

# GENERAL CATALOGUE

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*inspired  
efficient  
customised*



mixing | grinding | dispensing | plant engineering



## ABOUT US

IEC+ srl is a mechanical engineering company located in Italy in the province of Parma, specialized in the design and manufacturing of Mixing, Grinding and Dispensing Equipment, as well as complete Engineering Studies and Turnkey Solutions.

## APPLICATIONS

IEC+ team has over 30 years of experience in the design, manufacture and supply of machines and plants for the following industries:

- ▶ Paints & Varnishes
- ▶ Polymers & Adhesives
- ▶ Putties & Glazes
- ▶ Industrial, Coil & Wood coatings
- ▶ Marine & Aeronautical coatings
- ▶ Car Refinishing
- ▶ Printing, Offset & UV inks
- ▶ Specialty Chemicals
- ▶ Ceramics, Cosmetics, Perfume & Food

# ACTIVITIES



- Production of equipment
- Installation and assembly
- Commissioning works
- Technical assistance and maintenance
- Design services
- Project management
- Implementation of Turnkey Plants
- Supply of spare parts

# PRODUCTS

|                                   |       |
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| AGITATORS – Stirplus              | 3     |
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# STIRPLUS

## Agitator

Floor Mounted and Wall Mounted



### Design Features

- › Supporting structure in painted carbon steel
- › Hydraulic lifting by electric pump
- › Stainless steel dispersion shaft and impeller
- › Adjustable tank locking system with safety switch
- › Stainless steel protective lid with hopper
- › Electronic speed variation by inverter
- › Control panel with monitoring and operating instruments
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Stainless steel tanks of various sizes with cooling jacket
- › Stainless steel impellers of various configurations and diameters
- › Internal wall scraper
- › Tank locking systems and various types
- › Vacuum lid with inspection window
- › Servo-ventilated motor for forced cooling
- › PLC control version with automatic dosing of the components
- › ATEX version

### Advantages

- › Safe and user-friendly operation
- › Simple maintenance
- › High efficiency
- › Low noise and vibration free operation
- › Stainless steel dispersion parts with a high abrasion and corrosion resistance
- › Continuous speed variation
- › Precise speed regulation
- › Ideal for the production of small batches

| Model                    | CE01     | CE02 | CE03      | CE04 | CE05 | CE07      | CE10 | CE15 |
|--------------------------|----------|------|-----------|------|------|-----------|------|------|
| Motor Power (KW)         | 1,5      | 2,2  | 3         | 4    | 5,5  | 7,5       | 10   | 15   |
| Dispersion Capacity (Lt) | 20 - 100 |      | 100 - 400 |      |      | 200 - 600 |      |      |

Customized design available upon request

# DISPLUS

## Disperser

Floor Mounted with Mobile Tank



### Design Features

- › Supporting structure in painted carbon steel
- › Hydraulic lifting by electric pump
- › Stainless steel dispersion shaft and impeller
- › Adjustable tank locking system with safety switch
- › Stainless steel protective lid with hopper Electronic speed variation by inverter
- › Control panel with monitoring and operating instruments Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Stainless steel tanks of various sizes with cooling jacket
- › Stainless steel impellers of various configurations and diameters internal wall scraper
- › Tank locking systems of various types
- › Vacuum lid with with inspection window
- › Servo-ventilated motor for forced cooling ATEX version
- › PLC control version with automatic dosing of the components

### Advantages

- › Safe and user-friendly operation
- › Simple maintenance
- › High efficiency
- › Low noise and vibration free operation
- › Stainless steel dispersion parts with a high abrasion and corrosion resistance
- › Continuous speed variation Precise speed regulatio

| Model                    | HE15       | HE22 | HE30 | HE45       | HE55 | HE75 | HE90        | HE110 |
|--------------------------|------------|------|------|------------|------|------|-------------|-------|
| Main Motor (KW)          | 15         | 2,2  | 30   | 45         | 55   | 75   | 90          | 110   |
| Dispersion Capacity (Lt) | 400 - 1000 |      |      | 600 - 2000 |      |      | 1000 - 2000 |       |

Costumized design available upon request

# MIXPLUS

## Mixer

Platform Mounted and Floor Mounted with Fixed Tanks



### Design Features

- › Supporting structure in painted carbon steel
- › Hydraulic lifting by electric pump
- › Stainless steel dispersion shaft and impeller Internal wall scraper
- › Container on load cells
- › Stainless steel protective lid with hopper
- › Electronic speed variation by inverter
- › Control panel with monitoring and operating instruments
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Safe and user-friendly operation
- › Simple maintenance High efficiency
- › Low noise and vibration free operation
- › Stainless steel dispersion parts with a high abrasion and corrosion resistance
- › Continuous speed variation
- › Precise speed regulation
- › Constant torque control

