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ISQ-S SERIES
LENGTH PRESETTERS OPERATION MANUAL

INSIZE

1. PRODUCT GENERAL PRESENTATION

SETTING AND CALIBRATION BENCHES

ISQ-S××× are motorized setting bench for handheld measuring instruments. The bench replaces in metrology room or shopfloor all gage blocks and master rings.

With a simple digit it's possible to perform inside/outside values and 3 points (diameter). The setting process of the gage is precise thanks to adapters that ensure a straight position of the anvils on the 2 ceramic blocks.

For models 1000 and bigger **the large support instrument kit** is available as optional. See below example picture.

For dial indicators and lever indicators kit for linearity testing.

2. SAFETY AND WARNINGS

1.1 IMPORTANT INFORMATION

In order to avoid damage due to incorrect use of the instrument, read this instruction book carefully. In the event of instrument malfunction caused by use that does not comply with what is indicated in the user manual.

1.2 SYMBOLS USED AND GENERAL PRECAUTIONS

List of symbols used in the manual:

Generic warning, advice for use: caution

In the event of a malfunction of the instrument or one of its components, immediately stop the device and contact the insize.

Under no circumstances must the instrument be disassembled in order to avoid altering the functions of the instrument or damaging it.

Risk of electric shock

The electronic board contains high voltage components. All interventions that require the electronic card to be opened must be carried out by authorized personnel.

Protection from electrostatic discharges

Protection against electrostatic disturbances:

Static electricity can damage the electronic components of the instrument. To prevent damage to the appliance, avoid contact with the exposed metal ends.

Attention!

The machine is equipped with a position reset system when a force moves the carriage, if this force does not allow the reset of the nominal position, the system goes in error.

Attention!

When using instruments equipped with motion mechanisms capable of generating high forces, such as screws, it is important to use clutches where they are present, and in any case never force along the measuring axis during the setting phase as the system could run in error. In the event of an error, a reset could be necessary.

Attention!

The bench must be installed strictly on its metal supports; under penalty of loss of warranty as per instruction about installation.

Attention!

It is an instrument that cannot verify its position autonomously, therefore it is advisable to periodically check the set measurements using rings of known value and bore gauges in excellent condition as a comparison.

Attention!

Calibration and setting of the machine have been done after normalization of 48-72 hours and all parameters refer to 20 +/- 0.2 ° C, relative humidity 50% +/- 5%. Therefore, if the instrument works in conditions outside this temperature range it should be left under normalization 1 hour for every single Celsius degree according to ISO standards.

Attention!

Working outside the calibration conditions just indicated, the device undergoes an expansion equal to 10 μm / m.

Attention!

As a result of possible thermal changes (cold) due to transport, the mobile reference is blocking before reaching the desired dimension. In this case let the instrument stabilize for at least 24 hours at at the working temperature, higher than 10°C.

Attention!

As a result of possible thermal changes due to transport, the instrument could present problems during positioning, stopping in wrong positions even of a few tens of µm. To overcome these problems, it is advisable to let the instrument stabilize for at least 48 hours at a temperature of about 20 ° C.

3. CONTENT

The machine has to be carried and stocked in the temperature range 10° - 40° Celsius.

Inside the packaging you must find:

- Bench measuring instrument

- Monitor (to be mounted)

- Power supply unit with relative cables. Specifications: (input AC 100 / 240V 50 / 60Hz 130 / 170VA -output DC 18V 4.7A)

- Anti-vibration rubber feet on 300/600 mm models, adjustable steel M16 screws on other models

- User manual

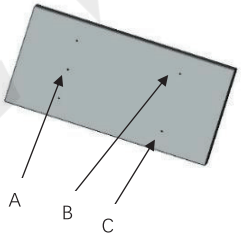
- BENCH calibration certificate

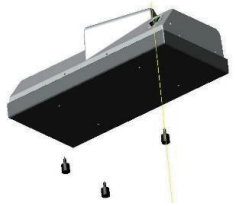
4. UNPACKING THE UNIT, MODELS ISQ-S300/600

After opening the box on the floor unscrew the visible 4x M8. Then lift the pallet attached to the machine in order to access the screws of the “C” metal place which connect the granite base to the wood pallet. Lift down on a table the pallet with the machine.

The bench is now free to be lifted manually by minimum 2 people and positioned on the working table (not made of wood). There is no need for balancing the machine. The 80% of weight must rest on three feet.

Machine will need 24- 36 hours to normalize at the room temperature.





N.B. The assembly of the lower supports/screws is mandatory, under penalty of loss of the warranty condition.

5. UNPACKING THE UNIT, MODELS ISQ-S1000-5000

The table or support on which the unit has to be placed must be robust and the surface in granite or metal, in order to ensure flat stability during the years. Wood surfaces not allowed. Proceed with unlocking of the bottom screw that attaches the granite base to the wood box as per picture A.

Pull down the box to have the pallet and machine lying on the floor. In order to position the bench on the working table lift the machine by attaching it to the marked plate Pic. B.

With machine up, before final positioning, prepare the 5-x metal disc and place them on the table. Insert the M16 screws onto the granite base at a medium depth. Slowly pull down the machine by centering it on the discs or adapt them to the screws.

Once the machine is completely on the screws level them so that 80% or more of the weight is on 3 points. The remaining 2 screws will hold just the

remaining 20% according to their role of balancing. Machine has not to be balanced perfectly horizontally.

If you have purchased the steel support that replaces the table, then proceed with positioning of the machine on them by considering that the screws in these cases are reversed and the discs have to be placed at the contrary in contact with the granite base. Proceed with leveling as per previous description.

Once installed wait 24-72 hours for the machine to be completely normalized at the temperature of the room to be within the precision specifications. If the machine has been in a cold storage, wait for the normalization to switch it on.

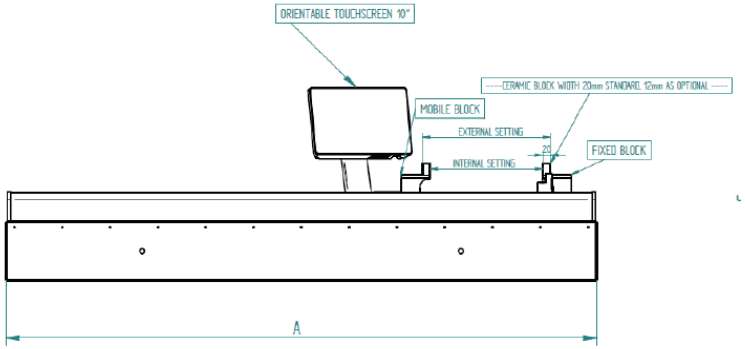
Pic. A

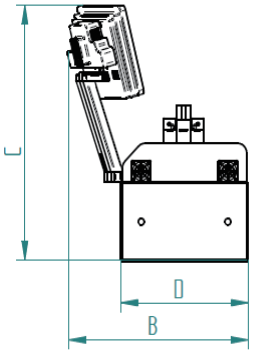
Pic. B

Pic. C

N.B. The assembly of the lower supports/screws is mandatory, under penalty of loss of the warranty condition

