PROTOTYPING AND EQUIPMENT

Range of instruments, technological testing capacity
and integrated services

CONTENT

EQUIPMENT

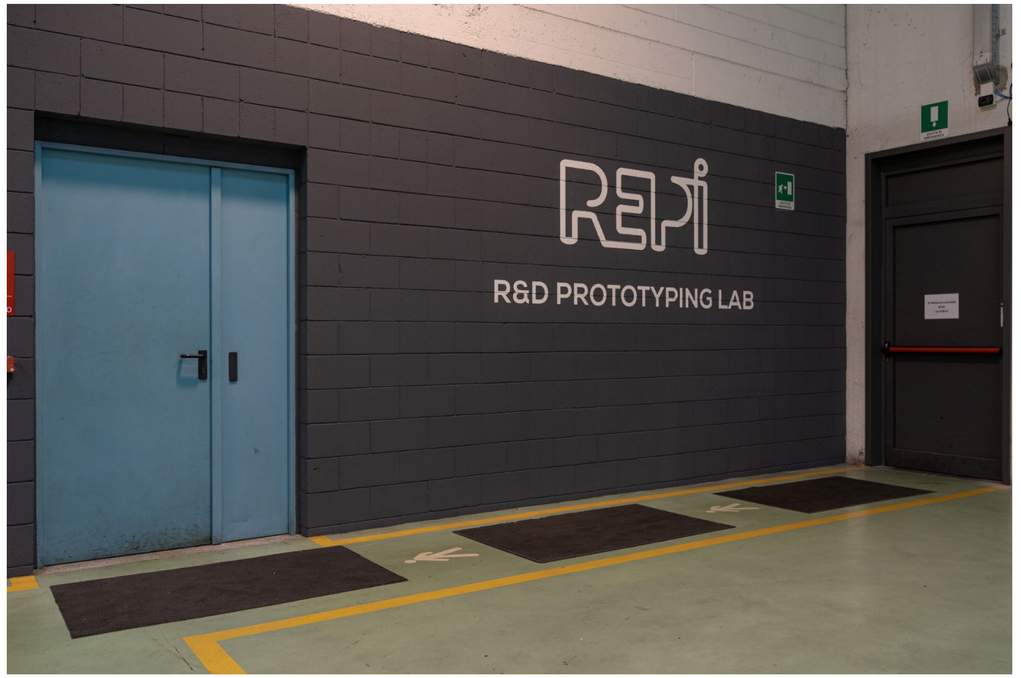
- ❑ The concept
- ❑ Range of Dosing Units
- ❑ Dosing Systems
- ❑ Light Meter
- ❑ Accessories

AROUND THE PRODUCT

- ❑ Training
- ❑ Workshop
- ❑ Technical Services
- ❑ Assembling and Maintenance
- ❑ Tutorials/QR

