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#### MODULAR MEASURING SYSTEM

Quick Set<sup>™</sup> is a retoolable modular system that can be assembled in three different gauging configurations: - horizontal and vertical for multi-

dimensional 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.

Its flexibility guarantees quick retooling without any special tools, using shop-floor components available off the shelf.

The narrow 12 mm (.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 TESTAR Red Crown<sup>™</sup> and Quick probe<sup>™</sup>, Quick Read<sup>™</sup> compact electronic display unit, Quick Digit<sup>™</sup> electronic digital indicator.

	1		5
 1			





PART WEIGHT AND DIMENSIONS REFERENCE TABLE								
GAUGE CONFIGURATION	Measurable Diameter	Max. Non-measurable Diameter	Max. Measurable Length	WEIGHT				
Quick Set-Horizontal	5 – 160 mm (.02" – 6.30")	260 mm (10.24")	700 mm (27.56")	up to 14 kg				
Quick Set-Vertical	5 – 160 mm (.02" – 6.30")	260 mm (10.24")	520 mm (20.47")	up to 8 kg				
Quick Set-Chuck	5 – 160 mm (.02" – 6.30")	260 mm (10.24")	250 mm (9.84")	-				



Quick Set - Horizontal



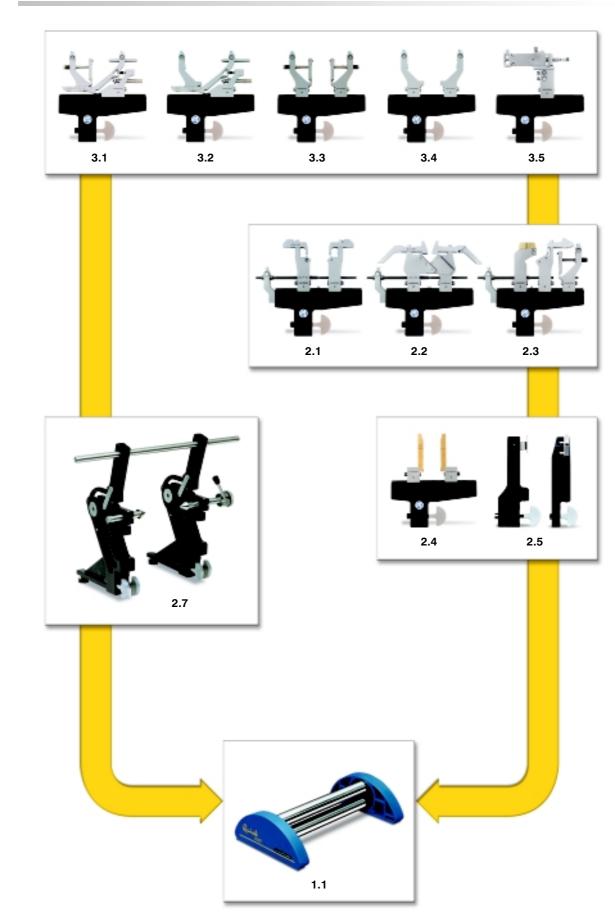
Quick Set - Vertical



Quick Set - Chuck

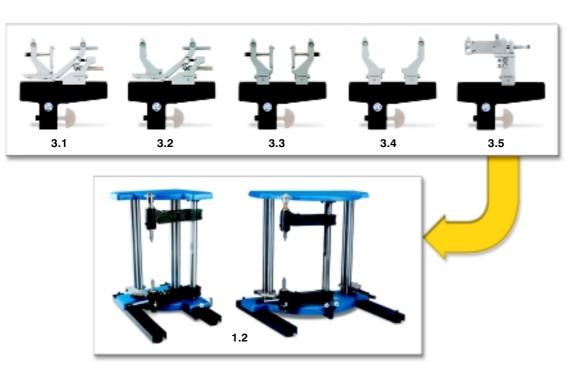


# QUICK SET - HORIZONTAL

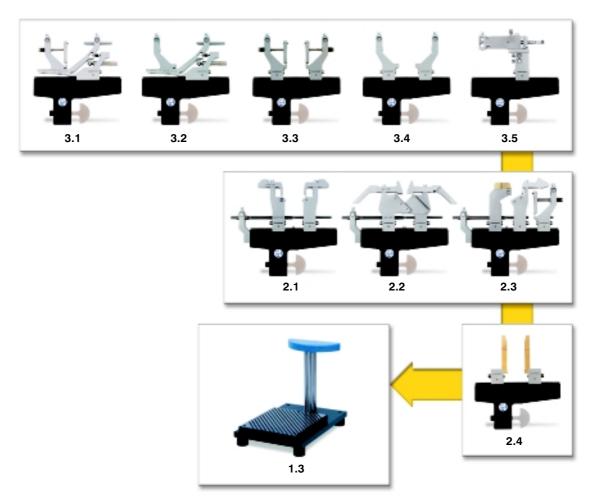




GAUGES FOR EXTERNAL MEASUREMENT



# QUICK SET - CHUCK



GAUGES FOR EXTERNAL MEASUREMENT







TESTAR

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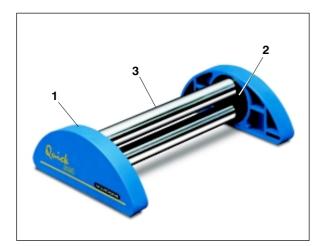
7. QUICK SET CONFIGURATOR PROGRAM



## **1 - BASE STRUCTURE ASSEMBLY**

30 mm diameter stainless steel bars assure rigidity and exact positioning of the bench gauge elements. The bar system allows easy retooling and size expansion of the bench. The bars are fixed to the support by means of a screwed clamp fitted inside the support.

