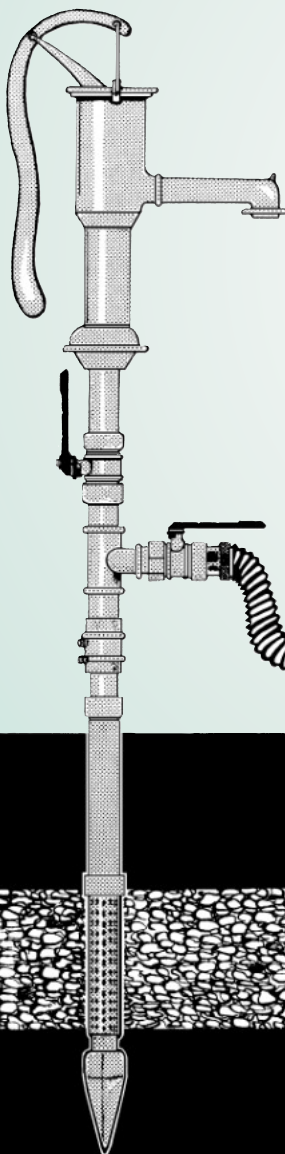


Instructions for the construction of a driven well

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 

puteus GmbH terms and conditions for contracting, delivery, and payment

Section 1 General

1. These general conditions of sale apply to all present and future business relations with companies, legal persons governed by public law, and separate estates under public law with respect to deliveries and other services including work orders and the delivery of non-fungible items.
2. The buyer's purchasing terms will not be recognized even if puteus GmbH does not explicitly object to them upon becoming aware of them or after receipt unless puteus GmbH explicitly approves of their validity in writing.

Section 2 Offerings

1. Offerings from puteus GmbH are non-binding and subject to availability.
2. The right to make reasonable technical changes in the form, color, and/or weight of offerings is reserved.

Section 3 Shipping

1. Shipping, including free delivery, is at the buyer's own risk. Selection of the routing is hereby ceded to puteus GmbH. The buyer will bear the shipping costs unless an agreement to the contrary has been made in writing.
2. Transportation insurance will only be obtained upon written request by the buyer and at the buyer's expense. Any damages incurred in transit are to be immediately reported to the carrier and to puteus GmbH.
3. If items should be delivered in returnable containers, then the containers are to be emptied of residues upon receipt and promptly returned carriage paid. Loss or damage of re-use packaging will be at the buyer's expense if the buyer is responsible.
4. Non-returnable packaging will not be accepted by puteus GmbH and must be disposed of by the customer and the customer's expense.
5. Returnable containers that are not explicitly included in the price or the invoice amount will only be made available on loan. They will remain the property of puteus GmbH.

Section 4 Passage of risk

The risk of accidental loss or accidental impairment of products will pass to the buyer upon delivery or, in the event of sale by dispatch, with the handing over of the item to the shipper, carrier, or other person or institution designated to execute the act of shipping.

Section 5 Delivery/acceptance

1. Delivery periods are approximate. They are subject to timely receipt of supplies. If puteus GmbH does not adhere to agreed delivery periods, then the buyer is to set an appropriate subsequent delivery period of at least three weeks for puteus GmbH in writing starting upon receipt of the new deadline by puteus GmbH. The buyer will be entitled to withdraw upon expiration of the subsequent deadline. puteus GmbH will be authorized to make subsequent delivery until a written declaration of withdrawal has been received.
2. In the event of force majeure, industrial action, or other faultless stoppages that last longer than one week, the delivery or acceptance period will be extended by the duration of the hindrance up to a maximum of five weeks in addition to a subsequent-delivery period. The extension will only come into effect if the reason for the hindrance is promptly reported to the other party as soon as it has been observed that the aforementioned period cannot be completed with.
3. Partial deliveries are permissible.
4. In the event that the buyer should default in taking delivery, puteus GmbH will be authorized, after setting a five-day grace period, to invoice the buyer as of the time that the product was provided or to withdraw from the agreement or to demand compensation for damages at its own discretion. Storage of products that are not accepted by the buyer will be at the buyer's own risk and will take storage costs into account.