### Advantages

- › Stainless steel impellers of various configurations and diameters with seacial anti-ware processing
- › Cooling/ heating jacket for the container vacuum lid with inspection window
- › Washing lances for under pressure cleaning
- › Servo-ventilated for forced cooling
- › PLC control version wiht automatic closing of the components
- › ATEX version

| Model                 | SE15    | SE22       | SE30 | SE37       | SE45 | SE55      | SE75 | SE90        | SE110 | SE132        | SE160 | SE220 |
|-----------------------|---------|------------|------|------------|------|-----------|------|-------------|-------|--------------|-------|-------|
| Chamber Capacity (Lt) | 15      | 22         | 30   | 37         | 45   | 55        | 75   | 90          | 110   | 132          | 160   | 220   |
| Main Motor Power (KW) | 400-500 | 600 - 1000 |      | 600 - 2000 |      | 200 - 600 |      | 2000 - 8000 |       | 4000 - 10000 |       |       |

Costumized design available upon request



# KNEADPLUS

## Horizontal Mixer



### Design Features

- › Transmission group with gear and belts
- › Two-way rotation of the shaft to facilitate the discharge and mixing
- › Electronic speed variation by inverter
- › Stainless steel high thickness cylinder and mixing blades
- › Stainless steel cover with protective grid
- › Guillotine or butterfly discharge servo valve
- › Adjustable shaft mounted sealing system to prevent leakage of material during mixing
- › Double push-button control panel (at the machine base and near the loading grid)
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Pump for transport or packaging
- › Internal washing system
- › Loading platform
- › ATEX version

### Advantages

- › Blades configuration to avoid the stagnation of material in the most difficult areas of cylinder
- › Wide and comfortable opening of cylinder for easy loading

| Model                 | HX650 | HX1200 | HX2090 | HX3380 | HX7000 |
|-----------------------|-------|--------|--------|--------|--------|
| Chamber Capacity (Lt) | 650   | 1200   | 2090   | 3380   | 7000   |
| Main Motor Power (KW) | 4     | 5,5    | 11     | 16     | 30     |

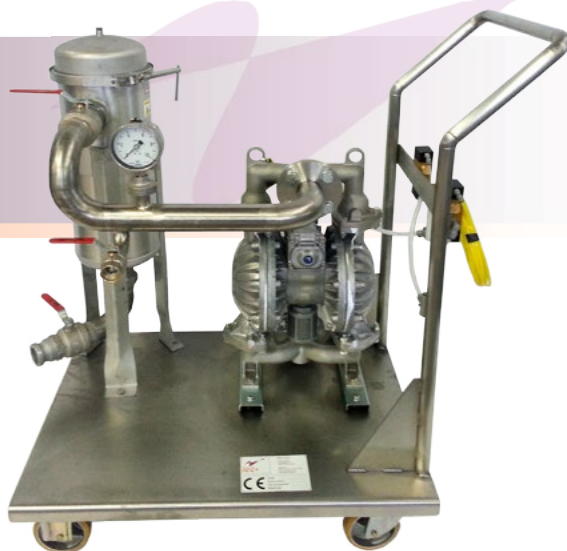
# FLOWPLUS

## Filtering System



### Design Features

- › Electric or diaphragm pneumatic pump
- › Cartridge or bag filter in stainless steel
- › Filtering degree 50 – 1000 microns
- › Stainless steel trolley on wheels
- › Connecting hoses between pump and filter made of reinforced rubber for water-based products or solvent-proof material for solvent-based products
- › Safety devices in compliance with the European Machinery Directive (CE)



### Accessories

- › Gear motor and pneumatic system for automatic cleaning
- › Differential pressure switch
- › Servo-controlled drainage valve
- › Connecting pipes between pump and filter of various sizes
- › Connecting fittings with dosing systems
- › Atex version

### Advantages

- › Filter cleaning without interrupting the filtering process
- › High average lifetime of components
- › Easy to move

# FILLPLUS

## Filling System



### Design Features

- › Aluminium plate with double-action pneumatic pistons and protective casing
- › Piston stroke adjustment system
- › Quick coupling fittings on the valve
- › Two steps dosing valve (roughing-finishing)
- › Safety devices in compliance with the European Machinery Directive (CE)



