



TECHNICAL BROCHURE OF SYSTEMS FOR DYEHOUSE

Factory

Via Artigiani 17C, 25030 Adro (BS) Italy

Your reference person: **Alessandro Fratus**

 + 39 392 9074678

 info@3Gdosingautomation.com



SAVE IN TIME, PRODUCTS WASTE & MANPOWER

Assuring a fast payback of the investment



HELPFUL TOOLS FOR THE OPERATIONS PLAN- NING

Increase productive time of the plant avoiding down time



REPEATABILITY & ACCURACY GUARANTEED

Fast, accurate and reliable: reach perfect results without contaminations



SAFETY & EASE OF USE

Manage all the process with our software, preventing human risks



FAST & SIMPLE INSTALLATION

Our systems are pre- assembled and tested to minimize start-up time



DOSING & DISPENSING UNIT

STAINLESS STEEL 316L VALVES LINKED TO MAKE A MANIFOLD

One for each product to be used with the dispenser

MAGNETIC FLOWMETER + HASPEL LOBE PUMP

Insurance of high accuracy and repeatability of each batch

AUTOMATIC SENDING TO MACHINES

With a mono-pipe distribution line



STORAGE & LOADING SYSTEM

CUSTOMIZED STORAGE TANKS IN HIGH-DENSITY POLYETHYLENE

According to products consumption & type; it can be placed on floor or on a mezzanine

AUTOMATIC LOADING STATION

For the transfer of products from supplier containers to the tanks in a safe way

LEVEL CONTROLS & PICK-POINT

Keep under control maximum load and minimum stock alert for each product



MAIN TECHNICAL FEATURES

MAGNETIC FLOWMETER – YOKOGAWA AXF SERIES

The core of our dosing unit is the flowmeter, the key point of the whole system. The choice of this instrument is made to ensure a high accuracy of each recipe, a complete repeatability, other than the possibility to count on the experience and the efficient support from Yokogawa, leader brand recognized worldwide.

HASPEL LOBE PUMP – OMAC

The other essential and fundamental component to define the efficiency of our system is the lobe pump.

