PROTOTYPING AND EQUIPMENT
創新開發與設備

Range of instruments, technological testing capacity and integrated services

儀器設備範圍、技術檢測能力與整合服務

CONTENT

EQUIPMENT

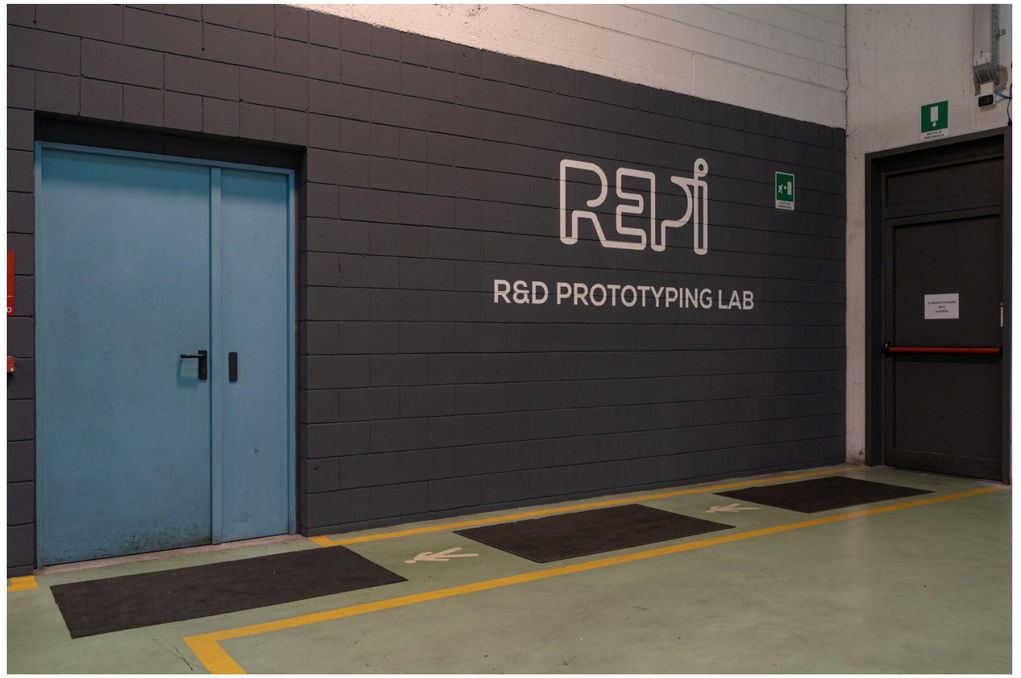
- ❑ The concept設計理念
- ❑ Range of Dosing Units
  計量單位範圍
- ❑ Dosing Systems計量系統
- ❑ Light Meter光學檢測儀
- ❑ Accessories配件

AROUND THE PRODUCT

- ❑ Training教育訓練
- ❑ Workshop研討會
- ❑ Technical Services技術服務
- ❑ Assembling and Maintenance
  組裝與維護
- ❑ Tutorials/QR
  教學影片 / QR Code

PROTOTYPING

- ❑ Colour match and industrial tests配色與工業測試
- ❑ Recycling: tests with recycled PET (flakes/pellets)
  回收料測試：回收 PET (碎片 / 粒子) 測試
- ❑ Technological lab技術研發實驗室

