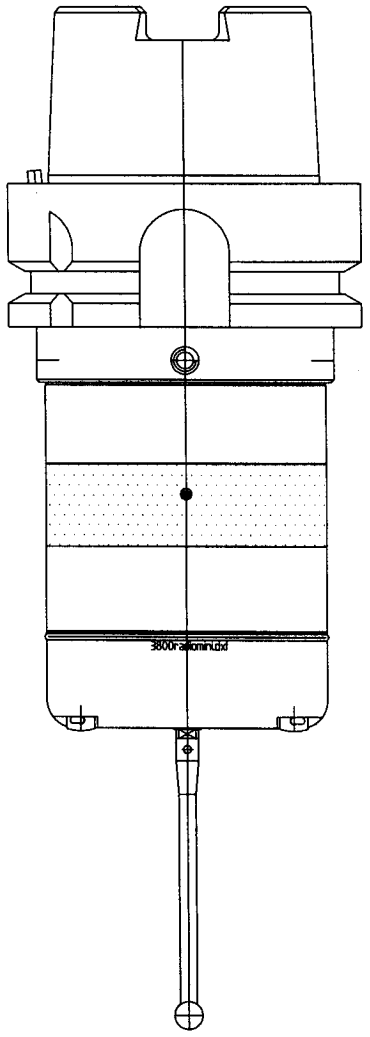
Radio Wave Probe 38.00-MINI

OPERATING INSTRUCTION

Dimensions, Technical data, Channel setting, Styli
Stylus change, Battery replacement
Adjusting stylus run out
Switch ON-OFF methods, Standard Pullstuds
Channels and frequency list
FCC Statement

GB



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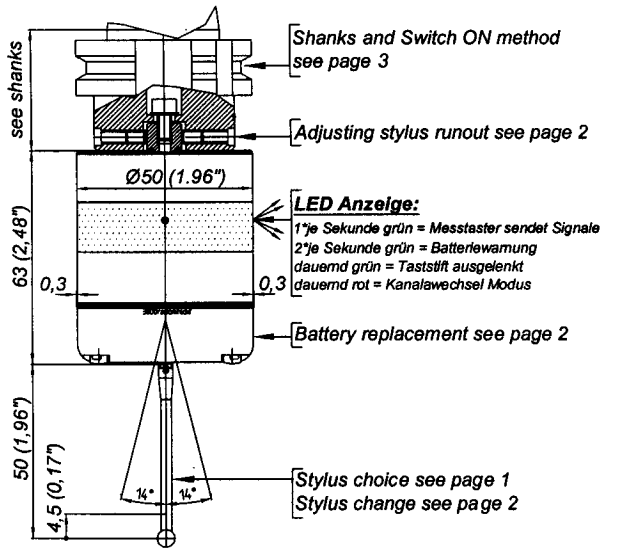
Model 38.00 (TX)
Marstech Report No. 25056B
EXHIBIT C(5)

Radio Wave Probe 38.00-MINI

Dimensions



Technical data

Transmitting channels a probe	64 Channels
Frequency range	433,075-434,650 MHz
Channel spaceing	25KHz steps
maximum stylus overtravel	XY ±14°, Z -4,5mm (0,17")
trigger force with 50mm stylus	XY=0,7N, Z=4,5N
Recommend probing speed	250mm/min (10"/min) - 5000mm/min (196"/min)
power supply	6*1,5V Typ "AAA" Micro (1175mAh)
Continous operating time	**60h**
weight without shank	360g
unidirectional repeatability	±1um at 250mm/min (10"/min) with 50mm (1,96") stylus
sealing	**IP68: EN60529**
authorization	Short Range Device <10mW SDR Europa: I-ETS 300 220 America: FCC MFFRWP433
Order numbers	see page 3

