

Special Issue of CMI - Plant Engineering & Maintenance



# Italian Vendors' List

2020



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## Italian Vendors' List 2020

Special issue of CMI - Plant Engineering & Maintenance

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Italian Vendors' List 2020 is a special issue of the monthly magazine CMI - Costruzione e Manutenzione Impianti – with the profiles of a selection of top Italian Manufacturers that produce machinery, components, accessories and instruments for the construction, management, maintenance and control of systems.

Italian Vendors' List is published in English and it's distributed to the buyers of European Companies of Engineering, Construction and Maintenance of Industrial Systems.



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Instrumentation – Automation – Components

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# Italian Vendors' List

Special Issue of CMI Plant Engineering & Maintenance



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# CMI - Costruzione e Manutenzione Impianti

The Italian leading monthly magazine that focuses on components, machines and services for plants building and maintenance.



## Website

[www.rivistacmi.it](http://www.rivistacmi.it)



## Magazine

**CMI**  
Costruzione e Manutenzione Impianti



## Showcase

**Vendor List**  
**Italian Vendors' List**





# COMPANY PROFILE

[www.debem.com](http://www.debem.com)

Diaphragm pumps

Horizontal and vertical centrifugal pumps

Drum transfer pumps

Basket Strainers

Magnetic drive centrifugal pumps

Pulsation Dampeners

FULLFLOW - Double Diaphragm Pump with Flap Valves



MB Centrifugal Pump with mechanical seal



## AVAILABLE IN REAL TIME

Interview with Marco De Bernardi, Owner of DEBEM

### In what sector does DEBEM operate?

Debem has been operating in the liquid transfer sector for more than 35 years. A pioneering business specializing in industrial pumps for highly corrosive and aggressive applications. The entire company philosophy hinges on close cooperation with the end user and customer feedback, thus establishing a highly effective technological design and development system for products and services that has gained the approval of an increasing number of leading players in various

sectors: chemical, textile, food, graphic, leather tanning, ceramic, electronic, galvanic, paint, biodiesel and more.

### What products make up your catalogue?

We have several product typologies, entirely designed and built in Italy by Debem that still holds some patents. We manufacture double diaphragm pneumatic pumps BOXER and CUBIC, the latter especially suitable for small spaces, and diaphragm pumps FOODBOXER in electropolished stainless steel, specific for the alimentary

compartment - FDA approved. We also manufacture vertical centrifugal pumps - IM series, horizontal centrifugal pumps - MB series, with mechanical seal or lip seal, in polypropylene and PVDF. We have also



Polypropylene and PVDF Basket Strainer

magnetic drive centrifugal pumps - DM series, drum transfer pumps - TR series and the pulsation dampeners EQUAFLUX, last but not least 3A certified pumps for pharmaceutical, cosmetic and food sectors. Another interesting series of our products is the pump-protecting basket strainers in plastic material (PP or PVDF): the large passage surface of the basket makes these filters particularly suitable to be installed on the suction head of the pumps, protecting them from suspended solids, impurities and foreign bodies without causing excessive pressure loss.

### Are you planning to extend the ranges?

The Debem R&D department is always at work to offer new and high performance products to the customers. 2018 saw the



IM200 Vertical Centrifugal Pump - KM70 Magnetic Drive Centrifugal Pumps



TR Drum transfer pumps



EQUAFLUX Pulsation dampeners for diaphragm pumps



FPC100 – Pump Made from a Solid Piece of PTFE

coming on the market of the new FULLFLOW with flap valves able to handle fluids with big solids, approximately 4 cm diam. In addition Boxer 100 FPC (Full PTFE carved) with body and manifolds in PTFE. Finally in the Boxer family: Boxer 7, the smallest within its counterparts and Boxer 35 fitted with bistable pneumatic exchanger.

**What are the main application sectors for your products?**

Debem pumps are applied in several fields, but the main ones are the chemical, ceramics, textile and paint industry. With the FOODBOXER and SANIBOXER pumps we are now able to also enter the pharmaceutical, cosmetic and alimentary compartments.



**The market has changed in the past years. How did you organize in order to meet the new needs?**

We tried to optimize processes so as to be increasingly competitive, with always our focus on delivering the best quality. In addition, we have further improved our service and speeded up delivery time. At present we can guarantee a real time availability service thanks to a system that manages and controls the minimum stock for each component and the preassembled parts of all pumps in our catalogue. All our diaphragm pumps can indeed be supplied in ready delivery: each pump is according to the customer's needs, tested and hence shipped. Similarly, all spare parts are ready in the warehouse and immediately available.



**DEBEM**

MADE IN ITALY



**INDUSTRIAL PUMPS SINCE 1982**

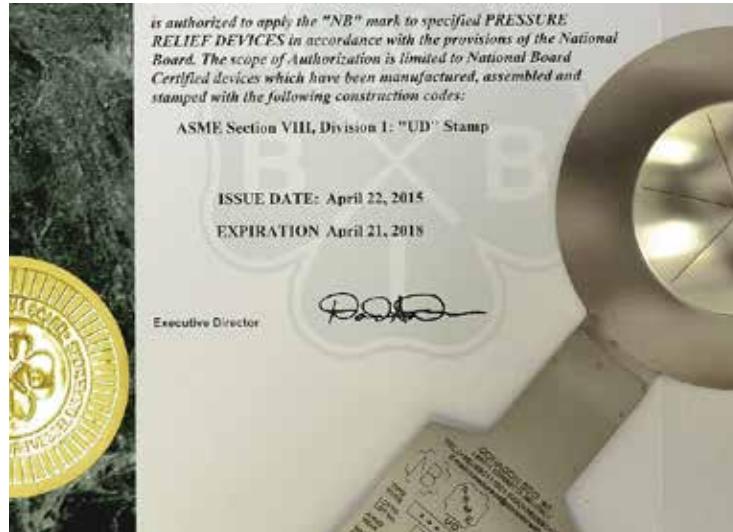
[www.debem.com](http://www.debem.com)

## NS NANOSCORED Rupture Discs

DonadonSDD offers more than 60 years of experience in the production of rupture disks, safety devices that protect plants against the risk of pressure variations. DonadonSDD has always been investing in research and development and in the acquisition of production plants equipped with leading-edge technology, including laser. The result of constant developments is the NS NanoScored series of rupture discs, designed for overpressure protection. The company has also obtained a patent for the innovative manufacturing method.

### Continuous innovation

DonadonSDD's range of NS NanoScored microscored disks has offered the possibility to produce an innovative product portfolio to protect chemical and petrochemical plants against pressure peaks. These are all-metal rupture discs, very accurate and reliable, customizable to customer needs for a wide range of diameters and pressure ratings. With their all-metal design and PTFE gaskets (FDA, 3-A, USP Class VI, EU 10/2011 approved), NS NanoScored disks are particularly suitable also for all applications



NS NANOSCORED Rupture Disc now carries the ASME "UD" Stamp



Quality system have been approved for the design of rupture discs for the aerospace sector

## MORE THAN 60 YEARS OF EXPERIENCE

in aseptic environments, including pharma, food and biotech.

### Quality certifications

DonadonSDD is a supplier of top quality products, which must necessarily comply with all safety requirements involved in the industrial plants where they are to be installed. Organization and procedures are thus perfectly aligned with ISO 9001-2008 norms, to guarantee top certification of manufactured products to the customers. Our quality system have

been also approved in 2016 according the ISO 9100-2009 for the design, development and manufacture of rupture discs for the aerospace sector.

DonadonSDD's rupture discs are certified according to the European directives PED (2014/68/UE) or ATEX (2014/34/UE), to the USA directives ASME Section VIII, Division 1 and now also according to the 3-A Sanitary Standards.

### Advanced manufacturing

With their new manufacturing processes, DonadonSDD can produce rupture discs

with leading-edge technical features. Here a just a few examples: all-metal construction with a wide range of materials, including stainless steel, Nickel, Inconel, Monel, Hastelloy, Titanium, Tantalum; fragmentation-proof even at high bursting pressure; strict tolerances on the bursting point; self-vacuum resistance.

