

MARPOSS

# QUICKBLOCK

## MEASURING ARMSETS WITH PARALLEL GUIDES

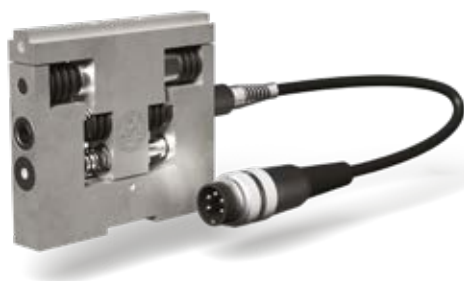


Displacement Sensors

**Quick Block** is a universal measuring element, equipped with high precision linear guides, for checking internal and external diameters and distances, designed to meet the most demanding customers' application requirements. The product family includes two versions with LVDT or HBT built-in transducer, with  $\pm 1$  mm and  $\pm 5$  mm measuring range, and a purely mechanical version with  $\pm 3$  mm and  $\pm 5$  mm measuring range, requiring a linear probe (for example Red Crown 2). The built-in transducer model is also available in digitized version, to be connected to Marpos DigiCrown Network System, and in USB version for direct connection to electronic display units and industrial/commercial pc.

## Product features

- Each version can be equipped with pneumatic actuation to facilitate part loading/unloading in the measuring station. A wide range of spring, measuring arms and contacts is also available, allowing to reach any measuring position keeping the arm ratio unchanged
- Its measurement axis can be oriented in any spatial direction, while the contacts support has a retooling range of 20 mm
- The  $\pm 5$  mm version features a 5 mm diameter double guide and a ball cage anti-rotation system providing a repeatability range (max-min) lower than  $0,5 \mu\text{m}$  with direct contact. This version can be supplied with axial or radial cable outlet for transducer and pneumatic cylinder
- Particularly suitable as a Quick Set component for Post-Process applications with robot part loading and unloading. By means of specific interfaces it can be assembled on two different support brackets to measure diameters up to 40 mm and 90mm respectively
- A special version of QBH100 with dovetail compatible with TESA supports and contacts is also available.



## QUICKBLOCK

### QBF100/QBF1000 QBH100/QBH1000/QBH1000 TESA

With built-in full-bridge (LVDT) or half-bridge (HBT) transducer featuring  $\pm 1$  mm ( $\pm 0.04''$ ) and  $\pm 5$  mm ( $\pm 0.2''$ ) measuring range.

The QBH1000 is also available in a version compatible with Tesa electronic amplifiers.

