



**sylvac**

**English**

**Quickstart**

# **SYLVAC-SCAN**

## **F60(T) & F60L(T)**

Optical measuring machines

**SCAN F60T** **SCAN F60LT**

*Original version drafted in French*

## 1. UNPACKING AND INSTALLATION OF THE MACHINE

The procedures of this quickstart are valid for the machines Sylvac SCAN F60, F60T, F60L et F60LT.

### 1.1 Unpacking the machine

Unpack the machine and remove all of its safety attachments in the order shown below (Figure 1 - open the side and rear clasps to access the inside of the machine).

If possible, retain everything in case of having to return it.



Remove the **5 red parts** before starting the machine up or risk causing serious damage!

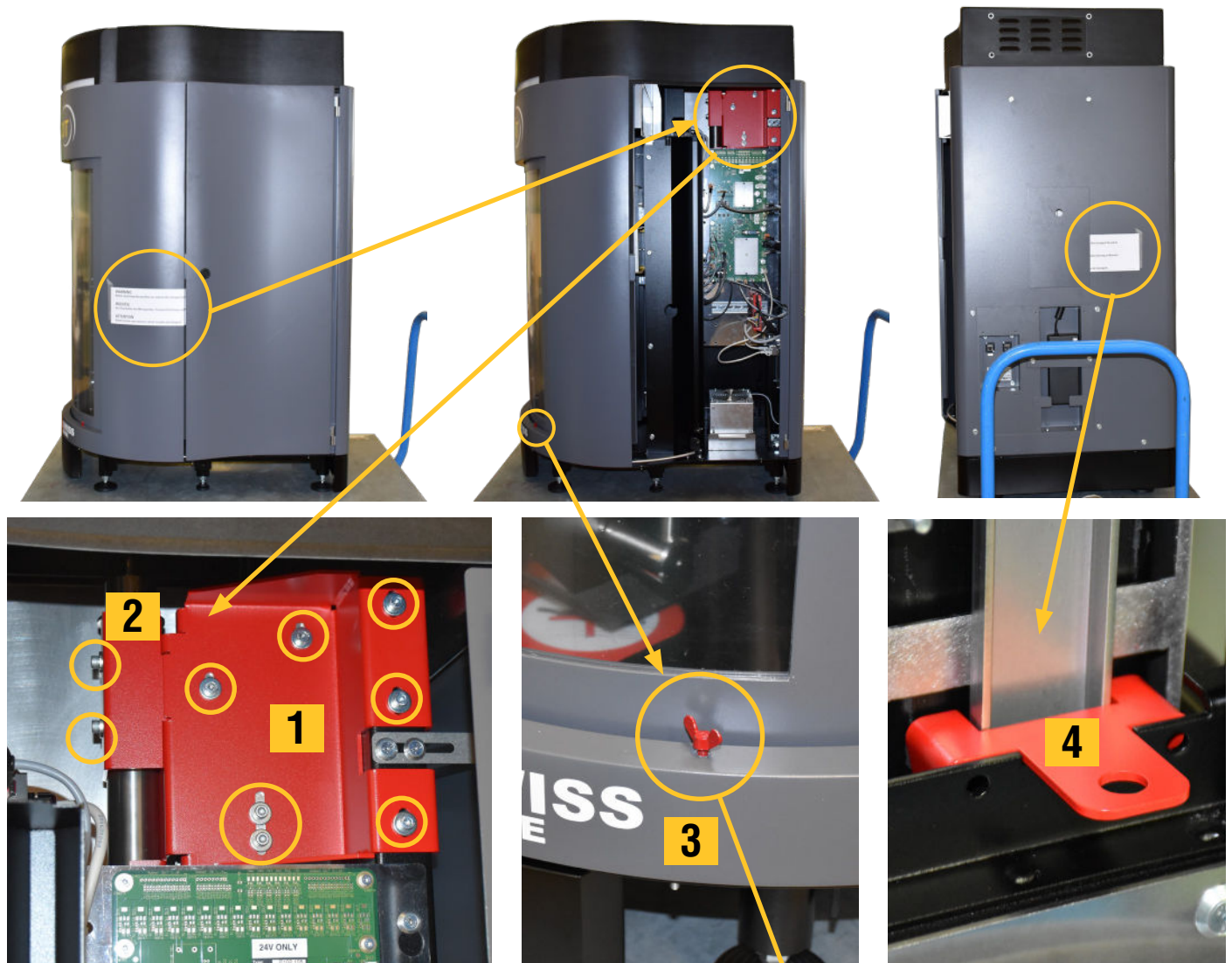
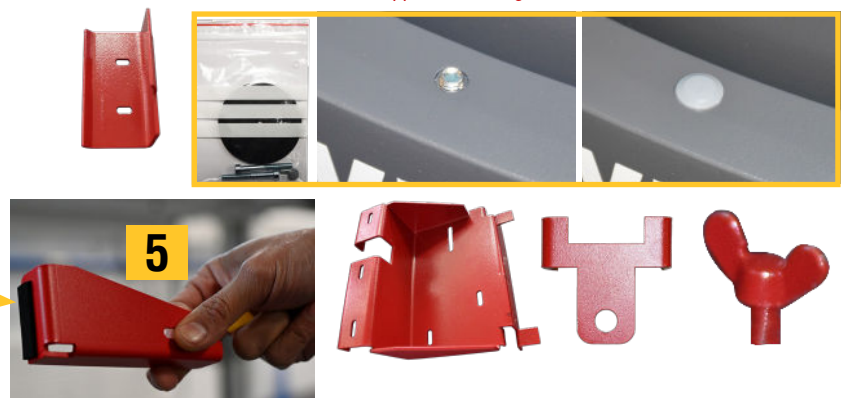


Figure 1

Replace the safety attachment by the screw and the cap supplied in the bag located in the machine binder.



## 1.2. Activation

The machine should be installed on a flat surface, capable of supporting its weight (230 kg).

The SYLVAC-SCAN F60(T) must be lifted using the loops provided for this purpose and a strap lifting device.

Ensure that general and local accident prevention regulations are complied with. (Figure 2)

