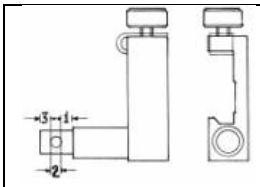
FMS CALIPER PRESSURE DEVICES

The actual caliper measurement pressure is the force applied by a FMS pressure device minus the force necessary to move the caliper sliding jaw on the caliper beam. This can vary greatly even on two "identical" calipers. On a standard 150mm / 6" digital caliper it is recommended that the force to move the sliding jaw should not exceed 2N.

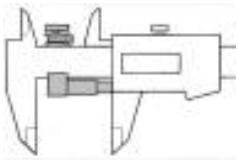
Pressure device type 40

Type 40A

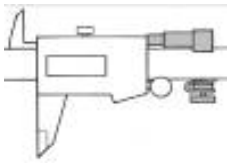


A FMS Pressure Device (40A) makes accurate, repeatable caliper measurement easy.
All discussion on too much or too little measurement pressure is eliminated.

To determine if the force required to move the caliper sliding jaw exceeds 2N simply fasten the pressure device to the caliper, move the sliding jaw to touch the pressure device cylinder, zero the calliper and, by pulling the sliding jaw against the pressure device, see how far the sliding jaw is pushed back towards zero when released.
If the sliding jaw is pushed back to less than 1 mm, then the sliding jaw "friction" is less than the table value – which is good, as full cylinder movement (distance) can be used when measuring.



Internal pressure

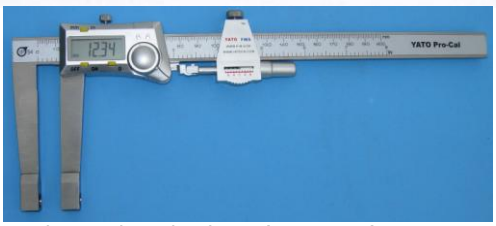


External pressure

Pressure device type 42A

Type 42A

The 2-way pressure device in neutral position has a minimum 6,5 mm (1/4") movement to both sides. When the locking screw is not tightened, the 2-way pressure device can be used to push or pull the caliper sliding jaw for measurement and the user can determine the suitable measurement pressure. The caliper can of course still be pushed or pulled in the normal manner.



The special FMS digital caliper (YTMT203) is mounted with a 2-way pressure device (42A) as standard.

Digital Caliper Length Accuracy as specified in DIN 862

The permissible deviation for a digital caliper up to 100mm (4") is 0.02mm (0.001"), up to 600mm (24") is 0.03mm (0.0015") and from there up to 1,000mm 0.04mm (0.002").
Measurement repeatability accuracy is **0,01mm (0.0005")** when the same measurement pressure is applied.
The following is not stated or inferred in DIN 862:
As the specified requirements to accuracy are also subject to a symetrical distribution of any inaccuracies, then approximately 85% of all new digital calipers will be accurate to within half of the specified permissible deviation.
i.e. used correctly most new digital calipers will be accurate to within ***± 0,01*** *mm up to 100 mm*

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