Technical specifications		QBF100		QBH100		QBF1000				QBH1000				QBH1000 TESA																	
Transducer type		LVDT		HBT		LVDT				HBT				HBT TESA																	
Total stroke	mm	6		10,6		10,6				10,6				10,6																	
Measuring range	mm	2		10		10				10				10																	
Pretravel	mm	1,1 ÷ 1,2		5,1 ÷ 5,2		5,1 ÷ 5,2				5,1 ÷ 5,2				5,1 ÷ 5,2																	
Contact support fixing system		Square guide		TESA Dovetail		Square guide				Square guide				Square guide																	
Guiding system		Ball cage		Ball cage		Ball cage				Ball cage				Ball cage																	
Antirotation system		Allen screw		Ball cage		Ball cage				Ball cage				Ball cage																	
Repeatability	$\mu\text{m}$	<0,5		<0,5		<0,5				<0,5				<0,5																	
Tip Force	N	1 ( $\pm 20\%$ ) with std. spring		1,7 ( $\pm 20\%$ ) with std. spring		1,7 ( $\pm 20\%$ ) with std. spring				1,7 ( $\pm 20\%$ ) with std. spring				1,7 ( $\pm 20\%$ ) with std. spring																	
Thermal drift	$\mu\text{m}/^\circ\text{C}$	<0,25		<0,25		<0,25				<0,25				<0,25																	
Actuation*		S	PA	S	PA	S	PA	S	PA	S	PA	S	PA	S	PA	S	PA	S	PA	S	PA	S	PA	S	PA	S	PA	S	PA		
Cable outlet**		A	A	A	A	A	A	A	A	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R		
Operating pressure	bar	3 ÷ 6		3 ÷ 6		3 ÷ 6				3 ÷ 6				3 ÷ 6																	
Total weight	g (N)	<260 (<2,548)		<260 (<2,548)		<260 (<2,548)				<260 (<2,548)				<260 (<2,548)																	
Mobile parts weight	g (N)	100 (0,98)		110 (1,078)		110 (1,078)				110 (1,078)				110 (1,078)																	
Operating temperature	$^\circ\text{C}$	-10/65		-10/+65		-10/+65				-10/+65				-10/+65																	
Protection degree	guides	IP65		IP40		IP65		IP40		IP65		IP40		IP65		IP40		IP65		IP40		IP65		IP40		IP65					
	transducer	IP65		IP65		IP65				IP65				IP65																	
Cable length	m	2		2		2				2				2																	
Connector		Lumberg SV50/6		Lumberg SV50/6		Lumberg SV50/6				Lumberg SV50/6				Lumberg SV50/6																	
Sensitivity	mV/V/mm	230		73,75		115				29,5				29,5																	
Accuracy	$\mu\text{m}$	$\pm \text{MAX}(1+ 10 \cdot K ;  15 \cdot K )$ ***		$\pm \text{MAX}(8+ 3 \cdot K ;  8 \cdot K )$ ***		$\pm \text{MAX}(8+ 3 \cdot K ;  8 \cdot K )$ ***				$\pm \text{MAX}(8+ 3 \cdot K ;  8 \cdot K )$ ***				$\pm \text{MAX}(8+ 3 \cdot K ;  8 \cdot K )$ ***																	
Calibration specs.		3,5V RMS @7,5kHz with load 1M $\Omega$ //360pF		3,5V RMS @7,5kHz with load 2K $\Omega$ $\pm$ 0,1%		3,5V RMS @7,5kHz with load 1M $\Omega$ //360pF				3,5V RMS @7,5kHz with load 2K $\Omega$ $\pm$ 0,1%				3V RMS @13kHz with load 2K $\Omega$ $\pm$ 0,1%																	
Order Code		B3419883300	B3419883305	B3419883350	B3419883355	B3419883360	B3419883365	B3419883800	B3419883801	B3419883805	B3419883806	B3419883810	B3419883811	B3419883815	B3419883816	B3419883850	B3419883851	B3419883855	B3419883856	B3419883860	B3419883861	B3419883865	B3419883866	B3419883900	B3419883901	B3419883905	B3419883906	B3419883910	B3419883911	B3419883915	B3419883916

\*S=spring; PA=pneumatic cylinder with axial inlet; PR=pneumatic cylinder with radial inlet; \*\*A=axial; R=radial; \*\*\* K = reading value (mm)

Displacement  
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Display Units

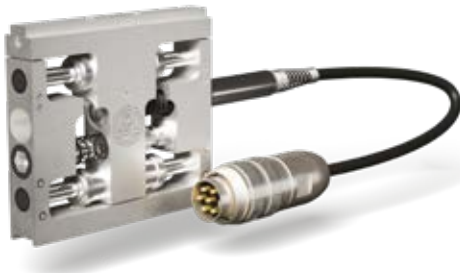


Interface  
Boxes for Data  
Acquisition



Software





## QUICKBLOCK

### DB1000

Digitized version, with high levels of accuracy and versatility used in combination with DIGICrown network system and GAGEPod interface box.



## QUICKBLOCK

### UB1000

A version linearized with the USB interface integrated in the standard USB connector for direct connection to any USB host device.

