TRIMOS

C-Line 3D

CNC Portable Coordinate Measuring Machine (CMM) designed for the Workshop

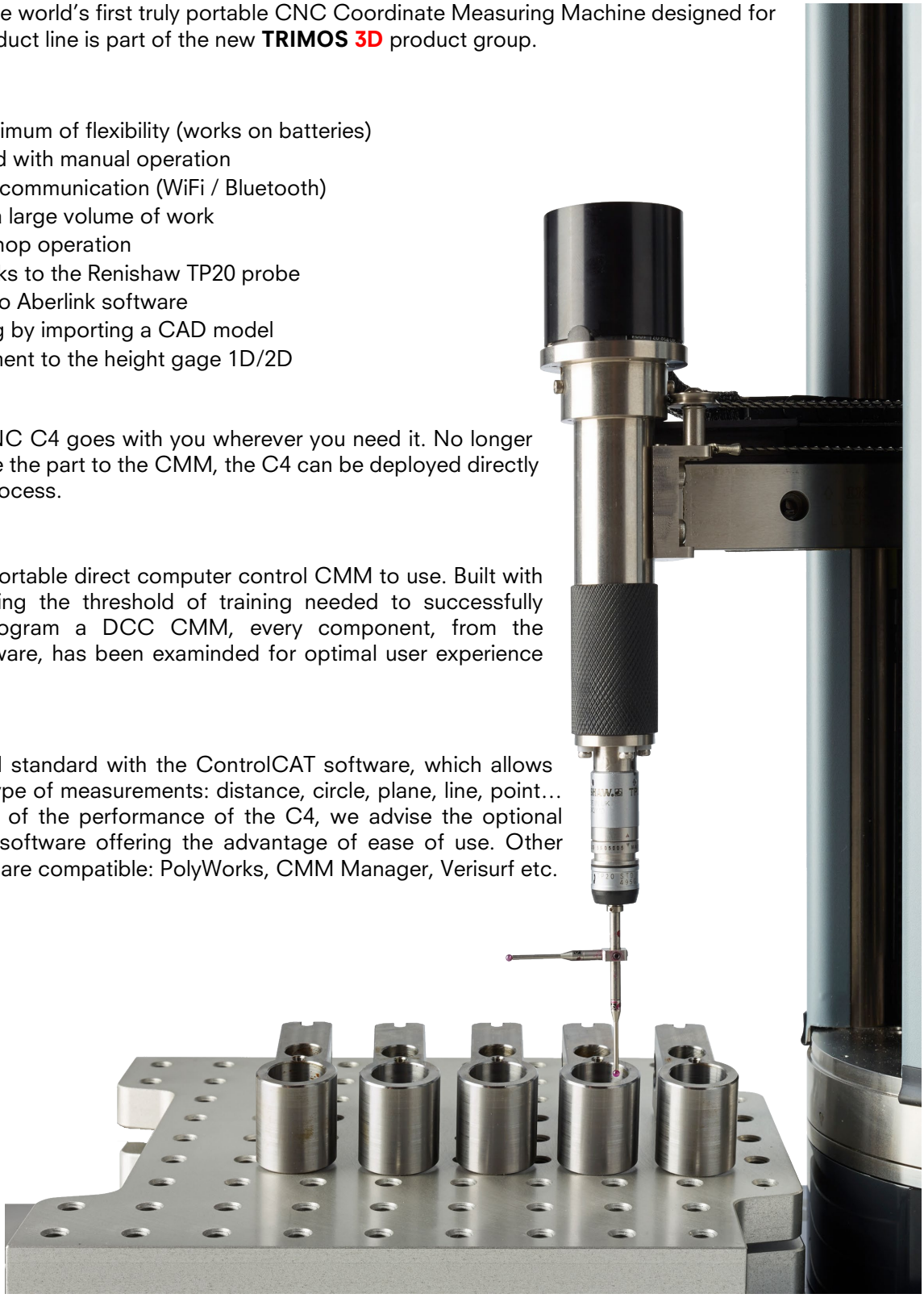
Swiss Measuring Instruments

1.

