THE SAI JOURNAL

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APPLICATION FOCUS

TV1.5 INCREASED EFFICIENCY REDUCED COST

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The SAI JOURNAL

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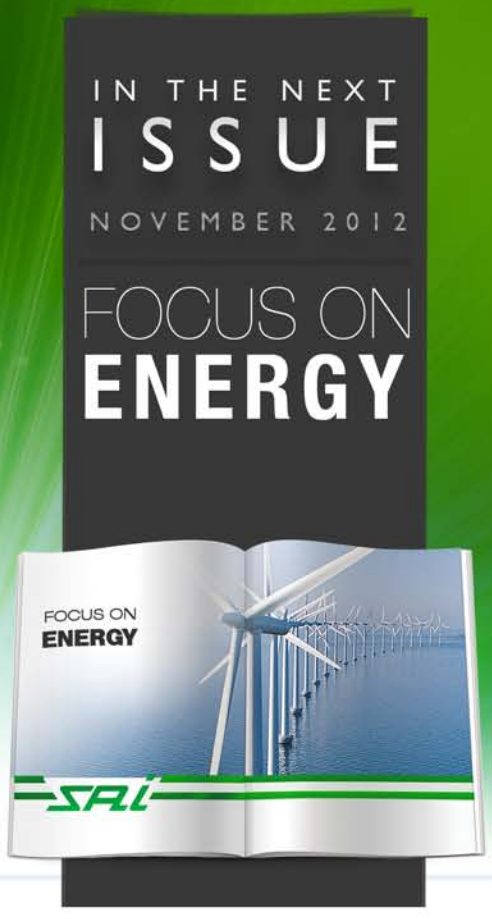
WELCOME

TO THE **SAI** JOURNAL!

Dear Reader,

this issue of The SAI Journal focuses on speed.
Speed is a word that characterizes our present time.
Everybody comes across the need for speed in today's business environment.
Clients expect faster and faster response to their enquiries and for products capable of faster performance from more power dense products. All of this results in a reduction in the use of that most valuable of all mankind's resources – that of TIME.
Due to increasing global competition, new energies are required in order to maintain the success of a company or of a product.
The continuous search for speed requires the company and the people within the company to change by adjusting their business practices to meet this ever growing need.
Products need to run faster, procedures need to be adapted to give faster response times but nothing must happen at the expenses of the quality and value delivered to customers. SAI has approached this challenge with a determination which has been the foundation of its company history.
Innovative technology connects productivity and speed thereby increasing the efficiency of both products and services.
As procedures become faster we become more competitive and in the end more efficient because of the improved utilization of resources.
A key element in this is to be focused on our customers and their needs so as to identify how we can offer them higher speed capability for their machines and thereby increase their productivity.
This could range from suggesting products that can speed up the time it takes for them to get their machines to market or equally to save them servicing time once operating.
Through the various articles contained within this newsletter we will attempt to highlight what our company and our products is doing in order to increase the speed of response to customers and how we can enhance the performance of their machines.

So, get ready for the acceleration, and enjoy the reading!
Vittorio Pecorari



UP YOUR PACE AND STAY IN THE RACE

... any business can achieve the benefits of increased speed to improve productivity and ultimately, profitability. SAI has always focused on speed. Starting from product development and all the way to delivery time, SAI has always been the leader in its marketplace ...

The business world is transforming at extraordinarily high speed. It seems to have happened in just a few months or years, but we now find ourselves surrounded by new products born out of the need of higher speed.
Complete industrial sectors, such as the printing or the travel industries, are undergoing radical evolution, displacing established leaders with new ones regularly emerging.
Even highly successful companies, some who were leaders in their field in the early stages of the digital revolution, are collapsing just a few years after their triumph, demonstrating that if you can't keep up with the pace of change you could soon be out of the race!
Over the last two centuries world industrial development has concentrated on increasing the speed of almost everything – response and products alike.
Everything and anything can contribute to increasing the speed of operation of the organization.
That's why modern corporations are fanatical about speed! They are for ever concentrating on the need for speed in all areas of their activity. The time-to-market of product development, the entry into a new market, communication and getting information to potential customers are all activities that can give a competitive advantage to the company if the speed at which they are performed is increased.
In other words, in our present hyper-competitive business world, speed is probably the single term that most effectively describes the major requirement needed in satisfying the current business climate.
Technology can play a large role in increasing speed within any business. Whether a manager, colleague or customer needs information, through a few clicks of a mouse and some keyed words, staff can easily retrieve the most current information. This is valuable for both the customer experience and for managerial decision making. These are only a handful of the many ways that technology increases speed in business.
The key to improving speed through use of technology is by thoroughly understanding the technology and how it can enhance the business processes and then by making a strategic and achievable plan. Once this is done, any business can achieve the benefits of increased speed to improve productivity and ultimately, profitability. SAI has always focused on speed. Starting from product development and all the way to delivery time, SAI has always been the leader in its marketplace.

