

**Press technology**  
**Automated production lines**  
**Services**





## Welcome to the world of Hydraulico!

At Hydraulico, we're working hard to develop tools and technologies that can add *real value* to our customers.

During the company's 60-year history, Hydraulico has produced over 4,000 presses for customers around the world.

Design, construction and production of advanced hydraulic presses is still one of Hydraulico's core competences. Today, however, each press is often delivered as part of a full production system.

Utilizing the most recent developments within hydraulics, robotics, software solutions, and computer-based automation systems, we design and deliver custom-designed, cost-effective production lines.

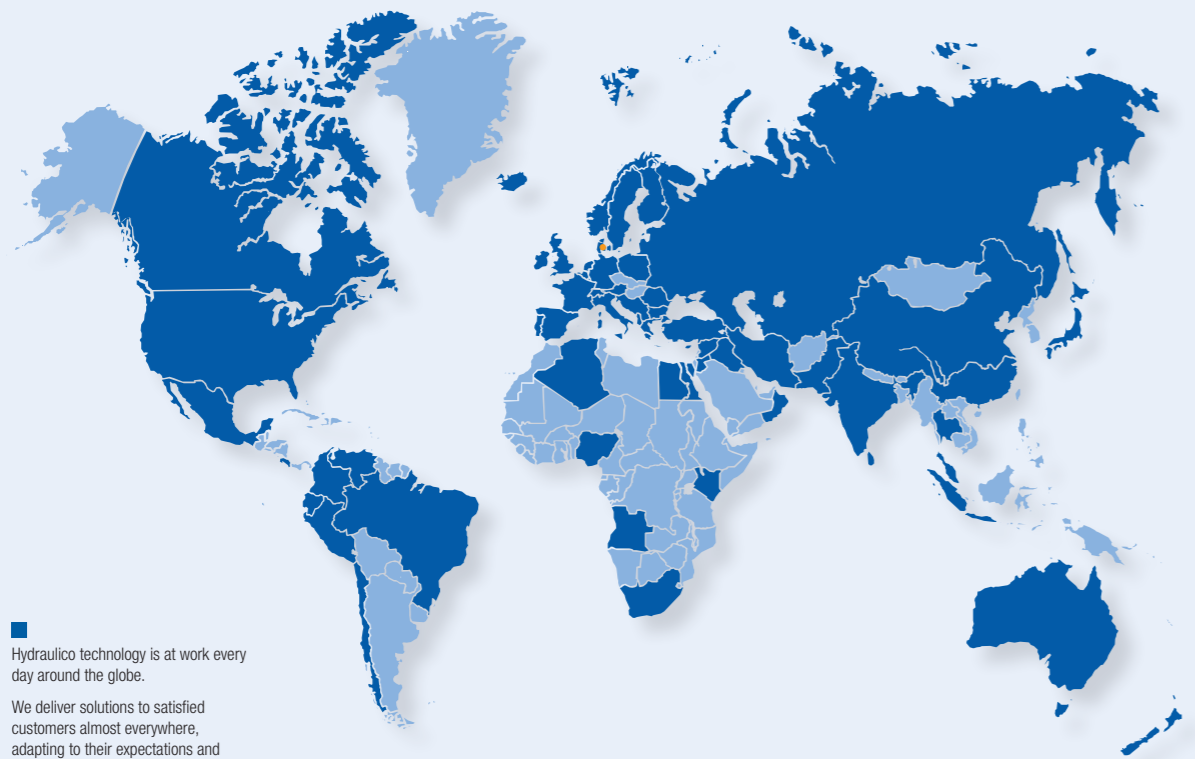
Hydraulico has also developed several groundbreaking technologies that can reduce scrap rates significantly. The direct effect is a cheaper, smoother, and more efficient production – with no production stops, improved product quality and bigger output.

In this brochure, you will be able to explore examples of how we at Hydraulico are working hard to deliver efficient solutions for our customers.

Welcome to the world of Hydraulico!

Torkild Salling  
*CEO, President*

### Hydraulico – acting globally



Hydraulico technology is at work every day around the globe.

We deliver solutions to satisfied customers almost everywhere, adapting to their expectations and requirements.

The new **Hydraulico 1800 tons** is a powerful, versatile press, packed with advanced functionality – to boost your productivity.





# Press Technology

## High-quality presses for any purpose

Hydraulicco's state-of-the-art presses deliver with an unmatched efficiency. Well-designed, sturdy and versatile, Hydraulicco's presses range from a capacity of 100 tons up to 5000 tons – and every press may be tailor-made to meet customer specifications.

