Beets Reception System

Relobo
Sugar technology

Sample taker 2015 installation

Unmanned tarehouse

Sample taker 2015 installation

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Unmanned tarehouse

Sample taker "rupro" 3 Axis movement

Truck identification with RFID or bar code ticket

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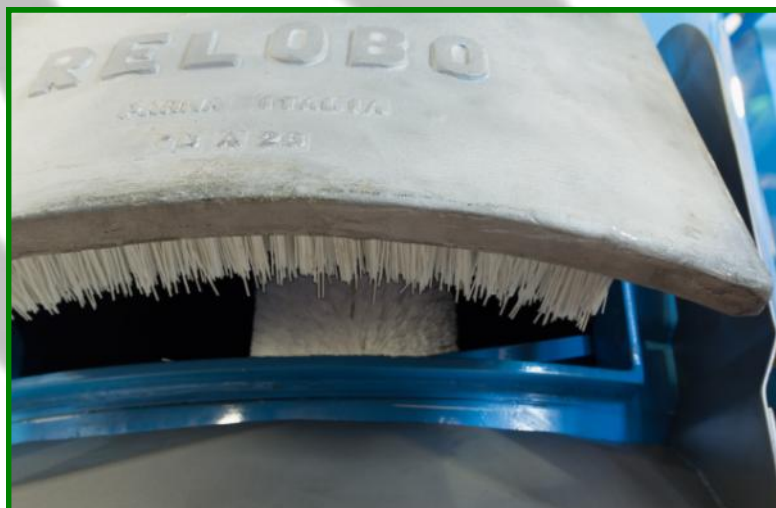
**Sample taker "rupro"
single or double picking
head**

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Inspection and crowning operation easy than ever!

Simultaneous feeding by rupro and bags

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Sugar technology

Unmanned tarehouse

Washing of the beet sample

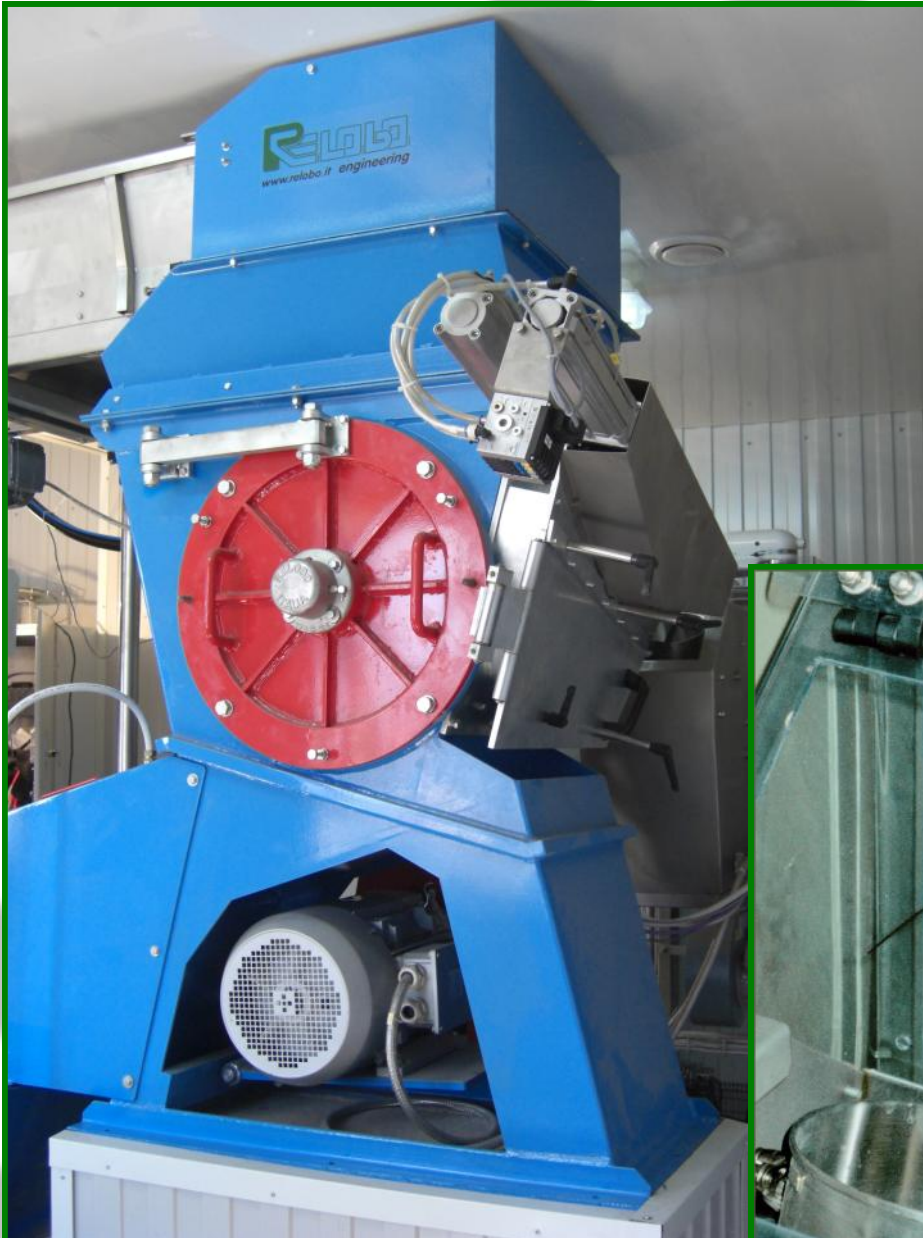**Network load cells gross/net weight scale**

