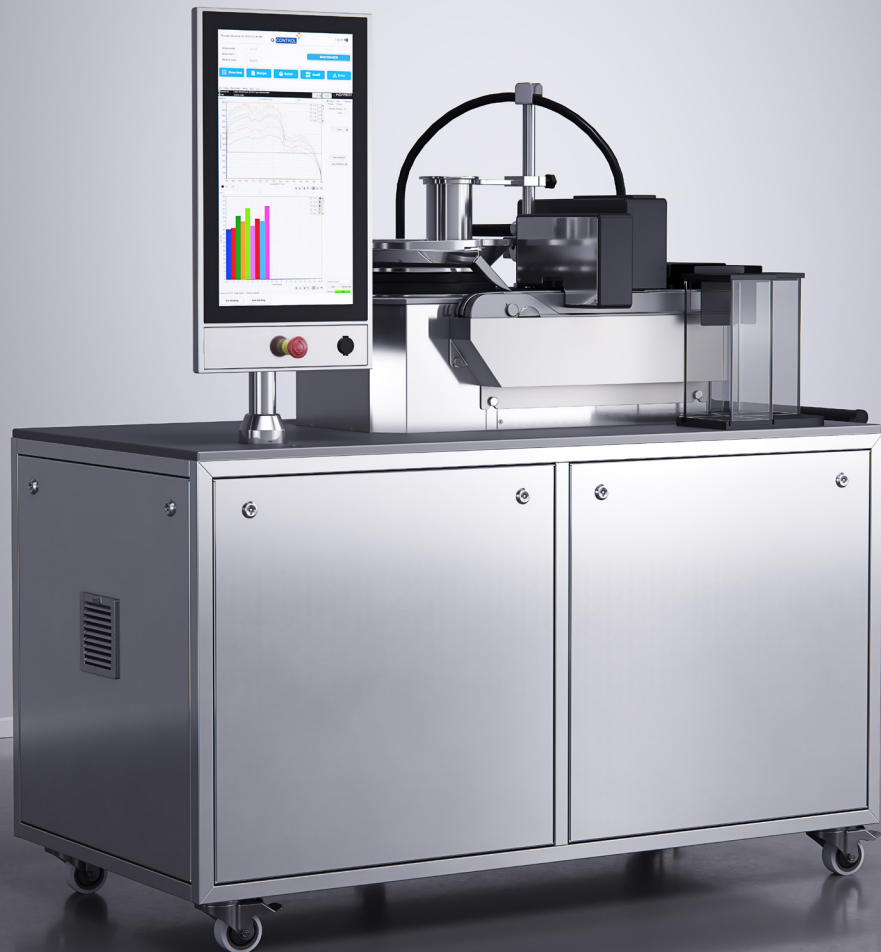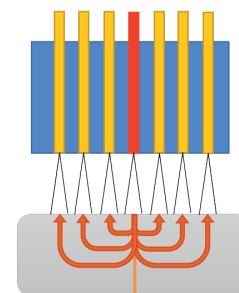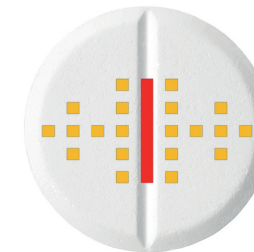# CUB-20
NON-DESTRUCTIVE API'S FRACTION PREDICTION

MULTIPOINT NIR-SRS PROBE

- Light Source
- Collection channels

API's

CUB-20 bench, provides comprehensive and non-destructive prediction of tablets & capsules API's content in real-time, based on multipoint NIR technology measurements

