

# HYDROLINE

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Poclain Hydraulics' Magazine

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April 2015



# POCLAIN

## Hydraulics

**POCLAIN: NEW ERA**

**Poclain Hydraulics Celebrates Thirty Years in Business**

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## EDITO



2015 is a very special year for Poclain Hydraulics.

First of all, it is the thirtieth anniversary of the company's independence. From its roots in Picardy, the company has never ceased expanding throughout the world, armed with strong values, specifically innovation, independence, international and people.

To this anniversary marks three decades of customer loyalty. The story of Poclain Hydraulics is inseparable to our desire to always provide better service to customers, wherever they are in the world. Driven by technical challenges, with the expansion of our industrial infrastructures abroad and the increasing number of our local sales offices, we are well-placed to stay closely tuned to customers' expectations.

2015 is also the year for changing our logo. It was with great pride that the group's entire staff welcomed the Poclain name as the new standard bearer for a group that never stops investing in new "blue ocean markets". The latest is a hydraulic all-wheel drive system for passenger cars.

2015 will see the arrival of many new products to enrich our product offering. The combined expertise of our centers of excellence around the world now enables us to propose some of the most efficient technological building blocks.

This year the HIGH PERFORMANCE product range, the launch of the largest hydraulic motor ever designed by Poclain Hydraulics will enable us to satisfy the needs of the most demanding markets, both in terms of performance and energy efficiency.

I am proud to be able to share these highlights with all of our customers at the Intermat show, where we will have a stand again this year. We look forward to welcoming customers to show them our latest innovations, which will undoubtedly open up new opportunities for working together on other exciting and ambitious projects.

Laurent Bataille - Chairman and CEO

# POCLAIN: NEW ERA

## Poclain Hydraulics Celebrates Thirty Years in Business

When a brand name enters in common language it becomes immortal, which is why Poclain Hydraulics opted to bring back a legendary name in the history of construction equipment for its thirtieth anniversary: POCLAIN.

The eight decades spanning the start of Poclain with its excavators and today's Poclain Hydraulics, world leader in hydrostatic transmissions, constitute an extraordinary industrial saga that has marked the global industrial landscape.

Still proudly bearing its reputation for robustness and innovation, the Poclain Hydraulics Group is now present in over 20 countries, with 10 production plants and 2000 employees around the world.

After three decades of strong growth, Poclain Hydraulics' new logo is a reminder that the group has not forgotten where it came from, firmly reasserting the deep-rooted values that have always governed it.

While there are no plans to go back to making hydraulic excavators, the healthy growth, driven by the increasing diversification of the company's target markets, calls for one unifying name for all, to represent the whole range of expertise.

Thus, the name of the group becomes POCLAIN and will include the following brands:

- Poclain Hydraulics, for all the traditional hydrostatic transmission engineering, manufacturing, and marketing activity for off-road machines and heavy commercial trucks.

- Poclain Véhicules, which operates as a partner and subcontractor in the conversion of vehicles, the sale of integration kits and the manufacture of special vehicles.

Poclain Véhicules has two plants in France: one in Etupes (formerly FAM Automobiles) specialized in the conversion of vehicles, the other in Amilly (formerly Tork Engineering) specialized in vehicle design and the manufacture of special parts.

- Poclain Powertrain, a new subsidiary of the group, created in 2013, dedicated to the market for passenger cars through the development of an exclusive hydraulic all-wheel drive system that enables any car 4x2 to benefit from additional traction as required in various environments (mud, snow, sand, etc.).

The Poclain DNA is still present: innovation, international expansion, independence and, of course, the men and women around the world who contribute every day to the destiny of a major French industrial company serving customers all over the world. ■



# PHAST

## Urgent Order, Fast Delivery!

The PHast program helps Poclain Hydraulics' customers to further reduce the development time on their machines and speed up time to market. With the program's upcoming expansion to the entire product line, it will be possible to obtain a complete system in record time.



Delivery times for prototypes are an important factor in the time and cost of developing machines, just as delivery times for spare parts directly affect the profitability of an out-of-service machine. That is why Poclain Hydraulics owes to remain close to its customers all over the world through production sites and logistics platforms.

The company has further developed this advantage, by proposing a program designed to provide extremely fast delivery times to all of its markets and on all continents: the PHast program.

Initially created for the American market, the program was so successful that it has been rapidly extended to the whole world. Applicable to an increasingly wide range of product codes, PHast makes it possible to supply a motor within 15 days and a valve within 1 week, excluding transportation. The program will soon cover pumps, and it will be possible to obtain complete systems within very short deadlines.

Full details about the PHast program are available on the website [poclain-hydraulics.com](http://poclain-hydraulics.com) ("Services" section). ■

### "PHast has already saved the day for some of our customers"

*Anecdote described by Matt Maher, Manager of Poclain Hydraulics' subsidiary in the United Kingdom*

"When engineering consultant Bill Meadwell received a call from an amusement ride owner/operator he was faced with a seemingly impossible task. The machine was almost 20 years old and one of the Hydraulic motors was failing; furthermore the manufacturer, Hydrostatic Transmissions Ltd, had ceased production many years ago and spare parts were almost impossible to obtain. The machine had already been booked for a full season and any downtime would be very costly for the operator.

Options were limited but Bill gave a quick call to Poclain Hydraulics to see if they could come up with a solution; through the PHAST program he was able to purchase two motors with a similar displacement and characteristics on a guaranteed 15 day delivery. Meanwhile Bill designed and produced two adaptor plates and couplings, to swap out the motors without modifying the chassis. Quickly the plan came together; during a planned two day shutdown the motors were changed and the machine given a complete service. The owner was happy with the result, no lost revenue and a machine as good as new!"



"The owner was satisfied with the outcome. He lost no earnings and had a machine as good as new!"



# SOFTWARE OFFER

## Entrust your Software Development to a Specialist

All machine manufacturers face the challenge of shortening development time to get products to market as fast as possible. Poclain Hydraulics' electronics division has unquestionable expertise in this area. Every manufacturer can benefit from the highest levels of performance for their hydrostatic transmissions, with very short delivery times.