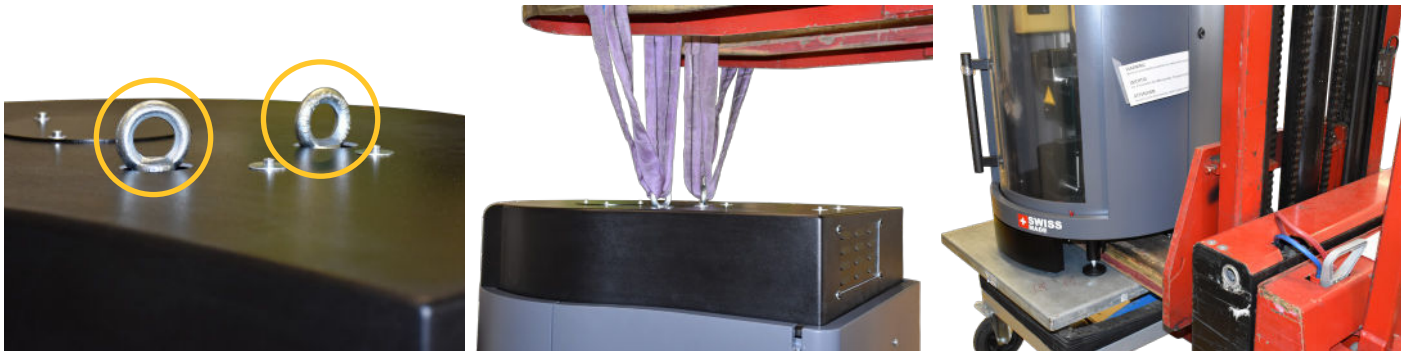


Figure 2

## 1.3. Electrical connections

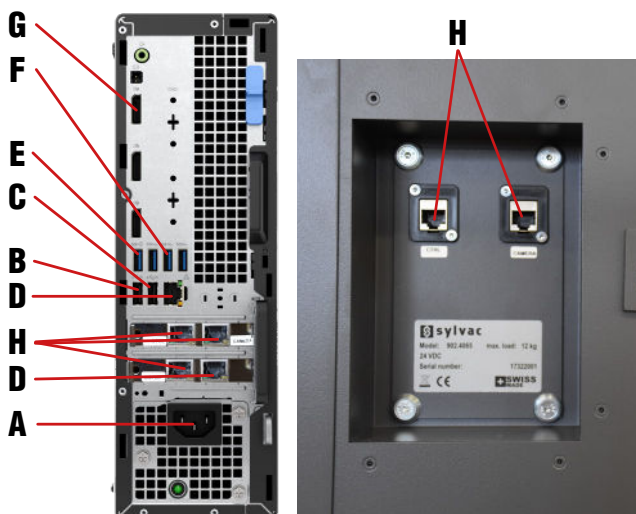
The machine must be de-energized to make electrical connections.

The wiring shown below indicates a typical environment and may vary according to the type of computer used. The physical position of each connection will depend on the characteristics of the chosen computer.



*Check the voltage of the computer and the monitor before plugging them into the mains!*

Do not attempt to alter the mains supply voltage of the computer/controller. Contact your SYLVAC agent if the voltage indicated does not match your mains supply.



- A. Main power supply
- B. Keyboard
- C. Mouse
- D. Automation Ethernet Plug (OPC/UA or Profinet)
- E. Touch screen (if supplied)
- F. Dongle
- G. Screen (Display port)
- H. CTRL, CAMERA and Display Ethernet Plug
- I. I/O connector
- J. Security connector
- K. Pneumatic input
- L. Footpedal input

The "MICROSOFT SOFTWARE LICENSE TERMS AND CONDITIONS" are available on the desktop of the PC. If you are using this PC, it means that you have read and accepted this document.

## 2. PROCEDURE FOR LEVELLING THE MACHINE

### 2.1. Locating the spirit level and the machine feet

Level the machine using the spirit level incorporated into the headstock as a reference.  
To access it, slide off the cover (Figure 3):

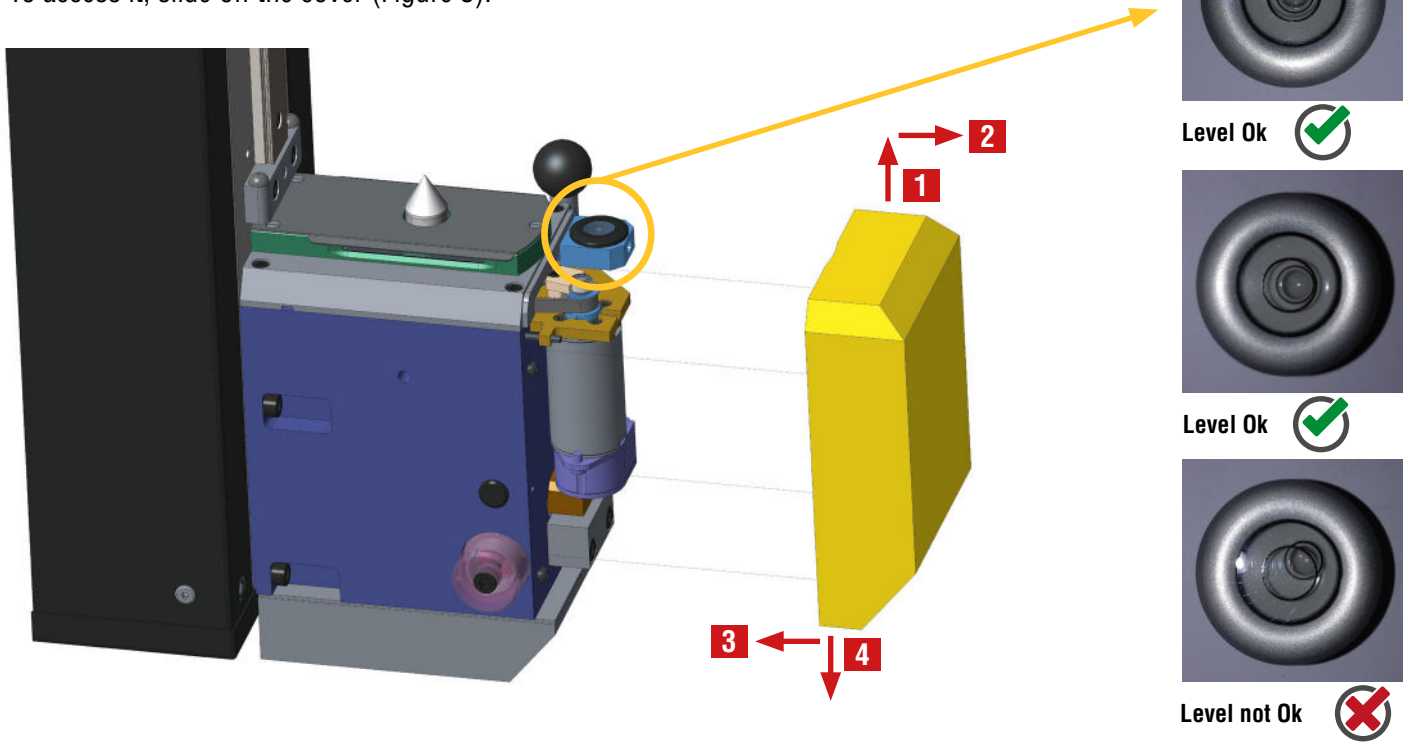


Figure 3

To get the spirit level in the correct position, adjust the individual feet of the machine with a 13 mm spanner (a 19 mm spanner is necessary afterwards for confirming the adjustments, figure 4).

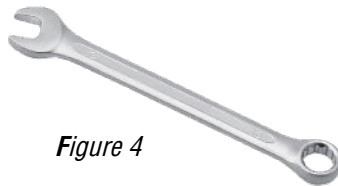
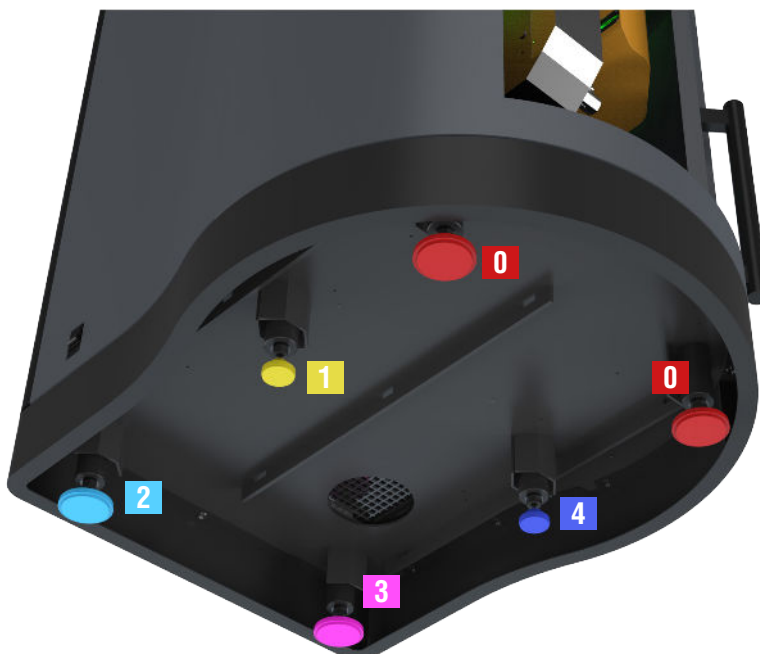


