

MARPOSS
Authorized Distributor:
Willrich Precision

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## **QUICKSET**

MODULAR MEASURING SYSTEM







**Bench Gauges** 

Quick Set™ is a retoolable modular system that can be assembled in three different gauging configurations: horizontal and vertical for multidimensional and geometric checking of shaft-like parts; chuck for multidimensional and geometric checking on parts that cannot be referenced horizontally with Vees or held between centers, such as bushings, bearings, pistons and cylindrical parts that are manufactured with a flange.





Bore Gauges



Forks and Ring Gauges



Bench Gauges



Indicators and Electronic Display Units



Interface Boxes for Data Acquisition



Software



### **Product features**

Its design concept ensures high flexibility and quick retooling, using shop-floor components available off the shelf.

30 mm diameter stainless steel bars assure rigidity and exact positioning of the bench gauge elements. The bar system allows size expansion of the bench.

The narrow 12 mm (0.47") width of all components allows a large number of measuring sections on a short part surface. Several measuring assemblies can be mounted on the base to carry on diameter, distance and geometric measurements. Part support options allow static as well as dynamic inspection.

It can accomodate any measuring gauge with clamping diameter 8 mm or 3/8", such as Red Crown2™, TD dial indicators or Quick Digit™ digital indicators.



### **QUICKSET**

### Horizontal

Parts can be supported and referenced through Vees or between centers. In association with Vees, optional part axial limiters and part radial limiters can be used to ensure correct part positioning and part introduction respectively.



### **QUICKSET**

#### Vertical

Parts are supported and referenced between centers. Two versions are available, Single and Dual station; the second is used when a large number of measurements is required. Two different types of arms with center supports allow static or dynamic acquisitions respectively.



### **QUICKSET**

#### Chuck

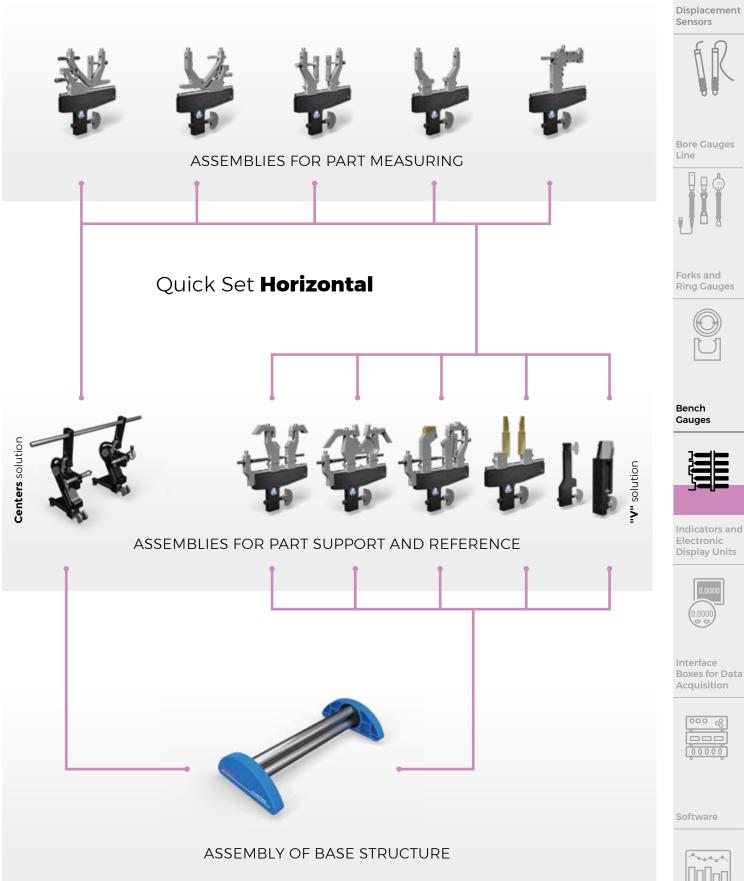
Parts can be supported and referenced through the serrated plate and a Vee.