The most sophisticated multipoint NIR-SRS (Spatially Resolved Spectroscopy) is embedded to allow prediction of the APIs (Active Pharmaceutical Ingredients) fractions in the tablets formulation.
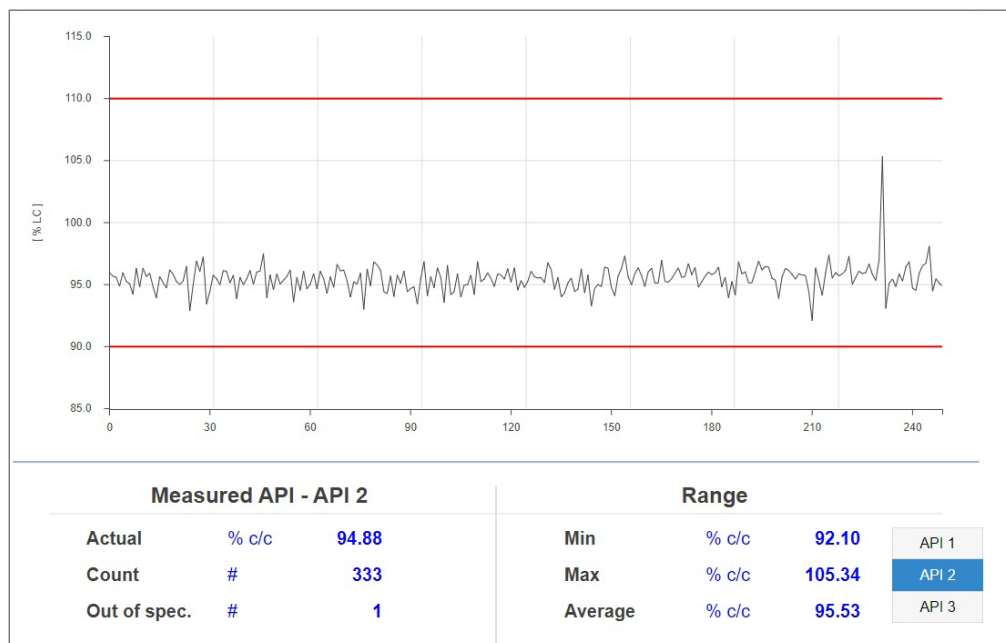
ADVANCE BY TECHNOLOGY

NIR SRS TECHNOLOGY SPATIALLY RESOLVED SPECTROSCOPY
FOR API'S FRACTION PREDICTION

A close and strong collaboration between engineers, research centre and university has contributed in achieving extremely accurate content measurements.

The versatile transportable unit is intended to run as a **PAT non-destructive tool** for a valuable process understanding :

■ **Off-line** : R&D activities, process development, process knowledge for scale-up, process stability studies, fast & easy collection of spectra for chemometrics, clinical batch testing, prove global batch quality for CMO, counterfeit product detection and sorting, batch recovery,…

■ **At-line** : Allow stratified sampling method and improve real time decision, help to validate new manufacturing process (i.e. Continuous manufacturing) – Can serve multiple lines.

■ **On-line** : Automated sampling at regular interval. Allow more product to be tested in a short period (faster control strategy).

■ **In-line** : Directly connected to a R&D, batch, or continuous manufacturing tablet press

Measured API - API 2			Range				
Actual	% c/c	94.88	Min	% c/c	92.10	API 1	
Count	#	333	Max	% c/c	105.34	API 2	
Out of spec.	#	1	Average	% c/c	95.53	API 3	

Each product is inspected by the **multipoint NIR-SRS probe** at a hi-frequency frame rate, allowing several spectral acquisitions per product during his pass through and allowing a **very good RMSEP accuracy**.

Various extensive repeatability tests campaigns and industrial case studies have shown that the predictions are within the predicted error boundaries.

This equipment is geared to provide you this **precise fraction prediction**, and to remove 100% of non-compliant products from good products, allowing RTD (Real Time Decision).

Using a dedicated chemometric model, the **CUB-20** can also allow prediction of the hardness in a non-destructive manner.

Samples can be sent to a classic **4 parameters tester (measuring weight, thickness, hardness, and diameter)** to serve as reference method for the indirect hardness predictions.

The unit has been developed with an utmost care to the mechanical design allowing fast and unexpansive format changes.

Data are processed and analysed by hi-speed processors and stored in a user-friendly "step by step" **CFR21 acquisition software**.