### Accessories

- › Mechanical or electronic scales with pneumatic sensors
- › Stainless steel roller unit for conveying containers
- › Lid closing system
- › Batching start pedal
- › Emergency closure pushbutton
- › Atex version

### Advantages

- › Dosing accuracy up to 10g
- › Dosing repeatability
- › Anti-splash system
- › Anti-drip system



# PRESSPLUS

## Pressing System

### Fixed Press

(for tanks up to 1500 lt)



### Mobile Press

(for tanks up to 1000 lt)



## Design Features

- › Carbon steel structure
- › Double action hydraulic cylinder
- › Carbon steel plate with seat for gasket
- › Pneumatic-hydraulic group with product push adjustment system and compensation valve
- › Container positioning and handling system (fixed extruder)
- › Three points locking system (mobile extruder)
- › Double pump (fixed extruder)
- › Protective casing (mobile extruder) / grids (fixed extruder)
- › Handling system with different options (mobile extruder)
- › Control panel
- › Safety devices in compliance with the European Machinery Directive (CE)

## Accessories

- › Stainless steel coating for press plate
- › Elevator for mobile extruder positioning (mobile extruder)
- › volumetric dispenser pneumatically operated (fixed extruder)
- › Rapid connections between the tank and the dispenser
- › ATEX version

## Advantages

- › Complete pressing system
- › Tank cleaning system

# PLUSMILL

## Basket Mill - Dual Use Machine Mill-Disperser

### ▼ Mill Configuration



### ▼ Disperser Configuration



### Design Features

- › Painted carbon steel supporting structure
- › Hydraulic lifting by electric pump
- › Stainless steel grinding shaft
- › Special treated steel grinding group
- › Adjustable tank locking system with safety switch
- › ATEX versionswitch
- › Stainless steel protective lid with inspection hopper
- › Temperature monitoring probe
- › Electronic speed variation by inverter
- › Control panel with monitoring and operating instruments
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Stainless steel jacket tanks with cooling jacket
- › Grinding basket of various materials
- › Vacuum lid with inspection window
- › Timer
- › ATEX version

### Advantages

- › Grinding parts of a new conception with a high abrasion resistance
- › Grinding basket's inner jacket is replaceable and available in various materials
- › Interchangeability and cleaning of the grinding parts is simple and fast
- › Innovative recirculation system of the product inside the grinding basket
- › Innovative dynamic filtration system
- › Basket Mill can easily be changed into a in just 5 minutes



| Model                 | MS15   | MS37    | MS55     |
|-----------------------|--------|---------|----------|
| Main Motor Power (KW) | 15     | 37      | 55       |
| Milling Capacity (Lt) | 50-400 | 300-800 | 500-1000 |

# GRINDPLUS

## HORIZONTAL MILLS



### Design Features

- › Design Features
- › High wear resistant steel milling chamber
- › High wear resistant grinding disks
- › Stainless steel cooling jacket
- › High wear resistance steel screen
- › Electric pump frequency converter driven
- › Double mechanical seal
- › Product temperature/pressure gauge
- › Anti-static clamp
- › Cooling water relief valve
- › Cooling water pressure gauge
- › Cooling water flow switch
- › Mill hour run meter
- › Control panel with monitoring and operating instruments
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › ATEX version

### Advantages

- › Narrow particle size distribution
- › High color strength development
- › Engineered beads separation screen which permits higher flowrate
- › High heat transfer rate between chill water and the mill base
- › Suitable for circulation or passing grinding
- › Safe and user-friendly operation

| Model                 | MSH 0.6 | MSH 1.7 | MSH 5  | MSH 10 | MSH 15 | MSH 20 | MSH 30  | MSH 50   | MSH 60   | MSH 100  | MSH 250  |
|-----------------------|---------|---------|--------|--------|--------|--------|---------|----------|----------|----------|----------|
| Chamber Capacity (Lt) | 0.6     | 1.7     | 6      | 10     | 15     | 20     | 30      | 50       | 60       | 100      | 250      |
| Main Motor Power (KW) | 4       | 4       | 11     | 15     | 15     | 22     | 30      | 37       | 45       | 75       | 90       |
| Typical Flow (Lt/h)   | 1-30    | 2-60    | 40-120 | 50-250 | 60-350 | 90-550 | 120-700 | 250-1400 | 300-1800 | 500-2800 | 700-5000 |



