



Water and Play

Richter Spielgeräte GmbH



Water and Play

"Water and its destiny are important to us because we ourselves are composed to a great degree out of water, right down to the structure of our inner lives. We are water ourselves; water is a part of our lives."

The striking words of Frederic Vester make it clear just how closely people are connected to the element of water. If we also take into account the fact that where we live, the planet Earth, is three-quarters covered by water and therefore should actually be called "Water" it is not surprising that children are drawn to the world of water.

Children confront their environment with their senses wide open and particularly the four elements of fire, water, earth and air hold a great fascination for them. They want to experience, feel and explore them. This is a natural urge which children gradually lose through socialisation. Such a loss is often accompanied by a dulling of the senses. In the worst case this can lead to an adult perceiving the environment while taking little part in it and also generally reacting with little sensitivity to all things living.

In this sense it can be seen as society's task to make it possible for children to have holistic access to and experience of the elements while their senses are developing.

Play is the child-sized way to conquer the world around yourself. Above all water can best be experienced using the senses. There are not many comparable play situations where children play, communicate and cooperate in such a deeply absorbed way as when they are playing with water. And too rarely can such satisfied, happy children be seen as in waterplay areas. We have therefore thought about different play ideas for experiencing sand, water and earth, which young and old children try out and use with enthusiasm.

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Quality Criteria

For additional explanations of the quality criteria please refer to our price list.



Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Bevel cut

Vertical stand posts with bevelled end grain section as constructive wood preservation measure



Perforated

The earth / air zone of the wood is perforated by numerous small bore holes to ensure that the impregnating agent penetrates this particularly endangered zone



Fürstenberg Permadur System

In special cases we use the patented Fürstenberg Permadur System as an additional protection against rot



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Claddings

Claddings made of mountain larch (4 – 5 cm) and spruce / fir (3 – 5 cm). Peeled white by hand, natural tree surface remains tangible and perceptible



Tongue and groove

Tongue and groove planks made of 4 cm solid wood, highly resilient, no trickling of dust / sand, protection against direct rain



Laminated wood beams

Laminated wood beams made of non-impregnated larch, glued according to EN 14080:2013; for very large timber cross-sections; comparatively low shrinkage, almost completely free of cracks



Hardwood rungs

Climbing rungs made of hardwood (ash) Ø 4.2 cm, milled and mortised, secured against twisting, easy to grip and not cold for children to touch



Plywood

Plywood made of mountain larch, three-layer (3 cm), five-layer (4 cm). High dimensional stability, waterproof, glued according to DIN EN 13353:2011



One-piece construction

Total construction of the slide made of 2 mm stainless steel, drawn in box form, surface glass bead blasted, without welding seam between sliding surface and side cheek



Swing seat

Ergonomically shaped swing seat made of rubber with soft shock absorbing edge. Durable due to strong profiled steel insert



Pendulum seat

Pendulum seat with a large rubber surface. Soft, protective edge and steel insert



Impact absorbing

The anti-slip swing platform is covered by a special tyre-like element for impact absorption



Richter Hercules type rope

Richter Hercules type rope, a combination of galvanised six-strand steel cables and polyester yarn, diameter > 20 mm, laid and glued with very good abrasion resistance, strong sheathing even in the case of damage by puncturing



Hercules type rope

Hercules type rope for spliced net connections, a combination of steel and polyester or polyamide yarn for the sleeve, abrasion-protected, 4 or 6 strands



Aluminium rope pressing

Aluminium rope pressing, cylindrically pressed, with rounded ends



S-connectors

S-connectors Ø 8.1 mm, made of high-quality stainless steel, rounded



Swing joint

Drop-forged, hot-dip galvanised swing joint with sintered bush and integrated swivel



Universal joint

Drop-forged, hot-dip galvanised universal joint, consists of two sintered bushes, for free swinging in any direction



Rotating rope connection

Rotatable fitting without dangerous openings, with sintered bush with integrated swivel to ensure the rope untwists



Rope connection fixed

Fixed rope connection without dangerous openings. Screw connection adjustable and countersunk in the wood



Rope connection with joint

Close-fitting connection with joint, without dangerous openings, with sintered bush and adjustable screw connection



Ball joint rope connection

Close-fitting rope connection with ball joint, without dangerous openings for free swinging in any direction, rotatable suspension with combination of plain bearings and roller bearings, adjustable screw connection



Double rope connection

Connection for complicated swing and swivel motion



Profiled washer

Profiled washer for covering protruding screw heads according to standard, improved pressure distribution and protection against water. Impedes loosening the bolt



Adjustable

Adjustable two-piece bolt connection, easy to maintain, no projecting threads



Interlocking

Interlocking connection, with milled metal rings or serrated disc dowels, to reinforce the bolt connection under high loads transverse to the grain direction of the wood



End grain connector

End grain connector as special fitting for the adjustable connection of horizontal and vertical timber



Sintered bush

For all reciprocating movements we use sintered plain bearings which are self-lubricating in use and can easily be exchanged if necessary



Steel reinforced rubber belt

Two-way steel reinforced rubber belt, total thickness approx. 11 mm, nearly indestructible



Large gated cableway

The large gated cableway covers the required safety distances. The cableway carriage comes to a smooth stop due to the difference in height of the gates and the cable slack



Tensioning device

Tensioning device enables one person to release and re-tension. Large winch radius and anti-kink function protect the rope



Cableway carriage

Our cableway carriage is designed as a sandwich construction. The „encapsulated“ running mechanism ensures quiet operation. The installation of the carriage is possible without dismantling the rope



Special steel cable

High density steel cable made of high-strength and hot-dip galvanized wire. Stable in length, durable and allows a smooth ride of the cableway carriage



Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanized steel or stainless steel



HPL ground anchor

Foundation anchor made of phenol resin paper-based laminates



Cross beam made of steel

Swing cross beam made of hot-dip galvanized steel. Optimized swing geometry with rigid corner connections, thus allowing for smaller foundations and easier foundation covering



Chains

Chains made of hot-dip galvanized steel (1.4301 / 1.4571 at extra charge) welded before galvanising, short-linked, without eyelets on the connecting parts, easy to exchange and shorten



Distance fitting

Screw connection with distance fitting to avoid entrapment areas



Relief cut

Targeted relief cut as an effective measure against cracks caused by drying. The cut defines the position of the stress equalization in the trunk and minimises natural cracking



Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



Fastening of nets

Fastening of net by means of adjustable stainless steel chain fixation, easy assembly and maintenance

Richter Wood Quality Criteria for Larch Wood

Origin

Exclusive use of mountain larch (bot. *larix decidua*) from the Alps. It grows 800 - 1800 m above sea level and comes from sustainable forestries. Our wood is certified according to EN 45011 PEFC. This certificate confirms that the sawn and round timber that is produced and sawn comes from sustainable forestry. Further information can be viewed on our website.

According to an official ranking, larch is a moderately rot-resistant type of wood - considerably less durable than robinia.

However, there are different kinds of larch. The larch which we use for our production grows in the mountains at a height of more than 800 m above sea level. Therefore, it has considerably better wood physical properties (and thus should actually be called *larix decidua montana*).

This advantages of this mountain grown larch are considerable:

- Less resin galls
- Less splinters
- Closer year rings
- Higher stability and predominantly enhanced durability.

Felling time

Our larch trees are felled in winter so that the cut wood can dry before fertile fungus spores, which can lead to early decomposition, appear.

Corning

During the natural ageing process of the tree, core materials are deposited in the wood. This corning is responsible for the rot-resistance of the mountain larch. Good corning and therefore suitability for ground insertion is recognisable to our colleagues by the red colour of the wood.

Sapwood

According to our wood quality criteria, timbers of mountain larch are delivered almost sapwood free.

Year rings

Wood with close year rings is more resistant to rot. Wood intended for ground insertion and for horizontal beams has particularly close rings. Our poles have at least 8 year rings in the outer 2 centimetres.

Evenness

We ensure that poles inserted into the ground and horizontal beams have centred rings so that close ring wood lies near the outer edge. We do not permit an eccentricity of the piths of greater than 3 cm.

Fungal attack

Occasionally even a standing tree is attacked by fungus. Such wood only gives limited durability, which is why we carefully sort it out.

Wood moisture

Wood-destroying fungi require high levels of moisture in the wood. We increase the lifespan of our wood through natural open-air drying. Advanced drying in the poles is demonstrated by the appearance of splits. Our sawn timber is already dried to around 15 - 20% of original wood moisture before it is used for construction.

Since 1989 we have manufactured much of our wooden play equipment of unimpregnated mountain larch. Our play equipment made of unimpregnated poles of mountain larch stands as a rule on steel feet. For short vertical pole length we do without steel feet construction more and more. For square timbers inserted into the ground we use oak core timber. The end-grained timber surfaces are cut on the cross and covered with paraffin wax.

All equipment printed in red in our price list is made from unimpregnated mountain larch which has been selected according to the eight Richter quality criteria.





Photo © Daniel Perales

Water Supply

Play value

The element water, with its infinite forms of expression, is defined by its flow, vitality and power. It is only in ideal cases that a natural spring is located at a playground; however every play space needs water, even if it "only" comes out of a pipeline. A water pump with a swipe is especially attractive, where the act of pumping itself becomes a part of the play value, enabling access to the precious liquid. Even small children are able to pump water on the Crank Handle Pump with little effort. A gentle push of the wheel is all it takes to get involved in the role-playing game with the element of water.

Fundamental characteristics

- Extremely sturdy playground pump
- Special design
- Incentive for playing: pump swipe (can be adjusted in 45° steps during assembly)
- Water is pumped on the Crank Handle Pump by turning the crank handle or rocking it back and forth
- Exercise activity: physical effort



Order No. 5.17630 Playground Pump

Recommended for

- Kindergarten children
- School children
- Water play areas without supervision



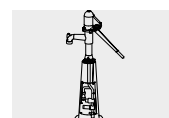
Order No. 5.17637 Crank Handle Pump

Playground Pumps Crank Handle Pumps

Planning information

These two types of pumps can deliver drinking water quality up to the underside of the piston.

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.



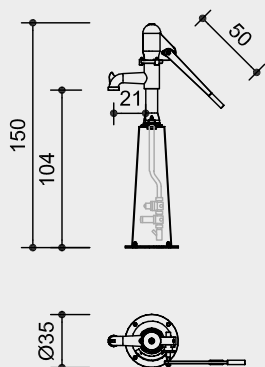
5.17630 / 5.17640



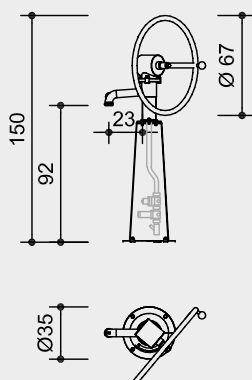
5.17637 / 5.17638

Order No. 5.17630
Playground Pump with integrated connection to mains water in the pillar

Drinking water up to underside of piston


Order No. 5.17637
Crank Handle Pump with integrated connection to mains water in the pillar

Drinking water up to underside of piston



Scale 1:50

Safety check according to EN 1176

Components
Pumps for direct connection to mains water:

No underground shaft required for function.

Order No. 5.17630 / 5.17640

1 playground pump with integrated connection to mains water in the pillar

Order No. 5.17637 / 5.17638

1 Crank handle pump with integrated connection to mains water in the pillar

Installation information

Surfacing must be ready to take heavy duty bolts.

Alternatively, the pumps can be mounted on the pedestals **Order No. 5.14190 / 5.19003** or foundation anchors **Order No. 5.17505 / 5.17630**.

Order No. 5.17630/5.17637

Pump must be drained during frost period; secure or remove handle/crank; we recommend disassembly.

Order No. 5.17640/5.17638

It is absolutely essential to disassemble the equipment during the period of frost.

Attention:
Exact measurements may vary; for all installation dimensions refer to current assembly instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).
Technical information
Order No. 5.17630 Playground Pump

Closed piston suction pump; all top parts made from hot-dip galvanised grey cast iron; cylinder housing, air dome cap, mounting plate, forked lever, plunging valve, gland flange and connecting rod are hot-dip galvanised; cylinder with a liner made of brass alloy and plastic piston (POM); drive shaft made of stainless steel, with replaceable brass bearing, additionally fixed with the gland flange using the shaft collar; secured against being extracted by means of a collar; drive shaft bearing made of brass with lubricating nipples; pump capacity: approx. 0.75 l per stroke, bore 75 mm, pump lift 170 mm the valve combination for direct connection to mains water, Ø 1 inch, and a shut-off valve with backflow preventer (type EA) and drainage are installed in the galvanised pillar made of steel; thread 1 inch; min. 2.5 bar water pressure, max. 6 bar, relief valve prevents swipec from striking back, water requirement approx. 45 l/min

Order No. 5.17640

General pump specification as with **5.17630**; plus programmable rinsing device, no connections to power supply required

Order No. 5.17637 Crank Handle Pump

Closed piston suction pump; pump and pillar made of stainless steel; cylinder and crank housing, mounting plate, piston rod and drive shaft made of stainless steel; the drive shaft brass bearing is replaceable, fitted with nipple for lubrication; cylinder with a liner made of brass alloy and plastic piston (POM); crank ring made of stainless steel, knob made of plastic material; the valve combination for direct connection to mains water, Ø 1 inch, and a shut-off valve with backflow preventer (type EA) and drainage are installed in the galvanised pillar made of steel; external thread 1 inch; min 2.5 bar water pressure, max. 6 bar; relief valve prevents swipec from striking back, water requirement approx. 18 l/min
German registered design No. for 5.17637 / 5.17638:
20 2020 100 441.7

Order No. 5.17638

general pump specification as with **5.17637**; plus programmable rinsing device; no connection to power supply required

Dimensions

Order No. 5.17630 / 5.17640

Equipment height	1.50 m
Width with horizontal pump swipec	0.95 m
Weight	73 kg

Order No. 5.17637 / 5.17638

Equipment height	1.50 m
Width	0.35/0.67 m
Weight	70 kg

5.17630 / 5.17640

5.17637 / 5.17638

8

Play value

The element water, with its infinite forms of expression, is defined by its flow, vitality and power. And if a playing observer interacts with it, various different sensory impressions are created.

It is only in ideal cases that a natural spring is located at a playground; however every play space needs water, even if it "only" comes out of a pipeline. A water pump with a swipe is especially attractive, where the act of pumping itself becomes a part of the play value, enabling access to the precious liquid. Our robust playground pumps therefore not only serve as a water supply, but also encourage work- and role-playing games and promote communication and cooperation.

Fundamental characteristics

- Sturdy construction
- Special design
- Incentive for playing: pump swipe (can be adjusted in 45° steps during assembly)
- eExercise activity: physical effort

Recommended for

- Kindergarten children
- School children
- Water play areas without supervision



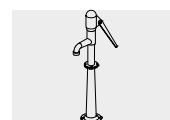
Order No. 5.17500 Playground Pump

Playground Pumps

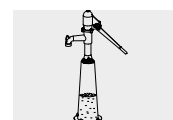
Planning information

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.

The water quality is to be clarified with the operator and the health authorities.



5.17500

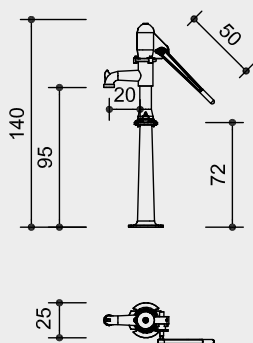


5.17730

Order No. 5.17500

Playground Pump

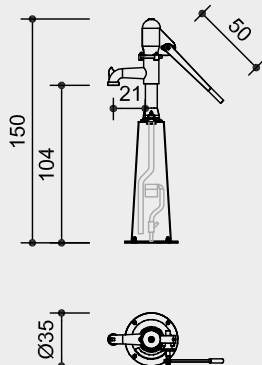
Self-priming



Order No. 5.17730

Playground Pump

with water reservoir in the pillar
Drinking water to underside of the
pump base



Technical information

Order No. 5.17500 Playground Pump

Closed piston suction pump; all parts made from hot-dip galvanised grey cast iron; cylinder housing, air dome cap, mounting plate, forked lever, plunging valve, gland flange and connecting rod are hot-dip galvanised; cylinder with a liner made of brass alloy and plastic piston (POM); drive shaft made of stainless steel, with replaceable brass bearing, additionally fixed with the gland flange using the shaft collar; secured against being extracted by means of a collar; drive shaft bearing made of brass with lubricating nipples; pump capacity: approx. 0.75 l per stroke, bore 75 mm, pump lift 170 mm

Order No. 5.17730

Pump as before; the water reservoir with float valve is integrated in the galvanised steel pillar; max. 6 bar water pressure; 1/2 inch external thread, pressure-resistant pipeline Ø 3/4 inch, water requirement approx. 15 l/min

Dimensions

(small deviations possible)

Order No. 5.17500

Equipment height	1.40 m
Width with horizontal pump swi	
Weight	55 kg

Order No. 5.17730

Equipment height	1.50 m
Width with horizontal pump swi	
Weight	73 kg

safety check according to EN 1176

Components

Order No. 5.17500

1 Playground pump

Pumps for direct connection to mains

water: no underground shaft required for proper operation

Order No. 5.17730

1 Playground pump with water reservoir in the pillar

Installation information

Surfacing must be ready to take heavy duty bolts.

Alternatively, the pumps can be mounted on the pedestals **Order No. 5.14190 / 5.19003** or foundation anchors **Order No. 5.17505 / 5.17630**.

Order No. 5.17500 / 5.17730

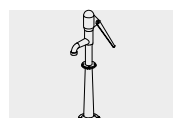
Pump must be drained during frost period; secure or remove handle/crank. We recommend disassembly.

Attention:

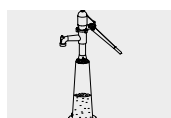
Exact measurements may vary; for all installation dimensions refer to current assembly instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).



5.17500



5.17730



Order No. 5.19003 Pump Pedestal of wood

Play value
Our pump pedestals made of larch wood or stainless steel with a ribbed surface make it easier for smaller children to operate the crank or the swipe of our playground pumps.

Fundamental characteristics

- Sturdy construction
- Minimalist style
- Exercise activity: climbing up

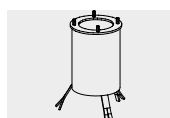
Recommended for

- Kindergarten children
- School children
- Water play areas without supervision

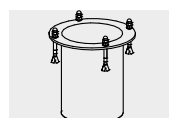


Order No. 5.14190 Pump Pedestal of stainless steel

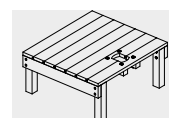
Pump Pedestals
Foundation Anchor
Winter Lid



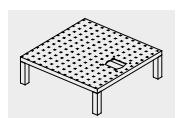
5.17505



5.17633

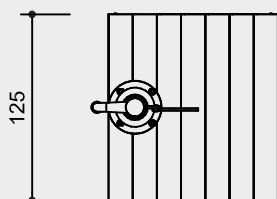
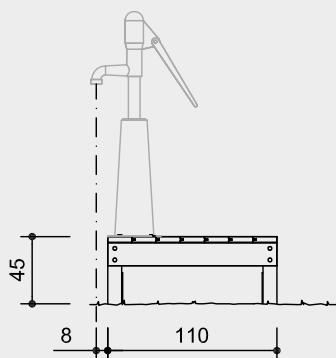


5.19003

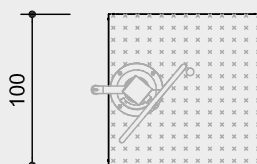
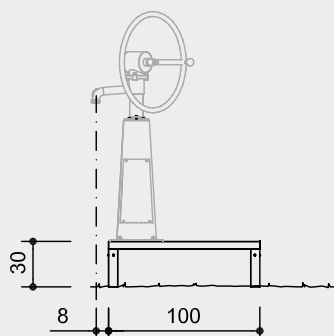


5.14190

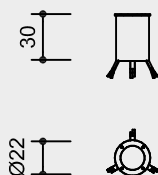
Order No. 5.19003
Pump Pedestal



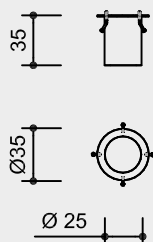
Order No. 5.14190
Pedestal for Pump made of stainless steel



Order No. 5.17505
Foundation Anchor



Order No. 5.17633
Foundation Anchor



Scale 1:50

Safety check according to EN 1176

Components

Order No. 5.17505

1 Foundation anchor

Order No. 5.17633

1 Foundation anchor for pumps

Order No. 5.17634 / 5.17635

1 Winter lid each

Order No. 5.19003

1 Pump pedestal with stand posts and steel feet

Order No. 5.14190

1 Pedestal with 4 support posts made of stainless steel for assembling

Installation information

Surfacing requirements
recommendation: sand with drainage or pavement

Order No. 5.17505

foundations 1 item 60 x 60 x 30 cm
excavation depth 50 cm

Order No. 5.17633

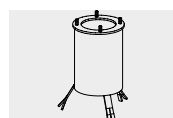
foundations 1 item 60 x 60 x 50 cm
excavation depth 50 cm

Order No. 5.19003/5.14190

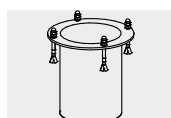
corresponding to a fall height of ≤ 0.60 m
(please refer to price list for more detailed information)

foundations 4 items 50 x 50 x 50 cm
excavation depth 70 cm

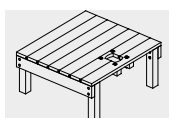
The supply line underneath the pedestals is to be faced on site.



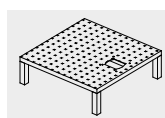
5.17505



5.17633



5.19003



5.14190

Technical information

Order No. 5.19003 Pump Pedestal
Equipment made of mountain larch

Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanised steel or stainless steel



For more detailed explanation of the quality characteristics see price list.

Order No. 5.14190

Pedestal for Pump made of stainless steel

Equipment made of stainless steel, glass-bead blasted, surface made of embossed sheet metal, support posts 60/60 cm for assembling

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Order No. 5.17505

Foundation Anchor for **Order No. 5.17500** made of galvanised steel

Order No. 5.17635

Winter Lid for **Order No. 5.17505**, made of stainless steel

Order No. 5.17633

Foundation anchor

Foundation anchor made of galvanised steel for **Order Nos. 5.17630 and 5.17730**

Order No. 5.17634

Winter Lid for **Order No. 5.17633**, made of stainless steel

Dimensions

(small deviations possible)

Order No. 5.17505

Height	0.30 m
Diameter	0.22 m
Weight	7.5 kg

Order No. 5.17633

Height	0.35 m
Diameter	0.35 m
Weight	7.5 kg

Order No. 5.17634

Diameter	0.34 m
Thickness	2.5 mm
Weight	2 kg

Order No. 5.17635

Diameter	0.22 m
Thickness	2.5 mm
Weight	1 kg

Order No. 5.19003

Width	1.25 m
Depth	1.10 m
Max. height	0.45 m
Weight	95 kg

Order No. 5.14190

Width	1.00 m
Depth	1.00 m
Max. height	0.30 m
Weight	50 kg

Attention:

Exact measurements may vary; for all installation dimensions refer to current assembly instructions.

Technical changes reserved.

Play value

Even small children can operate our lever pump and convey water. The pump resistance as well as the flow rate per stroke can be varied. The design and easy operation make it very suitable for children. Hydraulic oil (food safe) is pumped in an enclosed circuit. The degree of pumping difficulty can be adjusted to a child's strength. The flowing hydraulic oil opens the water valve for a short period of time and then automatically – can also be adjusted – closes again. The water is of drinking quality up until the water leaves the valve; there is no residual water left in the pump.

Recommended for

- Kindergarten children
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar
- Water play areas without supervision

Barrier-free

- Independent play



Photo © Paul Upward Photography

Lever Pump

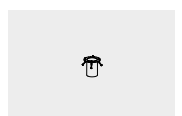
Planning information

The length of the run-out tube can be changed against surcharge.

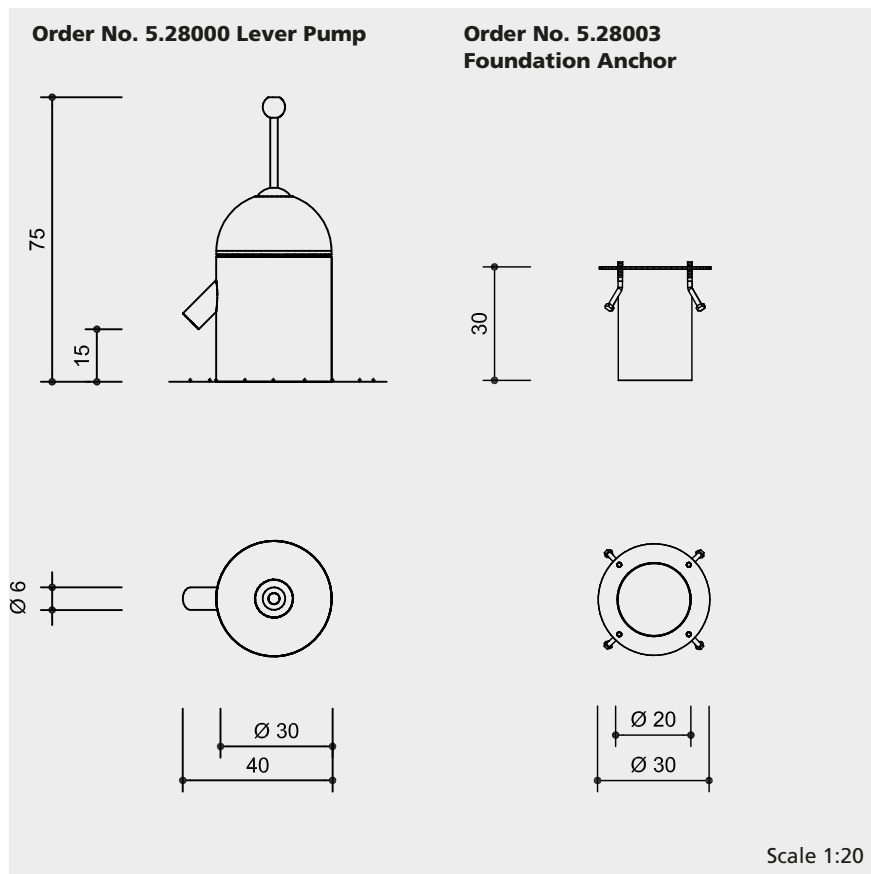
Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.



5.28000



5.28003



Safety check according to EN 1176

Components

Order No. 5.28000

1 Lever Pump
incl. winter lid

Order No. 5.28003

1 Foundation Anchor

Installation information

Surfacing requirements

Recommendation: paving stone or similar with gully. The lever pump is designed for installation on natural stone, pedestal or similar.

During the period of frost, the pump mechanism must be removed. To remove the mechanism, the control line can be disconnected using a quick-release coupling.

Foundation Anchor see Order No. 5.28003 (not included).

Foundations

1 item 50 x 50 x 40 cm
excavation depth 40 cm

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Technical information

Patented:

Number 10 2012 000 359

total construction of stainless steel, glass bead blasted

Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



For more detailed explanation of the quality characteristics see price list.

the ball head is made of impact-resistant, coloured-through, PUR plastic, black

enclosed pump with water valve for direct connection to mains water (2.5 - 6 bar), connection thread 1 inch inside (we recommend a compression proof diameter 3/4 inch), water requirement approx. 80l/min

pump capacity and pump swipe resistance infinitely adjustable, up to 80 l per minute

pump swipe position rules out risk of jamming

foundation anchor **Order No. 5.28003** (not included) of galvanised steel

Dimensions

(small deviations possible)

Order No. 5.28000 Lever Pump

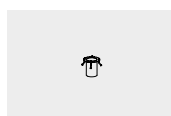
height	0.75 m
width	0.40 m
diameter	0.30 m
run-out tube	Ø 0.06 m
weight	45 kg

Order No. 5.28003 Foundation Anchor

height	0.30 m
diameter	0.30 m
weight	8 kg



5.28000



5.28003



Photo © Daniel Perales

Play value

The See-saw Pump is a very attractive element on water play areas. One child can operate the pump by moving his or her centre of gravity, but also two children can work together for moving the pump to and fro. The holding tube provides safety and helps to coordinate the movement with the others. The pump is also available with a lateral water outlet (special construction) which can be used as water supply for a small channel or a gutter. The combination of the See-saw Pump with a Spraying Head is especially attractive.

This can produce a high or a bubbling water jet, depending on the type. It is funny if the Pump and the Spraying Head are installed without visible connection between each other and the fountain unexpectedly splashes passers-by.

Fundamental characteristics

- Can also be used for producing water pressure
- Unique and original
- Incentive for playing: holding tube, inclined surface
- Movement: moving one's centre of gravity

Recommended for

- Schoolchildren
- Young people
- Water play areas without supervision



Photo © Paul Upward Photography

**See-saw Pump
for direct connection to the water main
See-saw Pump
for water supply from a pond or similar**

Planning information

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.



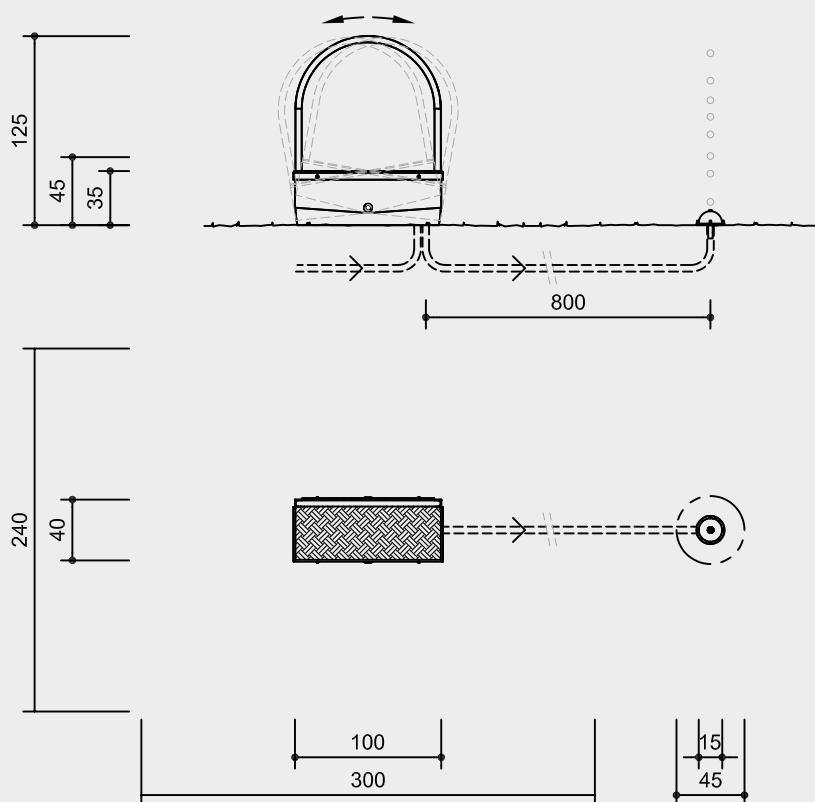
5.18600



5.18700

Order No 5.18600 See-saw Pump

Scale 1:50



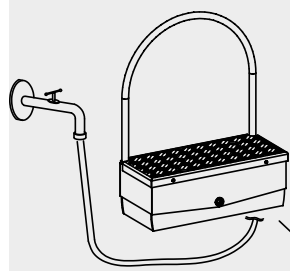
Safety check according to EN 1176

The following drawings show examples of different possibilities of installation. Other combinations with equipment from our water play range are possible.

Type of See-saw Pump

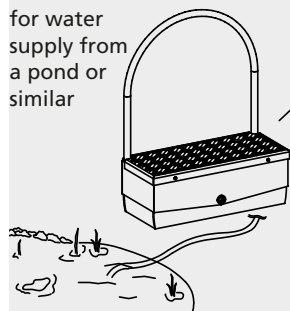
Order No. 5.18600

for direct connection to the pressure line



Order No. 5.18700

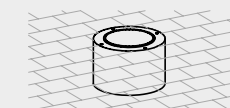
for water supply from a pond or similar



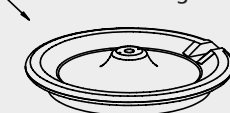
max. suction lift 3.50 m

Installation of the Spraying Head

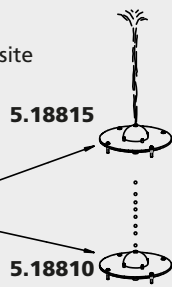
1. on foundation made on site



2. on Concrete Basin with pump connection **Order No. 5.22000 ff.** see own catalogue sheet



Type of Spraying Head



Technical information

housing of the pump completely made of stainless steel, glass bead blasted.
Tread surface of embossed sheet.

Sintered bush

For all reciprocating movements we use sintered plain bearings which are self-lubricating in use and can easily be exchanged if necessary



For more detailed explanation of the quality characteristics see price list.

holding tube made of metal tube with a diameter of 42 mm

the type of the See-saw Pump and the water connection depend on the local situation

required diameter for external water supply 1 inch
compression proof or vacuum-suitable proof diameter 1 inch
water requirement approx. 15l/min

Dimensions

(small deviations possible)

height	1.25 m
length	1.00 m
width	0.40 m
max. pedestal height	0.45 m
weight	100 kg

Components

1 See-saw Pump with foundation frame

Note

For areas with intense solar radiation we offer a wooden deck for the tread surface in order to reduce heating-up (**Order No. 0.57300**).

Installation information

reinforced surface

When planning the installation, ensure the spraying head or a similar outlet (e. g. rock fountain) is located at a level higher than the See-Saw-Pump. Otherwise water will run through permanently.

Foundations

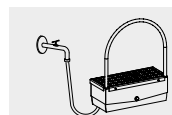
1 item 90 x 35 x 50 cm
excavation depth 50 cm

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).



5.18600



5.18700

Play value

The well designed Water Push Button gives off water when the bright red hemisphere on top gets pressed down. The water comes out like a circular veil. When pressing down the hemisphere, a valve is activated which stops the water flow after 50 seconds or earlier (time is adjustable). Due to its agreeable design, the Water Push Button can also be used in less natural play surroundings.

Fundamental characteristics

- High-quality design
- Automatic water stop
- Unique and original
- Incentive for playing: hemisphere, water
- Movement: physical effort

Recommended for

- Schoolchildren
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar
- Water play areas without supervision

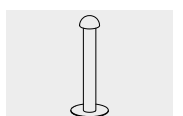
Barrier-free

- Independent play

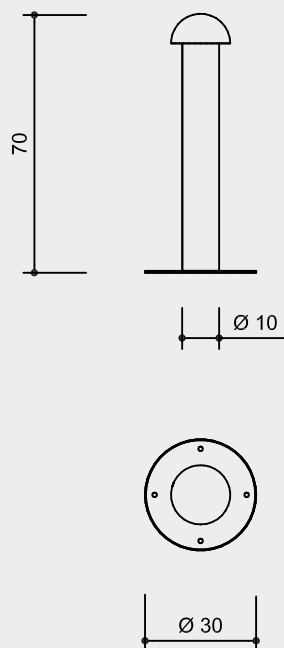


Photo © Daniel Perales

**Water Push Button
with installation housing**



5.18020 / 5.18022

Order No. 5.18020 / 5.18022
Water Push Button


Scale 1:20

Safety check according to EN 1176

Components
Order.-Nr.: 5.18020

1 Water Push Button with programmable flushing device for direct connection to the pressure line

Order.-Nr.: 5.18022

1 Water Push Button with installation housing and with programmable flushing device for direct connection to the pressure line

Planning information

The Water Push Button is only suitable for direct connection to the pressure line. Pushing the hemispherical button activates the Spraying Heads. When the hemispherical button is pressed once, a valve is activated that automatically stops the water flow after 60 seconds or earlier (time is adjustable).

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website

www.richter-spielgeraete.de.

Technical information
Order.-Nr.: 5.18020 / 5.18022

Water Push Button made of stainless steel, glass bead blasted, with coloured hemisphere RAL 3000, other colours on request

connection to mains water is integrated in the galvanised pillar; connection thread 3/4" inside; min. 2,5 bar max. 6 bar water pressure

we recommend a compression proof diameter 1/2 inch water requirement 24l/min

Dimensions

(small deviations possible)

height	0.70 m
diameter column	0.10 m
weight	26 kg

Order.-Nr.: 5.18022

as before, but with programmable flushing device for direct connection to the pressure line.

Installation information

Reinforced surface

Foundations

1 item 40 x 40 x 30 cm, excavation depth 80 cm

During the frost period the inset with the valve needs to be disassembled. The opening can be closed with a winter lid Order No. 0.97840 (see price list).

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions. Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

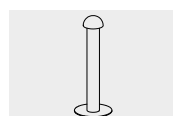

5.18020 / 5.18022



Photo © Daniel Perales

Function and Play value

The well designed Mushroom Springs gives off water when the hemisphere on top gets pressed down. The water comes out like a circular veil. When the hemisphere is pressed once, a valve is activated which stops the water flow after 50 seconds or earlier (time is adjustable). Due to its agreeable design, the Mushroom Springs can also be used in less natural play surroundings.

Fundamental characteristics

- High-quality design
- Automatic water stop
- Unique and original
- Incentive for playing: hemisphere, water
- Movement: physical effort

Recommended for

- Schoolchildren
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar
- Water play areas without supervision

Barrier-free

- Independent play



Photo © Daniel Perales



Order No. 5.18030 Mushroom Column Spring

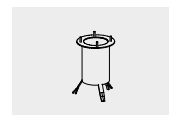
Mushroom Spring Mushroom Spring for Concrete Basins Mushroom Column Spring

Planning information

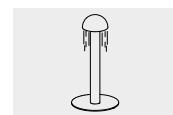
Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.