#### 1.1 BASE STRUCTURE ASSEMBLY FOR QUICK SET-HORIZONTAL



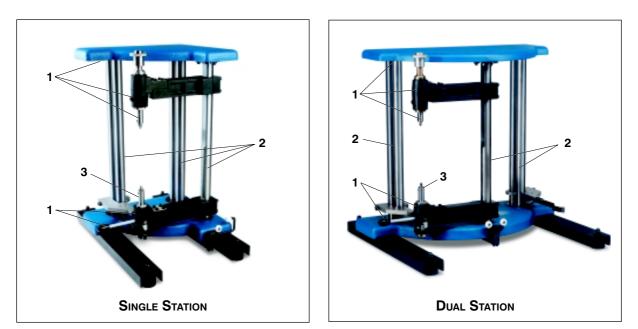
Bench with "V"					BENCH WITH			
Bars	Bars Length		Max. part length with 2 introducing axial limiters		Max. part length with 1 introducing axial limiter and 1 measuring axial limiter		<b>Pivoting centers</b> Max. part length	
(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	
200	7.87"	100	3.94"	70	2.76"	80	3.15"	
300	11.81"	200	7.87"	170	6.69"	180	7.08"	
400	15.75"	300	11.81"	270	10.63"	280	11.02"	
500	19.69"	400	15.75"	370	14.57"	380	14.96"	
600	23.62"	500	19.69"	470	18.50"	480	18.89"	
800	31.50"	700	27.56"	670	26.38"	680	26.77"	

The base structure assembly includes bars, support feet and clamping devices.

Ref.	DESCRIPTION	ORDER CODE
1	SUPPORT FEET (PAIR)	2924017005
2	CLAMPING DEVICES (PAIR)	2924017115
	BARS L = 200 mm (PAIR)	2924017010
	BARS L = $300 \text{ mm}$ (PAIR)	2924017020
3	BARS L = 400 mm (PAIR)	2924017030
3	BARS L = 500 mm (PAIR)	2924017040
	BARS L = $600 \text{ mm}$ (PAIR)	2924017050
	BARS L = $800 \text{ mm}$ (PAAR)	2924017070



#### 1.2 Base structure assembly for Quick Set-Vertical



		QUICK SET-VERTICAL							
BARS LENGTH		Part leng	gth with lower c	enter support L	=12 mm	Part length with lower center support L=37 mm			
		M	Min. Max.		ax.	Min.		Max.	
(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)
500	19.69"	24	0.94"	220	8.66"	5	0.20"	200	7.87"
600	23.62"	24	0.94"	320	12.60"	5	0.20"	300	11.81"
700 (*)	27.56"	24	0.94"	420	16.54"	5	0.20"	400	15.75"
800 (*)	31.50"	24	0.94"	520	20.47"	5	0.20"	500	19.69"

(\*) Only for dual station.