6. TECHNICAL DRAWINGS AND DIMENSIONS INFO



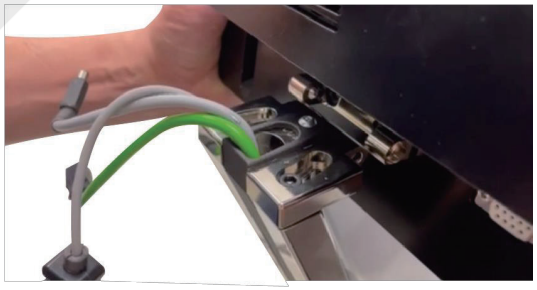


MODEL	A (mm)	B (mm)	C (mm)	D (mm)
300	765	354	402	265
600	1065	354	413	265
1000	1485	354	483	265
1500	2255	375	515	265
2000	2640	375	535	265
3000	3700	375	735	265

7. MONITOR ASSEMBLY

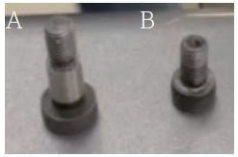
Inside the packaging you will also find the machine monitor disassembled from the body; to mount it follow the following steps:

- **Remove the monitor packaging**
- **Insert the back of the monitor on the appropriate support arm**



- **Insert the two locking screws as shown in the images**

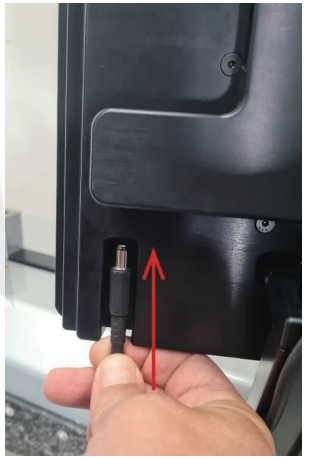
Screwn insertion Screw A



Screw insertion B:

(By adjusting the screw B it is possible to adapt the orientation of the screen and then tighten it).

Monitor connection, round socket power supply to be inserted as per below picture.



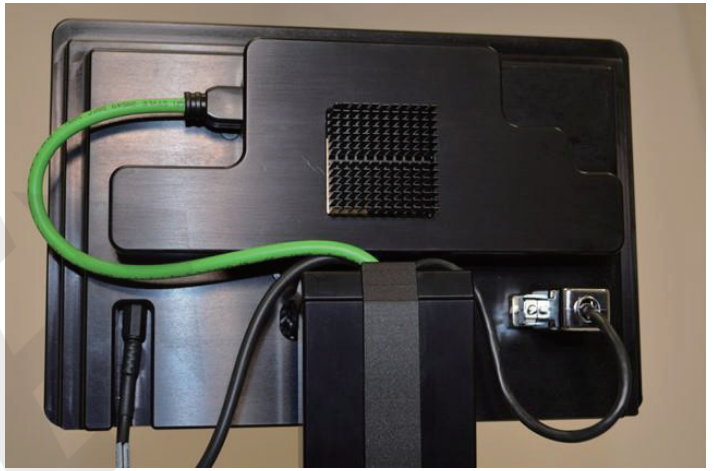
Connect network ethernet cable connects user interface with PLC. This cable, once connected must not be disconnect for any reason.

Connect the monitor power management cable

Tighten the 2 small screws of the socket

8.FINAL ASSEMBLIG RESULT.

After connecting all the cables the following result has to be reached.



9. USB PORT DESCRIPTION

The USB port (2) are designed for: 1) eventual need of connection to the internal company network. An adapter USB/Ethernet has to be purchased searately for connection to HMI. 2) for connection to barcode scanner (available) or small label printer (available in 2024).

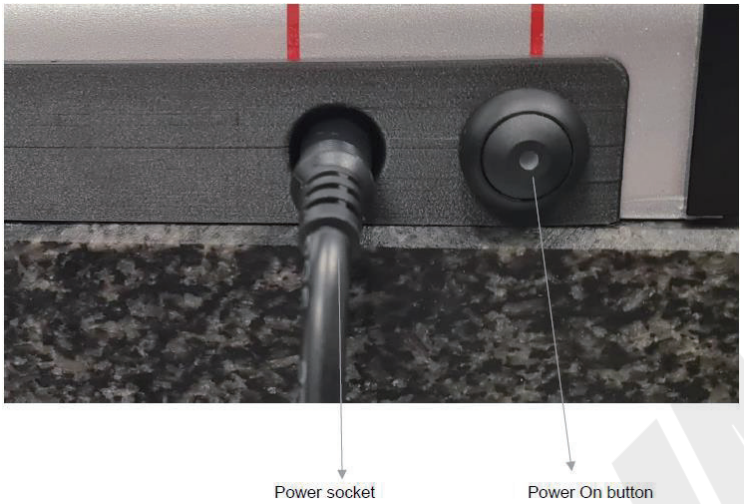
10. POWER SUPPLY AND START BUTTON

Connect the power supply cable in the back of the housing. Besides it there is the starting button.

NB the starting button MUST NOT BE USED TO SWITCH OFF THE SYSTEM.

The standard plug is the F, Shuko.

Make sure your electric net has no spikes, otherwise a special power supply with filter is needed, optional.

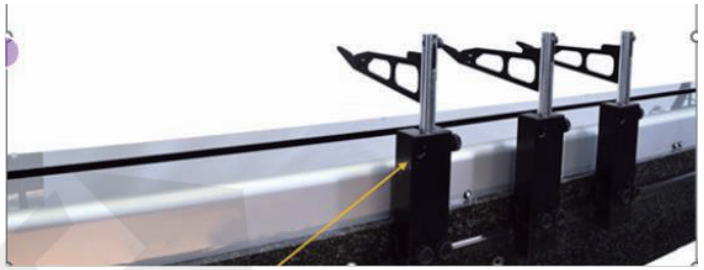


11.SUPPORT ARMS FOR LARGE GAGES, Optional from ISQ-S1000 to ISQ-S5000

Starting with the ISQ-S1000 series, the machines are equipped with two supports with support arms that can be adjusted vertically by means of the screws (A) to facilitate the axial positioning of the measuring instrument.

The internal two-point micrometer must be positioned on the support arms as per drawing A; zeroing takes place by bringing the feeler into contact with the ceramic striker.

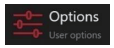
As for the outdoor micrometers, the two steel rods must be inserted into the holes of the two movable supports. Then adjust them in amplitude according to the size of the micrometer and perform the zeroing.