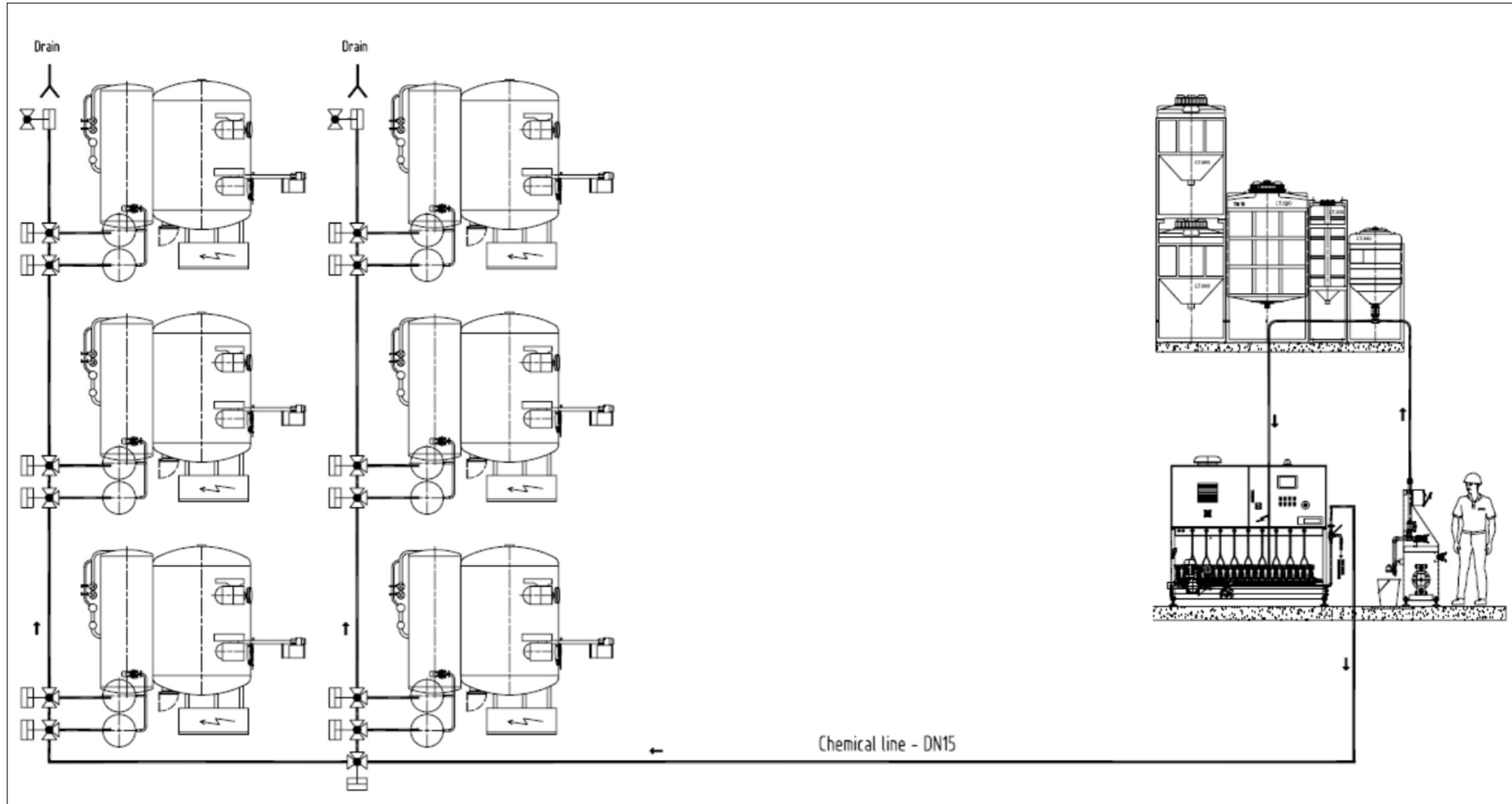
3G Dosing Automation, faithful to the principle of offering the best available products to its customers, uses Omac pumps, made in Italy. This pump will feed the system with the required products and send the recipe to the selected machine with a mono-pipe distribution line. Between following products a small quantity of water will avoid every contact; in the same way, at the end of the recipe, the manifold and the line will be washed, avoiding contamination.