RELOBO
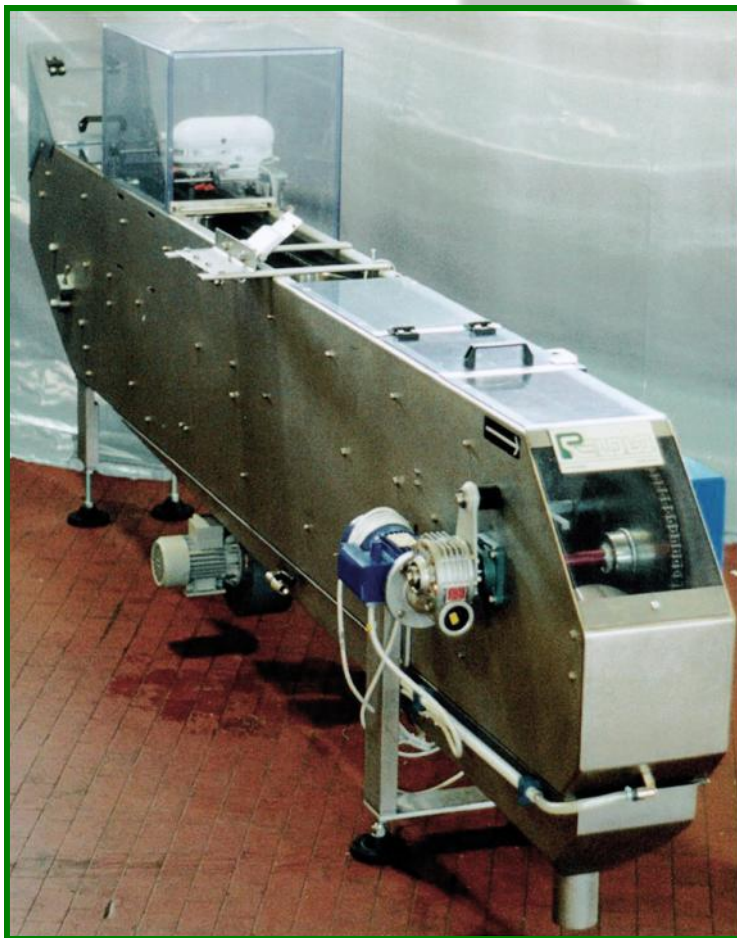*Sugar technology*

Unmanned analytical
sugar beets laboratories

Sawing operation by means of 8   disks rasp

"Sample 20Kg. = 380gr. of brei"

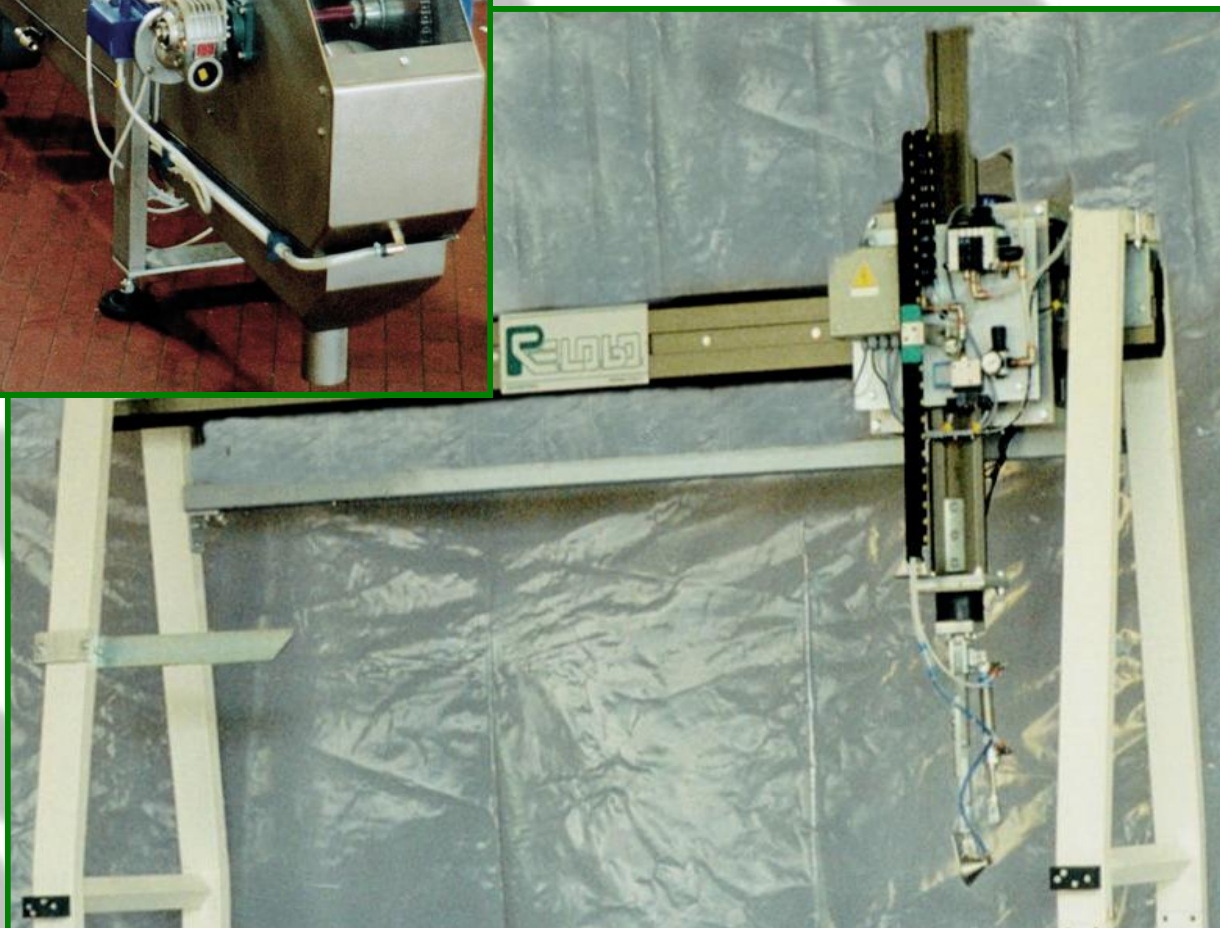# Unmanned analytical sugar beets laboratories

Automatic homogeneization

Automatic brei sampling for mixing and filtering tracks

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Unmanned analytical sugar beets laboratories

**Clarifier dosing system
Weighing range ± 0.01 gr.
Maximum error on
dosing operation ±0.04%**

Mixing lines with new kind of magnet to prevent agitators loss

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Two type of filtering tracks like:

