mida

mida ARMS

HIGH PRECISION ARMS FOR TOOL SETTING AND CHECKS ON LATHES

MARPOSS

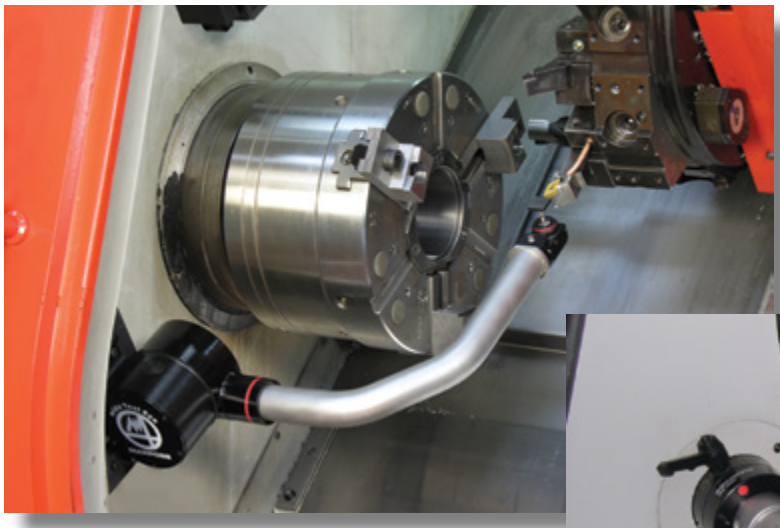
Description of the system

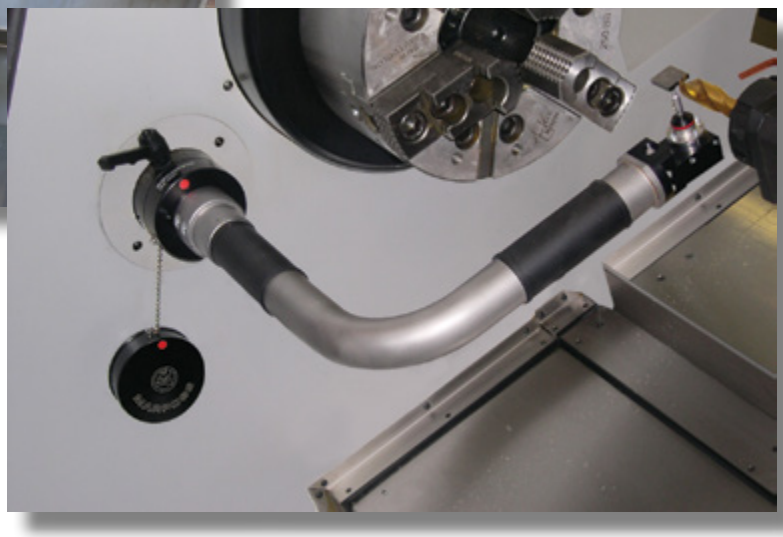
Marposs Mida Arms are high positional repeatability measurement arms used for tool setting and checking on lathes.
They consist of a fixed base and a mobile arm. The touch probe is mounted on the mobile arm.
The modular and flexible system is easy to mount, meaning that it can be used on any type of lathe, regardless of the tools and spindles used.
Marposs Mida Arms are equipped with a LED, mounted on the probe support, which is used to indicate when the probe contact comes into contact with the tool.
To allow the exchange of signals with the CNC the arm is connected to the machine via an E32A Lite series electronic interface, which also supplies power to the probe.
MIDA Arms are available in two versions:

- Mida Set, which can be removed from the machine by the operator after performing the measurement;
- Mida Tool Eye, which is mounted permanently in the machine environment

Advantages

- Drastic reduction in tool inspection times compared with conventional methods (stock removal tests, skin-cut method, etc.)
- High precision and reliable tool co-ordinate readings
- Elimination of human errors during manual entry of co-ordinates in machine registers
- Machine thermal drift corrected with calibration cycles
- Simple, reliable tool inspection cycles controlled by machine CNC management SW