PRESENTATION

Trimos new C-Line is the world's first truly portable CNC Coordinate Measuring Machine designed for the workshop. This product line is part of the new **TRIMOS 3D** product group.

- Portable for the maximum of flexibility (works on batteries)
- Fully CNC combined with manual operation
- Ethernet or wireless communication (WiFi / Bluetooth)
- Small footprint, for a large volume of work
- Designed for workshop operation
- High precision, thanks to the Renishaw TP20 probe
- Ease of use thanks to Aberlink software
- Offline programming by importing a CAD model
- Logical 3D complement to the height gage 1D/2D



Portable

At only 13,5 kg, the CNC C4 goes with you wherever you need it. No longer are you required to take the part to the CMM, the C4 can be deployed directly in the manufacturing process.

Easy-to-Use

The C4 is the easiest portable direct computer control CMM to use. Built with the intention of lowering the threshold of training needed to successfully operate and even program a DCC CMM, every component, from the mechanics to the software, has been examinded for optimal user experience and ease-of-use.

Software

The C-Line is delivered standard with the ControlCAT software, which allows you to perform many type of measurements: distance, circle, plane, line, point… To take full advantage of the performance of the C4, we advise the optional Aberlink software, 3D software offering the advantage of ease of use. Other measurement software are compatible: PolyWorks, CMM Manager, Verisurf etc.

In North America the C-Line is commercialized under the Z Cat model name.

2.

MODELS

The C4 has 4 axes motorized (X, C, Z, P), it allows high performance measurements in 3D.

Its special probing module, equipped with a vertical and horizontal stylus, considerably increases the possibilities of measurement, notably reducing the repositioning of the measurand.

3.

FLEXIBILITY AND PORTABILITY

The C4 is equipped by default with a lithium-ion battery system, which gives it an autonomy of min. 4 hours under normal conditions of use.

Moreover, in addition to a wired Ethernet connection, the C4 can be equipped with a Bluetooth or Wifi wireless device and thus offer a complete autonomy.

Its lighter weight of 13.5 kg and ergonomic handle allow the C4 to increase the autonomy, making it unequalled on its market.

4.

COMPONENTS AND ACCESSORIES

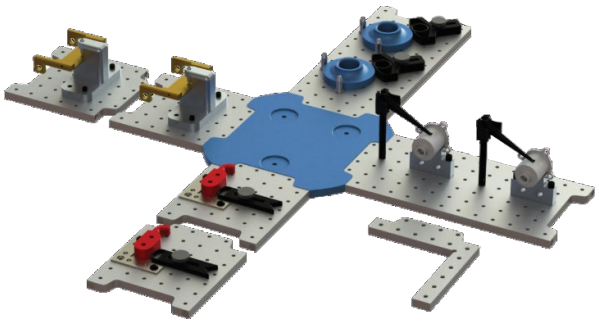
Standard delivery

- C-Line CNC CMM
- Probe module type TP20 (M2) special C-Line, with vertical and horizontal probes Ø 2 [mm]
- Test piece with calibration sphere
- Charger with power supply
- Protective cover
- Shipping box and inserts
- Trimos Calibration Certificate

Accessoires

- Ethernet, Bluetooth or Wifi adapter
- Probe module type TP20 (M2) special C-Line, with vertical and horizontal probes Ø 1 [mm].
- Probe module type TP20 (M2) special C-Line, with vertical probe Ø 2 [mm].
- Probe module type TP20 (M2) special C-Line, with horizontal probe Ø 2 [mm].
- Probe module type TP20 (M2) special C-Line, with carbon fiber probe Ø 6 [mm], L=75 [mm].
- Spare stylus, in ruby, Ø 2 [mm], L=20 [mm]
- Modular laying systems (set of 6 or 8 plates)
- Fastening systems (set of 62, 82 or 158 pieces)

Test piece with calibration sphere



Optional modular laying system

Trigger probe module type TP20 special C-Line

Fixation system (model of 82 pieces)

5.