Figure 4



The machine has 4 supporting legs and 2 anti-tilt stands:

- **Foot 0 (x 2): Anti-tilt stands**
- **Foot 1**
- **Foot 2**
- **Foot 3**
- **Foot 4**

*Note : Do not rely on the height of the feet in the levelling procedure, nor the colours which are shown for illustration purposes only. (the feet are actually black in real life)*

## 2.2. Stages of the levelling process

1) Raise the 2 anti-tilt stands (0) so that they are no longer in contact with the bench. (Figure 5)

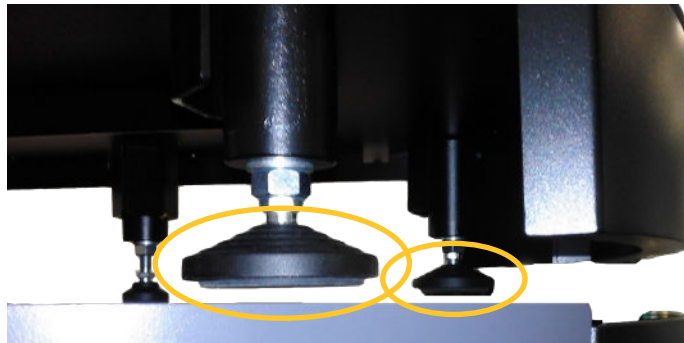


Figure 5

2) Adjust the height of feet 1, 2 and 3 with a 13 mm spanner as much as is necessary in order to get the spirit level in a centred position (the order of adjustment of the feet does not matter). (Figure 6)

*Note : The levelling process can also be performed using any other 3 of the rear feet (e.g. 2, 3, 4 or 3, 4, 1 or 4, 1, 2) depending on ease of access.*

3) Once the right configuration has been found, tighten foot 4, check that the spirit level is correct and lock all the other feet in position (from 0 to 4) using a 13 mm spanner and a 19 mm spanner (Figure 7).

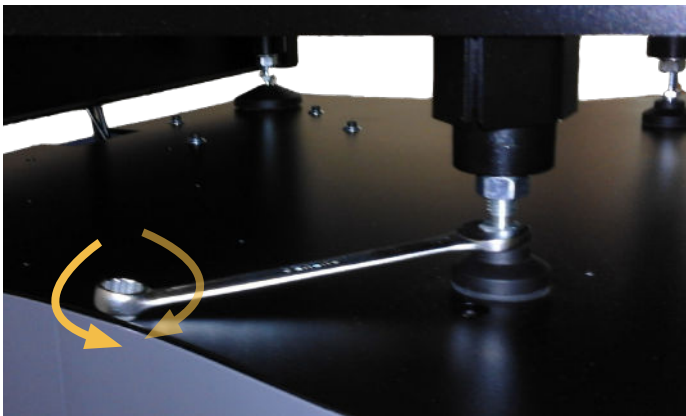


Figure 6

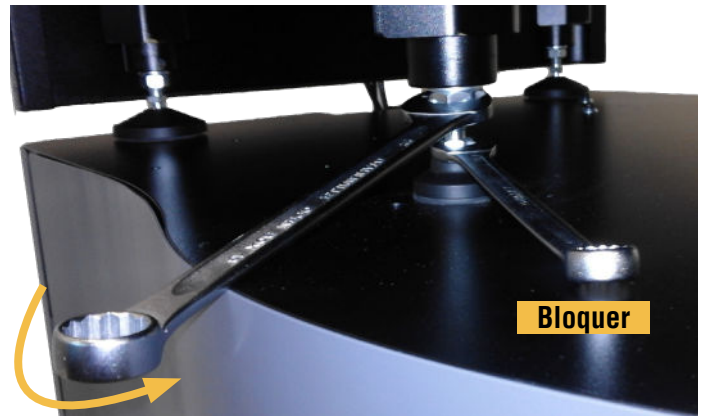


Figure 7

4) Then check the spirit level one last time. If it is in the correct position, you have finished.

*Note : Note: If installing the machine on a Sylvac bench, first level the bench using an external spirit level (not integrated) and then adjust the machine using its own feet. (Figure 8)*

**Do not adjust the level of the machine using the 4 legs of the bench!**



Figure 8

### 3. SAFETY ADVICE

Sylvac machines have been developed with state of the art technology. However, it is important to understand and comply with a few safety rules.



Read the manual carefully.

Only use the machine in the manner described.



Unqualified or inexperienced people are not authorised to use the machine.



All of the machine's movements are to be performed behind the safety light curtain. When this curtain is breached, the machine stops automatically.

It is forbidden to remove or to modify the safety light curtain (except during maintenance performed by an approved Sylvac representative).



Sylvac SA accepts no liability for any unauthorised modifications.



Emergency stop button: Do not block access to the emergency stop button.