USER'S INTERFACE INSTRUCTIONS

12. BUTTONS LEGEND

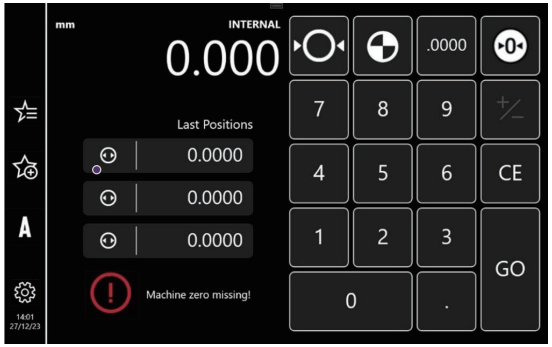
	Final execution after inserting the dimension values
	Constant step function buttons;
	Key to activate the "internal" function;
	External dimensions function
	button for direct random movement of the mobile ceramic block;
	Press to escape any page and return to the homepage of the interface
	Machine zero button command

	General Settings: user's settings and technician settings
	Adds a dimensional value to the favorites list from the homapage;
	Favourite list page
	Button that confirms the selection of the dimensional value and send it to the homepage
	Displays three or four decimal places;
	Allows switching from metric to inch measurement system;
	Cancel inserted values, escape functions;
	Shutdown and restart button;
	Adaper's offset
	To clear any inserted value
	Used only in combination with the Virtual Zero button to insert positive or negative values
	Virtual Zero: It is used to activate a virtual zero in any point of the scale of the bench
	Button of the menu of the user's settings

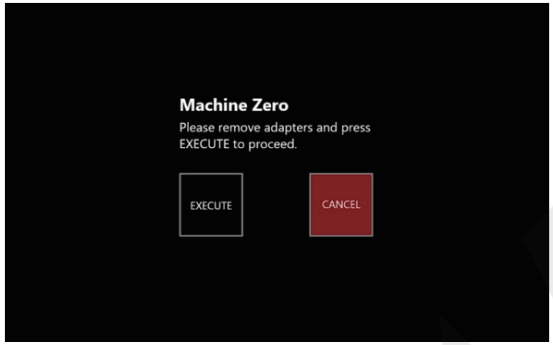
	
	Error or warning message. You may be asked to press OK in the message attached to the symbol.
	Button for save the entered data
	Button that sends the dimensional data entered to the homapage
	Measuring manual function activation
	In the manual function it's the START of the dynamic measurement
	In the manual function it's the STOP of the dynamic measurement
	In the masuring mode allows to switch to motorized mode

13. MACHINE ZERO

In order to switch ON the bench, push the power button as showed in point nr.10 of the installation instructions. After few seconds the display requires the zeroing process that allows the system to determine its phisical zero. If the button CANCEL is pressed, the following page is appearing and the unit is usable only to change the settings, not ready for dimensions performances as per red message.



A warning of non-performed zeroing is showed in the display. Make sure no adapters are located on the bench, precisely any fixture that can be presseed between the 2 ceramic jaws.

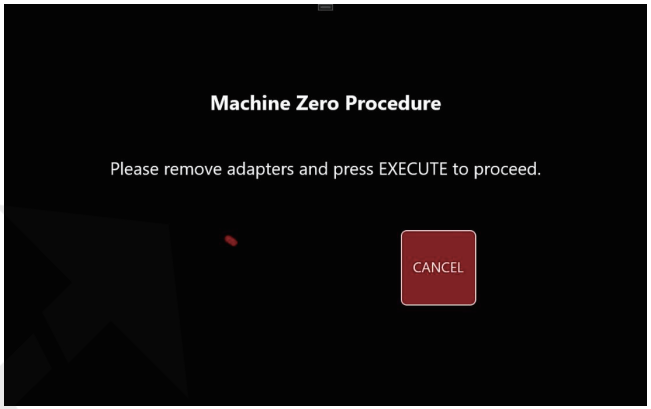


Proceed pushing the button 

During the zeroing process any user's action is disabled. Wait for the process to end.

During the execution of the machie zero procedure if you press the button CANCEL the process

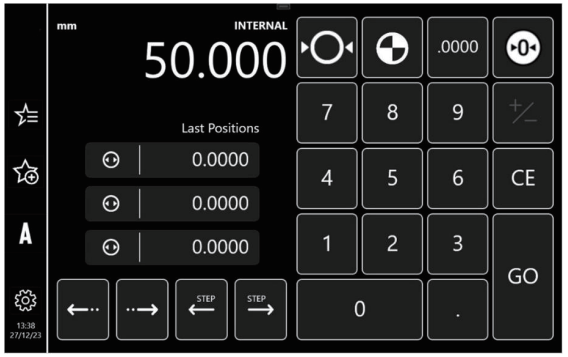
will STOP.



NB. As daily action keep the ceramic blocks surface clean. Any dirty on the internal surface can influence the result of the machine zero process. Any dirty on the external surface is not affecting the zero process but the results of the micrometer settings.

14. INTERNAL DIMENSIONS

At the end of the process the mobile jaw will position at 50 mm / 2 inches of distance from the fixed Jaw (phisical zero). The bench is now ready to perform inside dimensions. The distance of 50.000 mm is in fact an inside value between the ceramic references. It's now possible to perform any internal value included in the bench range. The indication above the current position confirms that activated functions is about inside values "INTERNAL".



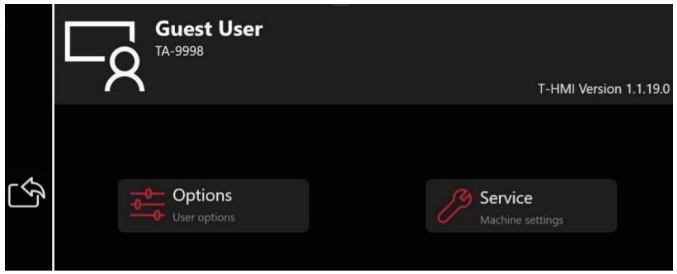
To perform any inside dimension just digit the numbers of it and press the button GO.

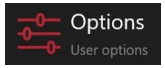
It is now possible to locate the adapters correspondant to the gage and proceed with the setting.

From the page of the inside dimensions it is also possible to modify the machine settings as per following instructions.

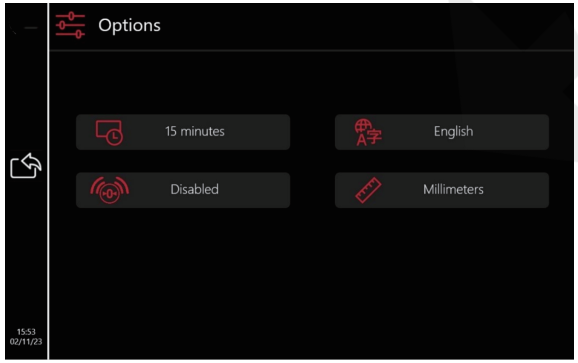
15. MACHINE SETTINGS

By Pressing the correspondant button to the settings  it's possible to access the adjustments of the unit. The below page is showed.



Press button 

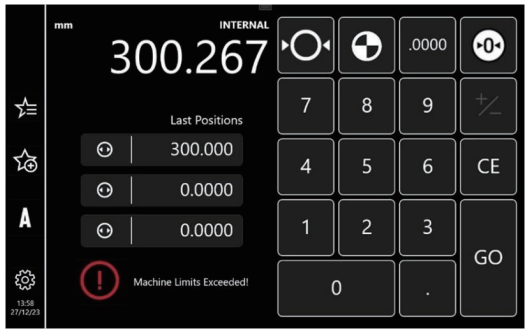
The below MENU is now open. In order from above left: 1) screensaver timeout: it adjust the time of activation of the screensaver 2) language of use 3) duration and activation of re-zeroing procedure to be performed by the operator 4) metric or imperial scale.