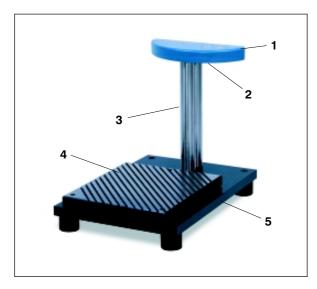
Max. part weight: 6 kg for the single station, 8 kg for the dual station. The base structure assembly is composed of base, bars, lower center support and centers. The upper center support is supplied with the base.

Ref.	DESCRIPTION	ORDER CODE
1	SINGLE STATION BASE	3024025500
'	DUAL STATION BASE	3024025000
	BARS L = 500 mm	3024025025
2	BARS L = 600 mm	3024025026
2	BARS L = 700 mm (*)	3024025027
	BARS L = 800 mm (*)	3024025028
3	LOWER CENTER SUPPORT L = 12 mm	3024025220
3	LOWER CENTER SUPPORT L = 37 mm	3024025210
	UNIVERSAL CENTER	1024017753
	SHORT CENTER	1024017755
	CENTER STOP FOR SINGLE STATION	2924025516
	CENTER STOP FOR DUAL STATION	3024025110
	LIFTING DEVICE FOR UPPER CENTER	2924025212
	BRACKET WITH	0004005055
	BACK HOLES FOR TOOL	2924025255
	RETOOLING TOOL (ONLY FOR BRACKET WITH BACK HOLES)	2924025050

(\*) Only for dual station.



#### 1.3 Base structure assembly for QUICK SET-CHUCK



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

Ref.	DESCRIPTION	ORDER CODE		
1	SUPPORT FEET (PAIR)	2924017005		
2	CLAMPING DEVICES (PAIR)	2924017115		
3	BARS L = 300 mm (PAIR)	2924017880		
	SERRATED REFERENCING PLATE	0004047005		
4	(220 x 250 mm)	2924017885		
	SUPPORT PLATE	2024017800		
5	(INCLUSIVE OF RUBBER FEET)	2924017890		

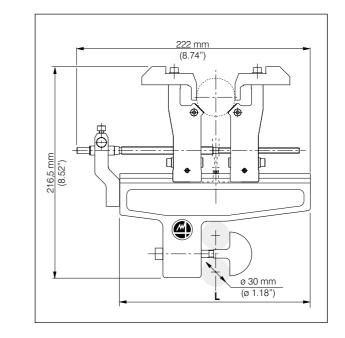






2 - PART SUPPORT AND REFERENCE

2.1 FRONTAL "V" ASSEMBLY



The frontal "V" accurately defines the measuring mechanical axis of the part. The assembly 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.

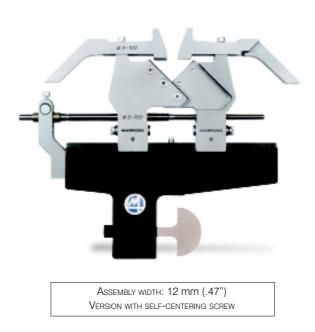
The assembly is composed of one support bracket and one frontal "V".

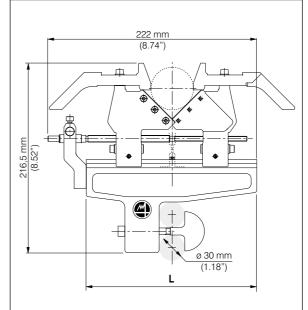
		SUPPORT BRACKET		FRONTAL "V"			
	Length L (mm) (inch)		ORDER CODE	RANGE (mm) (inch)		ORDER CODE	
				5 - 10	.19"39"	3024017633	
				10 - 15	.39"59"	3024017643	
Assembly with	000	7.07"	000 10 175 10	15 - 24	.59"94"	3024017653	
SELF-CENTERING SCREW	200	7.87"	3024017540	24 - 40	.94" - 1.57"	3024017663	
				40 - 70	1.57" - 2.76"	3024017673	
				55 - 100	2.16" - 3.94"	3024017693	
				5 - 10	.19"39"	3024017632	
				10 - 15	.39"59"	3024017642	
	000			15 - 24	.59"94"	3024017652	
ASSEMBLY WITHOUT SELF-CENTERING	200	7.87"	3024017000	24 - 40	.94" - 1.57"	3024017662	
SCREW				40 - 70	1.57" - 2.76"	3024017672	
				55 - 100	2.16" - 3.94"	3024017692	
	250	9.84"	3024017050	100 - 150	3.94" - 5.91"	3024017695	



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))	2924017695

#### 2.2 CROSSED "V" ASSEMBLY





The crossed "V" is used for very frequent retooling and when a large retooling range is needed. The assembly 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.