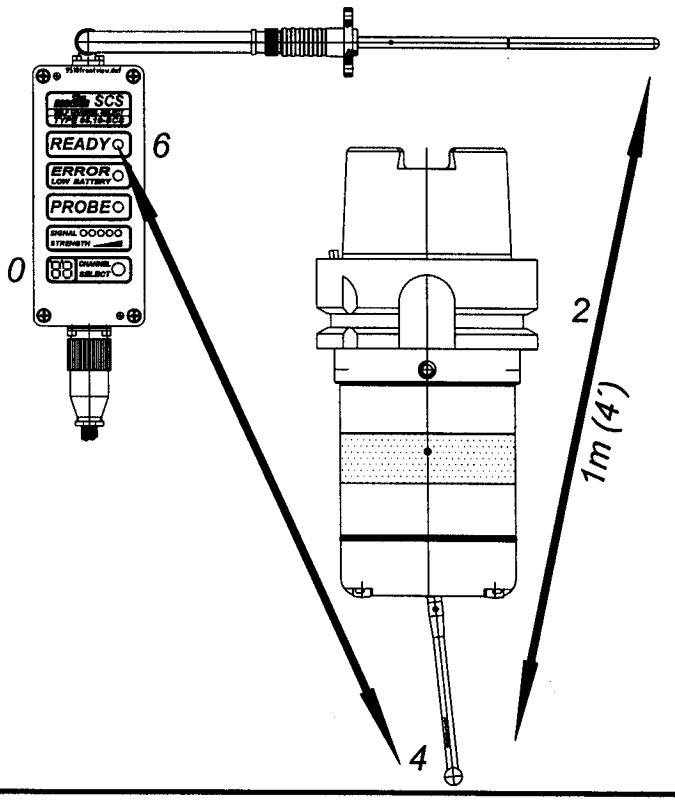
Channel setting with Radio Wave Probe

Security hints, please note:

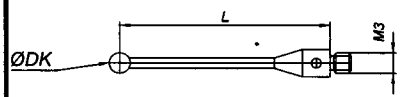
-Do not work with any machine which is equipped with a radio wave system during channel adjustment.
-All other radio wave probes must be OFF during channel adjustment.
-Feed hold or spindle stop should only occur if there is a PROBE or a READY signal from the probe. This should only happen when the probe is in the spindle.

Doing:

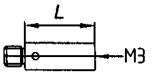
0-Set new channel at the receiver first
1-Wipe the probe body clean
2-Take the probe close to the antenna
3-The probe is switched OFF
4-Deflect permanent the stylus manual
5-after 10s the probe starts changeing all 2,5s a channel up
6-Hold the stylus deflected until the READY LED light on the receiver unit. As soon as REDAY light is on leave the stylus to its restposition.
7-maximum programming time 170s



Styli



L Ø
21.00-T 20 / 1-M3 (only with 21.00-TV10)
21.00-T 20 / 2-M3 (only with 21.00-TV10)
21.00-T 30 / 3-M3
21.00-T 30 / 4 - Carbon-M3
21.00-T 40 / 4 - Carbon-M3
21.00-T 40 / 5 - Carbon-M3
21.00-T 50 / 5 - Carbon-M3 (Standard Set)
21.00-T 60 / 5 - Carbon-M3