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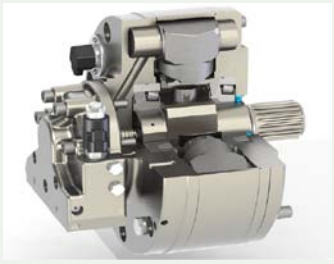
ATTENTION! SAI IS EXCEEDING ALL "NORMAL" SPEED LIMITS as well as achieving better controllability, greater efficiency and outstanding performance

No other manufacturer of crankshaft design radial piston hydraulic motors has offered a similar level of evolution to their product range in terms of options, performance and integration. Likewise, both during the fluctuations of the boom and contraction of the market, SAI has always offered a delivery performance characterised through high speed.
The continuous development and innovation of our organisation, from the internal processes to the opening of new branches worldwide, are all aligned with the purpose of enhancing the speed of our activities and our action and reaction times to customers. Innovation in the component industry represents a phenomenal opportunity for machine design and development engineers to enable them to accelerate the modernisation of their machines and to deliver differentiated products to market.
The race to deliver better products to market, with better features offering enhanced intrinsic value has become increasingly competitive, and engineers are looking for advantages in all areas. With increasing pressure to get new machines to market quickly, OEMs are compelled to make quick decisions during the conceptual stage of design. SAI Hydraulic Motors can optimize the design processes for greatest potential profit by speeding up the operation of the machines.
Through our unique design and our state of the art hydraulic technology, we have created application solutions which solve problems such as the reduction of heat generation, reducing package size, increasing overall efficiency even at speeds that only few years ago seemed absolutely impossible for radial piston motors. Deep-rooted in the SAI psyche, is the understanding that OEMs must continually reinvent themselves by bringing better, more compact, faster machines with new features and functionalities to market with each and every new generation.
To that end, SAI believes that innovation, at all levels of product design and development, is the key to success for us as a company and inevitably, in turn, for our customers.
The opportunities offered by the higher rotational speed ranges offered by SAI Hydraulic Motors are enormous. For example, by minimising the transfer time of a machine from one working site to another, or the reduction in the recovery time of an anchor, or any and many other situations where time is a critical factor. The intense race for market share and the uninterrupted pursuit of profitability despite tough competition, has rendered many business practices obsolete or of no value.
Speed has become one of the most important factors for success in the life of the modern day human race and for the companies competing to support it.
It has become our compulsion.
So we should all Speed-up or we will find ourselves out of the race.

… SAI BELIEVES THAT INNOVATION, AT ALL LEVELS OF PRODUCT DESIGN AND DEVELOPMENT, IS THE KEY TO SUCCESS FOR US AS A COMPANY AND INEVITABLY, IN TURN, FOR OUR CUSTOMERS…



The unique design of SAI radial piston hydraulic motors allows them to achieve extremely high levels of speed, power and overall efficiency.
The majority of industrial equipment and mobile plant require high starting torque, efficiency and controllability especially when heavily loaded and consequently subjected to high working stresses.
All of this can be easily obtained thanks to the new generation of variable displacement motors produced by SAI, which are capable of meeting the wide demands of the market, keeping efficiency at high levels throughout the entire speed and load ranges whilst still maintaining excellent displacement control.
This is achieved by changing the shaft eccentricity using an electronic controller which drives a proportional valve working via signals from the operator which are balanced by electronic feedback from the motor.
The use of variable displacement motors has a positive consequence on hydrostatic transmissions, especially those that demand high power. High efficiency levels are maintained throughout the whole operational range and are specifically noticeable at very low displacement ratios.
Together with high speed and high pressure capability, this represents a unique combination of parameters in the current fluid power discipline.
Operating at minimum displacement, the latest range of SAI variable motors can reach speeds up to 3000 rpm with the capability of reaching even 5000 rpm when eccentricity is equal to zero.
The wide operational range of these units coupled with very high efficiency in all working conditions, allows machine designers to set the prime mover within a tight designated speed range where it is working at its maximum efficiency.
The consequences are numerous, reduction in exhaust emissions and a decrease in thermal losses, which increases machine lifetime and consequently improves overall equipment performance.