### **TECHNICAL SPECIFICATIONS**

Gauge Configuration	Quick Set-Horizontal	Quick Set-Vertical	Quick Set-Chuck
Measurable Diameter	5 – 160 mm (0.02" – 6.30")	5 – 160 mm (0.02" – 6.30")	5 – 160 mm (0.02" – 6.30")
Max. Non-measurable Diameter	260 mm (10.24")	260 mm (10.24")	260 mm (10.24")
Max. Measurable Length	700 mm (27.56")	840 mm (33.07")	250 mm (9.84")
Weight	up to 14 kg	up to 8 kg (*)	-

<sup>(\*)</sup> Special versions are available to measure heavier parts.

# THE PRODUCT Line \_\_\_\_









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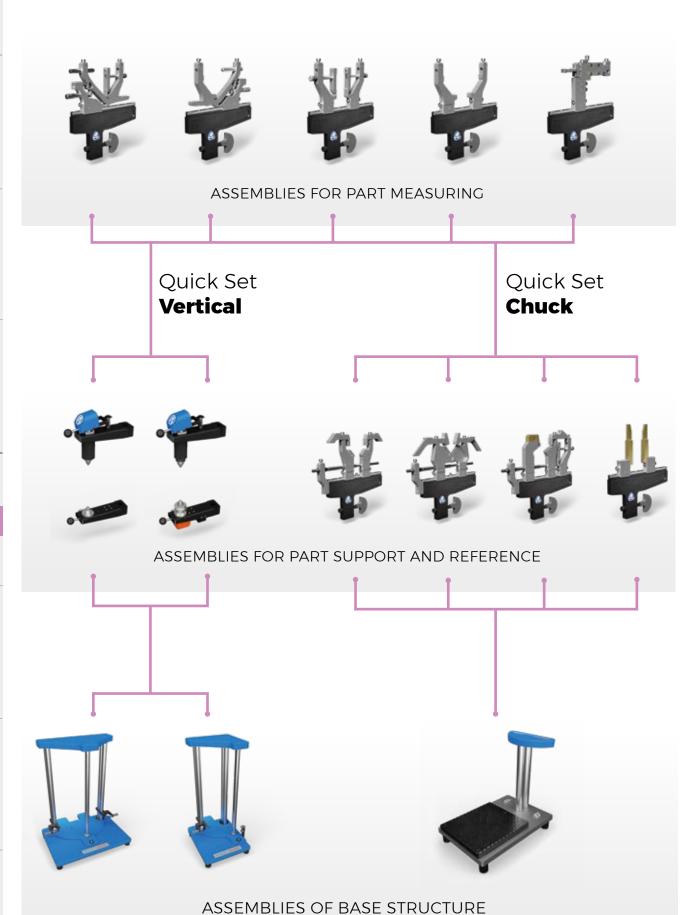


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### **Application** examples



Displacement Sensors



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### Assembly of base structure



			Bench	Bench with			
Bars L			Max. part length with 2 introducing axial limiters		ength with 1 xial limiter and 1 axial limiter	J	<b>enters unit</b> rt length
200 mm	7.87"	100 mm	3.94"	70 mm	2.76"	80 mm	3.15"
300 mm	11.81"	200 mm	7.87"	170 mm	6.69"	180 mm	7.08"
400 mm	15.75"	300 mm	11.81"	270 mm	10.63"	280 mm	11.02"
500 mm	19.69"	400 mm	15.75"	370 mm	14.57"	380 mm	14.96"
600 mm	23.62"	500 mm	19.69"	470 mm	18.50"	480 mm	18.89"
800 mm	31.50"	700 mm	27.56"	670 mm	26.38"	680 mm	26.77"

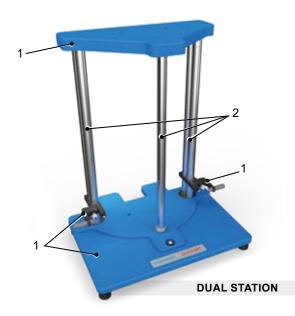
Note: longer bars are available on request