- **Classic plied filters.**
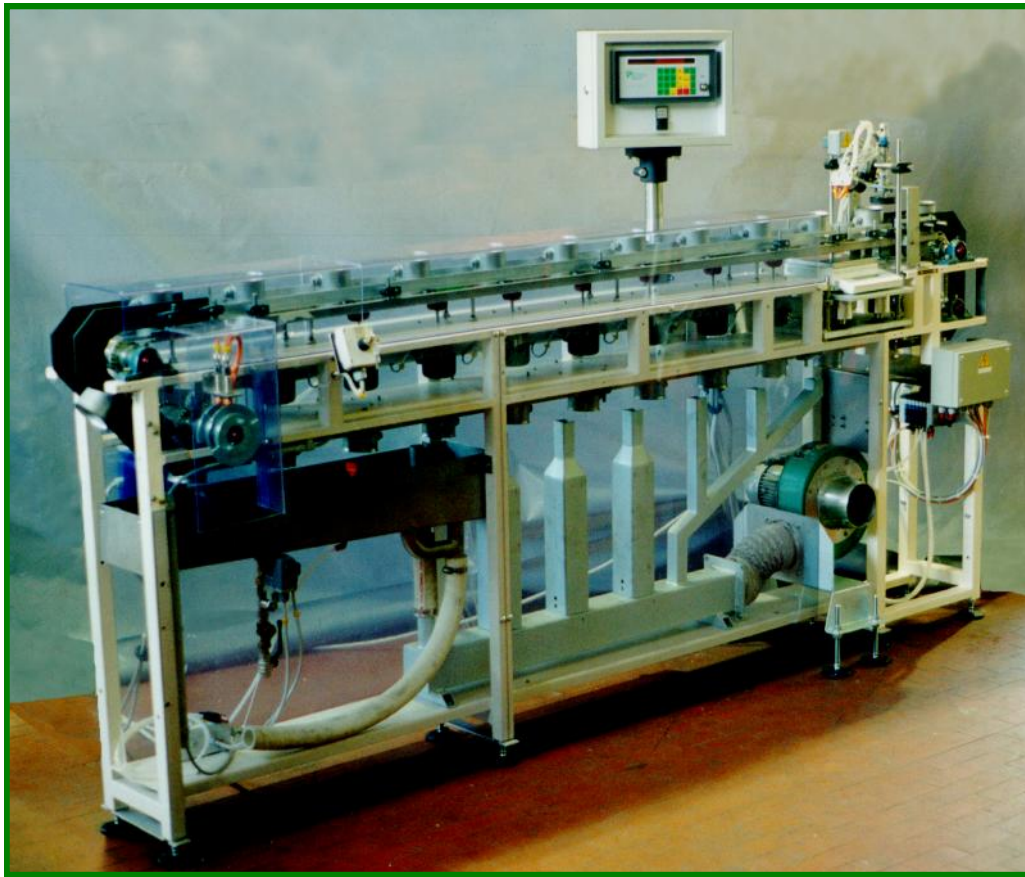
- **Vacuum filtering track "Hyperfiltering".**

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Fully automatized polarimeter or Betalyser©

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Mixing Track

The "Mixing Track" is the end result of extensive experience in the sector and complete understanding of the field of automation developed through advanced technology.

Built to ensure reliability with an integrated or stand-alone design, the system implements modern technology to guarantee precision, speed and repeatability.

Thanks to the use of cutting edge cad/cae engineering, the

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Mixing Track

The "Mixing Track" is an automatic machine for mixing brei and a liquid clarifier that, together with various devices, will make automation of the digestion processes possible.

Stainless steel cups are joined to a motorised chain that moves them forward gradually.

Mixing is made possible by electric motors that turn permanent magnets which, in turn, cause the metal bar inside the cups to turn.

At the end of the "Mixing Track" the mixed liquid is poured out and the containers, after being cleaned and dried, can be used again.

The "Mixing Track" can be fed the brei and liquid manually, prepared by an operator, or automatically by the "Brei Sampler Robot" and equipped with an "Automatic Dosing Unit" for the clarifying liquid.

The machine can be integrated with the automation and data collection systems.

PURPOSES/ADVANTAGES

Automation of the mixing and digestion processes.

Repeatability of the analytical quality.

Installation flexibility.

Adjustment and use flexibility.

The possibility of being able to automate brei/clarifier dosing by integrating the "Automatic Dosing Unit".

Can be integrated with the data collection systems.

TECHNICAL DATA

Potenzialità: 120 camp./ora
Alim. elettrica: 400V- 50Hz
Consumption: 6 kW
Compressed air: 6 bar - 10 Lt./hour

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Filtering Track

The "Filtering Track" is an automatic machine for filtering brei and a liquid clarifier previously mixed together, this process is possible by means of a continuous moving track of funnels, each one equipped with a paper filter, that collect solution in the glass.
At the end of the "Filtering Track" the filtered solution is picked up, manually or automatically, for the polarymeter analysis.
The machine can be integrated with the automation and data collection systems.
The "Filtering Track" is the first step to completely automated lab, in fact filtering replacement and glass cleaning are done by an operator, if you need the fully automation please refer to "Hyper Filtering Unit".
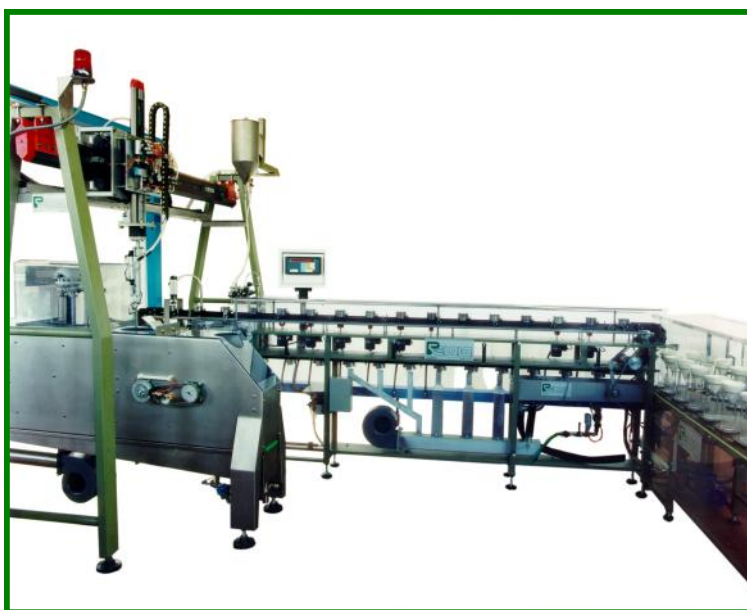
PURPOSES/ADVANTAGES
Semi-automation of the filtering processes
Repeatability of the analytical quality.
Installation flexibility.
Adjustment and use flexibility.
Smaller size.