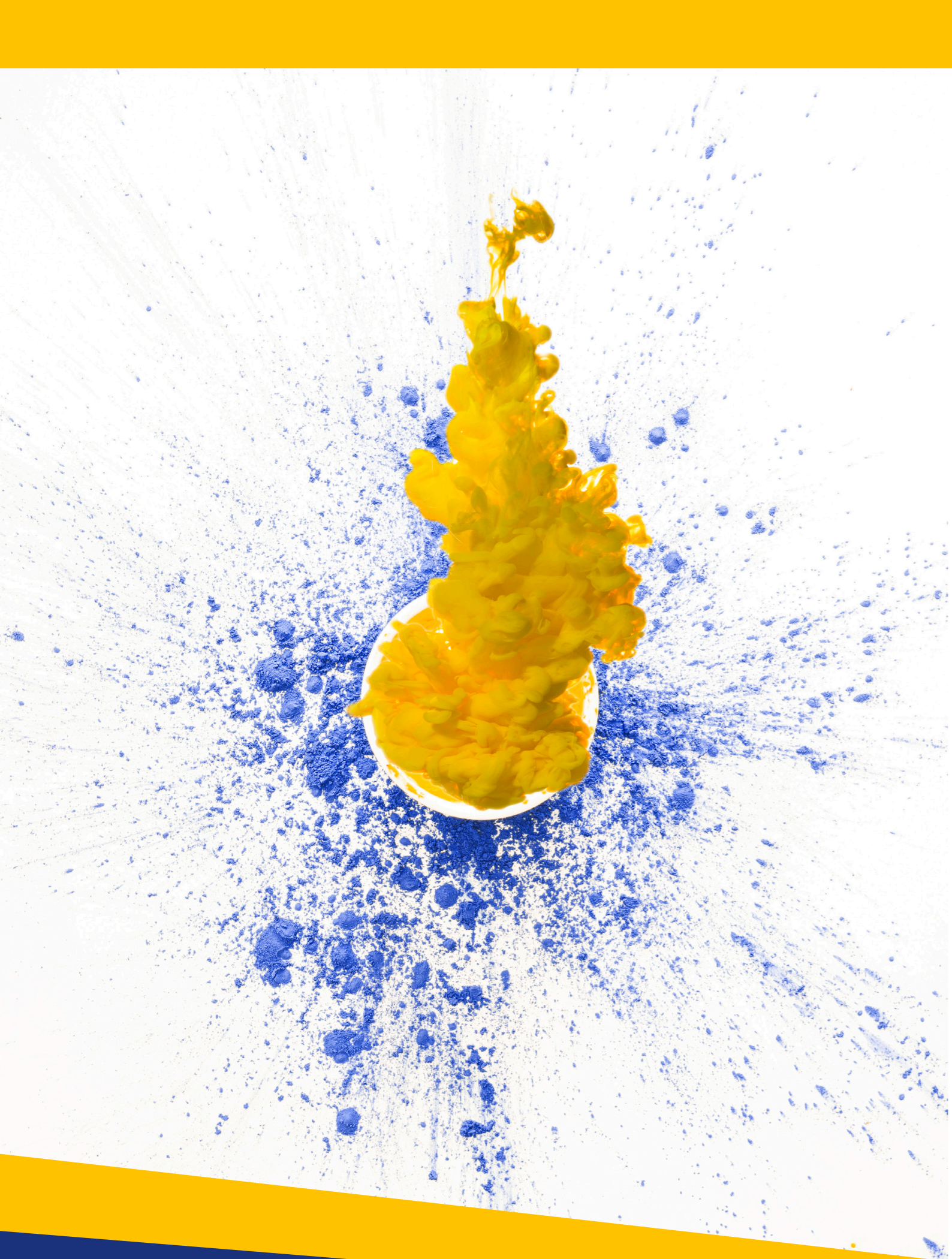
DOSING VALVES - SECURITY DEVICES

Reached the goals of accuracy, fast delivery and repeatability, the last but not least target of our systems is to raise the security of the personnel and of the working environment. Our wide knowledge in the field of automatic dosing teaches us its importance, for this reason all our machines are equipped with the best materials on the market, as stainless steel for the frames and supports, 316L for the dosing and distribution valves, PE PP and/or PVC for the pipes and connections from storage to dosing unit and for loading/withdrawal valves, according to product compatibilities.



