# FALCON500

Micro Hardness Tester | Vickers, Knoop, Brinell

MANUAL / SEMI - FULLY AUTOMATED





# FALCON 500

# **Unparalleled configuration freedom...**

The FALCON 500 offers a leading technology base for manual, automatic or fully automated testing of Micro and Macro Vickers, Knoop or Brinell assignments.

With a wide choices of test force configurations, answering any possible imagination, the FALCON 500 can be completed with fully integrated hardware options to assure a match with the particular testing tasks of your industry. Coming from a leading edge of mechanical design, the load cell, closed loop system of the base unit can be completed with manual or digital micrometers or for more testing comfort, with motorized CNC stages.

The unique motorized ball bearing Z-axis provides accurate height movement and high speed autofocus. The user interface, provides manual & automatic measurement and a wide selection of standard and optional testing applications, supporting a high resolution (HD) camera and a second (optional) full work stage overview camera.





### A FORCE RANGE THAT SETS NEW STANDARDS!

1gf	3gf	2kgf		FALCON 501	62.5kgf
1gf	10g	ıf 10kgf		FALCON 503	62.5kgf
1gf		200gf	31.25kgf	FALCON 505	62.5kgf
1gf	10g	f	31.25kgf	FALCON 507	62.5kgf
1gf			31.25kgf	FALCON 508	62.5kgf
1gf		200gf		FALCON 509	62.5kgf
1gf	10gf	:		FALCON 510	62.5kgf
1gf				FALCON 511	62.5kgf

# HIGHLIGHTS

- Multi Load Cell, Closed Loop force application system, error <0,25%
- 6 position turret, 2 indenter positions (optional), 3 LWD objectives installed (included)
- 3 Turret collision detection and workpiece retraction safety system
- 5 Megapixels, Full HD+, integrated TTL camera system
- 6 HD full color stage overview camera with optical zoom system
- 6 TTL power LED with color filter, Dual bank power LED stage illumination
- **7** Z-axis with ball bearing spindle (standard)
- 8 Integrated system controller, i7 processor, mSSD Raid system storage
- 9 Industrial 15" touch screen, option for second screen 15" to 55" or projector
- Top-class replaceable body parts, shock proof ABS covers



Rigidity and perpendicular indenter positioning are crucial to obtain Vickers indents with a perfect geometry. Re-invented, adjustable indenter actuators provide maintenance free, smooth force application, easy to access and easy to replace indenters. Standard integrated XY-stage overview camera with optical zoom reduces application set up time dramatically.

# **TECHNOLOGY**

# Changing the game...

## **1** 6 POSITION PRECISION TURRET & OPTICAL SYSTEM

The 6 position turret is supplied as a standard feature on all 500 models and allows to install indenters for Vickers, Knoop and Brinell (balls 1mm 2.5mm & 5mm) testing. Factory installed, the FALCON 500 has four objectives. Depending on the configuration, choose from 2.5X, 5X, 10X, 20X, 50X, 100X that, in combination with the HD camera, with digital zoom, provide crisp images.

# 2 STAGE OVERVIEW CAMERA (OPTIONAL)

Create magnified sample overview with the standard on-board, autofocus, optical & digital zoom overview camera. The field of view of this sophisticated full color camera system does not limit you to one field of view, but gives a ZOOM range of 45 x 35mm up to 155 x 125mm without the need to use time consuming scan and stitch functions.

Once the viewing area needs to be larger than the zoom range, scanning and stitching can be selected to create full stage overview. Click and go is one of the standard testing features of the overview camera. Just click randomly on designated area's and push "start". All tests run automatically. The pattern video overlay function eases positioning of multiple test rows or patterns across the specimen. The pattern video overlay scales automatically with every magnification, stepless, while the zoom camera decreases or enlarges the overview.

### 3 DYNAMIC Z-AXIS CONTROL & COLLISION DETECTION

A high end ball bearing Z-axis spindle is one of the very unique functions. Z-axis displacement at an accuracy of micron's supports ultra-fast auto focus. Z-axis controls are nearly limitless; CNC as a result from a test program, by touch screen indicators, by the scroll wheel of the mouse, by fast up and down buttons or from a scroll wheel on the front of the machine. Speed control related to your own movement; (0.01 up to 20 mm/s). To avoid any collision between the work piece and the turret, the Z-axis is controlled by a flawless collision detection and Z-axis retraction system. So neither the tester nor the workpiece are exposed to any damage.