# MICROPLUS

## Discontinuous Refining Mill

### Design Features

- › Stainless steel supporting structure
- › Grinding lower chamber and parts are made of wear material or special steel
- › Mixing upper chamber is made of mirror polished stainless steel and has thermometer for product temperature control
- › Grinding and mixing chambers with double outer wall for water circulation cooling
- › Cowless rotor for medium viscosity products
- › Turbo rotor with internal "pump effect" blades for high viscosity products
- › Two speed electric motor
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Micro balls of various types and diameters
- › Inverter for continuous speed variation
- › Vacuum execution
- › Lateral piston valve for loading powders
- › Stainless steel funnel for loading additives
- › Vacuum pump
- › Painted steel structure with footbridge
- › Atex version

### Advantages

- › Simultaneous mixing and milling inside the same cylinder
- › Innovative system of product recirculation, thanks to an additional rotor mounted on the shaft
- › Fast and high-performance milling
- › Easy cleaning
- › Quick switching from one product to another
- › Simple maintenance
- › Vortex effect adjustment in function of the product viscosity



| Model                 | MD12 | MD37 | MD55 | MD100 | MD250 | MD500 | MD800 |
|-----------------------|------|------|------|-------|-------|-------|-------|
| Chamber Capacity (Lt) | 12   | 37   | 55   | 100   | 250   | 500   | 800   |
| Main Motor Power (KW) | 3    | 4    | 11   | 22    | 37    | 55    | 55    |

# LABPLUS

## LABORATORY MIXER-MILL



### Design Features

- › Stainless steel supporting structure and head
- › Telescopic linear actuator for the up and down of the head
- › Electronic speed variation by inverter
- › Stainless steel shaft and impeller
- › Adjustable tank locking system
- › Protective door with safety switch
- › Control panel with monitoring and operating instruments
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Grinding group with microballs
- › Stainless steel impellers of various configurations and diameters
- › Vacuum lid
- › ATEX version

### Advantages

- › Easily convertible from a mixer to a mill
- › Simple disassembly for maintenance and cleaning operations
- › Ideal for mixing and milling of small batches

| Model                 | CEL07 | CEL11 | CEL15 | CEL22 |
|-----------------------|-------|-------|-------|-------|
| Chamber Capacity (Lt) | 0,75  | 1,1   | 1,5   | 3380  |
| Main Motor Power (KW) | 1-20  |       |       |       |

# WASHPLUS

## Washing System



**WS3**  
for tanks up to 1500 lt



**WS1**  
for 200 lt drums



### Design Features

- › Stand-alone or in-tank systems
- › Pneumatically operated with water or solvent
- › Pneumatic pumps for washing and recovery of solvents
- › Washing head
- › Safety filter
- › Protective cage
- › Drum locking device with safety switch
- › Drum grounding system
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Pumping stations
- › Pipelines
- › Atex version

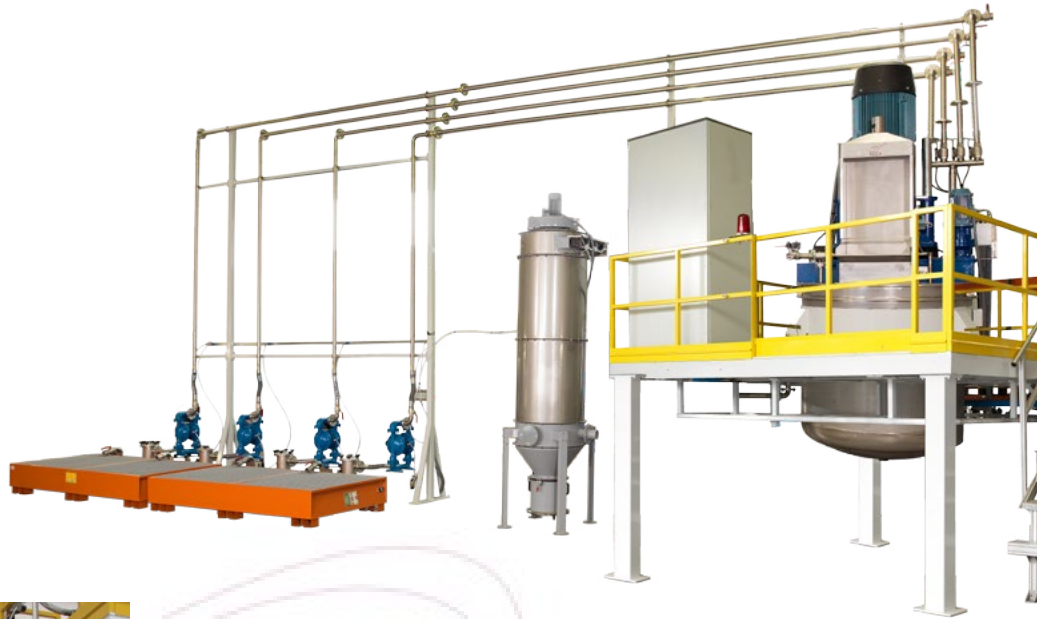
### Advantages

- › In line cleaning
- › Cleaning media recovery
- › Environmental care
- › Multi-stage cleaning
- › Completely closed system without evaporation
- › Working cycles and times adjustment system
- › Dirty sedimentation system
- › Compact system

