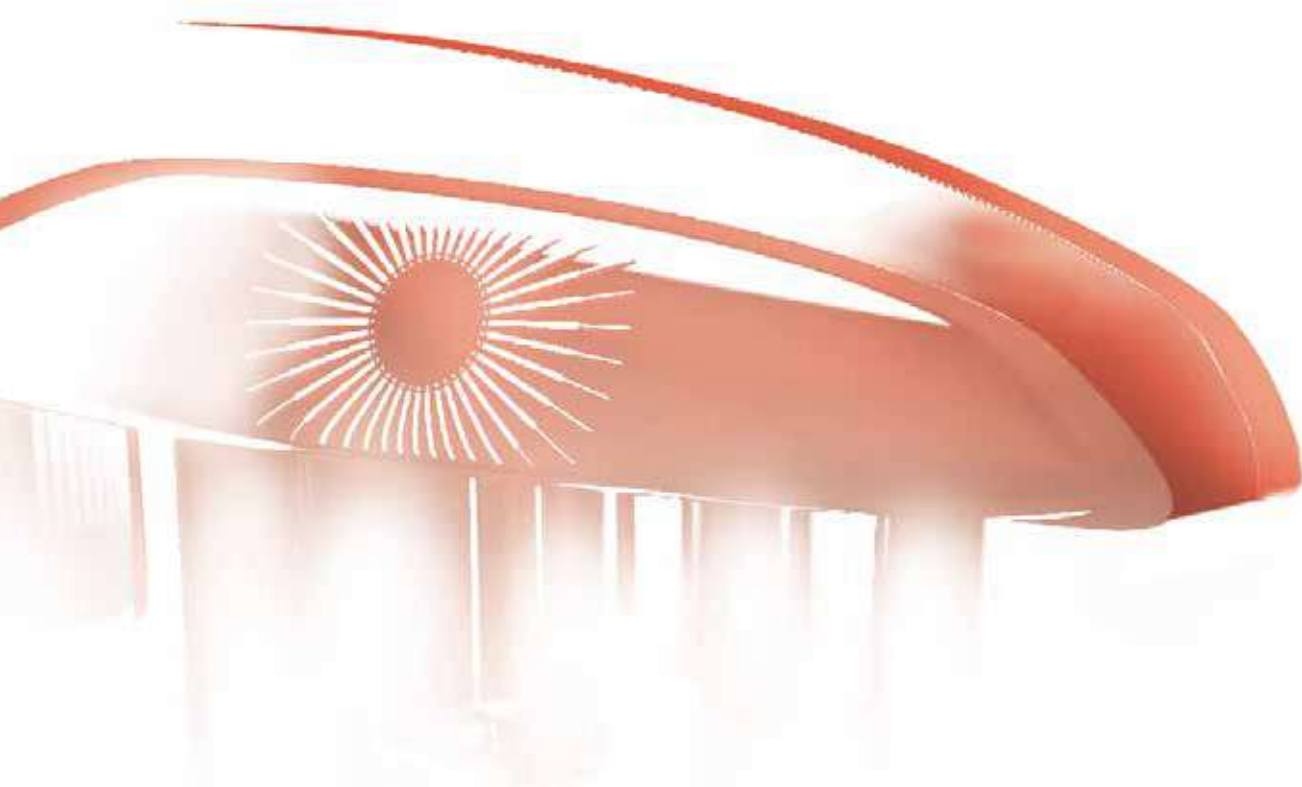


COMECTM

Avantgarde Engineering



INNOVATION

4.0

EQUIPMENT & PROCESSES

RED LINE



AVANTGARDE ENGINEERING

Established in 1970, COMEC is worldwide known as one of the most reliable and innovative leaders in the field of automated equipment and solutions for paint, coatings, chemical, cosmetics, food and pharmaceutical industry, headquartered in Canossa, Italy and operating globally. Since 2012, it is part of the DromontGroup.

For 50 years COMEC has provided customers with premium, innovation-based solutions for Dispersing, Milling, Filling and Raw Materials handling.

COMEC celebrates its 50 years of Avantgarde Engineering by RED PASSION logo. RED is the symbol of success of the Italian industry in the World.

After half a century, we have traced our own RED LINE to shape an endless journey to our main goal: EXCELLENCE.