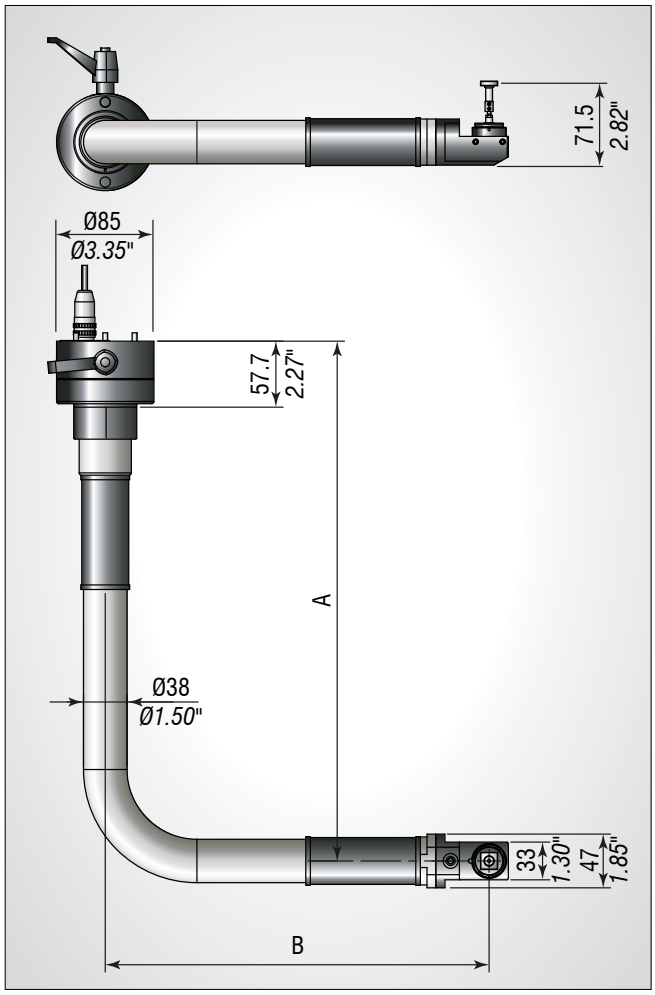




MARPOSS

Mida Set Arm

It consists of a fixed base, mounted permanently on the side of the machine spindle and a manually removable arm.
The base that remains mounted on the machine, is equipped with a cover that protects the electrical contacts from chips and coolant during the working cycle.
Ideal for use on small scale machines and low levels of automation.



Mida Set Unit

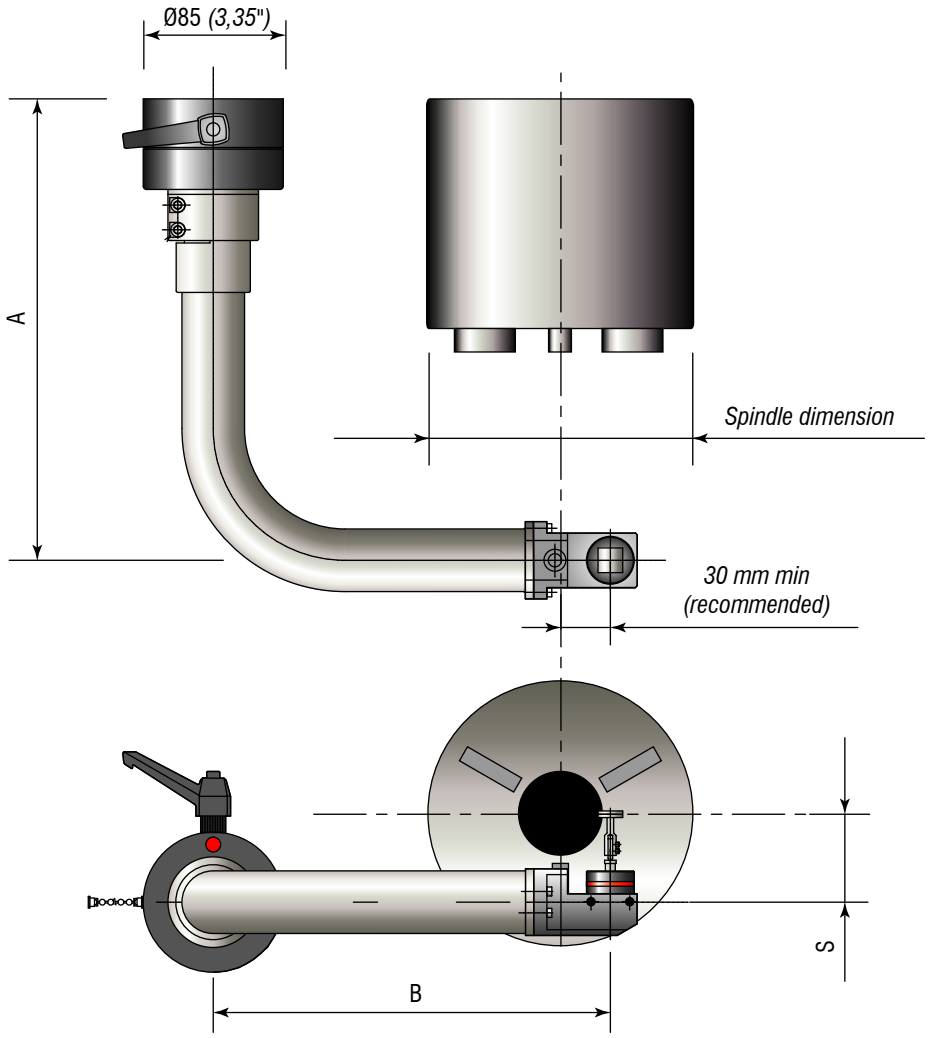
Touch directions *with TT30 probe - machine axes*	±X, ±Z
Positioning repeatability *6" - 15" spindle versions*	2σ ≤ 5 µm
Positioning repeatability *18" - 24" spindle versions*	2σ ≤ 8 µm
Protection rating *base with cover*	IP67
Protection rating *base with arm*	IP65
Operating temperature	+5°C - +60°C
Storage temperature	-10°C - +70°C