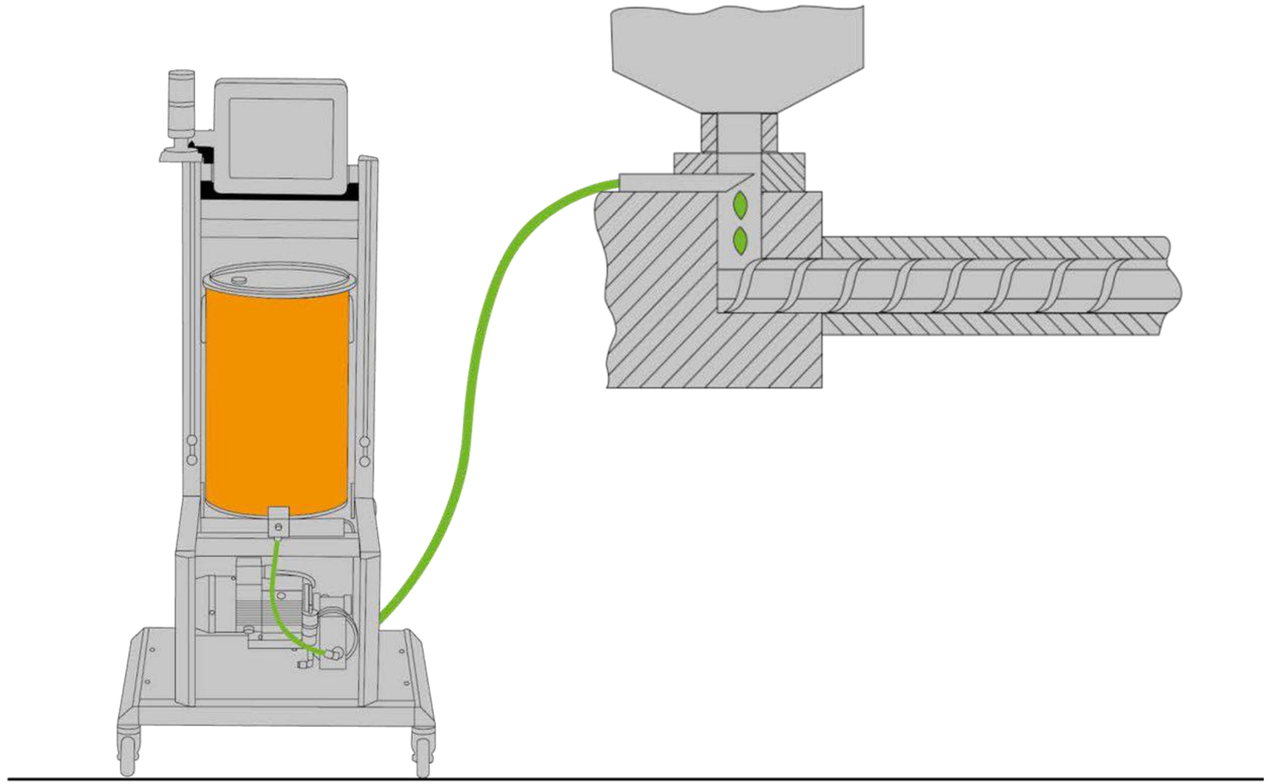




EQUIPMENT FOR LIQUID TECHNOLOGY - THE CONCEPT

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.

不同黏度和低 LDR(填加率)的液體添加劑和色漿的計量過程在擠出機螺桿附近、料斗下方透過精密齒輪幫浦進行。



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
  採用齒輪泵，極低添加量仍具高精密度
- ❑Generally, no need to use different pumps for different colours (easy to clean) 不同顏色無需使用不同的幫浦（易於清潔）
- ❑User-friendly software and touch screen人性化軟體與觸控螢幕
- ❑Alarms to check the standard functionality and also a pressure gauge and colour level control
  異常警報、壓力錶、顏色色差控制
- ❑Read and write enabling via Modbus TCP/IP interface (PLC/data sharing)支援 Modbus TCP/IP 讀寫（PLC / 資料共享）
- ❑110V-220V power supply電源 110V–220V 通用

TECHNICAL BENEFITS

- ❑A load cell enables the unit to work on a volumetric principle with gravimetric control
  稱重感測器使該裝置能夠基於體積原理進行重力控制。
- ❑Extrusion: the dosage constantly adapts to the real machine throughput (signal 0-10 V, 0-20 mA)
  擠出：計量即時對應實際產能（訊號0–10V / 0–20mA）
- ❑Injection: Automatic mode, managing the screw run time ("0 volt" signal)

  注射：自動模式，控制螺桿運轉時間（"0 volt"訊號）
- ❑Easy and fast colour change with minimum material waste快速換色，材料損耗極低
- ❑Statistical consumption: based on loss of weight

  統計消耗量：基於重量減輕狀況
- ❑Log file enabled具備紀錄檔功能

STANDARD - U2011

SPECIFIC FEATURES

- ❑Linux operating system (Wi-Fi non available) Linux 作業系統（無 Wi-Fi）
- ❑Asynchronous motor, standard pressure (110W, 1:20 gearbox)

