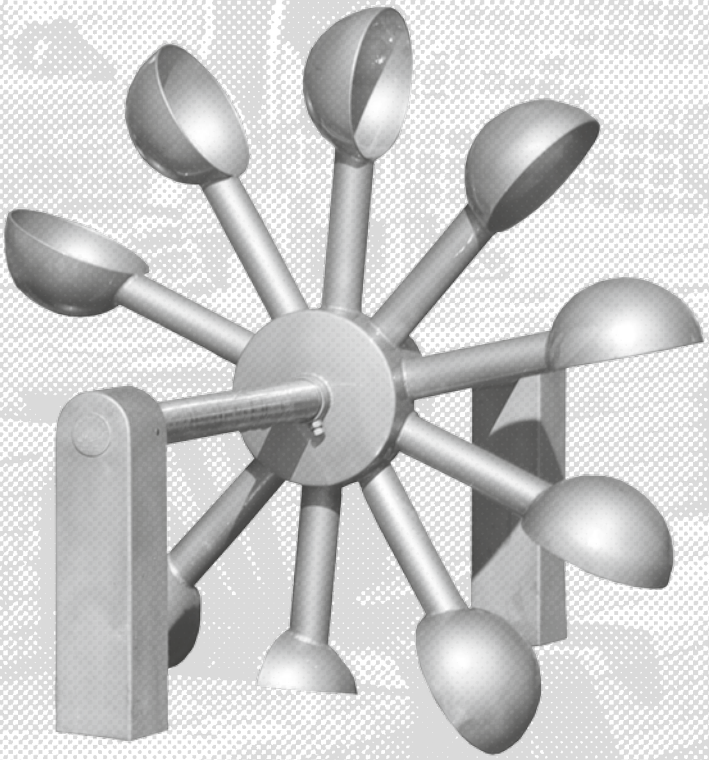
Water and Play



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, January 2015

Richter Spielgeräte GmbH
Simsseestraße 29
D-83 112 Frasdorf
Fon +49-80 52/1 79 80
Fax 41 80
www.richter-spielgeraete.de
info@richter-spielgeraete.de

Contents

Water Supply

Working with Sand and Water

Offers for Developing the Senses with Water

Planning and Technical Information

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

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 absorbtion, 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 and hot-dip galvanised swing joint with bush with graphite sleeve for self-lubrication and integrated swivel

universal joint
drop-forged and hot-dip galvanised 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

adjustable
no projecting threads after re-tightening due to two-piece bolt connection and therefore easy to maintain

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 and which can be easily exchanged in case of need

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
all anchoring parts are 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
parts which are not core-free have a kerf sawn at a suitable section of the trunk to pre-empt cracks that would form naturally or a bore hole as relief

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 offical 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 calles larix decidua montania).

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

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.**

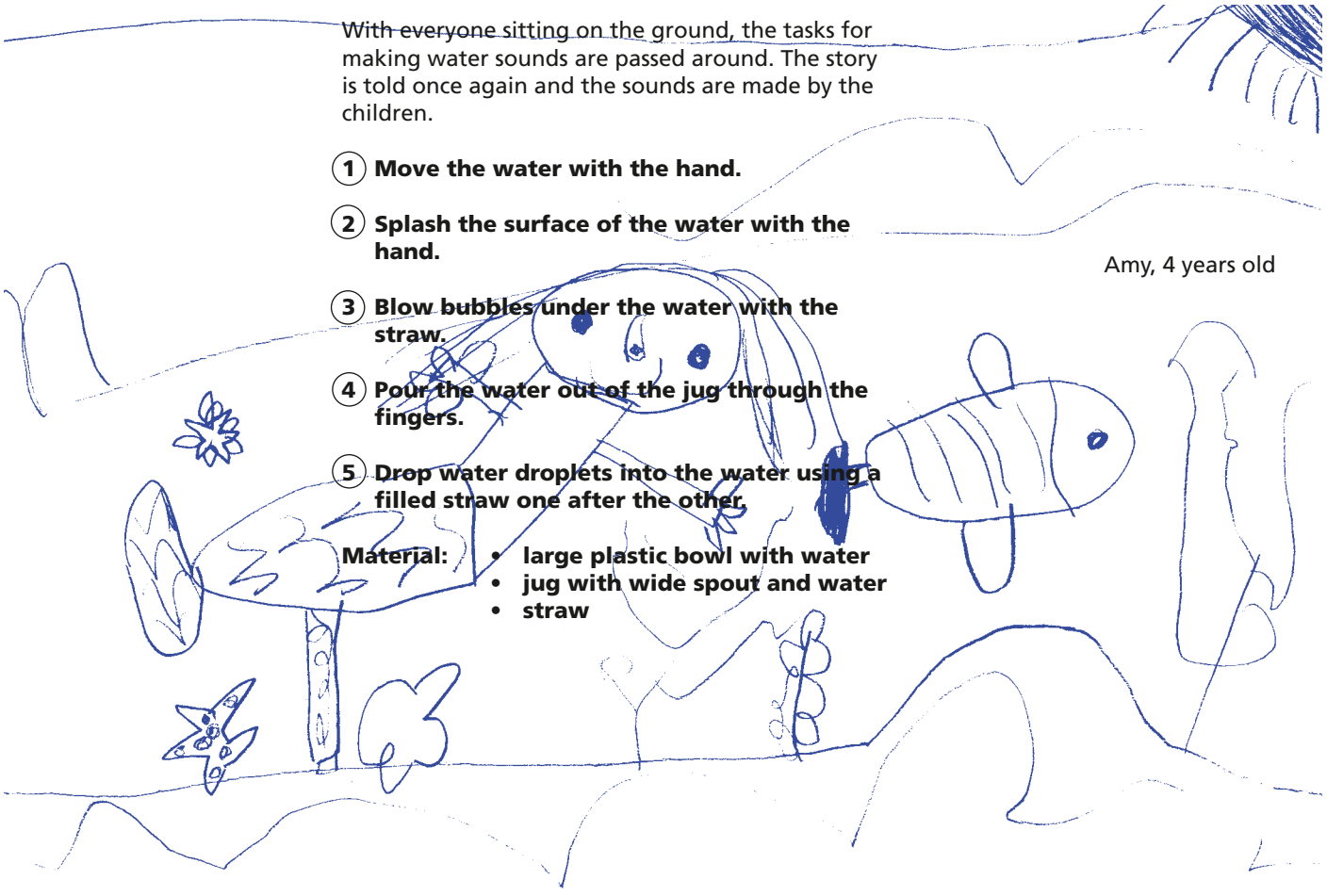
(3) **Blow bubbles under the water with the straw.**

(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 on playgrounds. A rope anchored on both sides connects the two facing banks. The ferry is securely pulled from one side to the other on this rope. A foam-filled hollow form ensures its „seaworthiness". The incorporated concrete counterweight prevents tipping of the boat body. The rope ferry is often integrated into role playing, however it is also a fascinating means of transport with which one can only travel back and forth again and again.

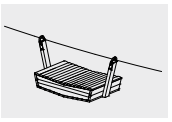
Fundamental characteristics
- unsinkable
- due to the concrete counterweight it gets always back in its original position
- wooden surface is pleasant also for bare feet
- soft impact at the banks
- incentive for playing: rope from one bank to the other, means of transport
- movement: physical effort,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

Suitable
- for children from 5 years
- for leisure parks
  outdoor swimming pools

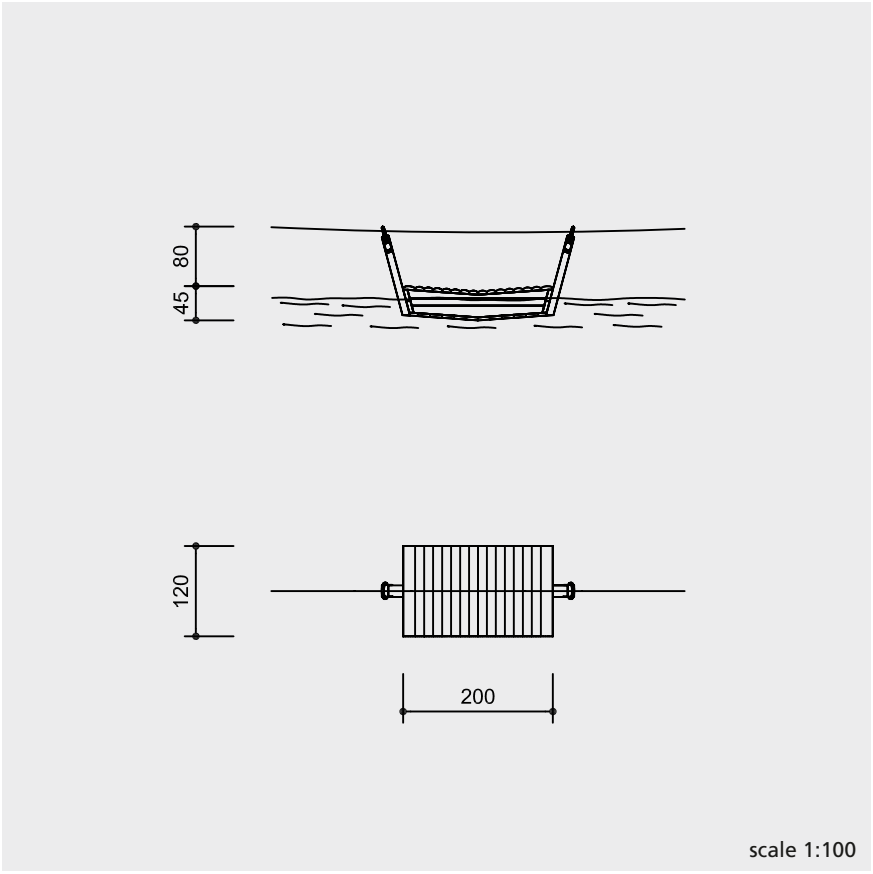
Shock Absorber Order No. 0.93471 on request

Rope Ferry

Design G. Beltzig



5.44000



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

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

Space requirement and foundations depend on local conditions.

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

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

Technical information

equipment of 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 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

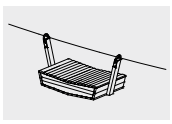
floating body of closed-pore foam, concrete plate as counterweight

Dimensions

(small deviations possible)

pedestal size	2.00 m x 1.20 m
weight	400 kg

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



5.44000

Version with prolonged masts

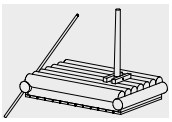
Function and Play value
The raft is an associative play equipment which is connected with adventure, e.g. Huckleberry Finn, raftsmen, shipwreck and much more. Children love to move across water with the help of the punting pole. They enjoy the small risk of falling in. Furthermore, it is great fun to 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 outdoor swimming pools

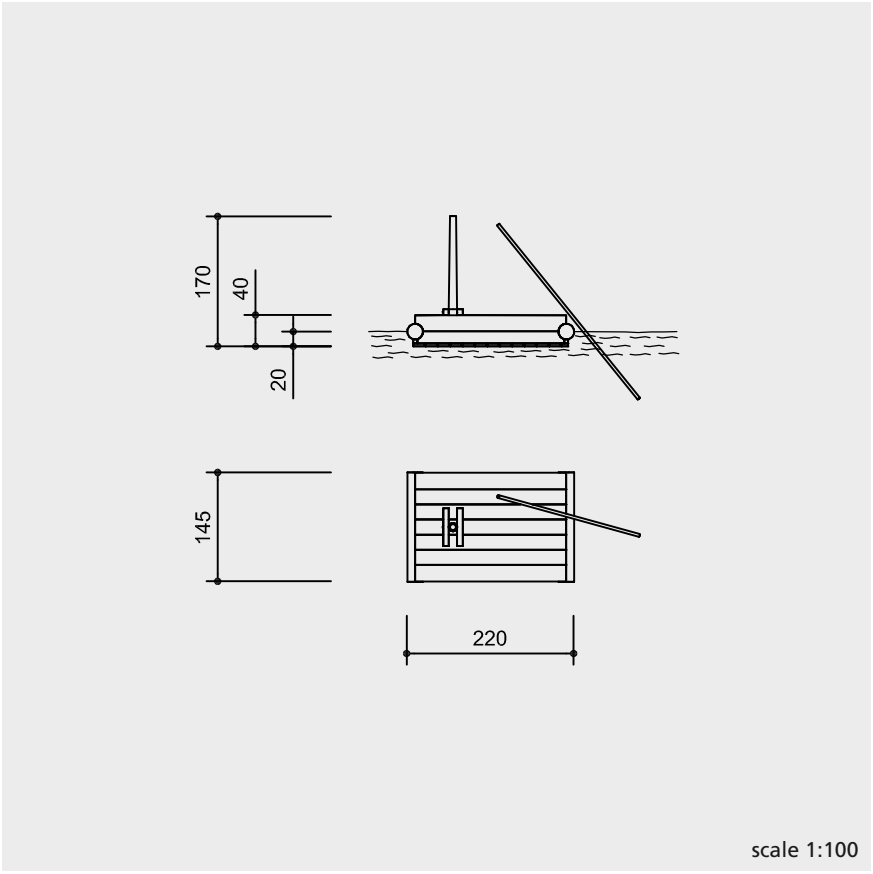
Raft

Version with prolonged masts



5.45000

Design G. Beltzig



Safety check according to EN 1176

Components

1 raft
1 punting pole

Installation information

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

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

Technical information

Equipment of 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

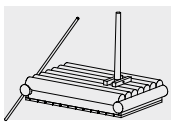
floating body of closed-pore foam, concrete plates as counterweight

fixing rope of polyamide, Ø 22 mm

Dimensions
(small deviations possible)

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

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



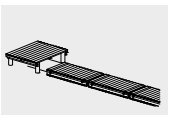
5.45000

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.

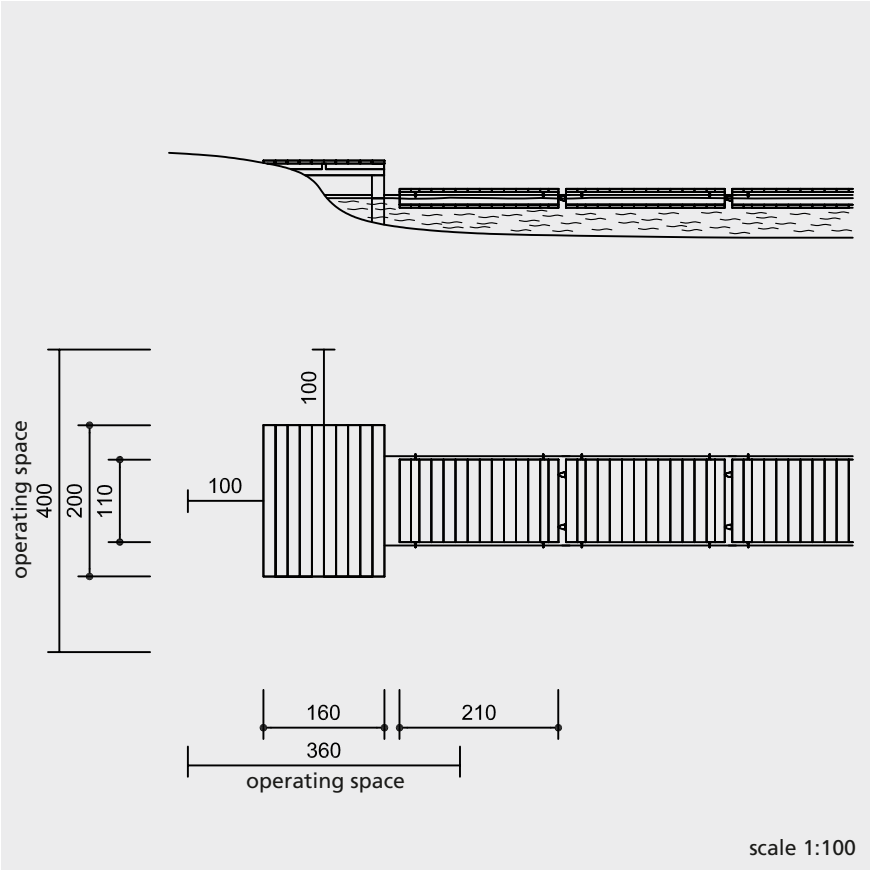
Water Path

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
  outdoor swimming pools



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

Surfacing requirements
corresponding to a fall height of ≤ 0.60 m
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.

Technical information

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

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

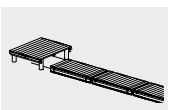
Dimensions
(small deviations possible)

Floating bodies

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

Bank pedestals

height	0.50 m
size	2.00 x 1.60 m
weight	200 kg



5.46000

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

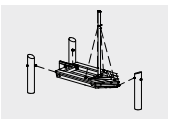
Order No. 6.03201 Sailing Boat with steel posts

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
  outdoor swimming pools

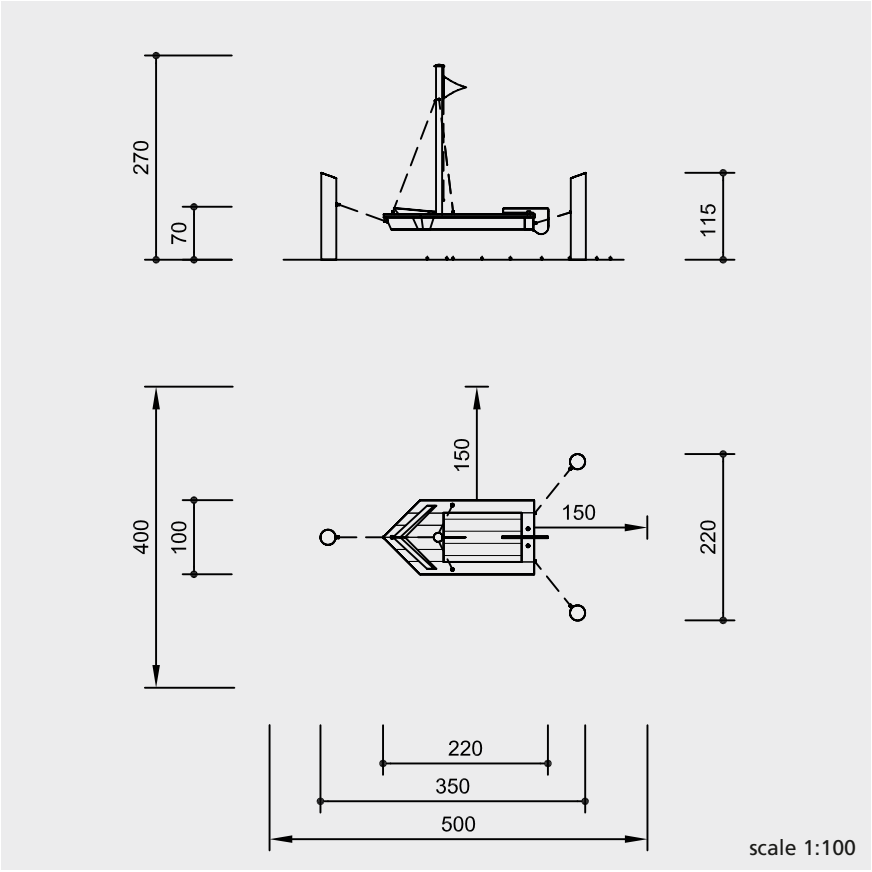
Sailing Boat
Sailing Boat with flag

6.03200/6.03201



6.03210

Design P. Hannes



Safety check according to EN 1176

Components

Order No. 6.03200 with flag
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 ≤ 1.00 m
(please refer to price list for more detailed information)

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

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

Technical information

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

de-barked
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
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 8 mm chains and drop-forged and hot-dip galvanised 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

adjustable
no projecting threads after re-tightening due to two-piece bolt connection and therefore easy to maintain

brass bush
for all to and fro movements we use bush bearings which allow for self-lubrication while in use and which can be easily exchanged in case of need

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

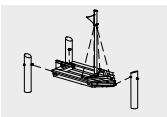
fittings hot-dip galvanised

flag made of weatherproof plastic fabric

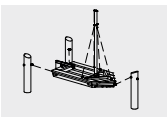
Dimensions
(small deviations possible)

length	3.50 m
width	2.20 m
seating height	0.70 m
weight	300 kg

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



6.03200/6.03201



6.03210

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.

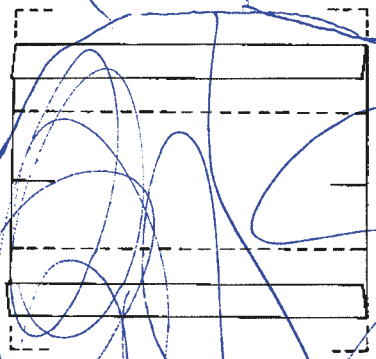
Hours of fun can be had with children on late winter afternoons, when walnut shells carrying tiny candles float in bowls of water. The light carriers can be gently manoeuvred with a straw.

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.

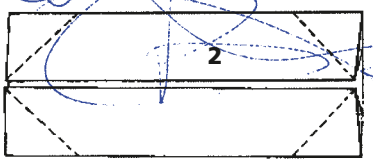
Anna, 3 years old

Boat
Initial shape: square

1

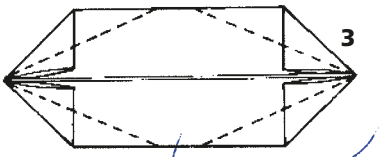


Fold the square to four identically large parallel rectangular strips; fold the top and bottom sections in half forwards onto itself (valley fold) then fold to the middle line of the square.



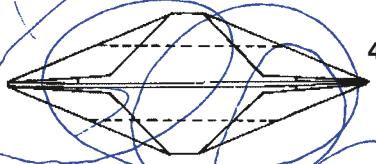
2

Fold the four corners forwards on the dotted line.



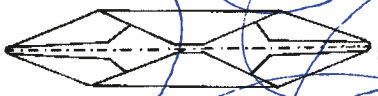
3

Fold forwards on the dotted line.



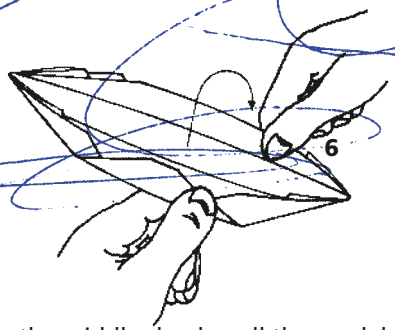
4

Fold forwards again on the dotted line.



5

Using a mountain fold, fold at the centre line; i.e., fold the model backwards.



6

From the middle slowly pull the model out and carefully turn it completely inside out; all outside parts will then be turned inside; the bottom of the boot will be flat.

From: K. H. Krons Designing with Paper
Dumont Verlag 1977

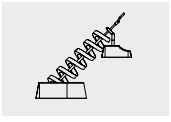
Function and Play value
A floating water supply often is the central feature of water play. A great way of moving water from a lower to a higher level is the Archimedes Screw, the old principle of water screws. Its turning draws water from the lower basin as it travels upwards with the movement of the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

Planning Information
We recommend planning by us.

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
  outdoor swimming pools

Archimedes Screws
with different drive mechanisms

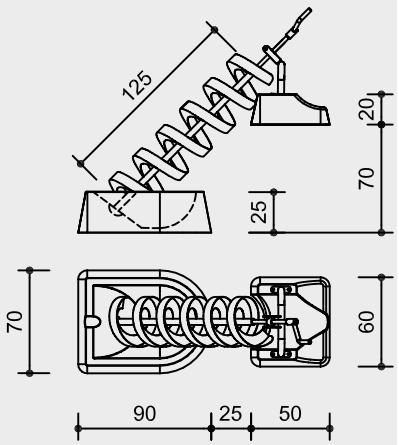


5.20500

5.20800

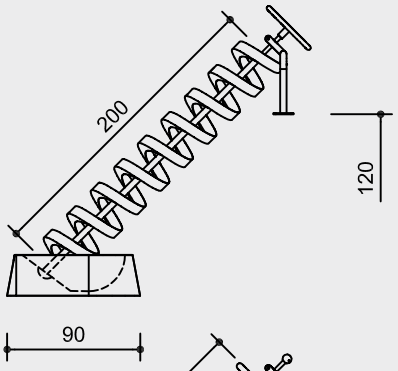
not to scale

Order No. 5.20500
Archimedes Screw
open, stainless steel
concrete basin at the bottom
open screw, rim height 7 cm
length 1.25 m
drive mechanism with crank
fixing with support bow
run-out at the top into concrete basin

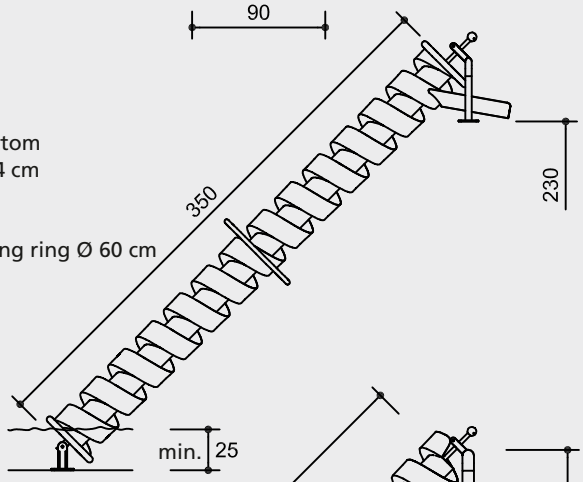


Order No. 5.20800
Archimedes Screw open, stainless steel
Examples with 45° inclination

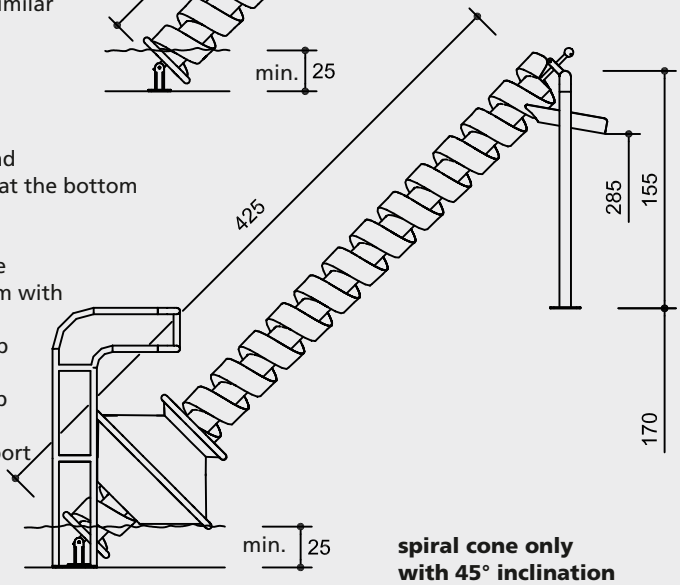
Example 1
concrete basin at the bottom
open screw, rim height 7 cm
length 2.00 m
drive mechanism with hand wheel, Ø 40 cm
fixing at the top with high support bow
on channel or similar built on site



Example 2
fixing flange and
protecting disc at the bottom
open screw, rim height 14 cm
length 3.50 m
with strong axle
drive mechanism w. turning ring Ø 60 cm
return stop
fixing at the top
with high support bow
and run-out basin
on channel or similar
built on site

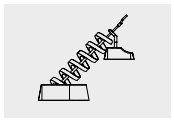


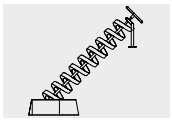
Example 3
fixing flange and
protecting disc at the bottom
open screw
length 4.25 m
with strong axle
drive mechanism with
spiral cone
incl. return stop
and frame
fixing at the top
with high
reinforced support
bow and
run-out basin
on channel
or similar
built on site



spiral cone only
with 45° inclination

Safety check according to EN 1176





5.20500

Technical information

All Archimedes Screws are provided with self-lubricating bearings.

Order No. 5.20500 Archimedes Screw open, stainless steel, s. sketch

open screw with two rim heights:
7 cm for conveying approx. 0.3 l/rotation
14 cm for conveying approx. 1.5 l/rotation

Dimensions
(small deviations possible)
see examples
Optimum conveyance is achieved at 45° inclination.

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

lower bearing
- concrete basin
- fixing flange with protecting disc

drive
- crank mechanism
- hand wheel Ø 40/Ø 60 cm
- turning ring, in any axial position Ø 60 cm
- spiral cone, in any axial position

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

Weight and included components depending on equipment type.

Installation information
Surfacing requirements
no fall height according to standard
Recommendation: sand with drainage or pavement with gully and corresponding landscaping.

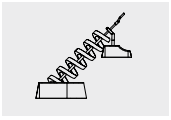
Water supply as well as reservoir and collecting basin, if applicable, to be provided on site (by customer).

Foundation – depending on type

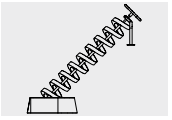
Attention!
Exact measurements may vary, for all installation dimensions refer to current assembly instructions.
We reserve the right to make technical alterations!
For use in chlorine water, the open screws are also available with a special steel alloy.

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 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

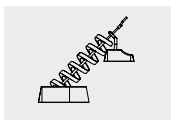


5.20500

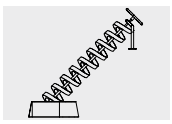


5.20800

David and Goliath
One has to use his 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.



5.20500



5.20800

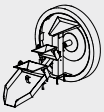
Function and Play value
Water play facilities which are not installed in natural surroundings using the typical design elements, become interesting by other special features. The Rotating Conveyor with its technical appearance scoops water, pours the water in differently shaped containers which get filled 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.