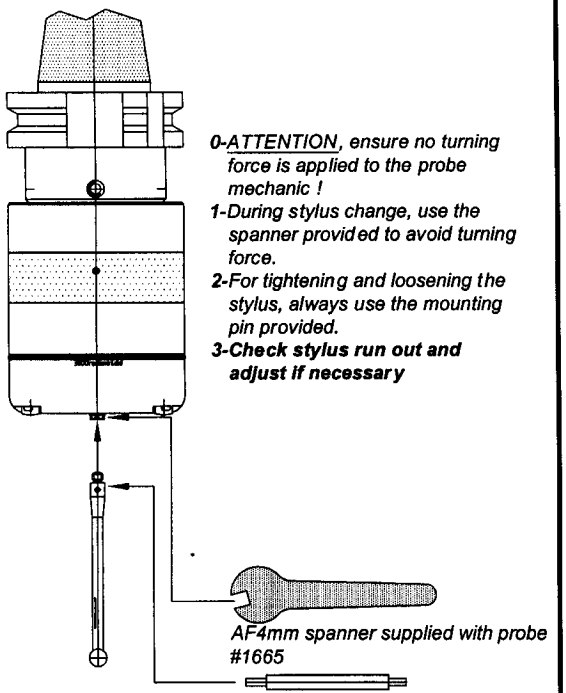


Extensions

L
21.00-TV10-M3
21.00-TV20-M3
21.00-TV30-M3
21.00-TV40-Carbon-M3

Radio Wave Probe 38.00-MINI

Changing probe stylus

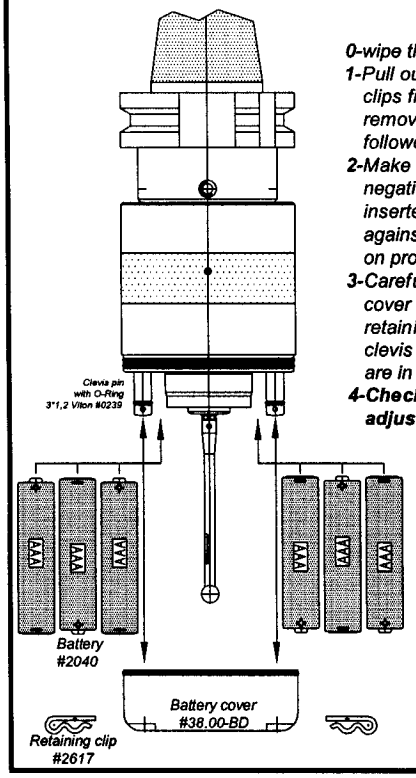


0-ATTENTION, ensure no turning force is applied to the probe mechanic !
1-During stylus change, use the spanner provided to avoid turning force.
2-For tightening and loosening the stylus, always use the mounting pin provided.
3-Check stylus run out and adjust if necessary