TT30 probe

Contact force *XZ plane - Machine axes*	0.75 - 1.6 N
Contact force *Y axis - Machine axis*	8.6 N
Overtravel *XZ plane - Machine axes*	9.5 mm
Overtravel *Y axis - Machine axis*	3.5 mm
Unidirectional repeatability	2σ ≤ 1 µm

The specifications refer to the 25 mm stylus
Dimensions A and B depend on the size of the spindle (see table on page 5)

Mida Set standard applications - Layout defintion



Spindle size [inch]	Tool size [mm]	A [mm]	B [mm]	S [mm]
6	16	250	211	36
	20			41
	25			51
	32			56
8	16	280	241	36
	20			41
	25			51
	32			56
10	16	325	290	36
	20			41
	25			51
	32			56
	40			61
12	16	355	290	36
	20			41
	25			51
	32			56
	40			61
	50			71

Spindle size [inch]	Tool size [mm]	A [mm]	B [mm]	S [mm]
15	20	455	335	41
	25			51
	32			56
	40			61
	50			71
18	25	510	375	51
	32			56
	40			61
	50			71
24	25	580	450	51
	32			56
	40			61
	50			71

Mida Set - Coding system for standard applications

		MIDA SET KIT							
		Product code 0244390xxx (xxx see table)							
		Tool size							
		16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	A [mm]	B [mm]
Spindle size	6"	010	020	030	040			250	211
	8"	110	120	130	140			280	241
	10"	210	220	230	240	250		325	290
	12"	310	320	330	340	350	360	355	290
	15"		420	430	440	450	460	455	355
	18"			530	540	550	560	510	375
	24"			630	640	650	660	580	450
	S [mm]	36	41	51	56	61	71		

Mida Set - Order contents

MIDA SET COMPLETE APPICATION

MIDA SET KIT	BASE + CABLE	INTERFACE

+

+

Marposs Code: see above table				
	Axial output cable	0248200010	E32A Lite interface	
	Radial output cable	0248200011	8303322844	

ACCESSORIES

MIDA SET housing base
2948200090

Optional accessories

Dedicated lathe tool control software packages, compatible with most commercially available CNC systems, are available on request.