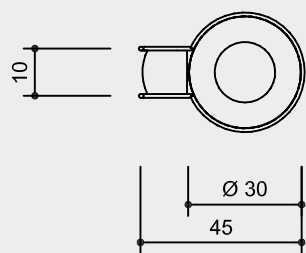
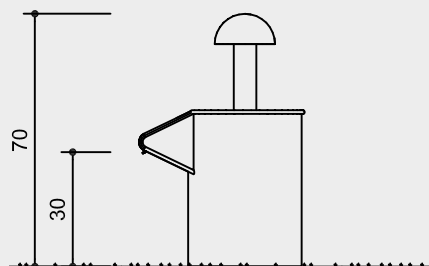
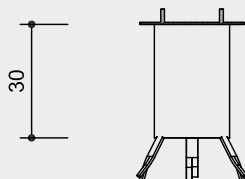
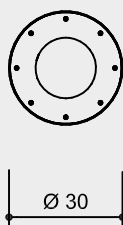
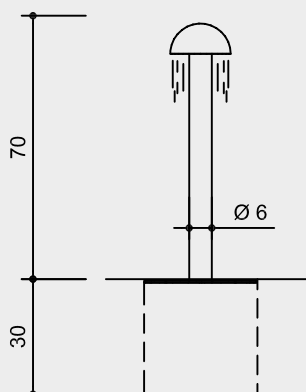
5.18000 - 5.18005



5.18006



5.18030

Order No. 5.18000/5.18002/5.18005
Mushroom Spring

Order No. 5.18006
Foundation Anchor

Order No. 5.18030
Mushroom Column Spring


Scale 1:20

Safety check according to EN 1176

Technical information

Mushroom Springs completely of stainless steel, glass bead blasted, with self-righting pressure valve

Foundation Anchor **Order No. 5.18006** of galvanised steel

Dimensions

(small deviations possible)

height	0.70 m
width	0.45 m
diameter	0.30 m
weight	
Mushroom Spring	37 kg
Mushroom Column Spring	24 kg

Foundation Anchor

height	0.40 m
diameter	0.30 m
weight	8 kg

Components

1 part each

Installation information

Surfacing requirements
 recommendation: paving stone or similar with gully.

The Mushroom Spring **Order No. 5.18000** can be installed on natural stone, pedestal etc.

Order No. 5.18002 as before, but with programmable rinsing device for direct connection to pressure line.

The Mushroom Spring **Order No. 5.18005** can be installed on concrete Water Basins **Order No. 5.22000, 5.22100, 5.24200** and **5.24400**.

The Mushroom Column Spring **Order No. 5.18030** can be installed in site concrete foundation.

1 item 40 x 40 x 30 cm
 excavation depth 60 cm

The Mushroom Spring and the Mushroom Column Spring needs to be connected directly to the mains water (2.5 - max. 6 bar);
 connection thread 3/4 inch inside (we recommend a compression proof diameter 3/4 inch), water requirement approx. 24l/min

During the frost period the inset with the valve needs to be disassembled. The opening can be closed with a winter lid Order No. 0.97840 (see price list).

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).



5.18000 - 5.18005



5.18006



5.18030

Play value

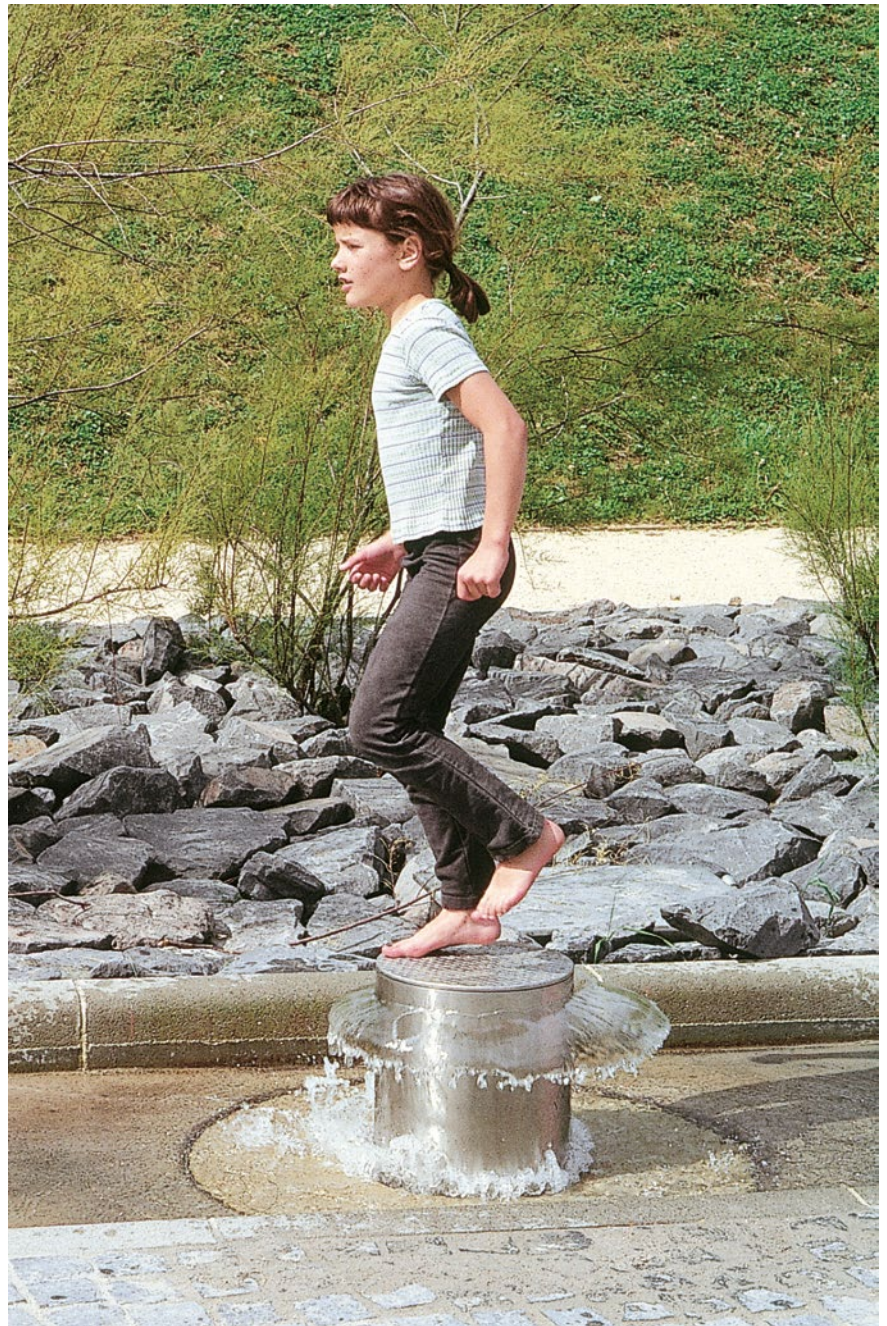
By standing, jumping up and down or shifting one's weight, water is coming out from the metal cylinder. When a certain balance is achieved, the water gets the shape of a „mushroom“. The opportunity of creating a nicely shaped, regular water cap by one's own movement is motivating and gives satisfaction. The Mushroom Fountain can also be used as water supply - as a kind of foot pump - for small currents of water which can be created for a short time by play.

Fundamental characteristics

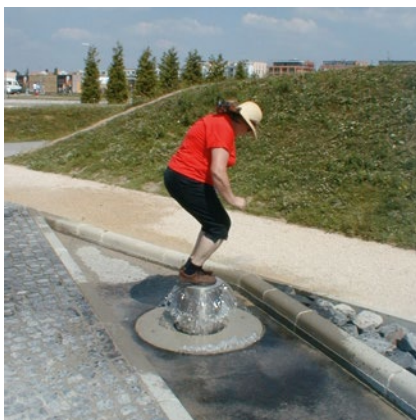
- Combination of water supply and shaping of water
- Unique and original
- Incentive for playing: gleaming metal surface, curiosity
- Movement: jumping, shifting one's weight

Recommended for

- Schoolchildren
- Water play areas with and without supervision

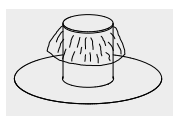


Mushroom Fountain



Planning information

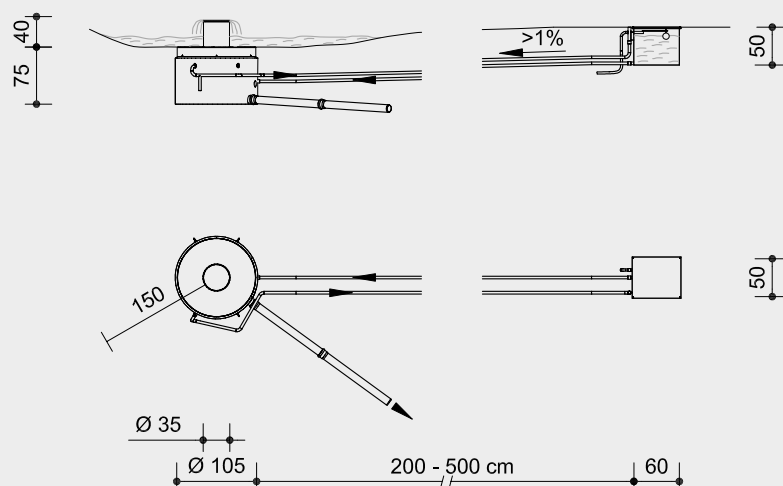
Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.



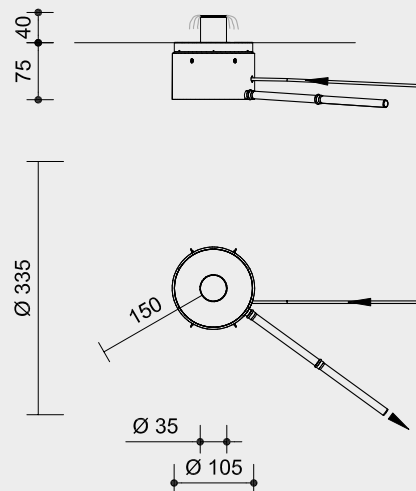
5.25500 / 5.25600

Order No. 5.25500
Mushroom Fountain

for installation in a water basin


Order No. 5.25600
Mushroom Fountain

for installation in dry areas



Scale 1:100

Safety check according to EN 1176

Components
Order No. 5.25500 Mushroom Fountain

- 1 Mushroom Pump pre-assembled in concrete housing with lid
- 1 Winter lid made of stainless steel
- 1 Water reservoir

Order No. 5.25600 Mushroom Fountain

- 1 Mushroom Pump pre-assembled in concrete housing with lid
- 1 Winter lid made of stainless steel

Installation information

Surfacing requirements corresponding to a fall height of ≤ 0.60 m (please refer to price list for more detailed information)
 Recommendation: reinforced surface or water tight surface, no sand, no gravel

Foundations
 Excavation depth for concrete well
 $\varnothing 1.50$ m, depth 0.60 m / 0.75 m

During sub zero conditions the part with the pump cylinder must be dismantled and removed. Also included in the components is a lid with which the shaft is sealed during the frosty season.

Technical information

cylinder of stainless steel, glass bead blasted
 standing plate of embossed sheet with circular opening
 both lids of concrete,
 summer lid with rubber seal
 water reservoir of stainless steel, glass bead blasted
 connection to the pressure line max. 6 bar, connection thread 1 inch inside (we recommend a compression proof diameter 3/4 inch), water requirement approx. 40l/min

Order No. 5.25500 Mushroom Fountain

the concrete housing contains:
 suction pump with footplate, drainage connection and a connection for the air escape tube
 water supply through a 1 1/2 inch PE-tube from a slightly raised water reservoir with floating valve
 the water reservoir is outside the water basin
 Parallel to the water supply there must be installed an exhaust pipe for pressure compensation.

Order No. 5.25600 Mushroom Fountain

The storage container is integrated in the shaft. The other parts are identical in construction.

Dimensions

Order No. 5.25500 Mushroom Fountain

standing plate

diameter 0.35 m
 height 0.40 m

concrete housing

diameter 1.10 m
 height 0.75 m

= installation depth

water reservoir with floating valve

length 0.60 m
 width 0.50 m
 depth 0.50 m
 total weight 800 kg

Order No. 5.25600 Mushroom Fountain

standing plate

diameter 0.35 m
 height 0.40 m

concrete housing

diameter 1.10 m
 height 0.75 m

= installation depth

total weight 800 kg

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

5.25500 / 5.25600

22



Photo © Daniel Perales

Transporting Water



Photo © Paul Upward Photography

Play value

A floating water supply often is the central feature of water play. A great way of moving water from a lower to a higher level is the Archimedes Screw, the old principle of water screws. Its turning draws water from the lower basin as it travels upwards with the movement of the spiral and pours it into the upper basin. This physical process is precisely observed and used with great pleasure as a means of transporting water. The open spiral makes the procedure visible and it is even possible to use it for transporting solid materials e.g. gravel.



Photo © Daniel Perales



Archimedes Screws with different drive mechanisms

Fundamental characteristics

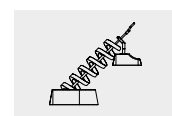
- High-quality design
- Surprising old principle
- Encourages co-operation and communication
- Incentive for playing: appealing design, curiosity
- Movement: physical effort, turning

Recommended for

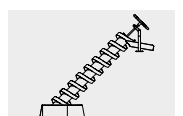
- Schoolchildren
- Young people
- Public play areas without supervision such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar

Barrier-free

- Independent play



5.20500

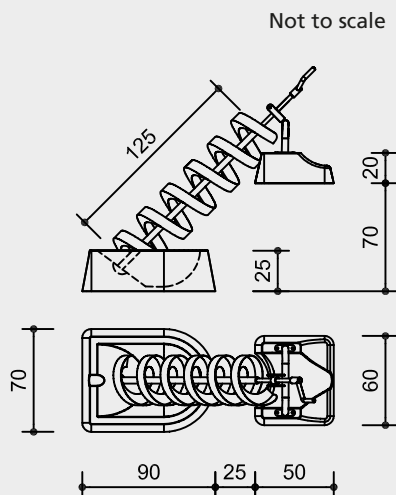


5.20800

Order No. 5.20500

Archimedes Screw

open, stainless steel
concrete basin at the bottom
open screw, flank height 7 cm
length 1.25 m
drive mechanism with crank
fixing with support bow
run-out at the top into concrete basin

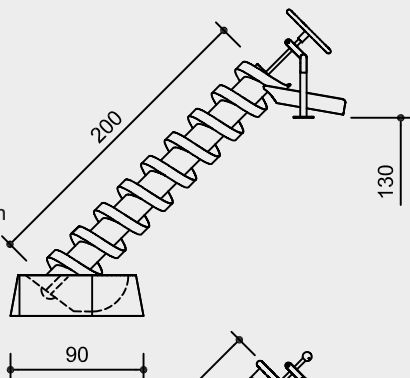


Order No. 5.20800, project customized

Archimedes Screw open, stainless steel Examples with 45° inclination

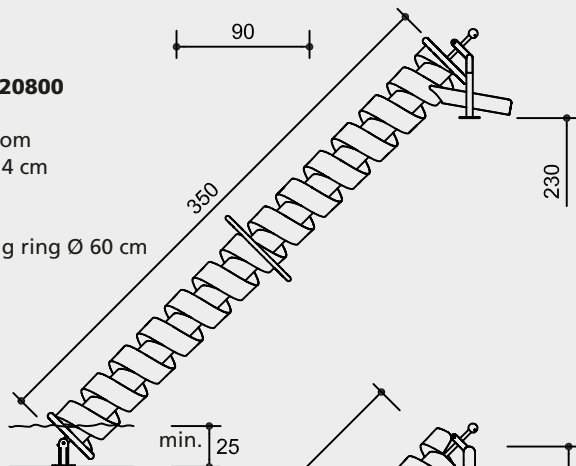
Example 1, Order No. 5.20800

concrete basin at the bottom
open screw, flank height 7 cm
length 2.00 m
drive mechanism with hand wheel, Ø 40 cm
fixing at the top with high support bow
on channel or similar built on site
on channel or similar
built on site



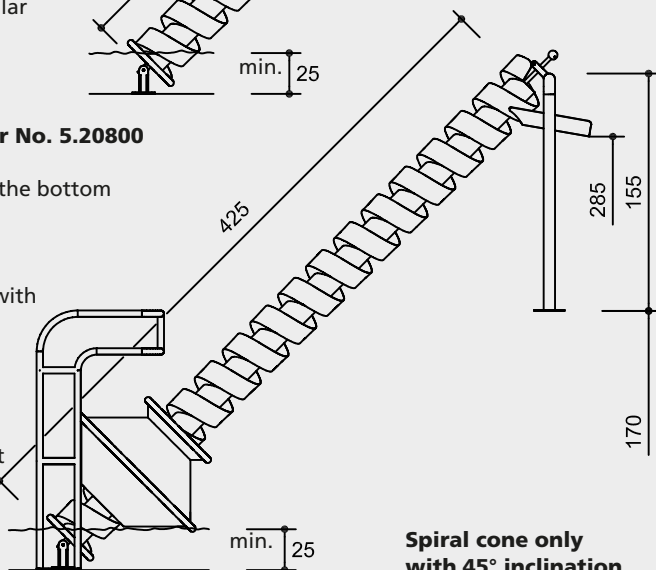
Example 2, Order No. 5.20800

fixing flange and
protecting disc at the bottom
open screw, flank height 14 cm
length 3.50 m
with strong axle
drive mechanism w. turning ring Ø 60 cm
return stop
fixing at the top
with high support bow
and run-out basin
on channel or similar
built on site



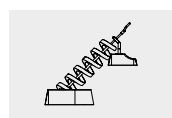
Example 3, Order No. 5.20800

fixing flange and
protecting disc at the bottom
open screw
length 4.25 m
with strong axle
drive mechanism with
spiral cone
incl. return stop
and frame
fixing at the top
with high
reinforced support
bow and
run-out basin
on channel
or similar
built on site

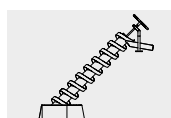


**Spiral cone only
with 45° inclination**

Safety check according to EN 1176



5.20500



5.20800

Attention:

**Exact measurements may vary, for
all installation dimensions refer to
current assembly instructions.**
Technical changes reserved.

Technical information

All Archimedes Screws are provided with
self-lubricating bearings.

**Order No. 5.20500 Archimedes Screw
open**, stainless steel, glass bead blasted,
s. sketch

**Order No. 5.20800 Archimedes Screw
open**, stainless steel, glass bead blasted,
s. examples

open screw with two flank heights:
7 cm for conveying approx. 0.3 l/rotation,
min. water level 20 cm
14 cm for conveying approx. 1.5 l/rotation,
min. water level 25 cm

Dimensions

(small deviations possible)

see examples

Optimum conveyance is achieved at
45° inclination.

The Archimedes Screws have been
designed as a modular system – suitable
bearings, drive mechanisms and fixing
elements can be combined as desired.

lower bearing - Concrete basin
- Fixing flange
with protecting disc

drive - Crank mechanism
- Hand wheel
Ø 40/Ø 60 cm
- Turning ring, in any axial
position Ø 60 cm
- Spiral cone, in any axial
position

top fixing - Bow with concrete basin
- High support bow with/
without run-out basin
- High reinforced support
bow
tube diameter 60.3 mm
variable height
up to 1 m
- High reinforced
support bow
tube diameter 76 mm
variable height
from 1 to 2 m
- Support bow for
round water basins
5.24200/5.24400

Weight and included components
depending on equipment type.

Installation information

Surfacing requirements
no fall height according to standard
Recommendation: underground
adequate for heavy duty bolting with
drainage
Water supply as well as reservoir and
collecting basin, if applicable, to be
provided on site (by customer).

Foundation – depending on type

**For use in aggressive environments
such as salt or chlorine water, the
equipment is also available in
marine grade steel (V4A).**

Design

We have developed different screws and drive mechanisms in order to enlarge the scope of use for the designer. The open screw with high or low rim can surmount large differences in height and demonstrates in an impressive way the physical effect of the Archimedeian principle. The use of various drive mechanisms such as crank, turning ring and hand wheel is closely linked to the length of the spiral and the required effort for turning it.

Planning information

We gladly offer our support during your planning process, to help you find the right accessories.

To do so, we need information on the levels of the lower water basin and the run-out, the desired water output and the type of water supply.

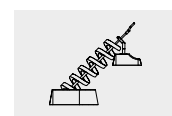


Photo © Daniel Perales

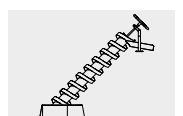


Photo © Daniel Perales

Archimedes Screws with different drive mechanisms



5.20500



5.20800



Photo © Paul Upward Photography

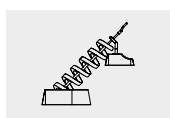


David and Goliath

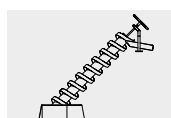
You have to use all your physical strength to be able to transport water from a low level to a much higher one using the spiral cone. The running drum can be positioned at different heights; at the bottom to "screw" water upwards or at the top to convey water from the bottom to the top. This special Archimedes Screw therefore has a similar effect to "David versus Goliath": David's strength is concealed; the screw reaches far down into a well while Goliath impressively displays his entire strength.



Photo © Daniel Perales



5.20500



5.20800

Play value

Water play facilities which are not installed in natural surroundings using the typical design elements, become interesting by other special features. The Rotating Conveyor with its technical appearance scoops water, pours the water in differently shaped containers which get filled one after the other, like a cascade, and finally lets the water flow down. Water can be experienced in a lively, steadily changing form. The Tipper Trays can also be combined with other water scooping elements.



Fundamental characteristics

- Unique and original high-quality metal construction
- Exclusive design
- Incentive for playing: large wheel
- Movement: physical effort

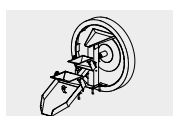
Recommended for

- Kindergarten children
- Schoolchildren
- Public play areas without supervision such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar

Barrier-free

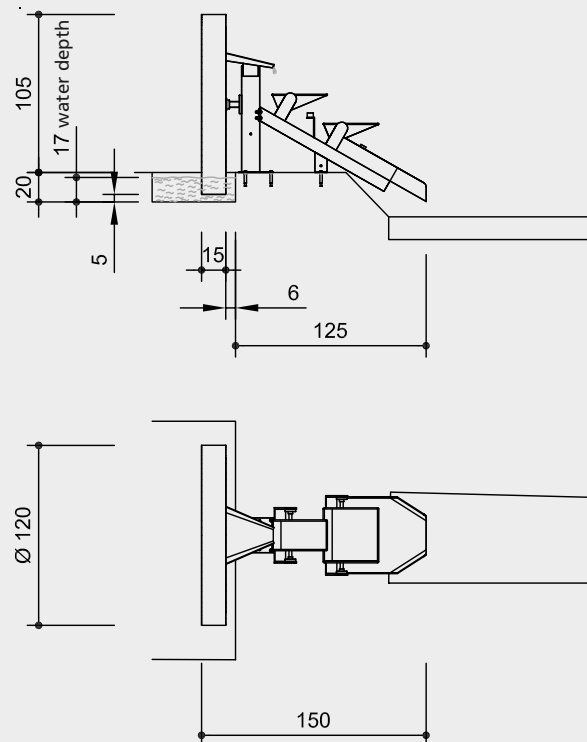
- Independent play

Rotating Conveyor with Tipper Trays



5.20850

Order No. 5.20850
Rotating Conveyor with Tipper Trays



Scale 1:50

Safety check according to EN 1176

Components

- 1 Rotating Conveyor with run out
- 1 Gutter element with 2 Tipper Trays

Installation information

Surfacing requirements
 no fall height according to standard

We recommend underground for heavy
 duty bolting with drainage

- Water depth: for a proper function a min. water depth of 16 cm is required.
- Water supply and water basin have to be provided for on site.

Foundations
 Support posts with flanges for fixation
 with screws.

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
 Technical changes reserved.
For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Technical information

Total equipment made of stainless steel,
 glass bead blasted

Roller bearings

Roller bearings made of stainless steel for
 rotating elements, easy to maintain and
 exchange, sealed

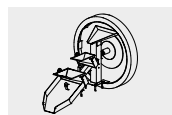


For more detailed explanation of the quality characteristics see price list.

Dimensions

(small deviations possible)

length	1.50 m
diameter	1.20 m
weight	130 kg



5.20850

Play value

This equipment is a nicely shaped water scoop where children can play and observe the flowing characteristics of water. When the wheel is turned around, water is drawn from the basin. The water then pours into the channels on both sides. It is directed by the channels into the flow dish and is redirected from there into the basin through a water outlet pipe. The water quantity coming into the channels varies with relation to the rotating speed of the wheel. The water can, for example, flow from both sides into the dish so that a constantly changing flow configuration results.



Order No. 5.42010 Water Scoop



Photo © Hamish Ta-me

Fundamental characteristics

- Special technical solution for water intake and distribution
- Awarded design
- Through water flow from both sides, special flow configurations can be observed
- The Scooping Wheel can also be combined with other water play systems
- Unique and original
- Incentive for playing: big wheel

Recommended for

- Kindergarten children
- Schoolchildren
- Public play areas without supervision such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar

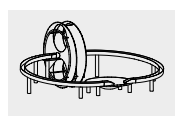
Barrier-free

- Independent play

Scooping Wheel Water Scoop

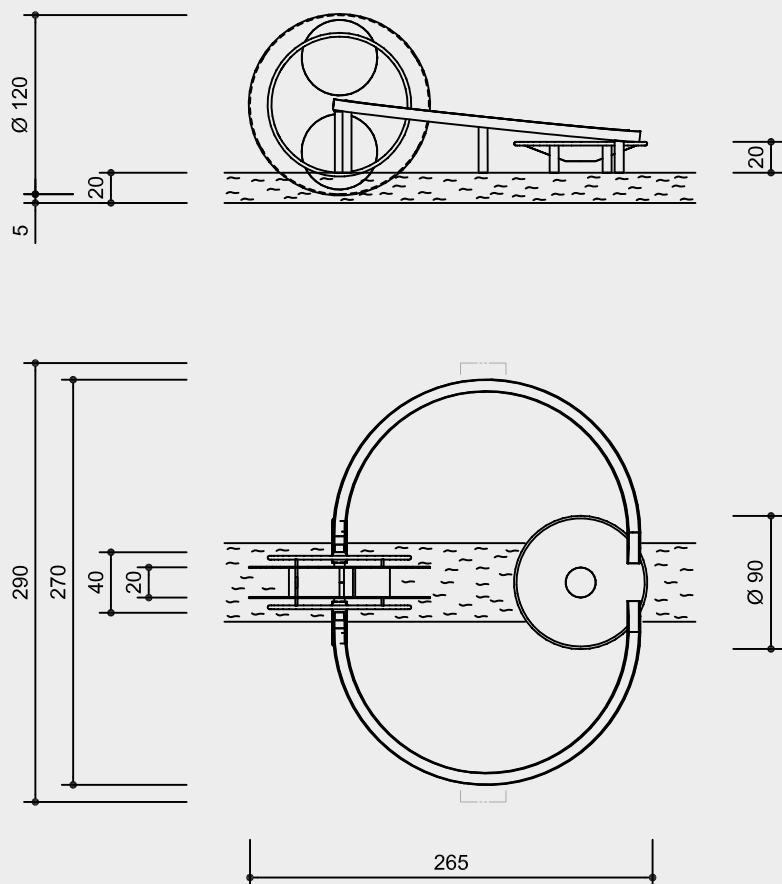


5.20880



5.42010

Order No. 5.42010
Water Scoop



Scale 1:50

Technical information

Total equipment of stainless steel, glass bead blasted

easy drive in maintenance free plastic bearings

grip-friendly rim

Dimensions

(small deviations possible)

Order No. 5.20880 Scooping Wheel

diameter 1.20 m

weight 70 kg

Order No. 5.42010 Water Scoop

height 1.20 m

length 2.65 m

width 2.70 m

weight 130 kg

Flow Dish

diameter 0.90 m

height 0.20 m

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Safety check according to EN 1176

Components

Order No. 5.42010 Water Scoop

1 Scooping Wheel with bearings and alternating water runoff

1 Rack

2 Water channels

1 Flow dish

Order No. 5.20880 Scooping Wheel

1 Scooping Wheel with bearings and alternating water runoff

1 Rack

Installation information

Surfacing requirements

no fall height according to standard

Recommendation: pavement or a similar surface with a runoff for water

- Water depth: for a proper function a min. water depth of 20 cm is required.
- Water supply and water basin have to be provided for on site.

Foundations

Order No. 5.20880 Scooping Wheel

2 items 50 x 30 x 40 cm

Channels

6 items 30 x 30 x 40 cm

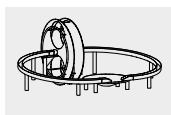
Flow Dish

2 items 65 x 30 x 40 cm

excavation depth each 60 cm



5.20880



5.42010

Play value

It was not Captain Nemo's submarine, but the spiral-shaped snail-shell of nautilus pompilius, a cephalopod, similar to an ammonite, which inspired the designer to this special way of conveying water. When the big disc is turned, the conveyor snail starts taking in water and let it run off through the central hub. The maximum conveying height corresponds to the radius of the wheel. The Nautilus Snail is a very attractive water supply for water play systems and demands physical effort.



Photo © Daniel Perales



Order No. 5.42050 Nautilus Snail with Impulse Gutter

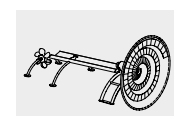
Fundamental characteristics

- High-quality design
- Space-saving type of conveyor screw
- Incentive for playing: big wheel
- Movement: physical effort

Recommended for

- Schoolchildren
- Young people
- Public play areas without supervision such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar
- Water play areas with/without supervision
- Leisure parks

Nautilus Snail with Impulse Gutter and Scooping Wheel Nautilus Snail



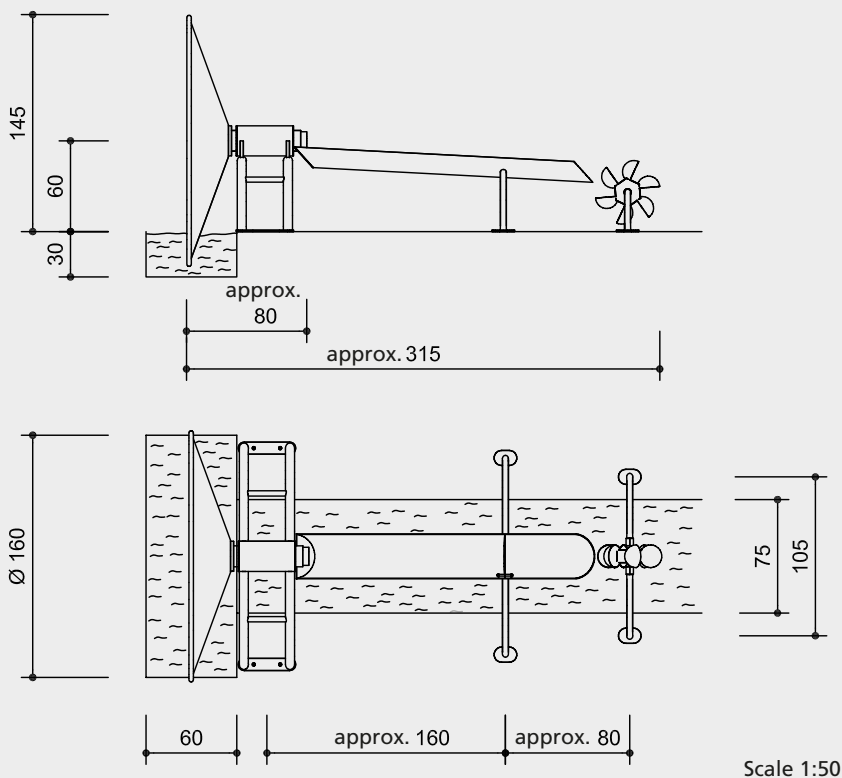
5.42050



5.42060

Order No. 5.42050 Nautilus Snail

with Impulse Gutter and Scooping Wheel



Safety check according to EN 1176

Components

Order No. 5.42050 Nautilus Snail

- 1 Nautilus Snail
 - 1 Rack
 - 1 Impulse Gutter
 - 1 Small Scooping Wheel
- Order No. 5.15910**

Order No. 5.42060 Nautilus Snail

- 1 Nautilus Snail

Installation information

Surfacing requirements
no fall height according to standard

- For a proper function a water depth of at least 30 cm is required. In order to make sure that the Nautilus Snail conveys enough water, it should go approx. 20 cm deep into the water.
- Water supply, scooping and collecting basin need to be provided for by customer.

Foundations
depending on overall installation

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Technical information

Total equipment of stainless steel, glass bead blasted

Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



For more detailed explanation of the quality characteristics see price list.

Order No. 5.42050 Nautilus Snail

Impulse gutter made of stainless steel metal sheet, thickness 2 mm, with grip-friendly rim

locking element of rubber

Small Scooping Wheel

thickness of metal sheet 3 mm
diameter of hemisphere 150 mm

Dimensions

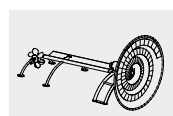
(small deviations possible)

Order No. 5.42050 Nautilus Snail

height	1.45 m
length	3.15 m
diameter	1.60 m
weight	175 kg

Order No. 5.42060 Nautilus Snail

height	1.45 m
length	0.80 m
diameter	1.60 m
weight	140 kg



5.42050



5.42060



Photo © Anton Donikov

Water flows

Play value

Our system of wooden water gutters consists of 10 elements of different shapes and functions which can be combined to individual water play installations. The gutters have different movable shutters, are installed with inclination or horizontal. They allow for interesting water play activities which are particularly attractive for children. The gutters - some of them are as wide as tables - can be used for playing with mud and distributing water. The feet have overlength, therefore it can be cut at different levels on the construction side. By this it is possible to take into account special requirements, e.g. of wheelchair bound children. This system of water gutters can be combined with different water wheels and Archimedes Screws.



Photo © Daniel Perales



Photo © Anton Donikov



Fundamental characteristics

- Child proportions according to ergonomic requirements
- Use of natural wood which is appealing to the senses; the beautiful structure of the wood gets more and more visible by use
- Incentive for playing: wood, sand, water
- Movement: motor activities

Recommended for

- Kindergarten children
- Supervised play areas such as kindergartens, schools, after- school programmes or similar
- Public play areas such as kindergartens, schools, after- school programmes or similar
- Water play areas without supervision

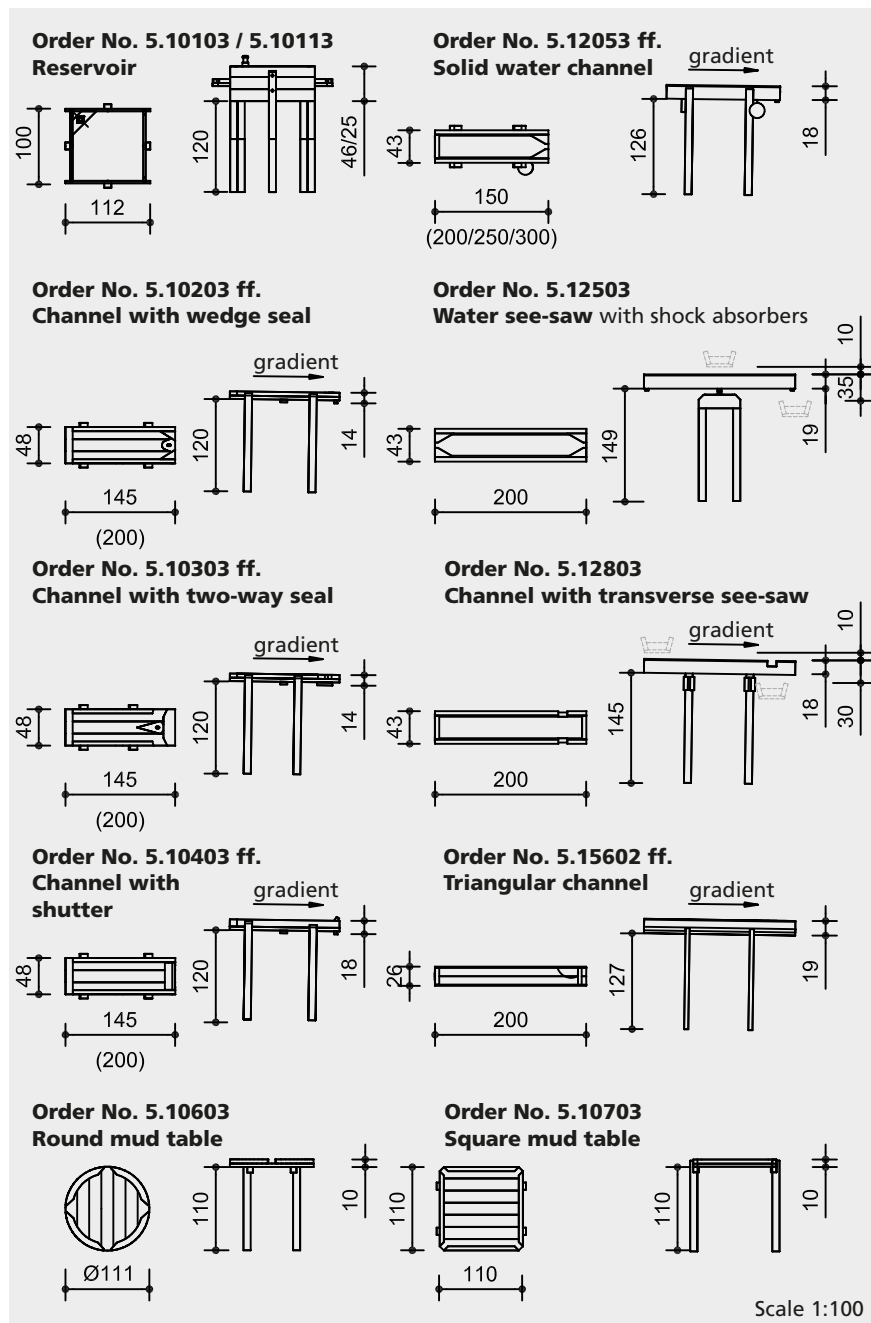
Barrier-free

- Independent play

Water play elements of wood



5.10103 - 5.15602



Safety check according to EN 1176

Components

1 Element
with the corresponding number of
support posts each incl. steel feet



5.10103 - 5.15602

Installation information

Surfacing requirements
no fall height according to standard,
staircase-like constructions may make
necessary an examination of the fall
height

Recommendation: sand with drainage or
paving stone with gully; for playing with
„mud“, sand is required.

Required space according to overall
installation.
Foundations according to overall
installation, excavation depth 70 cm each

Attention:
Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.
Technical changes reserved.

Technical information

equipment of non-impregnated
mountain larch

Core-free

Sawn-timbers core-free, thus decreasing
occurrences of cracking and undesired
changes in shape



Tongue and groove

Tongue and groove planks made of 4 cm
solid wood, highly resilient, no trickling
of dust / sand, protection against direct
rain



Ground anchor

All parts used for anchoring to the
ground are made of hot-dip galvanised
steel or stainless steel



Order No. 5.10.103/5.10113

Plywood

Plywood made of mountain larch,
three-layer (3 cm), five-layer (4 cm). High
dimensional stability, waterproof, glued
according to DIN EN 13353:2011



**For more detailed explanation of the
quality characteristics see price list.**

Order No.