# 4 HIGH SPEED CNC MOTORIZED XY-STAGE (OPTIONAL)

Save time and improve efficiency with one of the high speed, highly accurate motorized XY-stages. Available in variable sizes from standard, to large and extra-large. Enable automated sequencing of multiple samples. The ultra-high accuracy and repeatability guarantee precise positioning of indents and allow re-evaluation of any measurement points in batch or single view. Repeatability within 3 micron.



### **5** 15" HD TOUCH SCREEN OPERATOR INTERFACE

All machine control and process workflow can easily be operated from the 15" industrial capacitive touch screen. At choice a second 15" or larger screen can be connected.

### 6 SHOCK RESISTANT ABS MACHINE COVERS

The tester is fitted with a high-end external shell structure. The shock proof and damage resistant ABS machine covers can withstand the harshest environment.

# Science fiction?... No, just reality ahead of schedule

The Graphical User interface (GUI), contains industry preferred applications, and offers easy to learn, advanced workflow control. A simple test can be set up and conducted in about 3 seconds... IMPRESSIONS™ layout & functions will match not only your particular application requirements, but also meet the needs and preferences of your operators. A user level management system maximizes their comfort and efficiency.

The unique in the industry, 15" portrait mode, capacitive touch screen, gives room to all possible applications. Dual screen: For demanding users, a second vertical 15" or 24" landscape screen can be connected. For educational purposes, schools, universities, a full HD projector can be connected to the HDMI supported outlet. With this many options in Hardware and Software configuration, yearly updates and on demand upgrades, IMPRESSIONS<sup>TM</sup> is truly the leading software in the industry.

# FEATURED BY IMPRESSIONS v2

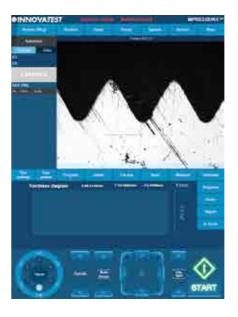
**ADVANCED SOFTWARE APPLICATIONS** 

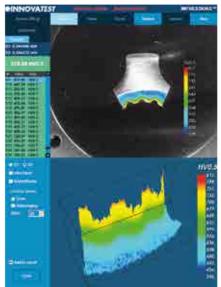












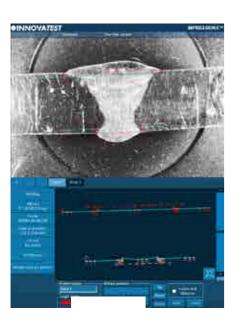


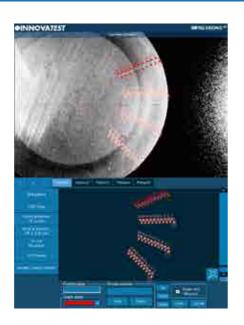
# 1 VIDEO OVERLAY GRAPHIC PATTERN EDITOR

The IMPRESSIONS™ pattern editor allows the user to create any number of test patterns with a large number of variable settings. Create test patterns with great precision and freedom. Verify the settings in the preview mode. Drag & drop patterns from one test sample to another sample. Live vision technique over zoom overview camera, no image stitching required. Combine different patterns and even different test forces in one program, and run them fully automatically. All test points can be identified individually or to customer specifications. The label is shown in the test result list and in the test results overview and print out. An important function for later sample analyses.

# 2 CHD, SHD, NHD

For the performance of test series for CHD/SHD/NHD data of specimens according to standard. The test can be started directly from the surface view or from the overview. Additional core points of hardness can be defined separately for NHD measurements. The distances of test points are automatically set to a minimum distance, following the standard, to assure correct testing is conducted. Time saving test mode "complete all indentations – then evaluate" and "auto-stop" to complete test series as soon as the lower hardness limit has been reached.

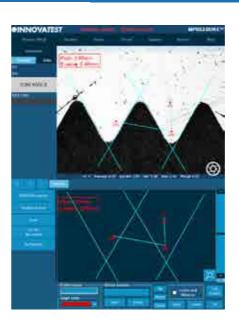




# 3 WELD INSPECTION (ISO 9015)

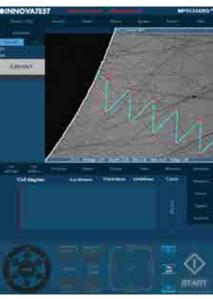
This especially developed tool enables you to conduct hardness testing on welded parts or segments according to ISO standard. Setting up the pattern according to the requirements becomes "easy-to-do", due to pre-set test points in the different zones of the weld and automatic correlation between test points. The system will run a fully automatic test procedure and display and record the results accordingly.

