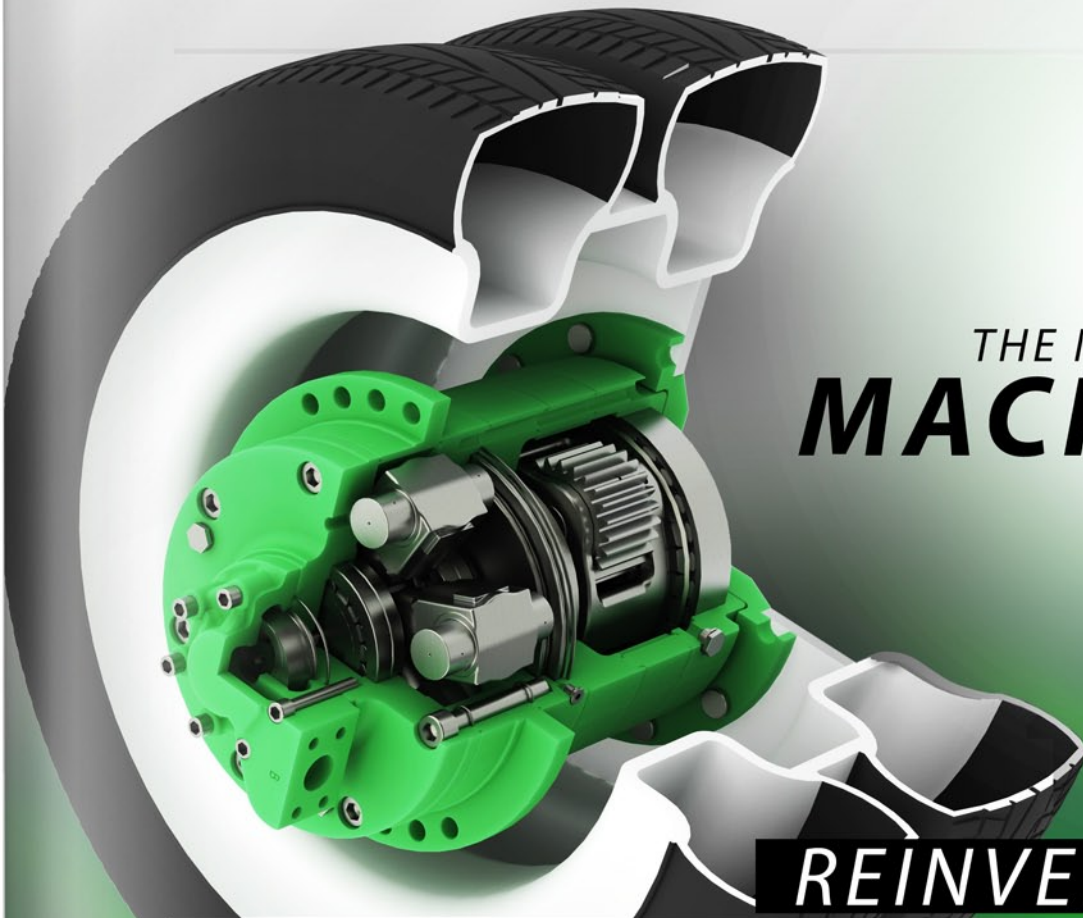


THE **SARL** JOURNAL

Year 8, Issue 1 2010



THE NEW
MACHINERY
DIRECTIVE

REINVENTING

THE WHEEL

POWER THROUGH EFFICIENCY

APPLICATION FOCUS

TD 1.5 HOW TO DOUBLE THE POWER OF WINCHES

CONTENTS

3 REINVENTING THE WHEEL

4 THE NEW MACHINERY DIRECTIVE

5 ASPA SRL
BAUMA 2010 THE RETURN OF CONFIDENCE

6 NEW PRODUCTS READY FOR THE MARKET

7 TD 1.5 HOW TO DOUBLE THE POWER OF WINCHES

8 2010 EVENTS

WELCOME

TO THE **NEW** SAI JOURNAL!

