

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 are still unconsciously connected to their human roots and, more than any other age group, are still integrated into their inner self. They 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. Water, with its nature and its effect on us, is of utmost importance. The playful contact with the wet element has various meaningful aspects. From a psychological viewpoint, the stronger the relationship a person has to their roots the more self-confident and secure they become. And if they learn the beauty of water and its value to human society through satisfying contact then perhaps as adults they may act with more social responsibility and have more respect for water. And if it is possible that they learn in play, subconsciously or consciously, that water is a part of a delicate eco-system then they will later treat the element of water with respect as the medium of life.

Play is the child-sized way to conquer the world around yourself. Approaching the world through the senses is a means of achieving success. 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. That is why it is such a shame that not all playgrounds have a water supply or a water play installation. Outlay, maintenance costs, and parental objections, for example, are arguments put forward for this deficiency.

Hopefully, you share our view, otherwise you would not have this catalogue in your hands. If you do decide to build a water play area many good examples can be found to reinforce your decision and you can be sure that it will give lots of children hours of fun. We wish you success!

Frasdorf, September 2012



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



de-barked posts

de-barked means: bark, cambium and sapwood are removed, by this, the natural shape and unevenness of the timber is preserved



angle cut

vertical support posts with angle cut in the end grain section as constructive wood preservation



perforated

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



Fürstenberg Permatur System

In particular cases such as equipment with a single support and with climbing forest posts we additionally use the patented Fürstenberg Permatur System



core-free timber

sawn-timbers are core-free, by that formation of cracks can be reduced



claddings

thickness 3 - 4,5 cm, de-barked by hand, by that, the natural surface of the tree remains perceptible



tongue and groove

platform boards of 40 mm tongue and groove boarding



laminated wood

laminated wood glued according to DIN 1052



hardwood rungs

climbing rungs of hardwood, milled and mortised, Ø 42 mm



plywood

three-layer waterproof plywood of larch, 30 mm



fittings

basic furnishings like a table and benches are built into the house and are a stimulus to role-play



intermediate floors

by providing intermediate floors little, cosy rooms are created; partly with hatch



one-piece construction

total construction of slide of 2 mm stainless steel, mould-profiled longitudinally, no welding seams along the slide surface



rubber seat

rubber seat with anatomically correct shape, strong profiled steel insert and soft shock absorbing edge



pendulum seat

with large rubber surface, with a soft, protecting edge and steel insert



impact absorbing

swing platform of waterproof plywood, 30 mm, covered in milled-off half-tyre for impact absorption, 4 suspensions held with a metal ring



milled-off tyres

sand containers made of milled-off tyre segments to make the elements clean, smooth, soft and light



Corocord® rope

special ropes of „Hercules“ type

six-strand Corocord® rope of the special „Hercules“ type, abrasion protected through heating of the six steel strands and melting the polyamide sleeve onto them



aluminium swages

double-conical aluminium swages with rounded-off ends



S-clamps

neatly rounded Corocord®S clamps made of stainless steel, Ø 8 mm



swing joint

drop-forged swing joint with bush with graphite sleeve for self-lubrication and integrated swivel



universal joint

drop-forged joint yoke; the universal joint insert consists of two swing bearings



rope connection rotating

close fitting connection without dangerous openings, with integrated swivel, the bearing consists of one brass bush



rope connection fixed

close fitting connection without dangerous openings



rope connection with joint

close fitting connection without dangerous openings; the bearing consists of one brass bush



rope connection ball joint

this rope connection with a ball joint prevents the unravelling and thus rapid wear of ropes subjected to stress



double rope connection

the double rope connection is an effective and durable construction for complicated swing and swivel motion



concealed head

large surface for pressure distribution, prevents water from getting inside, protects the bolt head, easy procurement of spare parts by company trademark indelibly inscribed on the equipment



adjustable

no projecting threads after re-tightening due to two-piece bolt connection



strong fastening

bolt connections with milled metal rings for connections which are stressed cross-wise



end grain connectors

special adjustable fittings for connecting horizontal timbers to standing timbers



brass bush

for all to and fro movements we use bush bearings which allow for self-lubrication while in use



steel reinforced rubber belt

two way steel armoured rubber belt, almost indestructible, total thickness approx. 11 mm

**tensioning device**

the cable goes over a winch in a big radius. Thus the tensioning adjustment can easily be done by one person

**travelling crab**

our travelling crab is made in a sandwich construction. Due to its isolated mechanism, sound proof working is ensured. The travelling crab can be installed without dismantling the cable

**special lifting cable**

for our cableways we use a special lifting cable made of pure steel which is irrotational, impregnated, length-stable and bending stress resistant

**ground anchor**

steel feet hot-dip galvanised

**ground anchor**

foundation anchor made of phenol resin paper based laminate

**crossbar**

of galvanised steel, with rigid corner connection by that smaller foundations are possible

**chains**

suspended on short-link chains, welded before hot-dip galvanisation (stainless steel chains available on request)

**distance fitting**

to avoid entrapment of chords

**Starting element of slides**

enlarged entry with climbing structures for a safe change from climbing to sliding

**relief cut**

a kerf sawn along the underside of the trunk at a suitable place to pre-empt cracks that would form naturally

**ball bearing**

low-maintenance, easily replaceable ball bearings made of stainless steel

Richter Wood Quality Criteria for Larch Wood

Origin

Exclusive use of mountain larch (bot. *larix decidua*) from the Alps. It grows 1000 - 1800 m above sea level and comes from sustainable forestries. Since October 2001 our wood supplier is certified according to EN 45011 PEFC. The certificate confirms that the produced and traded sawn and round timbers come from sustainable forestry.

According to an official ranking, larch is a moderately rot-resistant type of wood - considerably less durable than oak or, particularly, 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 1000 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,
- thereby higher stability and 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

We have tightened the Richter wood quality criteria. Timbers of mountain larch are delivered practically without sapwood.

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 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.

Being carried by water



Experience water with children

Everyone lies on the ground and are completely still. They close their eyes. After a period of quiet the following story is told accompanied by the sounds of the water which are made using set, prepared materials.

Today Claire and Paul want to play “water eavesdropping”. They sit directly on the bank of a small lake in the fields. It is very deserted and peaceful here. You can only hear the wind rustling through the rushes and the little waves rippling against the bank. ① All of a sudden a loud splash disturbs the quiet.

② Splash, splash, splash it goes. ② The children laugh. A swan who wants to launch itself from the water beats its wings and paddles with its wide feet on the surface of the water.

② Oh, now he’s done it!

Just underneath them there’s a strange bubbling. ③ As they look there they see many, many air bubbles rising up from below and breaking the surface of the water. ③ Who could it be under there sitting in the mud? Maybe a frog prince?

A little stream is running down the hillside, flowing over pebbles into the lake. ④ It splashes so merrily and sounds so nice. ④

And suddenly there’s a new sound too. ⑤ Plip, plop, something is dripping onto the surface of the water. And now Paul also has the first raindrops on his nose. ⑤ The children run home quickly and wake the others up.

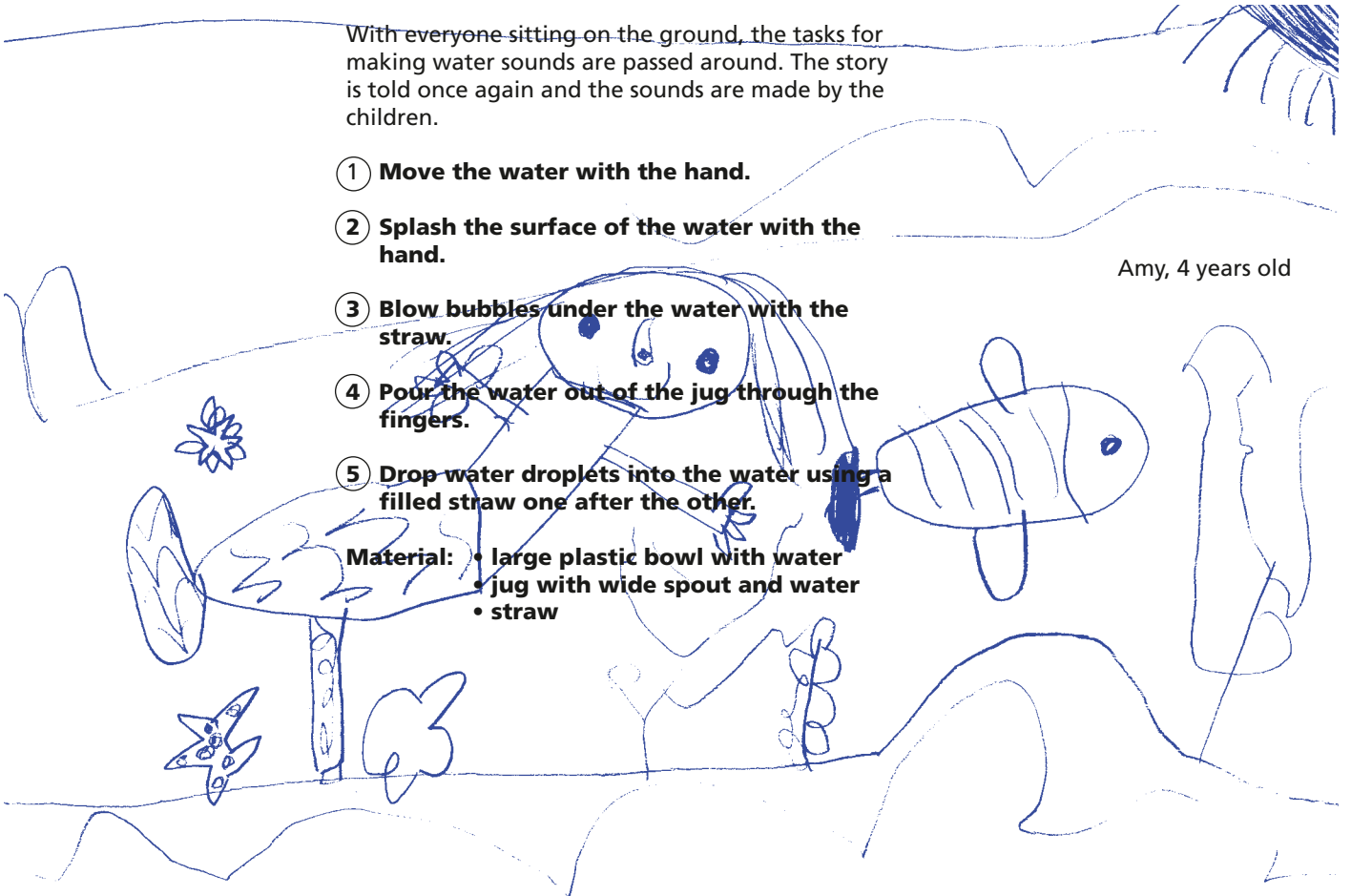
With everyone sitting on the ground, the tasks for making water sounds are passed around. The story is told once again and the sounds are made by the children.

- ① **Move the water with the hand.**
- ② **Splash the surface of the water with the hand.**
- ③ **Blow bubbles under the water with the straw.**
- ④ **Pour the water out of the jug through the fingers.**
- ⑤ **Drop water droplets into the water using a filled straw one after the other.**

Material:

- large plastic bowl with water
- jug with wide spout and water
- straw

Amy, 4 years old



Function and 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 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 playing, however it is also a fascinating means of transport



Standard version with red rope (see small picture above);
Shock Absorber Order No. 0.93471 on request;

Rope Ferry

with which one can only travel back and forth again and again.

Fundamental characteristics

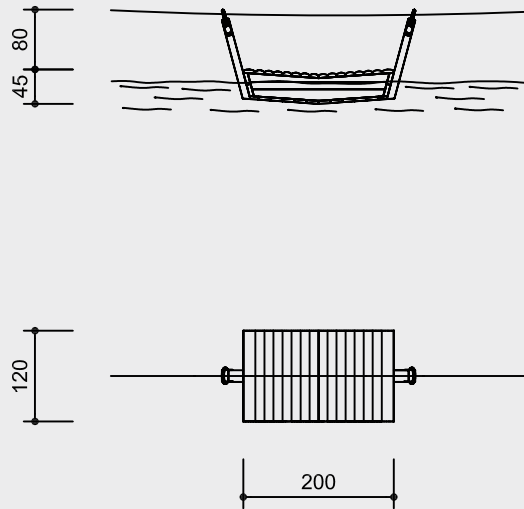
- unsinkable
- due to the concrete counterweight it gets always back in its original position
- wooden surface is pleasant also for bare feet
- soft impact at the banks
- incentive for playing: rope from one bank to the other, means of transport
- movement: physical effort, balancing

Suitable

- for children from 5 years
- for leisure parks
- open-air swimming pools
- tourist centres



5.44000



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.

Installation information

A water depth of at least 40 cm is necessary for operation, we recommend 60 cm.

Space requirement and foundations depend on local conditions.

Attention:

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

Material

equipment of mountain larch, selected according to eight quality criteria

de-barked posts

support posts of robinia, de-barked, Ø 15 - 18 cm



core-free timber

sawn-timbers core-free, by that formation of cracks can be reduced



claddings

thickness 3 - 4.5 cm, de-barked by hand



Corocord® rope

special ropes of „Hercules“ type

guide rope of 19 mm Corocord® rope of the special „Hercules“ type, abrasion protected through heating of the six steel strands and melting the polyamide sleeve onto them



aluminium swages

double-conical aluminium swages with rounded-off ends



rope connection fixed

close fitting connection without dangerous openings



Rope guides made of stainless steel

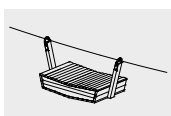
floating body of closed-pore foam, concrete plates as counterweight

Dimensions

(small deviations possible)

pedestal size 2.00 m x 1.20 m
weight approx. 400 kg

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



5.44000



Version with prolonged masts

Function and 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

Suitable

- for children from 5 years
- for supervised leisure areas
- open-air swimming pools
- tourist centres



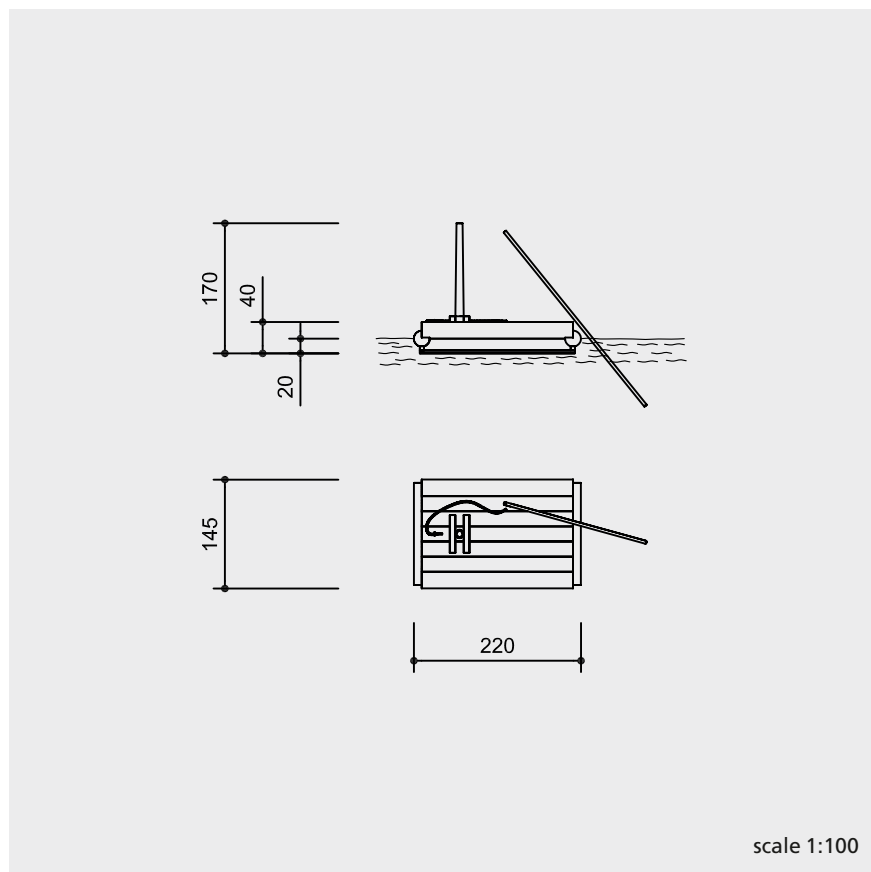
Raft



Version with prolonged masts



5.45000



Safety check according to EN 1176

Components

1 raft
1 punting pole

Installation information

A water depth of at least 40 cm is necessary for operation, we recommend 60 cm.

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

Material

Equipment of mountain larch, selected according to eight quality criteria

de-barked trunks

overlay of de-barked trunks, Ø 23 cm



core-free timber

sawn-timbers core-free, by that formation of cracks can be reduced



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

fixing rope of polyamide, Ø 22 mm

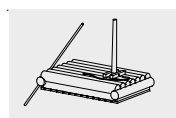
punting pole milled, Ø 42 mm
made of ash

Dimensions

(small deviations possible)

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

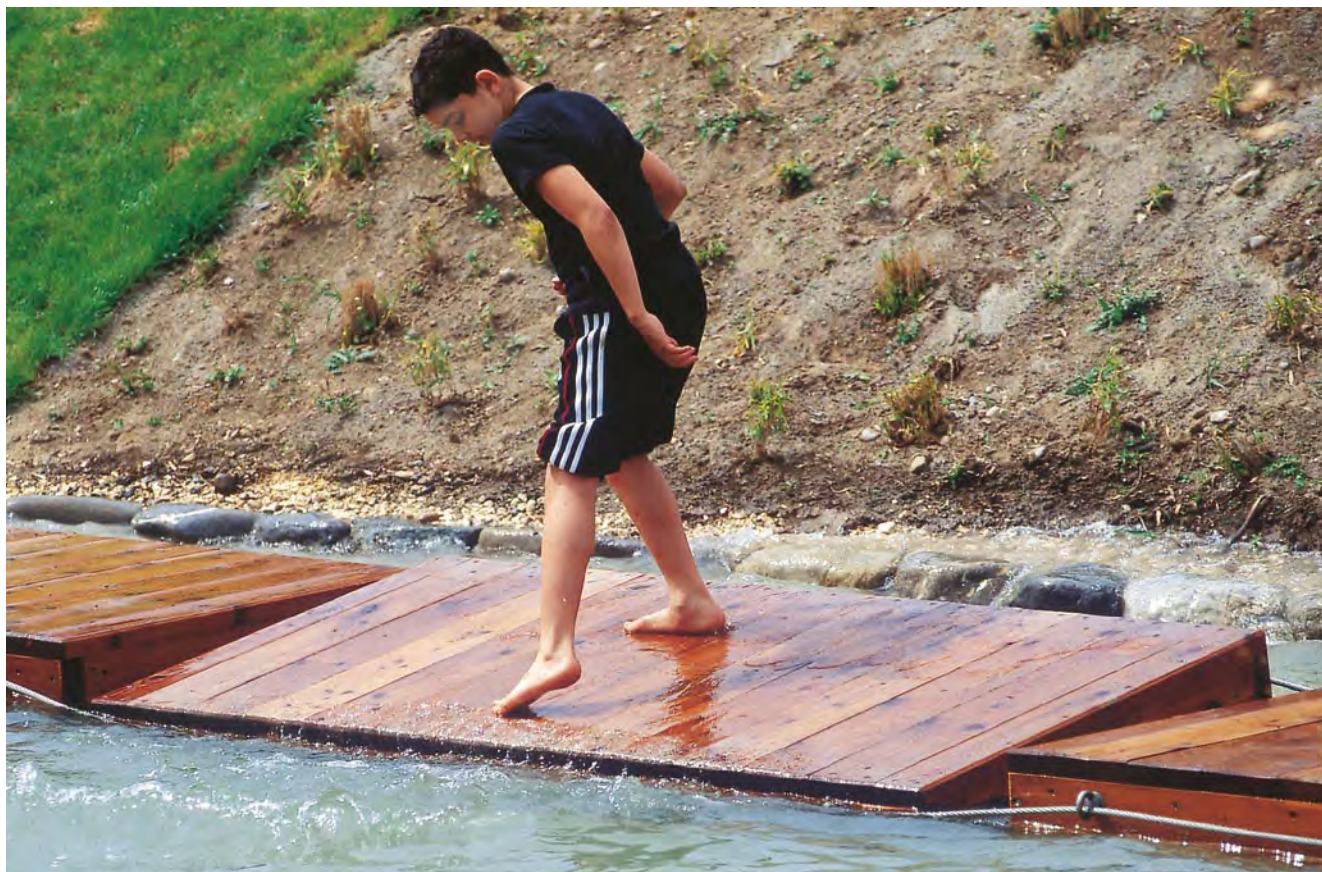
For more detailed explanation of the quality characteristics see price list.



5.45000

Function and 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.



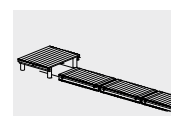
Fundamental characteristics

- 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

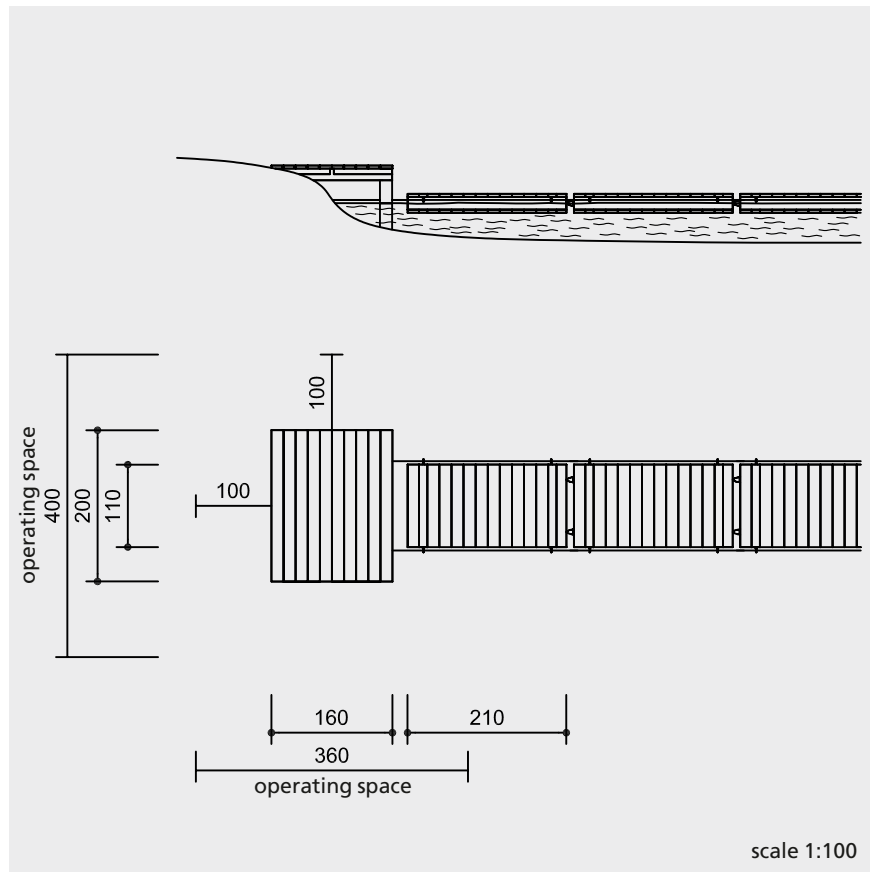
Suitable

- for children from 5 years
- for parks
leisure areas
open-air swimming pools

Water Path



5.46000



Safety check according to EN 1176

Components

quantity of floating bodies dependent on local situation
 2 stainless steel cables with anchor chains and turnbuckles
 2 bank pedestals, depending on local situation and length with lateral fixations

Installation information

A water depth of at least 40 cm is necessary for operation.

Foundations depend on individual project

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

Material

de-barked posts

support posts of bank pedestals from de-barked robinia, Ø 15 - 18 cm



core-free timber

sawn-timbers of mountain larch, selected according to eight quality criteria, core-free, by that formation of cracks can be reduced



tongue and groove

floating bodies and pedestal surfaces of 40 mm tongue and groove boarding



floating bodies filled with closed-pore foam

steel cable and cable guides of stainless steel

Dimensions

(small deviations possible)

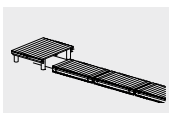
Floating bodies

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

Bank pedestals

size 2.00 x 1.60 m
 height 0.50 m
 weight approx. 200 kg

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



5.46000

Play value

Even a „landlubber“ can go on a long journey with this Sailing Boat. Just as in real life, one 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. The passengers when all aboard, and even when there is a violent storm, don't fall off because they can hold on tight everywhere. The Sailing Boat encourages active play and role games.



Order No. 6.03200 Sailing Boat with robinia posts



Order No. 6.03201 Sailing Boat with steel posts

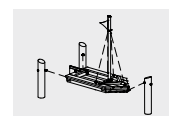
Fundamental characteristics

- unique and original
- the three-point suspension evokes the illusion of being on a sailing boat
- incentive for playing: shape, suspension
- movement: moving one's centre of gravity, swinging, wobbling

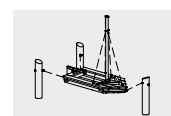
Suitable

- for children from 3 years
- for nurseries
- children's homes
- playgrounds situated near houses
- public playgrounds
- open-air swimming pools

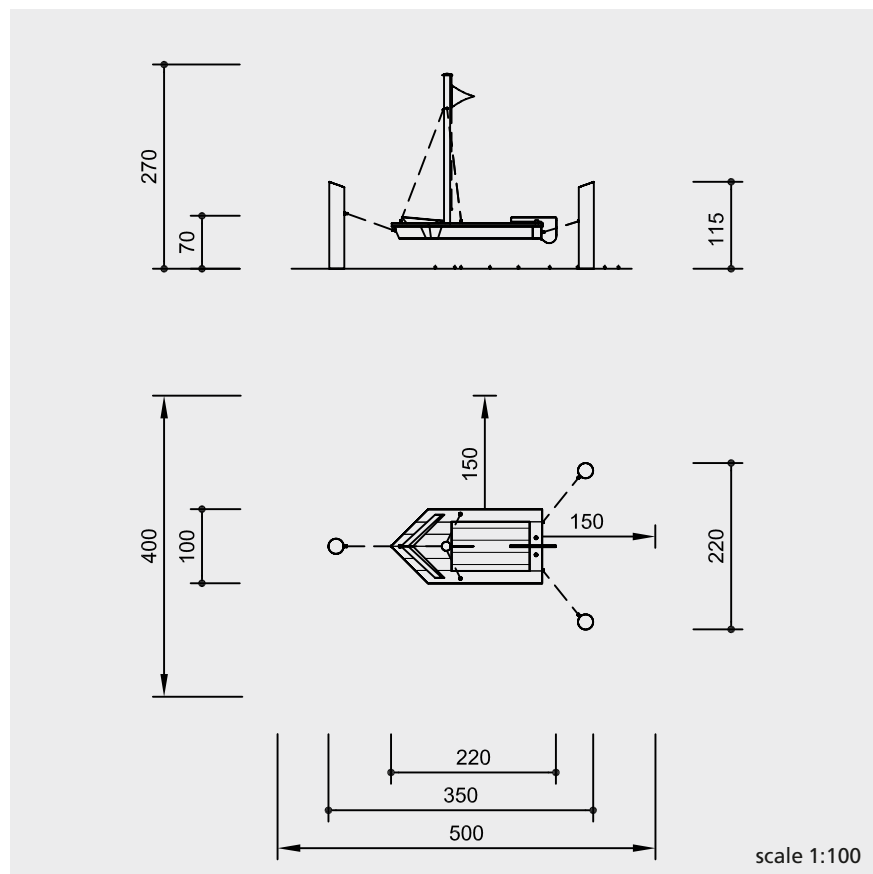
Sailing Boat Sailing Boat with flag



6.03200/6.03201



6.03210



Safety check according to EN 1176

Components

Order No. 6.03200

1 ship with mast and tiller
3 robinia posts
1 hoistable flag

Order No. 6.03201

as before, but support posts of hot-dip galvanised steel, Ø 178 mm

Order No. 6.03210

1 ship with mast and tiller
3 robinia posts

Installation information

Surfacing requirements
corresponding to a fall height of 0.70 m
(please refer to price list for more detailed information)

Foundations
3 items 80 x 80 x 80 cm, 100 cm deep

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
For use in chlorine water the steel posts are also available with a special steel alloy.

Material

Sailing boat of mountain larch, selected according to eight quality criteria

de-barked poles

de-barked robinia poles, Ø 18 - 21 cm



angle cut

vertical support posts with angle cut in the end grain section as constructive wood preservation



core-free timber

sawn-timbers are core-free, by that formation of cracks can be reduced



tongue and groove

floor of 40 mm tongue and groove boarding



universal joint

suspended on 7 mm chains and drop-forged joint yokes; the universal joint insert consists of two swing bearings



concealed head

large surface for pressure distribution, prevents water from getting inside, protects the bolt head, easy procurement of spare parts by company trademark indelibly inscribed on the equipment



adjustable bolts

no projecting threads after re-tightening due to two-piece bolt connection



brass bush

for all to and fro movements we use bush bearings which allow for self-lubrication while in use



chains

mast guys suspended on short-link stainless steel chains, 6 mm



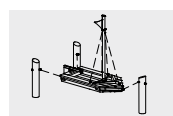
fittings hot-dip galvanised

flag made of weatherproof plastic fabric

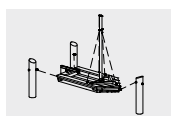
Dimensions

(small deviations possible)

overall length	3.50 m
overall width	2.20 m
seating height	0.70 m
weight approx.	300 kg



6.03200/6.03201



6.03210

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

Transporting water

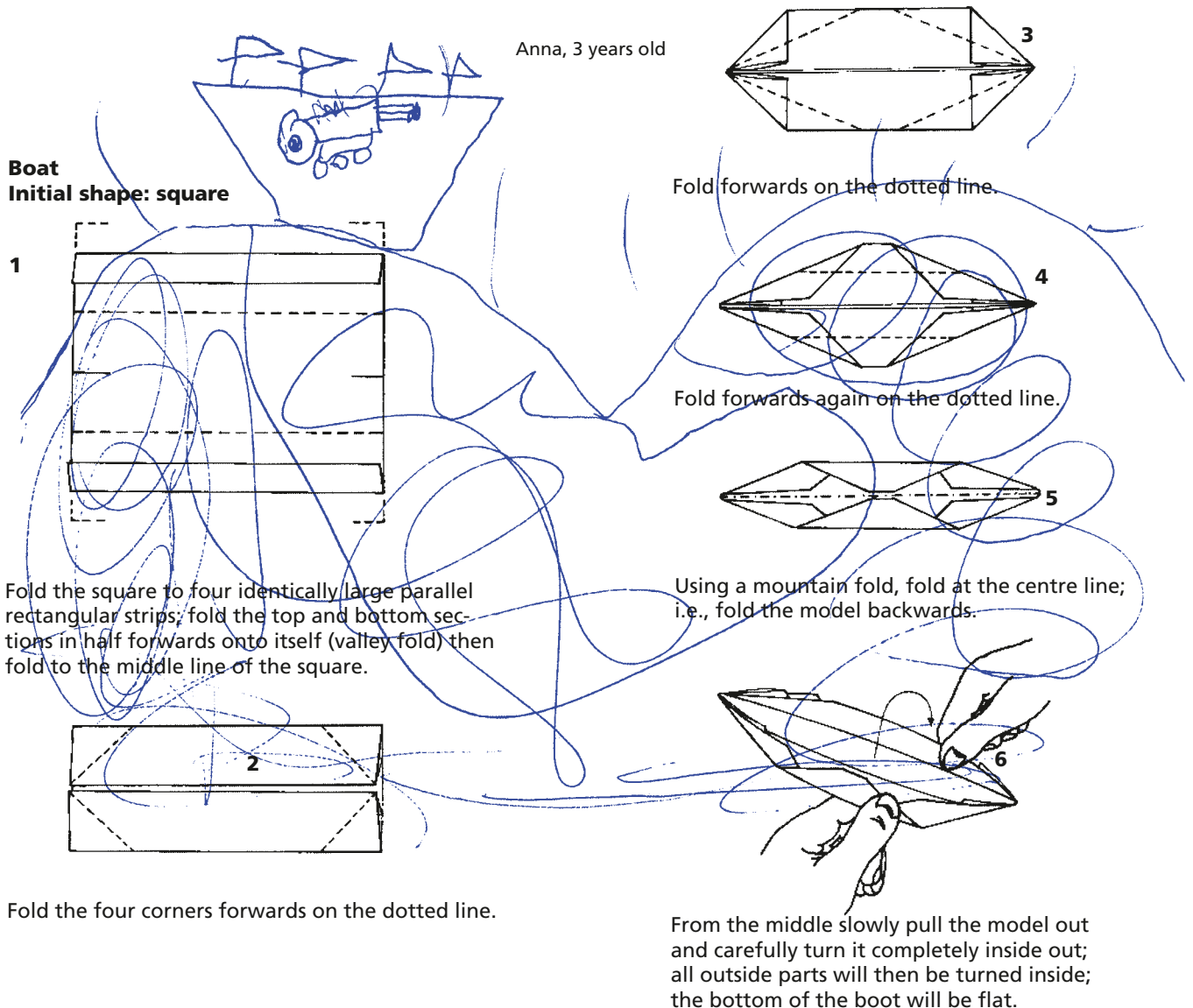


Experience water with children

Children get a great deal of enjoyment out of making something float. Twigs, leaves, a piece of bark or paper become little ships which float on the water. This can be done just as well in a bowl of water as in a pond or a stream.