Melziane Lounis, manager of the Electronic Control Command (ECC) unit at Poclain Hydraulics, explains his job with enthusiasm: "Do you remember in the early 90s, when Poclain Hydraulics proposed its first STS electronic box to solve the anti-skid problem? Since then the team of experts has grown and it now offers a complete electronics range of products.

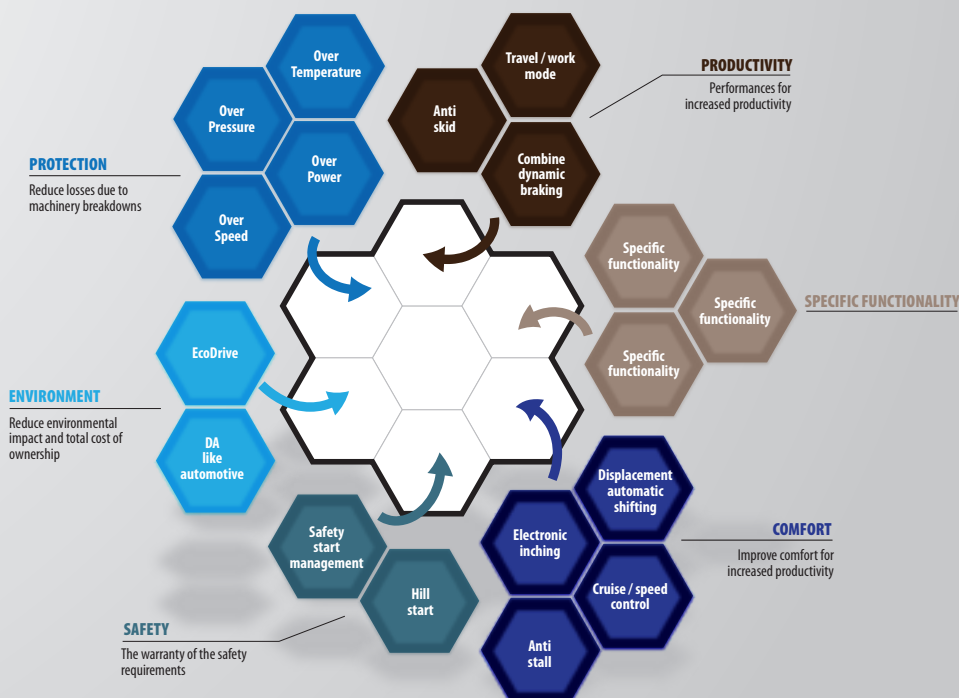
Several tens of thousands of systems based on electronic components have been produced to equip machines on really varied markets, such as handling, agriculture, trucks, construction, etc." Customers are increasingly eager to cut development costs despite the growing complexity of machines. By building an expert team, Poclain Hydraulics does its best to offer reliable, effective software packages within very short deadlines, in order to optimize customers' time to market.

This is why the ECC created the concept of a "software building block". A "software building block" is a specific algorithm created for each function required to control the machines, such as comfort, compliance with regulatory requirements, energy-saving, protective devices, productivity, etc. Each algorithm compiles all of Poclain Hydraulics' knowledge about this function. It is put through numerous tests that guarantee its high level of quality. Thanks to regular upgrades, the best level of performance is guaranteed on an ongoing basis in line with changes in machines and normative constraints. Since this work is done upstream of any customer request, it is an instant time-saver in the development stage of a new machine.

In this end, the time needed to obtain new, efficient, plug-and-play control software is considerably reduced by two simple, quick steps: compiling and configuring the various "software building blocks". Melziane Lounis' team is always available to help with more specific needs, requiring the development of customized algorithms.

The undeniable technical expertise acquired over the years, fully integrated into other motor, pump or valve projects, now makes it possible for Poclain Hydraulics' electronics division to offer the most demanding customers a complete hydrostatic system matching specifications as closely as possible, while reducing the machines' time to market. ■

### View of the Compilation of Software Building Blocks in CT-Design



## PREMIUM EXPANSION FOR HAKO

### An MSE02 with Integrated Disc Brake

Poclain Hydraulics is the main supplier of the hydrostatic transmission for the Citymaster 1600, one of the latest multifunctional sweepers from Hako. This project gave Poclain Hydraulics the opportunity to develop a brand new option on MSE02 hydraulic motors: the integrated disk brake. Mr Carsten, multifunctional sweeper project manager in Hako's design and engineering department, told us the story of this project at the Citymaster production site, in Glindow (Germany).

We started working with Poclain Hydraulics in 2010. At the time, we were developing our new compact, multifunctional sweeper, the Citymaster 1600. This machine can be equipped with special accessories to sweep, cut or clear snow, and it can take a trailer.

Our aim was to expend the product portfolio of Hako and gain market share by proposing a safe, easy-to-use and efficient machine, enabling quick tool changes, while reducing emissions (noise, dust and exhaust fumes). It was a question of combining the driving comfort of a private car with the high-performance Hako machines.

The specifications were very demanding, this multi-purpose sweeper had to weigh no more than 3.5 tons and reach a speed of 40 kph (25 mph). We needed high torque at low speed and high speed in road mode, plus the available space on the machine was reduced, therefore we were very mindful of each component's efficiency on the entire drive system.

We also had a specific request: rather than a standard drum brake, we asked to have a disc brake. The challenge for Poclain Hydraulics was to integrate this brake with its MS02 so it could be housed in the small 15" rim.

The machine's operating limits and design

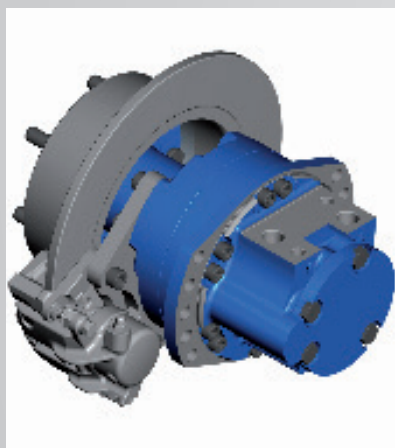
parameters, as well as some standardized data useful for this type of machine, were shared with Poclain Hydraulics' design and engineering department. We then asked them to develop an appropriate complete hydrostatic transmission.