PROTOTYPING

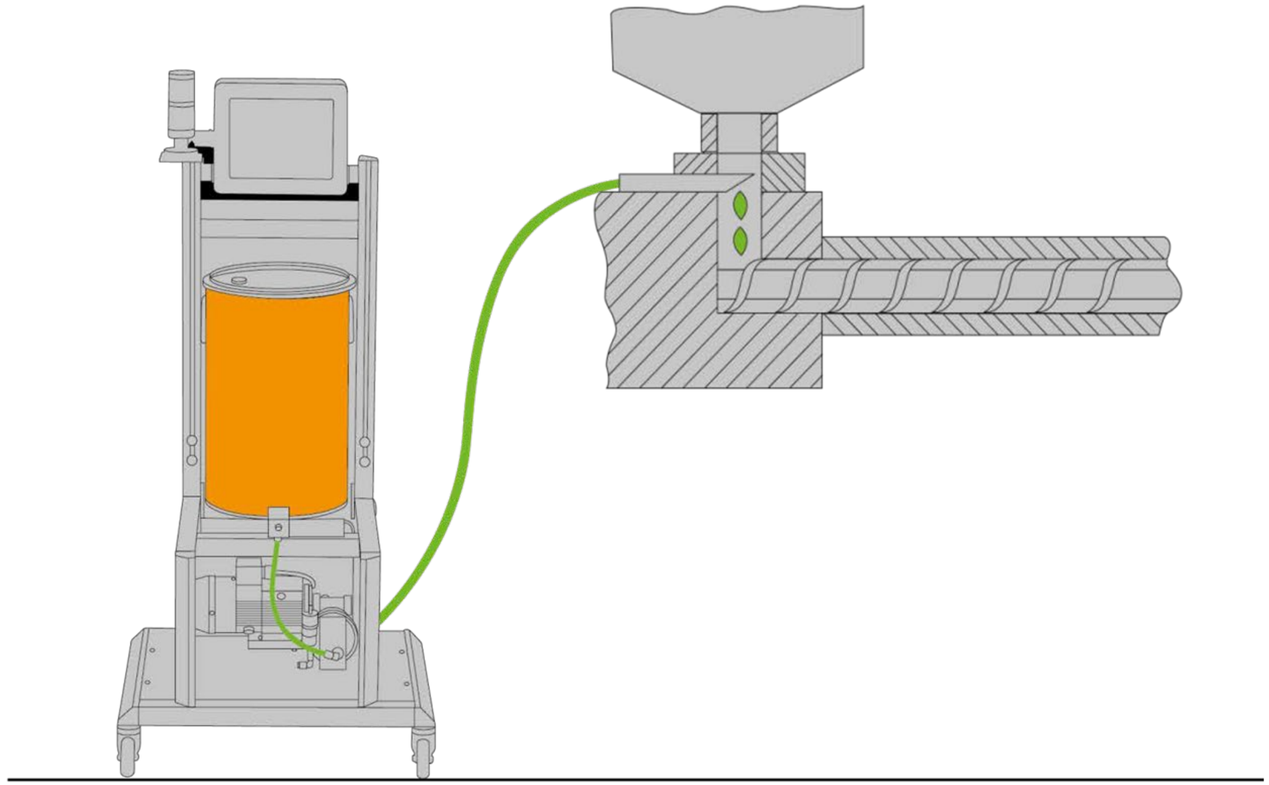
- ❑ Colour match and industrial tests
- ❑ Recycling: tests with recycled PET (flakes/pellets)
- ❑ Technological lab





EQUIPMENT FOR LIQUID TECHNOLOGY – THE CONCEPT

The dosing process of liquid additives and colours with different viscosities and low LDR takes place close to the extruder screw, below the hopper through precision gear pumps.



RANGE OF DOSING UNITS



STANDARD
(U2011/U2023X)





CLOSED LOOP
(COLOURKART/DOUBLE DRUM)



MODULAR (A050)

GENERAL FEATURES AND TECHNICAL BENEFITS

FEATURES

- ❑ High dosing precision and accuracy at very low addition rates, by using a gear pumps
- ❑ Generally, no need to use different pumps for different colours (easy to clean)
- ❑ User-friendly software and touch screen
- ❑ Alarms to check the standard functionality and also a pressure gauge and colour level control
- ❑ Read and write enabling via Modbus TCP/IP interface (PLC/data sharing)
- ❑ 110V-220V power supply

TECHNICAL BENEFITS

- ❑ A load cell enables the unit to work on a volumetric principle with gravimetric control
- ❑ Extrusion: the dosage constantly adapts to the real machine throughput (signal 0-10 V, 0-20 mA)
- ❑ Injection: Automatic mode, managing the screw run time ("0 volt" signal)
- ❑ Easy and fast colour change with minimum material waste
- ❑ Statistical consumption: based on loss of weight
- ❑ Log file enabled

STANDARD - U2011

SPECIFIC FEATURES

- ❑ Linux operating system (Wi-Fi non available)
- ❑ Asynchronous motor, standard pressure (110W, 1:20 gearbox)
- ❑ Works in a standard range of back pressure (less than 30 bar)
- ❑ SPC data sharing not available
- ❑ CMS Colour Management System enabled
- ❑ Can be set as a standard or closed loop models