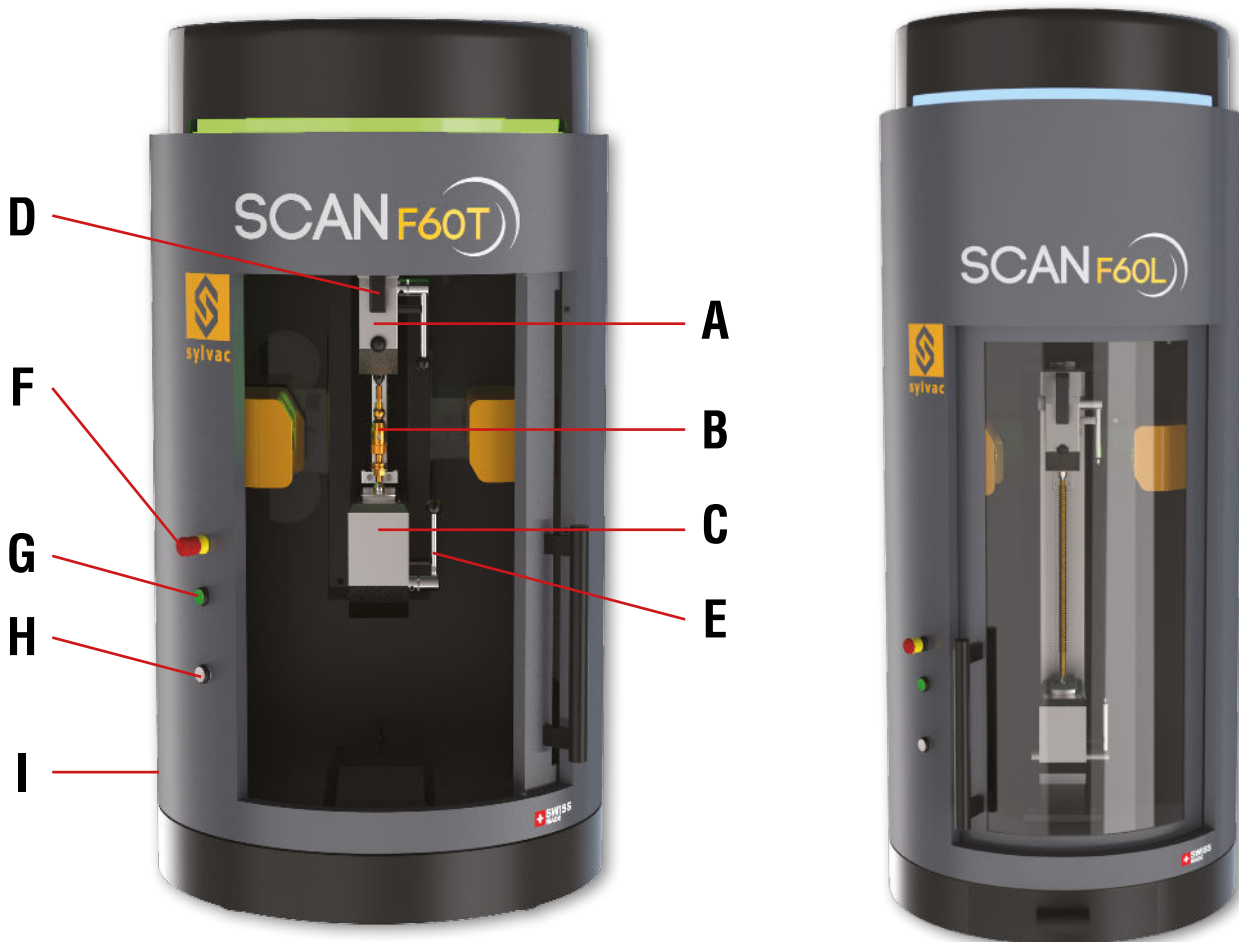


The calliper onto which the headstock and tailstock are attached (which support the piece to be measured) is supported by two cables which are connected to the counterweight. If one of the cables is damaged, immediately shut down the machine and replace the cable in question.



Sylvac SA accepts no liability if the user does not comply with the instructions written on the machine and contained in the user manual.

## 4. OVERVIEW AND CONFIGURATION



A - Tailstock: supports the upper part of the calliper, can be moved manually along the calliper according to the size of the piece.

B - Piece to be measured: for the user to affix the piece to be measured between the stocks.

C - Headstock: supports the bottom part of the calliper, can rotate if necessary.

D - Locking knob: for manually adjusting the tailstock along the calliper.

E - Attachment lever: for changing accessory (cone, chucks, tapers, etc.). Can be used for top or bottom mounting.

F - Emergency stop button: Press to stop the machine in the event of a dangerous situation. Pull it out once the danger has been removed.

G - Motor start-up: Press to restart the motors after an emergency stop.

H - Reflex-Click button: Start a measurement programme (in Reflex-Click mode, automatically select programme, replay or execute selected programme).

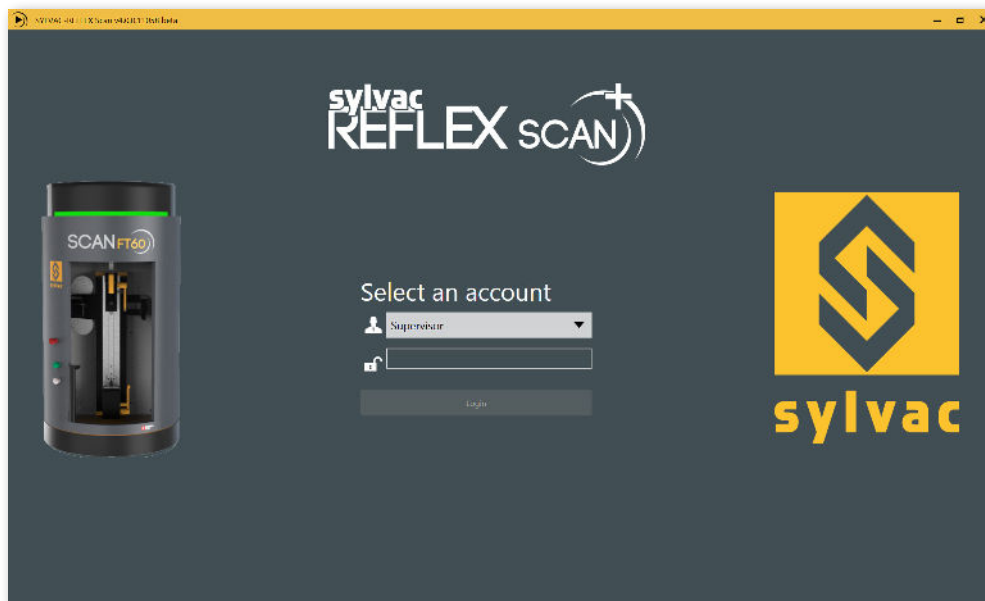
I - ON/OFF switch: machine main start/stop switch (low voltage) on the side of the machine.

## 5. QUICKSTART OF THE SYLVAC-REFLEX SCAN<sup>+</sup> SOFTWARE

- 1 - Turn on the machine using the ON/OFF button
- 2 - Start up the computer
- 3 - Launch the Sylvac-Reflex Scan+ software by clicking on the icon



- 4 - The below window will be displayed on your screen. Log in as a supervisor using the password “123”.

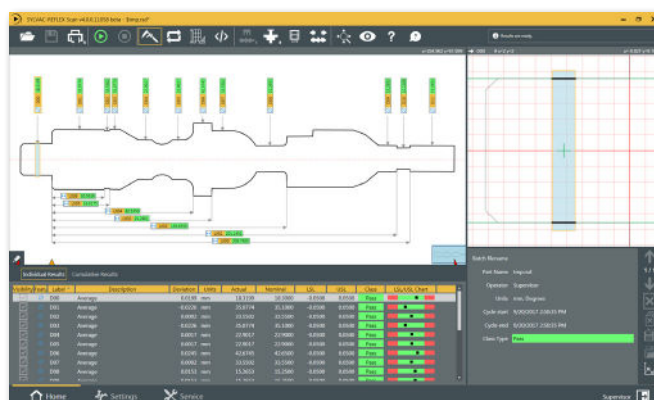


- 5 - Press the Reflex-Click button (H) on the front of the machine. Your system must be calibrated before making the first measurement, you will receive a message to confirm the calibration request. Then press the Reflex-Click button (H) again to continue.

- 6 - After completing calibration, you piece can be measured. Note that the Reflex-Click mode is selected by default. This means that the machine will be capable of automatically detecting and executing an existing programme for the piece to be measured or it will measure automatically the most common properties (e.g. diameter and length).



