

WRS

RADIO TRANSMISSION TOUCH PROBING SYSTEM



MARPOSS

Description of the system

The Mida WRS radio transmission touch probing system is ideal for use on medium and large scale, 5-axis machines. It features a working frequency of 2.4 GHz, an operating range of 15 m, and excellent immunity to interference.

The system consists of a transmitter (WRP) and a receiver with a built-in interface (WRI).

It has 79 available channels, each with 4 sub-channels so that it is possible to use 4 probes on a single application, and up to 316 in the same plant.

The WRS system is highly flexible as it is available with various types of touch probes for work piece and tool controls:

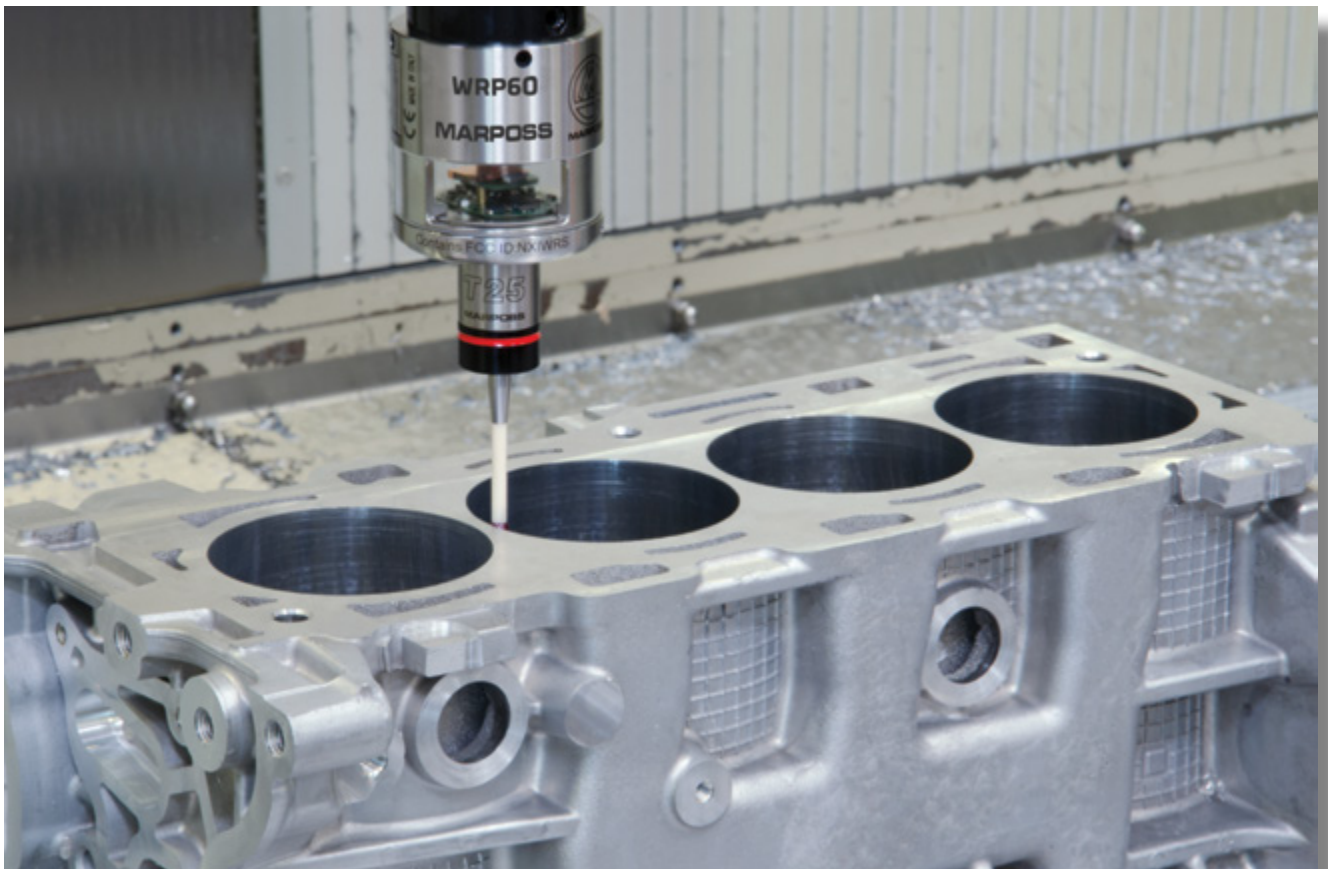
- WRP45, WRP60 work piece touch probes
- WRTS tool control probe