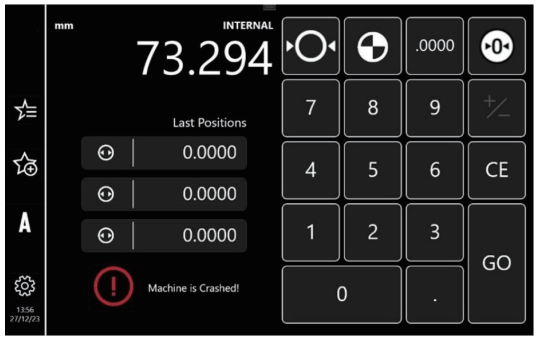


Notes regarding setting nr 3. If the bench is placed in an envorinment with temperature variation it is necessary to re-zero the machine. The frequency of the times of re-zeroing is decide by the quality manager according to the entity of the daily temperature variation and goes from a minimum of 3 times to 10 – manufacturer technical standard.

16. ERROR MESSAGES

If any command is processed not according to the instructions or any software error occur, an error message/warning is showed in the area below where the arrow-buttons are. The error will indicate the reason and in order to clear the message press it and proceed with the required correctedaction. Common error could be a dimension which is our of the range of the bench, the mobile jawhit some obstacle during the displacement; a force outside the tolerance of the unit was applied tothe mobile jaw; machine zero not performed. No further actions are required for these errors except for the machine crash. When this error is occurred proceed with rezeroing procedure of the unit. Here below the error cases.





17. OUTSIDE DIMENSIONS

Starting from the INSIDE function, press  to switch to external value.

By activating this function the unit will add exactly 40.000 mm to the internal value

(unless special customized jaws have been mountend in your specific unit).

In order to execute any external dimension just digit any value above 40.100 mm (0.1 mm is mimimum space allowed between the 2 ceramic blocks and the machine will display an error about the stroke limits if the value is below 40.1)

18. MANUAL MOVEMENT FUNCTION

If needed, by pressing  buttons it's possible to move the mobile reference.

This functions is used mainly during configuration of the adapters on the bench. The mobile jaw will keep in movement until the button is pressed. Do not use for fine adjustment movement.

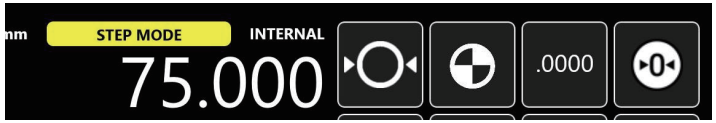
19. CONSTANT STEP MOVEMENT FUNCTION

This function allows to slide the mobile reference by step with equal dimension. During gage testing or gage calibration it may be needed to move by constat dimensions. This function can be enabled in any position the mobile reference is positioned. Starting the INSIDE standard function proceed with the digit of your constant step i.e**. 0.002 mm** then

press one of the 2 arrow symbols to give the bech the command to move 

The STEP MODE is now activated and the function is shown in yellow below the current position. Until this mode is ON, every

time the STEP button is pressed the bench will move by the length set by the user. To escape the function press CE button.



20. VIRTUAL ZERO FUNCTION

In any point along the stroke) of the machine (i.e. 100.000 mm internal) it is possible to reset the

number of the current position on the display. Press the button  to activate the function.

By activating this function the machine is temporarly considering the new point as ZERO and the

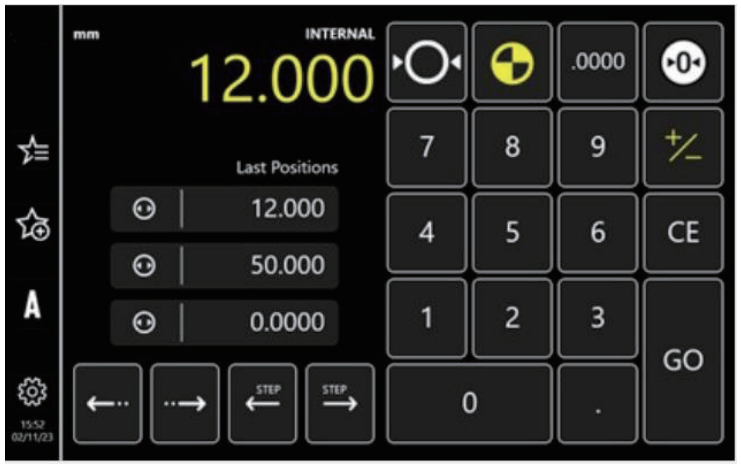
current position is now colored in yellow. All buttons involving this functions are now in yellow.

To perfom values bigger then ZERO just digit the number and presso GO.

To perform negative values (below the ZERO) press the button  and then the number required i.e. 2.000.

The display will now show **– 2.000** that indicates the machine is 2 mm below the virtual zero.

To escape this function press again the button 



21. LAST POSITIONS RECALL FUNCTION

The last 3 positions performed are saved in the main display page. It is possible to skip the digiting passage and just press one of the three values and press GO to perform it.

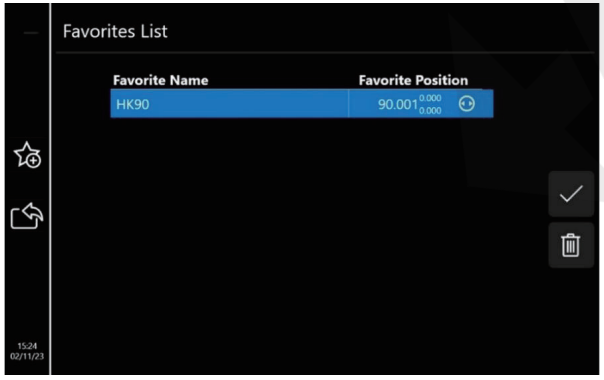
22. FAVOURITE LIST

The machine can contain 200 postions saved as “favourites”.

If any favourite position has been already saved, in order to recall, from the homepage

press the button  to open the favourite list page.

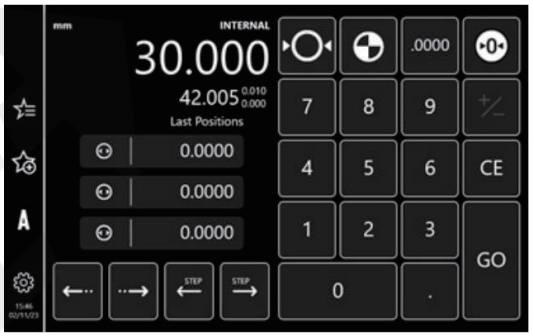
The following page is now in evidence:



Once the line of the favourite position is selected it turns in blue colour. At this point it is possible to

send the value to the homepage with button 

The homepage will appear as picture here below:



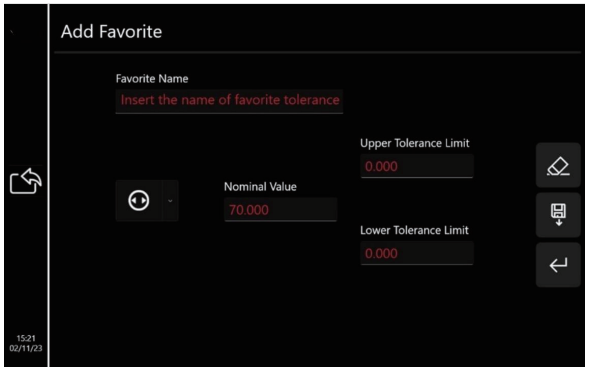
If the favourite dimension was saved with lower and higher tolerance value the 2 data will appear

besides the nominal dimension.

