

Installation Manual Integration and mechanical adjustment for diameter gauge



A - PRESENTATION OF DIAMETER GAUGE	2
<u>A-1 - Rrobes F00 and F00L</u>	2
<u>A-2 - Internal Sensor with radial ouput</u>	3
B - ADJUSTMENT OF THE PROBE	4
<u>B-1 - Adjustment of the preload</u>	4
<u>B-2 - Adjustment of the Overall Diameter Contact Spacing</u>	7
<u>B-3 - Adjustement of the probe height</u>	8

A – PRESENTATION OF DIAMETER GAUGE

The diameter measurement kit consists of 3 elements, a probe, an internal LVDT sensor, and an amplifier (single or dual channel)

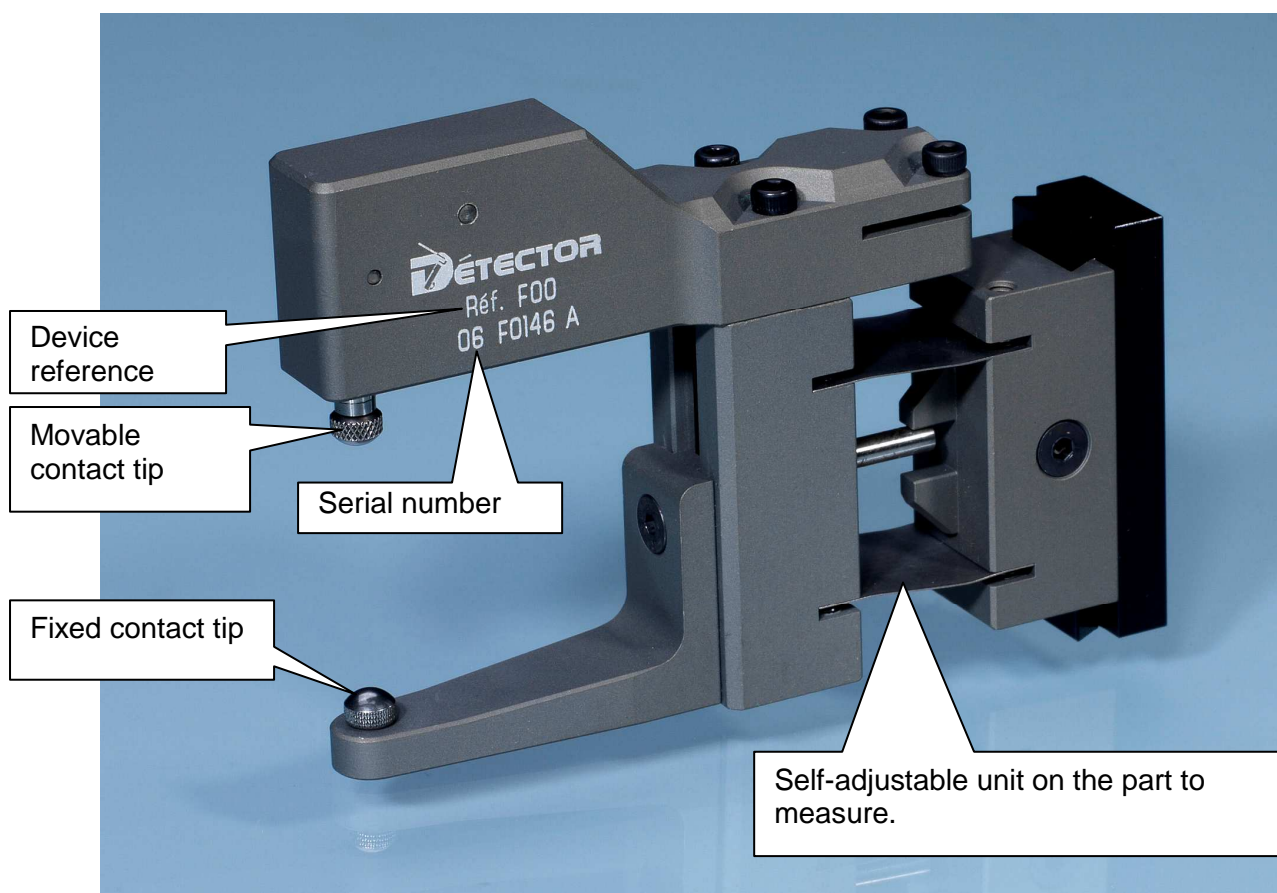
A-1 - Probes F00 and F00L

The probe is designed to serve as the interface between the sensor connected to the amplifier and the part to be sensed.