TECHNICAL DATA
Capacity: 120 samples/hour
Power. elettrica: 400V- 50Hz
Consumption: 1 kW
Size: 2100 mm x 550 mm x 1000 mm

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Hyper Filtering Unit

The "Hyper filtering unit" is the end result of extensive experience in the sector and complete understanding of the field of automation developed through advanced technology.

Built to ensure reliability with an integrated or stand-alone design, the system implements modern technology to guarantee precision, speed and repeatability.

Thanks to the use of cutting edge cad/cae engineering, the "Hyper filtering unit" has an extremely flexible design that can adapt to the strictest filtering requirements.

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Hyper Filtering Unit

The "Hyper Filtering Unit" is an automatic filtering machine that, suitably integrated with the Re.lo.bo. system, will allow complete automation of the beet brei analysis processes without the need for any operators.

Filtering occurs thanks to the use of vacuum (adjustable) that makes it possible to process the filtered substances resulting from lead acetate and aluminium sulfate (the latter requires the automatic addition of filtering accelerators).

The "Hyper Filtering Unit" can substitute all the previous filtering versions, such as:
the "Standard Filtering Unit" or the "Self Cleaning Filtering Unit", also guaranteeing perfect integration with the data collection systems.
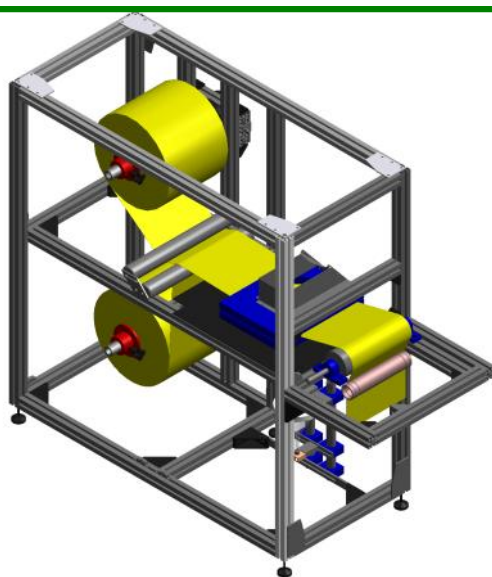
Advanced 3D cad development

PURPOSES/ADVANTAGES
Automation of the filtering processes
No operators required.
Repeatability of the analytical quality.
Installation flexibility.
Adjustment and use flexibility.
Smaller size.
Long operating autonomy of the filtering coils.

TECHNICAL DATA
Capacity: 100 samples/hour
Samples/Coils: approx. 1500
Power: 24 Vdc
Compressed air: 6 bar - 80 Lt./min.
Size: 1800 mm x 550 mm x 1500 mm

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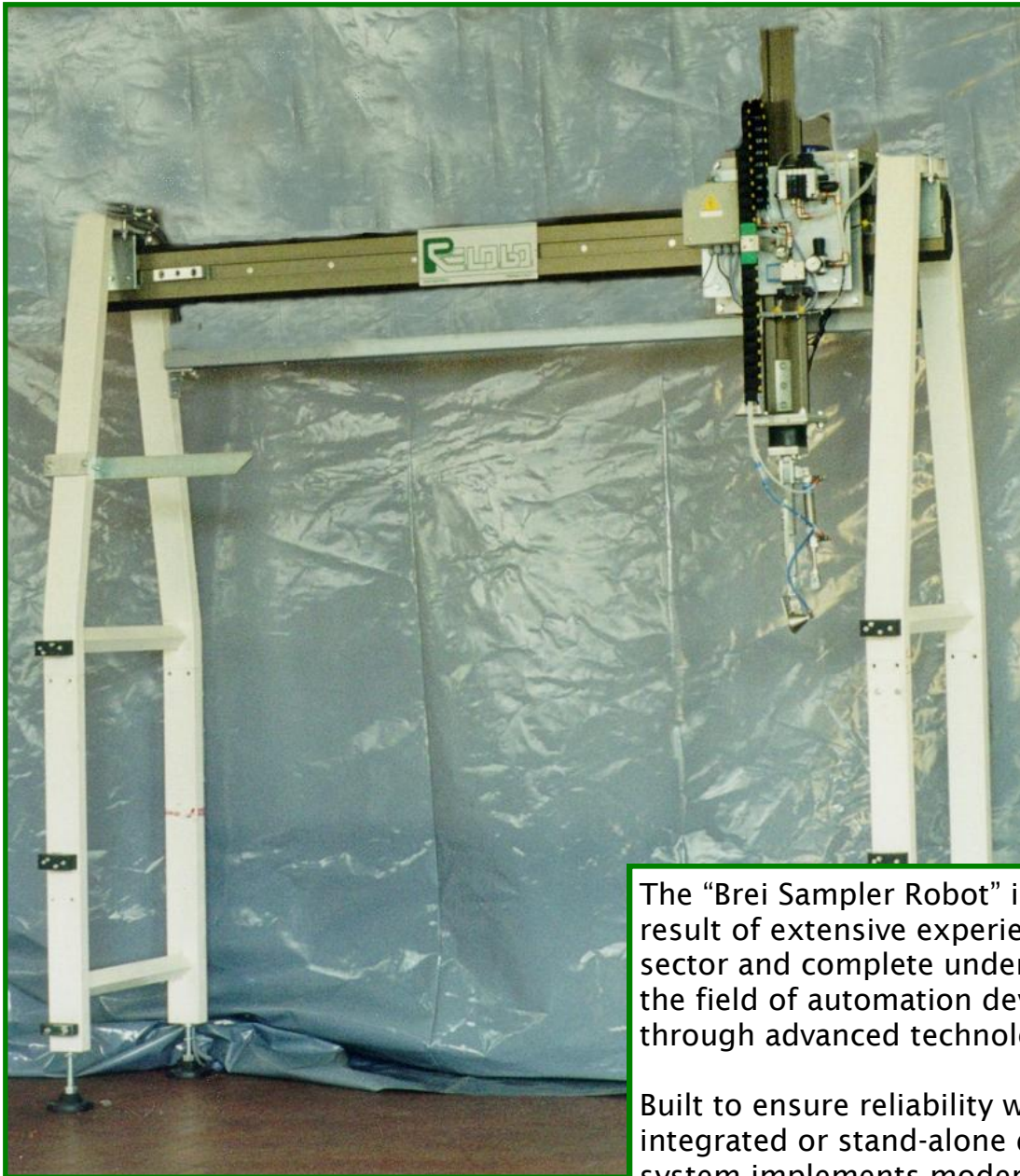
Brei Sampler Robot