# DOSPLUS

## Liquids handling

Transfer, handling and high accuracy dosing of liquids from barrels, IBC tanks and sylos.



### Design Features

- › Powder and fluid dosing
- › FIBC (Big Bag) handling
- › PLC control
- › Safety devices in compliance with the European Machinery Directive (CE)

### Accessories

- › Atex version

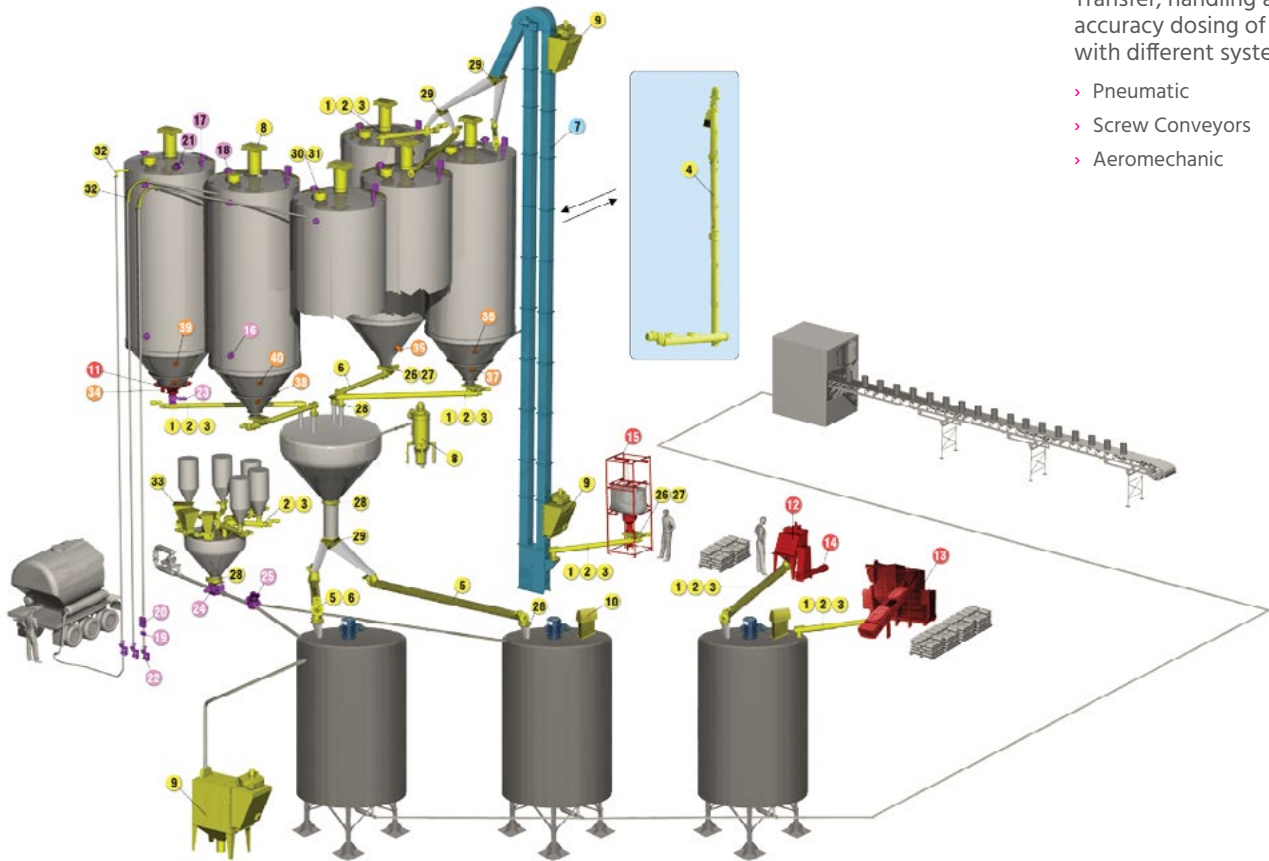
### Advantages

- › Precise batch dosing
- › Production non stop

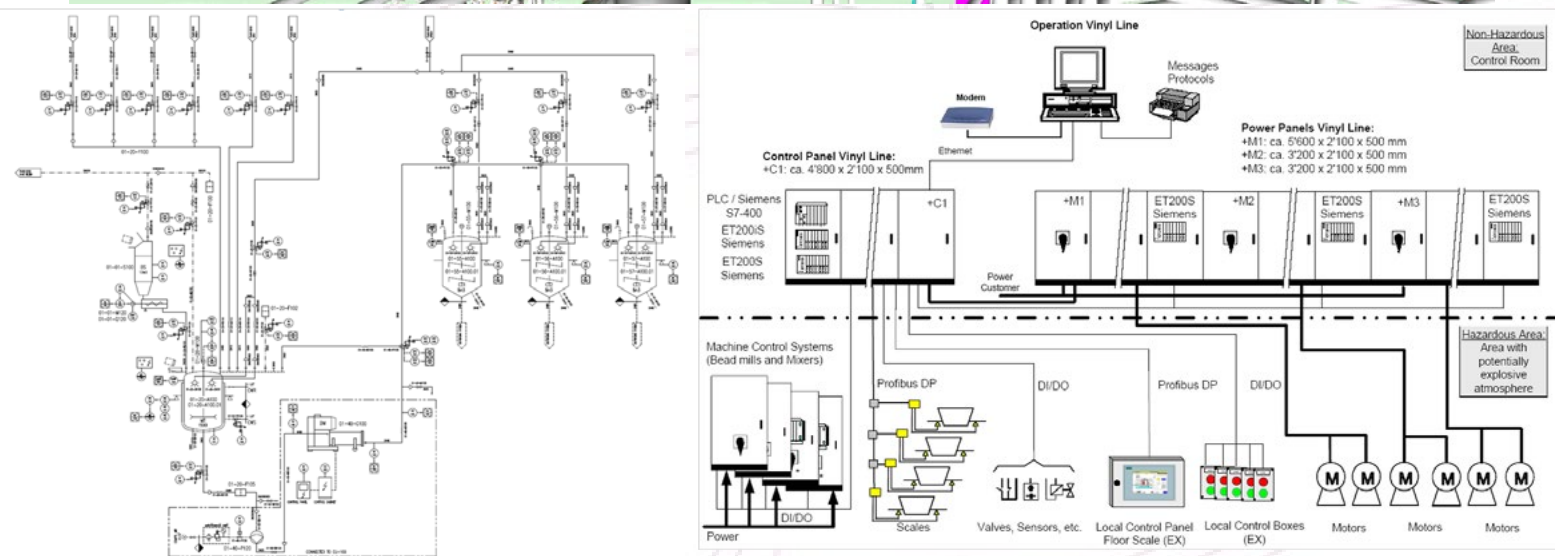
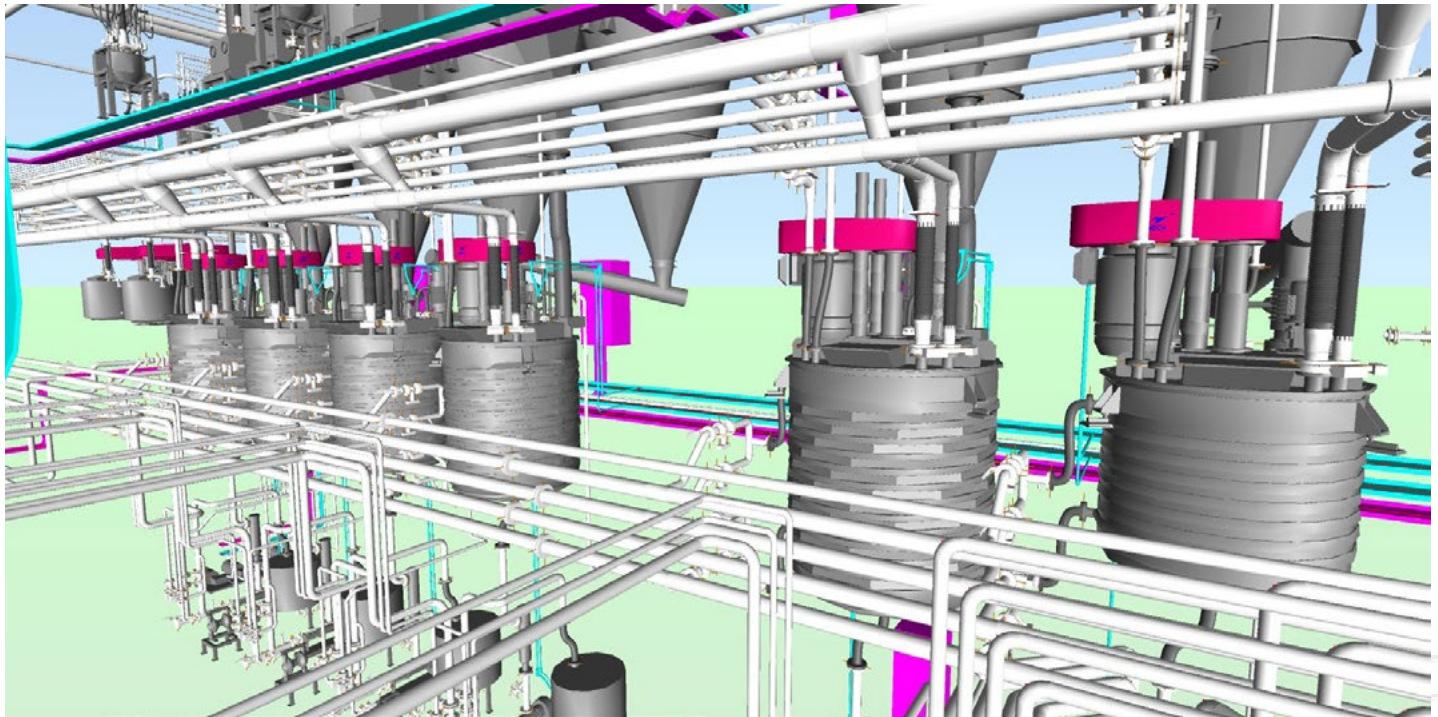