Spectral data can easily be exported to an USB memory device, and process data can easily be exported to an up-stream machine or software through OPC UA (e.g. connection to a SIPAT infrastructure or a third-party process equipment).

An utmost care has been taken to simplify the chemometric preparation work.

Pharma Technology – Q-Control equipment's are verified before delivery in a factory acceptance test (FAT). The results are part of the documentation package.

Designed to comply with the European Union's CE Guidelines, they are supplied with a manual, safety instructions and wiring diagram.

Our company can assist you for installation on site and help you to **develop chemometric models**.

ADVANCE BY TECHNOLOGY

Good products

Non-compliant products

Non-measured products

135

R197

210
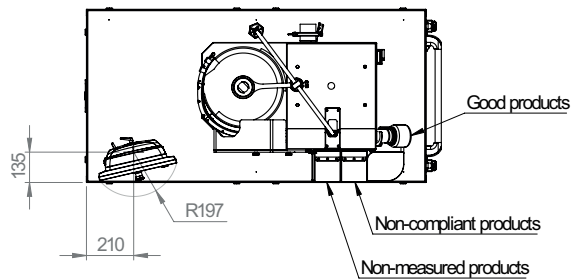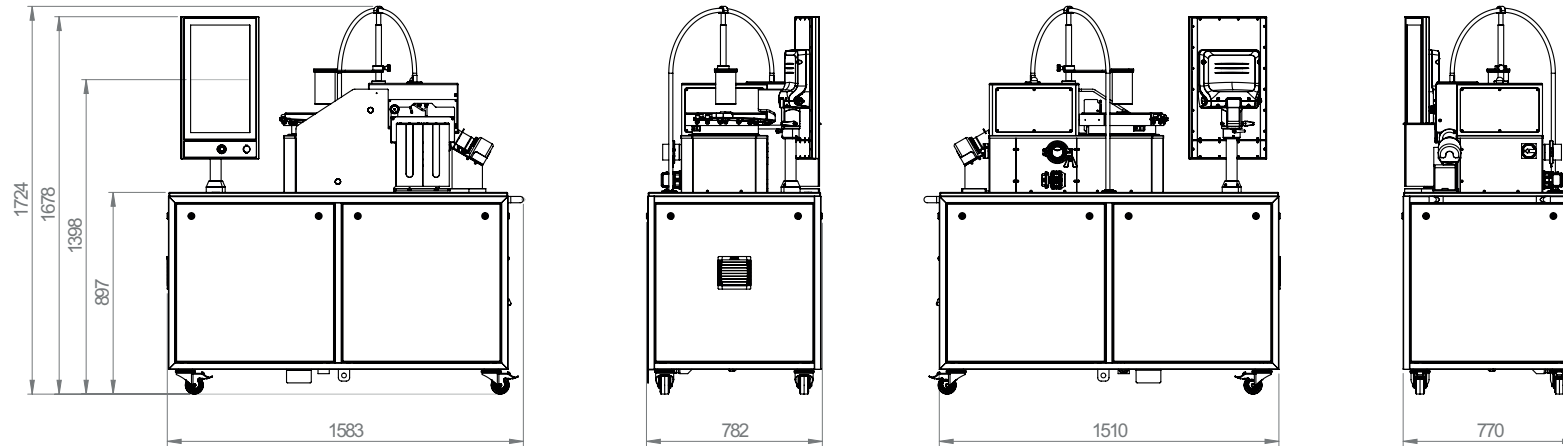
Technical data :	CUB-20
Maximum speed	20.000 tabs/h
Minimum product width	6 mm
Maximum product width	24 mm
Maximum product height	9 mm
Air extraction	External Nilfisk VHW440 or equivalent
Requested compressed air	6 bar compressed air line
Machine noise level	≤70 dB (A)
Power supply	380V 3ph + N + PE
Frequency	50 Hz / 60 Hz
Polymer contact parts	FDA approved

PHARMA TECHNOLOGY