

PRA.MA.

STRUMENTI SCIENTIFICI

Via C.Pisacane, 1
23035 SONDALO (SO)

Sondalo, 08/06/2020

Offerta N° 608/2020

Spett.le: Politecnico di Milano
Piazza Leonardo da Vinci,32
20133 MILANO

SIAMO LIETI DI OFFRIRVI QUANTO SEGUE:

SISTEMA AFM modello NTEGRA SPECTRA SOLAR della ditta NT-MDT

Measuring modes:

SPM TECHNIQUES: in air/Liquid: **STM**, CONTACT AFM: Constant Height Mode/ Constant Force Mode/ Lateral Force Microscop **AMPLITUDE MODULATION AFM:** Intermittent contact regime/ Phase imaging

WIDEFIELD MICROSCOPY: Raman imaging SIMULTANEOUSLY WITH AFM

CONFOCAL MICROSCOPY (supported by OMUxx confocal Raman module): Confocal laser (Rayleigh) microscopy/ Confocal Raman microscopy and spectroscopy/ Confocal fluorescence microscopy and spectroscopy;

SCANNING OPTIONS: XYZ-scanning by sample (closed-loop)

NN	Code	Descrizione	PREZZO	Q.tà	SOMMA
		Approach systems			
1	SCB14aNTF	Universal base unit: 0,001 torr vacuum compatibility (required parts: AD014NTF, VCC13NTF, SCC04NTF and 2 days on-site work in case of purchased separately from SCB14aNTF); Note: Specified vacuum level is guaranteed ONLY IF this unit is assembled with all vacuum components at the factory. Stepper motor and transfer mechanism for automatic approach system; Air/gas inlet/outlet;` Connectors: Scanner and head, bias voltage, heating stage, AFAM, second stepper motor; Flange for vacuum pump; Built-in electronics; Stand for video microscopes; Compatible with exchangeable mounts SCCxxNTF and in-plane magnetic field generator EMF06NTF.	20.896	1	20.896
2	SCC04NTF	Vacuum exchangeable mount for SPM heads: Stage with manual XY positioner (range – 5x5 mm, resolution – 5 um) Adjustable auxiliary mirror for viewing systems based on CCD04o or CCD05o.	12.972	1	12.972
		Electronics			

3	BL422NNTF	<p>SPM controller for NTEGRA systems in Ratiopac Pro case with integrated signal access module. AFM board with DSP, HV board (outputs X,Y,Z \pm 150 V), controller self-diagnostic board.</p> <p>Power input 90-240V, 50Hz/60Hz.</p> <p>Compatible with whole range of Ntegra family products (may require optional components) including:</p> <ul style="list-style-type: none"> - Additional piezo scanners and stages with controllers - Thermocontroller board - 4 lock-in amplifiers and PLL - Nanoindentation - Galvano - mirror scanners - External PMT and CCD synchronization for SNOM and Raman applications - External HV power supply for PFM measurements - Compatible with Hybrid mode 3.0 (HD 3.0) 	42.830	1	42.830
Optical systems					
4	CCBC4	Ultra-compact, progressive scan, XGA, USB camera with a 1/3" color CCD	680	1	680
5	CCD307NTF	Video microscope with LED bright field illumination system. 80x80 μ m (approx.) field of view (with 100x objective). Spectral range 400-1100 nm. For SNAxxxx and SNAxxOBJ. Works ONLY with CCBC03.	5.946	1	5.946
6	SIO03	Light input/output system. Lite version, with a single flip-mirror. Spectral range: 400-650 nm. Kinematically mounted on SNAxxxx Optical AFM Heads. Includes holder and micropositioner for optical fiber delivering laser light to SNAxxxx. Used to focus laser spot on the sample and to position it manually under cantilever.	8.976	1	8.976
7	SNA2830L	Optical AFM head with top illumination and signal collection with liquid AFM module for optical AFM heads of SNAxxx series. Allows SNA-heads to work in liquid. Spectral range 400 - 800 nm. Includes: exchangeable AFM laser module (830 nm AFM laser), liquid cell, liquid immersion objective (60x, 1.0 NA), special holder to position AFM cantilever directly under the 60x objective, set of 10 cantilever mounts	29.851	1	29.851
8	ST017SNA_L/M	STM unit for SNA2830 heads for operations in water. With manual XY micro-positioning system for STM tip.	4.328	1	4.328
Measuring heads and scanners					
9	SC100NTF	Exchangeable scanner with capacitive sensors: XYZ \geq 90x90x9 μ m.	6.542	1	6.542
Electrochemical cell					
10	MP4EC/M	AFM electrochemical cell to fit Agilent AFM microscope and NT-MDT AFM-Raman system.	Included	1	Included
Raman parts					