Our design deadlines were short. Nevertheless, Poclain Hydraulics was able to rapidly supply a complete system that included a batch of prototype motors equipped with the new option specially developed for our machine, the integrated disc brake.

The system consists of four MSE02 motors used to drive the wheels on each machine. The front motors are equipped with disc brakes providing dynamic braking, while the static multi-disc brakes in the rear motors are used as a parking brake.

Poclain Hydraulics' ever-available teams provided us with support during the integration of the components on the first prototype of the Citymaster 1600. It later tested the performance of the motors and brakes on a Hako machine. These tests, run in close collaboration with the design and engineering department, helped improve the machine's performance and driving comfort.

Poclain Hydraulics successfully completed the



**MSE02 with integrated disc brake**



task we gave them and together we managed to meet all the requirements and achieve the performance required for this machine. The Citymaster 1600 is now a real commercial success. ■

Hako's reputation is built on over 65 years of quality, reliability, service and innovative solutions. With 1900 employees, the Hako Group currently operates throughout the world, with subsidiaries in 15 countries. On the global market, it is among the leading manufacturers of cleaning machines for industrial manufacturing, buildings and outdoor areas, as well as machines designed for road maintenance.

Hako proposes a broad range of machines including vacuum sweepers, scrubber-driers, vacuum cleaners, single brush and compact road sweepers, and multifunctional sweepers with articulated steering under the Citymaster name. Compact sweepers and tool carriers sold under the Multicar brand – a company bought by the Hako Group in 1998 – further extend the product range.

Hako is backed by a global distribution network, after-sales service and sales partners in over 60 countries.



# POCLAIN HYDRAULICS - FUNCTION INTEGRATION EXPERT

## Poclain Hydraulics Open Loop Valves Offer

Manufacturers are increasingly eager to streamline the cost of their machines, without compromising on quality. To do this, all parameters impacting the total cost of their machine must be factored into the choice of each component.

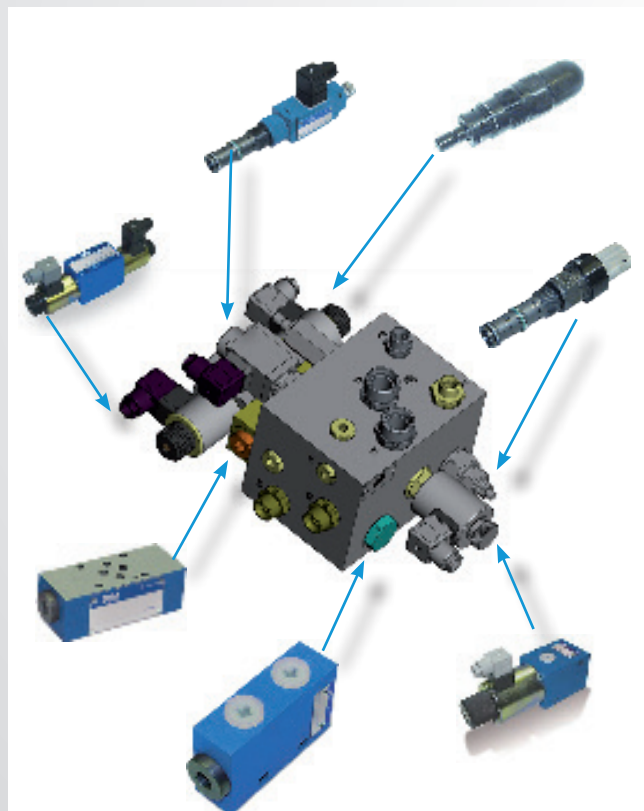
Through its Slovenian plant, Poclain Hydraulics has expertise and know-how in valve design and production that enables it to examine every need and respond with the most appropriate offer. Depending on the distinctive features of the customer circuit, our Ziri design and engineering department will assess the different options to produce the required function and propose the best solution, from the standard open loop valve (CETOP etc.) to manufacturing a dedicated multifunctional block.

The French customer Pellenc benefits from this know-how on several of its machines.

### PRE-PRUNER

Available in two versions, with or without automatic vine post detection, the Pellenc pre-pruner machine is used to trim vine shoots after harvests in order to simplify and speed up manual pruning of the vine.

The tool is driven by an open loop circuit composed of two motors and a set of rollers. Poclain Hydraulics was consulted to provide the necessary valves. Thanks to its experience, the design and engineering department rapidly proposed a single valve integrating all the required functions. This valve drives the machine's entire hydraulic circuit. Unlike a CETOP solution, this design is very compact, saving precious space and weight on this type of small machine.



**"A unique valve integrating all the required functions"**





## TRIMMER

The trimmer is a machine used in vineyards to remove leaves so the grapes get more sunlight. On this new machine under development, Poclain Hydraulics was once again challenged to come up with a competitive solution for an open loop valve that activates the entire hydraulic circuit.

The Poclain Hydraulics salesperson identified a possibility of simplifying the circuit proposed by Pellenc and immediately came up with an alternative solution for this valve. It consists of a CETOP valve with a dedicated flanged block on top. This simplified assembly reduced the number of connections and saved assembly time. In addition to the savings, simplifying the circuit increased overall reliability. ■

**The Pellenc Group, created in 1973, is now a world leader for machines and portable electrical equipment and tools (lithium ion technology) in the sectors of specialized agriculture and green area maintenance.**

**With 1200 employees, 16 subsidiaries, 6 industrial sites in the world, an R&D technology center with 120 engineers in France, and almost 800 distributors around the world, the Pellenc Group (€133 million sales) has established itself as an international leader, particularly in the wine-growing, tree cultivation and olive-growing sectors.**

# SID & POCLAIN HYDRAULICS

## A Successful Collaboration

Shredder manufacturer SID has been a customer of Poclain Hydraulics for nearly 25 years and it has gradually installed hydraulic motors from the MS range on all of its machines. Development projects on even bigger machines currently bode well for the ongoing success of this collaboration. We took advantage of a visit there to interview Mr. Thibaud Giry, Sales Manager at SID.

### Can you tell us about SID and its expertise?

SID is a manufacturer of turnkey waste treatment services. Our unit deals with the manufacturing of the facilities required for shredding.

