

Compliance Matrix

Sl. No.	Specification		Supplier's Compliance	
			Complied (Y/N) [*]	Remarks
1.	SCOPE OF SUPPLY			
	1.1	Scope includes supply of universal single axis length measuring machine with necessary accessories and software		
	1.2	A pre-delivery inspection of the equipment at supplier's site will be carried out		
	1.3	The equipment has to be supplied and installed at our site with performance test and accuracy demonstration		
	1.4	An extensive training on basic operation, application software and basic maintenance has to be provided by the party during final commissioning of the equipment		
2	MEASUREMENT CAPABILITY			
	2.1	The equipment should be capable of high precision length measurement		
	2.2	The equipment shall have manual axis movements		
	2.3	The equipment shall have computer and customized software for axis display and data analysis		
	2.4	The equipment should have the capability for calibrating the following types of gauges and measuring instruments		
	2.4.1	Thread plug & ring gauges according to thread standard like ISO (metric), DIN, ANSI, ASME, BS, JIS etc.,		
	2.4.2	Plain plug and ring gauges		
	2.4.3	Setting rings		
	2.4.4	Snap gauges		
	2.4.5	Dial indicators		
	2.4.6	Slip gauges and Gauge blocks		
	2.4.7	Micrometers (inside/outside)		
	2.4.8	Taper and Taper thread gauges		
	2.5	The equipment should have on-line temperature sensors to compensate the errors due to temperature fluctuations on the machine, scales and jobs.		

3	MEASUREMENT CAPACITY OF THE EQUIPMENT			
	3.1	Maximum measurable length	0 - 600 mm (external)	
	3.2	X-axis, resolution	$\leq 0.01 \mu\text{m}$	
	3.3	Z-axis, resolution	$\leq 0.1 \mu\text{m}$	
	3.4	Maximum weight of the component to be measured	25 Kg	
	3.5	Minimum size of thread ring to be measured	M3	
4	ACCURACY (UNCERTAINTY) OF THE EQUIPMENT			
	4.1	Length measuring error (X-axis), MPE :		
		0 - 100 mm : 0.15 μm or better		
		100 - 200 mm : 0.2 μm or better		
200 - 400 mm : 0.3 μm or better				
4.2	Repeatability of the measurement : $\leq 0.05 \mu\text{m}$			
4.3	Party shall provide the necessary documents / calibration certificates for same / similar machine installations in India			
5	APPLICATION SOFTWARE			
	5.1	The software shall have the following features		
	5.1.1	Calibrating the various types of gauges and measuring instruments mentioned in 2.4		
	5.1.2	Inspection of precision parts like bearing races etc., using various software modules		
	5.2	Automatic generation of nominal values like major diameter, minor diameter, effective diameter etc., in the case of thread gauges and their tolerances after entering specification based on shaft or hole basis system		
	5.3	Temperature monitoring and compensation system using two or more temperature sensors		
	5.4	Computer aided data recording, processing, logging and transfer shall be available		
	5.5	All the software should be complied to international standard for its codes, functioning and computational accuracy		
	5.6	Gauge management and database shall be		

		available		
	5.7	Back-up copy of software in CD / DVD shall be given		
	ACCESSORIES			
6	6.1	Necessary accessories required for basic operation of the machine to be supplied along with the machine		
	6.2	All essential accessories required for the calibration of gauges mentioned in 2.4 to be quoted		
	6.3	All types of work holding and clamping accessories to be quoted		
	6.4	Calibration certificate of accessories and reference standards to be supplied		
	6.5	All necessary accessories and probes for inspection of precision parts like bearing race to be quoted		
	6.6	Other accessories like table support, adjustable centre support, tilting table, floating table, work holding clamps etc., to be quoted		
	COMPUTER SYSTEM			
7	7.1	Operating system shall be latest Windows based in English language		
	7.2	PC with latest configuration and multimedia capability with 24" TFT Monitor		
	7.3	High speed colour printer shall be supplied for report generation purpose		
	WARRANTY			
8	8.1	Comprehensive warranty for machine, technical support, spares, service and calibration should be provided for minimum of 3 years, after installation and commissioning, for defect free operation and specified accuracies. Any defect observed during warranty period shall have to be repaired / replaced at free of cost.		
	8.2	All the software updates during the warranty period shall be supplied and installed on real time basis at free of cost.		
	8.3	Preventive and calibration visit to be done in every end of year during warranty period		

	8.4	Service support must be available at our site (IISU)			
	8.5	The non comprehensive AMC offer with price list of major spare parts for another 3 years to be provided			
	PRE-DELIVERY INSPECTION & TRAINING AT SUPPLIER'S SITE				
9	9.1	Pre-delivery inspection prior to dispatch, performance test and accuracy demonstration of the machine shall be carried out in presence of our persons			
	9.2	The methodology of performance test and accuracy demonstration shall be submitted along with the quotation			
	9.3	The calibration certificates of the machine, accessories and reference standards shall be made available to us during pre-delivery inspection			
	9.4	Training shall be given to our persons for the following			
		9.4.1	Operation of the machine and usage of software in all aspect of measurement and data analysis		
		9.4.2	Maintenance and trouble shooting		
		INSTALLATION, TRAINING AND COMMISSIONING			
10	10.1	The basic operation of the machine			
	10.2	All types of single axis measurement			
	10.3	Calibration of the measuring instruments and gauges using the application software Basic maintenance of the machine			
	10.4	Party shall carry all necessary accessories and tools for installation and demonstration			
	DOCUMENTATION				
11	11.1	All the data and results of testing and calibration of the machine at supplier's site ad well as at our site shall be properly documented and supplied to us with complete traceability to international standards			
	11.2	User manual in English language should be provided.			
	INPUTS PROVIDED BY THE CUSTOMER (IISU)				
12	12.1	Class 1,00,000 clean area is maintained with 20° ± 1° C, 50 - 55% RH			

	12.2	Uninterrupted power supply, 220V ± 10V, 50Hz		
	12.3	Clean and dry compressed air		
	OTHER CONDITIONS AND REQUIREMENTS			
13	13.1	The details of bought out items used in the machine (make and specification) should be furnished. It should be ensured that spare parts for the bought out items are readily available through the supplier / authorised service agency		
	13.2	Availability of spare parts shall be ensured at least for the next 10 years and spare parts offer to be provided for trouble free operation of machine for a period of minimum 5 years.		
	13.3	Overall space requirement for installation and operation of machine, computer, printer etc., should be given		
	13.4	Party has give the annual maintenance contract offer for a minimum period of 3 years after warranty		
	13.5	Any other requirements for the machine installation and operation shall be mentioned in the offer		
	13.6	Proper packaging and safe transportation of the machine shall be ensured		
	13.7	Party shall submit filled compliance matrix, (provided with the tender) along with their offer		
	13.8	Quotation must be from original precision metrology equipments manufacturers and machine offered must be from standard catalogued product.		
	13.9	Party shall submit their offer in two parts - Technical and Commercial		

** (Supplier shall provide reference number against each as per the Quotation / Catalogue / Data Sheet)*