The "Brei Sampler Robot" is the end result of extensive experience in the sector and complete understanding of the field of automation developed through advanced technology.

Built to ensure reliability with an integrated or stand-alone design, the system implements modern technology to guarantee precision, speed and repeatability.

Thanks to the use of cutting edge cad/cae engineering, the "Brei Sampler Robot" has an extremely flexible design that can adapt to the new and old plants.

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Brei Sampler Robot

Automatic, constant volume, brei sample collector (adjustable) from the homogenising station to the "dosing system" (automatic) part of the "mixing and filtering" line.
All characteristic sample data can be automated thanks to the possibility of integrating the "Relobo data system".
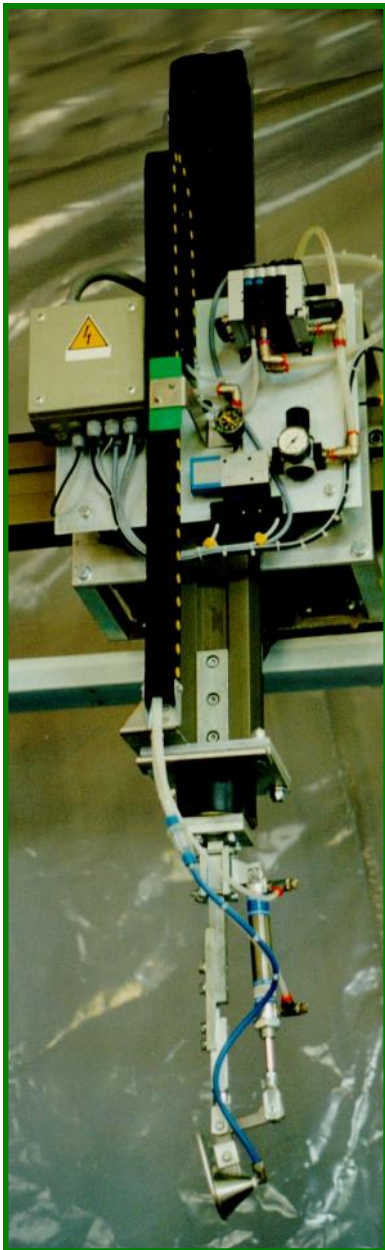
PURPOSES/ADVANTAGES
Automation of the manual beet brei sampling processes.
No operators required.
Sampling repeatability.
Data flow automation.
Installation and adjustment flexibility.

TECHNICAL DATA
Sample weight: from 15 to 40 g.
Horizontal travel: from 1500 to 4000 mm
Vertical travel: from 200 to 400 mm
Weight: about 130 kg.
Capacity: 130 samples/hour
Power: 380 V - 50 Hz
Consumption: 0.5 kW
Air supply: 6 bar - 10 Lt./min

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Automatic Dosing Unit

The "Automatic Dosing Unit" is the end result of extensive experience in the sector and complete understanding of the field of automation developed through advanced technology.

Built to ensure reliability with an integrated or stand-alone design, the system implements modern technology to guarantee precision, speed and repeatability.

Thanks to the use of cutting edge cad/cae engineering, the "Automatic Dosing Unit" has an extremely flexible design that can adapt to the strictest dosing requirements.

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Automatic Dosing Unit

"The "Automatic Dosing Unit" automatically doses the clarifying solutions simply and accurately and is part of the "Mixing/Filtering Track"; it accurately automates dosing, requiring no manual operations. Data collection can be automated thanks to the possibility of integrating the "Relobo Data system".

INSTALLATION
Besides being designed for new plants, this system can also be installed on existing "Mixing/Filtering Tracks", it can be supplied in the decimal or centesimal version and can be controlled either by a PLC or manually.

PURPOSES/ADVANTAGES
Automation of the dosing process.
No operators required.
Repeatability of doses.
Data flow automation.
Installation and adjustment flexibility

Dosatore	
DOSATORE	
Peso istantaneo	281,55
Peso polpa	0,00
Dosata teorica	257,55
Dosata reale	257,64
Errore dosaggio	655,27
Grammi sgrossatura	222,59
Grammi finitura	254,79
Peso minimo campione	040,00
Peso massimo campione	050,00
Rapporto reagente/polpa	06,801
Grammi finitura	035,00
Grammi volo prodotto	002,79