### Distinctive features

DonadonSDD rupture disks are easy to install, airtight, versatile and free of maintenance, except when they must be replaced following their "action" to avoid se-



DonadonSDD rupture discs 3-A approved can be installed into Clamp connections for sanitary application



DonadonSDD disc holders provide an easy installation



The models are provided with 6 scores (rather than 4) for wider opening

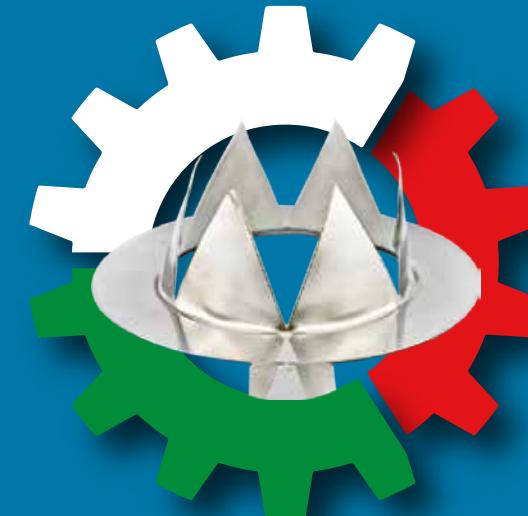
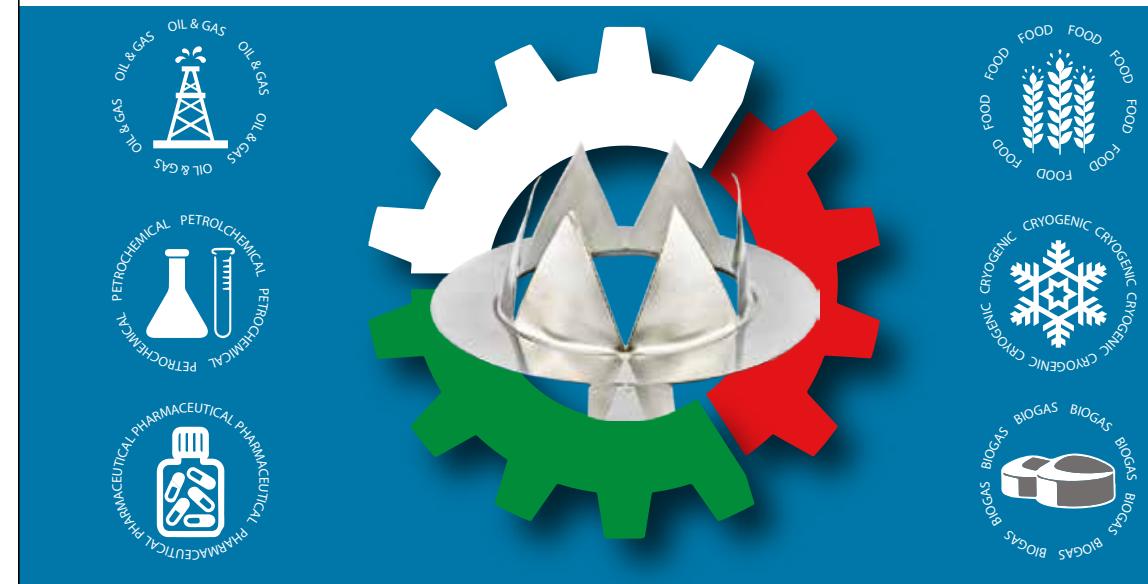
rious damage. NS Nano-Scored disks offer high ratios between operating pressure and rupture pressure, excellent resistance to corrosive agents, also thanks to PTFE coatings, and response to overpressure within few milliseconds, with no fragmentation.

#### The profile of a leader

DonadonSDD, an established leader in Italy, deals both with end users and engineering companies. Since 2003, they have gradually increased revenues in Europe (Germany, France, Spain, Holland and Poland) and in all continents (US, Mexico, Australia, China, South Africa and 90 countries). Export accounts for 50% of sales, both through distributors and via direct web orders. A success factor of the company compared

to competitors is size and agility: it is smaller, more flexible and reactive, but it leverages advanced technology. The key strengths are quality, service speed, availability to develop custom-specific solutions, and last but not least, competitive pricing, with no compromise on quality.

Recent interesting projects include a supply of disc holders and micro-scored reverse rupture discs, with an internal diameter of 600 mm. These large discs have been installed for overpressure protection in a steam condenser, offering both high operating ratios and overpressure response within few milliseconds with no fragmentation, thus meeting the highest safety standards.



**ENSURE THE MAXIMUM PROTECTION AGAINST OVERPRESSURE**  
**GARANTISCI LA MASSIMA PROTEZIONE DALLE SOVRAPRESSIONI**



HIGH PRECISION LASER MICRO-SCORED



SEALLED UNITS SIMPLE AND QUICK TO INSTALL



EXTREME PRODUCT CUSTOMIZATION

**FOR YOUR SAFETY, CHOOSE THE DONADON SDD RUPTURE DISCS!**

**PER LA VOSTRA SICUREZZA, SCEGLI I DISCHI DI ROTTURA DONADON SDD!**



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Mechanical Seal Rings

Silicon Carbide

Graphite Brushes for Electric Motors



Graphite and steel impregnated bearings for vertical pumps, to be used in petrochemical industry

## CARBON AND GRAPHITE FOR MECHANICAL AND ELECTRICAL APPLICATIONS

Interview with Dott. Ing. Nello Tizzoni, Commercial Director at EUROCARBO SPA

Set up in 1973, Eurocarbo is a leading producer of carbon and graphite components for mechanical and electrical applications and is ISO 9001 and ISO 14001 certified. The company's production facilities are located in the Italian Province of Teramo and are spread over an approximately 30,000 sq. mt. area, including a covered area of over 15,000 sq. mt.

### What are the applications for your products?

The scope of our production mainly deals with three applications - the electrical, mechanical and advanced

ceramics industry. Our product range for the electrical sector includes graphite brushes for electric motors for automotive and industrial use. As far as mechanical applications are concerned, we manufacture a wide range of carbon pump components - bushings, bearings, impeller parts and the like - for use in the chemical, petrochemical and mechanical industry, as well as pump components for home heating systems and coffee and drink vending machines. Our customer portfolio includes pump manufacturers, oil-industry component suppliers and maintenance companies. Fur-

thermore, Eurocarbo is a Roten Group supplier of mechanical seals. Finally, we supply advanced ceramic components and especially pure silicon carbide or SiC with the addition of graphite particles for special applications.

### What are your target markets?

Approximately 60% of Eurocarbo turnover arises from industrial OEM pumps, to be added with a 10% from small positive displacement pumps for the food industry, 20% from electrical applications and 10% from mechanical seals. This outlook leaves room for further expansion,

which is actually feasible as the company is experiencing a growth trend. 65% of the turnover comes from the export business, mainly to Western Europe, where France and Germany are our main markets. Of course, we also have business contacts elsewhere in the world, especially in Asia. Indeed, we believe that trade expansion to Asia is inevitable, as many customers of ours have already moved most of their production there and we intend to continue being their suppliers.

### What are the company assets?

Eurocarbo currently relies on

120 employees of staff with around 30 engineers and a well-equipped R&D Department. In the past two years around 10% of the annual revenue has been invested in R&D, with a view to the continuous improvement of machinery and infrastructures as well as the development of environment-friendly lead-free products and organic or metal-based primers. Being used to working in foreign markets, we can also rely on qualified multilingual personnel, whereby our worldwide customers are well taken care of. Besides an effective managerial structure, I believe that still having carbon as our core business is one of our

strongest assets as a company and as a Group. As a matter of fact, we are the only company in this sector that can rely on in-company carbon production. We are devoting great effort to and investing in this sector. For instance, within the scope of the pump business, replacing graphite is an issue as potential replacement materials are too costly. This is the reason why we believe that graphite will still be playing a major role in the future. Finally, we can boast products whose quality is widely recognized, we provide excellent service and we are in a position to still make investments, despite the persistent economic crisis.

#### New development for RoHS compliances ?

Recently and already in mass production our new invention of carbon green grade suitable to reach the latest euro-



Silicon carbide components

pean regulation (RoHS) free from any metal impregnation, what we call "ALL CARBON" grade, named HPC835 (high performed carbon) used for drinkable water, sanitary application for circulating domestic pump with high power as well and high r.p.m.

#### Certification and approvals?

Our main grade including the new ecological one HPC835 and the HT204 (resin one) received the most important approvals to be used on drinking water and food application. We are talking about Wras, Acs, NSF61 and 51, The Hygien Institute in Germany for the KTW and DVGW.

Recently we got as well the approval for MoCa for our HT204, mainly used in pump for food application.

#### New Market?

We are in China now, after a lot of efforts spent in the last years. We are sure that very soon this market will be so huge for us. Our carbon products are very well appreciated and we already started to receive the first orders from important Chinese customer on the automotive business (water pump). We set up an agency and we are sure that soon we can expand our sales also in this country. The company is studying also to set up a new branch in Turkey, in order to follow the submersible pumps market.