Ref.	Description	Order code
1	SUPPORT FEET (PAIR)	B2924017005
2	CLAMPING DEVICES (PAIR)	B2924017115
	BARS L = 200 mm (PAIR)	B2924017010
	BARS L = 300 mm (PAIR)	B2924017020
	BARS L = 400 mm (PAIR)	B2924017030
3	BARS L = 500 mm (PAIR)	B2924017040
	BARS L = 600 mm (PAIR)	B2924017050
	BARS L = 800 mm (PAIR)	B2924017070



### Assemblies of base structure





Daws I	Bars Length		Quick Set-Vertical				
Bars			Part length with static measurements		namic measurements		
500 mm	19.69"	190 mm	7.48"	100 mm	3.94"		
600 mm	23.62"	290 mm	11.41"	200 mm	7.87"		
700 mm	27.56"	390 mm	15.35"	300 mm	11.81"		
800 mm	31.50"	490 mm	19.29"	400 mm	15.75"		
900 mm	35.43"	590 mm	23.22"	500 mm	19.69"		
1000 mm	39.37"	690 mm	27.16"	600 mm	23.62"		
1150 mm	45.28"	840 mm	33.07"	750 mm	29.53"		

Part length values are referred to bench gauges equipped with: Standard interchangeable centers (see page 13-14) for static measurements Cone center L = 100 mm, diameter 18 mm, for dynamic measurements

The assembly of base structure is composed of base and bars. Centers are supplied separately (see page 12).

Ref.	Description	Order code
1	SINGLE STATION BASE (INCLUDES UPPER AND LOWER PLATES AND STOPPERS)	B3024025503
l	DUAL STATION BASE (INCLUDES UPPER AND LOWER PLATES AND STOPPERS)	B3024025003
	BARS L = 500 mm	B3024025025
2	BARS L = 600 mm	B3024025026
	BARS L = 700 mm	B3024025027
	BARS L = 800 mm	B3024025028
	BARS L = 900 mm	B3024025029
	BARS L = 1000 mm	B3024025030
	BARS L = 1150 mm	B3024025031

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### Assemblies for base structure



The assembly of base structure is composed of support plate, support feet, clamping devices, bars and serrated referencing plate.

Ref.	Description	Order code
1	SUPPORT FEET	B2924017005
2	CLAMPING DEVICE	B2924017115
3	BARS L = 300 mm (PAIR)	B2924017880
٥	BARS L = 500 mm (PAIR)	B2924017882
4	SERRATED REFERENCING PLATE (220 x 250 mm)	B2924017885
	CHROMED SERRATED REFERENCING PLATE (220 x 250 mm, HRC 68)	B2924017886
5	SUPPORT PLATE (INCLUSIVE OF RUBBER FEET)	B2924017890



### Assemblies for part support and reference

### WITH FRONTAL "V"



For Horizontal and Chuck versions

The frontal "V" accurately defines the measuring mechanical axis of the part. An assembly is composed of one support bracket and one frontal "V", and is available in two versions:

- with self-centering screw, for fast and frequent retooling
- without self-centering screw, for economical part positioning

Two assemblies are normally required to support the part.

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		Support Brac	ket	Frontal "V"			
	Len	gth	Order code	Range		Order code	
				5 - 10 mm	0.19" - 0.39"	B3024017633	
				10 - 15 mm	0.39" - 0.59"	B3024017643	
Assembly with	200	7.07	D200/017F/0	15 - 24 mm	0.59" - 0.94"	B3024017653	
self-centering screw	200 mm	7.87"	B3024017540	24 - 40 mm	0.94" - 1.57"	B3024017663	
				40 - 70 mm	1.57" - 2.76"	B3024017673	
				55 - 100 mm	2.16" - 3.94"	B3024017693	
		7.07	2000/047000	5 - 10 mm	0.19" - 0.39"	B3024017632	
				10 - 15 mm	0.39" - 0.59"	B3024017642	
Assembly without	200			15 - 24 mm	0.59" - 0.94"	B3024017652	
self-centering screw	200 mm	7.87"	B3024017000	24 - 40 mm	0.94" - 1.57"	B3024017662	
				40 - 70 mm	1.57" - 2.76"	B3024017672	
				55 - 100 mm	2.16" - 3.94"	B3024017692	
	250 mm	9.84"	B3024017050	100 - 150 mm	3.94" - 5.91	B3024017695	

Description	Order code
OPTIONAL GUIDE FOR VEE RANGE 55–100 mm (it has to be used when onto the same support bracket of the vee , two single transmissions are assembled to check the diameter (55–100 mm))	B2924017695





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### WITH CROSSED "V"



For Horizontal and Chuck versions

The crossed "V" is used for very frequent retooling and when a large retooling range is needed. An assembly is composed of one support bracket and one crossed "V", and is available in two versions:

- · with self-centering screw, for fast and frequent retooling
- without self-centering screw, for economical part positioning

Two assemblies are normally required to support the part.