Hours of fun can be had with children on late winter afternoons, when walnut shells carrying tiny candles float in bowls of water. The light carriers can be gently manoeuvred with a straw.

Mild summer evenings by a lake are inviting for both big and small. Boats can be made out of stiff paper and tea lights placed in them. The boats are carefully placed on the water and glide slowly out in the darkness. The little points of light are mirrored on the dark surface of the water and remain unforgettable.





Function and Play value

Water supply is often the central feature of water play. A great way of moving water from a higher to a lower 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.



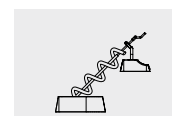
Fundamental characteristics

- high-quality design
- surprising old principle
- encourages co-operation and communication
- incentive for playing: appealing design, curiosity
- movement: physical effort, turning

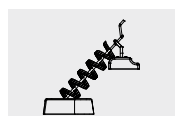
Suitable

- for children from 6 years and adults
- water and adventure areas of
 - playgrounds
 - leisure parks
 - big water play installations
 - open air swimming pools

Archimedes Screws with different drive mechanisms



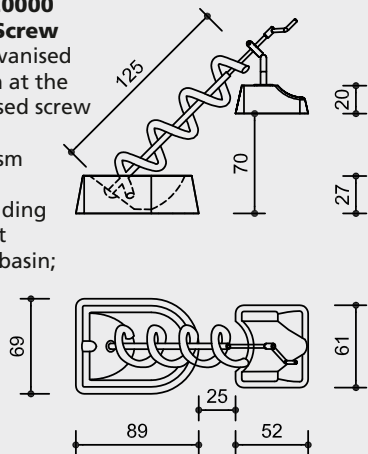
5.20000



5.20500

Order No. 5.20000

Archimedes Screw enclosed, galvanised
Concrete basin at the bottom; enclosed screw length 1.25 m; drive mechanism with crank; fixing with holding device; run-out with concrete basin;



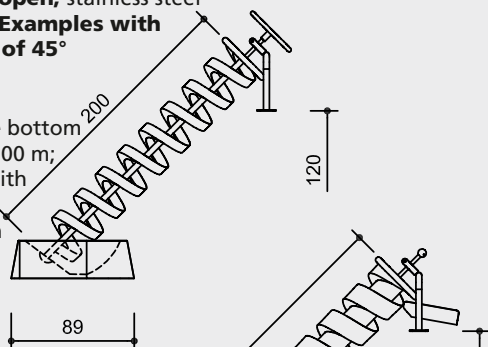
without scale

Order No. 5.20800

Archimedes Screw open, stainless steel
Archimedes Screw Examples with a spiral inclination of 45°

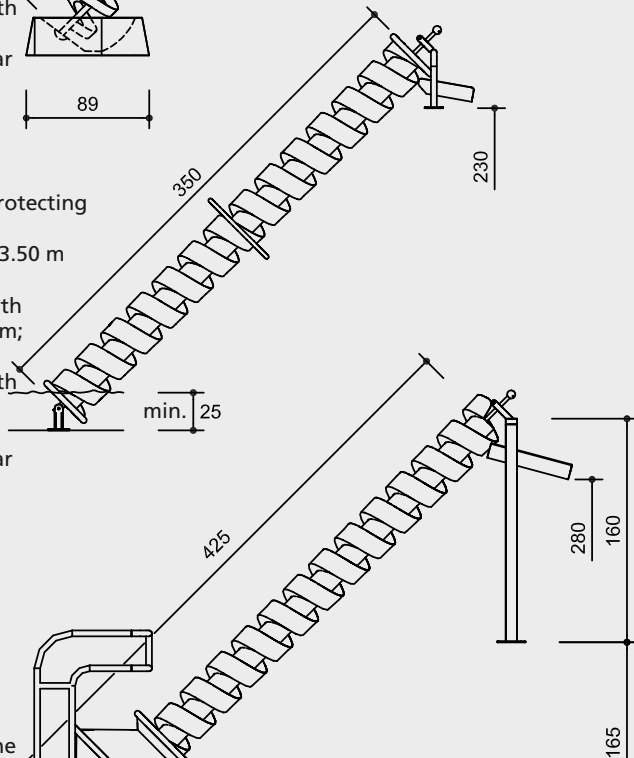
Example 1

Concrete basin at the bottom open screw, length 2.00 m; driving mechanism with hand wheel, Ø 40 cm; fixing at the top with high holding device on channel or similar made on site



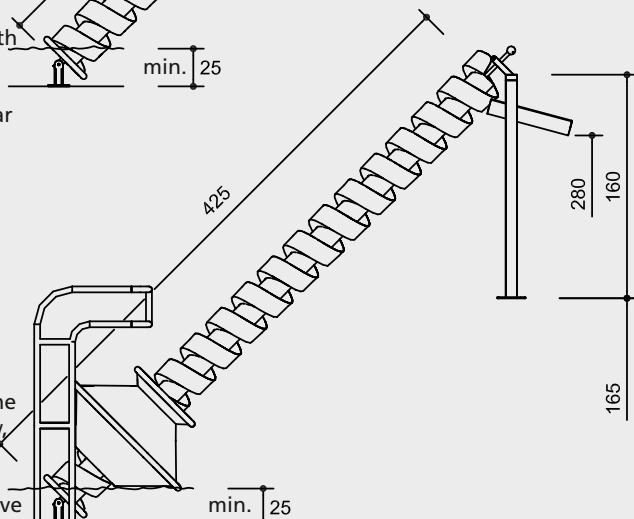
Example 2

Fixing flange and protecting disc at the bottom; open screw, length 3.50 m with tube axle; drive mechanism with turning ring, Ø 60 cm; return stop; fixing at the top with high holding device with run-out dish on channel or similar made on site



Example 3

Fixing flange and protecting disc at the bottom; open screw length 4.25 m with tube axle; drive mechanism with drive cone and frame; fixing at the top with frame and run-out dish, on channel or similar made on site



Drive cone only with an inclination of 45°

Material

All Archimedes Screws are supported on self-lubricating bearings.

Order No. 5.20000 Archimedes

Screw enclosed, galvanised only available with screw length of 1.25 m, other lengths not recommended because it can easily become clogged with the play material

Order No. 5.20500 Archimedes

Screw open, stainless steel, with rim height 7 cm equipment as Order No. 5.20000

open screw of stainless steel with two rim heights: 7 cm for delivery of approx. 0, . litres/turn, 14 cm for delivery of approx. 1.5 litres/turn

Dimensions

(small deviations possible)

see examples

The Archimedes Screws can be mounted with an inclination of 35° min. and 50° max. The optimum inclination with maximum delivery is at 45°.

The Archimedes Screws are designed as a modular system so that suitable bearings, drive mechanisms and fixing elements can be combined with respect to the different scopes of application.

- lower bearing - concrete basin
- screwed flange with protecting disc
- mechanism - hand wheel, Ø 40/Ø 60 cm
- turning ring with any axial position Ø 60 cm
- spiral cone at the top or bottom
- upper fixing - holding device with concrete basin
- high holding device without concrete basin
- high holding device with run-out dish
- frame with/without holding device, height depend on design

Weight and components depend on individual type.

Planning Information

We recommend planning by us.

Installation information

Surfacing requirements
no fall height according to standard
We recommend sand with drainage or paving stone with gully.

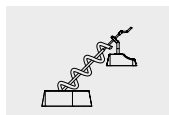
Foundations
depend on overall construction

Water supply, scooping and collecting basin need to be provided for by customer.

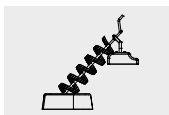
Attention:

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

Safety check according to EN 1176



5.20000



5.20500

For use in chlorine water the open screws are also available with a special steel alloy.

Design

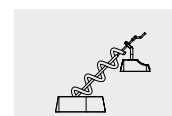
We have developed different screws and drive mechanisms in order to enlarge the scope of use for the designer. The open screw with high or low rim can surmount large differences in height and demonstrates in an impressive way the physical effect of the Archimedean principle. The closed tube spiral has a strong, formal expressive character, however, it is only suitable for small distances. 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.



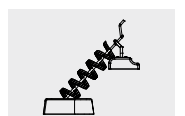
Archimedes Screws
with different drive mechanisms

Planning Information

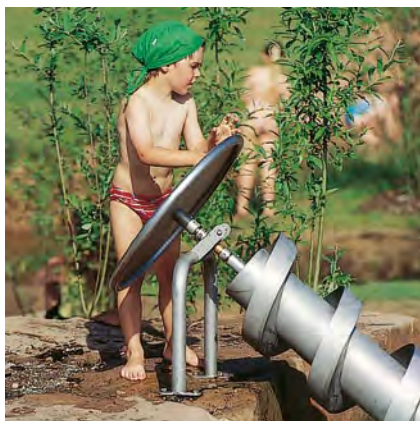
We recommend planning by us.



5.20000



5.20500

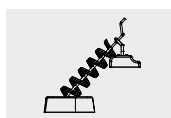


David and Goliath

One has to use one's entire physical strength to be able to transport water from a low level to a much higher one with the help of a spiral cone. The running drum can be at different positions: at the bottom to „screw“ water upwards and at the top to bring water upwards. This special Archimedes Screw can therefore have the same effect as David: his strength is hidden and in this case, the screw reaches far down into the well or as Goliath who can display his total strength impressively.



5.20000



5.20500

Function and 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.



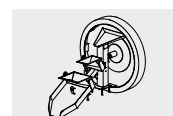
Fundamental characteristics

- unique and original
- high-quality metal construction
- exclusive design
- incentive for playing: large wheel
- movement: physical effort

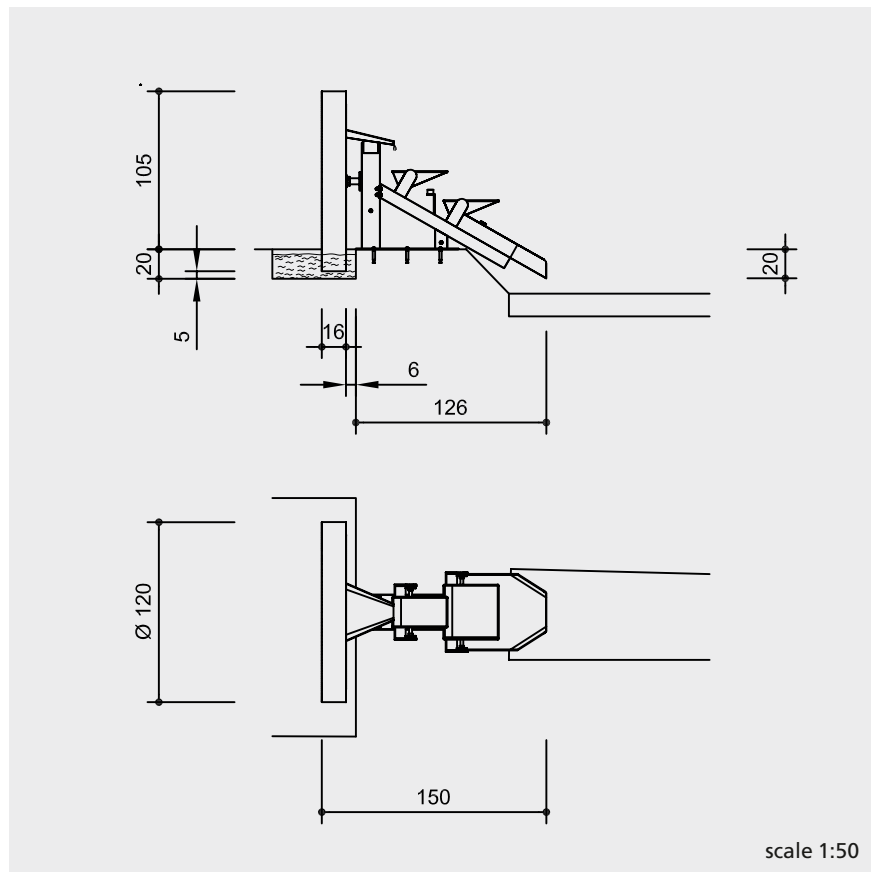
Suitable

- for children from 4 years
- for public play areas
- parks
- leisure parks
- open-air swimming pools
- tourism centres

Rotating Conveyor with Tipper Trays



5.20850



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

- 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 chlorine water the equipment is also available with a special steel alloy.

Material

Total equipment made of stainless steel

ball bearing

all rotating parts with low-maintenance, easily replaceable ball bearings made of stainless steel

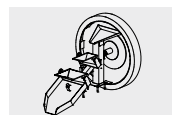


Dimensions

(small deviations possible)

length 1.50 m
diameter 1.20 m
weight approx. 130 kg

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



Function and 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. The water 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.



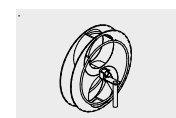
Fundamental characteristics

- 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

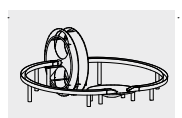
Scooping Wheel Water Scoop

Suitable

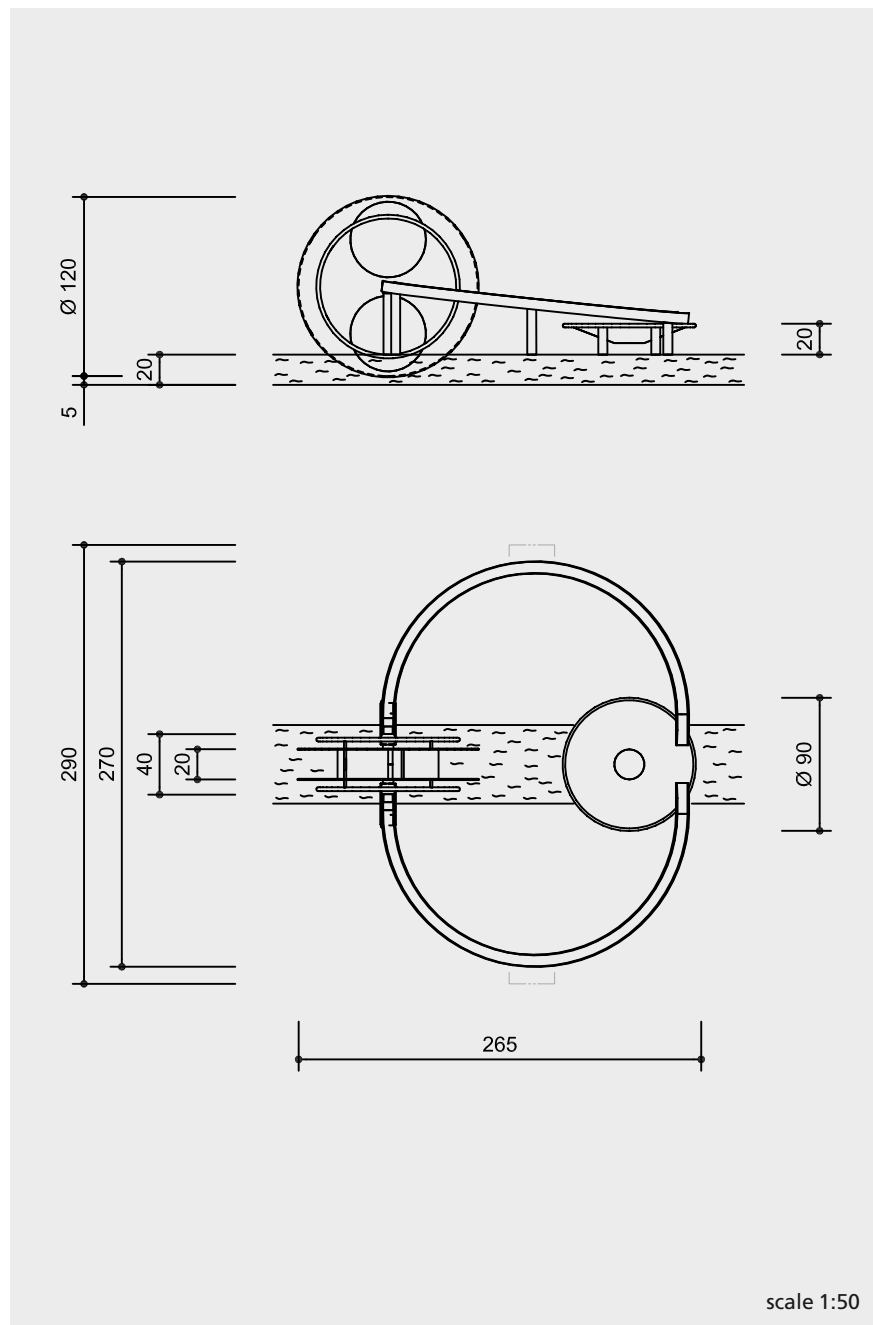
- for children from 5 years
- for water play areas of
 - playgrounds
 - leisure areas
 - big water play installations



5.20880



5.42010



Material

Total equipment of stainless steel

easy drive in maintenance free plastic bearings

grip-friendly rim

Dimensions

(small deviations possible)

equipment height	1.20 m
width	2.70 m
length	2.65 m
Scooping Wheel	
diameter	1.20 m
Flow Dish	
diameter	0.90 m
height	0.20 m
weight approx.	130 kg
Scooping Wheel approx.	70 kg

Safety check according to EN 1176

Components

Order No. 5.42010 Water Scoop

- 1 Scooping Wheel with bearings and alternating water runoff
- 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

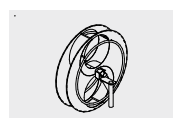
- 2 items 65 x 30 x 40 cm
each 60 cm deep

Attention:

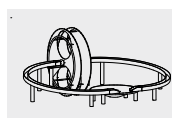
Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.

For use in chlorine water the equipment is also available with a special steel alloy.



5.20880



5.42010

Function and 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.

Fundamental characteristics

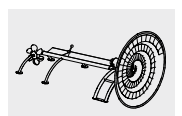
- high-quality design
- space-saving type of conveyor screw
- incentive for playing: big wheel
- movement: physical effort

Suitable

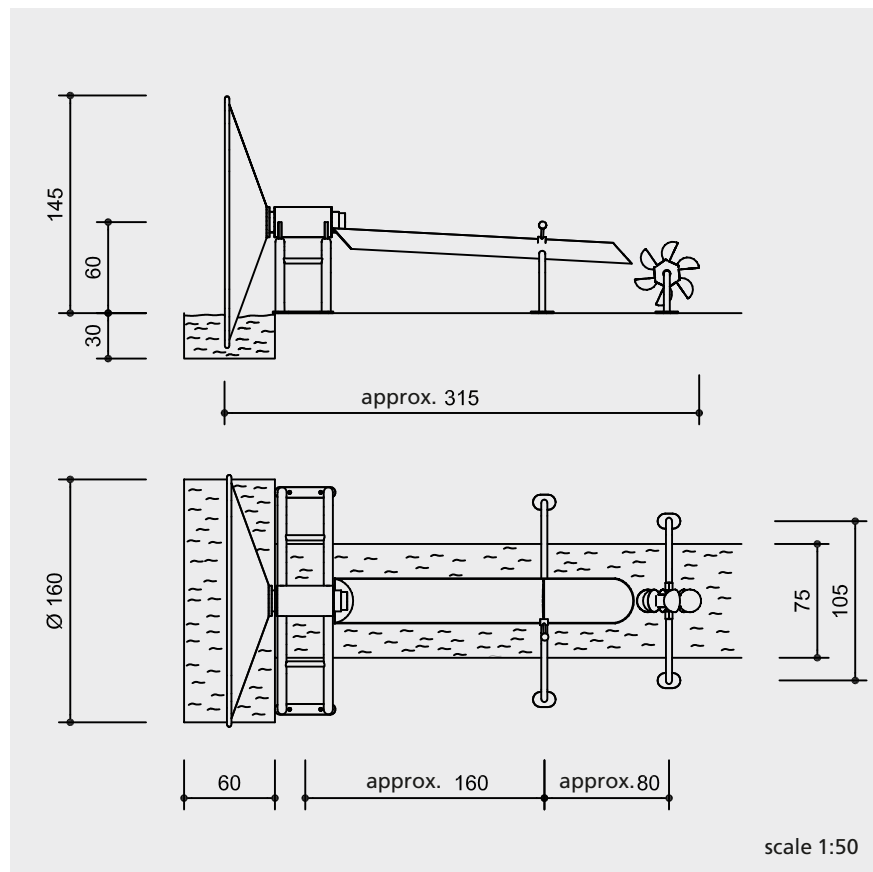
- for children from 5 years
- for leisure areas
- big water play installations
- open-air swimming pools
- tourist centres



Nautilus Snail
with Impulse Gutter and Scooping Wheel



5.42050



Material

Total equipment of stainless steel

ball bearing

all rotating parts with low-maintenance, easily replaceable ball bearings made of stainless steel



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

locking element of rubber

Small Scooping Wheel

Order No. 5.15910 see separate catalogue sheet;

Dimensions

(small deviations possible)

height	1.45 m
overall length	approx. 3.15 m
diameter	1.60 m
weight	approx. 175 kg

Safety check according to EN 1176

Components

- 1 Nautilus Snail
- 1 Impulse Gutter
- 1 Small Scooping Wheel

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.

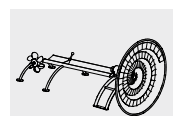
Foundations
depending on overall installation

Attention:

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

Technical changes reserved.

For use in chlorine water the equipment is also available with a special steel alloy.



5.42050

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

Making water splash



Experience water with children

On a summer's day hold little competitions with water, everybody is allowed to get wet. It is not only about the fun and the refreshing splashing. Water can be experienced as a mass and as a volatile element.

Which group loses the least water? Each child has a cup which is filled with water from a litre bottle by a team-mate. One after the other the children run to a bucket positioned some distance away and empty their cup into it. Afterwards the amount of water each group has left is checked.

Which group, in a set amount of time and using their hands as bowls, can carry the most water from one bucket to another one positioned far away. The winner is the group who has the largest amount of water in the target bucket.

Small children have two cups each; one of them is filled with water. Using a tea spoon or a soup spoon the water has to be spooned into the empty cup. Who can do it the quickest, or who manages to do the most?



Thomas, 4 years old

Function and Play value

It is not immediately clear for what purpose these funny coloured mushroom heads can be used. When the two handles, inviting a hands on activity, are pushed down powerfully, an internal piston sends a far-reaching water jet through the spray head. The whole spray head can be turned around 360°. So it is possible to „chase“ others with the water jet and to make them wet as long as they are within reach. For reasons of fairness, the Splash Pumps should be installed in pairs, if possible, so that others can defend themselves. A fixed direction Splash Pump is also available. In water playgrounds or in swimming pools, Splash Pumps offer another fine way to experience water.

Fundamental characteristics

- The correlation between physical effort and reach of the water jet can be seen through the mechanical piston pump.
- moveable spray head
- incentive for playing: coloured head, handles
- movement: physical effort, aiming at
- Position of water jet can be changed

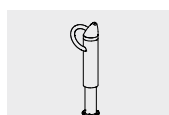
Suitable

- for children from 6 years
- for all water play areas of playgrounds
- leisure areas
- for water playgrounds
- open-air swimming pools



The pictures show the version with mushroom head.

Splash Pump with fixed water jet
Splash Pump with mushroom head
Intake Container
Foundation Anchor



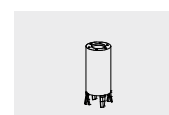
5.18050



5.18060



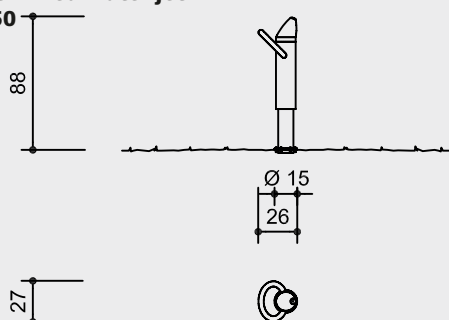
5.18052



5.18054

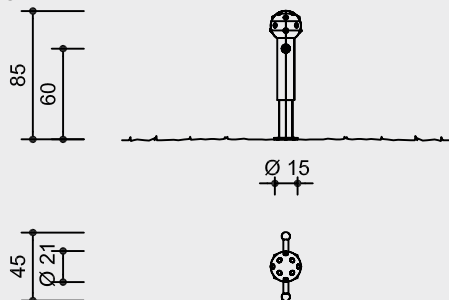
Splash Pump with fixed water jet

Order No. 5.18050



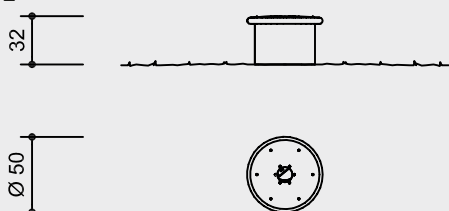
Splash Pump with mushroom head

Order No. 5.18060



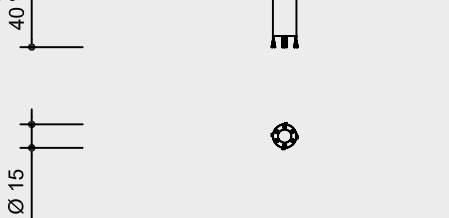
Intake Container

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 water jet

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

Installation information

Surfacing requirements
paving stone or similar with drainage

Foundations
1 Foundation Anchor **Order No. 5.18054**
(not required in combination with
intake container)

Attention:

**Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.**
Technical changes reserved.
**For use in chlorine water the equip-
ment is also available with a special
steel alloy.**

Material

Order No. 5.18050

Splash Pump with fixed water jet
equipment of stainless steel, with fixed
water jet

delivery height max. 2.00 m

Order No. 5.18060

Splash Pump with mushroom head
equipment of stainless steel with
moveable water jet

Colour of the mushroom heads: all RAL
colours possible

delivery height max. 2.00 m

Order No. 5.18052 Intake Container

equipment of stainless steel with
integrated float valve

existing water connection
at the pump: 1"

connecting pipe to the water supply is
not supplied with product (we recom-
mend a flexible hose connection)

drainage should be provided for (frost
protection during the winter)

for special installation situations please
ask for planning assistance

Order No. 5.18054

Foundation Anchor

foundation anchor of galvanised steel

Dimensions

(small deviations possible)

Order No. 5.18050

Splash Pump with fixed water jet

height 0.88 m
diameter on top 0.27 m
weight approx. 23 kg

Order No. 5.18060

Splash Pump with mushroom head

height 0.85 m
diameter
with grips 0.45 m
mushroom head 0.21 m
weight approx. 30 kg

Order No. 5.18052 Intake Container

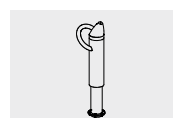
height 0.32 m
diameter 0.50 m
weight approx. 20 kg
Winter Lid on request

Order No. 5.18054

Foundation Anchor

height 0.40 m
diameter 0.15 m
weight approx. 7 kg

Winter Lid Order No. 5.18055



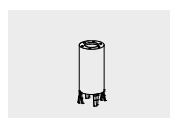
5.18050



5.18060



5.18052



5.18054

Function and 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 be softly rocked. 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

Suitable

- for children from 6 years
- for pedestrian areas
- open-air swimming pools
- leisure areas
- tourist centre



Little Whale

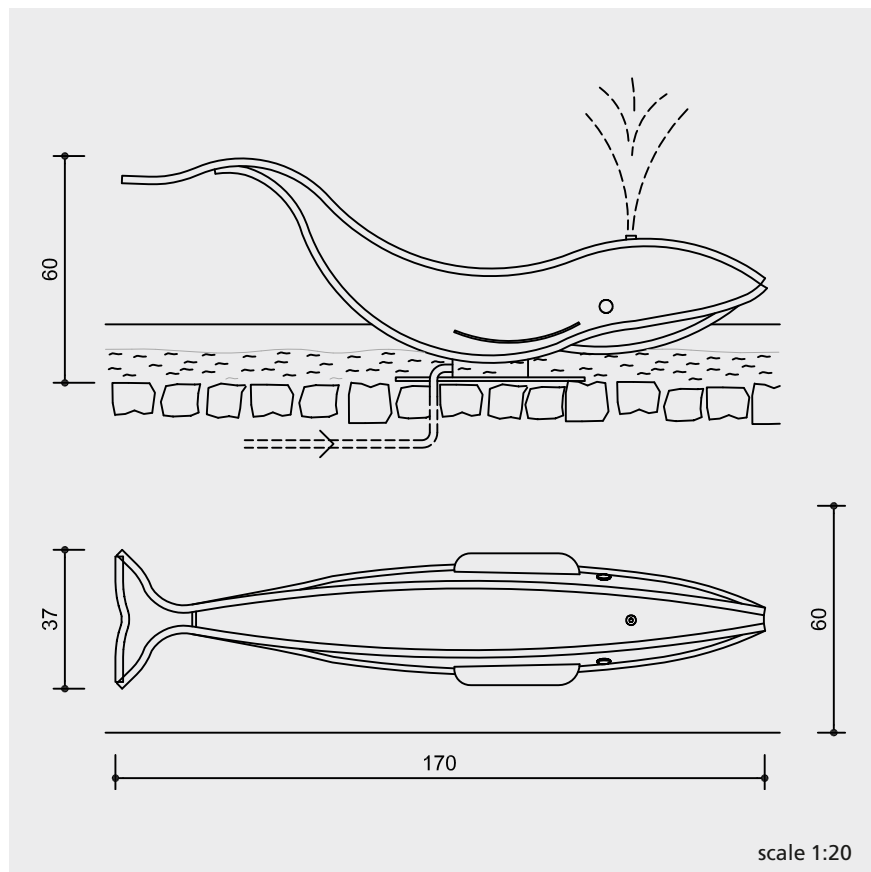


Note

The Little Whale belongs to our product line Art Play together with the Sea Creatures.



5.18500



Material

the whole equipment is made of stainless steel

brass bush

pump and see-saw mechanism: for all to and fro movements we use bush bearings which allow for self-lubrication while in use



integrated float valve for direct connection to the mains water

Dimensions

(small deviations possible)

length	1.70 m
width	0.37 m
height	0.60 m
weight approx.	45 kg

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 and 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 chlorine water the equipment is also available with a special steel alloy.



5.18500

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



Function and 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 co-ordinate 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

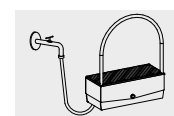
Suitable

- for children from 6 years
- for all water play areas



See-saw Pump

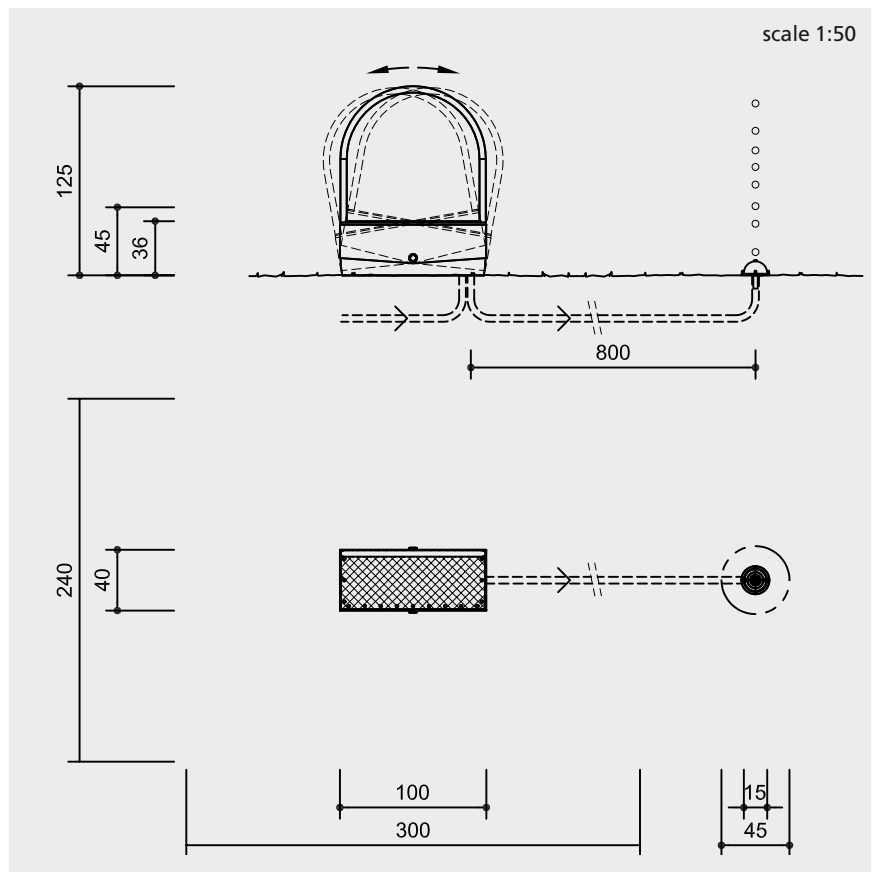
for direct connection to the water main
for water supply from a pond or similar



5.18600



5.18700



Safety check according to EN 1176

Material

housing of the pump completely made of stainless steel
tread surface of textured metal sheet

brass bush

for all to and fro movements we use bush bearings which allow for self-lubrication while in use



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

Dimensions

(small deviations possible)

length	1.00 m
width	0.40 m
height	1.25 m
max. pedestal height	0.45 m
weight approx.	80 kg
required diameter for water supply 1"	

Components

1 See-saw Pump with foundation frame

Note

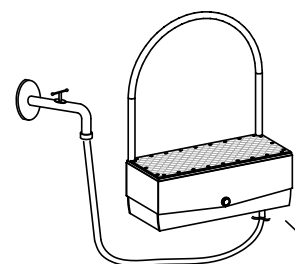
For areas with intense solar radiation we offer a wooden deck for the tread surface in order to reduce heating-up (Order no. 0.57300).