This Journal has been created with the intent to offer to our customers and to our potential customers continuous information relative to SAI and to its offer.

After several years of publications we have decided to expand the Journal and improve the communication through an enhanced design and better graphics together with an increased number of pages. The focus will remain on the evolution of our products and its applications together with the development of our group of companies.

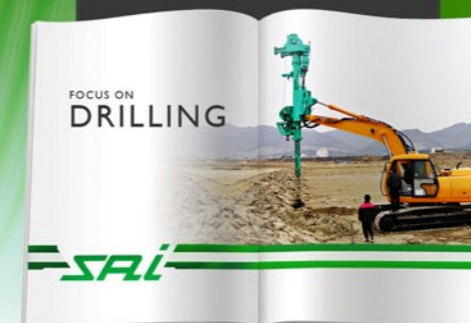
This new look is lined up with the totally new website (www.saispa.com) that went on-line a few weeks ago. In the last years SAI has presented a totally new range of products that can do much more and much better compared to the traditional product range. The new variable displacement motors and the new drive units made of motors brakes and gearboxes are offering unique drive options together with outstanding efficiencies and performances. These new opportunities are projecting our company in a totally different position in the marketplace and we would like to emphasise this by renewing the company image. We are confident that our customers and our potential customers will benefit of this new communication style that will make it easier to perceive and take advantage of the unique features and characteristics that the new SAI motors range can offer to the machines.

So now enjoy the reading of this new SAI Journal and, as always, we look forward to receiving your comments, feedback or suggestions to make the SAI Journal become better every day!

Vittorio Pecorari

IN THE NEXT
ISSUE
NOVEMBER 2010

FOCUS ON
DRILLING





REINVENTING THE WHEEL

...The new range of SAI variable displacement motors offers a new way of thinking for exactly what a wheel drive can do...

The idea of the wheel is a concept that goes a long way back in time.

However, despite being known for centuries, the concept of the wheel today has many interpretations. The modern concept of the wheel on mobile equipment requires many characteristics. These include the controllability, the traction capability, and continuity of rotation, speed regulation, load carrying capacity and braking ability. In Power Transmission terminology, a "wheel" is an abbreviation of "wheel drive".

These drives provide the tractive effort and the speed to the wheels of machines, but in the recent times a wheel drive is required to do much more than that. The new range of SAI variable displacement motors offers a new way of thinking for exactly what a wheel drive can do. Their extremely high flexibility in terms of torque and speed offers fantastic power regulation possibilities. The well known high efficiency of the SAI motors enables obstacles to be overcome with great traction continuity and stability of rotation.

The high volumetric efficiency minimises leakage (which is otherwise a waste of oil flow) and also enables a high accuracy of movement and positioning to be achieved.

CONTACT PERSON

Vittorio Pecorari Managing Director | vittorio.pecorari@saispa.it



Electronic Proportional Control of the motor displacement has recently been developed by SAI and this offers unlimited possibilities in terms of distributing the traction on each wheel, according to the actual adherence of each and every wheel with the ground. All of these exciting developments have opened up a wide range of possible applications that were not able to be addressed only a few years ago. SAI is now presenting a brand new range of wheel drives, with a compact and

modular design, which are strong and robust in order to achieve high load carrying capability. These are available with integrated static and dynamic brakes, integrated speed sensors, continuously variable displacement and with a programmable control that allows regulation of the ramping up and down of the motor displacement in many particularly suited to the application requirements.

These drive solutions comprised of motors, gearboxes and brakes offer outstanding power and displacement density, achieving levels of compactness that put the SAI wheel drives in a class of their own. The high overall efficiency of the SAI motor enables the recovery of the inertial energy of the vehicle when hydraulically braking the wheels. **This form of Power Regeneration increases the efficiency of the machine even more.**

Even greater steps in reinventing the wheel can be achieved from integrating suspension and steering systems to fully offer independent traction control to each wheel.