		Support Bra	cket	Crossed "V"			
	Lenç	jth	Order code	Rai	nge	Order code	
Assembly with self-centering screw	200 mm	7.87"	B3024017540	5 - 100 mm	0.19" - 3.94"	B3024017553	
Assembly without self-centeringscrew	200 mm	7.87"	B3024017000	5 - 100 mm	0.19" - 3.94"	B3024017552	

### WITH MEASURING "V"



For Horizontal and Chuck versions

The measuring "V" is used when both part reference and part diameter measurement have to be carried out in the same section

The assembly is available in two versions:

- with self-centering screw, for fast and frequent retooling
- without self-centering screw, for economical part positioning

An assembly is composed of one support bracket, one measuring "V", and one single transmission unit or one direct sensor unit.

The measurement is performed by using a special contact for measuring "V" mounted on the single transmission unit or on the direct sensor unit (see Contacts for Measuring "V"). The special contact for measuring "V" and the sensor to be mounted in the transmission unit or in the direct sensor unit must be ordered separately.

		Support Bracket		Measuring "V"		
	Length		Order code	Ra	nge	Order code
Assembly with self-centering screw, for	200 mm	200 mm 7.87"	B3024017540	5 - 35 mm	.19" - 1.39"	B3024017524
single transmission or direct sensor unit				35 - 65 mm	1.39" - 2.56"	B3024017526
Assembly without self-centering screw, for single	200 mm 7.87"	7 07"	D202/017000	5 - 35 mm	.19" - 1.38"	B3024017520
transmission or direct sensor unit		7.87	B3024017000	35 - 65 mm	1.38" - 2.56"	B3024017522

Sensor Support	Clamping ø for Sensor	Order code
SINGLE TRANSMISSION UNIT	8 mm	B3024017155
	3/8"	B3024017157
DIRECT SENSOR UNIT	8 mm	B3024017145
	3/8"	B3024017147



### WITH RADIAL LIMITERS

For Horizontal and Chuck versions

The part radial limiters ensure correct part introduction in the bench. An assembly is composed of one support bracket and one pair of radial limiters.

Two versions of limiter are available:

- steel limiter
- brass limiter for parts with low hardness

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Description	Order code
STEEL RADIAL LIMITERS (PAIR)	B3024017200
BRASS RADIAL LIMITERS (PAIR)	B3024017210

### **AXIAL LIMITERS**



For Horizontal version

The part axial limiter ensures correct part positioning in the bench.

Two versions are available:

- Introducing axial limiter to limit part position
- Measuring axial limiter used both to limit part position and as mechanical reference for a distance measurement carried out by a shoulder transmission unit (see Assemblies for part measuring).

This component is not assembled together with others, as it is fixed directly on the two bars of the horizontal bench.

Description	Order code
INTRODUCING AXIAL LIMITER	B3024017214
MEASURING AXIAL LIMITER	B3024017218





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### WITH ARMS FOR CENTER SUPPORTS



For Vertical version

These arms are suitable for static measurement acquisitions and accept standard, interchangeable universal and short center with cylindrical shank.

An assembly is composed of the two arms. Centers must be ordered separately or provided by the customer.

Description	Order code
UPPER ARM FOR STATIC MEASUREMENTS WITHOUT CENTER	B2924017190
LOWER ARM FOR STATIC MEASUREMENTS WITHOUT CENTER	B2924017220
UNIVERSAL CENTER (see page 13)	B1024017753
SHORT CENTER (see page 13)	B1024017755



For Vertical version

These arms are suitable for dynamic measurement acquisitions (the lower arm is equipped with a brushless motor) and accept standard MK2 cone centers.