Technical specifications		DB1000						UB1000									
Transducer type		DIGITIZED						USB									
Total stroke	mm	10,6															
Measuring range	mm	10															
Pretravel	mm	5,1 ÷ 5,2															
Contact support fixing system		Square guide															
Guiding system		Ball cage															
Repeatability	µm	<0,5															
Tip Force	N	1 (±20%) with std. spring															
Thermal drift	µm/°C	<0,25															
Actuation*		S	R	PA	PR	S	R	PA	PR	S	R	PA	PR	S	R	PA	PR
Cable outlet**		A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R
Operating pressure	bar	3 ÷ 6															
Total weight	g (N)	<260 (<2,548)															
Mobile parts weight	g (N)	110 (1,078)															
Operating temperature	°C	-10/+65															
Protection degree	guides transducer	IP40			IP65			IP65			IP40			IP65			
Cable length	m							2									
Connector		Lumberg 0332/06						Standard USB									
Sensitivity	mV/V/mm	-						-									
Accuracy	µm	±(1,2+K•2)***						±(1,2+K•2)***									
Calibration specs.		-						-									
Order Code		B3419883970	B3419883971	B3419883975	B3419883976	B3419883980	B3419883981	B3419883985	B3419883986	B3419883972	B3419883973	B3419883977	B3419883978	B3419883982	B3419883983	B3419883987	B3419883989

\*S=spring; PA=pneumatic cylinder with axial inlet; PR=pneumatic cylinder with radial inlet; \*\*A=axial; R=radial; \*\*\* K = reading value (mm)

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# THE PRODUCT LINE

## Displacement Sensors



## QUICKBLOCK

### QB600/QB1000

Simple mechanical transmission featuring  $\pm 3$  mm ( $\pm 0.12$ " ) and  $\pm 5$  mm ( $\pm 0.2$ " ) measuring range, to be used with linear probes having clamping diameter 8mm or 3/8", such as Red Crown2.

## Bore Gauges



## Forks and Ring Gauges



## Bench Gauges



## Indicators and Electronic Display Units



## Interface Boxes for Data Acquisition



## Software






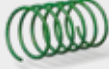


Technical specifications		QB1000						QB600	
Transducer type		Transmission only							
Total stroke	mm	10,6						6	
Measuring range	mm	10						Depending on the probe	
Pretravel	mm	Depending on the probe							
Contact support fixing system		Square guide							
Guiding system		Ball cage							
Antirotation system		Ball cage						Allen screw	
Repeatability	$\mu\text{m}$	<0,5							
Tip Force	N	1,7 ( $\pm 20\%$ ) without pencil probe							
Thermal drift	$\mu\text{m}/^\circ\text{C}$	<0,25							
Actuation*		S	PA	PR	S	PA	PR	S	PA
Cable outlet									
Operating pressure	bar	3 ÷ 6							
Total weight	g (N)	<260 (<2,548)							
Mobile parts weight	g (N)	100 (0,98)						95 (0,931)	
Operating temperature	$^\circ\text{C}$	-10/+65							
Protection degree	guides transducer	IP40			IP65			IP65	
Cable lenght	m								
Connector		Depending on the probe							
Sensitivity	mV/V/mm	Depending on the probe							
Accuracy	$\mu\text{m}$	Depending on the probe							
Calibration specs.									
Order Code		B3019883711	B3019883712	B3019883714	B3019883721	B3019883722	B3019883724	B3019883001	B3019883002

\*S=spring; PA=pneumatic cylinder with axial inlet; PR=pneumatic cylinder with radial inlet

## ACCESSORIES

### SPRINGS







Different strength springs are available to meet the need for specific measuring forces required by the application.