Modifica   Esci

Remote set-up and data collection.
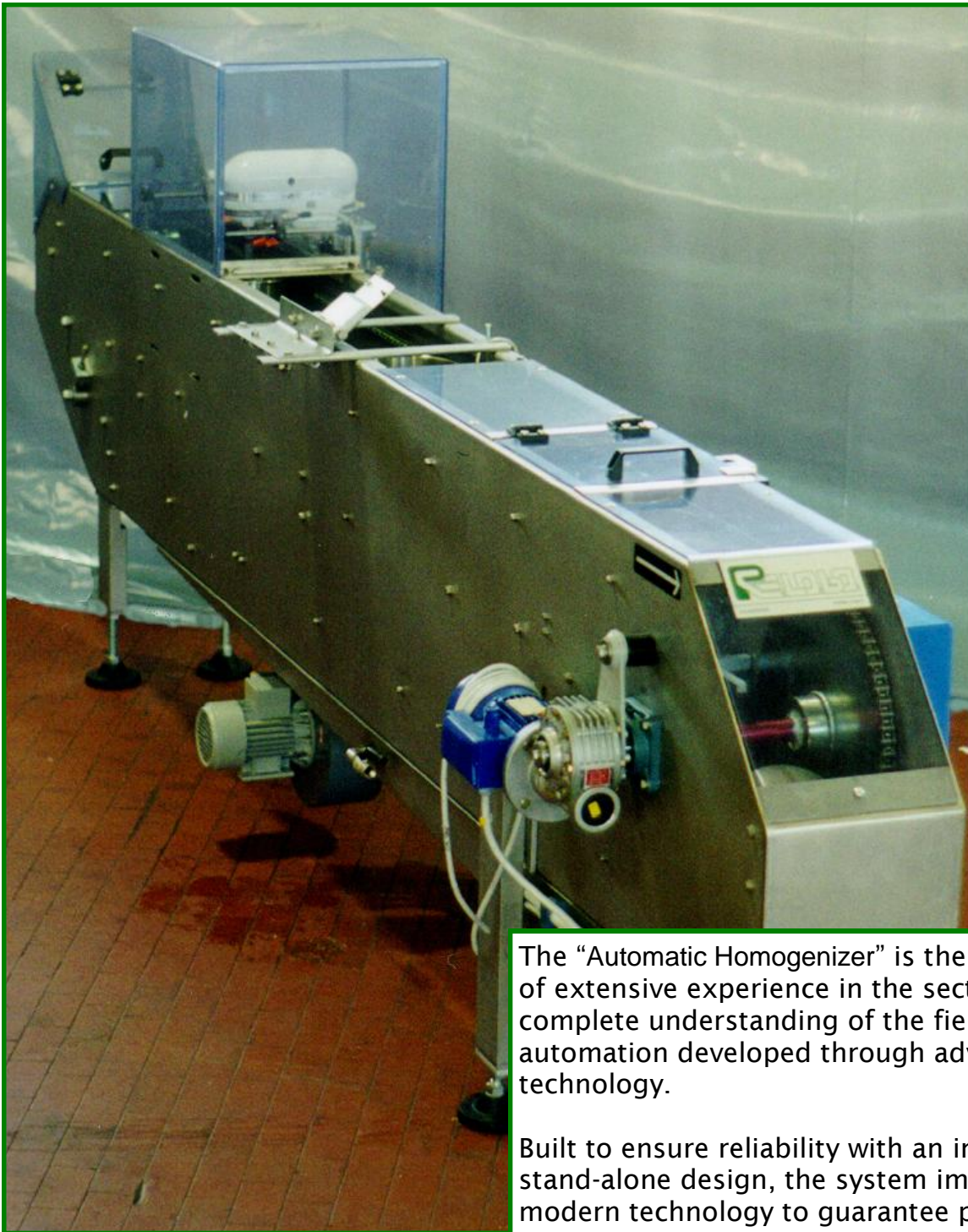
TECHNICAL DATA
SCALES
Centesimal model: +/- 0.01 g
Decimal model: +/- 0.1 g
Interface: RS-232

SYSTEM
Dosing ratio: settable
Decimal precision: +/- 0.1 g
Centesimal precision: +/- 0.02 g
Capacity: 110 samples/hour
Power: 220 V - 50 Hz
Consumption: 200 W
Standard interface: RS-232/Arcnet

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Automatic Brei Homogenizer

The "Automatic Homogenizer" is the end result of extensive experience in the sector and complete understanding of the field of automation developed through advanced technology.

Built to ensure reliability with an integrated or stand-alone design, the system implements modern technology to guarantee precision, speed and repeatability.

Thanks to the use of cutting edge cad/cae engineering, the "Automatic Homogenizer" has an extremely flexible design that can adapt to the strictest homogenizing requirements.

Sugar technology

The "Automatic Homogeniser" is an automatic machine that collects the breisaw and after having homogenised it, transports it to the analytical laboratory and cleans the conveyor cups for the next lot. The homogeniser head is equipped with a selectable speed, planetary driven mixing whip. A dry cleaning unit removes any surplus brei without using water thus avoiding any pollution. Thanks to the Automatic Homogeniser's modular length it will adapt to existing laboratories. The casing and cups, made in stainless steel, make the machine extremely sturdy and suitable for laboratory use.

The machine can have the following applications:

- automatic homogenisation unit, transport and cleaning between the breisaws and the operator on the "Dosing Unit";

- a complete laboratory automation unit, from the breisaw to the "Brei Sampler Robot and "Automatic Dosing Unit" of the Mixing/Filtering Track for complete automation of brei sample handling.

PURPOSES/ADVANTAGES

- automation of homogenisation and transportation of the brei
- automatic dry cleaning of the cups, avoiding any pollution caused by water.
- flexibility of homogenisation times and speed
- a reduction in the number of operators required.
- possibility of data collection/automation
- application to all types of breisaws.
- application on all installed Relobo labs.

TECHNICAL DATA

Homogenising speed: selectable from 1 to 10
Working time: selectable
Capacity: 120 samples/hour
Cup capacity: 5 Lt.
Recommended quantity of brei: $\geq$ 500 g
Number of cups: from 5 to 10
Length: min. 2500 mm/ max 5000 mm
Power: 400 V - 50 Hz
Consumption: 2 kW
Compressed air: 5 bar/1000 Lt./hour

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The "Automatic Clarifier" is the end result of extensive experience in the sector and complete understanding of the field of automation developed through advanced technology.

Built to ensure reliability with an integrated or stand-alone design, the system implements modern technology to guarantee precision, speed and repeatability.

Thanks to the use of cutting edge cad/cae engineering, the "Automatic Clarifier" has an extremely flexible design that can adapt to the new and old plants.