An assembly is composed of the two arms. Centers must be ordered separately or provided by the customer.

Description	Order code
UPPER ARM FOR DYNAMIC MEASUREMENTS WITHOUT CENTER	B2924017170
LOWER ARM FOR DYNAMIC MEASUREMENTS WITHOUT CENTER, WITH FAULHABER MOTOR	B2942441808
LOWER ARM FOR DYNAMIC MEASUREMENTS WITHOUT CENTER, WITH COMMERCIAL MOTOR	B2942441809

# THE PRODUCT LINE \_\_\_\_

### WITH PIVOTING CENTERS UNIT



This unit is needed when the part to be measured is provided with center holes.

The part is loaded between the centers and then introduced into the measuring station.

It is recommended for small parts [max. part weight 3 kg and max. flywheel overall diameter 170 mm (6.69")].

An assembly is composed of one pair of pivoting supports and their connecting shaft, whose length depends on the length of the bars of the base structure assembly.

The centers, their supports and the dampers must be ordered separately.

Dampers are available to avoid impacts during part introduction in the measuring station.

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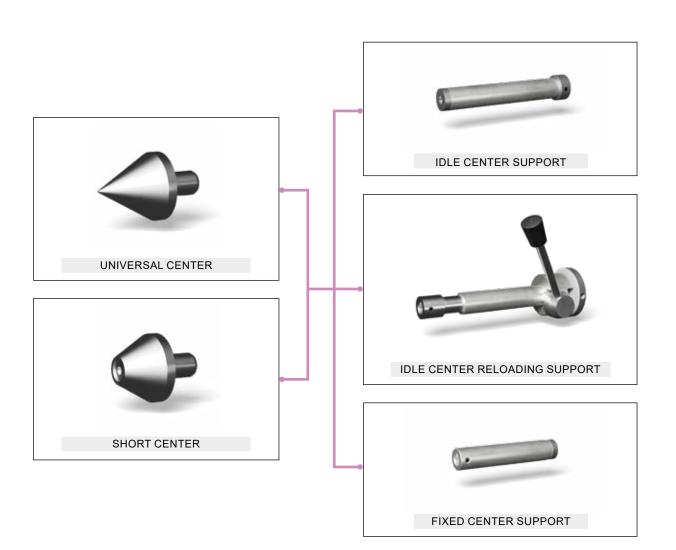


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Pivoting Supports (pair)				Connecting	shaft for pivo	ting supports	
Base Bar	s Length	Max Part Length		Order code	Length		Order code
200 mm	7.87"	80 mm	3.15"		360 mm	14.17"	B1024017369
300 mm	11.81"	180 mm	7.08"	B3024017355	460 mm	18.11"	B1024017371
400 mm	15.75"	280 mm	11.02"		560 mm	22.04"	B1024017373
500 mm	19.69"	380 mm	14.96"		660 mm	25.98"	B1024017375
600 mm	23.62"	480 mm	18.89"		760 mm	29.92"	B1024017377
800 mm	31.50"	680 mm	26.77"		960 mm	37.79"	B1024017379

Note: longer bars and connecting shafts are available on request

Description	Order code
FIXED CENTER SUPPORT	1024017567
IDLE CENTER SUPPORT	3024017325
IDLE CENTER RELOADING SUPPORT	3024017315
UNIVERSAL CENTER	1024017753
SHORT CENTER	1024017755
DAMPER (FOR MAX. PART WEIGHT 3 kg)	44331AC108

N.B. With this unit diameter, ovality and distance measurements only can be carried on. For measurements such as perpendicularity, T.I.R., concentricity, etc.,that are referred to the centers axis, please contact your nearest Marposs office.

### Assemblies for part measuring

### WITH SELF-CENTERING UNIT WITH TRANSMISSION \_



For all versions

The self-centering unit with transmission is used to carry out diameter measurements only. It can accommodate pencil probes and indicators with diameter 8 mm or 3/8".

The sensor is not in direct contact with the part and is therefore preserved during part loading/unloading.

The working range of the transmission unit is 1,150 mm.