TECHNICAL SPECIFICATIONS

Dimensions

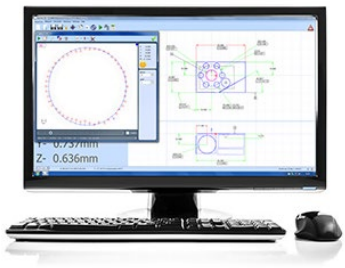
Working volume

C4		
Working volume	mm	X and Y Ø 720, Z 250
$L_{DIA, MPE}$	µm	8.0
Fixturing accuracy requirement	mm	5
Machine speed	mm/s	User controlled to 150
Machine air requirement		None required
Construction		Stainless steel for all structural components
Machine power requirements		100-240 V AC±10%, 50-60Hz
Autonomy	h	Normal: 4 /peak: 3
Power consumption	W	Normal: 10 / Peak 15
Manual motion control		User controlled by hand movement of probe
Controller		Onboard PCB provides motion control, error mapping, I++ interface and ControlCAT metrology software
Temperature compensation		Onboard monitoring and compensation
Probe Type		Renishaw TP20 probe
Machine weight	kg (lbs)	13.5 (30)
Machine dimensions (W x D x H)	mm	420 x 172 x 620
Operational Temperature	°C	+10 ÷ +40
Storage Temperature	°C	+10 ÷ +40
Relative Humidity (operation and storage)	%	HR 5 ÷ 75% (non-condensing)

** Specifications subject to change without notice*

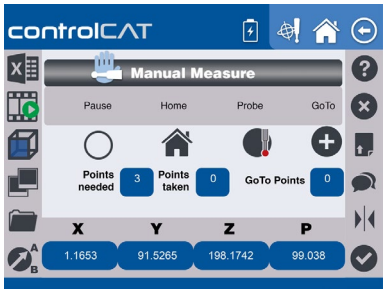
6.

SOFTWARE



The C-Line works with the following softwares:
Aberlink, CMM Manager, Verisurf, PolyWorks…

The CNC C-Line is delivered standard with the ControlCAT software, which allows you to perform many type of measurements: distance, circle, plane, line, point… and with automatic recognition of shapes, cone, cylinder, sphere...

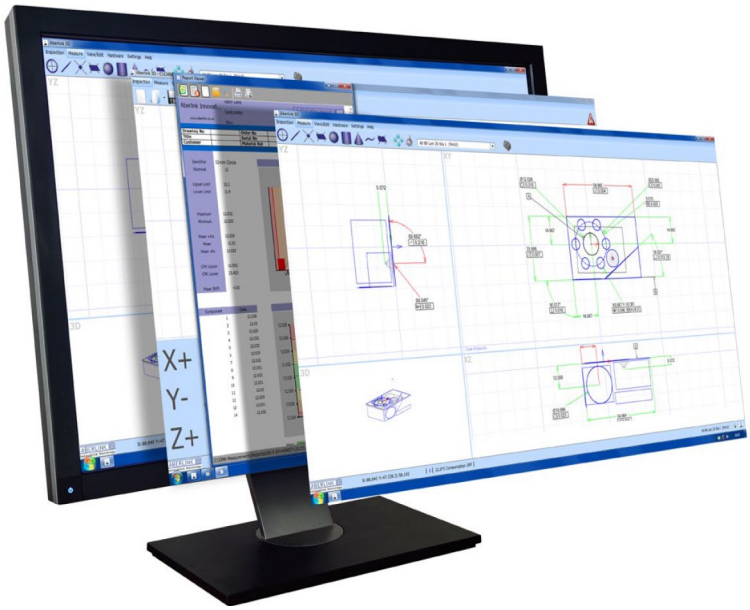


To take full benefit of the performance of the C-Line, we recommend to use the Aberlink software (optional).

Aberlink 3D Measurement Software

It corresponds to the software used with the TRIMOS 3D product family. Aberlink's philosophy is to facilitate measurements. The Aberlink 3D software was written to set the industry standard for easy-to-use software.

Designed around a graphical interface, Aberlink 3D can work in 2D or 3D, on manual or CNC CMMs and is equally at home when used with either touch, scanning or vision systems.