THE NEW MACHINERY DIRECTIVE



SAI regularly launches new products to the Market and these include safety components, such as spring applied, hydraulic pressure released, (negative type), friction disc brakes.

These can be supplied coupled to hydraulic motors and/or planetary gearboxes, or as stand alone units to carry out a specific safety function. In line with the requirements of the new Machinery Directive 2006/CE, which came into force on 29th December 2009, SAI has updated all its safety components to ensure the highest levels of safety and reliability. The new Machinery Directive requires that all the components sold as separate stand alone safety products be CE marked. As such, SAI is now able to provide these products CE marked, together with Certificates of Conformity, Service Manuals and Technical Data Sheets as required.

SAI takes this opportunity to remind all its customers that Certificates of Conformity and Test and Quality Certificates can be provided on request, for all of its wide range of products, even though they may not be considered primarily as safety related components.

Please visit our new website where you will be able to find more information on this and also our standard conditions of sale.

CONTACT PERSON

Davide Pecorari Technical Director
davide.pecorari@saispa.it



SAI WHEEL DRIVES IMPROVE
THE OVERALL MACHINES' EFFICIENCY

ASPA SRL

ASPA srl is an Italian company who is a strategic partner, providing SAI with extremely modern, versatile and well designed static components.



This is due to ASPA constantly striving to achieve high quality using cutting edge technology. ASPA is able to undertake any type of project, from the receipt of digital files and the development of the various work phases, to the delivery of the finished components.

The production strategy is fully focused on achieving the highest levels of quality, by using their highly skilled workforce operating the latest High-Tech machine tools.

A speciality of ASPA is the ability to use the technology of modern machining methods to manufacture parts uniquely designed in small quantity batches.

ASPA also undertakes work projects for the luxury automotive, nautical and aerospace industries, and the challenge for the future is to keep on fulfilling even their most sophisticated requirements by producing high quality finished products for these customers.

ASPA srl

welcomes customers and potential customers in
Via Fosse Ardeatine , 28
41030 Villavara di Bomperto (MO) - ITALY

Web-site: www.aspa-srl.it
E-mail: info@aspa-srl.it
Phone: +39 059 909577
Fax: +39 059 909585

BAUMA 2010 THE RETURN OF CONFIDENCE

SAI considered it essential to have exhibited at Bauma 2010, the leading international trade fair for construction, building and mining machinery, held at Munich in April.



Despite fewer visitors from overseas as a result of the temporary closure of European airspace during the first two exhibition days, it seems BAUMA marked the return of confidence in this industry for both visitors and exhibitors alike.

The international attendees were able to see the very latest developments of SAI hydraulic motors, particularly the proportional variable speed motors and the very compact integrated drive units.

Such is the importance of the triennial BAUMA exhibition, SAI arranged a week-end trip to enable its staff to come and visit the trade fair.

SAI's staff, which included fitters, warehousemen, and engineers, were able to see for themselves one of the main application fields for SAI Hydraulic Motors at the same time as spending time together to enhance friendship and build relationships.

NEW PRODUCTS READY FOR THE MARKET

CONTACT PERSON
Davide Pecorari Technical Director | davide.pecorari@saispa.it

GM05 NO DRAIN LINE

GM05 NO DRAIN LINE



TABELLA DI PERFORMANCE

	40	50	70	80	100	120	150	170	200
Displacement (liters)	40	50	70	80	100	120	150	170	200
Max Torque (Nm)	20	25	35	40	50	60	75	85	100
Max Speed (rpm)	2000	1500	1100	1000	750	600	450	400	300
Max Power (kW)	10	12	17	20	25	30	38	43	50
Max Pressure (bar)	30	30	30	30	30	30	30	30	30
Max Flow (l/min)	100	120	150	160	200	240	300	340	400
Max Weight (kg)	15	18	25	28	35	42	50	58	70
Max Length (mm)	100	120	150	160	200	240	300	340	400
Max Diameter (mm)	40	50	70	80	100	120	150	170	200
Max Torque (Nm)	20	25	35	40	50	60	75	85	100
Max Speed (rpm)	2000	1500	1100	1000	750	600	450	400	300
Max Power (kW)	10	12	17	20	25	30	38	43	50
Max Pressure (bar)	30	30	30	30	30	30	30	30	30
Max Flow (l/min)	100	120	150	160	200	240	300	340	400
Max Weight (kg)	15	18	25	28	35	42	50	58	70
Max Length (mm)	100	120	150	160	200	240	300	340	400
Max Diameter (mm)	40	50	70	80	100	120	150	170	200

