

ADVANCED MEASURING ARMSET

AMA™ is a line of mechanical measuring devices developed to satisfy the requirements of the gauging market. Based on their versatility, fixture makers, gauge makers and engineering sources will produce the right solution for their applications, such as: inside and outside diameters, TIR, distances, pneumatic retraction and self-centering

measuring units. The main feature of the product line is universal applicability and this is achieved by:

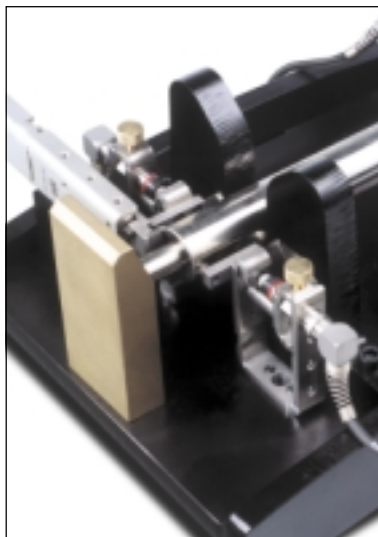
- 15 different designs
- 8 mm and 3/8" clamping diameter
- high precision and reliability
- compact design (12 mm thickness)
- variety of mounting options
- wide range of contact offsets

This product, manufactured of non-magnetic stainless steel, was developed as a result of TESTAR's long standing experience in the gauging field.

AMA™ will protect and extend the working life of gauging solutions.

They can be used with any pencil probe transducers, as well as mechanical and digital indicators. Pneumatic actuation, available on some models, allows contact retraction to eliminate interference with the workpiece during manual and automatic part loading and unloading. A CD ROM disk, containing the .dxf drawing files of the AMA components, makes designing high quality applications an easy task, even for the beginner.

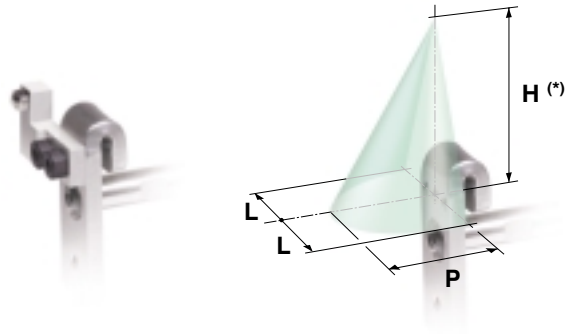
Offered by a world-wide market leader, the **AMA™ is a new and economical way of designing high quality solutions using Off The Shelf modular gauging components.**



CONTACT OFF-SET APPLICATION LIMITS

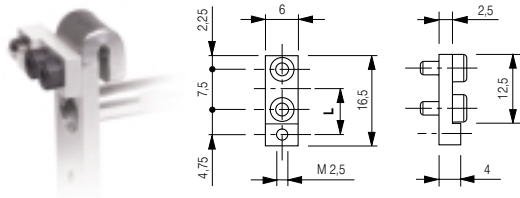
MODEL	H (*) (mm)	L (mm)	P (mm)
TB10	30	14	20
TB10C	30	14	20
TB16	50	14	20
TB16C	50	14	20

(*) With a vertical off-set the Arm Ratio changes:
 mod. TB10 $[30 / (30 + h)]$ mod. TB16 $[50 / (50 + h)]$ with $h = 0 \div H$



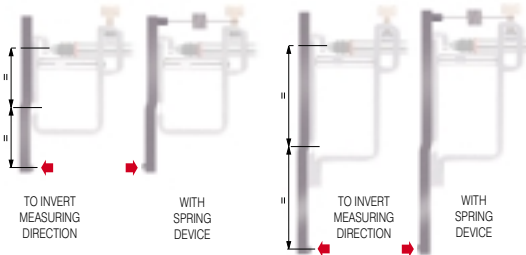
ACCESSORIES

OFF-SET ARMSET (ARM RATIO 1:1)



MODEL	OFF-SET L (mm)	ORDER CODE
TB10	M 2,5	8,5
TB10C		10
TB16	4-48 UNF	8,5
TB16C		10

STRAIGHT ARMSET (ARM RATIO 1:1)