5.10103/5.10203ff./5.10303ff./
5.10403ff./5.15602ff.

sealed with microcellular rubber

Solid channels

Order No. 5.12053, 5.12503, 5.12803
floor plates 10/30 cm

Dimensions

(small deviations possible)

see sketches
weight

30 - 90 kg

Planning information

Equipment marked with a pointing arrow
needs to be installed with a gradient of
approx. 2% (= 2 cm on 1 m). This means
that for planning not only the height
of the equipment but also the gradient
needs to be taken into consideration.

The lengths of the support posts must
be checked for the planned installation
heights. The required lengths of the
support posts need to be calculated by
the customer taking into consideration
the installation depth (depending on the
surface) and the intended height (above
ground).

If several elements are installed in a line,
this might make necessary a correspon-
ding modelling of the ground.

Water and mud

Playing with mud, shaping and building with sand, earth and water is a fundamental human requirement, which even adults find difficult to suppress sometimes. With different types of water play equipment, children can gain insights into different functions and learn physical laws while playing. Troughs, water see-saws and mud tables ensure intense mud play which children often participate in together.



Photo © Daniel Perales

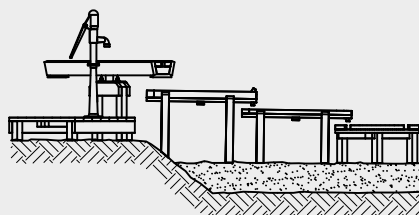
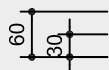


Water play elements
of wood

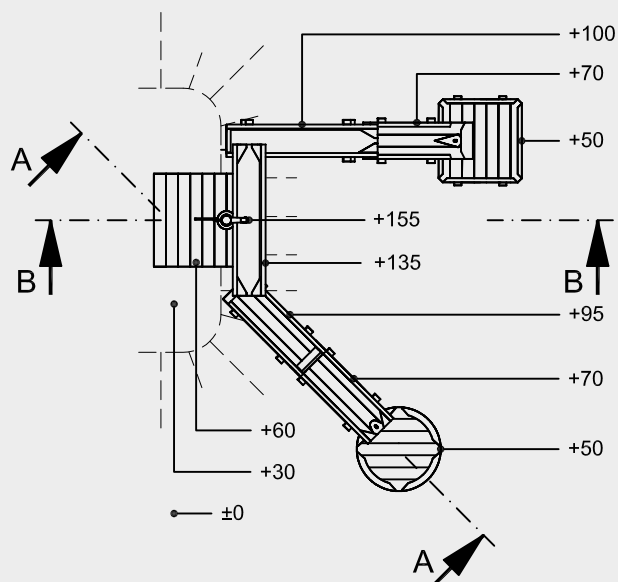
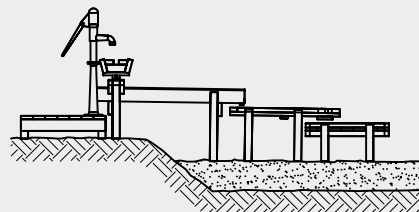
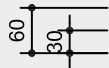


Planning Example

Sectional drawing A



Sectional drawing B

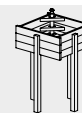


Scale 1:100

* The minimum height difference is the required distance between one element to the next. For see-saws the indicated measurements need to be kept to.

Order No. 5.10103 / 5.10113

is usually allocated to pump, with bung for sealing; height difference 50 cm * / 30 cm



Order No. 5.10203

can be used as water play table; height difference 17 cm *



Order No. 5.10303

can be used as water play table and as distributor channel; height difference 17 cm *



Order No. 5.10403

can be used as water play table; height difference 21 cm *



Order No. 5.10603

is mostly used as final element of a water way, 4 outlets; height difference 18 cm *



Order No. 5.10703

is mostly used as final element of a water way, 4 outlets; height difference 18 cm *



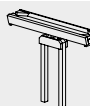
Order No. 5.12053

basic element of this equipment group available up to 3 m length; height difference 25 to 28 cm *



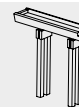
Order No. 5.12503

two-way distributor with sturdy, buffered mechanism height difference 65 cm* to bottom, 15 cm * to top (see side view)



Order No. 5.12803

transverse distributor on rubber buffers; height difference 30 cm* to bottom, 10 cm * to top (see side view)



Order No. 5.15602

standard length 2.00 m, but can also be delivered shorter; height difference 24 cm *



5.10103 - 5.15602



Order No. 5.13000 Water Flooder, Photo © Daniel Perales

Play value

The Water Flooders are suggestive of water spouts and rain gutters. Their deep shape means they can hold a lot of water, provided someone energetically activates the pump. This action allows children to experience swell, flood and fast flowing water.

Fundamental characteristics

- Design with technical appearance
- Incentive for playing: deep shape
- Exercise activity: fine-motor processes, physical effort

Recommended for

- Kindergarten children
- Schoolchildren
- Water play areas without supervision

Barrier-free

- Independent play

Design

The Water Flooders are particularly suited to link bank zones and water areas so that the qualities of both areas become usable as a whole. The gently curved shallow gutters can be installed so that they nearly lie on top of the water. Reflections of images and sparkling light on both the metal and water interact to create an inviting play offer for children. Water Flooders and Water Trays can be combined.



Order No. 5.13052 Water Flooder with locking element, Photo © Daniel Perales

Water play elements of stainless steel Water Flooder



Order No. 5.13000 Water Flooder

Photo © Daniel Perales

Planning information

Equipment marked with an arrow must be installed with a gradient of approx. 2 % (= 2 cm per 1 m). For vertical installation of the feet, the gradient has been taken into account during manufacture. This means that both the height of the equipment and the gradient should be taken into account during planning.



5.13000 - 5.13050

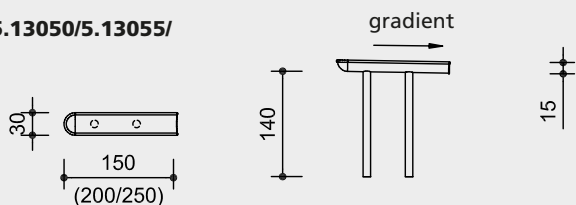
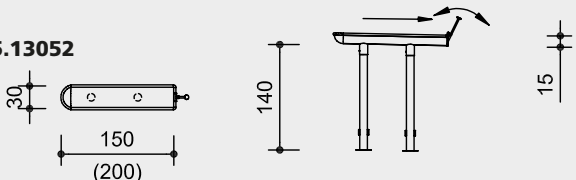


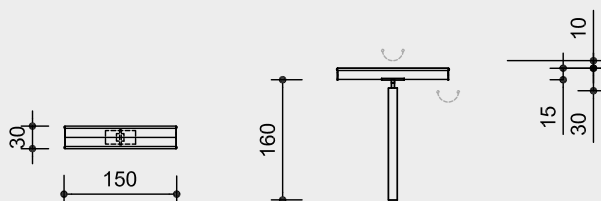
5.13004 / 5.13052



5.13500

Order No. 5.13000/5.13050/5.13055/
Water Flooder

height difference
minimum 24 cm*

Order No. 5.13004/5.13052
Water Flooder with locking element

Order No. 5.13500
See-Saw Flooder

height difference
downwards
minimum 30 cm*
upwards
minimum 10 cm*


Scale 1:100

Safety check according to EN 1176

Components

1 Water play element
including the corresponding number of
support posts for putting on

Installation information

Surfacing requirements
no fall height according to the standard
staircase-like constructions may make it
necessary to check the critical fall heights

Recommendation
Ideally, the equipment will be installed
in sand surfacing with drainage and a
corresponding landscape design.
For installations on paving stone or
similar with gully, it should be checked
whether a sand separator is required.
Required space according to entire
playground.

Foundations according to entire
playground
Depth 70 cm each

Attention:
Exact measurements may vary;
for all installation dimensions refer
to current assembly instructions.
We reserve the right to make technical
alterations!

For use in aggressive environments
such as salt or chlorine water, the
equipment is also available in
marine grade steel (V4A).
Technical information

equipment made of stainless steel sheet
metal, glass-bead blasted, thickness
2 mm, with ergonomic edge

Sintered bush

For all reciprocating movements we use
sintered plain bearings which are self-lubri-
cating in use and can easily be exchanged
if necessary

For more detailed explanation of the
quality characteristics see price list.
for order No. 5.13004/5.13052
Water Flooder

flap with rubber seal, self-closing by the
dead weight of the handle

Dimensions

(small deviations possible)

Order No. 5.13000–5.13500
Water Flooder

stand post Ø 100 mm

Order No. 5.13000 Water Flooder

length 1.50 m
weight 32 kg

Order No. 5.13002 Water Flooder
with 1 foot

length 1.00 m
weight 18 kg

Order No. 5.13004 Water Flooder
with locking element

length 1.50 m
weight 35 kg

Order No. 5.13050 Water Flooder

length 2.00 m
weight 36 kg

Order No. 5.13052 Water Flooder
with locking element

length 2.00 m
weight 39 kg

Order No. 5.13055 Water Flooder

length 2.50 m
weight 40 kg

Order No. 5.13070 Water Flooder
with 3 feet

length 3.00 m
weight 36 kg

Order No. 5.13500 See-Saw Flooder

length 3.00 m
weight 54 kg

* The minimum height difference
is the required distance between
a piece of equipment and the next
(downstream). In the case of movab-
le gutters, the specified dimensions
for functionality and safety must be
observed.


5.13000 - 5.13050



5.13004 / 5.13052



5.13500

Play value

These nicely shaped water trays can be arranged in many different ways and can be combined to suit the location. Just like our wooden water play elements, this series also offers static and movable trays as well as different flaps, damming seals and water tables.

Fundamental characteristics

- Special design
- Incentive for playing: wide shape, light reflections, damming seals
- Exercise activity: fine-motor processes, physical effort

Recommended for

- Kindergarten children
- Schoolchildren
- Water play areas without supervision

Barrier-free

- Independant play

Design

The Water Trays are particularly suited to link bank zones and water areas so that the qualities of both areas become usable as a whole. The gently curved shallow gutters can be installed so that they nearly lie on top of the water. Reflections of images and sparkling light on both the metal and water interact to create an inviting play offer for children. Water Trays and Water Flooders can be combined.

Installation information

Surfacing requirements
no fall height according to the standard staircase-like constructions may make it necessary to check the critical fall heights



Photo © Daniel Perales

Water play elements of stainless steel

Water Tray

Recommendation

Ideally, the equipment will be installed in sand surfacing with drainage and a corresponding landscape design. For installations on paving stone or similar with gully, it should be checked whether a sand separator is required. Required space according to entire playground

Foundations according to entire playground approx. 50 x 50 x 50 cm for each stand post Excavation depth 70 cm



5.14050 -
5.14080 / 5.14800



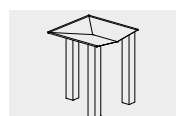
5.14200



5.14400 - 5.14453



5.14520

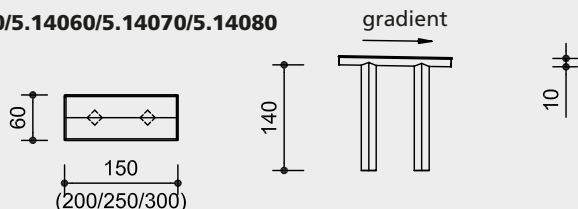


5.14700

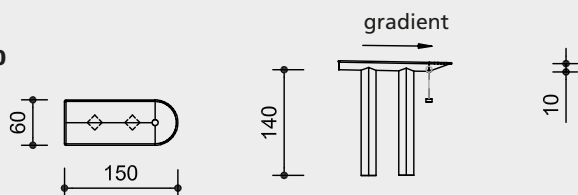
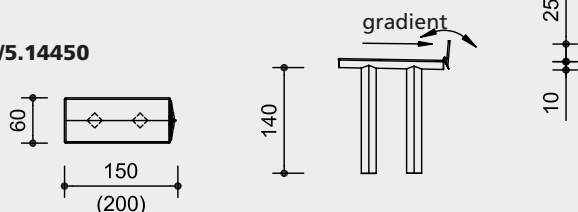


Order No. 5.14050/5.14060/5.14070/5.14080
Water Tray

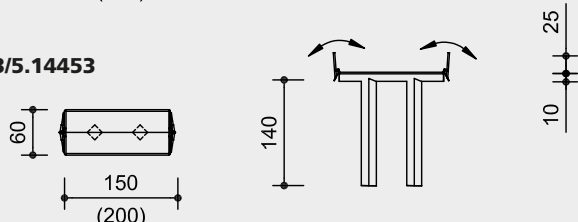
height difference
minimum
14–16 cm*


Order No. 5.14200
Water Trays with Ball Shutter

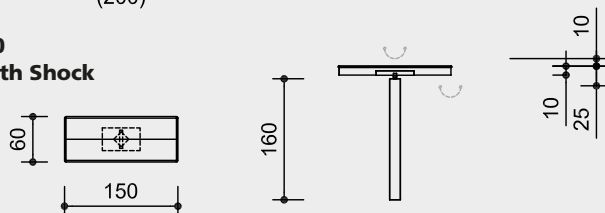
height difference
minimum 14 cm*


Order No. 5.14400/5.14450
Water Tray with 1 Seal

Order No. 5.14403/5.14453
with 2 Seals

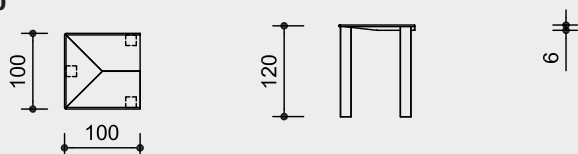
height difference
minimum 14 cm*


Order No. 5.14520
See-Saw Basin with Shock Absorber

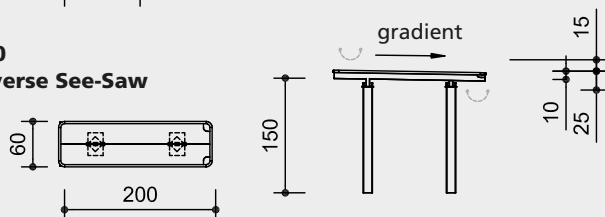
height difference
downwards
minimum 26 cm*
upwards
minimum 10 cm*


Order No. 5.14700
Mud Trough

height difference
minimum 6 cm*


Order No. 5.14800
Basin with Transverse See-Saw

height difference
downwards
minimum 25 cm*
upwards
minimum 15 cm*



Scale 1:100

Safety check according to EN 1176

* The minimum height difference is the required distance between a piece of equipment and the next (downstream). In the case of movable gutters, the specified dimensions for functionality and safety must be observed.

Attention:

Exact measurements may vary; for all installation dimensions refer to current assembly instructions.

We reserve the right to make technical alterations!

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).


5.14050 -
5.14080 / 5.14800

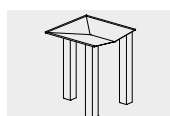

5.14200



5.14400 - 5.14453



5.14520



5.14700

Technical information

equipment made of stainless steel sheet metal, glass-bead blasted, thickness 2 mm, with ergonomic edge

Sintered bush

For all reciprocating movements we use sintered plain bearings which are self-lubricating in use and can easily be exchanged if necessary



For more detailed explanation of the quality characteristics see price list.

Shutters
for Order No. 5.14200 Water Trays with Ball Shutter

polyamide ball, diameter 80 mm

for Order No.
5.14400/5.14403/5.14453 Water Tray with 1 or 2 Seals

flap with rubber seal, self-closing by the dead weight of the handle

Dimensions

(small deviations possible)

Order No.
5.14050/5.14060/5.14070/5.14080

length 1.50 m/2.00 m/2.50 m/3.00 m

weight 46–64 kg

Order No. 5.14200 Water Trays with Ball Shutter

length 1.50 m

weight 56 kg

Order No 5.14400/5.14450 Water Tray with 1 Seal

length 1.50 m/2.00 m

weight 67 kg

Order No. 5.14403/5.14453 Water Tray with 2 Seals

length 1.50 m/2.00 m

weight 80 kg

Order No. 5.14520 See-Saw Basin with Shock Absorber

length 1.50 m

weight 56 kg

Order No. 5.14700 Mud Trough

external dim. 1.00 m x 1.00 m

weight 51 kg

Order No. 5.14800 Basin with Transverse See-Saw

length 2.00 m

weight 58 kg

Components

1 water play element

including the corresponding number of support posts for putting on

Planning information

Equipment marked with an arrow must be installed with a gradient of approx. 2 % (= 2 cm per 1 m). For vertical installation of the feet, the gradient has been taken into account during manufacture. This means that both the height of the equipment and the gradient should be taken into account during planning.



Order No. 5.24000 Round Water Basin with 1 opening

Play value

The arrangement of these large basins has a strong aesthetic value. They serve as „mud table“ and water basin at the same time. Furthermore, their durability is extremely good. Thanks to the run-outs on one or two sides of the dish, it is possible to combine the dishes to become a water path with a variety of flow possibilities. It is possible to dam up a large quantity of water within the deep, round storage basin. When opening the seals, the force of the concentrated flow of water can be used for driving a water wheel.

Fundamental characteristics

- High-quality design
- Incentive for playing: water, round shape, locking elements
- Movement: fine motor activity, accompanying the water flow

Recommended

- Kindergarten children
- School children
- Water play areas without supervision



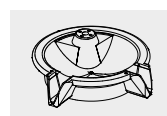
Order No. 5.22000 Round Reservoir with 2 openings, Photo © Daniel Perales



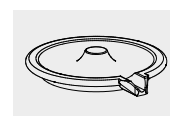
Order No. 5.17510 Top of Playground Pump

Water play elements of concrete

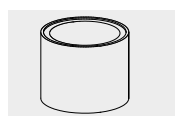
Round Reservoir
Round Water Basin
Pedestal Pipe



5.22000 - 5.22100

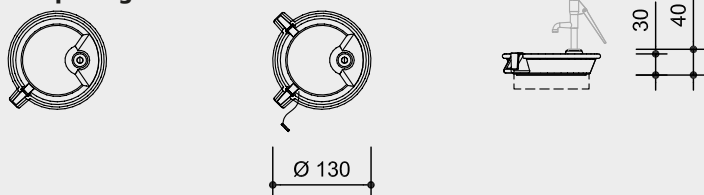


5.24000 - 5.24400

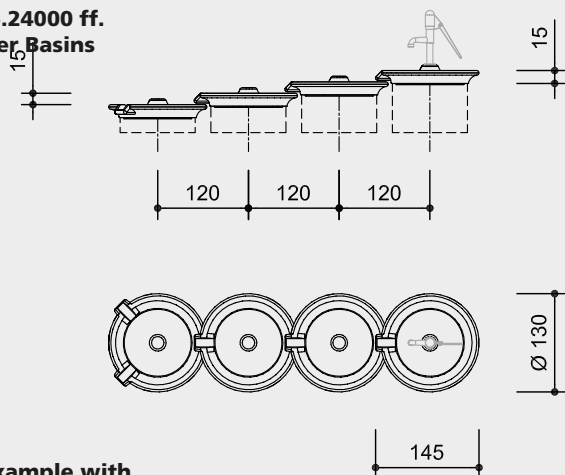


5.24520 - 5.24580

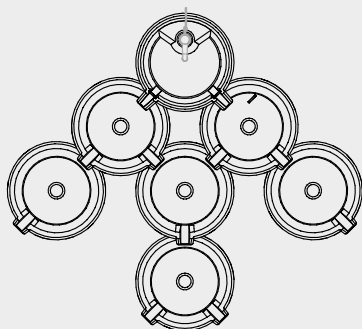
Order No. 5.22000 ff. Round Reservoirs with 1 or 2 openings



Order No. 5.24000 ff. Round Water Basins



Planning example with different concrete basins



Scale 1:100

Safety check according to EN 1176

Components

1 Round Reservoir with pump connection and 2 openings	Order No. 5.22000
1 Round Reservoir as before, with 1 opening	5.22100
1 Round Water Basin with 1 opening	5.24000
1 Round Water Basin as before, with pump connection	5.24200
1 Round Water Basin with 2 openings	5.24300
1 Round Water Basin as before, with pump connection	5.24400
1 Pedestal Pipe height 20 - 80 cm	5.24520 - 5.24580

Installation information

Surfacing requirements
no fall height according to standard;
staircase-like constructions may make an
examination of the fall height necessary

Recommendation: sand with drainage
or paving stone with gully; for playing
with „mud“, sand is required.

Required space and foundations
according to overall installation.

For getting the required height diffe-
rence, 1 pedestal pipe per basin is needed
Order No. 5.24520 - 5.24580 on
concrete foundation

Technical information

Each dish is cast as 1 part of reinforced
concrete C 40/50 sandblasted

locking elements of the reservoirs of
vulcanised rubber on hot-dip galvanised
chain and grip made of stainless steel

Order No. 5.22000/5.22100

Chains

Chains made of hot-dip galvanized steel
(1.4301 / 1.4571 at extra charge) welded
before galvanising, short-linked, without
eyelets on the connecting parts, easy to
exchange and shorten



**For more detailed explanation of the
quality characteristics see price list.**

Dimensions

(small deviations possible)

Order No. 5.22000/5.22100

Round Reservoirs

outside diameter	1.30 m
equipment height	0.40 m
weight	520/510 kg

Order No.

5.24000/5.24200/5.24300/5.24400

Round Water Basins

outside diameter	1.30 m
equipment height	0.15 m
weight	260 - 280 kg

Order No. 5.24520

Pedestal Pipe

outside diameter	1.00 m
height	0.20 m
weight	145 kg

Order No. 5.24540

Pedestal Pipe

outside diameter	1.00 m
height	0.40 m
weight	295 kg

Order No. 5.24560

Pedestal Pipe

outside diameter	1.00 m
height	0.60 m
weight	445 kg

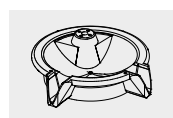
Order No. 5.24580

Pedestal Pipe

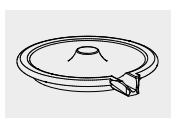
outside diameter	1.00 m
height	0.80 m
weight	590 kg

Attention:

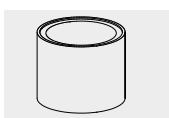
**Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.**
Technical changes reserved.



5.22000 - 5.22100



5.24000 - 5.24400



5.24520 - 5.24580

Play value

The water play installation AQuadrat® is a flexible modular system made of larch with gutters made of stainless steel. Due to its design qualities, it can be installed in pedestrian zones, streets and piazzas. Here, AQuadrat® is not only an attractive meeting point with unusual seats, it offers „clean“ play and adventure for children with water in surroundings unfamiliar for playing. AQuadrat® enriches urban life. On the other hand, due to its sturdy construction and many possibilities for combination with Archimedes Screws, Water Wheels or Pumps, AQuadrat® is also an attractive play offer in water-mud-areas on playgrounds.

Fundamental characteristics

- High-quality design
- Unusual seats
- Modular system

Recommended for

- Kindergarten children
- School children
- Public play areas such as kindergartens, schools, after- school programmes or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar

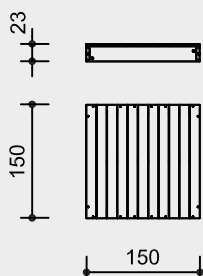


AQuadrat®

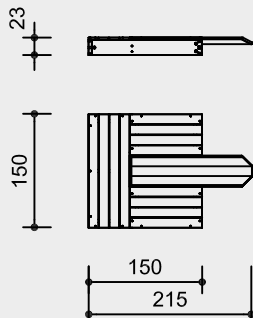


5.51000 - 5.53400

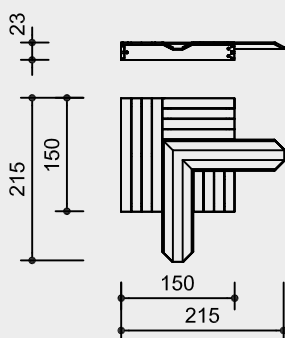
Order No. 5.53000 AQuadrat®



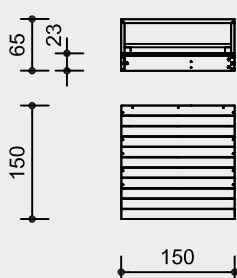
Order No. 5.51000 AQuadrat® with straight gutter



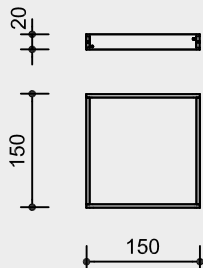
Order No. 5.52000 AQuadrat® with angled gutter and seal



Order No. 5.53100 AQuadrat® with bench

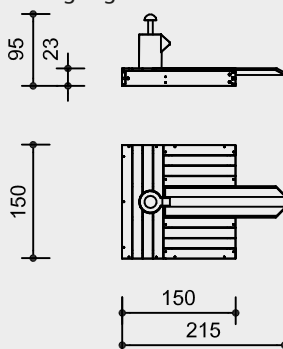


Order No. 5.53010 AQuadrat® substructure without feet



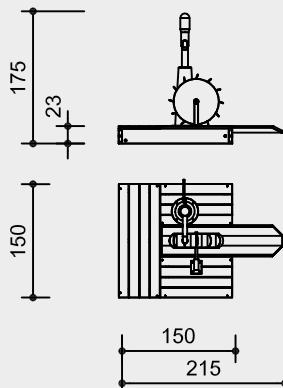
Order No. 5.51010 AQuadrat®

with straight gutter and Mushroom Pump

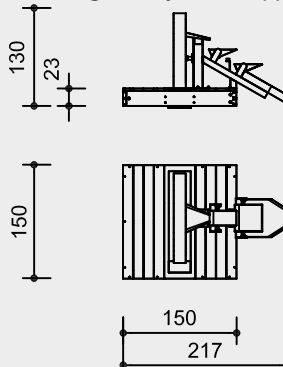


Order No. 5.53200 AQuadrat®

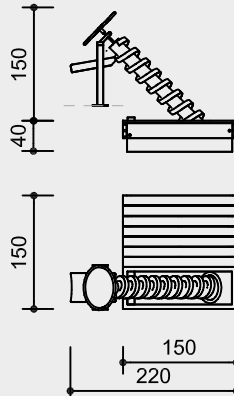
with Playground Pump and Water Wheel



Order No. 5.53300 AQuadrat® with rotating conveyor and tipper tray

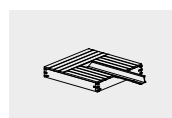


Order No. 5.53400 AQuadrat® with Archimedes Screw, supporting construction and run out dish



Scale 1:100

Safety check according to EN 1176



5.51000 - 5.53400

Technical information

Pedestals
modular system of non-impregnated
mountain larch, in high-quality and
superior construction

Core-free

Sawn-timbers core-free, thus decreasing
occurrences of cracking and undesired
changes in shape



Ground anchor

All parts used for anchoring to the
ground are made of hot-dip galvanised
steel or stainless steel



For more detailed explanation of the quality characteristics see price list.

with dovetail jointed corners
gutters of stainless steel, glass bead
blasted
functional elements of stainless steel,
glass bead blasted and industrial rubber

For more detailed explanation of the quality characteristics see price list.

Up-to-date details on the connection for
the water supply for **Order No. 5.51010**
und **Order No. 5.53200** see **Order No.**
5.18000 Mushroom Spring and **Order**
No. 5.17630 Playground Pump.

For **Order No. 5.53300** and **Order No.**
5.53400 connection to mains water max.
6 bar, required diameter for water supply
3/4 inch inside (we recommend
a compression proof diameter 3/4
inch)

Dimensions

(small deviations possible)

size of module	1.50 x 1.50 m
height of single elements	0.23 m
height of the substructure	0.20 m

Components

depending on the overall installation

Installation information

Surfacing requirements
no fall height according to standard;
a staircase like construction may make
necessary a check of the critical fall
heights.

Recommendation: sand with drainage
and pavement with gully and correspond-
ing landscaping.

Foundations per corner
1 item 50 x 50 x 50 cm
excavation depth 70 cm

Attention:

**Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.**

Technical changes reserved.

**For use in aggressive environments
such as salt or chlorine water, the
equipment is also available in marine
grade steel (V4A).**

Play value

Flowing water ignites a child's world of fantasy in a whole range of ways. Direct contact with the wet element inspires the young spirit to ceaselessly explore and seek out as-yet-undiscovered secrets. By repeatedly touching a button, the device fills with water bit by bit, and, with a simple movement of the lever, can be channelled into the sloping level. There the water is transformed by flexible, projecting obstacles into an eddying flow before it collects in the attached shallow water basin.



Mobile Water Playground

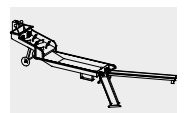
Overflow installations prevent flooding of the immediate area. Two steel channels at the end of the basin make sure that the dammed water flows off in a targeted way.

Fundamental characteristics

- Mobile installation thanks to the "wheelbarrow" design
- Simple plug-in connection with garden hose
- Motivates group organisation
- Exercise activity: fine motor skills

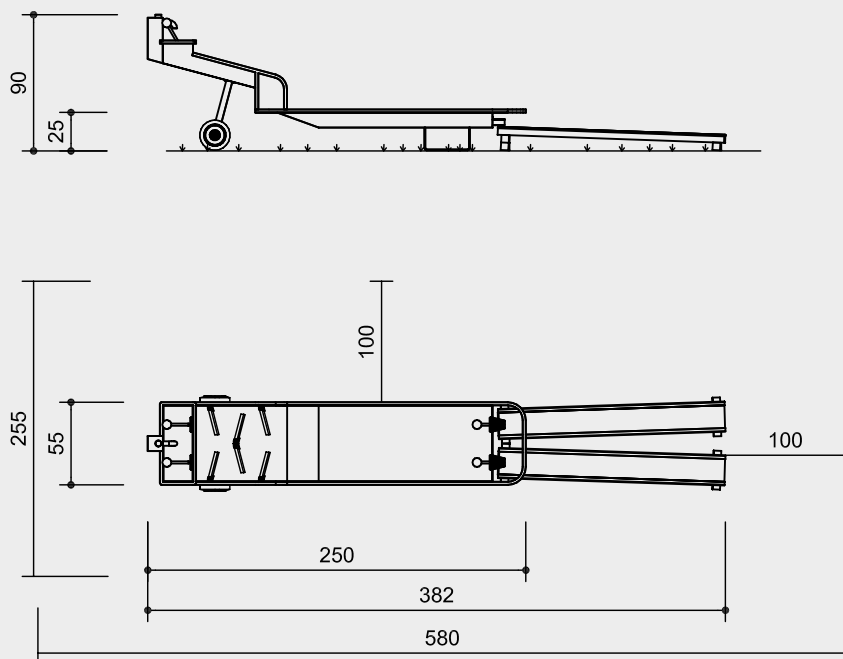
Recommended for

- Kindergarten children
- Supervised play areas such as kindergartens, schools, after-school programmes or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar



5.21800

Order No. 5.21800
Mobile Water Playground



Scale 1:50

Safety check according to EN 1176

Technical information

equipment made of stainless steel, glass
 bead blasted

rubber-tyred wheels

flow obstacles made of rubber flaps

Dimensions

(small deviations possible)

main equipment	
height	0.90 m
length	2.50 m
width	0.55 m
gutter length	1.50 m
weight	90 kg

Components

- 1 Mobile water playground
- 2 Water outlet gutters

Installation information

Surfacing requirements
 turf, topsoil, paving or similar
 with adequate drainage for water

The water playground is not stationary
 equipment and does not require
 foundations.

It can be connected to a commercially
 available garden hose on site.

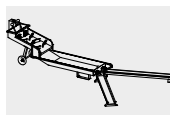
The water outlet gutters are not fixed
 permanently to the main equipment.
 They can be run in parallel or at any
 desired angle.

Attention:

**Exact measurements may vary, for
 all installation dimensions refer to
 current installation instructions.**

Technical changes reserved.

**For use in aggressive environments
 such as salt or chlorine water, the
 equipment is also available in
 marine grade steel (V4A).**



5.21800

Play value

It is always easier to understand physical phenomena when one can observe it in real life. The experience is particularly intense when the result can be achieved by doing it one's self. This table, with its adjustable barriers forming obstacles to the flowing water, allows such an experience. Pictures of water currents flowing at different speeds become recognisable, as do whirls, whirlpools and meanders. When sand or gravel is added, one can watch the formation of islands or counter-currents. A special cognitive learning process is then afforded to children to aid their understanding. This is however not absolutely vital for being able to enjoy this instructive game.

Fundamental characteristics

- Easy handling
- Sturdy construction
- Differently shaped flow obstacles made of rubber for experiencing flow phenomena
- Incentive for playing: flow obstacles

Recommended for

- Kindergarten children
- Schoolchildren
- Public play areas without supervision such as playgrounds, parks or similar
- Water play areas without supervision
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar
- Leisure parks

Barrier-free

- Independent play



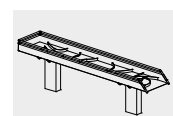
Flow Table



Order No. 5.41020 Flow Table
with additional inlet flap.

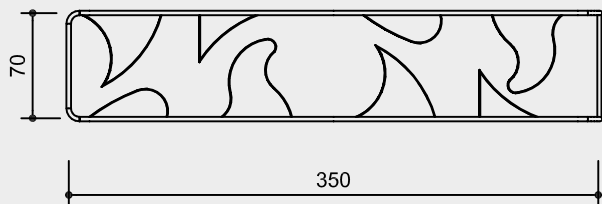
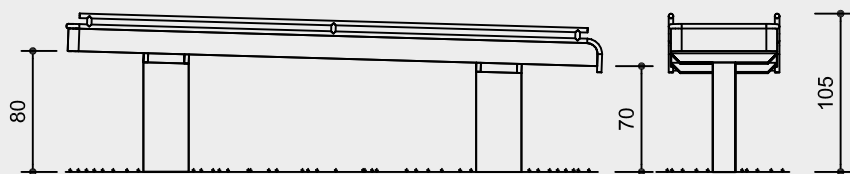
Planning information

In order to be able to watch the streaming phenomena, a sufficiently high flow of water is necessary; e.g. an inlet flap leading from a pond, an Archimedes Screw with high rim allowing for a high transporting capacity, or directly behind a pump within a water play installation.



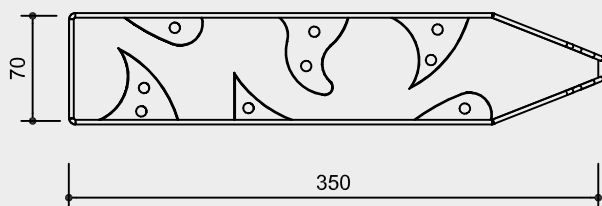
5.41020/5.41030

Order No. 5.41020 Flow Table



Order No. 5.41030 Flow Table

with pointed end on one side



Scale 1:50

Safety check according to EN 1176

Components

Order No. 5.41020 Flow Table

1 Flow Table complete with supporting feet and 8 flow obstacles

Order No. 5.41030 Flow Table

1 Flow Table complete pointed end on one side with supporting feet and 6 flow obstacles

Installation information

Surfacing requirements corresponding to a fall height of ≤ 1.00 m. We recommend pavement or a similar surface with a runoff for water.

Foundations
2 items 50 x 70 x 50 cm
excavation depth 70 cm

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Technical information

Total equipment made of stainless steel, glass bead blasted

obstacles made of weather-proof solid rubber, fixed to chains, moveable along the railing

Dimensions

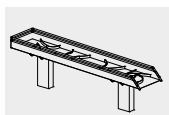
(small deviations possible)

Order No. 5.41020

height	1.05 m
length	3.50 m
width	0.70 m
weight	206 kg

Order No. 5.41030

height	1.05 m
length	3.50 m
width	0.70 m
weight	160 kg



5.41020/5.41030



Damming up Water



Order No. 5.20910 Damming Wedge



Play value

Water play installations become even more attractive when they help to experience water in different ways. Children particularly enjoy damming water. On one hand, they are momentarily the „Master“ of the element water when stemming the flood water and on the other hand, they experience, through play, the water power when opening the lock of the dam.

