

Starrett®

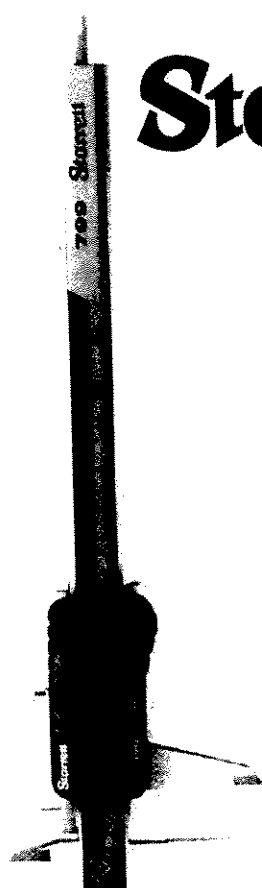
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Electronic
Digital Caliper
799 Series

Calibre
Electrónico
Digital
Serie 799

Pied à Coullsse
Electronique
Numerique
Serie 799

Digitale
Messschieber
Serie 799

Calibro
Digitale
Serie 799

Paquímetro
Electrónico
Digital
Serie 799

Instruction Manual
Manual de Instrucciones
Manuel d'Instructions
Bedienungsanleitung
Manuale d'impiego
Manual de Instruções

READ THIS MANUAL BEFORE USING
THE INSTRUMENT

ANTES DE UTILIZAR EL INSTRUMENTO, LEA
ATENTAMENTE ESTE MANUAL

AVANT D'UTILISER L' INSTRUMENT, LISEZ
ATTENTIVEMENT CE MANUEL

BITTE LESEN SIE DIE ANLEITUNG
BEVOR SIE DEN MESSSCHIEBER BENUTZEN

LEGGETE ATTENTAMENTE QUESTO MANUALE
PRIMA DELL'USO

ANTES DE UTILIZAR O INSTRUMENTO, LEIA
ATENTAMENTE ESTE MANUAL

P.S.: The pictures shown are illustrative; the components may vary according to the model

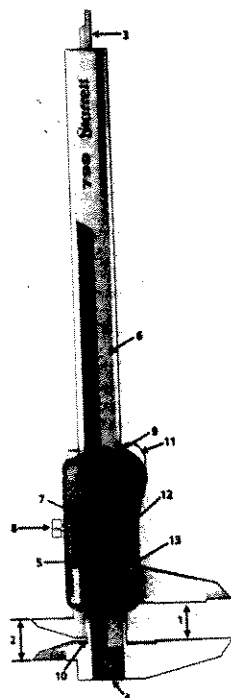
Obs.: Las figuras aquí presentadas son ilustrativas, los componentes pueden cambiar conforme el modelo del instrumento.

Rem.: Les figures ici présentées sont des illustrations, les composants pouvant varier selon le modèle de l'instrument.

P.S. Die Zeichnung ist illustrierend. Die Komponenten können je nach Modell abweichen.

P.S. Le figure presenti sul manuale sono solamente illustrative. I componenti possono cambiare in funzione del modello.

Obs.: As figuras aqui apresentadas são ilustrativas, os componentes podem variar conforme o modelo do instrumento.



- 1 - Jaws for external measurement
- Patas para medición de exteriores
- Faces pour mesurage à l'extérieur
- Messschenkel für Aussenmessung
- Becchi per misura esterne
- Faces para medição externa
- 2 - Jaws for internal measurement
- Patas para medición de interiores
- Faces pour mesurage à l'intérieur
- Messflächen für Innenmessung
- Becchi per misura interne
- Faces para medição interna
- 3 - Depth measuring rod
- Varilla para medición de profundidad
- Tige de mesurage de profondeur
- Tiefenmessstange
- Asta per misura di profondità
- Haste para medição de profundidade
- 4 - Scribing face
- Superficie de trazado
- Surface pour traçage
- Stufen-Messfläche / Anreiss-Fläche
- Linea traccia lato fisso
- Superficie para traçagem

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- 5 - Slider
- Cursor
- Curseur
- Schieber
- Slitta mobile
- Cursor
- 6 - Graduated scale
- Escala graduada
- Échelle graduée
- Strichskala
- Scala graduata
- Escala graduada
- 7 - LCD Display
- Visualizador de cristal líquido
- Affichage a cristaux liquides
- LCD-Display
- Display LCD
- Mostrador de cristal líquido
- 8 - Slider locking screw
- Tornillo de fijación del cursor
- Vis de fixation du curseur
- Feststellschraube
- Vite blocco del cursore
- Parafuso de fixação do cursor
- 9 - Battery cover
- Tapa de la batería
- Couvercle de la batterie
- Batterie-Deckel
- Coperchio sede batteria
- Tampa da bateria

- 10 - Scribing reference face
- Superficie de referencia para trazado
- Surface de référence pour traçage
- Stufen-Messschenkel
- Linea traccia lato mobile
- Superficie de referência para traçagem
- 11 - Fine adjustment thumb roll
- Rodillo de ajuste fino
- Poulie de réglage fin
- Feineinstellung
- Rotella regolazione fine
- Roldana para ajuste fino
- 12 - Zero setting button
- Botón para hacer "Cero" - ZERO
- Bouton de "mise à ZÉRO"
- Nullpunkt-Einstellung
- Pulsante di azzeramento
- Botão de zeragem "ZERO"
- 13 - IN/mm button
- Botón de conversión pulgada/milímetro "IN/mm"
- Bouton de conversion pouce/millimètre "IN/mm"
- Umschaltung mm/Zoll
- Selezione lettura mm/pollici
- Botão de conversão polegada/milímetro "IN/mm"

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Electronic Digital Calliper 799 Series

Characteristics

	Millimeter	Inch	Range (mm)
Resolution (1)	0,01	0,0005	up to 300
Accuracy (2)	± 0,02	± 0,001	up to 100
	± 0,03	± 0,0015	>100 up to 300
Repeatability (3)	0,01	0,0005	up to 300

(1) Resolution: Smallest difference between indications of a displaying device that can be meaningfully distinguished. For a digital displaying device, this is the change in indication when the latest significant digit changes by one step (VIM).