  非同步馬達，標準壓力（110W，1:20 齒輪箱）
- ❑Works in a standard range of back pressure (less than 30 bar)

  適用於標準背壓範圍（ < 30 bar）
- ❑SPC data sharing not available不支援 SPC 資料共享
- ❑CMS Colour Management System enabled支援 CMS 色彩管理系統
- ❑Can be set as a standard or closed loop models可設定為標準或閉環模式



STANDARD - U2023X

SPECIFIC FEATURES

- ❑Windows operating system, Wi-fi enabled
  Windows 系統，內建 Wi-Fi

- ❑Brushless motor (400W brushless motor, 1:20 gearbox)無刷馬達
  （400W，1:20 齒輪箱）

- ❑Better control of the motor RPM and consequently reduction of the gear pump “fleet”轉速控制更精準，降低齒輪泵磨耗

- ❑One motor for both standard and high-pressure dosing needs, reaching back pressures over than 150 bar

  一台馬達即可滿足標準和高壓計量需求，背壓可達 150 bar 以上

- ❑Controlled temperature: dosing at constant temperatures over 60°C, special set with a heated gear pump

  溫控：在60°C以上的恆溫下進行計量，特製加熱齒輪泵

- ❑Read and write enabling via Modbus TCP/IP interface（PLC/data sharing)支援 Modbus TCP/IP 讀寫（PLC / 資料共享）

- ❑Can be set as a standard or closed loop models可設定為標準或閉環模式





CLOSED LOOP - DOUBLEDRUM

SPECIFIC FEATURES

- ❑ Sealed and closed all the time no risks of contamination
全密閉式，無污染風險

- ❑ No manipulation needed無需人工操作

LEFT DRUM is the refilling drum: exchangeable
左桶：補料桶，可更換

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

每種包裝（黃色圓筒 - 立方體 - 閉環圓筒）均有專用的「x」支撐架。

RIGHT DRUM is the service drum: static
右桶：工作桶，固定

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

左側滾筒中的顏料/添加劑透過氣動隔膜泵泵入服務滾筒，然後由高精度齒輪泵計量輸送至生產設備。



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.
便攜式計量系統，適合多色切換。一台控制器配備與所用顏色/添加劑數量相同的專用料槽。