Coal components for use in mechanical industry

**EUROCARBO SpA** – Via S. Scolastica 35 – 64013 Corropoli (TE)  
Tel. +39 0861 - 839020 - Fax +39 0861 839050 – [www.eurocarbo.it](http://www.eurocarbo.it)

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PFA-lined valves

Expansion joints made out of PTFE

Flange safety shields

Flanged fittings and hose made out of PTFE-coated steel



Bellows PTFE

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## 40 YEARS OF EXPERIENCE IN USING PTFE

*Interview with Mauro Guastallo, the Technical Manager at FLUORTECNO*

### **What does your product range consist of?**

The Fluortecno range includes PFA-lined valves, expansion joints made out of PTFE, flange safety shields, flanged fittings and hose made out of PTFE-coated steel and flange gaskets made out of PTFE, Guaflon, Ondaseal, Seaflon, Grafite and Spirometal.

### **What are the main characteristics and pluses that make them stand out?**

Among the main characteristics mention is made of the high quality, the certification of the polymers that

are used for the coatings in compliance with FDA standards and the serial tracking of the parts, all combined with a well-stocked warehouse of ready-made products for any immediate maintenance requirements and state-of-the-art production departments at the GMFluorcarbon factories in Cividate al Piano.

### **Which industries use your products the most?**

Our products are used within the chemical and pharmaceutical industries, with particular emphasis on both corrosive and ultra-pure

products. In these cases, products like Kaflon ([www.kaflon.com](http://www.kaflon.com)) meet a number of requirements as they can be used with the most varied of chemical composites and at extreme temperatures (Kaflon 79P: +326°C).



FLEXIBLE HOSES PTFE

### **Which pre-and after-sales services do you offer your customers?**

We can provide our clientele with technical back-up based on 40 years of



GRS LIPS SEALS GUAFLON

experience in using PTFE and elastomers, as well as effective collaboration with the actual customer so that the maintenance requirements are dealt with as quickly as possible, also thanks to a new 'just-



GUARDIAN HPTFE + SIC



Technopolymer valve with clamp

in-time' production department.

Valves are available in the following configurations: flanged ball valves that comply with DIN standards from DN 15 to DN 100 with a ball made out of Al2O3; compact wafer-style KK ball valves compliant with DN5 to DN 150 standards; NK butterfly valves with a shell made out of GGG40.3, a PTFE seal and lenses made out of PFA-coated AISI 316 with a minimum thickness of 3.5 mm; MV diaphragm valves with a

shell made out of GGG40.3 and an EPDM/PTFE diaphragm. What's more, to make things easier for the customer, spare parts are always available in the warehouse for the valves that we sell using serial tracking.

Rounding off what we have to offer is the possibility for valve automation in keeping with specific customer-requirements and in collaboration with prestigious partners.

□



ORP valve PTFE + Hastelloy

FLUOROTECNO



Prodotti in PTFE



[www.fox.it](http://www.fox.it)

Accumulators

Pulsation dampers



16

FOX S.r.l. located in north part of Italy, since 1980 project and produce a complete and wide range of bladder, diaphragm and bellow pulsation dampeners, hydro-pneumatic bladder, diaphragm and piston types accumulators, maintenance free resonators (spherical, cylindrical, in-line, vertical) and low maintenance flow-through hybrid pulsation dampeners.

The expertise built up throughout these years, allowed us to export our products all over the world, becoming a strategic partner of the most important com-

panies operating in the Oil & Gas, Petrochemical, Energy, Water Treatment, Food & Beverage and Hydraulic and Pneumatic fields.

Considering the Oil & Gas as one of our core field of operation, we are continuously developing our products and adapting them to suit with the most stringent project specifications of the OPCOs.

One of the most important application in which our pulsation dampeners are widely used are the chemical injection packages.

Pulsation dampeners are the right arms of the API 675

dosing pumps or API 674 reciprocating pumps (also our pulsation dampeners are suitable for peristaltic pumps, electromagnetic pumps, spring pumps, ect..); they are typically installed in the discharge side, with the objective to reduce the generated pulsations and save the entire system from heavy vibrations and noise.

A pulsation dampener need to be correctly sized and properly charged, in order to work efficiently on a dosing system, for this reason we always strongly suggest to be in touch with us, in order to evaluate each and every

## PULSATIONS UNDER CONTROL

*A valuable partner at your disposal since the bidding phase for special and standard projects*

single aspect of the process parameters.

On a chemical injection package, pulsation dampeners shall be installed also in the suction side of the dosing and reciprocating pumps, in order to reduce load losses and help the pump during the pulling phase (thus avoiding the phenomenon of cavitation, resulting in loss of pump performance, damage for the valves and the hydraulic part of the head). A suction dampener must be installed as much as possible close to the inlet connection of the dosing pump, allowing it to permanently provide the pump its

accumulated pumped fluid on each pump stroke.

Different type of pulsation dampeners can be installed on a dosing system; first of all the pumped fluid is important to be known in details (the MSDS is always recommended to be shared) because it is determining the construction material of the wetted and non-wetted parts, including the separation element installed inside of the dampener shell.

FOX S.r.l. production range has the capability to provide clients customized executions, considering shells also in exotic materials ( DSS / SDSS /

Alloy20 / Inconel / etc.) and separation elements in NBR / H-NBR / EPDM / FPM / PTFE / etc. with solutions that can satisfy all clients needs.

Volumes shall be from 0,03 liters up to 50 liters (for bladder/bellow pulsation dampeners) with design pressures till 20000 PSIG; process connection can be threaded or flanged type ( LJ / WN / SW / etc.), depending on client request.

For the maintenance free resonators or low maintenance flow-through hybrid pulsation dampeners the volume can reach values equal to 5000 liters with same special material or design pressure as above.

Special executions with integral type flanges or customized connections are regularly manufactured, especially when design pressures are higher than 250 barg and the construction material is exotic.

Pulsation dampeners shall be foreseen with pressure gauges or pressure transmitter (installed on the top head with a tee connection) to directly verify the correct pre-charge pressure levels and enable the operators at site to cross-check the correct operation of the pulsation dampener; is possible to install also a temperature transmitter in order to

verify the temperature into the pulsation dampeners.

Our pulsation dampeners and hydro-pneumatic accumulators can be used also in other special application like expansion tank (when there is a necessity to protect pipeline from over-temperature/overpressure), as a shock absorber in presence of a water hammer.

In conclusion, FOX S.r.l. can boast a full range of products with various internal certifications such as European Directive 97/23/EC, PED, ASME VIII Div.1 & 2 structural calculation, ASME U-Stamp, DOSH, ARH, NR-13, CRN, AS1210, SELO, CUTR, ect. with no limits for test or special documentation (material certificate 2.2/3.1/3.2, FEA, PD5500 calculation and FORM-X, ABS review, Mechanical strength calculation, ect.

In addition to that we would like to highlight that Fox S.r.l. manufactures also a wide range of instrument to measure and control pressure, level, flow and temperature for industrial and Atex environment.

FOX S.r.l. will be participating in the OFFSHORE ENERGY EXHIBITION & CONFERENCE that will be held in Amsterdam in October; come to visit us!



**POLMONI SMORZATORI**  
PULSATION DAMPENERS

**ACCUMULATORI**  
IDROPNEUMATICI  
HYDROPNEUMATIC ACCUMULATORS

**PRESSOSTATI**  
PRESSURE SWITCHES

**TERMOSTATI**  
TEMPERATURE SWITCHES

**TRASDUTTORI**  
TRANSDUCERS



Since 1980 we project and produce a complete and wide range of hydropneumatic accumulators pulsation dampers, electromechanical pressure switches vacuum switches, level gauges for tanks and flow indicators. We export our products worldwide as a confirmation of our more than 35 years experience in the market and since 2003 we are certificated ISO 9001



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Two-stage GPCTA pump



Oscillating hollow disc  
pump GPHV



Alloy centrifugal pump GPCA



Turbine pump GPTA200



Turbine pump  
GPTA200 HT HP-300  
bar @ 350 °C

Magnetic drive pumps

## PUMPS DESIGNED THINKING ABOUT THE ENVIRONMENT'S FUTURE

Interview with Luca Caffi and Paolo Cassetta, GREENPUMPS Marketing & Sales directors

### What is the corporate mission?

Our mission is to work for the future of the environment, without hazardous emissions in the atmosphere, in order to be able to preserve it. We believe that a clean environment is the best inheritance we can leave for future generations and we do our best to achieve this goal.

### What makes up the productive range?

The range includes pumps in thermoplastic material and steel, all with magnetic drive. We have regenerative turbine pumps (GPTA and GPT) and volumetric

vane pumps (GPA), for low flow rates and high hydraulic head, and volumetric pumps with oscillating hollow disc (GPHV) designed for operation with consistent flow rate and high hydraulic head, with differential pressure that adjusts automatically; we also have centrifugal plastic pumps (GPC) for medium heavy-duty applications and molded centrifugal pumps (GPM) for light applications or for fluids' transfer. The latter are especially innovative in the construction of their external magnet. We also manufacture special pumps, designed and manufac-

tured specifically for particular and extreme applications.