(2) Accuracy: Closeness of the agreement between the result of a measurement and a true value of the measurand (VIM).

(3) Repeatability: Closeness of the agreement between the results of successive measurements of the same measurand carried out under the same conditions of measurement (VIM).

P.S.: VIM - International Metrology Vocabulary

- Zero at any position of the slider.
- This caliper does not have on/off button.
- Automatic ON when moving the slide or pressing any of the buttons.
- Automatic OFF after five minutes of non-use to save the battery life.
- OFF at any position of the slide; the last zero will be kept.
- LCD display with active unit system: millimeter "mm" or inch "IN".
- Battery of 1.5V SR44W.

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Precautions when using the Calliper

- Do not measure a rotating part; it is dangerous and causes the faces in contact to wear.
- Do not expose the calliper to direct sunlight or extreme temperatures.
- Do not apply any voltage on any part of the calliper. Any external voltage may damage the electronic circuitry of the calliper.
- Do not disassemble the calliper.
- Do not move the slider too fast (over 1.5 m/s or 60 inches/s), this can cause measurement errors.
- Flashing digits shows a weak battery and that it must be replaced.
- Do not wash or immerse the calliper in any liquid.
- When cleaning the calliper, use a cloth slightly wet with isopropyl alcohol.
- Keep the calliper clean and dry.
- Avoid handling the calliper with oiled hands.

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Operating instructions

- Install the battery that comes with the instrument. See item "Installation/Replacement of battery". The calliper will be ON automatically.
- To move the slider, loosen the locking screw (8). Use the thumb roll (11) to move the slider.
- Select the measure unit needed, inch or millimeter, by pressing "IN/mm" button (13).
- Check to see if the "ZERO" (12) and "IN/mm" (13) buttons respond well. Digital display must be stable and display at any place within the whole range.
- Clean all the measuring faces with cotton fabrics.
- **External measurement:** close the jaws and press the "ZERO" button (12) to reset the display to zero (fig. 1A). Put the part to be measured as close as possible to the scale (6) (fig. 1B) and adjust the measuring faces (1) to the part surface (fig. 1C). Do not apply excessive pressure when measuring (fig. 2).
- **Internal measurement:** close the jaws and press the "ZERO" button (12) to reset the display to zero (fig. 3A). Introduce the internal measuring jaws (2) as deep as possible inside the part and adjust the measuring faces to the part surface (fig. 3B). To obtain the measurement of an internal diameter see fig. 3C and to obtain the measurement value inside a slot see fig. 3D.
- **Depth measurement:** close the jaws and press the "ZERO" button (12) to reset the display to zero (fig. 4A). Keep the depth measuring rod (3) perpendicularly to the part bottom (fig. 4B & 4C).
- **Cam measurement:** close the jaws and press the "ZERO" button (12) to reset the display to zero (fig. 5A). Open the jaws in a little bigger dimension than the cam, place the scribing face (4) against the bottom of the cam and approach the scribing reference face (10) until the part surface. The cam value will be shown on the display (fig. 5B).
- **Scribing face:** close the jaws and press the "ZERO" button (12) to reset the display to zero (fig. 6A). Adjust the scribing reference face (10) to the part reference, slide the cursor (5) to the chosen measurement, lock it using the locking screw (8) and then scribe (fig. 6B).

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Operating instructions

- **Measurement for comparison:** using a standard, press the "ZERO" button (12) to reset the display to zero (fig. 7A). After that, start measuring; the variation will be shown on the display. Dimensions smaller than standard will be indicated with a negative sign (fig. 7B).
- **Measurement of center to center between holes or identical pins:** using one of the holes or one of the pins as a reference, press the "ZERO" button (12) to reset the display to zero (fig. 8A & 8A). After that, start measuring; the center to center value will be shown on the display (fig. 8B & 8B).
- **Measurement of wall thickness:** using a part as reference place the calliper and press the "ZERO" button (12) to reset the display to zero (fig. 10A). Next, measure the depth using the depth measuring rod (3). The thickness will be shown on the display (fig. 10B).
- **Measurement in places where reading is difficult to obtain:** measure and press the "ZERO" button (12) to reset the display to zero (fig. 11A). After that, close the jaws; the measurement will be shown on the display with a negative sign (fig. 11B). (Do not consider the sign).

Installation/Replacement of battery

Remove the battery cover (9) by sliding it to the right. Install or replace the battery making sure that the positive pole faces up, as indicated in the compartment, and slide the cover back into place.

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Troubleshooting

Failure	Cause	Solution
Five digits flash simultaneously, about once per second.	Low battery.	Replace the battery.
Display does not change when the slider is moved.	Accidental trouble in circuit.	Take out battery and reset it after 30 seconds.
Less accurate than specified or electronic system failure.	Dust in the sensor.	Clean the scale. If the problem remains, contact your distributor.
No display on LCD.	1 - Battery in poor contact. 2 - Low battery.	1 - Remove the battery cover and adjust the battery seat to obtain a good connection. 2 - Replace the battery.

Starrett Warranty

Any Starrett calliper that is defective will be repaired or replaced at no charge if returned to our factory with proof of purchase within one year of purchase. This does not cover the faults caused by the misuse of the calliper. Instructions concerning dispatch, costs and warranties may be obtained through your Distributor.

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