At first, in the recycling sector, SID's expertise was confined to rotary shear because there was no other solution for shredding waste. Faced with the expansion of recycling-related activities, there was a demand for machines capable of handling far larger volumes of waste, while cutting costs. SID started manufacturing shredders in the 2000s. As the recycling and incineration activity has become more widespread the variety of waste for shredding has increased throughout the world, we have built up a solid experience and know-how and the market share of these machines has risen to 80-90% of our current sales volume. Among our latest innovations, the XLC7300 deserves a mention.

It is the most powerful shredder in the world at present, it can go up to 630 kW (845 hp) and process 150 t/hr of household waste. Our shredders are world-famous, not just in terms of performance but also for robustness and reliability. This expertise has positioned us as a pioneer and leader on the shredder market in China.

### How did the collaboration between SID and Poclain Hydraulics come about?

The first opportunities for collaboration date back to 1994, but it was later, when we developed our shredders, that Poclain Hydraulics became a primary supplier on our products.

The shredder market is very demanding, the competing solutions we were using until then started to show signs of weakness. In fact, hook shredders undergo very strong, continuous knocks that result in major pressure and temperature fluctuations in the hydraulic circuits, so SID started to test Poclain Hydraulics motors on its machines. They quickly proved more robust than their competitors.

Furthermore, since MS motors are more compact than their rivals, it is easier to integrate them into the machine environment. They generated such satisfaction that we decided to use MS83 and MS125 motors on one of our shredders, then the MS18, MS35, and MS50 on our rotary shear shredders.

### What do you like about working with Poclain Hydraulics?

SID really appreciates Poclain Hydraulics' excellent communication, which has instilled a solid sense of trust between our teams. By factoring in our technical recommendations in the product development stage, we end up







"By factoring in our technical recommendations in the product development stage, we end up with motors ideally suited to our needs and shredder constraints."

with motors ideally suited to our needs and shredder constraints (attachments, centering, etc.). For example, the adaptations produced, like creating splined shafts, make the motors easy to install and dismantle during maintenance. We also appreciate the quality and speed of the after-sales service. The spare parts are rapidly available and the technical support is efficient.

### What projects does SID have with Poclain Hydraulics for the future?

The market release of the largest motor ever made by Poclain Hydraulics, the **MI250**, is leading us to consider powering the largest shredders in our range. Our teams are already actively working on making the minor adjustments required for its installation.

Let me point out as a matter of interest that the reliability of Poclain Hydraulics motors under high oil temperatures is an advantage that has led to unexpected projects. For example we will be installing a shredder in Switzerland this year for a customer who asked us to reuse heated oil from the hydraulic circuit to run its heating system. The challenge of this original application is how to size the machine so that it supplies oil at a sufficiently high constant temperature. What better to meet these requirements than a Poclain Hydraulics motor, known for its reliability under high temperatures?

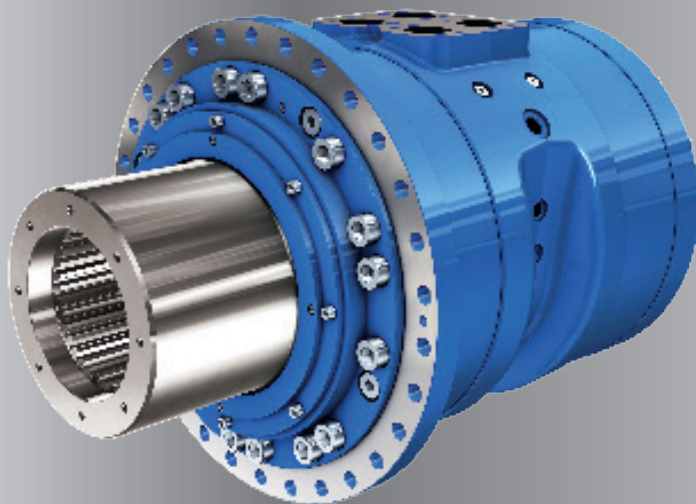
Generally speaking, we are confident about the future. As the shredder market is extremely promising, our goal is to continue expanding our business, particularly in Asia, which means ordering more and more motors from Poclain Hydraulics. ■





# MI250:

## the new high-capacity motor



### CHARACTERISTICS

- Weight: <950 kg (2094 lb)
- Overall length: 900 mm (35 in)
- Diameter: 520 mm (20.5 in)
- Displacement: 17,500 cc/rev (1037 cu.in/rev) to 30,000 cc/rev (1830 cu.in/rev)
- Max. speed at 30,000 cc/rev (1830 cu.in/rev): 60 rpm
- Max. pressure: 350 bar (576 psi)
- Max. torque: 140,000 Nm (1,240,000 lbf.in)
- Efficiency over 90%
- 2 or 4 DN38 ports with flat port for flanges valves
- 2 drains and 2 pressure gauge ports



# CLEANSTART™ OFF ROAD

## Stop & Start Charms the Off Road Market

Since September 2014, the hydraulic Stop & Start CleanStart™ solution has been available as a standard option on the MT1840 telehandler from Manitou. The savings achieved in terms of lower consumption and pollution, as well as on the resale value of the machines, open up new views on the off-road market as a whole.

Inside the CleanStart™ is a hydraulic motor acting as a starter. It allows frequent, fast restarts of the heat engine and instantly brings it to idle speed. In this way the engine can be stopped whenever it is not in use.



Poclain Hydraulics already offers this type of Stop & Start solution, well known in the automotive industry, to urban bus fleets where the high frequency of stops and restarts fully justifies such a system to limit fuel consumption and carbon emissions.

In spite of some preconceptions, CleanStart™ has proved just as suitable for a wide range of construction or handling machines. In fact, we have seen many stages during which, after performing a movement of the machine, the drivers leave their operating position to carry out marginal tasks without turning off the engine.

CleanStart™ represents a clever, original solution where we can switch off the engine when the machines are not in use, providing numerous opportunities for savings, both for manufacturers and end users.

It reduces fuel consumption by over 5% on average, and cuts carbon emissions at the same time. It also helps to reduce noise levels on construction sites. In addition, CleanStart™ raises the sales value of the machines by lowering total cost of ownership through fewer operating hours for the engine and less frequent maintenance operations.

