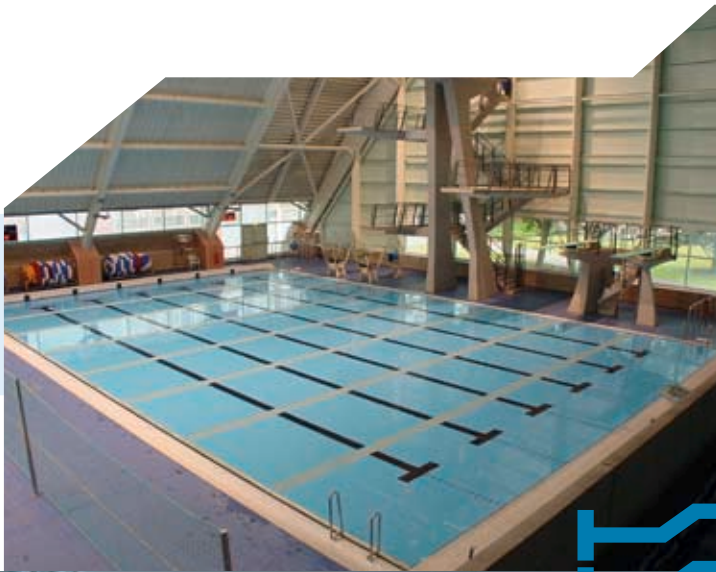


Create the swimming pool you require

# Variopool Movable Floors



- Morning:** Lane swimming, teaching classes and physiotherapy swimming.
- Afternoon:** Mothers with children, leisure swimming and Aqua Spinning.
- Evening:** Aquajogging, waterpolo training, and high diving lessons.

Variopool is a specialised company dedicated to the design, fabrication, installation and maintenance of adjustable swimming pool floors and bulkheads in high performance, leisure and private pools worldwide.

**VARIOP**  **POOL**

THE REAL DEPTH INVESTMENT

## The adaptability of a Variopool movable floor Easy to operate with maximum safety

The depth of the water as well as the pool dimensions are the main criteria which determine the possibilities a professional swimming pool may offer its various users. A swimming pool accommodation where these criteria are fixed can therefore only be used by a limited number of user groups and a restricted number of activities. Moreover there is no possibility to anticipate for future changes in user preferences during the lifespan of the leisure centre.



### The swimmer as the starting point

Variopool offers a practical and financially attractive solution to this problem by taking all potential users and activities as the starting point. A Variopool movable swimming pool floor enables water depth adjustment at any required moment. Even a gradually sloping water depth is part of the standard adjustment range. A Variopool movable floor adjusts a swimming pool accommodation with restrictions into a multifunctional pool, usable for all kinds of activities and all kind of users at any required moment throughout the day. It will be obvious that such an accommodation attracts severely more visitors resulting in a high revenue increase. As the future shows a change in activities or user preferences, then it is clear that you have the solution in hand to adapt your pool to the desired shape, depth and form.

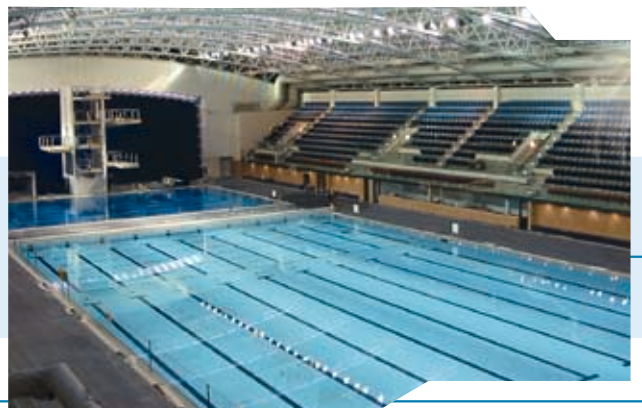
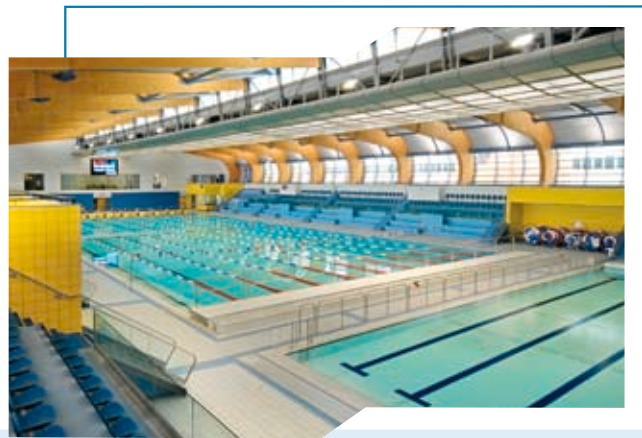
### Water depth on demand