50 YEARS of
SMART
SOLUTIONS

SMART SOLUTIONS



DISPERSING MILLING & FILLING

4.0 INDUSTRY

- TOTAL CONTROL OF THE PLANT
- RECIPES MANAGEMENT
- MAINTENANCE LIBRARY
- STATE-OF-THE-ART HMI SOLUTIONS FIT TO 4.0 INDUSTRY
- OEE (OVERALL EQUIPMENT EFFETIVENESS) INDICATORS
- LOW FOOTPRINT AND COMPACT LAYOUT
- TOTAL INTEGRATION WITH CUSTOMER'S ERP
- BATCH COMPARISON
- ENERGY EFFICIENCY
- ENVIRONMENTAL GOVERNANCE



In recognition of our successful sustainability efforts and innovative eco-friendly solutions, we have been awarded the Ecovadis Sustainability Gold Medal.

DYNAMIX

4.0 PREDICTIVE MAINTENANCE

MOBILE VESSEL DISPERSERS

DYNAMIX dispersers are designed to operate in industrial critical conditions thanks to their quality. They are the best choice if you need reliability, efficiency and top quality/price level. The distinctive design of the top cover allows for easy maintenance of the transmission system. Complete family range to meet every production need from 2,2 kW to 132 kW, from single to double shaft.

DYNAMIX DC SINGLE SHAFT



APPLICATIONS

Paints, water-based paints, plastic coatings, sealants, can coatings, cosmetics, epoxy products, inks, adhesives, glues, putties, thick coatings

VISCOSITY

From 1.000 cPs up to 300.000 cPs

DRIVING POWER

From 2,2 kW up to 132 kW

BATCH USABLE VOLUME

From 25 lt up to 3.000 lt

DYNAMIX DCL SINGLE SHAFT



APPLICATIONS

Plastic coatings, sealants, cosmetics, adhesives, glues, putties, thick coatings, wall fillers, plasters, silicones, polyesters

VISCOSITY

From 50.000 cPs up to 1.000.000 cPs

DRIVING POWER

From 2,2 kW up to 132 kW

BATCH USABLE VOLUME

From 25 lt up to 2.000 lt

DYNAMIX DCLV DOUBLE SHAFT



APPLICATIONS

Paints, plastic coatings, sealants, adhesives, putties, wall fillers, plaster

VISCOSITY

From 50.000 cPs up to 1.000.000 cPs

DRIVING POWER

From 2,2 kW up to 132 kW

BATCH USABLE VOLUME

From 25 lt up to 2.000 lt

ADVANTAGES

- Innovative technology to optimize business processes in terms of management time, costs and quality
- Continuous process control thanks to internal PLC
- Total integration with the production flow and the company ERP
- Efficient recipe management, high product repeatability and waste reduction
- Minimization of breakdowns and unwanted downtime by predictive maintenance indicators
- Remote assistance for immediate customer support
- Distinctive design allowing for an easy maintenance of the transmission system

FEATURES

- Industry 4.0 ready (PLC inside, operator graphical interface, Ethernet connection)
- State of the art software (intuitive touch interface, process KPI, predictive maintenance indicators, cockpit panels)
- High efficiency V-belt HI-power transmission (with self-tensioning up to 37 kW)
- Durable chassis due to stiffness-driven engineering instead of resistance-driven engineering
- Soft speed regulation and peak power resistance thanks to top-brands frequency converter
- Adjustable working height / up and down movement while mixing
- Under vacuum execution, pumps and accessories
- Over-pressure execution and accessories
- 3 solutions tank locking system (adjustable belt, fast clamping, double centering arm)
- Turbo impeller (Dynamix DC)
- Butterfly impeller (Dynamix DCL)
- Butterfly and Cowles impellers (Dynamix DCLV)
- Product temperature sensor integrated inside shaft
- Scrapers
- Servo-ventilated motor for forced cooling
- Nozzles, rotating washing heads or immersion lances with rotating washing head
- Weighing platform system integrated
- Atex version



DYNAMIX

4.0 PREDICTIVE MAINTENANCE

STATIONARY DISPERSERS

DYNAMIX fixed vessel dispersers are designed to operate in industrial critical conditions thanks to their quality. They are the best choice if you need reliability, efficiency and top quality/price level. Complete family range to meet every production need from 2,2 kW to 250 kW, from single to triple shaft.