There is 2 probes with 2 different capacities:

F00 : 0 to 40mm

F00L : 35 to 70mm



Adapts to all types of machines
Is installed on the fly or at the station.

A-2 - Internal Sensor with radial output

**PC02R :**

- 4 meter cable crimped to sensor's body.
- Radial cable output.
- Metallic protection braiding.
- SUB-D15 female connector with screw for connection to the amplifier.

Precautions to take :

- Always keep the braided cable away from parts in motion to avoid pinching it. A sensor with a cut cable cannot be repaired. The sensor is calibrated by its cable length. Repairing the cable will change its resistance and therefore the sensor's sensitivity and precision.
- If you have to remove the internal sensor from the probe and leave the sensor bare in the machine environment, protect it with a plastic bag and collar so that it doesn't get wet with oil or cutting liquid.

B – Adjustment of the probe

Measurers must be correctly adjusted in order to avoid the premature wear of the sensor and mechanical probe.

Follow the procedure below for correct sensor calibration and adjustment.

The calibration of the length probe is done in 3 steps :

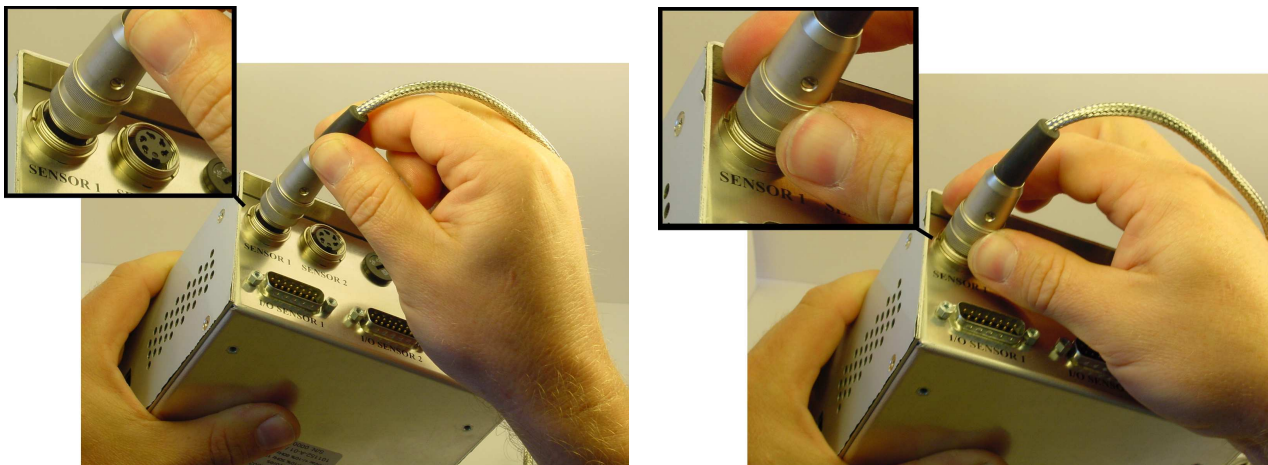
- The **adjustment of the preload** of the internal sensor in the probe.
- The **adjustment of the Overall diameter contact spacing**
- The **adjustment of the probe height** inside the machine

B-1 – Adjustment of the preload

Preload is to be adjusted only if you have to dismount the sensor from the probe for a replacement, a setup or a cleaning. All our sensors are delivered already preloaded.