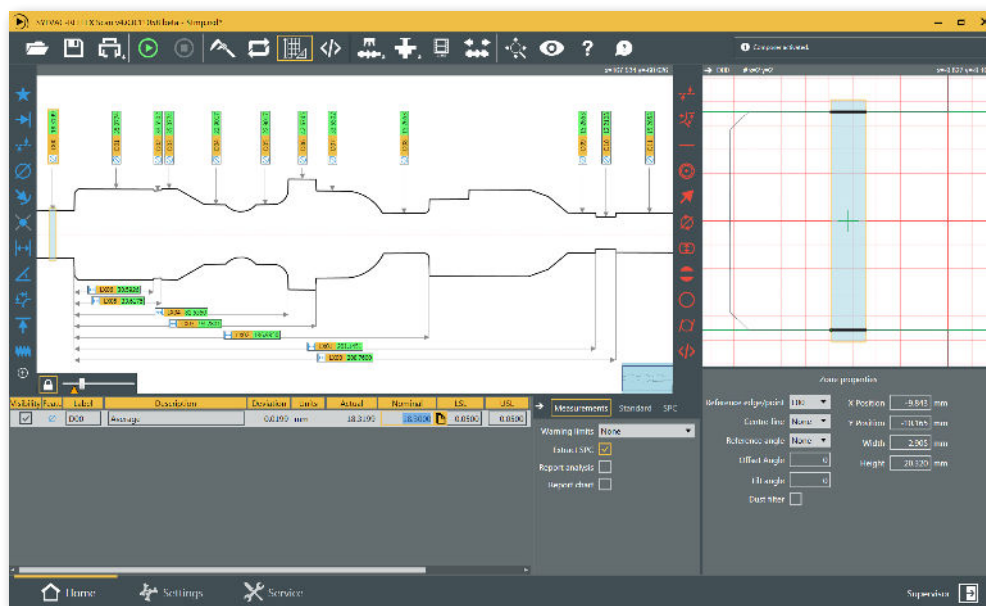
- 7 - Press the Reflex-Click button once more to receive the measurement results in just a few seconds!



8 - Press the Compose button to create or edit a programme:



You will then be able to enter the nominal values to compare with the measured values or add new parameters by selecting them from the tool box (blue: static parameters, red: dynamic parameters) and move your mouse over the contours of the piece to define the area of interest.



9 - Once you have entered the changes, press the Reflex-Click button. You will be asked to save your programme before running it.

## 6. MAINTENANCE AND SERVICING

The maintenance and servicing of the machines must be performed by people trained and qualified by Sylvac SA or its official agents.

During servicing or maintenance, switch off the machine completely using the main ON/OFF switch (I). Otherwise, activate the “Service mode” button on the main panel in order to deactivate the safety light curtain.



**Important note :** do not forget to deactivate the “service mode” button when the maintenance or servicing work has been completed.

## 7 PACKING UP THE MACHINE

### 7.1 Secure the moving parts

Connect the machine to the computer. In the Sylvac-Reflex Scan+ software, select the “Service” tab, then “Plugins” and the “Parkem Controller” diagnostics button (Figure 9).

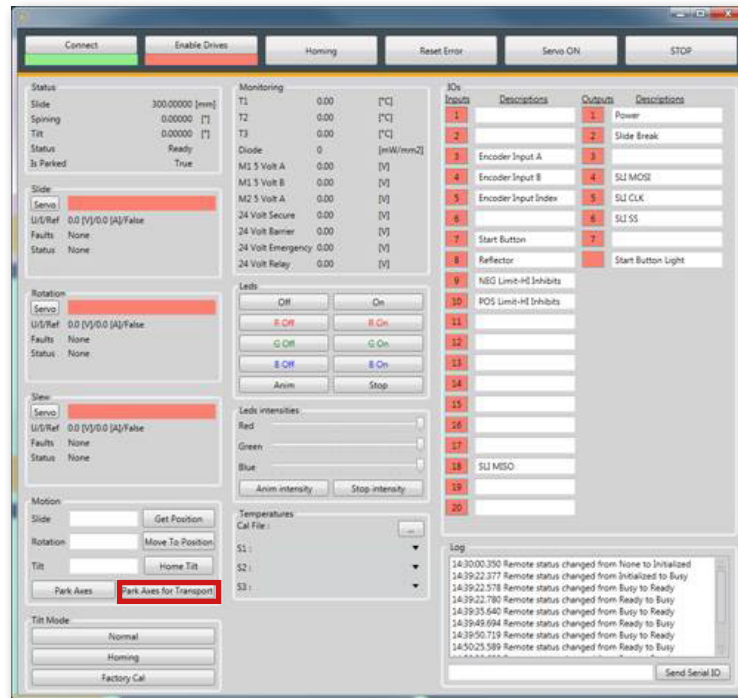


Figure 9

The machine will move into the correct position (approx. 390 mm). When it is in the correct position, a warning message will tell you to fit the correct accessory to hold the tailstock in place. Press OK.

### 7.2 Affix the safety components

Figure 10.

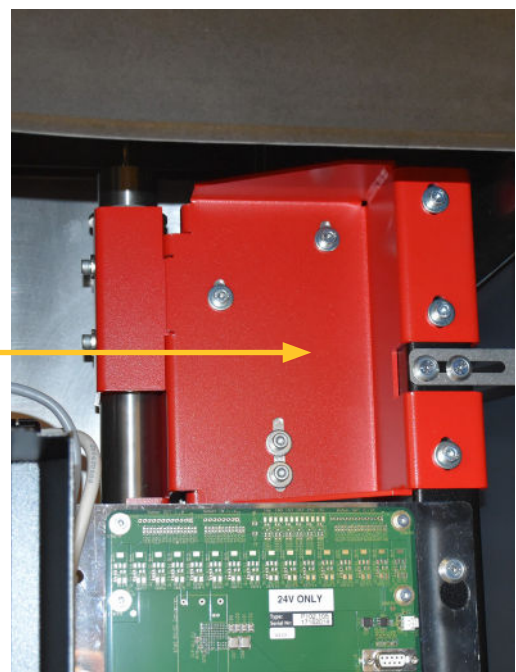
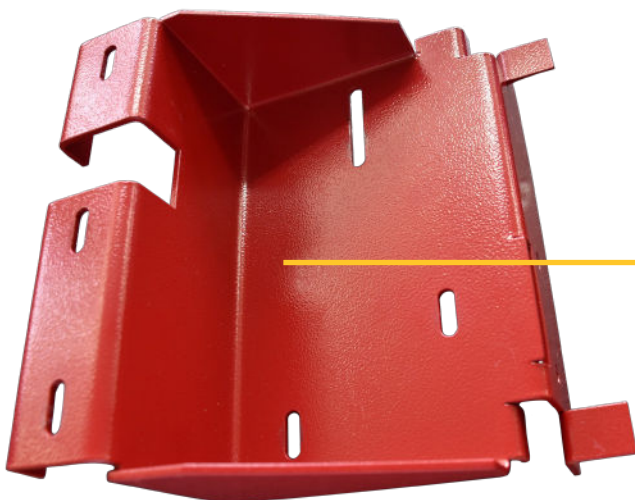