Transfer, handling and high accuracy dosing of powders with different systems:

- > Pneumatic
- > Screw Conveyors
- > Aeromechanic



# ENGINEERING



IEC+ provides plant and processing expertise in all areas of the ink, paint and coatings industry, from preliminary to detailed engineering for the constructing of entire plants.

## Process specialists

Technical know-how gained from more than 20 years in the industry, combined with in-depth understanding of the international ink, paint and coatings market, enables IEC+ to analyze and optimize your operating procedures and production processes for maximum efficiency.

## Service and expertise for a global solution

Working closely with you at every stage, IEC+ will manage your project from start to finish from the conceptualization of the preliminary engineering, all the way to detailed engineering, construction, installation, commissioning and handover, including the training of operators and maintenance staff.

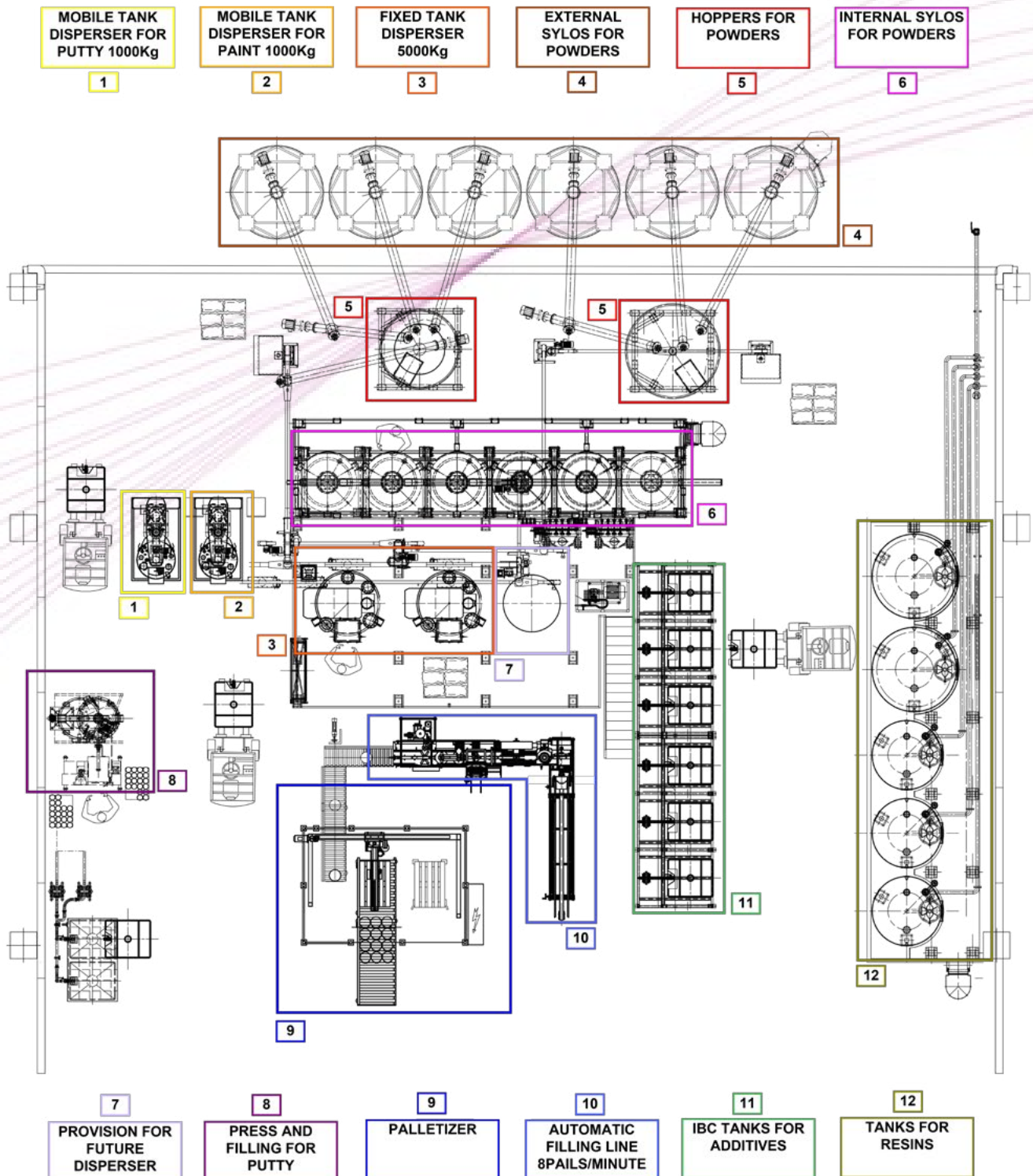
## Process control/automation

Working from your performance specifications, our experienced production and automation engineers will develop the best possible solutions for managing your scheduling, your formulas and recipes, as well as for monitoring the measurement and quality of ingredients and ensuring product traceability.