Section 6 Sample materials

1. Samples will be delivered at cost. In the absence of any agreement to the contrary, samples that have been loaned to the buyer by puteus GmbH will remain our property.
2. In consideration of technical or material-dependent deviations in production, samples are not considered samples in the meaning of Section 454 of the German Civil Code (BGB).

Section 7 Prices

1. puteus GmbH prices are net prices and do not include statutory value-added tax.
2. If there should be a period of more than four months between the conclusion of the agreement and delivery, then the puteus GmbH prices as of the day of delivery will apply. This will not apply if delivery has been delayed due to the fault of puteus GmbH.

Section 8 Payment

1. puteus GmbH invoices will be issued on the day of delivery or provision of the product. Payment will be due in full within 30 days of the invoice date. In the event of payment within eight days of the invoice date, puteus GmbH will grant a cash discount of 2% of the remaining invoice amount after any trade discounts have been deducted.
2. Upon payment after the due date, puteus GmbH will calculate an interest rate of an additional 8% above the base rate. Both puteus GmbH and the buyer will be at liberty to present evidence of greater or lesser damage.
3. The credit balance may only be adjusted based on claims that are uncontested or that have been determined without further legal recourse. The same applies to withholding due invoice amounts unless the counterclaim is based on the same statutory relationship.

4. puteus GmbH will not be obligated to make further deliveries on the basis of any current contracts until due invoice amounts have been paid in full, including interest. If after a contract has been concluded it should become apparent that puteus GmbH's pecuniary claim is in jeopardy due to the buyer's insolvency or if the buyer should be in default on a significant payment amount or if other circumstances should arise indicating that the buyer's solvency has significantly deteriorated, then the rights according to Section 321 of the German Civil Code (BGB) will accrue to puteus GmbH. puteus GmbH will then also be authorized to accelerate all claims that are not yet due based on the current business relationship with the buyer

5. The supplier is entitled to assign his receivables against buyers to a third party.

6. The buyer is obliged to reimburse any fees, costs and expenses in connection with any successful legal prosecution against him outside Germany.

Section 9 Liability for defects

1. Obvious defects or other objections with respect to the delivery item – including the absence of guaranteed or warranted qualities – are to be promptly reported to puteus GmbH in writing no later than 14 days after receipt of the delivery item.
2. puteus GmbH assumes no liability for deviations in quality, color, size, (specific) weight, or equipment that might arise in the course of normal business practice, are minimal, or are unavoidable. Application-specific verbal and written consultation from puteus GmbH – including from puteus GmbH's vendors – will not exempt the buyer from responsibility to examine delivered products for their intended purpose.
3. No objections to obvious defects will be accepted after the product has begun to be processed.
4. Upon receipt of valid notice of defect within the prescribed time limit, puteus GmbH may choose to eliminate the defect or deliver a non-defective product (supplementary performance) at its own discretion. In the event that puteus GmbH should fail or refuse to execute supplementary performance, the buyer may withdraw from the agreement or reduce the purchase price after an appropriate period has unsuccessfully elapsed. If the defect is insignificant or if the product has already been sold, processed, or altered, then the buyer will only be entitled to a reduction of payment.

Section 10 General limitation of liability, statute of limitations, and right of recourse

1. puteus GmbH, including its management and other auxiliary persons, will be liable for violations of contractual or non-contractual obligations, particularly due to impossibility, delay, fault in preparing the contract, or tort, only in the event of wrongful intent or gross negligence and only with respect to damages that are typical of the contract and that are foreseeable at the time that the contract is concluded. For the remainder, liability on the part of puteus GmbH is also excluded for damages caused by defects and consequential damages.
2. These restrictions will not apply to culpable violation of essential contractual obligations that jeopardize the purpose of the contract; in the event of culpably induced harm to life, body, or health; if and to the extent that puteus GmbH has guaranteed the state of the purchased item or has assumed a procurement risk; nor in cases of compulsory liability according to the German Product Liability Law. This will have no effect on regulations concerning the burden of proof.
3. In the absence of any agreement to the contrary, the statutory limit on contractual claims against puteus GmbH that accrue to the buyer by reason of and in connection with product delivery will be one year after delivery of the product. This term will not apply to products that are used for a construction in a manner that is in keeping with their conventional use. This will have no effect on puteus GmbH's liability arising from intentional or grossly negligent breaches of obligation or culpably induced harm to life, body, or health.
4. The buyer's right of recovery in accordance with Section 478 of the German Civil Code (BGB) against puteus GmbH is restricted to the statutory scope of warranty claims that are invoked against the buyer by a third party and assumes that the buyer has fulfilled its obligation to puteus GmbH to give notice of defects in accordance with Section 377 of the BGB.

