

Zielgerichtet zum  
Erfolg

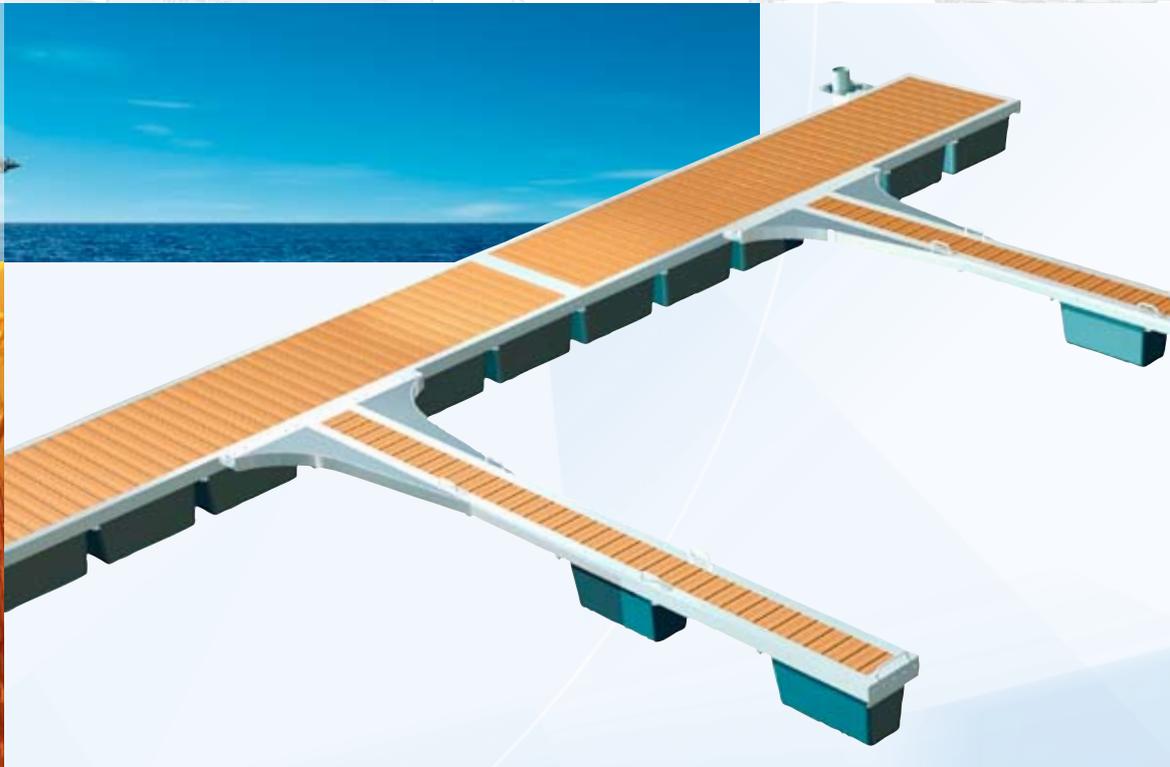
# Karl-Innovation



## Product programme

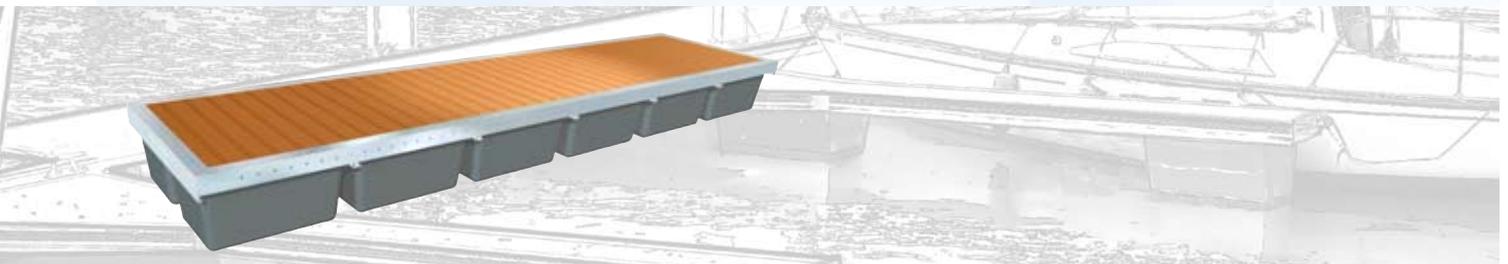
We construct new systems for boat and bathing jetties, swimming and bathing islands and pontoons. In doing so we utilise our own system components whenever possible, in turn reducing costs and planning risks. Due to our experience, also gained in the refurbishment of systems, we are able to offer you professional and innovative solutions. A long service life and limited maintenance costs are the mark of our jetty systems. *Our team will be happy to support you.*