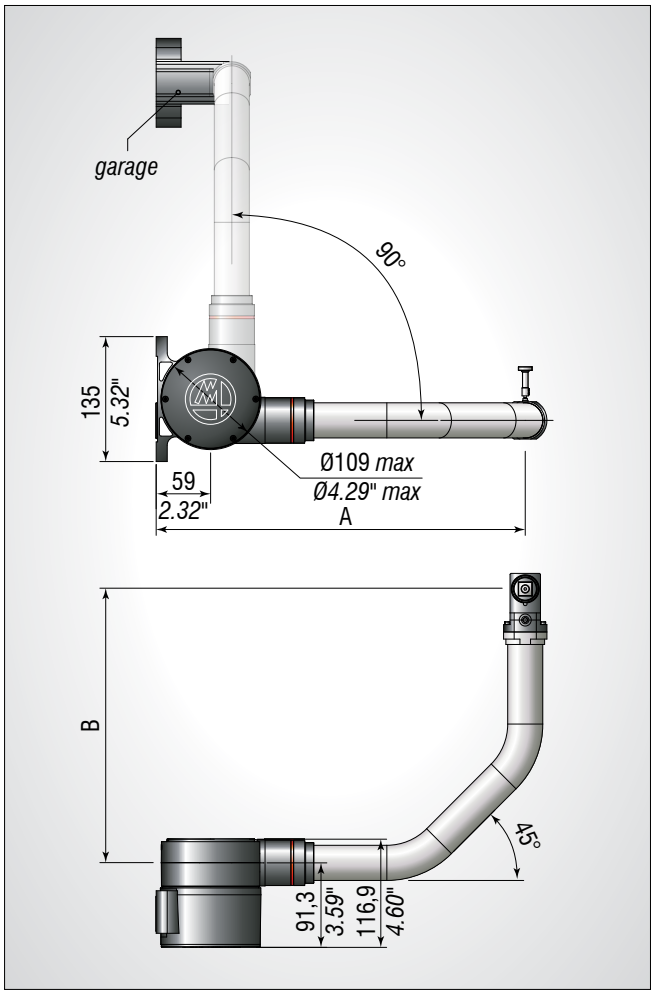
The following items are also available on request:

- Storage case for the arm when not in use.
- Machine mounted housing base for the arm when not in use.
- Right hand version of the arm for special applications

Mida Tool Eye arm

Consists of a fixed base and a mobile arm that can be moved to the measurement position in two modes:
- manually, by the operator. It is ideal for use with medium production volumes and medium automation levels.
- automatically. In the electrical version, the arm is controlled directly by the CNC. It is ideal for use with large production volumes and high levels of automation.

It is indispensable for monitoring tools for wear and breakages during the working cycle.
When the arm is in the home position, the probe is housed inside a protective metal port.



Mida Tool Eye Unit

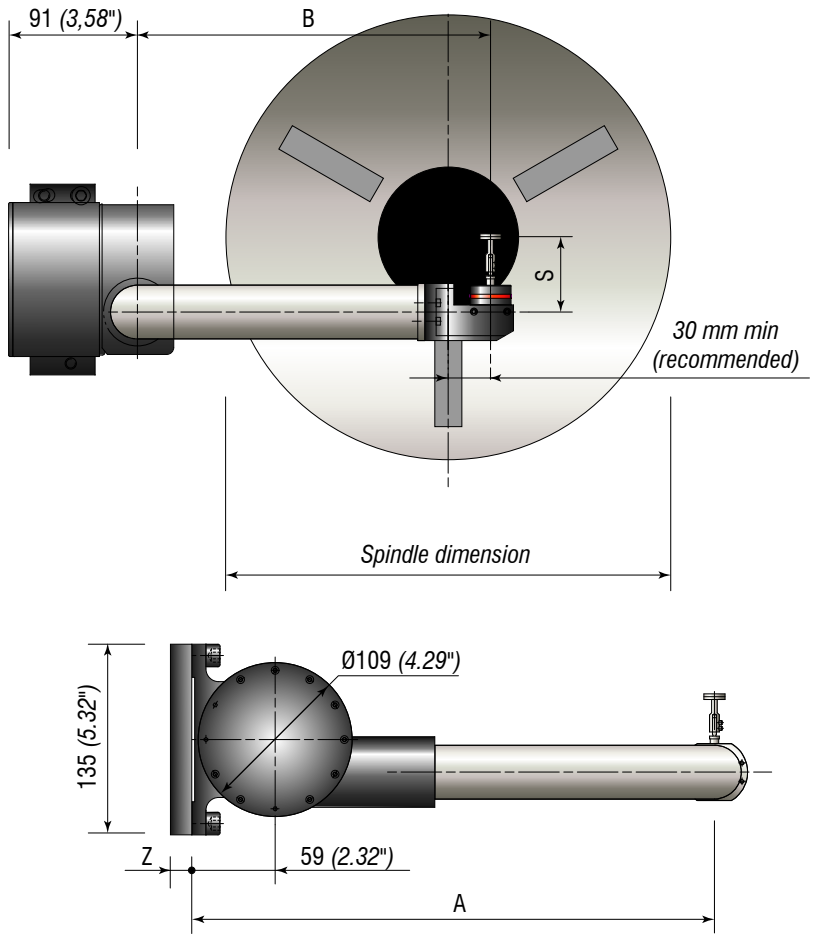
Touch directions *with TT30 probe - machine axes*	±X, ±Z
Positioning repeatability *6" - 15" spindle versions*	2σ ≤ 5 µm
Positioning repeatability *18" - 24" spindle versions*	2σ ≤ 8 µm
Protection rating *static*	IP67
Operating temperature	+5°C - +60°C
Storage temperature	-10°C - +70°C