11	OMU34/M	<p>SPECTRAL Optical-Mechanical Unit (OMU), COMPLETE Includes Andor CCD (iDUS), Peltier cooled, Ultra low noise, QE up to 95 % Configuration for $\lambda_1=473\text{nm}$, $\lambda_2=532\text{nm}$, $\lambda_3=405\text{nm}$ Excitation channel:</p> <ul style="list-style-type: none"> - High reflection interference optics - Triple input port: 3 single mode fiber holders, 3 motorized shutters, 3 laser line filter holders - Motorized VND (variable neutral density) filter OD=3. - Polarizer (manual): Glan-Taylor prism - Wavelength adjustable motorized beam expander with 2 drivers -3-positioning motorized beam splitter with 6 Edge filter holders. Filters are NOT included. -3-positioning motorized unit with 3 wave plates $\lambda/2$ (473, 532, 405 nm) <p>Detection channel, range: 450-1050 nm:</p> <ul style="list-style-type: none"> - Reflection unit with PMT: for fast confocal laser imaging (2D and 3D maps of scattered laser intensity) - Motorized polarizer: Glan-Taylor prism - Motorized band pass filter unit (6 positions) with 6 holders for 25 mm filters - Motorized XYZ objective lens focusing to pinhole - Motorized double crossed monochromator entrance slit (pinhole) <p>Monochromator-Spectrograph:</p> <ul style="list-style-type: none"> - Housing with imaging high reflection optics, range 450-1050 nm - Gratings with Al coatings (on a motorized turret) 150 l/mm, 600 l/mm, 1800 l/mm, Echelle (for ultrahigh spectral resolution) <p>Note: other gratings are available upon special request</p> <ul style="list-style-type: none"> - Exit port #1: Adapter for CCD detector <p>Optical coupling to Olympus microscope</p>	81.738	1	81.738
12	FEL00532S1	<p>532 nm RazorEdge® ultrasteep long-pass edge filter RE grade - LP03-532RE-25 Laser Wavelength = 532 nm, 60 cm⁻¹ transition, Tavg > 93% 535.4 – 1200 nm</p>	1.445	2	2.890
13	FEL00473S1	<p>473 nm RazorEdge® ultrasteep long-pass edge filter LP02-473RE-25</p>	1.435	2	2.870
14	LM532	Diode laser 532 nm, 50 mW	8.000	1	8.000
15	LM473	50mW TEM ₀₀ at 473 nm, high performance CW, single longitudinal mode, ultra low noise DPSS laser	11.230	1	11.230
16	LAR405_40_MB	<p>Single-frequency (SLM) 405 nm laser (VBG diode) Wavelength: 405 nm (+/-0.1 nm) Spectral line width FWHM: 0.1 pm Output power: 40 mW Polarization direction: Horizontal (2000:1)</p>	5.144	1	5.144

17	FEL00405S1	405 nm RazorEdge® ultrasteep long-pass edge filter Part Number: LP02-405RU-25 Filter with 50% edge at 418 nm Transition Width (cm-1) 240 cm-1 50% Edge steepness: 122.2 cm-1 Tavg > 93% 410.3 – 913.5 nm	1.030	2	2.060
18	PoL14N01-NR	Laser Input port (motorized unit) for 4 lasers (with 4 shutters) For spatial alignment of the four laser beams and introduce laser radiation into the OMU	5.927	1	5.927
Software					
19	SWD22	Workstation (tower case) Intel Core i5, RAM 8000MB, HDD 1000GB, DVD-RW, Keyboard & mouse, ATX, OS Windows. REMARK: Due to the dynamic nature of the computer industry, specifications are subject to change without notice. 2 Monitors 21" included. Nova software is included	3.433	1	3.433
Toolkits					
20	WT011NTF	Standard toolkit for NTEGRA.	350	1	350
Accessories					
21	VIT_P/25	25 top visual non-contact AFM probes. For precise positioning of the tip over the point of interest and for direct real-time observation of sample scanning and modification (nanomanipulation) processes. For precise positioning of a tightly focused laser spot at the tip end - for investigations of optical effects between tip and sample (TERS, TEFS, s-SNOM etc.).	668	1	668
Bipotentiostat					
22	BP002NTF	Bipotentiostat Output compliance voltage: - +/-15 V; Current ranges +/-50 uA, +/-500 uA, +/-5 mA or +/-50 mA. Accessory kit includes set of cables, preamplifier, control software.	5.970	1	5.970
Mechanical characterization					
23	BL_HD03	Hybrid mode. Fast Quantitative Nanomechanical Measurements and Force Volume. Imaging and spectroscopy mode based on tip-sample distance modulation. High speed processing of force-curves provides with a wealth of data within a single experiment cycle, eliminates lateral forces, and enables high stability for long-term experiments. Measured properties: <ul style="list-style-type: none"> • Topography in Attraction and Repulsive Regimes • Young's Modulus and Force Volume • Adhesion and Work of Adhesion • Conductivity • In-Plane and Out-of-Plane Piezoresponse Includes controller upgrade for high speed force-curves processing. Allows operation in Hybrid Mode (HD-AFM). Compatible with devices of Ntegra family: Prima, MFM,	20.500	1	20.500