### What kinds of applications?

The main applications for our pumps include: the chemical, petrochemical, pharmaceutical, refining (not in process), paper mill, pilot systems, transfer of acid, alkali and refrigerant solvents, sampling and analysis, biofuels, water treatment and

process towers. Extreme applications are our boast. For an important national body, for instance, we have designed, and manufactured a pump for liquid lead. It is a pump with packing seal that reaches 450°C and must be maintained at that temperature in order to prevent lead from solidifying. We have also built a regenerative turbine pump GPTA with magnetic drive for pumping of palm oil at 450°C, used to heat a catalyst in a pilot system for the transformation of urban waste into hydrocarbons.



Regenerative steel turbine pump GPTA

Amongst the special pumps we can also mention the GPA in the sanitary version with tri clamp connections and mirrored internal and external finish, complying with FDA standards.

### What is the flagship of your production?

Our flagship are the steel pumps with regenerative turbine GPTA, the volumetric vane pumps GPA, those with oscillating hollow disc GPHV. These pumps feature great reliability and a high MTBF value (Mean Time Between Failures) hence even maintenance is reduced and inexpensive.



Steel vane pump GPA

#### Are there any new products?

This year we have launched the new series of centrifugal pumps always with magnetic hauling of the GPCA series. The basic material is SS 316 while the barrel in the containment shell is HC276. Obviously even the entire pump in HC276 is available. GPCA pumps are foot mounted, with single volute, end suction and top discharge. The impellers are dynamically balanced and are designed to produce maximum efficiency and low NPSH value required. GPCA pumps are available in the Close coupled or long coupled versions and comply with the ISO 2858-DIN 24256 standards. All GPCA pumps have been designed with a modular conception, so as to reduce the stock of spare parts, creating an undisputed advantage in terms of warehouse cost reduction. The GPCA series is "back pull out" so the pump can be completely disassembled, without being removed from the piping. The GPCA series pumps can have a maximum flow rate of 200 m<sup>3</sup>/h, a maximum head of 60 m at 50

Hz and maximum temperature of the pumped liquid of 315°C.

#### Which are your reference markets?

Besides traditional European markets, we are aiming at significantly increasing our presence in the Chinese, east European and American markets. We follow the Chinese market with special attention and have indeed signed an agreement with an important Chinese company, leader in the pumps sector, which has given us much satisfaction. For eastern Europe, in our offices there is a mother tongue sales agent, exclusively dedicated to these geographical areas, and following this we have greatly increased our sales. At the end of 2014 we have had the pleasure and chance to launch our pumps on the North American market, through a new partnership with a major American pump distributor. In spring 2015 we have proposed our products to about 120 vendors, throughout the United States, with a series of presentations that have elicited great interest.

□



Alloy centrifugal pump GPCA

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**SERIES GPC**  
SOLID BLOCK PLASTIC  
CENTRIFUGAL PUMP



**SERIES GPM**  
INJECTED MOLDED  
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**SERIES GPA**  
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# IDROPRES POMPE

[www.idropres.com](http://www.idropres.com)

Volumetric Pumps  
with Cycloidal Gears

20

## History

Idropres was founded in 1966: from the beginning, the production was dedicated to volumetric pumps; in 1981 the corporate change that led to the current Idropres; from that moment I've been the Technical Director of the company.

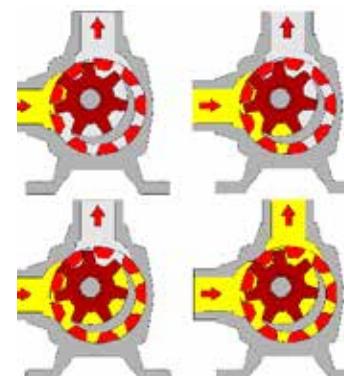
## Pumps

We produce volumetric pumps in different materials: from cast iron to bronze to stainless steel etc. The range flow is from 2,5 to 1.800 l/min.

## E Series Pumps

For us, the E Series is the most important one: rotary positive displacement cycloidal gear pumps. Cycloidal positive displacement pumps are particularly suitable to pump low, medium, high viscosity liquids. Very important is the fact that the liquid is pumped without the slightest pulsation, with a continuous flow, all this to the advantage of the system because valves, fittings and pipes are not subject to harmful vibrations. Cycloidal gear pumps have a low

peripheral rotor speed that allows longevity of the pump itself. In conclusion, Series "E" pumps are easy to maintain: inspec-



Operating system of the pumps with internal gears



E500  
volumetric  
pumps  
on wheels



Volumetric  
Pumps with  
Cycloidal  
Gears E  
Series

## STANDARD AND CUSTOMIZED VOLUMETRIC PUMPS

Interview with Paolo Armiraglio, C.E.O. of IDROPRES

tions and adjustments can be made without removing the pipes, motors and pumps themselves.

## Markets

The volumetric, cycloidal, self-priming pumps can be used for various applications in various industrial sectors such as food, pharmaceutical, chemical, mechanical, cosmetic and many others. Idropres offers a vast range of pumps for pumping fluids of different nature and viscosity with the possibility to adapt them to your needs and

your field of application. The Italian market, so far, for us is the most important one: 95% of the revenue is coming from Italy.

## Why Idropres?

First of all for the great quality of the service and the price/quality ratio. We are able to modify our pumps and to customize them starting from our customers' needs. Since we are not a big company, we can work in this way easily and quickly: the experience gained over the years allows the correct selection of any type of pump allowing us



E500 Volumetric Pumps  
for food use

pump for each application, bearing in mind that an oversizing or an inaccurate choice leads to unjustified costs for the customer.

#### About the future

Our idea is to complete our volumetric pumps series with new sizes.



to make complete supplies for the construction of entire systems. The idea of Idropres is to supply a product that "works". Idropres responds for any pump supplied, therefore a "convenient" pump is never offered to satisfy the customer. It is essential to supply the correct



Positive displacement pump NE



Volumetric Pumps  
with Cycloidal Gears  
NE Series with heated  
body and double  
by-pass



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## Lobe volumetric pumps



CF220 lobe pumps



BB105 auto drain pump

Founded in early 60s as a small artisan reality dedicated to construction of machines and plants for ceramic and food industries, over the years OMAC has specialized in a niche product, volumetric lobe pumps made of Inox AISI 316 and special alloy (Hastelloy, Monel, Titanium), becoming one of the five global leader companies in the sector. OMAC is part of CSF Group, that includes four companies all committed to the production of pumps, valves and heat exchangers for Food & Beverage, dairy, chemistry and pharmaceutical industries.

### Customized lobe pumps

"One of OMAC's main strengths is surely the fact that its Technical Department is completely dedicated to only one product, while some competitors whose technicians have to follow at the same time the development of more product lines tend to disperse resources. This allows OMAC to focus on new ideas, expand application possibilities of lobe pumps, and produce customized versions based on the characteristics of product and system where they will be installed" says Vittorio Donini. Dedication to tech-

nology research, attention in design, accurate selection of materials and trained staff are the best possible combination achieved by OMAC in order to obtain a very competitive product.

### Market and distribution

OMAC is not only an Italian excellence in production of volumetric lobe pumps, but its products are also well-known and appreciated all over the world. Effectively the company is one of the few that produce this kind of product, which can be considered a niche one. Regarding distribution, CSF's strategy includes involvement of all companies

## CUSTOMIZED VOLUMETRIC LOBE PUMPS

*An interview with Vittorio Donini, Sales Manager at OMAC*

or single action: in some countries there is only one distributor for everyone, in others each company has its own referent. Vittorio Donini explains: "In India, for example, there is a trusted distributor who takes exclusively care of sale of OMAC's pumps. In Sweden, on the contrary, CSF's distributor does not sell OMAC's pumps, while in other countries like France, Denmark, Spain and Holland there is one for all the companies of the group". If several years ago OMAC exported about 15% of the whole production, gradually the percentage has increased slowly but constantly and now it has



Lobe pumps used in Bioplastica project



Titanium lobe pumps

neer exports about 80/90% of his products, also OMAC pumps, even when they are sold in Italy, are destined to go abroad. "Only the pumps we sell to end users, which however represent a minor part of the market, remain in Italy" explains Donini.