FLOW CHART





COLOR DISSOLVING SYSTEM

DISSOLVING TANKS IN STAINLESS STEEL

Sized accordingly to quantities to be dissolved

CUSTOMIZED CYCLE OF DISSOLUTION

Manage the amount of water, temperature & dissolution time of each batch

ELECTRO-POLISHED DISTRIBUTION LINE

Avoid color contamination for perfect results

SPECIAL DISTRIBUTION VALVES

Patented valves designed to insure perfect cleaning



MAIN TECHNICAL FEATURES

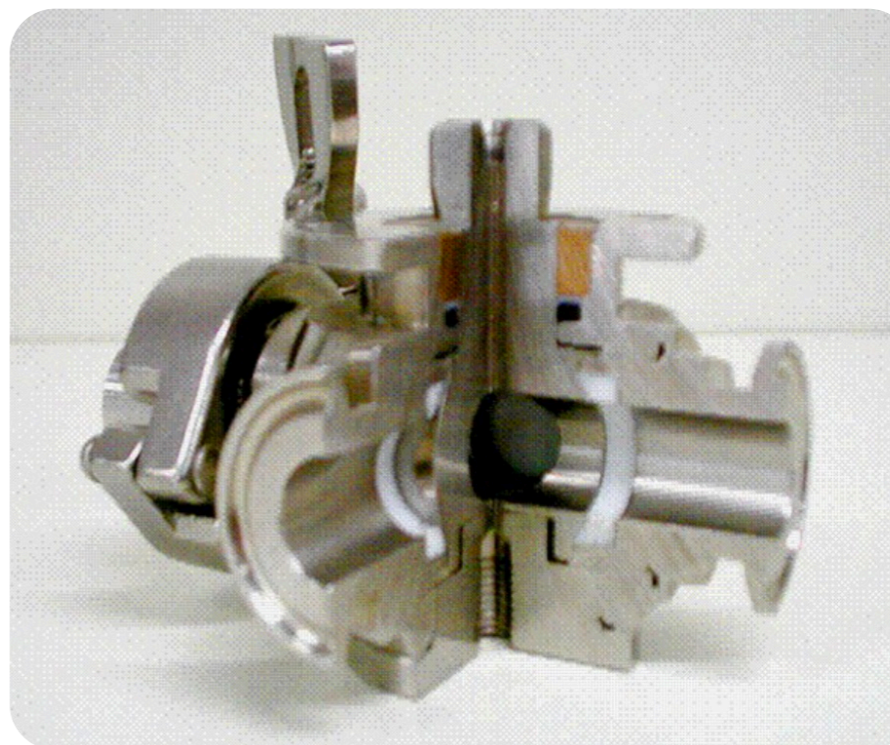
• DISSOLVING AND HOT WATER TANK

The process of dissolving the powder dye is very delicate, for this reason 3G Dosing Automation has dedicated detailed studies on the ideal formology of the tank where this process takes place: internal finish that does not allow residues, very conical shape to facilitate the sliding of powder on the bottom, mixer that works efficiently on the different batch quantities. But more importantly, no direct heating device, which would cause lumps and non-homogeneous melt; hot water comes from a dedicated tank, where it is heated to desired temperature by an internal coil.