This statement explains exactly what can be expected from every Variopool movable swimming pool floor. Specific user groups such as instruction swimmers, competition swimmers, water polo teams, diving course participants or aquaerobic enthusiasts with varying programs in one pool are allowed to indicate their requirements for their specific activities with regards to water depth. Examples of different water depths for different user groups are given in the next overview.

Usergroup	depth in metres	Usergroup	depth in metres
Instruction		Leisure	0.90 - 1.50
- babies	0.05 - 0.30	Aqua Spinning	1.00 - 1.40
- children	0.30 - 0.70	Waterpolo	1.80 - 2.00
- adults	0.50 - 1.50	Competition	1.30 - 2.00
Lane swimming	1.30 - 2.00	Aquaerobics	0.70 - 1.10
Elderly people	0.60 - 1.40	Diving	3.50 - 5.00

### A unique system that complies with the highest standards

In close cooperation with a team of professional experts and end users, Variopool composed a list with specifications and conditions, based upon the latest international standards, to which movable floors and booms need to comply with. These specifications and conditions are the base for a unique system, known worldwide as the VARIOPOOL system. As times change and techniques renew, these specifications and conditions are always put central and subject to change, in the understanding that innovation is an ongoing process.





## The adaptability of a Variopool movable floor. Easy to operate with maximum safety.

### Easy operation

The Variopool movable floor is controlled by PLC technology and can be operated from platform level through a waterproof “touch screen” operating panel. This ensures extremely easy operation for adjustment to pre-selected depths. Access for dedicated pool staff members is restricted by using passwords before the system can be operated safely.

### Flexible dimensions and construction for purpose

Variopool movable floors and booms are designed and supplied in almost every dimension, for installation in hydrotherapy to private to Olympic sized pools. When a swimming pool is only partially equipped with a movable floor and a boom is not included in the design, the outer end of the movable floor is equipped with a hinged flap to close off the area underneath the floor from the swimming public. The Variopool system is completely built up from 316L stainless steel and synthetic materials fully resistant to enduring submersion in swimming pool water. It is a buoyant construction which is adjusted to any desired depth by means of a hydraulic actuating system pulling on stainless steel cables. This construction allows high loadings, offers maximum safety and has become an international standard.



### Maximum safety

Safety remains one of the most important points during the design stage. For this reason Variopool movable floors are provided with several safety features:

- When the movable floor only partially covers the pool area, a hinged flap is connected to the outer end of the construction in order to prevent swimmers from entering the area underneath.
- The movable floor surface and flap are provided with an anti-slip profile in compliance with international standards as DIN 59017b and BS 7044.
- The gap between the movable floor and the pool wall is kept to a maximum of 8mm as allowed by the latest international standards.
- The actual water depth above the movable floor is shown continuously on various easy to see electronic displays in the pool hall.
- When the water depth above the movable floor is adjusted to a level less than a preset value, one or more displays in the pool hall will automatically show the text “NO DIVING”.
- The operating panel for water depth adjustment is only accessible for dedicated pool staff members who are in possession of the right password and proper user instructions. When the operating panel is switched off, water depth and no diving display remain continuously operating and visible for pool users.
- In case of a failure the movable floor will not sink away because of the buoyancies which are integrated in the construction. Undesired rising is prevented by the integrated safety valves in the hydraulic system.
- The main guarantee for safe operation is that Variopool movable floors and booms comply with international health- and safety regulations.