The CleanStart™ system is in production under the name Stop & Go at Manitou, the world leader in off-highway handling. Installed on the telehandler of the MT1840 range, CleanStart™ cuts diesel running time by over 20% of operating time.

For this joint innovation project, Poclain Hydraulics won a prize at the Manitou "Supplier's Day" convention on February 25, 2015 at the SIMA tradeshow in Paris. ■



# KINKI INDUSTRIAL CO., LTD

## MS83 & MS125: growth drivers for KINKI

Meeting with Mr. Masato Kato, Assistant General Manager, Sales department - KINKI, Mr. Mitsuhiro Aota, Director and General Manager, Engineering department - KINKI and Mr. Masahiro Ueda, Assistant Manager, Purchasing department - KINKI.



To begin with, we would like to know more about KINKI. Can you tell us about the company's history?

KINKI was created in Kakogawa-city in the region of Hyogo, Japan, in 1948 and it started out making simple crushing, shredding and sorting equipment. So KINKI is 66 years old this year.

The head office and main production site moved from Kakogawa-city to Miki-city. We now have a second plant in Tomoe, Japan.

KINKI is a leading manufacturer of shredders in Japan. Can you tell us the story of KINKI's success?

The very first machine manufactured by KINKI was a rotary crusher for heavy waste, delivered to Ibaraki-city in Osaka.

The mass production of double-shaft shredders started in 1985. The hydraulic version of the

double-shaft shredders was introduced in 1991 and the first Shred One in 2009.

KINKI is known in the field for supplying cutting-edge equipment and services on the crushing, shredding, sorting and turnkey facility market. Another differentiator is the quality of our after-sales service.

Our latest innovation is the hydraulic double-shaft shredder called Shred King. This shredder goes up to 400 kW (536 hp). An enhanced version is available under the name Shred King R. The shafts of this machine are powered by MS125s, both located on the same side of the machine, unlike the Shred King shafts, which are powered in staggered rows. This was possible because of the compactness of the MS125, which we were able to mount side by side. The 25% savings on the length of the machine made a big impression when it was presented at N-EXPO in May 2014.

We should point out that we appreciated finding a standard motor that met our need exactly for this project. It saved us time on development.

If I say KINKI corporate strategy and objectives, what comes to mind?

KINKI aims for over 10% growth in sales in the





The Shred King R shredder

next three years. An action plan is currently under consideration, because this is an ambitious goal in the face of a very stable Japanese market. But I am convinced that KINKI's expertise and after-sales service will make this target attainable.

### How do Poclain Hydraulics and KINKI work together on the company's future plans?

I remember the first MS125 motor that Poclain Hydraulics delivered to KINKI in 2012, and the MS83 is used on other machines today. The Shred King R is a good example, which shows how KINKI designs its machine while at the same time maximizing both the performance and design of the MS125 motors. KINKI and Poclain Hydraulics had to collaborate closely to find the best design and offer the customer the best service.

Poclain Hydraulics recently introduced its latest large displacement motor, the MI250, as well as the HIGH PERFORMANCE pumps from the PW series. I think that all these products and their technology will meet KINKI's expectations and create sustainable growth for both companies. ■

We wish to thank Messrs. Kato, Aota and Ueda for taking the time to give us this interview.

# POCLAIN HYDRAULICS TRAINING CENTER



Innovation is a strong value at Poclain Hydraulics. For the company, continuous innovation implies always keeping employees at the cutting edge of their area of expertise, but also supporting customers so they learn how to get the most out of their machines. The main goals of the Poclain Hydraulics Training Center focus on the field of customer support.



**"Trained customers frequently express their gratitude for our efforts to ensure they do not feel like just another customer."**

Since its creation in 2001, the Poclain Hydraulics Training Center (PHTC) has trained several thousand men and women on Poclain Hydraulics products.

Rémi Dray has been a PHTC trainer since October 2012. He began his career with a manufacturer of construction and agricultural machinery, training dealers' mechanics for three years before joining Poclain Hydraulics' training department. We took advantage of a break in his training schedule to meet him in his own environment.

## Rémi, can you tell us what the job of trainer involves at Poclain Hydraulics?

Although participants do not see it as such, our job begins not in the classroom but long before, when the modules are prepared.

Beyond our standard training courses, our goal is to offer sessions ideally suited for the needs of the audience. We are developing new customized courses for some of our customers that we provide with very specific solutions.

## Who are PHTC's customers?

We primarily train employees from the Poclain Hydraulics group. Everyone receives basic training, and there are specific modules for each job function. We also deliver training courses

externally; in fact, our goal is to develop this area with customers and suppliers of Poclain Hydraulics.

To support our customers' implementation of Poclain Hydraulics' systems, we prepare modules specific to their applications. Some customers call us several times a year to train their staff. In this case, we do tests and practical demonstrations directly on their machines.

Our current goal is to be increasingly proactive and support each sale of a new system with a training course.

The customer can then get the most out of their machine, such as installation recommendation, safe practices, adjustments, configuration, assembly, dismantling instructions, diagnostics, breakdown assistance, etc.

Poclain Hydraulics works with many different machines in increasingly demanding markets. The quantities of machines produced by the large manufacturers in the field challenges us to higher levels of quality. It is essential that our suppliers understand what we do and where the constraints we impose on them come from so that they can comply with these requirements. This is one of the challenges of our training courses.

## How do you do this in practical terms?

In practice, this high level of quality is the result of constant questioning and everyday teamwork. We are curious and sociable and we exchange views with all the other departments in the company.

We keep up with new products, their functioning, market news, after-sales information, etc. In addition, we have to train ourselves continuously.

Each training session is followed by a debriefing in the department. We go over points not clearly understood or problems explaining certain concepts, then we rework the modules by proposing new approaches. We have to be very flexible in our training sessions because we deal with a wide variety of audiences all over the world, with very different levels of technical knowledge.

Good listening skills and understanding are essential qualities in Poclain Hydraulics' team of trainers.

## What resources do you have to deliver your training?

The PHTC uses training materials such as videos, 3D animations, component drawings, and training booklets in which the participants can take notes.

For a better understanding of the concepts involved, we supply the products to see and touch, educational benches, tools, and software programs necessary for electronics training.