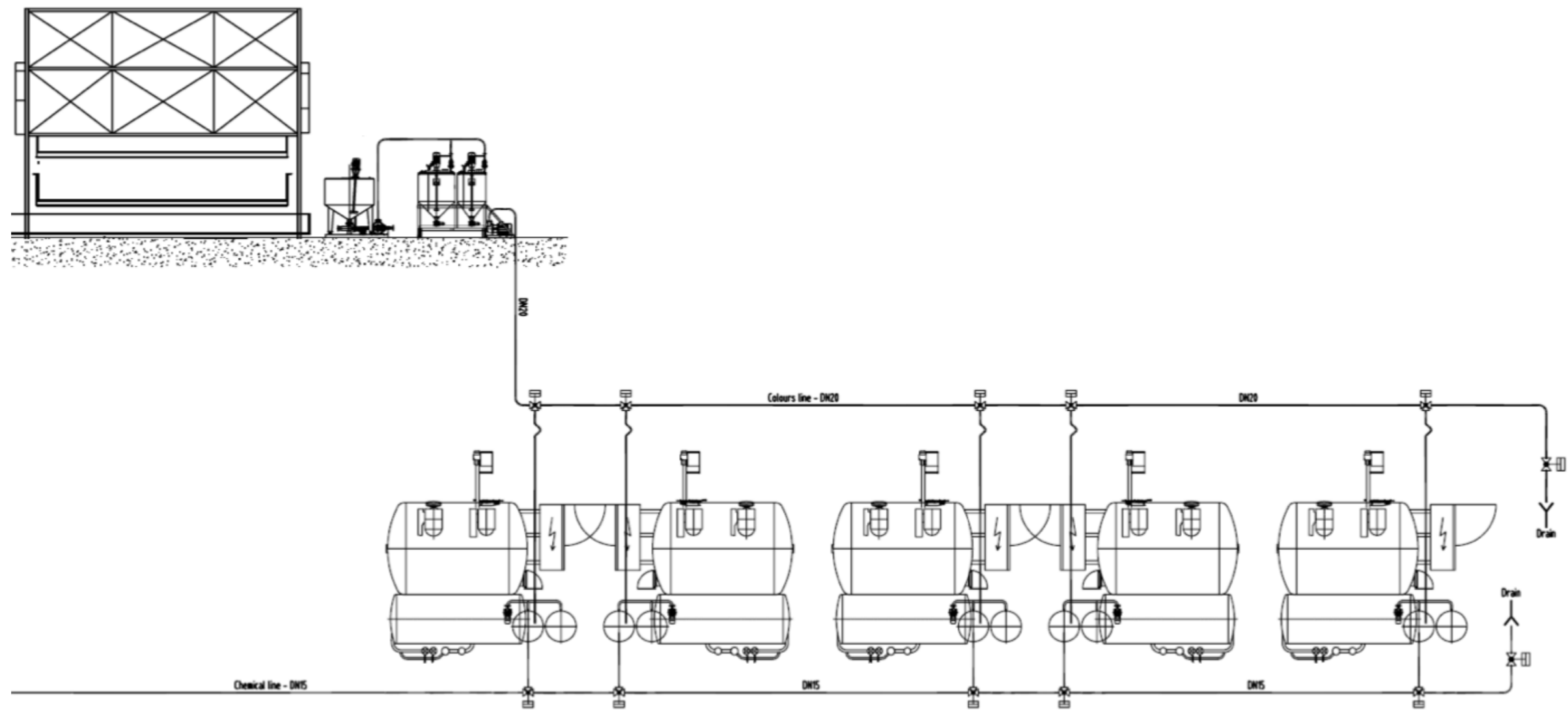


• DISTRIBUTION VALVES

The main goal of this phase of the process is to avoid any possible contamination between subsequently batches. So, having designed the ideal dissolving tank, we have projected the distribution line with the same guide points. Patented valve without any diameter variation, special gaskets and distribution pipeline in SS 316L electro-polished in the inside. With this ultimate set-up we can completely ensure perfect results with a mono-pipe distribution line.