DYNAMIX MD SINGLE SHAFT



APPLICATIONS

Paints, water-based paints, plastic coatings, sealants, can coatings, cosmetics, epoxy products, inks, adhesives, glues, putties, thick coatings

VISCOSITY

From 1.000 cPs up to 200.000 cPs

DRIVING POWER

From 22 kW up to 250 kW

BATCH USABLE VOLUME

From 800 lt up to 13.000 lt

DYNAMIX MD2 DOUBLE SHAFT



APPLICATIONS

Thick coatings, wall stuccoes, sealants, adhesives, plastics

VISCOSITY

From 40.000 cPs up to 310.000 cPs

DRIVING POWER

From 37 kW up to 250 kW

BATCH USABLE VOLUME

From 1.200 lt up to 13.000 lt

DYNAMIX MD3 TRIPLE SHAFT



APPLICATIONS

Thick coatings, wall stuccoes, sealants, adhesives, plastics, mastics

VISCOSITY

From 40.000 cPs up to 310.000 cPs

DRIVING POWER

From 37 kW up to 250 kW

BATCH USABLE VOLUME

From 1.200 lt up to 13.000 lt

ADVANTAGES

- Innovative technology to optimize business processes in terms of management time, costs and quality
- Continuous process control thanks to internal PLC
- Total integration with the production flow and the company ERP
- Efficient recipe management, high product repeatability and waste reduction
- Minimization of breakdowns and unwanted downtime by predictive maintenance indicators
- Remote assistance for immediate customer support

FEATURES

- Industry 4.0 ready (PLC inside, operator graphical interface, Ethernet connection)
- State of the art software (intuitive touch interface, process KPI, predictive maintenance indicators, cockpit panels)
- Extra-strong chassis due to stiffness-driven engineering instead of resistance-driven engineering
- Soft speed regulation and peak power resistance thanks to top-brands frequency converter
- Adjustable working height / up and down movement while mixing
- Under vacuum execution, pump and accessories
- Over-pressure execution and accessories
- Turbo impeller and intermediate Cowles impeller (Dynamix MD)
- Two high speed impellers with different combination of geometries (Dynamix MD2, MD3)
- Double arm motorized scrapers or central anchor scraper with adjustable blades in Teflon
- Product temperature sensor integrated inside shaft
- Load cells
- Servo-ventilated motor for forced cooling
- Nozzles or cleaning head on automatic lifting system
- Atex version





50 YEARS
1970

1

**50 YEARS
EXPERIENCE**
THOUSANDS
OF DISPERSERS
DESIGNED,
PRODUCED
AND INSTALLED
WORLDWIDE

4.0

2

**INDUSTRY 4.0
CONFIGURATION**
STATE-OF-THE-ART
SOFTWARE
TO GUARANTEE A FULL
INTEGRATION INTO
THE EXISTING CUSTOMER
PRODUCTION PROCESS

3

3

**SYSTEM
DIAGNOSTICS**
PREDICTIVE
MAINTENANCE
TO MINIMIZE
BREAKDOWNS AND
SPEED UP PRODUCTION
RECOVERY

KYNESIS

4.0 PREDICTIVE MAINTENANCE

HIGH-TECH IN LINE DISPERSER

KYNESIS is a high-tech dispersing equipment, a continuous in-line disperser working on rotor-stator principle. Born to increase efficiency and speed when making a powder slurry, it is suitable in a broad range of applications and for revamping of existing processes. It offers an easy integration in processes for homogeneous distribution of solid particles (dispersion) and liquid (emulsion) in liquid. Kynesis has been developed during the last decade to evolve Comec experience in conventional dispersers to the competitive needs of today's industry.