#### Main benchmark areas

About 60% of pumps produced by OMAC are used in Food & Beverage sector, while the remaining 40% is divided between various sectors among which, in recent years, the chemical-pharmaceutical sector is increasingly emerging. Lobe pumps are "horizontal", meaning that they can be used for several applications and in different sectors. The great flexibility that has always characterized them has allowed OMAC to be less affected by the widespread economic crisis compared to other companies: thanks to the fact that they lend themselves to various

fields and applications, they can be integrated in other sectors that perhaps in that particular historical economic period are not affected by the crisis. Just like it is for a lot of great Italian mechanical companies, even for OMAC the production is organized in a simple and linear way: in the plant based in Rubiera only the most important pieces of the product, such as the pump body, rotors and so on, are processed. Instead, the other parts are produced by contractors who carry them out following the specific indications of OMAC.

#### 2018 investment and Industry 4.0

In 2018 OMAC invested huge amounts of capital in Industry 4.0 to reorganize its production. Among new purchases: CAM software Esprit 2017, horizontal machining centre, OKU - MA Type MA-HII Model 600, multitasking lathe OKUMA Multus Mod. U3000, grinding machine ROSA Mod. Steel Linear CNC, orbital welder STELIN TIG-A-MATIC Mod. 906, and ultrasound cleaning machine PA-DA. "In 2018 we took advantage of incentives provided by the budget law in order to change obsolete equipment which were no more suitable for production" says Donini. "The company invested also in staff training. We spent more than 2 million euros" he concludes.



AFFIDABILI

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## OMAL AUTOMATION: ITALIAN EXCELLENCE IN THE PRODUCTION OF PNEUMATIC VALVES AND ACTUATORS

OMAL Spa was established in 1981 and started manufacturing of high-performance pneumatic actuators. Over the years, customers demanded also reliable industrial valves and to satisfy such request and exploiting the experience of the founder in such industry, OMAL extended its production to ball valves, butterfly valves and pneumatic valves.

The production of both lines - valves and actuators - makes OMAL a strategic and unique partner in Process Automation. Unlike other valve manufacturers, who must purchase actuators from their sub-suppliers, OMAL designs and produces

its own actuators ensuring most efficient sizing and coupling with its own valves. Last but not least, OMAL is also single responsibility point: typical game blame between actuators and valves makers when any issues are raised at site are avoided with supply by OMAL.

The philosophy of the company is to deliver an EMPOWERED PERFORMANCE to its clients which means that OMAL proposes an experience which exceeds any expectation by the market or any industry standards.

OMAL proposes an extensive catalogue of valves. The **ball valves** are available in differ-

ent configuration, according to the most international standards, in different materials of construction and proposed either ready on-shelf or bespoke to meet customized project specifications.

The quality of OMAL products is endorsed by successful reference by its clients and also by many certificates obtained by the company (API Q1, AD2000, etc) and on the products (API 6D, FUGITIVE EMISSION PROTOTYPE TEST, SIL3, etc).

An example of quality level is the ball valve PROCHEMIE60 designed for german chemicals parks and suitable to

reach 60.000 cycles without no visible leakage from the stem packing: OMAL results to be the only Italian manufacturer of valves obtaining this qualification by German IGR consortium.

The same known-how and experience is extended to all the range of OMAL ball valves.

OMAL produces also concentric (rubber-lined) **butterfly valves** according to EN593 either in Wafer or Lug style with replaceable liners available in a wide range of materials of seats (EPDM, NBR, FKM, PTFE, NBR CARBOX, etc.). The outstanding features of such valves is to be designed to

deliver for automation and then to reach high cycles and long lifetime.

The **pneumatic actuators** have always been the cutting-edge solutions adopting Scotch-Yoke technology throughout the range (from 8 to 32.000 Nm): the "yoke" system offers technical advantages over the traditional rack & pinion system (higher torque, smaller size, less air consumption, longer life and a reliability up to 1MIL of cycles certified by TUV, overtaking the requirements of EN15714 standard).

They are offered in aluminum, carbon steel and stainless steel and are available in special



versions for low temperature (-50°C) or high temperature (+150°C), with integrated hand-wheel or in a 3-position version (dosing function).

The **electric actuators** complete the range: from 24v to 230v both in ON-OFF version for the "block" valves and modulating version for the control valves through 4-20 mA signal.

Developed directly by R&D dept. in OMAL since the 1990s, **pneumatic valves** complete the portfolio by OMAL and are used in the toughest automated processes.

In this category, the patented VIP valve is still an example of unique innovative solutions: extremely compact design (up to -60% compared to the traditional combination of ball valve and pneumatic actuator), high reliability (up to 500.000 cycles) and fast operating time makes VIP overtaking in performance and durability other type of valves.

Adding to the valve product portfolio, the Angle-seat available in bronze or stainless steel, with threaded, welded or flanged ends and designed for service up to 180°C able to perform maintenance-free millions of cycles.

The quality of the products is the result of a meticulous design and cutting-edge solution in production. OMAL's manufacturing system is vertically integrated: from the aluminum foundry to the automated mechanical machining, including the in-house thermo-plastic moulding department, semi-automatic assembly benches and 100% end-of-line testing, internal painting plant as well as the automatic warehouse, packaging and shipping. Every operation at OMAL is carried out to optimize efficiency and respect for sustainability, certified by the most prestigious international marks and awards in this field.

OMAL is able to respond efficiently both to requests for ready-to-deliver materials required for maintenance during plant shutdown or downtime and to supply more structured packages for EPC projects demanding flexible and diversified production and qualified technical support.

The production is MADE IN ITALY: products are designed, machined, assembled and tested in the 4 modern plants in Brescia where we would be pleased to welcome you for discovering the history of OMAL and living the EMPOWERED PERFORMANCE experience.



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OMT headquarter  
in Calvenzano (BG)

Coupling joint  
lantern



## OMT EXPANDS ITS RANGE OF PRODUCTS AND SERVICES WITH NEW ACCUMULATORS

*Interview with Luigi Pirovano, Sales Manager of OMT Italy*

### What is the company's production offer?

OMT was founded in 1967 as a craft business of hydraulic components, starting with a product that still represents the company's core business: the coupling between motor and pump, i.e. lanterns and transmissions joints. The goal to stand firmly as a supplier of a wide range of components for hydraulic systems of industrial and mobile sectors has prompted OMT to undertake in 1985 the production of filters, while in 2003 the expansion of the plant

occurred to accommodate the production of heat exchangers. In 2004 the company completed its range producing SAE and CETOP flanges, aluminum and steel connectors and CETOP blocks. With the acquisition of Luen we switched to a more technological product: valves which are mainly used in the furniture industry. The current production is divided into six broad groups: lanterns and couplings, filters, aluminum heat exchangers, connectors, flanges and blocks and the recently added accumulators.

### Which kind of accumulators?

Our offer currently includes piston accumulators, intended mainly to Oil&Gas sector, and carbon steel bladder accumulators, not serviceable for the hydraulic sector. In addition, diaphragm accumulators for the agricultural sector are under con-



Bag accumulator

struction. To complete the three families of accumulators, it is also available a complete range of accessories: from the kit case for charge to support collars. We also activated a support service with emergency assistance within 24 hours. It mainly consists in the on-site recharge of the accumulator and in the monitoring of its condition and inner bag.



Heat  
exchangers

### Which other changes have occurred during the past year?

Over the years, OMT focused on realization of products addressed mainly to mobile market – in particular relating to agricultural sector, earthmoving machinery and so on. Latest innovations in this area are represented by combined heat exchangers. It is a new series of exchangers designed for earthmoving machinery, agricultural vehicles, industrial plants and special vehicles. This kind of combined exchangers can be used for cooling down several fluids (such as water,



Combined exchangers

oils and air). Made in aluminium, they can be implemented directly in front of the engine's fan or be equipped with fans activated by an electrical or hydraulic engine. Thanks to continuous research and highly qualified staff, OMT can realize these exchangers according to customer's needs.

#### Which are the aspects that distinguish yourself in the market?

The completeness of the range, especially as regards couplings between motor and pump, the customer service and the product quality, without neglecting the price, of course. Customer service means being present at the time of need and be as much flexible as possible in

order management. To do this, we invested in the warehouse, where we have much material ready for shipping, and in machinery: we have tried to robotize certain mass consumption products. This allows us to be pretty fast in the execution of orders.

#### In which sectors are your products used?

All manufacturers of hydraulic power packs are potentially our customers. We mean off-line hydraulic power units used for example for tool machines in the mechanical or marine sector.

Filters, levels, heat exchangers and accessories are also implemented in the construction equipment and in the agricultural sector. Valves are mainly used in construction equipment, platforms and all needed to move cylinders. With the introduction of accumulators in our product range, we have also begun to approach the Oil&Gas sector.