Fundamental characteristics

- Different ways of damming and collecting water
- Incentive for playing: technical appearance

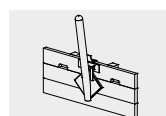
Recommended for

- Kindergarten children
- Schoolchildren
- Water play areas without supervision

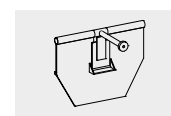


Order No. 5.20900 Dam of Wood

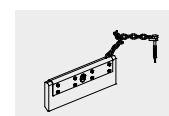
Dam of Wood Water Flap Damming Wedge



5.20900

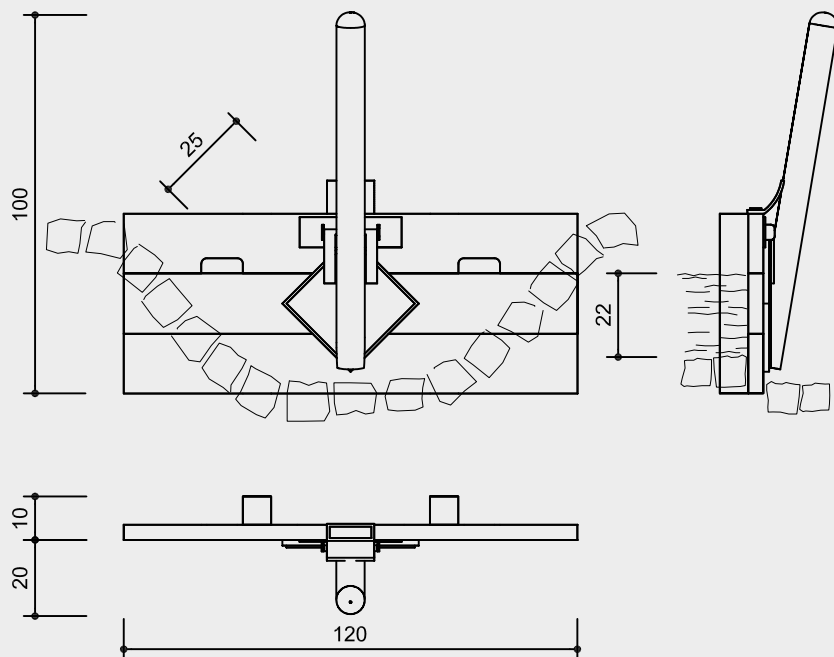


5.20905

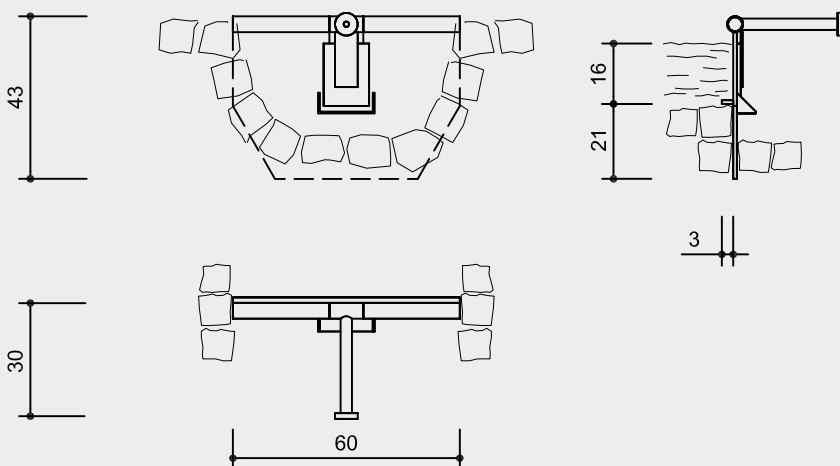


5.20910/5.20915

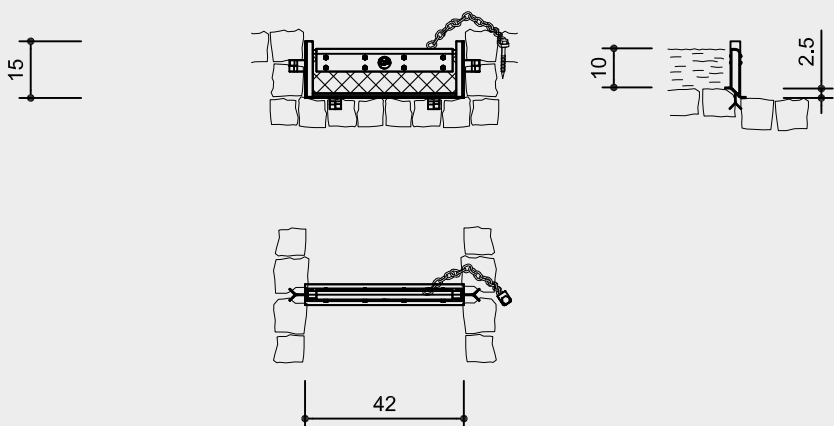
Order No. 5.20900 Dam of Wood



Order No. 5.20905 Water Flap

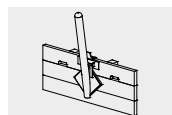


Order No. 5.20910 Damming Wedge

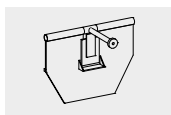


Scale 1:20

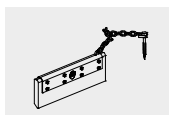
Safety check according to EN 1176



5.20900



5.20905



5.20910/5.20915

Technical information

Order No. 5.20900 Dam of Wood

Tongue and groove

Tongue and groove planks made of 4 cm solid wood, highly resilient, no trickling of dust / sand, protection against direct rain



For more detailed explanation of the quality characteristics see price list.

metal parts of stainless steel,
glass bead blasted
seal of 15 mm rubber plate, opening
sealed with sealing tape

Dimensions

(small deviations possible)
height 1.00 m
width 1.20 m
damming height 0.22 m
weight 27 kg

Order No. 5.20905 Water Flap

basic construction of stainless steel,
glass bead blasted
seal of 10 mm rubber plate

Dimensions

(small deviations possible)
height 0.43 m
width 0.60 m
damming height 0.16 m
weight 20 kg

Order No. 5.20910 Damming Wedge

damming wedge of industrial rubber,
holding device of stainless steel,
glass bead blasted
chain of stainless steel with swivel

Dimensions

(small deviations possible)
height of wedge 0.15 m
width 0.42 m
length of chain 0.30 m
height of threshold 0.025 m
damming height 0.10 m

Order No. 5.20915

damming height 0.20 m
weight 3 kg

Components

Dam of Wood and Water Flap

1 Part

Damming Wedge

1 Damming Wedge, 1 Guide Frame

Installation information

Surfacing requirements
Recommendation: surface of reinforced watercourse
Foundations depending on installation situation; the Dam of Wood is bricked in the channel and can be installed optionally in flow direction or against flow direction.

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Play value

Water play installations become even more attractive when they help to experience water in different ways. Children particularly enjoy damming water. On one hand, they are momentarily the „Master“ of the element water when stemming the flood water and on the other hand, they experience, through play, the water power when opening the lock of the dam. It is most fun when natural materials such as mud, leaves and small sticks are used to dam the water. However, this is often not possible or desired. Therefore, complementary elements such as locks or flaps are required.

Fundamental characteristics

- High-quality design
- Sturdy construction; can also be used in wide gutters
- Incentive for playing: technical appearance

Recommended for

- Kindergarten children
- Schoolchildren
- Water play areas without supervision



Order No. 5.20930 Lock Gate

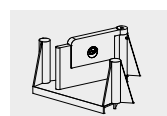


Order No. 5.20950 Ball Valve, Photo © Paul Upward Photography



Order No. 5.20907 Water Switch

**Water Switch
Lock Gate
Ball Valve**



5.20907

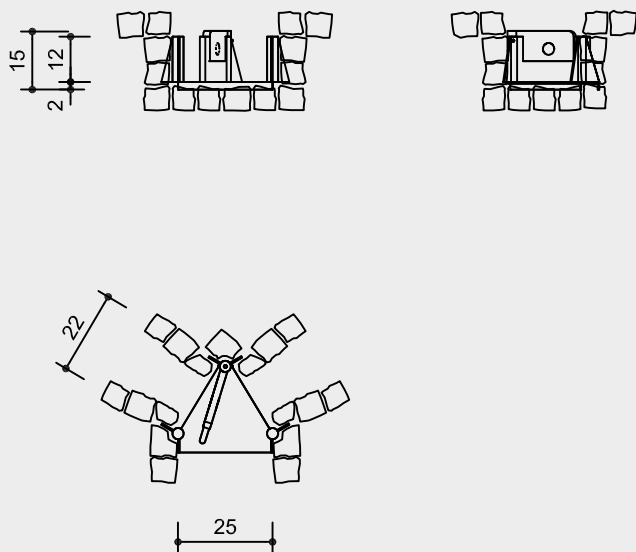


5.20930

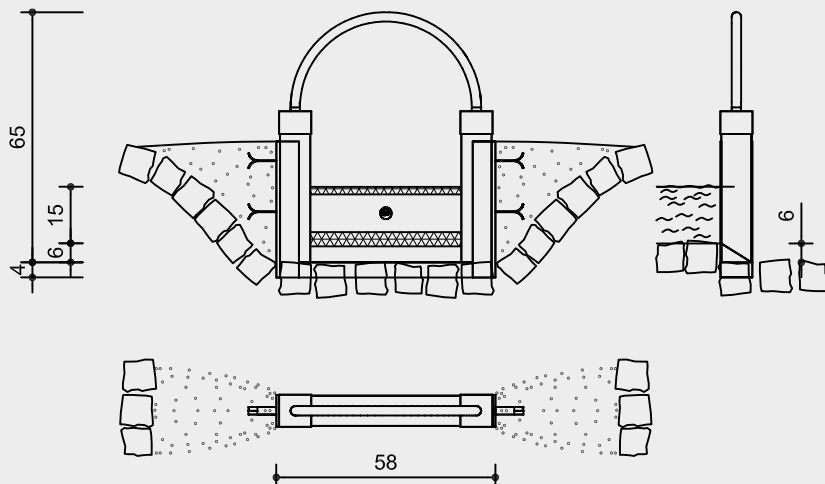


5.20950

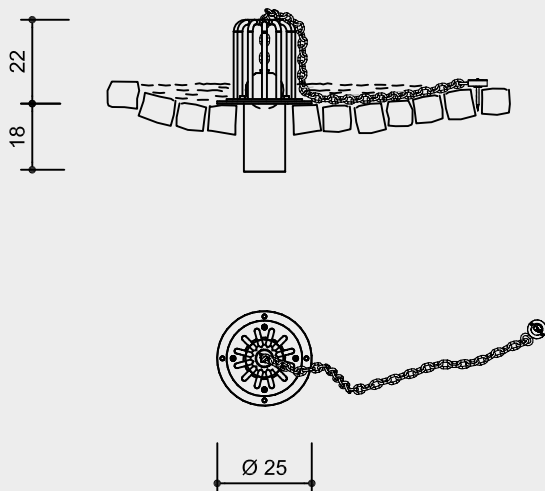
Order No. 5.20907 Water Switch



Order No. 5.20930 Lock Gate with installation frame



Order No. 5.20950 Ball Valve



Safety check according to EN 1176



5.20907



5.20930



5.20950

Technical information

Order No. 5.20907 Water Switch

total construction of stainless steel, glass
bead blasted
sealing plate of solid rubber

Dimensions

(small deviations possible)
height 0.15 m
side length 0.22 / 0.25 m
damming height 0.12 m
weight 6 kg

Order No. 5.20930 Lock Gate with installation frame for installa- tion in a concrete or brick channel

all metal parts of stainless steel,
glass bead blasted
seal of 20 mm rubber plate

Dimensions

(small deviations possible)
height 0.65 m
width 0.58 m
damming height 0.15 m
weight 20 kg

Order No. 5.20950 Ball Valve

equipment of stainless steel,
glass bead blasted
ball of polyamide, freely moveable in a
basket which is screwed on a round plate
with a pipe connection with diameter
100 mm, for connection to an existing
pipe; plate and chain for fixation with
masonry plugs

Dimensions

(small deviations possible)
equipment height 0.24 m
ground plate Ø 250 mm
ball Ø 100 mm
weight 12 kg

Components

1 part each

Installation information

Recommendation: surface of reinforced
watercourse
Foundations according to installation
information

Lock Gate

The sealing is appropriate for playground
use, it is possible that a small quantity
of water passes the sealing. For a proper
function a height difference of 6 cm is
required as the threshold is bevelled in
order to avoid that materials deposit in
the sealing zone.

Ball Valve

The outlet of the Ball Valve should have a
cleaning possibility (sand collector).
The basin should have an overflow.

Attention:

Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.

Technical changes reserved.

**For use in aggressive environments
such as salt or chlorine water, the
equipment is also available in
marine grade steel (V4A).**

Scale 1:20

Play value

People and in particular children get a lot of enjoyment out of diverting the flow of water, making it flow faster or slower or damming it. The playing observer is able to experience different impressions from the shapes that form during the process.

Recommended for

- Kindergarten children
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Water play areas without supervision

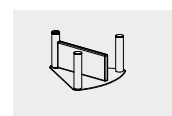


Order No. 5.28040 River Fork

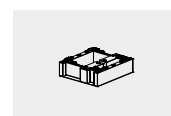


Order No. 5.28045 Canal Lock

Canal Lock
River Fork

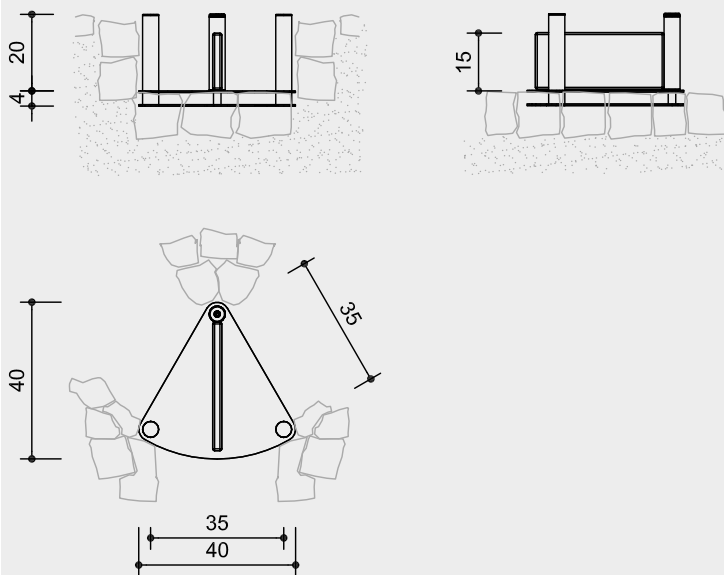


5.28040

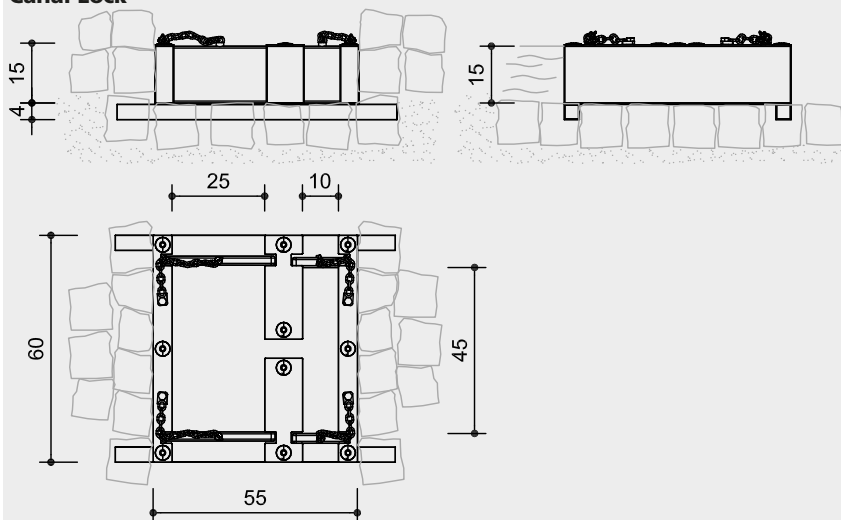


5.28045

Order No. 5.28040
River Fork



Order No. 5.28045
Canal Lock



Scale 1:20

Safety check according to EN 1176

Technical information

Order No. 5.28040 River Fork

total construction made of glass-bead blasted stainless steel and impact-resistant, coloured-through PUR plastic parts, black

Dimensions

(small deviations possible)

height	0.20 m
width	0.40 m
damming height	0.15 m
weight	11 kg

Order No. 5.28045 Canal Lock

total construction made of glass-bead blasted stainless steel and impact-resistant, coloured-through PUR plastic (body), black; gates made of PUR plastic, black secured against theft with chains. Short link chains made of V2A

Dimensions

(small deviations possible)

height	0.15 m
width	0.55 m
length	0.60 m
damming height	0.15 m
weight	42 kg

Components

1 part each

Installation information

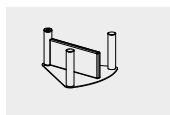
Recommendation: surface of reinforced watercourse.
All equipment can be easily installed into any artificial watercourse.
Foundations according to installation situation.
No fall height according to standard.

Attention:

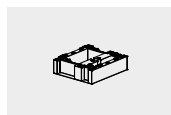
Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).



5.28040



5.28045



Order No. 5.28031 Bar Gate



Order No. 5.28031 Bar Gate, Photo © Daniel Perales

Play value

Children particularly enjoy damming water. Opening the bar gate gives them the opportunity to learn about the power of water in a playful way, so they learn how to handle the living force of the element water. They are able to experience how a dam works and can observe how the water builds up.

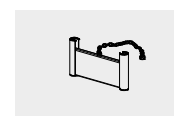
Recommended for

- Kindergarten children
- Supervised play areas such as kindergartens, schools, after-school programmes or similar
- Public areas without supervision, such as playgrounds, parks or similar
- Water play areas without supervision

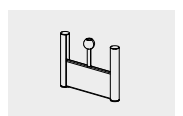


Order No. 5.28030 Board Gate

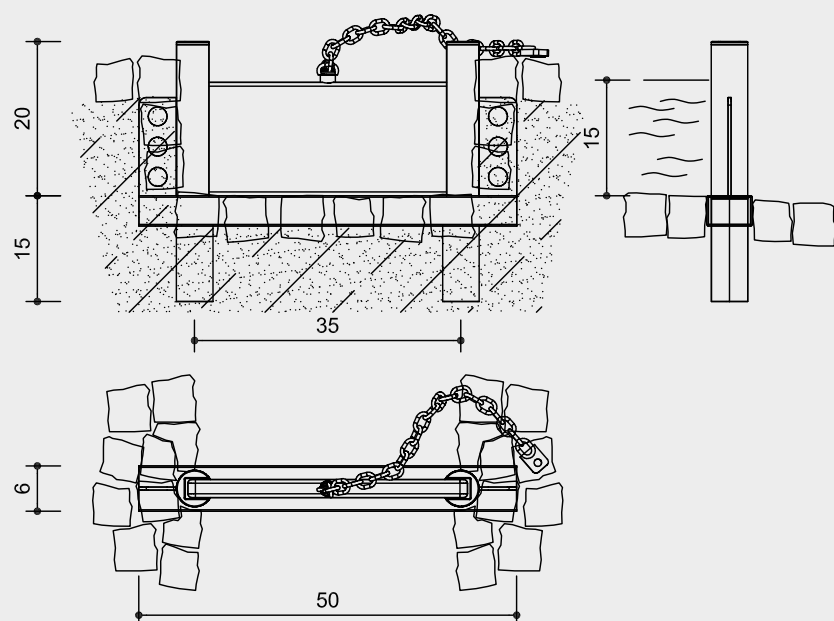
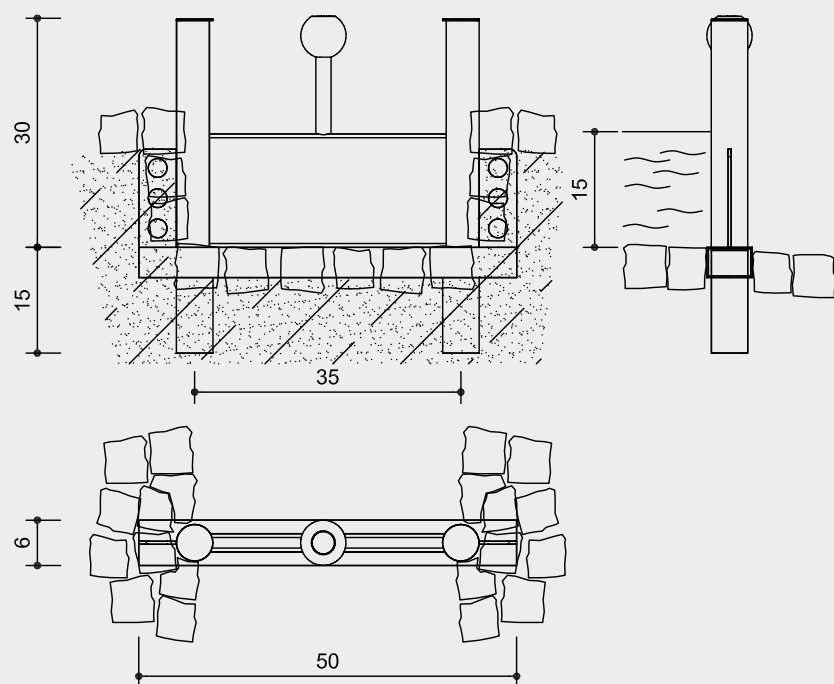
Bar Gate
Board Gate



5.28030



5.28031

Order No. 5.28030
Board Gate

Order No. 5.28031
Bar Gate


Scale 1:10

Safety check according to EN 1176

Technical information
Order No. 5.28030 Board Gate

all metal parts are made of glass-bead
blasted stainless steel

board made of impact-resistant, coloured-through, PUR plastic parts, black

Dimensions

(small deviations possible)

height	0.20 m
width	0.50 m
damming height	0.15 m
weight	7 kg

Order No. 5.28031 Bar Gate

all metal parts are made of glass-bead
blasted stainless steel

board and ball head made of impact-resistant, coloured-through PUR plastic parts, black

Dimensions

(small deviations possible)

height	0.30 m
width	0.50 m
damming height	0.15 m
weight	8 kg

Components

1 part each

Installation information

Recommendation: surface of reinforced
watercourse

All equipment can be easily installed into
any artificial watercourse.

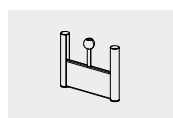
Foundations according to installation
situation.

Attention:
**Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.**

Technical changes reserved.

**For use in aggressive environments
such as salt or chlorine water, the
equipment is also available in marine
grade steel (V4A).**


5.28030



5.28031



Order No. 5.28032 Sickle Gate

Play value

Experience the power of water – this can be achieved particularly well by damming water and then opening the floodgates. It is most fun when natural materials such as mud, leaves and small sticks are used to dam the water. However, this is often not possible or desired. Therefore, complementary elements such as locks or flaps are required.

Recommended for

- Kindergarten children
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar



Order No. 5.28035 Rotating Gate, Photo © Daniel Perales

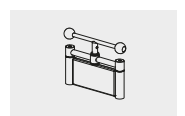
Rotating Gate
Sickle Gate



Order No. 5.28032 Sickle Gate, Photo © Daniel Perales

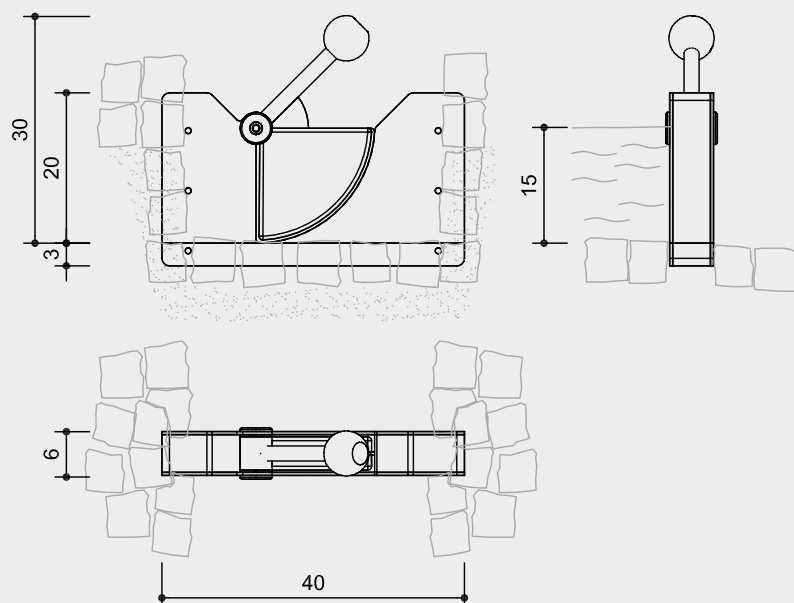


5.28032

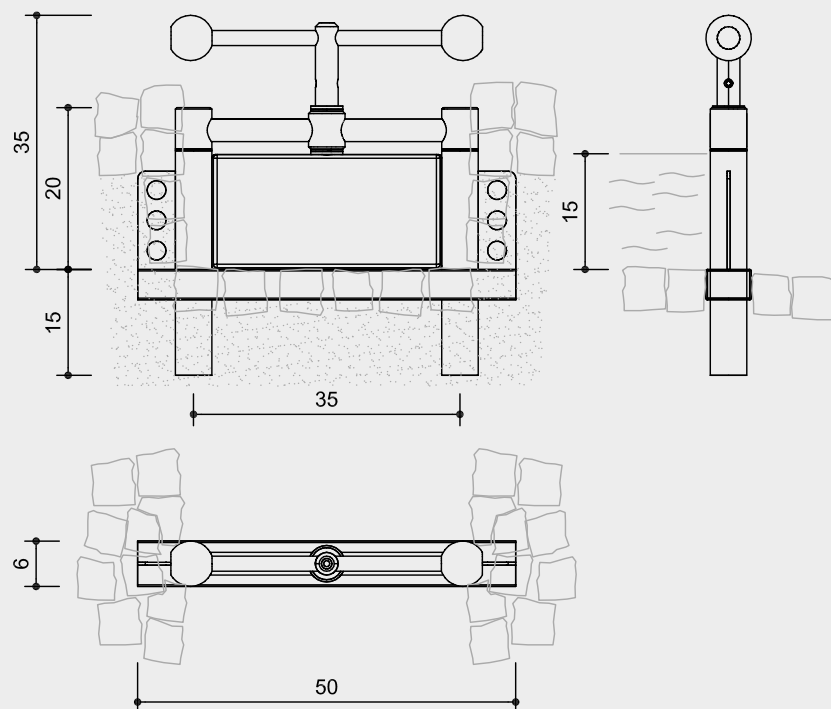


5.28035

Order No. 5.28032
Sickle Gate



Order No. 5.28035
Rotating Gate

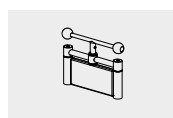


Scale 1:10

Safety check according to EN 1176



5.28032



5.28035

Technical information

Order No. 5.28032 Sickle Gate

cover plates made of glass-bead blasted stainless steel

body, gate, ball head and plain bearing made of impact-resistant, coloured-through PUR plastic parts, black

Dimensions
(small deviations possible)

height	0.30 m
width	0.40 m
damming height	0.15 m
weight	10 kg

Material

Order No. 5.28035 Rotating Gate

rotating frame made of glass-bead blasted stainless steel

plain bearings, gates and ball heads made of impact-resistant, coloured-through PUR plastic parts, black

Dimensions
(small deviations possible)

height	0.35 m
width	0.50 m
damming height	0.15 m
weight	9 kg

Components
1 part each

Installation information

Surfacing requirements
Recommendation: surface of reinforced watercourse

All equipment can be easily installed into any artificial watercourse.

Foundations according to installation situation.

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Play value

Children particularly enjoy damming water. Opening the flaps gives them the opportunity to learn about the power of water in a playful way. It is most fun when natural materials such as mud, leaves and small sticks are used to dam the water. However, this is often not possible or desired. Therefore, complementary elements such as locks or flaps are required.

Recommended for

- Kindergarten children
- Supervised play areas such as kindergartens, schools, after- school programmes or similar
- Public play areas such as kindergartens, schools, after- school programmes or similar



Order No. 5.28032 Sickle Gate, Order No. 5.28033 Round Flap

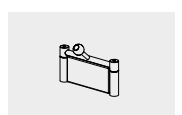
**Rectangular Flap
Round Flap**



Order No. 5.28034 Rectangular Flap

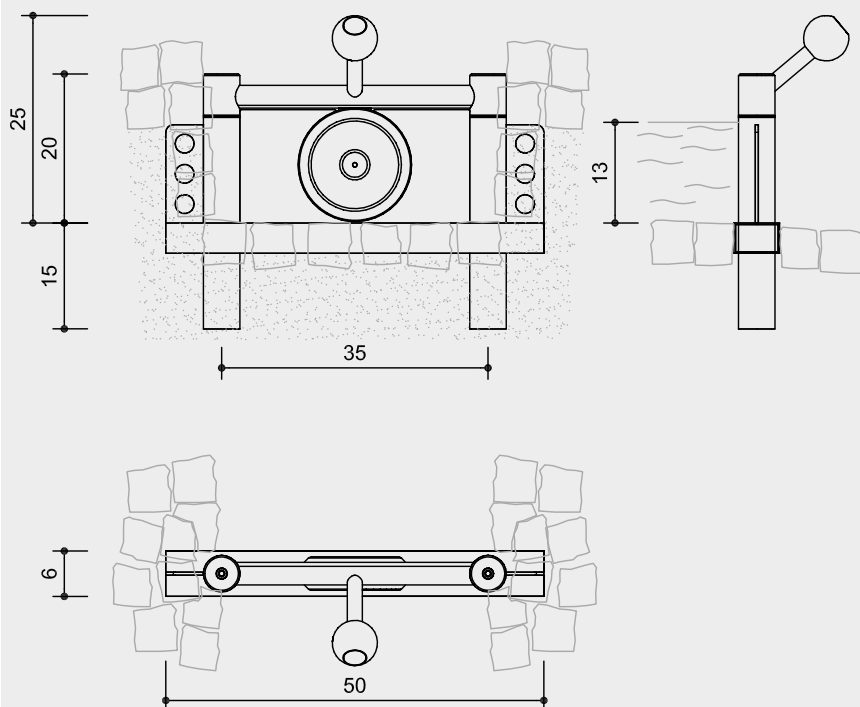


5.28033

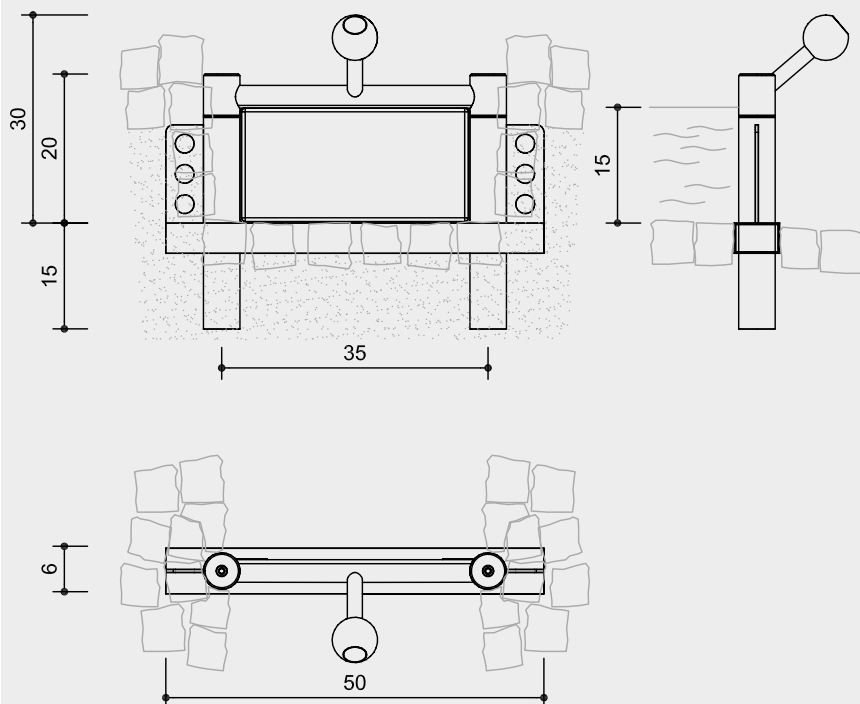


5.28034

Order No. 5.28033
Round Flap

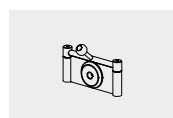


Order No. 5.28034
Rectangular Flap

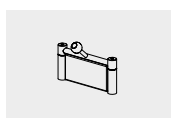


Scale 1:10

Safety check according to EN 1176



5.28033



5.28034

Technical information

Order No. 5.28033 Round Flap

rotating frame made of glass-bead
blasted stainless steel

Roller bearings

Roller bearings made of stainless steel for
rotating elements, easy to maintain and
exchange, sealed



**For more detailed explanation of the
quality characteristics see price list.**

flaps and ball heads made of impact-
resistant, coloured-through PUR plastic
parts, black

Dimensions

(small deviations possible)
height 0.25 m
width 0.50 m
damming height 0.13 m
weight 9 kg

Order No. 5.28034 Rectangular Flap

rotating frame made of glass-bead
blasted stainless steel

Roller bearings

Roller bearings made of stainless steel for
rotating elements, easy to maintain and
exchange, sealed



**For more detailed explanation of the
quality characteristics see price list.**

flaps and ball heads made of impact-
resistant, coloured-through PUR plastic
parts, black

Dimensions

(small deviations possible)
height 0.30 m
width 0.50 m
damming height 0.15 m
weight 9 kg

Components

1 part each

Installation information

Surfacing requirements
Recommendation: surface of reinforced
watercourse

All equipment can be easily installed into
any artificial watercourse.

Foundations according to installation
situation.

Attention:

**Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.**

Technical changes reserved.

**For use in aggressive environments
such as salt or chlorine water, the
equipment is also available in
marine grade steel (V4A).**



Photo © Daniel Perales

Water Power



Order No. 5.15820 Millwheel made of stainless steel, Photo © Daniel Perales

Play value

It is attractive both for children and older people to put something into motion by means of visible power. When it is possible to change this power by mechanical influence, the attraction is even greater. The element of water as a power source is of great importance. Therefore, water wheels are always an important component of a water play installation. Both Mill Wheels are propelled by the weight of the water. However, it is important to know about the clearly visible and recognisable relationship and to have the possibility to change something.

Fundamental characteristics

- Unique by its original mill wheel design
- Incentive for playing: recognize

Recommended for

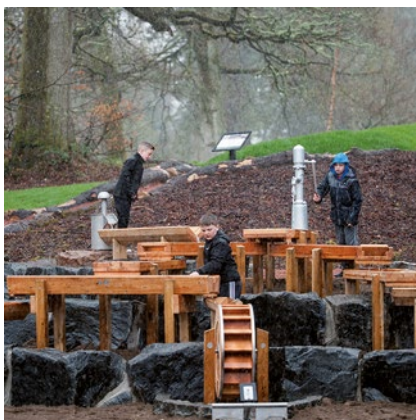
- Kindergarten children
- School children
- Water play areas without supervision

Barrier-free

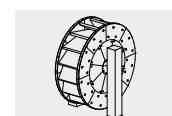
- Independent play



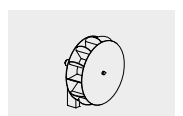
Mill Wheel of wood
Mill Wheel of stainless steel



Order No. 5.15813 Mill Wheel made of Wood

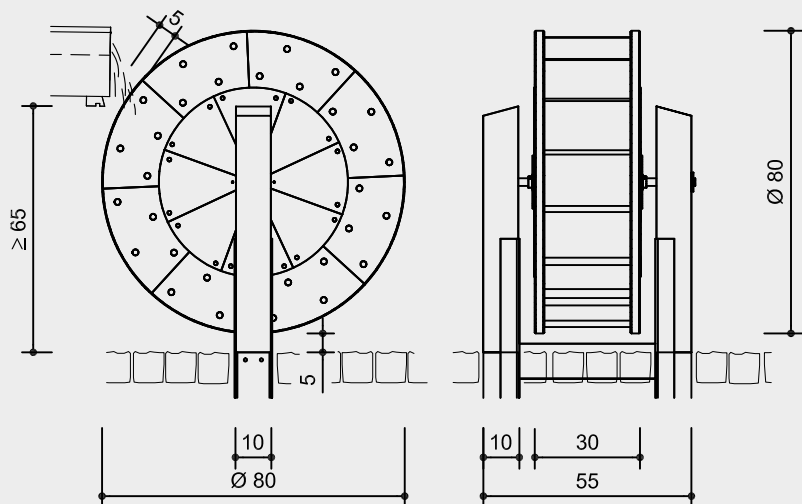


5.15813

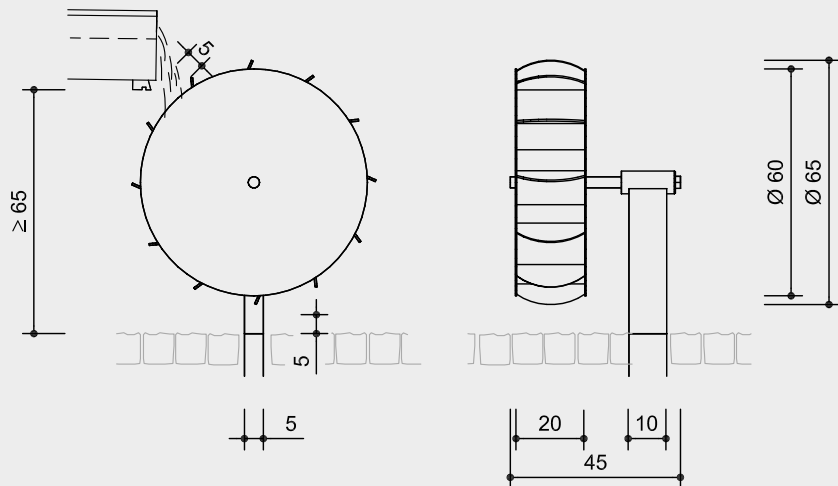


5.15820

Order No. 5.15813
Mill Wheel of wood



Order No. 5.15820
Mill Wheel of stainless steel



Scale 1:20

Safety check according to EN 1176

Components

1 part each

Installation information

Surfacing requirements
Recommendation: sand with drainage or paving stone with gully and a corresponding surface design;
The Mill Wheels are only designed for overshot operation. Please refer to drawing for required minimum height difference.

Foundations

Order No. 5.15813
Mill Wheel of wood
1 item 50 x 90 x 50 cm
excavation depth 70 cm

Order No. 5.15820
Mill Wheel of stainless steel
1 item 50 x 50 x 50 cm
excavation depth 70 cm

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.

Technical information

Order No. 5.15813
Mill Wheel of wood

Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanised steel or stainless steel



Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



For more detailed explanation of the quality characteristics see price list.

craftsman-like water wheel construction with grooved and slitted wood connections

shaft, hub and hoop of stainless steel, glass bead blasted

Dimensions

(small deviations possible)

height	0.85 m
width	0.55 m
diameter of wheel	0.80 m
weight	50 kg

Order No. 5.15820
Mill Wheel of stainless steel

whole equipment of stainless steel, glass bead blasted, for use in chlorine water there is also a special steel alloy available, thickness of material 3 mm
easy-grip contact surfaces

Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



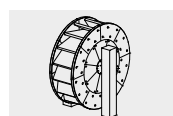
For more detailed explanation of the quality characteristics see price list.

Dimensions

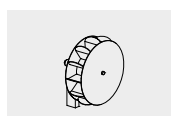
(small deviations possible)

height	0.70 m
width	0.45 m
diameter of wheel	0.65 m
weight	27 kg

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).



5.15813



5.15820



Order No. 5.15920 Big Bucket Wheel

Play value

The Metal Bucket Wheels are an eye-catcher in water play areas, particularly when reflections of sparkling light emphasise the agreeable design. The small bowls, arranged in a radial shape, are very attractive for children. When the Wheel starts turning by the power of water, the one at the pump is working even more intensive in order to accelerate the movement of the wheel. The Large Bucket Wheel can also be driven by a stream of water in a channel.

