

MachSensing Cutting Control Monitoring System

The system is comprised of the sensor module and AIOT software system installed into a precision made stainless steel Cutter Tool Holder. The Specs available are: BT/HSK/SK/ISO/CAT.

The Sensor Module is MILSPEC Grade suitable for use in harsh environments and high temperatures. It uses a precision safety shielded high speed wireless 2.4 Ghz Transmitter

The battery is a high endurance and wireless recharging. It is heat and vibration resistant and built to perform well under standard CNC Machining conditions and environments.

Our Tri-axial vibration needle does high speed conversion of cutter speed and vibration, enhancing the monitoring/control efficacy for optimal cutter sharpness and cutting quality.

The MachRadar software system which is bundled with the hardware is intuitive and easy to use with at a glance interface for monitoring real time cutter processing conditions. This allows instant decision making by operator in real time or by pre-set conditions the end user decides to provide the safest cutter quality control, minimizing scrap and re-work.

The AI system's machine learning, records the performance of each job order gradually improving with each use. The live screen model of the active cutting tool can be manipulated by mouse or by hand for the best view.



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Is ideal for minimizing loss due to excessively used cutter tools resulting in scrap, rework and lost time! Great for high volume production runs or production orders with expensive, hard metals or alloys that stick to the cutting tool.

Eliminate guess work by observing processing at machine side or remotely via 5G. Sub-par performance is indicated and allows you ample time to stop and replace cutter with fresh blade.

Our MachSensing/MachRadar Suite gives you real time tracking and control for maintaining optimal performance and QC for all metal cutting production!

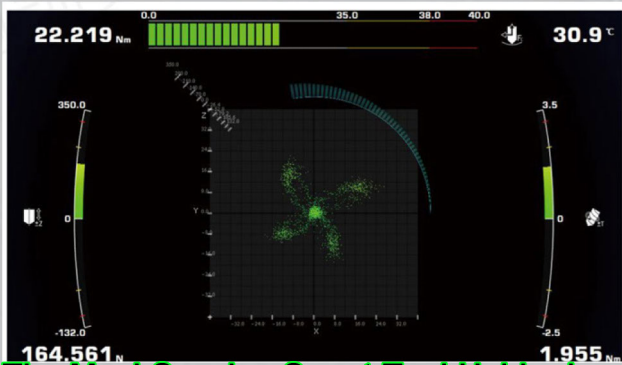


For the best Safety/Visibility/Ease of Use for Machine Operators connect MachSensing to your **machine's Warning Lights, Audible Alarm or pre-set condition Machine Cutoff** for fool proof machining and cutter sharpness control!



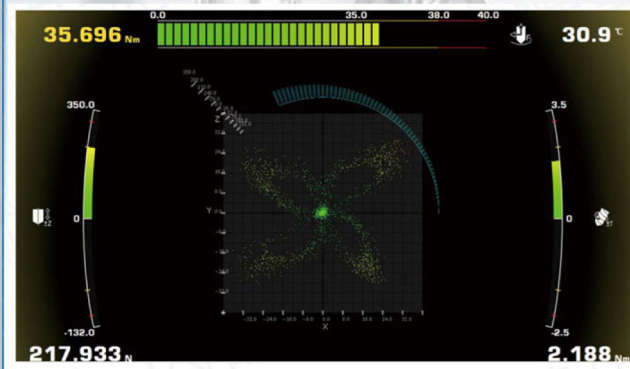
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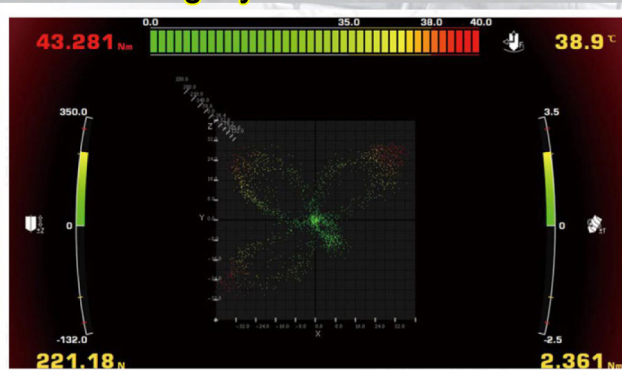


Applications:
 CNC milling, lathing,
 drilling, tapping, grinding,
 gear hobbing and skiving.