Rotating Conveyor with Tipper Trays

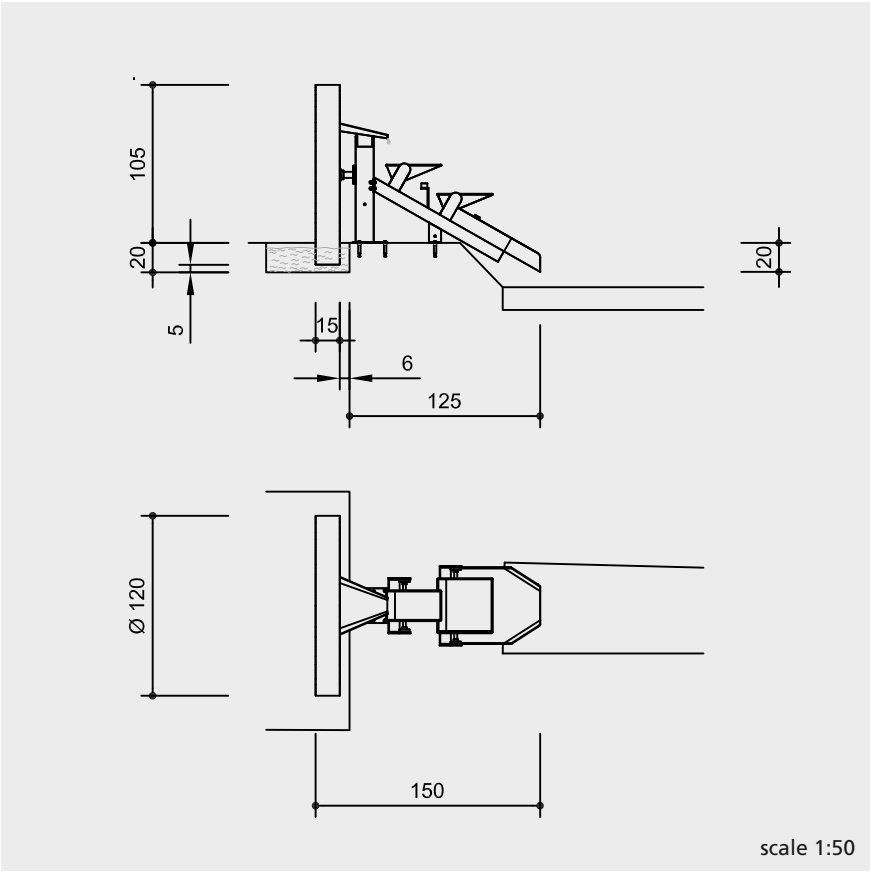
Fundamental characteristics
- unique and original
  high-quality metal construction
  exclusive design
- incentive for playing: large wheel
- movement: physical effort

Suitable
- for children from 4 years
- for public play areas
  parks
  leisure parks
  outdoor swimming pools

Design G. Beltzig



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.

Technical information

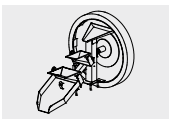
Total equipment made of stainless steel

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	130 kg

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



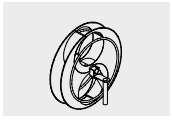
5.20850

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. It is directed by the channels into the flow dish and is redirected from there into the basin through a water outlet pipe. The water quantity coming into the channels varies with relation to the rotating speed of the wheel. The water can, for example, flow from both sides into the dish so that a constantly changing flow configuration results.

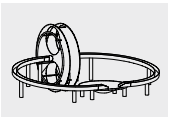
Fundamental characteristics
- special technical solution for water intake and distribution
- awarded design
- through water flow from both sides, special flow configurations can be observed
- the Scooping Wheel can also be combined with other water play systems
- unique and original
- incentive for playing: big wheel

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

Scooping Wheel
Water Scoop

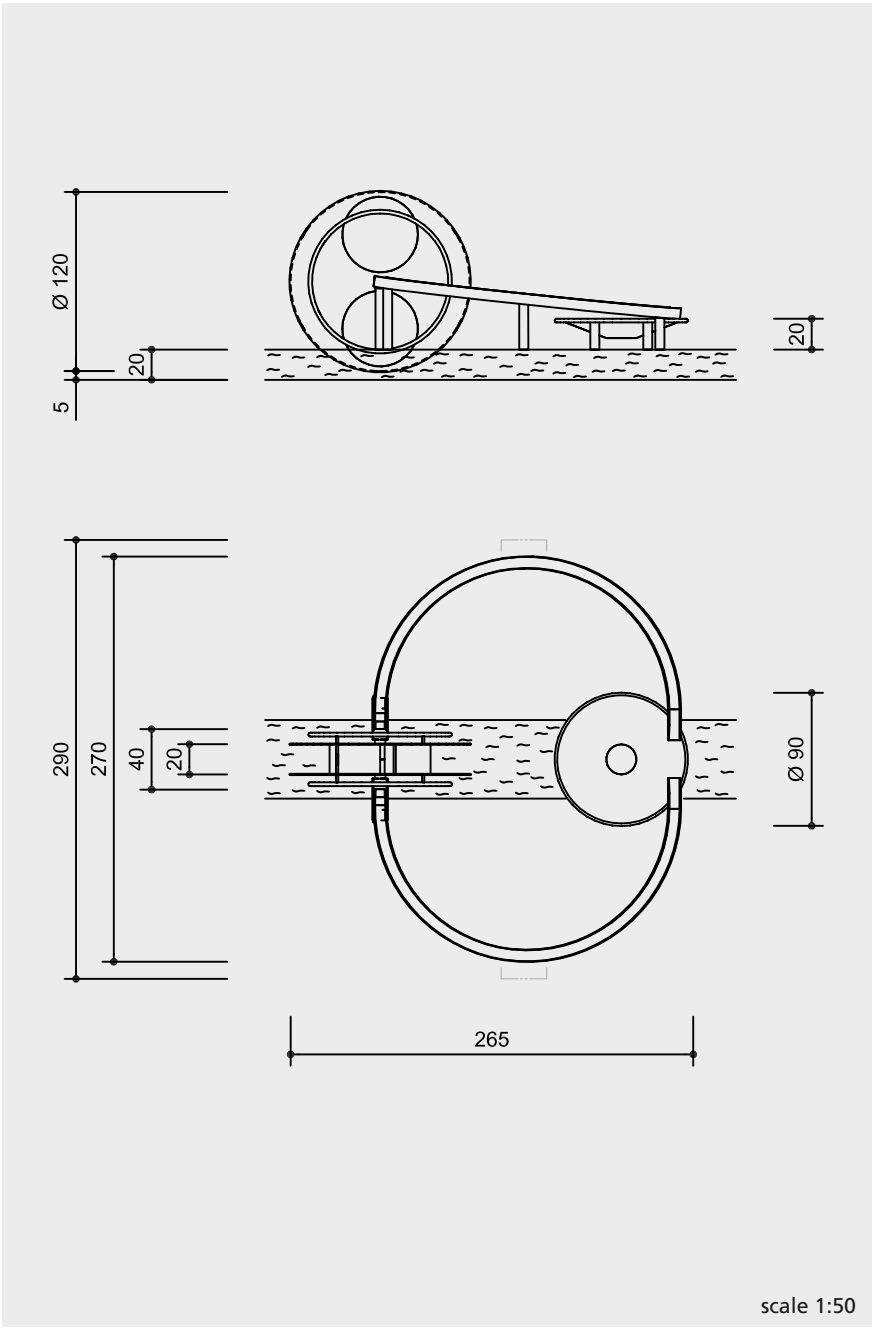


5.20880



5.42010

Design M. Rohrbach



Technical information

Total equipment of stainless steel

easy drive in maintenance free plastic bearings

grip-friendly rim

Dimensions
(small deviations possible)

Water Scoop

height	1.20 m
length	2.65 m
width	2.70 m
weight	130 kg

Scooping Wheel

diameter	1.20 m
weight	70 kg

Flow Dish

diameter	0.90 m
height	0.20 m

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

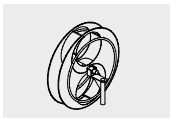
Order No. 5.20880 Scooping Wheel
1 Scooping Wheel with bearings and alternating water runoff
1 rack

Installation information

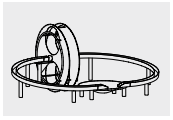
Surfacing requirements
no fall height according to standard
Recommendation: pavement or a similar surface with a runoff for water
· Water depth: for a proper function a min. water depth of 20 cm is required.
· Water supply and water basin have to be provided for on site.

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
excavation depth each 60 cm

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



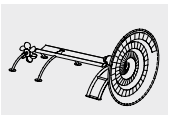
5.42010

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.

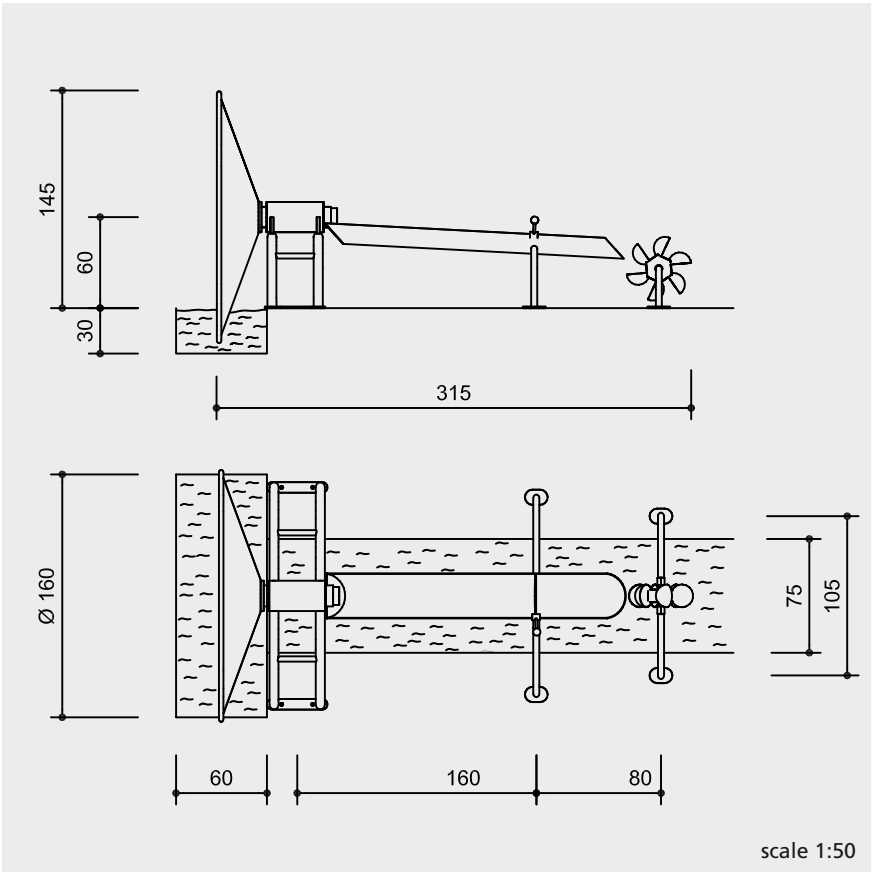
Fundamental characteristics
- high-quality design
- space-saving type of conveyor screw
- incentive for playing: big wheel
- movement: physical effort

Suitable
- for children from 5 years
- for leisure areas
  big water play installations
  outdoor swimming pools

Nautilus Snail
with Impulse Gutter and Scooping Wheel



5.42050



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.

Technical information

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

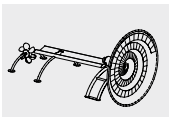
locking element of rubber

Small Scooping Wheel
Order No. 5.15910 see separate catalogue sheet;

Dimensions
(small deviations possible)

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

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



5.42050

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

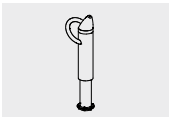
Function and Play value
It is not immediately clear for what purpose these funny coloured mushroom heads can be used. When the two handles, inviting a hands on activity, are pushed down powerfully, an internal piston sends a far-reaching water jet through the spray head. The whole spray head can be turned 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 360°
- Position of water jet can be changed (mushroom head)
- incentive for playing: coloured head, handles
- movement: physical effort, aiming at

The pictures show the version with mushroom head.

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

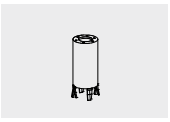
Suitable
- for children from 6 years
- for all water play areas of playgrounds
  leisure areas
- for water playgrounds
  outdoor swimming pools



5.18050

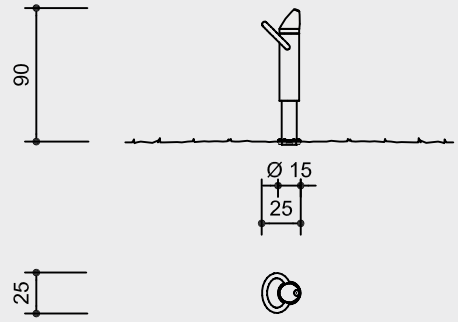
5.18060

5.18052

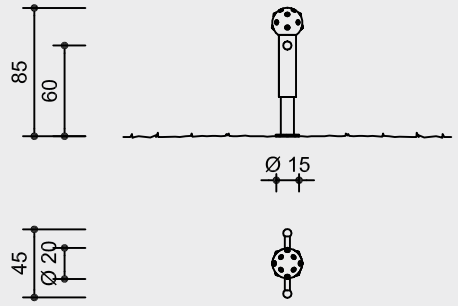


5.18054

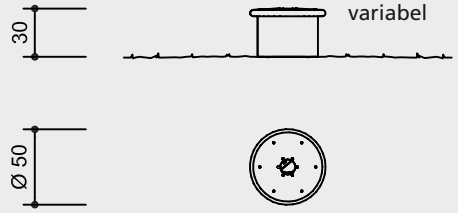
Splash Pump with fixed water jet
Order No. 5.18050



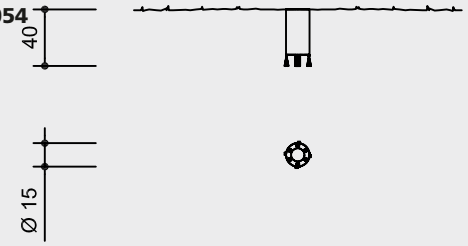
Splash Pump with mushroom head
Order No. 5.18060



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

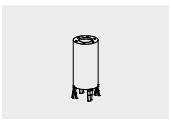
Foundations
1 Foundation Anchor **Order No. 5.18054** (not required in combination with intake container) approx. 60 x 60 x 40 cm excavation depth 50 cm

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


5.18050


5.18060


5.18052


5.18054

Technical information

Order No. 5.18050
Splash Pump with fixed water jet
equipment of stainless steel, with fixed water jet
maximum distance to the water source 6 m
delivery height max. 2.50 m
water supply 1/2 inch
external connection thread 3/4 inch

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. 2.50 m

Order No. 5.18052 Intake Container
equipment of stainless steel with integrated float valve for direct connection to water supply line (1 - 3.5 bar)
external connection thread 3/4 inch
connecting pipe to the water supply is not supplied with product (we recommend a compression proof diameter 1/2 inch)
drainage should be provided for (frost protection during the winter)
underground adequate for heavy duty bolting
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	0.90 m
diameter on top	0.25 m
weight	23 kg

Order No. 5.18060
Splash Pump with mushroom head

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

Order No. 5.18052 Intake Container

height	0.30 m
diameter	0.50 m
weight	20 kg

Winter Lid on request

Order No. 5.18054
Foundation Anchor

height	0.40 m
diameter	0.15 m
weight	7 kg

Winter Lid Order No. 5.18055

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

Order No. 5.18100 Pedal Pump with Spray Head Handlebar

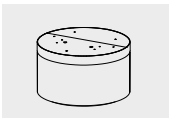
Pedal Pump
with Spray Head in Handlebar
for External Jet

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

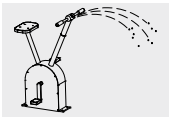
Fundamental characteristics
- immediately recognisable incentive to exercise
- robust design
- water jet as surprising action
- exercise activity: targeting, physical effort

Suitable
- for children from 6 years and adults
- water playgrounds
- leisure areas
- outdoor swimming pools

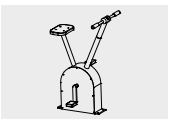
Order No. 5.18200 Pedal Pump for External Jet



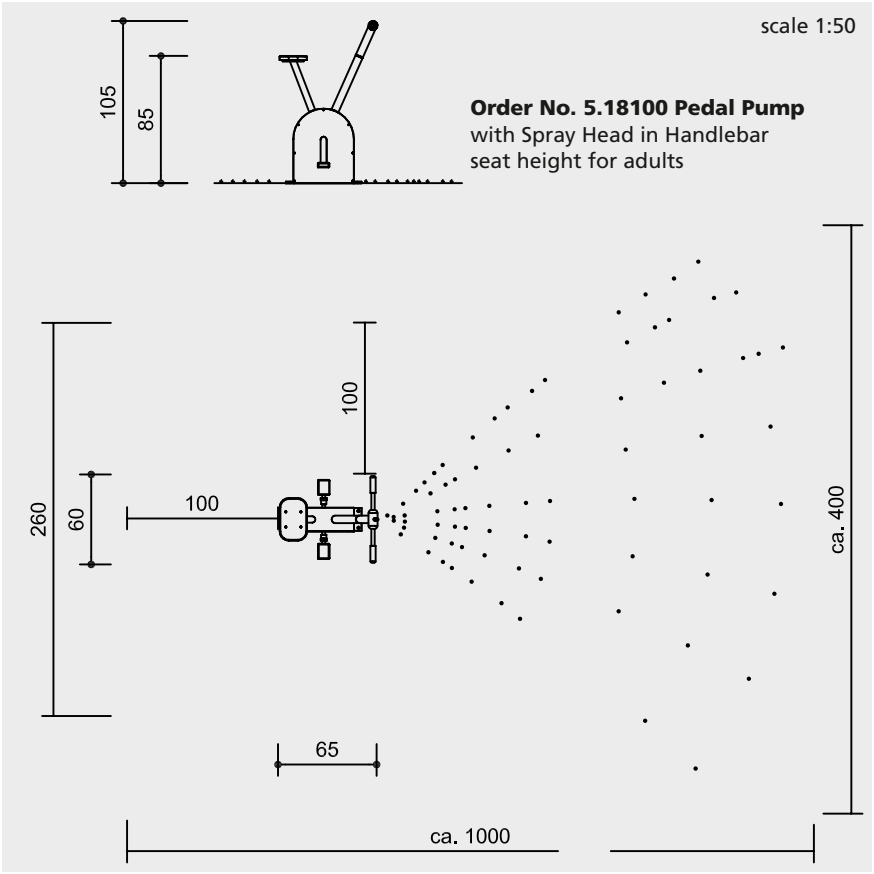
5.18250



5.18100/5.18110



5.18200/5.18220



Order No. 5.18100 Pedal Pump
with Spray Head in Handlebar
seat height for adults

Safety check according to EN 1176

Components

Order No. 5.18100/5.18110
1 with spray head in handlebar
1 winter lid

Order No. 5.18200/5.18220
1 pedal pump for external jet
jet not included
1 winter lid

for connection to water mains
Order No. 5.18250 concrete well
with integrated stainless steel water reservoir available

Installation information

Surfacing requirements
no fall protection requirements
suitable for heavy duty bolts

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

Technical information

equipment made of stainless steel

seating surface made of polyoxymethylene (POM-C), standard colour black

Order No. 5.18100 Pedal Pump
with Spary Head in Handlebar, seat height for adults
Order No. 5.18110 Pedal Pump
as before, but seat height for children

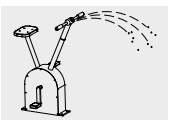
Order No. 5.18200 Pedal Pump
for External Jet, seat height for adults
Order No. 518220 Pedeal Pump
as before, but seat height for children

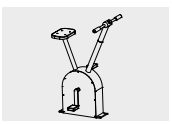
Dimensions

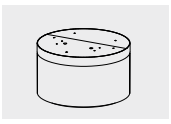
(small deviations possible)

total height	1.05 m
seat height	
for adults	0.85 m
for children	0.70 m
length	0.65 m
width	0.60 m
weight	
pedal pump	35 kg
concrete well	
(optional)	560 kg

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


5.18100/5.18110


5.18200/5.18220


5.18250

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 to be rocked softly. The Little Whale, in combination with the Sea Creatures, is a very attractive play offer also for town centres.

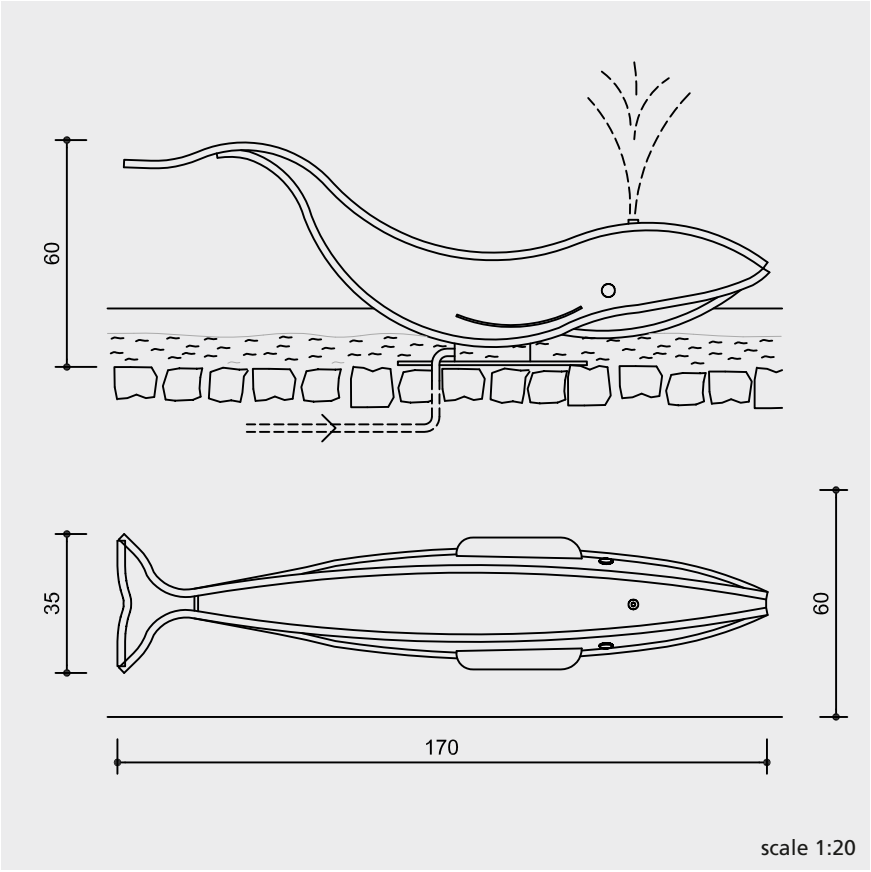
Fundamental characteristics
- attractive, child-orientated design
- integrated pressure pump for creating the water jet
- incentive for playing: animal
- movement: moving one's centre of gravity

Suitable
- for children from 6 years
- for pedestrian areas
  outdoor swimming pools
  leisure areas

Little Whale

Note
The Little Whale and the Sea Creatures belong to our product line „Art Play".

5.18500



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.

Technical information

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 and which can be easily exchanged in case of need

integrated float valve for direct connection to the mains water, diameter 1/2 inch, pressure 1 - 3.5 bar, connection thread 3/4 inch

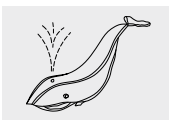
Dimensions

(small deviations possible)

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

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website **www.richter-spielgeraete.de**. Go to “Products” and then the applicable piece of equipment.

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



5.18500

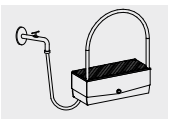
Function and Play value
The See-saw Pump is a very attractive element on water play areas. One child can operate the pump by moving his or her centre of gravity, but also two children can work together for moving the pump to and fro. The holding tube provides safety and helps to coordinate the movement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

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

Fundamental characteristics
- can also be used for producing water pressure
- unique and original
- incentive for playing: holding tube, inclined surface
- movement: moving one's centre of gravity

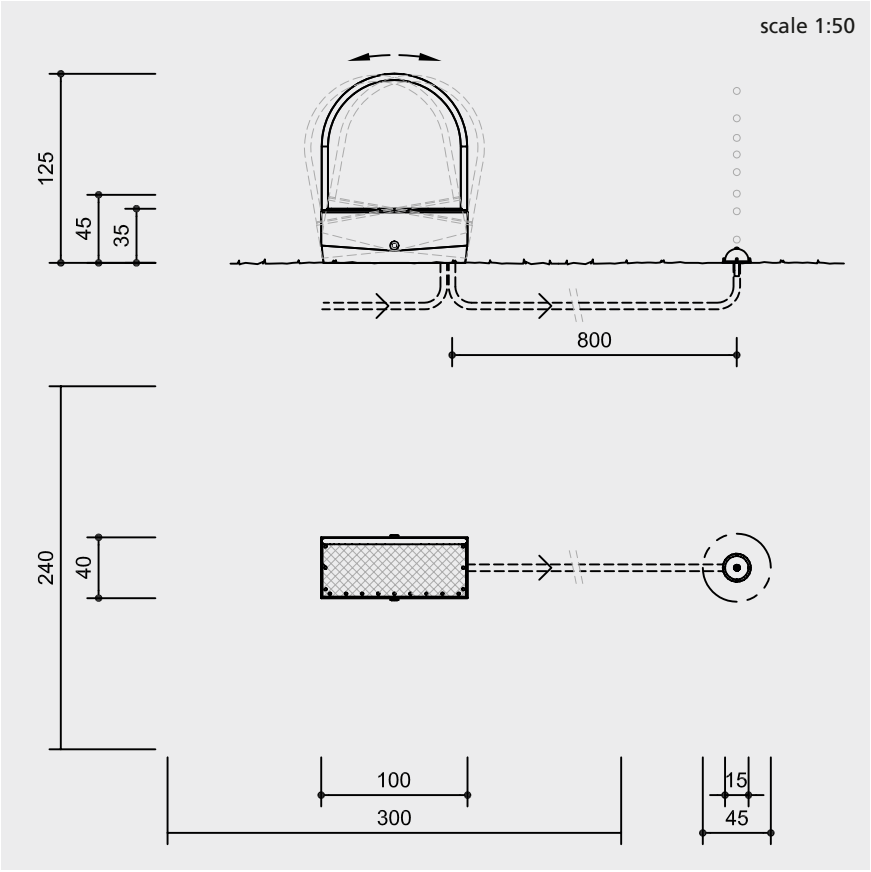
Suitable
- for children from 6 years
- for all water play areas

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



5.18600

5.18700

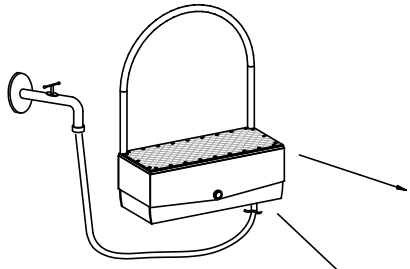


Safety check according to EN 1176

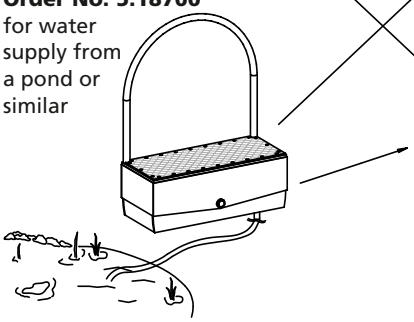
The following drawings show examples of different possibilities of installation. Other combinations with equipment from our water play range are possible.

Type of See-saw Pump

Order No. 5.18600
for direct connection to the pressure line

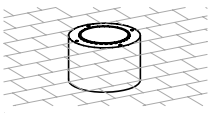


Order No. 5.18700
for water supply from a pond or similar

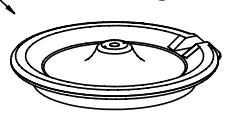


Installation of the Spraying Head

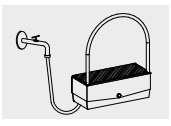
1. on foundation made on site



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



Type of Spraying Head



5.18600

5.18700

Technical information

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 and which can be easily exchanged in case of need

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)

height	1.25 m
length	1.00 m
width	0.40 m
max. pedestal height	0.45 m
weight	80 kg

required diameter for water supply
1 inch

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 see **Order No. 0.57300**.

Installation information
reinforced surface

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

Foundations
1 item 92 x 42 x 80 cm
excavation depth below frost level, but minimum 80 cm

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.

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website **www.richter-spielgeraete.de**. Go to “Products” and then the applicable piece of equipment.

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

Order No. 5.18870 Simple Spraying Head

Planning information

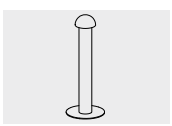
The Water Push Button **Order No. 5.18020** is only suitable for direct connection to the pressure line. When the hemisphere is pressed once, a valve is activated which stops the water flow after 60 seconds or earlier (time is adjustable).

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.

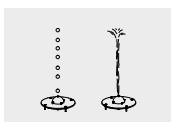
Please note the higher cleaning effort involved when using the Simple Spraying Head, **Order No. 5.18870**. Consider using the Spraying Head with cleaning mechanism, **Order No. 5.18810/5.18830**.