Figure 10

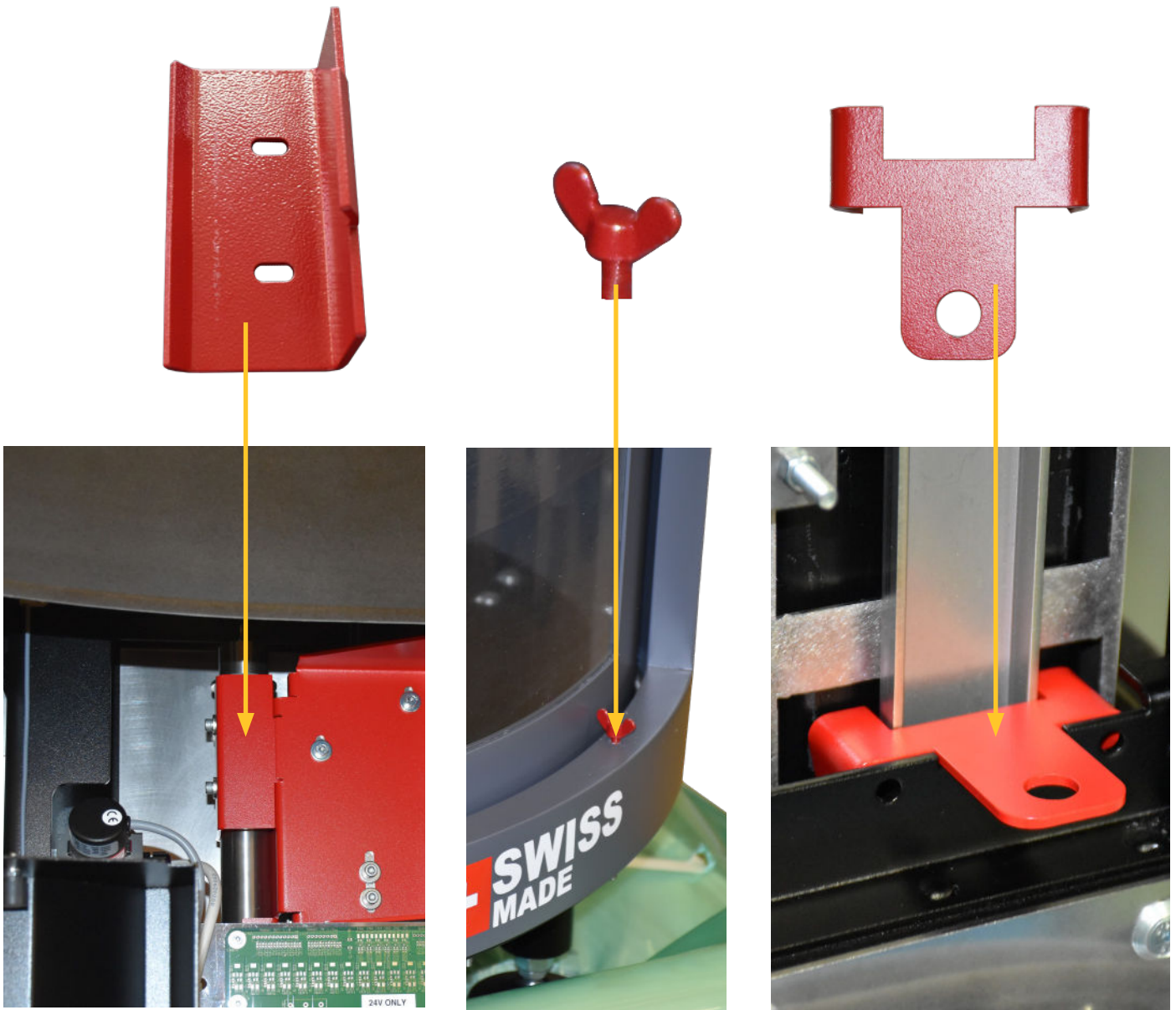


Figure 10

### 7.3. Disconnect the machine from the PC

Figure 11.



Figure 11

## 7.4 Palletisation

Place the machine on the pallet (only one position possible, figure 12).

Appropriate lifting systems, see point 1.2.

If possible, wrap the machine in order to protect it from moisture (plastic film, clima foil, etc.).

## 7.5. Strapping

Strap the machine to the pallet (figure 13).



**Important note** : do not strap the machine over the top, you risk damaging the cowling.



Figure 12

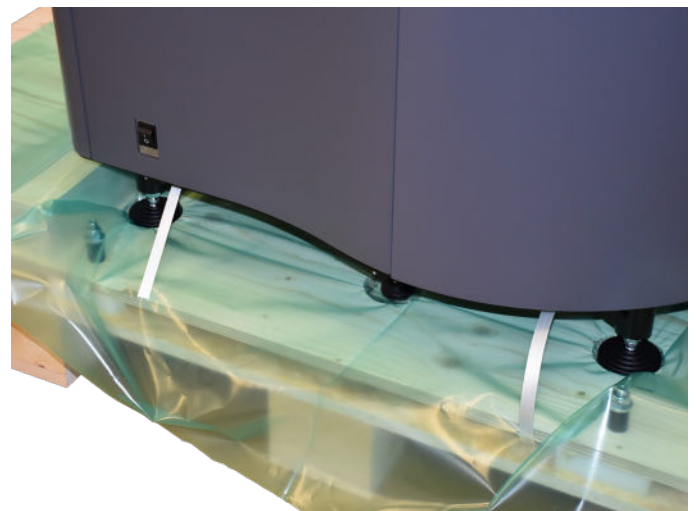


Figure 13

## 7.6. Attaching other parts and accessories

Attach the various accessories to the pallet. (Figure 14).

## 7.7. Fitting the box and attachments

Put the box over the machine and its accessories and strap it. (Figure 15).