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Clarifier Preparing Unit

Tank for the automatic preparation of the clarifying solution. Works either with basic lead acetate or aluminium solutions.
- automatic preparation of the solution by setting the specific weight through conductivity.
- automatic holding of the set temperature.
- homogenisation of the solution by means of automatic circulation.
- conductivity and temperature set-point can be adjusted on the panel.
The following optional features are available:
- density detecting instruments
- mass detecting instruments
- automatic system for continuous clarifier dosing.
- connection to a PC.
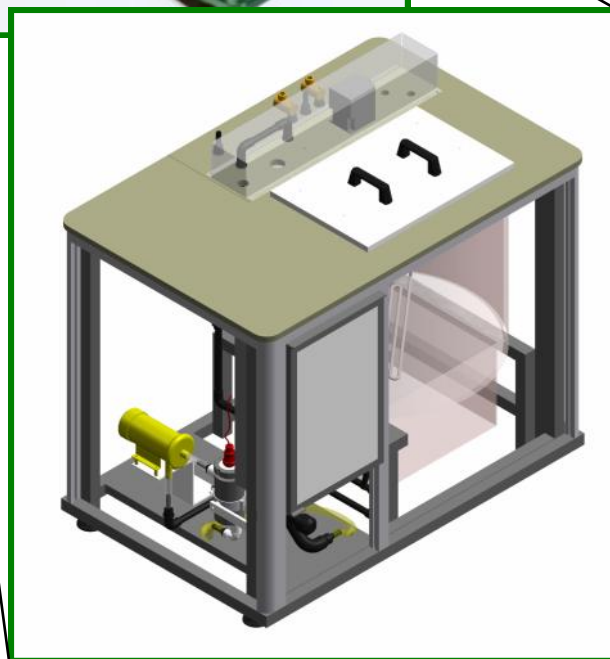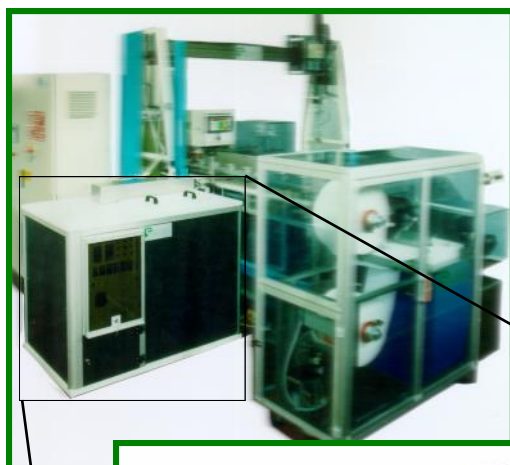
PURPOSES/ADVANTAGES
Automation of the dosing process.
No operators required.
Repeatability of doses.
Data flow automation.
Installation and adjustment flexibility

TECHNICAL DATA
Capacity: 200 Lt.
Temp. indicator: digital
Conductivity indicator: digital
Temperature: from 10 to 50°C
Temperature precision: +/- 0.1°C
Conductivity precision: +/- 1 µS
Power: 220 V - 50 Hz
Consumption: 2.4 kW
Empty weight: 200 kg
Size: 1330 mm x 860 mm x 1100 mm
Distilled water supply: 16 Ø pipe

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Data System

Fully automatized polarimeter or Betalyser©

**Friendly and SIEMENS—HMI based data collector interface.
Events / alarms visualization and printing.**

Customizable and multilanguage software

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The "Relobo Data System" collect data from the tarehouse and analytical laboratory for real time analisys process inspection and to send a complete sample report to the factory management department, useful for the economical evaluation and beets quality reports.
The sistem is composed by various devices connected each other by an high speed industrial network, the line PLC is the master unit and every operation can be done by the terminal display placed on the electrical panel board, the PC have the function of collecting and store every data coming from the line (samples data, event logging, error logging etc) at the end of process the event log printer prints the sample caracteristics data.
Every line is equipped by our standard teleservice and our programmers can check the PLC and other device without moving from their offices.
Samples data and events logging can be send to our database (such as MsSQL) and integrated to customer data collection system by ethernet network.

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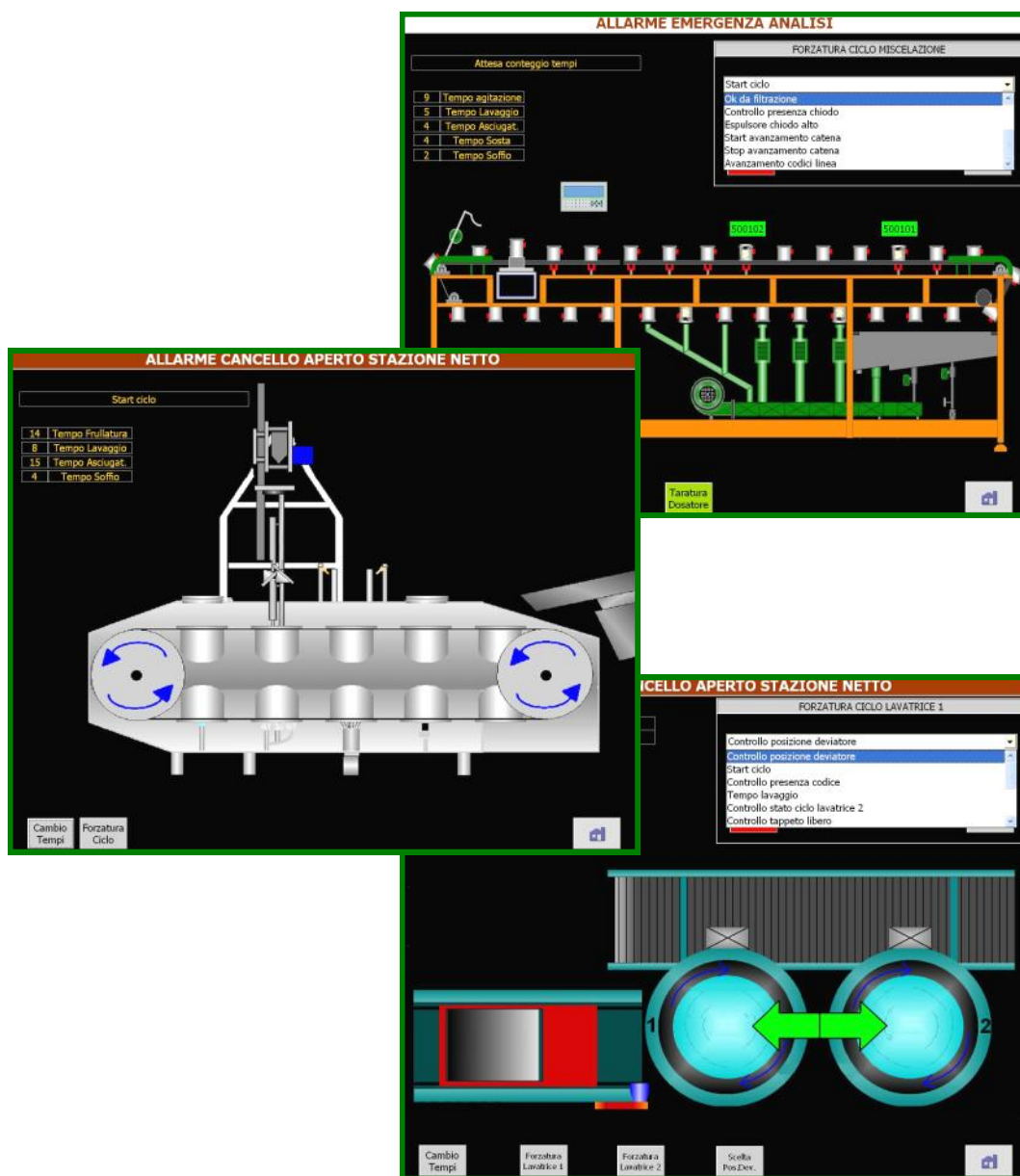
"Armlab" is the end result of extensive experience in the sector and complete understanding of the field of automation developed through advanced technology. Built to ensure reliability with an integrated or stand-alone design, the system implements modern technology to guarantee precision, speed and repeatability.