We give our customers the opportunity to work directly on their machines, to run tests and let people learn adjustments in a real life situation. This can be done at their location or in Verberie, France (head office of Poclain Hydraulics).

Beyond the tools, the human aspect is very important with all trainers; we have a special relationship with the customer. We have a duty

to meet all their expectations, we are virtually in a one-to-one relationship.

## In conclusion, can you tell us what you like most about your job?

Behind our training modules is a close-knit, enthusiastic team. We like to be in the field, to explore the issues, to meet our colleagues and our customers as well. But what motivates us above all is seeing the satisfaction and self-confidence our customers acquire after our training courses. They leave feeling reassured by their choice and confident about the performance and the after-sales service they will be able to offer on their machines.

Trained customers frequently express their gratitude for our efforts to ensure they do not feel like just another customer. ■



## OFFER

The PHTC has been developing and deploying a range of training courses since 2001. Delivered training options:

- Internally in the group
- To customers
- To suppliers

The PHTC also works with engineering schools in France.

A broad range of training courses is proposed, from the most basic to the most specific training required in terms of understanding, sizing and optimum use of Poclain Hydraulics products.

There are five main training themes:

- The fundamentals of hydraulics and electronics
- The four main product ranges (pumps, motors, valves, electronics)
- Hydraulic systems
- Sizing hydrostatic transmissions
- Customized training courses at the customer's request



# NEW HIGHFLOW™ RANGE

## Concentrated Performance!

Previously only available in one size (MS05) and displacement, the range is now boosted by the offer of MS HighFlow™ motors. Presented at the Intermat tradeshow, this new range available in MS02 to MS08 sizes and has all the qualities that make the MS range so successful, like modularity and robustness, plus better performance.

## ***MS RANGE*** ***HighFlow™***

### **Distribution "HighFlow"**

Reduced pressure drop

### **One-piece cover**

For greater resistance to the most extreme environmental conditions

### **Flat port**

Flange a valve directly

### **Reinforced lug mounting**

Withstands heavy loads

### **Symmetrical 2-displacement**

Identical performance in both rotation directions



- **Optimized design**

Thanks to its new design, the MS HighFlow™ range withstands the toughest workloads and the most extreme environmental conditions.

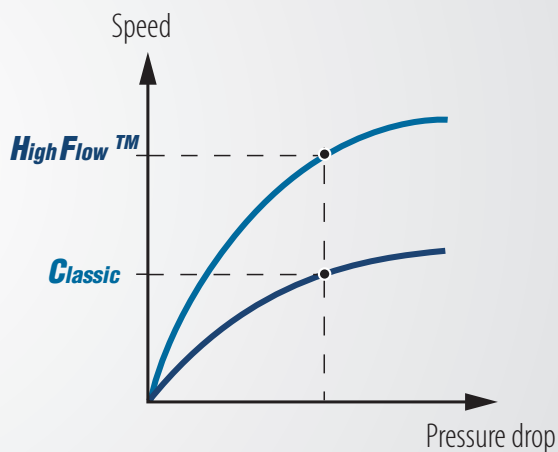
- **Maximum productivity**

Thanks to their new design, the motors in the MS HighFlow™ range attain the highest speeds without an additional pressure drop. In this way they guarantee greater productivity for machines.

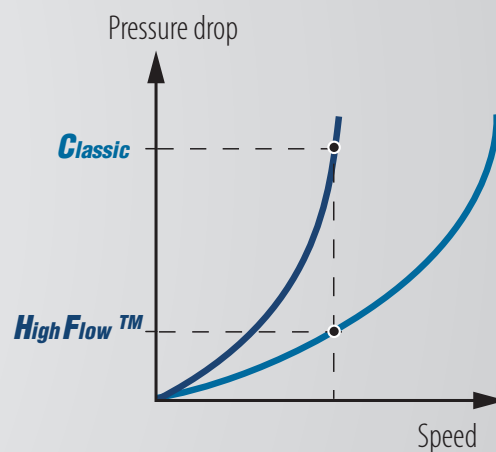
- **Minimum consumption**

The motors from the MS HighFlow™ range help lower the "total cost of ownership" of the machines by making them use less fuel.

- Improve the performance of machines without a consumption trade-off: for a given pressure drop, a HighFlow™ motor attains higher speeds



- Reduce the consumption of machines without impacting performance: for a given speed, a HighFlow™ motor reduces pressure drop.



This design is the ideal solution for the most demanding applications.

The weight of the motor directly impacts the stress placed on the machines, especially to power arm's length tools. Also, the space available on increasingly complex machines is getting smaller. The work done on the HighFlow™ motor to make it lighter and more compact has made it easier to integrate and offers manufacturers new possibilities for development and optimization.

Because of its availability in the 2-displacement symmetrical version, the HighFlow™ motor no longer has a preferential direction of rotation and attains maximum speed regardless of the machine's direction. This characteristic is entirely relevant on rail/road applications for example. This option also enables the use of just one model for the right and left motor of a machine, thereby simplifying supply chains and assembly.

For more about this new range, [join us on the Poclain Hydraulics stand at the Intermat trade show in Paris: Hall 5a Booth F026.](#)

# HAMM ADOPTS THE TWINLOCK™

## Start of a Long-term Collaboration

Now retired, Mr. Charly Maletschek ended his career as a Sales Engineer in the German subsidiary of Poclain Hydraulics in 2014. Responsible for Hamm, he was in the best position to tell us about the Twinlock™ system that Poclain Hydraulics installs on their compactors. When we contacted him, he did not hesitate for a second to talk to us about this project. We were able to understand the technical expertise that was necessary to bring it to a successful conclusion and the trust built between his customer and himself over time.

First spoke to Hamm at the Bauma trade show in 2007; we discussed the possibility of installing TwinLock™ technology on compactors with one or two rollers going up to 8 tons.

At the time, Hamm wanted to develop a new range of compact compactors from 4.5 t to 8 t. It was not just a matter of revamping existing models but really developing totally new machines to go with the arrival of Tier4 regulations applicable to the entire range of roller compactors.