FAVOURITE LIST REGISTRATION

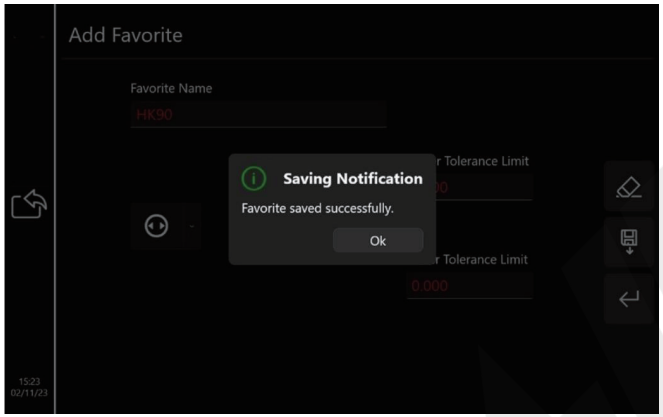
From the homepage you may press  to enter the favourite page and  then press  or, in alternative just press 

It is now possible to save a favorite value and add to it a name, upper and lower tolerance, OD/OD.



Once entered the data, you have 4 options:

To just save the entered values in the favorite list press



In case it's needed to reset/cancel the entered value press

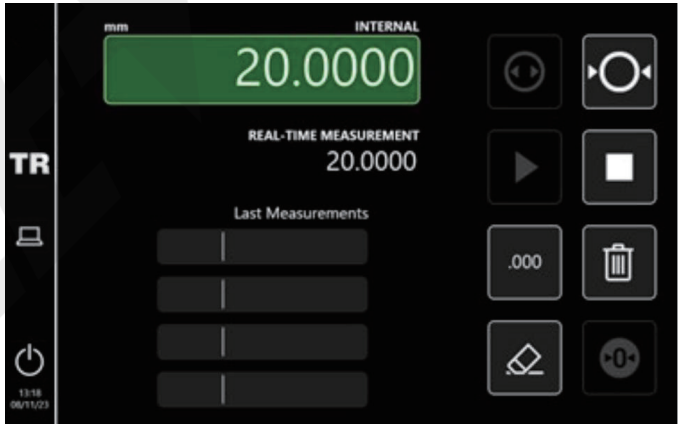
To just send the dimensions to the homepage in order to perform its without save in the favorite list press

The values are now in the homepage ready to be performed with GO.

INTERNAL MEASUREMENT

After zero procedure, the unit is now measuring in the **inside** of the ceramic blocks but referring to the object to measure it's about an **Outside Dimension.**

It is now possible to measure any physical outside dimension but the display will indicate that the measurement is INTERNAL. The hard metal anvils are highly recommended.



EXTERNAL MEASUREMENT

In order to measure any part in the inside proceed by activating the measurement on the

external surface of the ceramic blocks by pressing

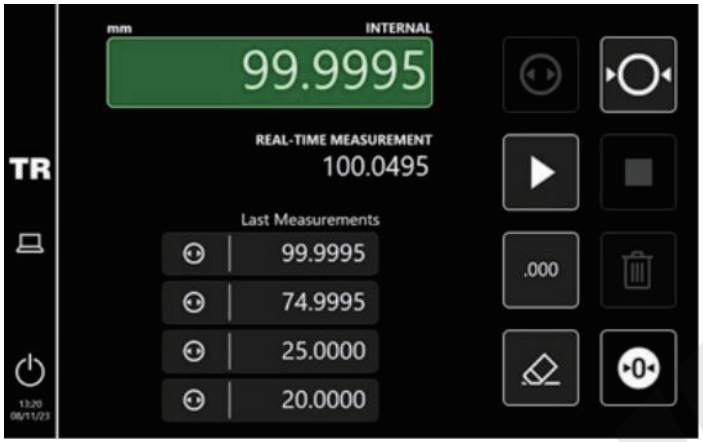
DYNAMIC MEASUREMENT

While measuring an object it's possible to measure the minimum smallest value.
Place the mobile jaw in contact with the object and activate the preload force with the ring as per zeroing procedure.

Press button to activate the dynamic measurement. The bench is now

registering any movement of the object/mobile jaw. By pressing the button the

dynamic measurement function stops and the display will show the MINIMUM value measured/registered in the list of Last Measurements.



Press button  to reset the Last Measurement data.

Press button 

to switch from 3 to 4 digit after the point and vice-versa.

To change machine settings during measurement mode press the shortcut button 

ACTIVATION OF THE MOTORIZED MODE

While using the measuring function make sure the measuring handle is in the NEUTRAL central

position.

Remove any hard metal anvil.

Press 

button. The motor will find the mobile jaw and connect to it.

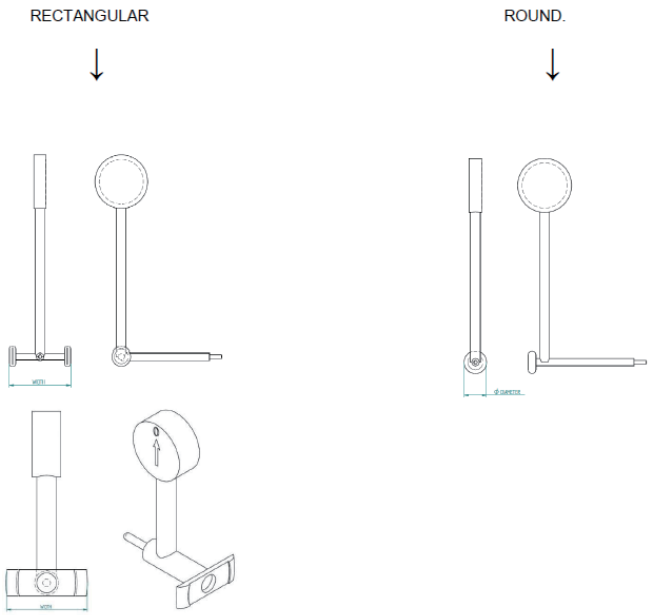
The bench is now back in the motorized mode and requires the zero procedure as per point nr. 13.