*Figure 14*



*Figure 15*

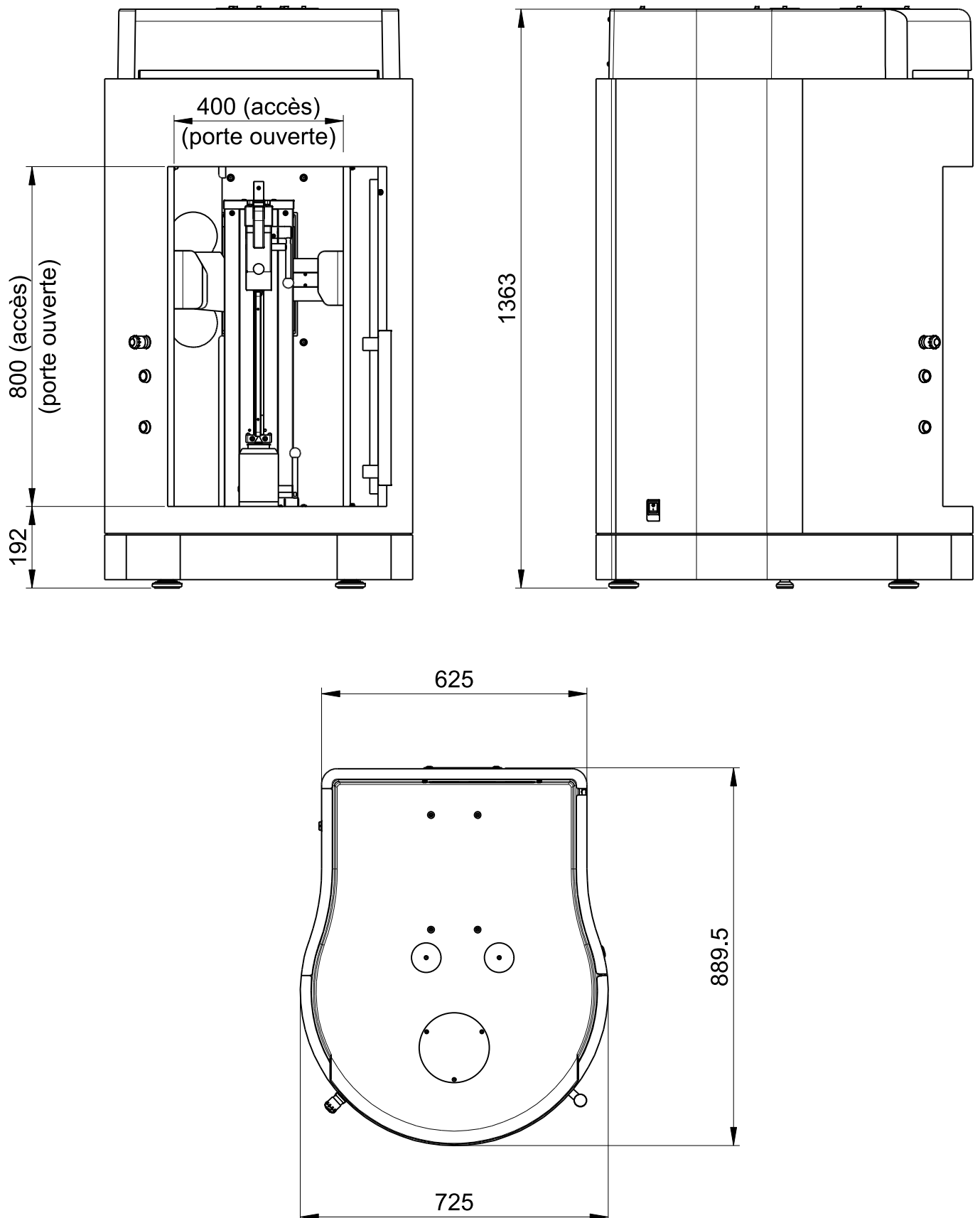
## 8. TECHNICAL DATA

### 8.1 F60 and F60T

SPECIFICATIONS	Metric	Inches
Overall Dimensions		
Machine (H x L x P)	1363 x 725 x 889.5 mm	53.66 x 28.54 x 35 in
Mass		
Machine with centres	≈ 265 kg	≈ 584 lbs
Packed Machine	≈ 329 kg	≈ 725 lbs
Operating temperature		
Storage temperature	5 to 45 °C	40 to 115 °F
Relative humidity (storage)	80% max	80% max
Operating temperature	10 to 40 °C	50 to 105 °F
Relative humidity (operating) (non-condensing)	80% max	80% max
Power		
Power supply	24 VDC, 5 A (external powering provided with the machine: 100-240 VAC / 24 VDC)	
Power consumption (for 8kg part)	~ 78W, 0.35A	
Performances (at 20° ±1°C)		
Resolution	0,0001 mm	0.000004 in
Highest repeatability (2s = 95%)		
Lengths	1.8 µm	3,937e-5
Diameters	0.5 µm	1,9685e-5 in
Precision MPE (D and L in mm)		
Lengths	±(3 + L/200) µm	± (0,12+L/5080)/1000 in
Diameters	±(1 + D/100) µm	± (0,04+D/2540)/1000 in
Additional data		
Maximum volume of the part (between centres)	Ø 120 mm x L 315 mm	Ø 4.7 in x L 12.4 in
Measuring range	Ø 0,5 - Ø 64 mm x L 300 mm	Ø 0.02 - Ø 2.52 in x L 11.8 in
Weight of the part	10 kg	22 lbs
Maximal displacement speed		
Main axis (X-axis)	100 mm/s	3.93 in/s
Rotation	360°/s	
Measurement cycle duration (e.g. static measurement of 20 dimensions)	5s	
Noise level	LpA <70 dB (A)	

All indicated values are based on the results obtained from clean and ground components measured at 20°C. They may be altered by the component shape and surface finish.