Fundamental characteristics

- High-quality design
- Incentive for playing: small buckets arranged in radial shape

Recommended for

- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar

Barrier-free

- Independent play

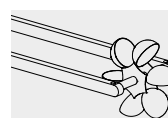


Photo © Daniel Perales

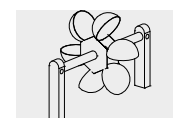
Small Bucket Wheel for concrete base
Small Bucket Wheel for site foundations
Big Bucket Wheel



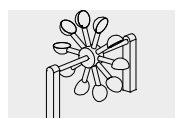
Order No. 5.15910 Small Bucket Wheel,
 Photo © Paul Upward Photography



5.15900



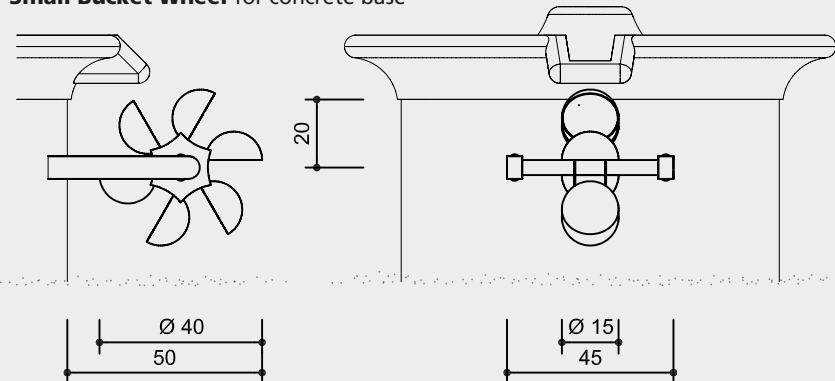
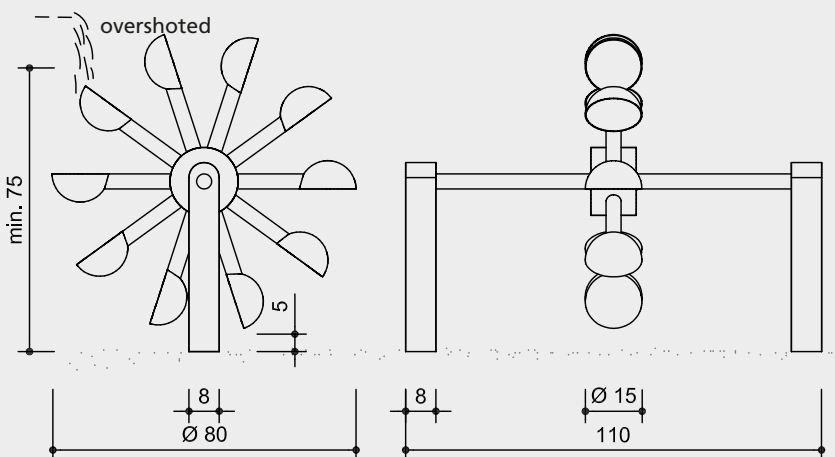
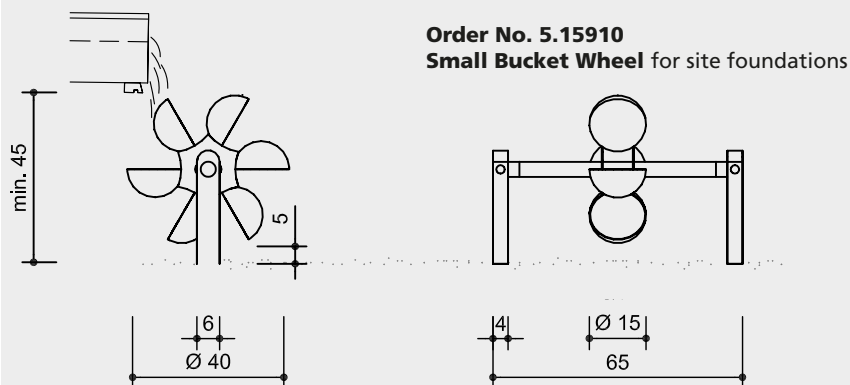
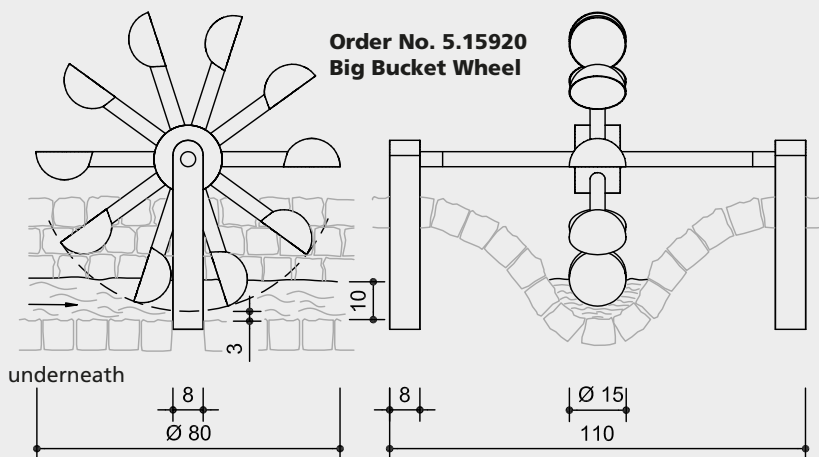
5.15910



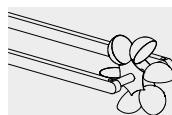
5.15920

Order No. 5.15900
Small Bucket Wheel for concrete base

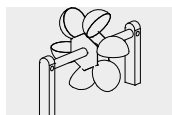
Scale 1:20


Order No. 5.15910
Small Bucket Wheel for site foundations

Order No. 5.15920
Big Bucket Wheel


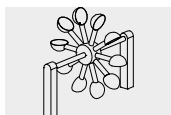
Safety check according to EN 1176



5.15900



5.15910



5.15920

Technical information

all equipment of stainless steel (available in marine grade steel /V4A on request)
glass bead blasted
thickness of metal sheet 3 mm
diameter of hemisphere 150 mm

Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



For more detailed explanation of the quality characteristics see price list.

Dimensions

(small deviations possible)

Order No. 5.15900

Small Bucket Wheel for concrete base
width 0.45 m
projection over concrete base 0.50 m
diameter of wheel 0.40 m
weight 13 kg
fitting concrete base see Order No. 5.15950 in the price list

Order No. 5.15910

Small Bucket Wheel for site foundations
height 0.45 m
width 0.65 m
diameter of wheel 0.40 m
weight 13 kg

Order No. 5.15920

Big Bucket Wheel
height 0.85 m
width 1.10 m
diameter of wheel 0.80 m
weight 22 kg

Components

1 part each

Installation information

Surfacing requirements
Recommendation: sand with drainage or paving stone with gully

The Bucket Wheels are made for overshot operation. The required minimum height difference can be seen in the drawing. If it is wished to install the Big Bucket Wheel for undershot operation, a large amount of water and a strong flow is required for it to function correctly. A minimum water-flow rate of 66 cm/sec. is required. The bottom bucket should dip into the water by about half, or even better, three quarters of its diameter. When the Bucket Wheel is driven by banked up water an amount of at least 3/4 m³ is required to generate a few revolutions. The Small Bucket Wheel cannot be operated undershot at all.

Foundations
Order No. 5.15910

1 item 50 x 90 x 30 cm
excavation depth 70 cm

Order No. 5.15920

2 items 40 x 40 x 30 cm
excavation depth 50 cm

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.



Play value

People and in particular children get a lot of enjoyment out of diverting the flow of water, making it flow faster or slower or damming it. The playing observer is able to experience different impressions from the shapes that form during the process.

Recommended for

- Kindergarten children
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Water play areas without supervision

Horizontal Millwheel



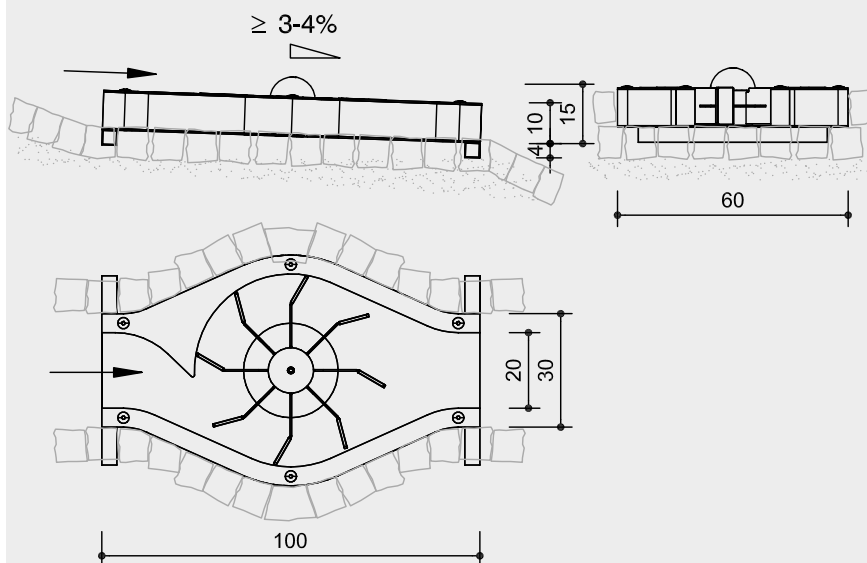
Planning information

A proper upstream and downstream ground profile is necessary to guarantee that the Horizontal Millwheel functions correctly. For more detailed information, please request assembly instructions.



5.28020

Order No. 5.28020
Horizontal Millwheel



Scale 1:20

Safety check according to EN 1176

Components
1 Part

Technical information

Order No. 5.28020
Horizontal Millwheel

millwheel made of glass-bead blasted stainless steel

Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



For more detailed explanation of the quality characteristics see price list.

structure made of glass-bead blasted stainless steel and impact-resistant, coloured-through PUR plastic (body), black, with PUR plastic ends as clamping protection

Dimensions

(small deviations possible)

height	0.15 m
length	1.00 m
width	0.60 m
weight	47 kg

Installation information

Recommendation: surface of reinforced watercourse.

All equipment can be easily installed into any artificial watercourse.

Foundations according to installation situation.

No fall height according to standard.

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).



5.28020



Photo © Barbara Evripidou

Working with Sand and Water

Play value

Our little Sand Play Ship is both a sand box and a sailing ship. Big and small can slip into the role of pirates, sailors and captains and, at the same time, play, build sandcastles and play at baking in the sand in the hull. Not only can the sail be used as a sunshade, it also serves as a cover for the sand box.



© Richter Spielgeräte GmbH 03/20



Fundamental characteristics

- Child-oriented dimensions
- Natural wooden surface which appeals to the senses
- Emotionally appealing design
- Friendly appearance
- Sunshade
- Incentive for playing:
Role-playing games

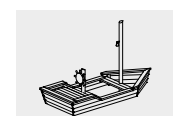
Recommended for

- Children under 3 years
- Kindergarten children
- Supervised play areas such as Kindergartens, schools, after-school Programmes or similar
- Public play areas without supervision such as playgrounds, parks or similar

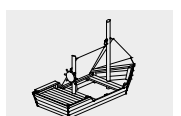
Barrier-free

- With a carer
- Independent play

Sand Play Ship Sand Play Ship with sails for supervised areas

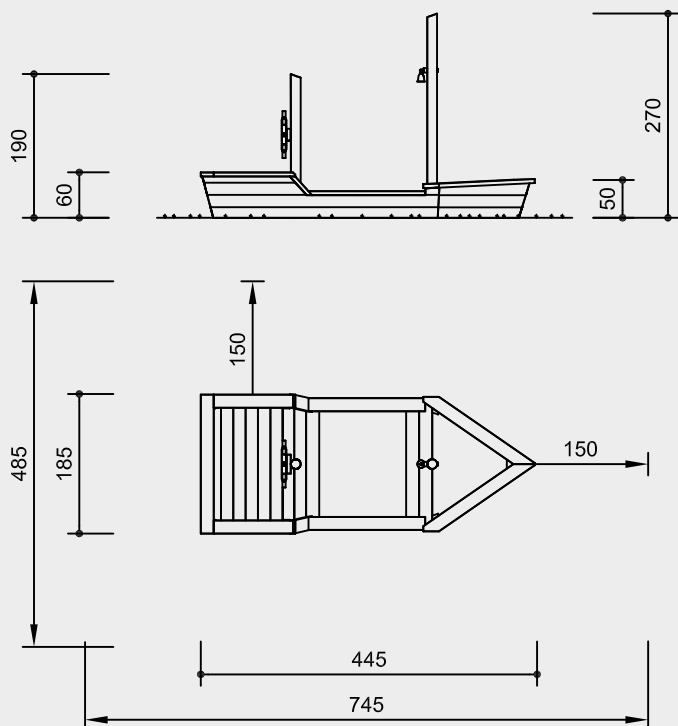


4.07500

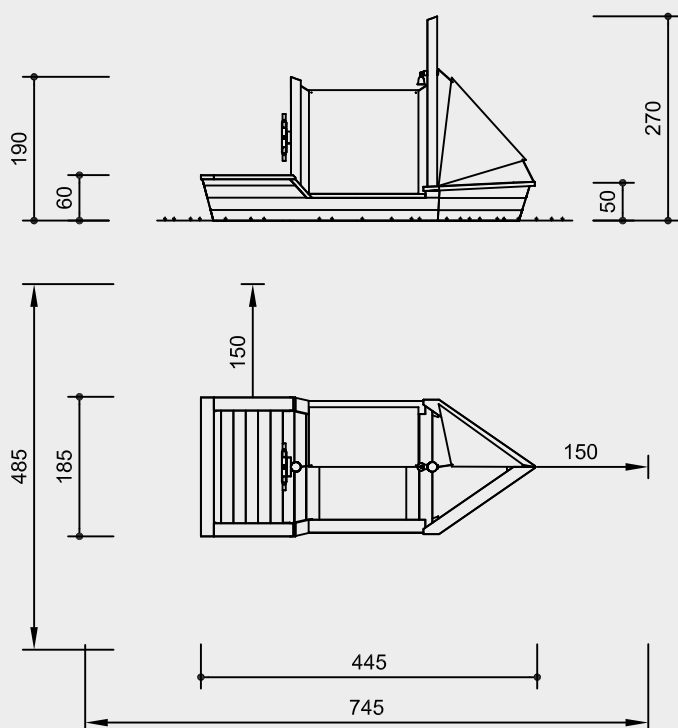


4.07600

Order No. 4.07500 Sand Play Ship



Order No. 4.07600 Sand Play Ship with sails



Scale 1:100

Safety check according to EN 1176



4.07500



4.07600

Attention:
Exact measurements may vary,
for all installation dimensions refer
to current installation instructions.
Technical changes reserved.

Technical information

equipment of non-impregnated mountain larch

Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Bevel cut

Vertical stand posts with bevelled end grain section as constructive wood preservation measure



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Chains

Chains made of hot-dip galvanized steel (1.4301 / 1.4571 at extra charge) welded before galvanising, short-linked, without eyelets on the connecting parts, easy to exchange and shorten



For more detailed explanation of the quality characteristics see price list.

fittings hot-dip galvanised

bell made of brass

Order No. 4.07600 Sand Play Ship

sail made of weatherproof plastic fabric (PVC)

Dimensions

(small deviations possible)

height	2.70 m
seat height	0.60 m
length	4.45 m
width	1.85 m
weight	600 kg

Components

Order No. 4.07500 Sand Play Ship

- 1 ship's hull
- 2 masts
- 1 steering wheel
- 3 shovels
- 1 bell

Order No. 4.07600 Sand Play Ship with sails

as above but in addition with 2 sails

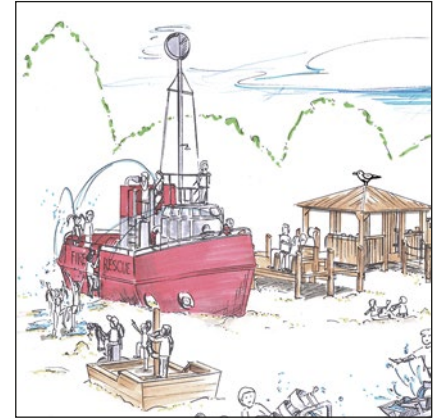
Installation information

Surfacing requirements
corresponding to a fall height of ≤ 0.60 m
(please refer to price list for more
detailed information)
Sand is required for correct functioning.

Foundations
2 items 60 x 60 x 40 cm
excavation depth 80 cm

Play value

Real ships are curved, and if they are as modern as the "Sand" model from our series of state-of-the-art working ships, then they are also made of steel. Real sailors, dockers, navy officers and, of course, the coxswain work hand in hand on this ship. They perform all the steps necessary to ensure that the ship can soon set off on its next trip. But before this, the shipment must be unloaded and reloaded using the cargo gear. Set in a harbour landscape with footbridges and piers, the metal ship named "Sand" is not only an eye-catcher but also a meeting point and place for role-playing.



Sketch © Stefanie Hermann



Access options: e.g. Inclined Ramp, Inclined Climbing Net



Fundamental characteristics

- Unique and original
- Eye-catcher
- Coloured design
- High-quality design
- Stimulus to role-playing

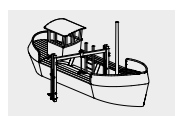
Recommended for

- Kindergarten children
- Schoolchildren
- Public play areas without supervision, such as playgrounds, parks or similar

Metal ship "Sand"

Planning information

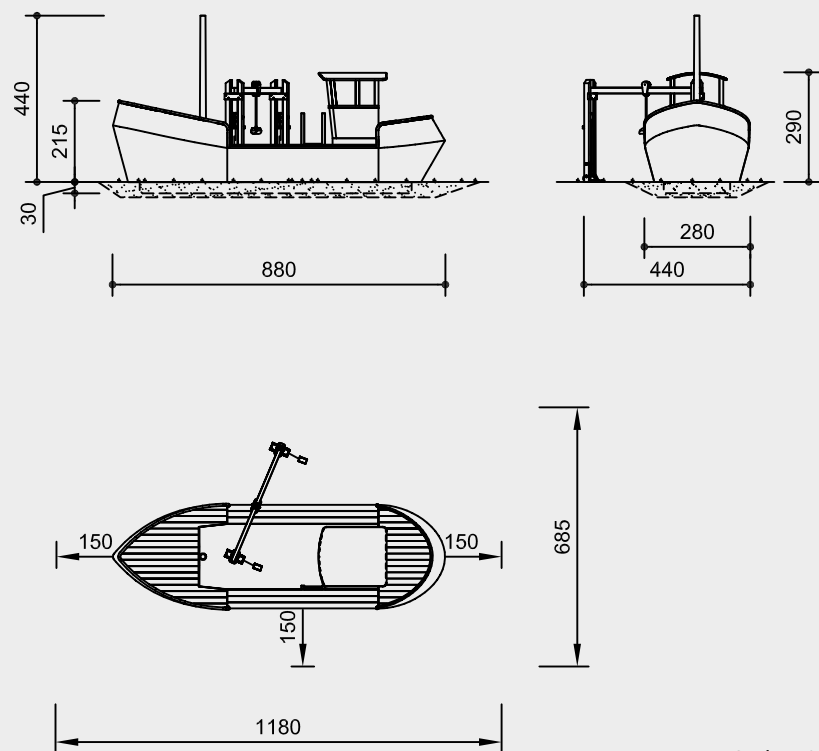
Accesses are not included in the components. They must be planned as not easily accessible e. g. Rope Bridge, Chain Path, Climbing Trunk etc.



8.01000

Order No. 8.01000 Metal ship "Sand"

with Sand Transport System



Components

Ship

- 1 Metal ship with wheelhouse
- 1 Ladder inside
- 1 Mast with access to deck and ship's bell
- 1 Table
- 3 Stools with foundation irons

Sand Transport System as cargo gear

- 2 Support frames with 1 sand hoist each and 1 shovel
- 1 Transport rail with sand container

Installation information

Surfacing requirements corresponding to a fall height of ≤ 1.50 m (please refer to price list for more detailed information)
Play sand or pea gravel is required for correct functioning.

Foundations

Ship

No foundations are required for the ship. The sheet metal of the hull will reach 30 cm into the ground. A ballast bed is to be built in the area of the hull. The ship hull has no bottom. It must be filled with a layer of sand or pea gravel of approx. 30 cm.

Mast

- 1 item 60 x 60 x 30 cm excavation depth 80 cm

Table

- 1 item 60 x 60 x 40 cm excavation depth 60 cm

Sand Transport System

- 2 items 80 x 60 x 50 cm excavation depth 70 cm

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

Dimensions

(small deviations possible)

height	4.40 m
height of wheelhouse	2.90 m
height of bow	2.15 m
length	8.80 m
width of ship	2.80 m
width, overall	4.40 m
total weight	4000 kg
heaviest single part	3500 kg

Transport and unloading

transport with low loader h = 70 cm on request, discharge with crane on site

Technical information

ship made of 4 mm bent sheet metal, primed and painted in two colours, all edges in the play area have a sufficiently large radius
deck, mast, wheelhouse finishing, sand transport system, ladder, table and stool made of mountain larch, selected according to eight quality criteria

Bevel cut

Vertical stand posts with bevelled end grain section as constructive wood preservation measure



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Tongue and groove

Tongue and groove planks made of 4 cm solid wood, highly resilient, no trickling of dust / sand, protection against direct rain



Plywood

Plywood made of mountain larch, three-layer (3 cm), five-layer (4 cm). High dimensional stability, waterproof, glued according to DIN EN 13353:2011



Profiled washer

Profiled washer for covering protruding screw heads according to standard, improved pressure distribution and protection against water. Impedes loosening the bolt



Adjustable

Adjustable two-piece bolt connection, easy to maintain, no projecting threads



Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanised steel or stainless steel



Chains

Chains made of hot-dip galvanized steel (1.4301 / 1.4571 at extra charge) welded before galvanising, short-linked, without eyelets on the connecting parts, easy to exchange and shorten



Roller bearings

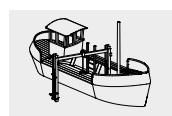
Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



For more detailed explanation of the quality characteristics see price list.

sand container of textile-reinforced rubber belt, 8 mm thick

ship's bell made of brass



8.01000

Play value

Even landlubbers want to go to sea on our Sailing Boat. Just as in real life, young explorers can rock on the "waves". All the more with someone standing at the mast to make sure that there is a strong wind blowing. A sailor with less courage can sit next to the tiller and maintain the course. Even when there is a violent storm, the passengers don't fall off because they can hold on tight everywhere. The Sailing Boat encourages numerous activities and role-playing games.



Order No 6.03200 Sailing Boat with Stand Posts of Robinia



Order No 6.03200 Sailing Boat with Stand Posts of Robinia

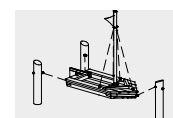
Fundamental characteristics

- Unique and original
- The three-point suspension evokes the illusion of being on a sailing boat
- Incentive for playing: shape, mast guy
- Exercise activity: moving one's centre of gravity, rocking, swinging

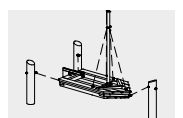
Recommended for

- Kindergarten children
- Schoolchildren
- Supervised play areas such as kindergartens, schools, after- school programmes or similar
- Public play areas such as kindergartens, schools, after- school programmes or similar

Sailing Boat Sailing Boat with Flag

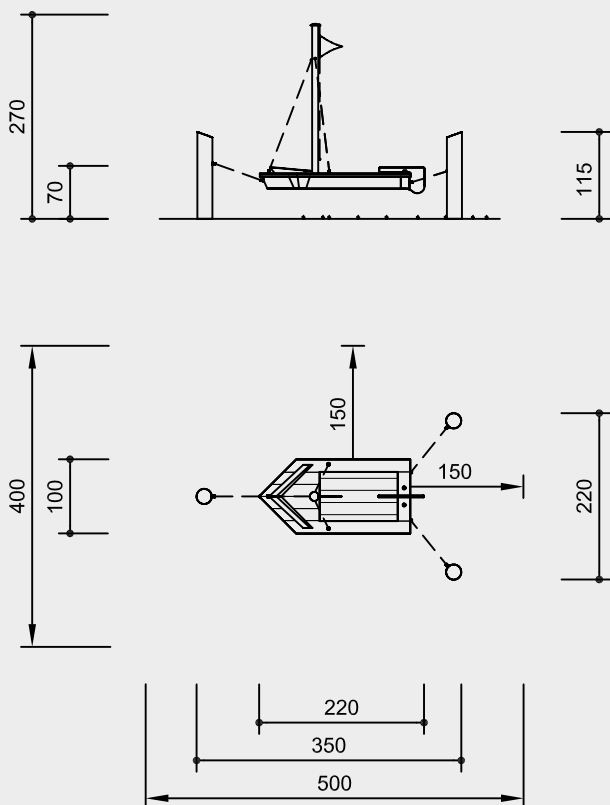


6.03200/6.03201



6.03210

Order No. 6.03200 Sailing Boat with Flag



Safety check according to EN 1176

Components

Order No. 6.03200

Sailing Boat with Flag

- 1 Ship with mast and tiller
- 3 Stand posts of robinia
- 1 Hoistable flag

Order No 6.03201

Sailing Boat with Flag

- as above but with stand posts made of galvanised steel tube Ø 178 mm

Order No 6.03210

Sailing Boat

- 1 Ship with mast and tiller
- 3 Stand posts of robinia

Dimensions

(small deviations possible)

length	3.50 m
width	2.20 m
seat height	0.70 m
weight	

Order No. 6.03200

Sailing Boat with Flag 335 kg

Order No. 6.03201

Sailing Boat with Flag 265 kg

Order No. 6.03210

Sailing Boat 330 kg

Installation information

Surfacing requirements corresponding to a fall height of ≤ 1.00 m (please refer to price list for more detailed information)

Foundations

3 items 80 x 80 x 80 cm
excavation depth 100 cm

Attention:

Exact measurements may vary; for all installation dimensions refer to current assembly instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Technical information

all pieces of equipment made of non-impregnated mountain larch, robinia

Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Bevel cut

Vertical stand posts with bevelled end grain section as constructive wood preservation measure



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Tongue and groove

Tongue and groove planks made of 4 cm solid wood, highly resilient, no trickling of dust / sand, protection against direct rain



Universal joint

Drop-forged, hot-dip galvanised universal joint, consists of two sintered bushes, for free swinging in any direction



Profiled washer

Profiled washer for covering protruding screw heads according to standard, improved pressure distribution and protection against water. Impedes loosening the bolt



Adjustable

Adjustable two-piece bolt connection, easy to maintain, no projecting threads



Sintered bush

For all reciprocating movements we use sintered plain bearings which are self-lubricating in use and can easily be exchanged if necessary



Chains

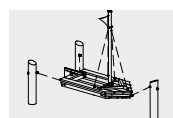
Chains made of hot-dip galvanized steel (1.4301 / 1.4571 at extra charge) welded before galvanising, short-linked, without eyelets on the connecting parts, easy to exchange and shorten



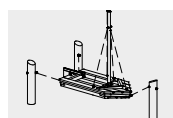
For more detailed explanation of the quality characteristics see price list.

fittings hot-dip galvanised

flag made of weatherproof PVC fabric



6.03200/6.03201



6.03210

Play value

The Water Building Site is a versatile piece of play equipment which ensures intensive play with the elements of water, sand and earth, even in a small area. If there is a suction pump on the top platform, providing the workers with water, the game achieves another dimension and real work can take place. Building and work games are pursued with intensity by children and they promote creativity and cooperation.

Fundamental characteristics

- Child proportions according to ergonomic requirements
- Naturally shaped, de-barked posts and use of natural wood which appeals to the senses
- Technical construction evokes interest
- Versatile play offers for several children
- High play value on a limited space
- Incentive for playing: water, sand wheel, sand hoists, chains, water channels
- Movement: physical effort, climbing

Recommended for

- Schoolchildren
- Supervised play areas such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar

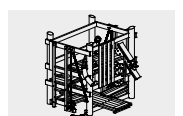


Water Building Site



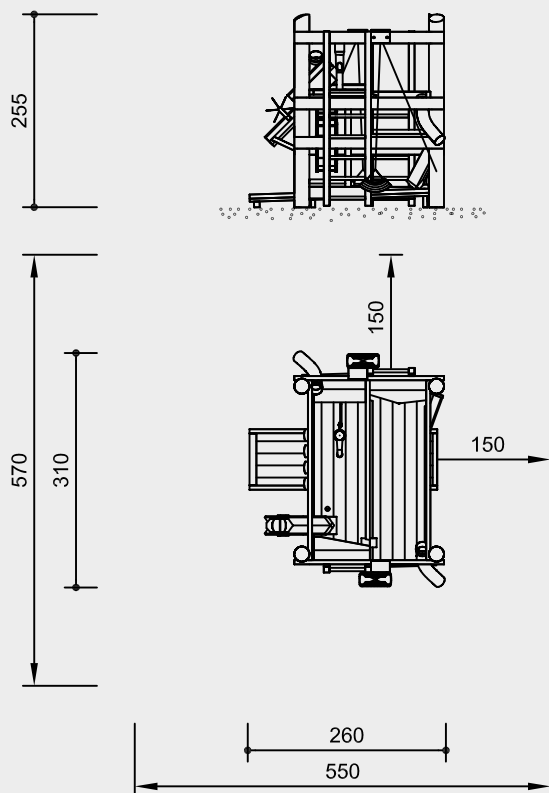
Planning information

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.



5.09500

Order No. 5.09500 Water Building Site



Scale 1:100

Safety check according to EN 1176

Components

- 1 Platform structure with
 - 3 set floors
 - 2 Ladders
 - 2 Sand Hoists
 - 2 Shovels
 - 2 Flat Water Channels
 - 1 V-shaped Water Channel
 - 1 Mill Wheel of wood**Order No. 5.15810**
 - 2 Sand Pipes
 - 1 Sand Chute, 2 layers
 - 1 Sand Wheel
 - 1 Playground Pump
- Order No. 5.17510**

Note

Additionally Valve combination for direct connection to main please order **Order No. 5.17130.**

Installation information

Surfacing requirements corresponding to a fall height of ≤ 1.50 m (please refer to price list for more detailed information)

Sand is required for proper function. Caution: effective drainage should be ensured.

Foundations
4 items 60 x 60 x 40 cm
excavation depth 80 cm
water connection according to local situation

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
Equipment also available with steel feet or made of larch and available in larch with steel feet.

Dimensions

height	2.55 m
Platform heights	0.25 m
	0.90 m
	1.50 m
Platform floors	0.80 x 2.50 m
length	2.60 m
width	3.10 m
weight	900 kg

Technical information

Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced

Bevel cut

Vertical stand posts with bevelled end grain section as constructive wood preservation measure

Perforated

The earth / air zone of the wood is perforated by numerous small bore holes to ensure that the impregnating agent penetrates this particularly endangered zone

Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape

Claddings

Claddings made of mountain larch (4 – 5 cm) and spruce / fir (3 – 5 cm). Peeled white by hand, natural tree surface remains tangible and perceptible

Tongue and groove

Tongue and groove planks made of 4 cm solid wood, highly resilient, no trickling of dust / sand, protection against direct rain

Hardwood rungs

Climbing rungs made of hardwood (ash) Ø 4.2 cm, milled and mortised, secured against twisting, easy to grip and not cold for children to touch

Chains

Chains made of hot-dip galvanized steel (1.4301 / 1.4571 at extra charge) welded before galvanising, short-linked, without eyelets on the connecting parts, easy to exchange and shorten

For more detailed explanation of the quality characteristics see price list.

chutes of plastic, wall thickness approx. 7 mm

sand container of textile-reinforced rubber belt, 8 mm thick

sand wheel hot-dip galvanised

Description of Mill Wheel and Pump see separate catalogue page.

5.09500

84

Play value

Our Water Combination "Small Fish" offers very special fun for big and small children. Installed in sand and equipped with a staircase, platform, a mushroom spring, water channels and a bucket wheel, it gives free reign to childhood fantasy in different role-playing games. Moreover the senses are stimulated and creativity is promoted by the elements water and sand. The two colourfully painted fish on the outer side of the platform also provide small playgrounds with an appealing and inviting appearance.



Fundamental characteristics

- Child-oriented dimensions according to ergonomic requirements
- The space-defining design and the natural surface appeal to the senses
- High-quality design
- Combination for role-playing games, "work" play and activity
- Exercise activity: climbing up and around, pumping, jumping

Recommended for

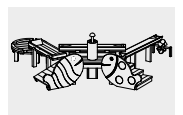
- School children
- Supervised play areas such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision such as playgrounds, parks or similar

Planning information

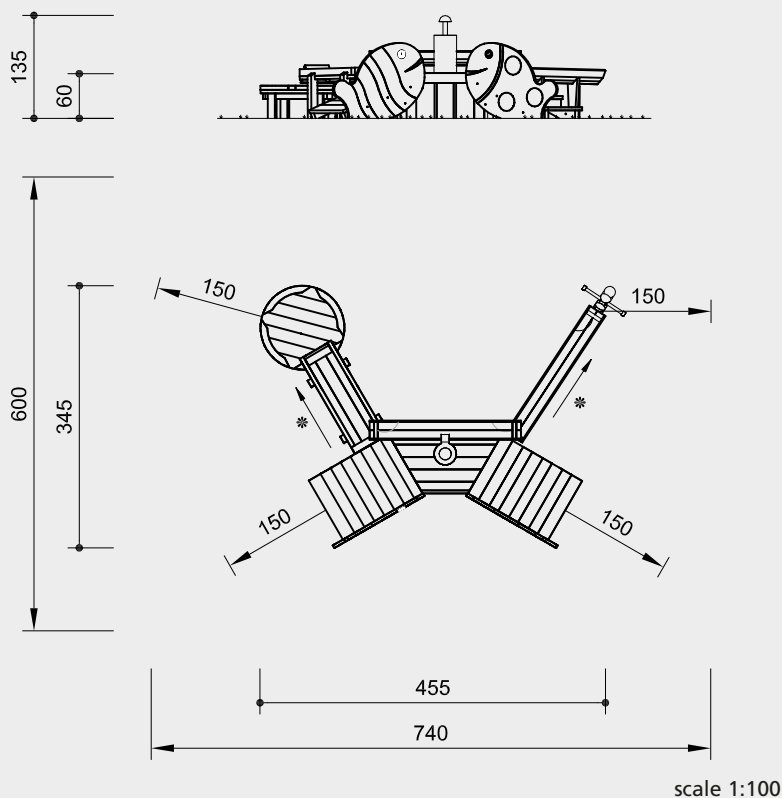
Equipment marked with a pointing arrow * must be installed with a gradient of approx. 2% (= 2 cm on 1 m). This means that for planning, not only the height of the equipment but also the gradient must be taken into consideration.

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.

Water Combination "Small Fish"



5.10010

Order No. 5.10010 Water Combination „Small Fish“


safety check according to EN 1176

Components

- 1 Staircase
- 1 Ramp
- 1 Platform
- 1 Mushroom spring
- 1 Small bucket wheel
- 1 Triangular channel with steel feet
- 1 Horizontal channel with steel feet
- 1 Channel with shutter with steel feet
- 1 Round mud table with steel feet

Installation information

Surfacing requirements

Platform

corresponding to a fall height of ≤ 0.60 m (please refer to price list for more detailed information)

Water mud equipment

No fall height according to standard; staircase-like constructions may require an examination of the fall height. Recommendation: sand with drainage or pavement with gully and corresponding landscaping. Take into account that sand is required for "playing in the mud".

Foundations

Fish

6 items 30 x 30 x 30 cm
excavation depth 50 cm

Triangular Channel

2 items 50 x 50 x 50 cm
excavation depth 70 cm

Horizontal Channel

2 items 50 x 50 x 40 cm
excavation depth 60 cm

Channel with Shutter

2 items 50 x 90 x 50 cm
excavation depth 70 cm

Mud Table

2 items 50 x 100 x 50 cm
excavation depth 70 cm

Small Bucket Wheel

1 item 50 x 90 x 30 cm
excavation depth 70 cm

Attention:

Exact measurements may vary; for all installation dimensions refer to current assembly instructions.

Technical changes reserved.

Technical information

equipment of non-impregnated mountain larch

Bevel cut

Vertical stand posts with bevelled end grain section as constructive wood preservation measure


Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape


Tongue and groove

Tongue and groove planks made of 4 cm solid wood, highly resilient, no trickling of dust / sand, protection against direct rain


Plywood

Plywood made of mountain larch, three-layer (3 cm), five-layer (4 cm). High dimensional stability, waterproof, glued according to DIN EN 13353:2011


Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanised steel or stainless steel


Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed



For more detailed explanation of the quality characteristics see price list.

Colour

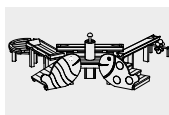
Solvent-free acrylic paints are used for colouring; the wood is painted in a way which allows the structure of the wood to remain clearly visible

For a description of the mushroom spring and small bucket wheel, please refer to the separate catalogue pages.

Dimensions

(small deviations possible)

height	1.35 m
platform height	0.60 m
length	4.55 m
width	3.45 m
weight	600 kg



5.10010

Play value

While playing, children imitate, with intensity, work operations that are part of the adult world. This works extremely well with excavators, in particular when water is nearby. When the earth around the excavator has been removed, the Small Excavator without foundation can be repositioned with the help of two adults. In public areas, the Small Excavator can be fixed to the ground with the included chain. Both excavators can be rotated on their own axis; the large one can also be slewed on a second axis in order to change its radius of movement.