With a record of more than 4,000 presses delivered to satisfied customers all over the world, Hydraulicco presses have earned a reputation for excellent performance, reliability and quality.

## Deep drawing, forging, stamping, extruding, high-speed production...

The press product program ranges from simple stamping presses to complex triple-acting press systems. The majority of our presses are tailor-made to customer specifications.

The product program also includes blanking presses, squeeze-forming presses, cold-forging presses and laboratory presses. Please contact us for further details.

## What are your specifications?

Tell us what you need! Contact our staff to discuss the options for the development of your next press. We will do everything to match your specific needs and demands - expect nothing less than an inspiring and professional dialogue with our competent engineers and salespeople.

Electronic Shimming™ – learn more at [www.hydraulicco.com](http://www.hydraulicco.com)

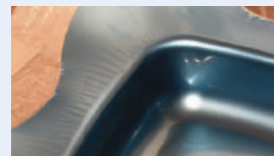
## Throw away the shims!

Hydraulicco's patented **Electronic Shimming Plate™** offers extreme blankhold control and short start-up time in monoblock deep drawing.

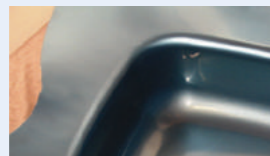
With deep drawing, material flow changes significantly during drawing, often causing problems with wrinkles and cracks.

The **Electronic Shimming™** system developed by Hydraulicco has two main components: a plate and a control unit. The shimming plate holds individual pockets or zones, each pressurized by hydraulic oil and each controlled individually. The control system allows users to set up pressure zones on the plate, modify pressure during a part run and save the settings for future recall.

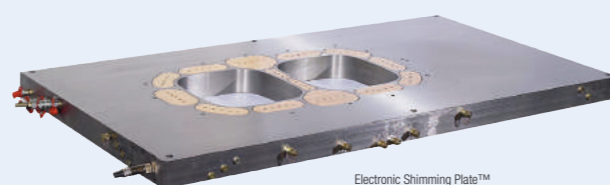
**Electronic Shimming™** reduces scrap rates, facilitates production control, and allows for quick and uncomplicated tool changing.



Wrinkles and buckles as a result of uncontrolled material flow during deep draw



Electronic Shimming™ produces flawless products due to extreme blankhold control



Electronic Shimming Plate™

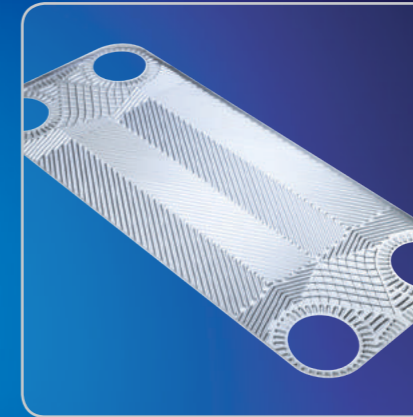
## Product samples

produced with Hydraulicco presses and production technologies



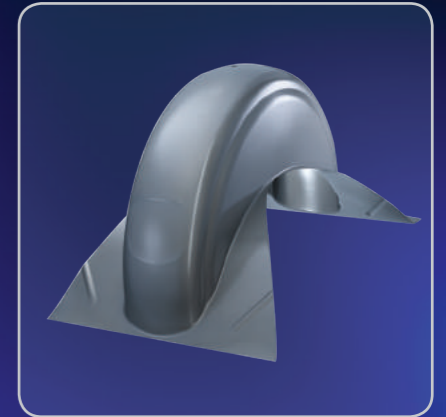
Concrete mixer, top & bottom parts

Conical parts – made in one draw.



Heat exchange plate

Made in stainless steel or titanium, for pasteurizing milk etc.



Motorcycle wheel fender

Steel part for Harley-Davidson motorcycles.



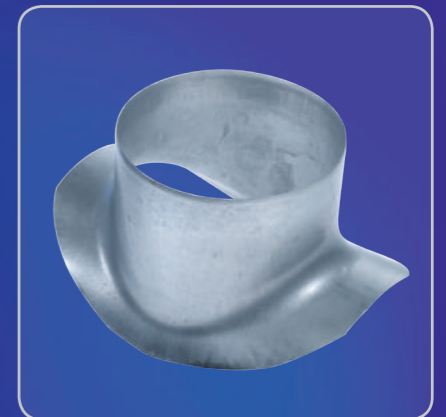
Exhaust unit for cars

Part of exhaust system for Ford Focus.



Housing bearing

Precision-formed housing bearing for concrete mixers.