- Reduce the wheelbase, and combine it with a central tilt articulation in 3 points, to improve maneuverability on construction sites, and during backfill compaction operations, which is particularly important for the American market.
- Provide identical off-road performance in forward and reverse driving, which had never been done before on the compactor market.
- Provide synchronization of the two wheels together, and with the roller. The assembly and maintenance of this system had to be simple.
- Use tried and tested, reliable components, but also be competitive.

In November 2011, during a meeting at the Agritechnica tradeshow, the Sales Manager of Poclain Hydraulics offered to lend Hamm a 7-ton compactor from the Verberie technical center for testing. After a first start by Poclain Hydraulics, it became obvious that Hamm's requirements would not be easy to meet. It was necessary to adjust and fine-tune the TwinLock™ offer. The new performance achieved then matched up to Hamm's expectations:

The bearing support of the TwinLock™ motors installed in the roller were reinforced.

The specifications imposed strict criteria:

- Lower the center of gravity as much as possible in order to optimize stability under pressure and off-road performance on slopes.

Charly M. at the controls of the Hamm compactor, surrounded by the Poclain Hydraulics team







Then, it was absolutely necessary to have symmetrical 2-displacement technology on our TwinLock™ motors and that resulted in the development of a new distribution on our MS18 and MS35.

After the development, we achieved an excellent level of efficiency in the hydrostatic transmission in both forward and reverse drive. In 2012, we completed the machine tests at Verberie. As the German subsidiary suggested, the team in charge of valve development at Ziri (Slovenia) found a simplified solution to make up for the differences in diameter between the roller and the wheel. Finally, we managed to achieve a synchronization of speed between the wheels and with the roller, as well as a completely automatic instantaneous torque transfer between the roller and the wheels, all that without valves or electronics. The result is an extremely easy-to-drive machine with excellent off-road performances.

The TwinLock™ technology unquestionably contributed to the success of the H5i + H7i machines and gave rise to a strong, prosperous relationship of partnership and cooperation between Hamm and Poclain Hydraulics. ■



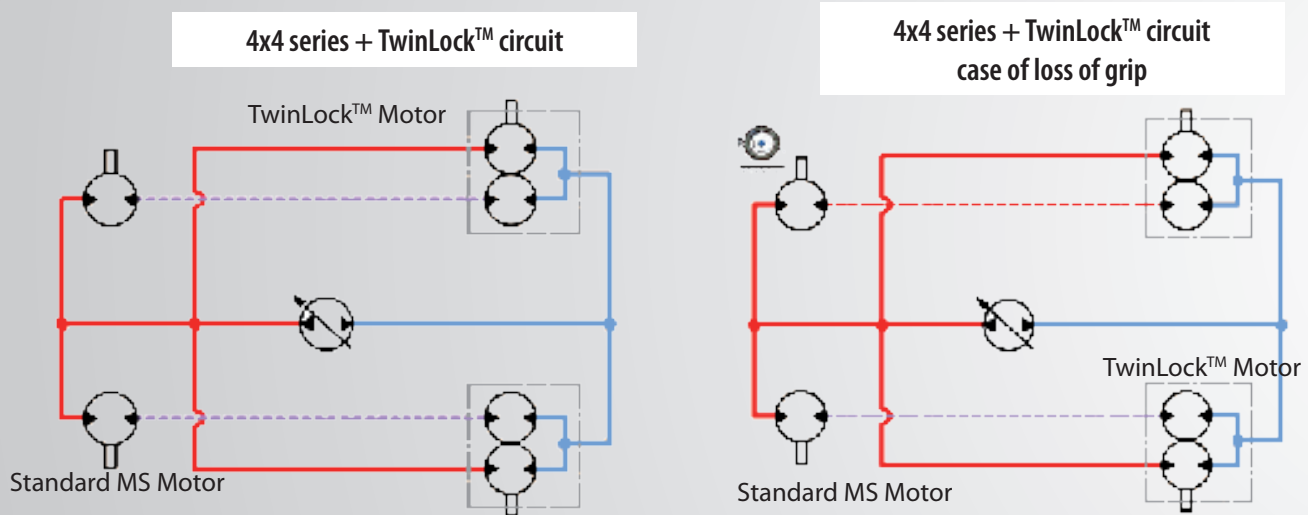
# TWINLOCK™: HYDRAULIC SYNCHRONIZATION WITH TORQUE TRANSFER

## The TwinLock™ Solution is the Ideal Compromise Between a Parallel Circuit and a Series Circuit

Displacements in series ensure perfect synchronization of the front and rear driving wheels of the machine, as well as an instantaneous automatic torque transfer towards the wheel(s) that have better grip. Each wheel is synchronized with the forward speed of the machine, no slippage is possible, even if one wheel loses all grip.

Displacements in parallel develop high torque on each wheel. They enable installation of a reasonable overall displacement for exceptional performance.

For example, machines equipped with the TwinLock™ solution have improved off-road performance in case of poor grip or steep gradients.



This solution applies to all machines with at least three driving wheels or two driving axles (considering a compactor roller as an axle).

The benefits are as follows:

- Greater productivity of the machines due to better off-road performance.
- Excellent adaptability of the solution (instantaneous torque transfer from the wheel with poor grip to the wheel with strong grip, proactive functioning)
- Simplicity of maintenance because of 100% hydraulic solution, requiring no electronic control.
- Avoids any slippage of wheels and damage to ground

Many circuit variations are possible with the TwinLock™ motors, providing synchronization solutions and/or performance adapted to each application. ■



# AddiDrive™

## On Demand AWD for Trucks

- Gives more efficient traction power without impact on the chassis and preserves dynamic performance of the standard vehicle
- Improves the productivity by optimizing the vehicle versatility and payload
- Activated only when needed, allows energy savings compared to AWD vehicles
- Contributes to the vehicle safety and driver comfort on difficult fields or in poor conditions





# AT HYDRAULICS

## Partner in Oceania for 25 years

AT Hydraulics has been distributing Poclain Hydraulics products in Oceania for the past 25 years. Its expertise has enabled it to actively support its customers' projects while at the same time playing a role in the development of Poclain Hydraulics products. Mr. Andrew Grant, Sales Manager, agreed to talk about this profitable collaboration.