The MachSensing Smart Tool Holder is covered with a MS series wireless sensor that provides live feedback on the bending moment force, axial force and torsion force and resulting temperature increase in any direction. The data is transmitted enabling users to collect precise machining data, evaluate the sharpness and condition of the cutter, and exercise control based on your parameters. Green color indicates adequate sharpness/fresh cutter blade.



MachSensing provides high precision sensing even in the harshest conditions with high speed rotation of machining operations, high temperatures and humidity. Yellow indicates slightly diminished condition of cutter!



Once the cutter reaches the pre-determined unacceptable level red color appears indicating you're getting closer to need cutter blade change! In addition to dashboard levels and the change of colors you can also connect to machine warning light, speaker for audible alarm or set a predetermined cutoff. You decide the parameters.



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Mach Sensing Sharpness Diagnostic Cutter Holder Options

規格項目	BT30	BT40	BT50	HSK40E	HSK50E/A	HSK63A	HSK100A	ISO/SK30	SK40	SK50	CAT40	CAT50
Length mm(L)	90~135	100~160	110~180	100~135	100~160	105~160	120~180	90~135	100~160	110~180	100~160	110~180
(R.P.M.)	26,000	21,000	18,000	30,000	26,000	24,000	18,000	26,000	21,000	18,000	21,000	18,000
Dynamic Balancing 25,000/(G)	2.5G	2.5G	2.5G	1.0G	2.5G	2.5G	2.5G	2.5G	2.5G	2.5G	2.5G	2.5G
Data Sampling Rate (Hz)	10k	5k	5k	10k	10k	5k	5k	10k	5k	5k	5k	5k
Wireless Transmission Protocol (Hz)	2.45G	2.45G	2.45G	2.45G	2.45G	2.45G	2.45G	2.45G	2.45G	2.45G	2.45G	2.45G
Battery Charge Duration	12 hours	12 hours	18 hours	12 hours	12 hours	12 hours	18 hours	12 hours	12 hours	18 hours	12 hours	18 hours
# Transmission Channels	10 CH	10 CH	10 CH	10 CH	10 CH	10 CH	10 CH	10 CH	10 CH	10 CH	10 CH	10 CH
Firmware Updatable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Center Outlet Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Other Specifications such as Capto C4-C10 or turning tool VDI powered tool holder, etc. or special lengths possible upon review.

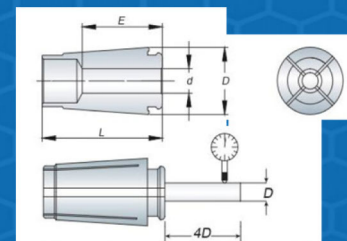
Spring Collet ER20/25

ER20 (Unit : mm)		ER25 (Unit : mm)	
No.	Range	No.	Range
ER20-01	1.0-0.5	ER25-02	2.0-1.0
ER20-1.5	1.5-1.0	ER25-03	3.0-2.0
ER20-02	2.0-1.0	ER25-04	4.0-3.0
ER20-2.5	2.5-2.0	ER25-05	5.0-4.0
ER20-03	3.0-2.0	ER25-06	6.0-5.0
ER20-3.5	3.5-3.0	ER25-07	7.0-6.0
ER20-04	4.0-3.0	ER25-08	8.0-7.0
ER20-4.5	4.5-4.0	ER25-09	9.0-8.0
ER20-05	5.0-4.0	ER25-10	10-9.0
ER20-5.5	5.5-5.0	ER25-11	11-10
ER20-06	6.0-5.0	ER25-12	12-11
ER20-6.5	6.5-6.0	ER25-13	13-12
ER20-07	7.0-6.0	ER25-14	14-13
ER20-7.5	7.5-7.0	ER25-15	15-14
ER20-08	8.0-7.0	ER25-16	16-15
ER20-8.5	8.5-8.0		
ER20-09	9.0-8.0		
ER20-9.5	9.5-9.0		
ER20-10	10-9.0		
ER20-10.5	10.5-10		
ER20-11	11-10		
ER20-11.5	11.5-11		
ER20-12	12-11		
ER20-12.5	12.5-12		
ER20-13	13-12		



Collet For End Mill

SK10E (Unit : mm)				
Model No.	d	E	D	L
SK10E-03	3	15		
SK10E-3.175	3.175	15		
SK10E-04	4	20		
SK10E-05	5	20	15.6	31
SK10E-06	6	24		
SK10E-08	8	24		
SK10E-10	10	30.5		



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