Section 11 Reservation of ownership

1. Delivered products will remain the property of puteus GmbH until all claims as of the moment that the contract was concluded have been paid in full regardless of the legal basis for the claims. This will apply even if payments for particularly specified claims have been made. Neither the suspension of individual claims in a current account nor the balancing of accounts and acknowledgment thereof will affect the reservation of ownership.
2. If the reserved product that was delivered to the buyer should be machined or processed by the buyer, the machining or processing by the buyer will be executed by the buyer for puteus GmbH without any obligations accruing to puteus GmbH. If the delivery item is connected to, mixed with, or combined with items that do not belong to puteus GmbH, then puteus GmbH will be come the co-owner of the total item in accordance with statutory provisions. If the buyer should acquire sole ownership of the new item, then it hereby transfers co-ownership of the items connected to it to puteus GmbH in proportion to the value of the delivery item at the time that the connection was made.
3. If the buyer should sell the reserved product individually or in conjunction with a product that does not belong to puteus GmbH, then the buyer hereby assigns the claims resulting from the resale to puteus GmbH in the amount of the value of the reserved product with all ancillary rights and claims that accrue in lieu of the reserved product. If the resold product is co-owned by

puteus GmbH, then the claim assignment will extend to the amount that corresponds to puteus GmbH's share of the co-ownership. puteus GmbH hereby accepts these assignments. Incorporation of the reserved product into built structures will also be considered a sale.

4. The buyer is hereby authorized to collect on claims arising from resale. This collection authorization will become void if it should be revoked by puteus GmbH no later than the moment of a default on payment, non-payment of a bill, or petitioning for the initiation of bankruptcy proceedings. puteus GmbH will only invoke its right to revocation if, after the conclusion of the agreement, it becomes apparent that puteus GmbH's pecuniary claim arising from this or from another agreement with the buyer is in jeopardy due to the buyer's insolvency. Upon request by puteus GmbH, the buyer will be obligated to immediately inform its own buyer of the assignment to puteus GmbH and to promptly transfer to puteus GmbH the documents necessary for collection, in particular the buyer must transfer to puteus GmbH a precise summary of its claims with the name and mailing address of its own buyer and must provide puteus GmbH with all the information necessary to assert the assigned claims. The buyer hereby authorizes puteus GmbH to inform the secondary buyer of the assignment and to collect on the claims immediately upon default on a payment or deterioration of its financial circumstances. puteus GmbH will have the right to demand that the legal validity of the assigned claims be examined by a representative based on the buyer's accounting. The buyer must provide puteus GmbH with a summary of the reserved products that are still on hand.
5. If the buyer should act in breach of contract, and particularly in the event of a default on payment, puteus GmbH will be authorized to withdraw the delivery item after giving formal notice and setting a time limit and the buyer will be obligated to return it. Neither assertion of the reservation of ownership nor seizure of the delivery item by puteus GmbH will be considered withdrawal from the agreement.
6. The buyer is hereby authorized and empowered to resell, use, or incorporate the reserved product only in the conventional and proper course of business and only on the understanding that claims that have been assigned in accordance with the provisions above will in fact proceed to puteus GmbH. The buyer is not authorized to otherwise transfer the reserved product. The buyer may not pledge the reserved product nor transfer ownership as collateral. The buyer's authorization in accordance with the first sentence of this paragraph will not apply in the event of impending or already established insolvency or in the event of other essential deterioration of its financial circumstances.
7. The buyer must both promptly inform puteus GmbH of enforcement measures undertaken by third parties with respect to the delivery item with reserved ownership or the claims assigned to us and deliver the documents necessary to challenge the enforcement.
8. If the value of the total collateral granted to puteus GmbH should exceed puteus GmbH's claims by more than 20%, then puteus GmbH will be obligated and prepared to return or release to the buyer the collateral granted to puteus GmbH to the extent that it exceeds the agreed coverage limit.