MODEL	ORDER CODE
TB10	8 mm
TB10C	3/8"
TB16	8 mm
TB16C	3/8"

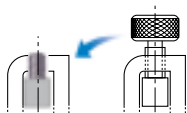
SPRING DEVICE

MODEL	ORDER CODE
TB10 - TB16	2027364001
TB10C - TB16C	2027364002



ALTERNATIVE CLAMPING DEVICE (alternative to standard clamping)

ORDER CODE
2027364000



APPLICATION EXAMPLES

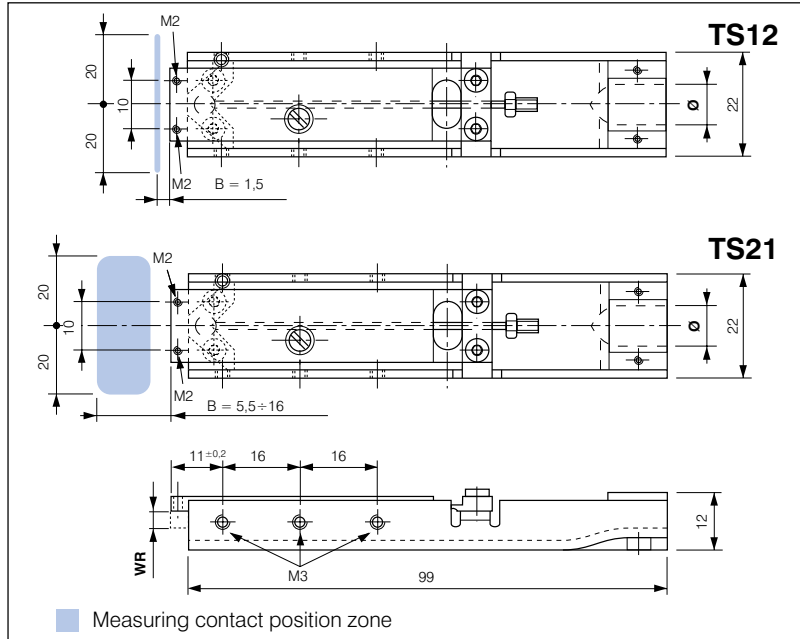


TS - TRANSMISSION SHOULDER DEVICE

TS12 - TS21

Working Range (WR) 1.0 mm

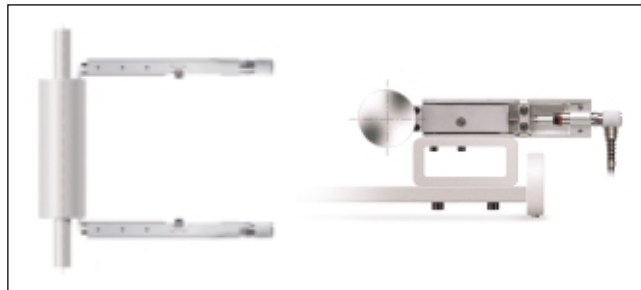
MODEL	Ø	ORDER CODE
TS12	8 mm	2927364100
	3/8"	2927364130
TS21	8 mm	2927364101
	3/8"	2927364131



TECHNICAL DATA

MOD.	WORKING RANGE (WR) (mm)	ARM RATIO (AR)	REPEAT. (2.77 σ)	SENSIT. (max err. %)
TS12	1,2	1	<0,5μm	± 2
TS21	1,8 ÷ 2,1 0,02857·B+1,643	1,5 ÷ 1,75 0,0238·B+1,37		

APPLICATION EXAMPLES



Note: with Red Crown probes featuring ± 0,5 mm range the contact extension must be mounted (with M 2,5 thread code 1024017105 or 1024017106; with 4-48 UNF thread code 1024017115 or 1024017116).