ADVANTAGES

- High flexibility and versatility to cover a wide range of products, viscosities and densities thanks to different possible configurations with a unique machine
- Outstanding powder induction rate
- Industry 4.0 ready (PLC inside, operator graphical interface, Ethernet connection)
- State of the art software (intuitive touch interface, process KPI, predictive maintenance indicators, cockpit panel)
- Scalability of results to one model to another in Kynesis family
- High-speed immediate dispersion during powder induction
- Dust-free solution thanks to self-generated vacuum
- Easy cleaning of the dispersing chamber and reduced inactive time between different batches
- Up to 90% of cleaning agents reduction compared to a traditional dissolver
- 40%-70% energy saving

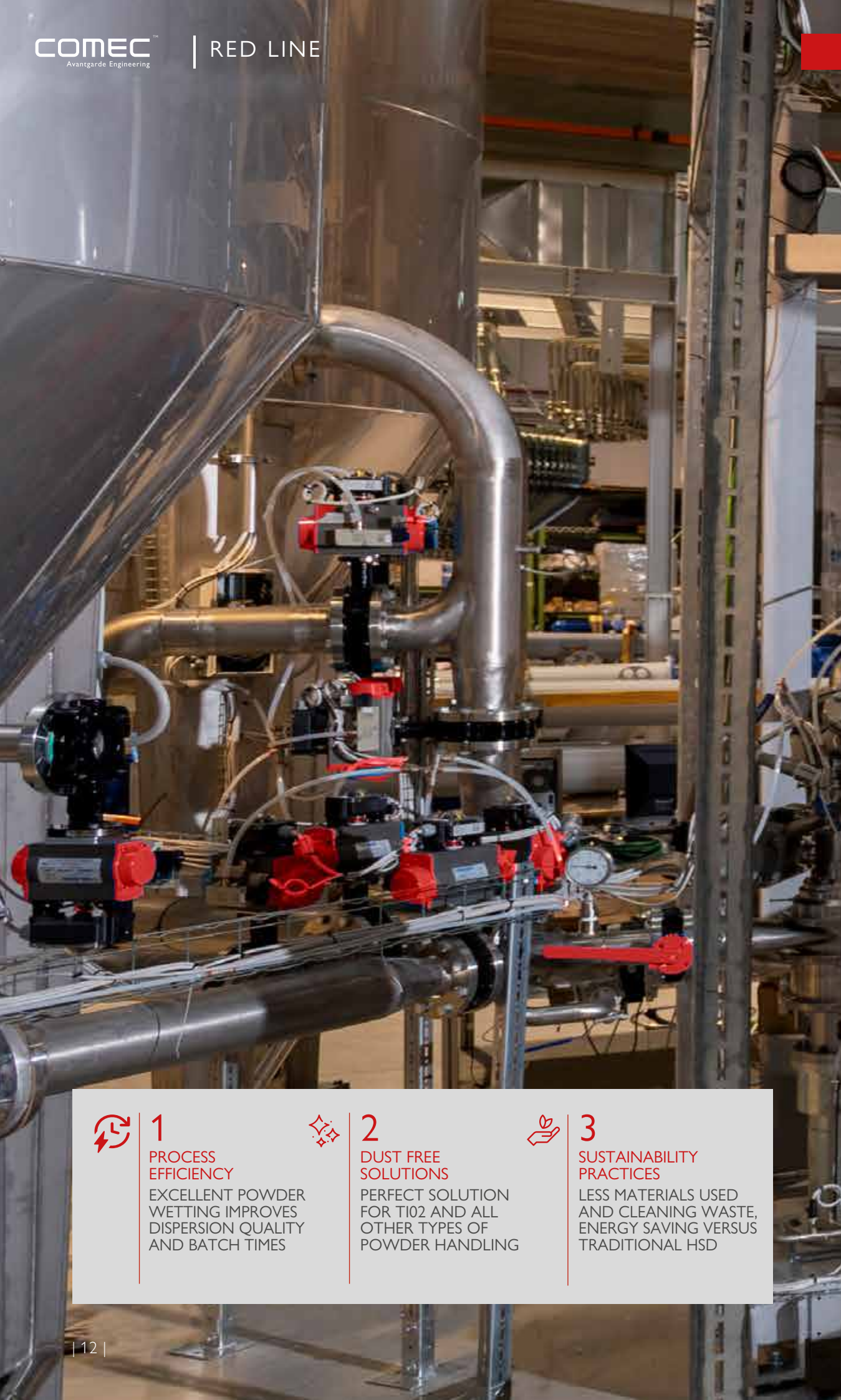
FEATURES

- Wide range of rotors and stators to manage different viscosities
- Mechanical seal auto-lubricated highest level on the market
- Electronic speed variation with frequency converter
- Components in contact with the product made of AISI 316, other components made of AISI 304
- Wear-resistance treatments inside the process chamber
- Easy maintenance access with servo-assisted device
- Controlling sensors (chamber temperature sensor, flow sensor, etc.)
- Atex version