Section 12 Blanket orders and call orders

1. If an on-call purchase is agreed with the buyer, then payment for outstanding deliveries will be due automatically upon expiry of the on-call term. The buyer will then be obligated to call for the outstanding deliveries and to pay the agreed purchase price as paid for the transfer of the property. With respect to any individual installment, in addition to fulfillment, puteus GmbH will have the right to demand compensation for pecuniary detriment or to proceed in accordance with Section 323 of the German Civil Code (BGB).

2. If the buyer should fail to call for the agreed deliveries within the agreed on-call term, then puteus GmbH will have the right to otherwise utilize the products without fixing a time limit. The same will apply if the buyer should file for bankruptcy within the on-call term and/or become insolvent.

Section 13 Price clause

puteus GmbH hereby reserves the right to reasonably change its prices for all orders – including on-call orders and call-off contracts – that, either contractually or at the buyer's request, are delivered more than three months after the order was placed if costs should decline or increase after the contract was concluded, particularly due to wage increases or changes in the cost of materials. The orderer will be provided with evidence of such changes upon request.

Section 14 Proprietary rights, tools, models, and illustrations

1. If items are delivered based on illustrations or other details provided by the buyer, then it will be the buyer's responsibility to ensure their accuracy and that no third party proprietary rights are violated. The buyer must indemnify puteus GmbH against any claims by a holder of proprietary rights.
2. puteus GmbH may invoice for molds, models, tools, and equipment that are required for the ordered product. They will remain property of puteus GmbH even if puteus GmbH manufactured them on behalf of the buyer and/or has paid the buyer in whole or in part. This will apply even if they were manufactured according to special instructions from the buyer, which uses them exclusively for deliveries to the orderer, as long as it fulfills its commitment and payment obligations and the business relationship persists.
3. If no parts are reordered two years after the last production, then puteus GmbH, after giving appropriate notice to the buyer and after a period of six weeks from receipt of notice by the buyer, will have the right to scrap or otherwise utilize the molds, models, tools, and manufactured equipment.
4. If the buyer should file for bankruptcy, puteus GmbH will be authorized to scrap or otherwise utilize the molds, models, tools, or manufactured equipment before two years have expired and without notifying the buyer in advance.

Section 15 Return of catalog products

Catalog products may only be returned due to product redelivery according to prior agreement and are to be undertaken freely. 30% of the handling costs will be deducted from any credit entries for re-saleable products.

Section 16 Place of fulfillment/legal venue

1. The place of fulfillment for all claims arising from the contractual relationship will be puteus GmbH's principle place of business.
2. For all present and future claims arising from the business relationship, including bills and checks receivable, the legal venue will be puteus GmbH's corporate headquarters. This will apply even if the buyer has no legal venue in Germany or if the buyer's domicile or usual residence is unknown at the time when proceedings are instituted. puteus GmbH will also be authorized to bring an action at the buyer's principle place of business.
3. The laws of the Federal Republic of Germany will apply. The terms of the United Nations Convention on Contracts for the International Sale of Goods will not apply.
4. If particular terms of the agreement with the client, including these General Terms and Conditions, should be or become legally inoperable in whole or in part, the validity of the remaining terms will be wholly or partially unaffected. The wholly or partially inoperable provision will be replaced by a provision whose commercial outcome approximates that of the inoperable term as closely as possible.

puteus GmbH, Lenenweg 6, D-47918 Tönisvorst
Version: November 2023

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 torn 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 To2, §§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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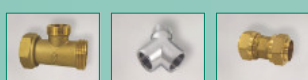
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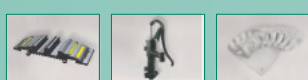
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www.eine-starke-gruppe.de

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

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