❑No contaminations risks - no manipulation needed無污染、無需人工操作

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



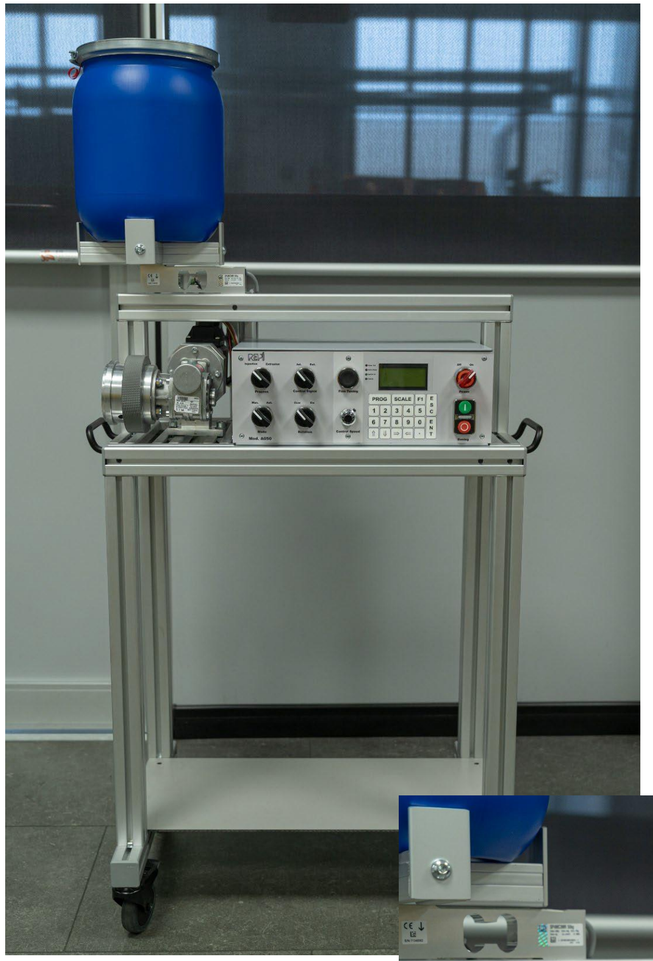




MODULAR - A050

SPECIFIC FEATURES

- ❑Fully modular system both on accessories and supports
  配件和支架均採用全模組化系統
- ❑Compact, small and limited display小巧且有限的顯示屏
- ❑Only Italian and English languages option available僅支援義大利語/英語
- ❑Extrusion: the dosage constantly adapts to the real machine throughput (signal 0-10 V, 0-20 mA)擠出：計量即時對應實際產能（0–10V / 0–20mA）
- ❑Injection: Automatic mode, managing the screw run time ("0 volt" signal)注射：自動模式，控制螺桿運轉時間（ ("0 volt"訊號）
- ❑Possibility to manage a calibration支援校正功能
- ❑Use of the brushless motor (280W, 1:20 gearbox)無刷馬達（280W，1:20 齒輪箱）
- ❑Alarms and emergency stop警報與緊急停止
- ❑No skilled technicians required無需專業技術人員操作





PACKAGING RANGE

SUITABLE FOR ALL DOSING UNIT MODELS
適用於所有劑量裝置型號



SERVICE DRUM (20L)



CLOSED LOOP DRUM (20L)



CUBI BOX (20L)



BLU PLASTIC PAIL (6L)



METAL DRUM (200L)



IBC (1000L)

DOSING SYSTEMS

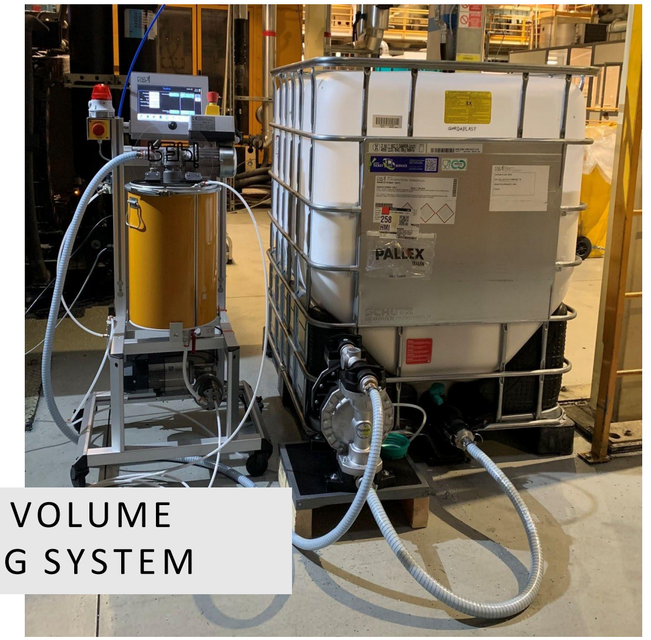


CMS – ONLINE
MEASURING SYSTEM

(FOR SHEET EXTRUSION)

TAILOR-MADE SET-UP





HIGH VOLUME
DOSING SYSTEM

LIGHT METER PLUS



Analytical Instrument for
Colour Consistency Control
色彩一致性控制分析儀器

LIGHT METER PLUS

PREFORM COLOUR CONSISTENCY CONTROLPET
預成型顏色一致性控制

- Quick and highly reliable assess of the opacity/ protection of PET preforms and bottles even in production即使在生產過程中，也能快速、高度可靠地評估PET瓶坯和瓶子的不透明度/防護性能。

- Evaluation of the colour strength in a simple and rapid way before the blowing stage吹瓶前快速評估色力

- Scientific alternative to visual control for all coloured preforms取代人工目視，科學化檢測

- Detect the presence of transparent additives like the UV content and IR absorption directly in the preforms. Detect very high levels of opacity.