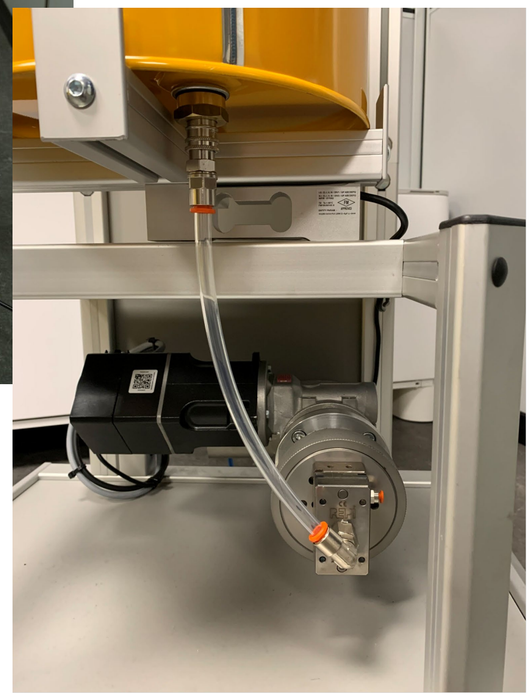


STANDARD - U2023X

SPECIFIC FEATURES

- ❑ Windows operating system, Wi-fi enabled
- ❑ Brushless motor (400W brushless motor, 1:20 gearbox)
- ❑ Better control of the motor RPM and consequently reduction of the gear pump “fleet”
- ❑ One motor for both standard and high-pressure dosing needs, reaching back pressures over than 150 bar
- ❑ Controlled temperature: dosing at constant temperatures over 60°C, special set with a heated gear pump
- ❑ Read and write enabling via Modbus TCP/IP interface (PLC/data sharing)
- ❑ Can be set as a standard or closed loop models





CLOSED LOOP - DOUBLEDRUM

SPECIFIC FEATURES

- ❑ Sealed and closed all the time no risks of contamination
- ❑ No manipulation needed

LEFT DRUM is the refilling drum: exchangeable

A dedicated “x” supports available for each packaging (yellow drum - cubi – closed loop drum)

RIGHT DRUM is the service drum: static

From the left drum, colour/additive is pumped into the service drum through a pneumatic diaphragm pump and then dosed into the production machine by means of a high precision gear pump



CLOSED LOOP - COLOURKART

SPECIFIC FEATURES

- ❑ Portable dosing system ideal when many colours are used. One controller and as many dedicated karts as the colours/additives in use.
- ❑ No contaminations risks - no manipulation needed

CONTROLLER

- ❑ Monitor
- ❑ CPU
- ❑ Flashing light (alarm)
- ❑ Motor and flange
- ❑ Solenoid valve
- ❑ Pressure reducer
- ❑ PRESSURE GAUGE (optional)

KART

- ❑ Standard service drum holder
- ❑ Specific package holder
- ❑ Gear pump
- ❑ Diaphragm pump
- ❑ Load cell



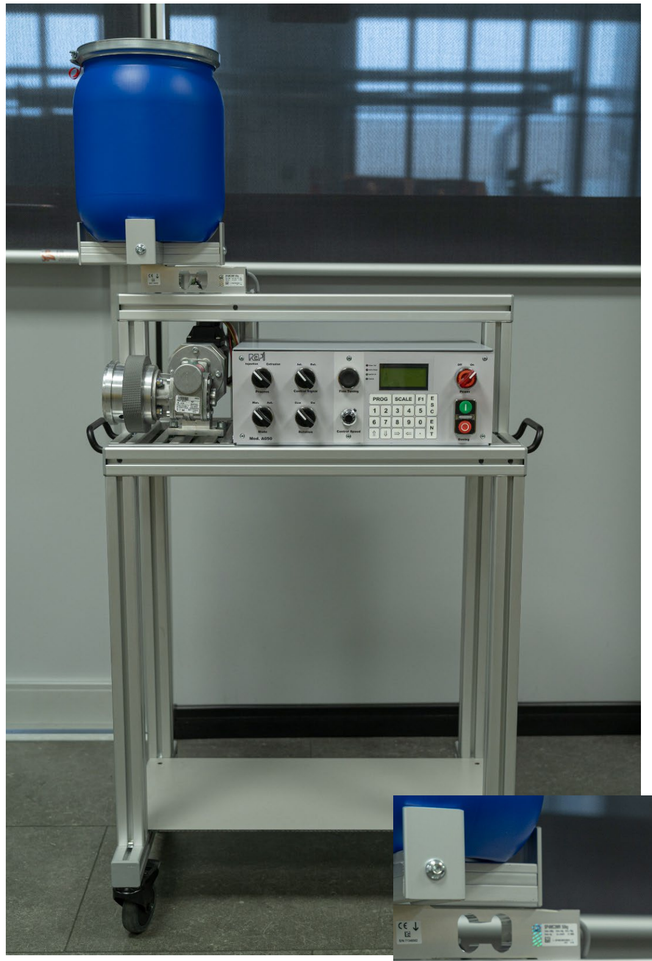




MODULAR - A050

SPECIFIC FEATURES

- ❑ Fully modular system both on accessories and supports
- ❑ Compact, small and limited display
- ❑ Only Italian and English languages option available
- ❑ Extrusion: the dosage constantly adapts to the real machine throughput (signal 0-10 V, 0-20 mA)
- ❑ Injection: Automatic mode, managing the screw run time ("0 volt" signal)
- ❑ Possibility to manage a calibration
- ❑ Use of the brushless motor (280W, 1:20 gearbox)
- ❑ Alarms and emergency stop
- ❑ No skilled technicians required