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

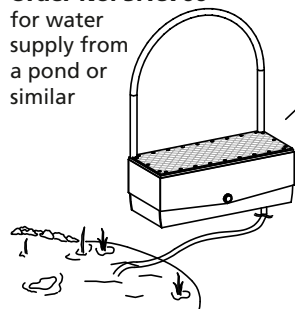
Order No. 5.18600

for direct connection to the pressure line



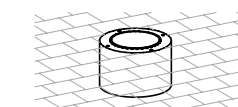
Order No. 5.18700

for water supply from a pond or similar

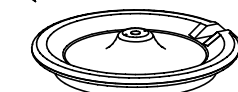


Installation of the Spraying Head

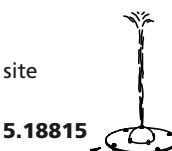
1. on foundation made on site



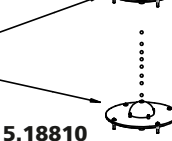
2. on Concrete Basin with pump connection **Order No. 5.22000 ff.** see own catalogue sheet



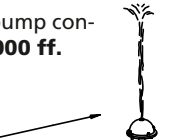
Type of Spraying Head



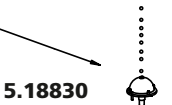
5.18815



5.18810



5.18835



5.18830

Installation information

reinforced surface

Foundations

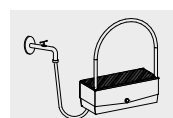
1 item 40 x 92 cm, below frost level

Attention:

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

Technical changes reserved.

For use in chlorine water the equipment is also available with a special steel alloy.



5.18600



5.18700



Order No. 5.18870 Simple Spraying Head



Planning information

The Column Spring **Order No. 5.18020** is only suitable for direct connection to the pressure line. When the hemisphere is pressed once, a valve is activated which stops the water flow after 60 seconds or earlier (time is adjustable).

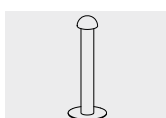
The Spraying Heads with the **Order No. 5.18815** and **5.18835** produce a high, sharp water jet and should only be used where the spraying heads are not accessible, e.g. in a pond which is not used for swimming, and with enough distance to the shore.

Please note the higher cleaning effort involved when using the Simple Spraying Head, **Order No. 5.18870**. Consider using the Spraying Head with cleaning mechanism, **Order No. 5.18810**.

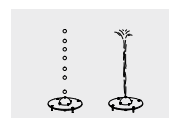


Order No. 5.18020 Column Spring

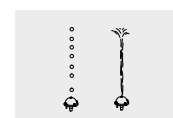
Column Spring
Spraying Heads for foundation made on site
Spraying Heads for Concrete Basin
Simple Spraying Head



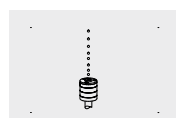
5.18020



5.18810/5.18815

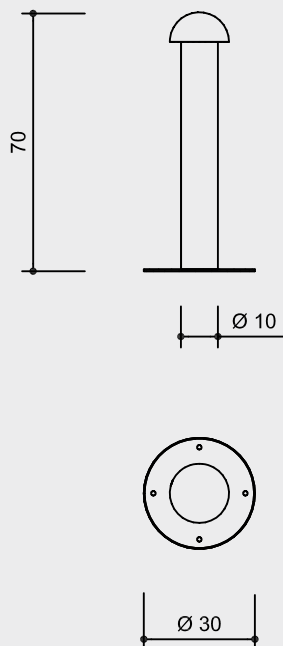


5.18830/5.18835

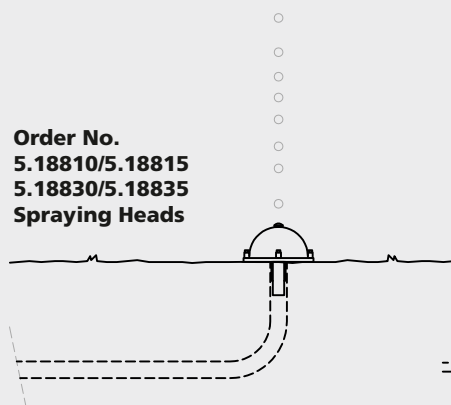


5.18870

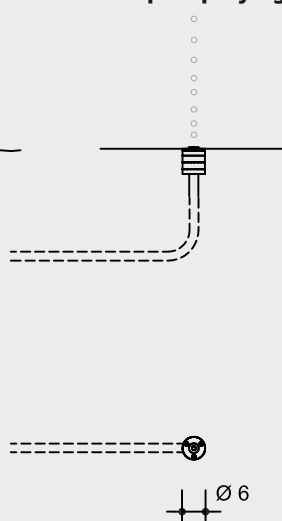
Order No.
5.18020 Column Spring



Order No.
5.18810/5.18815
5.18830/5.18835
Spraying Heads



Order No.
5.18870
Simple Spraying Head



Material

Column Spring Order No. 5.18020
made of stainless steel with coloured hemisphere, 12 kg

Spraying Heads for in-situ concrete foundations

Order No. 5.18810

with weak water jet

Order No. 5.18815

with strong water jet

for Concrete Basins

with weak water jet

Order No. 5.18830

with strong water jet

Order No. 5.18835

Spraying Heads made of stainless steel with brass head

Order No. 5.18810/5.18830

Spraying Heads with weak jet, integrated cleaning mechanism, 12/4 kg

Order No. 5.18815/5.18835

Spraying Heads with strong water, without cleaning mechanism, 12/4 kg

Simple Spraying Head

Order No. 5.18870

Spraying Heads made of stainless steel with brass head without cleaning mechanism, 1 kg

Dimensions

(small deviations possible)

Column Spring Order No. 5.18020

height 0.70 m

diameter column 0.10 m

Spraying Heads Order No.

5.18810/5.18815/5.18830/5.18835

diameter of the hemisphere 0.15 m

distance between head and

See-saw Pump max. 8.00 m

required diameter for

water supply 1"

Simple Spraying Head

Order No. 5.18870

diameter 0.06 m

distance between head

and pump 2 - 10 m

spraying head inlet Ø 3/4"

Components

Column Spring Order No. 5.18020

1 Column Spring

Spraying Heads Order No.

5.18810/5.18815/5.18830/5.18835

1 spraying head

1 PE connection tube 8 m

Simple Spraying Head

Order No. 5.18870

1 spraying head

1 fabric hose 10 m

Installation information

Reinforced surface or supporting element

Foundations and water supply to be prepared by the customer. **Column**

Spring: 1 item 40 x 40 x 30 cm, 60 cm deep.

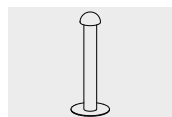
Attention!

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

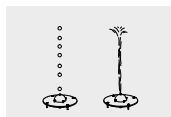
We reserve the right to make technical alterations!

For use in chlorine water the equipment is also available with a special steel alloy (V4A).

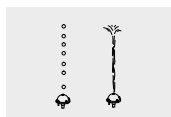
scale 1:20



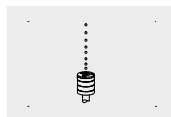
5.18020



5.18810/5.18815



5.18830/5.18835



5.18870



Function and 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

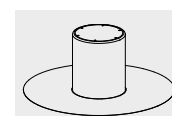
- mechanical pump mechanism makes the correlation between one's own power and the width of the water jet visible
- functional design
- incentive for playing: curiosity
- movement: jumping

Suitable

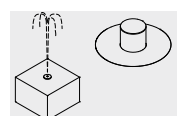
- for water play areas of
 - playgrounds
 - pedestrian areas
 - open-air swimming pools
 - leisure areas



Water Jet
Water Jet for external Jet

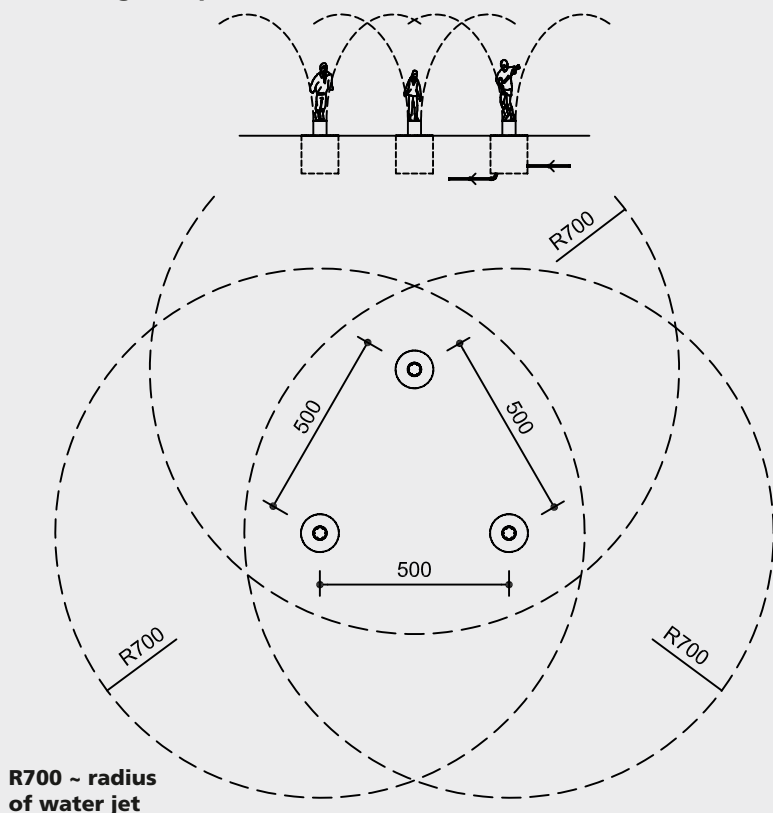


5.25000

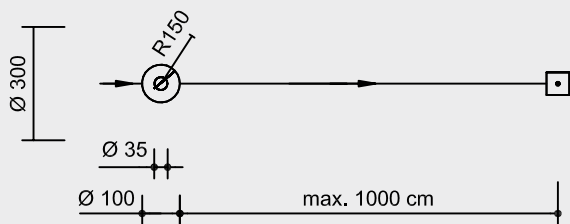
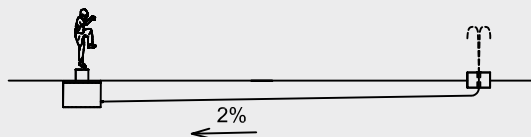


5.25070

Planning example for 3 Water Jets

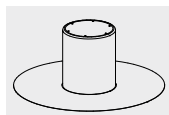


Order N. 5.25070 Water Jet for external Jet

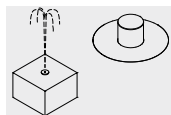


scale 1:200

Safety check according to EN 1176



5.25000



5.25070

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
For use in chlorine water the equipment is also available with a special steel alloy.

Material

Order No. 5.25000 Water Jet

cylinder of stainless steel

standing plate of textured metal, 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 50 mm (connection to the pressure line, diameter of thread 1",
water supply 3/4", pressure 4 bar)

both lids of concrete,
summer lid with rubber seal

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
height 1.06 m
= installation depth

total weight approx. 900 kg

Components

1 Water Jet pre-assembled
in concrete housing with
summer lid
1 winter lid

Order No. 5.25070 additionally jet,
depending on situation

Installation information

Surfacing requirements
corresponding to a fall height
of < 0.60 m
(please refer to price list for more
detailed information)
Recommendation: pavement, rein-
forced surface, water permeable, no
sand, no gravel

Foundations
excavation for concrete well
Ø 2.00 m, depth 1.06 m

For installation in a water basin, the
Water Jet can also be supplied with a
sealed housing **Order No. 5.25050** (not
apply for Order No. 5.25070).
The water supply needs to be made
according to the local situation. Using
the equipment without water leads
to increased wear of the components.
Therefore the equipment should not be
used without water.

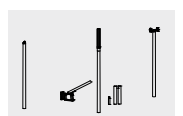
During frosty periods the suction pump
and the water reservoir must be
disassembled. Also included in the com-
ponents is a lid with which the shaft is
sealed during the frosty season.

Concept

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.



Forest Fountain



5.27010 - 5.27060

Rotors and jets

Vertical Jet

spraying height up to 10 m,
radius 2 m

Horizontal Star Rotor

spraying length up to 7 m,
reducible to 4 m

Vertical Star Rotor

spraying length 7 m,
spraying area lengthways 2 x 14 m

Spiral Rotor

spraying area radius 3 m

Umbrella Jet

spraying area radius 3 m

High Collision Disc

spray effect radius 3 m

Low Collision Disc spray effect
lengthwise 1 x 3 m

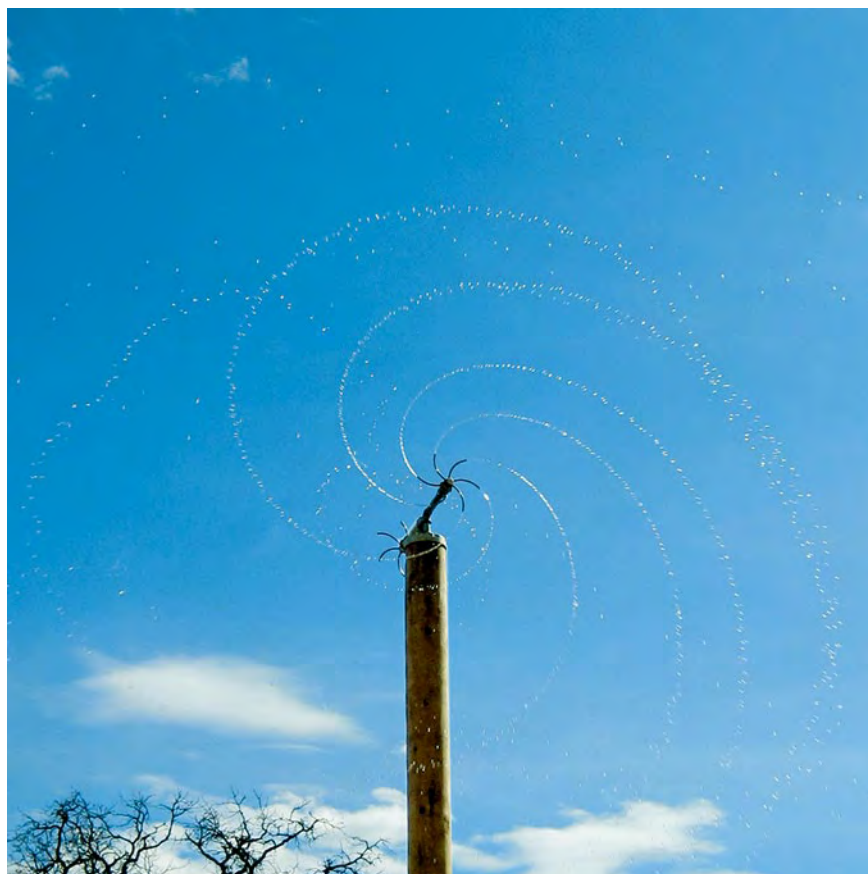
Mast with Reservoir

Water Umbrella
radius 3 m

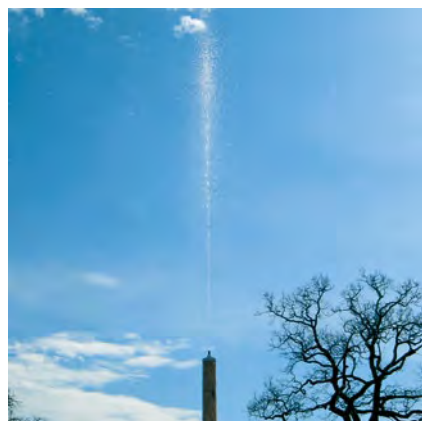
One pump is sufficient for three masts. A large volume of water is required for the umbrella jet (therefore we recommend you install a one way distribution).



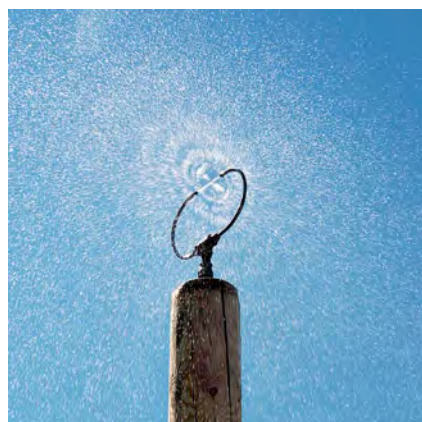
5.27035 Horizontal Star Rotor



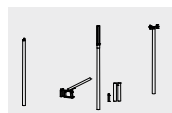
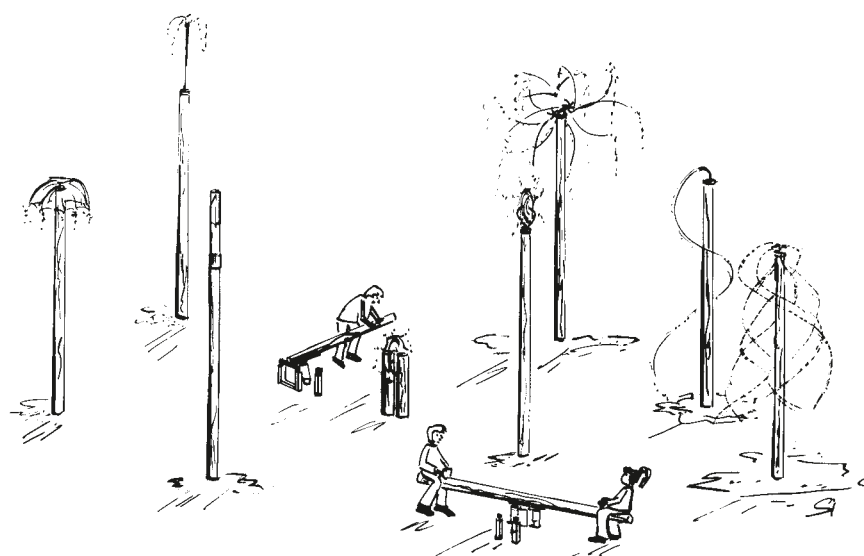
5.27034 Vertical Star Rotor



5.27032 Vertical Jet



5.27031 High Collision Disc



5.27010 - 5.27060

Components

long handle pump of stainless steel for water connection 1 inch/4-6 bar with valve combination or water reservoir

- 1 pump cylinder, 1 stroke approx.
0.4 l, up to 40 strokes/min = 16 l, on
well foundation, Ø 100 cm,
installation depth at least 60 cm,
depending on gradient,
600 kg, handle of ash wood,
Ø 8 cm, length 2.30 m



pump see-saw for water connection 1 inch/4-6 bar with valve combination or water reservoir

- 2 pump cylinders, 1 stroke approx.
0.3 l, up to 60 strokes/min = 20 l
on well foundation, Ø 100 cm,
installation depth at least
65 cm (fall protection
required), 800 kg, see-saw
beam length 4 m, height 60 cm,
the see-saw function is
maintained

masts

larch wood with steel foot,
height 4 m, Ø 18 cm
cap of stainless steel / or complete masts
of stainless steel,
foundation 80 x 80 x 80 cm,
excavation depth 110 cm (sleeve
foundation recommended), to be
rounded when sand and gravel is used
water connection for pipelines to the
masts 1 inch or 3/4 inch
supply line in empty conduit (poly-
propylene pipe KG 2000, Ø 100 mm), 2 %
gradient to pump well

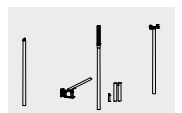
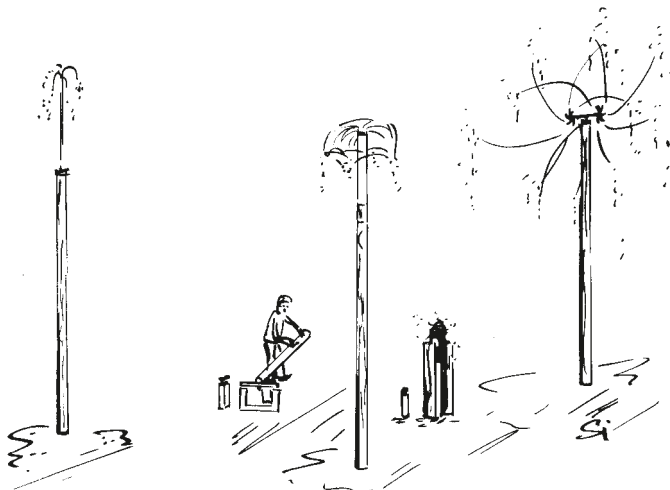
one way/two way distribution made of stainless steel connected to well or free-standing

3-way valve with pan bar handle made
of plastic with direction arrow, height
40 cm, installation depth approx. 50 cm,
connected to well or free-standing with
pre-cast foundation



State Garden Show, Rosenheim, 2010

Planning and water trays
A24 landscape architects



5.27010 - 5.27060

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

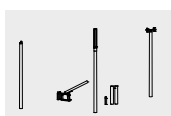


with darker backgrounds such as trees or the flat faces of buildings plays an important role here for the optical effect. In the case of higher spraying heads, the prevailing wind direction should be taken into consideration. The surfacing of the ground should be firm or graveled and be provided with 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.

State Garden Show, Hemer, 2010

Colour scheme: Geskes · Hack, landscape architects

Masts made of steel, powder-coated



5.27010 - 5.27060

Power of water



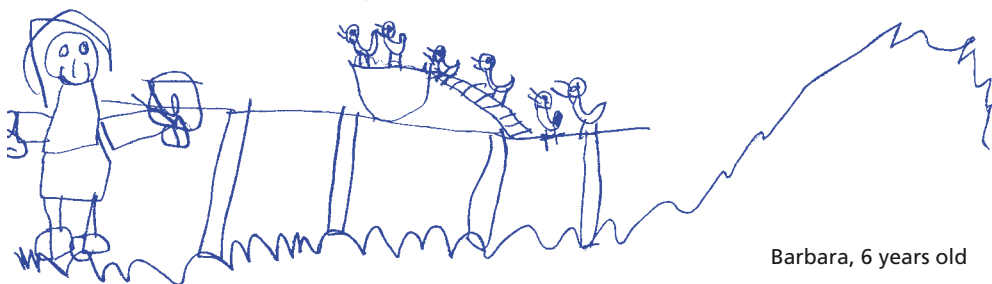
Experience water with children

Fairytales help children to understand something unconsciously or make something tangible. Water is alive. The fairy story says it is alive because mermaids, nymphs and other water creatures live there. The water is dead when the water creatures go away, e.g. when the element of water is too polluted.

We're going to a stream, a lake, a river or to the sea. At the waterside we'll look for a quiet, inviting place. If the waterside area is dirty then first we will clean it up. Then we will sit or kneel close to the water and draw circles and spirals with our fingers on the surface of the water. Then we'll splish and splash it lightly with the hand, so that the water splashes up a bit. Now that we have, so to speak, announced ourselves to the water creatures we'll stick our bare feet into the water. We could greet them by singing any song that we know about water.

We'll talk about why water gives us life and enjoy the coolness on our feet. Maybe we've brought along all kinds of nice things like coloured stones, shells, special sticks, leaves or coloured sand. But we can also look for things on the waterside that can be useful. We want to leave a secret message on the edge of the water to make the water creatures happy. Little by little a lovely picture grows on the earth, everyone puts something there and we also enjoy it. Afterwards we have a picnic and at the end we pour some of our juice into the water. Who knows, maybe water creatures would also like to try something other than water for a change?

Material: rubbish bags, natural material



Barbara, 6 years old





Order No. 5.15820 Mill Wheel of metal

Function and 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 medium 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

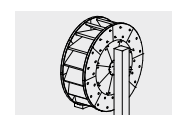
- unique by its original mill wheel design
- incentive for playing: recognition

Suitable

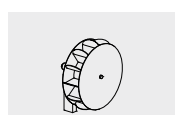
- for children from 3 years
- for all water play areas on playgrounds and adventure playgrounds



Mill Wheel of wood
Mill Wheel of metal

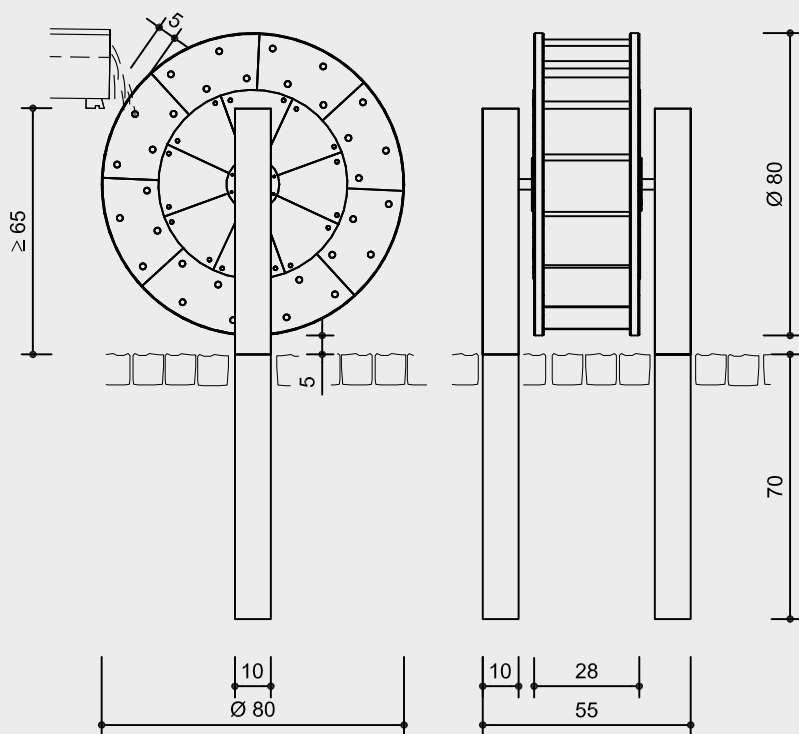


5.15810

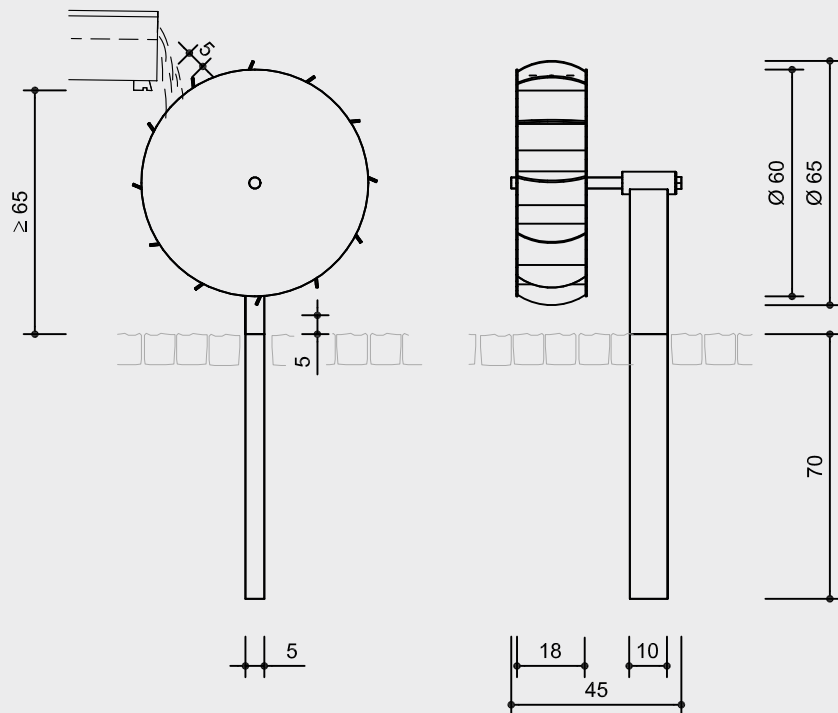


5.15820

Order No.
5.15810 Mill Wheel of wood

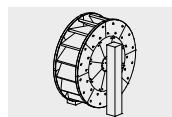


Order No.
5.15820 Mill Wheel of metal

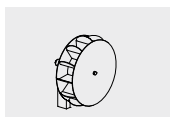


scale 1:20

Safety check according to EN 1176



5.15810



5.15820

Material

Order No. 5.15810 Mill Wheel

core-free timber

sawn-timbers of mountain larch, selected according to eight quality criteria, core-free, by that formation of cracks can be reduced, support posts made of oak heartwood 10/10 cm



ball bearing

low-maintenance, easily replaceable ball bearings made of stainless steel



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

shaft, hub and hoop of stainless steel

Dimensions

(small deviations possible)

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

Order No.

5.15820 Mill Wheel of metal

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

ball bearing

low-maintenance, easily replaceable ball bearings made of stainless steel



Dimensions

(small deviations possible)

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

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. 5.15810
Mill Wheel of wood**

1 item 50 x 90 x 50 cm, 70 cm deep

**Order No. 5.15820
Mill Wheel of metal**

1 item 50 x 50 x 50 cm, 70 cm deep

Attention:

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

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



Function and 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

Suitable

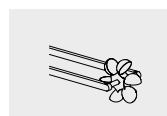
- for children from 3 years
- for all water play areas in playgrounds and adventure parks
- for hard landscapes
- for piazzas and other urban areas



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



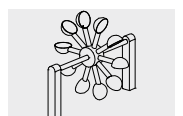
Order no. 5.15910 Small Bucket Wheel
for site foundations



5.15900



5.15910

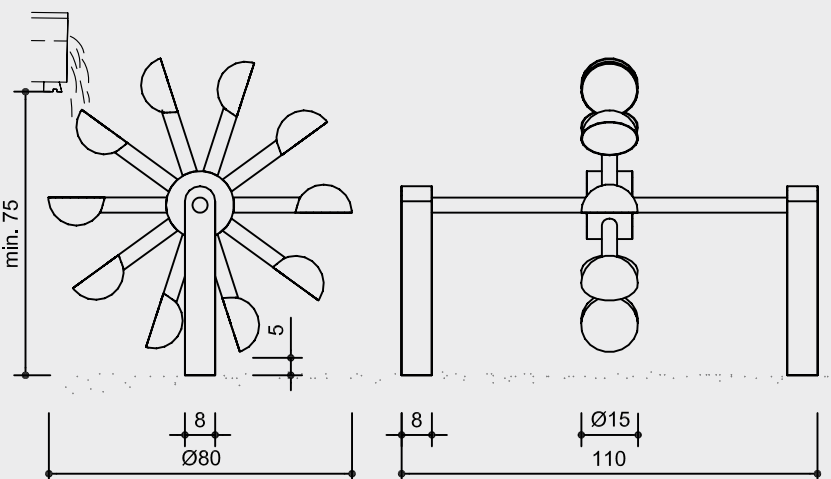
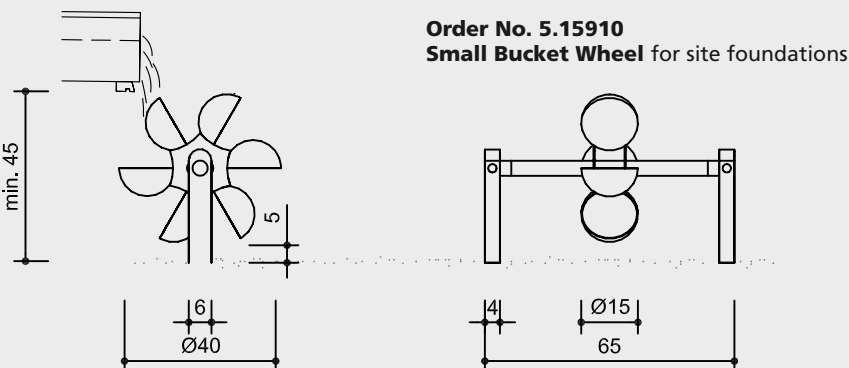
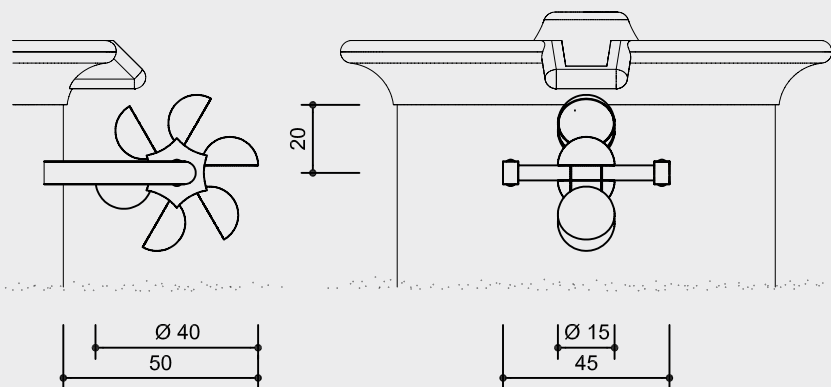


5.15920

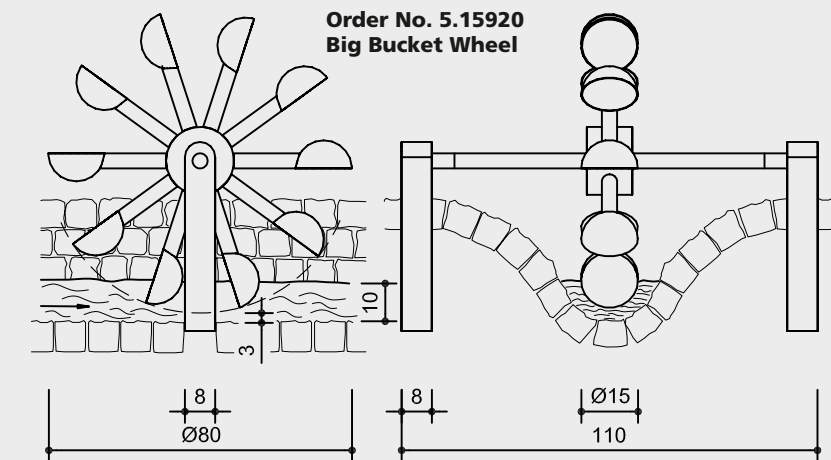
Order No. 5.15900

Small Bucket Wheel for concrete base

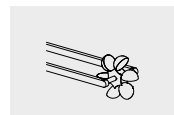
scale 1:20



Order No. 5.15920 Big Bucket Wheel



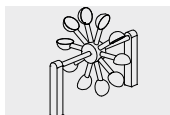
Safety check according to EN 1176



5.15900



5.15910



5.15920

Material

All equipment of stainless steel

thickness of metal sheet 3 mm

diameter of hemisphere 150 mm

ball bearing

low-maintenance, easily replaceable
ball bearings made of stainless steel



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 approx. 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 approx. 15 kg

Order No. 5.15920

Big Bucket Wheel
height 0.85 m
width 1.10 m
diameter of wheel 0.80 m
weight approx. 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, 70 cm deep

Order No. 5.15920

2 items 40 x 40 x 30 cm, 50 cm deep

Attention:

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

Technical changes reserved.