ADAPTERS AND FIXTURES

24. BORE GAUGES

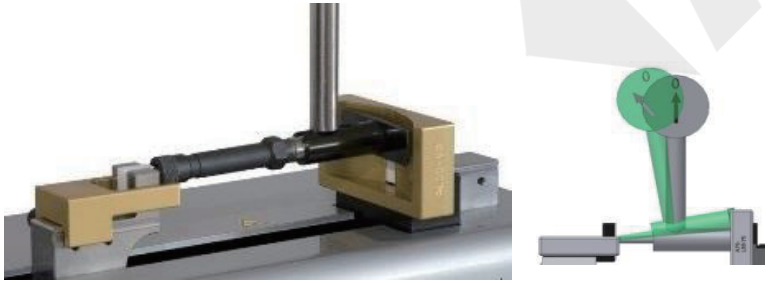
Any accessory or adapter can only be mounted once the mobile slide has been positioned to desired value and these adapters must be removed before performing a new dimension in order to eliminate any risk of collision resulting in faulty operation. How to identify the adapter for the 2 points standard bore gauge.
Before purchasing the right selection of adapter it is needed to verify the dimensions of the bore gauges. To choose the corresponding adapter you have to:

a) Identify the shape of the bore gauge foot/base which can be



and proceed with measurement of the base as per above picture. Then select the correspondent adapter in the technical list.

In case of rectangular foot (20mm and up) the **Versatile kit** is available. This kit is composed by a “V” adapter (on the left) on the mobile jaw that keeps the bore gauge fixed plus an “arch-type” adapter on the fixed jaw (on the right). The bore gauge base will self center on the ceramic surface while sliding vertically as per images here below.

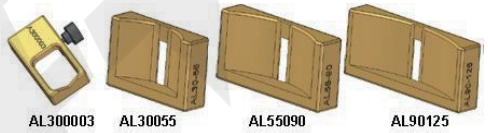


The **Versatile kit** is composed by AL3003 on the mobile jaw (AL3003M if the bore gauge

has a micrometer head instead of a standard contact) plus a AL arch adapter which has to

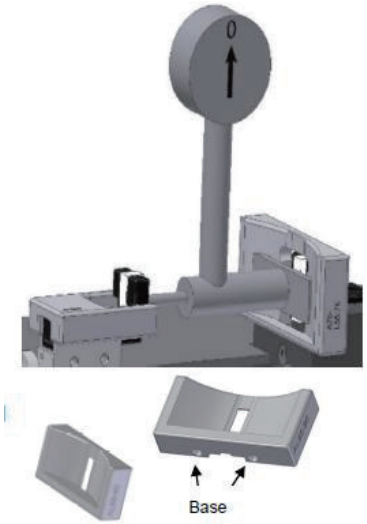
be identified according the width of the gage base. If the base is i.e. 77 mm of width the

correspondent adapter is AL55090 since 55-90 is the range in mm.



The Kit AL is| always 2-pcs adapters.

The arch-shape adapter is inserted beside the fixedjaw using the holes and the two guiding pins.

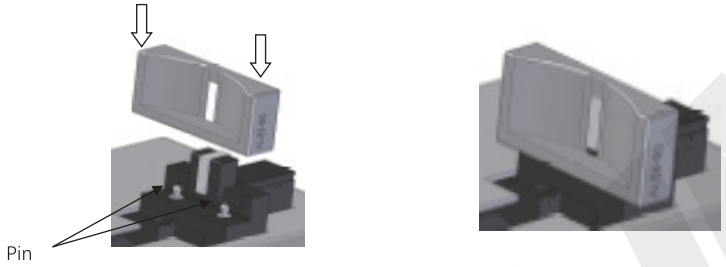


Part type	Foot width range
AL20030	20 – 30 mm

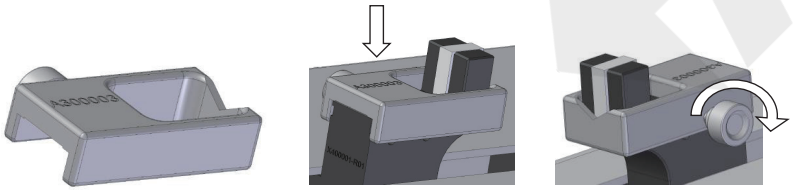
AL30055	30 – 55 mm
AL55090	55 – 90 mm
AL90125	90 – 125 mm
AL120170	120 – 170 mm
AL170220	170 – 220 mm
AL220280	220 – 280 mm
AL280350	280 – 350 mm

OPERATIONAL PROCEDURE

Locate the adapters as per below images.

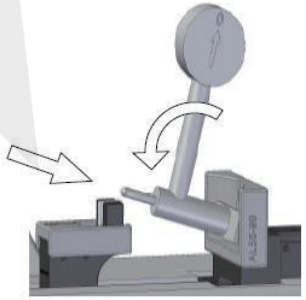


The opposite adapter is the AL3003 or the AL3003M mounted on the mobile slide and safety clamped as shown below.

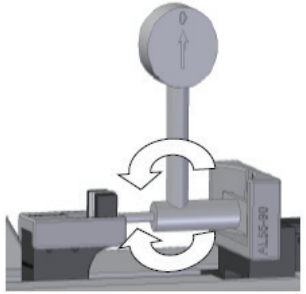


BORE GAUGE ZEROING PROCEDURE

Position the bore gauge between theceramic surfaces.The contact on themobile jaw must stay still and the gaugebase in the arch adapter must slide upand down in order to find the minimumpoint. The spring of the gage and the archwill self center the gage.

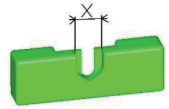


Once zero-setting is completed, the gauge is ready for use.

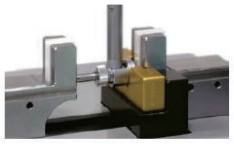


BORE GAUGES WITH ROUND BASE

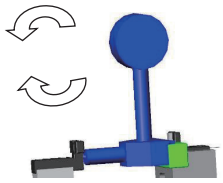
Some bore gauges have round base and in this case the indication are: measuring the diameter and select the correspondent adapter in the technical list as per below example.



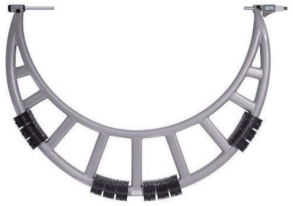
Part type	Ø in X
A7547	4,5 mm
A7548	5,8 mm
A7527	9,5 mm
A7554	14,0 mm
A7560	15,0 mm
A7559	17,5 mm
A7559	17,5 mm
A7520	20,2 mm
A7521	13,5 mm

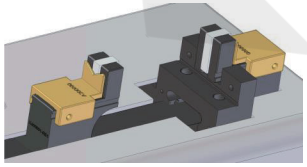


In this case only the adapter on the mobile is needed and the zeroing procedure is the same as per previous point.



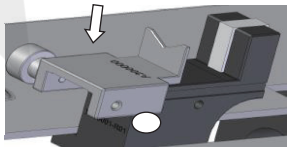
25. OUTSIDE MICROMETER

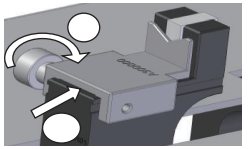




Measuring range	Part type
For cylinders diameter 8< mm	A300000
For cylinders diameter 9> mm	A300100

Firstly, mount the adapter on the upper part of the mobile jaw (1), move it sideways against the rear
face of the ceramic gauge block (2) and tighten to clamp it safety into position (3).