# Easy to operate, time reducing solutions...



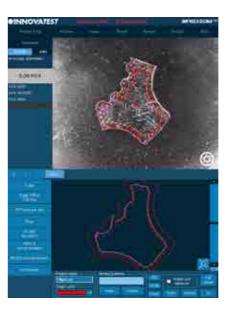
# 4 HARDNESS OF SCREW THREAD DECARBONIZED ZONE (ISO-898-1)

A specialized software tool of IMPRESSIONS™ allows you to set up and conduct fully automatic testing as per ISO 898-1 for screw thread measurement of (de)-carbonized part.



# 5 AUTOMATIC EDGE DETECTION

Technology that automatically or at a mouse click recognizes the edge of your sample. This helps to determine and fix the desired starting position for CHD or other pattern testing jobs.



# 6 AUTOMATIC CONTOUR SCANNING

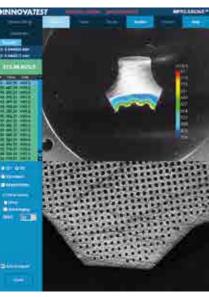
This application scans the entire outline (or partial) area of a sample. The function can be used with an objective or, ultra fast, by using the overview zoom camera. The system scans the entire outline defined and stores all relevant data in the test program. Subsequently, a chosen number of test points can be programmed into the particular program, or be conducted at selected distances, relative to the edge. This advanced feature enables the hardness testing procedure to be performed completely automatic. An excellent feature to combine with 2D or 3D hardness mapping, also known as "plane hardness chart".

# Yes, we can...



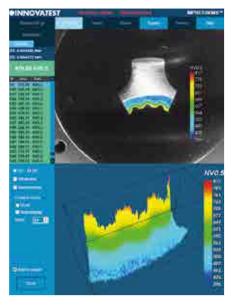
### Kic CRACK MEASUREMENT

For those requiring more in depth knowledge on materials behavior, and wish to study on fracture and fatigue, crack growth can be predicted (and measured) by using the Kic application. The software supports Kic crack detection under load. At choice, one of both methods, Palmqvist or Median / Radial fracture toughness can be selected.



# **2D HARDNESS CHART**

The optional application "Plane hardness chart", also referred to as Color Mapping is the perfect tool for securing the detail of the hardness distribution over the total cross section, especially of heat treated samples. An important feature in material exploration, weld testing or in damage analysis.



# **9** 3D HARDNESS CHART

Besides the option to display a 2D graphic diagram, the system can generate a 3D visual. 2D and 3D hardness chart are one application.



# 10 SNAPSHOT FUNCTION

This handy function in IMPRESSIONS™ allows you to make screen captures of the viewing area. It gives the opportunity to store such images with comments or to paste them into the report generator for further processing.



### **11** USER DEFINED PROGRAMS

For repeating jobs, IMPRESSIONS™ utilizes the option of setting up and storing custom test programs. For each task, a "job" can be created. All application specific parameters, like hardness scale, force, dwell-time, pattern, conversion and the report template are stored in the same program.



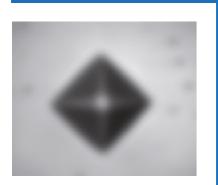
# REPORT GENERATOR

The report generator offers to design customized testing reports, including your company's details and logo and include testing results, graphics and pictures of indentations in an easy to edit environment. The file can be printed straight to a connected laser printer for further distribution. Alternatively the file can be exported as a CSV file, to be used in MS Office applications or 3rd party quality assurance software.



# **AUTOMATIC IMAGE**

# EVALUATION

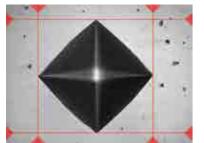




# 1 AUTO FOCUS

Fast & precise, observe how IMPRESSIONS™ finds focus from a large distance, as far as the travel of the Z-axis allows. Algorithms used for close distance autofocusing set new standards in AF speed.





# **2** AUTOMATIC MEASUREMENT

Manual positioning of filar lines is no longer required. IMPRESSIONS™ refined measurement algorithms detect indents even on very poor or scratched surfaces and measure the relevant indent dimensions according to standards. Stay in control by switching to manual measure mode and have the option of adjusting measurements by touching the screen or using the mouse. Filar lines can be colored to give the best contrast against the specimen's surface. To assure that measurements meet relevant standards on symmetry, enable the automatic indent check. All hardness values can be converted to other scales according to ISO 18265, ISO 50150, ASTM E140.