Order No. 5.18020 Water Push Button

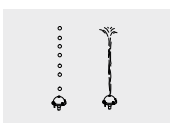
Water Push Button
Spraying Heads with wide flange
Spraying Heads with small flange
Simple Spraying Head



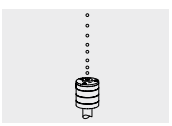
5.18020



5.18810/5.18815

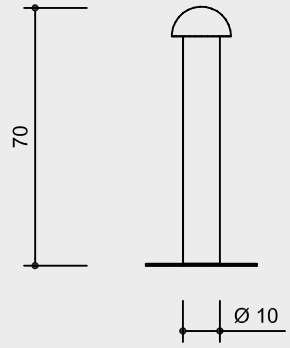


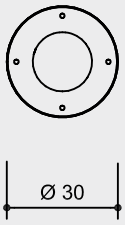
5.18830/5.18835



5.18870

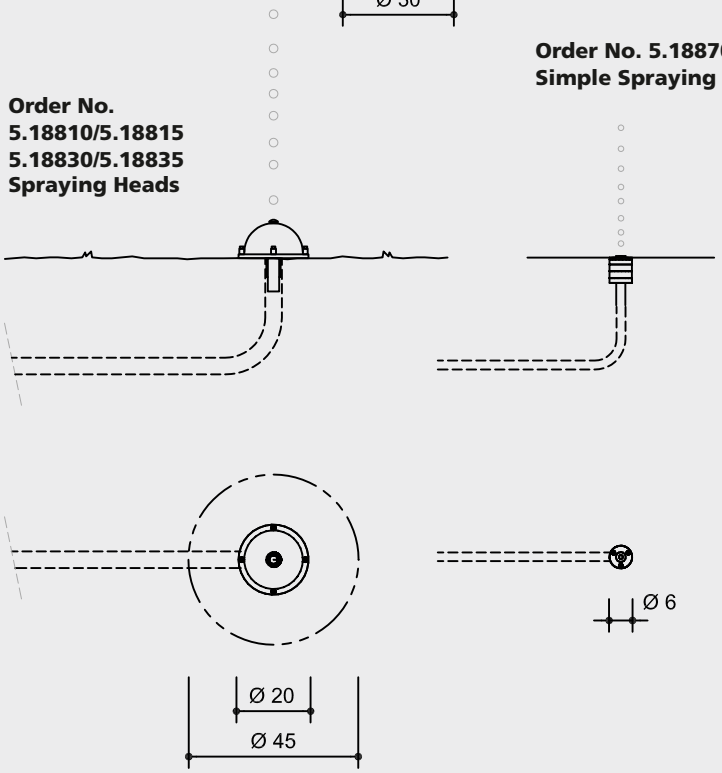
Order No. 5.18020
Water Push Button





Order No. 5.18870
Simple Spraying Head

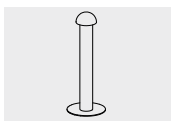
Order No.
5.18810/5.18815
5.18830/5.18835
Spraying Heads



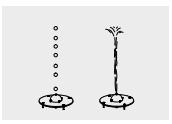
Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website **www.richter-spielgeraete.de**. Go to "Products" and then the applicable piece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

scale 1:20

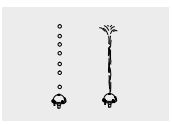
Safety check according to EN 1176



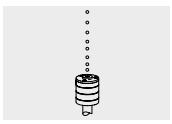
5.18020



5.18810/5.18815



5.18830/5.18835



5.18870

Technical information

Water Push Button Order No. 5.18020
made of stainless steel with coloured hemispfhere, 12 kg

Spraying Heads with wide flange
Order No. 5.18810
with weak water jet
Order No. 5.18815
with strong water jet
Spraying Heads with small flange
with weak water jet
Order No. 5.18830
with strong water jet
Order No. 5.18835
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
Spraying Heads made of stainless steel with brass head
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)

Water Push Button 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	
flange diameter	0.45/0.20 m
diameter of the hemisphere	0.15 m
distance between head and Pump max.	8.00 m
required diameter for water supply 3/4 inch	
Simple Spraying Head Order No. 5.18870	
diameter	0.06 m
distance between head and pump	2 - 8 m
spraying head inlet	Ø 3/4 inch

Components
Water Push Button Order No. 5.18020
1 Water Push Button
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
foundation anchor for spraying head with small flange see **Order No. 5.18056**

Installation information
Reinforced surface
Foundations and water supply to be prepared by the customer. **Water Push Button:** 1 item 40 x 40 x 30 cm, excavation depth 60 cm
Attention!

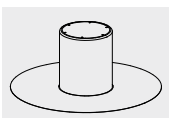
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
We reserve the right to make technical alterations!
For use in chlorine water the equipment are also available with a special steel alloy (V4A).

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 himself. 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.

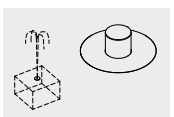
Fundamental characteristics
- mechanical pump mechanism makes the correlation between one's own power and the width of the water jet visible
- functional design
- incentive for playing: curiosity
- movement: jumping

Suitable
- for water play areas of:
  playgrounds
  pedestrian areas
  outdoor swimming pools
  leisure areas

Water Jet
Water Jet for external Jet



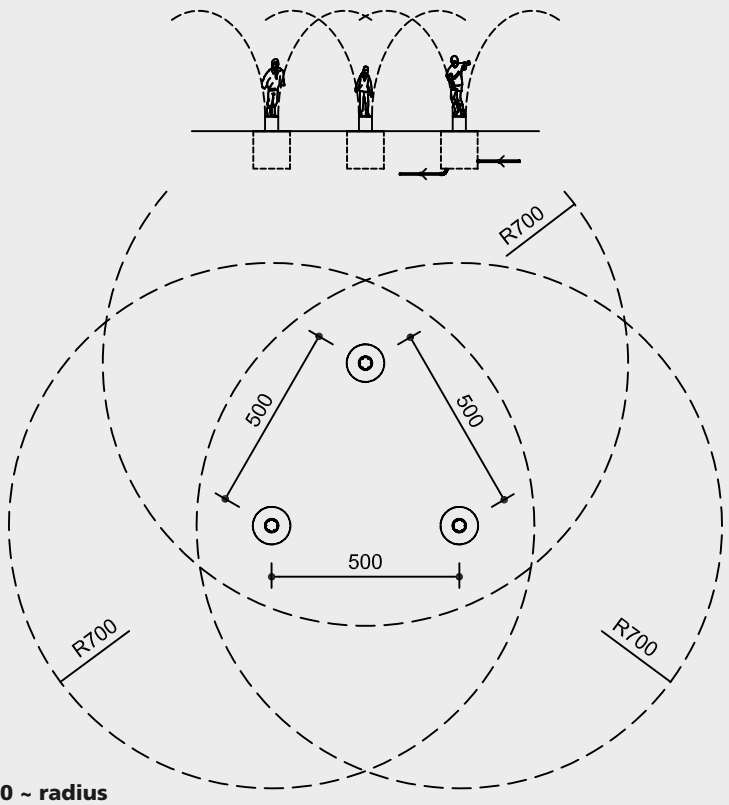
5.25000/5.25050



5.25070

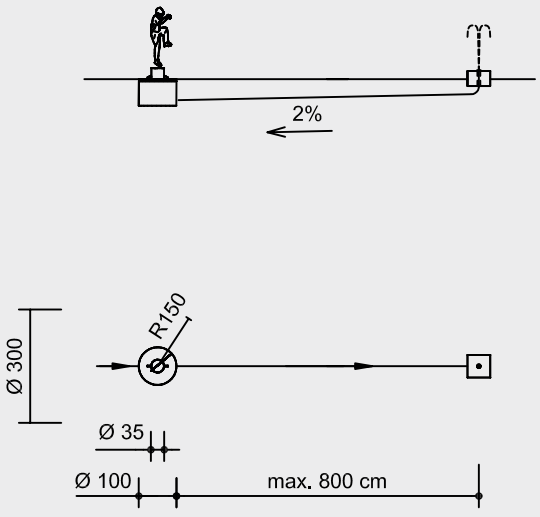
Design J.O. Gaier

Planning example for 3 Water Jets



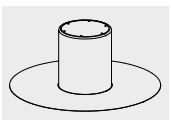
R700 ~ radius

Order No. 5.25070
Water Jet for external Jet

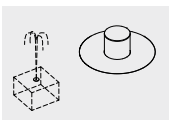


scale 1:200

Safety check according to EN 1176



5.25000



5.25070

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.

Technical information

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 inch inside, water supply 3/4 inch, pressure max. 3.5 bar)
both lids of concrete, summer lid with rubber seal
Order No. 5.25050 For installation in a water basin, the Water Jet can also be supplied with a sealed housing (not apply for Order No. 5.25070).
Order No. 5.25070
for external Jet
as before, but standing plate without jets

Dimensions
(small deviations possible)

standing plate	
diameter	0.35 m
height	0.30 m
concrete housing	
diameter	1.00 m
height	1.10 m
	= installation depth
total weight	900 kg

Components
1 Water Jet pre-assembled in concrete housing with summer lid
1 winter lid
accessories for **Order No. 5.25070: Spraying heads 5.18810/5.18815/5.18 830/5.18835/5.18870**

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

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

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

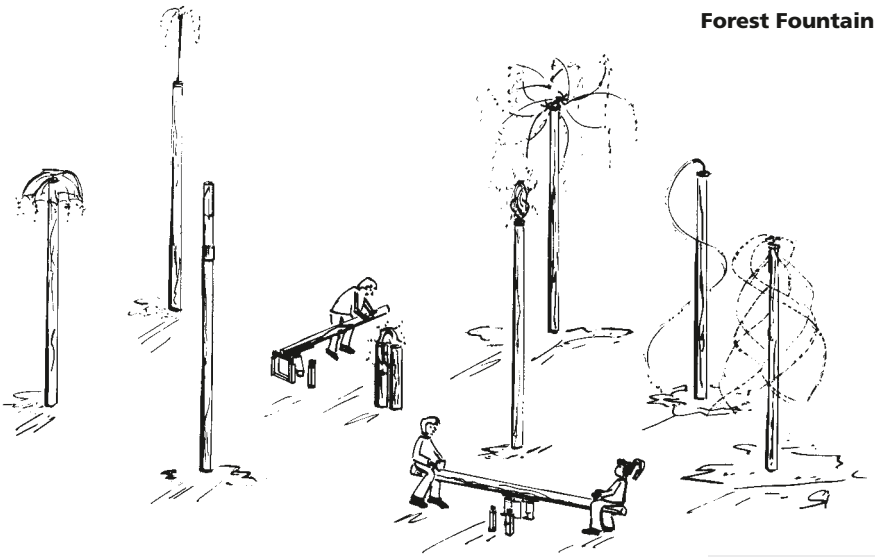
During frosty periods the suction pump must be disassembled and the water reservoir and supply must be emptied. Also included in the components is a lid with which the shaft is sealed during the frosty season.

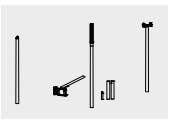
Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website **www.richter-spielgeraete.de**. Go to "Products" and then the applicable piece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

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

Suitable
- for children from 6 years
- for leisure areas
  open air swimming pools
  parks

Forest Fountain





5.27010 - 5.27060

Design J.O. Gaier

Rotors and jets

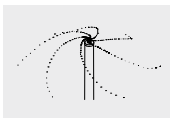
Vertical Jet
spraying height up to 10 m, radius 2 m
Horizontal Star Rotor
spraying length up to 7 m, reducible to 4 m
Vertical Star Rotor
spraying area lengthways 2 x 14 m, width 1.50 m
Spiral Rotor
spraying area radius 2.5 m
Umbrella Jet
spraying area radius 3 m
High Collision Disc
spraying area 4 m, width 1 m
Low Collision Disc
spraying area 2 m, width 0.50 m
spray effect lengthwise
Reservoir
Water Umbrella
spraying area radius 3 m

5.27035 Horizontal Star Rotor

5.27034 Vertical Star Rotor

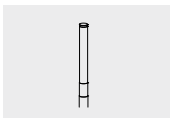
5.27032 Vertical Jet

5.27031 High Collision Disc



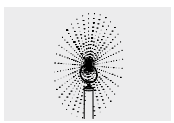
5.27035

5.27036

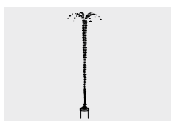


5.27037

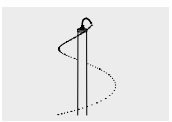
5.27030



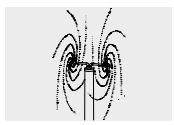
5.27031



5.27032



5.27033



5.27034

Components

Pumps

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

1 pump cylinder with stainless steel mechanism on concrete well, Ø 100 cm, depth of installation approx. 60 cm, pump swipe of ash wood Ø 9 cm, length 2.30 m, weight approx. 600 kg, depending on type of distribution station (single or double), 3-way valve with pan bar handle and direction arrow, made of stainless steel/plastic, height 40 cm

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

2 pump cylinders and stainless steel mechanism on concrete well, Ø 100 cm, depth of installation approx. 65 cm, see-saw beam of larch, length 4 m, fall height ≤ 1 m, weight approx. 700 kg, depending on type of distribution station (single or double), 3-way valve with pan bar handle and direction arrow, made of stainless steel/plastic, height 40 cm

Masts

larch wood with steel foot, height approx. 4 m, Ø 15 cm, cap of stainless steel or complete masts made of stainless steel tubes

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

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

State Garden Show, Rosenheim, 2010
Planning and water trays
A24 landscape architects

Design J.O. Gaier

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

State Garden Show Tirschenreuth

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

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

State Garden Show, Hemer, 2010
State Garden Show, Tirschenreuth 2013
Colour scheme: Geskes · Hack, landscape architects

Masts made of stainless steel, powder-coated

5.27010 - 5.27060

Power of water

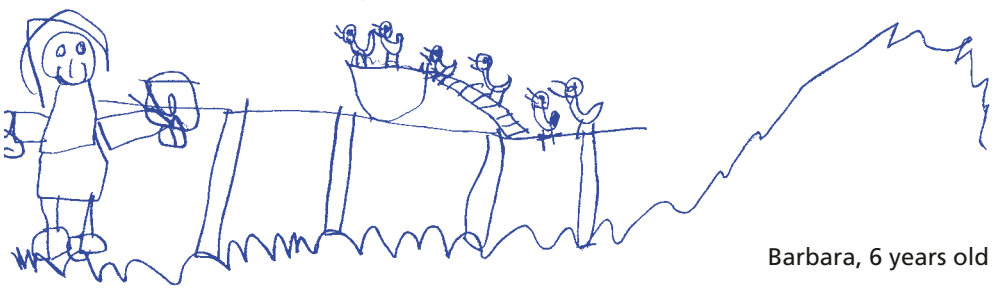
Experience water with children

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

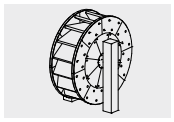
Order No. 5.15820 Mill Wheel of metal

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 element of water as a power source is of great importance. Therefore, water wheels are always an important component of a water play installation. Both Mill Wheels are propelled by the weight of the water. However, it is important to know about the clearly visible and recognisable relationship and to have the possibility to change something.

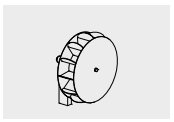
Fundamental characteristics
- unique by its original mill wheel design
- incentive for playing: recognition

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

Mill Wheel of wood
Mill Wheel of metal



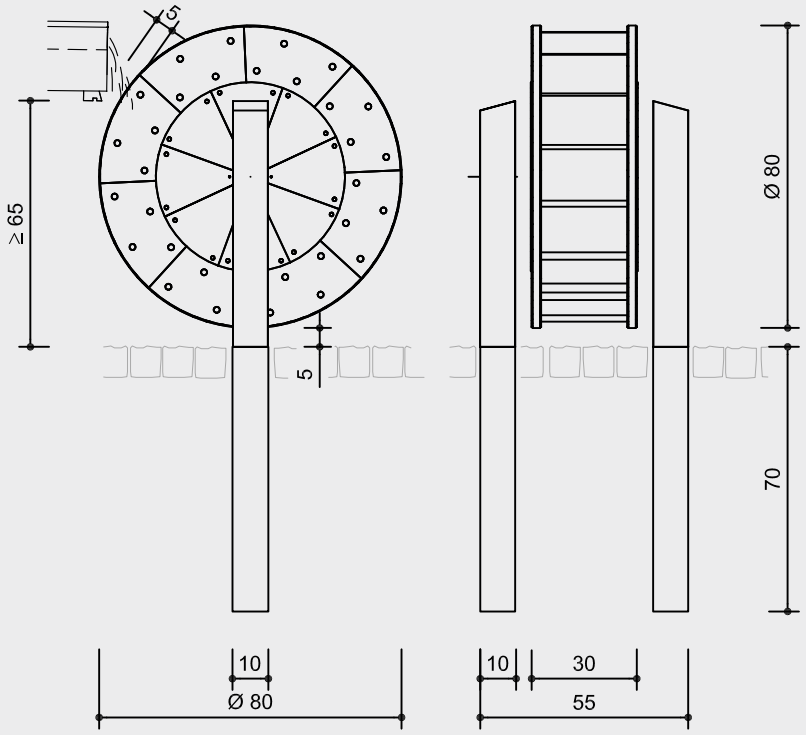
5.15810



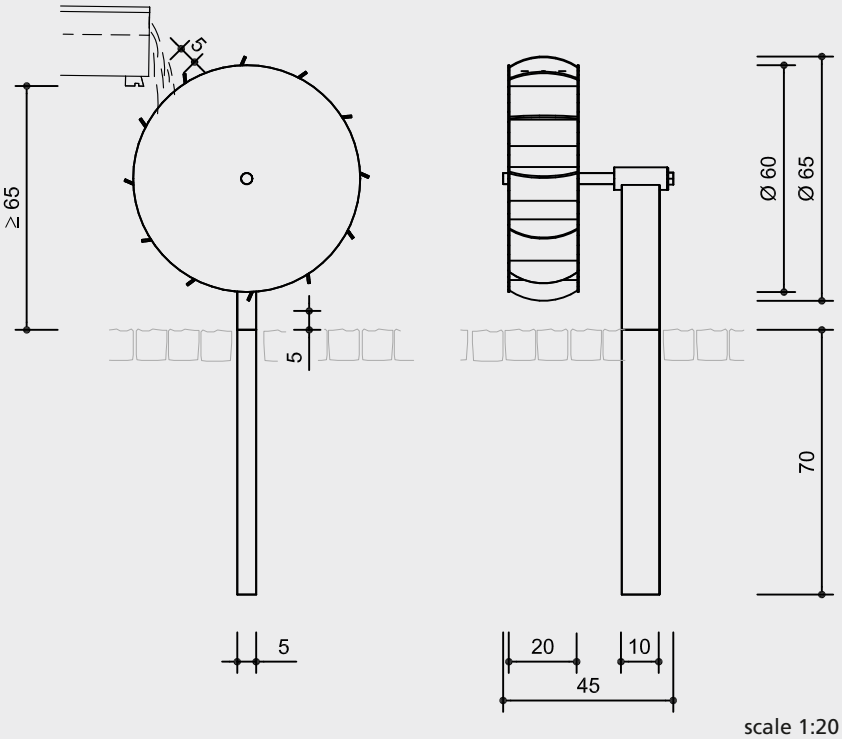
5.15820

Design G. Beltzig

Order No.
5.15810 Mill Wheel of wood

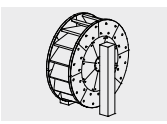


Order No.
5.15820 Mill Wheel of metal

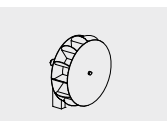


scale 1:20

Safety check according to EN 1176



5.15810



5.15820

Technical information

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

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

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

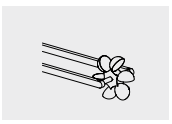
Function and Play value
The Metal Bucket Wheels are an eye-catcher in water play areas, particularly when reflections of sparkling light emphasise the agreeable design. The small bowls, arranged in a radial shape, are very attractive for children. When the Wheel starts turning by the power of water, 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

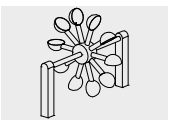
Order No. 5.15910 Small Bucket Wheel for site foundations

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



5.15900

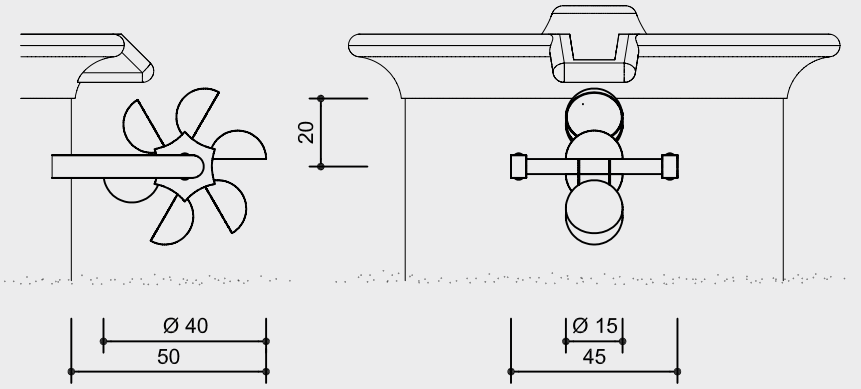
5.15910



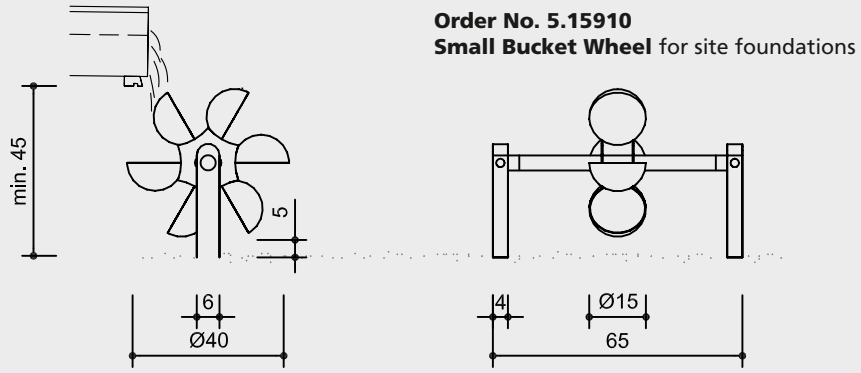
5.15920

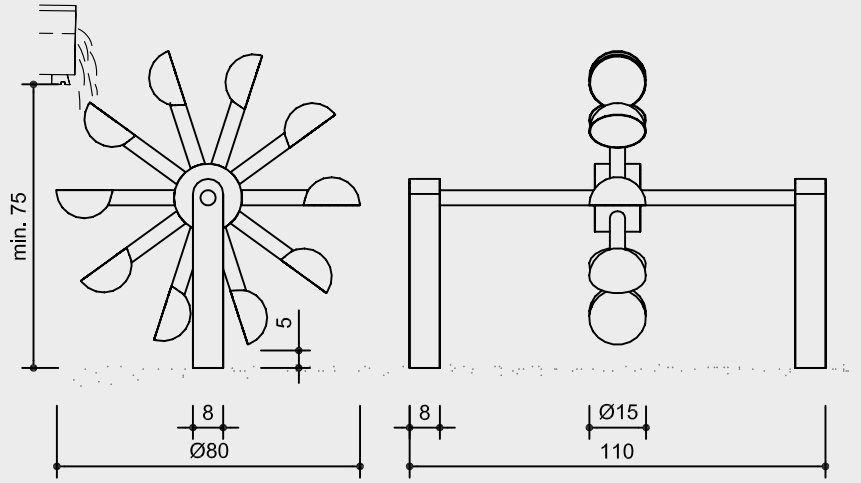
Order No. 5.15900
Small Bucket Wheel for concrete base

scale 1:20

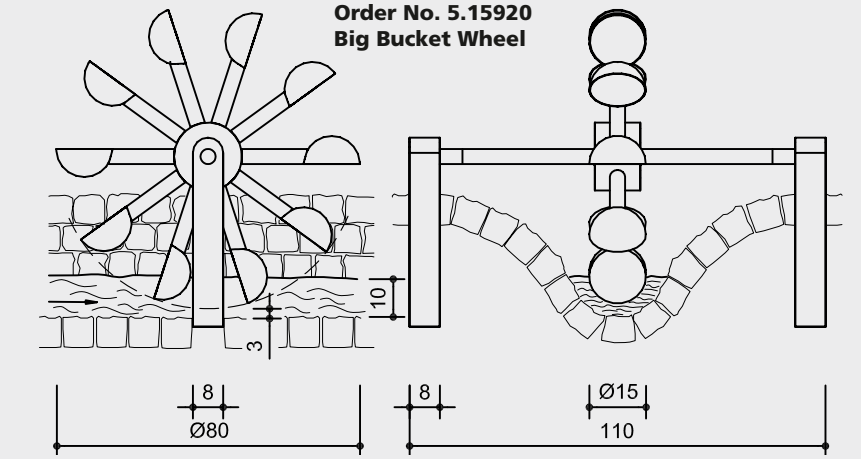


Order No. 5.15910
Small Bucket Wheel for site foundations

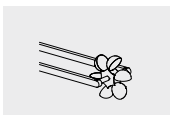




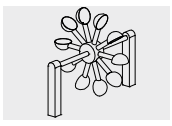
Order No. 5.15920
Big Bucket Wheel



Safety check according to EN 1176


5.15900


5.15910


5.15920

Technical information

All equipment of stainless steel

thickness of metal sheet 3 mm

diameter of hemisphere 150 mm

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

47

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

Dimensions
(small deviations possible)
Order No. 5.15900
Small Bucket Wheel for concrete base

width	0.45 m
projection over concrete base	0.50 m
diameter of wheel	0.40 m
weight	13 kg

fitting concrete base see Order No. 5.15950 in the price list

Order No. 5.15910
Small Bucket Wheel for site foundations

height	0.45 m
width	0.65 m
diameter of wheel	0.40 m
weight	15 kg

Order No. 5.15920
Big Bucket Wheel

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

Components
1 part each

Installation information

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

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

Foundations
Order No. 5.15910
1 item 50 x 90 x 30 cm
excavation depth 70 cm
Order No. 5.15920
2 items 40 x 40 x 30 cm
excavation depth 50 cm
Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
For use in chlorine water the equipment is also available with a special steel alloy.

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

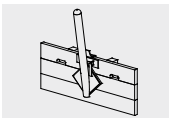
Suitable
- for children from 3 years
- for all water play areas in playgrounds and adventure areas

Order No. 5.20910 Damming Wedge

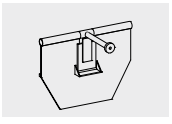
Order No. 5.20905 Water Flap

Order No. 5.20900 Dam of Wood

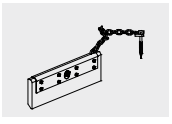
Dam of Wood
Water Flap
Damming Wedge



5.20900

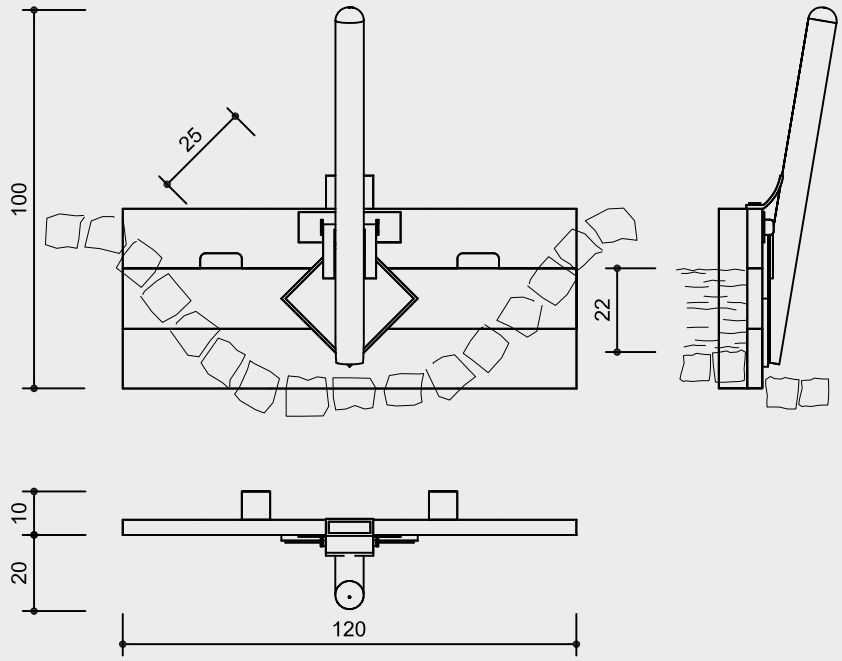


5.20905

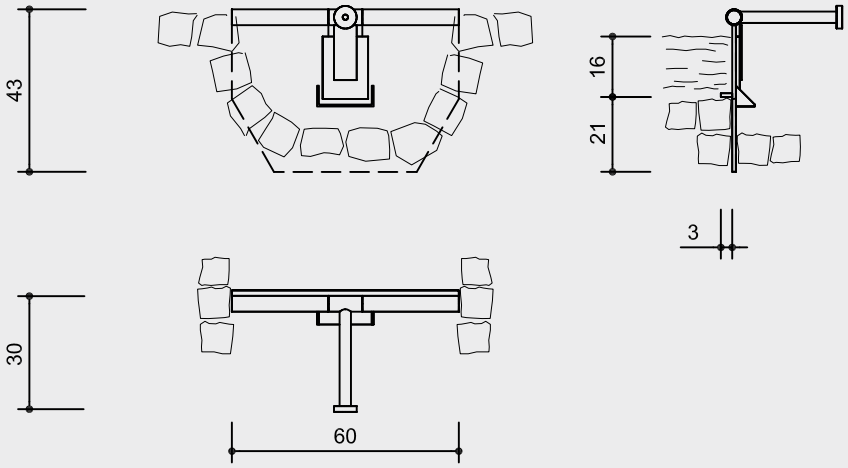


5.20910

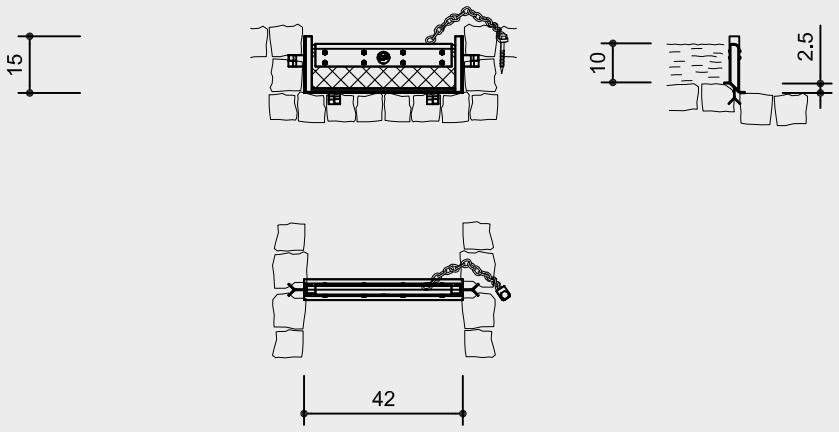
Order No. 5.20900 Dam of Wood



Order No. 5.20905 Water Flap

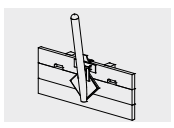


Order No. 5.20910 Damming Wedge

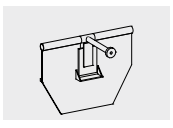


scale 1:20

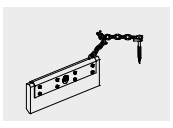
Safety check according to EN 1176



5.20900



5.20905



5.20910

Technical information

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 15 mm rubber plate, opening sealed with sealing tape

Dimensions
(small deviations possible)

height	1.00 m
width	1.20 m
damming height	0.22 m
weight	27 kg

Order No. 5.20905 Water Flap

basic construction of stainless steel

seal of 10 mm rubber plate

Dimensions
(small deviations possible)

height	0.43 m
width	0.60 m
damming height	0.16 m
weight	20 kg

Order No. 5.20910 Damming Wedge

damming wedge of industrial rubber, holding device of stainless steel

chain of stainless steel with swivel

Dimensions
(small deviations possible)

height of wedge	0.15 m
width	0.42 m
length of chain	0.30 m
height of threshold	0.025 m
damming height	0.10 m

Order No. 5.20915

damming height	0.20 m
weight	3 kg

Components
Dam of Wood and Water Flap
1 part
Damming Wedge
1 Damming Wedge
1 Guide Frame

Installation information

hard surface

Foundations depending on installation situation; the Dam of Wood is bricked in the channel and can be installed optionally in flow direction or against flow direction.