AF4mm spanner supplied with probe #1665

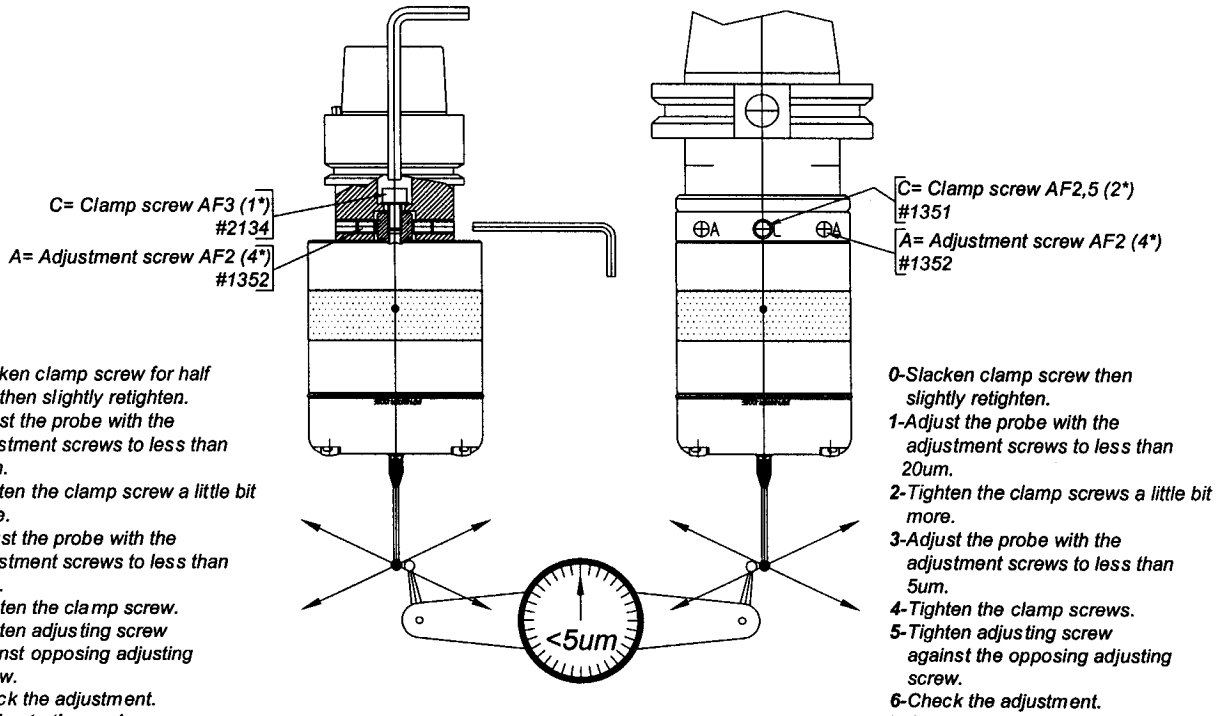
mounting pin Ø1,3 #0885

Battery replacement



0-wipe the probe body dry
1-Pull out the two retaining clips from the clevis pins and remove the battery cover followed by the batteries
2-Make sure posetive and negative ends of battery are inserted correctly. Check against symbols engraved on probe front side.
3-Carefully push back battery cover and push the two retaining clips back into the clevis pins. Check seal rings are in the correct position.
4-Check stylus run out and adjust if necesarry

Taststift ausrichten zur Spindelmitte



0-Slacken clamp screw for half turn then slightly retighten.
1-Adjust the probe with the adjustment screws to less than 20um.
2-Tighten the clamp screw a little bit more.
3-Adjust the probe with the adjustment screws to less than 5um.
4-Tighten the clamp screw.
5-Tighten adjusting screw against opposing adjusting screw.
6-Check the adjustment.
7-Calibrate the probe now.

0-Slacken clamp screw then slightly retighten.
1-Adjust the probe with the adjustment screws to less than 20um.
2-Tighten the clamp screws a little bit more.
3-Adjust the probe with the adjustment screws to less than 5um.
4-Tighten the clamp screws.
5-Tighten adjusting screw against the opposing adjusting screw.
6-Check the adjustment.
7-Calibrate the probe now.

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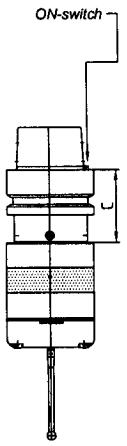
Radio Wave Probe 38.00-MINI

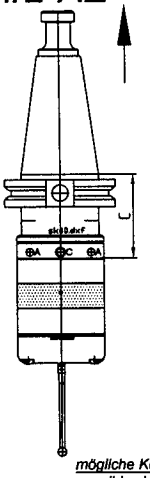
#2-PS



Description:
For all machines with spindles built to accept hollow taper shanks such as HSK. The probe starts transmitting as soon as the switch, which is integrated in the flat ring surface, is pressed. The probe will transmit as long as it is inside the spindle.

possible shanks:	C:	order number:
DIN69893-HSK-A32	36 (1,4")	38.00-HSK32A-PS
DIN69893-HSK-E32	36 (1,4")	38.00-HSK32E-PS
DIN69893-HSK-A40	35 (1,4")	38.00-HSK40A-PS
DIN69893-HSK-E40	36 (1,4")	38.00-HSK40E-PS
DIN69893-HSK-E50	42 (1,6")	38.00-HSK50E-PS
DIN69893-HSK-A63	36 (1,4")	38.00-HSK63A-PS
DIN69693-HSK-A100	42 (1,6")	38.00-HSK100A-PS
Coromant Capto C6	42 (1,6")	38.00-C6-PS
Coromant Capto C8	42 (1,6")	38.00-C8-PS
EROWA ITS Standard	41 (1,6")	38.00-ITS Standard-PS

#2-AZ



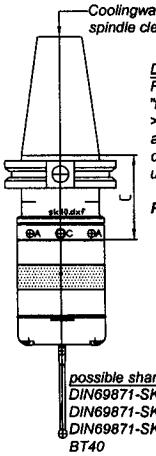
Description:
*This is a **100% mechanical ON-OFF** method. For all machines that **clamp tools by using pullstuds**. The probe starts transmitting as soon as the gripper in the spindle holds the pullstud. The pullstud type is defined in the order number by **XX**. Therefore, see this page.*