The main features are:

- Multichannel system: each application can support up to 4 probes
- Twin application allows you to check the work piece and the tool using the same receiver.
- An incredibly robust instrument that is capable of withstanding the most demanding machining environments
- It is fully controlled by the machine tool via a simple PLC command

Advantages

- Highly versatile thanks to the wide range of transmitters and their modular design.
- Excellent immunity to interference
- The system functions even when the line of sight between the transmitter and receiver is not guaranteed.
- Can handle up to 4 probes with a single receiver
- Up to 316 probes in the same plant
- Extended battery life.

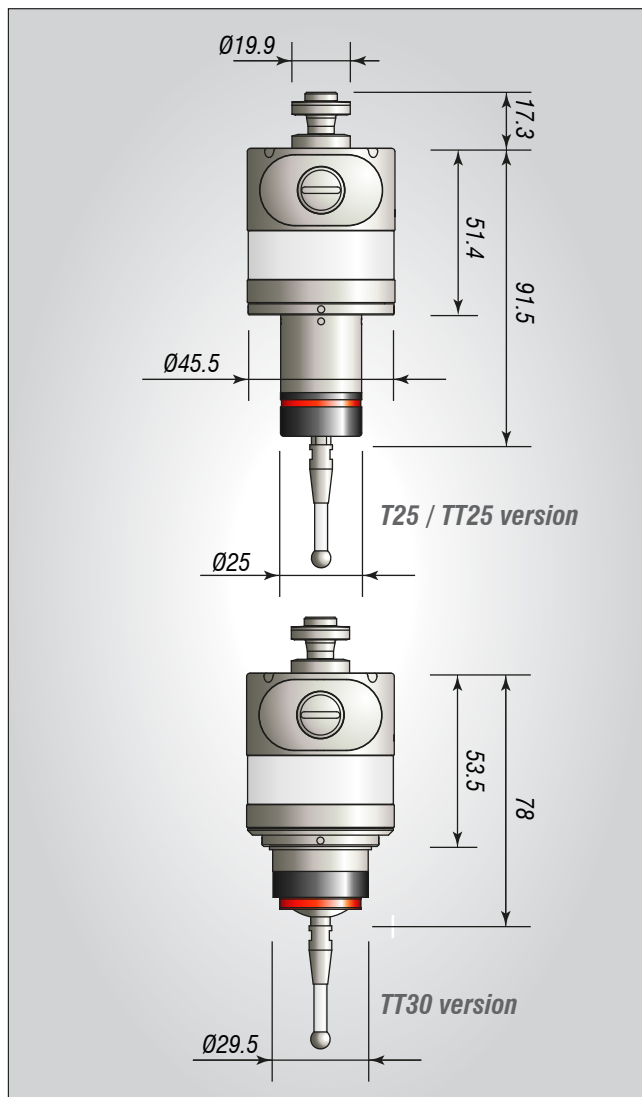


WRP 45 TOUCH PROBE

WRP45 is ideal for use on multi-axis milling machines and machining centers as it combines reduced size with radio transmission, which offers an important advantage in applications where the line of sight between the transmitter and receiver is not guaranteed.

It is compatible with the Marposs T25, TT25 and TT30 probe ranges.

It is used together with the WRI integrated interface receiver.



	T25 version		TT25/TT30 version	
UNIDIRECTIONAL REPEATABILITY (2σ)	0.5 μm		1 μm	
MEASUREMENT FORCE*	2 N <i>XY plane</i>	12 N <i>Dir. Z</i>	0.5 - 0.98 N <i>XY plane</i>	5.8 N <i>Dir. Z</i>
OVERTRAVEL *	11.2 mm <i>XY plane</i>	4 mm <i>Dir. Z</i>	11.6 mm <i>XY plane</i>	4 mm <i>Dir. Z</i>
TRANSMISSION TYPE	Multichannel radio			
TRANSMISSION ACTIVATION/ DEACTIVATION DISTANCE	15 m			
MIN. DISTANCE BETWEEN ADJACENT SYSTEMS	between two transmitters		0.2 m	
	between a receiver from one system and a transmission from another system		0.5 m	
NUMBER OF AVAILABLE CHANNELS	79			
NUMBER OF SUB-CHANNELS	4			
TRANSMISSION ACTIVATION	Machine M code			
TRANSMISSION DEACTIVATION	Manual:	Machine M code		
	Automatic:	Programmable timer		
BATTERY TYPE	2 CR2 type lithium batteries			
BATTERY LIFE**	Standby: 1 y			
	5% usage: 270 d			
	Continuous usage: 900 h			
PROTECTION RATING <i>(Standard IEC 60529)</i>	IP68			
WORKING TEMPERATURE	0 - 60 °C			