# jetty systems | outriggers pontoons and bathing islands



# 1. Jetty systems

We build jetty systems which can be adjusted to your needs and the contours of your shoreline. Subsequent expansions are no problem because the systems are modular by design. When expanding floating systems, we predominantly utilise our tried and tested standard pontoons, usually in a double-row configuration. The service life and the limited maintenance costs are particularly attractive here. The framework is constructed from saltwater-resistant aluminium or galvanised steel. Frames are produced from stable profiles in a ladder configuration, which can themselves be screwed together to create a longer or wider system. The screw connections are longitudinally flexible, but transversely rigid. This results in a greater stability against tipping without a loss of movement.



Verification of floatability in accordance with the standard DIN EN 14504:2004 is naturally available.

In the case of pontoons, we prefer to use our "self-bailing" and partially floodable PE-floats, tried and tested for over 20 years and available with 200, 250 and 400 litre buoyancy. For further information refer to the section on pontoons.

Should the pontoons be damaged by external mechanical influences, these can be quickly replaced without necessitating a disassembly of the system - work requiring a matter of minutes that can be carried out from the jetty!

The numerous flexible fastening options for cleats, outriggers etc. are adequately spaced at a distance of 100 mm. Cable ducts ease the process of installing cables. These are located centrally, in order to ensure that they do not have a detrimental effect on the placement of the jetty. Attachment to the shoreline, dolphin, ground etc. can take place in accordance with your requirements. The respective installation elements are available for this.

We use wood, plastic or metal as surfacing materials. If wood is selected we recommend a splitting and warp resistant wood which has a service life of approx. 20 years. In addition we also use GRP and steel grilles as well as plastic boards. These materials have a similar or even longer service life. For further information refer to the section on surfacing.

Replacing the surfacing does not require extensive effort either. It is thus possible to lay supply lines retrospectively. Our aim is value retention with minimal maintenance and enhancement costs.

Access bridges, outriggers, water and power lines, moorings etc. all complete our programme. Enhancement options are available at anytime.

## Standard dimensions for jetty systems:

Type aluminium/steel (standard)	Width [m]	Element length [m]	Load capability [kN/m <sup>2</sup> ]	Freeboard config. alu [m]	
				without load	max. load
S-jetty L-100-600-AI/St*	1,0	6	1	0,47	0,31
S-jetty L-150-600-AI/St	1,5	6	1	0,47	0,31
S-jetty L-225-600-AI/St	2,25	6	1	0,51	0,33
S-jetty H-225-600-AI/St	2,25	6	2,5	0,73	0,34
S-jetty L-300-600-AI/St	3,0	6	1	0,49	0,30
S-jetty H-300-600-AI/St	3,0	6	2,5	0,72	0,31

\*With these jetty widths a T-piece should always be fitted to ensure improved stability, either in front of the head or at the side!  
Other dimensions, freeboard heights and load capabilities on request.

## Surfacing

For our surfacing we use the especially well suited, grooved garapa wood. The appearance, service life (approx. 20 years), splitting characteristics and freedom from warping make this a particularly recommendable option. Other types of wood are also available on request.

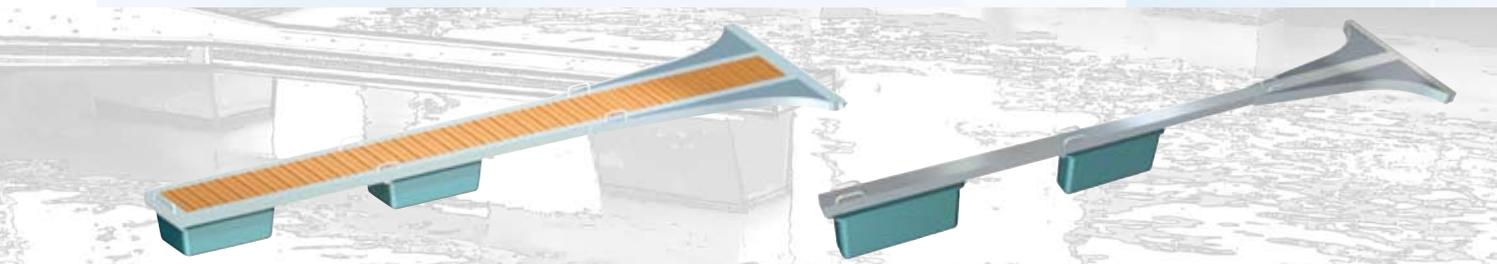
As an alternative we also offer grilles in GRP or metal. Grilles are also an excellent alternative if extensive soiling is expected. The GRP micro configuration is particularly comfortable, even with bare feet. GRP is an attractive option due to its very long service life and non-slip surface. Should a particularly high degree of non-slip be required it is also possible to sand the surface. The standard colour is grey, with other colours available on request. Talk to us!