For use in chlorine water the equipment is also available with a special steel alloy.

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

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

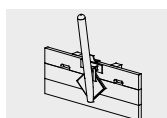
- different ways of damming and collecting water
- incentive for playing: technical appearance

Suitable

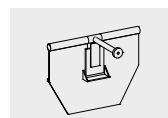
- for children from 3 years
- for all water play areas in playgrounds and adventure areas



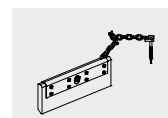
Dam of Wood
Water Flap
Damming Wedge (without picture)



5.20900

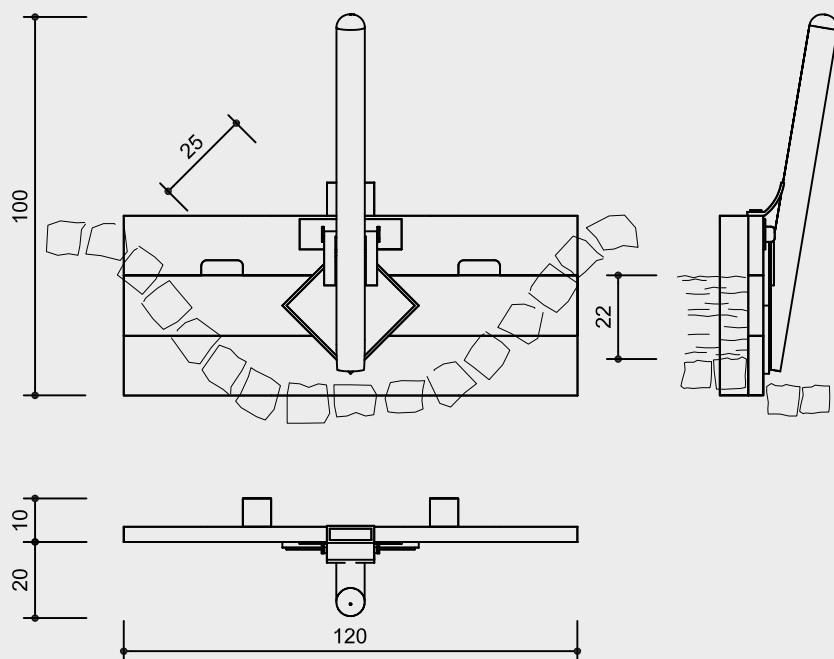


5.20905

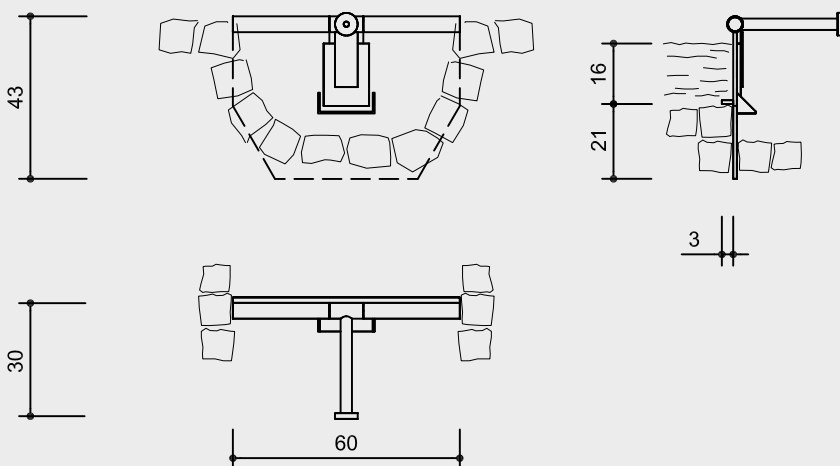


5.20910

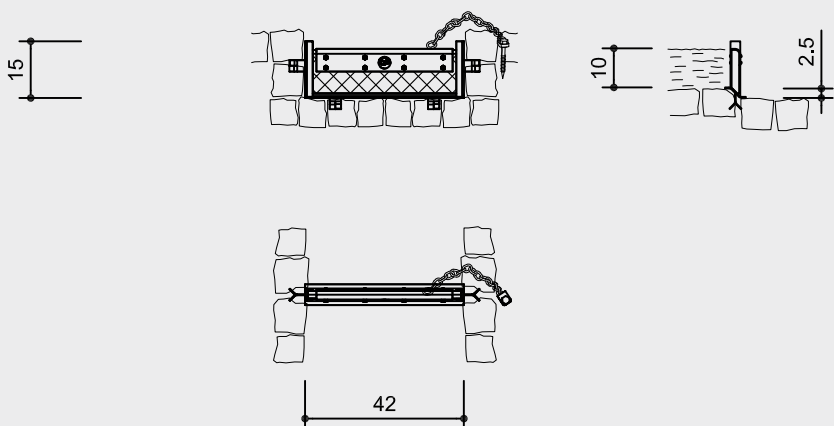
Order No. 5.20900 Dam of Wood



Order No. 5.20905 Water Flap

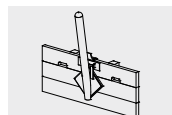


Order No. 5.20910 Damming Wedge

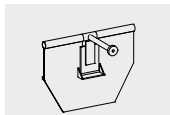


scale 1:20

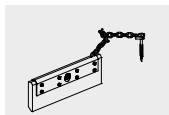
Safety check according to EN 1176



5.20900



5.20905



5.20910

Material

Order No. 5.20900 Dam of Wood

tongue and groove

plate of 45 mm tongue and groove
boarding, of mountain larch, selected
according to eight quality criteria



metal parts of stainless steel

seal of 10 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 approx. 27 kg

Material

Order No. 5.20905 Water Flap

basic construction of stainless steel

seal of 10 mm rubber plate

Dimensions

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

Material

Order No. 5.20910 Damming Wedge

damming wedge of industrial rubber,
holding device of stainless steel

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 approx. 0.10 m
weight approx. 3 kg

Components

1 part each
Damming Wedge 2 parts

Installation information

hard surface

Foundations depending on installation
situation; the Dam of Wood is bricked
in the channel and can be installed opti-
onally 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 chlorine water the equip-
ment is also available with a special
steel alloy.**

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



Order no. 5.20950 Ball Valve

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

Suitable

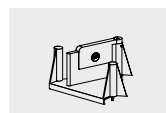
- for children from 3 years
- for all water play areas in playgrounds and adventure areas



**Water Switch
Lock Gate
Ball Valve**



Order No. 5.20907 Water Switch



5.20907

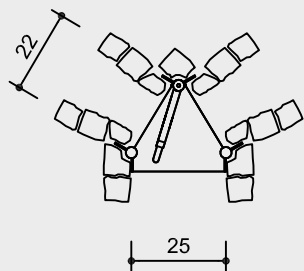


5.20930

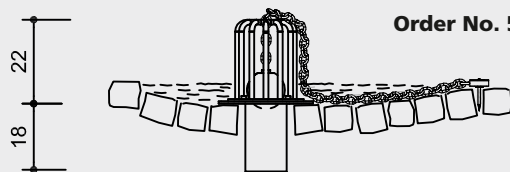
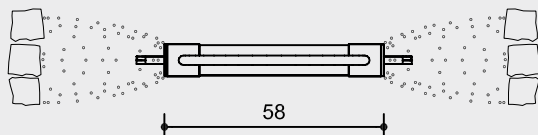
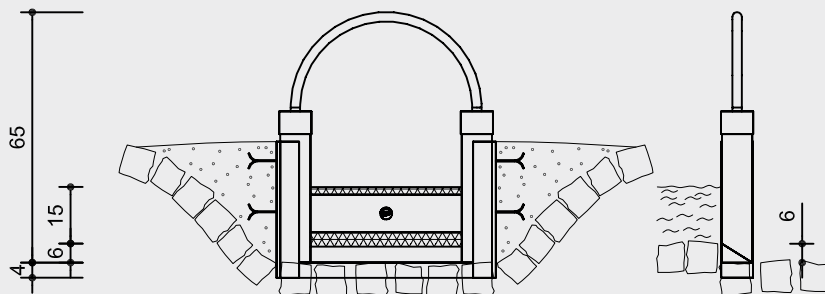


5.20950

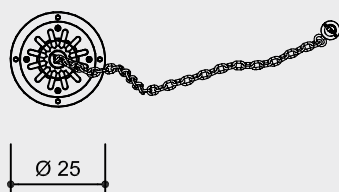
Order No. 5.20907 Water Switch



Order No. 5.20930 Lock Gate with installation frame



Order No. 5.20950 Ball Valve



scale 1:20

Safety check according to EN 1176



5.20907



5.20930



5.20950

Material

Order No. 5.20907 Water Switch

total construction of stainless steel
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 approx. 15 kg

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

all metal parts of stainless steel
seal of 20 mm rubber plate

Dimensions

(small deviations possible)

height 0.65 m
width 0.58 m
damming height 0.15 m
weight approx. 20 kg

Order No. 5.20950 Ball Valve

equipment of stainless steel
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 7 kg

Components

1 part each

Installation information

Reinforced surface

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).

Attention:

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

Technical changes reserved.

For use in chlorine water the equipment is also available with a special steel alloy.

Function and Play value

Water wheels are always an important component of a water play installation. To set objects in motion and make force visible is extremely attractive to children. Both versions are set in motion just by the weight of the water. The clearly visible and recognisable interconnection between cause and effect and the possibility of changing it is an invaluable learning experience.



Order No. 5.28010 Water Wheel with flying shovels

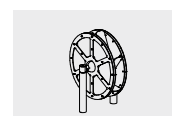


Order No. 5.28015 Millwheel – (colour deviations possible)

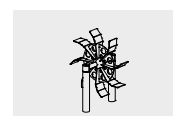
Suitable

- for small children's areas of public playgrounds, play areas situated near houses, kindergartens, children's homes
- for water play zones in all spaces for play and experiences

Millwheel Water Wheel

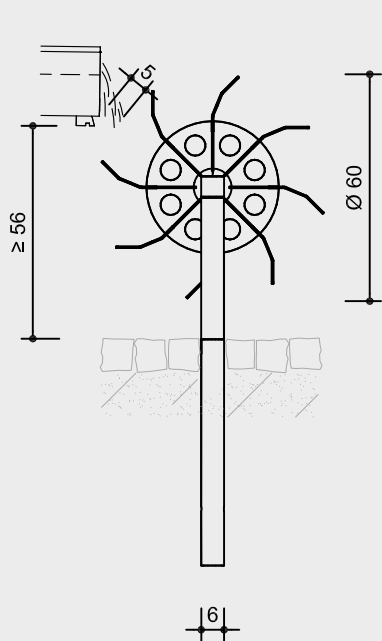


5.28015

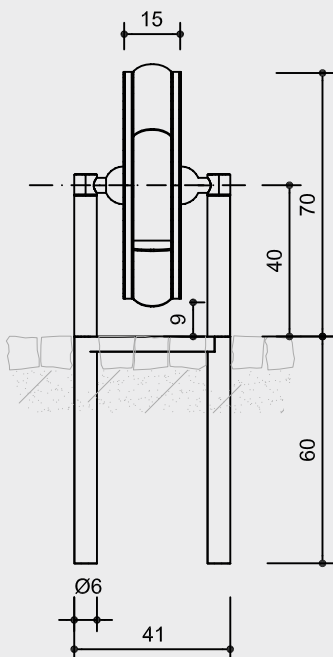
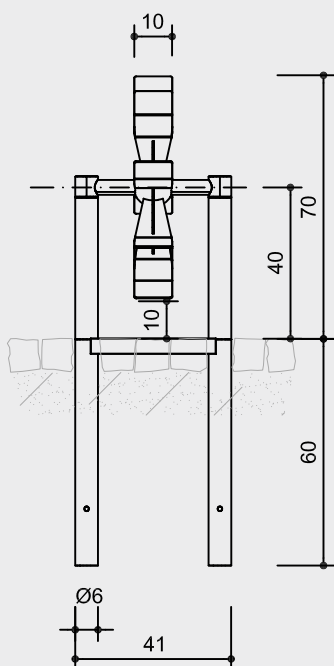
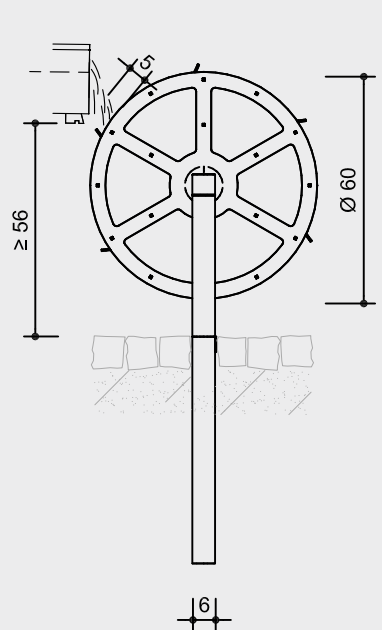


5.28010

Order No. 5.28010 Water Wheel with flying shovels



Order No. 5.28015 Millwheel



scale 1:20

Material

Order No. 5.28010 Water Wheel

waterwheel made of glass-bead blasted stainless steel

ball bearing

low-maintenance, easily replaceable ball bearings made of stainless steel, sealed



Dimensions

(small deviations possible)

height	0.70 m
width	0.41 m
wheel diameter	0.60 m
weight	approx. 20 kg

Order No. 5.28015 Millwheel

mill wheel made of glass-bead blasted stainless steel

side panels made of impact-resistant, coloured-through, PUR plastic parts (light brown or as desired)

ball bearing

low-maintenance, easily replaceable ball bearings made of stainless steel, sealed



Dimensions

(small deviations possible)

height	0.70 m
width	0.41 m
wheel diameter	0.60 m
weight	approx. 55 kg

Components

1 part each

Installation information

Surfacing requirements
Recommendation: sand with drainage and pavement with gully and corresponding landscaping.

The wheels are made for overshot operation. The required minimum height difference can be seen in the drawing. For undershot operation, the water wheel 5.28010 can be provided with an additional water supply.

All equipment can be easily installed into any artificial watercourse.

If winter conditions require, the wheels can be disassembled by simply loosening two bolts, leaving only the frame in the "creek bed".

Foundations
1 item each 50 x 80 x 40 cm
excavation depth 60 cm

Attention!

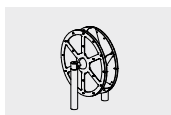
Exact measurements may vary, for all installation dimensions refer to current installation instructions.

We reserve the right to make technical alterations!

Safety check according to EN 1176



5.28010



5.28015

For more detailed explanation of the quality characteristics see pricelist.

Function and 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.

Suitable

- for small children's areas of public playgrounds, play areas situated near houses, kindergartens
- for all water play areas



Order No. 5.28040 River Fork



Order No. 5.28031 Bar Gate
Order No. 5.28020 Horizontal Millwheel

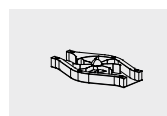


Order No. 5.28045 Canal Lock

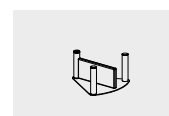
**Canal Lock
River Fork
Horizontal Millwheel**

Planning information

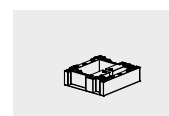
Plan a step of approx. 15 cm in front of and behind the millwheel; the water should meet the wheel in surges to ensure it turns in a satisfactory way.



5.28020

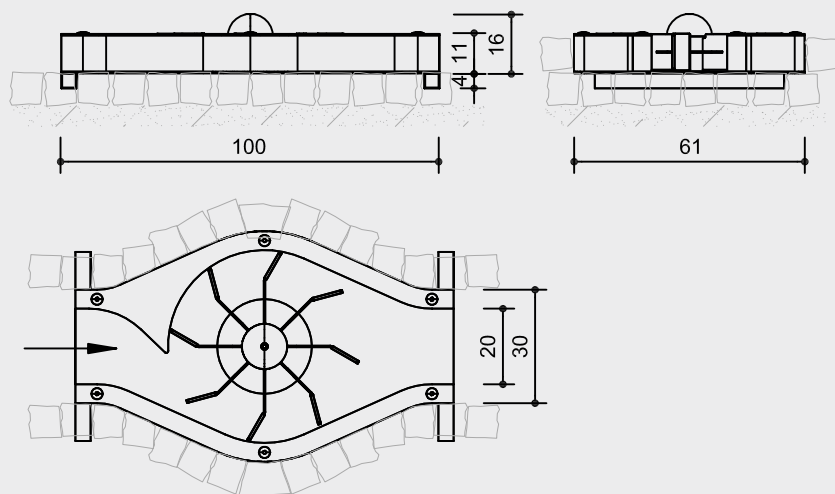


5.28040



5.28045

**Order No. 5.28020
Horizontal Millwheel**



Material

**Order No. 5.28020
Horizontal Millwheel**

millwheel made of glass-bead blasted stainless steel

ball bearing

low-maintenance, easily replaceable ball bearings made of stainless steel



structure made of stainless steel and impact-resistant, coloured-through, castor oil-based BIO-PUR plastic parts (black or as desired)

Dimensions

(small deviations possible)

height	0.16 m
length	1.00 m
width	0.61 m
weight	approx. 47 kg

Order No. 5.28040 River Fork

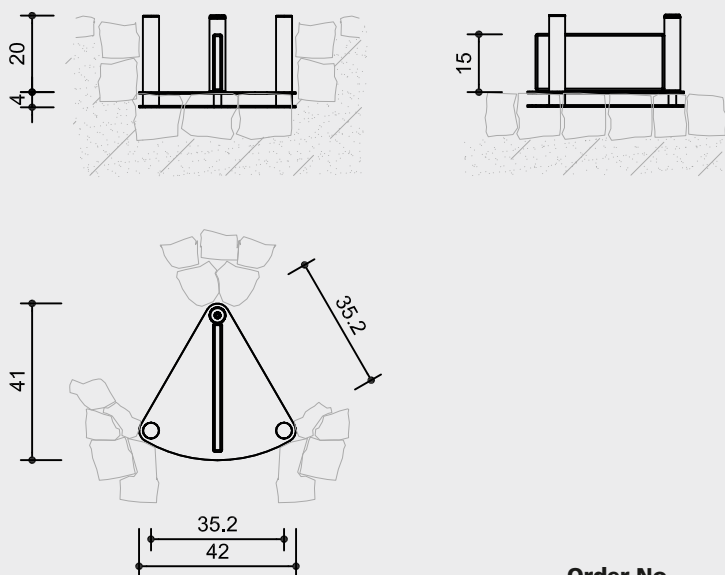
total construction made of stainless steel and impact-resistant, coloured-through PUR plastic parts (light brown or as desired)

Dimensions

(small deviations possible)

height	0.20 m
width	0.42 m
damming height	0.15 m
weight	approx. 11 kg

**Order No. 5.28040
River Fork**



Order No. 5.28045 Canal Lock

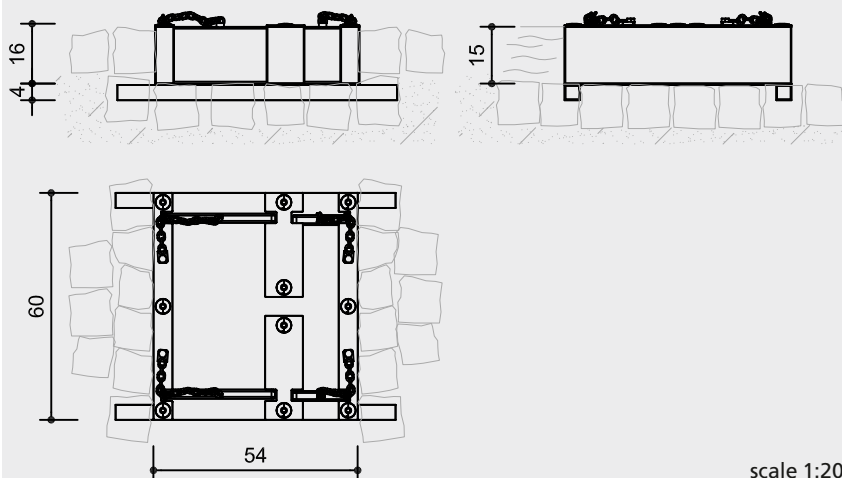
total construction made of stainless steel and impact-resistant, coloured-through, castor oil-based BIO-PUR plastic parts (body), black or as desired; gates made of PUR plastic parts, (light brown or as desired)

Dimensions

(small deviations possible)

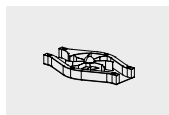
height	0.16 m
width	0.54 m
damming height	0.15 m
weight	approx. 42 kg

Order No. 5.28045 Canal Lock

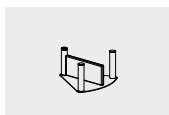


scale 1:20

Safety check according to EN 1176



5.28020



5.28040



5.28045

Components

1 part each

Installation information

Surfacing requirements
Recommendation: sand with drainage and pavement with gully and corresponding landscaping.

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.
We reserve the right to make technical alterations!

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



Function and 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 medium water. They are able to experience how a dam works and can observe how the water builds up.

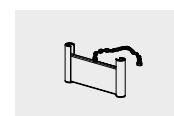
Suitable

- for small children's areas of public playgrounds, play areas situated near houses, kindergartens, children's homes
- for water play zones in all spaces for play and experiences

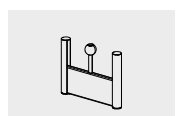


Order No. 5.28030 Board Gate

Bar Gate
Board Gate

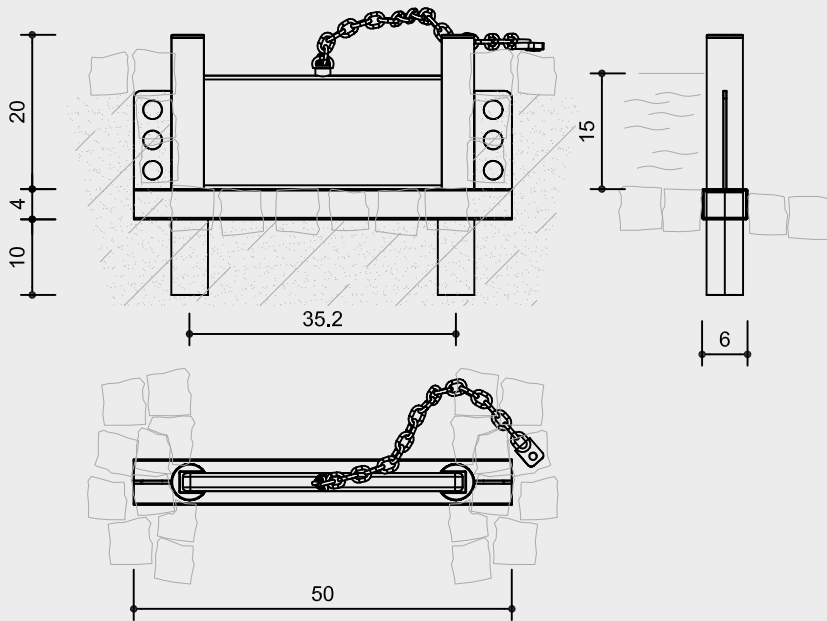


5.28030

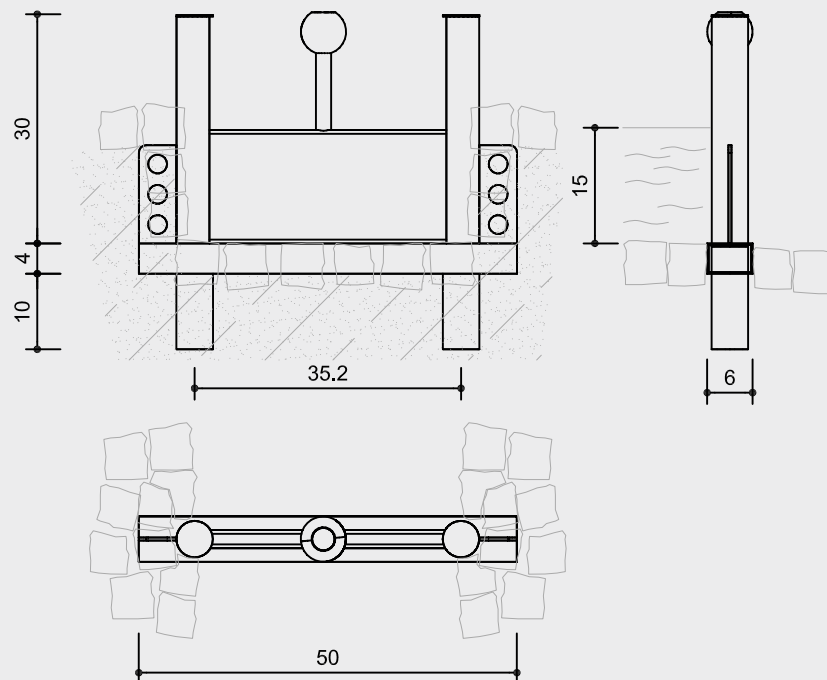


5.28031

Order No. 5.28030 Board Gate



Order No. 5.28031 Bar Gate



scale 1:10

Material

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 (light brown or as desired)

Dimensions

(small deviations possible)

height	0.15 m
width	0.50 m
damming height	0.15 m
weight	approx. 7 kg

Material

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 (light brown or as desired)

Dimensions

(small deviations possible)

height	0.30 m
width	0.50 m
damming height	0.15 m
weight	approx. 7 kg

Components

1 part each

Installation information

Surfacing requirements
Recommendation: sand with drainage and pavement with gully and corresponding landscaping.

All equipment can be easily installed into any artificial watercourse.

Foundations according to installation situation.

Attention!

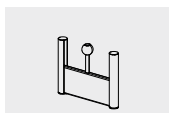
Exact measurements may vary, for all installation dimensions refer to current installation instructions.

We reserve the right to make technical alterations!

Safety check according to EN 1176



5.28030



5.28031

Function and 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.

Suitable

- for small children's areas of public playgrounds, play areas situated near houses, kindergartens, children's homes
- for water play zones in all spaces for play and experiences



Order No. 5.28032 Sickle Gate

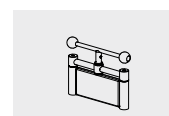


Order No. 5.28035 Rotating Gate

**Rotating Gate
Sickle Gate**



Order No. 5.28032 Sickle Gate

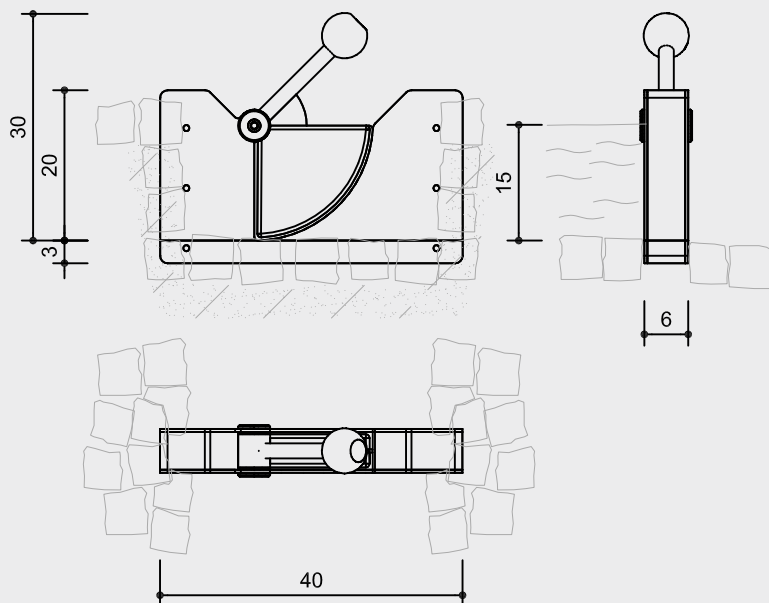


5.28035

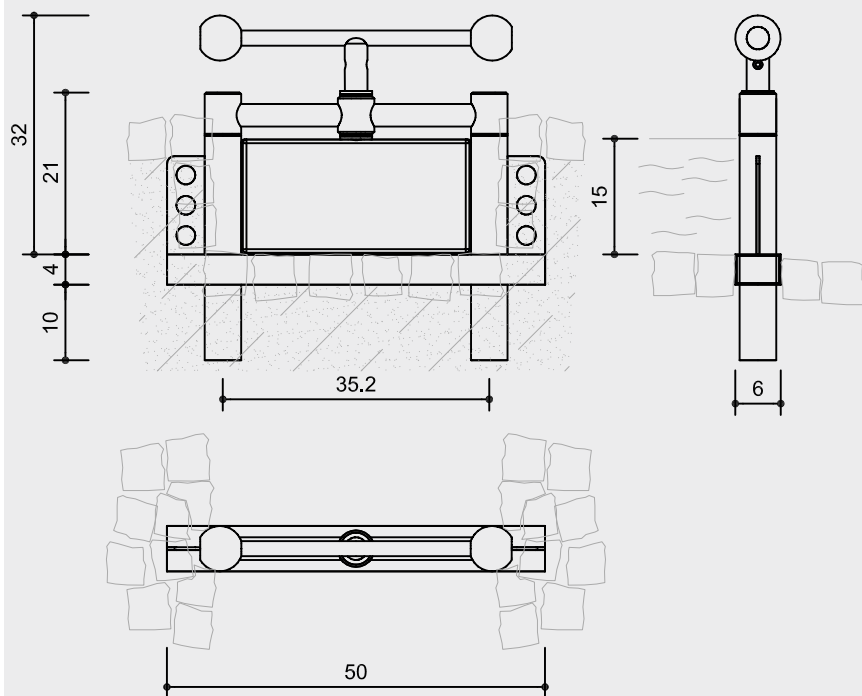


5.28032

Order No. 5.28032 Sickle Gate



Order No. 5.28035 Rotating Gate

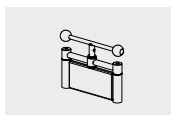


scale 1:10

Safety check according to EN 1176



5.28032



5.28035

Material

Order No. 5.28032 Sickle 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 (light brown or as desired)

body of Sickle Gate as before, but with BIO-PUR plastic parts based on castor oil (black or as desired)

Dimensions

(small deviations possible)

height	0.30 m
width	0.40 m
damming height	0.15 m
weight	approx. 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 (light brown or as desired)

body of Rotating Gate as before, but with BIO-PUR plastic parts based on castor oil (black or as desired)

Dimensions

(small deviations possible)

height	0.32 m
width	0.50 m
damming height	0.15 m
weight	approx. 9 kg

Components

1 part each

Installation information

Surfacing requirements
Recommendation: sand with drainage and pavement with gully and corresponding landscaping.

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.
We reserve the right to make technical alterations!

Function and 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.