Part for ventilation system

T-fitting for ventilation system.



Double bowl sink

Metal thickness 0.6 mm. Made in one draw with Electronic Shimming™ technology.



Single bowl sink

Depth 180 mm. Metal thickness 0.6-0.8 mm. Stainless steel, also made in linen plate.



Wheel barrow

Galvanized steel, made in one draw.

## Presses for any purpose

From simple stand-alone versions to complex triple-acting press systems, from 100 tons laboratory presses right through to 5000 tons forging presses, our press product program accounts for all customer requirements and guarantees optimum performance paired with short payback time.

Along with large, straight-sided presses, we offer blanking presses, squeeze-forming presses, forging presses and laboratory presses.

The majority of our presses are tailor-made to customer specifications. Rigid, straight-sided design with 8-point flat gibbing of the slide allows progressive jobs with eccentric load.

The tooling area is totally protected with light curtain at front and safety grids at rear, and windows. Safety slide locks as well as safety manifold stoppers ensure maximum working safety.

All presses are equipped with advanced and fully programmable control panels.



## Shock absorbing

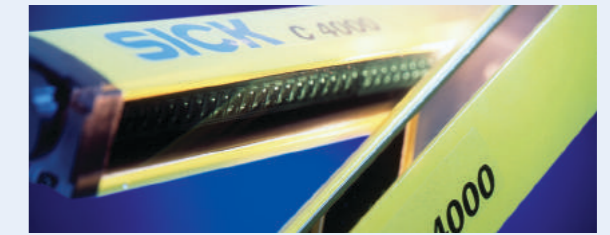


During press operation, the press and dies are subject to severe stress. This may lead to damage of bearings, seals, guide ways, etc. and increase the general die wear or even result in punch breakage.

With a shock damping system, the life of the press and dies significantly increases.

- Dampens noise and reduces vibrations - protects mechanical and hydraulic systems
- Increases press and tool lifetime, and working conditions

## Light curtains



The C4000 is safety technology at its best, offering maximum safety with the highest degree of user friendliness.

The configuration wizard takes you through a simple procedure step-by-step to achieve the correct system set-up.

- State-of-the-art technology in a single package
- Fits almost any press type
- Programming is quick and simple

## Die change systems



Die cart on rails, a proven basic design that can be adapted to customers' wishes – a die change and transport technology capable of moving dies weighing up to 50 tons.

- Quick and safe die changes
- Ideal for press lines
- Fully automatic operation (optional)

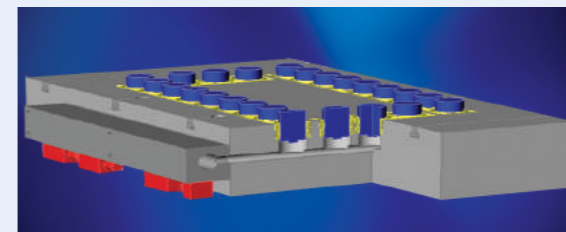
## Filter systems



The light and compact 15/25 filter series are especially suited for filtration on high-yielding hydraulic systems due to the high circulation capacity.

- Protects hydraulic systems
- Increases the lifetime of pumps, valves and gaskets

## Power bolster



A power bolster increases the blankholder force considerably. The bolster systems are controlled by separate, hydraulic units which can be placed on floor or in basement.

- Blankholder force up to 1000 tons or more, depending on size of die
- Low price solution with powerful advantages

## Robotics



Our know-how within hydraulics, electronics, blankholding technology, robotics and software development merge to create innovative solutions and powerful production lines.

Every production line from Hydraulico is tailor-made and optimized to the specific task, and all equipment has been submitted to careful testing at our Test Center to ensure maximum performance and stability.

# Automated Production

## Boosting productivity: Automated production lines

The market's demand for solutions with high productivity and reduced handling costs has spurred a rapid development of automated production solutions.

Already a leader within modern press technology, Hydraulico has been creating complete production lines for years. With a strong focus on our customers' productivity demands, we develop solutions with a seamless integration of hydraulic, electronic and software components - the results are extremely efficient production lines, tailored to meet our customers' production demands and quality specifications.



## Integrated Hydraulico solutions

The Hydraulico solutions will typically be fully integrated manufacturing systems.

We have designed and delivered full production lines for a wide range of productions: sinks, bathtubs, automotive parts, containers, concrete mixers, wheelbarrows, kitchenware, and much more.

Whatever your specific needs, a Hydraulico solution will guarantee you optimum performance and short payback time.