SAI file: www.saispa.it
SAI contact: www.saispa@saipa.it



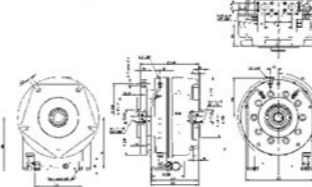
BDD2

BDD2

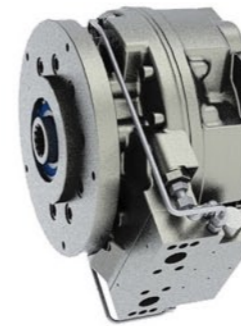


- CHARACTERISTICS
1. Max Displacement 600 (cc/rev)
 2. Max Peak Torque 2700 (Nm)
 3. Max Continuous Torque 2250 (Nm)
 4. Max Speed 2200 (rpm)
 5. Approximate Mass 50 (kg)
 6. Approximate oil capacity 3 (lit)
 7. Peak Power 75 (kW)

DIMENSIONAL DRAWING



SAI file: www.saispa.it
SAI contact: www.saispa@saipa.it



F80S

F80S



	F80S	F80S
	Brake motor	Brake motor
Coppia Statica *	8000	4000
Brake torque **	8000	4000
Pressione massima di apertura completa ***	bar 35	12
Pressione massima del cilindro	bar 60	60
Massa in secco	kg 70	70
Dimensioni cilindro	cm ³ 1200	1200
Quantità olio di protezione	cm ³ 70,8	70,8
Pressione di attivazione	bar 3	3

* La coppia statica è considerata con pressione di attivazione di 3 bar all'interno del freno.
** La coppia torquante è considerata in 15 impulsi per pressione di 3 bar.
*** Disponibile anche con pressione di apertura regolabile a ridotta qualità di olio di protezione.
* Available also with higher opening pressure, with loss of quality.

SAI file: www.saispa.it
SAI contact: www.saispa@saipa.it



GM05 NO DRAIN LINE

Five piston fixed displacement motor, its no drain line version allows to remove the drain line, the motor can work either in open or closed circuit. In case the pressure on the return line exceeds 30 bars please contact the SAI Technical Dept.

Description: Fixed displacement 5 piston motor
Motor code: GM05 NO DRAIN LINE
Mass: 22 kg
Power: 33 kW
Data sheet: 101055.2P