ACCESSORIES

<p>CONTACT FOR TS12 (AR 1:1)</p> <p>ORDER CODE 3292736401</p>	<p>CONTACT FOR TS12 (AR 1:1)</p> <table border="1"> <thead> <tr> <th>R</th> <th>ORDER CODE</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>3292736405</td> </tr> <tr> <td>20</td> <td>3292736410</td> </tr> </tbody> </table>	R	ORDER CODE	5	3292736405	20	3292736410	<p>ARMSET FOR GROOVES FOR TS21 (AR 1:1.75)</p> <p>ORDER CODE 3292736415</p>
R	ORDER CODE							
5	3292736405							
20	3292736410							
<p>SIDE COVER</p> <p>ORDER CODE 2927364145</p>	<p>INTERFACE BLOCK FOR QUICK SET SUPPORT BRACKET</p> <p>ORDER CODE 2927364150</p>							

→ WORKPIECE LOADING DIRECTION

TP - TRANSMISSION PARALLELOGRAM DEVICE

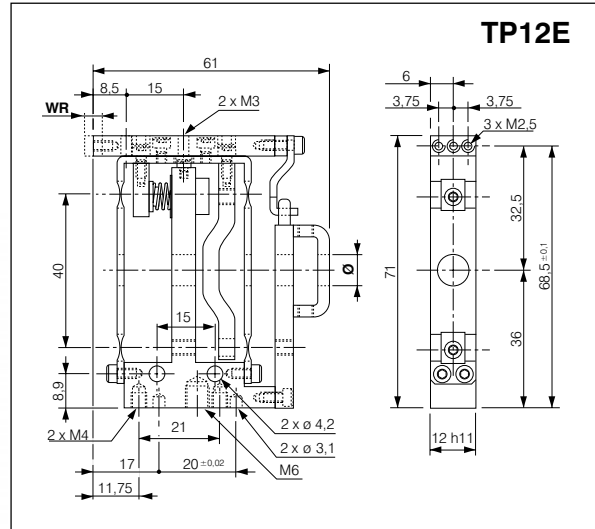
WORKING RANGE (WR) 1.2 mm

TP12E (EXTERNAL CHECKS)

MODEL	ORDER CODE
ø 8 mm	2924051200
ø 3/8"	2924051202

TP12I (INTERNAL CHECKS)

MODEL	ORDER CODE
ø 8 mm	2924051201
ø 3/8"	2924051203

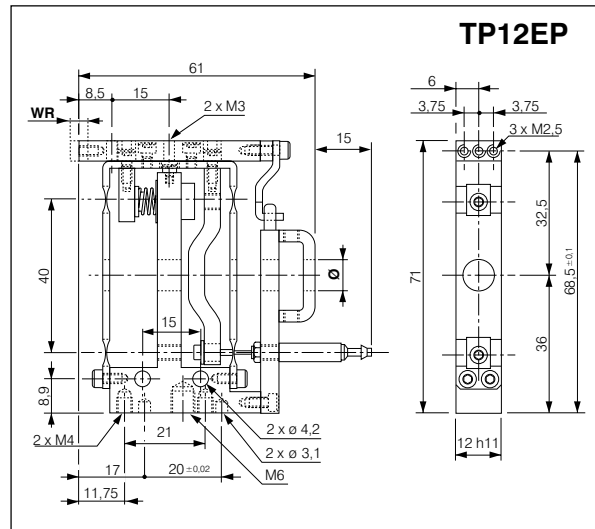


TP12EP (EXTERNAL CHECKS WITH PNEUMATIC RETRACTION)

MODEL	ORDER CODE
ø 8 mm	3024051204
ø 3/8"	3024051206

TP12IP (INTERNAL CHECKS WITH PNEUMATIC RETRACTION)