The assembly is composed of one support bracket and one crossed "V".

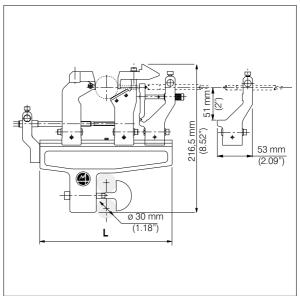
	SUPPORT BRACKET			CROSSED "V"		
	LENGTH L		ORDER CODE	RANGE		ORDER CODE
	(mm)	(inch)		(mm)	(inch)	
ASSEMBLY WITH						
SELF-CENTERING	200	7.87"	3024017540	5 - 100	.19" - 3.94"	3024017553
SCREW						
Assembly without						
SELF-CENTERING	200	7.87"	3024017000	5 - 100	.19" - 3.94"	3024017552
SCREW						





#### 2.3 MEASURING "V" ASSEMBLY





The measuring "V" is used when both part reference and part diameter measurement have to be carried on in the same section. The measurement is performed by using a special contact for measuring "V" mounted on a single transmission unit or on a direct probe unit (see 4.2 CONTACTS FOR MEASURING "V").

The assembly is composed of one support bracket, one measuring "V", and one single transmission unit or one direct probe unit. The special contact for measuring "V" and the probe to be mounted in the transmission unit or in the direct probe unit must be ordered separately (see section TRANSDUCERS AND MEASUREMENT TRANSMISSIONS).

SUPPORT BRACKET				Measuring "V"		
	Length L (mm) (inch)		ORDER CODE	RA (mm)	Order Code	
Assembly with self-centering screw and single transmission or direct probe unit	200	7.87"	3024017540 -	5 - 35	.19" - 1.38"	3024017524
		1.01		35 - 65	1.38" - 2.56"	3024017526
Assembly without self-centering screw,	000	7.07"	0004017000	5 - 35	.19" - 1.38"	3024017520
WITH SINGLE TRANSMISSION OR DIRECT PROBE UNIT	200 7.87"	3024017000	35 - 65	1.38" - 2.56"	3024017522	

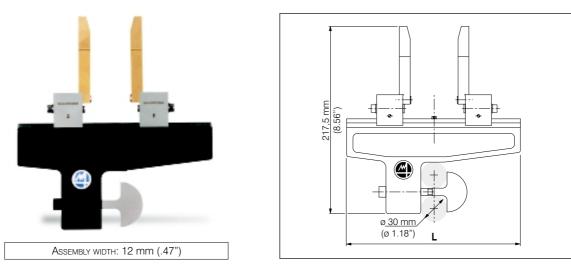
PROBE SUPPORT	CLAMPING Ø FOR PROBE	ORDER CODE
SINGLE TRANSMISSION UNIT	8 mm	3024017155
	3/8"	3024017157
	8 mm	3024017145
DIRECT PROBE UNIT	3/8"	3024017147







#### 2.4 PART RADIAL LIMITERS ASSEMBLY



The part radial limiters limit the part radial movement and allows correct part introduction in the bench. Two versions are available:

- steel limiter;
- brass limiter for parts with low hardness.

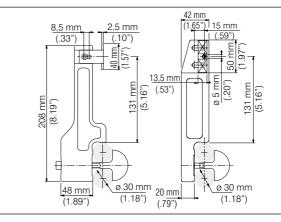
The assembly is composed of one support bracket and one pair of radial limiters.