BDD2 MOTOR

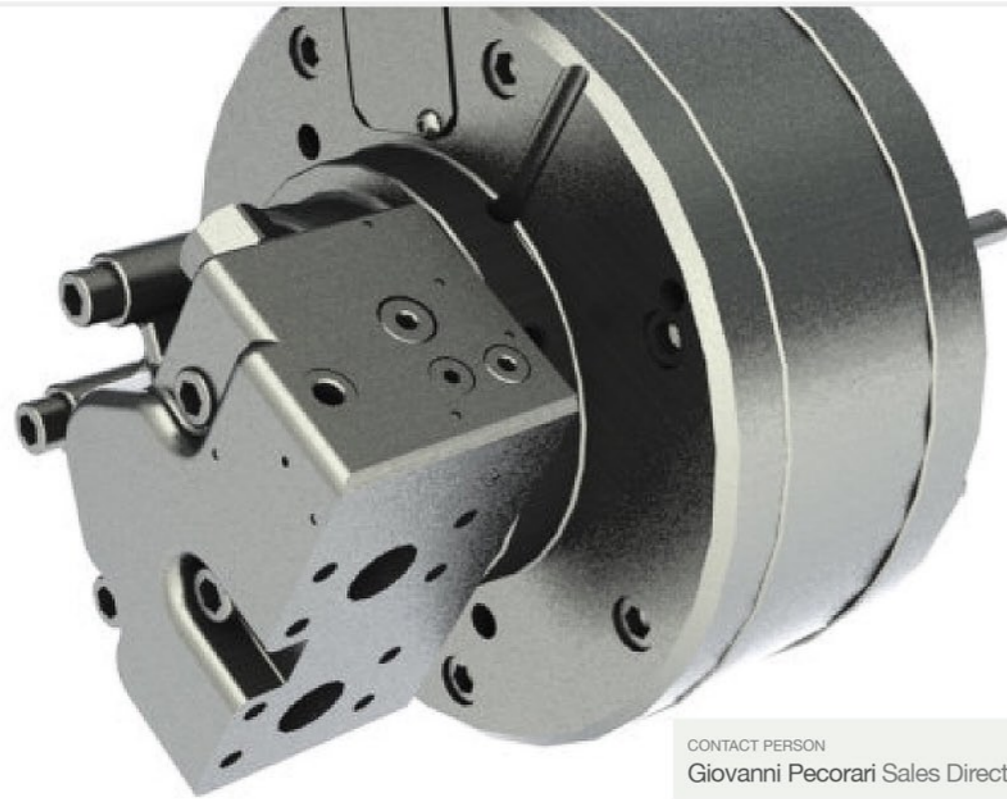
Based on BD Series, BDD2 is an advanced new generation five pistons, double displacement motor with double output shaft. The BDD2 is particularly useful when it is needed to transmit power to two shafts simultaneously, and to make the most of the power in different configurations of torque and speed.

Description: Five pistons, double displacement motor
Motor code: BDD2
Mass: 50 kg
Power: 75 kW
Data sheet: 100939.2P

F80S MULTIDISC BRAKE

The multidisc brake F80S is activated by springs and released by external pilot hydraulic pressure. Designed to be used as static brake for safety systems mainly on winches and vehicles. It can be applied to motor classes 3, 4 and 5 it can reach a peak brake torque of 8000 Nm. Shafts can be available in the following 4 versions: male, female, cylindrical, tapered.

Description: Hydraulic negative disc brake
Motor code: F80S
Mass: 70 kg
Braking Torque: 8000 Nm (22springs) 4000 Nm (15springs)
Data sheet: 101048.3P



CONTACT PERSON
Giovanni Pecorari Sales Director | giovanni.pecorari@saispa.it

TD 1.5

HOW TO DOUBLE THE POWER OF WINCHES

SAI is able to offer a wide range of solutions for many kinds of marine, construction and drilling winch applications.

A perfect example, shown in the picture above, is the new Fast Winch produced by the internationally renowned Italian winch manufacturer TMA (www.tmawinches.com), which is powered by the brand new SAI seven cylinder TD1.5 motor.

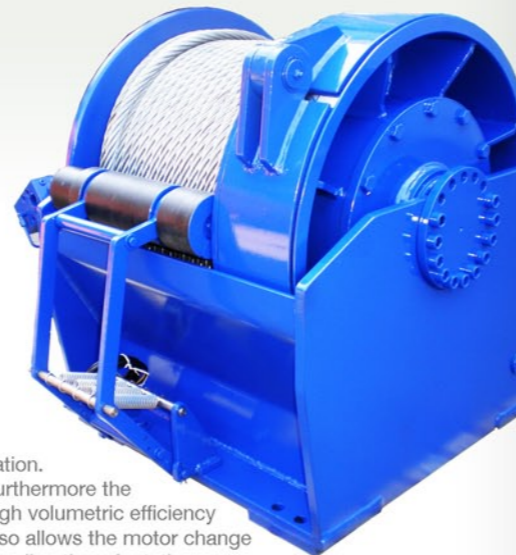
The new TD series motor provides the winch with an even more consistent starting torque thanks to the seven radial pistons which allows it, even with a hanging load or stressed rope, to achieve very constant levels of tension at a line pull of around 6000 kg. The TD 1.5 fitted to the TMA Fast Winch is a dual displacement motor with a maximum displacement of 200 cc/rev and has 50 cc/rev as its minimum displacement. The motor achieves an output power of up to 60 kW, at speeds that may reach 2300 RPM, with pressure rating of 350 bar.

