



TesT GmbH · Helena-Rubinstein-Straße 4 · D 40699 Erkrath

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IRAN

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Customer No.			
-31239			
Your Reference			
bolt testing M3 ... M24			
Supplier No.		Project	
Delivery address			
Sanaye Maftooli Sepand Pitch Yazd Alloy Steel Road YAZD IRAN			
Delivery schedule			
to agree, after order confirmation and technical clarification			

Your contact details

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Description	Project	Quantity	UoM
1 205.4b.2000Nm Screws and bolts friction testing machine Measuring range: 2000 Nm Rotation speed: 0... 30 rpm Angle encoder, resolution: 0,1° Power electronic and control board built-in table Power supply 400V 3 ph Work table with sliding carriage Movable safety cage made of Macrolon®		1.00	pc.
2 850.2M TesTController 850 USB Intelligent measurement and control electronic - 32-bit RISC architecture - 2 Control circuits > 1 kHz - Automatic sensor detection, TEDS standard - USB 2.0 connection Required extensions: - up to 6 x 24 bit A/D converter for strain gauge - sensors, sampling rate:> 50 kHz - up to 6 x 10 bit A/D converter for processing signals such as additional external switching signals, temperature, etc., sampling rate:> 50 kHz - up to 3 x incremental input for path / angle measurement Optional extensions: - P850.I/O interface for communication with other systems, eg PLC control of a handling		1.00	pc. included

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Description	Project	Quantity	UoM	
machine - P850.HAND Manual operating unit				
3 850.SLAVE TesTController 850 USB Slave Plug-in module for TesTController 850 USB 2 x 24 bit A / D converter for strain gauge - sensors, sampling rate:> 50 kHz 2 x 10-bit A / D converter for processing signals such as additional external switching signals, temperature, etc., sampling rate:> 50 kHz 1 x incremental input for path / angle measurement		2.00	pc.	included
4 950 TesTWinner® 950 Software Control and analysis software for testing machines on Windows® operating systems The license for the software TesTWinner® 950 is a registration within 90 days in advance of delivery. In time occurs earlier the software displays a message. After registration and contract fulfillment a permanently valid registration number (code) will be sent. Features: - Toolbox for programming of test sequences - Toolbox for programming of calculations - Configurable real-time graph with more axes overlay, scaling and evaluation manually. - User-defined report format (protocols) with integration of image files (logos). - Order- and lot-bound storage or export of experiments, calculation results and raw data. - Integrated user rights management - Continually automatable - Network-compatible - Multilanguage - Machine-locked license, multi-workplace Options: - Integration of external measurement, control and handling devices via serial interface and relay card - Statistical process control (SPC) - Database connection, bidirectional		1.00	lic.	included
5 950.µ TesTWinner® friction coefficient testing TesTWinner configuration for friction coefficient testing - 1 template according to ISO 16047 - 1 template according to ISO 14399 - 1 template according to PSA/Renault Alternative configurations: - Up to 3 templates according to international standards - Up to 3 templates according to customer specifications. In this case, with order a written specification is to be transmitted. The free editability of test sequences by the customer remains.		1.00	rate	included
6 201.4b.500/2000 3-components transducer Measurement range: M14...M24 (12.9) with 3 full bridges of strain gauges to measure - clamp force F : 0...500 kN - tightening torque T : 0...2000 Nm - bearing surfacefriction torque T_b : 0...2000 Nm - accuracy: 0.5% of indicated value between 10...100 % f.s. The transducer's concept guarantees a high accuracy, which relies on independent measurement-channels with mechanically de-coupled strain gauges.		1.00	pc.	included