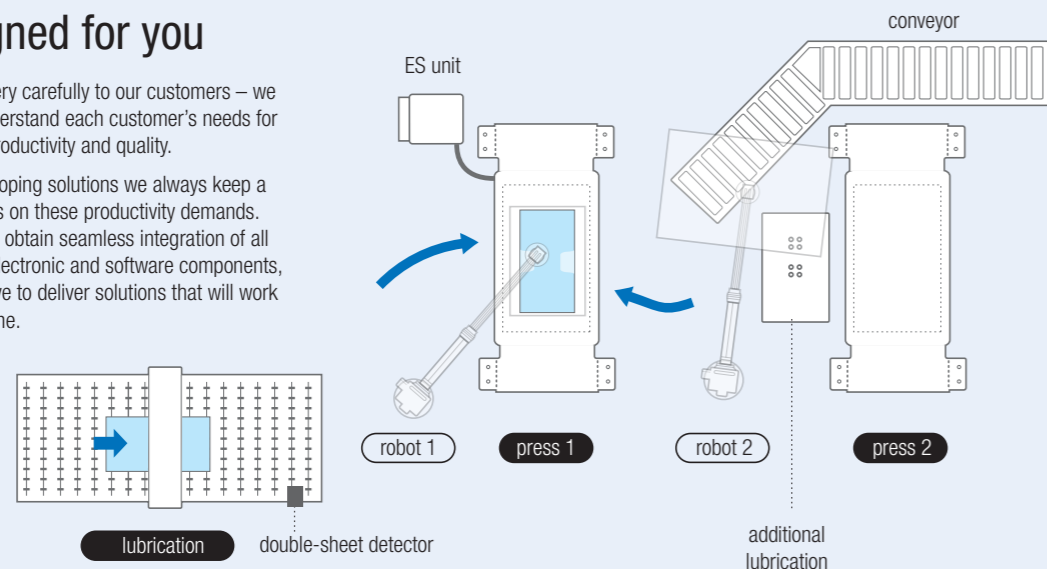
Please contact us and describe your production demands - and let us introduce you to the exciting world and the benefits of automated production.

### Custom-made solutions

#### Designed for you

We listen very carefully to our customers - we want to understand each customer's needs for improved productivity and quality.

When developing solutions we always keep a strong focus on these productivity demands. We strive to obtain seamless integration of all hydraulic, electronic and software components, and we strive to deliver solutions that will work from Day One.



### Rail forging – a complete solution

#### Robots take care of the handling

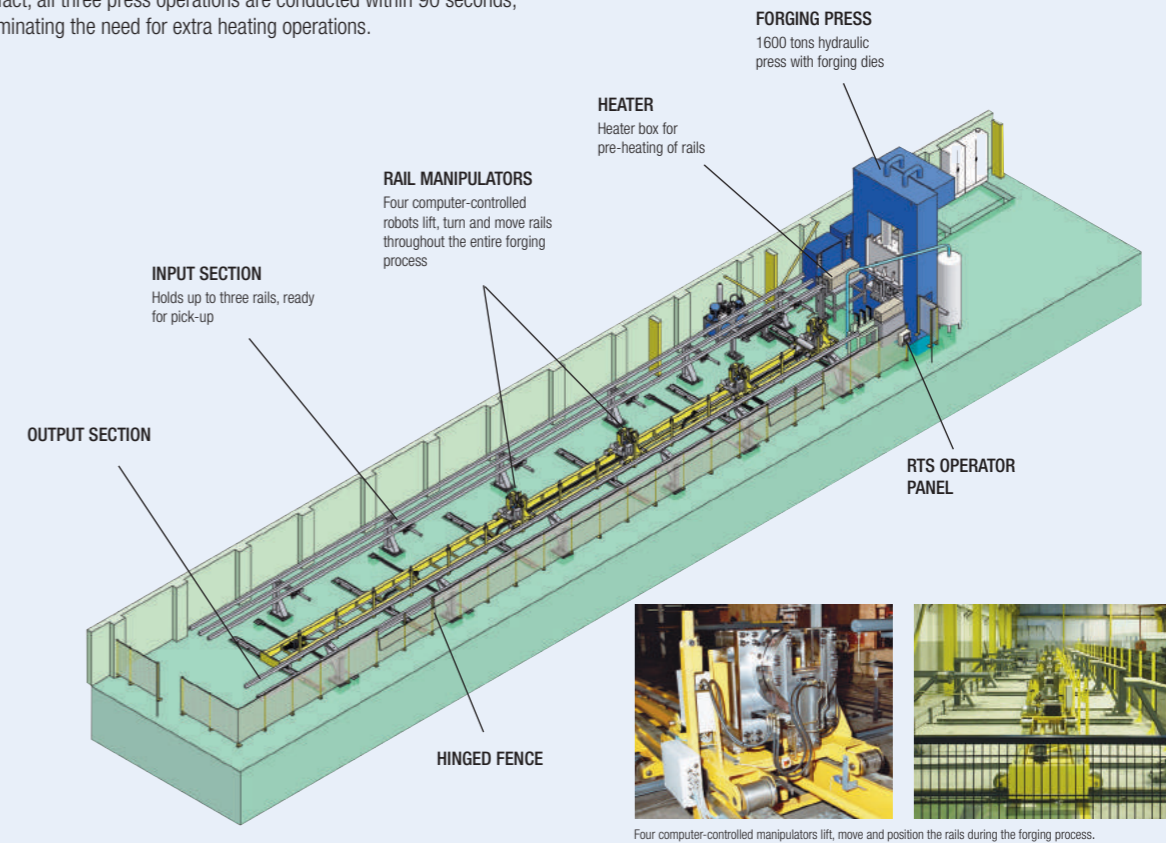
This Hydraulico solution was developed for a rail manufacturing company in the UK. Forging of train rail ends is vital for ensuring a smooth and safe shifting of rails in railway crossings.