The following procedure describes how to carry out this adjustment for the **F00 and F00L probe** type (type engraved on the body's body, see photos). It differs a little from that of the H00 and V00 types simply because the sensor is different due to its shape, but especially by its measurement direction (measurement inverted):

First, make sure that your sensor is correctly connected to the amplifier locking the threaded ring and make sure that the amplifier is turned on.



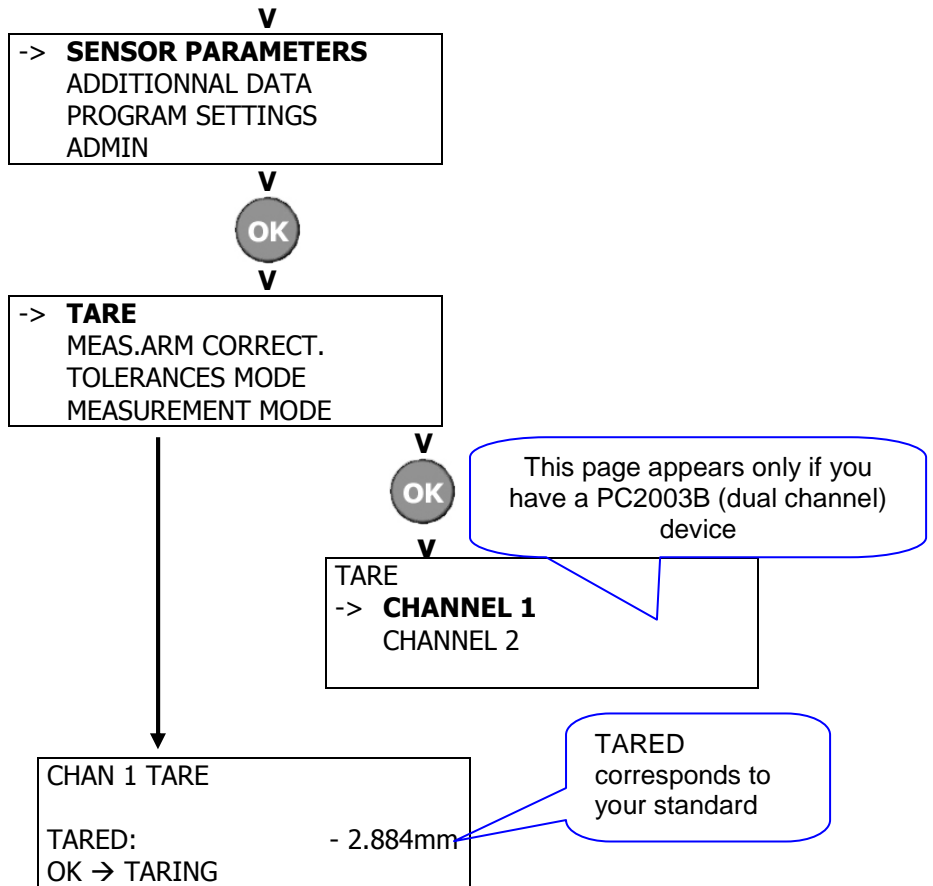
CHAN 1 :	+0.000mm
CHAN 2 :	+0.000mm

CHAN 2 appears only if you have a PC2003B (dual channel) device.