	SUPPORT BRACKET				
Assembly with Radial limiters	LENG				
	(mm)	(inch)			
	200	7.87"	3024017000		
	250	9.84"	3024017050		

	Order Code
STEEL RADIAL LIMITERS (PAIR)	3024017200
BRASS RADIAL LIMITERS (PAIR)	3024017210

#### 2.5 PART AXIAL LIMITERS





The part axial limiter limits the part axial movement and allows correct part positioning in the bench. Two versions are available:

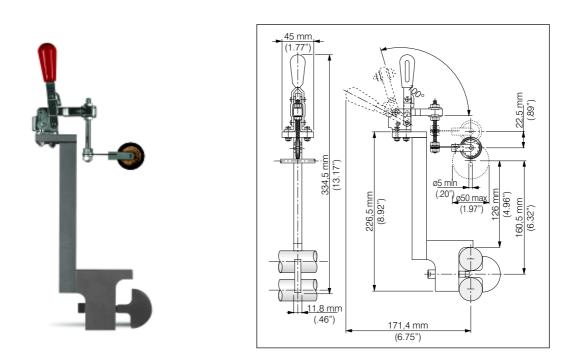
• Introducing axial limiter to limit part position;

• Measuring axial limiter used both to limit part position and as mechanical reference for a distance measurement carried on by a shoulder transmission unit (see 3. PART MEASURING ASSEMBLY).

DESCRIPTION	Order Code
INTRODUCING AXIAL LIMITER	3024017214
MEASURING AXIAL LIMITER	3024017218



#### 2.6 PART PUSHER



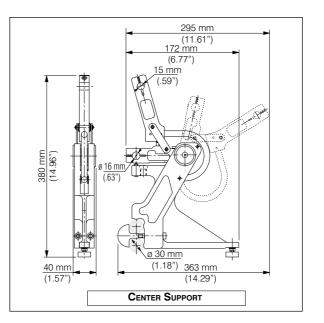
The part pusher guarantees the contact between the part and the "V" supports. It is particularly suitable for parts with weight lower than 200 gr.

• Suitable for part diameters from 5 to 50 mm (.19" - 1.97")

DESCRIPTION	Order Code
PART PUSHER	3024017980

### 2.7 PIVOTING CENTERS UNIT

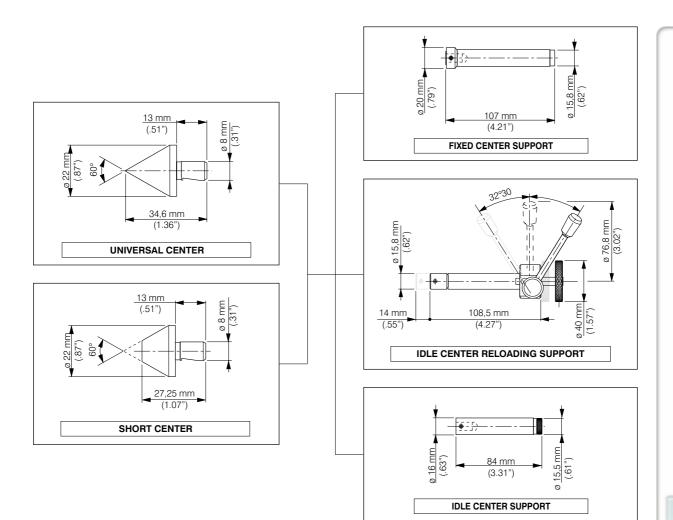




This unit is needed when the part to be measured is provided with centers holes. The part is loaded on the centers and then introduced into the measuring station.

It is recommended for small parts [max. part weight 3 kg and max. flywheel overall diameter 170 mm (6.69")]. Dampers are available to avoid impacts during part positioning in the measuring station.





The pivoting centers unit is composed of one pair of center 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. To order the base structure assembly see 1. Base structure Assembly.

	CENTER SUPPORTS (PAIR)				CONNECTING	G SHAFT FOR CENT	TER SUPPORTS
Base Ba (mm)	<b>rs Lengтн L</b> (inch)	Max Pa (mm)	<b>RT LENGTH</b> (inch)	ORDER CODE	Leno (mm)	атн L (inch)	ORDER CODE
200	7.87"	80	3.15"		360	14.17"	1024017369
300	11.81"	180	7.08"		460	18.11"	1024017371
400	15.75"	280	11.02"	0004047055	560	22.04"	1024017373
500	19.69"	380	14.96"	3024017355	660	25.98"	1024017375
600	23.62"	480	18.89"		760	29.92"	1024017377
800	31.50"	680	26.77"		960	37.79"	1024017379

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 1,5 kg)	44331AC000
DAMPER (FOR MAX. PART WEIGHT 3 kg)	44331AC001

N.B.