  直接檢測透明添加劑（紫外線含量和紅外線吸收率），可偵測高遮蔽率

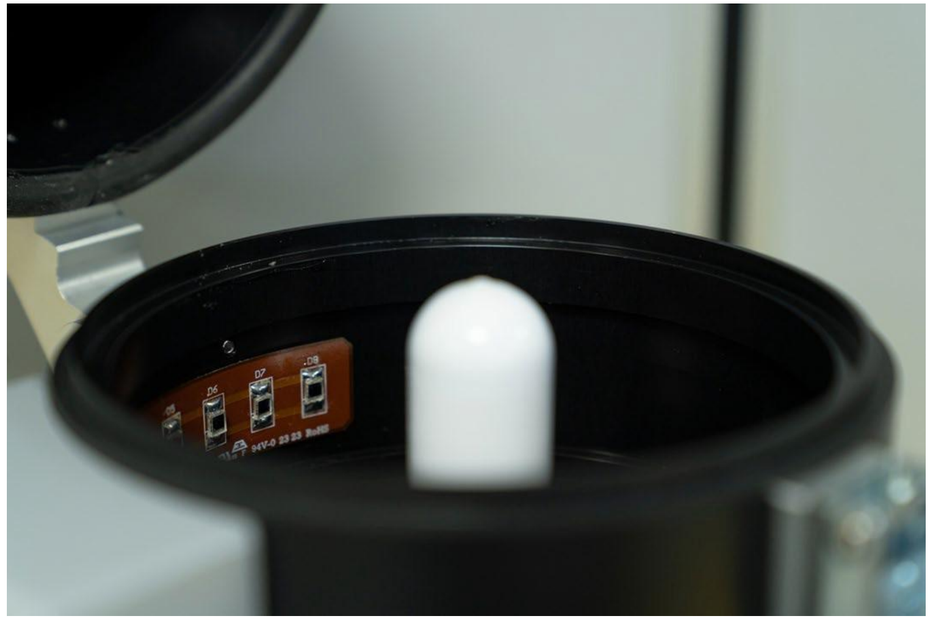
- Internal preform reference database內建預成型資料庫