PART SETUP OPTIONS -> PARAMETERS DISPLAYS

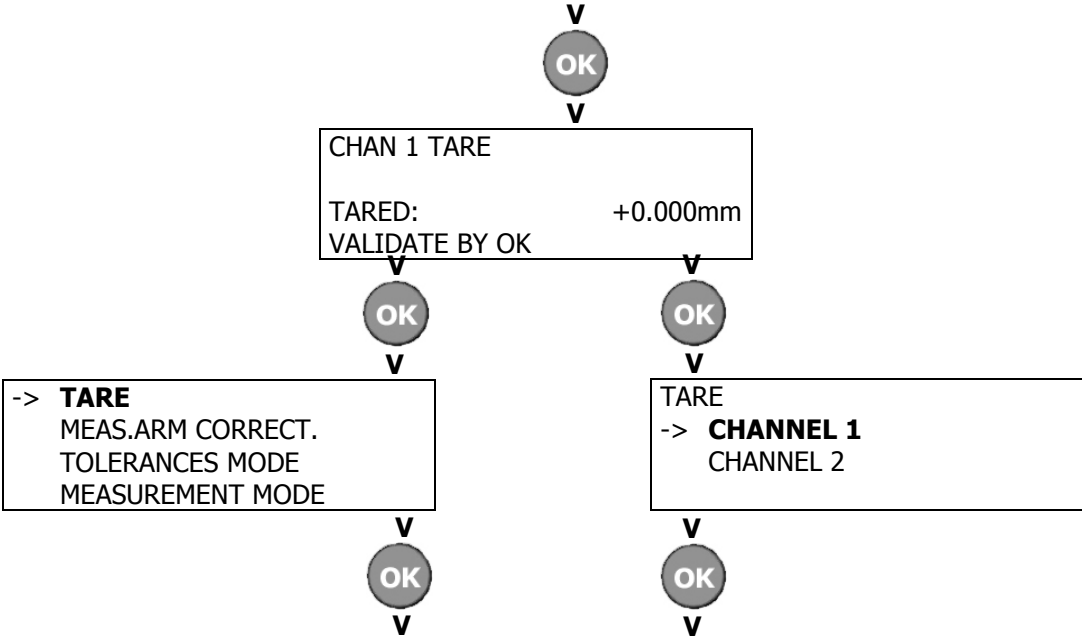
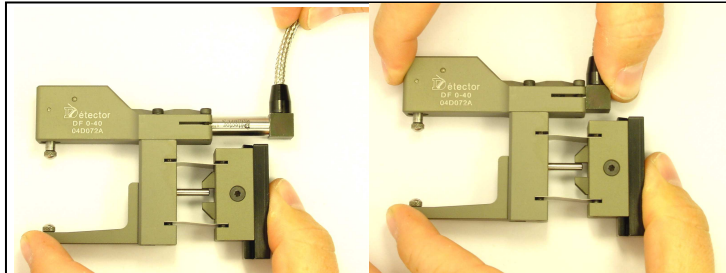




This page appears only if you have a PC2003B (dual channel) device

TARED corresponds to your standard

Take the sensor and insert it fully into the probe to reach its maximum value (this value must be negative). While holding the sensor against support, reset **TARE** to zero by pressing **OK**.

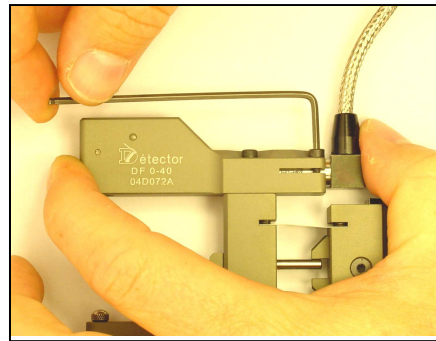


CHAN 1 TARE
 TARED: +0.352mm
 OK → TARING

Then extend the sensor until a support value of approximately **+0.300 to +0.400mm** is obtained. The value is always displayed on the **TARE** line on your screen.



Using a hexagonal wrench 2 and 2 screws CHC M2.5x10, tighten the sensor in the amplifier while maintaining a tared value from **+0.300 to +0.400mm**.