MODEL	POWER [kW]	MAXIMUM RPM	WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)
KYNESIS 22	22	3000	800	1200	1400
KYNESIS 45	45	3000	800	1200	1400
KYNESIS 90	90	3000	1000	1500	1600
KYNESIS 132	132	3000	1000	1500	1600
KYNESIS 200	200	3000	1200	1700	2000

Powder induction rate (kg/min)				
Type of powder	132 kW	45 kW	22 kW	7,5 kW
Calcium carbonate	450-650	340-490	310-450	10-15
Titanium	350-600	260-450	240-400	8-16
Alluminium Silicate	250-400	190-300	175-270	7-10
Fillers, Extenders, talc	300-500	225-375	210-340	4-9
Light Pigments, Kaolin	120-300	90-225	80-200	4-9
Bentone	20-80	15-60	14-55	3-5
Silica, Aerosil	10-40	7-30	6-28	1-2





1

PROCESS EFFICIENCY

EXCELLENT POWDER WETTING IMPROVES DISPERSION QUALITY AND BATCH TIMES



2

DUST FREE SOLUTIONS

PERFECT SOLUTION FOR TiO₂ AND ALL OTHER TYPES OF POWDER HANDLING



3

SUSTAINABILITY PRACTICES

LESS MATERIALS USED AND CLEANING WASTE, ENERGY SAVING VERSUS TRADITIONAL HSD

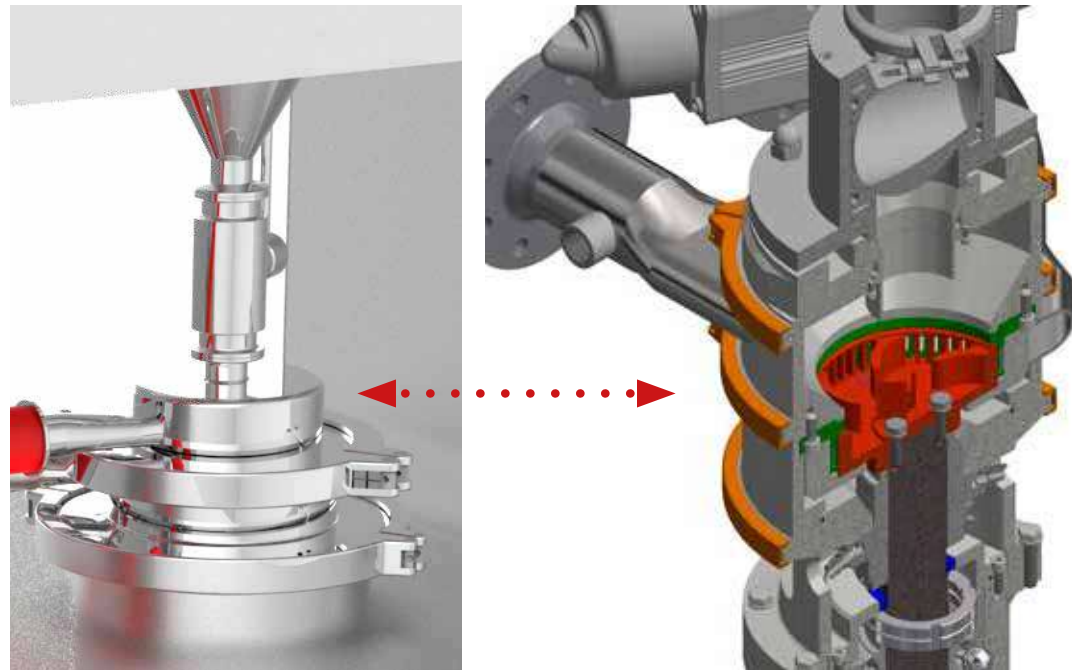
KYNEPILOT

4.0 PREDICTIVE MAINTENANCE

IN-LINE LAB & SMALL BATCHES DISPERSER

KYNEPILOT is a laboratory in-line dispersing unit with a dedicated process tank integrated with a mixer for resins and liquid components, a small hopper for powder feeding, the necessary measuring equipment, internal piping, valves, pneumatic equipment and electronic control system.