## 8.2 Drawings F60 and F60T

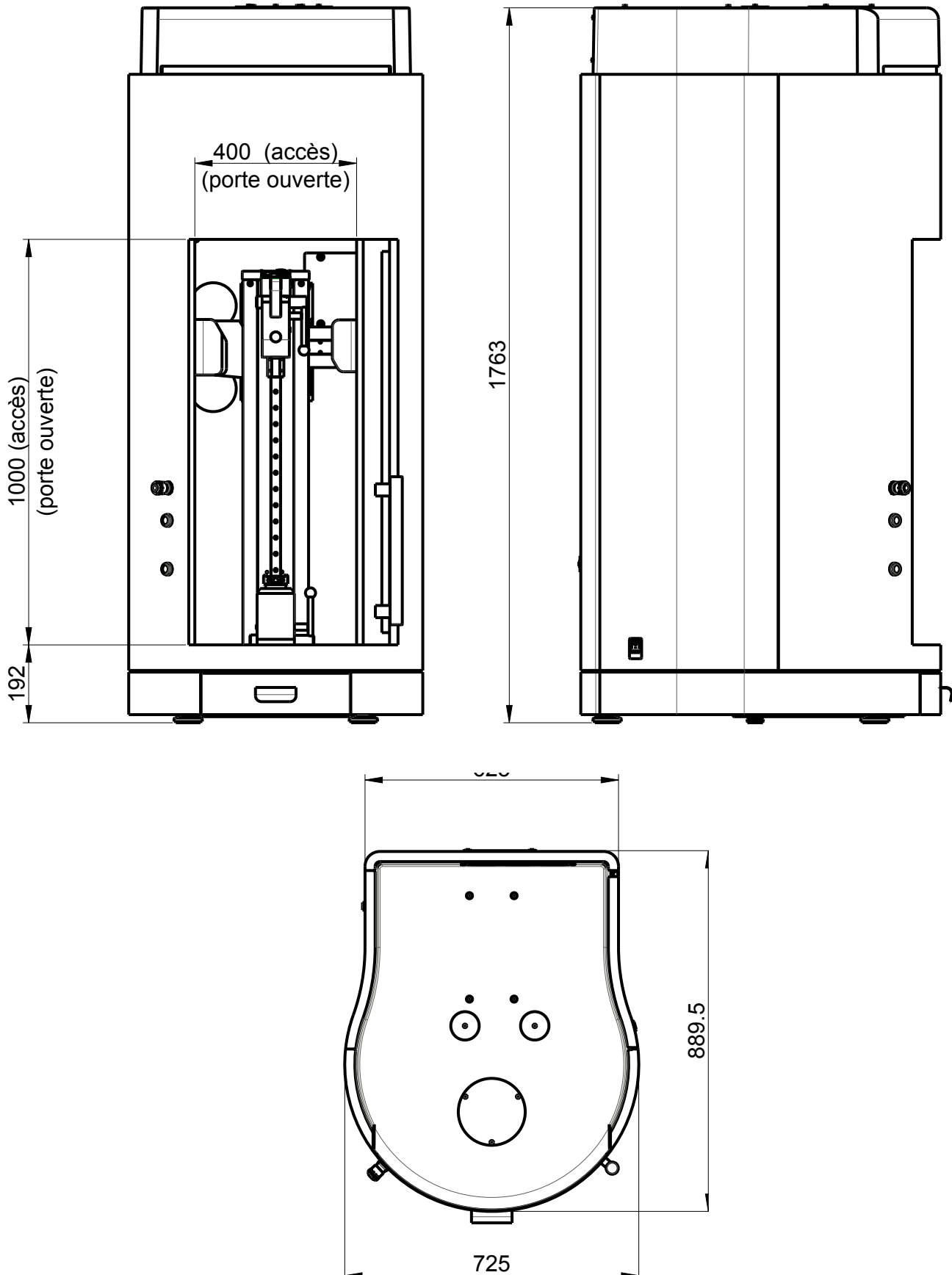


### 8.3 F60L and F60LT

SPECIFICATIONS	Métriques	Impériales
Overall Dimensions		
Machine (H x L x P)	1763 x 725 x 889.5 mm	69.40 x 28.54 x 35 in
Mass		
Machine with centres	≈ 330 kg	≈ 727 lbs
Packed Machine	≈ 400 kg	≈ 881 lbs
Operating temperature		
Storage temperature	5 à 45 °C	40 à 115 °F
Relative humidity (storage)	80% max	80% max
Operating temperature	10 à 40 °C	50 à 105 °F
Relative humidity (operating) (non-condensing)	80% max	80% max
Power		
Power supply	24 VDC, 5 A (alimentation externe fournie avec la machine: 100-240 VAC / 24 VDC)	
Power consumption (for 8kg part)	~ 78W, 0.35A	
Performances (at 20° ±1°C)		
Resolution	0,0001 mm	0.000004 in
Highest repeatability (2s = 95%)		
Lengths	1.8 µm	3,937e-5
Diameters	0.5 µm	1,9685e-5 in
Precision MPE (D and L in mm)		
Lengths	±(3 + L/200) µm	± (0,12+L/5080)/1000 in
Diameters	±(1 + D/100) µm	± (0,04+D/2540)/1000 in
Additional data		
Maximum volume of the part (between centres)	Ø 120 mm x L 500 mm	Ø 4.7 in x L 19.7 in
Measuring range	Ø 0,5 - Ø 64 mm x L 500 mm	Ø 0.02 - Ø 2.52 in x L 19.7 in
Weight of the part	10 kg	22 lbs
Maximal displacement speed		
Main axis (X-axis)	100 mm/s	3.93 in/s
Rotation	360°/s	
Measurement cycle duration (e.g. static measurement of 20 dimensions)	5s	
Noise level	LpA <70 dB (A)	

All indicated values are based on the results obtained from clean and ground components measured at 20°C. They may be altered by the component shape and surface finish.

## 8.4 Drawings F60L and F60LT



## 9. CERTIFICATES OF CONFORMITY AND CALIBRATION

### 9.1 Certificate of conformity

#### **CERTIFICATE OF CONFORMITY**

Sylvac certifies that this instrument has been manufactured in accordance with our Quality Standard and tested with reference to masters of certified traceability by the Swiss Federal Office of Metrology.

#### **CERTIFICAT DE CONFORMITE**

Sylvac certifie que cet instrument a été fabriqué et contrôlé selon ses normes de Qualité et en référence avec des étalons dont la traçabilité est reconnue par l'office fédéral suisse de métrologie.

#### **QUALITÄTSZEUGNIS**

Sylvac bestätigt, dass dieses Gerät gemäss seinen internen Qualitätsnormen hergestellt wurde und mittels Normalen mit anerkannter Rückverfolgbarkeit, kalibriert durch das Schweizerische Bundesamt für Metrologie, geprüft worden ist.

#### **CERTIFICATO DI CONFORMITÀ**

Con il presente Sylvac certifica che questo strumento è stato prodotto secondo il nostro standard sulla qualità e controllato rispetto a campioni di riferibilità riconosciuta dall'ufficio federale svizzero di metrologia.

#### **CERTIFICADO DE CONFORMIDAD**

Sylvac certifica que este instrumento ha sido fabricado conforme a nuestras normas de calidad y ha sido controlado en relación con patrones de trazabilidad reconocida por la oficina federal suiza de metrología.

### 9.2 Certificate of calibration

#### **Calibration certificate**

Because we make our Sylvac instruments in batches, you may find that the date on your calibration certificate is not current. Please be assured that your instruments are certified at point of production and then held in stock in our warehouse in accordance with our Quality Management System ISO 9001. Re-calibration cycle should start from date of receipt..

#### **Certificat d'étalonnage**

En raison de la fabrication de nos instruments par lots de production, il est possible que la date de votre certificat d'étalonnage ne soit pas actuelle. Nous garantissons que nos instruments sont certifiés au moment de leur fabrication puis stockés conformément à notre système de gestion de la qualité ISO 9001. Le cycle de réétalonnage peut commencer à partir de la date de réception.

#### **Zertifikat**

Da wir unsere Instrumente in Serien herstellen, kann es sein, dass das Datum auf dem Zertifikat nicht aktuell ist. Die Instrumente sind jedoch ab der Herstellung zertifiziert und werden dann gemäß unserem Qualitätsmanagementsystem ISO 9001 in unserem Lager aufbewahrt. Der Nachkalibrierungszyklus kann ab dem Empfangsdatum beginnen..

#### **Certificado de calibración**

Considerata la nostra produzione in serie di strumenti, è possibile verificare che la data di produzione sul rapporto di prova / certificato di taratura non è attuale. Accertarsi che gli strumenti siano correttamente certificati dalla nostra produzione e che sono conservati in stock presso il nostro magazzino secondo il sistema di gestione della qualità ISO 9001. Il ciclo di nuova taratura può essere avviato dalla data di ricezione..

#### **Certificado di taratura**

Puesto que fabricamos nuestros instrumentos por lotes, puede que la fecha de su informe de prueba / certificado de calibración no esté al día. Asegúrese de que los instrumentos estén certificados en nuestro lugar de producción y estén almacenados en nuestro almacén conforme a nuestro sistema de control de calidad ISO 9001. El ciclo de recalibración puede empezar a partir de la fecha de recepción..

## 10. DESCRIPTION

Measuring solution for cylindrical using an LED illuminator to project a collimated beam of light onto the part, allowing the collection and processing of the part's contour data through bi-eccentric lenses.

### Déclaration de conformité Konformitätserklärung Conformity declaration



Nom et adresse du fournisseur  
*Name und adresse des Lieferanten*  
Name and Address of the supplier

**SYLVAC SA**  
Avenue des Sciences 19  
CH 1400 – Yverdon-les-Bains

Nom et adresse de la personne autorisé à  
constituer le dossier technique  
*Name und adresse des zuständigen Leiter  
der technischen Dokumente*  
Name and Address of the responsible  
person for the technical folder

M. Daniel Schnyder  
Lion d'Or 23  
CH 2735 - Malleray

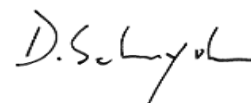
Déclare que le produit :      Système de mesure optique  
*Erklärt dass das*                  Optisches Messgerät  
*produkt :*  
Declares that the                  Optical Measuring System  
product :

SYLVAC SCAN  
F60/F60T/F60L/F60LT

Type :  
*Typ :*                  902.4060, 902.4062, 902.4065, 902.4067  
Type :

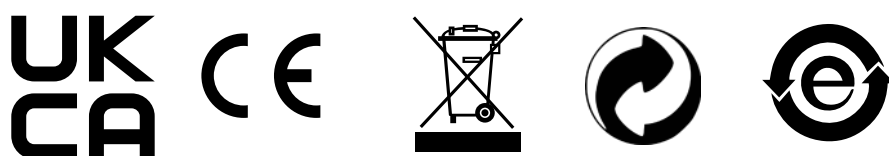
Est conforme aux dispositions  
*Den folgendem Bestimmungen entspricht*  
Is in conformity with the provisions of

- Des directives Européennes  
*Der Richtlinien*                                  2006/42/CE ; 2014/30/EU et 2014/35/EU  
The directive
- Des normes européennes  
*Den Normen*                                  EN 12100:2010 ; EN 60204-1 et EN 61326-1  
The standards
- Et aux données techniques contenues dans nos documents de vente.  
*Sowie den technischen Daten, die in unseren Verkaufsunterlagen angegeben sind.*  
And technical data as specified in our sales documents.



Yverdon-les-Bains, le 12.04.2023

D. Schnyder  
Responsable Qualité  
*Qualitäts-Leiter*  
Quality Manager



Changes without prior notice  
Sous réserve de toute modification  
Änderungen vorbehalten

Edition :

2024.07 / 681.102.01-110