Order No. 5.32000 Small Excavator, Photo © Anton Donikov



Order No. 5.30000 Large Excavator, Photo © Daniel Perales

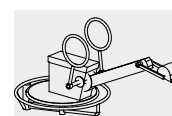
Fundamental characteristics

- Child proportions according to ergonomic requirements
- Improves body coordination
- Incentive for playing: lever arm, shovel
- Exercise activity: physical effort
- Effective technical details: the arms of both excavators are balanced by a counterweight, therefore even smaller children can move the load using their own strength
- Both excavators can be rotated 360 degrees; adjustable rotation area; a brake installed underneath the large excavator is released when a person sits on the excavator

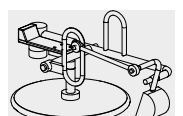
Recommended for

- Kindergarten children
- Schoolchildren
- Supervised play areas such as kindergartens, schools, after-school programmes or similar
- Public play areas such as kindergartens, schools, after-school programmes or similar

Large Excavator Small Excavator

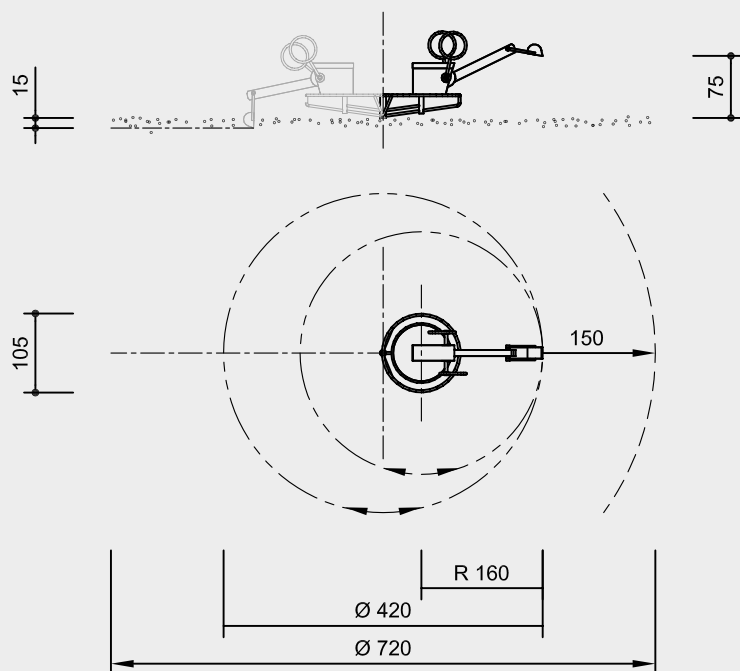


5.30000

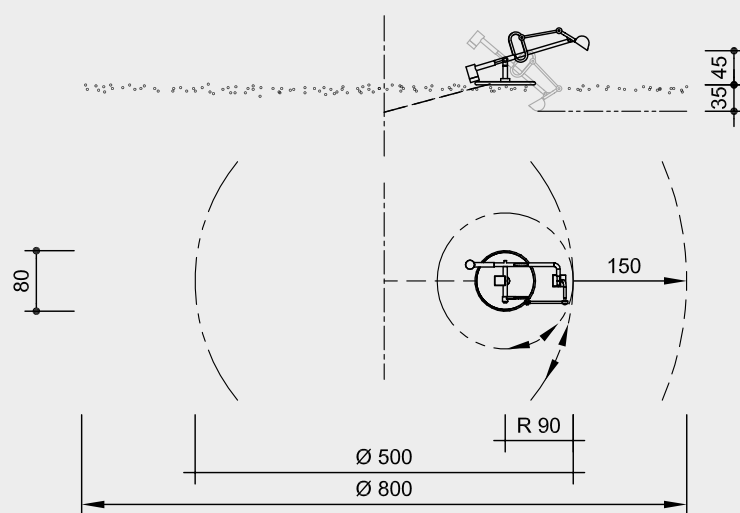


5.32000

Order No. 5.30000 Large Excavator



Order No. 5.32000 Small Excavator



Safety check according to EN 1176

Components

Order No. 5.30000 Large Excavator

- 1 Large Excavator complete
- 1 Foundation frame

Order No. 5.32000 Small Excavator

- 1 Small Excavator complete with hot-dip galvanised foundation chain and foundation iron

Installation information

Surfacing requirements

Order No. 5.30000 Large Excavator corresponding to a fall height of ≤ 1.00 m

Order No. 5.32000 Small Excavator corresponding to a fall height of $\leq 0,60$ m (please refer to price list for more detailed information)
sand surface is necessary

Foundations

Order No. 5.30000 Large Excavator

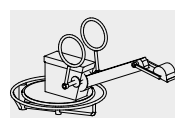
- 1 item 60 x 60 x 50 cm excavation depth 90 cm

Order No. 5.32000 Small Excavator

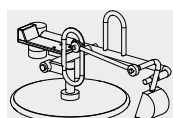
- 1 item 40 x 40 x 40 cm excavation depth 80 cm

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions. Technical changes reserved.



5.30000



5.32000

Technical information

all construction parts of hot-dip galvanised steel profiles

Sintered bush

For all reciprocating movements we use sintered plain bearings which are self-lubricating in use and can easily be exchanged if necessary



Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanised steel or stainless steel



For more detailed explanation of the quality characteristics see price list.

seat of waterproof plywood 25 mm, with non-slip coating

Order No. 5.30000 Large Excavator

parking break unlocks with use

Order No. 5.32000 Small Excavator

Chains

Chains made of hot-dip galvanized steel (1.4301 / 1.4571 at extra charge) welded before galvanising, short-linked, without eyelets on the connecting parts, easy to exchange and shorten



For more detailed explanation of the quality characteristics see price list.

Dimensions

(small deviations possible)

Order No. 5.30000 Large Excavator

reach diameter	3.20 m
with eccentric movement	4.20 m
weight	275 kg

Order No. 5.32000 Small Excavator

reach diameter	1.80 m
weight	70 kg

Play value

During play, children love to imitate movement patterns and work operations belonging to the adult world.

Our Excavator with wheelchair access takes into account the special needs of those with restricted mobility yet offers the opportunity to experience shovelling activities. And if water is close by, the Excavator offers an especially intensive playing experience. Ground-level access to the Excavator is possible via a ramp.



© Richter Spielgeräte GmbH 03/20

Design G. Beltzig

The side swivelling movement of the Excavator arm is controlled by a handwheel, while the shovel is steered using two hand levers installed at the left and right. With a radius of reach of 2.40 m, the Excavator enables access to an extensive play area.

Fundamental characteristics

- Installation only permitted in supervised areas
- Improves body co-ordination
- Incentive for playing: pivoting, turning, shovelling
- Exercise activity: physical effort

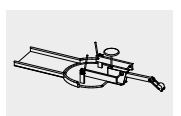
Recommended for

- Kindergarten children
- Supervised play areas such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision such as playgrounds, parks or similar

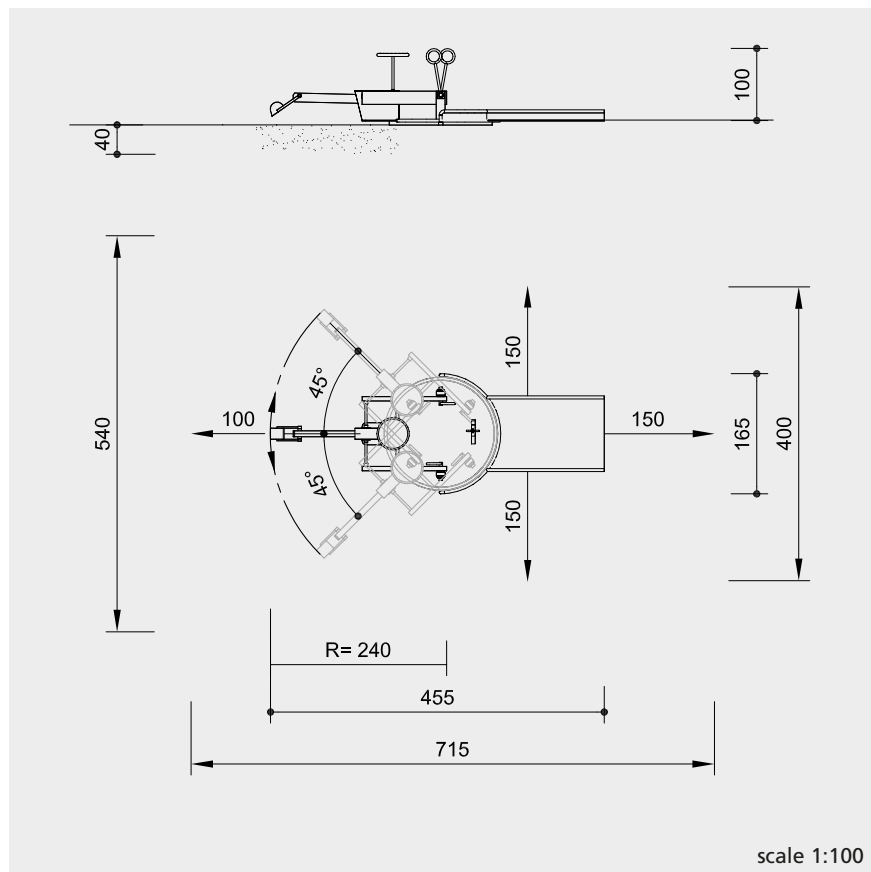
Barrier-free

- Independent play

Excavator with wheelchair access



5.30100



safety check according to EN 1176

Components

1 Excavator with wheelchair access

Installation information

Surfacing requirements corresponding to a fall height of ≤ 1.00 m (please refer to price list for more detailed information)

Foundations
1 item 250 x 110 x 40 cm
excavation depth 95 cm

Attention:
Exact measurements may vary;
for all installation dimensions refer
to current assembly instructions.
Technical changes reserved.

Technical information

all construction parts made of hot-dip galvanised steel profiles

Sintered bush

For all reciprocating movements we use sintered plain bearings which are self-lubricating in use and can easily be exchanged if necessary



Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanised steel or stainless steel



Bearing

Among other things, maintenance-free bearings are installed. Flange bearings, which need regular lubrication, are fitted with lubricating nipples.

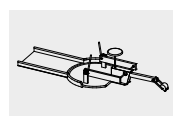


For more detailed explanation of the quality characteristics see price list.

Dimensions

(small deviations possible)

radius of reach	2.40 m
swivel range	90°
weight	760 kg



5.30100



Photo © Paul Upward Photography

Making Water Splash

Play value

Making water move using the strength of your own body and recognising the immediate effect of a strong jet of water: this association becomes the central experience at the Pedal Pump. The effort-less operation of the crank fades into the background; however at the same time it quickly becomes clear that this is the initiating action. During intensive play, the enthusiasm increases by changing the jet with just a simple turn of the handlebars. Fixed structures can be used as targets and movable targets act as an incentive for intensive effort.

Fundamental characteristics

- Immediately recognisable incentive to exercise
- Robust design
- Water jet as surprising action
- Exercise activity: targeting, physical effort

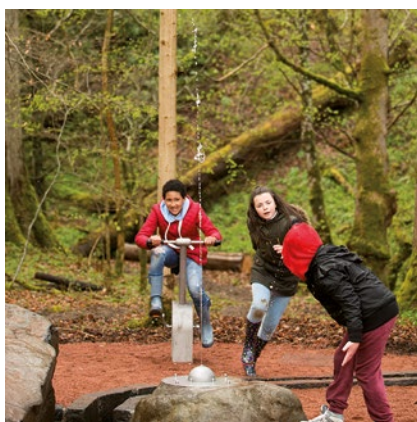
Recommended for

- Schoolchildren
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar



Order No. 5.18130 Pedal Pump with Spray Head Handlebar

**Pedal Pump with
Spray Head in Handlebar
Pedal Pump for External Jet
Concrete Well**



Order No. 5.18230 Pedal Pump for External Jet



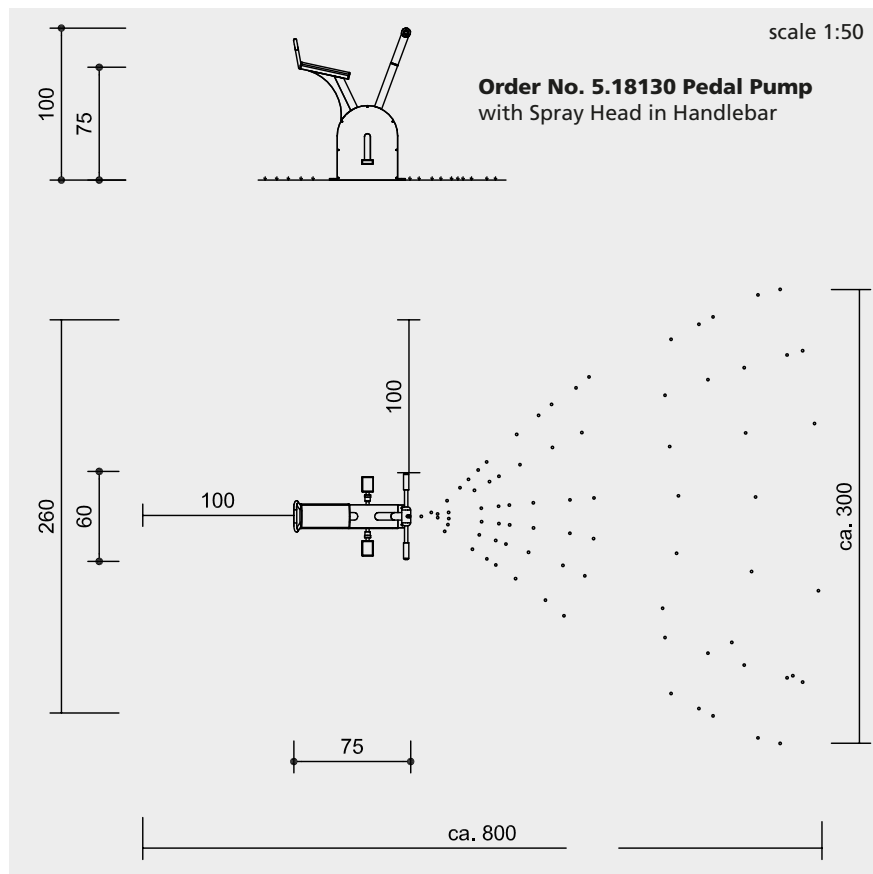
5.18130



5.18230



5.18250



Technical information

equipment made of stainless steel, glass bead blasted

seating surface made of rubber

Order No. 5.18130 Pedal Pump
with Spray Head in Handlebar

for self-priming operation
external connection thread 3/4 inch
vacuum suitable hose Ø 1/2inch

Order No. 5.18230 Pedal Pump
for External Jet

Order No. 5.18250 Concrete Well
reinforced concrete C40/50
connection to mains water max. 6 bar
connection thread 1 inch inside
compression proof diameter 3/4 inch
water requirement approx. 2l/min

Dimensions (small deviations possible)

total height	1.00 m
seat height	0.75 m
length	0.75 m
width	0.60 m
weight	
pedal pump	60 kg
concrete well (optional)	690 kg

Components

Order No. 5.18130
1 With spray head in handlebar
1 Winter lid

Order No. 5.18230
1 Pedal pump for external jet
jet not included
1 Winter lid

Order No. 5.18250
1 Concrete Well with integrated stainless steel water reservoir.

Installation information

Surfacing requirements
no fall protection requirements
suitable for heavy duty bolts

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Planning information

For connection to water mains use
Order No. 5.18250 Concrete Well
with integrated stainless steel water reservoir.

Alternatively **Order No. 5.17100** Valve combination can be used.

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website
www.richter-spielgeraete.de.



5.18130



5.18230



5.18250

Play value

This simple looking equipment is of high play value, and also a lot of fun. The unusual way of making water splash is a delightful surprise, particularly when one doesn't get wet oneself. Depending on the weight and skill of the participant, fountain jets reaching a distance of up to 7 m and a height of up to 4 m can be achieved by means of jumping up and down on the discs. It is great fun when several Water Jets are installed near to each other so that a real spray competition can take place.

Fundamental characteristics

- Mechanical pump mechanism makes the correlation between one's own power and the width of the water jet visible
- Functional design
- Incentive for playing: curiosity
- Movement: jumping

Recommended for

- Schoolchildren
- Young people
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar
- Water play areas without supervision



Photo © Daniel Perales



Order No. 5.25000 Water Jet, Photo © saholophone records

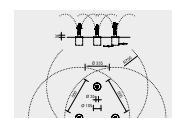


Order No. 5.25070 Water Jet for External Jet, Photo © Daniel Perales

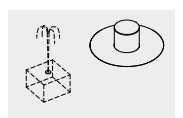
Water Jet Water Jet for external Jet

Planning Information

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.

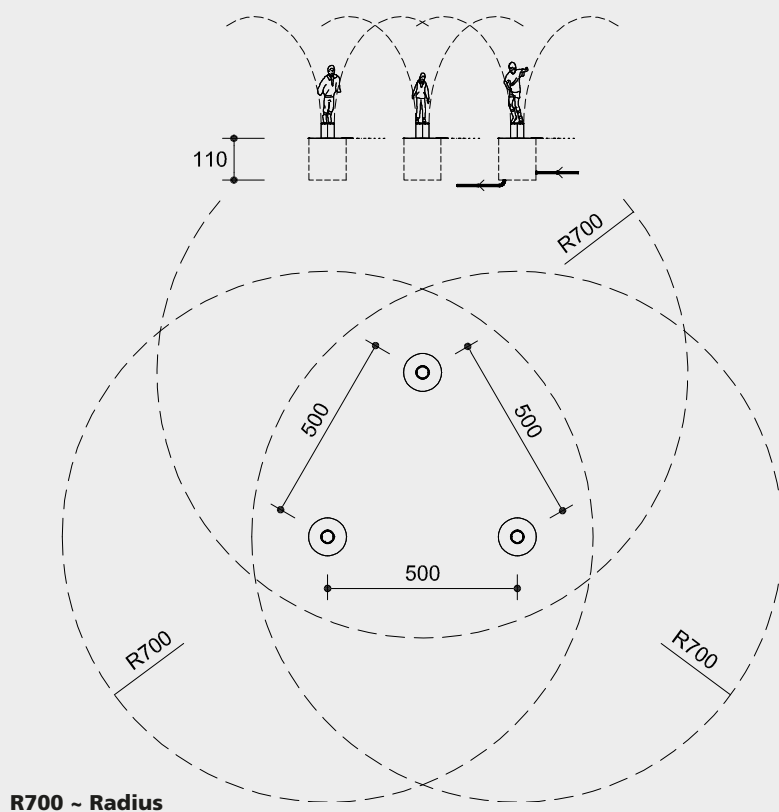


5.25000/5.25050



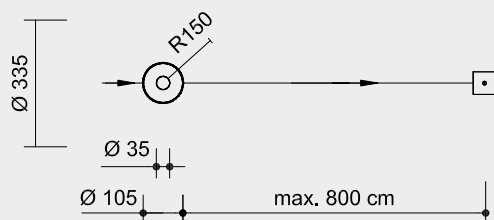
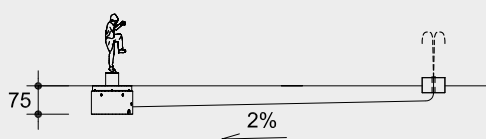
5.25070

Planning example for 3 Water Jets



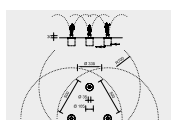
R700 ~ Radius

Order No. 5.25070 Water Jet for external Jet

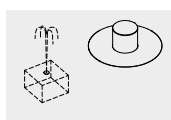


scale 1:200

Safety check according to EN 1176



5.25000/5.25050



5.25070

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions. Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Technical information

Order No. 5.25000 Water Jet

cylinder of stainless steel, glass bead blasted

standing plate of embossed sheets, with 6 water jets in a circle, diameter 4 mm rotatable plate, the jumping movement is buffered

the concrete housing contains:

suction pump with footplate, water reservoir with valves, siphon for drainage connection, diameter 110 mm connection to the pressure line, connection thread 1 inch inside, water supply 3/4 inch, pressure max. 6 bar, water requirement approx 15l/min

lid made of concrete with rubber seal, winter lid made of stainless steel

Order No. 5.25050 For installation in a water basin, the Water Jet can also be supplied with a sealed housing (not apply for Order No. 5.25070).

Order No. 5.25070

for external Jet

as before, but standing plate without jets

Dimensions

(small deviations possible)

standing plate

diameter 0.35 m
height 0.30 m

concrete housing

diameter 1.00 m / 1.05 m
height 1.10 m / 0.75 m
= installation depth
total weight 1100 kg / 900 kg

Components

1 Water Jet pre-assembled in concrete housing
1 Lid
1 Winter lid, stainless steel
accessories for **Order No. 5.25070 e.g.:**
Spraying heads 5.18810/5.18815/5.18830/5.18835/5.18870

Installation information

Surfacing requirements
corresponding to a fall height of ≤ 0.60 m (please refer to price list for more detailed information)
Recommendation: pavement, reinforced surface (provide adequate drainage on site) no sand, no gravel

Foundations
excavation for concrete well
Ø 2.00 m, depth 1.10 m

Using the equipment without water leads to increased wear of the components. Therefore the equipment should not be used without water.

During frosty periods the suction pump must be disassembled and the water reservoir and supply must be emptied. Also included in the components is a lid with which the opening of the cylinder is sealed during the frosty season.

Play value

It's not immediately clear for what purpose these funny coloured mushroom heads can be used. When the two handles, which invite hands-on activity, are pressed down hard, a wide jet of water rises from the nozzle in the head as a result of the pumping process. The top part of the pump can be rotated 360°. This makes it possible to spray all around, so that you can follow the escaping person and make them wet as long as they are within reach. To ensure fair conditions, the Splash Pump should ideally be installed in pairs. In water playgrounds or swimming pools, Splash Pumps offer another fun way to experience water.

Fundamental characteristics

- It's possible to see the correlation between physical effort and reach of the water jet through the mechanical piston pump.
- Rotatable 360°, spraying distance up to 10 m
- Position of sprayhead can be changed (mushroom head)
- Incentive for playing: coloured head, handles
- Exercise activity: physical effort, aiming at a target

Recommended for

- Schoolchildren
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar
- Water play areas without supervision

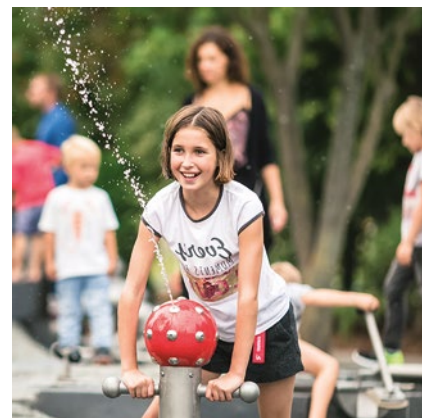


Photo © Anton Donikov



Photo © Anton Donikov



Order No. 5.18060 Splash Pump with Mushroom Head

Splash Pump with fixed sprayhead
Splash Pump with mushroom head
Intake Container
Foundation Anchor



5.18050



5.18060

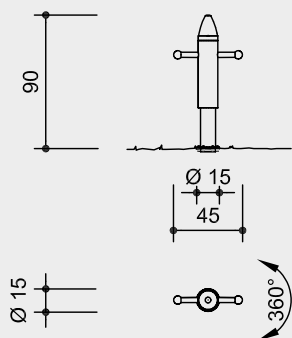


5.18052

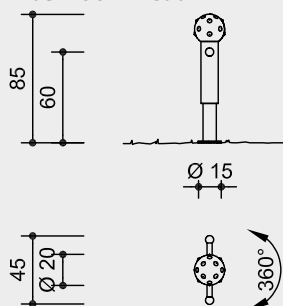


5.18054

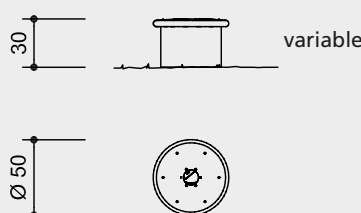
Order No. 5.18050 Splash Pump with fixed sprayhead



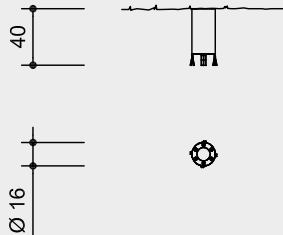
Order No. 5.18060 Splash Pump with mushroom head



Intake Container Order No. 5.18052



Foundation Anchor Order No. 5.18054



scale 1:50

safety check according to EN 1176

Components

Order No. 5.18050

1 Splash Pump with fixed sprayhead

Order No. 5.18060

1 Splash Pump with mushroom head

Order No. 5.18052

1 Intake Container with float valve

Order No. 5.18054

1 Foundation Anchor

Order No. 5.18055

1 Winter Lid

Installation information

Surfacing requirements
sand/gravel, paving stone or similar with
drainage possibility

Foundations

Order No. 5.18052

surfacing must be ready to take heavy-
duty bolts, level
depends on the installation conditions

Order No. 5.18054

1 item approx. 60 x 60 x 40 cm
excavation depth 50 cm

Dimensions

deviations possible

Order No. 5.18050

Splash Pump with fixed sprayhead

height 0.90 m
diameter at top 0.25 m
weight 23 kg

Order No. 5.18060

Splash Pump with mushroom head

height 0.85 m
diameter 0.45 m
with handles 0.20 m
mushroom head 0.20 m
weight 30 kg

Order No. 5.18052

Intake Container

height 0.30 m
diameter 0.50 m
weight 20 kg
winter lid available on request

Order No. 5.18054

Foundation Anchor

height 0.40 m
diameter 0.15 m
weight 7 kg

Order No. 5.18055

Winter Lid

diameter 15 cm
weight 0.6 kg

Technical information

Order No. 5.18050

Splash Pump with fixed sprayhead

equipment made of stainless steel, glass-
bead blasted
with fixed sprayhead
colour of top part: RAL colour 3000,
other colours on request
external thread 3/4 inch
suction line diameter 1/2 inch
max. suction height 2.50 m
max. distance from water source 6 m

Order No. 5.18060

Splash Pump with mushroom head

equipment made of stainless steel,
glass-bead blasted, the position of
the sprayhead can be changed in our
workshop or by maintenance personnel

colour and connection specifications as
for **Order No. 5.18050**

Order No. 5.18052 Intake Container

equipment made of stainless steel, glass-
bead blasted, with integrated float valve
for connection to water mains supply
(max. 6 bar)
external thread 3/4 inch
pressure-resistant pipeline, diameter
1/2 inch

water requirement approx. 4l/min

Order No. 5.18054 Foundation Anchor

foundation anchor made of galvanised
steel

Order No. 5.18055 Winter Lid

winter lid, stainless steel, for **Order No.
5.18052/5.18054**

Planning information

for special installations please request
planning aid
Connection line for water supply is not
included in the scope of delivery.

Allow for drainage (frost protection in
winter).

Dismantle the splash pump before the
frost period and store it frost-proof.

Drain intake container and supply line
before the frost period.

Individual solutions for the water supply
must be devised, depending on the plans.
Up-to-date details on the connection
for the water supply and other technical
information is available to download as a
table at our website

www.richter-spielgeraete.de.

Attention:

**Exact measurements may vary, for
all installation dimensions refer to
current assembly instructions.**

We reserve the right to make technical
alterations.

**For use in aggressive environments
such as salt or chlorine water, the
equipment is also available in
marine grade steel (V4A).**



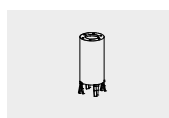
5.18050



5.18060



5.18052



5.18054

Play value

To set water in motion with your own physical strength and to recognise the immediate effect – this connection becomes a central experience when handling pumps and jets. Our sprayheads are suitable for every water play area and are fun for small and big children. Combined with our pumps, the various sprayheads can be activated in such a way that bubbling, refreshing water sprays upwards.

Recommended for

- School children
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar
- Water play areas without supervision

Barrier-free

- independent play

Planning information

The sprayheads with the **order numbers 5.18815** and **5.18835** produce a high, sharp water jet.

They should only be used where the sprayheads are not accessible, e.g. in a pond which is not used for swimming, and with sufficient distance to the shore. Please note the higher cleaning effort involved when using the Simple Spraying Head, **order No 5.18816/ 5.18817/ 5.18818/ 5.18836/ 5.18837/ 5.18838/ 5.18870/ 5.18871/ 5.18872**. Consider using the Sprayhead with cleaning mechanism (**order No. 5.18810/5.18830**).



Order No. 5.18870 Simple Spraying Head, Photo © Paul Upward Photography

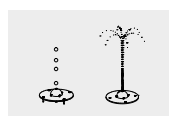
Sprayheads with soft water jet and large flange
Sprayheads with soft water jet and small flange
Simple Spraying Head with soft water jet

Fountain Sprayhead with large flange
Fountain Sprayhead with small flange

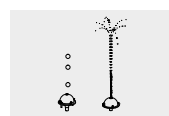


Order No. 5.18810 Sprayhead with large flange

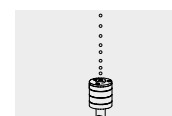
Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.



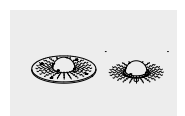
5.18810-5.18818



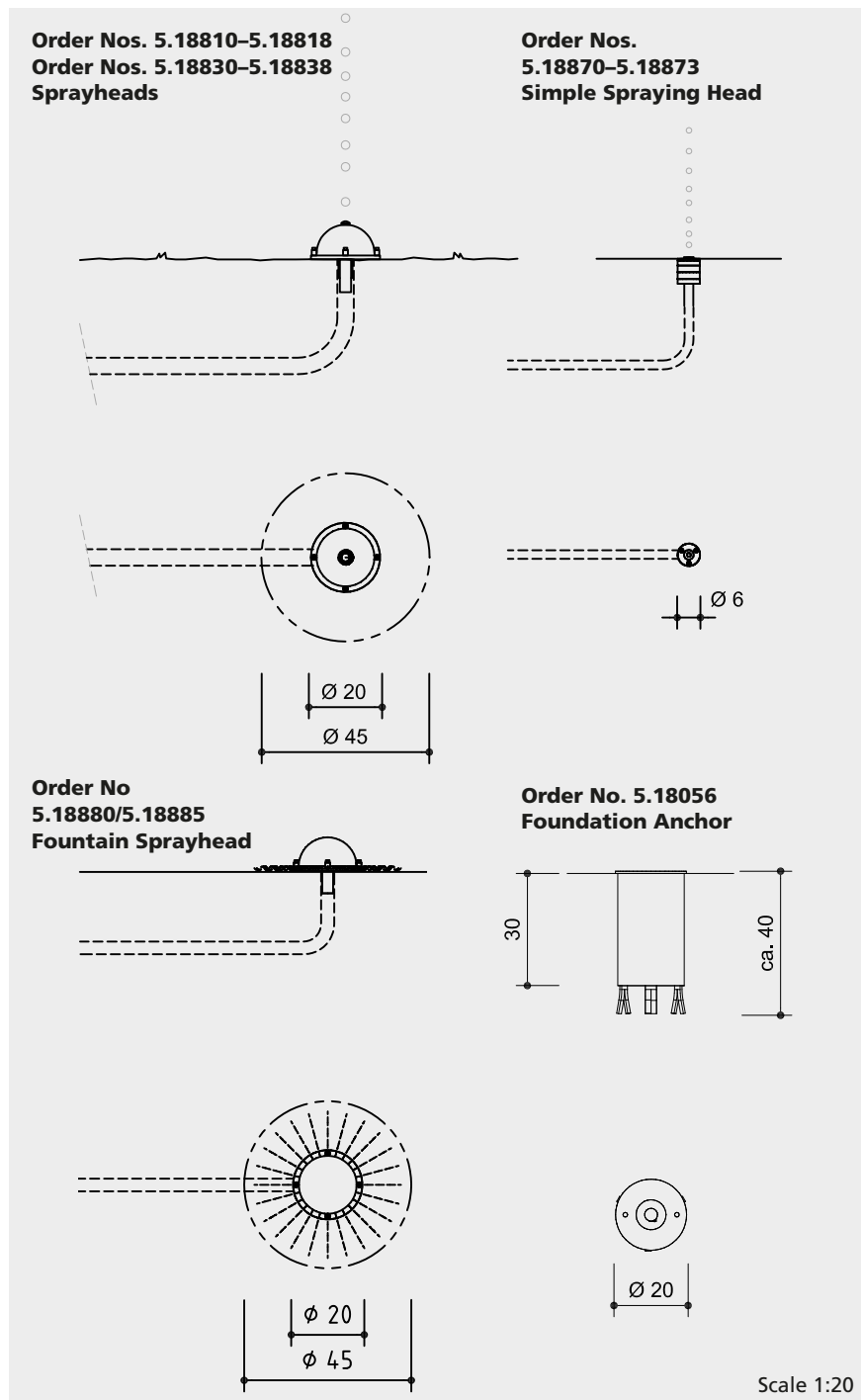
5.18830-5.18838



5.18870-5.18873



5.18880/5.18885



Order Nos. 5.18810–5.18818
Order Nos. 5.18830–5.18838
Sprayheads

Order Nos.
5.18870–5.18873
Simple Spraying Head

Order No
5.18880/5.18885
Fountain Sprayhead

Order No. 5.18056
Foundation Anchor

Technical information

Sprayheads with large flange

Order No 5.18810 with soft water jet
Order No. 5.18815 with strong water jet
Order No 5.18816/5.18817/5.18818
with soft water jet and different jet heights
Order No. 5.18880 Fountain Sprayhead

Sprayheads with small flange

Order No. 5.18830 with soft water jet
Order No. 5.18835 with strong water jet
Order No. 5.18836/5.18837/5.18838
with soft water jet and different jet heights
Order No. 5.18885 Fountain Sprayhead

sprayheads made of stainless steel, glass-bead
blasted, with brass sprayhead
external thread 1 inch
line diameter 3/4 inch
max. distance from water source 8 m

Order No. 5.18056 Foundation Anchor
foundation anchor for small flange, hot-dip
galvanised

Order No. 5.18870/ 5.18871/ 5.18872/ 5.18873

Simple Spraying Head

sprayhead made of stainless steel, glass-bead
blasted, with brass sprayhead, without cleaning
mechanism
external thread 3/4 inch
line diameter 3/4 inch
max. distance from water source 8 m

Dimensions

(small deviations possible)

Sprayheads and Fountain Sprayhead

with large flange

flange diameter 0.45 m
weight 12 kg

with small flange

flange diameter 0.20 m
weight 4 kg
diameter of the hemisphere 0.15 m

Order No. 5.18056 Foundation Anchor

flange diameter 0.20 m
height 0.40 m
weight 7.5 kg

Order No. 5.18870 Simple Spraying Head

diameter 0.06 m
weight 1 kg

Components

Sprayheads, order Nos.
5.18810–5.18818/5.18830–5.18838

1 sprayhead with coupling

Simple Spraying Head

Order No. 5.18870

1 sprayhead with coupling

Foundation Anchor

1 foundation anchor

Foundation Sprayheads order No.
5.18880/5.18885

1 foundation sprayhead with coupling

Attention:

Exact measurements may vary;
for all installation dimensions refer
to current assembly instructions.

We reserve the right to make technical
alterations.

For use in aggressive environments
such as salt or chlorine water, the
equipment is also available in
marine grade steel (V4A).

Installation information

Water supply for sprayheads to be prepared by the
customer.

Sprayheads w/large flange/Fountain Sprayheads

surfacing suitable for heavy-duty bolts
Foundation

1 item, ext. diam. 0.45 m, int. 0.25 m, depth 0.30 m

Sprayheads with small flange/
Fountain Sprayheads

surfacing suitable for heavy-duty bolts, alter-
natively, installation with foundation anchor

order No. 5.18056 or water basins **order No.**
5.24200/5.24400

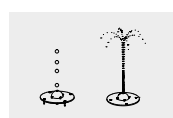
Foundation anchor

surfacing requirements: none/accord. to playground
Foundation

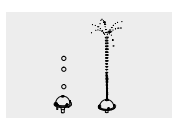
60 x 60 x 30 cm, excavation depth 50 cm

Simple Spraying Heads

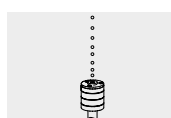
to be stuck into a base element (e.g. stone plate)
with drill hole, diameter 62 mm



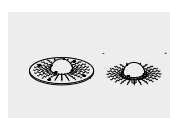
5.18810-5.18818



5.18830-5.18838



5.18870-5.18873



5.18880/5.18885



Photo © Daniel Perales



Photo © Daniel Perales

Play value

Those playing on the Forest Fountain system can experience a wide range of spatial and sensory effects of the medium water as a result of their own physical activities. The height of the masts and length of the pipelines enables the water to achieve the greatest possible spraying effect, while the jets and rotors create different, continuously changing shapes and structures. The contrast, created by the strictly geometrical masts and pumps, contributes to the aesthetics of the overall design.