FLOW CHART



ASSISTED POWDERS WEIGHING

DEDICATED SOFTWARE

To supervise all the weighing process and help the operator

HIGH ACCURACY ELECTRONIC SCALE

Reach perfect results

BARCODE READER & LABEL PRINTER

Prevent errors in choosing the correct color powder

AMAZINGLY AFFORDABLE

The best solution to manage powders with low investment



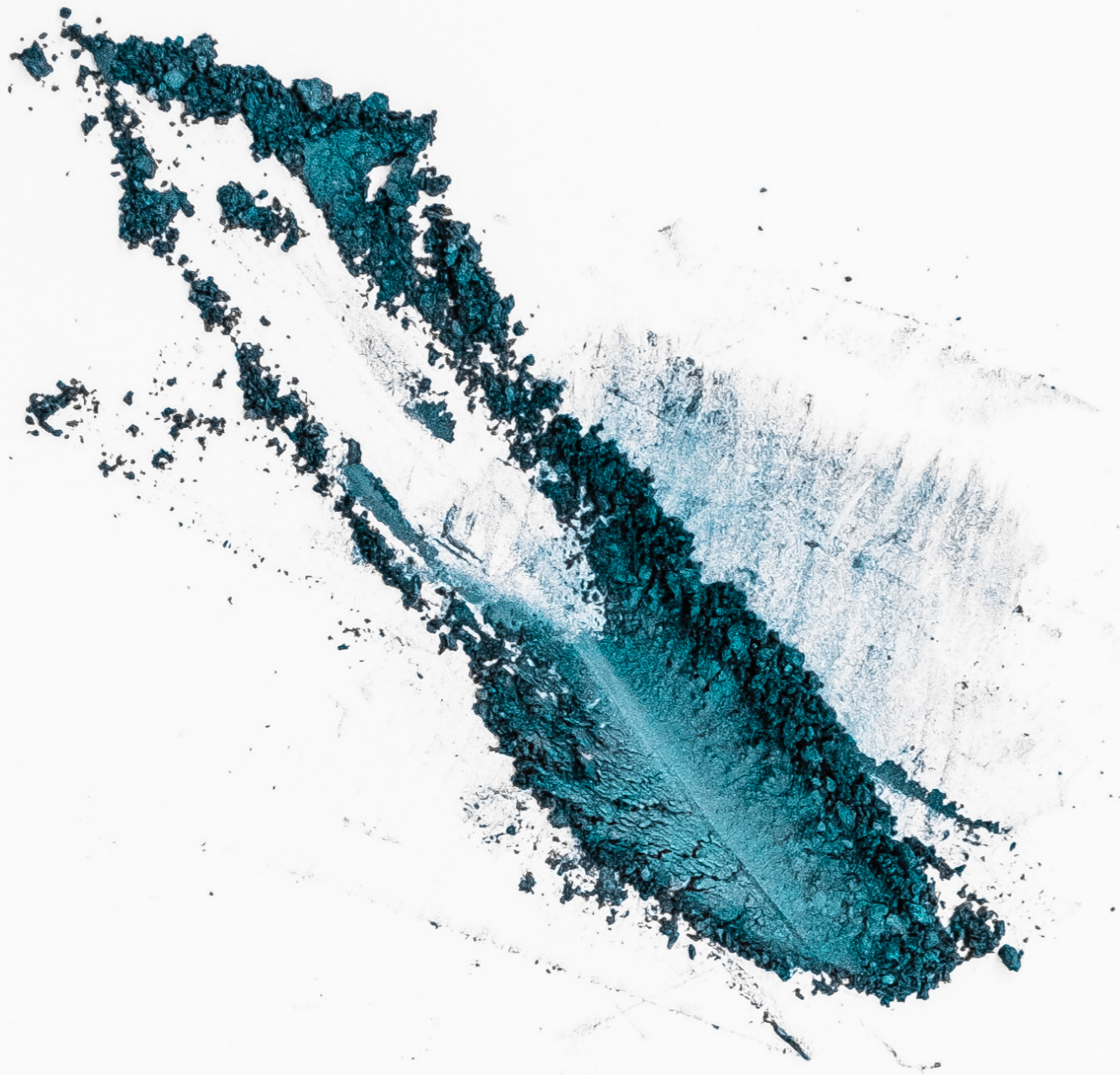
ROTATING STORAGE UNIT

STORAGE FOR UP TO 120 BOXES

Save a lot of space with this smart & organized solution

VAACUM CLEANER WITH DUST ABATMENT IN WATER

Prevent powder dispersion in the working area





SALT DISSOLVING SYSTEM

STAINLESS STEEL TANK EQUIPPED WITH MIXER

Sized accordingly to quantities to be dissolved and ratio of final preparation (even 1:1)

LOADING CELLS

To weight the correct amount of each powder/grain product to be dispensed

SILOS FOR STORAGE WITH AUTOMATIC LOADING AND DOSING SYSTEMS

For the transfer of products from supplier containers and the dispensing through a cochlea