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SAI SOUTH AFRICA

Established in 2008, SAI South Africa is the most recent SAI subsidiary and, despite the global trading problems of recent years, it continues to grow with ever increasing levels of business.

SAI South Africa is a modern, well equipped company able to provide pre-sales application engineering, technologically advanced drive solutions, continuous assistance during all the sales process as well as a complete after sales service, even on site with product back up, covering the whole of South Africa.
The South African subsidiary of SAI is now established as a key partner in providing high quality support for the entire SAI product range, including single, dual and variable displacement motors, as well as planetary gearboxes and complete wheel drive units.
Moreover, thanks to a well stocked warehouse, there is a wide range of components always available to assist customers for any requirement from a small part replacement to complete motor refurbishment.
Just some of the industries served in South Africa are mining, drilling, agriculture, fishing, marine & offshore, earth moving and construction.
SAI SA is always also looking for new emerging markets and working to attract potentially new customers, who will always be made welcome when joining the SAI family.
Please come to visit or contact us whenever you have the need, our South African staff is always at your disposal!

SAI SOUTH AFRICA (Pty) Ltd

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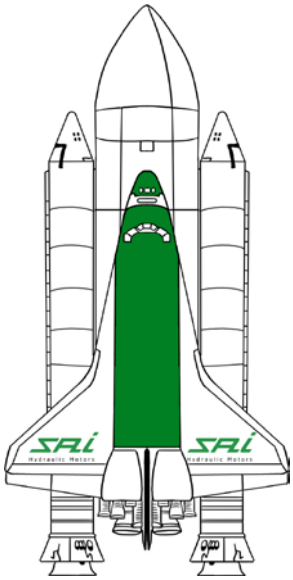
THE FASTEST DELIVERY THE HIGHEST QUALITY THE BEST SERVICE



SAI, with its traditional dedication to the international business market, is always striving to provide service which matches the needs of its customers.
Among the many services offered, the “EXPRESS DELIVERY” is surely one of the most appreciated.
Customers requiring our products quickly have the opportunity to have them within five or ten working days by paying a modest surcharge on the normal price.
This service is particularly useful where an urgent replacement is needed to keep production running thereby avoiding the high cost of machine down time.
In this high speed world in which we live, SAI also puts a high priority on the need to reduce the time taken over any application evaluation, and by focusing our attention on the importance of research and development we achieve the desired outcome.
Thanks to our modern equipped R&D, our engineers are able to reduce the time for application studies. By using specific development benches we are able to re-create any working conditions and consequently are able to test, and prove our products in order to identify the best solution to match customer needs. The SAI Technical Sales Department can then make the best proposal to fully comply with the requirements of the customer.
In this way results can be achieved in a far shorter time scale than otherwise would have been the case through the collection of data from the field.
These and many other services are just waiting for You, contact your SAI Technical Sales Department for more information.

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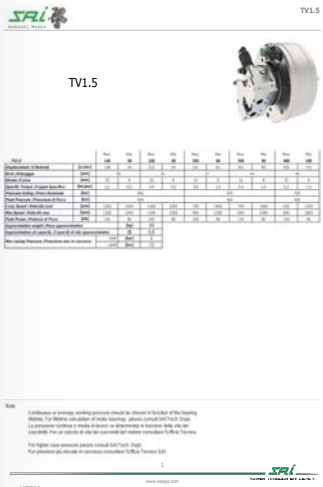

TV1.5

TV1.5

TV1.5
MOTOR

Seven piston variable displacement hydraulic motor with high capacity bearings which allow to achieve continuous torque able to convey a better transmission, pressure and power stability. The motor body is composed of three parts to guarantee a better modularity and lightness.