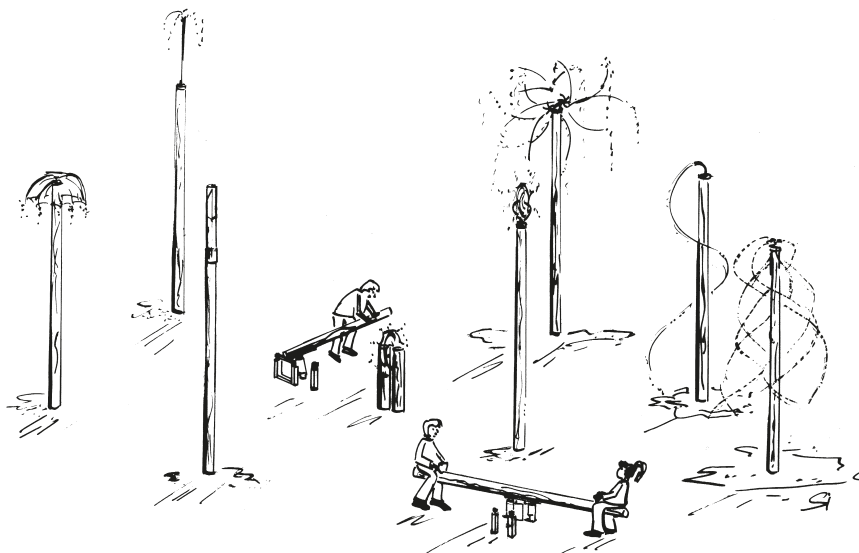
Recommended for

- Schoolchildren
- Public play areas such as kindergartens, schools, after- school programmes or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar



Photo © Daniel Perales

Forest Fountain



5.27001 - 5.27537



Order No. 5.27035 Horizontal Star Rotor Photo © Paul Upward Photography

Rotors and jets

Low Collision Disc

Order No. 5.27030/5.27530

spraying area 2 m, width 0.50 m

High Collision Disc

Order No. 5.27031/5.27531

spraying area 4 m, width 1 m

Vertical Jet

Order No. 5.27032/5.27532

spraying height up to 10 m, radius 2 m

Spiral Rotor

Order No. 5.27033/5.27533

spraying area radius 2.5 m

Vertical Star Rotor

Order No. 5.27034/5.27534

spraying area 14 m, width 1.50 m

Horizontal Star Rotor

Order No. 5.27035/5.27535

spraying length Ø 10 m, radius 5 m
(reducible)

Umbrella Jet

Order No. 5.27036/5.27536

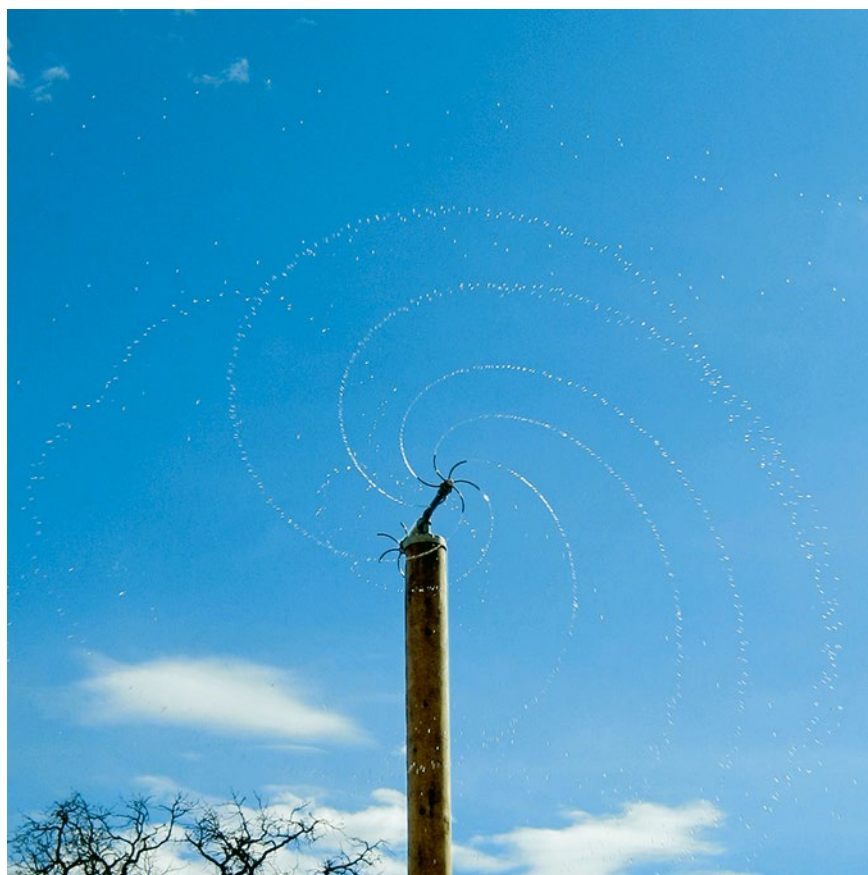
spraying area radius 3 m

Reservoir

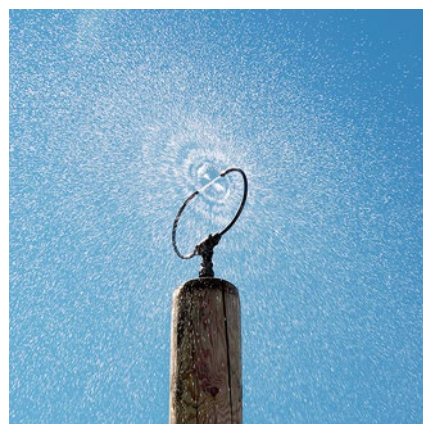
Order No. 5.27037/5.27537

Water Umbrella

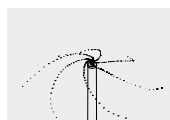
spraying area radius 2 m



Order No.. 5.27034 Vertical Star Rotor



Order No. 5.27031 High Collision Disc



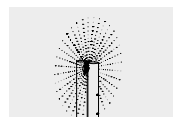
5.27035/5.27535



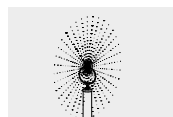
5.27036/5.27536



5.27037/5.27537



5.27030/5.27530



5.27031/5.27531



5.27032/5.27532



5.27033/5.27533



5.27034/5.27534

Components

Pumps

- **Long Handle Pump with valve system, Order No. 5.27010/ 5.27015/ 5.27016**
- **Long Handle Pump with water reservoir, Order No. 5.27110/ 5.27115/ 5.27116**

1 pump cylinder with stainless steel mechanism on concrete well, Ø 110 cm, depth of installation approx. 60 cm, pump swipe of ash wood Ø 9 cm, length 2.30 m, weight approx. 900 kg, depending on type of distribution station (single or double), 3-way valve with pan bar handle and direction arrow, made of stainless steel/plastic, height 40 cm

connection to main water max. 6 bar, connection thread 1 inch inside, compression proof diameter 1 inch water requirement approx. 15l/min

- **Pump See-saw with valve system, Order No. 5.27020/ 5.27025/ 5.27026**
- **Pump See-saw with water reservoir, Order No. 5.27120/ 5.27125/ 5.27126**

2 pump cylinders and stainless steel mechanism on concrete well, Ø 110 cm, depth of installation approx. 65 cm, see-saw beam of larch, length 4 m, optimized concealed bolt head, hand grips of stainless steel (glass bead blasted), fall height ≤ 1 m, weight approx. 950 kg, depending on type of distribution station (single or double), 3-way valve with pan bar handle and direction arrow, made of stainless steel/plastic, height 40 cm, connection to water as above water requirement approx. 20l/min

Masts

Order No. 5.27030 - 5.27037

larch wood with steel foot, height approx. 4 m, 18/21 cm

Order No. 5.27530 - 5.27537

cap of stainless steel or complete masts made of stainless steel tubes Ø 133 mm

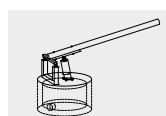
foundation 80 x 80 x 80 cm, excavation depth 110 cm, edges to be rounded if sand and gravel is used

supply line between pump and mast, fabric hose 10 m and hose connector, included supply line to be laid in empty conduit such as drainpipe or flex pipe Ø 80 mm, not included in delivery supply line with 2 % gradient to pump concrete well for draining during period of frost

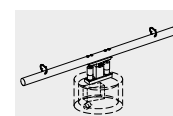


Masts made of wood

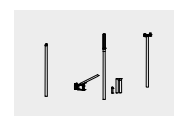
Forest Fountain



5.27010



5.27020



5.27001 - 5.27537

Planning information

The masts and pumps should be arranged so that it is possible to observe the fountain effect when pumping. Accordingly, the masts with the smaller spraying radiuses should be positioned closer, and those with a larger spraying radius further away, at the edge of the space. The distance to the masts and between them should be 3 - 6 m. The effect of the sunlight and the contrast with darker backgrounds such as trees or the flat faces of buildings plays an important role here for the optical effect. In the case of higher spraying



Masts made of stainless steel, powder-coated



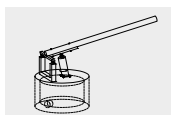
heads, the prevailing wind direction should be taken into consideration. The surfacing of the ground should be firm or graveled and be provided with a well working drainage. The water supply and the system must be drained during frost periods. Sensitive parts such as pump valves must be removed and stored in a frost-free location.

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.

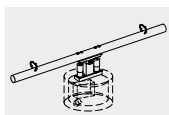
The Forest Fountain is a very complex play structure, we recommend the consultation and planning by our team.

The pumps are also available with programmable rinsing for flushing the pumps and masts.

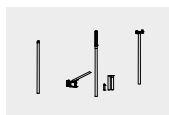
Forest Fountain



5.27010



5.27020



5.27001 - 5.27537

Play value

The Little Whale is a point of attraction for water play areas. It does not only have a very appealing design, there is also a surprise hidden inside. It is necessary to use the whole body for obtaining the desired effect. When the Little Whale moves to and fro, it expels a water jet. But it is also possible to sit on the whale and to be rocked softly. The Little Whale, in combination with the Sea Creatures, is a very attractive play offer also for town centres.

Fundamental characteristics

- Attractive, child-orientated design
- Integrated pressure pump for creating the water jet
- Incentive for playing: animal
- Movement: moving one's centre of gravity

Recommended for

- Schoolchildren
- Public play areas such as kindergartens, schools, after- school programmes or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar



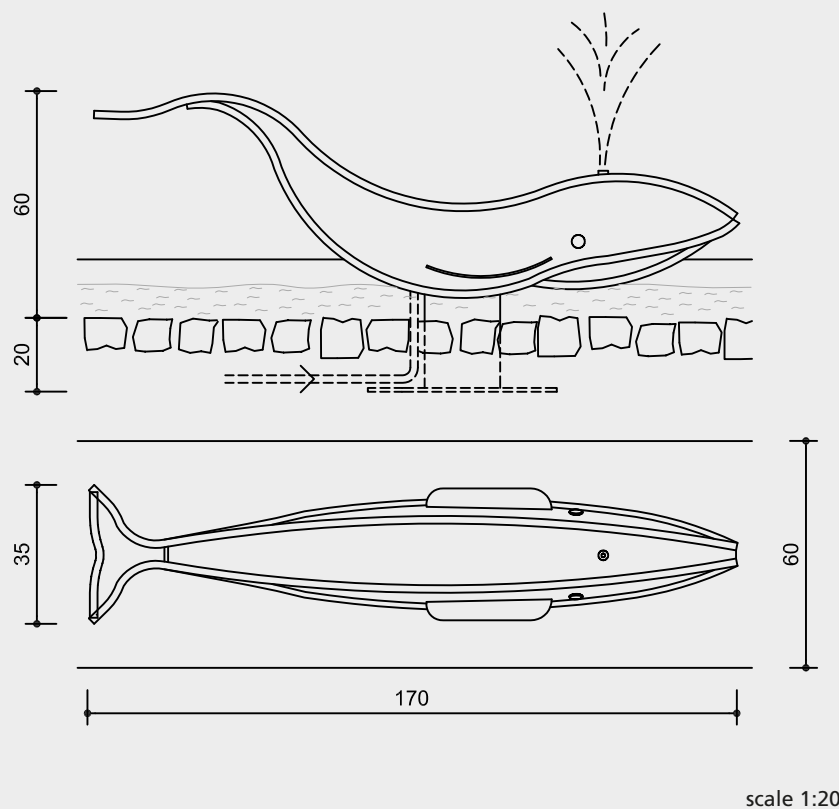
Photo © Daniel Perales

Little Whale



5.18500

Order No. 5.18500 Little Whale



Safety check according to EN 1176

Components

1 Whale with base plate for fixation with screws

Installation information

Surfacing requirements
paving stone or similar with drainage

The water depth has no influence on the function.

Foundations
1 item 80 x 50 x 50 cm
excavation depth 70 cm

Water supply need to be made by the customer.

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Technical information

the whole equipment is made of stainless steel, glass bead blasted

Sintered bush

For all reciprocating movements we use sintered plain bearings which are self-lubricating in use and can easily be exchanged if necessary



For more detailed explanation of the quality characteristics see price list.

integrated float valve for direct connection to the mains water, max. 6 bar
external connection thread 1/2 inch
compression proof diameter 1/2 inch

underground adequate for heavy duty bolting

Dimensions

(small deviations possible)

height	0.60 m
length	1.70 m
width	0.35 m
weight	45 kg

Planning information

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website www.richter-spielgeraete.de.



5.18500



Crossing over Water

Play value

Children like to travel on equipment that is propelled using their own power. If this can be achieved on water, then the fun is doubled. The age old principle of the rope ferry is the inspiration behind our swimming bridge for small lakes in parks, leisure areas and on playgrounds. A rope anchored on both sides connects the two facing banks. The ferry is securely pulled from one side to the other on this rope. A foam-filled hollow form ensures its „seaworthiness“. The incorporated concrete counterweight prevents tipping of the boat body. The rope ferry is often integrated into role play, however it is also a fascinating means of transport with which one can only travel back and forth again and again.

Fundamental characteristics

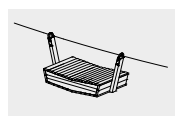
- Unsinkable
- Due to the concrete counterweight it gets always back in its original position
- Wooden surface is pleasant also for bare feet
- Soft impact at the banks
- Incentive for playing: rope from one bank to the other, means of transport
- Movement: physical effort, balancing

Recommended for

- Kindergarten children
- Schoolchildren
- Leisure parks
- Waterplay areas without supervision
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar

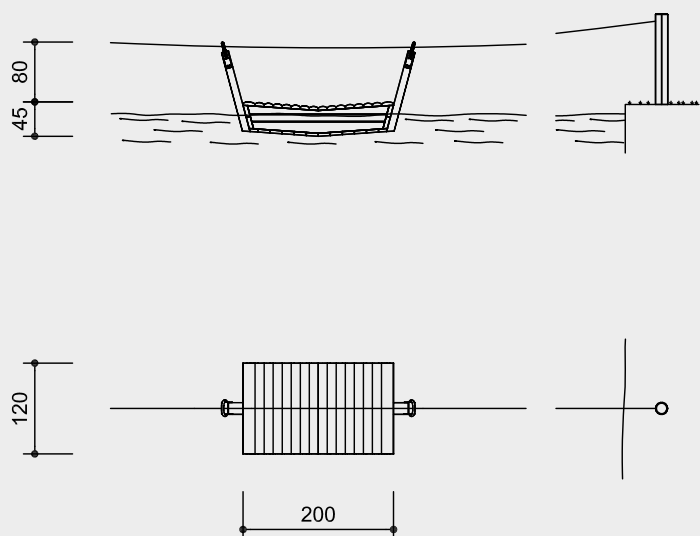


Rope Ferry



5.44000

Order No. 5.44000 Rope Ferry



scale 1:100

Safety check according to EN 1176

Components

- 1 Raft complete
- 1 Rope, length 18.00 m with one support post per side

Other lengths available on request.

Order No. 0.93471 Shock absorber for Rope Ferry available on request.

Installation information

Surfacing requirements corresponding to a fall height of ≤ 0.60 m. A water depth of at least 40 cm is necessary for operation, we recommend 60 cm.

Use only in fenced and supervised areas, not for pool areas.

Space requirement and foundations depend on local conditions.

Foundations for support posts
2 items 60 x 60 x 60 cm
excavation depth 80 cm

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.

Technical information

equipment of non-impregnated mountain larch

Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Claddings

Claddings made of mountain larch (4 – 5 cm) and spruce / fir (3 – 5 cm). Peeled white by hand, natural tree surface remains tangible and perceptible



Richter Hercules type rope

Richter Hercules type rope, a combination of galvanised six-strand steel cables and polyester yarn, diameter > 20 mm, laid and glued with very good abrasion resistance, strong sheathing even in the case of damage by puncturing



Aluminium rope pressing

Aluminium rope pressing, cylindrically pressed, with rounded ends



Rope connection fixed

Fixed rope connection without dangerous openings. Screw connection adjustable and countersunk in the wood



For more detailed explanation of the quality characteristics see price list.

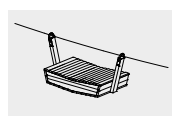
Rope guides made of stainless steel

floating body of closed-pore foam, concrete plate as counterweight

Dimensions

(small deviations possible)

pedestal size	2.00 m x 1.20 m
weight	400 kg



5.44000



Play value

The raft is an associative play equipment which is connected with adventure, e.g. Huckleberry Finn, raftsmen, shipwreck and much more. Children love to move across water with the help of the punting pole. They enjoy the small risk of falling in. Furthermore, it is great fun to experience one's own force and skills. The floating body of the raft is, just as in the case of the cable ferry, a foamed hollow form and assures safe floating. On the raft, there is a mast-type pole to hold on which can also be used in „emergencies“ to set a shirt as sail. This watercraft is propelled and steered with the help of a long punting pole.

Fundamental characteristics

- Real wooden raft made of half-round trunks
- Unsinkable floating body
- Stability by a concrete counter-weight
- Wooden surface is pleasant also for bare feet
- Incentive for playing: travelling on water
- Movement: physical effort, balancing

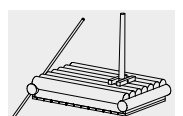
Recommended for

- School children
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar



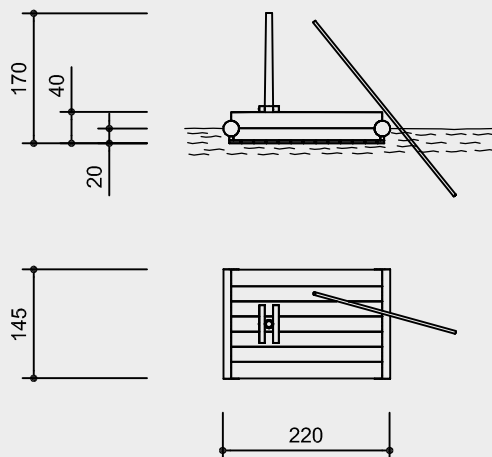
Version with prolonged masts

Raft



5.45000

Order No. 5.45000 Raft



scale 1:100

Safety check according to EN 1176

Components

- 1 Raft
- 1 Punting pole

Installation information

Surfacing requirements corresponding to a fall height of ≤ 0.60 m
A water depth of at least 40 cm is necessary for operation, we recommend 60 cm.
Use only in fenced and supervised areas, not for pool areas.

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.

Technical information

Equipment of non-impregnated mountain larch

Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



For more detailed explanation of the quality characteristics see price list.

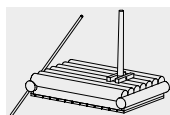
floating body of closed-pore foam, concrete plates as counterweight

fixing rope of polyamide, \varnothing 22 mm

Dimensions

(small deviations possible)

height	1.70 m
height of mast	1.30 m
length	2.20 m
width	1.45 m
weight	500 kg



5.45000

Play value

You can cross over from one bank to the other without getting wet feet when walking on the Water Path and keeping right in the middle. However, it is much more fun to have a wet crossing, wobbling and bobbing up and down, rocking and tottering, and all this without any risk of „capsizing“ completely. It's only a slightly wet passage. The individual floating bodies are threaded on to steel cables on both sides and the access is defined by the design of the bank area. The length of the Water Path is dependent on the planning.



Fundamental characteristics

- Unsinkable floating body
- Threading keeps the floating bodies within a defined area
- The floating bodies influence each other what makes the passage even more interesting
- Wooden surface is pleasant also for bare feet
- Incentive for playing: „daring“ passage
- Movement: balancing

Recommended for

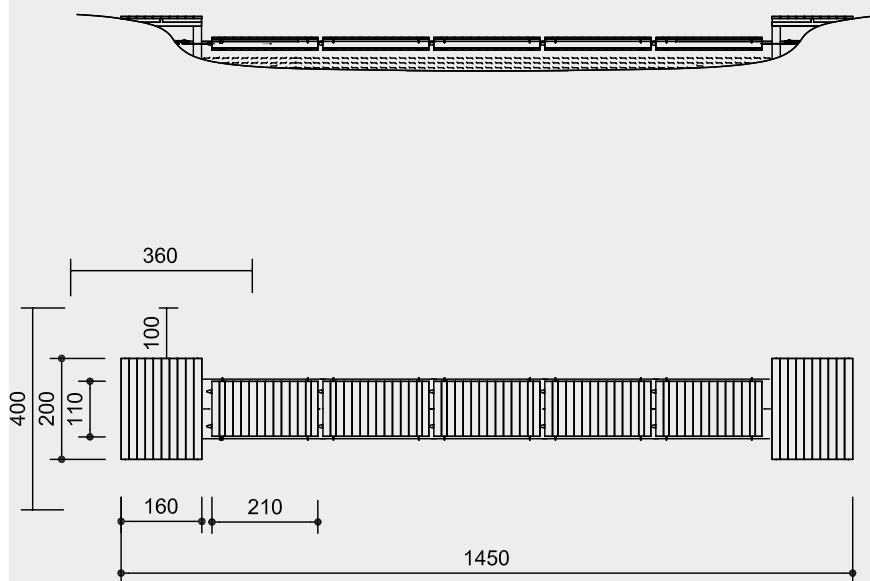
- Kindergarten children
- Supervised play areas, such as kindergartens, schools, after-school programmes or similar
- Public play areas without supervision, such as playgrounds, parks or similar
- Water play areas without supervision

Water Path



5.46050

Order No. 5.46050 Water Path



Safety check according to EN 1176

Components

- 5 Floating bodies
- 2 Stainless steel cables with anchor chains and turnbuckles
- 2 Bank pedestals, depending on local situation and length with lateral fixations

Installation information

Surfacing requirements corresponding to a fall height of ≤ 0.60 m
A water depth of at least 40 cm is necessary for operation.
We recommend 60 cm for water depth.

Foundations
depend on individual project

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in aggressive environments such as salt or chlorine water, the equipment is also available in marine grade steel (V4A).

Technical information

equipment made of non-impregnated mountain larch

Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Tongue and groove

Tongue and groove planks made of 4 cm solid wood, highly resilient, no trickling of dust / sand, protection against direct rain



For more detailed explanation of the quality characteristics see price list.

floating bodies filled with closed-pore foam

steel cable and cable guides of stainless steel

Dimensions

(small deviations possible)

Floating bodies

height	0.25 m
length	2.10 m
width	1.10 m
weight	300 kg

Bank pedestals

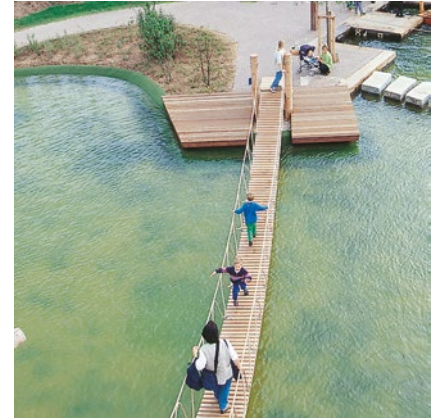
height	0.50 m
size	2.00 x 1.60 m
weight	200 kg



5.46050

Play value

Suspension bridges have the effect of large scale. The dynamic swing and the apparently fragile construction have great appeal in addition to their design quality. Such bridges are seldom left out of play activity and adults go out of their way on walks to try them out.



Picture shows a special version



Picture shows a special version with ramps on both sides

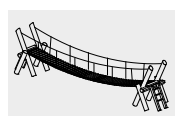
Fundamental characteristics

- Unique and original
- Appealing construction, also for adults
- Incentive for playing: swinging, curiosity
- Movement: walking, wobbling, jumping

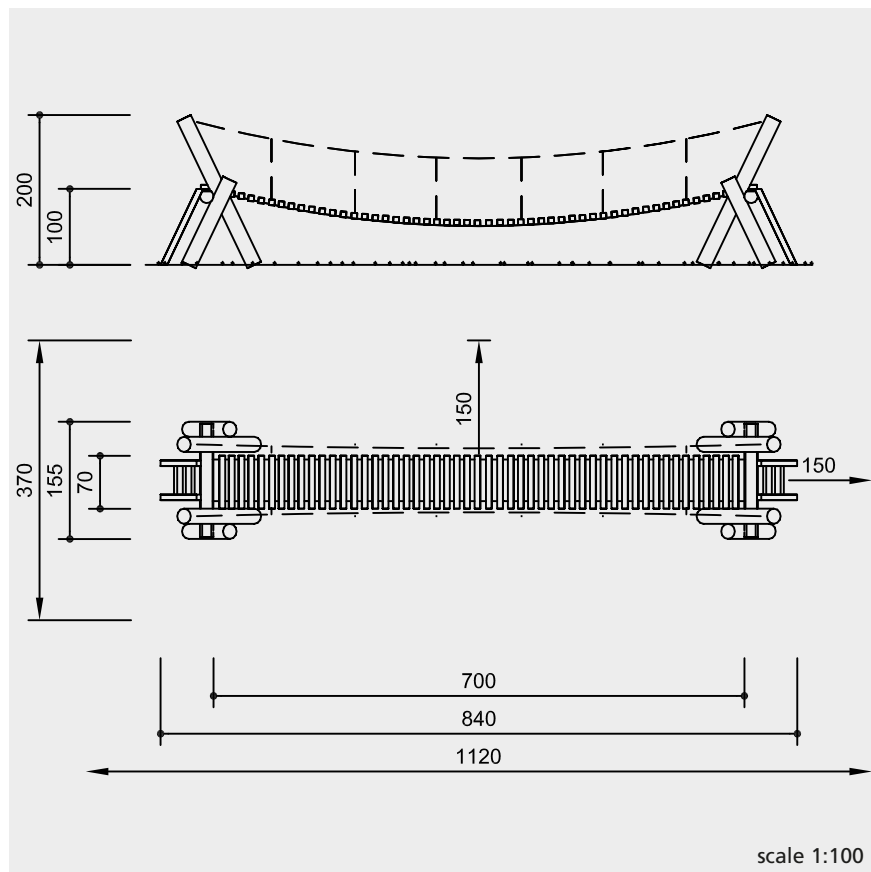
Recommended for

- School children
- Supervised play areas such as kindergartens, schools, after-school programmes or similar"

Big Suspension Bridge



6.61000



Safety check according to EN 1176

Components

- 2 End frames with ladder
- 1 Walkway with chain handrails length 7.00 m

Installation information

Surfacing requirements corresponding to fall height, dependent on installation situation (please refer to price list for more detailed information)

Foundations
4 items 220 x 60 x 80 cm, u-shaped excavation depth 100 cm

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
Equipment also available with steel feet.

Technical information

eeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Perforated

The earth / air zone of the wood is perforated by numerous small bore holes to ensure that the impregnating agent penetrates this particularly endangered zone



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



walking boards, individually fastened to carrying ropes

Hardwood rungs

Climbing rungs made of hardwood (ash) Ø 4.2 cm, milled and mortised, secured against twisting, easy to grip and not cold for children to touch



Hercules type rope

Hercules type rope for spliced net connections, a combination of steel and polyester or polyamide yarn for the sleeve, abrasion-protected, 4 or 6 strands



Profiled washer

Profiled washer for covering protruding screw heads according to standard, improved pressure distribution and protection against water. Impedes loosening the bolt



Adjustable

Adjustable two-piece bolt connection, easy to maintain, no projecting threads



Interlocking

Interlocking connection, with milled metal rings or serrated disc dowels, to reinforce the bolt connection under high loads transverse to the grain direction of the wood



Chains

Chains made of hot-dip galvanized steel (1.4301 / 1.4571 at extra charge) welded before galvanising, short-linked, without eyelets on the connecting parts, easy to exchange and shorten



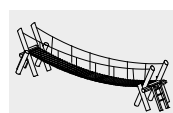
For more detailed explanation of the quality characteristics see price list.

Dimensions

(small deviations possible)

outside dimension	8.40 m
walkway length	7.00 m
walkway width	0.70 m
walking boards	75 x 75 mm
platform height	1.00 m
weight	600 kg

special lengths on request



6.61000

Play value

This impressive suspension bridge with its filigree guy ropes is a special design element for large leisure parks. The attractive access gates with their sparkling tips are eye-catchers, which can be seen from afar. These two pylons carry the whole construction. The walking boards of the bridge are suspended in such a way that the system slightly vibrates under load. The bridge is horizontally suspended without any sag over the entire distance. This enables it to be used by vehicles such as children's vehicles, wheelchairs, and bicycles.



Suspension Bridge for Wheelchair Users

Fundamental characteristics

- Unique and original
the construction allows for a span of up to 18 m
- Wide space for walking and driving

Recommended for

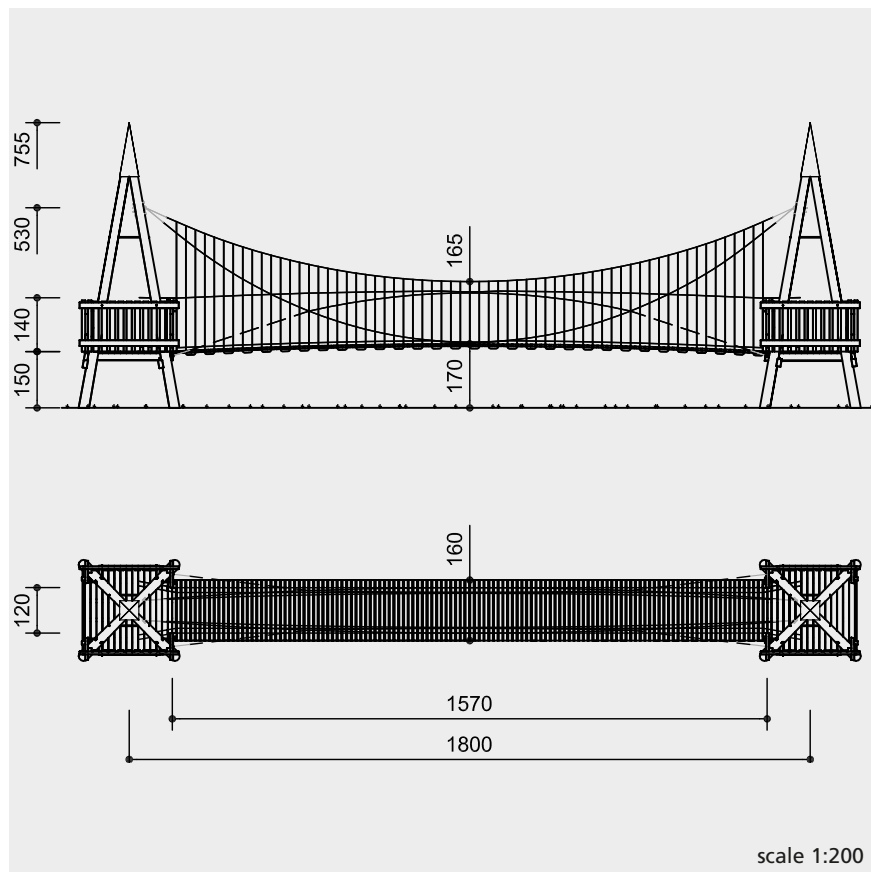
- All ages
- Public play areas without supervision, such as playgrounds, parks or similar

Barrier-free

- Special exercise experience



6.62300



Technical information

Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Tongue and groove

Tongue and groove planks made of 4 cm solid wood, highly resilient, no trickling of dust / sand, protection against direct rain



Richter Hercules type rope

Richter Hercules type rope, a combination of galvanised six-strand steel cables and polyester yarn, diameter > 20 mm, laid and glued with very good abrasion resistance, strong sheathing even in the case of damage by puncturing



Aluminium rope pressing

Aluminium rope pressing, cylindrically pressed, with rounded ends



S-connectors

S-connectors Ø 8.1 mm, made of high-quality stainless steel, rounded



Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanised steel or stainless steel



For more detailed explanation of the quality characteristics see price list.

tips of stainless steel, glass-bead blasted

fittings of stainless steel or hot-dip galvanised

turnbuckles electro-galvanised

Dimensions

(small deviations possible)

Suspension Bridge

length	18.00 m
length walk way	15.70 m
width	1.20 m

Pylons

height	7.55 m
platform height	1.50 m

Components

- 2 Pylons with platforms
- 8 Steel feet
- 1 Complete suspension bridge

Access components are not included in delivery.

Installation information

Surfacing requirements corresponding to a fall height of ≤ 1.50 m (please refer to price list for more detailed information)

Foundations depend on the installation conditions

Attention:

Exact measurements may vary; for all installation dimensions refer to current assembly instructions.

Technical changes reserved.

Planning information

Access components must be designed according to on-site conditions and are not included in delivery.



6.62300



Order No. 6.52100 Free-standing Chain Path with protecting path through

Play value

The Chain Path consists of carefully mounted running bars which swing harmonically under load. This interesting linking element is a challenge for skills and concentration and is a relaxation for tired feet. The Chain Path is also available as access equipment for slopes.

Fundamental characteristics

- The use of wood provides for a special tactile experience.
- incentive for playing: round timbers suspended on chains
- movement: balancing, swinging, walking, coordination

Recommended for

- Kindergarten children
- School children
- Supervised play areas such as kindergartens, schools, after- school programmes or similar
- Public play areas such as kindergartens, schools, after- school programmes or similar
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar

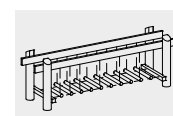


Photo © Jenny Halse

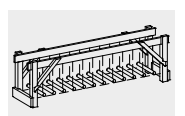


Order No. 6.52000 Chain Path

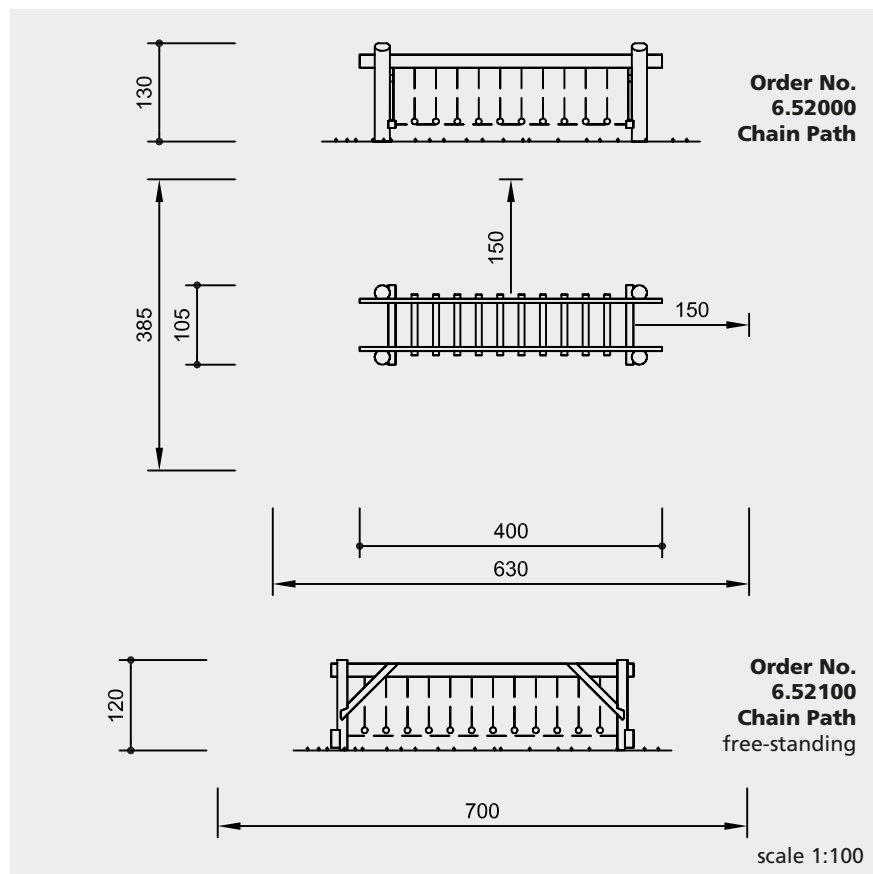
Chain Path
Free-standing **Chain Path**



6.52000



6.52100



Safety check according to EN 1176

Components

Order No. 6.52000 Chain Path

- 2 Support frames of round posts
- 2 Handrails with chains and 10 running boards

Order No. 6.52100 Chain Path free-standing

- 1 Chain Path complete with 12 running boards

Installation information

Surfacing requirements corresponding to a fall height of ≤ 0.60 m (please refer to price list for more detailed information)

Foundations

Order No. 6.52000
4 items 60 x 60 x 60 cm excavation depth 80 cm

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions. Technical changes reserved.
Chain Path Order No. 6.52000 also available with steel feet.

Technical information

equipment of non-impregnated mountain larch

Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Profiled washer

Profiled washer for covering protruding screw heads according to standard, improved pressure distribution and protection against water. Impedes loosening the bolt



Adjustable

Adjustable two-piece bolt connection, easy to maintain, no projecting threads



Chains

Chains made of hot-dip galvanized steel (1.4301 / 1.4571 at extra charge) welded before galvanising, short-linked, without eyelets on the connecting parts, easy to exchange and shorten



For more detailed explanation of the quality characteristics see price list.

running bars \varnothing 80 mm

Order No. 6.52000 Chain Path

Peeled white

Palisades peeled white means that bark, cambium and sapwood are removed, the natural shape of the trunk is preserved and can be experienced



Bevel cut

Vertical stand posts with bevelled end grain section as constructive wood preservation measure

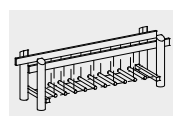


For more detailed explanation of the quality characteristics see price list.

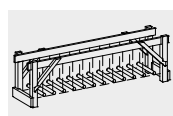
Dimensions

(small deviations possible)

height	1.20 - 1.30 m
walking height	0.30 m
length	4.00 m
width	1.05 m
weight	
Order No. 6.52000	180 kg
Order No. 6.52100	300 kg



6.52000



6.52100

Play value

The Bow Bridge contributes in a special way to the design of a play area with its appealing appearance particularly if used for its original purpose. The steps are suspended from a chain net at four points where the horizontal chains harmonise the movement of the tread boards. Walking on the steps is a new fun feeling especially in chasing games or swaying in the heights.



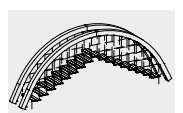
Fundamental characteristics

- Appealing design
unique and original
- Incentive for playing: big bows,
curiosity
- Movement: balancing, swinging,
holding on to

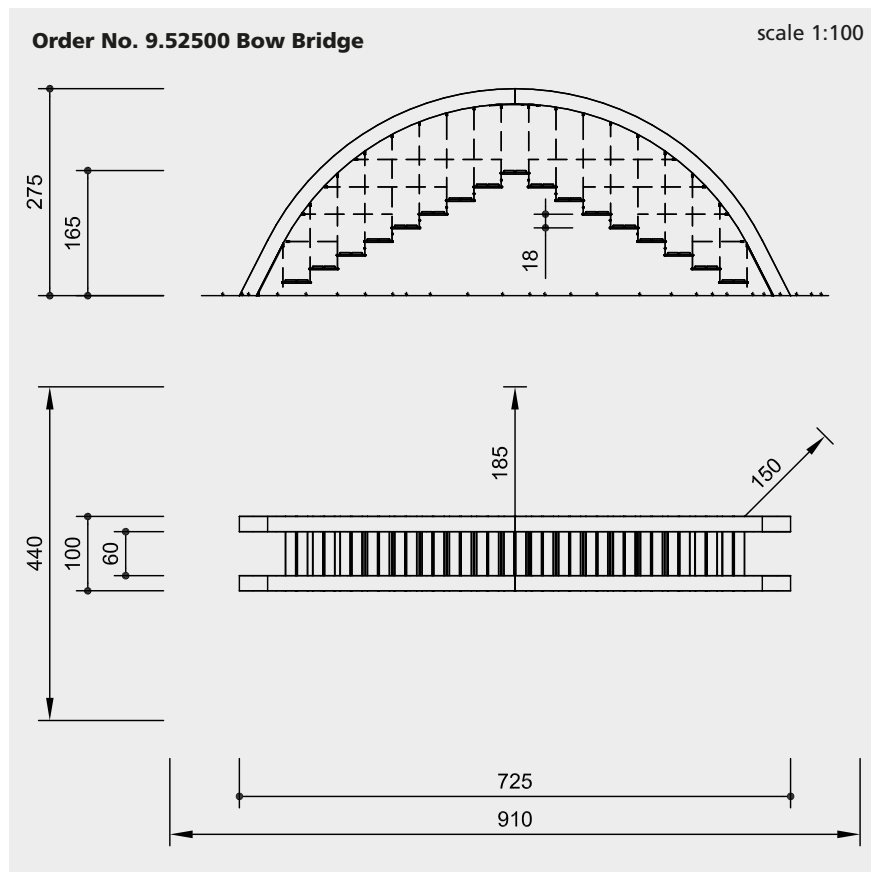
Recommended for

- Kindergarten children
- School children
- Public play areas without supervision,
such as playgrounds, parks or similar"

Bow Bridge



6.52500



Safety check according to EN 1176 and „safety in another way“

Components

- 2 Two-part laminated arches
span = 6.90 m
- 17 Steps of hardwood
suspended on hot-dip galvanised
chains

Installation information

Surfacing requirements
corresponding to a fall height of ≤ 2.00 m
(please refer to price list for more
detailed information)

Foundations
2 items 100 x 200 x 70 cm
excavation depth 90 cm

Attention:
**Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.**
Technical changes reserved.