(*) = With standard 35 mm finger at a speed of 600 mm/min

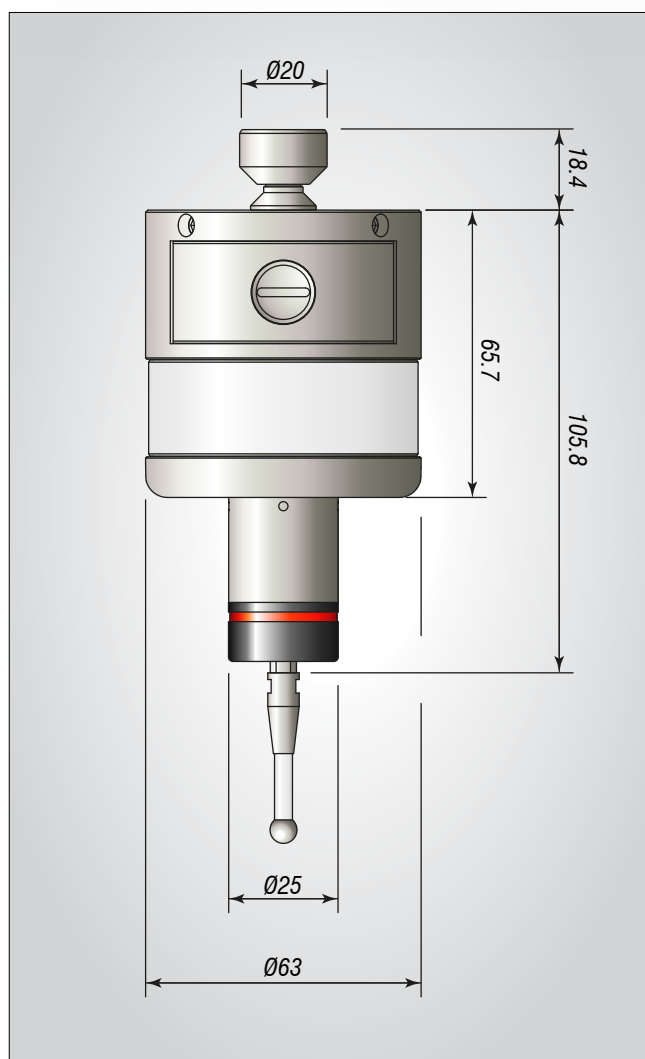
(**) = Typical performance values, may vary depending on programming mode

WRP60 touch probe

It is ideal for use on large scale machining centers and vertical lathes. The probe unites an extremely robust build with extended operating autonomy.

It can be configured for use with MarpoSS T25 and T25 probes and with extensions up to one metre in length.

It is used together with the WRI integrated interface receiver.



	T25 version		TT25 version	
UNIDIRECTIONAL REPEATABILITY (2σ)	0.5 μm		1 μm	
MEASUREMENT FORCE*	2 N <i>XY plane</i>	12 N <i>Dir. Z</i>	0.5 - 0.98 N <i>XY plane</i>	5.8 N <i>Dir. Z</i>
OVERTRAVEL*	11.2 mm <i>XY plane</i>	4 mm <i>Dir. Z</i>	11.6 mm <i>XY plane</i>	4 mm <i>Dir. Z</i>
TRANSMISSION TYPE	Multichannel radio			
TRANSMISSION ACTIVATION/ DEACTIVATION DISTANCE	15 m			
MIN. DISTANCE BETWEEN ADJACENT SYSTEMS	between two transmitters		0.2 m	
	between a receiver from one system and a transmission from another system		0.5 m	
NUMBER OF AVAILABLE CHANNELS	79			
NUMBER OF SUB-CHANNELS	4			
TRANSMISSION ACTIVATION	Machine M code			
TRANSMISSION DEACTIVATION	Manual:	Machine M code		
	Automatic:	Programmable timer		
BATTERY TYPE	2 CR123A type lithium batteries			
BATTERY LIFE**	Standby:	1.5 y		
	5% usage:	450 d		
	Continuous usage:	1500 h		
PROTECTION RATING <i>(Standard IEC 60529)</i>	IP68			
WORKING TEMPERATURE	0 - 60 °C			