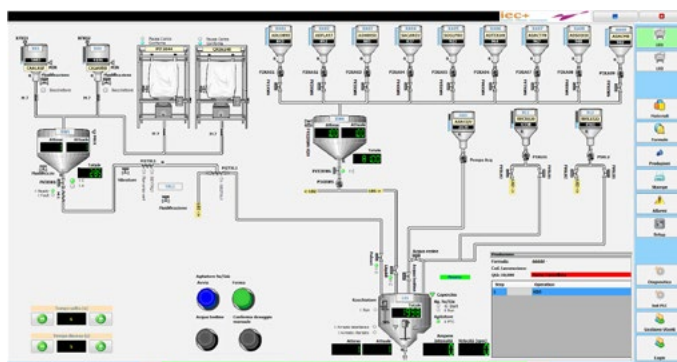
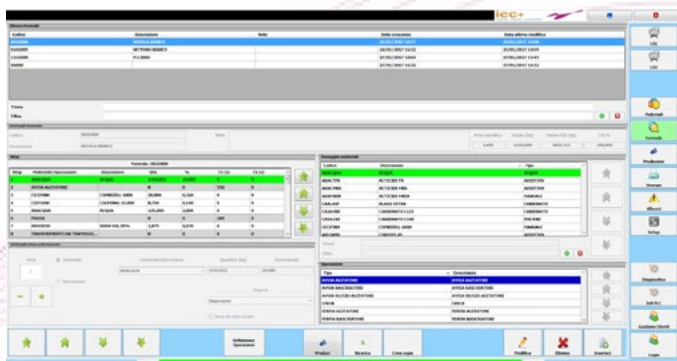
# ENGINEERING

## LAYOUT OF PLANT FOR WATER BASED DECORATIVE COATINGS





# TURNKEY PLANT



IEC+ 's engineers have developed their own control system for process monitoring and production management specially designed to meet your very unique requirements.

Our system enables the operator to manage

- › raw materials,
- › product formulation
- › sub-recipes and recipes,
- › inventories,
- › production schedule and sequence optimization,
- › cleaning sequences .

Our system, which controls the entire plant and integrates sub-systems such as PLCs, controllers, and MMIs, has no limits in terms of communicating with other systems, including laboratory and business systems such as PIMS, MES and ERP.

Individual unit operations can be carried out using the system's scheduling module. Operations include reducing toxic emissions, managing resources and monitoring equipment occupancy rates



# TURNKEY PLANT





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