## Extremely hygienic

Hygiene is a vital element in the design process of a Variopool movable floor. For this purpose the following features are included:

- Numerous slots spread throughout the floor surface secure undisturbed water circulation throughout the pool.
- The drive system is positioned outside the pool eliminating the possibility of any contamination to the pool water.

## Actuating systems

Variopool offers two different types of actuating systems, each with its distinct advantages:

**Cable duct system** This conventional system includes for one or more embedded cable ducts to guide the stainless steel cables to above water level from where they can be led to the actuating or ram room. Typical advantage of the cable duct system is that the position or level of this actuating room is not restricted. (Fig 1)

**Direct-drive system** This innovated and VARIOPOOL patented system includes positioning of the rams directly and perpendicular through the pool wall. The stainless steel cables are directly connected with the ram plungers, so that embedded parts are not required and civil works are completely eliminated. (Fig 2)

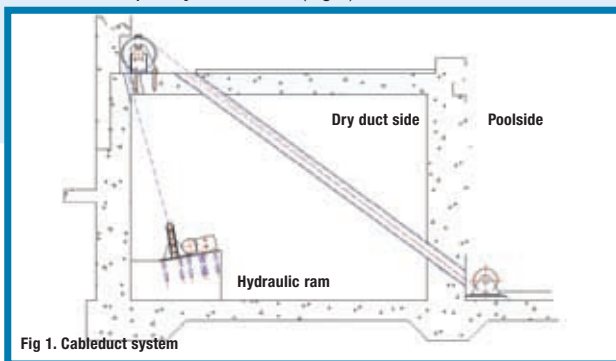


Fig 1. Cableduct system

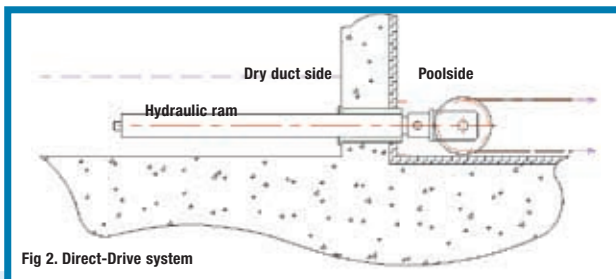


Fig 2. Direct-Drive system

## Floor surface systems

Variopool movable floors are available in three (3) different types:

- Stainless steel mainframe covered with polypropylene panels; this is a very durable system designed according to the latest technologies. The surface complies with international anti-slip standards and the water passes through slots set in the racing lines.
- Stainless steel mainframe covered with glass fibre reinforced polyester (GRP) panels; construction is similar as above except that the surface panels are made from high quality ISO-NPG polyester resin.
- Completely self supporting construction manufactured from full glass fibre reinforced polyester (GRP) manufactured according to the Variopool original design on movable floors dating back to the 1960's. Easily replaceable GRP elements between 9.0 and 15.0m long eliminate the necessity for a stainless steel frame reducing costs dramatically. This is the preferred system in Holland and the Far East.

## Long lifespan and low maintenance costs

Variopool movable floors have a proven lifespan of more than 20 years. Maintenance is simple because the complete actuating and control system is located outside the pool. The installation itself does not require much more than a yearly inspection on safety and eventual replacement of small wear and tear items such as steel cables, pulley sheaves and seals.

A unique and favourable advantage of every Variopool movable floor is that the draining of the pool is not necessary for such periodical inspection, maintenance or repair work. All these activities can be carried out easily with a full pool. Works can be done during the evening hours while the pool is closed and visitors are able to use the pool directly after the Variopool Service Engineer has left the building. The Variopool system reduces downtime for maintenance to an absolute minimum and does not require the pool to shut down and turn away visitors.