- No preform size limitations無預成型件尺寸限制

- User friendly touchscreen人性化觸控螢幕

- No skilled lab technicians required無需專業實驗人員

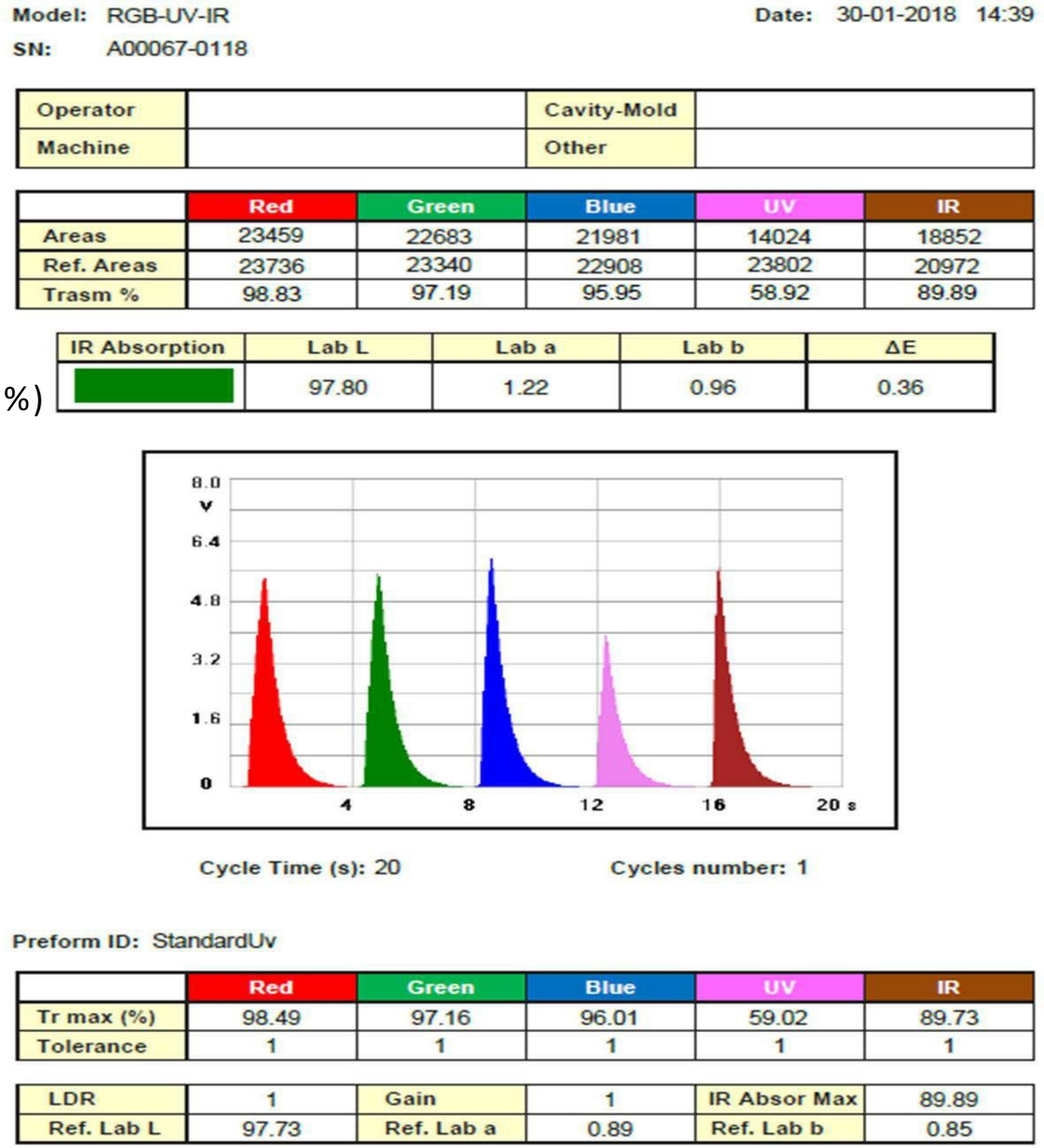




LIGHT METER PLUS

SPECIFIC FEATURES

- ❑CieLab and delta e values based on RGB data
  基於 RGB 輸出 CieLab值、Delta E值
- ❑Reading capacity transmittance not below: 0.005% (sensitivity = 0.0001%)
  穿透率讀取最低 0.005%（靈敏度 0.0001%）
- ❑Possibility of reading opaque preforms (TiO2 content = <3%)
  可讀取高遮蔽預製件（TiO_2 含量 ≤3%）
- ❑Repeatability: 1% (high transmittance), 3% (low transmittance)
  重複性：1%（高透射率），3%（低透射率）
- ❑Warning on blowing feasibility 吹瓶可行性預警
- ❑Direct loading and consultation on the instrument historical data
  歷史資料直接讀取查詢
- ❑No preform database limits瓶胚資料庫無容量限制



Model: RGB-UV-IR
SN: A00067-0118
Date: 30-01-2018 14:39

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

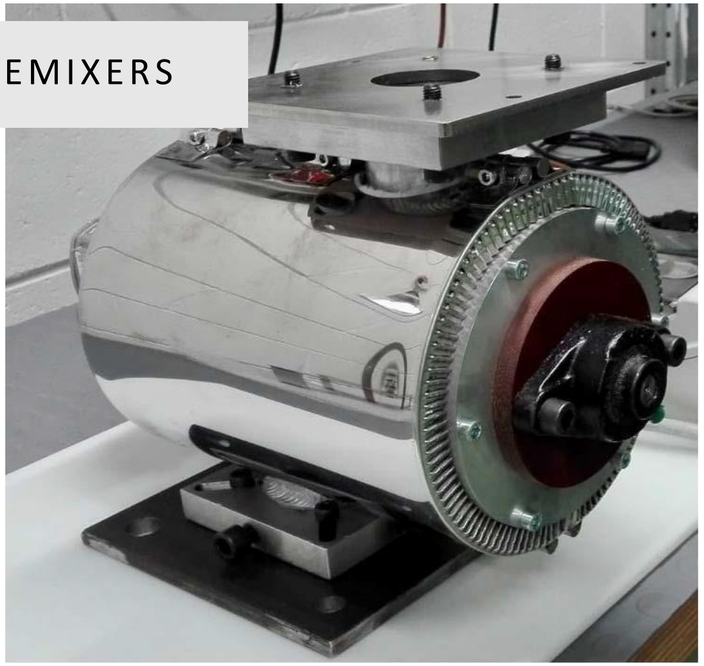
LDR	1	Gain	1	IR Absor Max	89.89
Ref. Lab L	97.73	Ref. Lab a	0.89	Ref. Lab b	0.85