**Evaluate whatever you want, -**because what gets measured, gets produced...

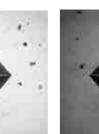


# **3 ILLUMINATION SETTINGS**

IMPRESSIONS™ software automatic illumination system adapts to the correct illumination regardless of the sample surface quality, wherever on the sample, independent from material (steel, carbide, coated or ceramic). Contrast, Brightness and program, can be set automatically for each measurement or controlled manually. Sharpness can be stored with the pre-determined test















Irregular surface

Regular surface

Poor surface



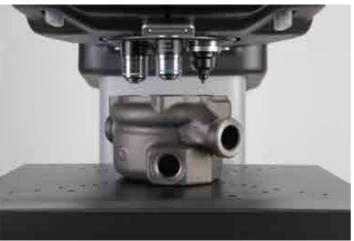
# **REFINED IMAGE DETECTION**

Complex, refined algorithms ensure reproducible measurements on different materials and even on scratched and damaged surfaces.

# **LIMITLESS** POSSIBILITIES

The FALCON 500 is designed in such a way for the large selection of fixtures and specimen holders to be used on the CNC XY-stage. The frame size allows a large workspace accomodation. Regardless of the shape of a particular workpiece, the accessories list and corresponding software applications enable to test almost any component and part.





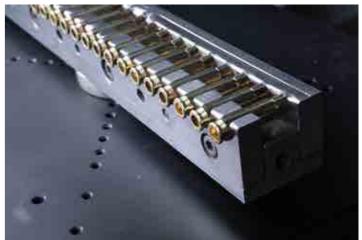


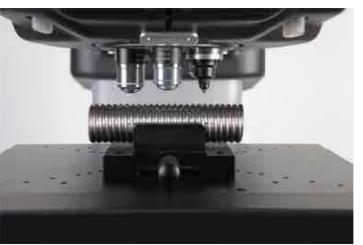
# AMMUNITION TESTING PATTERN CONFIGURATOR & REPORTING

This application is developed in close cooperation with special manufacturers of ammunition shells and casings. It allows single and multiple shell/casing testing according to the requirements in the industry. The fully automatic test procedure generates a detailed report, providing single readings and statistics with Go/No indication. This further includes sophisticated settings for remeasurement.

For particular details please contact our sales department.











# **SUPPORT** YOUR **BEST TESTING RESULTS**

With our rigid designed Bench stands

Rock solid bench stands

100% retractable drawer, bearing guidance, max 100kg load. Rubber anti slip bottom

Lockable cabinet, 300mm high

Adjustable feet, (+/- 50mm height adjustable to reach ergonomic working position)

Made of corrosion resistant zinc plated steel with RAL powder coating

Carrying capacity of 400kg

Top surface made of 50mm Plywood with 1.5mm chemical resistant plastic plating, edges made of shock resistant 3mm ABS side liner

Industrial quality, for workshop or laboratory

Designed for hardness testing instruments, painted in INNOVATEST® RAL colors matching our testers.



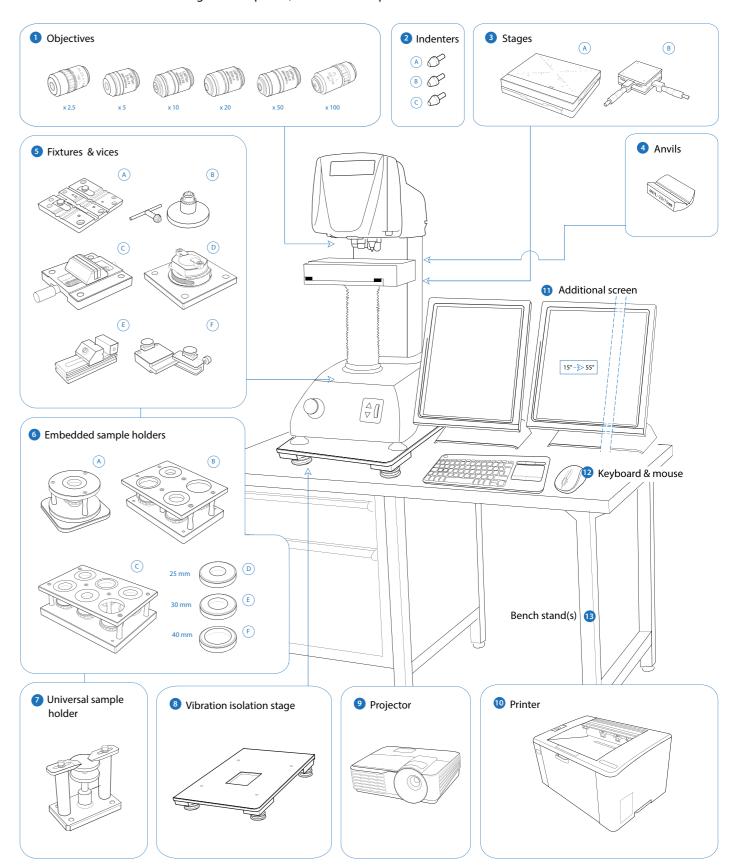
UN-STAND/960 71 x 75 x 80 cm



UN-STAND/965 150 x 75 x 80 cm

# ACCESSORIES FALCON 500

Schematic overview of the configuration options, standard and optional accessories