PATENT

*For all machines with spindles built to accept **hollow taper shanks** such as **HSK**, there is a mechanical switch inside the HSK to activate the probe. When inside the spindle the probe is ON, inside the magazine the probe is OFF.*

mögliche Kegel: / possible shanks:	C:	Bestellnummer: / order number:
DIN69871-SK30	46,5 (1,8")	38.00-SK30-XX-AZ
DIN69871-SK40	48,5 (1,9")	38.00-SK40-XX-AZ
DIN69871-SK50	48,5 (1,9")	38.00-SK50-XX-AZ
BT40	48,5 (1,9")	38.00-BT40-XX-AZ
BT50	63,5 (2,5")	38.00-BT50-XX-AZ
CAT40	48,5 (1,9")	38.00-AN40-XX-AZ
CAT50	48,5 (1,9")	38.00-AN50-XX-AZ
DIN69893-HSK-A50	68,5 (2,7")	38.00-HSK50A
DIN69893-HSK-A63	68,5 (2,7")	38.00-HSK63A
DIN69893-HSK-A80	73,5 (2,9")	38.00-HSK80A
DIN69893-HSK-A100	73,5 (2,9")	38.00-HSK100A

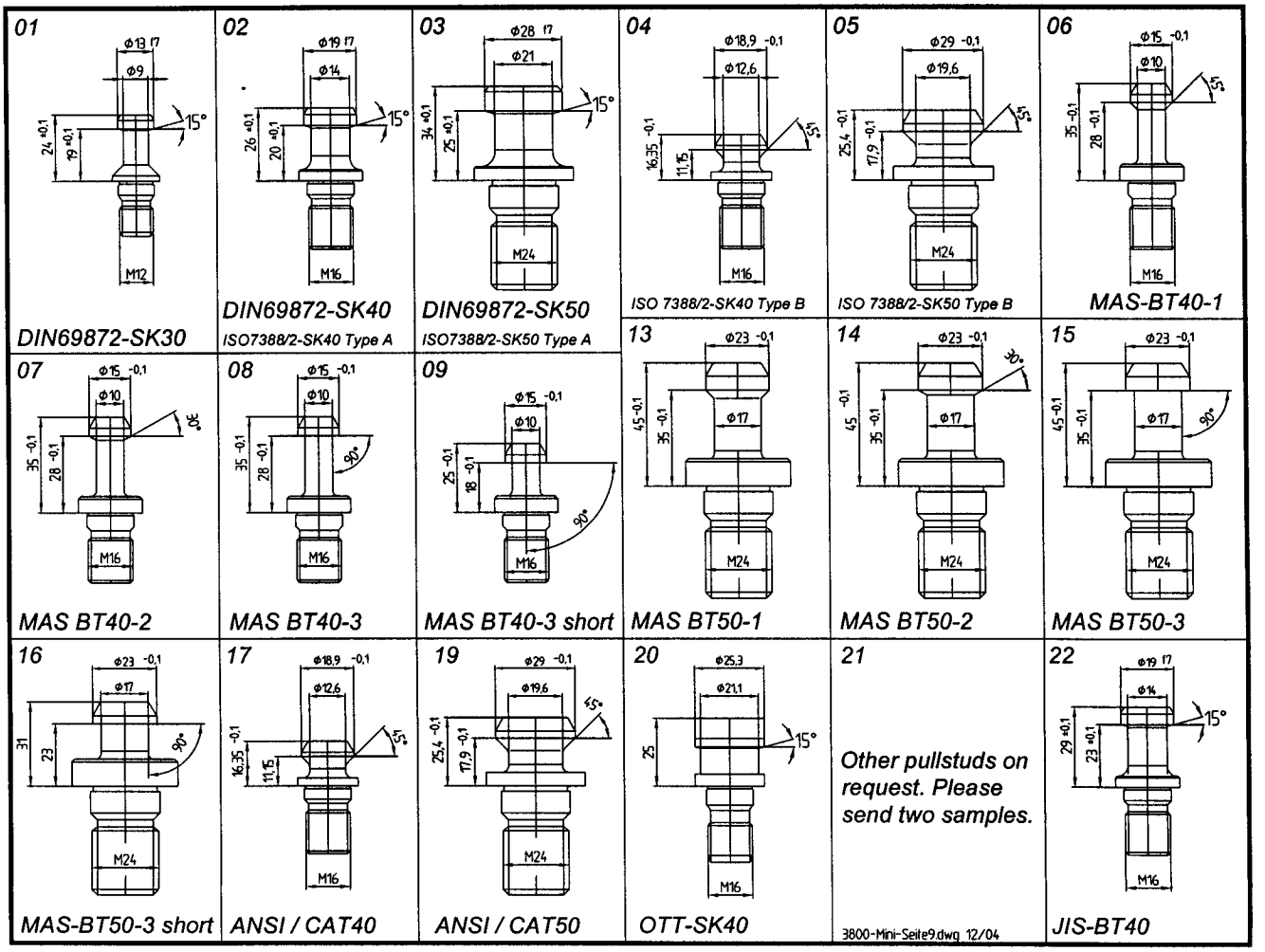
#2-WS



Description:
For all machines with programmable "through spindle" coolant or air blast >3,5bar (50PSI). The probe will be activated by the M-Code for either coolant or air blast. Probe is active until either command is switched off.

PATENT

possible shanks:	C:	order number:
DIN69871-SK30	46,5 (1,8")	38.00-SK30-WS
DIN69871-SK40	48,5 (1,9")	38.00-SK40-WS
DIN69871-SK50	48,5 (1,9")	38.00-SK50-WS
BT40	48,5 (1,9")	38.00-BT40-WS
BT50	63,5 (2,5")	38.00-BT50-WS
CAT40	48,5 (1,9")	38.00-AN40-WS
CAT50	48,5 (1,9")	38.00-AN50-WS
DIN69893-HSK-A50	68,5 (2,7")	38.00-HSK50A-WS
DIN69893-HSK-A63	68,5 (2,7")	38.00-HSK63A-WS
DIN69893-HSK-A80	73,5 (2,9")	38.00-HSK80A-WS
DIN69893-HSK-A100	73,5 (2,9")	38.00-HSK100A-WS
Coromant Capto C5	73,5 (2,9")	38.00-C5-WS
Coromant Capto C6	73,5 (2,9")	38.00-C6-WS
Coromant Capro C8	73,5 (2,9")	38.00-C8-WS