CHAN 1 TARE
 TARED: +0.000mm
 VALIDATE BY OK

The TARE has been set to zero



-> **TARE**
 MEAS.ARM CORRECT.
 TOLERANCES MODE
 MEASUREMENT MODE

This page appears only if you have a PC2003B (dual channel) device



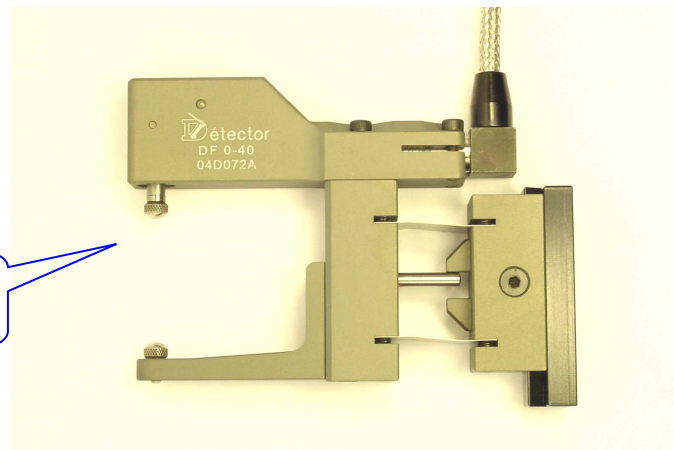
TARE
 -> **CHANNEL 1**
 CHANNEL 2



X3



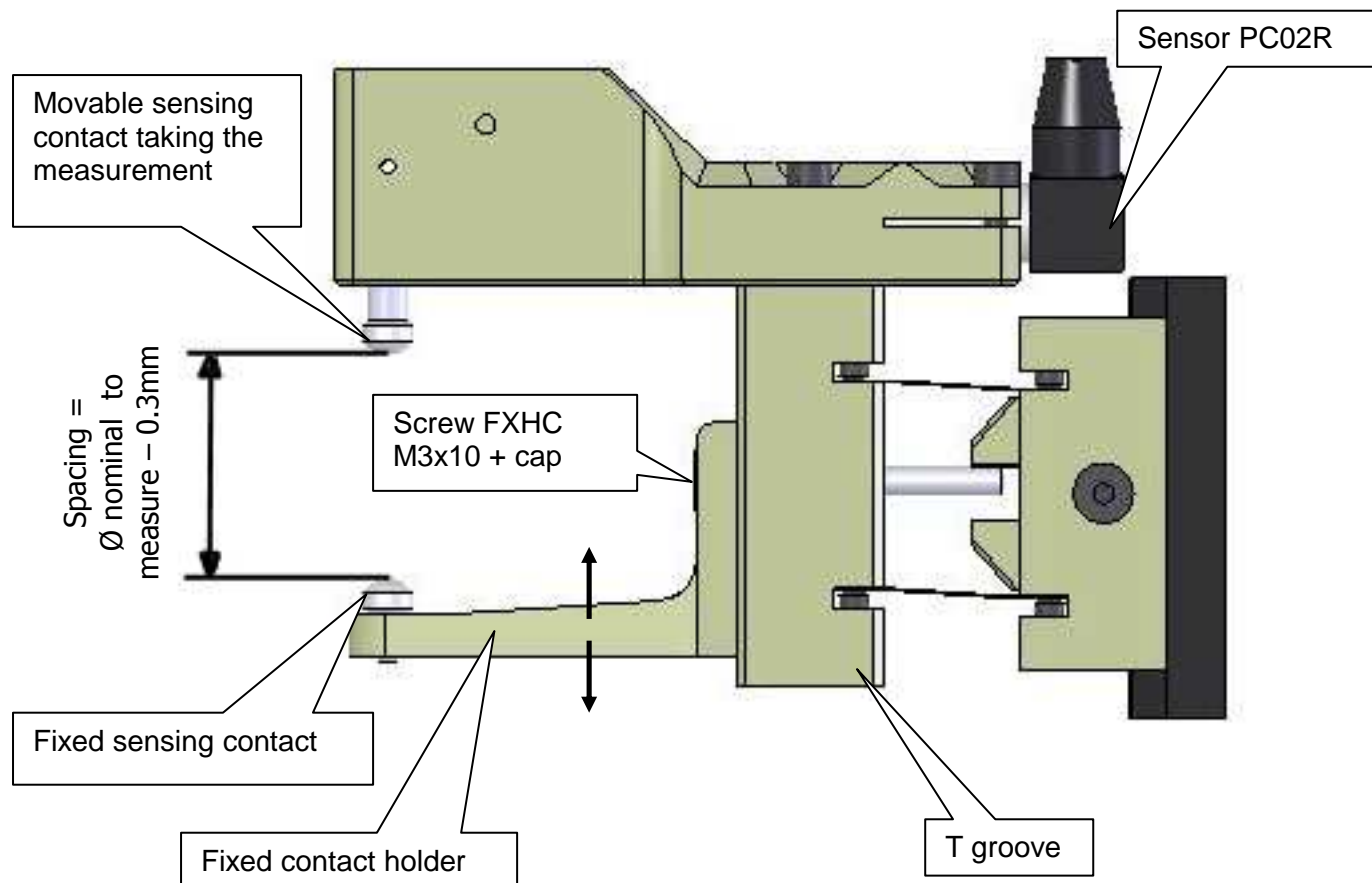
X4



Zero standard

B-2 – Adjustment of the Overall Diameter Contact Spacing

- Adjust the spacing outside of the machine.
- To obtain precise adjust, use to set of gauge block