"Armlab" has an extremely flexible design that can adapt to the new and old plants.

Sugar technology

Automatic, constant volume, brei sample collector (adjustable) from the homogenising station to the dosing station.

"Armlab" could be used as a powerful brei sample taker, thanks to its speed accuracy and flexibility.

It's born to integrate existing manual dosing units, existing mixing tracks without human operator and most important without mechanical modification on existing plant.

All characteristic sample data can be automated thanks to the possibility of integrating the "Relobo data system".

TECHNICAL DATA
Sample weight: from 15 to 40 g.
Working area (radius): 1368 mm
Repeatability: ±0.004"
Weight: about 350 kg.
Capacity: 130 samples/hour
Power: 380 V - 50 Hz
Consumption: 3 kW
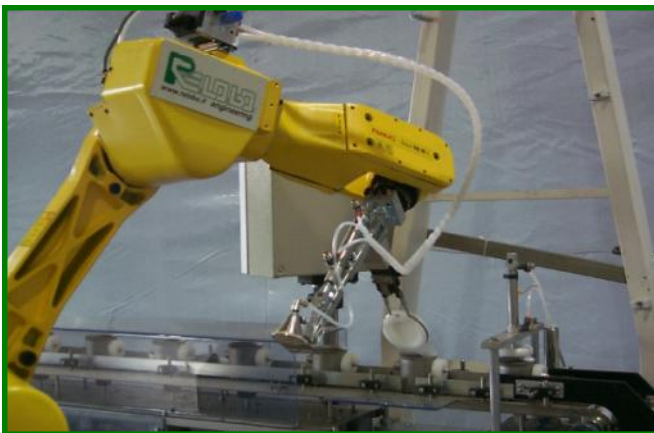Air supply: 6 bar - 10 Lt./min

PURPOSES/ADVANTAGES
Automation of the manual beet brei sampling processes.
No operators required.
Sampling repeatability.
Data flow automation.
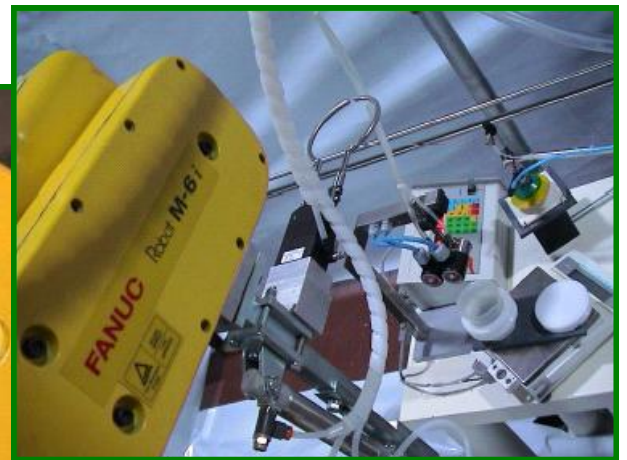Installation and adjustment flexibility.

"Newlab" is the end result of extensive experience in the sector and complete understanding of the field of automation developed through advanced technology. Built to ensure reliability with an integrated or stand-alone design, the system implements modern technology to guarantee precision, speed and repeatability.

"Newlab" has an extremely flexible design that can adapt to the new and old plants.

Newlab

Automatic, constant volume, brei sample collector (adjustable) from the homogenising station to the dosing station.

"Newlab" could be used as a powerful brei sample taker, thanks to its speed accuracy and flexibility.

It's born to integrate existing manual dosing units, existing mixing tracks without human operator and most important without mechanical modification on existing plant.

All characteristic sample data can be automated thanks to the possibility of integrating the "Relobo data system".

TECHNICAL DATA

Sample weight: from 15 to 40 g.
Working area (radius): 1368 mm
Repeatability: ±0.004"
Weight: about 350 kg.
Capacity: 130 samples/hour
Power: 380 V - 50 Hz
Consumption: 3 kW
Air supply: 6 bar - 10 Lt./min

PURPOSES/ADVANTAGES

Automation of the manual beet brei sampling processes.
No operators required.
Sampling repeatability.
Data flow automation.
Installation and adjustment flexibility.

RELOBO
Sugar technology