(*) = With standard 35 mm finger at a speed of 600 mm/min

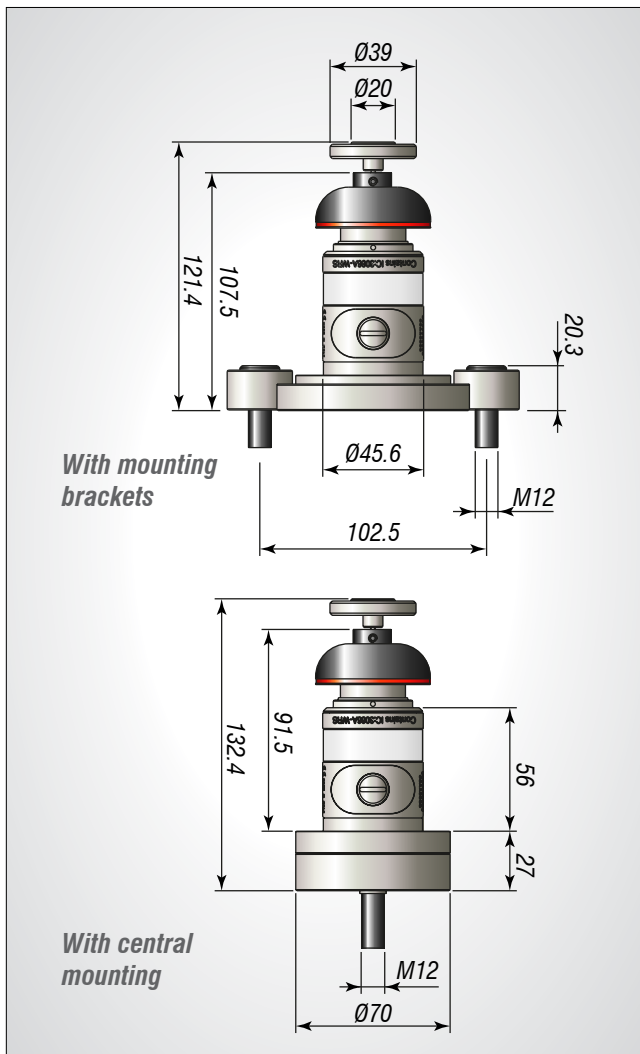
(**) = Typical performance values, may vary depending on programming mode

WRTS tool control probe

WRTS probes can be used on machining centers for integrity controls, tool length and diameter measurements, and tool wear compensation.

The central part of the contact disk is manufactured from tungsten carbide in order to protect it from damage during the measurement cycle. It is completely wireless, which means that it is very simple to install. WRTS probes are available in the centrally mounted version, or with lateral mounting brackets.

The probe may be used in TWIN applications: workpiece and tool controls managed by the same receiver. It is used together with the WRI integrated interface receiver.