The rail ends are forged in 3 successive forging operations, providing them with just the right shape for problem-free assembling and functioning.

Rails are pre-heated in a heat-box and immediately fed into the press. A group of computer-controlled manipulators can lift, turn and move the rails - quickly and accurately.

The 4 manipulators operate in perfect coordination and manage up to three complete heating, feeding and forging process effortlessly within an hour. Each rail is only heated once, saving considerable amounts of time and energy in the complete process.

In fact, all three press operations are conducted within 90 seconds, eliminating the need for extra heating operations.



Four computer-controlled manipulators lift, move and position the rails during the forging process.

#### Making everything play together

Today, Hydraulico is creating ground-breaking solutions in deep draw technology and production automation. By utilizing the most recent developments within hydraulics, robotics, software solutions, and computer-based automation systems, we deliver custom-designed, cost-effective production systems.



# Press Upgrades



## Complete press upgrade – accomplished in just 3 weeks, on-site!

Hydraulicco offers complete press upgrades, done in just 3 weeks, on virtually any kind of hydraulic press. With a Hydraulicco upgrade, you get completely new hydraulic piping, including tank, pumps, and cooling/filter system – and a totally new electrical system, including sophisticated electronic systems as well as a brand new Hydraulicco control panel.



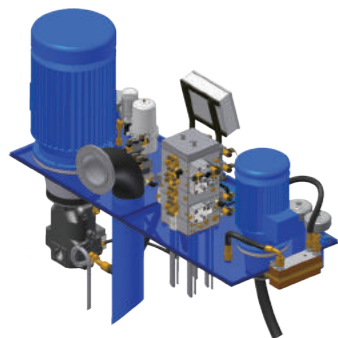
## The “Three Week Miracle”

Careful preparation, combined with our extensive knowledge of press technologies let us guarantee that three weeks is all we need to get the job done.

The Hydraulicco team brings everything with them to the location – and within three weeks, delivers a press, upgraded to today’s standard. Productivity gains ranging from 100-200% are not unusual.

We completely dismantle your press right where it is, all electric and hydraulic systems are updated, and an up-to-date electronic control system is installed.

Pipings, cabling and some mechanical parts are replaced by new layouts and components, and a new electrical control cabinet is installed. The press is equipped with the advanced Siemens OP270 control panel – with Hydraulicco software to control all press operations.

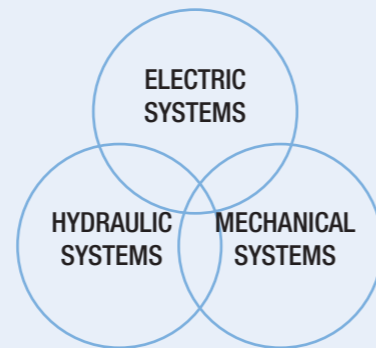


### Hydraulicco Press Upgrades

## You will experience astonishing results!

A complete Hydraulicco upgrade of your press will yield several astonishing results:

- Higher production capacity (typically an 100-200% increase)
- Substantially reduced scrap rates
- Drastically improved uptime (typically as high as 98%)
- Reduced time for die change (typically reduced by 50%)
- Lower power consumption
- Reduced noise levels
- A safer working environment
- New, useful features added to press functionality



A Hydraulicco upgrade involves a complete upgrade of every vital part of the press.