An assembly is composed of one support bracket and one self-centering unit with transmission. The sensor and the two contacts to be mounted on the unit must be ordered separately (see Contacts and Armsets).

Support Bracket				Self-Centering	ng Unit with Transmissio	n	
Len	gth	Order code	Rar	nge	Clamping ø for Sensor	Order code	
200mm	יידס ד	D202/017000	E 00 mm	0.20" - 3.15"	8 mm	B3024017460	
200111111	7.87" B3024017000	B302401/000   5 - 80 mm	5 - 80 mm	5 - 80 mm	0.20 - 3.15	3/8"	B3024017462



### WITH SELF-CENTERING UNIT WITH DIRECT SENSOR



measurements only. It can accommodate pencil probes and indicators with diameter 8 mm or 3/8".

The self-centering unit with direct sensor is used to carry out diameter

An assembly is composed of one support bracket and one self-centering unit with direct sensor. The sensor and the contact to be mounted on the unit must be ordered separately (see Contacts and Armsets).

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**Self-Centering Unit with Direct Sensor Support Bracket** Order code Clamping ø for Sensor Order code 8 mm B3024017470 200 mm 7.87" B3024017000 5 - 80 mm 0.20" - 3.15" 3/8" B3024017472

### WITH SINGLE TRANSMISSION UNIT



For all versions

The single transmission unit is used to carry out diameter and form measurements. It can accomodate pencil probes and indicators with diameter 8 mm or 3/8". The sensor is not in direct contact with the part and is therefore preserved during part loading / unloading.

The working range of each transmission unit is 1,150 mm.

The assembly with only one transmission unit is particularly used for T.I.R. measurements.

An assembly is composed of one support bracket (L=200 mm or 250 mm) and one or two single transmission units. The sensor and the contact to be mounted on each unit must be ordered separately (see Contacts and Armsets).

Support Bracket					
Lengt	h	Ra	nge	Order code	
200 mm	7.87"	3 - 118 mm	0.12" - 4.64"	B3024017000	
250 mm	9.84"	3 - 160 mm	0.12" - 6.30"	B3024017050	

Sensor Support Clamping ø for Sensor		Order code
SINGLE TRANSMISSION UNIT	8 mm	B3024017155
	3/8"	B3024017157





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### WITH DIRECT SENSOR UNIT \_



The direct sensor unit is used to carry out diameter and form measurements. It can accomodate pencil probes and indicators with diameter 8 mm or 3/8".

An assembly is composed of one support bracket (L=200 mm or 250 mm) and one or two direct sensor units.

The sensor to be mounted on each unit must be orderd separately.

Support Bracket				
Len	gth	Ra	nge	Order code
200 mm	7.87"	3 - 118 mm	0.12" - 4.64"	B3024017000
250 mm	9.84"	3 - 160 mm	0.12" - 6.30"	B3024017050

Sensor Support		Clamping ø for Sensor	Order code
l <sub>D</sub>	DECT CENCOD UNIT	8 mm	B3024017145
וט	RECT SENSOR UNIT	3/8"	B3024017147

### WITH SHOULDER TRANSMISSION UNIT



For all versions

The shoulder transmission unit is used to carry out distance measurements. It can accommodate pencil probes and indicators with diameter 8 mm or 3/8". The working range of this transmission unit is 1.50 mm.

The sensor is not in direct contact with the part and is therefore preserved during part loading/unloading.

Distance measurements can be carried out by using two assemblies or one assembly and a measuring axial limiter.

An assembly is composed of one support bracket and one shoulder transmission unit. The sensor, the armset and the contact to be mounted on the unit must be ordered separately (see Contacts and Armsets).

Support Bracket			
Len	ngth	Order code	
200 mm	7.87"	B3024017000	
250 mm	9.84"	B3024017050	

	Clamping ø for Sensor	Order code
SHOULDER TRANSMISSION UNIT	8 mm	B3024017330
	3/8"	B3024017331



### **Accessories** and Tools

### PART PUSHER

Description

PART PUSHER



For Horizontal version

The part pusher ensures the contact between the part and the "V" supports.

It is particularly useful for parts with weight lower than 200 gr.

It is suitable for part diameters from 5 to 50 mm (0.19" - 1.97").