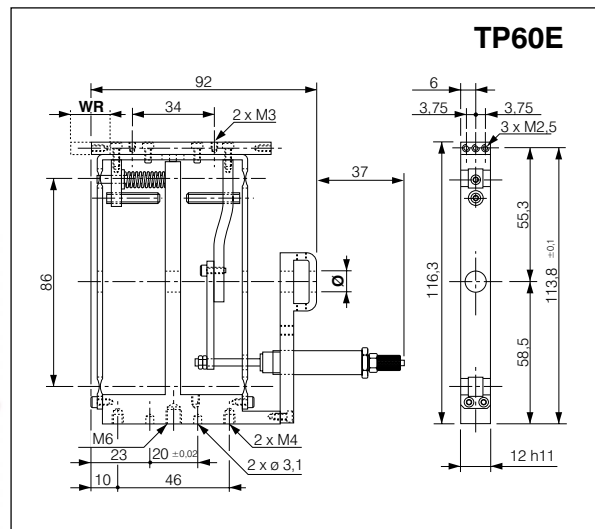
MODEL	ORDER CODE
ø 8 mm	3024051205
ø 3/8"	3024051207



WORKING RANGE (WR) 6.0 mm

TP60E (EXTERNAL CHECKS WITH PNEUMATIC RETRACTION)

MODEL	ORDER CODE
ø 8 mm	2924051400
ø 3/8"	2924051430

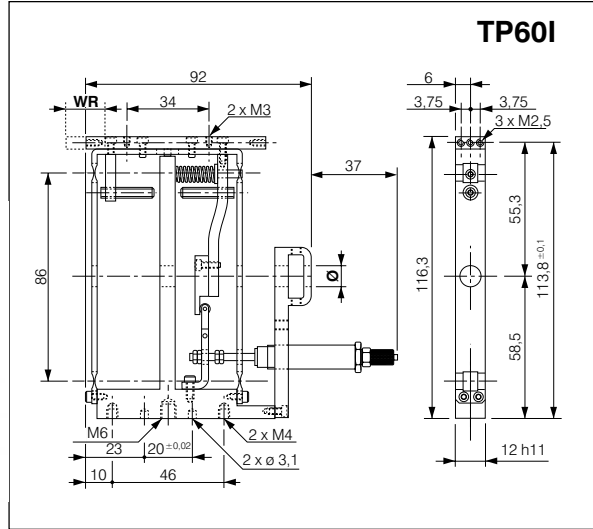


For ø 3/8" models: M2,5 → 4-48 UNF

TP60I

(INTERNAL CHECKS WITH PNEUMATIC RETRACTION)

MODEL	ORDER CODE
ø 8 mm	2924051401
ø 3/8"	2924051431



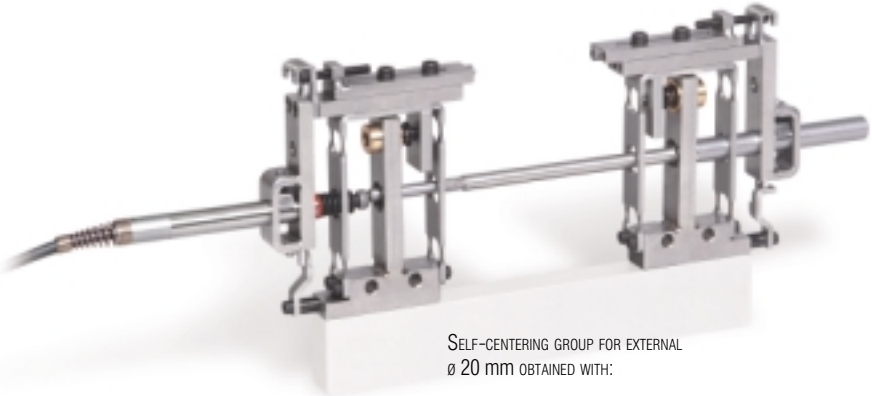
For ø 3/8" models: M2,5 → 4-48 UNF

WORKING RANGE (WR) 2.4 mm

TP12SE

(ELEMENT FOR SELF-CENTERING GROUP FOR EXTERNAL CHECKS)

MODEL	ORDER CODE
ø 8 mm	2924051208
ø 3/8"	2924051209



SELF-CENTERING GROUP FOR EXTERNAL ø 20 mm OBTAINED WITH:

- TP12SE (Q.ty 2)
- Slide (Q.ty 2)
- Self-centering kit (Q.ty 1)
- 30 mm extension (Q.ty 1)