	Description	Order code
	Spring 0,6 N (Blue)	B1019883035
	Spring 1 N (Inox)	B1019883030
	Spring 1,7 N (Black)	B1019883034
	Spring 2 N (Green)	B1019883031
	Spring 2,6 N (Red)	B1019883032
	Spring 4 N (Yellow)	B1019883036

### LVDT/HBT EXTENSION CABLES

	Description	Order code
	Cable extension L = 1 m	B6735932026
	Cable extension L = 2 m	B6735932015
	Cable extension L = 5 m	B6735932016
	Cable extension L = 10 m	B6735932017
	Cable extension L = 15 m	B6735932037

### OFF-SET CUT CONTACTS AND SUPPORT

	Description	Order code
	Support for off-set cut contacts, retooling range 0 – 20 mm (0 -.79"), M4 thread	B2019883060
	Off-set cut contact	B3391988330
	Left off-set cut contact, L off-set = 12 mm	B3391988335
	Left off-set cut contact, L off-set = 24 mm	B3391988336
	Right off-set cut contact, L off-set = 12 mm	B3391988337
	Right off-set cut contact, L off-set = 24 mm	B3391988338

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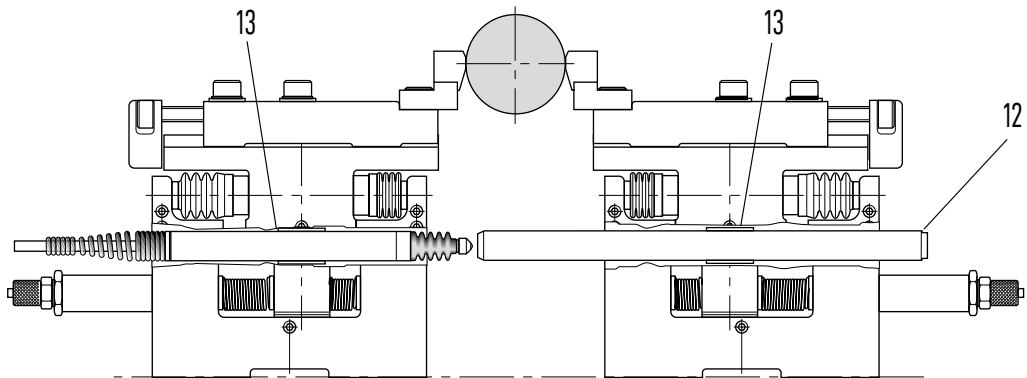
Software



## SIMPLE CUT – SPHERICAL CONTACTS AND SUPPORTS

	Description	Order code
	Support for simple cut contact and spherical contacts, retooling range 0 – 20 mm (0 - .79")	B2019883050
	Support for spherical contacts with side rotation (for internal diameters), retooling range 0 – 20 mm (0 - .79")	B2019883550
	Simple cut contact	B3391988325
	Spherical contact L = 20 mm, diameter 5 mm	B3391988301
	Spherical contact L = 40 mm, diameter 5 mm	B3391988302
	Spherical contact L = 60 mm, diameter 5 mm	B3391988303
	Spherical contact L = 20 mm, diameter 3 mm	B3391988310
	Spherical contact L = 40 mm, diameter 3 mm	B3391988311
	Spherical contact L = 60 mm, diameter 3 mm	B3391988312

## ACCESSORIES FOR QB600/QB1000 APPLICATION



Ref.	Description	Order code
12	Mechanical reference rod dia. 8 mm, L = 120 mm, for using a single probe	B1119883071
13	Adapter bushing for fixing probe or reference rod dia. 8 mm	B1019826001
	Adapter bushing for fixing probe dia. 3/8"	B1019883072

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**ACCESSORIES FOR APPLICATION ON A QUICK SET BENCH GAUGE**



To integrate the Quick Block with the Quick Set bench gauge, dedicated accessories are available.

**Description**

Support bracket L = 200 mm to measure diameters up to 40 mm, with interface for two Quick Block

Support bracket L = 250 mm to measure diameters up to 90 mm (without interface for Quick Block)

Mounting interface for one Quick Block for support bracket L = 250 mm

**Order code**

B3024017100

B3024018100

B2924018110

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## Application examples

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