Suitable

- for small children's areas of public playgrounds, play areas situated near houses, kindergartens, children's homes
- for water play zones in all spaces for play and experiences



Order No. 5.28032 Sickle Gate

Order No. 5.28033 Round Flap



Order No. 5.28034 Rectangular Flap

**Rectangular Flap
Round Flap**



Order No. 5.28033 Round Flap

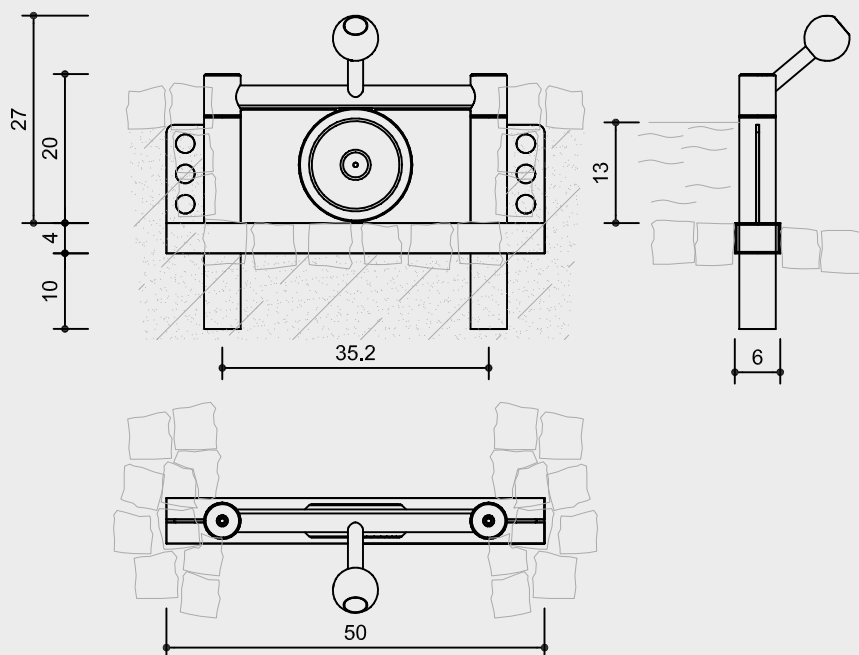


5.28033

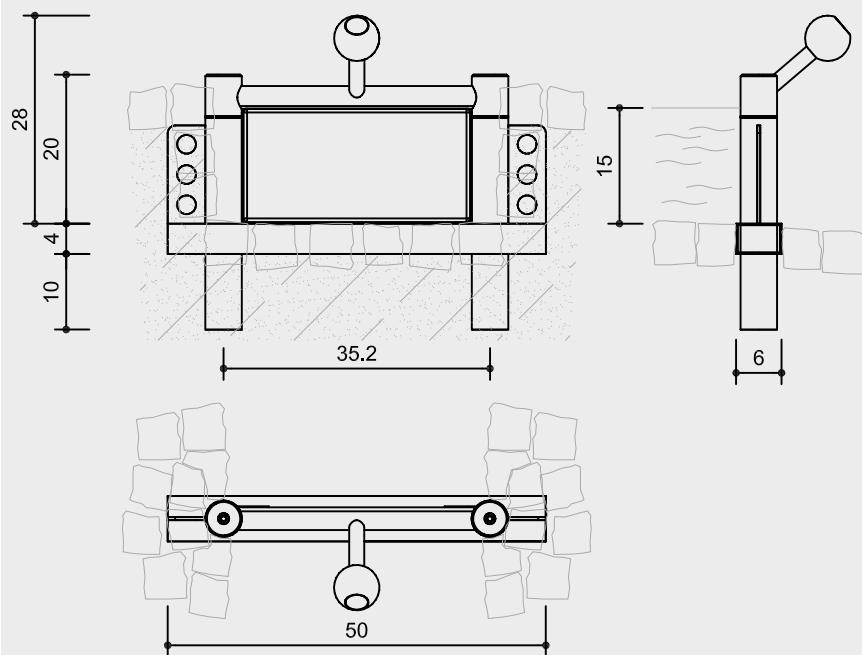


5.28034

Order No. 5.28033
Round Flap



Order No. 5.28034
Rectangular Flap



scale 1:10

Material

Order No. 5.28033 Round Flap

rotating frame made of glass-bead
blasted stainless steel

ball bearing

low-maintenance, easily replaceable ball
bearings made of stainless steel, sealed



flaps and ball heads made of impact-
resistant, coloured-through PUR plastic
parts (light brown or as desired)

Dimensions

(small deviations possible)

height	0.27 m
width	0.50 m
damping height	0.13 m
weight	approx. 9 kg

Material

Order No. 5.28034 Rectangular Flap

rotating frame made of glass-bead
blasted stainless steel

ball bearing

low-maintenance, easily replaceable
ball bearings made of stainless steel,
sealed



flaps and ball heads made of impact-
resistant, coloured-through PUR plastic
parts (light brown or as desired)

Dimensions

(small deviations possible)

height	0.28 m
width	0.50 m
damping height	0.15 m
weight	approx. 9 kg

Components

1 part each

Installation information

Surfacing requirements
Recommendation: sand with drainage
and pavement with gully and
corresponding landscaping.

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.**

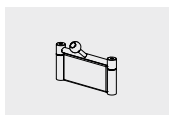
We reserve the right to make technical
alterations!

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

Safety check according to EN 1176



5.28033



5.28034



Order No. 5.41030 Flow Table with pointed end on one side

Function and 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 for 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

Suitable

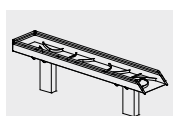
- for children from 5 years
- for water play areas of
 - playgrounds
 - leisure parks
 - big water play installations
 - open air swimming pools



Flow Table

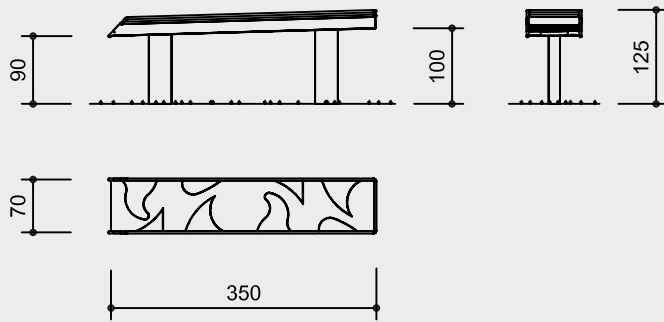


This picture shows Order No. 5.41020 with additional inlet flap.

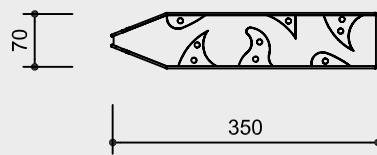


5.41020/5.41030

Order No. 5.41020 Flow Table



Order No. 5.41030 Flow Table with pointed end on one side



scale 1:100

Material

Total equipment made of stainless steel

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

Dimensions

(small deviations possible)

equipment height	1.25 m
length	3.50 m
width	0.70 m
weight approx.	160 kg

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.

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
no fall height according to standard
We recommend pavement or a similar
surface with a runoff for water.

Foundations
2 items 50 x 70 x 50 cm, 70 cm deep

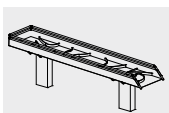
The supporting feet are also available
with anchor plates for fastening by
means of dowels. In this case we need
to know the required length of the feet
before.

Attention:

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

Technical changes reserved.

**For use in chlorine water the equip-
ment is also available with a special
steel alloy.**



5.41020/5.41030

Water conducting elements



Experience water with children

Children want to know lots of things. Sometimes adults can't answer because they do not know themselves. It's fun to collect questions about water and look for the answers together. Maybe small and big people together can write the questions and answers in a "water book" and draw some nice pictures to go with it. Here are some children's questions: child's play?

- After an excursion where everyone got very wet by a sudden rainstorm. The smallest one shakes the droplets out of his hair and asks: "Why does water fall from the sky anyway?"
- Whilst swimming in the sea a little girl licks her lips. Astonished she asks: "Why is sea water salty?"
- During a hike through the mountain forests the five year old Tom has something to say about everything: "And there, the moss is leaky" "Why does the water come out?"
- Morag stands on a stool and bathes her doll in the wash basin. After lots of taps on, taps off, she asked thoughtfully: "What's the water doing in the tap anyway, Mummy?"



Stefan, 3 years old

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. If required, the elements can be supplied with longer posts and thus can be installed in different heights. 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.



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

Suitable

- for children from 3 years
- for all water play areas

Basic elements of wood for water playgrounds



5.10100 - 5.15600



Integrative play

Playing with water is a favourite play offer for almost all children. Therefore, water play installations are very well suited for integrative play areas. The wooden water play elements with their easily comprehensible damming and distribution devices and the wide tables are an harmonious offer for children with different needs. The wooden gutters and tables can be installed in a way that also wheelchair bound children can play with them. Thus children with different abilities can play together. The overall planning should take into consideration the special surface requirements for wheelchair users.



5.10100 - 5.15600



Water

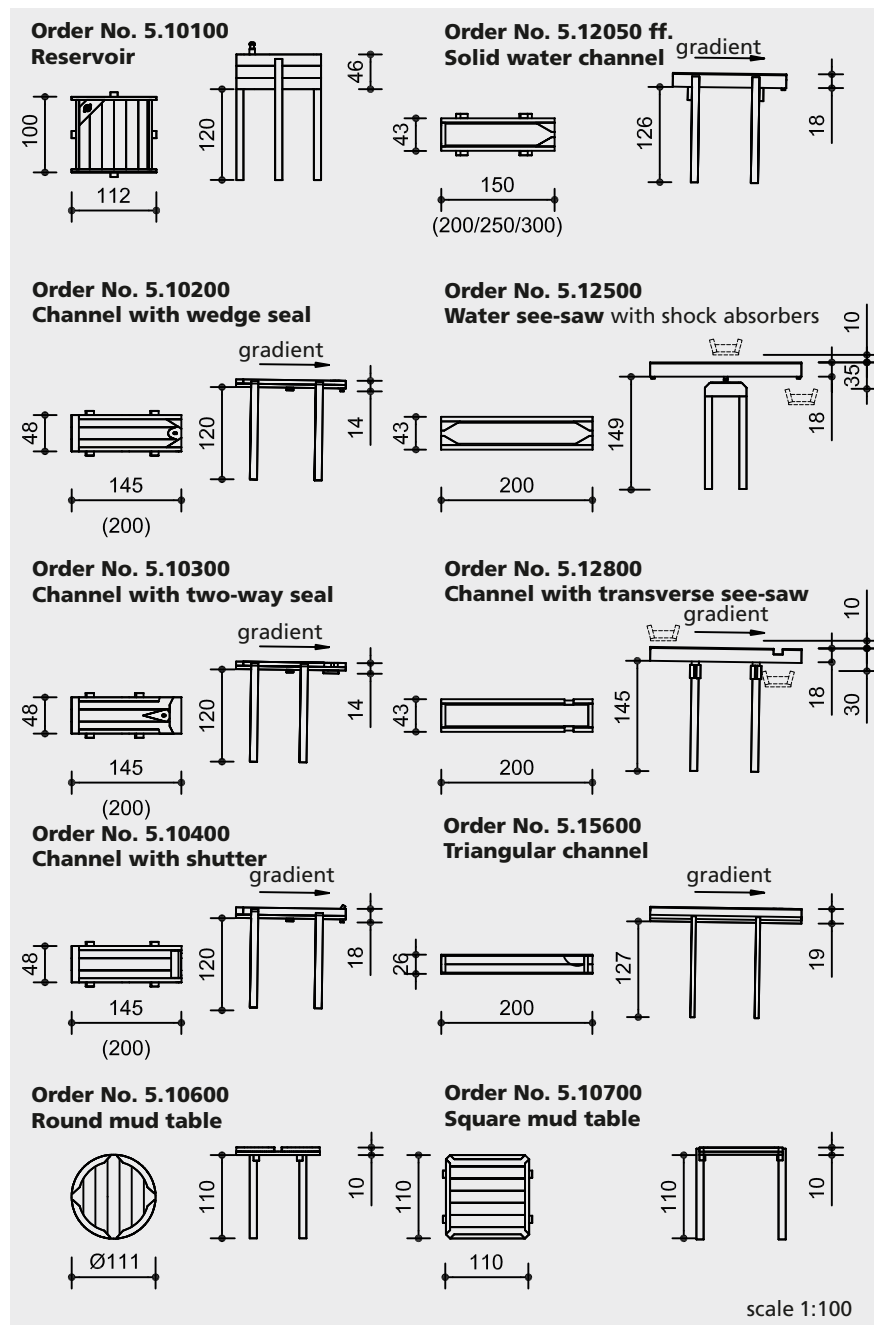
The play value of water play equipment is invaluable. Contact with the elements is part of the child's complete development. Feeling water, letting water flow, diverting it, damming it, letting it trickle away, and experiencing water power is all part of early experience. This all contributes to fun experiences and is a further step towards mastering the child environment.



**Basic elements of wood
for water playgrounds**



5.10100 - 5.15600



Safety check according to EN 1176

Components

1 element
 with the corresponding number of
 support posts each



5.10100 - 5.15600

Installation information

Surfacing requirements
 no fall height according to standard,
 staircase-like constructions may make ne-
 cessary 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 installa-
 tion, excavation depth 70 cm each.

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

Materials

core-free timber

equipment of mountain larch, selected
 according to eight quality criteria,
 core-free, by that formation of cracks
 can be reduced



tongue and groove

all surfaces of 40 mm tongue and
 groove boarding, except solid chan-
 nels; in water-conducting elements, the
 boards are additionally sealed



support posts made of oak heartwood
 10/10 cm

Solid channels

Order No. 5.12050, 5.12500, 5.12800
 floor plates 10/30 cm

Dimensions

(small deviations possible)

see sketches
 weight approx. 40 - 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). Longer support posts
 can be supplied on request.

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

For more detailed explanation of the
 quality characteristics see price list

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.



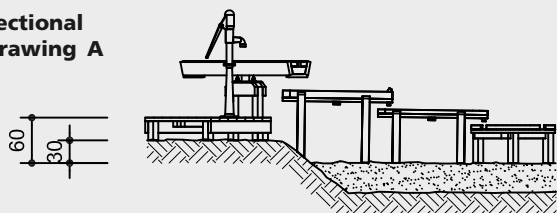
**Basic elements of wood
for water playgrounds**



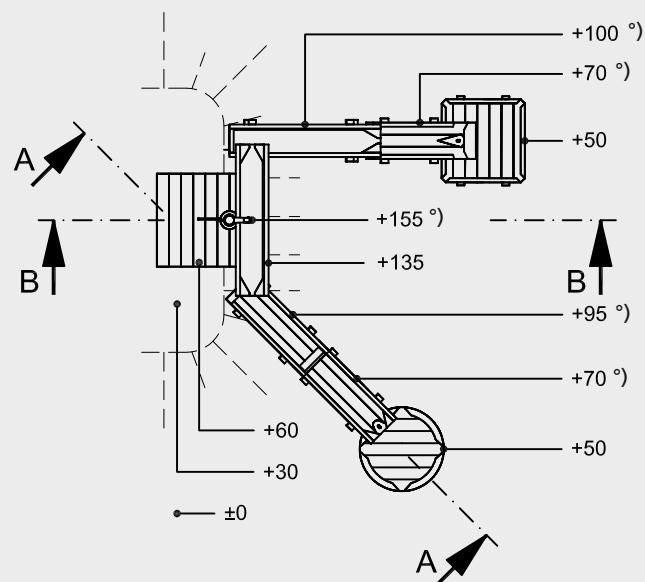
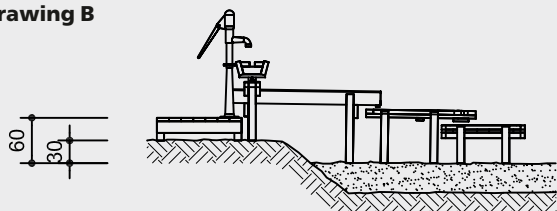
5.10100 - 5.15600

Planning Example

sectional
drawing A



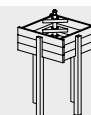
sectional
drawing B



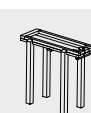
scale 1:100

In this planning example extended posts (surcharge) are required for the gutters marked with °). The hill can also be formed afterwards.

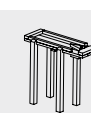
Order No. 5.10100
is usually allocated to pump, with bung for sealing;
height difference 50 cm *



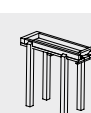
Order No. 5.10200
can be used as water play table;
height difference 17 cm *



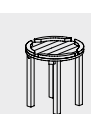
Order No. 5.10300
can be used as water play table and as distributor channel;
height difference 17 cm *



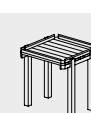
Order No. 5.10400
can be used as water play table;
height difference 21 cm *



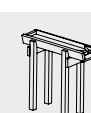
Order No. 5.10600
is mostly used as final element of a water way,
4 outlets;
height difference 18 cm *



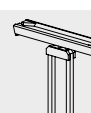
Order No. 5.10700
is mostly used as final element of a water way,
4 outlets;
height difference 18 cm *



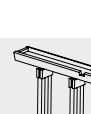
Order No. 5.12050
basic element of this equipment group available up to 3 m length;
height difference 25 to 28 cm *



Order No. 5.12500
two-way distributor with sturdy, buffered mechanism which also withstands see-sawing of children;
height difference 65 cm * to bottom, 15 cm * to top (see side view)



Order No. 5.12800
transverse distributor on rubber buffers;
height difference 30 cm * to bottom, 10 cm * to top (see side view)



Order No. 5.15600
standard length 2.00 m, but can also be delivered shorter;
height difference 24 cm *



*
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.



5.10100 - 5.15600



Pedestal for Pump Order No. 5.14190



Play value

The Water Flooders remind one of water spouts and gullies. Due to their deep form, they hold a large quantity of water. When a child pumps energetically, swell, flood and the fast flowing of water can all be experienced.

Fundamental characteristics

- design with technical appearance
- incentive for playing: deep form
- movement: motor activities, physical effort

Suitable

- for children from 3 years
- for all water play areas

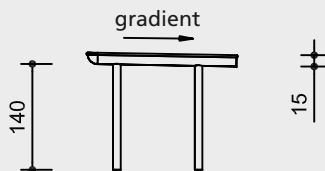
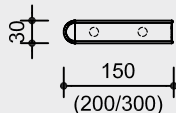


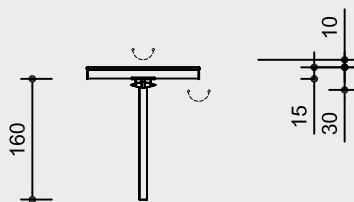
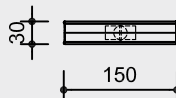
Water Play Elements of Metal

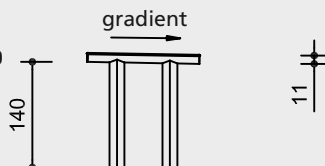
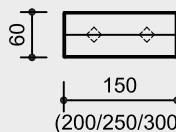


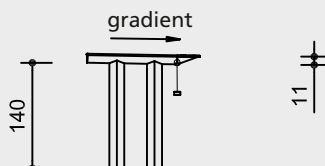
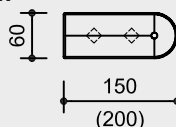
5.13500 - 5.14800

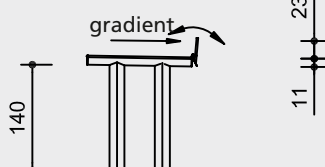
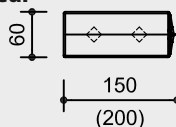
Order No. 5.13000/5.13050/5.13070
Water Flooder

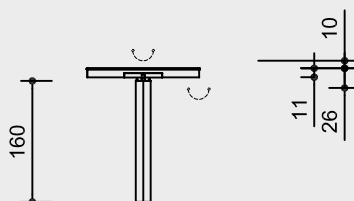
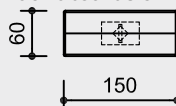
height difference
minimum 24 cm *

Order No. 5.13500
See-saw Flooder

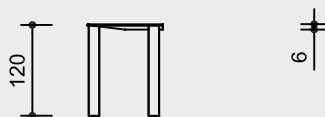
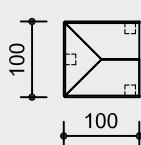
height difference
downwards
minimum 55 cm *
upwards
minimum 15 cm *

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

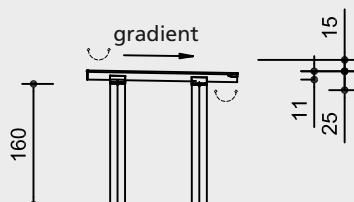
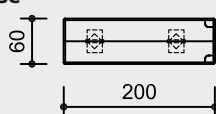
height difference
minimum
14 - 16 cm *

Order No. 5.14200 ff.
Water Tray with Ball Shutter

height difference
minimum 14 cm *

Order No. 5.14400/5.14450
Water Tray with 1 Seal
5.14403/5.14453
with 2 Seals

height difference
minimum 14 cm *

Order No. 5.14520
See-saw Basin with shock absorbers

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

Material

Equipment of stainless steel metal sheet, thickness 2 mm, with grip-friendly rim

brass bush

see-saw elements mounted on brass bushes, with rubber buffers; for all to and fro movements we use bush bearings which allow for self-lubrication while in use



shutters:

for Order No. 5.14200

polyamide ball, diameter 80 mm,

for Order No. 5.14400

shutter with rubber seal, shuts by the weight of the handle

Dimensions
deviations possible
Order No. 5.13000, length 1.50 m

Order No. 5.13050, length 2.00 m

Order No. 5.13500, length 1.50 m

support posts Ø 100 mm;

weight approx. 41 - 46 kg

Order No. 5.14050/5.14060/5.14070

length 1.50 m/2.00 m/2.50 m

support posts 120 x 120 mm;

weight approx. 46 - 64 kg

Order No. 5.14200/5.14400/5.14520

length each 1.50 m

support posts 120 x 120 mm;

weight approx. 35 - 56 kg

Order No. 5.14700

exterior dimensions 1.00 x 1.00 m

support posts 120 x 120 mm;

weight approx. 51 kg

Order No. 5.14800

length 2.00 m

support posts 120 x 120 mm;

weight approx. 58 kg

Components

1 water play element

including the corresponding number of support posts for putting on

Planning information

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

*** The minimum height difference is the required distance from one element to the next one. For see-saw equipment the indicated measurements need to be kept to for a proper function.**

Safety check according to EN 1176



5.13000 - 5.14800

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



Water Trays

This nicely shaped water play system made from stainless steel can be designed in many versions using different elements which can be assembled in relation to their location. Similar to our wooden water play installations, there are also available static and mobile water trays, as well as various flaps and water dishes.

Fundamental characteristics

- high-quality design
- incentive for playing: wide trays, sparkling light, shutter
- movement: motor activities, physical effort

Suitable

- for children from 3 years
- for all water play areas



Water Play Elements of Metal



5.13000 - 5.14800



Design

The water dishes are particularly suited to link bank zones and water areas so that the qualities of both areas become useable as a whole. The gently shaped flat dishes 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 make an inviting play offer to children. Water Trays and Water Flooders can be combined.



Water Play Elements of Metal

Installation information

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

Recommendation: An ideal installation situation is in a sand surface 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 and foundations according to overall installation.

Foundation depth 70 cm each

Attention:

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

Technical changes reserved.

For use in chlorine water the equipment is also available with a special steel alloy.



5.13000 - 5.14800



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

Suitable

- for children from 3 years
- for all water play areas



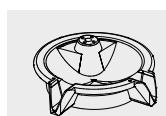
Order No. 5.17510 Top of Playground Pump

Water Play Elements of Concrete

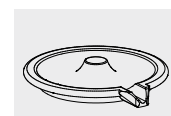
Round Reservoir
Round Water Basin
Pedestal Pipe



Order No. 5.15900 Small Bucket Wheel for Concrete Base
Order No. 5.15950 Concrete Base for Small Bucket Wheel
Order No. 5.18005 Mushroom Pump for Concrete Basins



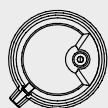
5.22000 - 5.22100



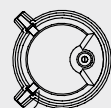
5.24000 - 5.24400



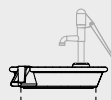
5.24520 - 5.24580



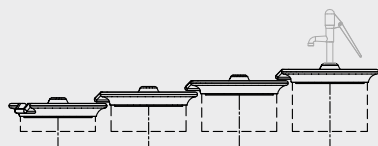
**Order No. 5.22000 ff.
Round Reservoirs
with 1 or 2 openings**



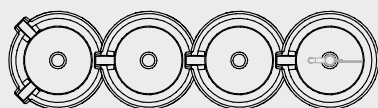
Ø 130



**Order No. 5.24000 ff.
Round Water Basins**

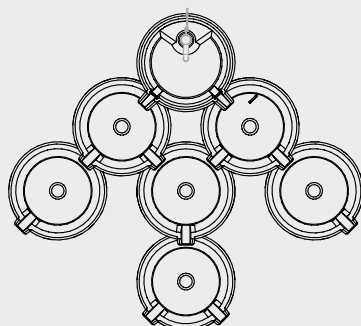


120 120 120



143

**Planning example with
different concrete basins**



scale 1:100

Material

Each dish is cast as 1 part of vibrated concrete C 30/37

locking elements of the reservoirs of vulcanised rubber on hot-dip galvanised chain

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	0.16 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

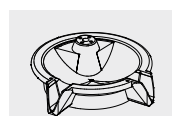
outside diameter	1.00 m
height	0.80 m
weight	590 kg

Safety check according to EN 1176

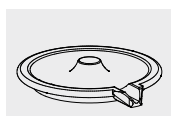
Components	Order No.	Installation information
1 Round Reservoir with pump connection and 2 openings	5.22000	Surfacing requirements no fall height according to standard; staircase-like constructions may make an examination of the fall height necessary
1 Round Reservoir as before, with 1 opening	5.22100	
1 Round Water Basin with 1 opening	5.24000	Recommendation: sand with drainage or paving stone with gully; for playing with „mud“, sand is required.
1 Round Water Basin as before, with pump connection	5.24200	
1 Round Water Basin with 2 openings	5.24300	Required space and foundations according to overall installation.
1 Round Water Basin as before, with pump connection	5.24400	For getting the required height difference, 1 pedestal pipe per basin is needed
1 Pedestal Pipe height 20 - 80 cm	5.24520 - 5.24580	Order No. 5.24520 - 5.24580 on concrete foundation

Attention:

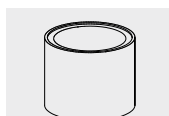
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.



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 solid oak timber 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.

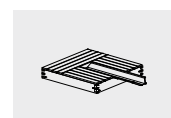
AQuadrat®

Fundamental characteristics

- high-quality design
- unusual seats
- modular system

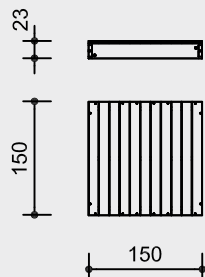
Suitable

- for children from 3 years
- for public playgrounds
- urban play areas
- leisure parks
- open-air swimming pools
- tourism centres

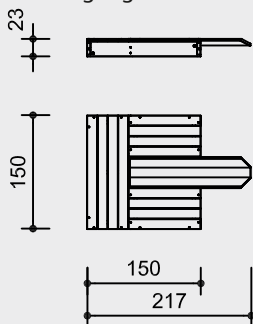


5.51000 - 5.53400

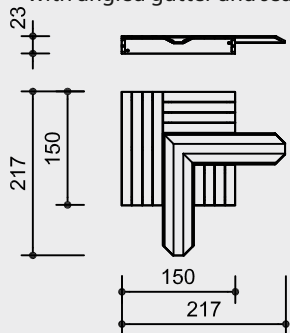
Order No. 5.53000 AQuadrat®



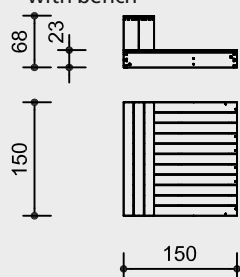
Order No. 5.51000 AQuadrat®
with straight gutter



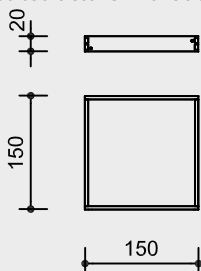
Order No. 5.52000 AQuadrat®
with angled gutter and seal



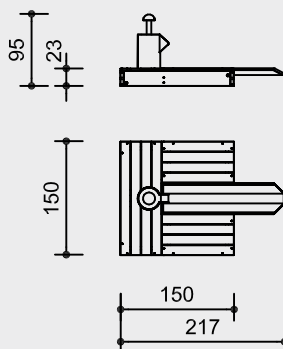
Order No. 5.53100 AQuadrat®
with bench



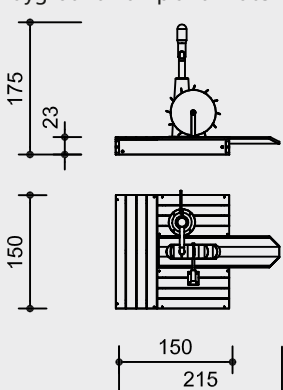
Order No. 5.53010 AQuadrat®
substructure without feet



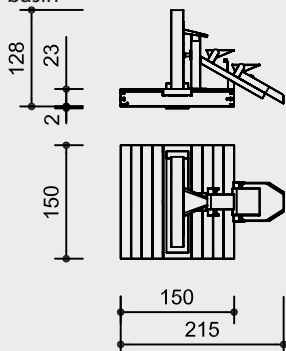
Order No. 5.51010 AQuadrat®
with straight gutter and Mushroom Pump



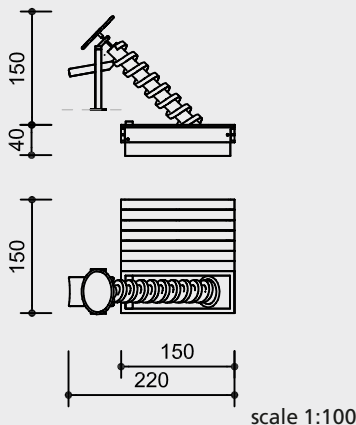
Order No. 5.53200 AQuadrat®
with Playground Pump and Water Wheel



Order No. 5.53300 AQuadrat®
with scooping wheel and see-saw basin



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



scale 1:100

Material

pedestals

modular system in high-quality, superior construction of solid oak timber

core-free timber

sawn-timbers are core-free, measurements refer to wood before planing

ground anchor

steel feet hot-dip galvanised

with dovetail jointed corners

gutters of stainless steel

functional elements of stainless steel and industrial rubber

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 corresponding landscaping.

Foundations per corner
1 item 50 x 50 x 50 cm, 70 cm deep

Attention:

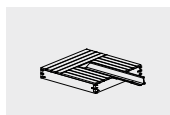
Exact measurements may vary, for all installation dimensions refer to current installation instructions.

Technical changes reserved.



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

Safety check according to EN 1176



5.51000 - 5.53400

Water supply



Experience water with children

Imagine that you are water.

I am water, water droplets, small but really big. Who pushes me from the deep; upwards, upwards until I reach the light.

Now we are in the stream, I am the stream. I bubble in the moss, I jump between the stones. Briskly running, whirling, glugging, flowing. Along, along I run in the bed between the stones. I sing clearly and ring out above the stone steps. My rush is stronger in the narrow valley. I have to go downwards, further, further, I tumble down. I fall. Flying, foaming. I am the spray, I dance around in a whirl.

Now we're in the river, I am the river, I flow. I spread myself out, I become wider, I flood the plains. How deep I am, how green, how blue! The sky is in me, the clouds move over my face. I give life! Plants and animals, people. I carry light and weight. I am the carrier of everything, whether I want to or not. The wind is my brother, he blows, and Mother Earth holds me with her strength. I flood, I flow. Streaming, strong and swift. I gently spread into the floodplains. Flowing on, wider, further. I flood the land. Islands in me. Fed by many tributaries, I am everywhere, flowing, called by the sea.

Now I'm in the sea, I am the sea. Yes, throw me into the sky, plunge into the abyss. I am foam and waves; for the sun I am a mirror. Hot. Longing, the sun lures me. Hot I spread myself out. I become light. I become vapour. I move upwards. There we are, clouds float in the sky. I am water, water droplets, small but actually really big. Cold, colder. We're moving away. We are falling down. Rain in the mountains.



Sandra, 6 years old

Play value

When water is required for playing, a stream is normally the most beautiful source. However, it is very rare to find this natural possibility within a play area. Nevertheless, one does not want to do without running water - even if it only comes from a tap! However, much more attractive is a water pump with swipe where the pump operation is part of the play value. Such an old-fashioned pump reminds one of a farm, a fairytale or an old market square. Therefore, it is not only an item for water supply, but also triggers role-play activities.

Fundamental characteristics

- very sturdy construction
- special design
- incentive for playing: pump swipe
- movement: physical effort

Suitable

- for children from 3 years
- for all water play areas



Order No. 5.17500 Playground Pump



Order No. 5.17500 Playground Pump
Order No. 5.19000 Pump Pedestal made of wood

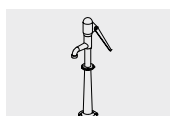


Order No. 5.17630 Playground Pump
for direct connection to the pressure line

Playground Pumps Pump Pedestals Foundation Anchor



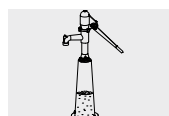
5.14190



5.17500



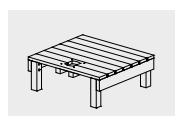
5.17630



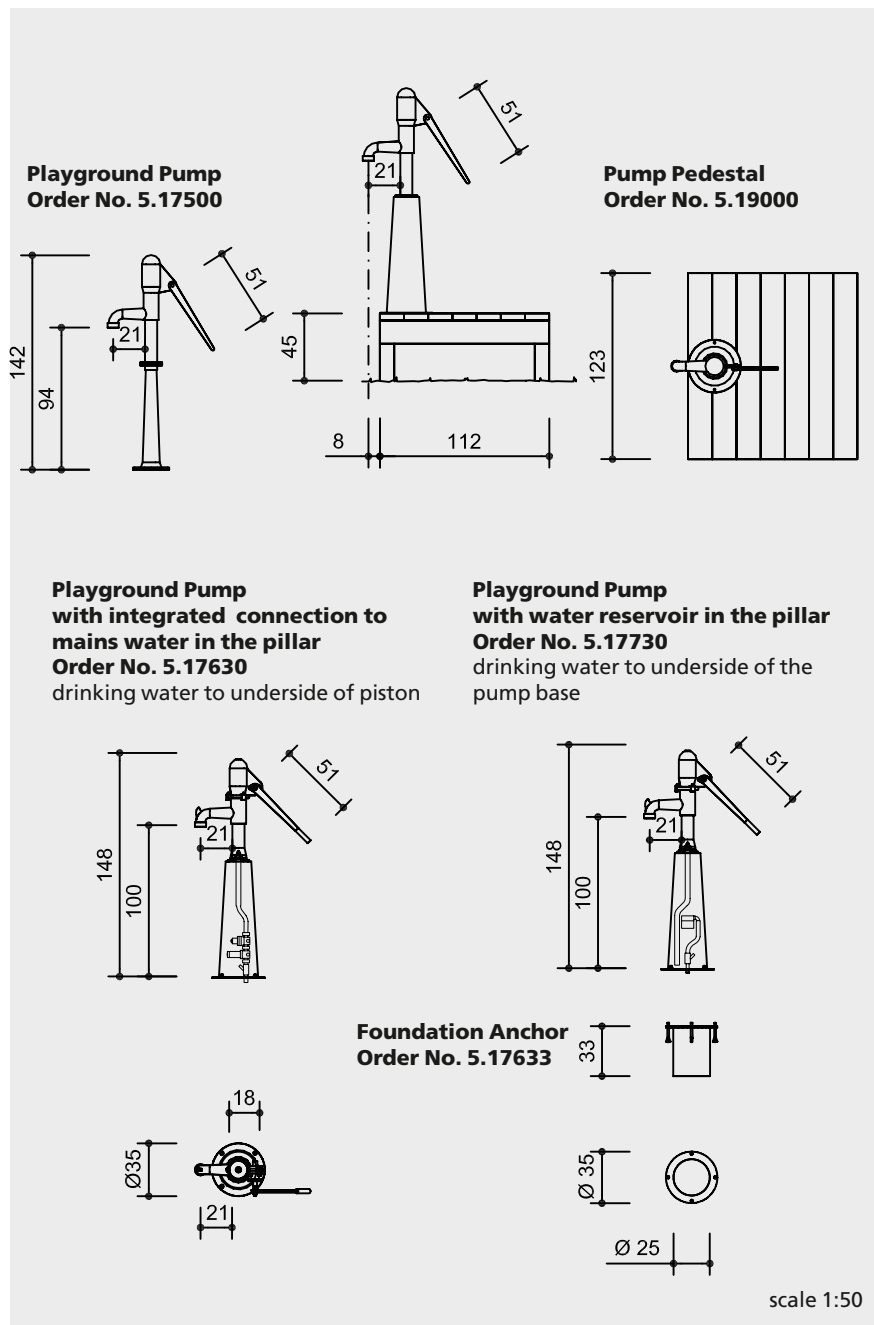
5.17730



5.17633



5.19000



Safety check according to EN 1176

Components

Order No. 5.17500

1 playground pump

Pumps for direct connection to mains water: No underground well required for function. German registered design no. 202005009318.1.