TP12SI

(ELEMENT FOR SELF-CENTERING GROUP FOR INTERNAL CHECKS)

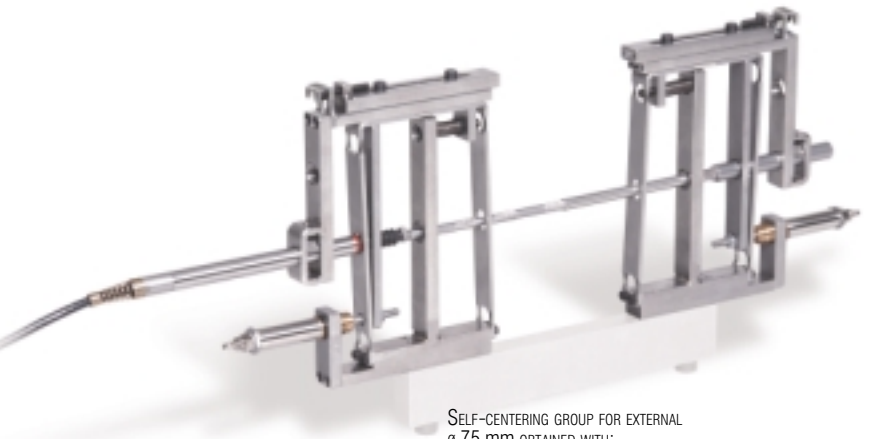
MODELLO	ORDER CODE
ø 8 mm	2924051228
ø 3/8"	2924051229

WORKING RANGE (WR) 12.0 mm

TP60SE

(ELEMENT FOR SELF-CENTERING GROUP FOR EXTERNAL CHECKS WITH PNEUMATIC RETRACTION)

MODELLO	ORDER CODE
ø 8 mm	2924051409
ø 3/8"	2924051407



SELF-CENTERING GROUP FOR EXTERNAL ø 75 mm OBTAINED WITH:

- TP60SE (Q.ty 2)
- Slide (Q.ty 2)
- Self-centering kit (Q.ty 1)
- 70 mm extension (Q.ty 1)

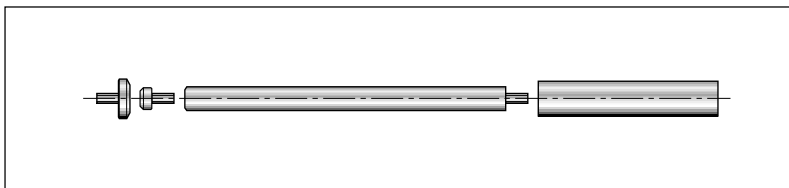
TP60SI

(ELEMENT FOR SELF-CENTERING GROUP FOR INTERNAL CHECKS WITH PNEUMATIC RETRACTION)

MODELLO	ORDER CODE
ø 8 mm	2924051406
ø 3/8"	2924051408

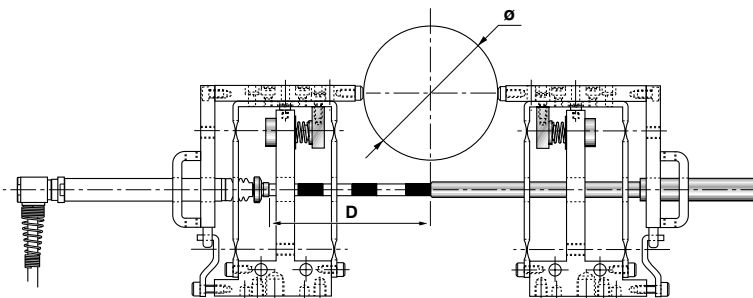
SELF-CENTERING KIT

MODEL	Ø	ORDER CODE
TP12	8 mm	2924051210
	3/8"	2924051213
TP60	8 mm	2924051410
	3/8"	2924051413



EXTENSIONS (D)

D	ORDER CODE
10 mm	1024017105
15 mm	1024017106
20 mm	1024017107
25 mm	1024017108
30 mm	1024017109
70 mm	1019750093
80 mm	1019750122