The core part of the system consists of a powder wetting and dispersing unit that has been developed by revolutionizing the traditional rotor/stator principles.



RECIPE SCALE-UP FROM TANKS TO MECHANICAL LINEARITY

IN-HOUSE TESTING & TRIAL

Comec offers technical knowledge and years of experience to ensure compatibility of your products with our equipment. Our in-house production trials include:

- Analysis of customer's products
- Process control functionality
- Operational tests on pilot machines
- Final check and result analysis



ADVANTAGES

- High flexibility and versatility to cover a wide range of products, viscosities and densities
- Process scalability from R&D to production
- Common database between Kynepilot laboratory unit and Kynesis production unit

FEATURES

- Small footprint and movable skid with integrated electric board
- Electronic speed variation with frequency converter
- Recirculation tank equipped with cooling jacket, temperature control and stirrer
- Easy cleaning of the dispersing chamber and pipes
- Small batch production (from 7 to 25 lt)
- Innovative and user-friendly HMI
- AISI 316 pipes with clamp connections



DUAL FORCE

4.0 PREDICTIVE MAINTENANCE

DOUBLE WORKING POWER IMMERSION BASKET MILL

DUAL FORCE immersion basket mill is an outstanding ultra-fine and energy-efficient grinding machine for batch-type milling processes. This unique system is designed taking advantage from the double force of the separate drives for grinding and mixing. The distinctive design allows to optimize product circulation inside the vessel tanking care of different flow behavior without changing the grinding maximum allowed speed.

SEPARATE DRIVES
FOR GRINDING
& MIXING

ENERGY-EFFICIENT
GRINDING
CYCLE

PORTABLE TABLET
AND INTUITIVE
INTERFACE 4.0



MODEL	MAXIMUM BATCH (standard vessel) (Liters)	MILLING MOTOR (kW)	MIXING MOTOR (kW)	BASKET SIZE (Liters)	MICROBEADS CHARGE VOLUME (Liters)	WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)
DUAL FORCE 500	500	15	5,5	15	10,5	1000	1800-2700	2050
DUAL FORCE 1000	1000	22	7,5	30	21	1200	2700-3950	2700
DUAL FORCE 1500	1500	30-37	15	50	35	1500	2900-4150	3000

ADVANTAGES

- Innovative technology to optimize business processes in terms of management time, costs and quality
- Continuous process control thanks to internal PLC
- Total integration with the production flow and the company ERP
- Efficient recipe management, high product repeatability and waste reduction
- Minimization of breakdowns and unwanted downtime by predictive maintenance indicators
- Remote assistance for immediate customer support
- Larger batches with lower engine power
- Processing products with a wide range of viscosities
- Grinding and cleaning time reduced by 50%
- Simple mounting, easy to maintain and inspect
- Ultra-fine grinding with 70% less microbeads in comparison to traditional vertical mills
- Energy saving up to 40%

FEATURES

- Double Force: separate drives for grinding and mixing
- Hydraulic head lifting
- AISI 304 stainless steel grinding shaft and two lateral AISI 304 stainless steel mixing shafts with mixing impellers
- Wear resistant, coated and energy efficient grinding chamber with electro-weed mesh and peg impellers
- Efficient cooling jacket and no hot spots
- Clean assembly, easy maintenance and inspection
- Strong and washable covers to protect inner parts
- State of the art electrical and software equipment (temperature check, PL architecture, Industry 4.0 ready)
- Electronic speed variation with frequency converter
- Full range of accessories (remotable operator interface on tablet, software upgrade to save production data)
- Atex version



DUAL FORCE Lab

4.0 PREDICTIVE MAINTENANCE

IN-LAB MIXING AND MILLING

ADVANTAGES

- Improving all the processes and saving time (up to 40%)
- New and connectivity-oriented generation of HMI and control system
- New concept for simple and intuitive use
- Innovative operator safety-oriented design
- Scalability of results to one model to another in Dual Force family

FEATURES

- Machine range deployed in two different sizes:
 - Size 1: 1,5 kW installed power for the main laboratory tasks
 - Size 2: 2 kW installed power for the strongest applications
- New revolutionary fixing system
- Small batch production (from 1 to 5 lt)
- Innovative and user-friendly HMI
- Full range of accessories:
 - Milling
 - Dispersing
 - Agitating