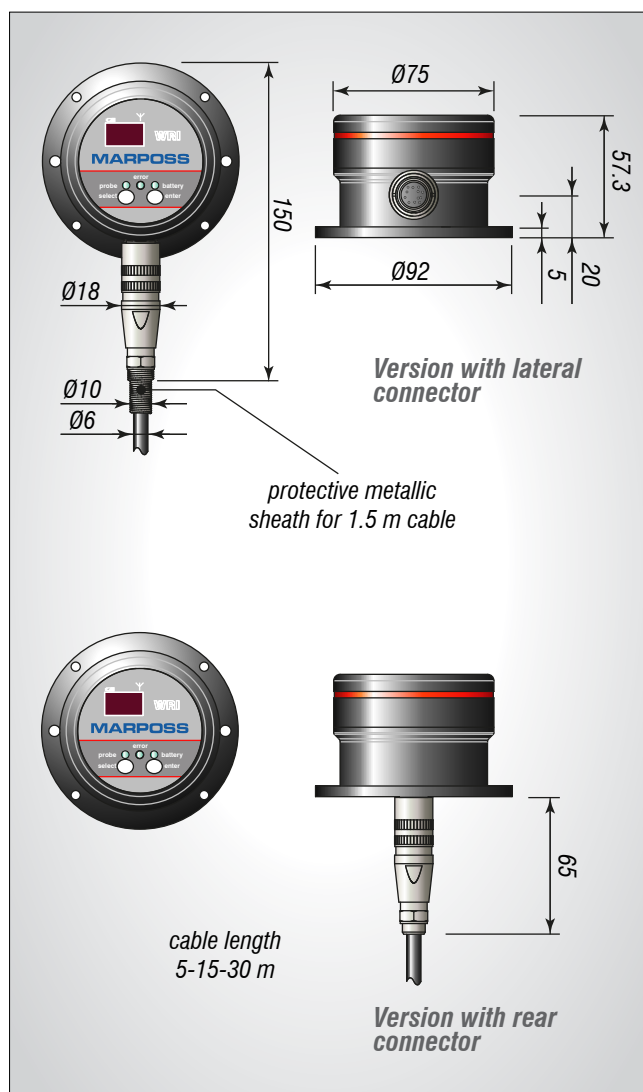
UNIDIRECTIONAL REPEATABILITY (2 σ)	1 μ m*	
MEASUREMENT FORCE	XY plane 1 - 2 N	Direction Z 8.6 N
OVERTRAVEL	XY plane 8 mm	Direction Z 3.5 mm
TRANSMISSION TYPE	Multichannel radio	
TRANSMISSION ACTIVATION/ DEACTIVATION DISTANCE	15 m	
NUMBER OF AVAILABLE CHANNELS	79	
NUMBER OF SUB-CHANNELS	4	
TRANSMISSION ACTIVATION	Machine M code	
TRANSMISSION DEACTIVATION	Manual: Automatic:	Machine M code Programmable timer
BATTERY TYPE	2 CR2 type lithium batteries	
BATTERY LIFE*	Standby:	1 y
	5% usage:	270 d
	Continuous usage:	900 h
PROTECTION RATING (Standard IEC 60529)	IP68	
WORKING TEMPERATURE	0 - 60 °C	

(*) = Typical performance values, may vary depending on programming mode

Receiver with integrated interface (WRI)

The receiver with integrated interface WRI is supplied with an practical, 4-digit display that, together with the remote control unit, make it easy to program and to adjust in the event of a malfunction.

The receiver is secured using 4 x M4 screws; however it is also equipped with a magnetic mounting base, which makes it easier to install and position. The WRI receiver may also be positioned outside the machine.



POWER SUPPLY		13,5 ÷ 30 Vdc max current 100 mA power consumption 1 W
INPUT SIGNALS (SINK or SOURCE)	Start / Stop SEL 0 / SEL 1	Opto-isolated 13,5 ÷ 30 V 1 mA at 15 V
OUTPUT SIGNALS (may be set to N.C. or N.O. with the exception of the error, which is always set to N.C.)	Probe 1 State/Pulse Probe 2 State/Pulse Battery discharged Error	SSR 4 ÷ 30 V 40 mA
MIN. DISTANCE BETWEEN ADJACENT SYSTEMS	between two transmitters	0,5 m
	between a receiver from one system and a transmitter from another system	0,5 m
PROTECTION DEGREE (Standard IEC 60529)	IP68	

System part numbers

Probe/transmitter

P1SRW00000	WRP45 T25G probe kit - Machining centers
P1SRW00001	WRP45 T25S probe kit - Lathes
P1SRW00002	WRP45 TT25 probe kit - Milling machines
P1SRW00003	WRP45 TT30 probe kit - Small machines
P1SRW00004	WRP45 TL25G probe kit - Reduced touch force machining centers
P1SRW00005	WRP45 TT25H probe kit - High touch force milling machines
P1SRW00030	WRP60 T25G probe kit - Machining centers
P1SRW00031	WRP60 T25S probe kit - Lathes
P1SRW00032	WRP60 TT25 probe kit - Milling machines
P1SRW00034	WRP60 TL25G probe kit - Reduced touch force machining centers
P1SRW00035	WRP60 TT25H probe kit - High touch force milling machines
P1SRWT0000	WRTS central mounting probe kit
P1SRWT0001	WRTS mounting brackets probe kit

All kits are supplied complete with batteries and the necessary tools

3191910875	Ceramic stylus with 6 mm ball, L = 50 mm
3191910870	Ceramic stylus with 6 mm ball, L = 75 mm
3191910865	Ceramic stylus with 6 mm ball, L = 100 mm

For other fingers, shear pins and other accessories, consult the catalogue D6C006010