Kennametal KM63	73,5 (2,9")	38.00-KM63-WS
Kennametal KM80	73,5 (2,9")	38.00-KM80-WS



Radio Wave Probe 38.00-MINI

Channel #	Frequency	Channel #	Frequency
Channel 01	433,925 MHz	Channel 35	433,850 MHz
Channel 02	434,075 MHz	Channel 36	433,875 MHz
Channel 03	433,075 MHz	Channel 37	433,900 MHz
		Channel 38	433,950 MHz
Channel 05	433,175 MHz	Channel 39	433,975 MHz
Channel 06	433,275 MHz	Channel 40	434,000 MHz
Channel 07	433,375 MHz	Channel 41	434,025 MHz
Channel 08	433,475 MHz	Channel 42	434,050 MHz
Channel 09	433,575 MHz	Channel 43	434,100 MHz
Channel 10	433,675 MHz	Channel 44	434,125 MHz
Channel 11	433,775 MHz	Channel 45	434,150 MHz
Channel 12	433,100 MHz	Channel 46	434,175 MHz
Channel 13	433,125 MHz	Channel 47	434,200 MHz
Channel 14	433,150 MHz	Channel 48	434,225 MHz
Channel 15	433,200 MHz	Channel 49	434,250 MHz
Channel 16	433,225 MHz	Channel 50	434,275 MHz
Channel 17	433,250 MHz	Channel 51	434,300 MHz
Channel 18	433,300 MHz	Channel 52	434,325 MHz
Channel 19	433,325 MHz	Channel 53	434,350 MHz
Channel 20	433,350 MHz	Channel 54	434,375 MHz
Channel 21	433,400 MHz	Channel 55	434,400 MHz
Channel 22	433,425 MHz	Channel 56	434,425 MHz
Channel 23	433,450 MHz	Channel 57	434,450 MHz
Channel 24	433,500 MHz	Channel 58	434,475 MHz
Channel 25	433,525 MHz	Channel 59	434,500 MHz
Channel 26	433,550 MHz	Channel 60	434,525 MHz
Channel 27	433,600 MHz	Channel 61	434,550 MHz
Channel 28	433,625 MHz	Channel 62	434,575 MHz
Channel 29	433,650 MHz	Channel 63	434,600 MHz
Channel 30	433,700 MHz	Channel 64	434,625 MHz
Channel 31	433,725 MHz	Channel 65	434,650 MHz
Channel 32	433,750 MHz		
Channel 33	433,800 MHz		
Channel 34	433,825 MHz		