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
For use in chlorine water the equipment 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

Order No. 5.20907 Water Switch

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

Order No. 5.20930 Lock Gate

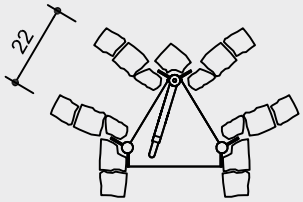
Water Switch
Lock Gate
Ball Valve

5.20907

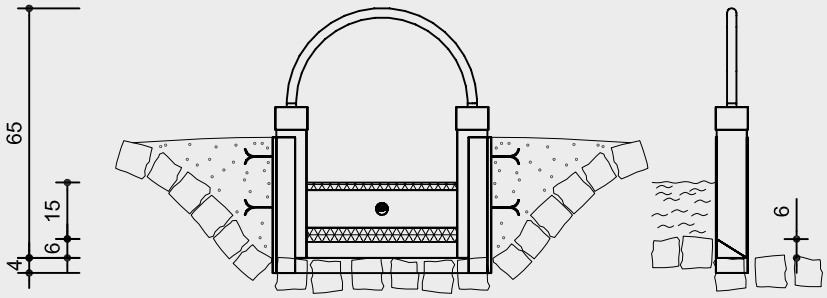
5.20930

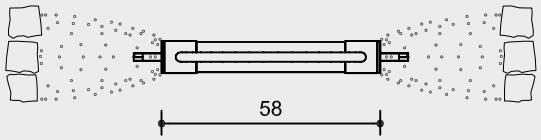
5.20950

Order No. 5.20907 Water Switch

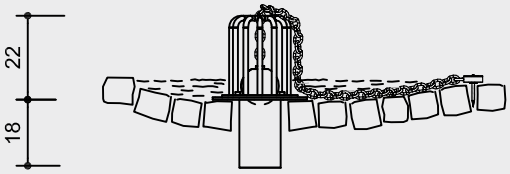


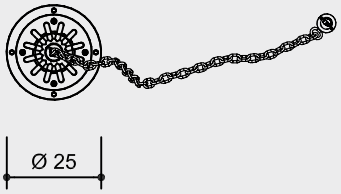
Order No. 5.20930 Lock Gate
with installation frame





Order No. 5.20950 Ball Valve





scale 1:20

Safety check according to EN 1176

5.20907

5.20930

5.20950

Technical information

Order No. 5.20907 Water Switch
total construction of stainless steel
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	8 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	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	12 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.

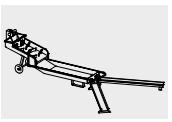
Play value
Flowing water ignites a child's world of fantasy in a whole range of ways. Direct contact with the wet element inspires the young spirit to ceaselessly explore and seek out as-yet-undiscovered secrets. By repeatedly touching a button, the device fills with water bit by bit, and, with a simple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

Mobile Water Playground

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

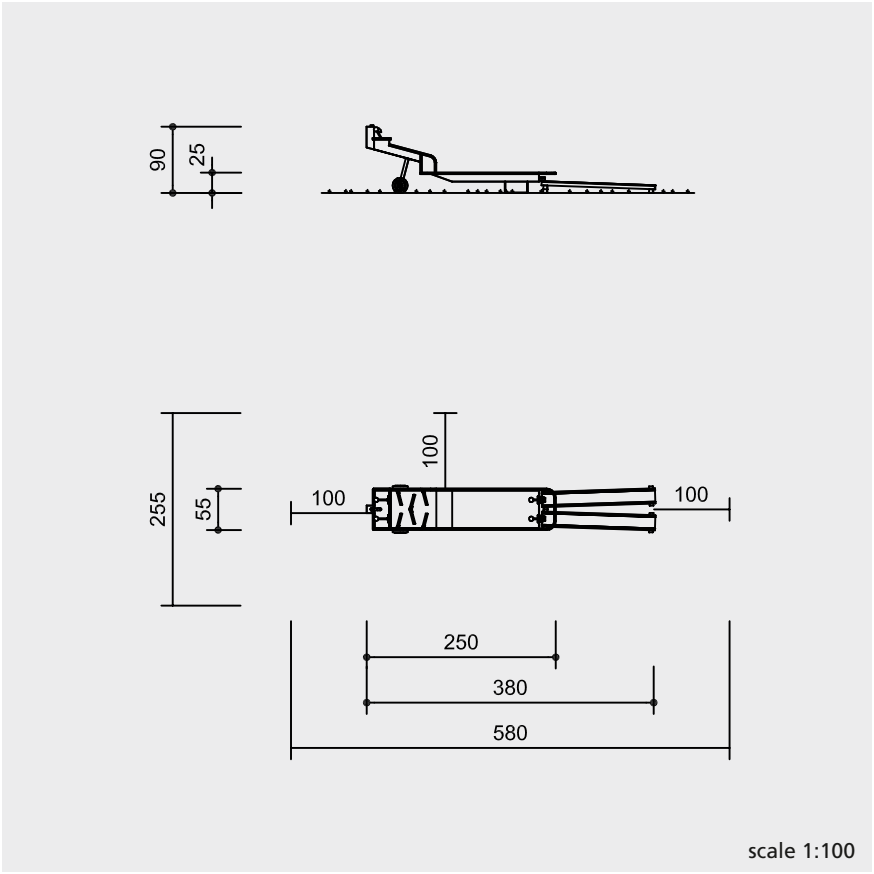
Fundamental characteristics
- mobile installation thanks to the "wheelbarrow" design
- simple plug-in connection with garden hose
- motivates group organisation
- exercise activity: fine motor skills

Suitable
- for children from 2 years
- for kindergartens
  children's day care centres
  supervised water play areas



5.21800

Design G. Beltzig



scale 1:100

Safety check according to EN 1176

Technical information

entire equipment made of stainless steel

rubber-tyred wheels

flow obstacles made of rubber flaps

Dimensions
(small deviations possible)

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

Components

1 mobile water playground
with 2 water outlet gutters

Installation information

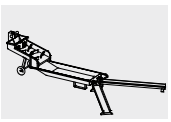
Surfacing requirements
turf, topsoil, paving or similar
with adequate drainage for water

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

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

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

Attention!
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
We reserve the right to make technical alterations!
For usage with chlorinated water, the equipment is available made of V4A steel.



5.21800

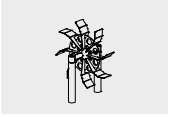
Order No. 5.28010 Water Wheel with flying shovels

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 of our wheels 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.

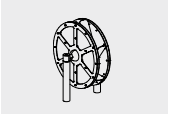
Order No. 5.28015 Waterwheel

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

Water Wheel with flying shovels
Waterwheel



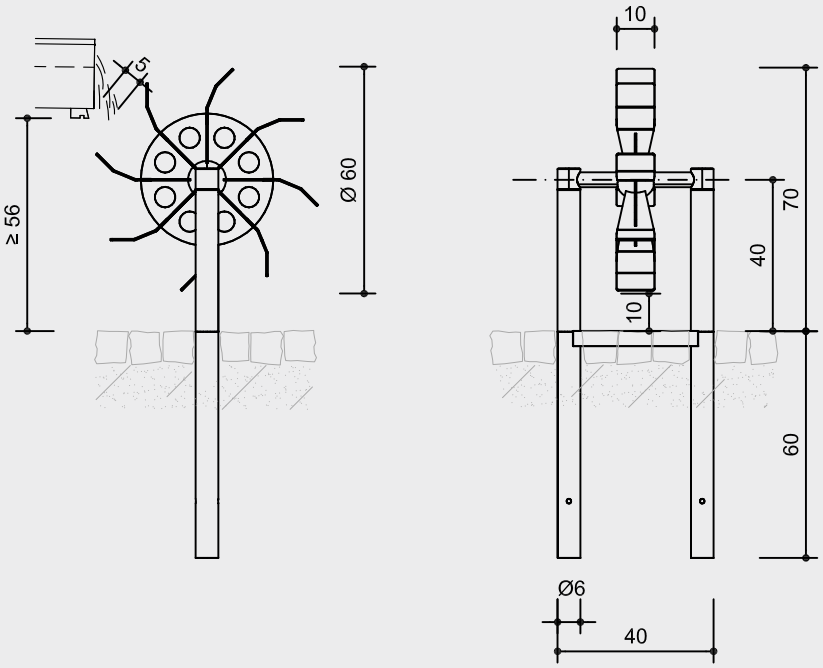
5.28010



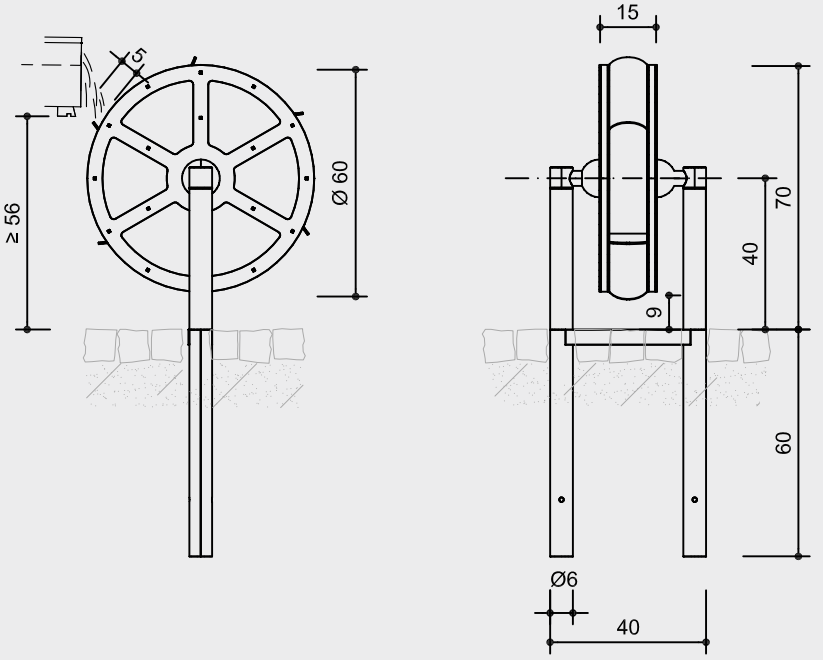
5.28015

Design: F.J. Wagner

Order No. 5.28010 Water Wheel
with flying shovels

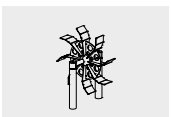


Order No. 5.28015 Waterwheel

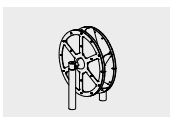


scale 1:20

Safety check according to EN 1176



5.28010



5.28015

Technical information

Order No. 5.28010 Water Wheel with flying shovels

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	0.40 m
wheel diameter	0.60 m
weight	20 kg

Order No. 5.28015 Waterwheel

waterwheel made of glass-bead blasted stainless steel

side panels made of impact-resistant, coloured-through, PUR plastic parts, black
ball bearing
low-maintenance, easily replaceable ball bearings made of stainless steel, sealed

Dimensions
(small deviations possible)

height	0.70 m
width	0.40 m
wheel diameter	0.60 m
weight	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.

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!

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

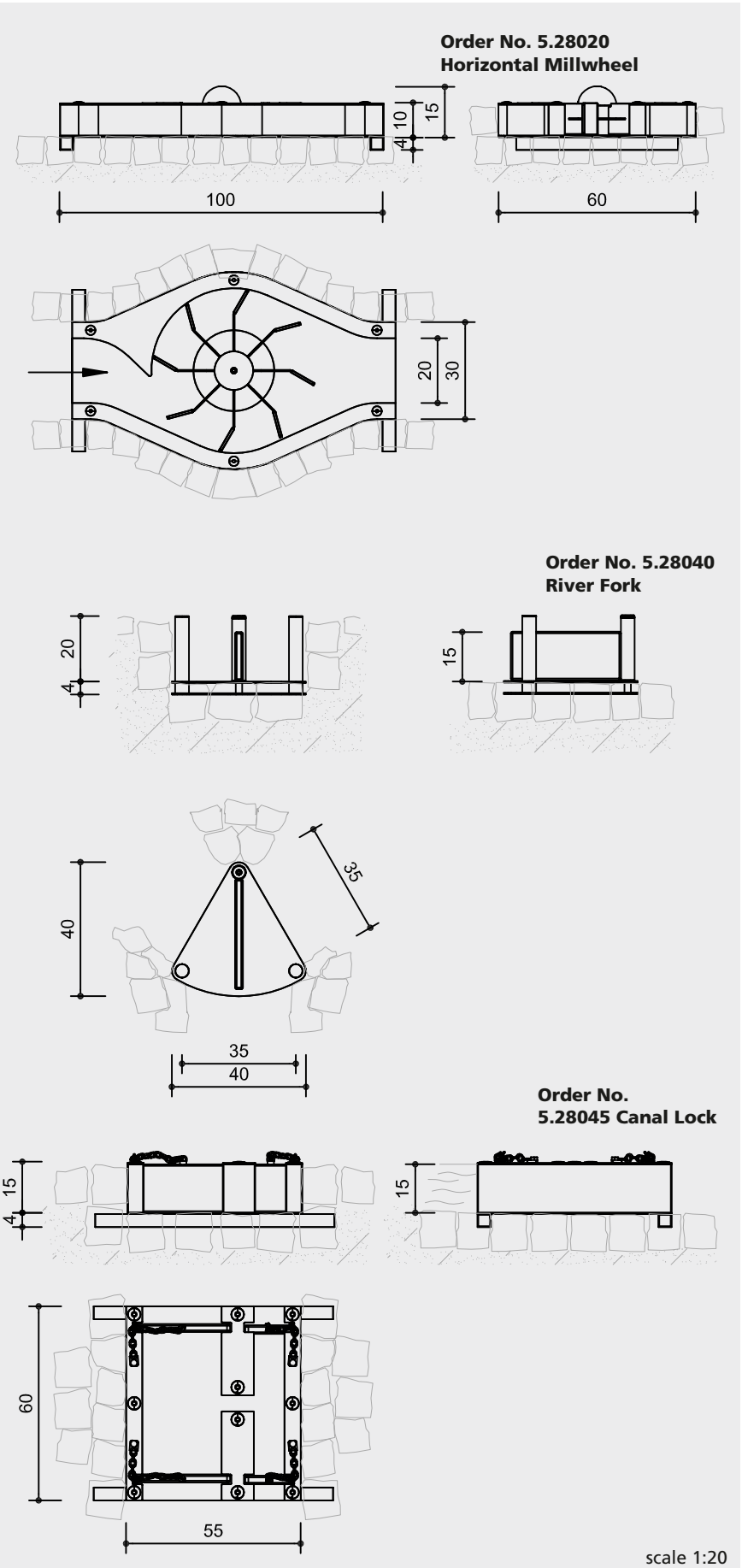
Canal Lock
River Fork
Horizontal Millwheel

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

5.28020

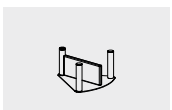
5.28040

5.28045



Safety check according to EN 1176

5.28020



5.28040

5.28045

Technical information

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 PUR plastic (body), black, with PUR plastic ends as clamping protection

Dimensions
(small deviations possible)

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

Order No. 5.28040 River Fork

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

Dimensions
(small deviations possible)

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

Order No. 5.28045 Canal Lock

total construction made of stainless steel and impact-resistant, coloured-through PUR plastic (body), black; gates made of PUR plastic, black

Dimensions
(small deviations possible)

height	0.15 m
width	0.55 m
damming height	0.15 m
weight	42 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.

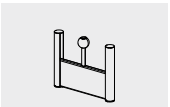
Bar Gate
Board Gate

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 element 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

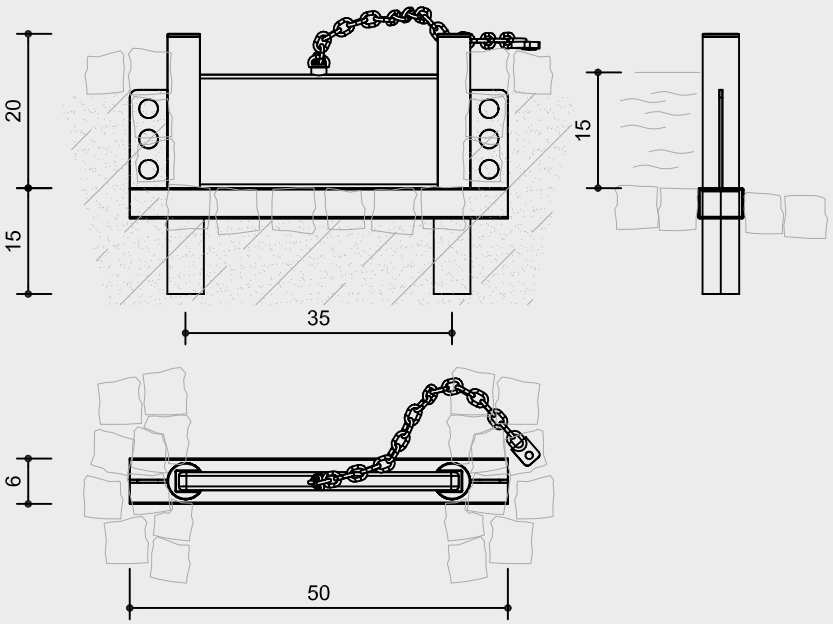
Order No. 5.28030 Board Gate

5.28030

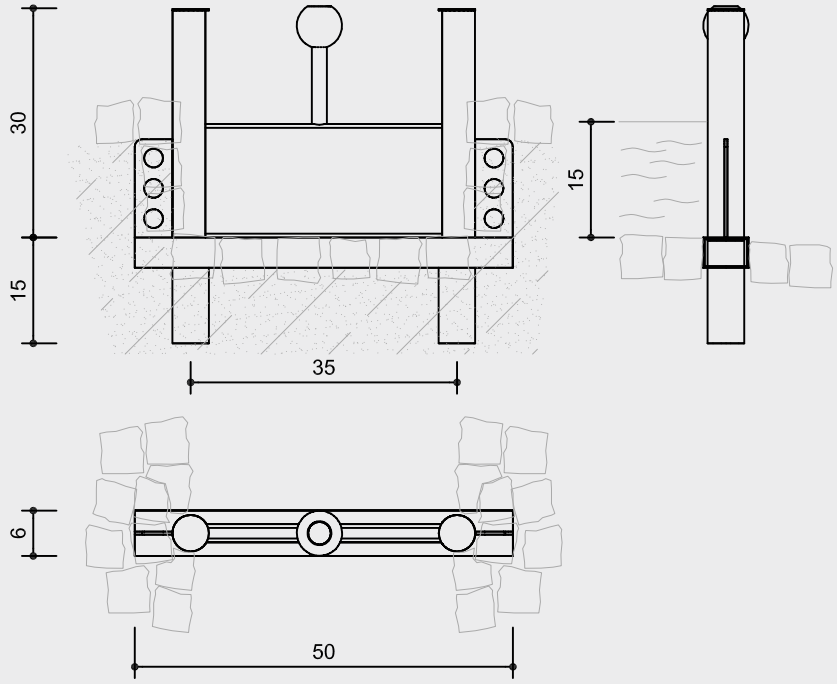


5.28031

Order No. 5.28030 Board Gate



Order No. 5.28031 Bar Gate



scale 1:10

Technical information

Order No. 5.28030 Board Gate

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

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

Dimensions
(small deviations possible)

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

Order No. 5.28031 Bar Gate

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

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

Dimensions
(small deviations possible)

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

Components

1 part each

Installation information

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

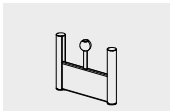
All equipment can be easily installed into any artificial watercourse.

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

Order No. 5.28032 Sickle Gate

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. 5.28035 Rotating Gate

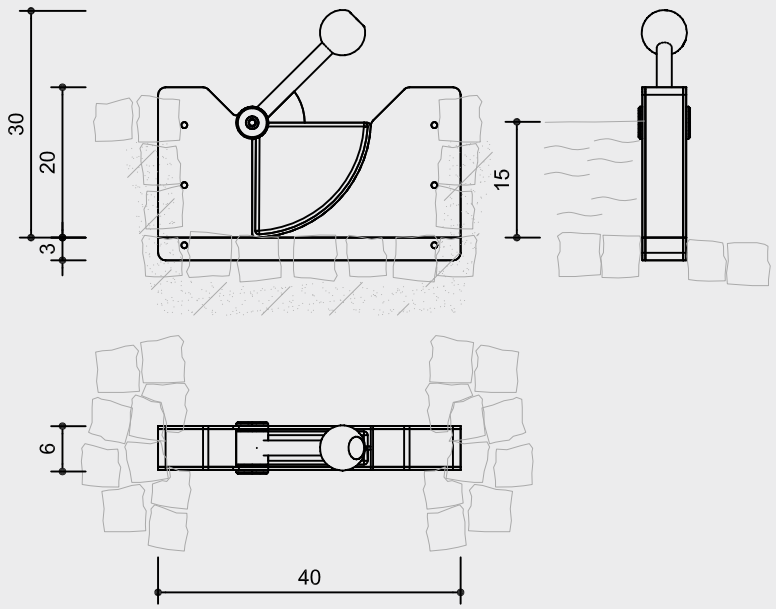
Order No. 5.28032 Sickle Gate

Rotating Gate
Sickle Gate

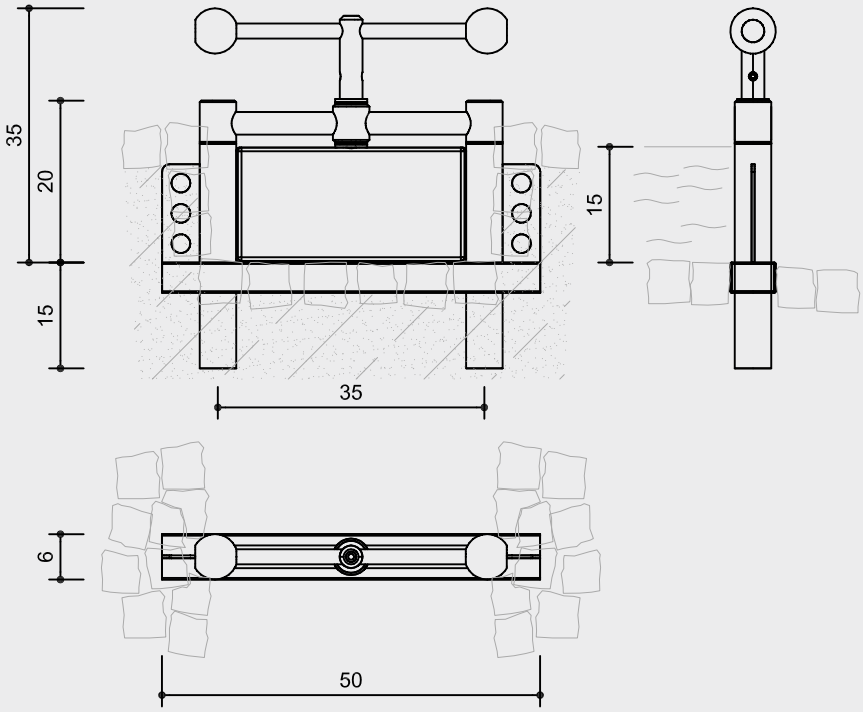
5.28035

5.28032

Order No. 5.28032 Sickle Gate

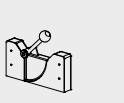


Order No. 5.28035 Rotating Gate



scale 1:10

Safety check according to EN 1176



5.28032

5.28035

Technical information

Order No. 5.28032 Sickle Gate

cover plates made of glass-bead blasted stainless steel

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

Dimensions
(small deviations possible)

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

Material

Order No. 5.28035 Rotating Gate

rotating frame made of glass-bead blasted stainless steel

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

Dimensions
(small deviations possible)

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

Components

1 part each

Installation information

Surfacing requirements
Recommendation: 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!

Order No. 5.28032 Sickle Gate / 5.28033 Round Flap

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.

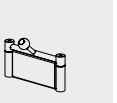
Suitable
- for small children's areas of public playgrounds, play areas situated near houses, kindergartens, children's homes
- for water play zones in all spaces for play and experiences

Order No. 5.28034 Rectangular Flap

Order No. 5.28033 Round Flap

Rectangular Flap
Round Flap

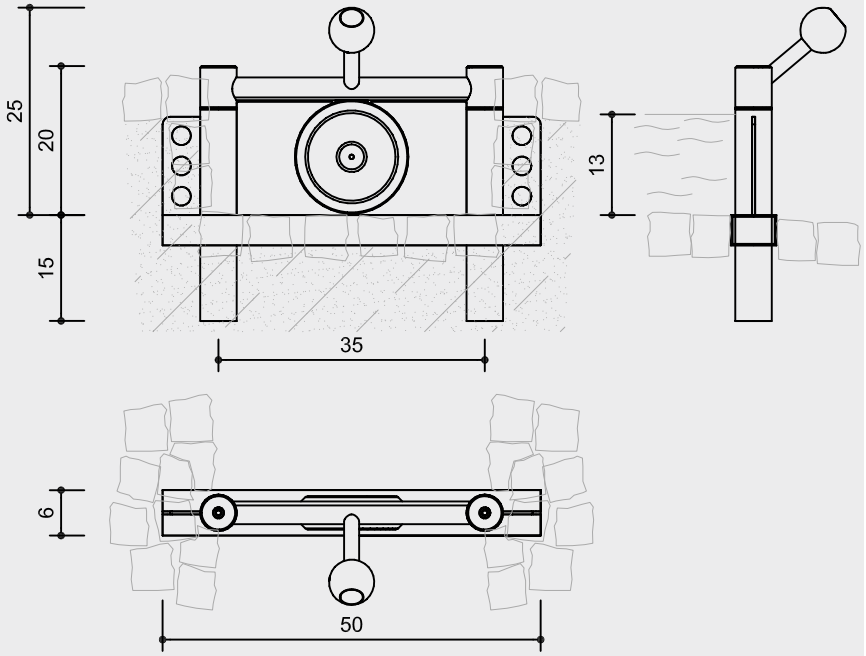
5.28033



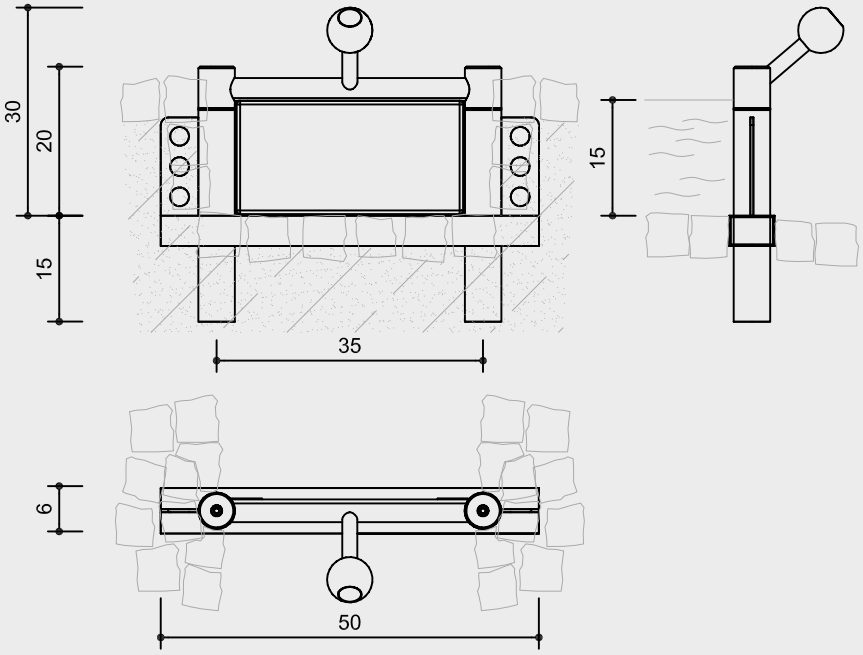
5.28034

Design: F.J. Wagner

Order No. 5.28033
Round Flap



Order No. 5.28034
Rectangular Flap



scale 1:10

Safety check according to EN 1176

5.28033

5.28034

Technical information

Order No. 5.28033 Round Flap

rotating frame made of glass-bead blasted stainless steel

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, black

Dimensions
(small deviations possible)

height	0.25 m
width	0.50 m
damming height	0.13 m
weight	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, black

Dimensions
(small deviations possible)

height	0.30 m
width	0.50 m
damming height	0.15 m
weight	9 kg

Components

1 part each

Installation information

Surfacing requirements
Recommendation: 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.

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

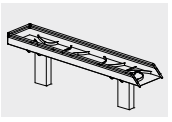
Function and Play value
It is always easier to understand physical phenomena when one can observe it in real life. The experience is particularly intense when the result can be achieved by doing it one's self. This table, with its adjustable barriers forming obstacles to the flowing water, allows such 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
  outdoor swimming pools

Flow Table

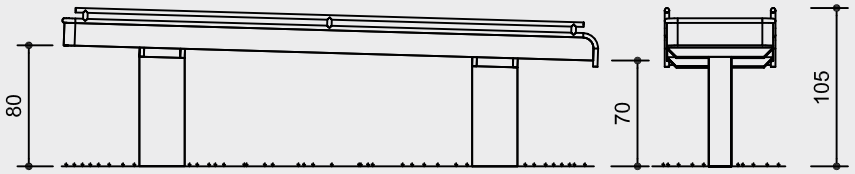
This picture shows Order No. 5.41020 with additional inlet flap.



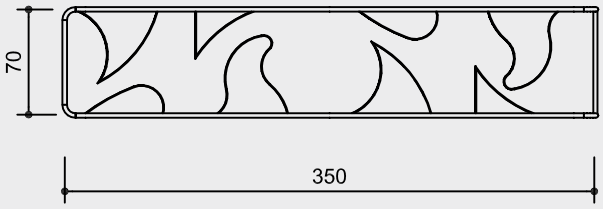
5.41020/5.41030

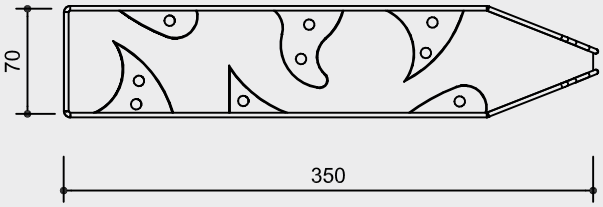
Design G. Beltzig

Order No. 5.41020 Flow Table



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





scale 1:50

Safety check according to EN 1176

Components

Order No. 5.41020 Flow Table
1 Flow Table complete with supporting feet and 8 flow obstacles

Order No. 5.41030 Flow Table
1 Flow Table complete pointed end on one side with supporting feet and 6 flow obstacles

Installation information

Surfacing requirements
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
excavation depth 70 cm

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.