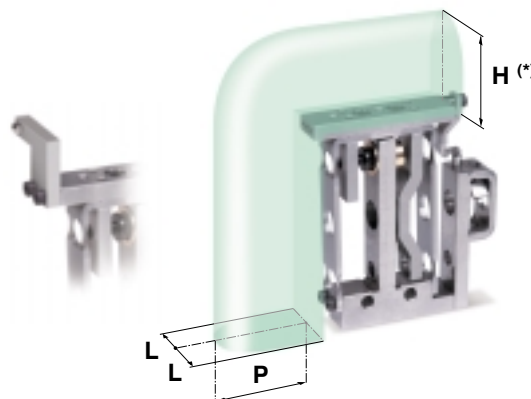


TP12	Ø (mm)	0-3	3-8	8-13	13-18	18-23	23-28	28-33	33-38	38-43	43-48	48-53	53-58
	D (mm)	10	15	20	25	30	35	40	45	50	55	60	65
TP60	Ø (mm)	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	-	-
	D (mm)	-	10	20	30	40	50	60	70	80	90	-	-

D should be obtained with the lowest number of extensions

CONTACTS OFF-SET APPLICATION LIMITS/ MEASURING PERFORMANCES

MODEL	H (*)	L	P	REPEAT.	SENSIT.
	(mm)	(mm)	(mm)	2,77σ (µm)	(max err. %)
TP12	40	14	40	<0,2	± 1,5
TP60	90	14	50	<0,3	± 1,5

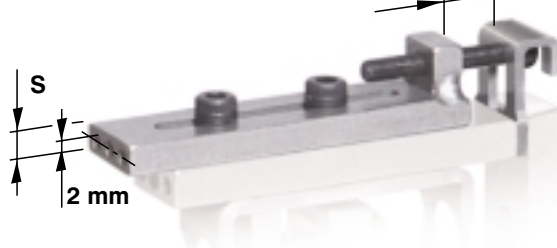


(*) The Arm Ratio is 1:1 for any contact position.

ACCESSORIES

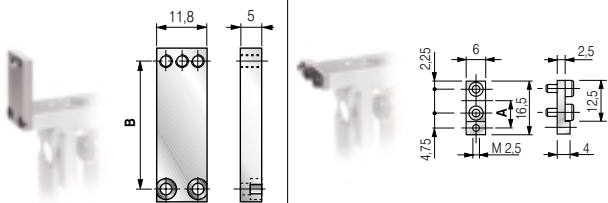
DESCRIZIONE	MODEL	H (*) MAX (mm)	S	ORDER CODE	
SLIDE	TP12	M 2,5	20	4	2924051211
			40	6	2924051219
		4-48 UNF	20	4	2924051212
			40	6	2924051220
	TP60	M 2,5	90	6	2924051405
		4-48 UNF	90	6	2924051435
ARMSET	TP12	M 2,5	(B = 30 mm)	3192405120	
		4-48 UNF		3192405123	
	TP60	M 2,5	(B = 60 mm)	3192405140	
		4-48 UNF		3192405143	
OFF-SET ARMSET	M 2,5	(A = 8,5 mm)	2924017150		
			(A = 10 mm)	2924017151	
	4-48 UNF		(A = 8,5 mm)	2924017152	
			(A = 10 mm)	2924017153	