Description: 7 piston variable displacement hydraulic motor
Motor Code: TV1.5
Mass: 59 kg
Power: 100 kW
Data sheet: 110881.5


TS8
TS8F
TS8W
TS8WF

TS8FW
MOTOR

Seven piston hydraulic motor with integrated gearbox, negative disc brake and wheel hub. Available with fixed, dual and variable displacement, featured by continuous torque of 35000 Nm, it is able to convey 7300 cc in 50 cm.
It is the most compact solution in the market, perfect to improve performances compared to: radial CAM motors, axial piston motors + gearbox.

Description: 7 piston hydraulic motor including planetary gearbox negative disc brake and wheel hub
Motor code: TS8FW
Mass: 380 kg
Power: 220 kW
Data sheet: 121208.1


FREEWHEELINIG BLOCK
BLOCCO FREEWHEELING

HYDRAULIC RELEASE:
SUBSTITUTES THE MECHANICAL RELEASE

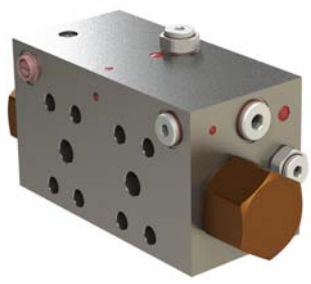
The freewheeling condition is activated by the low pressure hydraulic pilot system. The motor can be dragged at high speed with minimal load loss.

DISINNESTO IDRAULICO:
SOSTITUISCE IL DISINNESTO MECCANICO

La condizione ruota libera viene attivata con pilotaggio idraulico a bassa pressione. Il motore può essere trascinato ad elevate velocità con perdite di carico minime.

"Vacuum" freewheeling: this is the favorable freewheeling condition for fixed displacement motors, especially for very high speeds; the checking valves allow oil to be expelled from the pistons which subsequently operate under vacuum conditions; the motors can operate in these conditions for several hours without being damaged or overheated; torque absorption is constant with speed and equivalent to 2-3 bar pressure.
Transition in normal operation must be effected at low speed and pressure while the pistons are emptied or filled with oil.
Maximum speed should not exceed peak speed.
For further information please contact the SAI Technical Department.

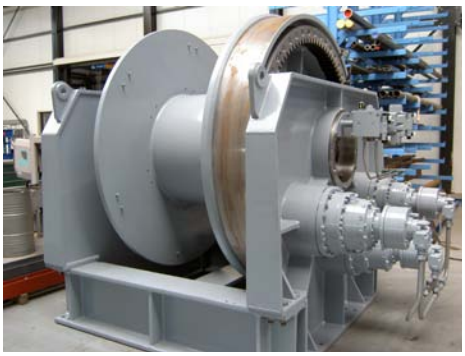
Ruota libera "sotto vuoto": questa è la condizione più indicata per funzionamento a ruota libera dei motori a cilindrata fissa, specialmente per velocità molto elevate; le valvole consentono lo svuotamento dei pistoni che poi operano sotto vuoto; i motori sono in grado di operare in queste condizioni per diverse ore senza danneggiamento o surriscaldamento; la coppia assorbita è costante con la velocità ed equivale ad una pressione di 2-3 bar. La transizione in funzionamento normale va effettuata a velocità e pressione ridotte mentre i pistoni vengono svuotati o riempiti. La velocità massima non dovrebbe superare quella velocità di picco.
Per ulteriori informazioni consultare l'Ufficio Tecnico SAI.



Freewheeling Manifold
ACCESSORY

SAI motors are featured by their capability of achieving vacuum freewheeling, as stated in our catalogues. This method allows to operate with high safety, minimizing the absorbed torques. The freewheeling manifold allows to disconnect the motor from its hydraulic circuit and to make it work in freewheeling.

Description: Freewheeling manifold
Flow: 80-200 l/min
Pressure: 350 bar
Opening Pilot Pressure: 15 bar
Pilot ratio: 20:1
Data sheet: 121206.1



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TV1.5

INCREASED EFFICIENCY REDUCED COSTS

SAI is a leading supplier to the marine & offshore market. An actual example can be seen in the pictures above, showing new winches produced by the Dutch company Machinefabriek EMCÉ.