Some kind of valves

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normalized EN 733 series



GH series- patented  
balancing device



Multistage high pressure  
centrifugal pump series GH



Chemical pump series CN,  
normalized ISO 2858 and ISO 5199



Vertically  
suspended  
line-shaft  
pump  
series VS

## COMPLETE SYSTEMS FOR ALL PUMPING NEEDS

*Interview with Mr. Fabrizio Monaci - Technical Director at POMPE GARBARINO S.p.A.*

### Technological features

Garbarino has been manufacturing for years centrifugal pumps for use on chemical and petrochemical systems, power plants and water treatment systems.

The company's technical and productive skill expertise translates into the possibility of offering customized pumps for every application need the customer may have; the materials, components and motorizations are accurately selected so as to ensure utmost reliability to the customer.

Currently, the company

uses a wide array of materials such as gray and spheroid cast iron, WCB, bronze, stainless steel 316 and 420, duplex steel 2205 and 2507, special alloys such as Hastelloy C and B, Alloy 20, Inconel and others. All casting typologies come from the national territory and are processed in-house. Various seal systems are available which are selected depending on the pumped liquid. It is possible to supply pumps with single, double, cartridge seals, complying with API682 standards and all flushing types required. The company only uses

mechanical seals from major manufacturers such as Burgmann, JCrane, Chester-ton, Fluiten. For what concerns couplings, besides normal flexible couplings, various types of metal blade couplings are also used.

Pump motorization is usually accomplished with low or medium voltage electric engines from primary brands. All engines are of the high efficiency type complying with the European directives in terms of energy saving. However the offer goes beyond electric engines, for we can supply pumps

operated by diesel, hydraulic or vapor turbine engines. To achieve energy saving or to meet special operating needs the company can supply electric panels fitted with frequency variator in several configurations. Actually Garbarino has developed various operating solutions that make it possible for the final customer to obtain great energy saving. During the engineering stage, the relationship with the End User almost always takes place through the Contractor that buys the pumps. The end User's request, (hence contract

specifications) are carefully analyzed to define the machine's configuration and all the accompanying services (spare parts, services, etc). Contact with the End User is much more direct during the plant's commissioning stage, when our staff is present at the machine start-up. Our relation with the customer becomes direct for everything that concerns the pumps' operative management, maintenance, spare parts, possible modifications/changes. Our technical department and customer service can support our customers every-

where around the world, for every kind of need required.

#### Main projects of the past year

The main orders in the industrial sector arrived from the Middle-East: Garbarino sold several chemical pumps (CN) to the EPC company Alghanim International (Kuwait) for the power plant Duqm in Oman.

In the U.A.E. Garbarino got two orders with the EPC company Metito Overseas in Sharjah: several chemical (CN) and vertically suspended (VS) pumps will be supplied to a refinery in Oman and to an ammonia plant in India.

Moreover, also in 2019, the cooperation with CERN is going on: several horizontal, vertical and high pressure pumps will be supplied to the Prevessin plant in France.

In the marine sector Garbarino has got new orders in the cruise market reaching 137 cruise ships supplied until now and in the naval sector where 29 foreign navies worldwide are included in the reference list.

#### New products

Since many years the company has been manufacturing vertical line axis pumps (MU-VS) for installa-

tion in tanks. Pumps have been renewed in the past years and are now available for all pumping needs. They are manufactured in the length required by the customer and are also available in special materials to be used on most corrosive liquids. Another type of pump we have recently designed, is the multistage type GH, pumps destined to services that require high heads such as boiler powering and reverse osmosis. Pumps may reach heads of 800 m and power of 1MW. Besides the manufacturing of traditional pumps, the Company can supply complete packages of piping, instruments, tanks and control boards designed following the customer's specific needs. This offer is especially appealing for the customer because it simplifies his purchase process and guarantees the assistance of a single supplier.

The company can provide advice for energy saving, by proposing appropriate solutions for every pumping need. We have developed different solutions of control panels with frequency converter that can be used in any type of system ensuring great energy saving to the end user.



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Centrifugal pumps



CS100-400 Duplex Series

Positive displacement pumps



ZPV series

Pumps for the chemical industry



ZQ series

Industrial pumps



ZIV series

Vocation for chemical sector, industrial process and problem solving connected to complex fluids treatment have always been the strength of POMPE ING. CALELLA, a business company that boasts high product and process reliability

POMPE ING. CALELLA was born in 1939, and after few years, in the presence of king Vittorio Emanuele III, it presents the first Italian pumps made of plastic resin. Vocation for chemical sector and for industrial process has always been at the heart of efforts of a

company whose catalogue includes many series of industrial specialized pumps: centrifugal with closer impellers C series, open FN series, with channel FC series, and set-back vortex FX series made of AISI 316, bronze and duplex of massive fusion with special executions with Halar covering.

#### An impressive series

The Z series plastic pumps for corrosive liquids, made of Polypropylene and PVDF with Teflon and Hastelloy-C details, are intended for the chemical sector. There are many possible executions:

from the newest horizontal ZQ series with ISO support with bearings in oil bath, to horizontal ZN series equipped with coupling lantern with normalized motor, up to their equivalent vertical ZPV and ZNV series with interaxis up to 5 metres. There are self-priming pumps ZPA and ZNA series, too. There is also a submersible version with a canned motor without mechanical seal for clean liquids, called CHS, and the VISA series of peristaltic pumps made entirely of plastic, of its own patent, with an elastomer tube suitable for pumping acids and

## PUMPS FOR CHEMICAL INDUSTRY

An interview with Ing. GianMarco Calella, Technical Manager, representative and business partner of POMPE ING. CALELLA

bases diluted. The sealing and flushing systems are selected ad hoc for each individual customer, strengthened by a wide knowledge in every industrial sector. These injection and press-injection pumps have a range of flow rates ranging from 1 to 200 m<sup>3</sup>/h and heads up to 80 meters of liquid column, in multi-stage executions, with pressures up to 10 bar.

#### Standardized EN 22858 pumps ZI series

Within this successful family, standardized EN 22858 pumps ZI series made from solid wood play an import-





ZI series



ZA fiberglass series

tions. These pumps allow outstanding flow rates and heads also with lowered rotation speed, keeping maintaining reliability over time at the height of the brand blazon. Large-scale and medium-sized process industry, that always pay attention to operating cross and to operational simplicity, will find the best answer to their needs in this product, which has been designed not only to meet the standards of the pull-back legislation design, dimensions, performance, flushing of sealing systems, but also with the intention of being different from others regarding quality and reliability. The technical solutions adopted for the internal parts of the pump are the result of 80 years of experience in the treatment of corrosive products and are distinguished from what the market offers today.



### Hydraulic pumps ZI and ZA series

ZI and Za series are used also in the vertical version ZIV series with interaxis up to 6 metres for process pumping in tank. Quality of materials and precision of manufacturing constitute the foundation of the reliability of product; passion and competence in selecting, and concretizing the product are the great added value. Among the various fields of use: chemical, pharmaceutical, galvanic and metallurgical. The application ranges are those of the reference standards DIN EN 22858, ISO 2858 and ANSI / ASME B73.1. The technical-commercial assistance is always ready to competently analyse the needs both in preliminary phase and in post-sales service, to be always close to the customer in the management of the products used.



## Mechanical seals for rotating shafts

32

### What does your productive offer include?

For over 75 years we have been manufacturing mechanical seals for water pumps, pumps and machines in the alimentary sector, for mixers, for the industrial sector, for the refrigeration compressors sector and ices machines, the chemical sector and applications in environments with a potential risk of explosion (Atex). The construction of Roten mechanical seals has a long tradition: the beginning of production dates back to 1945. At present our range is extremely broad and

can be composed with many combinations of materials such as stainless steel, superalloys, titanium, special steels, tungsten carbides, silicon carbides (4 qualities), alumina ceramics, graphites (4 qualities), elastomers, resins, etc.

### What are the main features that distinguish your company?

A great flexibility and an orientation of our services directed to maximum customer satisfaction together with an ongoing research to enhance the quality of our products. Production technologies that use sophisticated and effi-

## MECHANICAL SEALS MADE WITH PASSION

*Interview with Augusto Vidoni, General Manager at Roten*



cient, state-of-the-art machinery, accurate machining operations and seal and resistance tests on the materials carried out in our laboratories have enabled us to continually upgrade the qualitative level and reliability of our products, and thus to increasingly satisfy the expectations of our customers. Our pre and post sales service, the accuracy and promptness of our responses are the most appreciated qualities, which we try to convey to all our agents and representatives worldwide.

#### **What are the most recent product innovations you have implemented?**

Amongst the latest innovations we have the cartridge seals Series 977, certified Atex Category 1 with the possibility of installing thermocouples for temperature control. These seals are especially applied in the chemical pharmaceutical sector. Then we have implemented in our product range new models for the alimentary and pharmaceutical sectors, with 'sanitary' design to allow the certification of pumps and other machines fitted with our seals, according to the

European EHEDG and the American 3A.