Technical information

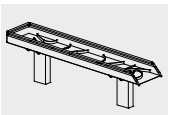
Total equipment made of stainless steel

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

Dimensions
(small deviations possible)

height	1.05 m
length	3.50 m
width	0.70 m
weight	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.



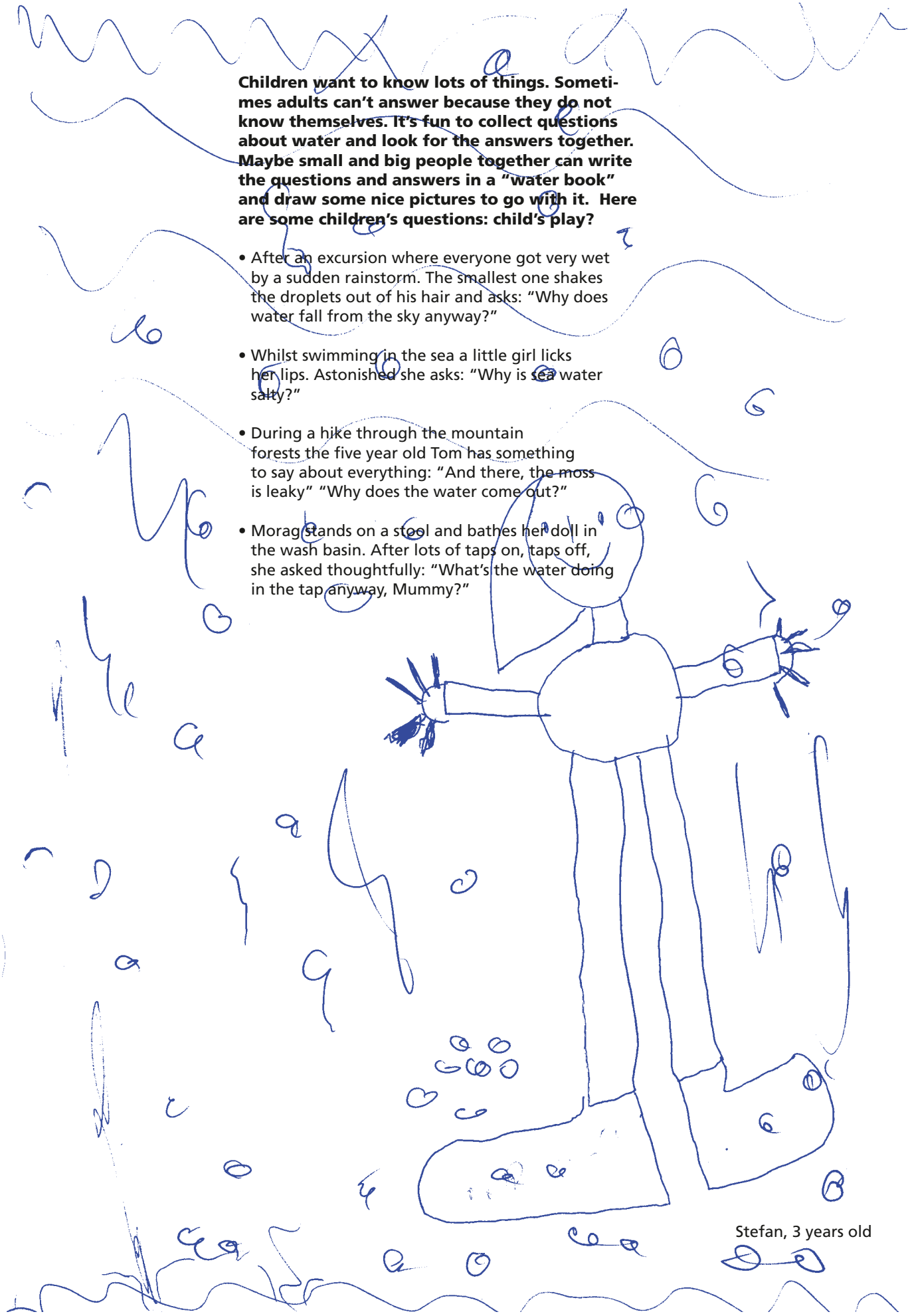
5.41020/5.41030

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.

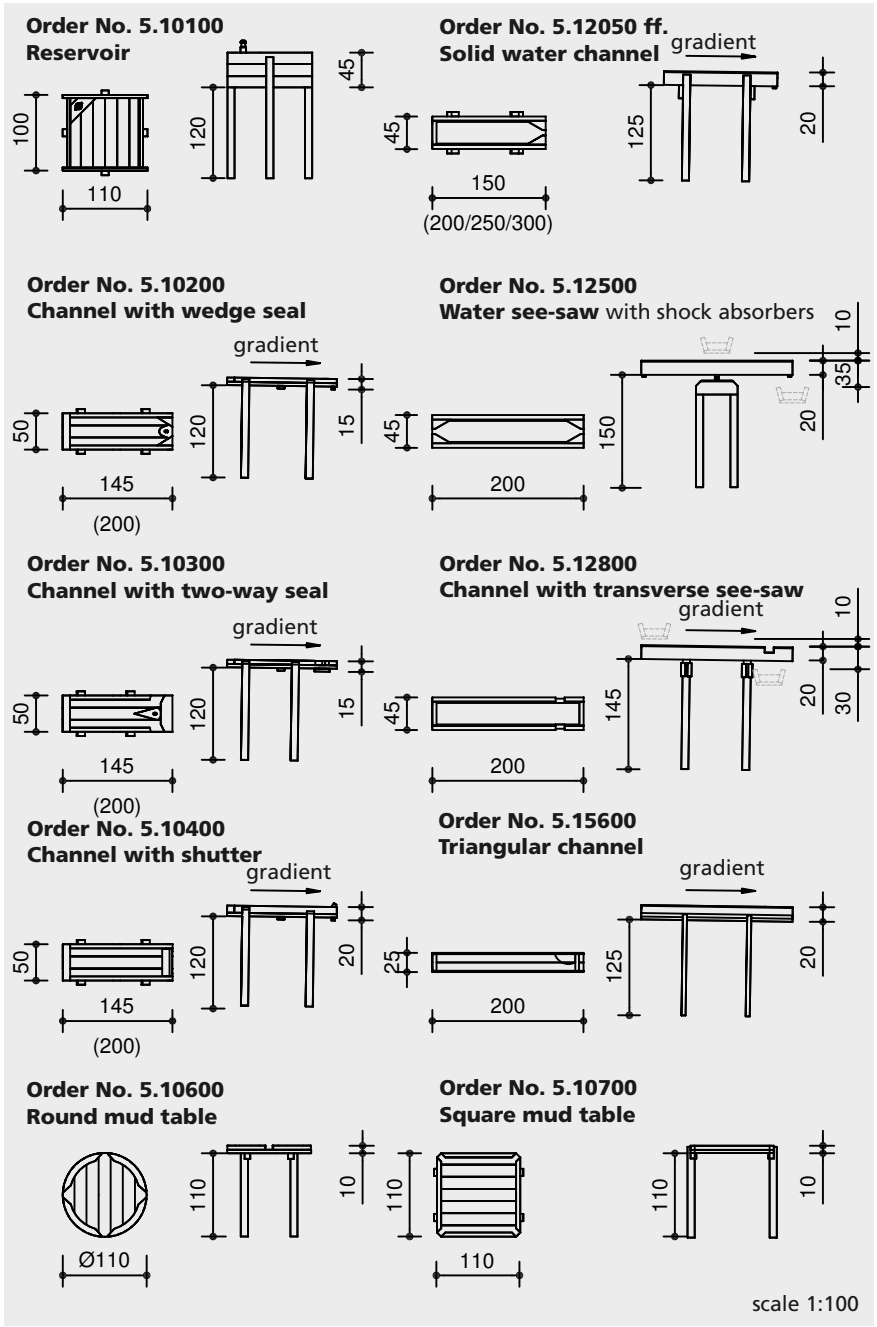
5.10100 - 5.15600

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´s environment.

Basic elements of wood for water playgrounds

Design G. Beltzig

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 necessary an examination of the fall height;

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

Required space according to overall installation.

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

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

Technical information

core-free
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 channels; in water-conducting elements, the boards are additionally sealed

support posts made of oak heartwood 10/10 cm; **5.15600**: 6/16 cm

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

Dimensions
(small deviations possible)

see sketches
weight 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 corresponding modelling of the ground.

For more detailed explanation of the quality characteristics see price list

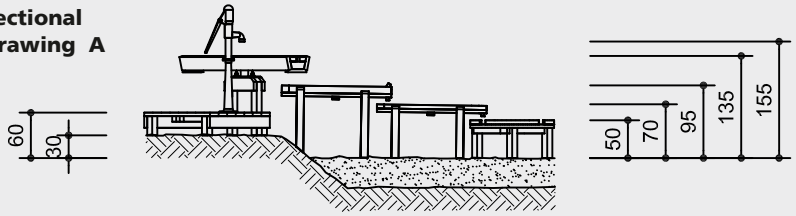
Water and mud
Playing with mud, shaping and building with sand, earth and water is a fundamental human requirement, which even adults find difficult to suppress sometimes. With different types of water play equipment, children can gain insights into different functions and learn physical laws while playing.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

Basic elements of wood for water playgrounds

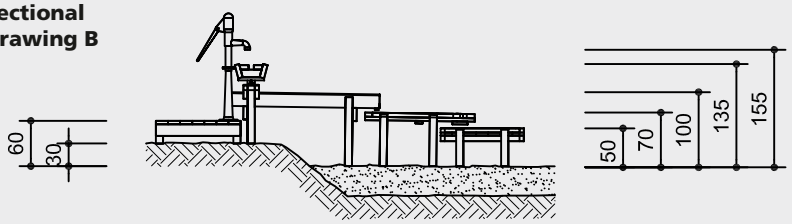
5.10100 - 5.15600

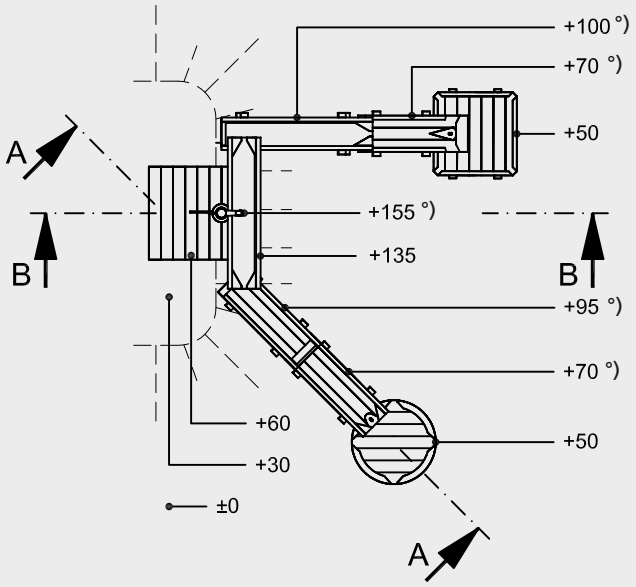
Planning Example

sectional drawing A



sectional drawing B

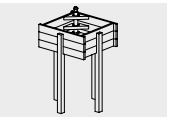




scale 1:100

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 *



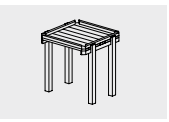
Order No. 5.10200
can be used as water play table;
height difference 17 cm *

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 *

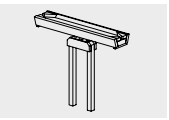
Order No. 5.10600
is mostly used as final element of a water way, 4 outlets;
height difference 18 cm *

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

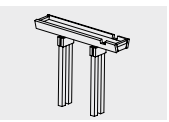


Order No. 5.12050
basic element of this equipment group available up to 3 m length;
height difference 25 to 28 cm *

Order No. 5.12500
two-way distributor with sturdy, buffered mechanism
height difference 65 cm * to bottom, 15 cm * to top (see side view)

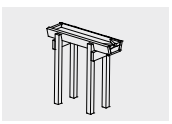


Order No. 5.12800
transverse distributor on rubber buffers;
height difference 30 cm * to bottom, 10 cm * to top (see side view)



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

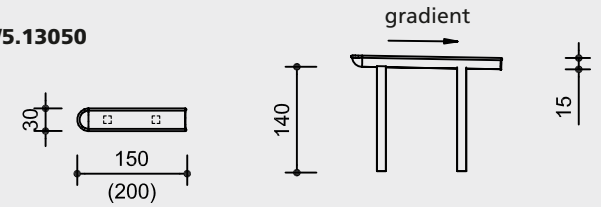
Suitable
- for children from 3 years
- for all water play areas

Water Play Elements of Metal

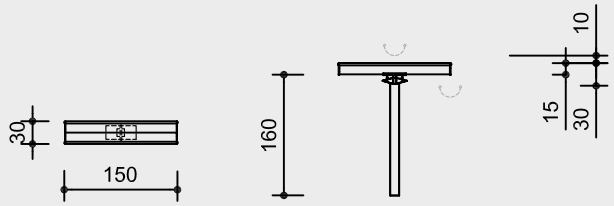
5.13000 - 5.14800

Design G. Beltzig

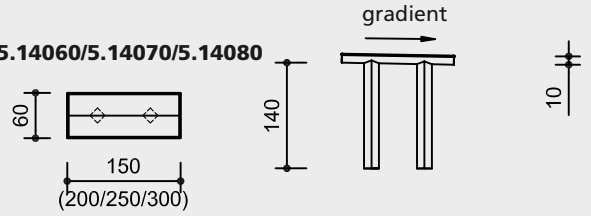
Order No. 5.13000/5.13050
Water Flooder
height difference
minimum 24 cm *



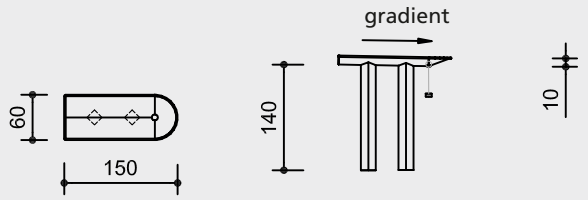
Order No. 5.13500
See-saw Flooder
height difference
downwards
minimum 30 cm *
upwards
minimum 10 cm *



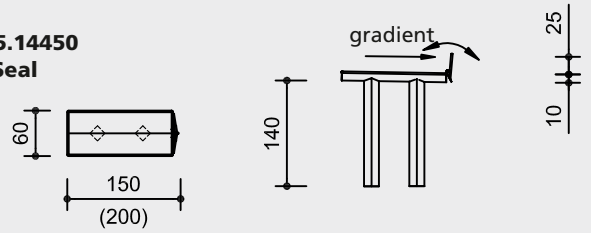
Order No. 5.14050/5.14060/5.14070/5.14080
Water Trays
height difference
minimum
14 - 16 cm *



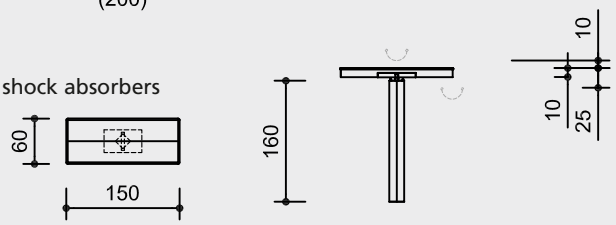
Order No. 5.14200
Water Tray with
Ball Shutter
height difference
minimum 14 cm *



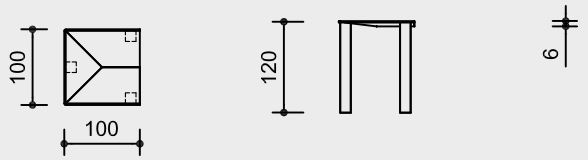
Order No. 5.14400/5.14450
Water Tray with 1 Seal
5.14403/5.14453
with 2 Seals
height difference
minimum 14 cm *



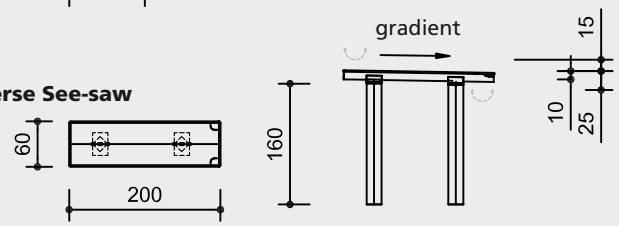
Order No. 5.14520
See-saw Basin with shock absorbers
height difference
downwards
minimum 26 cm *
upwards
minimum 10 cm *



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

Safety check according to EN 1176

5.13000 - 5.14800

*** 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.**

Technical information

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 and which can be easily exchanged in case of need

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
(small 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 120 x 120 mm
weight 41 - 46 kg

Order No.
5.14050/5.14060/5.14070/5.14080
length 1.50 m/2.00 m/2.50 m/3 m
support posts 120 x 120 mm
weight 46 - 64 kg

Order No. 5.14200
length 1.50 m
support posts 120 x 120 mm
weight 56 kg

Order No. 5.14400/5.14450
length 1,50/2,00 m
support posts 120 x 120 mm
weight 56 kg

Order No. 5.14403/5.14453
length 1.50 m/2.00 m
support posts 120 x 120 mm
weight 35 kg

Order No. 5.14520
length 1.50/2,00 m
support posts 120 x 120 mm
weight 56 kg

Order No. 5.14700
exterior dimensions 1.00 x 1.00 m
support posts 120 x 120 mm
weight 51 kg

Order No. 5.14800
length 2.00 m
support posts 120 x 120 mm
weight 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.

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

Water Play Elements of Metal

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

Design G. Beltzig

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 pavaing stone or similar with gully, it should be checked whether a sand separator is required.

Required space and foundations according to overall installation.

Foundation according to overall installation, excavation depth 70 cm each

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

5.13000 - 5.14800

Order No. 5.18005 Mushroom Pump for Concrete Basins

Water Play Elements of Concrete

Round Reservoir
Round Water Basin
Pedestal Pipe

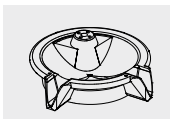
Play value
The arrangement of these large basins has a strong aesthetic value. They serve as „mud table" and water basin at the same time. Furthermore, their durability is extremely good. Thanks to the run-outs on one or two sides of the dish, it is possible to combine the dishes to become a water path 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

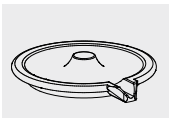
Suitable
- for children from 3 years
- for all water play areas

Order No. 5.17510 Top of Playground Pump

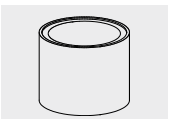
Design G. Beltzig



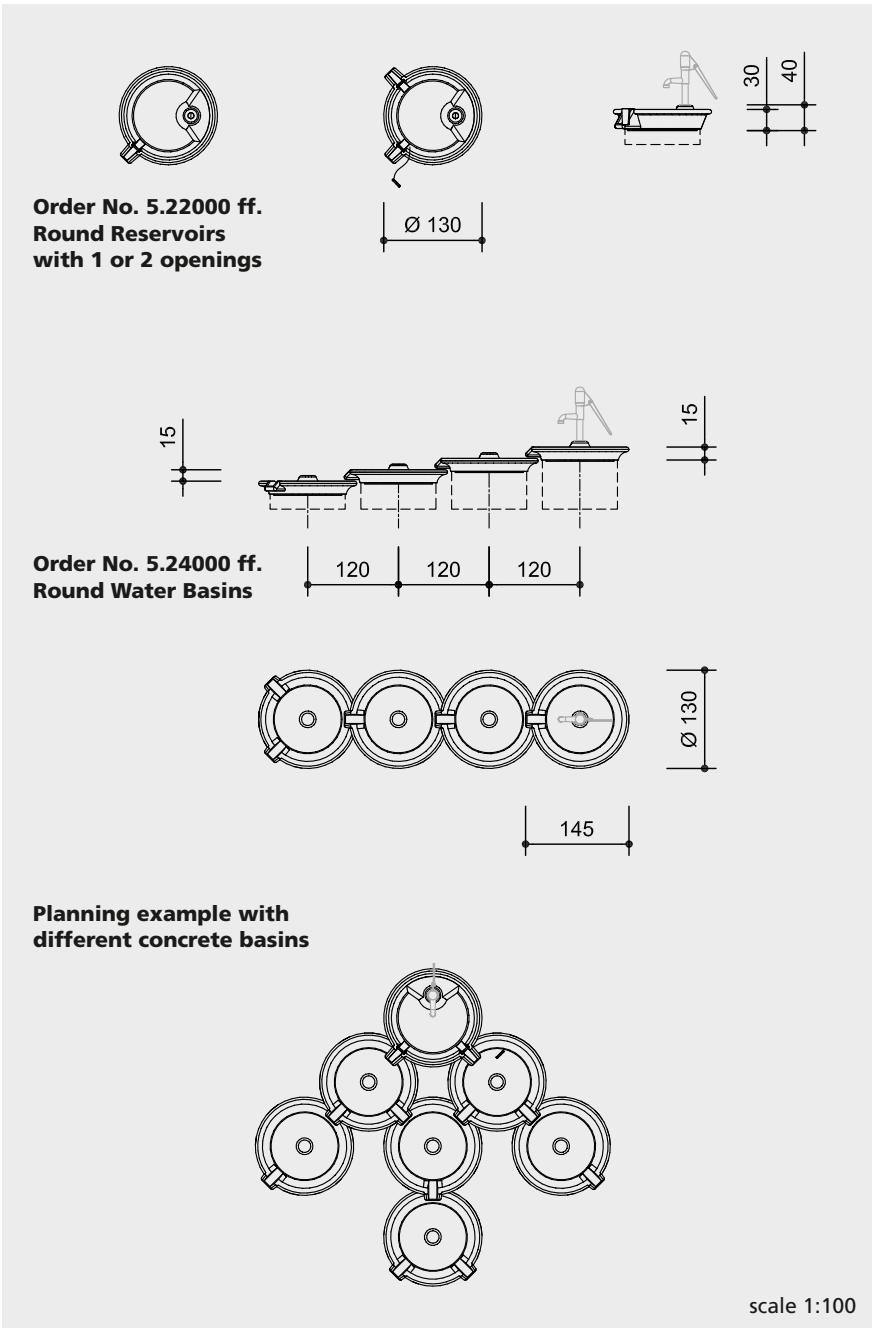
5.22000 - 5.22100



5.24000 - 5.24400



5.24520 - 5.24580



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

Order No. 5.24000 ff.
Round Water Basins

Planning example with different concrete basins

scale 1:100

Technical information

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	0.15 m
weight	260 - 280 kg

Order No. 5.24520
Pedestal Pipe

outside diameter	1.00 m
height	0.20 m
weight	145 kg

Order No. 5.24540
Pedestal Pipe

outside diameter	1.00 m
height	0.40 m
weight	295 kg

Order No. 5.24560
Pedestal Pipe

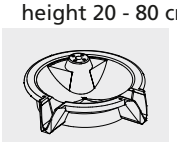
outside diameter	1.00 m
height	0.60 m
weight	445 kg

Order No. 5.24580
Pedestal Pipe

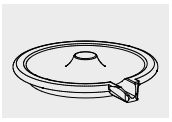
outside diameter	1.00 m
height	0.80 m
weight	590 kg

Safety check according to EN 1176

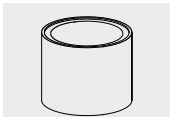
Components	**Order No.**	**Installation information**
1 Round Reservoir with pump connection and 2 openings	**5.22000**	Surfacing requirements no fall height according to standard; staircase-like constructions may make an
1 Round Reservoir as before, with 1 opening	**5.22100**	examination of the fall height necessary
1 Round Water Basin with 1 opening	**5.24000**	**Recommendation:** sand with drainage
1 Round Water Basin as before, with pump connection	**5.24200**	or paving stone with gully; for playing with „mud“, sand is required.
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



5.22000 - 5.22100



5.24000 - 5.24400



5.24520 - 5.24580

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

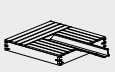
AQuadrat®

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.

Fundamental characteristics
- high-quality design
  unusual seats
  modular system

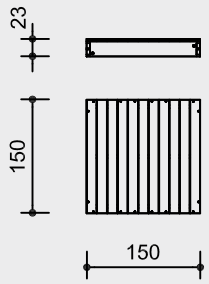
Suitable
- for children from 3 years
- for public playgrounds
  urban play areas
  leisure parks
  outdoor swimming pools

Design G. Beltzig/P. Heuken

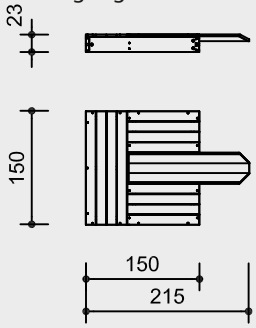


5.51000 - 5.53400

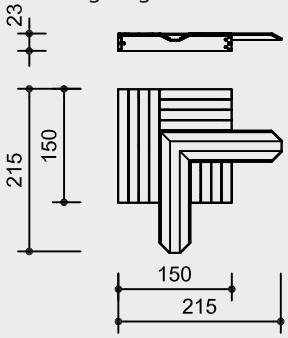
Order No. 5.53000 AQuadrat®



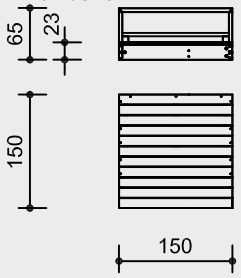
Order No. 5.51000 AQuadrat®
with straight gutter



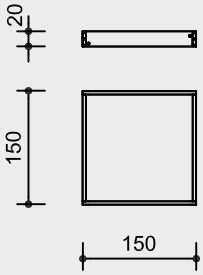
Order No. 5.52000 AQuadrat®
with angled gutter and seal



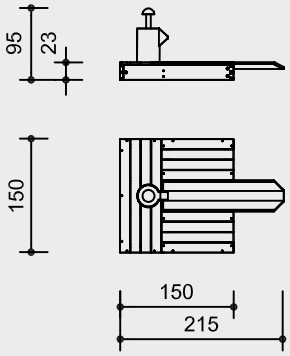
Order No. 5.53100 AQuadrat®
with bench



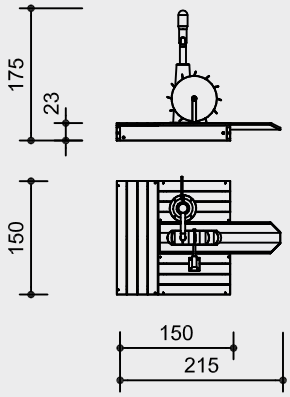
Order No. 5.53010 AQuadrat®
substructure without feet



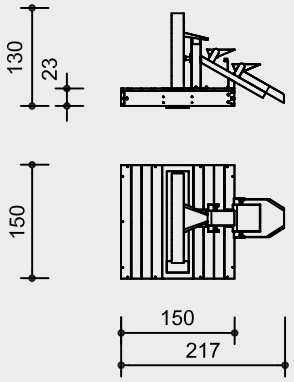
Order No. 5.51010 AQuadrat®
with straight gutter and Mushroom Pump



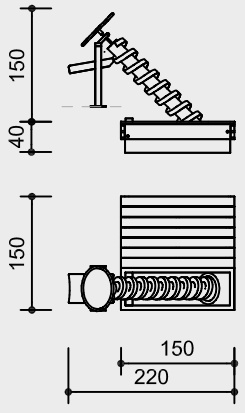
Order No. 5.53200 AQuadrat®
with Playground Pump and Water Wheel



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

Safety check according to EN 1176

5.51000 - 5.53400

Technical information

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

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

ground anchor
all anchoring parts are hot-dip galvanised

with dovetail jointed corners

gutters of stainless steel

functional elements of stainless steel and industrial rubber

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

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
excavation depth 70 cm

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

Water supply

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 normally is 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

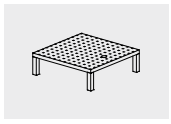
Suitable
- for children from 3 years
- for all water play areas

Order No. 5.17500 Playground Pump

Order No. 5.19000 Pump Pedestal made of wood

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

Playground Pumps
Pump Pedestals
Foundation Anchor



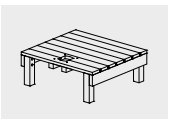
5.14190

5.17500

5.17630

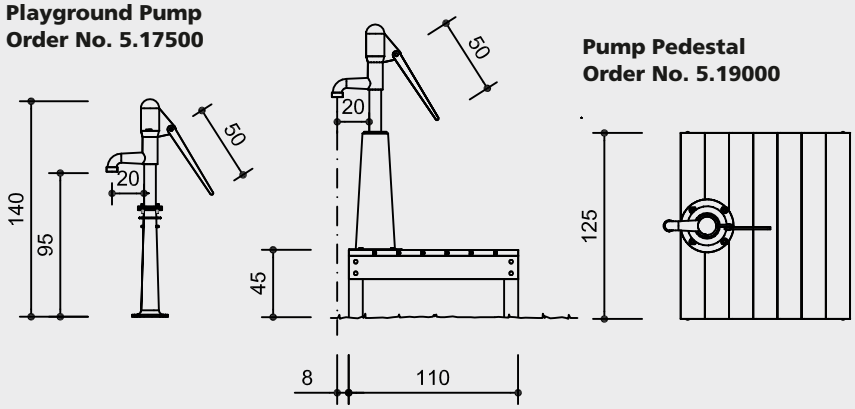
5.17730

5.17633



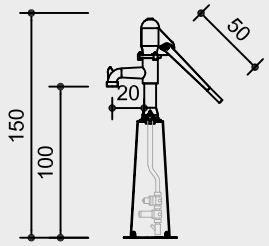
5.19000

Playground Pump
Order No. 5.17500

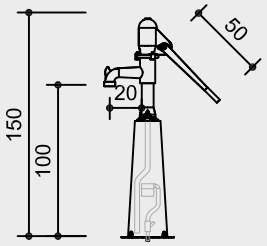


Pump Pedestal
Order No. 5.19000

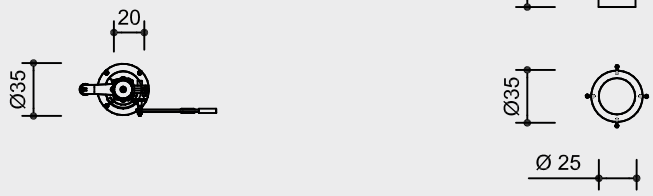
Playground Pump
with integrated connection to mains water in the pillar
Order No. 5.17630
drinking water to underside of piston



Playground Pump
with water reservoir in the pillar
Order No. 5.17730
drinking water to underside of the pump base



Foundation Anchor
Order No. 5.17633



scale 1:50

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

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
Order No. 5.17630 also available with programmable rinsing (Order No. 5.17640).