ACCESSORIES

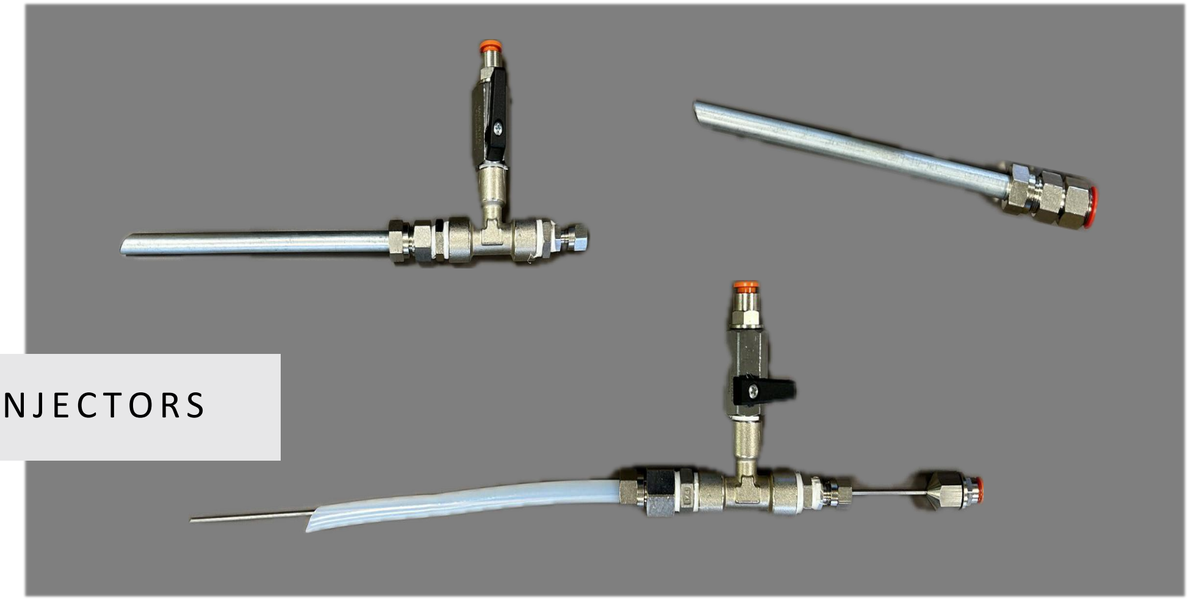
PUMPS



PREMIXERS



INJECTORS

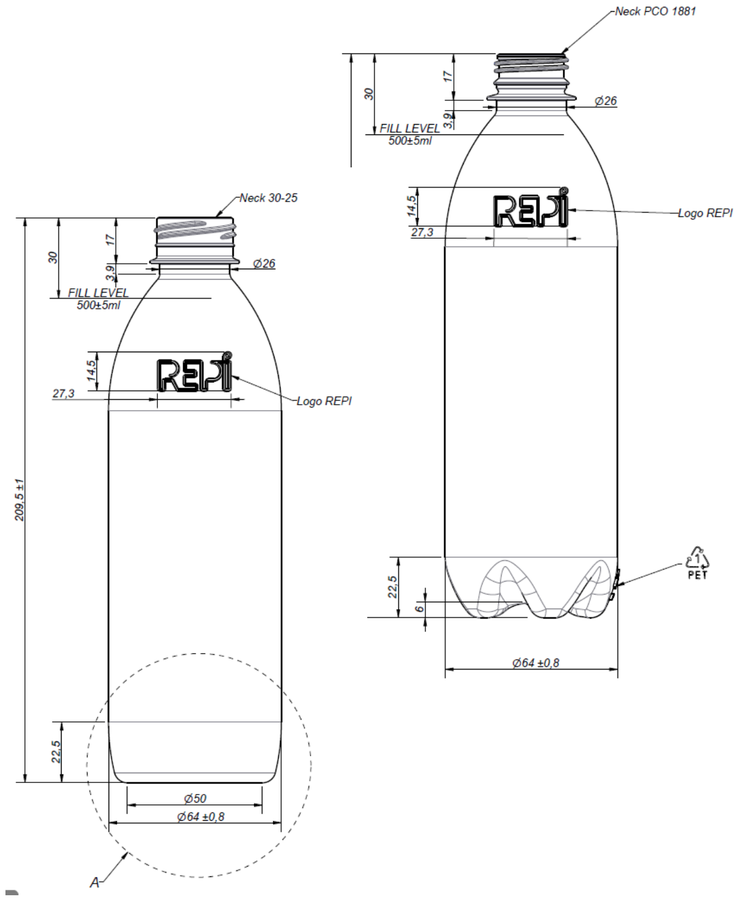


MIXERS FOR SERVICE DRUM



PROTOTYPING

COLOUR MATCH AND INDUSTRIAL TESTS (ASB/NISSEI TECHNOLOGY)