#### **To what sectors and markets do you cater?**

Roten sales network is especially active in the European markets, where we supply major constructors of pumps and machinery, but through our agents and customers, our products reach the entire world and basically all industrial sectors.

#### **What are the main market demands and how do you satisfy them?**

Demands always ask for quality products, that are competitive as well. When our standard products do not fully satisfy the specific requests of our customer, with the know how we have gained in over 75 years of experience and research for new materials and solutions, we manage to design, test and manufacture special customized products for our customer's needs, also thanks to the passion all our collaborators share for their work. Indeed our technical department is available to advise and propose to customers the most appropriate seal solutions to solve most appropriate seal solutions to solve most different problems.



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## Pumps & mixers for corrosive liquids



### VERTICAL PUMPS

Thermoplastic vertical pumps for corrosive liquids.

Materials: PP, PVC, PVDF. Lengths up to 3 meters, depending upon the tank depth.

Suitable for a wide range of industrial applications and for almost all chemicals.

Anti-corrosion design: no metal parts are in contact with the fluids.



### EXPERIENCE SINCE 1947

Savino Barbera company takes the name from its founder who, in 1947, began manufacturing metal pumps for agricultural purposes. During the 1960s, the imposing change in industrial processes and the unexpected spread of chemical technologies lead the Piedmontese company towards a transformation of its technologies: this reconversion meant an exclusive production of thermoplastic pumps for aggressive liquids, taking on the form which still characterizes the company today.



by Simone Goso, [simone.goso@savinobarbera.com](mailto:simone.goso@savinobarbera.com)



### HORIZONTAL PUMPS

Anticorrosion horizontal pumps conceived for industrial processes where resistance to chemical aggression must be coupled with easy maintenance.

In particular, the presence of a mechanical seal designed exclusively by Savino Barbera offers safe solutions for all pumping needs even with difficult fluids.



#### THERMOPLASTIC PUMPS

**Left:** vertical pump model AS50A made in PP for water + sodium sulphate.

**Middle:** vertical pump model AS20A, made in PP for NaOH (sodium hydroxide).

**Right:** vertical pump model AS30B, made in PVDF for chromic acid at 55°C.



#### HORIZONTAL PUMPS WITH MECHANICAL SEAL

**Left:** OMA40A horizontal pump made from PVDF for hydrochloric acid solution.

**Right:** OMA40A horizontal pump in PP for with sulphuric acid.

#### TOP-ENTRY MIXERS:



Top-entry mixers ideal for organic and inorganic chemical products.

Available in PP, PVC and PVDF, depending on the liquids to be handled. With different rotation speeds (2-4-6-8 poles). Equipped with gearbox also.

# ANTICORROSION PUMPS FOR AGGRESSIVE FLUIDS



## SAVINOBARBERA

VERTICAL AND HORIZONTAL PUMPS, DRUM PUMPS,  
DOUBLE DIAPHRAGM PUMPS, MAGNETIC DRIVEN PUMPS, MIXERS

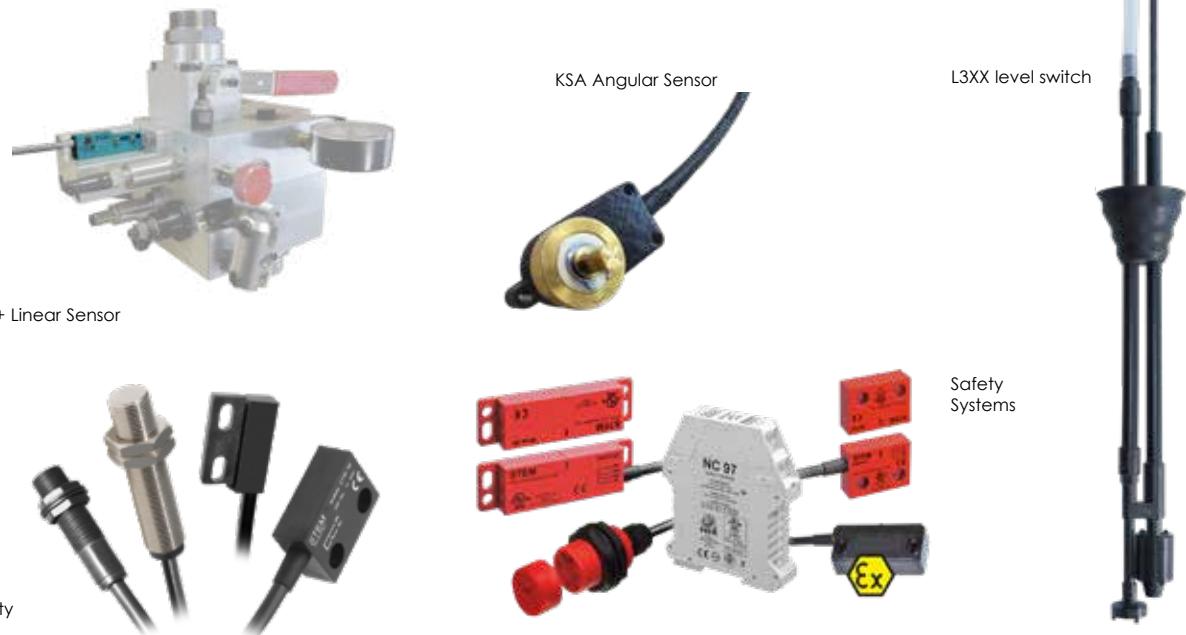
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Magnetic Sensors

Float Switches

Functional Safety Systems



## MORE THAN 30 YEARS OF SENSORS

### Company profile

Stem has been Founded in 1987 by Piero Giuseppe Moro and his wife Ernestina Castoldi, as a company specializing in the manufacturing of magnetic proximity sensors, magnetic units and level switches for industry. In 1992 it began producing the magnetic sensors for the position control of the car lift; the multiple advantages that this product entails make it be adopted by an ever-increasing number of elevator manufacturer and installers. Year 2000 marks an important milestone in the company's history: taking advantage of the prospects of

market related to technical safety regulations, Stem begins to develop safety systems using magnetic sensors. The experience gained on standard sensors pushes it to design and manufacture functional safety systems without contact, adding the coded sensors and the respective electronic control units. In 2017 the company celebrates 30 years of activity.

### Markets

The market addressed by Stem is mainly made up of equally balanced national and foreign companies in the industrial and elevator sector.

The export level of the product has reached a record 60% of turnover in recent years and more than 70 countries are currently served worldwide.

### Products

#### MAGNETIC SENSORS

Stem has developed in more than 30 years of activity hundred of different type of sensor, we have in fact a huge catalog that can satisfy most of the request regarding electrical, mechanical and magnetic characteristics. The main advantages of the magnetic proximity sensor are: contact less activation, complete absence of mechanical wear,

protection against atmospheric agents (dust and humidity), easy installation, maintenance free, small dimensions, high life cycle, activation distance handled by the magnet type.

The product family developed by Stem using the magnetic technology are:

**LEVEL SWITCHES:** horizontal and vertical types with 1 or 2 switching points, different materials : PPS or PP for industrial needs or POM and stainless steel for food and beverage. Possibility to have a lot of option like sucking tube, caps, different electrical characteristic, filters...

**PROXIMITY SWITCHES:** reed

type free contact without power supply and switching power until 100W, hall or MR type completely electronics for high speed switching and high reliability.

**LINEAR and ANGULAR SENSORS**, with analog output 4-10mA, 0-10V or digital output SSI or IO-LINK.

Explosion proof (ATEX), reed contact type for Zone 2 and 22, PA6 or stainless steel housing.

### Functional safety

STEM's safety system are used to control the correct closing of guards, gates or protections on dangerous machine tools. The safety system is composed

by magnetically coded sensors and magnets associated to a control unit that converts the signal from the sensor in an output signal. The advantage in using a contact-less safety sensor is on the absence of mechanical wear and on the total protection against liquids and dust (ATEX version is also available) The sensor could be assembled behind a plastic or diamagnetic wall, without drilling and with no changes in the activation distances.

#### **Elevator specific products**

Stem has a specific product line dedicated to the elevator industry including sensors for car lift positioning, safety control units for releveling operation, safety control units for doors, battery chargers, safety device for uncontrolled movement, phase and temperature control relay.