The dual displacement function in this case is achieved with a 4:1 ratio between high displacement and low displacement. SAI is able to provide different displacement ratios for its dual displacement motors, which allows OEM's to use radial piston motors for many more applications now than in the past. The performance of the new TD series can now be used to replace axial piston motors on many applications (no change of shaft and flange is needed), enabling a corresponding improvement in performance and efficiency to be achieved.

Higher levels of safety and reliability are achieved by being more precise during loading operations. This is due to the high mechanical efficiency that allows the SAI TD1.5 radial piston motor to immediately react to the pressure demands of the appli-

cation. Furthermore the high volumetric efficiency also allows the motor change the direction of rotation very quickly, which can be particularly important especially for mooring winch applications. SAI can supply its motors with service brakes, for instance where the gearbox is buried inside the winch drum and does not have a negative disc brake. SAI can also supply its motors fitted with distributors with integrated cross line relief valves and overcentre valves.

For further information about this or other applications for our products, please visit our new web site www.saispa.com.



2010 EVENTS



SMM

HALL A4 STAND 240

7 - 10 September 2010 Hamburg GERMANY



4 - 8 October 2010 Johannesburg SOUTH AFRICA



6 - 9 October 2010 Piacenza ITALY



10 - 14 November 2010 Bologna ITALY



22 - 24 November 2010 Milano ITALY



23 - 26 November 2010 Shanghai P.R.C.



15 - 18 December Mumbai INDIA

CONTACT PERSON
Monica Quarta Marketing Coordinator
marketing@saispa.it



WORLDWIDE



SAI HYDRAULICS INC.

168 E Ridge Road Linwood,
PA 19061 USA

Ph. +16104970190
Fax +16104970194
info@saihyd.com



SAI HYDRAULICS CANADA LTD.

6105 Blvd. Couture St. Leonard
Quebec CANADA

Ph. +1 51 43234552
Fax +1 51 43238780
saicanada@saihyd.com



SAI BRASIL LTDA

saibrasil@saispa.it



SAI (GB) LTD.

Unit 8, Honywood Road Business Park,
Basildon SS14 3HW UK

Ph +44 1268272030
Fax +44 1268272040
info@saigb.co.uk



SAI MOTORS SOUTH AFRICA (PTY) LTD.

Suite 244 Postnet Private Bag X5061 Stellenbosch
7599 Western Cape SOUTH AFRICA

Ph. +27 (0) 219 050 835
Fax +27 (0) 866 468 306
info@saihydraulics.co.za



SAI OD (UKRAINE)

saiod@saispa.it



SAI INDIA LTD.

26/C, Doddanekkundi I.A. Phase 1 Post
Mahadevapura Bangalore 560048 INDIA

Ph +91 8042605509
Fax +91 8042605506
marketing@saihydromotor.com



SAI HYDR. MOTORS SHANGHAI CO. LTD.

6 Jinhai Rd, Pudong Shanghai P.R.C.
CHINA (201206)

Ph. +86 2150315248
Fax +86 2150315246
saichina@saihydro.com



SAI JAPAN LTD.

Keisho ARK2 201 4-29-12 Kamiogi
Suginami-Ku-1670043 Tokyo JAPAN

Ph. +81 333905500
Fax +81 333905501
info@saijapan.jp



SAI SPA

Via Olanda 51, 41122 Modena (MO) ITALY
Ph. +39 059. 420111 Fax +39 059. 451260
saispa@saispa.it