Technical information

steps of oak

Core-free

Sawn-timbers core-free, thus decreasing
occurrences of cracking and undesired
changes in shape



Laminated wood beams

Laminated wood beams made of
non-impregnated larch, glued according
to EN 14080:2013; for very large timber
cross-sections; comparatively low shrink-
age, almost completely free of cracks



Ground anchor

All parts used for anchoring to the
ground are made of hot-dip galvanised
steel or stainless steel



Chains

Chains made of hot-dip galvanized steel
(1.4301 / 1.4571 at extra charge) welded
before galvanising, short-linked, without
eyelets on the connecting parts, easy to
exchange and shorten



**For more detailed explanation of the
quality characteristics see price list.**

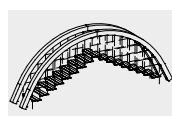
all chain connections screw-fastened
without eyelets

fittings hot-dip galvanised

Dimensions

(small deviations possible)

height	2.75 m
length	7.25 m
width	1.00 m
weight	700 kg



6.52500



Photo © Daniel Perales

Experiencing Water



Play value

We recommend installing a play station at the start of educational water trails, fields of experience, and also in entrances to playgrounds, where they serve the purpose of preparing the arriving participant for the following sensory and perceptual experiences. The play station "Listening to Water" is suitable for this purpose. With this installation visitors are introduced to the natural sounds coming from a watercourse: dripping, murmuring, gurgling.

Recommended for

- All ages
- Public play areas without supervision, such as playgrounds, parks or similar

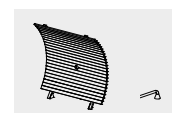
Barrier-free

- Independent play



Listening to Water Listening to Water as Pillar graubner Play Stations for Developing the Senses

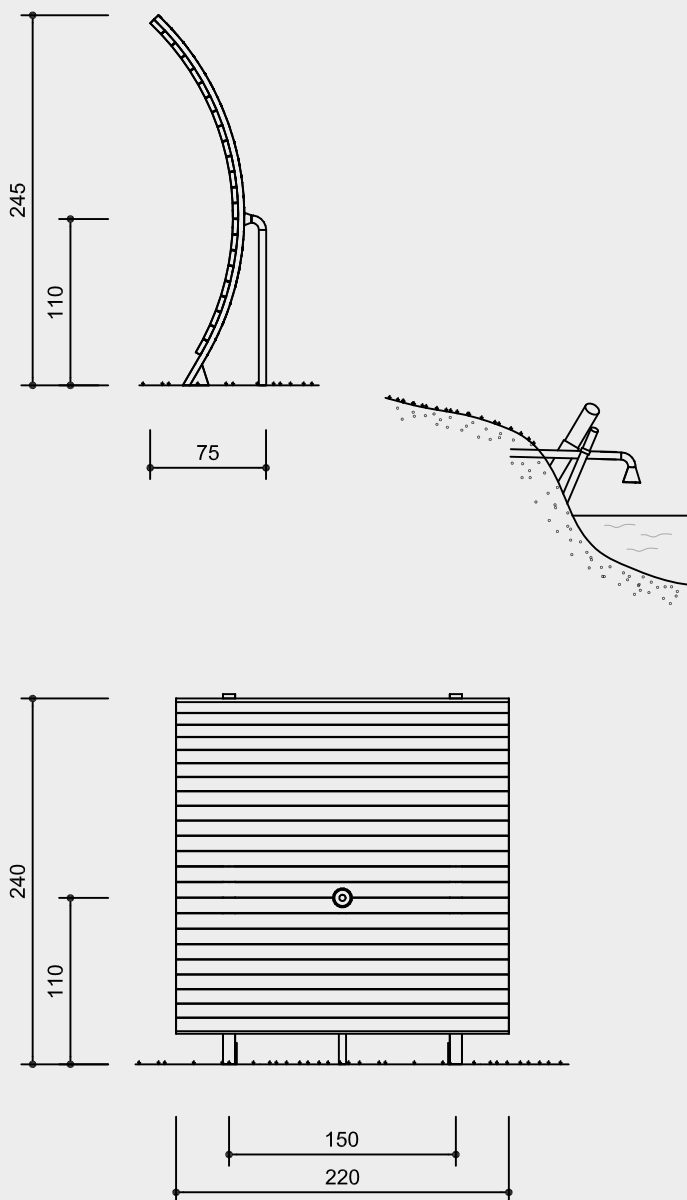
Acoustic effect	soft
Vandalism	not vulnerable
Supervision	not necessary
Explanation board	recommended
Installation	outdoors
Safety check (EN 1176)	not necessary
Installation in concrete	not possible



10.57100



10.57200



Technical information

planking made of mountain larch

Core-free

Sawn-timbers core-free, thus decreasing occurrences of cracking and undesired changes in shape



Ground anchor

All parts used for anchoring to the ground are made of hot-dip galvanised steel or stainless steel



For more detailed explanation of the quality characteristics see price list.

all pipe and cone elements as well as pillar made of stainless steel

hot-dip galvanised frame

Dimensions

(small deviations possible)

height	2.45 m
listening height	1.10 m
width	2.20 m
depth	0.75 m
weight	

Order No. 10.57100 260 kg

Order No. 10.57200 80 kg

Components

Order No. 10.57100

Listening to Water

- 1 Reflecting wall with listening cone
- 1 Sound receiving cone for fixation with screws, fastening material included

Order No. 10.57200

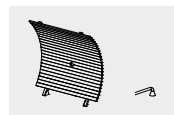
Listening to Water as Pillar

- 1 Listening pillar
- 1 Sound receiving cone for fixation with screws, fastening material included

On-site work

Supply and installation of the required pipe work according to our specifications

Explanation board on request



10.57100



10.57200

Installation information

Recommended space depending on the installation situation

Foundations

Order No. 10.57100

- 1 item 200 x 100 x 30 cm
- excavation depth 50 cm

Order No. 10.57200

- 1 item 60 x 60 x 70 cm
- excavation depth 90 cm

Attention!

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

Play value

If you look through the prism in daylight the most wonderful colours can be seen: red, orange, yellow, green, blue, indigo, violet. Smaller dark objects in the surrounding area appear to be totally colourful, lines look as if they are curved, and, in the boundary between sunlit and shadowed areas, coloured fringes appear. Because the light does not pass through the prism in a straight line it is possible to transpose the image of the dark surface over that of the light surface by turning the prism. The brightness of light and the shadows of dark are seen as the source of all colour appearances. Behind this appearance lies the unending chain of causes and preconditions of light. The effect that looking through the prism has on people is up to the individual person. This is all about the relationship of people to colours. The figure on the explanation board includes in delivery makes it easier to find the optimal spot.

Recommended for

- All ages
- Public play areas without supervision, such as playgrounds, parks or similar

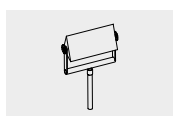
Barrier-free

- Independent play



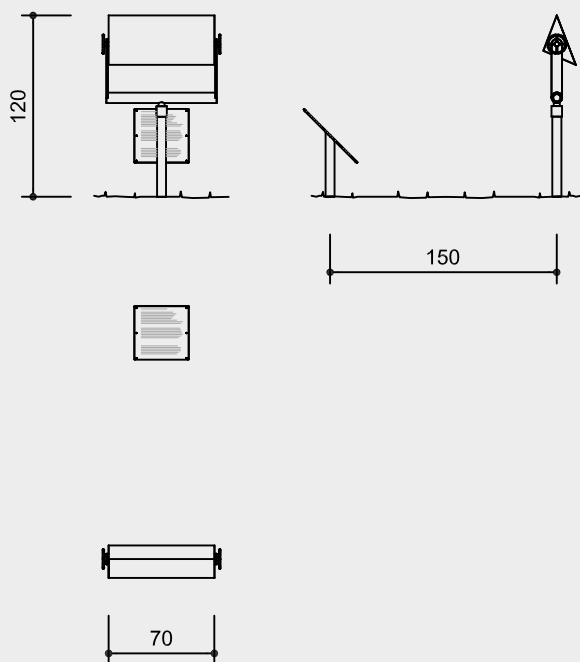
Water Prism graubner Play Stations for Developing the Senses

Vandalism	vulnerable in non-supervised areas
Supervision	not necessary
Explanation Board	included
Installation	indoors and outdoors
Safety check (EN 1176)	not necessary
Installation in concrete	possible



10.31000

Order No. 10.31000 Water Prism



scale 1:50

Technical information

equipment made of stainless steel

large-format acrylic glass prism on vertically and horizontally rotatable stainless steel support

special algae-free glycol mixture, frostproof to approx. - 20 ° C

support for Explanation Board made of stainless steel

Dimensions

(small deviations possible)

height	1.20 m
prism	0.70 x 0.35 x 0.25 m
weight	80 kg

Components

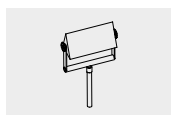
- 1 Complete piece of equipment
- 1 Explanation Board with support

Installation information

Recommended space
circle diameter 3.00 m

Foundations
2 items 40 x 40 x 40 cm
excavation depth 60 cm

Attention!
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.



10.31000

Play value

Screw-like and spiralling movements naturally occur in nature. It takes practice to recognize these complex current forms, for example in a whirlpool. To perceive, this means to intuitively recognize the pre-historic conditions under which mankind developed. Those who turn the hand-crank at this play station experience two interrelated forces and can experience the principle behind a vortex. With increasing acceleration the impeller creates a whirlpool which can be very clearly seen in the water filled cylinder. While a vortex funnel forms downwards, the water flowing in the opposite direction creates a counter vortex in the cylinder. The turning motion from top to bottom causes a sucking effect which draws the water upwards. The water mass which forms a vortex funnel rotates in a spiralling shape in two directions creating its own counter movement.

Recommended for

- Kindergarten children
- Schoolchildren
- Young people
- Adults
- Waterplay areas without supervision
- Swimming pools without supervision, such as outdoor pools, adventure pools or similar



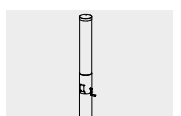
Photo © Ayumi Nakanishi



Photo © Daniel Perales

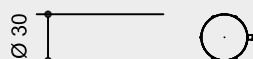
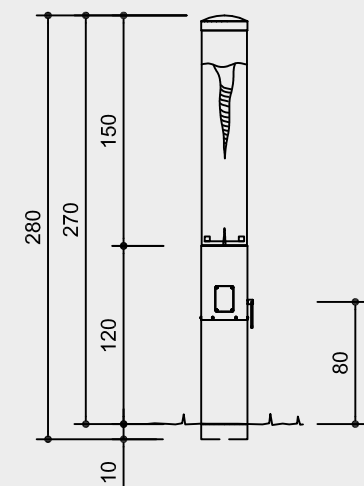
Whirlpool Column Whirlpool Column with Lighting graubner Play Stations for Developing the Senses

Vandalism	slightly vulnerable
Supervision	not necessary
Explanation board	not necessary
Installation	indoors and outdoors
Safety check (EN 1176)	not necessary
Installation in concrete	possible



10.17000/10.17500

Order No. 10.17000 Whirlpool Column



scale 1:50

Technical information

large thick-walled whirlpool cylinder of extremely impact-resistant acrylic glass

special algae-free glycol mixture, frostproof to approx. - 25° C

support column made of stainless steel

low-maintenance gear with freewheel turning handle against anti-kickback device

Order No. 10.17500 Whirlpool Column with Lighting

technical details as described before, but in addition with internal LED lighting at the base of the whirlpool cylinder, power generation by dynamo, illumination only during rotational movement

Dimensions

(small deviations possible)

height	2.70 m
diameter	0.30 m
weight	75 kg
incl. water and packaging material	210 kg

Components

- 1 Whirlpool column
- 3 Canisters with 20 l glycol mixture each

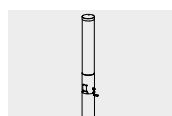
Explanation board on request

Installation information

Recommended space
circle diameter 3.00 m

Foundations
1 item 50 x 50 x 60 cm
excavation depth 70 cm

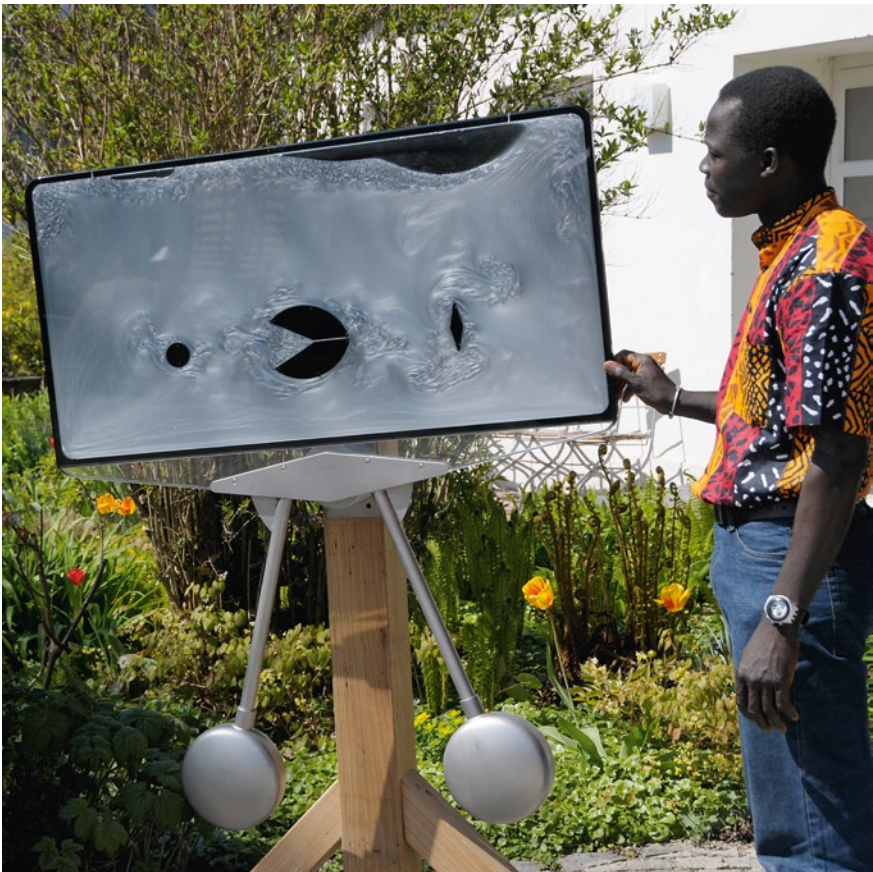
Attention!
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.



10.17000/10.17500



Order No. 10.15005 with support post made of stainless steel



Play value

Water can be found in the space within a transparent board where small particles create clear patterns. The board can be very easily set into a gentle pendulum motion due to the large, heavy counterweights. This rhythm effect causes designs to form. Water currents which collide into a wall create waves whose structure resembles sand on the bottom of the ocean. It can be clearly seen how the water flows around the obstacles and flows more quickly through the narrow canals. Typical flowing patterns build up in front of obstacles and in the water eddy behind them. The slow progress of this activity requires patience and encourages the observer to watch attentively. We experience time through daily rhythm, e.g. the rhythm of day and night. The rhythm of the currents is an expression of time which can be directly experienced. And it is in this way that the game taps into people's natural rhythm and moods.

Recommended for

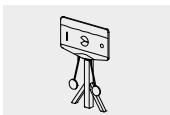
- Schoolchildren
- Young people
- Adults
- Older people
- Public play areas without supervision, such as playgrounds, parks or similar

Barrier-free

- Independent play

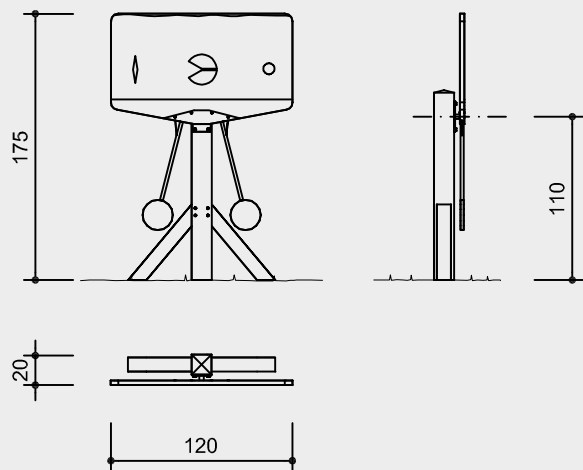
Pattern Board
graubner Play Stations for
Developing the Senses

Vandalism	vulnerable in non-supervised areas
Supervision	not necessary
Explanation board	recommended
Installation	indoors and outdoors
Safety check (EN 1176)	has been completed
Installation in concrete	possible



10.15000

Order No. 10.15000 Pattern Board



scale 1:50

Technical information

frame made oak

extremely impact-resistant acrylic double screen

Roller bearings

Roller bearings made of stainless steel for rotating elements, easy to maintain and exchange, sealed. Smooth running for extended motion with limited swing range



For more detailed explanation of the quality characteristics see price list.

special algae-free glycol mixture as high-contrast flow liquid, frostproof to approx. - 20° C

Dimensions

(small deviations possible)

height	1.75 m
width	1.20 m
depth	0.20 m
weight	60 kg
with packing	
material	100 kg

Components

1 Pattern board
1 Rack

Explanation board on request

Installation information

Recommended space
3.00 x 3.00 m

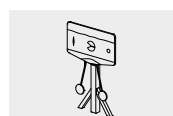
Foundations
2 items 50 x 30 x 30 cm
excavation depth 50 cm
1 item 40 x 40 x 40 cm
excavation depth 60 cm

Attention!

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

Equipment also available with stand posts made of stainless steel (Order No. 10.15005) or for wall attachment (Order No. 10.15500).



10.15000

Play value

By turning this water-filled body around in various directions the flow creates fast or slow moving patterns. The gap between two boards is filled with water containing tiny particles which clearly highlight the patterns. The disc can be moved and turned in all three dimensions. The effect of the universal joint mounting is an experience in itself for many. There are four obstacles inside the disc; the liquid flows over or through them. Typical flowing patterns build up in front of obstacles and in the eddy behind them with shapes forming in a symmetrical inward and outward spiral movement. The trapped air bubbles are a further element which demonstrates the effect of opposing forces on a shapeable body.

Recommended for

- Schoolchildren
- Young people
- Adults
- Older people
- Public play areas without supervision, such as playgrounds, parks or similar

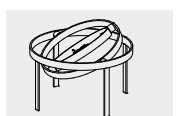
Barrier-free

- Independent play



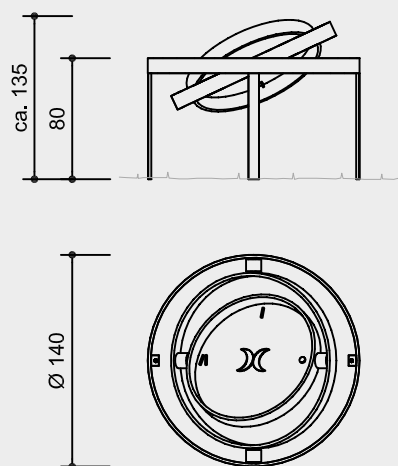
Pattern Disc
graubner Play Stations for
Developing the Senses

Vandalism	vulnerable in non-supervised areas
Supervision	not necessary
Explanation board	recommended
Installation	indoors and outdoors
Safety check (EN 1176)	has been completed
Installation in concrete	possible



10.15100

Order No. 10.15100 Pattern Disc



scale 1:50

Technical information

frame made of aluminium

extremely impact-resistant acrylic double screen

special algae-free glycol mixture as high-contrast flow liquid, frostproof to approx. - 20° C

maintenance-free stainless steel bearing

bearing of the screen decelerated to avoid the turning movement being started too fast

Dimensions

(small deviations possible)

frame	Ø 1.40 m
total height approx.	1.35 m
frame height	0.80 m
disc	Ø 0.90 m
weight	65 kg

Components

1 Complete piece of equipment

Explanation board on request

Installation information

Recommended space
circle diameter 4.00 m

Foundations
4 items 30 x 30 x 40 cm
excavation depth 60 cm

Attention!

Exact measurements may vary, for all installation dimensions refer to current installation instructions.

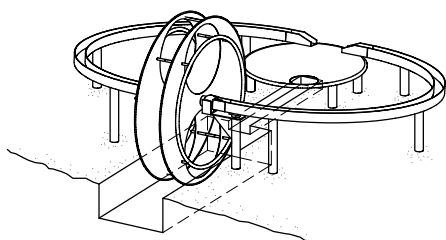
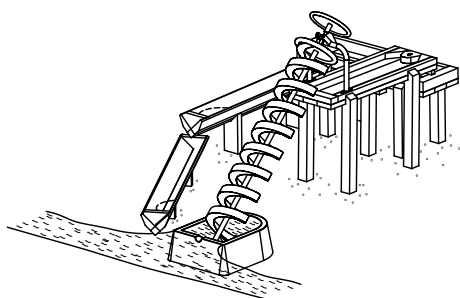
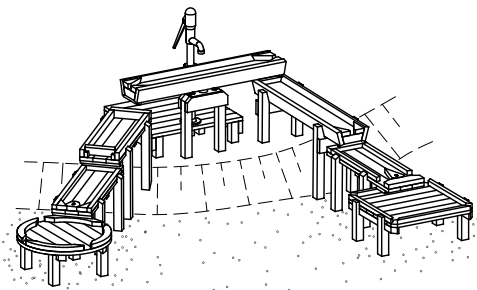
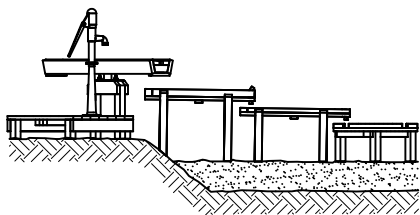
Technical changes reserved.



10.15100

Planning and technical information

Planning examples



1. General Information

For the planning and installation of water playgrounds an incline or a slope may be helpful or even necessary. Smaller water playgrounds can also be installed on level sand areas. In any case a suitable drainage must be provided for.

If play water is scooped out of standing water, a stream or a pond and the child can see the water's origins by the way in which it is scooped out (e. g. Archimedes screw, water-scoopers) then under no circumstances is drinking water quality required.

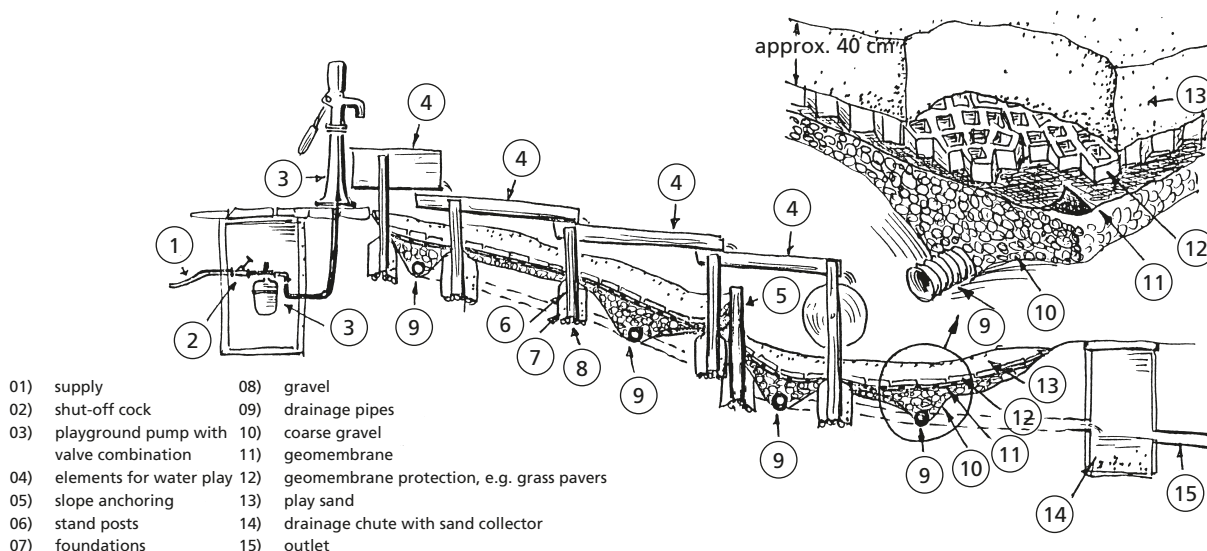
The **drainage** of the grounds should be carried out via a generously sized drain. Individual gullies become blocked too quickly. The drainage pipes should be covered with a layer of coarse gravel with a geomembrane on top; covering the geomembrane should be 40 cm of play sand.

In order to protect the geomembrane it is beneficial to cover it, for example with grass pavers, before then laying down the sand. This allows the geomembrane to be driven over when the sand needs changing. The drain pipes should initially run into a central collection shaft with sand separator and later into the drainage system.

For the structuring and anchoring of the slopes of the water-mud playground, dry masonry walls made from quarry stone, large erratic blocks or concrete walls are better suited than palisades. **Water play elements are not regarded as play equipment according to the standards. However a staircase-like construction may make it necessary to check the critical fall heights.**

A very suitable **planting** around the boundaries and as a border for water-mud playgrounds are e.g. willows, provided that they are planted large enough and had had time to establish themselves.

System diagram for a water-mud playground



2. Information on the topic

a. Water as a driving force

Using the pressure of the flowing water, mechanical components can be set in motion.

As a rule of thumb:

The more water that flows and the stronger the water flow, the greater the power with which the mechanical components can be moved.

Because the water supply to the play equipment is not constant as a general rule, but varies according to the play activity and intensity and depends on the amount of dammed water that has collected causing more or less water to flow, also the water wheel turns around more or less quickly.

The turning force is also influenced by whether the water supply to the wheel enters at the **upper part of the wheel (overshoot)** or the water stream enters the **lower part of the wheel (undershoot)**.

Overshoot systems have the advantage that even small amounts of water add together and can then be enough to cause a small turning motion of the wheel. The hollow areas in the upper area of the wheels slowly fill with water and then, due to gravity, the wheel system is set in motion.

Examples of overshoot water wheels:

Order No.	Equipment name
5.15810	Mill Wheel of wood
5.15820	Mill Wheel of stainless steel
5.15910	Small Bucket Wheel
5.15920	Large Bucket Wheel

If a large, quickly flowing mass of water is available then it is possible to install very nice, undershoot water wheels.

In systems like these the water pushes against the submerged buckets which sets the wheel in motion.

For a undershoot water wheel only the Large Bucket Wheel (Order No. 5.15920) is suitable.

A water channel and an ample water supply is necessary for this. The flow rate should be at least 66 cm/sec. The lower bucket should be half to three-quarters submerged in the flowing water. If the driving force comes from a dammed water mass then approx $\frac{3}{4} \text{ m}^3$ is necessary in order to bring about a short turning motion.

All types of wheel whether driven by overshoot or undershoot, need a pre-defined mass of flowing water. It has been our experience that often the water requirements have not been correctly estimated with the result that the wheels do not turn in the desired way.

b. Damming with water

The medium of water is defined by the action of its flow. And this is how water displays its vibrancy and power and the resulting patterns and sounds present the playing observer with a large variety of totally different sensations.

In particular children get a lot of enjoyment out of influencing the flow of water, diverting it, making it flow faster or slower or damming the water.

To dam water means, above all, to interrupt the flow, to stop the motion, to give the water a period of stillness. In this dammed phase the water gathers strength which, when the floodgates are opened, is unleashed making the water flow with more power, i.e. it is faster and flows with more pressure.

As a rule of thumb:

The higher the water is dammed, the greater the pressure and the power and this can then be used in a variety of ways, also in wonderful play activities.

Various equipment and components from our program have been designed to dam water.

Order No.	Equipment name	Dam height
5.20930	Water switch	15 cm
5.20950	Ball valve	up to 20 cm
5.20900	Dam of wood	30 cm
5.20905	Water flap	15 cm
5.20910	Damming wedge	10 cm
5.28030	Board Gate	15 cm
5.28031	Bar gate	15 cm
5.28032	Sickle Gate	15 cm
5.28033	Round Flap	13 cm
5.28034	Rectangular Flap	15 cm
5.28035	Rotating Gate	15 cm
5.28045	Canal Lock	15 cm

These damming aids should be regarded as play elements. They do not close off completely tightly.

When constructing catchment basins take care that they are built so that they can be easily cleaned.

This means a slight base inclination so that draining of the remaining water as well as accessibility is ensured. With the ball valve the drain should be kept short and, if applicable, a sand catcher installed and good cleaning access ensured as contamination is to be expected.

3. Water supply options with Pumps (Technical Informations to the Pumps beginning with page 7)

Notice

The water quality and the technical requirements should be clarified with the authorities and with the water company/public utility provider (e. g. backflow preventer).

a. Playground Pump Order No. 5.17500

for pumping water from a well or groundwater etc., self-sucking

b. Playground Pump, drinking water to underside of piston Order No. 5.17630

For connection to mains water.

c. Playground Pump, drinking water to underside of the pump base Order No. 5.17730

For connection to mains water.

The water is contained in a reservoir in the pump base.

d. External Valve Combination Order No. 5.17100. Please pay attention to the water quality, see note A

For connection to mains water
Suitable in combination with:

- Top part of Pump **Order No. 5.17510** for example for installation on Round Reservoir or Round Water Basins
- Playground Pump **Order No. 5.17500** if the slim pillar is desired explicitly for design reasons
- Water Building Site **Order No. 5.09500**

Technical Informations to the Valve combination 5.17100 and 5.17140

Situated in the inlet for the valve combination is the pressure control valve. It has the task of keeping the water pressure and the water amount constantly stable. When the pump is inactive the surge tank fills with water. A rubber nitrogen-filled bladder tensions as a result of the water pressure. During pumping (intake) some of the water which has been sucked up by the pump is sucked out of the container. The tension is released from the rubber bladder.

The other part of the water mass flows directly over the pressure control valve from the water pipes.

This is repeated during each pump action. The special surge tank with a volume of 12 litres has, at the same time, the task of maintaining a constant water flow. Due to the sudden motion of the water intake through the piston pump, strong pressure surges in the supply installation are avoided.

Situated in the outflow for the valve combination is the diaphragm valve. This valve is especially adapted for pumps, pressure control valves and surge tanks. The action of moving the pump lever downwards triggers the piston to move upwards and the resulting vacuum causes the diaphragm valve to open again. In this way the children get to experience a "like pumping" process.

Assembly requirements:

- Duct with internal diameter of 1.00 m
- Height 0.80 m necessary
- Distance from the pump no greater than 6.00 m
- Install frost-proof or disassembly during frost period
- Max. delivery height 2.50 m

Installation requirements:

- Pressure mains Ø 1 inch
- External connection thread 1 inch
- Water pressure max. 6 bar
- Water requirement at least 45 l per minute
- Follow water works instructions

Technical Informations to the Valve combination 5.17130 for Water Building Site

The valve combination can only be used directly underside the pump and is basically constructed like the valve combination described above. The pressure compensation container can, however, be avoided by using the relief valve. This also prevents the pump lever from turning back.

Assembly requirements:

- Assembly only directly underneath the pump or underneath the bottom of the water building site.
- Disassembly in winter and safe storage in frost conditions

Installation requirements: see specifications for valve combination 5.17100 and 5.17140.

4. Water Provision

a. Our opinion

We put the needs of children above all else. In this case this means taking into account the great joy that the children experience from their contact with water. We would like to see a water area in every playground even if it is only a small paved hollow which collects rain water.

For this reason it is better not to set the standards of hygiene too high. It is often the case that the health authorities insist on drinking water quality in every type of water on playgrounds because of their uncertainty and need for higher safety requirements. Because of this unnecessary stipulation, unfortunately many playground operators do without a water play offering, merely as a precautionary measure.

We have had the experience that during play children do not drink from water sources which they do not recognize as such. Puddles, ponds, streams, mud holes do not give a healthily developed child the signal to drink. This is different for water taps, pumps or other water dispensers, which are anchored in the minds of the children as a source for drinking. There is no doubt that drinking water quality is necessary here. That is why we have put a relatively high degree of technical effort into the pump so that it is possible to guarantee that the water is of drinking quality even as it is coming out of the tap (valve combination).

If the playground operator can come to an agreement with the health authorities that also process water quality be sufficient, a simple maintenance-friendly technology is possible.

b. Water – nature's offering

In Germany, in general, water is not a resource in short-supply. With a yearly precipitation of 500 to well over 1000 mm, there is generally an abundant natural water supply which can be integrated into the planning and design of water playgrounds in residential areas.

Water for play and adventure can be designed using groundwater, spring water, water in still or flowing bodies of water (streams, ponds) and rain water.

Groundwater and spring water

Groundwater can be tapped for playing purposes either with a hand pump or with a small electric pump. The electrical fittings must, of course, be so designed that they do not pose a danger for the playing children. Spring water, because it is mostly in continuous flow, is particularly suitable for play and design uses in living areas. In the past it was not uncommon for water from springs and flowing wells to be tapped and redirected into the public canalisation. We should strive to get spring water to flow once again on the earth's surface provided that this is possible without excessive costs. This water is too valuable for it to simply disappear into the underground canals.

Water from still and flowing bodies of water

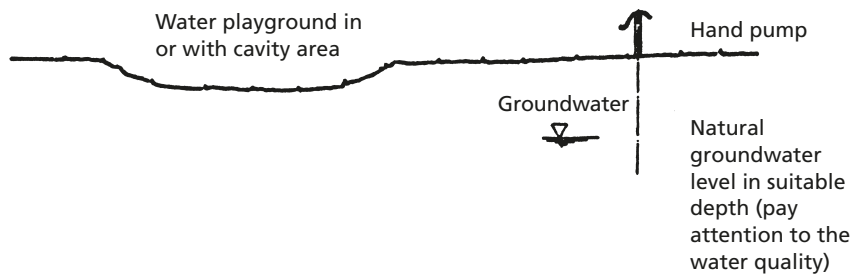
Unfortunately in the past it has not been uncommon to build over and put into pipes many of the smaller water bodies (streams) in the residential areas. This was done to improve the traffic connections and as a way of utilising the surrounding area as well as for hygienic reasons. Due to the systematic expansion of the surface canalisation, also in the villages, the adverse effects of waste water disposal have been remedied. Therefore it makes sense, where it is commercially viable, to reopen the built-over streams in the course of the redevelopment and new planning of the villages and to design them in harmony with nature and additionally use the opportunity to also create play areas for children. Play opportunities at streams in residential areas can, of course, also be constructed at existing natural or nature-like water bodies.

Rain water

Where spring water or groundwater is not available for the design of a water playground it is worth checking if rain water could be used for play purposes. In order to be able to use rainwater from roof surfaces and other not very unclean surfaces for play purposes, the rainwater, after a recommended cleaning, needs to be stored temporarily. Studies have shown that rainwater from roof surfaces in particular generally only contains slight impurities. Germ counts should be checked in particular in the summer months in rainwater in the areas where there is a large population of pigeons. For this reason the water should be cleaned and filtered before being collected in a reservoir. It makes sense that the rainwater from the respective areas be collected in gutters, amongst other things, and redirected. Large surface areas should be arranged in light trough-shaped grass areas over the activated ground area where it is to seep through.

If the groundwater lies relatively high it can be used with little effort for purposes of play by means of hand pumps making this solution inexpensive (see diagram A).

Fig. A) Schematic diagram (groundwater usage)



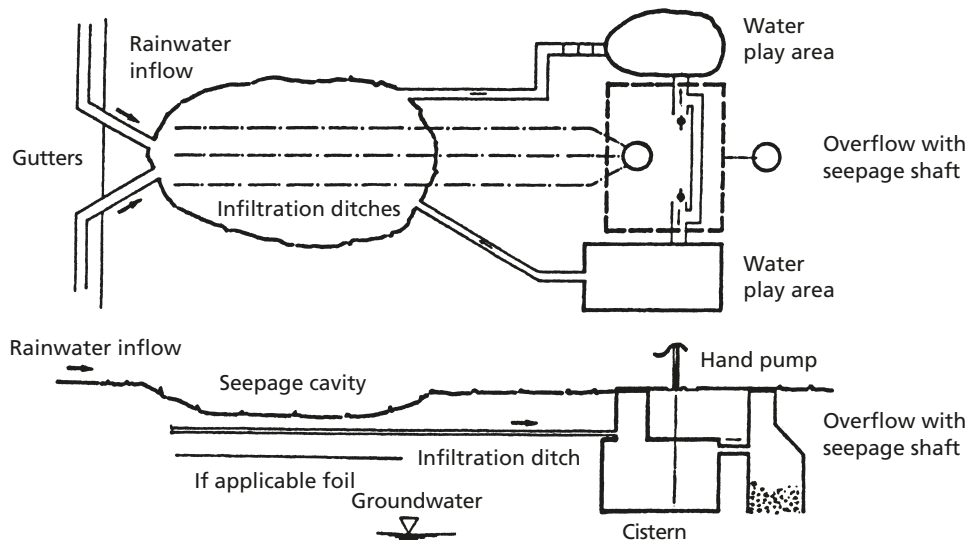
In the case where the groundwater is deep it is necessary that the rainwater which filters through the activated ground zone, be caught in drainage ditches which lie approx 1 m deep so as to collect it in a container (reservoir) (see diagram B).

For play purposes the rainwater can be tapped out of the reservoir in a surge-like motion either using a hand pump or by the press of a button with a small electric pump. In some circumstances it makes sense that the tapped water is allowed to once again seep through to the cavity area after play is finished so that some of it

again enters the reservoir (recycling). The underground, dark storage does not allow light in, light being a pre-condition for algae growth.

The cool earth ensures favourable conditions for a consistently good water quality. The reservoir needs to be fitted with a balancing system; moreover it must be designed in such a way that a regular exchange of the water container can be carried out (pay attention to the water quality, no drinking water quality).

Fig. B) Schematic diagram (rainwater usage)



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- ① The main catalogue comprises our complete range of standard equipment.

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- ⑥ Growing Older
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