Technical information

Order No. 5.17500 Playground Pump
closed piston suction pump; all parts made from hot-dip galvanised grey cast iron; cylinder housing, air dome cap, mounting plate, forked lever, plunging valve, gland flange and connecting rod are hot-dip galvanised; cylinder with a liner made of brass alloy and plastic piston (POM); drive shaft made of stainless steel, with replaceable 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, support posts made of oak heartwood 10/10 cm
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	1.40/1.50 m
width with horizontal pump swipe	0.95 m
weight	40/50 kg

Order No. 5.17633
Foundation Anchor

height	0.35 m
diameter	0.35 m
weight	7.5 kg

Order No. 5.19000 Pump Pedestal

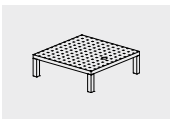
width	1.25 m
depth	1.10 m
max. height	0.45 m
weight	80 kg

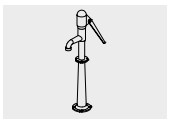
Order No. 5.14190 Pump Pedestal

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

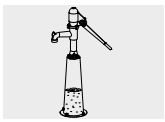
Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website **www.richter-spielgeraete.de**. Go to "Products" and then the applicable piece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

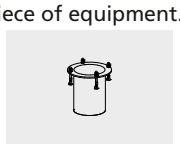
For more detailed explanation of the quality characteristics see price list.

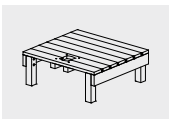

5.14190


5.17500


5.17630


5.17730


5.17633


5.19000

patented

Lever Pump

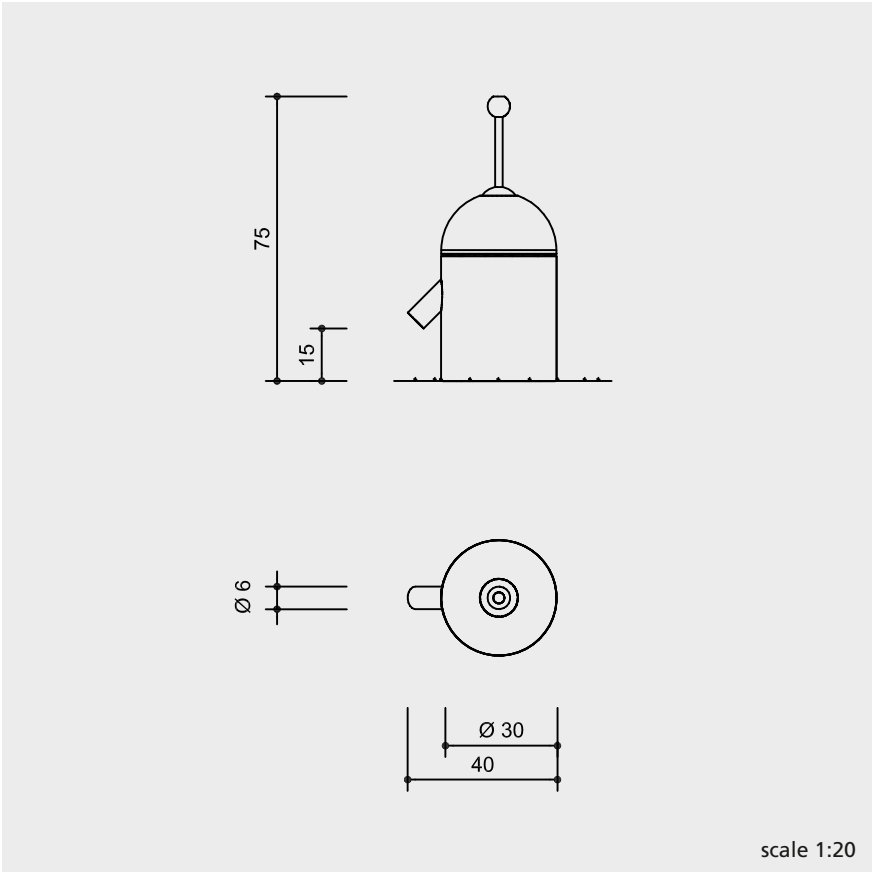
Function and Play value
Even small children can operate our new lever pump and convey water. The pump resistance as well as the flow rate per stroke can be varied. The design and easy operation make it very suitable for children. Hydraulic oil (food safe) is pumped in an enclosed circuit. The degree 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

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

5.28000

Design: F.J. Wagner



Safety check according to EN 1176

Components

Order No. 5.28000 Lever Pump
1 lever pump (foundation anchor not included)

Order No. 5.28003
1 Foundation anchor

Installation information

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

During the period of frost, the pump mechanism must be removed. To remove the mechanism, the control line can be disconnected using a quick-release coupling. The opening can be closed with a winter lid see **Order No. 5.28001.**

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

Technical information

total construction of stainless steel

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

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

enclosed pump with water valve for direct connection to mains water (¾ inch, 2.5 - 3.5 bar), inside thread connection 1 inch

pump capacity and pump swipe resistance infinitely adjustable, 20 l per minute

pump swipe position rules out risk of jamming

foundation anchor (not included) of galvanised steel

Dimensions

(small deviations possible)

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

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

5.28000

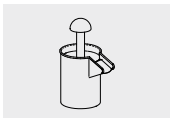
Function and Play value
The well designed Mushroom Springs gives off water when the hemisphere on top gets pressed down. The water comes out like a circular veil. When the hemisphere is pressed once, a valve is activated which stops the water flow after 60 seconds or earlier (time is adjustable). Due to its agreeable design, the Mushroom Springs can also be used in less natural play surroundings.

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

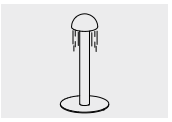
Suitable
- for children from 3 years
- for all water play areas

Order No. 5.18030 Mushroom Column Spring

Mushroom Spring
Mushroom Spring for Concrete Basins
Mushroom Column Spring

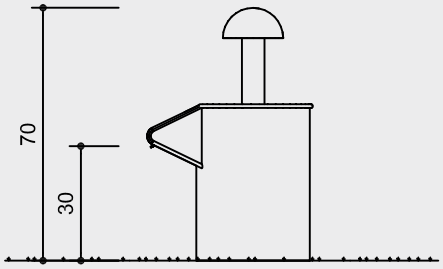


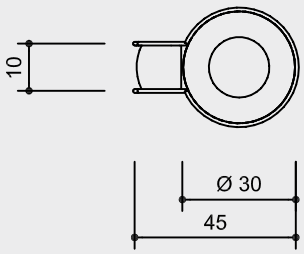
5.18000/5.18005



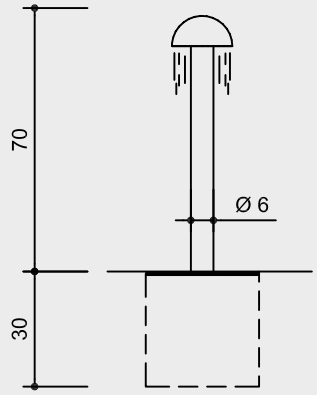
5.18030

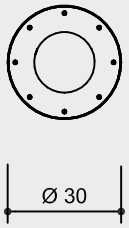
Order No. 5.18000/5.18005
Mushroom Spring





Order No. 5.18030
Mushroom Column Spring





scale 1:20

Technical information

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

Dimensions
(small deviations possible)

height	0.70 m
width	0.45 m
diameter	0.30 m
weight	
Mushroom Spring	22 kg
Mushroom Column Spring	12 kg

Components

1 part each

Installation information

Surfacing requirements recommendation: paving stone or similar with gully.

The Mushroom Spring **Order No. 5.18000** can be installed on natural stone, pedestal etc..
The Mushroom Spring **Order No. 5.18005** can be installed on concrete Water Basins **Order No. 5.22000, 5.22100, 5.24200** and **5.24400.**

The Mushroom Column Spring **Order No. 5.18030** can be installed in site concrete foundation.
1 item 40 x 40 x 30 cm
Aushubtiefe 60 cm

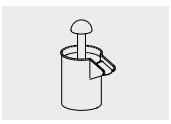
The Mushroom Spring and the Mushroom Column Spring needs to be connected directly to the mains water.

Individual solutions for the water supply must be devised, depending on the plans. Up-to-date details on the connection for the water supply and other technical information is available to download as a table at our website **www.richter-spielgeraete.de**. Go to “Products” and then the applicable piece of equipment.

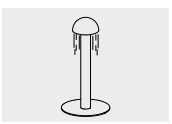
During the frost period the inset with the valve needs to be disassembled. The opening can be closed with a winter lid Order No. 0.97840 (see price list).

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

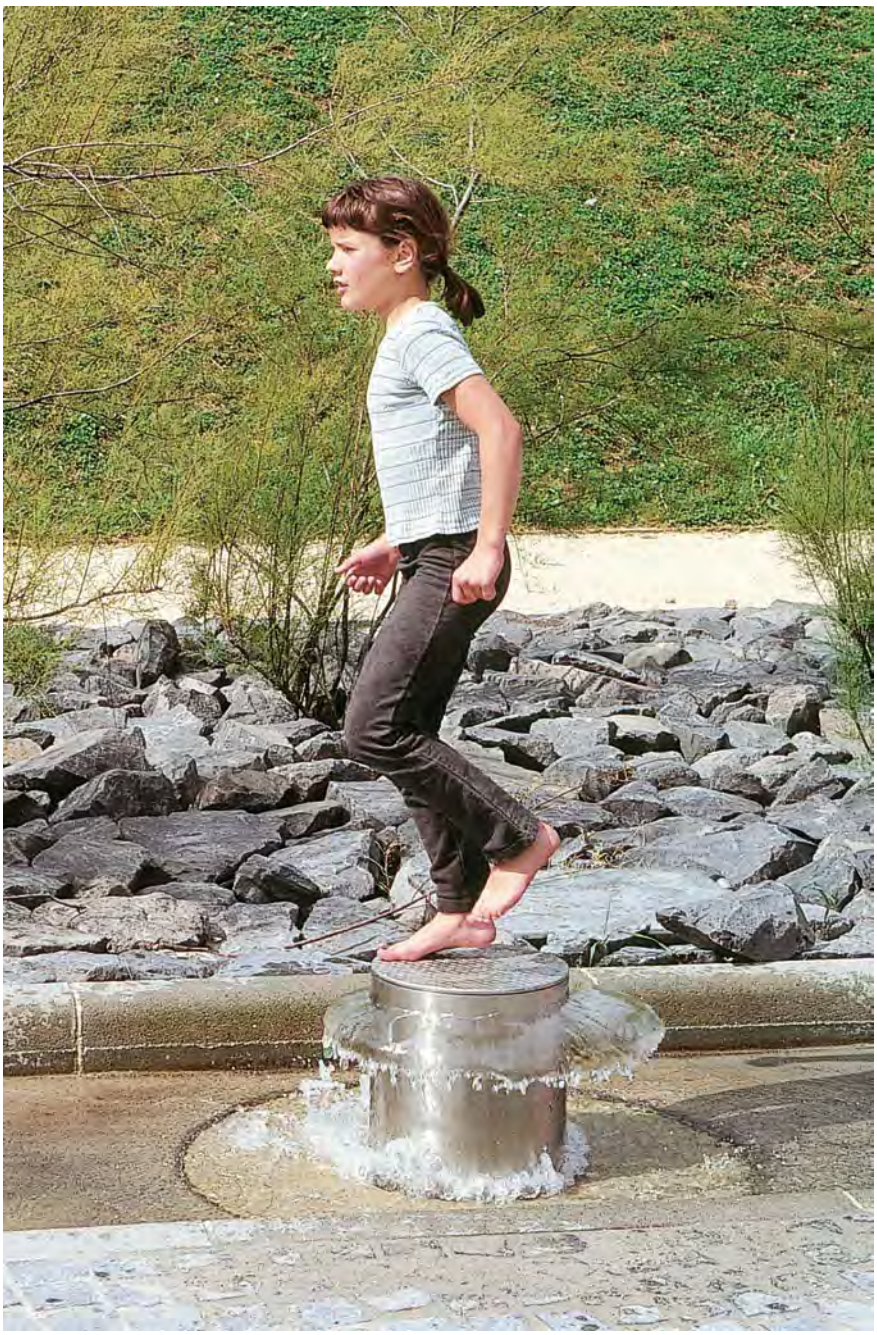
Safety check according to EN 1176



5.18000/5.18005



5.18030



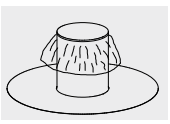
Mushroom Fountain

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

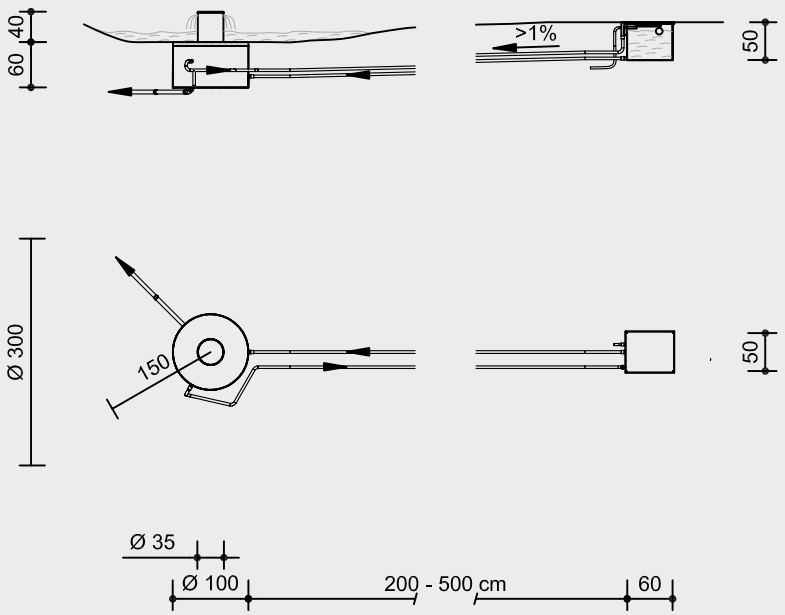
Suitable
- for children from 6 years
- for all water play areas

Design J.O. Gaier



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.

Technical information

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 inch PE-tube from a slightly raised water reservoir with floating valve
the water reservoir is outside the water basin

Parallel to the water supply there must be installed an exhaust pipe for pressure compensation.

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 inch inside, water supply 3/4 inch, pressure 3.5 bar

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

Dimensions
(small deviations possible)

standing plate

diameter	0.35 m
height	0.40 m

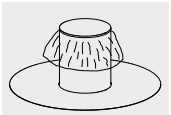
concrete housing

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 inch	

total weight	800 kg



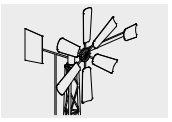
5.25500

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

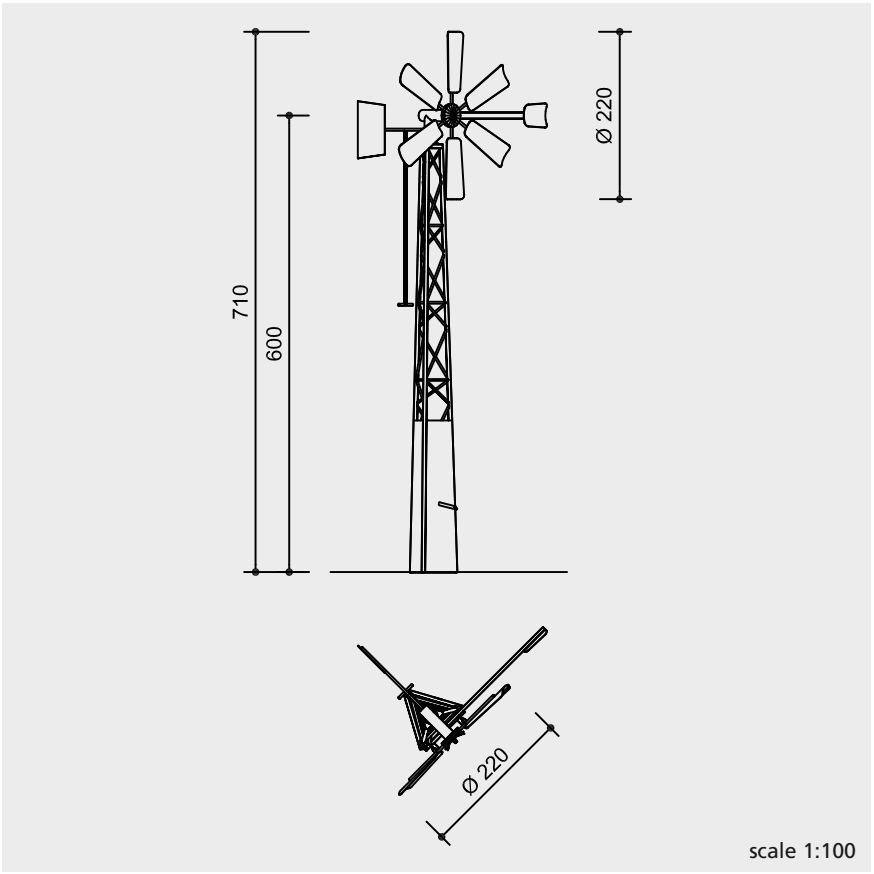
active during storms and not in too much danger.
It can be shut down manually to provide additional safety.

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.

Wind Mill



5.18900



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
excavation depth 120 cm
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.

Technical information

Three-legged freestanding lattice pylon made of galvanised steel

Anti-climber and sails made from stainless steel

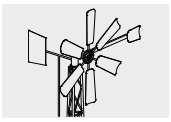
Diaphragm pump:
water output up to 3000 litre/hour
suction lift 7 m
suction connection 1 1/4 inch

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	250 kg

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



5.18900

Working with sand and water

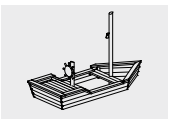
Order No. 4.07500 Sand Play Ship

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

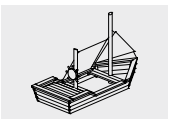
Fundamental characteristics
- child-oriented dimensions
- natural wooden surface which appeals to the senses
- emotionally appealing design
- friendly appearance
- sunshade
- incentive for playing: role-playing games

Suitable
- for older children but also for children under 3 years of age
- only for supervised small children's areas of:
  public playgrounds
  play spaces situated near houses
  kindergartens
  children's homes
  child therapy centres
- for day nurseries

Sand Play Ship
Sand Play Ship with sails
for supervised areas

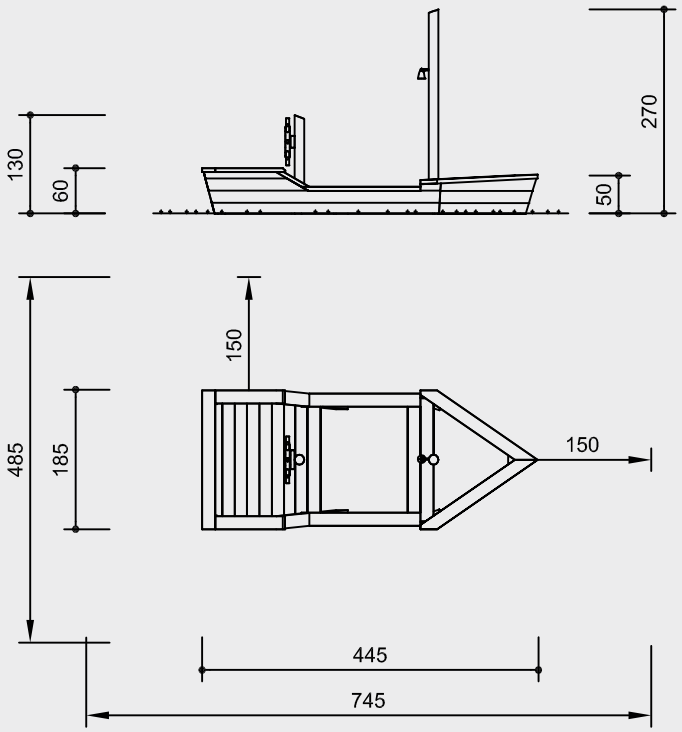


4.07500

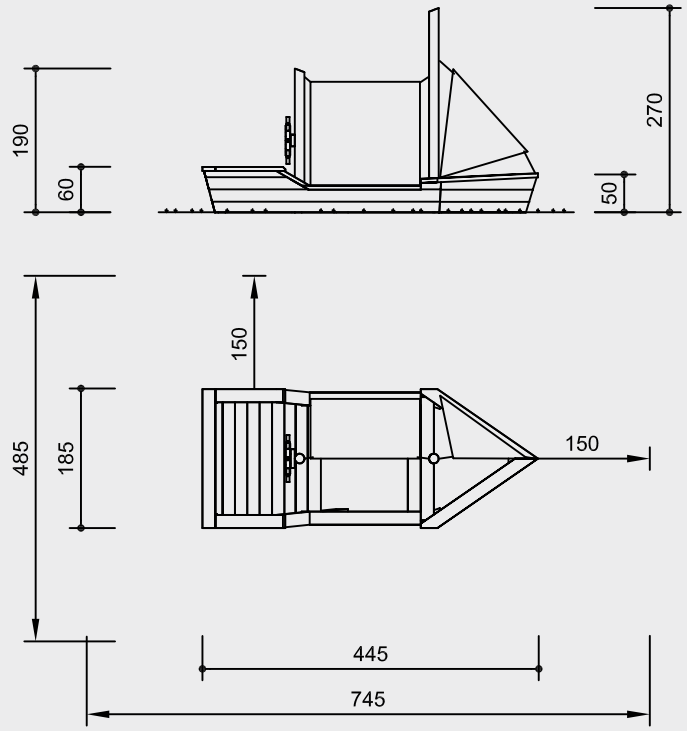


4.07600

Order No. 4.07500 Sand Play Ship



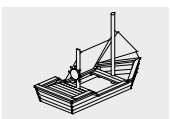
Order No. 4.07600 Sand Play Ship with sails



scale 1:100

safety check according to EN 1176

4.07500



4.07600

Technical information

equipment of mountain larch, selected according to eight quality criteria

de-barked
de-barked posts, Ø 15 - 18 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, thus decreasing the occurrences of cracking

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

fittings hot-dip galvanised

sail made of weatherproof plastic fabric (PVC)

bell made of brass

Dimensions
(small deviations possible)

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

Components

Order No. 4.07500
1 ship's hull
2 masts
1 steering wheel
3 shovels
1 bell

Order No. 4.07600
as before but with 2 sails

Installation information

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

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

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

Please refer to the price list for a more detailed explanation of the quality characteristics.

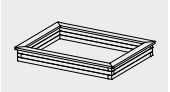
Play value
Playing with sand has a very stimulating quality, which is why it should not be missing from any small children's area. And if there is also water available children can splash and mix away, make sandcastles and "bake cakes".

Sun sail see Order No. 4.24309 in the price list

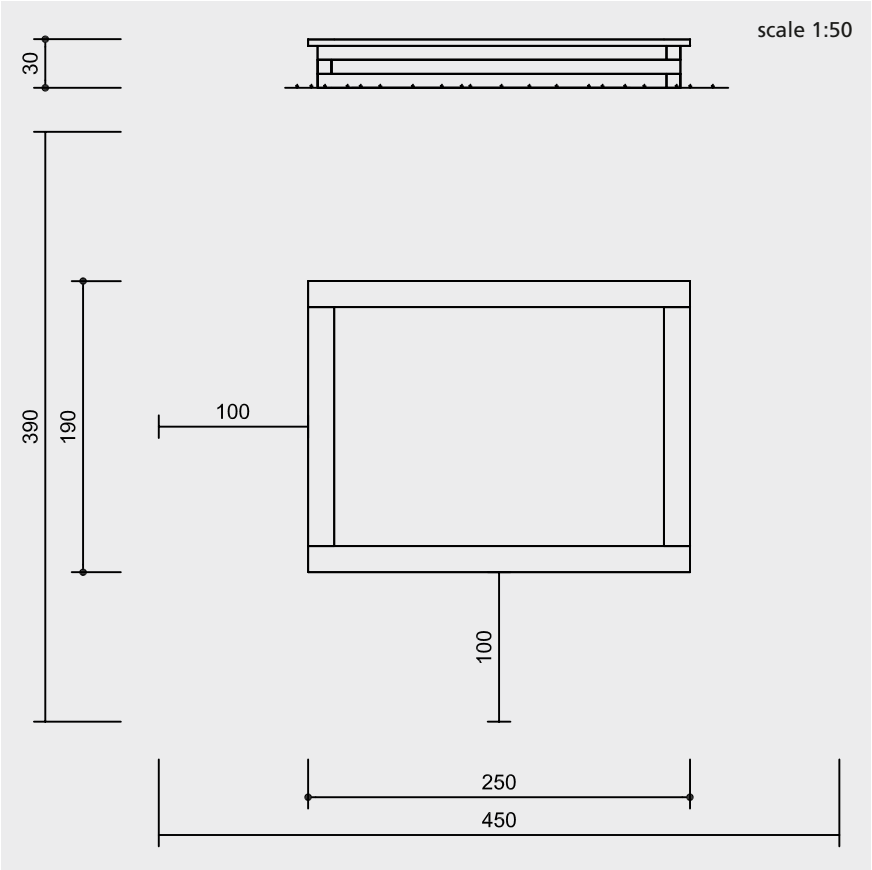
Sand Box

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



4.24305



Safety check according to EN 1176

Components

1 sand box
2 ground anchors

Installation information

Surfacing requirements
no requirements
Sand is required for correct functioning.

Foundations
(only necessary in order to immobilise the equipment)
2 ground anchors are included for fastening in the ground.

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

Technical information

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

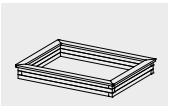
core-free
sawn-timbers core-free, thus decreasing the occurrences of cracking

ground anchor
all anchoring parts are hot-dip galvanised

Dimensions
(small deviations possible)

height	0.30 m
length	2.50 m
width	1.90 m
weight	160 kg

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



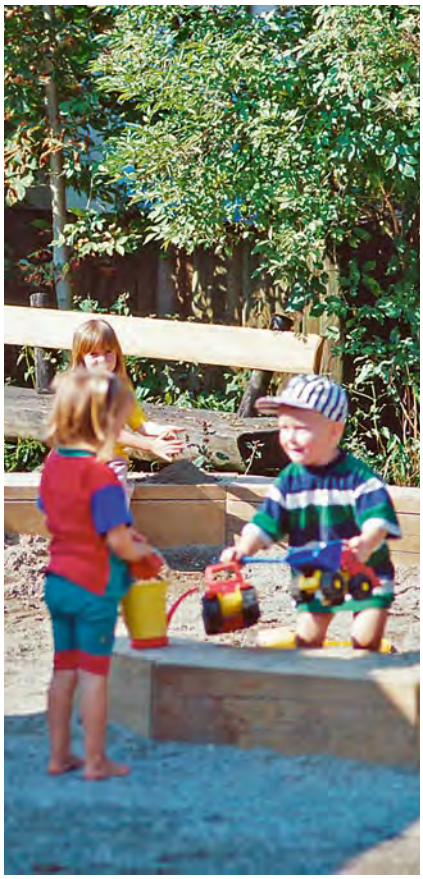
4.24305

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.

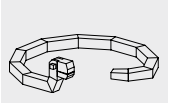
Fundamental characteristics
- high-quality design
- natural wooden surface which appeals to the senses
- due to modular system, the direction of the snake can be changed
- incentive for playing: big head with ears, smooth play and seating surface
- movement: balancing, climbing, touching it

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

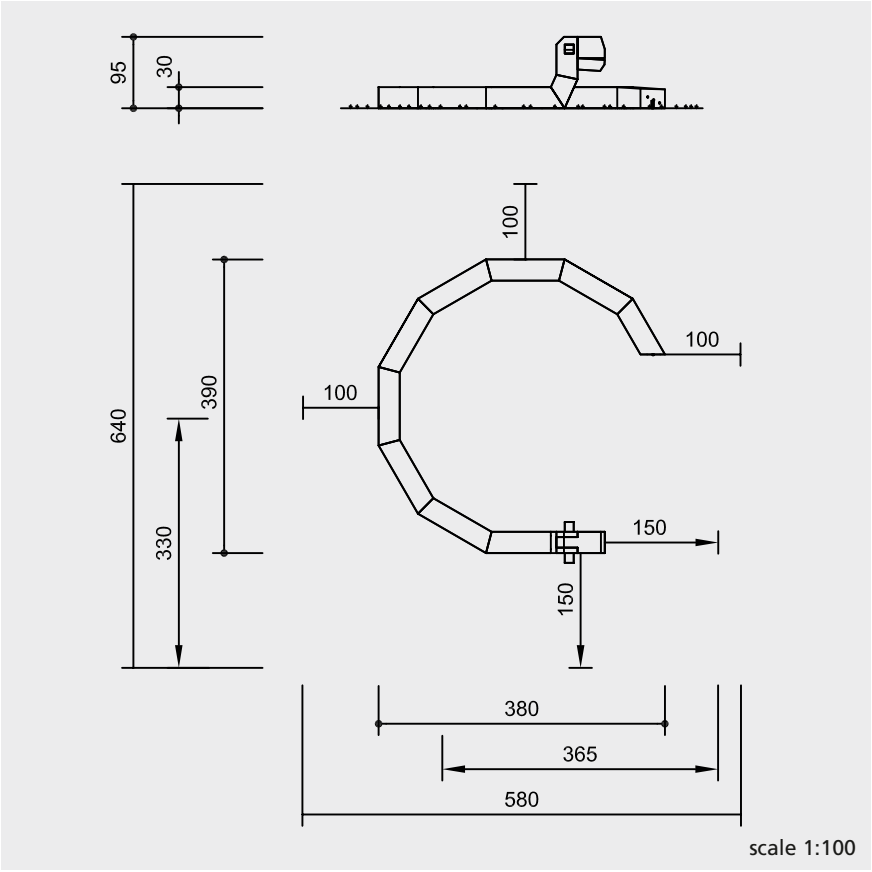
Sand Snake



Design F. Schelb



5.00001



Safety check according to EN 1176

Components

1 head
1 shuttering for the head
7 body elements
1 tail
3 foundation irons

Installation information

Surfacing requirements
corresponding to a fall height of ≤ 1.00 m
(please refer to price list for more detailed information)
Sand is required for correct functioning.