PACKAGING RANGE

SUITABLE FOR ALL DOSING UNIT MODELS



SERVICE DRUM (20L)



CLOSED LOOP DRUM (20L)



CUBI BOX (20L)



BLU PLASTIC PAIL (6L)



METAL DRUM (200L)



IBC (1000L)

DOSING SYSTEMS

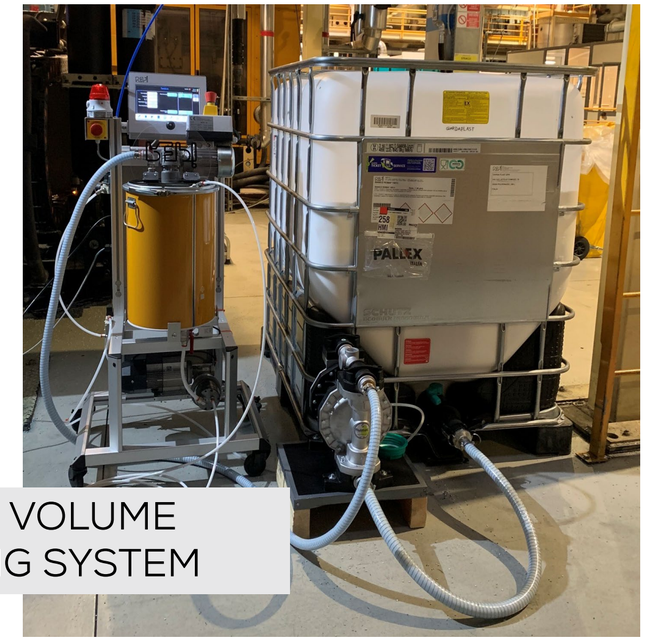


CMS – ONLINE
MEASURING SYSTEM

(FOR SHEET EXTRUSION)