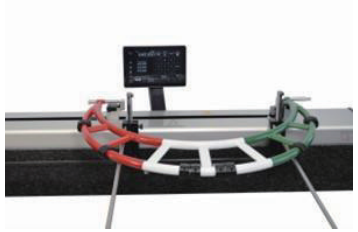




For external dimensions from 40 to 140-170 mm (according to the sensitivity of the operator) the left adapter
is enough for the operation of the zero setting. By using 1 adapter the left contact of the gage will remain fixed
on the ceramic reference. On the other side move slowly the contact of the micrometer and in the same time t
urn the thimble until the spindle goes in contact with the ceramic surface of the fixed jaw.
For a dimension above 140-170 mm the second adapter on the fixed jaw is needed. Proceed with holding the
micrometer in the center with the left hand so that all weight is applied in the adapters and proceed with zero set procedure.
For large and heavy micrometers, machine models 600 and above can be equipped with additional

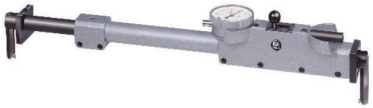
sliding supports that allow to rest the big micrometer in ordert o be set to zero by only 1 operator.

Example picture here below.



26. 2- POINTS BAR-INSTRUMENTS ID/OD

Instruments like Tesa Inotest, Unitest, Bar calipers, Multimahr, can be used with simmetrical kit A300005 or A300004.



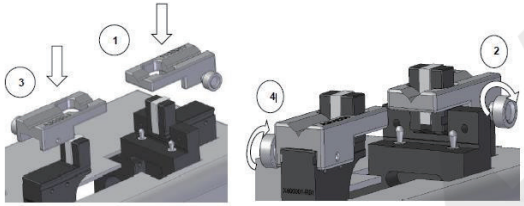
Kit reference
A300004 x 2

Mount the first adapter on the fixed JAW (1) and tighten screw (2).

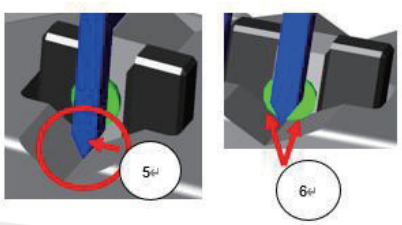
Mount the second adapter on the upper part of the mobile jaw (3) and tighten screw (4).

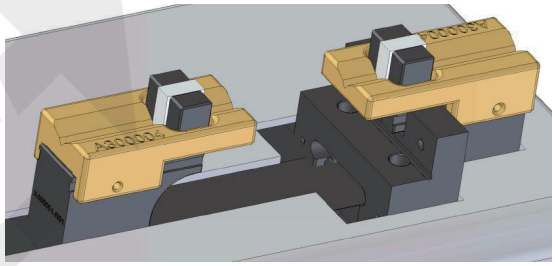
If performing an inside value then position the 2 adapters in contact with the internal side of the ceramic surface. If processing an outside dimension proceed with sliding the adapters in contact with the external side of the ceramic surface.

A300004 KIT INSTALLATION



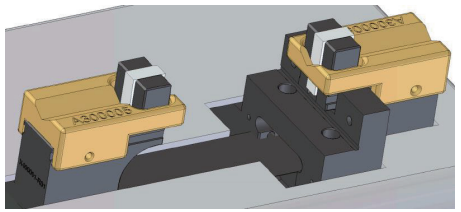
In order to set these gauges to zero, position each measuring insert on the adapter using the V-recesses (5) or (6). This is valid for internal as for external measurement.

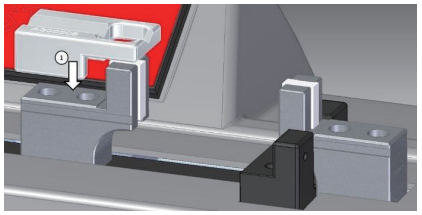




Inside micrometer heads and groove calipers must be used with kit A300005 kit.

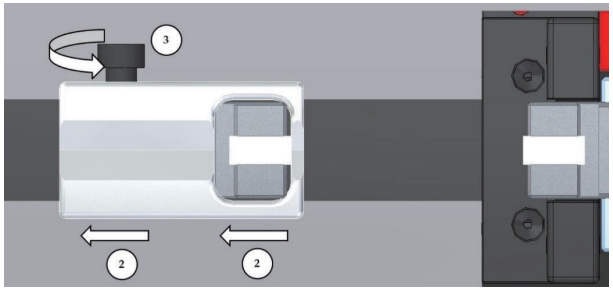
A300005 KIT INSTALLATION





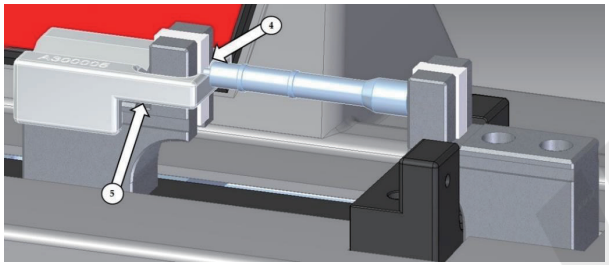
Locate 1 or bot adapter according to the type of the gauges. Proceed as per instructions of point nr. 26.

If performing an Outside Dimension the adapter has to be put in contact on the opposite side with the external surface of the ceramic block.



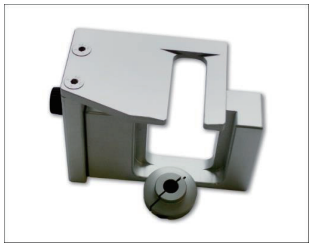
Position the measuring anvil (4) of the bore gauge on top of the V-shaped location of the block (5).

Determine the reversal point or minimum point (open slightly the internal micrometer).



For bigger micrometers heads the additional supports available on models 600 and above are suggested as per below picture.

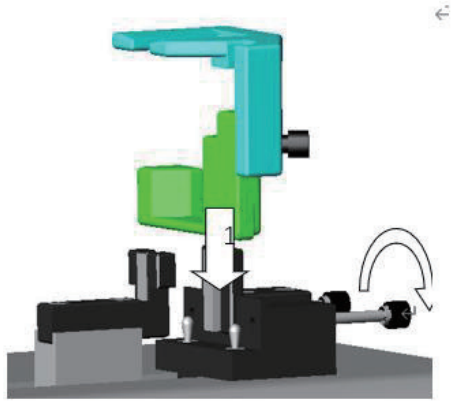
27. KIT FOR EXTRASMALL 2-POINTS BORE GAUGE



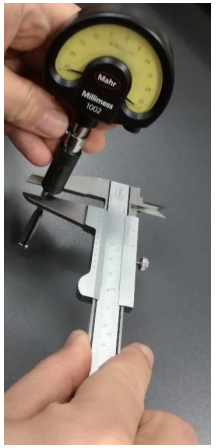
diameter of adapter-rings	KIT A7750
To measure – see below instructions	A7752XX

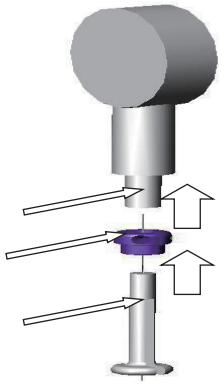
Mount the adapter by inserting it into the pin on the fixed slide (1). Tighten the two rear mounted screws (2). Disassemble the bore gage and insert the appropriate bushing (6).