Foundations
1 item 100 x 50 x 60 cm
excavation depth 60 cm
1 item 40 x 40 x 20 cm
excavation depth 40 cm

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

Technical information

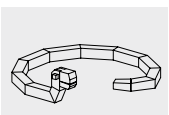
equipment made of mountain larch, selected according to eight quality criteria, cross section 28/28 cm

ground anchor
all anchoring parts are 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	650 kg

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



5.00001

Play value
The caterpillar is a friendly play offer for small children. The harmonious appearance of the figure and the way in which it is possible to play from both sides offer a lively and pleasant basis for smaller playing spaces. The space partitions promote communicative play, but also make it possible to create borders and divisions of the play areas. Alongside there are many different sand play offers such as sand shovel, sand dump, sieve, turntable, baking table and sand channels.

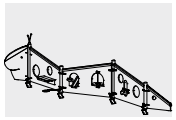
Caterpillar type 01

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

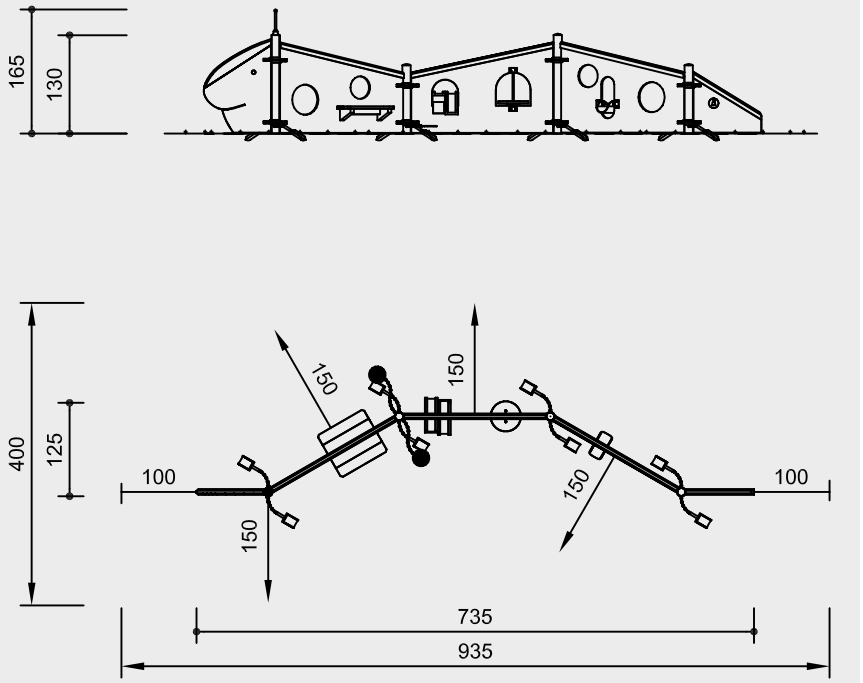
Planning information
The angles of the opposing wall elements and their number can be freely selected to a great extent. Both spread-out as well as more compact floor plans can be constructed. By freely selecting and arranging the individual elements, it is possible to carry out planning according to your requirements. The elements can also be used as partitioning play units without caterpillar head and tail.

Note
In the standard version, only the head and tail use colour in their design. The elements installed in between are also available with coloured trims (as shown in the photograph) at extra charge.



5.00010

Example for installation



scale 1:100

Safety check according to EN 1176

Components
1 head with horns
1 element: baking table with 2 sand sieves and 4 shovels
1 element: sand see-saw and 2 shovels
1 element: turntable, two-way channel and 2 shovels
1 tail with a bell

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 50 x 50 x 40 cm
excavation depth 60 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!

Technical information

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

tongue and groove
baking table made of 40 mm tongue and groove boarding

plywood
wall elements made of waterproof mountain larch plywood board, 30 mm

Corocord®rope
special ropes of "Hercules" type
horns 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

ground anchor
all anchoring parts are hot-dip galvanised

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

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

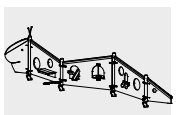
posts and sand sieves made of stainless steel

bell made of brass

Dimensions
(small deviations possible)

total height	1.65 m
height of head	1.30 m
length of the element	
head	1.00 m
middle part	2.00 m
tail	1.00 m
weight	350 kg

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



5.00010

Play value
The caterpillar is a friendly play offer for small children. The harmonious appearance of the figure and the way in which it is possible to play from both sides offer a lively and pleasant basis for smaller playing spaces. The space partitions promote communicative play, but also make it possible to create borders and divisions of the play areas. This caterpillar type is equipped with a turntable, a two-way channel and shovels.

Fundamental characteristics
- friendly appearance
- sand play equipment

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

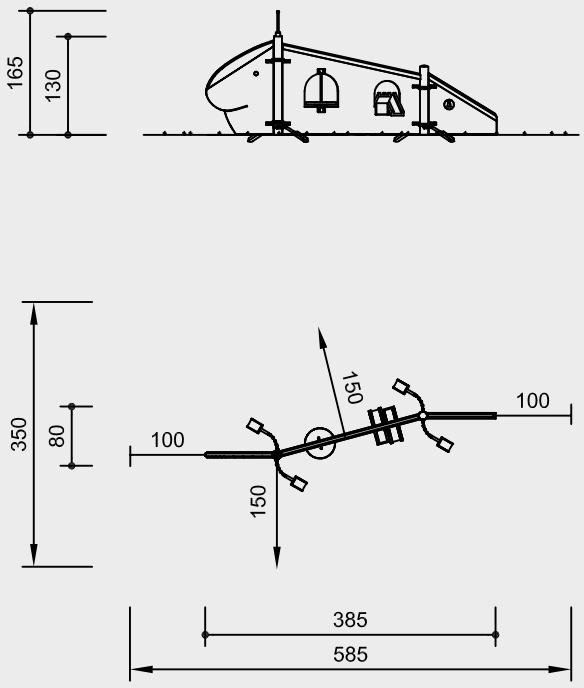
Planning information
The angles of the opposing wall elements and their number can be freely selected to a great extent. Both spread-out as well as more compact floor plans can be constructed. By freely selecting and arranging the individual elements, it is possible to carry out planning according to your requirements. The elements can also be used as partitioning play units without caterpillar head and tail.

Note
In the standard version, only the head and tail use colour in their design. The element installed in between is also available with a coloured trim (as shown in the photograph) at extra charge.

Caterpillar type 04

5.00025

Example of installation



scale 1:100

Safety check according to EN 1176

Components
1 head with horns
1 element: turntable, two-way channel, 4 shovels
1 tail with bell

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

Foundations
2 items 50 x 50 x 40 cm
excavation depth 60 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 installation instructions.
We reserve the right to make technical alterations!

Technical information

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

plywood
wall elements made of waterproof mountain larch plywood board, 30 mm

Corocord® rope
horns 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

ground anchor
all anchoring parts are hot-dip galvanised

chains
short-link chains, 5 mm, welded before hot-dip galvanisation (stainless steel chains 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

posts made of stainless steel

bell made of brass

Dimensions
(small deviations possible)

total height	1.65 m
height of head	1.30 m
length of the element	
head	1.00 m
middle part	2.00 m
tail	1.00 m
weight	150 kg

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

5.00025

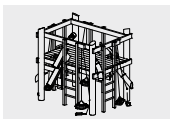
Function and Play value
Many children are very satisfied with doing proper work. The Building Sites give them the opportunity to realistically mimic the working world of adults. Heavy loads can be moved over a roller, sand and water can be poured into pipes or gutters, a sand wheel can be turned, the dumper box takes a load of sand and a bucket is filled. Cooperation 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

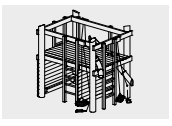
Suitable
- for children from 3 years
- for public playgrounds
  playgrounds situated near houses
  nurseries
  children's homes
  elementary schools

Order No. L5.01000 Building Site made of larch

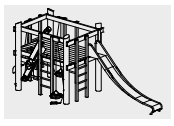
Building Sites



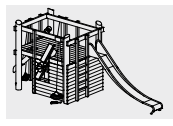
5.01000



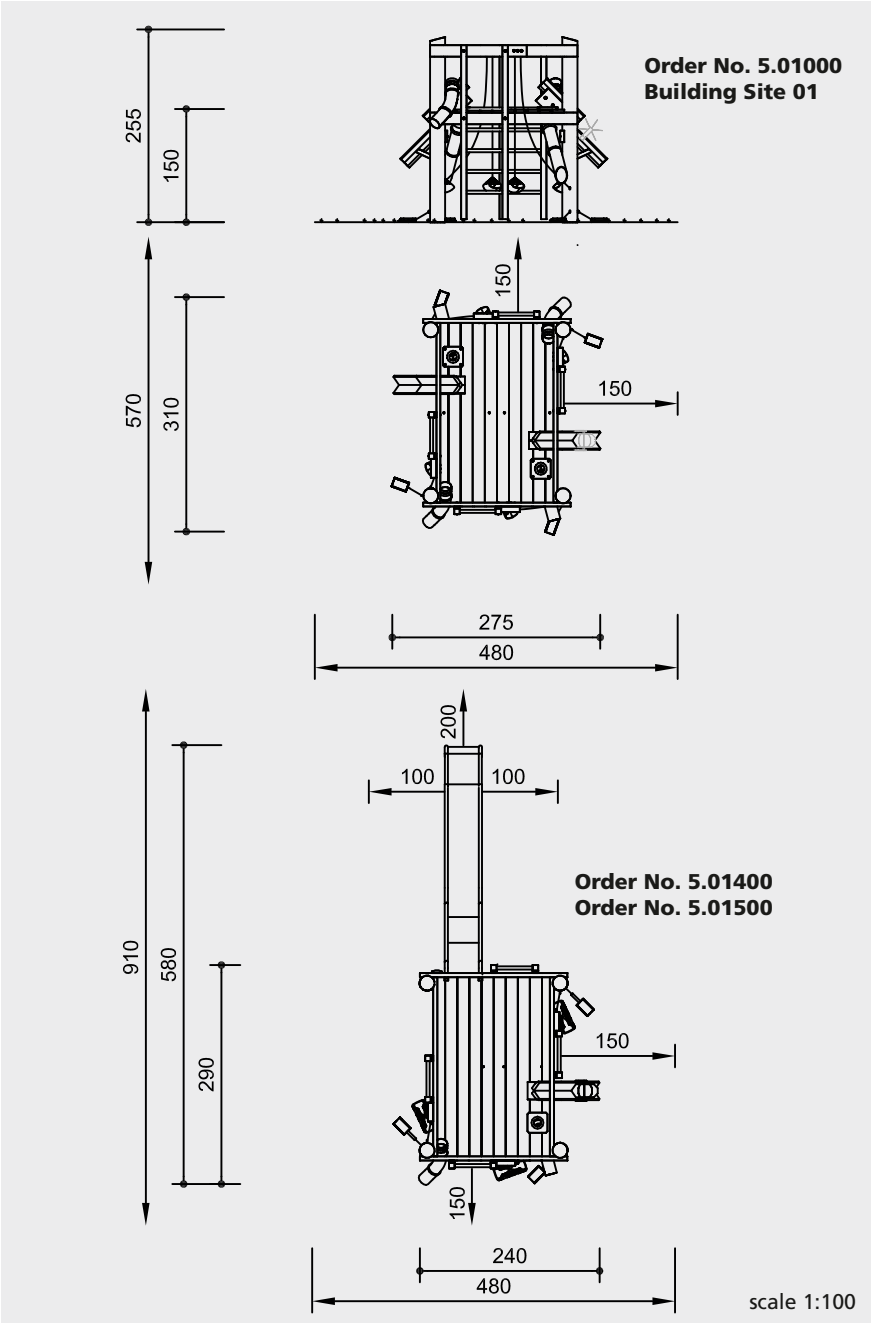
5.01100



5.01400



5.01500



Safety check according to EN 1176

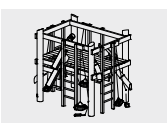
Components

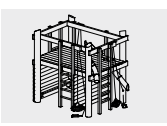
Order No. 5.01000 Building Site 01
1 Platform height 1.50 m, 4 Ladders
4 Sand Hoists with 4 Shovels
4 Sand Chutes
2 Sand Trays, 2 level, 1 Sand Wheel

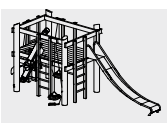
Order No. 5.01100 Building Site 011
1 Platform height 1.50 m, 3 Ladders
3 Sand Hoists with 3 Shovels
2 Sand Chutes
1 Sand Tray, 2 level, 1 Sand Wheel
3 Walls
2 Benches
1 Table

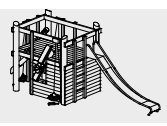
Order No. 5.01400 Building Site 014
1 Platform height 1.50 m, 4 Ladders
3 Sand Hoists with 3 Shovels
2 Sand Chutes
1 Sand Tray, 2 level, 1 Sand Wheel
1 Stainless Steel Slide with ground anchor height 1.50 m

Order No. 5.01500 Building Site 015
1 Platform height 1.50 m, 3 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

Materials - 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
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

Materials - Add-on Equipment

Site Hut

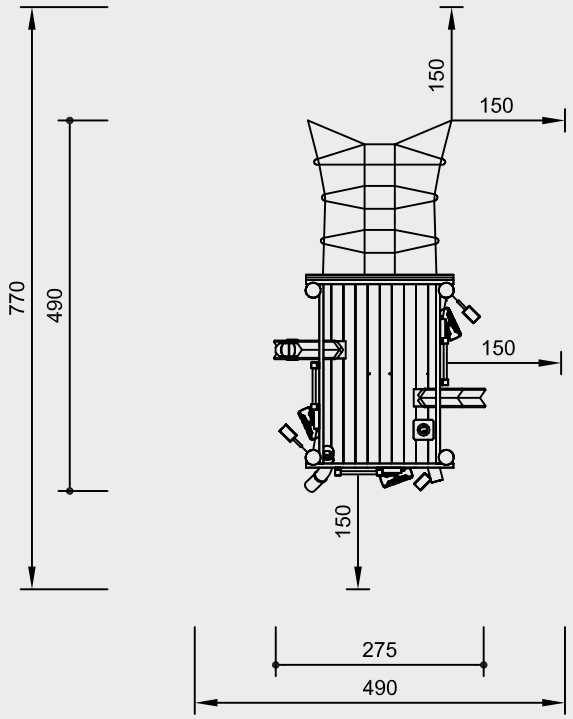
claddings
thickness 4 - 5 cm, de-barked by hand, of mountain larch, selected according to eight quality criteria

Slide

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

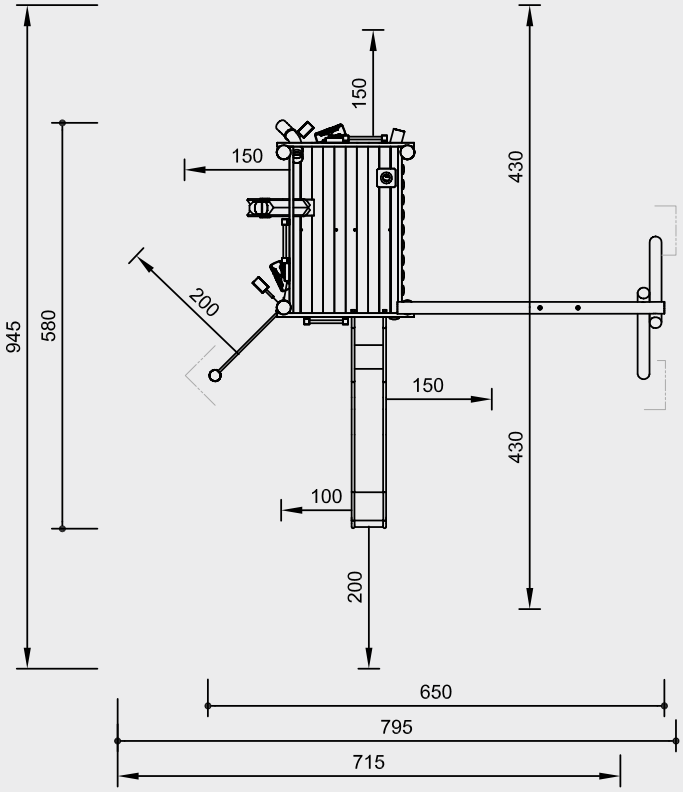
For more detailed explanation of the quality characteristics see price list.

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

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

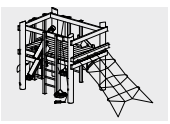
rubber seat
rubber seat with anatomically correct shape, strong profiled steel insert and soft shock absorbing edge

swing joint
drop-forged and hot-dip galvanised 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 and therefore easy to maintain

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

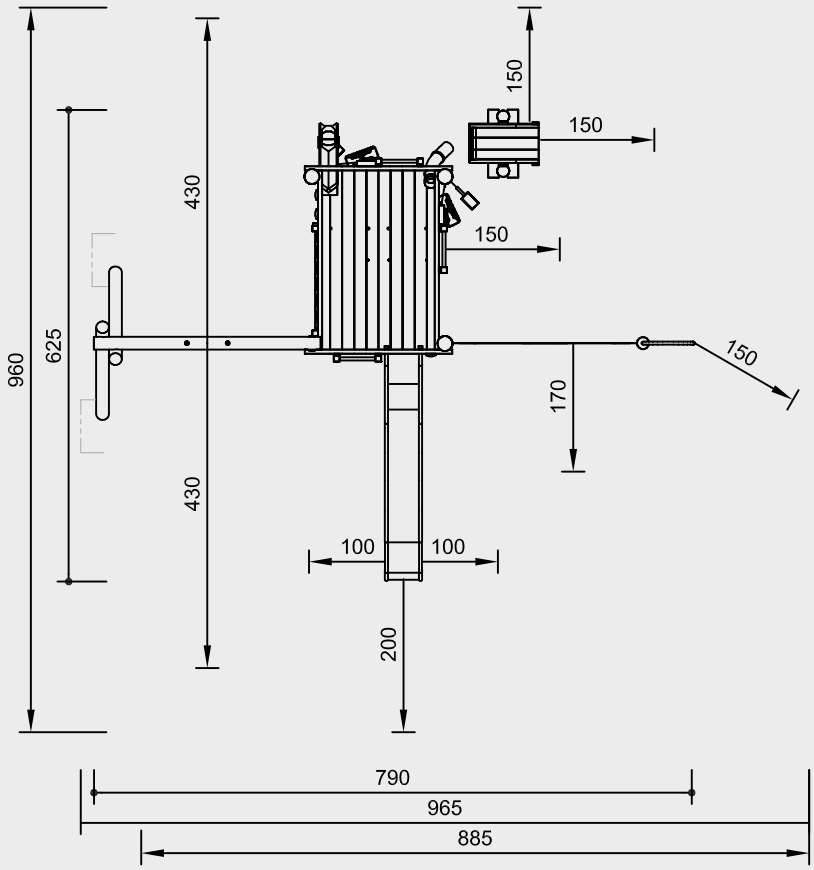
brass bush
for all to and fro movements we use bush bearings which allow for self-lubrication while in use and which can be easily exchanged in case of need
Horizontal Bar of stainless steel, Ø 30 mm



Safety check according to EN 1176

5.02000 **5.03380**

Order No. 5.03000 Building Site 03 with Swing, Slide, Vertical Climbing Net and Sand Tipper



scale 1:100

Safety check according to EN 1176

Components

Order No. 5.02000 Building Site 02
1 Platform height 1.50 m, 3 Ladders
3 Sand Hoists with 3 Shovels
2 Sand Chutes
2 Sand Trays, 2 level, 1 Sand Wheel
1 Inclined Climbing Net

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

5.03000

Order No. 5.03000 Building Site 03
1 Platform height 1.50 m, with 3 walls, 2 benches, 1 table
3 Ladders
2 Sand Hoists with 2 Shovels
1 Sand Chute, bent
1 Sand Tray, 2 level, 1 Sand Wheel
1 Balustrades at the side of the swing
1 Vertical Climbing Net with Firemen's Pole
1 Single Swing complete with swing attachment and swing seat
1 Stainless Steel Slide, height 1.50 m with ground anchor
1 Sand Tipper

Order No. 5.03380 Building Site 0338
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, moveable
1 Stainless Steel Slide, height 1.50 m with ground anchor

Dimensions
(small deviations possible)

Building Site, height	2.55 m
Platform, height	1.50 m
Platform Floor	1.60 x 2.50 m

Order No. 5.01000

length	3.10 m
width	2.75 m
weight	700 kg

Order No. 5.01100

length	2.90 m
width	2.40 m
weight	800 kg

Order No. 5.01400

length	5.80 m
width	2.40 m
weight	700 kg

Order No. 5.01500

length	5.80 m
width	2.40 m
weight	850 kg

Order No. 5.02000

length	4.90 m
width	2.75 m
Inclined Net	1.50 m x 2.50 m
weight	700 kg

Order No. 5.03000

length	6.25 m
width	7.90 m
Vertical Net	1.75 x 2.50 m
Firemen's Pole	Ø 42 mm
weight	1200 kg

Order No. 5.03300

length	5.80 m
width	5.75 m
Horizontal Bar	Ø 30 mm
weight	900 kg

Installation Information

Surfacing requirements
depending on the type
corresponding to a fall height of ≤ 1.50 m
(please refer to pricelist for more detailed information)

At least 40 cm of sand are required for a proper function.

Foundations
Building Site
4 items 60 x 60 x 40 cm, 70 cm deep
(with steel feet 80 cm deep)
Slide
excavation depth for ground anchor
55 cm
Inclined Climbing Net
2 items 50 x 50 x 40 cm, 80 cm deep
Vertical Climbing Net
2 items 60 x 60 x 60 cm, 80 cm deep
Firemen's Pole
1 item 40 x 40 x 30 cm, 50 cm deep
Single Swing
2 items 60 x 70 x 60 cm, 80 cm deep
Horizontal Bar
1 item 60 x 60 x 50 cm, 70 cm deep
(with steel feet 80 cm deep)
Sand Tipper
1 item 135 x 60 x 50 cm, 70 cm deep

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.

Order No. 5.06200 Type II

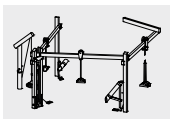
Sand Transport System
for attachment

Fundamental characteristics
- child proportions according to ergonomic requirements
- natural wooden surface which appeals to the senses
- high-quality design
- comprehensible technical details
- communication and cooperation 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

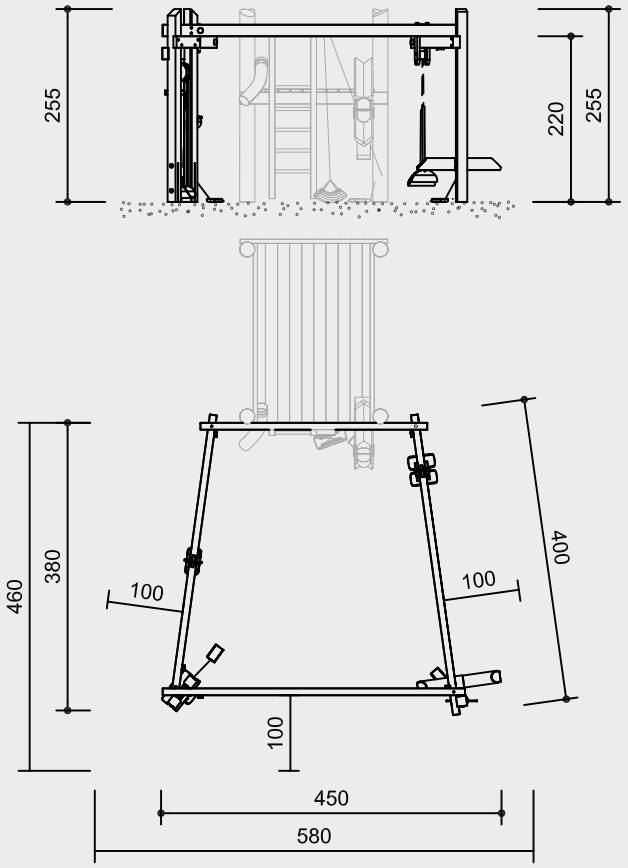
Planning Information
The single elements can be combined individually.

5.06100

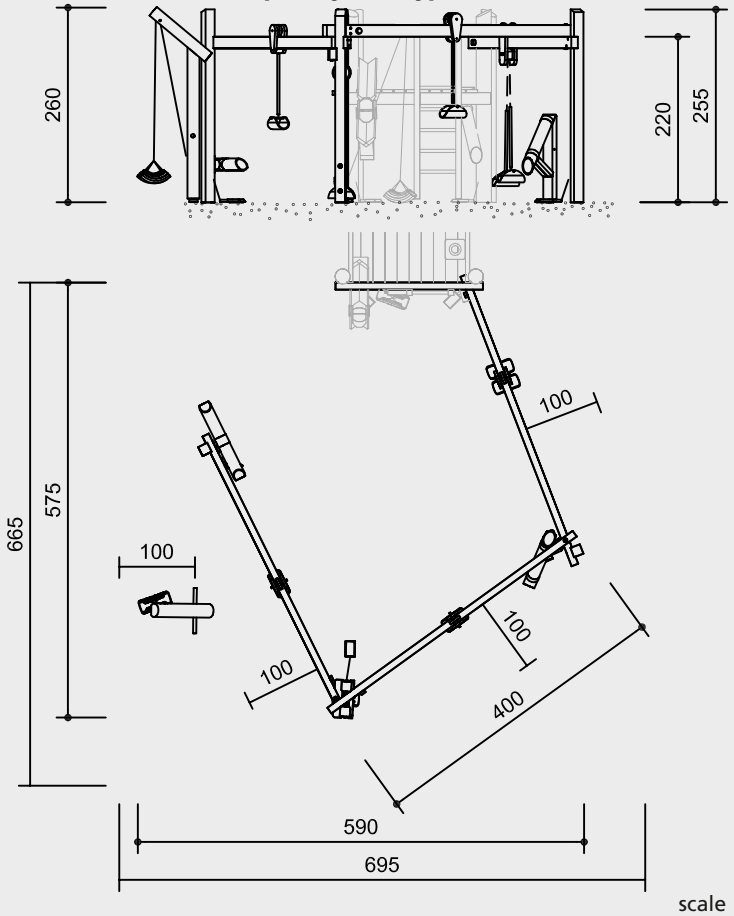


5.06200

Order No. 5.06100 Sand Transport System Type I



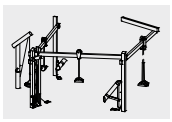
Order No. 5.06200 Sand Transport System Type II



scale 1:100

Safety check according to EN 1176

5.06100



5.06200

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

Technical information

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
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)

height	2.55 m
height sand crane	2.60 m
length of conveyor tracks	4.00 m
chutes diameter	0.16 m
weight **Type**	250 kg
Type II	350 kg

Components Type I and II
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
in addition to Type II
1 end support with steel foot
1 rotating beam with chute
1 turning crane with sand hoist and steel foot
1 shovel with chain

Installation information
no surfacing requirements
(please refer to pricelist for more detailed information)
For a proper function at least 40 cm 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

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

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 cooperation.

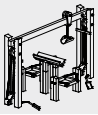
Fundamental characteristics
- child proportions according to ergonomic requirements
- natural wooden surface which appeals to the senses
- attractive, clear design
- technical appearance
- play offers for several children
- encouraging cooperation
- incentive for playing: rollers with chains, sieve,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

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

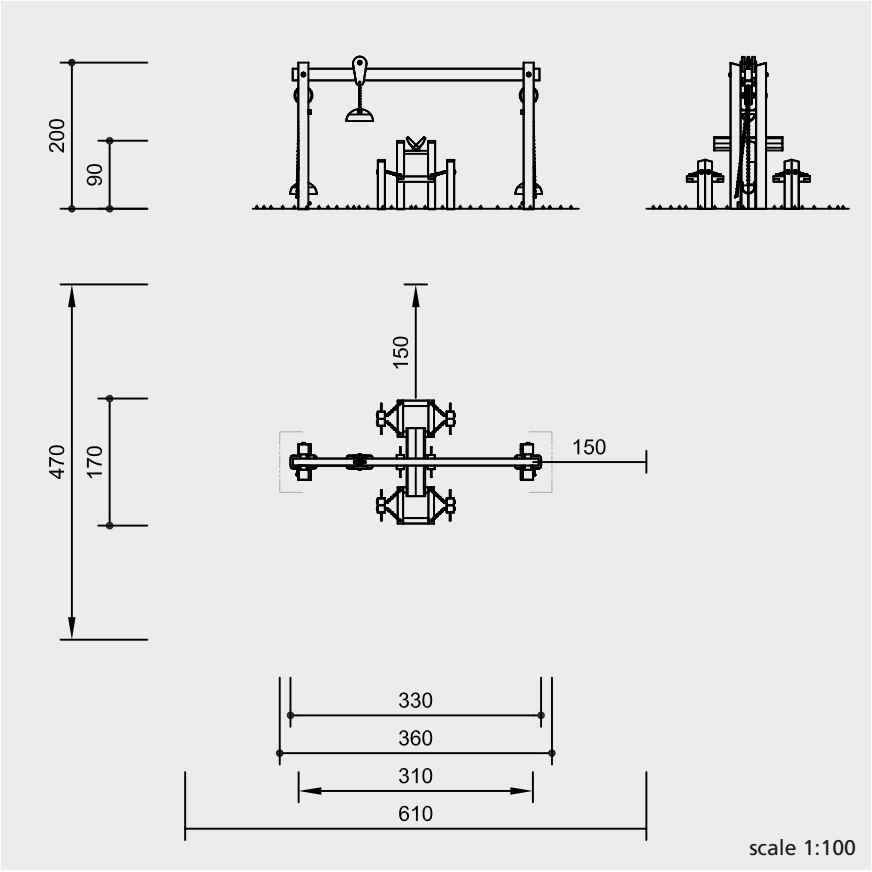
Fixing of the Transport Rail technically changed

Small Building Site

Design P. Hannes



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 price list for more detailed information)

At least 40 cm play sand are required for playing.