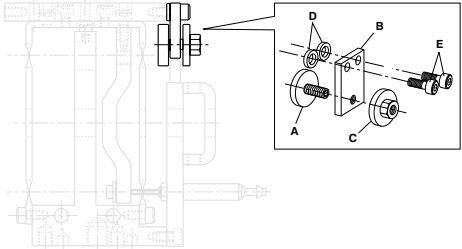
RETOOLING RANGE 0 ÷ 15 mm



ARMSET

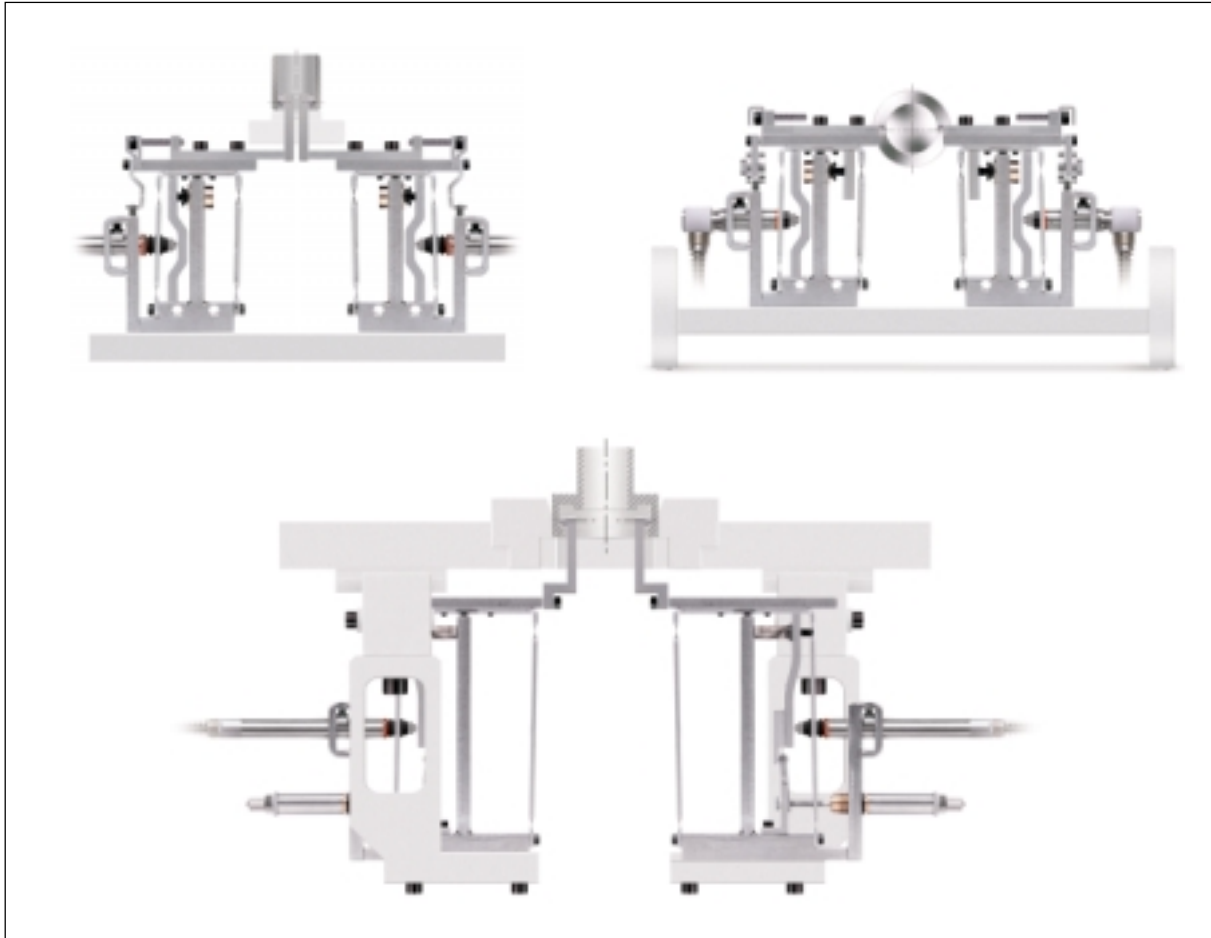
OFF-SET ARMSET



DESCRIPTION	MODEL	ORDER CODE	
PRETRAVEL/ OVERTRAVEL LIMITER	TP12 (any model)	2924051260	

Note: It must always be used when TP12 is equipped with Red Crown F05/H05 probes having a measuring range of $\pm 0,5$ mm.

APPLICATION EXAMPLES



DOCUMENTATION

DESCRIPTION	ORDER CODE
Support CD Rom - with .DXF drawings collection	CD-020.02

For a full list of address locations, please consult the Marposs official website

D6L01104G0 - Edition 11/2007 - Specifications are subject to modifications
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