1/ Place the gauge block corresponding to the size you need to measure less 0.3mm, (nominal diameter -0.3mm)

2/ Loosen the Screw FHC M3X10 Torx to release the fixed contact arm in the T groove

3/ Adjust the fixed contact arm after placing the gauge block between movable sensing contact and fixed contact holder, and lock with FHC M3x10 Torx

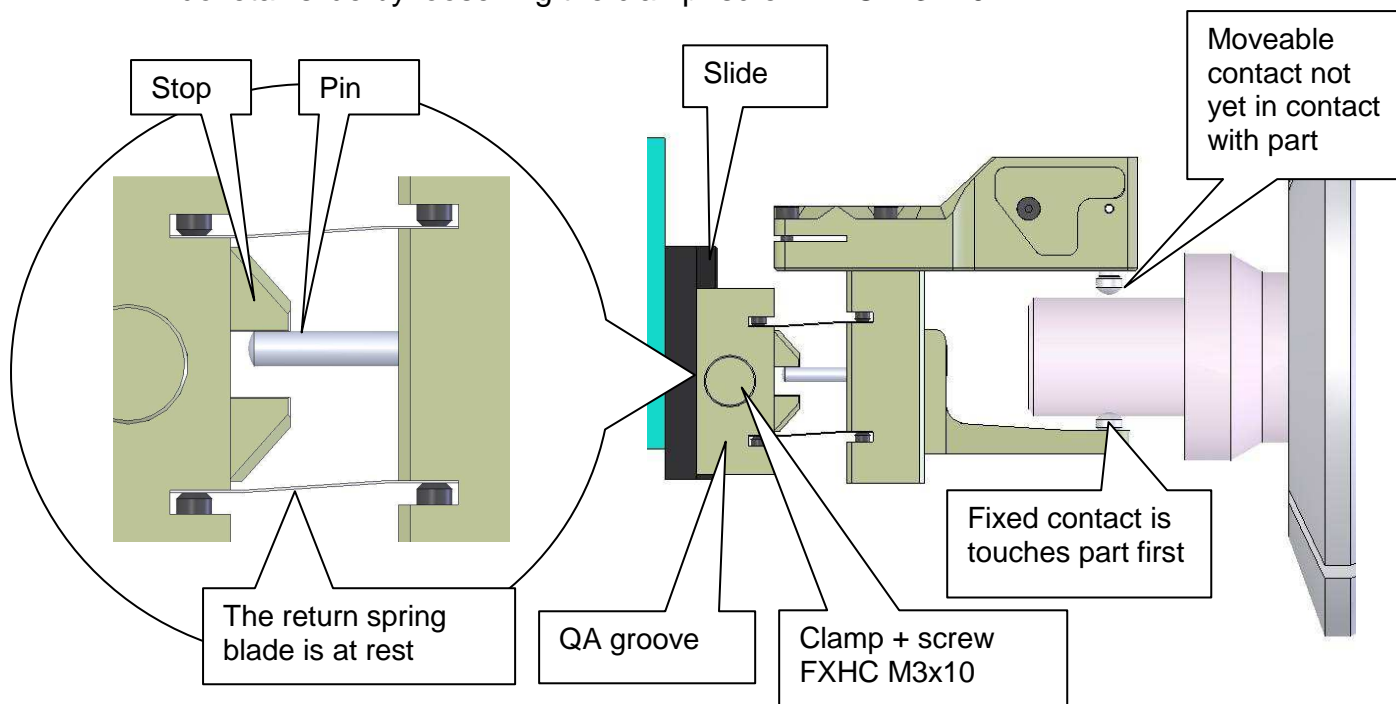
4/ Verify that the gauge block passes freely between contacts after tightening. The movable contact should not be pushed in.