ACCESSORIES



AISI 304 stainless steel container



Toothed impellers



Four-blades impellers



Butterfly impeller



Grinding cage

Eco-WASHING

4.0 PREDICTIVE MAINTENANCE

CLEANING SYSTEM

ADVANTAGES

- Improving whole cleaning process, saving time and washing fluids (up to 50%)
- New generation of HMI and control system (connectivity oriented)

FEATURES

- Machine range deployed in three different models:
 - Basic System: with 2-Axis Rotating washing head
 - Helicoidal System: with a revolutionary helicoidal trajectory system (patented by Dromont)
 - Brushed System: with washing head combined to rotating brushes system
- Machine range deployed in two different versions:
 - Standard version for Water
 - Atex version for Solvents
- Target batch from 700 to 150 lt



FILLING LINES

4.0 PREDICTIVE MAINTENANCE

FILLING LINES are tailored to each customer's production needs, speed and accuracy requirements or product specifications. The filling systems are gravimetric (dispensing by weight) and may be adopted for different formats and sizes of buckets. With a modest or very high-speed production, they always guarantee a high level of accuracy. Flexible and smart solutions, they provide for a fully automatic process which can include, in addition to the filling station, also bucket de-nesting, lid feeding and closing, lid closing control and check weight stations. Labelling, barcode label printing, label correct positioning, robot palletizing and wrapping stations complete the line. The elevated level of automation allows reduced operators presence along the line (1 person only) and, in general, better accuracy in the management of packaging and palletizing.

VELOCE

SEMI-AUTOMATIC FILLING

3 UNITS/MIN

RAPIDA

AUTOMATIC FILLING

6 UNITS/MIN

FULMINEA

HIGH-SPEED AUTOMATIC FILLING

12 UNITS/MIN

FILLING

ADVANTAGES

- Industry 4.0 ready (PLC inside, operator graphical interface, Ethernet connection)
- State of the art software (intuitive touch interface, process KPI, predictive maintenance indicators, cockpit panel)
- Minimization of inventories of ready products
- Unmatched quick format change (up to 9 different formats)
- 110% process safety control
- Extended working autonomy
- Reliable buckets destapling
- High capacity and flexible multiformat management
- Enhanced ergonomic and robustness
- Lids automatic translation and positioning

FEATURES

- QC fiscal check weight station with NOT OK exit conveyor
- Full remote control
- Able to manage plastic and metallic buckets
- Scale automatic lift for splash avoidance
- Automatic feeding system for empty tanks
- Automatic bucket format change from control panel
- Cylinder for lifting of each weighing scale during filling operations
- Automatic stacking device equipped with a 45° tilted self-centering arm
- Control board for dosing management
- Automatic buckets feed with 240 large buckets capacity and high ergonomic
- Leakage protection by product collectors and collecting plates
- PMC with dedicated hardware for easy data synchronization



LABELLING



FILLING



LIDDING



CARTOONING



BOX SEALING



OUTPUT BUFFER





1

LABOUR TIME SAVING

ONLY ONE OPERATOR
DEDICATED TO THE
SUPERVISION OF THE
PROCESSES



2

CLEANING EFFICIENCY

EXTREMELY QUICK,
COMPLETELY PROGRAM-
MABLE AND EASY
SYSTEM FOR CLEANING
THE DOSING VALVES



3

READY FOR FACTORY AUTOMATION

OPERATOR PANELS
DATA EXCHANGE
WITH MAIN DATABASE
AND FULL REMOTE
CONTROL



1

UNRIVALED
12 UNITS/MINUTE

EXCEPTIONAL INCREASE
IN PACKAGING SPEED
AND QUANTITIES
MANAGED IN A SINGLE
WORKING DAY



2

FAST MULTI-FORMAT
MANAGEMENT

UP TO 9 BUCKET
FORMATS MANAGED
WITH UNMATCHED
QUICK FORMAT
CHANGE-OVER



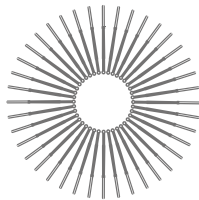
3

EXTENDED
WORKING AUTONOMY

AUTOMATIC BUCKETS
FEEDER WITH
EXTREMELY HIGH
CAPACITY AND
ENHANCED
ERGONOMY



PART OF



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We Know How

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