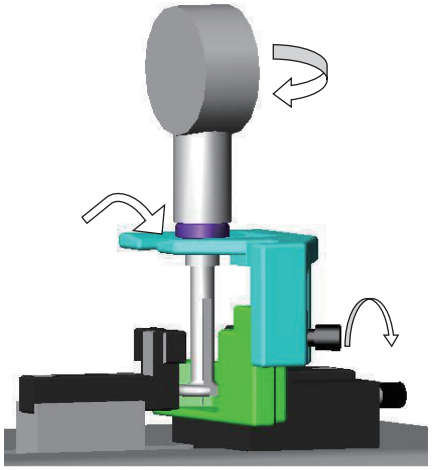
Position the reference slide on desired value before fitting the bore gauge (7) between the ceramic blocks (8). Adjust the height of the adapter according to the size of the gage (9). Position the bushing on the adapter. Rotate the bore gauge (10) until the measuring faces come into contact with the ceramic gauge blocks on both mobile and fixed slides. Lightly tilt the gauge (1) to find the minimum point and set it to zero. For more info watch the video on our website.



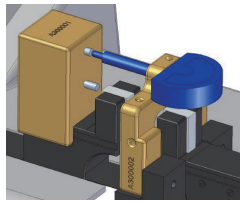
ATTENTION: every kit has to be ordered by communicating the dimensions (diameter) of each instrument – as per below picture. For each diameter you must order a dedicated bushing. The reference of the bushing is A7752XX and each one is at a cost.





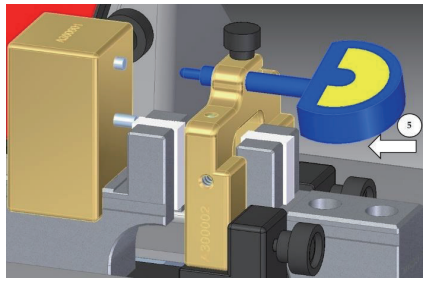


28. KIT FOR DIAL INDICATORS

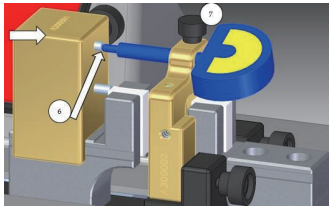


Part NR.
A300001-A300002

Mount this adapter prior to position the mobile slide. Fit the first element on the fixed reference slide (1). Position the second element on the mobile slide (3). Tighten both screws (4). Insert the fixing shank of the dial gauge in the holder (5).



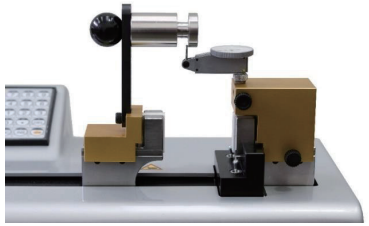
Press  to move the mobile slide towards the measuring head. Set dial gauge to the initial value and tighten it into position by means of the knob (8). Any measurement is now allowed.



As measured values are readable, you may move the slide step by step as described under the item 5.7.

29. KIT FOR TEST INDICATORS (lever-type) A7871

Order No.	Part type
A7871	KIT for 2 way-calibration



Position the cylindrical master on the mobile carriage (left in the picture) and the holding adapter on the fixed one. Adjust the height of the master according to the anvil of the comparator. The calibration could be done by positioning the master above or below the instrument. Proceed with steps as per procedure of point 4.6 of this manual.

The KIT replaces the reference A7870.

30. BAR CODE SCANNER

A scanner can be purchased by the manufacturer of the bench or it is possible to use one with

same specifications. To use the scanner to perform dimensions just plug the devide in the USB

port behind the display. No messages will appear. To check if the scanner is ON just try with the

below codes. Once the value is scanned, the display will copy the dimensions and the operator

must press the button GO to perform it.

45.0000

96.1405

120.0000

298.0015

0225.2255 INTERNAL

125.1250 EXTERNAL

31. TECHNICAL DATA ISQ-S×××

SPECIFICATION

Code		ISQ-S300	ISQ-S600	ISQ-S1000	ISQ-S1500	ISQ-S2000
Range	inter diameter	0.1~300mm	0.1~600mm	0.1~1000mm	0.1~1500mm	0.1~2000mm
	outer diameter	40~340mm	40~640mm	40~1040mm	40~1540mm	40~2040mm
Resolution		0.5μm				
Accuracy		(1.5+L/500)μm, (L is measuring length in mm)				
Repeatability		0.8μm				
Zeroing method		motorized				
Interface		ETHERNET, USB				
Environment requirement		temperature: 10~35°C, temperature change: 1°C/h				
Power		100~240V				
Weight		80kg	140kg	360kg	450kg	650kg

SPECIFICATION

Code		ISQ-S3000	ISQ-S4000	ISQ-S5000
Range	inter diameter	0.1~3000mm	0.1~4000mm	0.1~5000mm
	outer diameter	40~3040mm	40~4040mm	40~5040mm
Resolution		0.5μm		
Accuracy		(3+L/500)μm, (L is measuring length in mm)		
Repeatability		0.8μm		
Zeroing method		motorized		
Interface		ETHERNET, USB		
Environment requirement		temperature: 10~35°C, temperature change: ≤1°C/h		
Power		100~240V		
Weight		1500kg	2000kg	2400kg

Note

All Indicated values refer to the reference temperature of 20° ±0,5° C and relative humidity of 50% ±5 %.

32. SHORT MANUAL _PRINT AND KEEP BESIDE THE UNIT_

INTERNAL MEASUREMENTS

1. Switch on the bench

2. Make sure there are no adapters or media on the machine and the ceramic blocks are clean

3. Press the MACHINE ZERO  and wait for the end of the process

4. ISQ-S××× is ready to receive values inside the ceramic blocks

5. For proper use, we recommend resetting the machine three or four times throughout the day

6. Enter any value on the numeric keypad and press GO to confirm it

7. The mobile reference will position itself at the desired value

8. It is now possible to locate the adapters associated with the instrument

EXTERNAL MEASUREMENTS

1. Remove any adapters / holders

2. Press the button  for the machine to activate the OD offset

3. Enter any value on the numeric keypad and press  key to confirm it

4. The mobile reference will position itself at the desired value

5. It is now possible to mount the adapters associated with the instrument to be reset

GOING BACK TO INSIDE VALUES

1.Press  to return to INSIDE SETTING

2.Remove any adapter

3.Digit any value and then press  in order to perform it

33. WARRANTY

We guarantee the relevant product against any fault of design, manufacture or material for a period of 12 months from the date of purchase. Any repair work carried out under the guarantee conditions is free of charge. Our responsibility is limited to the repair of the product or, if we consider it necessary, to its free replacement.

The following are not covered by our guarantee: batteries and damage due to incorrect handling, failure to observe the instruction manual, or attempts by any non-qualified party to repair the product; any consequences whatever which may be connected either directly or indirectly with the product supplied or its use.