Foundations
transport frame
2 items 60 x 80 x 50 cm
sand see saw
1 item 60 x 60 x 50 cm
sand sieves
4 items 40 x 50 x 50 cm
excavation depth each 70 cm

Attention:
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Technical changes reserved.
Support frames also availabe with steel feet (stand posts made of larch).

Technical information

core-free
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

adjustable
no projecting threads after re-tightening due to two-piece bolt connection and therefore easy to maintain

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

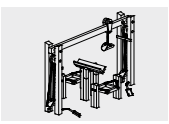
sand container of rubber membranes

sand see-saw mounted on rubber torsion bushes

Dimensions
(small deviations possible)

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

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



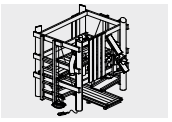
5.09300

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

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

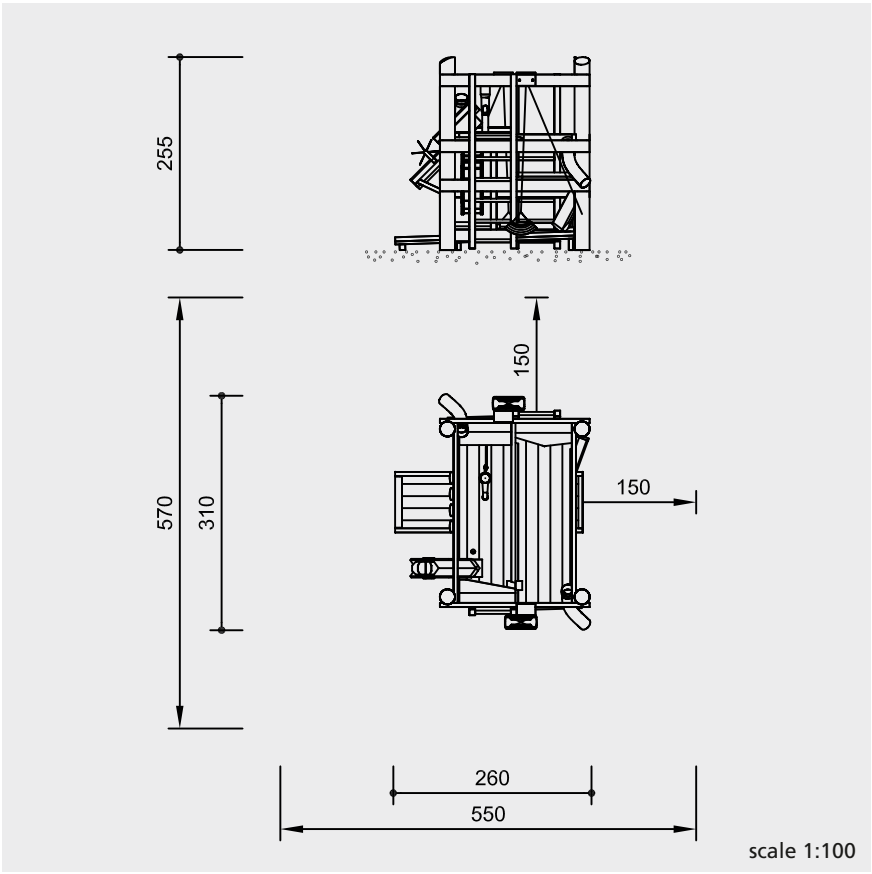
Suitable
- for children from 4 years
- for public playgrounds
  playgrounds situated near houses
  outdoor swimming pools
  elementary schools

Water Building Site



5.09500

Design G. Beltzig



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
excavation depth 70 cm
water connection according to local situation

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

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

Technical information

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 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

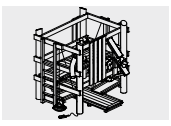
sand wheel hot-dip galvanised

Description of Mill Wheel and Pump see separate catalogue page.

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

Dimensions
(small deviations possible)

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



5.09500

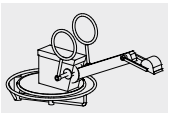
Play value
While playing, children imitate, with intensity, work operations belonging to the adult world. Our Excavators offer the possibility of real life experiences, in particular when water is nearby. When the earth around the excavator has been removed, the Small Excavator without foundation can be repositioned with the help of two adults. In public areas the Small Excavator can be fixed in the ground with the delivered 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 coordination
- incentive for playing: lever arm, shovel
- movement: physical effort

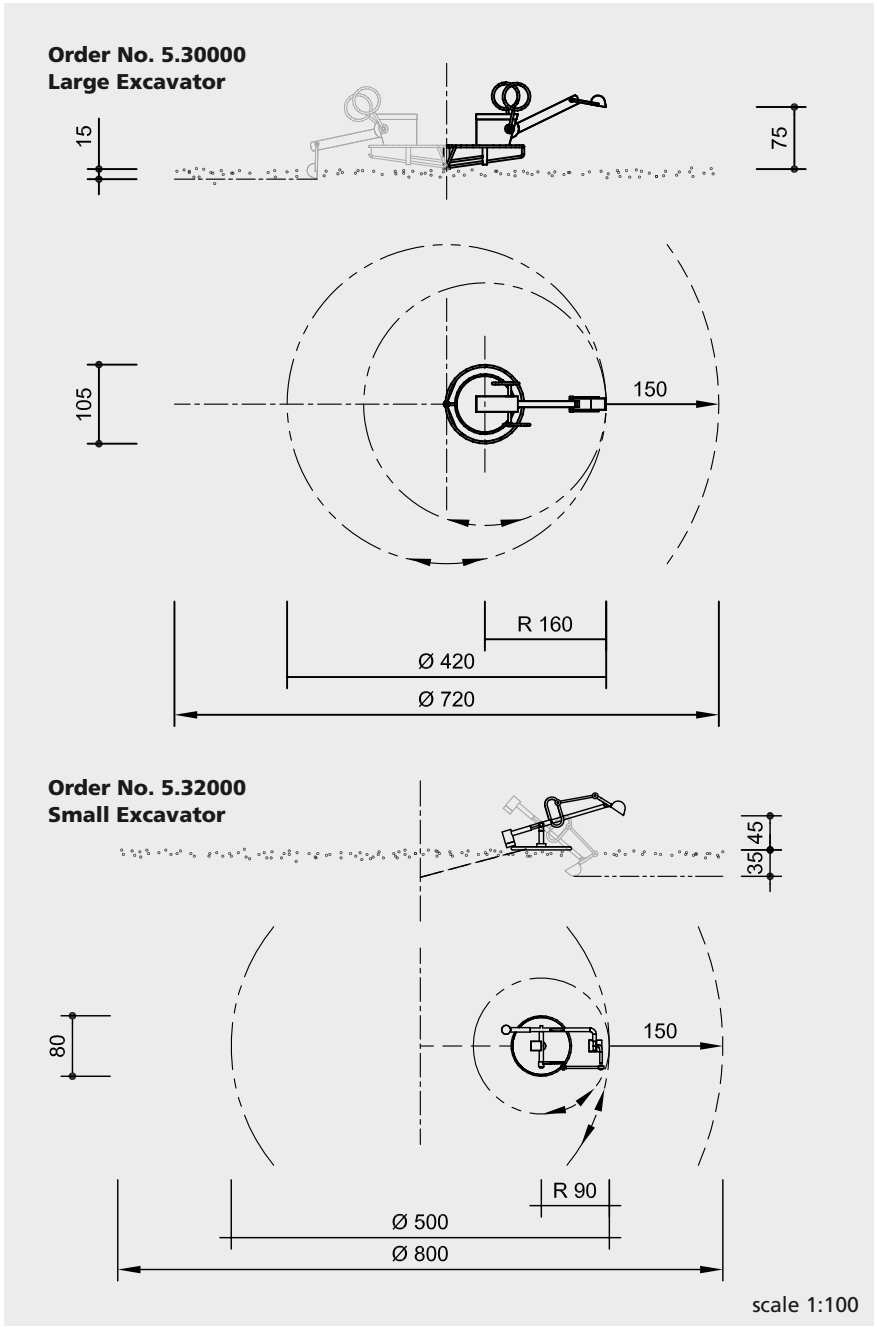
Suitable
- for children from 4 years
- for public playgrounds
  nurseries
  children's homes
  elementary schools

Large Excavator
Small Excavator



5.30000

5.32000

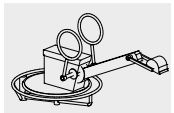


Safety check according to EN 1176

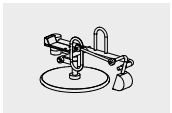
Components

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 foundation iron



5.30000



5.32000

Installation information

Surfacing requirements
Order No. 5.30000 Large Excavator
corresponding to a fall height of ≤ 1.00 m
Order No. 5.32000 Small Excavator
corresponding to a fall height of ≤ 0,60 m
(please refer to price list for more detailed information)
sand surface is necessary

Foundations
Order No. 5.30000 Large Excavator
1 item 60 x 60 x 50 cm
excavation depth 90 cm
Order No. 5.32000 Small Excavator
1 item 40 x 40 x 40 cm
excavation depth 80 cm

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

Technical information

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 and which can be easily exchanged in case of need

seat of waterproof plywood 25 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 and which can be easily exchanged in case of need

ground anchor
all anchoring parts are hot-dip galvanised

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

seat of waterproof plywood 25 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	250 kg
Order No. 5.32000 Small Excavator	
reach diameter	1.80 m
weight	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 footbridges 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

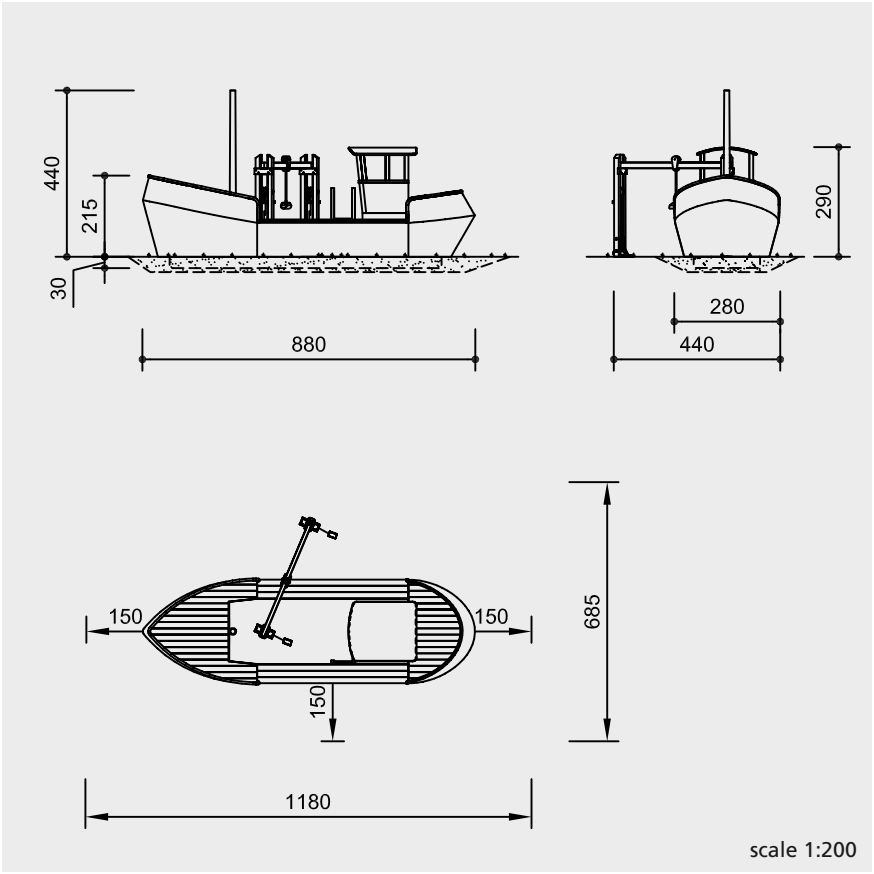
Fundamental characteristics
- unique and original
- eye-catcher
- coloured design
- high-quality design
- stimulus to role-playing

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

Metal ship "Sand"
with Sand Transport System

8.01000

Design G. Beltzig



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
excavation depth 80 cm

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

Sand Transport System
2 items 80 x 60 x 50 cm
excavation depth 70 cm

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

Technical information

ship made of 4 mm bent sheet metal, primed and painted in two colours, all edges in the play area have a sufficiently large radius

deck, mast, wheelhouse finishing, sand transport system, ladder, table and stool made of mountain larch, selected according to eight quality criteria, 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

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

ground anchor
all anchoring parts are hot-dip galvanised

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

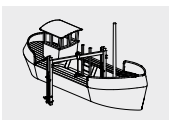
ship's bell made of brass

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

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



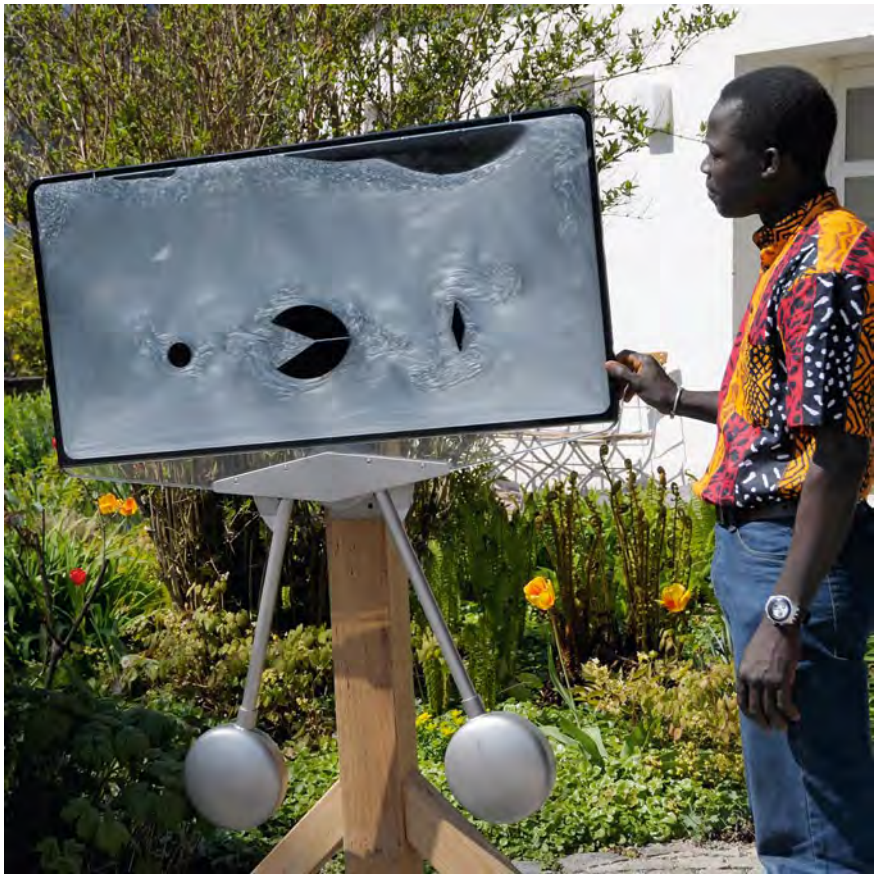
8.01000

Offers for Developing the Senses with water

Order No. 10.15005 with support post made of stainless steel

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

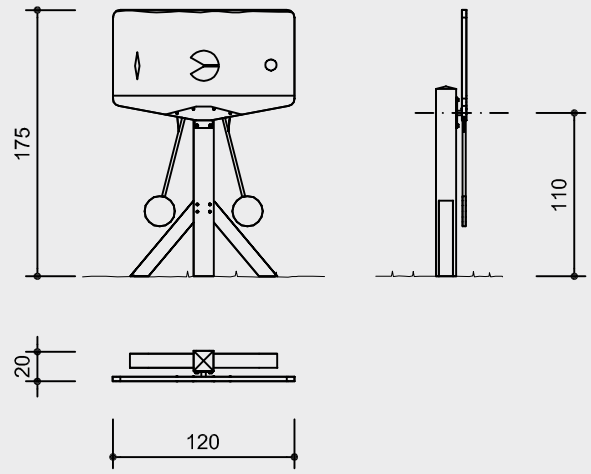


Order No. 10.15500 for wall attachment

Pattern Board
graubner Play Stations for Developing the Senses

Vandalism	vulnerable in non-supervised areas
Supervision	not necessary
Explanation board	recommended
Installation	indoors and outdoors
Safety check (EN 1176)	has been completed
Installation in concrete	possible

10.15000



scale 1:50

Technical information

frame made 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	1.75 m
width	1.20 m
depth	0.20 m
weight	60 kg
with packing material	100 kg

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

Components

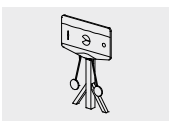
1 pattern board
1 rack

Installation information

Recommended space
3.00 x 3.00 m

Foundations
2 items 50 x 30 x 30 cm
excavation depth 50 cm
1 item 40 x 40 x 40 cm
excavation depth 60 cm

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



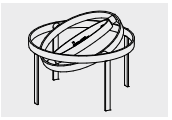
10.15000

Pattern Disc
graubner Play Stations for Developing the Senses

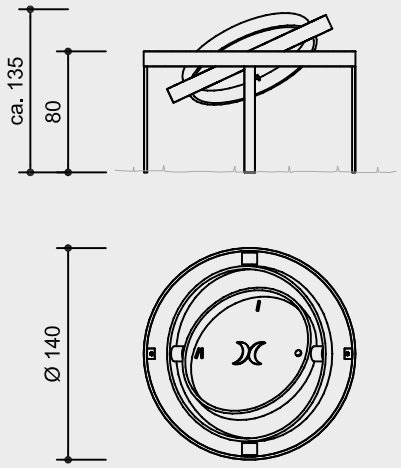
Function and Play value
By turning this water-filled body around in various directions the flow creates fast or slow moving patterns. The gap between two boards is filled with water containing tiny particles which clearly highlight the patterns. The disc can be moved and turned in all three dimensions. The effect of the universal joint mounting is an experience in itself for many. There are four obstacles inside the disc; the liquid flows over or through them. Typical flowing patterns build up in front of obstacles and in the eddy behind them with shapes forming in a symmetrical inward and outward spiral movement. The trapped air bubbles are a further element which demonstrates the effect of opposing forces on a shapeable body.

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

Vandalism	vulnerable in non-supervised areas
Supervision	not necessary
Explanation board	recommended
Installation	indoors and outdoors
Safety check (EN 1176)	has been completed
Installation in concrete	possible



10.15100



scale 1:50

Technical information

frame made of aluminium

extremely impact-resistant acrylic double screen

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

maintenance-free stainless steel bearing

bearing of the screen decelerated to avoid the turning movement being started too fast

Dimensions
(small deviations possible)

frame	Ø 1.40 m
total height approx.	1.35 m
frame height	0.80 m
disc	Ø 0.90 m
weight	65 kg

Components

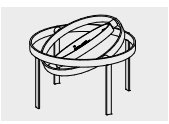
1 complete piece of equipment

Installation information

Recommended space
circle diameter 4.00 m

Foundations
4 items 30 x 30 x 40 cm
excavation depth 60 cm

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



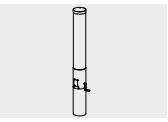
10.15100

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.

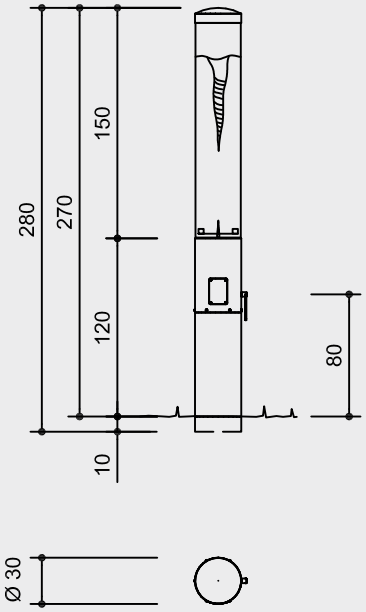
Suitable
- for water play areas
  swimming pools
  technical museums
- reception areas of companies
- parks, nature reserves, botanical gardens

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

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



10.17000/10.17500



scale 1:50

Technical information

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

low-maintenance gear with freewheel turning handle against anti-kickback device

Order No. 10.17500
Whirlpool Column with Lighting

technical details as described before, but in addition with internal LED lighting at the base of the whirlpool cylinder, power generation by dynamo, illumination only during rotational movement

Dimensions
(small deviations possible)

height	2.80 m
diameter	0.30 m
weight	100 kg
incl. water and packaging material	210 kg

Components

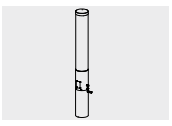
1 whirlpool column
3 canisters with 20 l glycol mixture each

Installation information

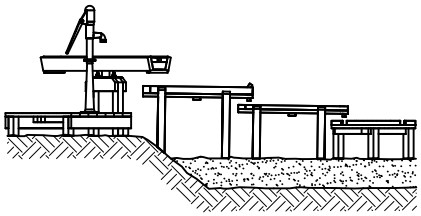
Recommended space
circle diameter 3.00 m

Foundations
1 item 50 x 50 x 60 cm
excavation depth 70 cm

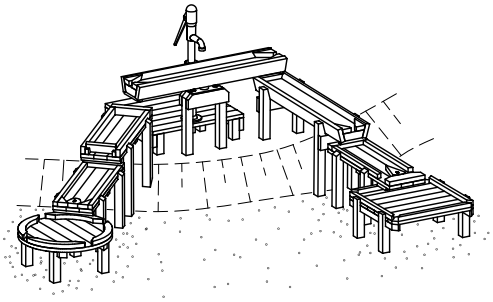
Attention!
Exact measurements may vary, for all installation dimensions refer to current installation instructions.
Subject to technical changes!

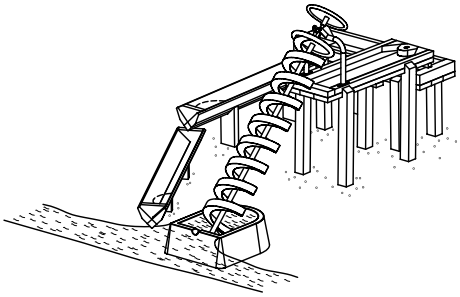


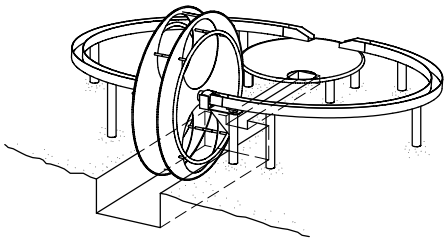
10.17000/10.17500



Planning examples







1. General information

For the planning and installation of water playgrounds an incline or a slope may be helpful or even necessary. Smaller water playgrounds can also be installed on level sand areas. In any case a suitable drainage must be provided for.

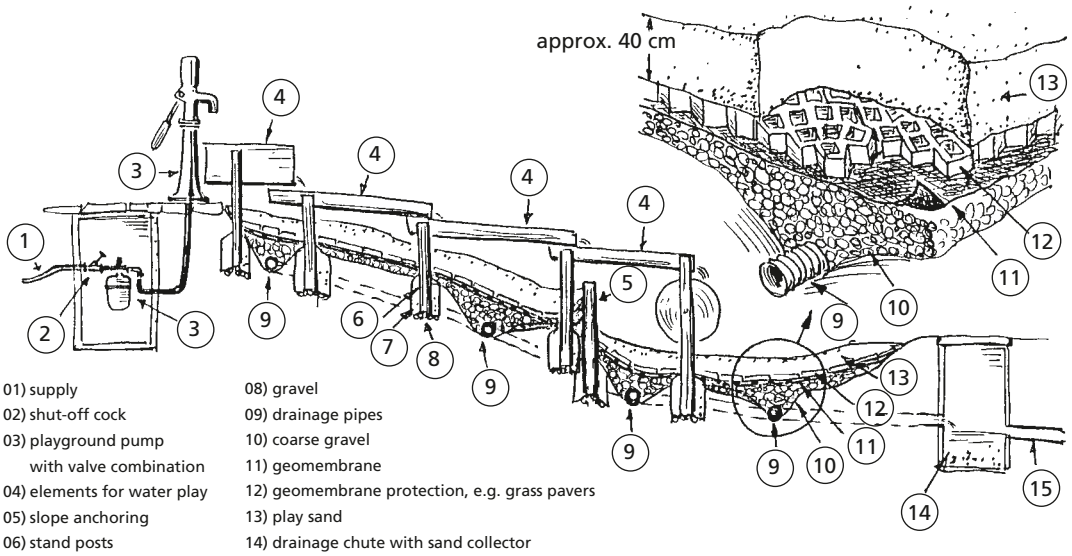
If play water is scooped out of standing water, a stream or a pond and the child can see the water's origins by the way in which it is scooped out (e. g. Archimedes screw, water-scoopers etc.) then under no circumstances is drinking water quality required.

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 course gravel with a geomembrane on top; covering the geomembrane should be 40 cm of play sand.
In order to protect the geomembrane it is beneficial to cover it, for example with grass pavers, before then laying down the sand. This allows the geomembrane to be driven over when the sand needs changing. The drain pipes should initially run into a central collection shaft with sand separator and later into the drainage system.

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

A very suitable planting around the boundaries and as a border for water-mud playgrounds are e.g. willows, provided that they are planted large enough and had had time to establish themselves.

System diagram for a water-mud playground



01) supply
02) shut-off cock
03) playground pump with valve combination
04) elements for water play
05) slope anchoring
06) stand posts
07) foundations
08) gravel
09) drainage pipes
10) coarse gravel
11) geomembrane
12) geomembrane protection, e.g. grass pavers
13) play sand
14) drainage chute with sand collector
15) outlet

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 ¾ 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
5.20910	Damming wedge	10 cm
5.28030	Board Gate	15 cm
5.28031	Bar gate	15 cm
5.28032	Sickle Gate	15 cm
5.28033	Round Flap	13 cm
5.28034	Rectangular Flap	15 cm
5.28035	Rotating Gate	15 cm
5.28045	Canal Lock	15 cm

These damming aids should be regarded as play elements. They do not close off completely tightly.

When constructing catchment basins take care that they are built so that they can be easily cleaned.
This means a slight base inclination so that draining of the remaining water as well as accessibility is ensured. With the ball valve the drain should be kept short and, if applicable, a sand catcher installed and good cleaning access ensured as contamination is to be expected.

3. Water supply options with Pumps (Technical Informations to the Pumps see page 88)

a. Playground Pump Order No. 5.17500

for pumping water from a well or groundwater etc. Please pay attention to the water quality, see note A.

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, see note A.

for connection to mains water, suitable in combination with:

- Top part of Pump **Order No. 5.17510** for example for installation on Round Reservoir or Round Water Basins
- Playground Pump **Order No. 5.17500** if the slim pillar is desired explicitly for design reasons
- Water Building Site **Order No. 5.09500**

Technical Informations to the Valve combination

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
Installation requirements:	pressure mains at least 1 inch water requirement at least 45 l per minute follow water works instructions

Note A:
The water quality and the technical requirements should be clarified with the authorities and with the water company/public utility provider (e. g. backflow preventer).

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

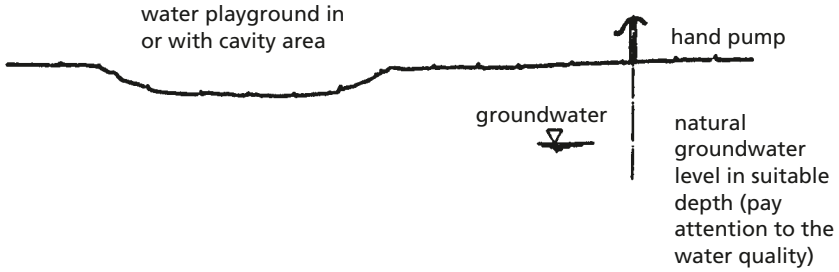
Unfortunately in the past it has not been uncommon to build over and put into pipes many of the smaller water bodies (streams) in the residential areas. This was done to improve the traffic connections and as a way of utilising the surrounding area as well as for hygienic reasons. Due to the systematic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



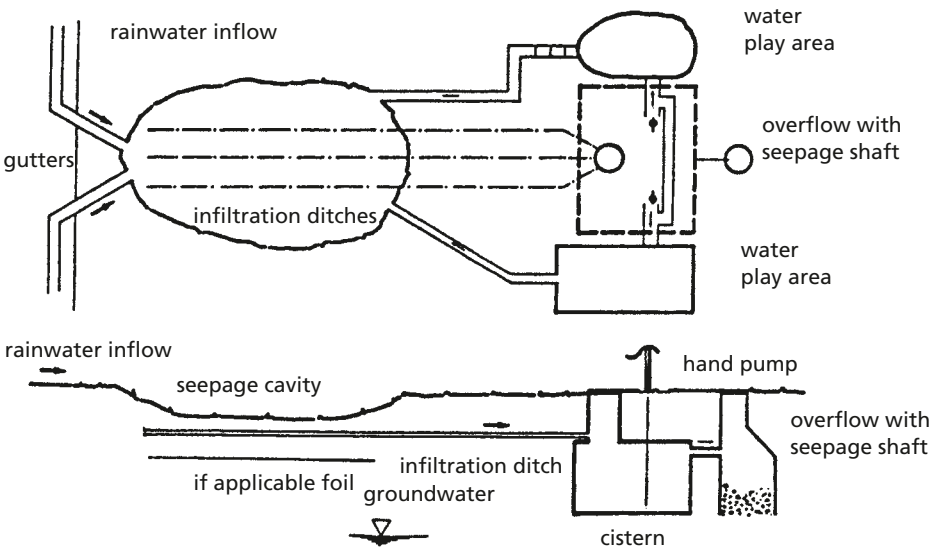
In the case where the groundwater is deep it is necessary that the rainwater which filters through the activated ground zone, be caught in drainage ditches which lie approx 1 m deep so as to collect it in a container (reservoir) (see diagram B).

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)



1

2

3

4

5

6

Do you want to know more about us?

Theme catalogues:

1. The Child at Play
2. For the *Very Young*
3. Acoustic and Play
4. Movement by Climbing
5. *graubner* Play Stations for Developing the Senses
6. Growing Older

Please ask for our information materials. We look forward to hearing from you.
Fon +49-80 52/1 79 80

D-83112 Frasdorf · Fon +49-8052/17980 · Fax 4180 · www.richter-spielgeraete.de