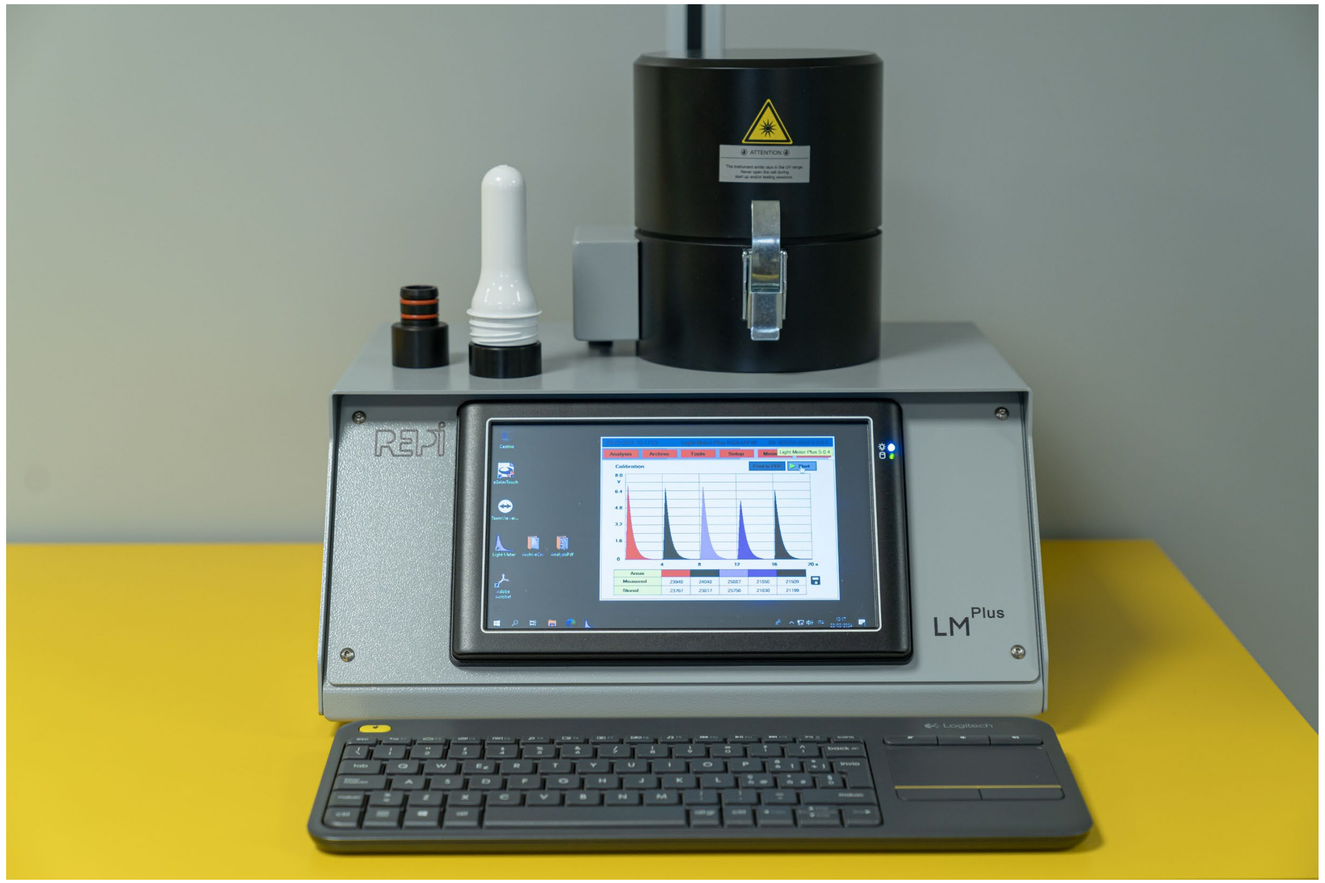
TAILOR-MADE SET-UP





HIGH VOLUME
DOSING SYSTEM

LIGHT METER PLUS



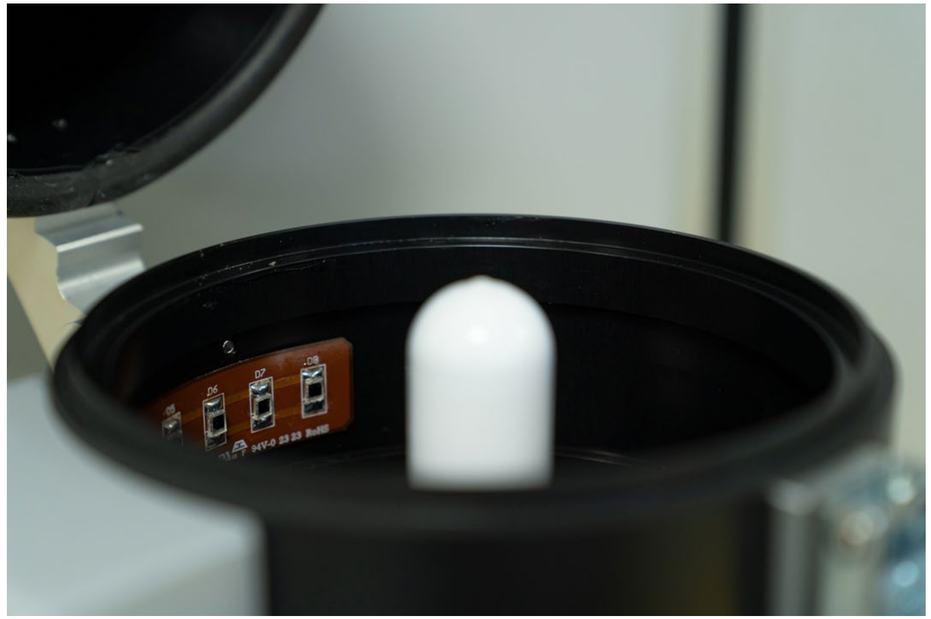
Analytical Instrument for
Colour Consistency Control

LIGHT METER PLUS

PREFORM COLOUR CONSISTENCY CONTROL

- ❑ Quick and highly reliable assess of the opacity/ protection of PET preforms and bottles even in production
- ❑ Evaluation of the colour strength in a simple and rapid way before the blowing stage
- ❑ Scientific alternative to visual control for all coloured preforms
- ❑ Detect the presence of transparent additives like the UV content and IR absorption directly in the preforms. Detect very high levels of opacity.
- ❑ Internal preform reference database
- ❑ No preform size limitations
- ❑ User friendly touchscreen
- ❑ No skilled lab technicians required





LIGHT METER PLUS

SPECIFIC FEATURES

- ❑ CieLab and delta e values based on RGB data
- ❑ Reading capacity transmittance not below: 0.005% (sensitivity = 0.0001%)
- ❑ Possibility of reading opaque preforms (TiO2 content = < 3%)
- ❑ Repeatability: 1% (high transmittance), 3% (low transmittance)
- ❑ Warning on blowing feasibility
- ❑ Direct loading and consultation on the instrument historical data
- ❑ No preform database limits