Order No. 5.17630

1 Playground Pump with integrated connection to mains water in the pillar

Order No. 5.17730

1 Playground Pump with water reservoir in the pillar

Order No. 5.17633

1 Foundation Anchor for Pumps

Installation information

Surfacing requirements corresponding to a fall height of < 0,60 m (please refer to pricelist for more detailed information)

Foundations

Order No. 5.19000

4 items 50 x 50 x 50 cm, 70 cm deep

Order No. 5.14190

4 items 40 x 40 x 50 cm, 70 cm deep

Attention:

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

Technical changes reserved.

Material

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 (PE); drive shaft with shaft recess made of stainless steel, with replaceable bearing made of brass alloy, additionally held fixed with the gland flange using the shaft recess; secured against being extracted by means of a recess; newly developed drive shaft bearing made of brass alloy which can be lubricated by means of lubricating nipples; pump capacity: bore 75 mm, pump lift 170 mm, approx. 0,75 litres/lift

Order No. 5.17630

Pump as before; the valve combination for direct connection to mains water is integrated in the galvanised pillar; thread 1"; min. 2,5 bar water pressure

Order No. 5.17730

Pump as before; the water reservoir with float valve is integrated in the galvanised pillar; min. 2,5 bar water pressure; 1/2" thread

Order No. 5.19000 Pump Pedestal

core-free

equipment of mountain larch, selected according to eight quality criteria, core-free, by that formation of cracks can be reduced



Order No. 5.17633

Foundation Anchor for Order No. 5.17630 and 5.17730

foundation anchor of galvanised steel

Order No. 5.14190 Pump Pedestal

made of stainless steel

Dimensions

(small deviations possible)

Order No. 5.17500/5.17630/5.17730

equipment height 1.42 m
width with horizontal pump swipe 0.95 m
weight approx. 40/50 kg

Order No. 5.17633

Foundation Anchor

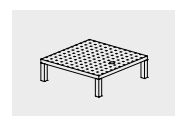
height 0.33 m
diameter 0.35 m
weight approx. 7.5 kg

Order No. 5.19000 Pump Pedestal

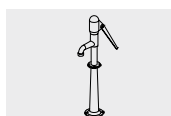
width 1.23 m
depth 1.12 m
max. height 0.45 m
weight approx. 80 kg

Order No. 5.14190 Pump Pedestal

width 1.00 m
depth 1.00 m
max. height 0.45 m
weight approx. 65 kg



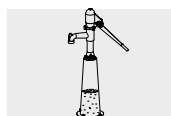
5.17500



5.17630



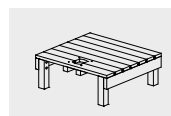
5.17730



5.17633



5.19000



5.14190

Function and Play value

Even small children can operate our new 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.

Suitable

- for small children's areas of:
 - public playgrounds, play areas
 - situated near houses, kindergartens,
 - children's homes
- for water play zones in all spaces for play and experiences



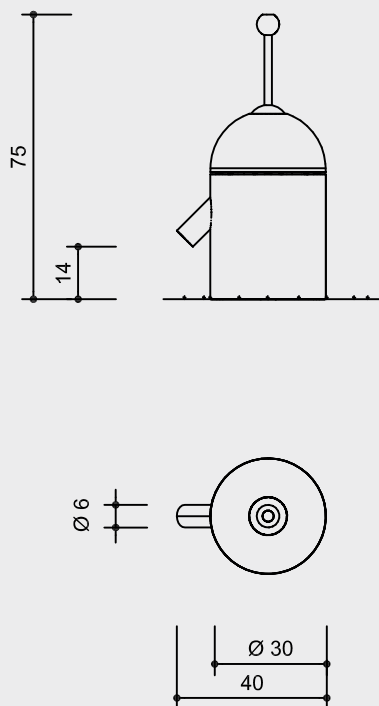
Lever Pump

Planning information

The length of the run-out tube can be customised to suit individual requirements.



5.28000



scale 1:20

Material

total construction of stainless steel

ball bearing

low-maintenance, easily replaceable
ball bearings made of stainless steel,
sealed



the ball head is made of impact-resistant, coloured-through, PUR plastic parts (light brown or as desired)

enclosed pump with water valve for direct connection to mains water (3/4", max. 10 bar)

pump capacity and pump swipe resistance infinitely adjustable, max. 20 l per stroke

pump swipe position rules out risk of jamming

Dimensions

(small deviations possible)

height	0.75 m
total width	0.40 m
diameter	0.30 m
run-out tube	Ø 0.06 m
weight	approx. 35 kg

Safety check according to EN 1176

Components

1 lever pump

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. The opening can be closed with a winter lid (optional).

Attention!

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

We reserve the right to make technical alterations!

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



5.28000



Function and Play value

The well designed Mushroom Spring 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 60 seconds or earlier (time is adjustable). Due to its agreeable design, the Mushroom Spring can also be used in less natural play surroundings.

Fundamental characteristics

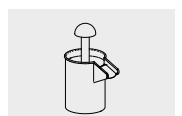
- high-quality design
- automatic water stop
- unique and original
- incentive for playing: hemisphere, water
- movement: physical effort

Suitable

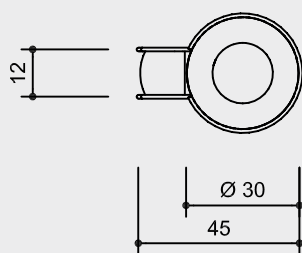
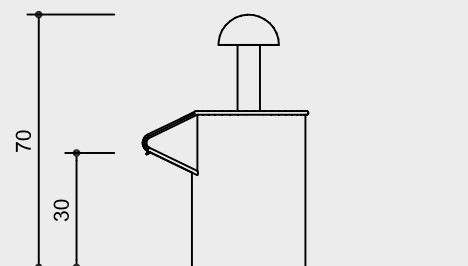
- for children from 3 years
- for all water play areas



Mushroom Spring
Mushroom Spring for Concrete Basins



5.18000/5.18005



scale 1:20

Material

Mushroom Spring completely of stainless steel with self-righting pressure valve

Dimensions

(small deviations possible)

equipment height	0.70 m
diameter	0.30 m
weight approx.	22 kg

Safety check according to EN 1176

Components

1 Mushroom Spring

Installation information

Surfacing requirements
no fall height according to standard
recommendation: paving stone or similar
with gully.

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

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 Spring needs to be connected directly to the mains water.

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.

Attention:

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

Technical changes reserved.

For use in chlorine water the equipment is also available with a special steel alloy.



5.18000/5.18005

Function and Play value

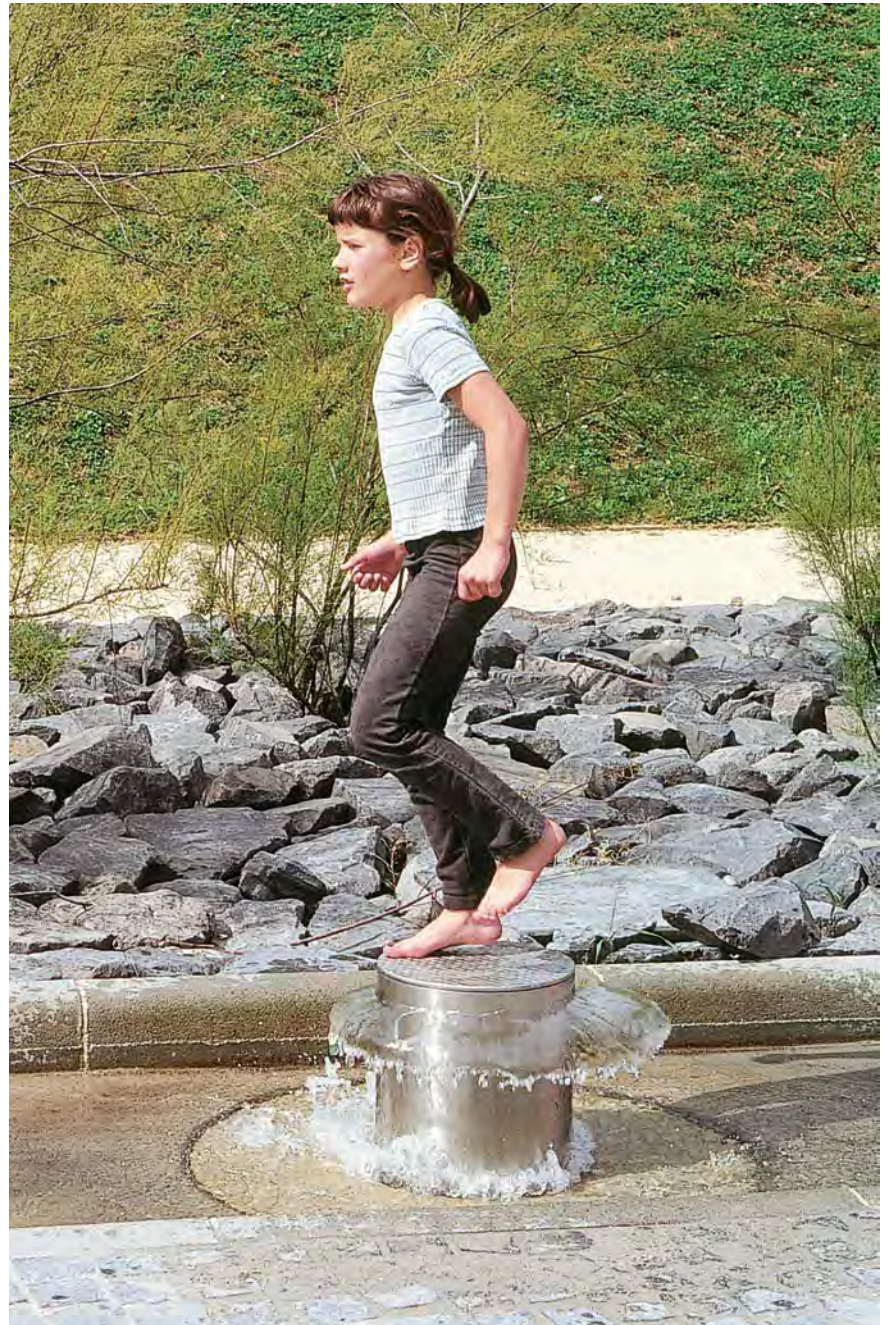
By standing, jumping up and down or shifting one's weight, water is coming out from the metal cylinder. When a certain balance is achieved, the water gets the shape of a „mushroom“. The opportunity of creating a nicely shaped, regular water cap by one's own movement is motivating and gives satisfaction. 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

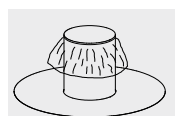
- combination of water supply and shaping of water
- unique and original
- incentive for playing: gleaming metal surface, curiosity
- movement: jumping, shifting one's weight

Suitable

- for children from 6 years
- for all water play areas

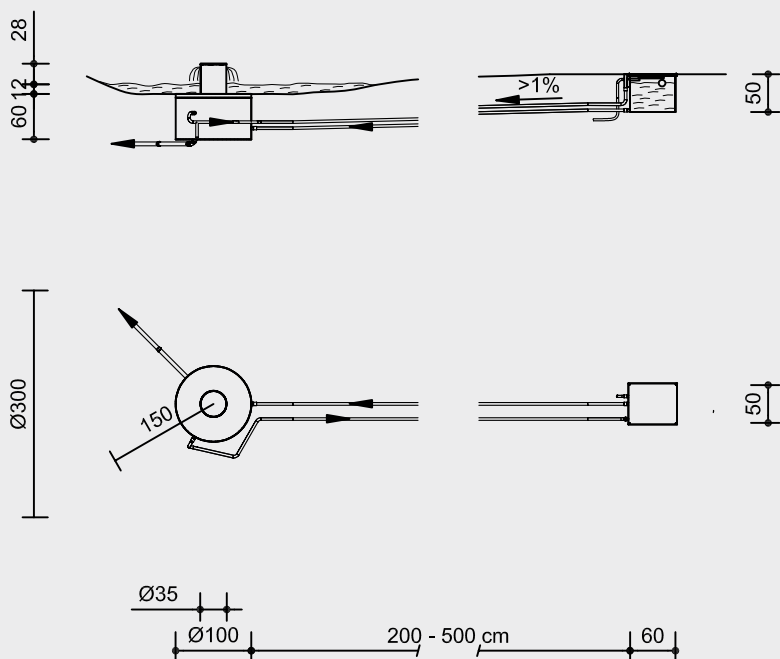


Mushroom Fountain



5.25500

Planning Example: Mushroom Fountain in a Water Basin



scale 1:100

Safety check according to EN 1176

Components

- 1 Mushroom Pump pre-assembled in concrete housing with summer lid
- 1 winter lid
- 1 water reservoir

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
Ø 1.50 m, depth 0.60 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.

Attention:

Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
For use in chlorine water the equipment is also available with a special steel alloy.

Material

cylinder of stainless steel

standing plate of textured metal with circular opening

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" 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.

water output up to 40 litres per minute

both lids of concrete,
summer lid with rubber seal

water reservoir of stainless steel

connection to the pressure line,
diameter of thread 1",
water supply 3/4", pressure 4 bar

Dimensions

(small deviations possible)

standing plate

diameter 0.35 m
height 0.40 m

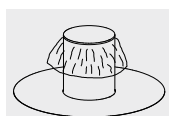
concrete housing

diameter 1.00 m
height 0.60 m
= installation depth

water reservoir with floating valve

length 0.60 m
width 0.50 m
depth 0.50 m
connection 1"

total weight approx. 800 kg



5.25500

Function

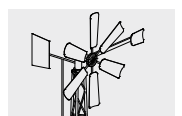
The six-sailed wheel of the windmill is supported by a triangular pylon. This is covered over on the lower part so that climbing-up is prevented. The membrane pump is positioned where it can be seen, its function recognizable, at a height of approx. 0.5 m. This is connected to the wind wheel with a rod and begins to work at the slightest wind speed. The wheel aligns itself using the vane according to the wind direction and turns successively away from the wind when the wind strength increases using the second vane which is attached lower down. In this way the windmill is not



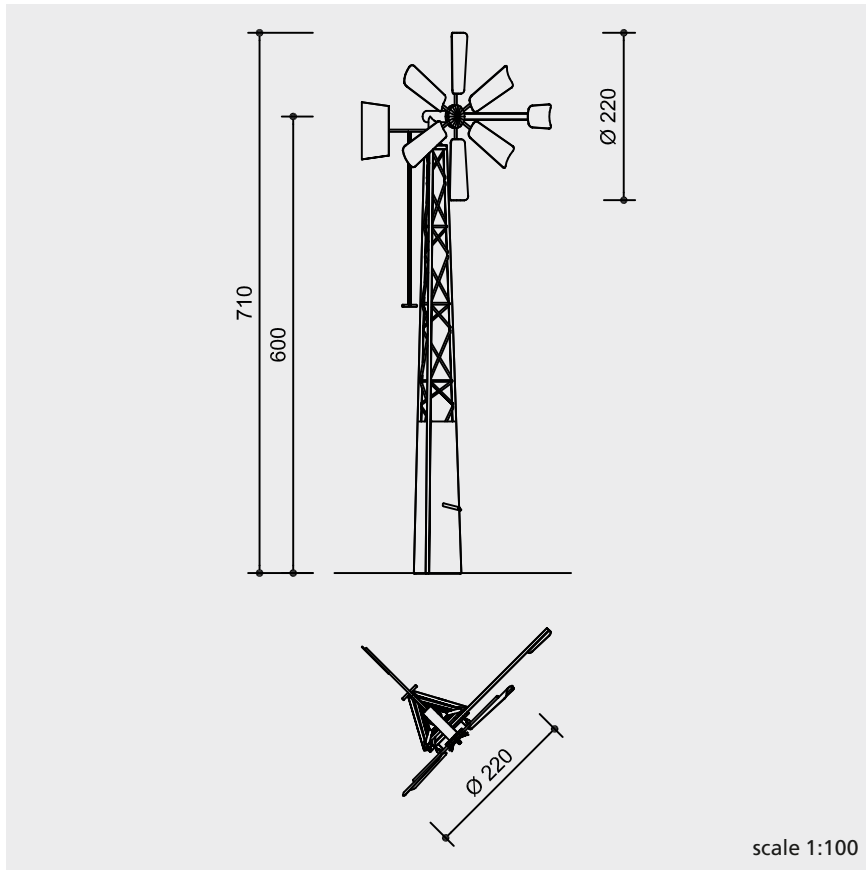
Wind Mill

active during storms and not in too much danger. It can be shut down manually to provide additional safety.

The rather technical appearance of the windmill can be adjusted (for an additional charge) according to the local design using coloured sails. This then transforms the installation into a sign, distinguishable from afar, that there is something special going on.



5.18900



Material

Three-legged freestanding lattice pylon made of galvanised steel

Anti-climber and sails made from stainless steel

Diaphragm pump:
water output up to 3000 litre/hour
suction lift 7 m
suction connection 1 1/4 inch)

Dimensions

(small deviations possible)

total height 7.10 m
mast height 6.00 m

other sizes on request

diameter of the sails 2.20 m

total weight: approx. 800 kg

Safety check according to EN 1176

Components

- 1 windmill
- 1 foundation frame with joints for easy assembly

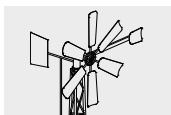
Installation information

Surfacing requirements
no requirements

Foundations
1 item 100 x 100 x 100 cm, 120 cm deep
The water supply as well as the conduction of the delivered water to a gutter, a basin or the like needs careful planning.

Water supply
self-sucking from on-site, pressure-less water storage container

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



Working with sand and water





Play value

For small children who still need their parents or a carer close by, the sand pit is an ideal play area. The leaf-shaped back wall, which provides wind and sight protection, has holes in it which invite you to look through. The area in front can be used as a seating or playing area.

Fundamental characteristics

- child-oriented dimensions
- appealing design and construction
- natural wooden surface which appeals to the senses

Suitable

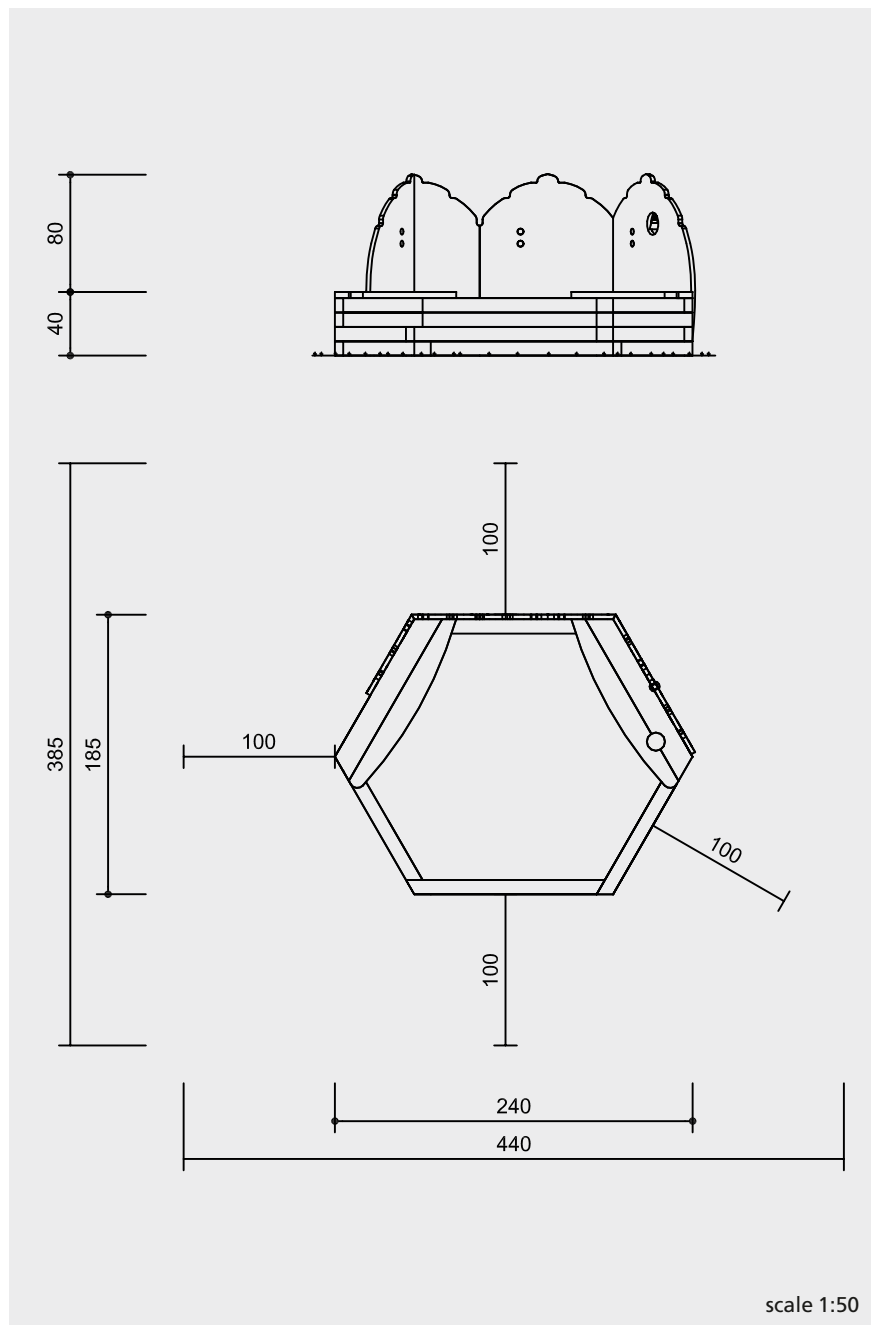
- for small children's areas of:
 - public playgrounds
 - playgrounds situated near houses
 - kindergartens
- nurseries



Small Trolls Sand Pit



4.07000



Safety check according to EN 1176

Components

1 sand pit with 2 benches
and 1 integrated sieve
3 leaves as back rest

Installation information

Surfacing requirements
no requirements
Play sand is required for correct
functioning.

Foundations
not necessary

Attention!
Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.
Subject to technical changes!

Materials

equipment made of mountain larch,
selected according to eight quality
criteria

core-free timber

sawn-timbers core-free, thus
decreasing the occurrences of cracking



plywood

leaves made of larch plywood board
30 mm, waterproof



sand sieve

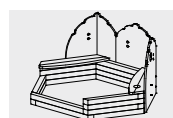
made of stainless steel

Dimensions

(small deviations possible)

total height	1.20 m
height sand pit	0.40 m
length	2.40 m
width	1.85 m
weight	approx. 300 kg

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



4.07000

Play value

Playing with sand has a very stimulating quality, which is why it should not be missing from any small children's area. And if there is also water available children can splash and mix away, make sandcastles and "bake cakes".



Sun sail and cat protection lid see Order No. 4.24309

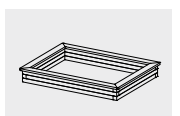
Fundamental characteristics

- child-oriented dimensions
- natural wooden surface which appeals to the senses

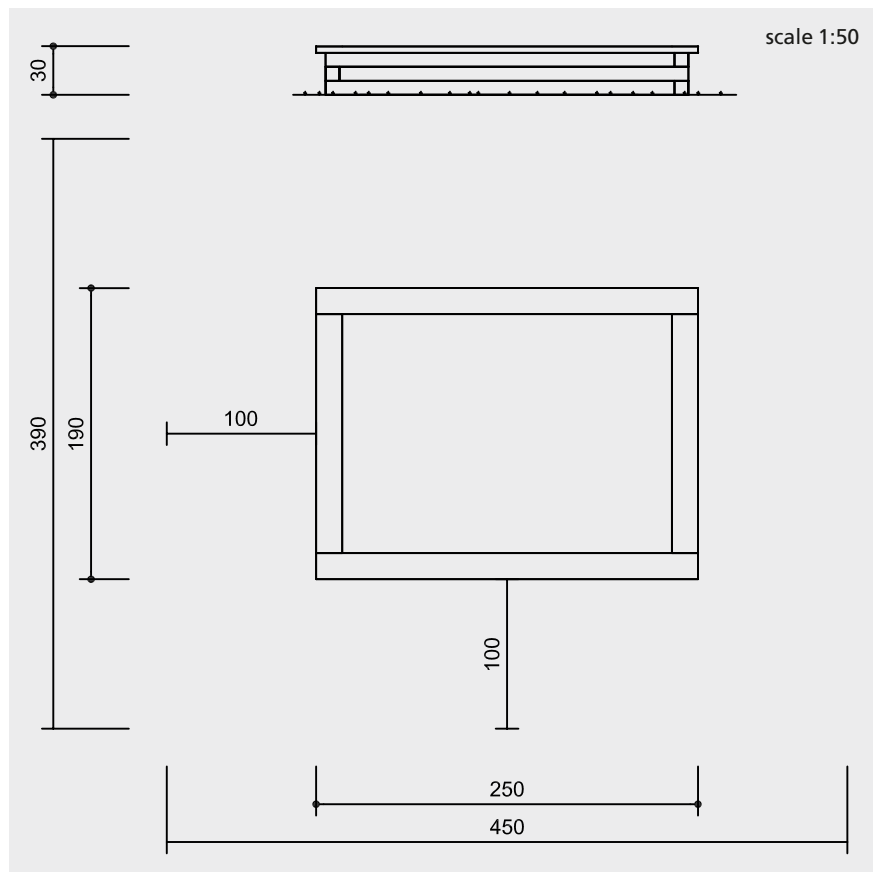
Suitable

- for small children's areas of:
 - playgrounds situated near houses
 - kindergartens
- nurseries

Sand Box



4.24305



Safety check according to EN 1176

Components

1 sand box

Installation information

Surfacing requirements
no requirements
Play sand is required for correct functioning.

Foundations
(only necessary in order to immobilise the equipment)
2 item 40 x 40 x 30 cm, 50 cm deep

Attention!
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Subject to technical changes!

Material

equipment made of mountain larch, selected according to eight quality criteria

core-free timber

sawn-timbers core-free, thus decreasing the occurrences of cracking



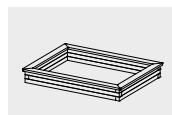
foundation irons hot-dip galvanised

Dimensions

(small deviations possible)

height	0.30 m
length	2.50 m
width	1.90 m
weight	approx. 100 kg

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



4.24305

Play value

The Sand Snake is not just an enclosure for a sand pit but also serves as a surface for playing and "baking", or as an alternative bench which can be balanced upon. Shaped like a big animal, the Sand Snake is an artistic design element which, coupled with its versatility, makes it a very special decorative object for any playground or adventure area.

Fundamental characteristics

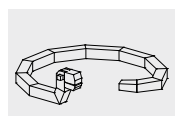
- high-quality design
- natural wooden surface which appeals to the senses
- due to modular system, the direction of the snake can be changed
- incentive for playing: big head with ears, smooth play and seating surface
- movement: balancing, climbing, touching it

Suitable

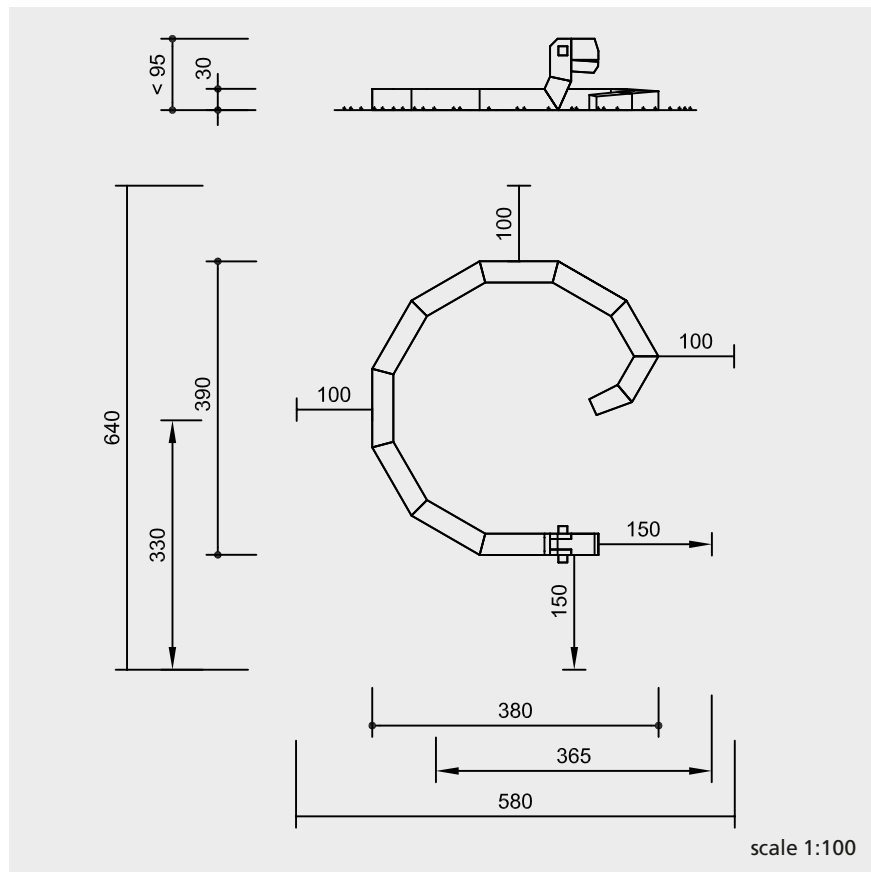
- for small children's areas of:
 - public playgrounds
 - playgrounds situated near houses
 - kindergartens
 - parks
- nurseries



Sand Snake



5.00001



Material

equipment made of mountain larch,
selected according to eight quality
criteria, cross section 28/28 cm

foundation anchors for head and tail
hot-dip galvanised

Dimensions

(small deviations possible)

height	0.30 m
height of head	< 0.95 m
length	3.80 m
width	3.90 m
weight	approx. 650 kg

Safety check according to EN 1176

Components

- 1 head
- 1 shuttering for the head
- 7 body elements
- 1 tail

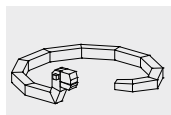
Installation information

Surfacing requirements
corresponding to a fall height of < 0.95 m
(please refer to price list for more
detailed information)
Play sand is required for correct
functioning.

Foundations
1 item 100 x 50 x 60 cm, 60 cm deep
1 item 40 x 40 x 20 cm, 40 cm deep

Attention!

**Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.**
Subject to technical changes!



5.00001

Play value

The Caterpillar is a friendly-looking piece of equipment. Its lovingly designed head with the green cap just wants to be touched. The Caterpillar is not just for playing, it can also serve as a boundary. Even in supervised playgrounds, such as those belonging to kindergartens or day nurseries, it is often necessary to bar access to special areas or to mark out a border. This sand play equipment is particularly attractive for very small children. Among other activities, they love peeping through the holes.



The Caterpillar offers various assembly options and allows for individual playground design. Not only can it be assembled to provide a stretched-out playground element, it may also be arranged to form a circle which children can use as a retreat.