DEDICATED SOFTWARE

To supervise all the loading and weighing process and help the operator

CUSTOMIZED CYCLE OF DISSOLUTION

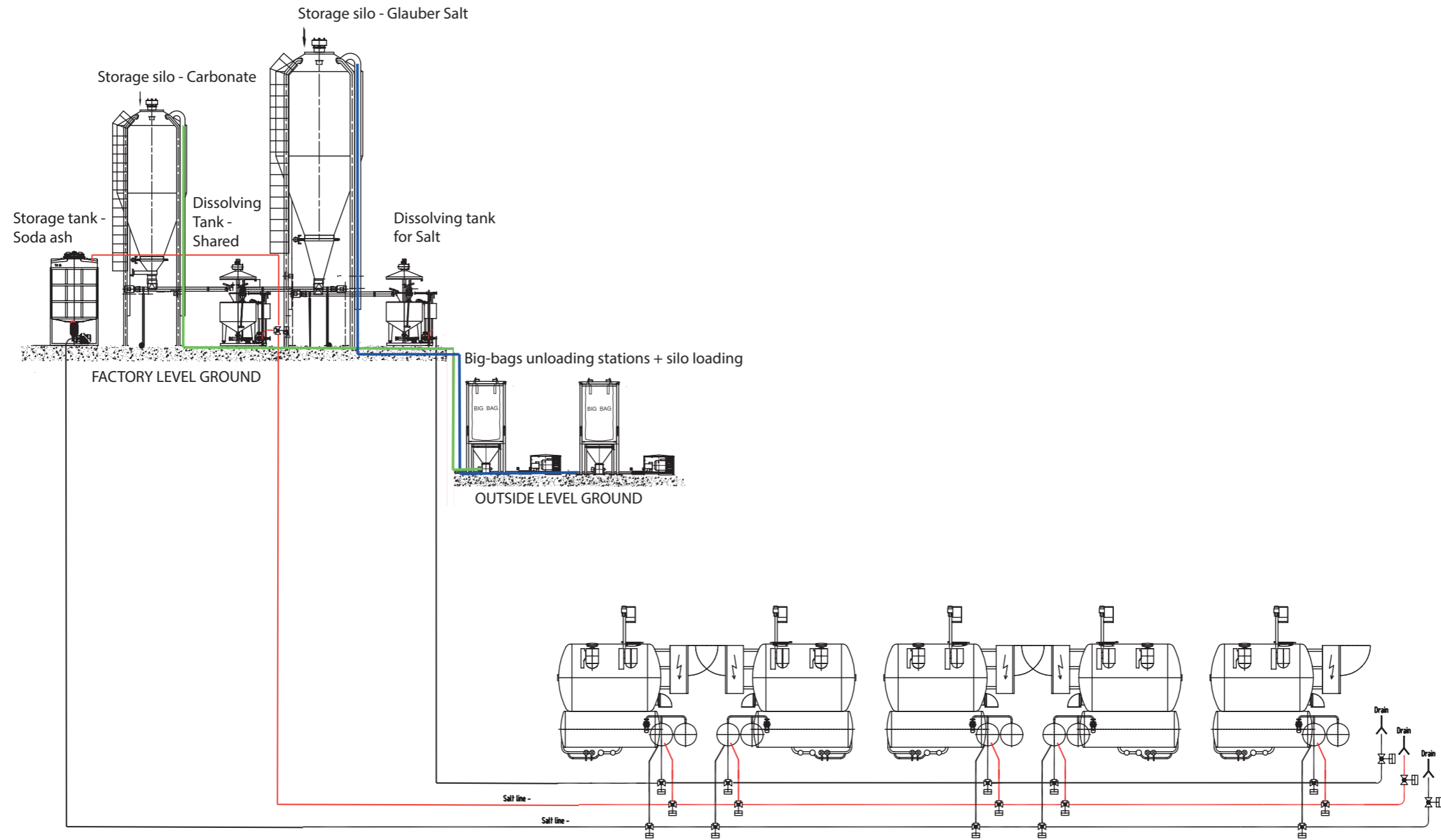
Manage the amount of water, temperature & dissolution time of each batch

AUTOMATIC SENDING TO MACHINES

With a mono-pipe distribution line and special valves



FLOW CHART





SOFTWARE TEAM

In the field of automation, software is the foundation of every system. For this reason 3G Dosing Automation invests resources in development and personnel, being able to count on an in-house team of 4 university graduate software engineers, working in the textile field from more than 20 years. None of our competitors can rely on a team with these technical, engineering and software skills.

COMPONENTS - OMRON

We use Omron commercial PLC and boards, because of their capability of creating complex, distributed and web based systems; this also ensures reliability, an easy installation, other than having a worldwide network of assistance and availability of spares on every local market. Furthermore, with this choice, the installed software will be portable in case of change or hardware (not possible with custom products).

OPEN SOURCE & SIMPLE INTERFACE

We adopt the philosophy to give each customer the original version of PLC software; in this way the customer is not forced to depend on us. Our databases are Access compatible, and easily manageable with Office tools. The HMI is very simple and easy to learn, reliable and designed to minimize operator errors. Our products use standard Windows features, allowing the use of international language settings (ie the program, PLC or PC can be in the language of the country of installation.) However, our software also successfully integrates with complex systems (ERP based on sql server or visible with sql query via ODBC).

3G Dosing Automation has interfaces connected to the main manufacturers of automation for dyeing machines (other than Setex with Orgatex, the most used supervising system in the world, even Sedomaster, Datacolor-ITM and many more).

REMOTE ASSISTANCE & MAINTENANCE

Our software allows easy troubleshooting, maintenance and custom modifications. All our products allow remote management and quick intervention in case of problems. Restoring the system in case of permanent PC failure only takes few minutes and does not need an IT expert.