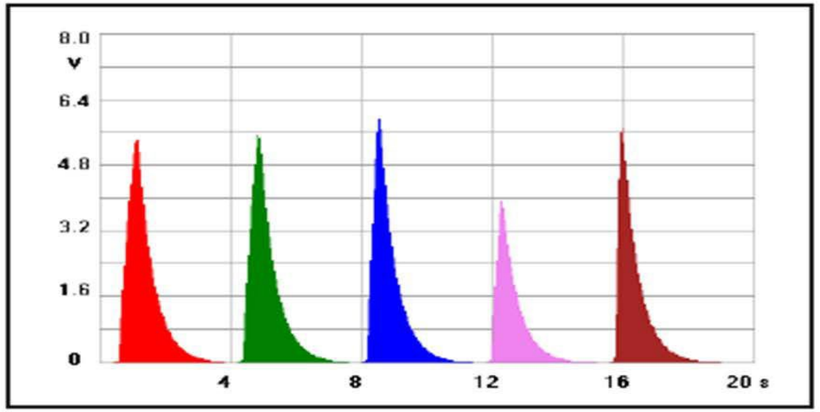
Model: RGB-UV-IR **Date:** 30-01-2018 14:39

SN: A00067-0118

Operator		Cavity-Mold	
Machine		Other	

	Red	Green	Blue	UV	IR
Areas	23459	22683	21981	14024	18852
Ref. Areas	23736	23340	22908	23802	20972
Trasm %	98.83	97.19	95.95	58.92	89.89

IR Absorption	Lab L	Lab a	Lab b	ΔE
	97.80	1.22	0.96	0.36



Cycle Time (s): 20 **Cycles number:** 1

Preform ID: StandardUv

	Red	Green	Blue	UV	IR
Tr max (%)	98.49	97.16	96.01	59.02	89.73
Tolerance	1	1	1	1	1

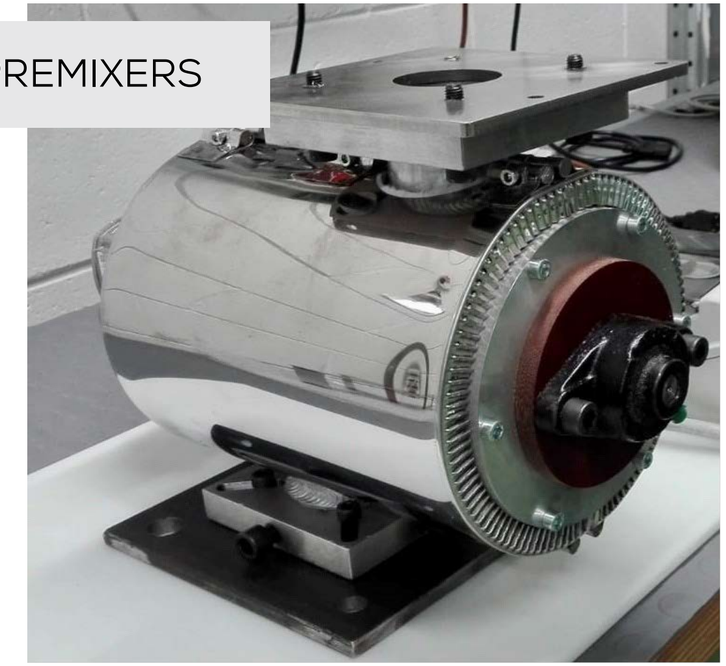
LDR	1	Gain	1	IR Absor Max	89.89
Ref. Lab L	97.73	Ref. Lab a	0.89	Ref. Lab b	0.85