## We don't leave until everything works perfectly

The new control systems will work seamlessly with your existing production tools and production routines – and add several new functionalities to your press.

Several tests – with your tools – are performed during the last 2-3 days of the three-week period to check that everything functions perfectly.

Finally, our engineers will make sure that your personnel is thoroughly updated on the new technology. Everyone will be instructed and get hands-on experience with the system. With the upgrade, we deliver detailed documentation.

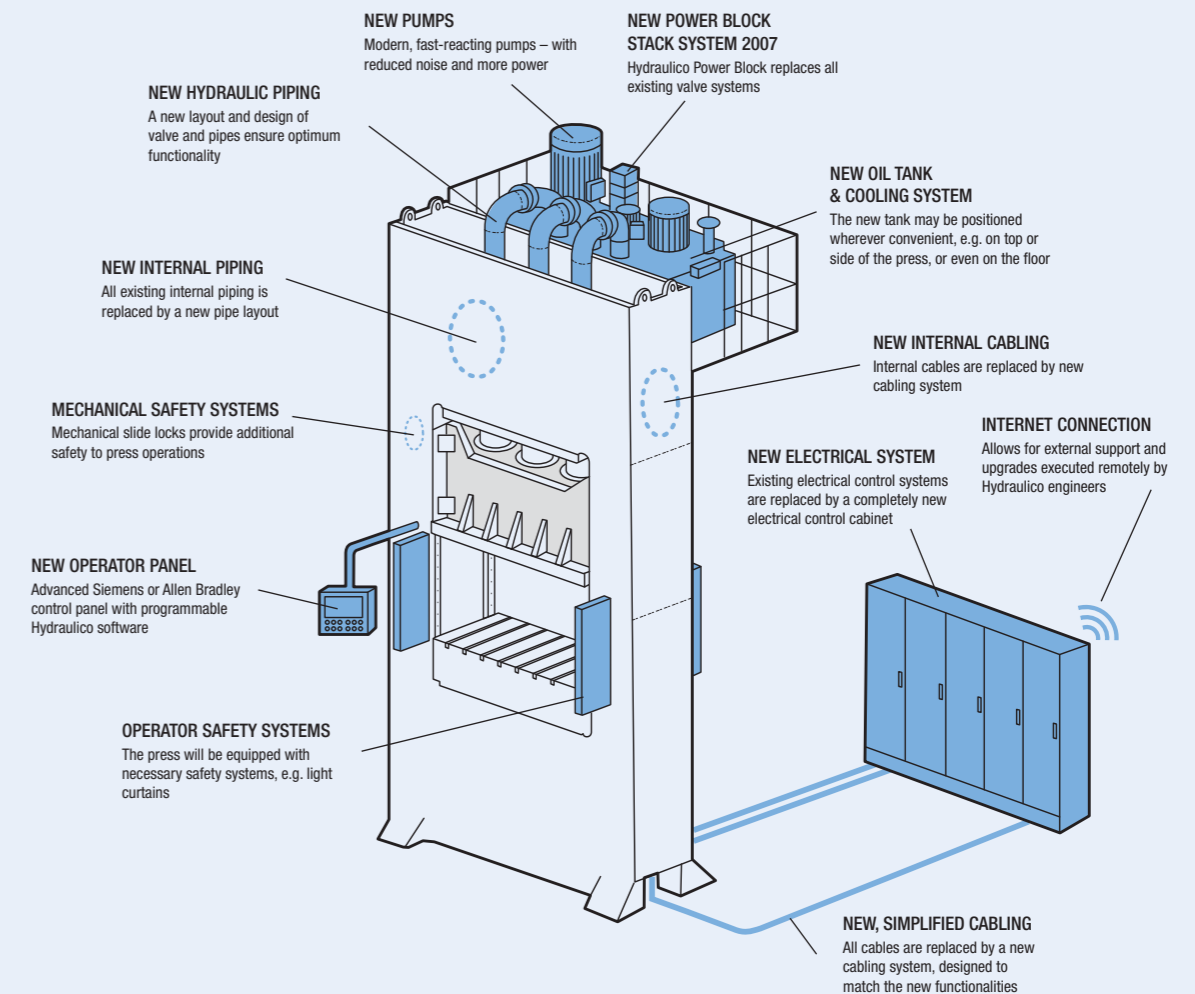
Furthermore, the system's built-in modem allows Hydraulicco engineers to monitor, support and even upgrade your system remotely over the internet, if necessary.