#### **Customization of products and quality system**

The Stem Technical Office is composed of a team of professionals who take in charge of customer requests, study them and create customized products. "It is a well-structured office," explains Eng. Nicola Bagnalasta, Stem Electronic Department Manager, "composed of electronic and electrical engineers who also follow the mechanical part supported by industrial

experts who deal with 3D modeling / printing and production support. This is a very important job that requires competence and precision "All Stem products are tested 100% internally. The most complex sensors, those related to functional safety as well as all electronic control units are subjected to automated testing with recording of test data in the company database, in line with the most advanced industry 4.0 technologies. Electronic control units are also subject to a complete product tracking starting from the material used for their assembly up to the finished product and sold this allows to guarantee the complete traceability of the product in case of any problems" concludes Ing. Bagnalasta. The quality of Stem products is guaranteed by the achievement of the ISO 9001: 2015 system certification and by the product approvals issued by VDE, TUV, IMQ, UL. "All our products have the necessary certifications to be sold in the Italian and foreign markets: each sensor, depending on the final market, has the relevant certifications including those for safety TUV and Atex for hazardous areas" explains Enea Moro, Sales & Marketing Manager of Stem.



## **Magnetic Sensors**

### **Proximity Sensors**



### **Angular and Linear Sensors**



 **IO-Link**

### **ATEX Sensors Proximity**



### **Float Switches**



## **Functional Safety System**



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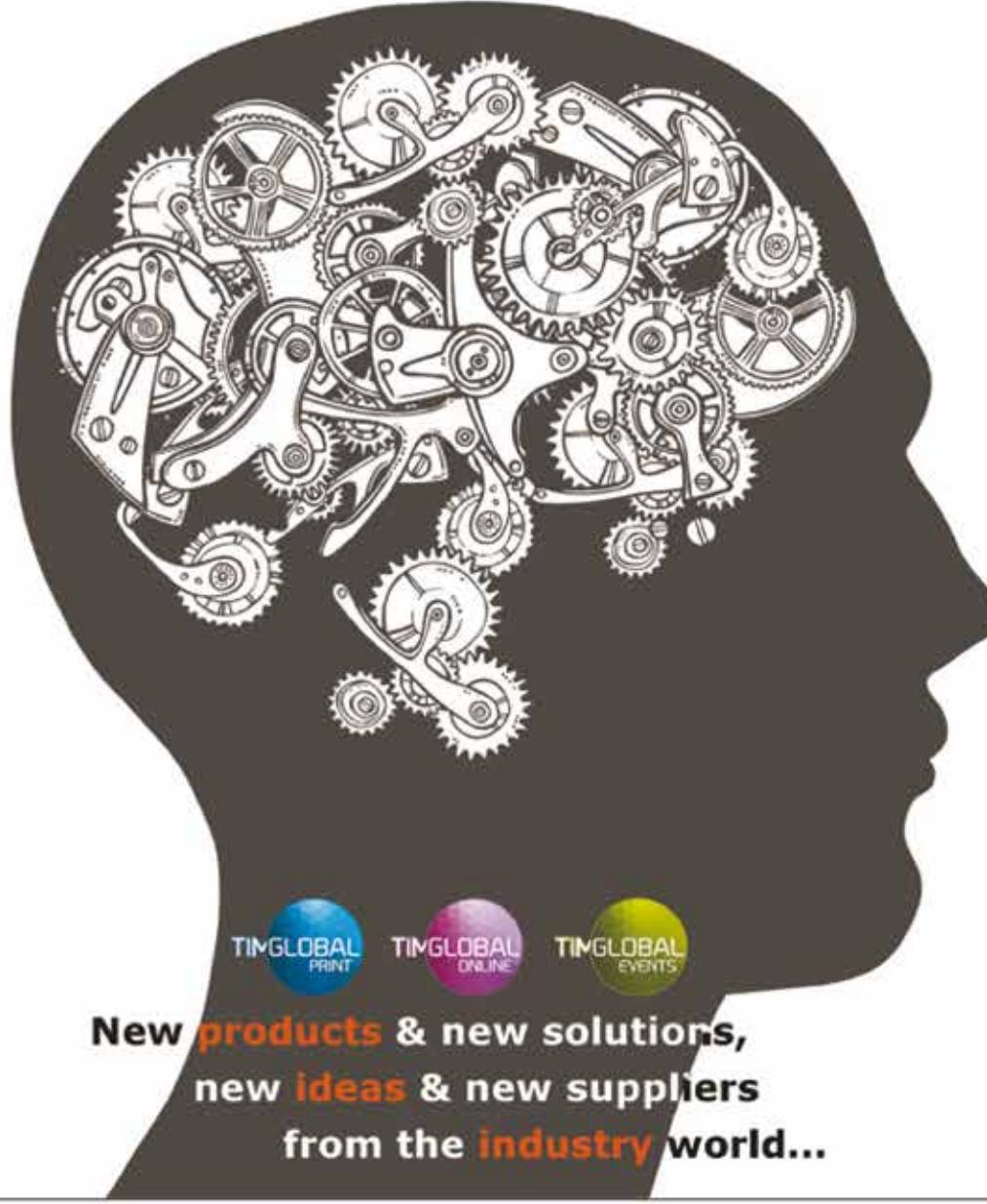
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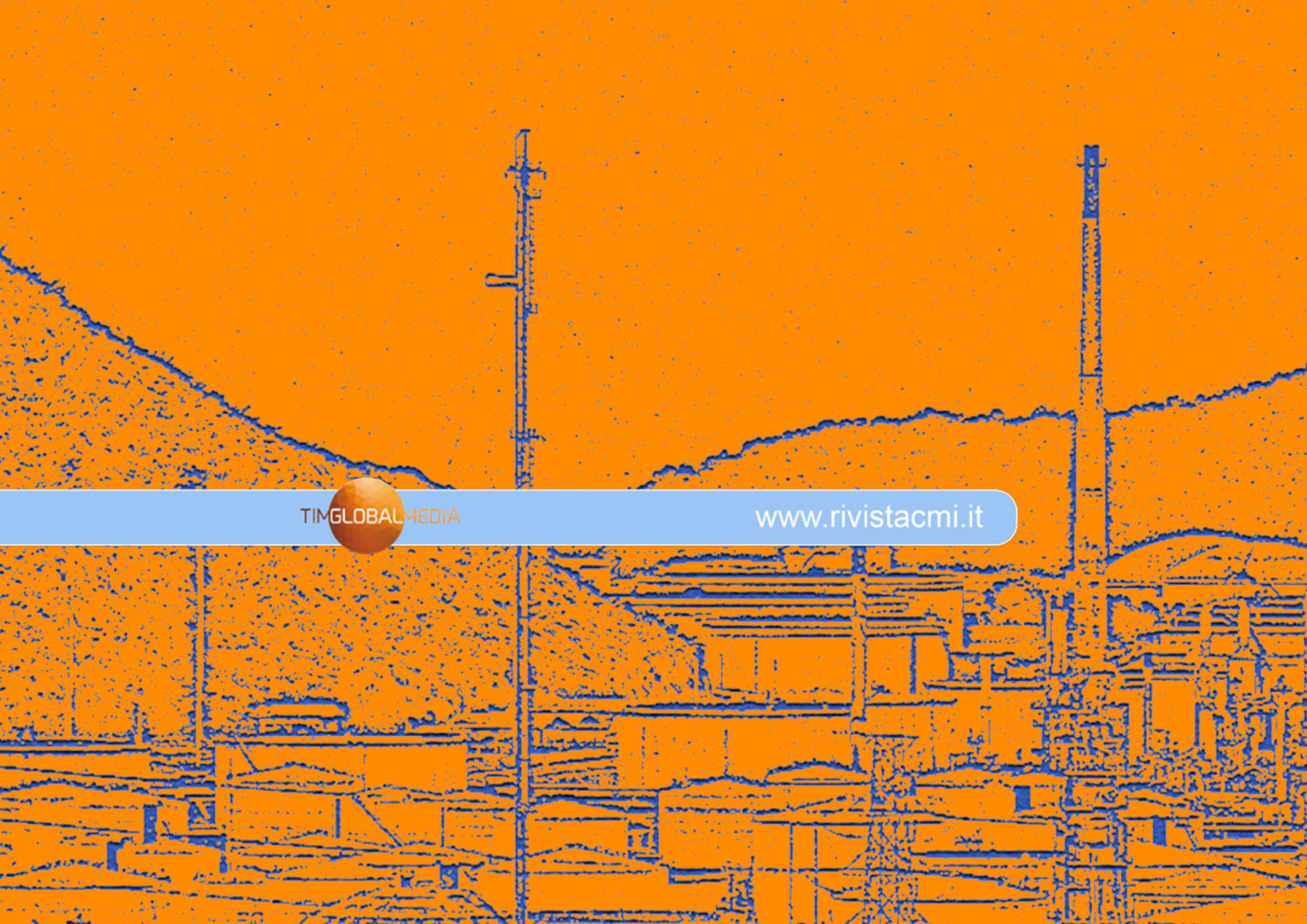
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