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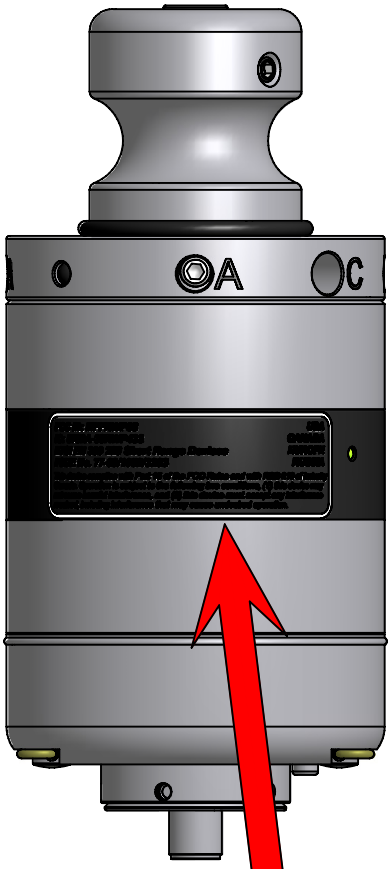
FCC Statement

" Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device. "

Radio Wave Probe 38



Security Hints – Please Take Care !

1. *Manual or automatic positioning of the probe should be protected, so that the machine axis stops feeding if the probe is triggered during its move to the position where actual measuring should begin.*

2. *Feedhold or spindle-stop resulting from a trigger or ready signal from a probe should only happen if the probe is actually in the spindle. This security logic will protect the machine against a possible spindle or feeding stop under normal milling operation if a signal from a probe reaches the control under one of the conditions below:*

   - *Customer is changing the batteries and checks the function of the probe by manually switching the probe on.*
   - *A new machine is installed with radio-wave transmission with the same frequency as a probe already fitted to an existing machine.*

Declaration of Conformity

We declare under our sole responsibility that the product „Radio-Wave Probe 38", to which this declaration relates is in conformity with following standards:

IEC 61000-4-3	*Susceptibility Against Radiated Fields*
IEC 61000-4-4	*Susceptibility Against ns-Pulses (BURST)*
IEC 61000-4-6	*Susceptibility Against Conducted Sinus Waves*
IEC/CISPR 11	*Measuring Conducted Voltage Emission*
EN 55011	*Measuring Conducted Voltage Emission*
EN 61000-4-2/A1	*Susceptibility Against Electrostatic Discharge – Air Discharge (ESD)*
ETS 300 220	*Short Range radio Device (SRD)*

FCC / RSS - Declaration

FCC ID: MFFRWP38 ***USA***
IC: 5782A-38RWP433 ***CANADA***
ETSI EN 300 220 Short Range Devices ***EUROPE***
FSUE No. 77-09/1052/3203 ***RUSSIA***

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions, (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

10

FCC ID: MFFRWP38 ***USA***
IC: 5782A-38RWP433 ***CANADA***
ETSI EN 300 220 Short Range Devices ***EUROPE***
FSUE No. 77-09/1052/3203 ***RUSSIA***

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Ra 6,3 = ▽ = gedreht/gefräst/gebohrt
Ra 3,2 = ▽▽ = feingedreht/feingefräst
Ra 0,8 = ▽▽▽ = geschliffen/feinstgedreht

Toleranzen ISO 2768 fein

	Datum	Name
Bearbeitet	25.11.09	Pfadenhauer
Geprüft		

Status	Änderungen	Datum	Name
a	neues Original	25.01.10	Veil

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Maßstab

m&h Teilenr.

Werkstoff

Bezeichnung

Position of FCC ID Label MFFRWP38

Zeichnungsnummer

38.00-10.037

Blatt Nr. 1

Format A4