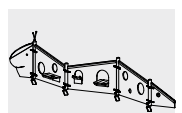
Fundamental characteristics

- friendly appearance
- sand play area
- peepholes

Suitable

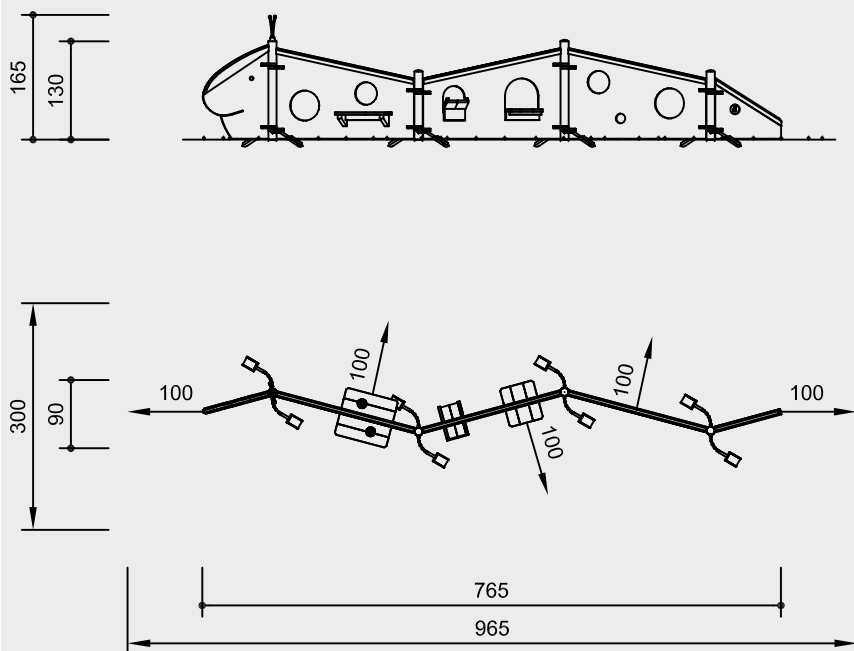
- for small children's areas of:
 - public playgrounds
 - playgrounds near houses
 - kindergartens
 - children's homes
 - therapy institutions for children
 - camp sites
- for nurseries

Caterpillar

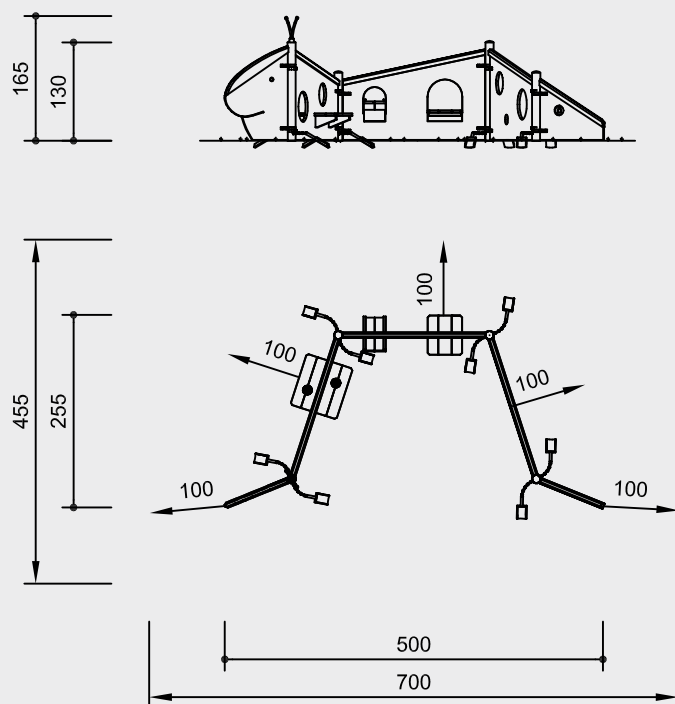


5.00010

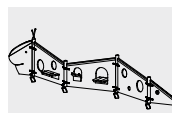
Order No. 5.00010 Caterpillar



Arrangement example



scale 1:100



5.00010

Material

core-free timber

equipment made of mountain larch, selected according to eight quality criteria, core-free, thus decreasing the occurrences of cracking



tongue and groove

platform floor made of 40 mm tongue and groove boarding



plywood

sand tables made of waterproof larch plywood board, 30 mm



Corocord® rope

special ropes of "Hercules" type

connecting ropes of six-strand Corocord® rope of the special „Hercules“ type, abrasion-protected through heating of the six steel strands and melting the polyamide sleeve onto them



chains

short-link chains, 5 mm, welded before hot-dip galvanisation (stainless steel chain available on request)



colour

colouring with solvent-free acrylic paints: the wood is processed in a way that allows the structure of the wood to remain clearly visible

steel posts made of stainless steel

foundation irons hot-dip galvanised

Dimensions

(small deviations possible)

Order No. 5.00010 Caterpillar

total height	1.65 m
height of head	1.30 m
length	7.65 m
width	0.90 m
weight	approx. 580 kg

Arrangement example

total height	1.65 m
height of head	1.30 m
length	5.00 m
width	2.55 m
weight	approx. 580 kg

Components

- 1 head
- 4 body elements
- 4 steel posts
- 4 sand tables
- 8 shovels
- 2 foundation irons

Installation information

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

Foundations

- 4 items 60 x 60 x 60 cm excavation depth 80 cm
- 2 items 30 x 30 x 30 cm excavation depth 50 cm

Attention!

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

We reserve the right to make technical alterations!

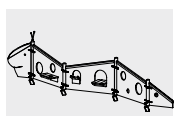
For more detailed explanation of the quality characteristics see price list.

Planning information

The caterpillar elements (the distance between their axes being fixed) can be arranged at any angle from 180 ° to 90 °. Also, the length can be varied by increasing or decreasing the number of elements.

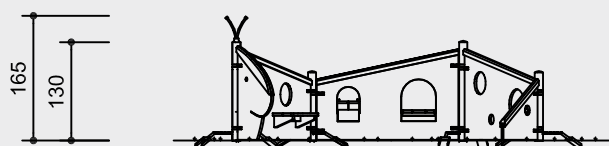


Caterpillar



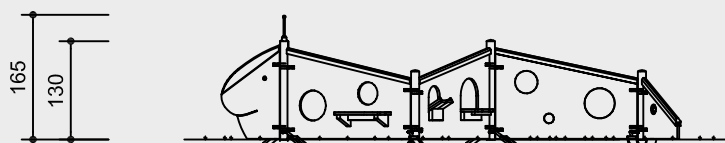
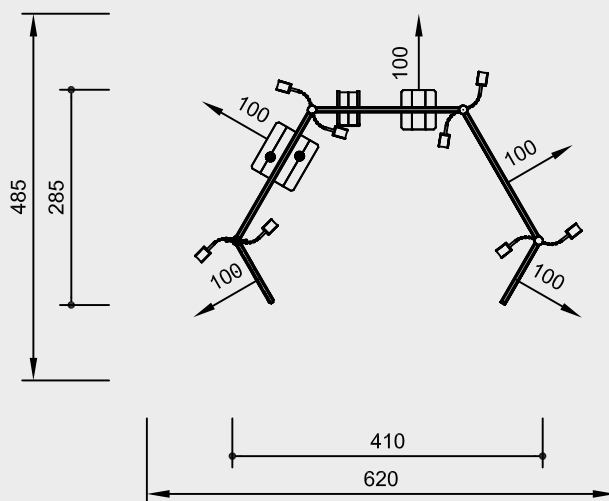
5.00010

Arrangement examples



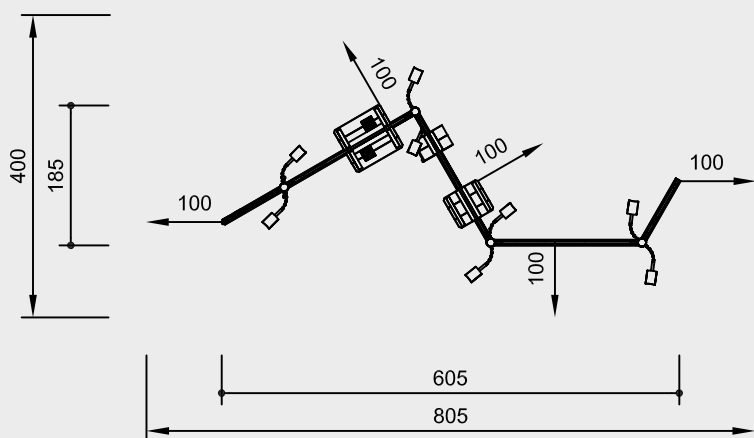
Arrangement example

total height	1.65 m
height of head	1.30
length	4.10 m
width	2.85 m
weight	approx. 580 kg

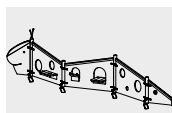


Arrangement example

total height	1.65 m
height of head	1.30
length	6.05 m
width	1.85 m
weight	approx. 580 kg



scale 1:100



5.00010



Function and Play value

Many children are very satisfied with doing proper work. The Building Sites give them the opportunity to realistically mimic the working world of adults. Heavy loads can be moved over a roller, sand and water can be poured into pipes or gutters, a sand wheel can be turned, the dumper box takes a load of sand and a bucket is filled. Co-operation results from carrying out a mutual purpose, while physical laws are unconsciously recognised and brought into play. The structure should stand in a sand or gravel surface for ensuring the best play value.

Fundamental characteristics

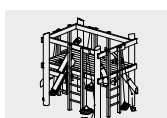
- child proportions according to ergonomic requirements
- naturally shaped, de-barked posts
- technical construction evokes interest
- appealing design
- many play offers
- sturdy tongue and groove floor allows for large play space below the platform
- high play value on a limited space
- can be combined with additional elements
- incentive for playing: sand hoists, sand wheel, chains
- movement: physical effort, climbing

Suitable

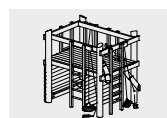
- for children from 4 years
- for public playgrounds
- playgrounds situated near houses
- nurseries
- children's homes
- elementary schools



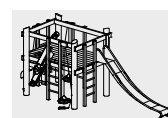
Building Sites



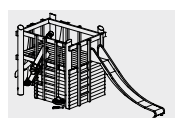
5.01000



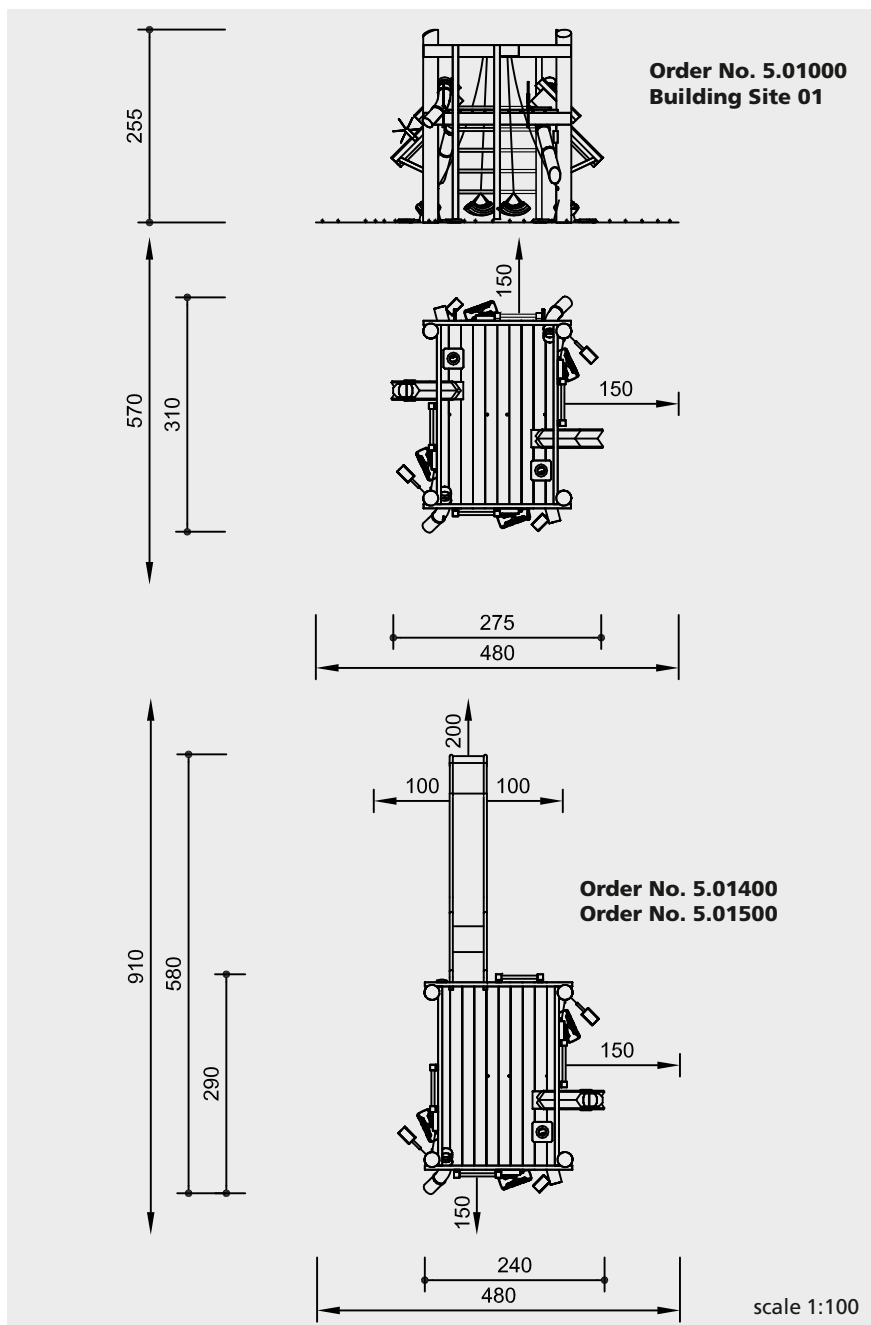
5.01100



5.01400



5.01500



Safety check according to EN 1176

Components

Order No. 5.01000 Building Site 01

- 1 Platform height 1.50 m, 4 Ladders
- 4 Sand Hoists with 4 Shovels
- 4 Sand Chutes
- 2 Sand Trays, 2 level, 1 Sand Wheel

Order No. 5.01100 Building Site 011

- 1 Platform height 1.50 m, 4 Ladders
- 3 Sand Hoists with 3 Shovels
- 2 Sand Chutes
- 1 Sand Tray, 2 level, 1 Sand Wheel
- 3 Walls
- 2 Benches
- 1 Table

Order No. 5.01400 Building Site 014

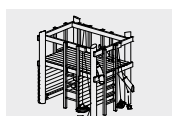
- 1 Platform height 1.50 m, 4 Ladders
- 3 Sand Hoists with 3 Shovels
- 2 Sand Chutes
- 1 Sand Tray, 2 level, 1 Sand Wheel
- 1 Stainless Steel Slide with ground anchor height 1.50 m

Order No. 5.01500 Building Site 015

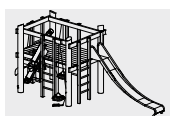
- 1 Platform height 1.50 m, 4 Ladders
- 3 Sand Hoists with 3 Shovels
- 2 Sand Chutes
- 1 Sand Tray, 2 level, 1 Sand Wheel
- 3 Walls
- 2 Benches
- 1 Table
- 1 Stainless Steel Slide with ground anchor height 1.50 m



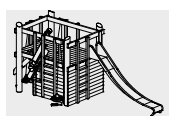
5.01000



5.01100



5.01400



5.01500

Material - Basic Construction

de-barked

de-barked posts, Ø 18 - 21 cm, of spruce/fir, boiler pressure impregnated according to DIN 68800, hazards class 4



angle cut

vertical support posts with angle cut in the end grain section as constructive wood preservation



perforated

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



core-free timbers

sawn-timbers of mountain larch, selected according to eight quality criteria, core-free, by that formation of cracks can be reduced



tongue and groove

platform boards of 40 mm tongue and groove boarding



hardwood rungs

climbing rungs of hardwood, milled and mortised, Ø 42 mm



milled-off tyres

sand containers made of milled-off tyre segments to make the elements clean, smooth, soft and light



chains

suspended on short-link chains, 5 mm, welded before hot-dip galvanisation (stainless steel chains available on request)



chutes of plastic, wall thickness approx. 7 mm

sand wheel hot-dip galvanised

Material - Add-on Equipment

Site Hut

claddings

thickness 3 - 4.5 cm, de-barked by hand, of mountain larch, selected according to eight quality criteria



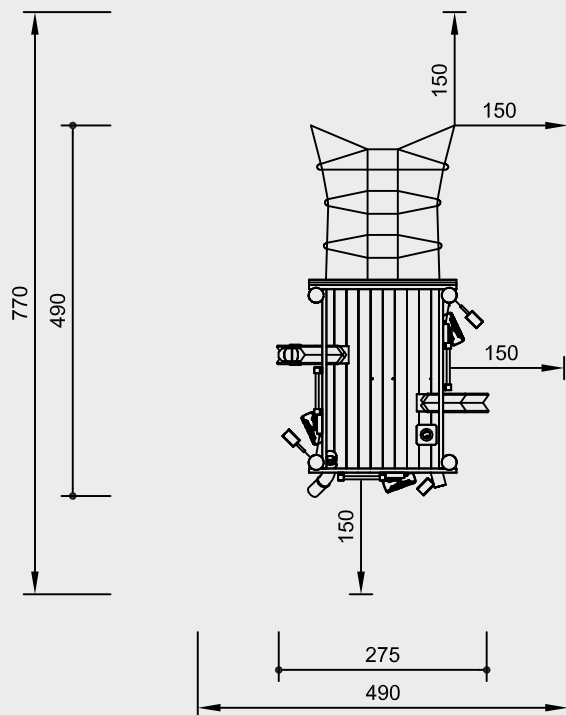
Slide

one-piece construction

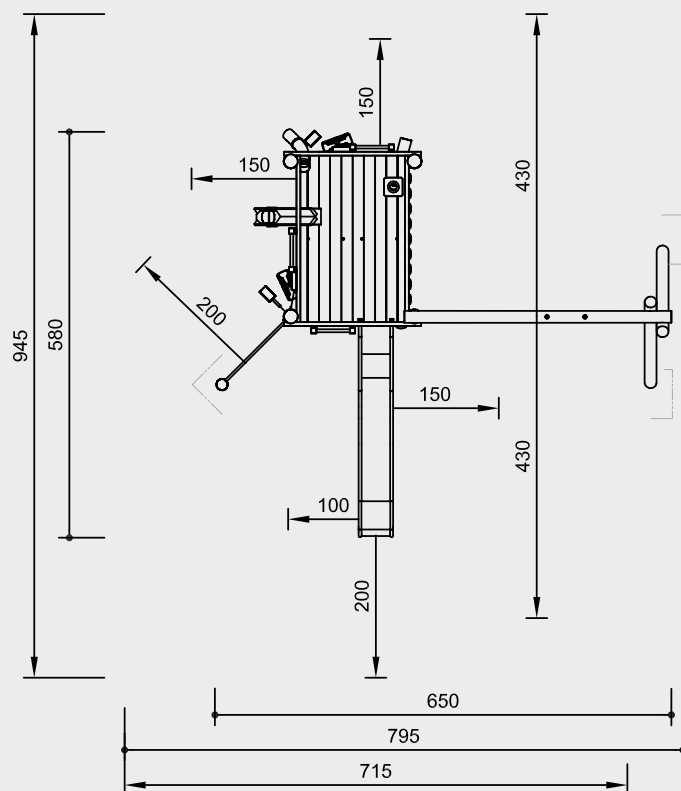
total construction of slide of 2 mm stainless steel, mould-profiled longitudinally, no welding seams along the slide surface



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

**Order No. 5.02000 Building Site 02
with Inclined Climbing Net**


scale 1:100

**Order No. 5.03380 Building Site 0338
with Swing, Slide and Horizontal Bars**


scale 1:100

Material - Add-on equipment
Climbing Nets
Corocord® rope

special ropes of „Hercules“ type
six-strand Corocord® rope of the special „Hercules“ type, abrasion protected through heating of the six steel strands and melting the polyamide sleeve onto them


aluminium swages

double-conical aluminium swages with rounded-off ends


S-clamps

neatly rounded Corocord®S clamps made of stainless steel, Ø 8 mm


rope connection fixed

close fitting connection without dangerous openings


Inclined Climbing Net
core-free timber

sawn-timbers are boiler-pressure impregnated according to DIN 68800, hazards class 4, core-free, by that formation of cracks can be reduced


Vertical Climbing Net with Firemen's Pole
de-barked posts

de-barked posts, Ø 18 - 21 cm, of spruce/fir, boiler pressure impregnated according to DIN 68800, hazards class 4


Firemen's Pole of stainless steel;

Swing
de-barked posts

de-barked posts, Ø 15 - 18 cm, of spruce/fir, boiler pressure impregnated according to DIN 68800, hazards class 4


rubber seat

rubber seat with anatomically correct shape, strong profiled steel insert and soft shock absorbing edge


swing joint

drop-forged swing joint with bush with graphite sleeve for self-lubrication and integrated swivel


adjustable

no projecting threads after re-tightening due to two-piece bolt connection


strong fastening

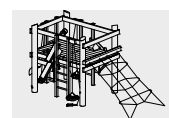
bolt connections with milled metal rings for connections which are stressed cross-wise


brass bush

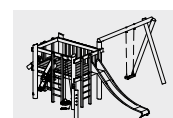
for all to and fro movements we use bush bearings which allow for self-lubrication while in use



Horizontal Bar of stainless steel, Ø 30 mm



5.02000



5.03380

1 Platform height 1.50 m, 3 Ladders
2 Sand Hoists with 2 Shovels
2 Sand Chutes
1 Sand Tray, 2 level, 1 Sand Wheel
1 Balustrades at the side of the swing
1 Single Swing complete with swing attachment and swing seat
1 Horizontal Bar
1 Stainless Steel Slide, height 1.50 m with ground anchor 108

Play value

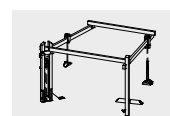
Sand Transport Systems are part of a building site. Conveyor tracks, cranes, sand hoists and other elements, enable children to mimic work processes realistically. Insights are awakened through play. In combination with a Building Site the experience is deepened, creativity and co-operation are promoted.



Planning Information

The single elements can be combined individually.

Sand Transport System for attachment

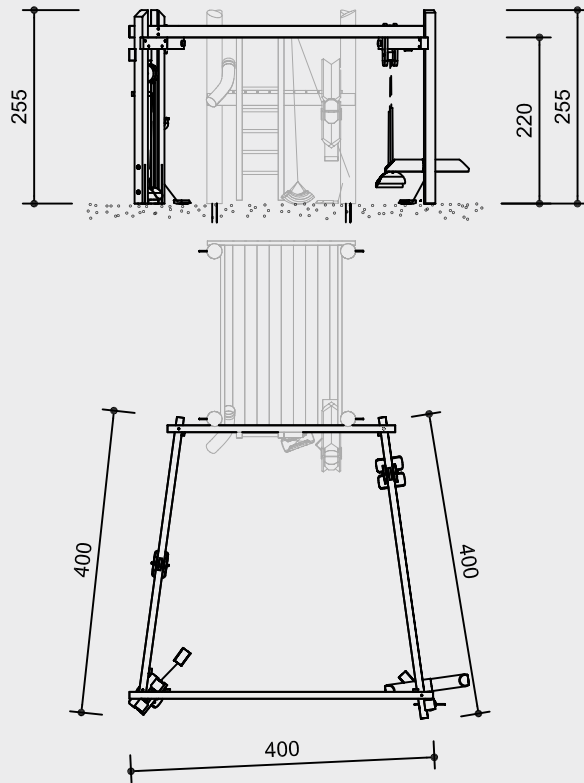


5.06100



5.06200

Order No. 5.06100 Sand Transport System Type I



Safety check according to EN 1176

Material

Equipment of mountain larch, selected according to eight quality criteria

travelling crabs of oak

angle cut

vertical support posts with angle cut in the end grain section as constructive wood preservation



core-free timber

sawn-timbers core-free, by that formation of cracks can be reduced



ground anchor

steel feet hot-dip galvanised



chains

suspended on short-link chains, 5 mm, welded before hot-dip galvanisation (stainless steel chains available on request)



ball bearing

rollers with low-maintenance, easily replaceable ball bearings made of stainless steel



sand containers of milled-off tyres, suspended on hose sleeved chains

chutes of plastic

bearing of the chute with dampened impact

sand crane, revolving 350°, with maintenance free turning mechanism

Dimensions

(small deviations possible)

total height	2.55 m
height sand crane	2.60 m
length of conveyor tracks	4.00 m
length of connecting beam	3.00 m
chutes diameter	0.16 m x 1.10 m

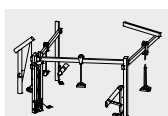
weight

Order No. 5.06100	approx. 250 kg
Order No. 5.06200	approx. 350 kg

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



5.06100



5.06200

Fundamental characteristics

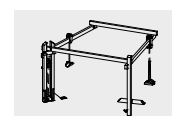
- child proportions according to ergonomic requirements
- natural wooden surface which appeals to the senses
- high-quality design
- comprehensible technical details
- communication and co-operation are promoted
- incentive for playing: crane, travelling crabs, long tracks
- movement: physical effort, pushing

Suitable

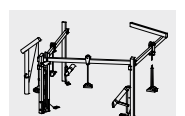
- for children from 3 years
- for public playgrounds
- playgrounds situated near houses
- nurseries
- children's homes
- elementary schools



Sand Transport System for attachment

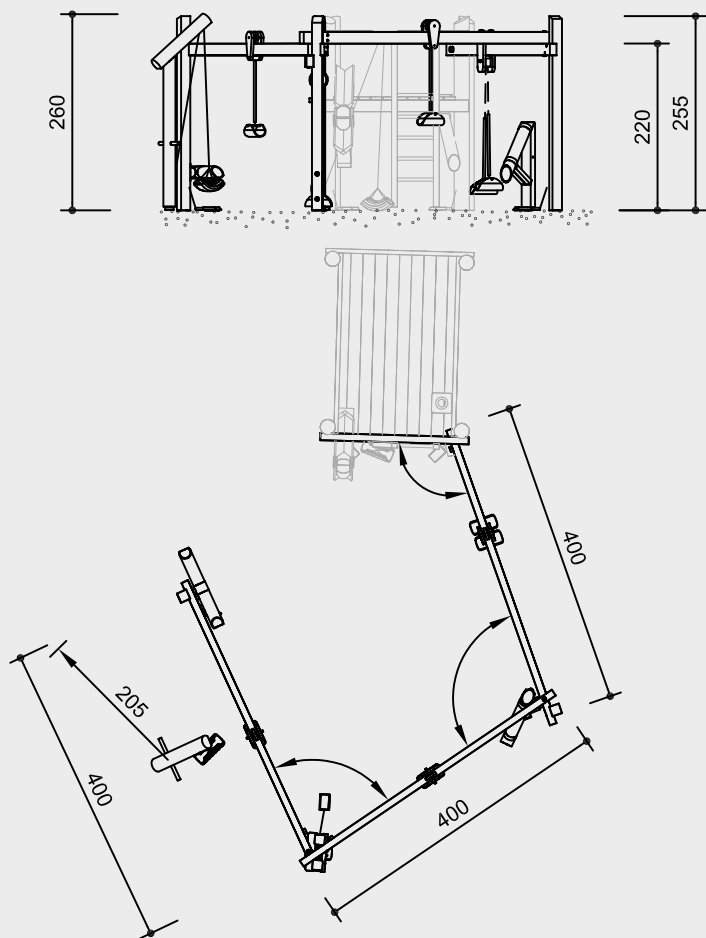


5.06100



5.06200

Order No. 5.06200 Sand Transport System Type II



scale 1:100

Components

Order No. 5.06100

Sand Transport System Type I

- 1 support frame with steel feet and sand hoist
- 1 middle support post with steel foot
- 3 conveyor tracks
- 1 connection to base equipment
- 1 travelling crab with double sand hoist
- 2 travelling crab with 1 sand container each
- 1 see-saw chute
- 2 shovels with chain

Order No. 5.06200

Sand Transport System Type II

- 1 support frame with steel feet and sand hoist
- 1 middle support post with steel foot
- 1 end support with steel foot
- 3 conveyor tracks
- 1 connection to base equipment
- 1 travelling crab with double sand hoist
- 2 travelling crab with 1 sand container each
- 1 see-saw chute
- 1 rotating beam with chute
- 1 turning crane with sand hoist and steel foot
- 3 shovels with chain

Installation information

Surfacing requirements

Order No. 5.06100 no fall height

Order No. 5.06200 no fall height
(please refer to pricelist for more detailed information)

For a proper function at least 40 cm play sand are required.

Foundations

Order No. 5.06100

2 items 60 x 80 x 60 cm, 80 cm deep

Order No. 5.06200

3 items 60 x 80 x 60 cm, 80 cm deep

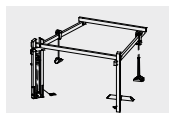
1 item 50 x 50 x 40 cm, 60 cm deep

1 item 60 x 60 x 60 cm, 80 cm deep

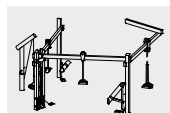
Attention:

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

Technical changes reserved.



5.06100



5.06200



Play value

The play possibilities of the Small Building Site contain operations similar to the working world of adults which can be copied. The technical design is attracting and motivating, the work processes encourage communication and co-operation.

Fundamental characteristics

- child proportions according to ergonomic requirements
- natural wooden surface which appeals to the senses
- attractive, clear design
- technical appearance
- play offers for several children
- encouraging co-operation
- incentive for playing: rollers with chains, sieve, shovels
- movement: physical effort

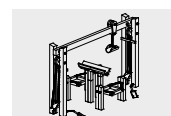
Suitable

- for children from 3 years
- for public playgrounds
- playgrounds near houses
- nurseries
- children's homes
- elementary schools
- leisure areas

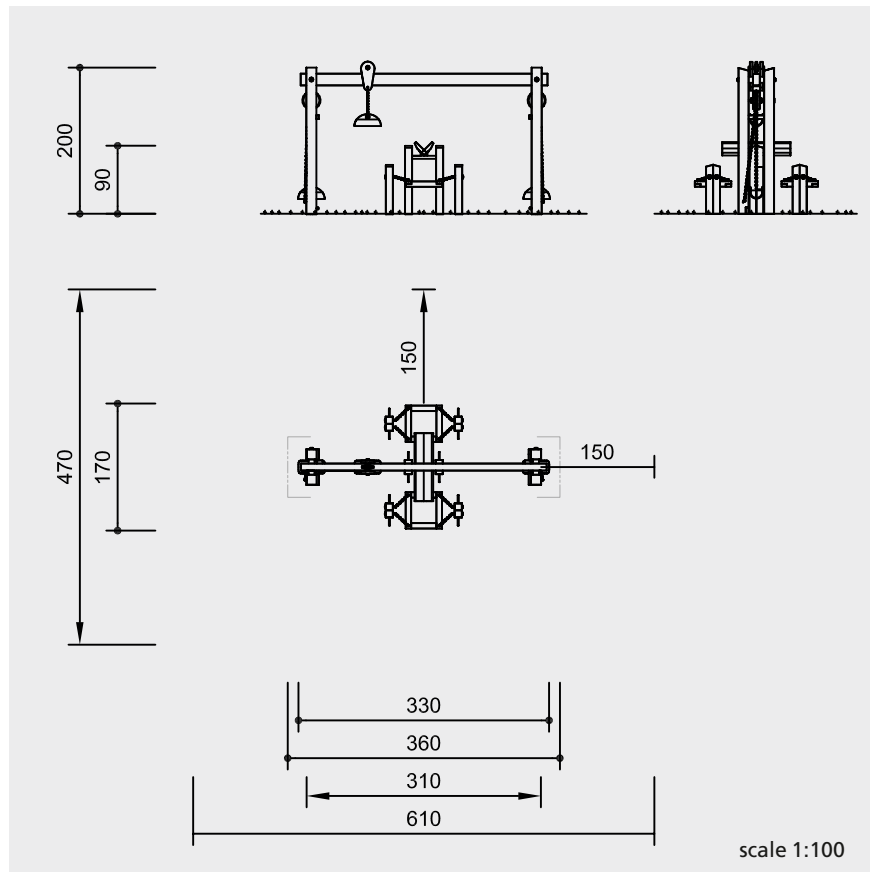


Fixing of the Transport Rail technically changed

Small Building Site



5.09300



Safety check according to EN 1176

Components

- 2 support frames with 1 hoist and 1 shovel each
- 1 transport rail with roller and sand container
- 1 sieving device with see-saw and 2 sieves

Installation information

Surfacing requirements corresponding to a fall height of < 0.60 m (please refer to introduction for more detailed information)

At least 40 cm play sand are required for playing.

Foundations

- 2 items 60 x 80 x 50 cm
- 1 item 60 x 60 x 50 cm
- 4 items 40 x 50 x 50 cm
- 70 cm deep

Attention:

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

Technical changes reserved.

Support frames also available with steel feet.

Material

core-free timber

sawn timbers are core-free, by that formation of cracks can be reduced; support posts of oak heartwood, horizontal beams and see-saw of mountain larch, selected according to eight quality criteria



concealed head

large surface for pressure distribution, prevents water from getting inside, protects the bolt head, easy procurement of spare parts by company trademark indelibly inscribed on the equipment



adjustable bolts

no projecting threads after re-tightening due to two-piece bolt connection



chains

suspended on short-link chains, 5 mm, welded before hot-dip galvanisation (stainless steel chains available on request)



ball bearing

wheels of sand hoist with low-maintenance, easily replaceable ball bearings made of stainless steel



sieves of stainless steel

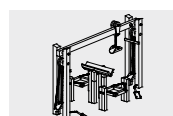
sand container of rubber membranes

sand see-saw mounted on rubber torsion bushes

Dimensions

(small deviations possible)

height	2.00 m
height sand see-saw	0.90 m
width, overall	3.30 m
depth, overall	1.70 m
weight approx.	300 kg



5.09300

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

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 co-operation.