		SNOM, Spectra. Configurations with AFM flexure Z axis (Spectra) requires CE008 adapter.			
		Raman Microscope			
24	CaV00U01-Lum	High-resolution color CCD for Nikon Ni microscope (For Full configuration of Ni microscope) 1/1,8", 2048 x 1536 pixels, 12 bit	1.486	1	1.486
25	Mpe02U01-NIK	Upright microscope Nikon Eclipse Ni-U for reflected bright field microscopy, LED illuminator (Without eyepiece and EPI-FL attachment). 6-pos. (sextuple) objective turret	8.761	1	8.761
26	ObM100-D-0.95-0.3-0-PD45-NIK	100x VIS-NIR EPI Plan micro-objective lens (NA=0.95, WD=0,3mm)	2.269	1	2.269
27	ObM20-D-0.45-0.66-0_2-PD45-OLY	VIS-NIR micro-objective lens 20x, NA=0,45, WD: 6.6 - 7.8 mm, CGT: 0 - 2 mm	1.315	1	1.315
28	ObM40-D-0.75-0.63-0-PD45-OLY	VIS-NIR micro-objective lens 40x, NA=0,75 WD=0.63, CG0mm, dry	1.542	1	1.542
29	StA01U_XY	Motorized stage (XY) for upright microscope Nikon Ni Travel range: 114x75 mm, step size: 0.1 um Uni-Directional Repeatabilit: +/- 0.7 um Scan speed: up to 40 mm/s Max. load: 5 kg	9.076	1	9.076
30	UMC01UA11-NR	Unit for Nikon Ni conjunction (upright, with motorized 3-positioning coupler)	3.462	1	3.462
31	LM633	Helium-Neon Laser 633 nm, 21 mW	3.900	1	3.900
32	FEL00633S1	632 nm RazorEdge® ultrasteep long-pass edge filter LP02-633RE-25 Laser Wavelength = 632.8 nm, 79cm-1 transition, Tavg > 93% 636.9 – 1427.4 nm	1.435	2	2.870
33	SPH_FA01M	Optical AFM head optimized for top/side/bottom illumination. Probe registration system (laser, AFM tip holder, photodiode). Optical access from top for Mitutoyo objectives (WD>6mm) or condenser (NA<0.3), optical access from side for Mitutoyo objectives (WD>6 mm), optical access from bottom for Olympus/Nikon objectives (including immersion objectives). Compatible with NTegra, Spectra Light bases; input/output light systems SIOtop01, SIOside01; base platform SCC04NTF. Includes removable AFM unit for cantilever probe. Require registration system SpHregxxx which includes removable laser module (670, 830 or 1300 nm) and photodiode module (Silicon, InGaAs).	32.370	1	32.370
			Exworks		350.852
			Discount	36,7%	128.852
			SubTotal		222.000

		Sostituzione CCD			
34	AND02	EMCCD camera (Andor: Newton series) replacing IDus CCD camera in OMU-series optical-mechanical unit. For ultrafast and ultrasensitive Raman measurements. Price is given for camera replacement: EMCCD Newton camera is installed INSTEAD of IDus camera	13.213	1	13.213
		Auxiliary			
35	OT014	Optical Table, 1.2 m x 2 m x 200 mm, with 700 mm Tall Active Isolator Legs, air compressor.	5.500	1	5.500
36	INSTD5_E	Customer training or performance/acceptance measurements at customer's location. Includes engineer travelling expenses to customer site. Total 5 working days. Europe, Asia, the Middle East, Siberia and the Far East (Russia).	2.500	1	2.500
37	FI_E_150kg	UPS Freight and Insurance (weight ~ 150 kg). Countries: USA, Canada, Mexico and European.	2.547	1	2.547

PREZZO IVA ESCLUSA

EURO 245.760

CONDIZIONI DI VENDITA:

VALIDITA' OFFERTA: 30 gg.

RESA: f.co V.s laboratorio

CONSEGNA: 10-12 settimane da ricevimento ordine

INSTALLAZIONE e TRAINING: INCLUSO Presso Vs. sede (minimo 4 gg suddiviso su almeno 2 visite)

IVA: esclusa