ACCESSORIES

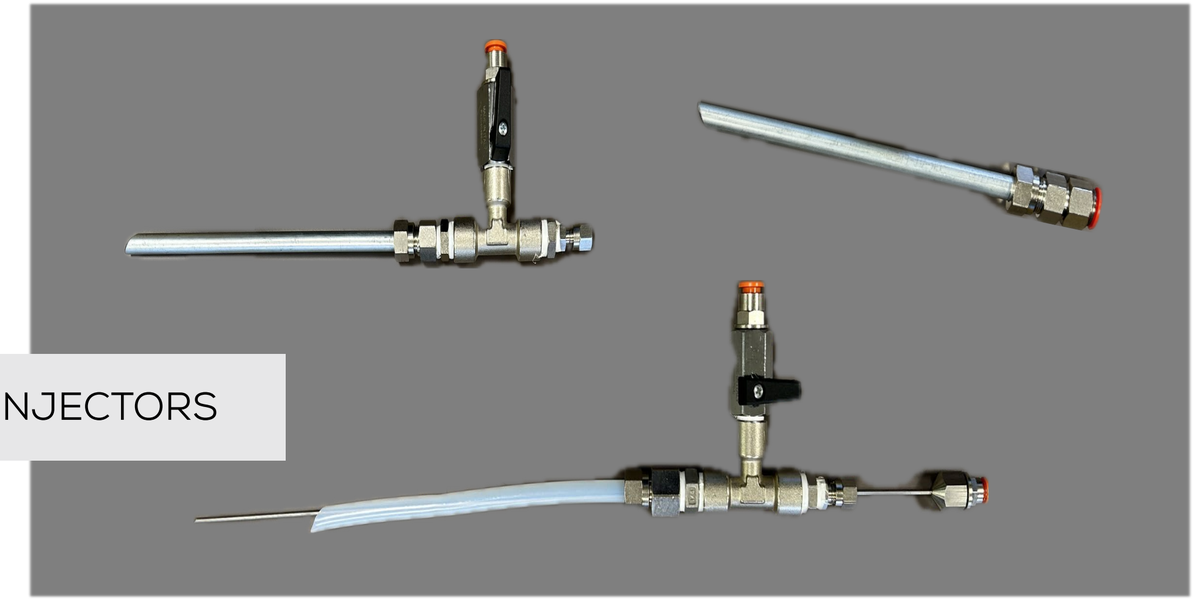
PUMPS



PREMIXERS



INJECTORS

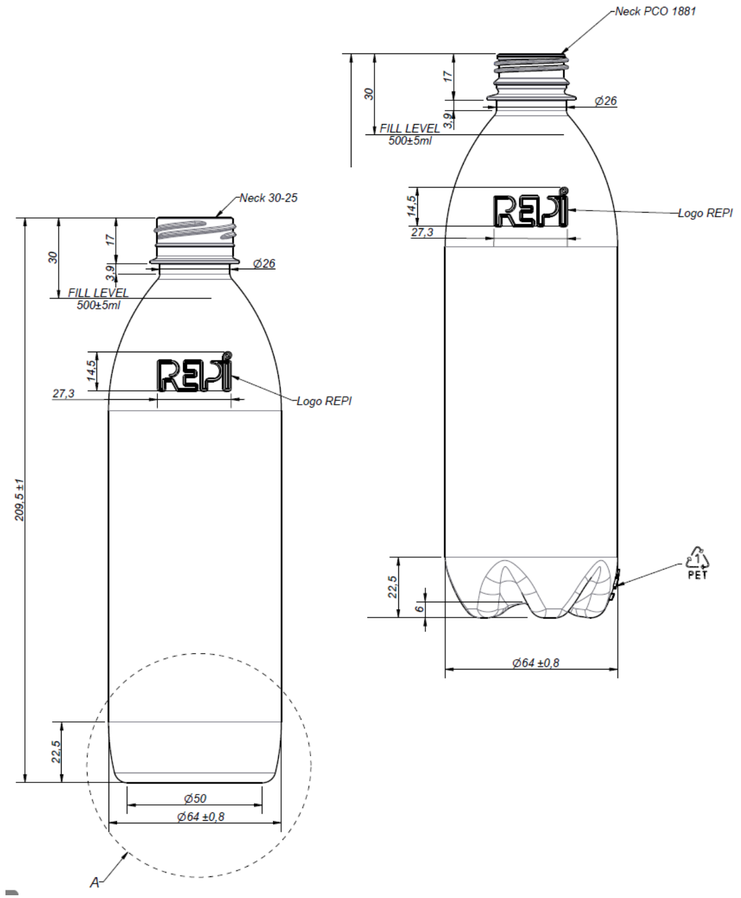


MIXERS FOR SERVICE DRUM



PROTOTYPING

COLOUR MATCH AND INDUSTRIAL TESTS (ASB/NISSEI TECHNOLOGY)