Fundamental characteristics

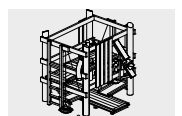
- child proportions according to ergonomic requirements
- naturally shaped, de-barked posts and use of natural wood which appeals to the senses
- technical construction evokes interest
- versatile play offers for several children
- high play value on a limited space
- incentive for playing: water, sand wheel, sand hoists, chains, water channels
- movement: physical effort, climbing



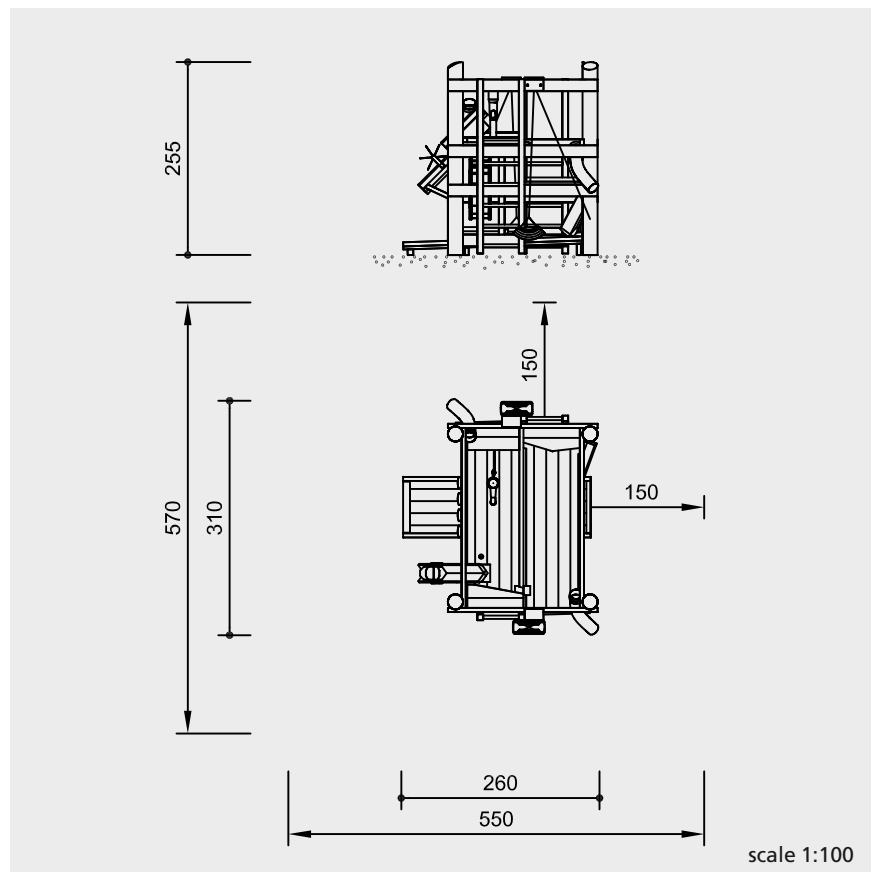
Suitable

- for children from 4 years
- for public playgrounds
- playgrounds situated near houses
- open-air swimming pools
- elementary schools

Water Building Site



5.09500



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
- 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)

An enclosed sand surface of 40 cm depth should be planned for a proper function. Caution: effective drainage should be ensured.

Foundations
4 items 60 x 60 x 40 cm
70 cm deep
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.

Material

de-barked posts

de-barked posts, Ø 18 - 21 cm, of spruce/fir, boiler pressure impregnated according to DIN 68800, hazards class 4



angle cut

vertical support posts with angle cut in the end grain section as constructive wood preservation



perforated

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



core-free timbers

sawn-timbers of mountain larch, selected according to eight quality criteria, core-free, by that formation of cracks can be reduced



claddings

thickness 3 - 4.5 cm, de-barked by hand, of mountain larch, selected according to eight quality criteria



tongue and groove

platform boards of 40 mm tongue and groove boarding



hardwood rungs

climbing rungs of hardwood, milled and mortised, Ø 42 mm



milled-off tyres

sand containers made of milled-off tyre segments to make the elements clean, smooth, soft and light



chains

suspended on short-link chains, 5 mm, welded before hot-dip galvanisation (stainless steel chains available on request)



chutes of plastic, wall thickness approx. 7 mm

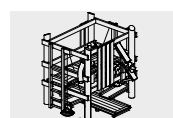
sand wheel hot-dip galvanised

Description of Mill Wheel and Pump see separate catalogue page.

Dimensions

(small deviations possible)

length, overall	3.10 m
width, overall	2.60 m
height, total	2.55 m
Platform heights	0.25 m
	0.90 m
	1.50 m
Platform floors	0.80 x 2.50 m
weight approx.	900 kg



5.09500

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

Play value

While playing children imitate, with intensity, work operations belonging to the adult world. Our Excavators offer the possibility of real life experiences, 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 in the ground with a chain. For the Large Excavator the radius of action can be changed by children during play.



Order No. 5.32000 Small Excavator



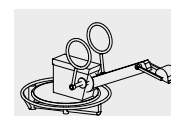
Fundamental characteristics

- child proportions according to ergonomic requirements
- technical appearance
- effective technical details:
 - the arm of both excavators has a counter-weight so that also smaller children can move the load with their power;
 - the Large Excavator can be turned around his middle axis;
 - adjustable jib range;
 - parking break in the seat which unlocks with use;
- improves body co-ordination
- incentive for playing: lever arm, shovel
- movement: physical effort

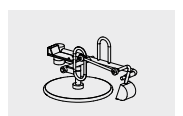
Suitable

- for children from 4 years
- for public playgrounds
- nurseries
- children's homes
- elementary schools

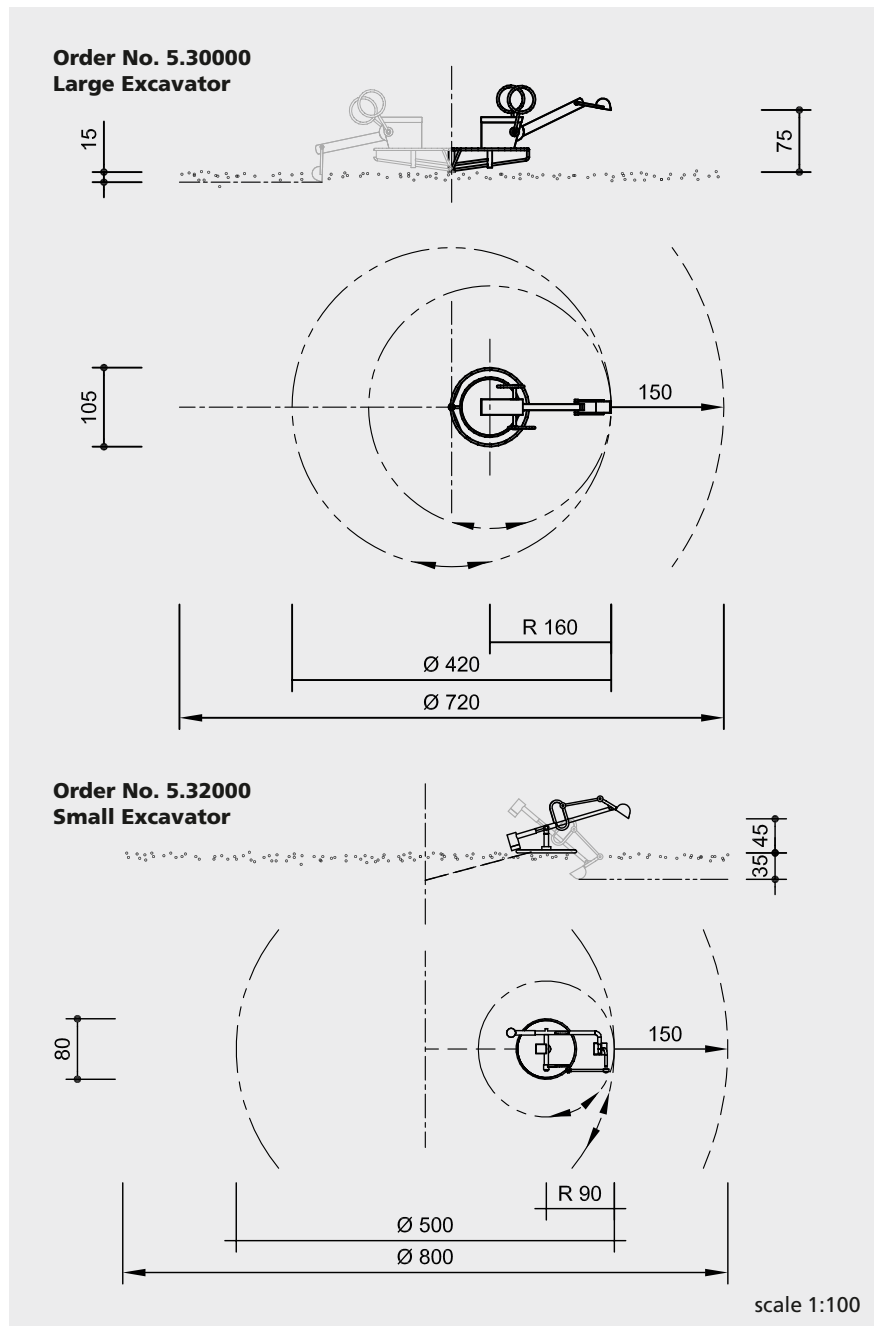
Large Excavator
Small Excavator



5.30000



5.32000



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 anchor iron

Installation information

Surfacing requirements

Order No. 5.30000 Large Excavator
corresponding to a fall height of 0.75 m

Order No. 5.32000 Small Excavator
corresponding to a fall height of < 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, 90 cm deep

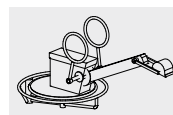
Order No. 5.32000 Small Excavator

1 item 40 x 40 x 40 cm, 80 cm deep

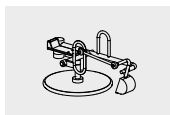
Attention:

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

Technical changes reserved.



5.30000



5.32000

Material

Order No. 5.30000 Large Excavator

All construction parts of hot-dip
galvanised steel profiles

brass bush

for all to and fro movements we use
bush bearings which allow for self-
lubrication while in use



seat of waterproof plywood 27 mm,
with non-slip coating

parking break unlocks with use

Order No. 5.32000 Small Excavator

All construction parts of hot-dip
galvanised steel profiles

brass bush

for all to and fro movements we use
bush bearings which allow for self-
lubrication while in use



chain

short-link chain, 6 mm, welded before
hot-dip galvanisation (stainless steel
chains available on request)



seat of waterproof plywood 27 mm,
with non-slip coating

Dimensions

(small deviations possible)

Order No. 5.30000

Large Excavator

reach diameter	3.20 m
with eccentric movement	4.20 m
weight approx.	250 kg

Order No. 5.32000

Small Excavator

reach diameter	1.80 m
weight approx.	65 kg

For more detailed explanation of the
quality characteristics see price list

In the port

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 foot-bridges and piers, the metal ship named "Sand" is not only an eye-catcher but also a meeting point and place for role-playing.



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

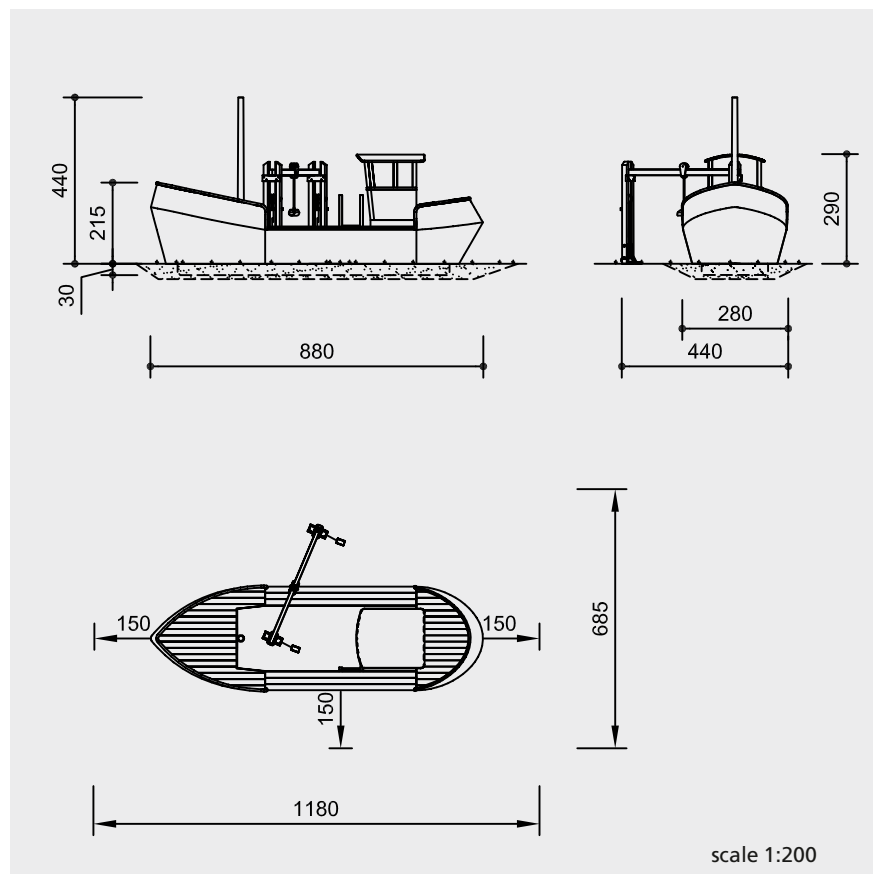
Suitable

- for children from 5 years of age
- for public play spaces
 - leisure areas
 - theme playgrounds

Metal ship "Sand"
with Sand Transport System



8.01000



Safety check according to EN 1176

Components

Ship

- 1 metal ship with wheelhouse
- 1 ladder
- 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

also required:

access from outside, e.g.

- bridge
- chain path
- climbing trunk etc.

not easily accessible

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 build 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 50 x 50 x 30 cm, 80 cm deep

Table

1 item 60 x 60 x 40 cm, 60 cm deep

Sand Transport System

2 items 80 x 60 x 50 cm, 70 cm deep

Attention!

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

We reserve the right to make technical alterations!

Material

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, double supports 14/14 cm, transport rail 10/16 cm

angle cut

vertical support posts with angle cut in the end grain section as constructive wood preservation



core-free timber

sawn-timbers core-free, measurements refer to wood before planing



tongue and groove

table top made of 40 mm tongue and groove boarding



plywood

wheel and instrument panel made of waterproof mountain larch plywood, 30 mm



concealed head

large surface for pressure distribution, prevents water from getting inside, protects the bolt head, easy procurement of spare parts by company trademark indelibly inscribed on the equipment



adjustable

no projecting threads after re-tightening due to two-piece bolt connection



ground anchor

mast and sand transport system with hot-dip galvanised steel feet



chains

suspended on short-link chains, 5 mm, welded before hot-dip galvanisation (stainless steel chains available on request)



ball bearing

hoist wheels with low-maintenance, easily replaceable ball bearings made of stainless steel ball bearings



sand container made of rubber membranes

ship's bell made of brass

Dimensions

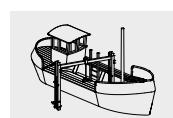
(small deviations possible)

total 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	approx. 4000 kg
heaviest single part	approx. 3500 kg

Transport and unloading

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



8.01000

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

Offers for Developing the Senses with water





Function and 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.

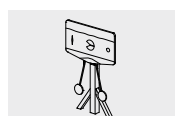
Suitable

- for public buildings
- reception areas, training and recreational areas of companies, seminar centres, hospitals, therapy gardens, zoological and botanical gardens, museums

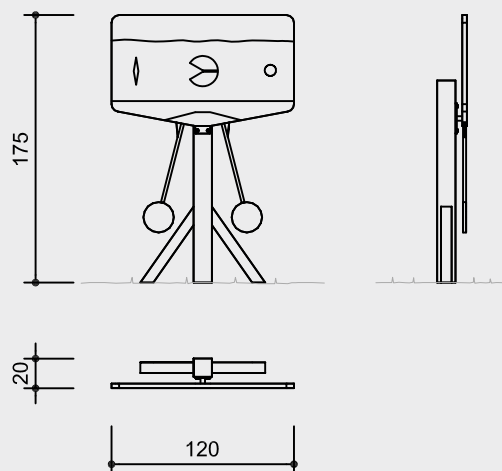


Pattern Board
graubner Play Stations for
Developing the Senses

Vandalism	vulnerable
Supervision	not necessary
Explanation board	recommended
Installation	indoors and outdoors
Safety check (EN 1176)	not necessary
Installation in concrete	possible



10.15000



scale 1:50

Material

frame made of weather-resistant oak

extremely impact-resistant acrylic
double screen

ball bearing

low-maintenance, easily replaceable
ball bearings made of stainless steel,
smooth running for extended motion
with limited swing range



special algae-free glycol mixture as
high-contrast flow liquid, frostproof to
approx. - 20° C

Dimensions

(small deviations possible)

height	2.00 m
width	1.20 m
depth	0.20 m

weight	approx. 80 kg
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For more detailed explanation of the
quality characteristics see price list.

Components

1 pattern board
1 rack

Installation information

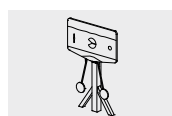
Recommended space
3.00 x 3.00 m

Foundations
2 items 50 x 30 x 30 cm, 50 cm deep
1 item 40 x 40 x 40 cm, 60 cm deep

Attention!

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

**Equipment also available with stand
posts made of stainless steel (Order
No. 10.15005) or for wall attachment
(Order No. 10.15500).**



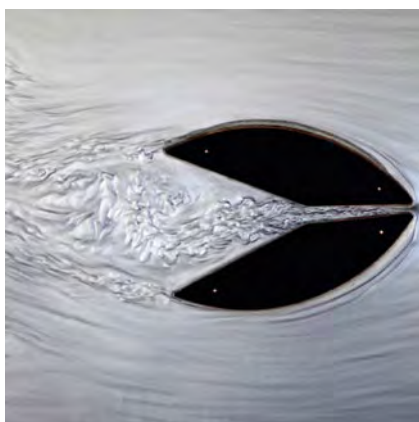
10.15000

Function and Play value

By turning this water-filled body around in various directions the flow creates fast or slow moving patterns. The gap between two transparent boards is filled with water containing tiny particles which clearly highlight the patterns. The disc can be easily and gently 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.

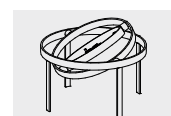
Suitable

- for public buildings
- reception areas, training and recreational areas of companies, seminar centres, hospitals, therapy gardens, zoological and botanical gardens, museums

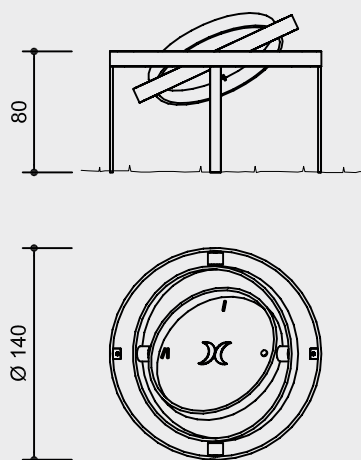


Pattern Disc
graubner Play Stations for
Developing the Senses

Vandalism	vulnerable
Supervision	not necessary
Explanation board	recommended
Installation	indoors and outdoors
Safety check (EN 1176)	not necessary
Installation in concrete	possible



10.15100



scale 1:50

Material

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	approx. 65 kg

Components

1 complete piece of equipment

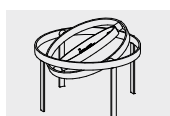
Installation information

Recommended space
circle diameter 4.00 m

Foundations
4 items 30 x 30 x 40 cm, 60 cm deep

Attention!

Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Subject to technical changes!



10.15100

Function and 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.

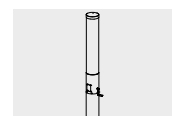
Suitable

- for water play areas
- swimming pools
- technical museums
- reception areas, of companies
- parks, nature reserves, botanical gardens

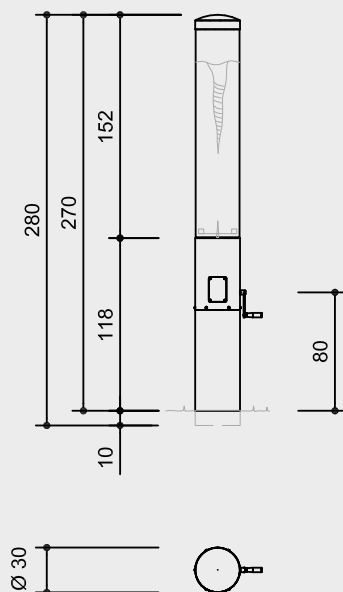


Whirlpool Column
Whirlpool Column with Lighting
graubner Play Stations for
 Developing the Senses

Vandalism	moderately 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



scale 1:50

Material

large thick-walled whirlpool cylinder of extremely impact-resistant acrylic glass

special algae-free glycol mixture, frostproof to approx. - 20° C

support column made of stainless steel

ball bearing

low-maintenance, easily replaceable ball bearings made of stainless steel



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)

diameter 0.30 m
height 2.80 m

weight approx. 100 kg
incl. water and packaging
material approx. 210 kg

Components

1 whirlpool column
3 canisters with 20 l glycol mixture each

Installation information

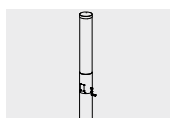
Recommended space
circle diameter 3.00 m

Foundations
1 item 50 x 50 x 60 cm, 70 cm deep

Attention!

Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Subject to technical changes!

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



10.17000/10.17500

Function and Play value

The Virbela Prototype allows you to experience the rhythmic, pulsating flow of water, just like it occurs in natural streams, by moving the semicircular obstacles to the correct position in relation to each other. The characteristic flow of the water with its spiral-shaped, rhythmical movements can be created by the Virbela Prototype when the pipe sections are moved into various positions along the guideways. Just like the flow of a stream the water begins to meander to and fro and leaves trails behind it. The path of the meandering trails can be seen clearly. If you put these obstacles at certain places the beginning and end of the trails touch and the water flows on with rhythmic movements.

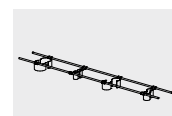
Suitable

- water play areas
- zoological and botanical gardens parks

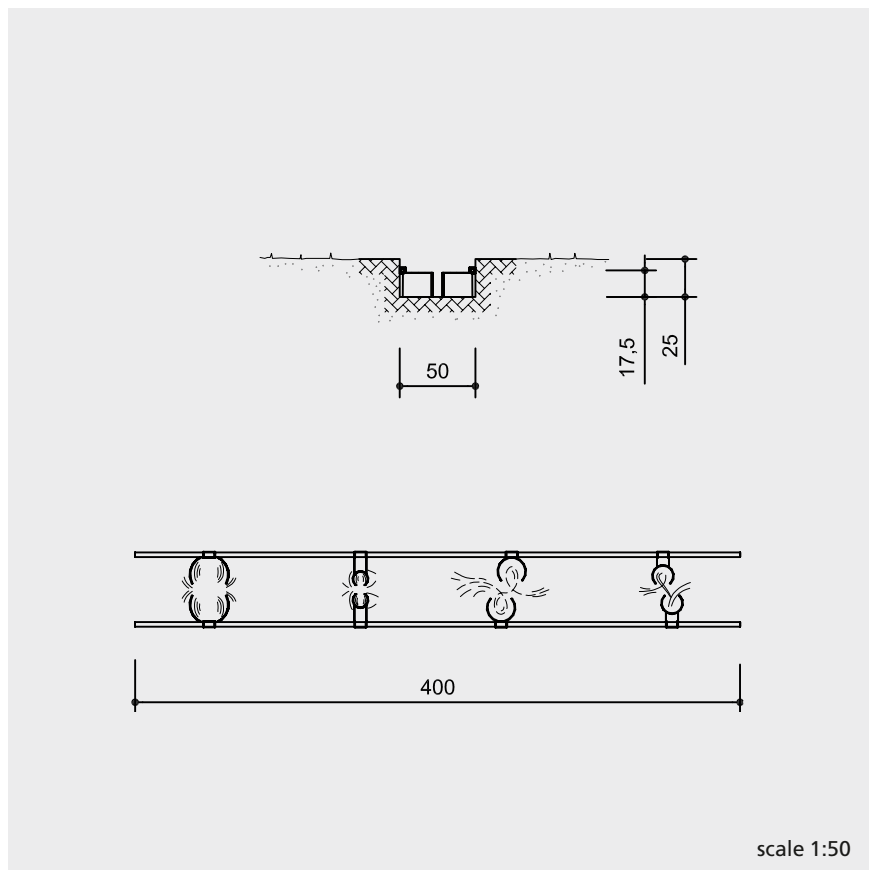


Virbela Prototype
graubner Play Stations for
 Developing the Senses

Vandalism	not vulnerable
Supervision	not necessary
Explanation board	not necessary
Installation	outdoors
Safety check (EN 1176)	not necessary
Installation in concrete	possible



10.18500



Material

all stainless steel equipment

movable flow obstacles designed according to the laws of flow

Dimensions

(small deviations possible)

Stream bed

height	at least 0.20 m
length	4.00 m
width	0.50 m

Flow obstacle

diameter	0.10 - 0.30 m
weight	approx. 40 kg

Components

8 flow obstacles
with 2 guideways and fastening
material for installation into a
stream bed prepared on site

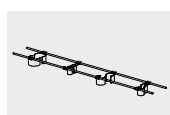
Installation information

Recommended space
4.00 x 2.00 m

Foundations
depends on the layout of the entire site

Attention!

**Exact measurements may vary, for
all installation dimensions refer to
current installation instructions.**
Subject to technical changes!



10.18500

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 etc.) then under no circumstances is drinking water quality required.

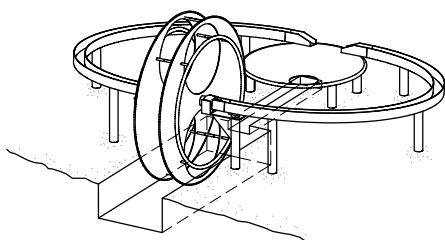
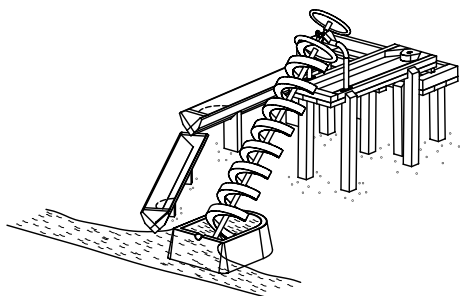
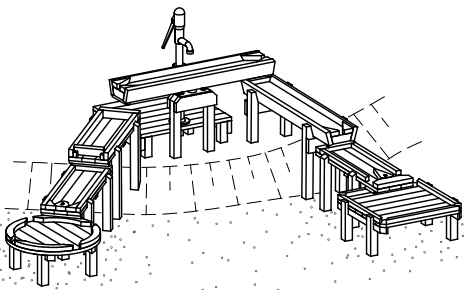
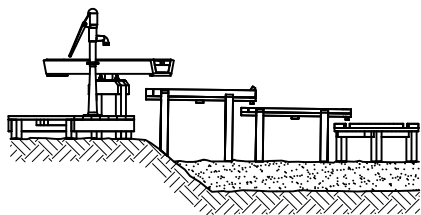
The drainage of the grounds should be carried out via a generously sized drain. Individual gullies become blocked too quickly. The drainage pipes should be covered with a layer of coarse gravel with a geomembrane on top; covering the geomembrane should be 40 cm of play sand.

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.

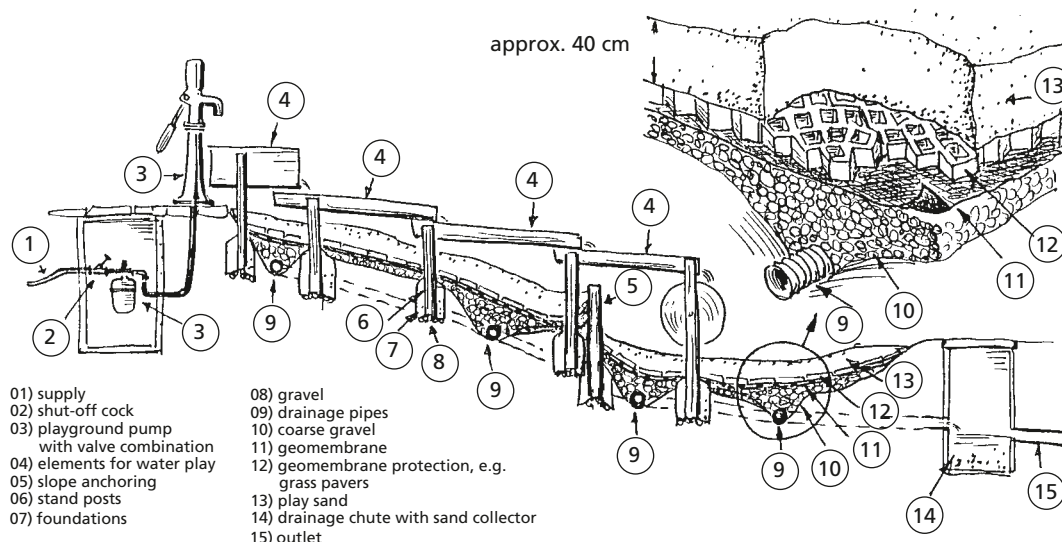
For the structuring and anchoring of the slopes of the water-mud playground, dry masonry walls made from quarry stone, large erratic blocks or concrete walls are better suited than palisades. Water play elements are not regarded as play equipment according to the standards. However a staircase-like construction 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.

Planning examples



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. 5.15810 Mill Wheel of wood
5.15820 Mill Wheel of metal
5.15910 Small Bucket Wheel
5.15920 Large Bucket Wheel
5.28010 Water Wheel with flying shovels
5.28015 Water 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 designed according to the page in the catalogue 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 $\frac{3}{4}$ m 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.

People and 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
5.20907	Water switch	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
5.28040	River Fork	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 see page 84)

a. Playground Pump Order No. 5.17500

for pumping water from a well or groundwater etc. Please pay attention to the water quality!

b. Playground Pump, drinking water to underside of piston Order No. 5.17630

for connection to mains water. Please pay attention to the water quality!

c. Playground Pump, drinking water to underside of the pump base Order No. 5.17730

for connection to mains water.

d. External Valve Combination Order No. 5.17100 (please pay attention to the water quality)

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

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 max. delivery height 2.50 m
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Installation requirements:	pressure mains at least 1 inch water requirement at least 45 l per minute follow water works instructions
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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. In the interests of the play value and with consideration for the health of the children, we would welcome it if reasonable decisions were made.

b. Water – nature's offering

From: Conference associations
Symposium: Room to Experience Water and the Environment
Rhineland-Palatinate
Dipl.-Ing. (graduate engineer) Walter Pichl
State authority for water and waste management
Neustadt a. d. Weinstraße

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

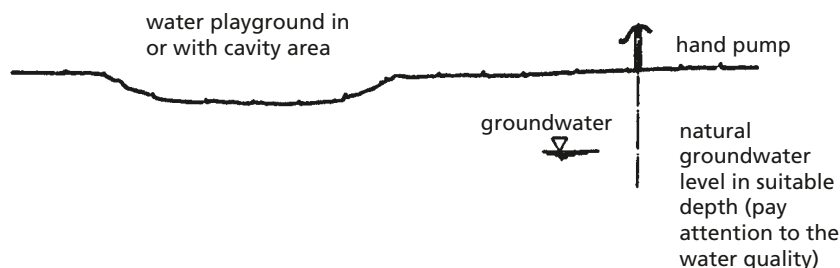
Unfortunately in the past it has not been uncommon to build over and put into pipes many of the smaller water bodies (streams) in the residential areas. This was done to improve the traffic connections and as a way of utilising the surrounding area as well as for hygienic reasons. Due to the systematic 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)



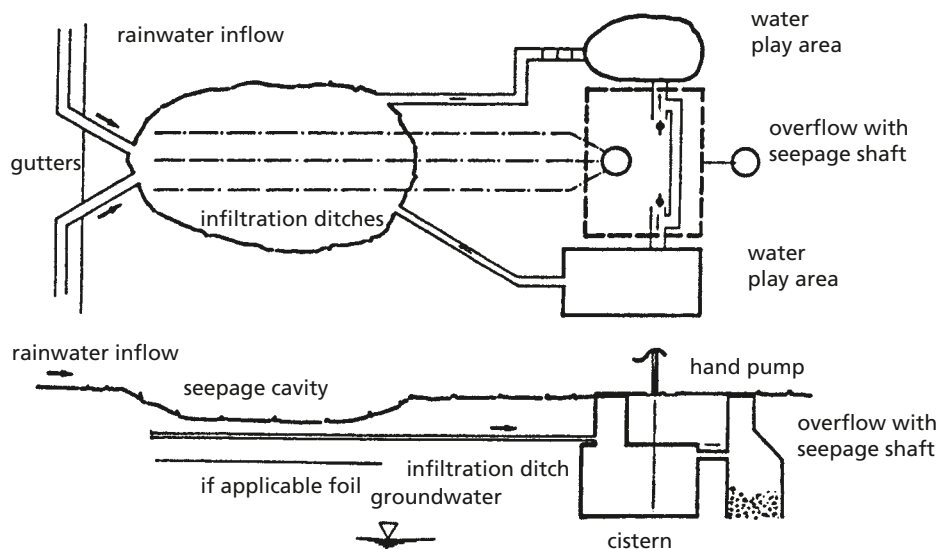
In the case where the groundwater is deep it is necessary that the rainwater which filters through the activated ground zone, be caught in drainage ditches which lie approx 1 m deep so as to collect it in a container (reservoir) (see diagram B).

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!)

Check if your installation is subject to local regulations.

Fig. B Schematic diagram (rainwater usage)





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