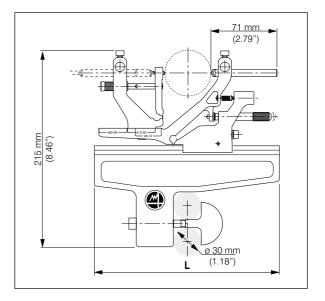
With this unit diameter, ovality and distance measurements only can be carried on. For measurements such as perpendicularity, T.I.R., concentricity, etc., that are referred to the centers axis, please contact your nearest Marposs office.



## 3.1 Assembly with Self-Centering Unit with Transmission



**3 - PART MEASURING ASSEMBLY** 



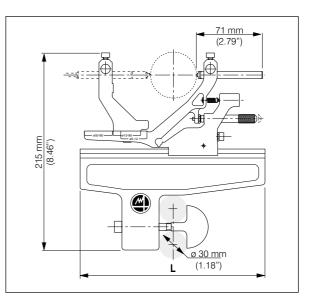
The self-centering unit with transmission is used to carry out diameter measurements only. It can accomodate both pencil probes and dial indicators with diameter 8 mm or 3/8". The probe is not in direct contact with the part and is therefore preserved from radial impact by part loading/unloading.

The assembly is composed of one support bracket and one self-centering unit with transmission. The probe and the two contacts to be mounted on the unit must be ordered separately (see 4. CONTACTS AND ARMSETS and section TRANSDUCERS AND MEASUREMENT TRANSMISSIONS).

	SUPPORT BRACKET		SELF-CENTERING UNIT WITH TRANSMISSION			DN
Leng (mm)	<b>тн L</b> (inch)	Order Code	RANGE (mm) (inch)		CLAMPING Ø FOR PROBE	ORDER CODE
000	7.87"	3024017000	F 00	00" 0.15"	8 mm	3024017460
200	1.01	3024017000	5 - 80 .20" - 3.15"		3/8"	3024017462

## 3.2 Assembly with Self-Centering Unit with Direct Probe



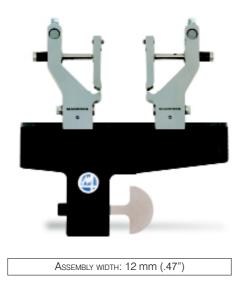


The self-centering unit with direct probe is used to carry out diameter measurements only. It can accomodate both pencil probes and dial indicators with diameter 8 mm or 3/8".

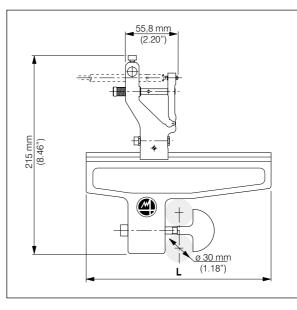
The assembly is composed of one support bracket and one self-centering unit with direct probe. The probe and the contact to be mounted on the unit must be ordered separately (see 4. CONTACTS AND ARMSETS and section TRANSDUCERS AND MEASUREMENT TRANSMISSIONS).

SUPPORT BRACKET		Self-Centering Unit with Direct Probe			BE	
LENG	атн L			CLAMPING Ø		
(mm)	(inch)	CHIDEN CODE	(mm)	(inch)	FOR <b>P</b> ROBE	
200	7.87"	3024017000	5 - 80	.20" - 3.15"	8 mm	3024017470
200	7.07	3024017000	5-60	.20 - 3.15	3/8"	3024017472

### 3.3 ASSEMBLY WITH SINGLE TRANSMISSION UNIT



WORKING RANGE OF ONE SINGLE TRANSMISSION UNIT 1.150 mm/.0452"



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

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

The assembly is composed of one support bracket (L=200 mm or 250 mm) and one or two single transmission units. The probe and the contact to be mounted on the unit must be ordered separately (see 4. CONTACTS AND ARMSETS and section TRANSDUCERS AND MEASUREMENT TRANSMISSIONS).