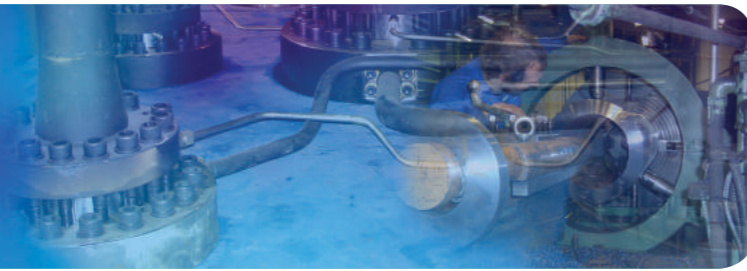
## A safer and better working place

An upgrade also creates a much safer, cleaner and more quiet working environment. All components installed in a Hydraulicco upgrade comply with current EU safety specifications.

### Hydraulicco Press Upgrades – this is what you get:



# Service



## Hydraulicco Service: Quick, reliable, and competent

We want happy customers! And that's why you can rest assured that any equipment that you purchase from Hydraulicco will be monitored, nursed and serviced for years, if necessary.

A staff of committed, competent technicians and engineers are at your disposal if problems should occur. Hydraulicco's service crews have a reputation for their broad-minded approach to problem-solving, and for their experience and know-how within hydraulics, electronics, mechanics and computer software.

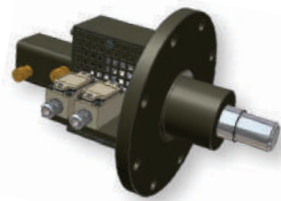
## 24/7 Service

Wherever you are in the world, we can normally be with you within 24 hours after a breakdown. In most situations, however, problems are solved over the phone or through the internet – in fact, most of our new products are connected directly to the internet and can be monitored and serviced directly by engineers at the Hydraulicco headquarters.



## Spare parts

Many of the spare parts for our products are manufactured by ourselves. Critical parts are always in stock, and original parts can be quickly produced and replaced if needed.



An effective production team at Hydraulicco's production facilities in Denmark can provide any spare parts with very low lead times, and at absolutely reasonable prices.

If you decide on a **Preventive Maintenance Contract**, we can guarantee you a permanent stock of critical spare parts, produced especially for you - and ready to be shipped at a moment's notice.

## Cylinder repair

Cylinder repair and refurbishing may often be a reasonable alternative to a complete change of your system. Hydraulicco technicians have years' experience in cylinder repairs.



## Legalization of hydraulic presses

Whatever brand or production year, Hydraulicco can offer you to legalize your press to comply with local regulations (CE marking etc.).

## Hydraulicco Preventive Maintenance

### Think ahead!

With a **Preventive Maintenance Contract** from Hydraulicco you will have more than a fair chance to avoid unwanted production stops and/or severe damage to your press. Besides, you will probably add several years to the life of your press as well.

For a fixed annual fee, you get regular visits by Hydraulicco engineers and technicians who cross-examine and check all vital functions on the press, replace parts **before** they break – and run the press through several tests, optimizing the overall performance of the system.

A **Preventive Maintenance Contract** can be adapted to customer needs and demands. Please contact our Service Department to get more detailed information.

A typical service inspection procedure could include:

- Visual frame control
- Overall check for leaks
- Control of all safety systems
- Complete check of hydraulic systems
- Complete check of electric systems
- Oil samples are taken from tank for laboratory analysis
- Filter replacements

With a PM Contract, you can always be sure that Hydraulicco keeps an updated stock of the most vital spare parts for your machinery, as well as a logged documentation of everything that has been done within the contract period.

# Quality



## Quality is everything

In today's globally competitive market, quality in products and services is crucial. At Hydraulicco, we appreciate this fact and strive to secure quality in all parts of our development and production processes, as well as in our customer services, and communications in general.

The purpose of a formalized quality system is to improve customer satisfaction and customer relations through production of flawless products that live up to customer expectations and that we always deliver according to the agreed time schedule. Moreover, the purpose of standardization is to optimize all aspects of design and development, production, service and administration routines.

As a direct result, our customers will experience that every Hydraulicco product and all Hydraulicco services live up to explicit and precisely defined objectives and standards.



## We're ISO 9001 certified!

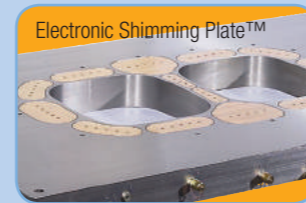
Hydraulicco is a company with an international scope, and we are strongly dedicated to quality, documentation, and transparency in everything we do.