These winches are equipped with the SAI variable displacement motors TV1.5.
The winches are fitted with either 3 motors, for a line pull of around 85 tonnes, or 4 motors where a line pull of around 125 tonnes is required.
Each EMCÉ winch is powered by its own diesel engine, which makes it possible for them to operate independently or in series, to achieve even better control of the load.
The TV1.5 motor offers many advantages. Firstly there is the ability of varying displacement continuously (from 400 cc to 0 cc) allowing the motors to work at very high speeds, with minimum levels of torque absorption. Various methods of displacement control are offered by SAI to best suit any particular application.
The choice can range from complete electro-hydraulic controls for the variable displacement motors to simple hydraulic ones where just two working positions are required (dual displacement).
EMCÉ chose to use SAI variable motors as their winches have to provide from 5 m/min to 36 m/min; the SAI radial piston motors can easily achieve this, since they are able to guarantee high starting torque, speed and load control and they are traditionally used in applications where as much as 125 tonnes line pull is required.
What is more, thanks to the renowned high efficiency of our motors, it is possible to reach a minimum displacement ten times lower than the maximum one (1:10).
In this specific application the motors are used with 1:8 ratio in order to reach the speed asked by EMCÉ. The displacement variation is achieved without the need to increase the flow, mechanical disengaging, free running or system manifolds to be used for parallel or series circuits.
This means that the big advantage of using SAI variable displacement motors is that changing speed is possible without the need of any additional devices, and, as a consequence, the user can achieve the following benefits:
1. simplification of the circuit, with consequential cost reduction
2. continuous work cycle, no interruption required when changing speed
3. no need for mechanical disengaging
4. improvement of the overall machine performances

All the above makes SAI the best choice whenever HIGH TORQUE & HIGH SPEED are required, choosing SAI means increased efficiency and reduced costs.

2012 EVENTS

4-7 September 2012 Hamburg GERMANY

4-7 September 2012 Donetsk UKRAINE

10-14 September 2012 Johannesburg SOUTH AFRICA

3-6 October 2012 Piacenza ITALY

7-11 November 2012 Bologna ITALY

21-24 November 2012 Dehli INDIA

27-30 November 2012 Shanghai P.R.C.

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SAI INTERVIEW

Ghenadie Hmelevschi

The following interview is aimed at introducing Mr Ghenadie Hmelevschi, the SAI Russian-speaking Countries Specialist, to you.

The Market of the Russian-speaking Countries is playing an even more relevant role in the growth of the whole SAI group. Do you have any forecast for the next months?
The forecast for the coming months, until the end of the year, is that I expect to get very positive responses from companies that have taken our products to make prototype machines.

What are the essential features that have allowed SAI to achieve good success levels in the Russian market?
Individual approach, search for optimal solutions and methods of work with individual clients, to achieve their greatest satisfaction - these are the strategic principles that should guide our approach to every customer. The Russian language market has a common feature, and lies in the fact that virtually all of the engineers and technicians have a degree based on Soviet education. This is why I outlined, as a main market strategy, the need for easy accessibility and comprehensibility of information, which includes the adaptation of our technical catalogues for their full understanding.

Which sectors are the most dynamic? Which is the most successful field for the application of SAI products?
Over the last years SAI has managed to be perceived as an affordable product from a reliable company providing customers with high quality service, as can be confirmed from the latest results. Therefore, in my opinion, the main feature for the success of SAI products in the Russian market, is their accessibility to customers, the ability to communicate in a language they understand and a willingness to respond quickly to their changing demands. All this allowed the local Market to consider SAI as a reliable partner with whom they can work productively with in order to reach the goals of each individual project.

By analysing a large amount of information that we have collected in the recent years, I can confirm there is a great demand for transmission drives, and this gives us the chance to expand their use in different areas. Together with the use of transmission drives in the mobile sector, there is another important segment for development and that is in components for oil platforms or drives for movable bridges and gateways. However, the main sector is the production of machines for construction of roads and for various types of drilling machines as used in the oil & gas and civil industries. Just recently there has also been an increasing demand for agricultural machinery.

Next September, SAI will be exhibiting in the UGOL & MINING fair, held in Donetsk, Ukraine. What expectations do you have for that event?
This event is highly important to us, because up to now the mining sector represents our greatest success in the Russian & Ukrainian Markets.
Though being present in Ukraine for many years, it is the first time that SAI will have taken part with its stand, in a Ukraine fair focused on mining. Therefore we expect a huge number of visitors who already know of SAI, and many others who just want to learn more about the SAI range.

BREAKING
NEWS

SAI
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