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Order code

B3024017980

### SUPPORT BRACKET WITH BACK HOLES



This support bracket is used with the Vertical version; it is equipped with two holes in the bottom that allow the use of the specific retooling tool to setup it horizontally.

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## Description Order code SUPPORT BRACKET WITH BACK HOLES B2924025255

### RETOOLING TOOL (ONLY FOR BRACKET WITH BACK HOLES)



This tool allows to setup the support bracket code B2924025255 horizontally.

Description	Order code
RETOOLING TOOL FOR BRACKET WITH BACK HOLES	B2924025050





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### STANDARD CONTACTS



#### To be used with:

- Self-centering unit with transmission (Q.ty = 2)
- Self-centering unit with direct sensor (Q.ty = 1)
- Single transmission unit (Q.ty = 1)

Rad	ius R	Thread	Material	Order code
10 mm	0.39"	M 2.5	CARBIDE	B3392401702
50 mm	1.97"	M 2.5	CARBIDE	B3392401705
100 mm	3.94"	M 2.5	CARBIDE	B3392401706
10 mm	0.39"	M 2.5	DIAMOND	B3392401722
50 mm	1.97"	M 2.5	DIAMOND	B3392401725
100 mm	3.94"	M 2.5	DIAMOND	B3392401726

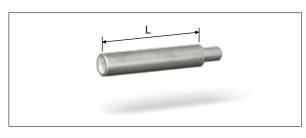
### **CONTACTS FOR MEASURING 'V'**



Special carbide contacts to be mounted on the single transmission unit or directly on the sensor.

Rad	ius R	Thread	Order code
10 mm	0.39"	M 2,5	B3392401701
50 mm	1.97"	M 2,5	B3392401720
100 mm	3.94"	M 2,5	B3392401721

### **CONTACT EXTENSIONS**



#### To be used with:

- Self-centering unit with transmission or direct sensor
- Single transmission unit
- Direct sensor unit
- Indicators

	L	Thread	Order code
10 mm	0.39"	M 2.5	1024017105
15 mm	0.59"	M 2.5	1024017106
20 mm	0.79"	M 2.5	1024017107
25 mm	0.98"	M 2.5	1024017108
30 mm	1.18"	M 2.5	1024017109
10 mm	0.39"	4 - 48 UNF	1024017115
15 mm	0.59"	4 - 48 UNF	1024017116
20 mm	0.79"	4 - 48 UNF	1024017117
25 mm	0.98"	4 - 48 UNF	1024017118
30 mm	1.18"	4 - 48 UNF	1024017119



OFF-SET ARMS \_

### ARMSET FOR SELF-CENTERING UNIT WITH TRANSMISSION

It is needed to carry out measurements very close to each other and close to a shoulder (min. 3 mm) by offsetting the contact.



Min. distance between two measuring sections: 5,2 mm.

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 Armset + fixing screw
 Order code

 B2924017405

### ARMSET FOR SINGLE TRANSMISSION UNIT

For contact off-set when measurements close to each other must be carried out.



Min. distance between two measuring sections: 5,2 mm.

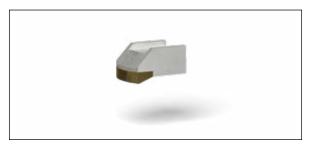
		Offset L		Order code
	Armset + fixing screw	8.5 mm	0.33"	B2924017150
		10 mm	0.39"	B2924017151

### CONTACTS AND ARMSETS FOR SHOULDER TRANSMISSION UNIT \_



### Armset

It is the interface for mounting the contact on the unit.



### Contact

Available with carbide or diamond tip.





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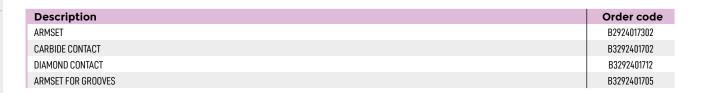


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### **Armset for Grooves**

It is equipped with a carbide contact and must be directly mounted on the unit.



### WRENCH SET



For bench assembly and set-up.

Description	Order code
WRENCH SET	B2924017990

Authorized Distributor:

Willrich Precision info@willrich.com / 866-945-5742