TT30 probe

Contact force *XZ plane - Machine axes*	0.75 - 1.6 N
Contact force *Y axis - Machine axis*	8.6 N
Overtravel *XZ plane - Machine axes*	9.5 mm
Overtravel *Y axis - Machine axis*	3.5 mm
Unidirectional repeatability	2σ ≤ 1 µm

The specifications refer to the 25 mm stylus
Dimensions A and B depend on the size of the spindle (see table on page 8)

Mida Tool Eye standard applications - Layout defintion



Spindle size [inch]	Tool size [mm]	A [mm]	B [mm]	Z [mm]	S [mm]
6	16	250	172	0	36
	20				41
	25				51
	32				56
8	16	286	202	0	36
	20				41
	25				51
	32				56
10	16	335	251	0	36
	20				41
	25				51
	32				56
	40				61
12	16	368	251	0	36
	20				41
	25				51
	32				56
	40				61
	50				71

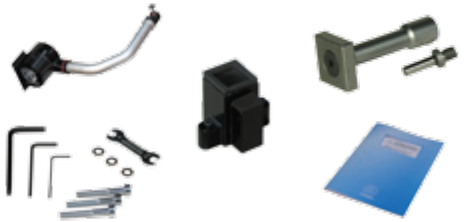
Spindle size [inch]	Tool size [mm]	A [mm]	B [mm]	Z [mm]	S [mm]
15	20	400	296	60	41
	25				51
	32				56
	40				61
	50				71
18	25	469	336	60	51
	32				56
	40				61
	50				71
24	25	555	411	120	51
	32				56
	40				61
	50				71

Z = spacer between arm base and machine wall
(only for spindle Ø > 12')

Mida Tool Eye - Coding system for standard applications

		MIDA TOOL EYE KIT							
		Product code		manual	0248000xxx		(xxx see table)		
				electric	0248100xxx				
		Tool size							
		16mm	20 mm	25 mm	32 mm	40 mm	50 mm	A [mm]	B [mm]
Spindle size	6"	010	020	030	040			250	172
	8"	110	120	130	140			286	202
	10"	210	220	230	240	250		335	251
	12"	310	320	330	340	350	360	368	251
	15"		420	430	440	450	460	400	296
	18"			530	540	550	560	469	336
	24"			630	640	650	660	555	411
	S [mm]	36	41	51	56	61	71		

Mida Tool Eye - Order contents

MIDA TOOL EYE COMPLETE APPLICATION						
MIDA TOOL EYE KIT		EXTENSION			INTERFACE	
						
Marposs Code: see above table		3 m	6739896002		E32A Lite interface	
		5 m	6739896003		For manual arm	8303322844
		10 m	6739896004		For electric arm	8303322834

Optional accessories

Dedicated lathe tool control software packages, compatible with most commercially available CNC systems, are available on request.

The following items are also available on request:

- Right hand version of the arm for special applications