## Private indoor and outdoor pools

There are also a variety of movable floors available for the private pool owner. Many indoor pools take up valuable space which could be used in more beneficial ways. A Variopool movable floor can turn a pool room into an entertainment hall in a matter of minutes. As soon as the floor comes up out of the water, it provides a solid floor which can hold between 75 and 200kgs per square metre. It also closes and protects the pool away from small children and works as an effective pool cover reducing energy costs. The unlimited number of floor coverings to choose from – marble, timber, tile and more – can transform a standard pool into a wonderfully flexible and yet invisible addition to the home. For enhanced ease of pool entrance these movable floors can be equipped with an integrated staircase or ramp.



# Variopool submersible and traversal swimming pool booms

## Variopool Bulkheads

When programming different activities for different users in one and the same pool simultaneously, Variopool can provide the optimal solution by temporary limiting these swimming areas by means of a Variopool movable boom. Different activities take place undisturbed now while using the swimming pool accommodation at its maximum potential thus generating the highest possible revenues.

Variopool movable booms may be supplied in two primary configurations either allowing the boom to move in horizontal or in vertical direction whatever fits the purpose of the swimming pool accommodation. Both configurations have their own distinguished advantages for flexibility but have in common that its keen design is based upon smooth, safe and easy operation and minimal turn around time.



## Variopool Submersible Booms

Variopool submersible booms are designed to move vertically inside the pool basin creating a partition of the pool at one fixed position. The system is easily operated from platform level by one staff member only pushing the up or down button on the control panel. The movement of the boom itself is effected by a hydraulic actuating system similar to the type used for the movable floors.



## Variopool Traversal Booms

Variopool traversal booms are designed to move horizontally inside the pool basin creating a partition of the pool at almost any required position. Due to keen solutions to clear design criteria in terms of speed and turn around time, Variopool traversal booms excel in ease of movement which can be experienced today in many well known high performance swimming accommodations. Variopool booms have many options for usage in high performance pools including: anchoring of starter blocks, inserting safety balustrades, connecting time registration systems, attaching match racing lines or an extra passageway. Every piece of Variopool equipment is carefully designed based upon safety and easy operation. In order to prevent the construction from staining at static water level, Variopool booms offer the highest degree of mirror polished stainless steel.