### Mr Andrew Grant, can you present AT Hydraulics to us?

AT Hydraulics was formed in 1989 and has grown into one of the leading hydraulic companies in Australia, with fully equipped nationwide service centers. We now have established branches in New South Wales, Queensland and Western Australia with over 40 employees in total.

AT Hydraulics can offer fast and reliable service to a broad range of industries, including agriculture, industrial, mobile, mining, and material handling industries.

AT Hydraulics is also a manufacturing company offering machine shop services including CNC machining, custom cylinder manufacturing, and specialty equipment.

### When did the collaboration between AT Hydraulics and Poclain Hydraulics start? Can you describe some key projects for us?

Poclain Hydraulics has been an integral part of our supply chain since our formation. Some of our staff have over 35 years' experience in dealing with the Poclain Hydraulics range of products. We have seen a huge change in Poclain Hydraulics over the years as they

have grown and it has been a pleasure to be associated with them and be involved in these times. Over the years we have incorporated Poclain Hydraulics products in a number of projects, following are some of our successes. GE/Industrea Mining Equipment – Designing of a Long Wall Roof Support (Chock) transporter machine. The original design in the early 80's called for a machine capable of carrying a 30T chock and was design with the Poclain Hydraulics heavy duty G3 – H25 compact motors, utilizing four motors on the rear frame. As time progressed the chocks became larger and heavier, the 30T machine started using four MS35 motors and the new 40T using four MS50 motors. The next update introduced the MS83 motors for the 55T chocks and this combination proved highly successful.

As the Chinese mines expanded to satisfy the growing need for coal so did the need for these larger machines. Today over 280 machines have been produced in this configuration.

For the 70 and 80T chocks, Poclain Hydraulics implemented a drive system which resulted in using four MS125 motors with the new T80 dynamic brake on the rear and two MS50 motors on the front axle for a machine with a GVW of 110T.

We have been supplying motors to IME for over 30 years.





### Some Others Project Examples

Melrose Mobile Hydraulics – Hy-Rail machine conversion so that a range of small hydraulic excavators can be driven on the existing rail network to be able to travel long distances without the need for trucking them while working on railway projects. For the 5T machine, two MS02 motors are used and for the larger 8T machines two MS08 motors are used. Over 100 machines have been supplied so far.

Residue Solutions - Our newest project: Amphiroil vehicle designed to cross soft sites such as tailing dams predominantly for mud farming. This application uses two MS83 motors for each vehicle.

Once again, the AT Hydraulics testimony demonstrates the ability of Poclain Hydraulics to offer a wide range of hydraulic motors continuously updated to satisfy the needs of its customers. ■

[Our thanks to Mr. Andrew Grant for sharing this story and we look forward to many more years of prosperous collaboration between AT Hydraulics and Poclain Hydraulics.](#)



*From left to right:*

- Brett Richardson (Key Accounts Manager)
- Sermet Gurisik (Chairman and CEO of AT Hydraulics)
- Andrew Grant (Sales Manager)



# TWO AWARDS IN ONE

## Poclain Hydraulics, recipient of the Oracle Trophy for the 2015 Users Club

March 6, 2015, in Paris, the following companies: 3SI, Carrefour, Club Méditerranée, La Poste and Poclain Hydraulics were honored as the recipient of the 8th edition Oracle Users Club Trophy 2015. At this event, Poclain Hydraulics was awarded the "Transformation and Operational Efficiency" Trophy recognizing the SI+ program.

March 26, 2015, among these five recipients, Poclain Hydraulics won the top award for the Trophy during the 2015 Users Day at Cercle National des Armées, in Paris.

Over the past three years, Poclain developed innovative IT solutions for the benefit of its customers and has just been rewarded.

Innovative IT solutions include:

- The establishment of a global CRM allows Poclain to better understand its customers and therefore serve their needs.
- Sharing Design data products with other businesses allows Poclain to meet customer demands with reduction in development time.

- The implementation of a new ERP based on Oracle eBusiness Suite allows Poclain to better execute this request.

- The development of EDI with customers and suppliers to be more efficient in planning capabilities, production monitoring, and order processing.

The introduction of agile solutions offers the expected flexibility to adapt quickly to customer demand.

SOA (Service Oriented Architecture) enabled Poclain to better manage its data source with a time data plan and reliability.

This investment was made for the group; all clients are served by these solutions around the world. ■



**This award, the Trophy 2015, awarded by Oracle solutions Users Club, aims to showcase the best project of the year.**

**The best under contribution to the company's transformation but also efficiency in its implementation.**



HIGH QUALITY HIGH VALUE ADDED  
HIGH PERFORMANCE  
HIGH TECHNOLOGY HIGH POWER



Hydraulics Systems  
for Mobile Applications

 **POCLAIN**  
Hydraulics

# NEWS AND AGENDA

## 2015 TRADE SHOWS

- **INTERMAT** - April 20 to 25 in Paris (France)
- **STT** - June 2 to 6 in Moscow (Russia)
- **BAUMA AFRICA** - September 15 to 18 in Johannesburg (South Africa)
- **AGRITECHNICA** - November 10 to 14 in Hanover (Germany)
- **EXCON** - November 25 to 29 in Bangalore (India)

## NEW ADDRESS

After 30 years at the same address, the German subsidiary Poclain Hydraulics GmbH is moving. It is now at the following address:  
Werner-von-Siemens-Str. 35  
64319 Pfungstadt (Germany)

## A LAKH(\*) OF MOTORS IN PONDICHERRY

On August 27 2014, the 100,000th motor was assembled in the Pondicherry plant, an important milestone has been passed. The following day, the entire team got together to celebrate this great event around a cake specially decorated for the occasion.

In six years, the Pondicherry plant's output has seen the highest growth ever achieved by a group plant. This growth in production capacity goes hand in hand with major expansion of works; last year the construction of 1,380 sq m of workshops and 600 sq m of additional office space was completed.

"This achievement is the result of everyone's work, perseverance and profound attachment to the company's values and goals. It is also the reward for our efforts in the production, quality and delivery fields."

- Ferdinand Lavana (Pondicherry Plant Manager).

\*Unit of measurement specific to India: the lakh (or lac depending on areas) equals 100,000. There is also the crore, which equals 100 lakh, or 10,000,000.



The Pondicherry team gathered for the occasion

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