In addition, we are also able to offer plastic boards, the appearance of which is similar to wooden boards. These are available in three different colours (grey, light brown, red-brown). The characteristics are somewhat similar to those of wood, although the material is not prone to moss.

## Outriggers / box separators

Outriggers and box separators are available in various lengths and widths. The frames are produced from saltwater-resistant aluminium in a bending-resistant design. For flotation purposes we use either our standard pontoons or special dimensions where appropriate. The outrigger is surfaced in wood, plastic or metal. Protective rolls, guard strips and moorings are fitted in accordance with your wishes.

The outriggers are fastened to the main jetty using low-wearing, silent pivoting joints, so that no additional tipping loads are applied to the main jetty. Universal brackets are available for existing jetty systems. It is possible to achieve individual and variable positioning by using slotted holes.



As a particular feature we have rounded off the stabiliser edges, meaning that you gain more space and additional boats are able to land sternward, without their width being too great an issue! Despite this „constriction“ we do not lose any stability! The risk of damage to the boat is however reduced. The fastening width is determined by the outrigger length and loads.

Also new is the integrated and closable storage box, which you can receive on request. It can also be installed to the 50 and 75 cm wide outriggers - meaning that you remain permanently flexible! The boxes are produced in saltwater-resistant aluminium and possess a special ventilation and storage system.

Type	Width [m]	Length [m]	Freeboard [m]
Box-L/H 015-400/600/-AI	0,15	4,0/6,0	L = approx. 0,5/ H = approx. 0,7
Outr-L/H 050-400/600/750/900-AI	0,50	4,0/6,0/9,0	L = approx. 0,5/ H = approx. 0,7
Outr-L/H 075-400/600/750/900/1200-AI	0,75	4,0/6,0/9,0/12,0	L = approx. 0,5/ H = approx. 0,7

Further dimensions and special requests on inquiry.

## Accessories

### Energy and water supply

We recommend products from renowned manufacturers or offer these on inquiry.



### Cleats, moorings etc.

We offer cleats and moorings suitable for our jetties. These are produced in accordance with the jetty grid pattern, so that attachment and rearrangement are possible at anytime. As materials we select either V4A stainless steel or aluminium. The space between holes is 100 mm or a multiple of this.

### Access bridges

Access bridges are individually produced from light, wear-resistant aluminium. Traffic loads are dependent on the jetty loading, i.e. 1 or 2.5 kN/m<sup>2</sup>. The dimensions, design etc. are all compliant with the standard DIN EN 14504. The minimum width is 90 cm. Local circumstances are taken into consideration with the configuration.

## 2. Floating pontoons for boat jetties, bathing islands or similar applications

### Standard pontoons

Our standard pontoons are perfectly suited for the majority of applications. The service life, shape-determined strength and also the tipping stability are all defining factors here. The tipping stability and the buoyancy (which increases proportionate to the submersion depth) together ensure that the jetty system maintains a calm position – an advantage over rounded buoyancy bodies. The tanks can be fastened simply using metal rails, due to the collar which runs right the way around the upper edge. Due to their conical shape, the pontoons are considerably less fragile in bodies of water prone to quick freezing.

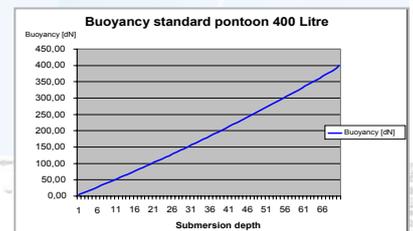
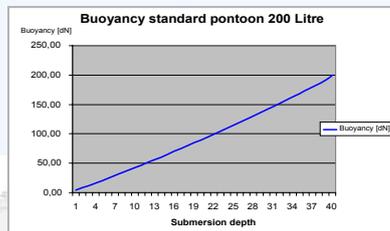


### A cost comparison is well worthwhile.

We highly recommend our special body ventilation system. It is designed such that no water can get in under normal circumstances. However, should this occur, bailing will take place independently once the respective difference in temperature has been attained!