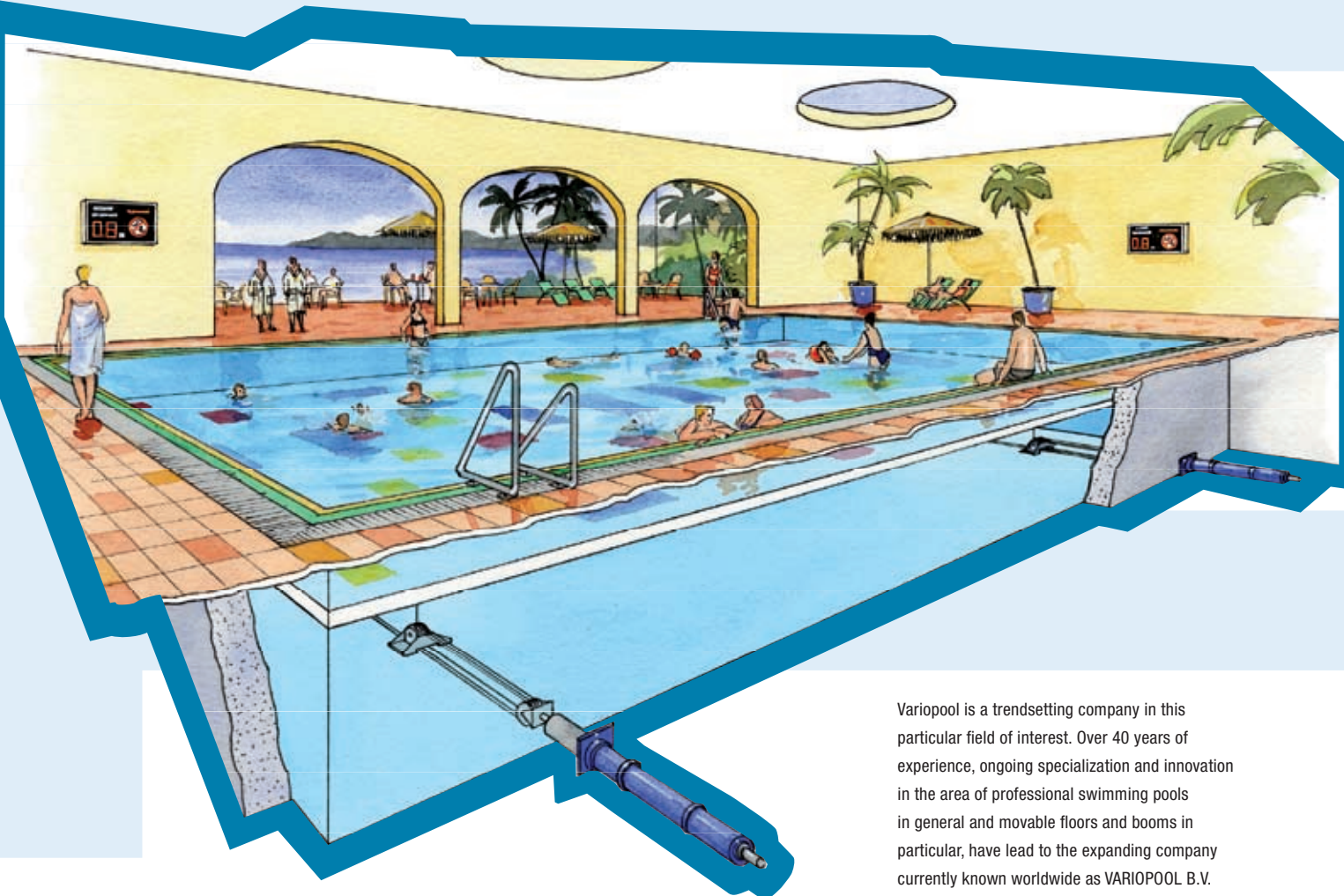
Especially for application in high performance swimming pools the required strength and stiffness of the boom is adjusted to the loadings from racing lines and swimmers turning alongside the boom. Maximum horizontal and vertical deflection under these specific loadings is related to strict tolerances as given by FINA and are therefore incorporated in the structural design by thorough and exact calculations.

Moreover this special feature contributes to the interior tractiveness of the swimming pool hall. Operating systems of movable floors and booms are interlocked by several safety features preventing swimmers from entering the pool or the use of air bubble systems when the positions of floors and booms do not comply with preset conditions. According to the latest international standards Variopool movable boom designs are based upon partition of the different swimming areas to the full depth range in order to prevent swimmers from moving underneath the floor equipment.

## Quality as a standard

Variopool is used to work for employers with the highest possible demands with regard to quality. The guarantee for a product that complies with all design standards is that Variopool operates according to a strict internal quality control system. However, even more important is the close cooperation with the employer, since Variopool regards this as the pivot element to supply a superior

product. It is not incidental that Variopool has an extended reference list including many well known national- and international professional swimming accommodations. Problem analyses, planning, monitoring, cost control and adaptation to your ideas and requirements when needed. Quality as standard in every phase, from design to after sales.



Variopool is a trendsetting company in this particular field of interest. Over 40 years of experience, ongoing specialization and innovation in the area of professional swimming pools in general and movable floors and booms in particular, have lead to the expanding company currently known worldwide as VARIOPOL B.V. We will continue to innovate and help design the future of swimming pools as our quest is to remain the leader in this type of pool technology.