Description	Project	Quantity UoM
<p>7 201.3a.100/250 3-components transducer Measurement range: M8...M12 (12.9) with 3 full bridges of strain gauges to measure - Clamp force F : 0...100 kN - Tightening torque T : 0...250 Nm - Bearing surface friction torque T_b : 0...250 Nm</p> <p>- accuracy: 0.5% of indicated value between 10...100 % f.s. The transducer's concept guarantees a high accuracy, which relies on independent measurement-channels with mechanically de-coupled strain gauges.</p>		1.00 pc.
<p>8 201.1.25/30 3-components transducer Measurement range: M3...M6 (12.9) with 3 full bridges of strain gauges to measure - Clamp force F : 0...25 kN - Tightening torque T : 0...30 Nm - Bearing surface friction torque T_b : 0...30 Nm</p> <p>- accuracy: 0.5% of indicated value between 10...100 % f.s. The transducer's concept guarantees a high accuracy, which relies on independent measurement-channels with mechanically de-coupled strain gauges.</p>		1.00 pc.
<p>9 VP200.2000Nm Packaging for model 205/210 Packaging of machine and accessories in wooden case(s) for landtransport and airfreight.</p>		1.00 pc.
<p>10 251.4.C Tools for transducer size 4 Basic toolset for biggest bolt dimension Wrench size is to be fix. high-strength steel (>1000 MPa), polished composed of 1 clamping sleeve (tube, square bar, square bar support, friction disc, thread insert) 4 spacers (shims) 2 impact sockets</p>		1.00 set
<p>11 251.4.C.ERW OPT <i>Tools for add. dimensions size 4</i> composed of 1 thread insert (bottom of tube) 1 friction disc 4 spacers (shims) 2 impact sockets</p>		1.00 set
<p>12 251.3.C Tool for transducer 201/202/203 size 3 Basic toolset for biggest bolt dimension Wrench size is to be fix. high-strength steel (>1000 MPa), polished composed of 1 clamping sleeve (tube, square bar, square bar support, friction disc, thread insert), 4 spacers (shims), 2 impact sockets</p>		1.00 set



Description	Project	Quantity	UoM
13 251.3.C.ERW OPT <i>Tools for add. dimensions size 3</i> composed of 1 thread insert (bottom of tube), 1 friction disc, 4 spacers (shims), 2 impact sockets		1.00	set
14 251.1.C Tools for transducer size 1 Basic toolset for biggest bolt dimension Wrench size is to be fix. high-strength steel (>1000 MPa), polished composed of 1 clamping sleeve (tube, square bar, square bar support, friction disc, thread insert), 4 spacers (shims), 2 impact sockets		1.00	set
15 251.1.C.ERW OPT <i>Tools for add. dimensions size 1</i> composed of 1 thread insert (bottom of tube), 1 friction disc, 4 spacers (shims), 2 impact sockets		1.00	set
16 251.Z Technical sketches for the fabrication of additional inserts at customer's site. Free drawings are part of delivery by an order of one tool at least.		1.00	set included
17 VP Packaging Tools		1.00	rate
Subtotal			
18 PC.22.GB Personal Computer on the current state of the art. Example configuration: - ESPRIMO P556-2 Ci6-7400/Tower/ Intel Chip set, Intel HD Graphics 630/ Chipset Intel 1x8GB RAM DDR4-2400/ 256GB SSD SATA III/ DVD-SuperMulti/ - Recovery DVD Windows 10 Pro 64bit - Keyboard GB "QWERTY" + wheel mouse - Monitor 22" - installation and configuration operating system - installation and configuration TesTWinner		1.00	pc.
19 VP200.2000Nm Packaging for model 205/210 Packaging of machine and accessories in wooden case(s) for landtransport and airfreight.		1.00	pc.
20 S1.I Commissioning at Erkrath - Installation - Configuration of the electronic - Complete check of functionality - Commissioning - Calibration Check acc. to standard - Training of the operators - Handover and explication of test programs - Acceptance certificate		1.00	rate

We invite the operator to be present, otherwise it is necessary that our service engineer makes commissioning at customer site. Without commissioning at customer site, the place of warranty is Erkrath/Germany.

The customer has to deliver screws and own produced tools for pre-acceptance at TesT Erkrath/Düsseldorf to test functions and different sizes of inserts.