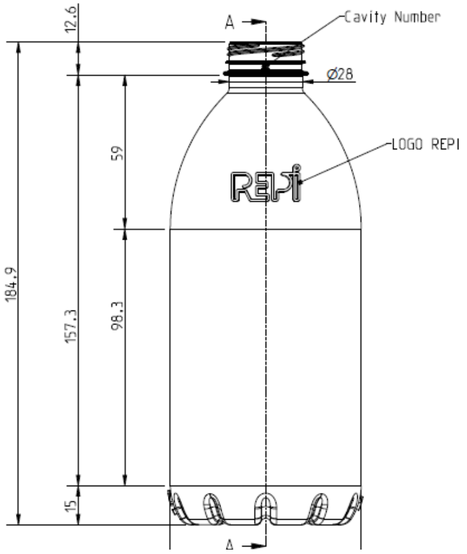


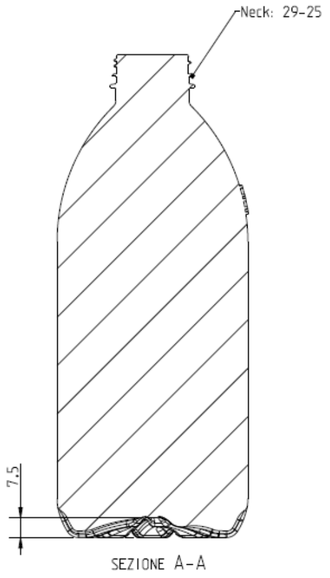


PROTOTYPING

RECYCLING TESTS WITH RECYCLED PET
(FLAKES AND PELLETS)
AUTOMA TECHNOLOGY







PROTOTYPING









TECHNOLOGICAL LAB

AROUND THE PRODUCT

TRAINING AND WORKSHOP

REPI organises every year trainings and workshops at its headquarters or on-site, bringing together operators of technology partners and REPI technicians to discuss on innovations, technologies, new colour solutions and equipment, as well as to share problem solving and continuous improvements



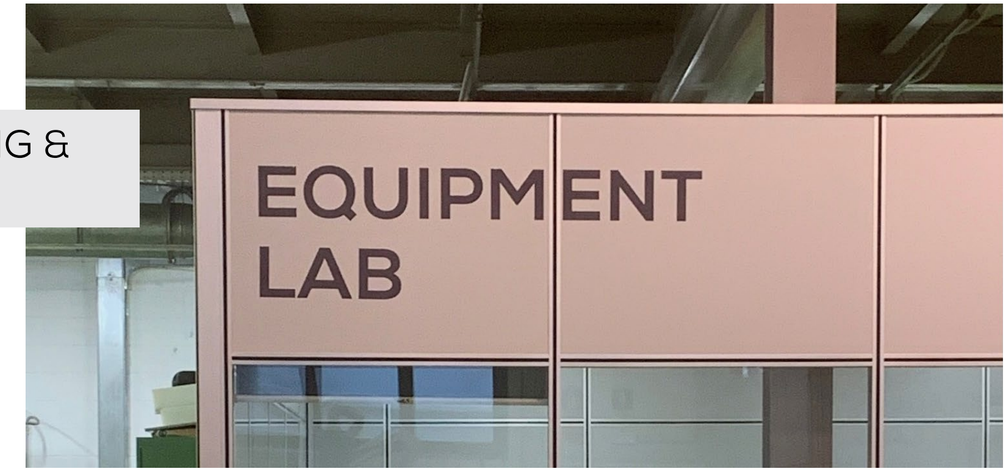


TECHNICAL SERVICE

REPI Technical Service Team is at the customer's side assisting in industrial start up, trials, training, troubleshooting through remote consulting and on-site support

AROUND THE PRODUCT

EQUIPMENT ASSEMBLING & MAINTENANCE







TUTORIALS/QR

LIGHT METER PLUS

Overview

LIGHT METER PLUS

How to create a new preform in the database

U2011

how to select language

U2011

how to manage programs

U2011

How to perform calibration

U2011

how to calibrate the load cell

U2011

how to verify pump capacity is the right one

0,2CC PUMP

2CC PUMP

U2023 X

U2011

LM

THANK YOU

repi.com

REPI GROUP – FERLINE SA
CH-6900 Lugano - SWITZERLAND
ferline@repi.com

REPI LLC
Dallas, NC 28034 - USA
repi.usa@repi.com

REPI (UK) LIMITED
Liverpool L30 6AD - UK
repi.uk@repi.com

REPI S.r.l.
21050 Lonate Ceppino - ITALY
repi.italia@repi.com

REPI GmbH
21217 Seevetal - GERMANY
repi.germany@repi.com

000 "REPI"
111396 Moscow - RUSSIA
repi.russia@repi.com

REPI THAI CO. LTD
Samut Prakan Province, 10290 - THAILAND
repi.thailand@repi.com

REPI ASIA Pte. Ltd.
049145 - SINGAPORE
repi.singapore@repi.com