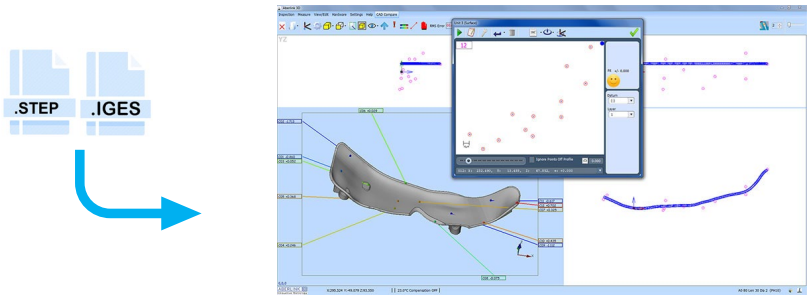


Main window with projections: XY – YZ – XZ – 3D

Modules Aberlink 3D supplémentaire :

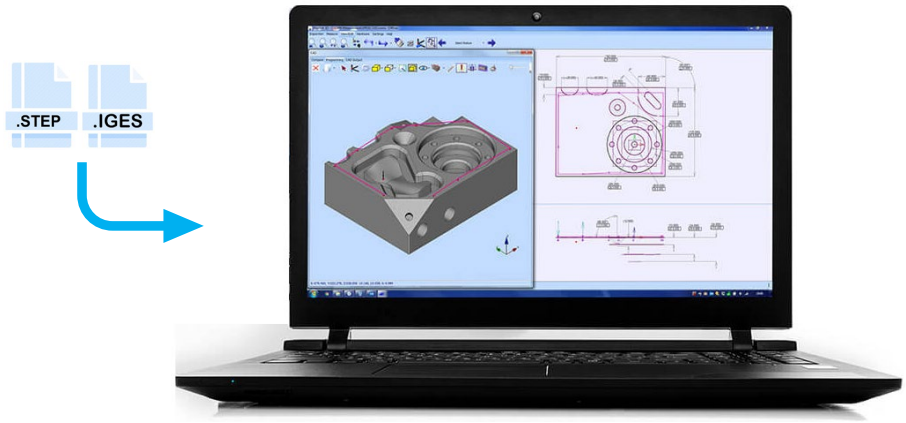
CAD Comparision

The CAD Comparison module gives the capability to compare measured points to a CAD model. This is the best way to measure complex geometries, or to inspect parts for which drawings do not exist.



Programming from CAD

This module allows the generation of measurement programs from a CAD model (.step, .iges) without physically needing the part. Instead of taking measurement points on a component, you can simply click on the surface of the model where you want the points to be taken.

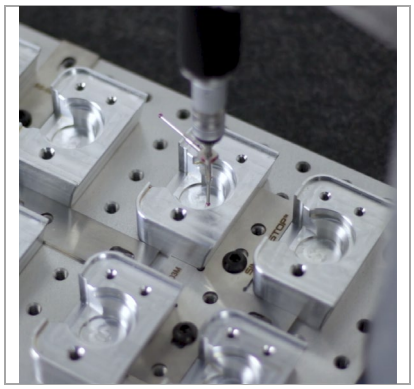


Key Features

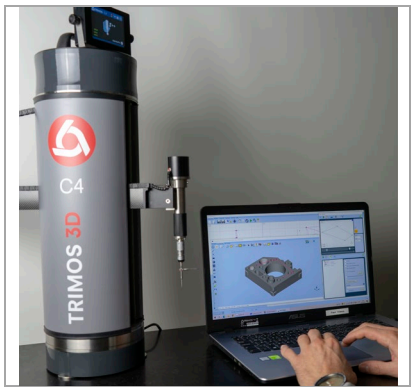
Inspection :	Programming :	Report Formats :
• Automatic measurement routines • Powerful interactive graphics window • Automatic feature recognition • 2D and 3D inspection • Geometric feature inspection • Free form curve inspection • Export .dxf	• Intuitive programming • Drag and drop program editor • Run programs from any point • Measure a subset of features • Simple object-based programming • No complex programming language	• Engineering drawing GD&T • Simple PASS/FAIL • Form plots • Batch summary • Tabulated reports • Graphical fly-out labels • Drag & drop reporting • Real-time SPC • Export to Excel • Historical data reporting

7.

APPLICATIONS







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