Please refer to taring and calibration sections with to adjust the preload and tare and to read measured values

B-3 - Adjustment of the probe height

Adjustment of the height should be done with measurer installed in the machine and on the fixed mounting bracket

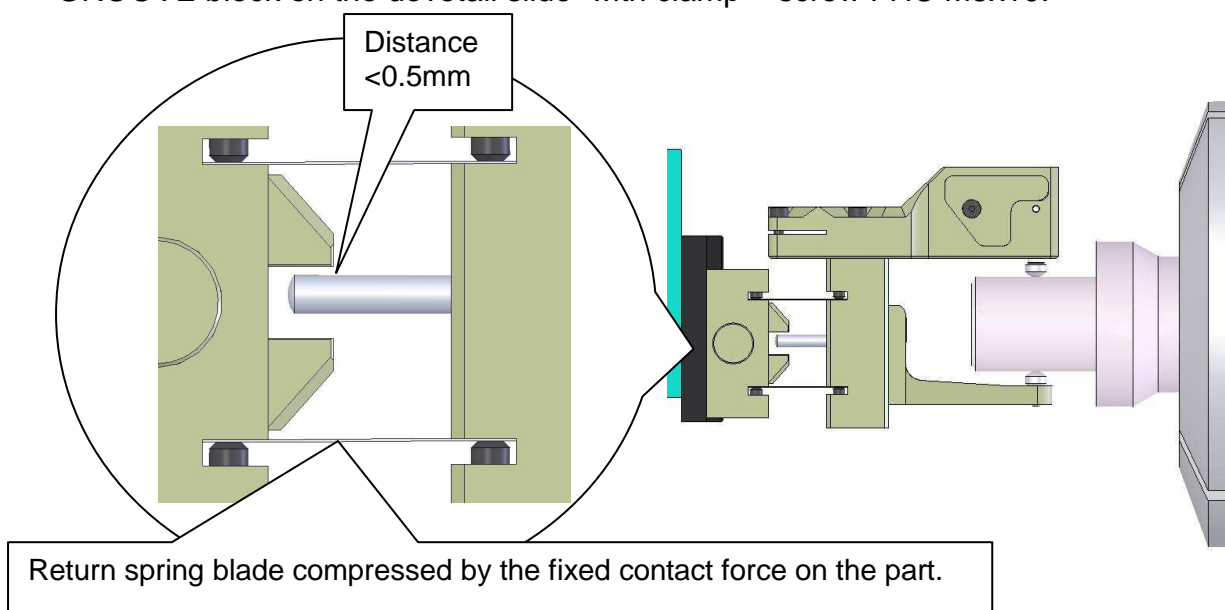
- 1/ Jog the piece, slowly, in front of the measurer or the measurer in front of piece
- 2/ the fixed sensor contact should be the first to be in contact with the piece (before the movable sensor contact).If necessary, slide the measurer on the dovetail slide by loosening the clamp+screw FHC M3X10



3/ As the part passes on to the fixed sensing contact, the body of measurer moves vertically..This movement should be small to guarantee good precision.

4/ Visually check this movement to verify the distance between the pin and stop. The distance must be less than 0.5mm.

5/ If the movement is too large, adjust the measurer height by adjusting the QA GROOVE block on the dovetail slide with clamp + screw FHC M3x10.



Manufacturer

DETECTOR FRANCE

36 route des lacs – PAE des Jourdiés
74800 Saint Pierre en Faucigny

Tél : +33 (0)450 037 998

Fax : +33 (0)450 036 792

Email : commercial@detector-france.com

www.detector-france.com

INTREGF00EN – Index A