It is our belief that the certification helps us to perfect procedures and processes everywhere in our enterprise, for the true benefit of our customers worldwide.

# Hydraulic History

## Hydraulic Milestones 1946 – 2006

- 2006** Automated production line for rail forging developed for UK rail company.
- 2005** Automated double bowl sink production line.
- 2004** Concrete mixer production line with new technology for deep drawing of conical parts.
- 2003** 80% of Hydraulico press sales are production lines.
- 2001** HPC 2000 press control with data management.
- 1999** Electronic Shimming Plate™ System for dies.
- 1998** 60% of new Hydraulico presses are equipped with Basic Electronic Shimming.
- 1997** 3-axis Hydraulico linear robot.
- 1996** 3 week miracle - on-site upgrade.
- 1995** Basic Electronic Shimming - dynamic blankholder control.
- 1991** Finite Element Analysis for optimizing of frame, cylinders etc.
- 1987** Specially designed large bed press frame for severe off-center load.
- 1986** Free programmable PC press control.
- 1984** 5000 ton press (weight 280 tons).
- 1981** PLC Press Control, free programmable.
- 1979** Hydraulic Power Block System.
- 1974** Introduction of front & back plate frame structure with 90° guide system.
- 1972** Specially designed press for bathtubs.
- 1961** Hydraulico moves into new production and administration facilities in Raadhugade.
- 1956** Export to USA begins to gain momentum.
- 1955** Design of a special press for sinks. Hydraulico exports to Norway, Portugal, and India.
- 1946** Hydraulico is founded by Hans Pedersen, a local mechanic. His brother, Gunnar Pedersen, joins him shortly after, and the company starts a production of gas cylinders for the Danish company Singers Gas A/S. Within the year, the company starts production of small 10 tons hand presses.



# Latest Achievements

## Pushing the limits of technology

Research and development of better technologies are constantly in our focus. Through the combined efforts of employees and partners we strive to enhance and sophisticate our products. In this way, we will continue to invent and deliver front-end solutions for our customers around the world.

Through all the years, Hydraulico has always been setting new standards for press technology. Even in today's competitive market, Hydraulico continues to break the barriers. Take a look at some of the things our customers do with Hydraulico technologies...

## Hydraulico: Latest press technology achievements



### Industrial steel sink

Dimensions: 360 x 255 x 255 mm  
Metal thickness : 0.9 mm

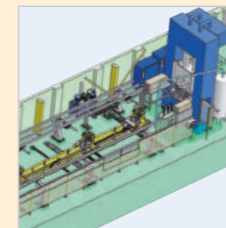
Produced in one draw (no annealing) with Hydraulico Electronic Shimming Technology.



### New control panels

Siemens and Allen Bradley panels with Hydraulico software

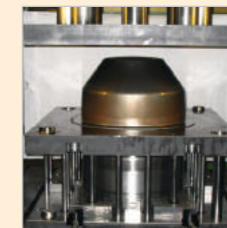
Hydraulico's unique software allows extremely flexible and easy programming for all production purposes.



### Rail forging line

Automated press line with 4 robots  
Productivity increase: 800%

Hydraulico 1600 tons forging press integrated into Hydraulico's completely robotized handling system.



### Concrete mixer production

New Hydraulico press technology for deep drawing of conical parts eliminates one draw in production process

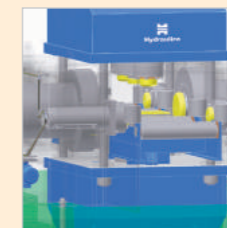
This technology has drastically reduced production cycles and costs for one of our customers.



### Press upgrade

On-site upgrade, performed in 3 weeks

A complete upgrade of a John Shaw press at *W & G Sissons Ltd.* – a UK-based company manufacturing steel sinks, catering equipment and sanitaryware.



### 3-D press for shipyard

2 x 600 tons presses (horizontal)  
2 x 200 tons presses (vertical)

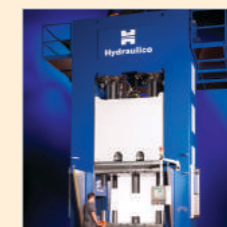
Entirely new press design with integrated conveyors allows the press operator to straighten large steel plates in all three dimensions – simultaneously.



### Double-bowl sink

Forming speed: 60 mm/sec  
Press cycle: 12 secs

Produced on a Hydraulico automated production line, output 3 units per minute



### New 1800 tons press

1800 tons slide  
600 tons slide cushion

The newest Hydraulico press is equipped with the newest in press technology and offers power, extreme flexibility along with maximum working safety.