### Technical data for the standard pontoon:

Type	Contents [litres]	Buoyancy with res. freeboard 25 [cm]	External dimensions [cm]	Wall thickness [mm]	Weight [kg]
Ponton 200 PE	200	1 kN or 100 kg/pontoon	L100 x W67 x H49	4	approx. 10
Ponton 250 PE	250	1,25 or 125 kg/pontoon	L98 x W73 x H50	5 - 6	approx. 14
Ponton 400 PE	400	2,5 kN or 250 kg/pontoon	L98 x W73 x H70	4	approx. 18



- HD-PE material, highly stable in conjunction with external influences.
- UV-stabilised design.
- Conical with rounded corners, thus offers less contact surface and does not freeze hard so easily.
- The materials and the basic shapes of these pontoons have been tried and tested for 20 years!
- 250 and 400 litre design partially floodable.
- All designs are self-bailing as soon as sufficient temperature difference is attained.

### Special pontoons in accordance with your requirements.

We produce special saltwater-resistant pontoons from PE or aluminium in accordance with your wishes. These are finished and welded as per your specifications.

### 3. Refurbishing existing systems

We refurbish systems with similar or alternative pontoons, starting from the floats right through to the surfacing. You decide how much you need. We can either provide all of the services, or supply the requisite parts which you can then install as you wish. Support and technical assistance can be provided as required – we don't leave you "floundering"! We can supply all components including the surfacing, pontoons, mountings etc...



Whenever possible, we use our durable standard pontoons in a refurbishment, in order to guarantee your system a long service life. Reasonably-priced solutions and economical mountings facilitate this. Thus, it is possible to refurbish your system for the long-term, with minimal costs and effort. Refurbishment usually takes place without a disassembly of the complete system, directly from the jetty: Furthermore, it is usually possible for refurbishment to take place whilst the system is in normal operation, because interference is kept to a minimum! Should it prove necessary to refurbish the frame at a later date, the pontoons can be put back into use as required. It is therefore possible to undertake refurbishment on small budgets too. The use of highly dangerous galvanised barrels, which are used all too often despite no standard approval, is thus negated! During past refurbishments we have come across many barrels which had rusted through below the waterline a number of years beforehand, and which had been holding the jetty up with the aid of air bubbles accumulated in the top of the barrel alone!

An aged system leaning at a dangerous angle due to leaky pontoons and excessive weight due to incorrectly loaded access bridges!



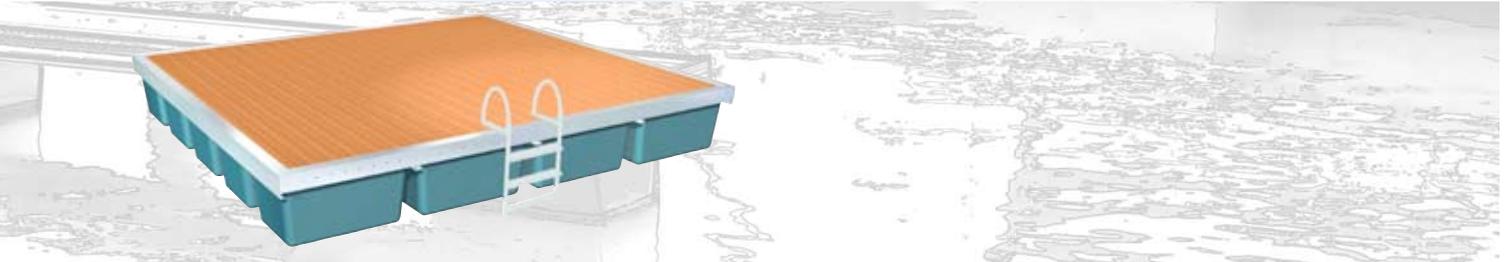
A refurbished system with new floats, these guarantee safe, long-term buoyancy. The new surface completes the picture. An economical alternative to a new system.

Compare old barrels and new solution with standard pontoons and special mountings.



## 4. Bathing islands

Designed in the same way as our jetties, we also produce bathing and event islands which unite a long service life, advantages and much more. We usually use garapa wood as the surface material, due to its smooth surface, service life and the disinfecting effect of wood. We naturally also offer accessories such as bathing steps, railings, sun protection etc.



### Bathing islands with standard dimensions:

Bathing island Type aluminium/wood	Width [m]	Length [m]	Load capability [kN/m <sup>2</sup> ]	Freeboard config. alu [m]	
				without load	max. load
Plaza L-300-300-AI-W	3,0	3,0	1	0,47	0,31
Plaza L-400-375-AI-W	4,0	3,75	1	0,47	0,31

Further dimensions and special requests on inquiry.

### Warranty

We provide a 5 year warranty on frames and pontoons in accordance with our delivery conditions. Warranties for all other parts comply with the legal regulations.

We are available anytime for further information, requests and questions.

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