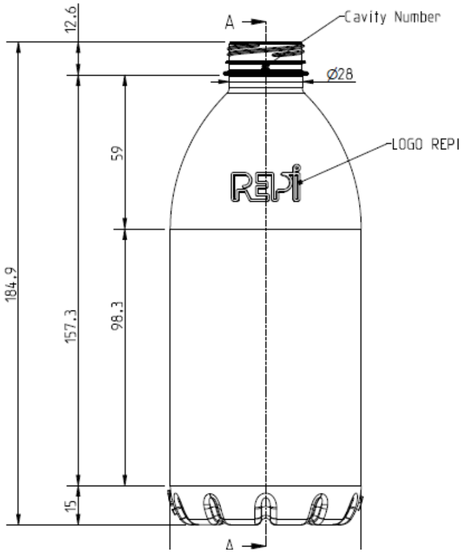


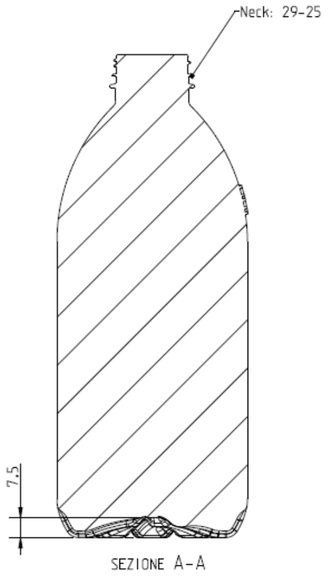


PROTOTYPING

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







PROTOTYPING



TECHNOLOGICAL LAB







AROUND THE PRODUCT

TRAINING AND WORKSHOP教育訓練與研討會

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.

REPI 每年於總部或客戶現場舉辦訓練與研討會，匯集合作廠商操作人員與 REPI 工程師，交流創新、技術、色料方案與設備，並分享問題解決與改善方案。





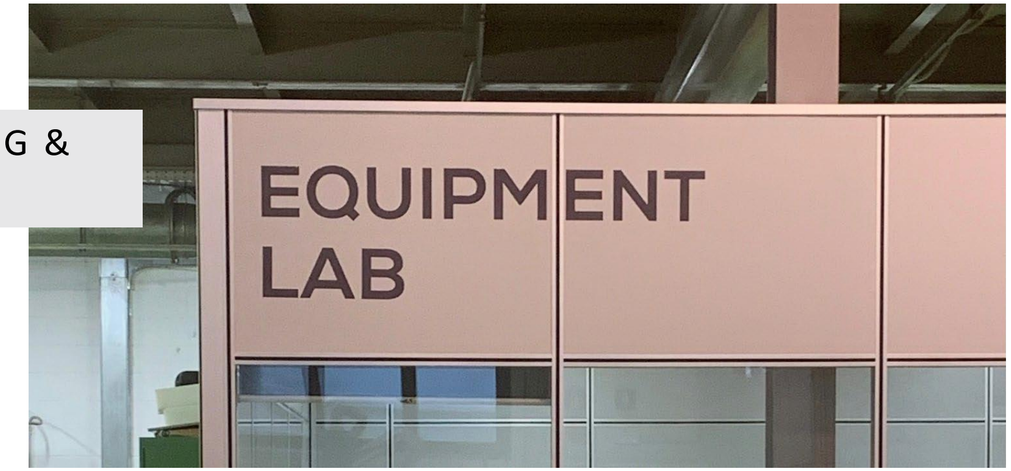
TECHNICAL SERVICE技術服務

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 REPI.

技術服務團隊隨時準備為客戶提供工業啟動、試驗、培訓和故障排除方面的協助，包括遠端諮詢和現場支援。

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

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