Support Bracket						
LENC	Length L Range					
(mm)	(inch)	(mm) (inch)		Order Code		
200	7.87"	3 - 118	.12" - 4.64"	3024017000		
250	9.84"	3 - 160	.12" - 6.30"	3024017050		

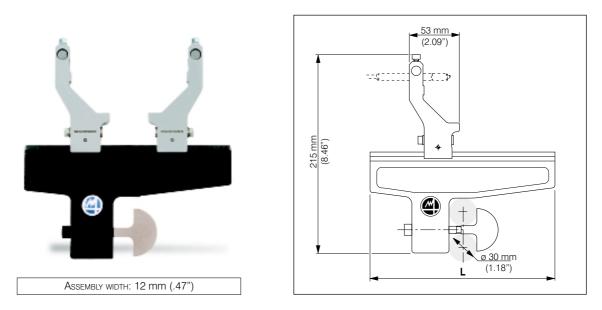
PROBE SUPPORT	CLAMPING Ø FOR PROBE	ORDER CODE	
	8 mm	3024017155	
SINGLE TRANSMISSION UNIT	3/8"	3024017157	







#### 3.4 ASSEMBLY WITH DIRECT PROBE UNIT



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

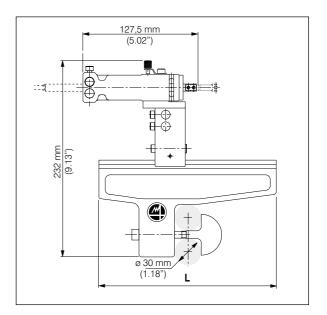
The assembly is composed of one support bracket (L=200 mm or 250 mm) and one or two direct probe units. The probe to be mounted on the unit must be orderd separately (see section Transducers and MEASUREMENT TRANSMISSIONS).

Support Bracket					
Len	Order Code				
(mm)	(inch)	(mm)	(inch)	CHDEN CODE	
200	7.87"	3 - 118	.12" - 4.64"	3024017000	
250	9.84"	3 - 160	.12" - 6.30"	3024017050	

PROBE SUPPORT	CLAMPING Ø FOR PROBE	ORDER CODE
	8 mm	3024017145
DIRECT PROBE UNIT	3/8"	3024017147

### 3.5 ASSEMBLY WITH SHOULDER TRANSMISSION UNIT





GAUGES FOR EXTERNAL MEASUREMENT

To carry out distance measurements. It can accomodate both pencil probes and dial indicators with diameter 8 mm or 3/8". The probe 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.

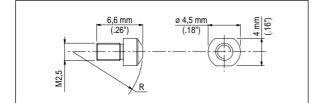
The assembly is composed of one support bracket and one shoulder transmission unit. The armset and the contact to be mounted on the unit must be ordered separately (see 4. CONTACT AND ARMSETS).

Support Bracket		
Length L		Order Code
(mm)	(inch)	
200	7.87"	3024017000
250	9.84"	3024017050
	CLAMPING Ø FOR PROBE	
	CEAM ING DION THOSE	
SHOULDER TRANSMISSION UNIT	8 mm	3024017330
	3/8"	3024017331

## 4 - CONTACTS AND ARMSETS

All contacts and extensions to be fitted on Quick Set components must be M 2,5. Contacts 4-48 UNF are listed as accessory to 3/8" pencil probes and dial indicators.

#### 4.1 STANDARD CONTACTS

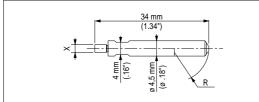


To be used with:

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

RADIUS R		MATERIAL	
(mm)	(inch)	WATERIAL	ORDER CODE
10	.39"	CARBIDE	3392401702
50	1.97"	CARBIDE	3392401705
100	3.94"	CARBIDE	3392401706
10	.39"	DIAMOND	3392401722
50	1.97"	DIAMOND	3392401725
100	3.94"	DIAMOND	3392401726

#### 4.2 CONTACTS FOR MEASURING "V"



Special carbide contact to be mounted on the single transmission unit or directly on the probe.

RAD	oius R	THREAD X	Order Code
(mm)	(inch)		ONDER CODE
10	.39"	M 2,5	3392401701
50	1.97"	M 2,5	3392401720
100	3.94"	M 2,5	3392401721

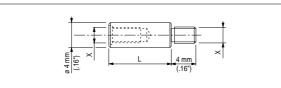






**FES**TAR

## 4.3 CONTACT EXTENSIONS



Available with thread M 2.5 or 4-48 UNF. It can be used:

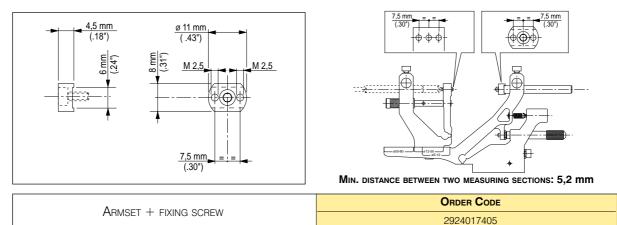
- With self-centering unit
- With single transmission unit
- With direct probe unit
- With dial indicators