System components

10T0439055	3 m cable metallic protective shield
10T0439056	5 m cable metallic protective shield
3015335010	90° adaptor for T25/TT25 probes
4162100306	2 CR2 type lithium battery
4162100303	CR123A type lithium battery
3415335200	T25G* probe
3415335201	T25S* probe
3424310000	TT25* probe
3427877100	TT30* probe
6180890005	Flange for TT30 probes
6180890006	Flange for T25 probes
6180890009	Special service wrenches
6180890010	Servicing Tools
6871015717	Infra red remote control unit
6871892003	WRP45 Transmitter
6871892031	WRP60 Transmitter
8304890030	WRI with lateral connector
8304890031	WRI with rear connector
D310316M90	CD-ROM with installation and instruction manuals

(*) = compatible with all 25 and 30 mm diameter probes. Refer to the probes catalogue

Receiver/interface

P1SRW60000	WRI kit with lateral connector
P1SRW60001	WRI kit with rear connector

The kits are supplied complete with batteries and operator and instruction manual
Only WRI kits with lateral connector include the 1.5 m cable protective shield

6180890104	5 m CN connector cable
6180890103	15 m CN connector cable
6180890105	30 m CN connector cable
6134232000	Receiver support
8304890010	E86/E86N-WRS Interface connection

WRP45 shanks
 f_2 [mm]

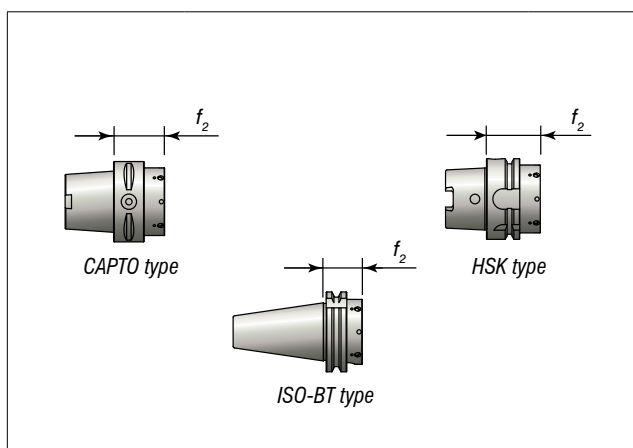
2027885050	HSK40 A+C DIN 69893	35
2027885086	HSK40 E DIN 69893 with X/Y adj.	35
2027885051	HSK50 A+C DIN 69893	42
2027885074	HSK63 A+C DIN 69893 - Air	44
2027885084	HSK63 E DIN 69893	44
2027885085	HSK63 F DIN 69893	44
2027885053	HSK80 A+C DIN 69893	48
2027885075	HSK100 A+C DIN 69893 - Air	50
2027885056	Sandvik CAPTO C5	36
2027885057	Sandvik CAPTO C6	38
2027885058	Sandvik CAPTO C8	46
2027885059	ISO40 DIN 69871A	31.8
2027885060	ISO50 DIN 69871A	31.8
2027885061	MAS 403 BT30	28
2027885062	MAS 403 BT40	33
2027885063	MAS 403 BT50	43
2027885065	Kennametal KM63	46
2027885064	Flange with X/Y adjustment for compatibility with type E83/E86/E86N type shanks	
2027885078	VDI flange with X/Y adjustment	
6180890191	Blowers kit for air shanks	

ISO - BT shafts, not supplied by MarpoSS
Other types of shank are available upon request

WRP60 shanks
 f_2 [mm]

2027885212	P60 HSK63 A+C DIN69893 AIR	53
2027885201	P60 HSK63 E DIN69893	53
2027885202	P60 HSK63 F DIN69893	53
2027885203	P60 HSK80 A+C DIN69893 AIR	53
2027885204	P60 HSK100 A+C DIN69893 AIR	56
2027885205	P60 BT40 MAS403	38
2027885206	P60 BT50 MAS403	49
2027885207	P60 ISO40 DIN69871/A	42.9
2027885208	P60 ISO50 DIN69871/A	35
2027885209	P60 CAPTO C5	38
2027885210	P60 CAPTO C6 AIR	42
2027885211	P60 CAPTO C8 AIR	50
2027885080	P60 adaptor flange for E83/E86 shanks	

ISO - BT shafts, not supplied by MarpoSS
Other types of shank are available upon request



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www.marpoSS.com

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

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