(mm)	L (inch)	THREAD X	ORDER CODE
10	.39"	M 2.5	1024017105
15	.59"	M 2.5	1024017106
20	.79"	M 2.5	1024017107
25	.98"	M 2.5	1024017108
30	1.18"	M 2.5	1024017109
10	.39"	4 - 48 UNF	1024017115
15	.59"	4 - 48 UNF	1024017116
20	.79"	4 - 48 UNF	1024017117
25	.98"	4 - 48 UNF	1024017118
30	1.18"	4 - 48 UNF	1024017119

#### 4.4 OFF-SET ARMS

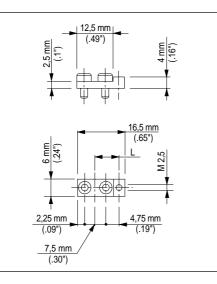
## 4.4.1 Armset for Self-Centering Unit with Transmission

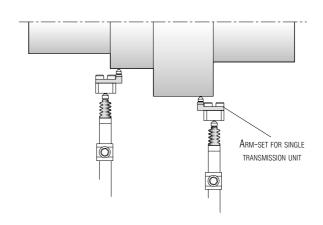
It is needed to carry on measurements very close to each other and close to a shoulder (min. 3 mm) by offsetting the contact.



## 4.4.2 ARMSET FOR SINGLE TRANSMISSION UNIT

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



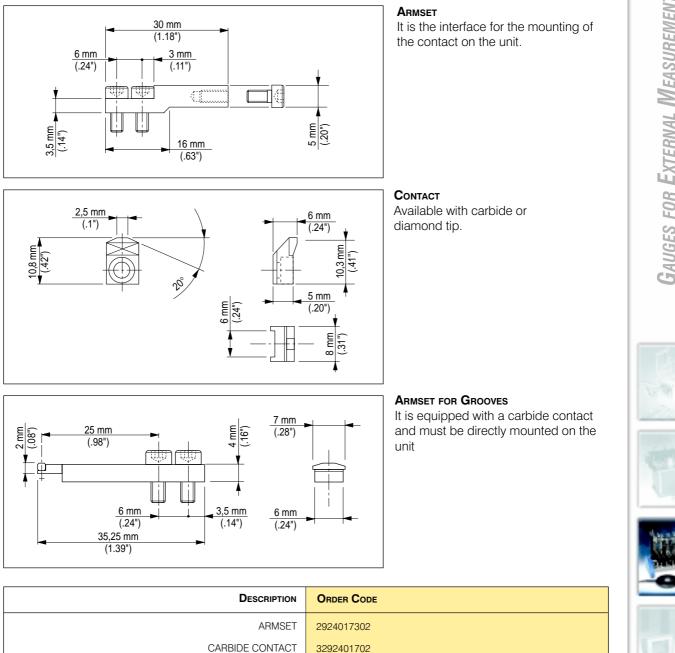


MIN. DISTANCE BETWEEN TWO MEASURING SECTIONS: 5,2 mm



	Off-S	Set L	
Armset + fixing screw	(mm)	(inch)	ORDER CODE
ANNSET T FIXING SCREW	8.5 10	.33" .39"	2924017150 2924017151

### 4.5 CONTACTS AND ARMSETS FOR SHOULDER TRANSMISSION UNIT





3292401712

3292401705

DIAMOND CONTACT

ARMSET FOR GROOVES

## 5 - WRENCH SET



For bench assembly and set-up.

DESCRIPTION	Order Code
WRENCH SET	2924017990

## 6 - Instruction Manual

DESCRIPTION	Order Code
INSTRUCTION MANUAL	D0QS0002X1

**X** = I (Italian); U (English); D (German); E (Spanish); F (French)

# 7 - QUICK SET CONFIGURATOR PROGRAM

PC based program to determine the bench gauge composition. It provides the item list for assembly.

DESCRIPTION	Order Code
QUICK SET CONFIGURATOR PROGRAM	ON REQUEST

GAUGES FOR EXTERNAL MEASUREMENT