Not all accessories are displayed on this page. Full details can be found on the Order details page.

# ORDER DETAILS

# FALCON 500



FALCON 501 Micro hardness tester, 3gf - 2kgf	FALCON 501	
FALCON 503 Micro hardness tester, 10gf - 10kgf	FALCON 503	
FALCON 505 Micro hardness tester, 200gf - 31.25kgf	FALCON 505	
FALCON 507 Micro hardness tester, 10gf - 31.25kgf	FALCON 507	
FALCON 508 Micro hardness tester, 1gf - 31.25kgf	FALCON 508	
FALCON 509 Micro hardness tester, 200gf - 62.5kgf	FALCON 509	
FALCON 510 Micro hardness tester, 10gf - 62.5kgf	FALCON 510	
FALCON 511 Micro hardness tester, 1gf - 62.5kgf	FALCON 511	

# ACCESSORIES

A	CCESSORIES			
0	Objectives	2.5 x Objective FOV 2000 μm	ASSUN-OBJ2.5X	
		5 x Objective FOV 1000 μm	BM-05-0001	
		10 x Objective FOV 500 μm	BM-05-0002	STANDARD
		20 x Objective FOV 250 μm. Standard : 505, 509.	BM-05-0003	STANDARD
		50 x Objective FOV 125 μm. Standard : 501, 503, 507, 508, 510, 511	BM-05-0004	STANDARD
		100 x Objective FOV 75 μm	BM-05-0005	
		Stage overview camera, high resolution, HD, full color	UN-OVCAM2C	
		Second indenter position. Factory installed	FALCON/IP2	
2	Indenters A	Vickers Indenter ISO/ASTM certified	IN/8105	
	В	Knoop Indenter ISO/ASTM certified	IN/8205	
	C	Brinell Indenter 1 mm ISO/ASTM certified	IN/7001	
		Brinell Indenter 2.5 mm ISO/ASTM certified	IN/7006	
		Brinell Indenter 5 mm ISO/ASTM certified	IN/7011	
3	Stages A	Motorized CNC X-Y stage, 250x205mm Displacement: 120x100mm,	UN-XY571210	
		Motorized CNC X-Y stage, 300x225mm, Displacement: 170x120mm,	UN-XY571712	
		Motorized CNC X-Y stage, 350x225mm, Displacement: 220x120mm.	UN-XY572212	
		Repeatibility +/-0.003mm requires: cable set, UN-XY2CABLENBS, no extra fixture required		
		Cable set for connecting CNC stage	UN-XY2CABLENBS	
	(P)	Manual X-Y stage with analogue metric micrometers, 100x100mm,	UN-XYSTAGE/120	
	(B)	Displacement: 25x25mm, scale 0.01mm, max load 100kg,	UN-X131AGE/120	
		Requires: AS500XL-450-02 Mounting plate		
		Digital micrometer head, Displacement: 25mm, res. 0.001mm	IMP-DIGMIC	
4	Anvils	Small V-anvil 3-20 mm, requires base plate	UN-ANVILSV/105	
		Large V-anvil 20-75 mm, requires base plate	UN-ANVILLV/106	
		Base plate for V-anvils UN-ANVILLV-105/106	UN-VANVILBASEPL	

5	Fixtures and vices	V Groove clamp for small round parts dia. 0.8-5 mm	UN-VGROOVECLAMP	
	В	Axle chuck	UN-AXLECHUCK	
	C	Small parts vice jaw; width 55mm; open 50 mm; self-centering	UN-VICE/115	
	D	Thin metal clamp	UN-CLAMP/115	
	E	Polished precision vice lock down system ; jaw 25 mm, depth 20 mm	UN-VICE/210	
		Polished precision vice lock down system ; jaw 36 mm, depth 42 mm	UN-VICE/215	
		Polished precision vice lock down system; jaw 48 mm, depth 75 mm	UN-VICE/220	
		Polished precision vice lock down system; jaw 75 mm, depth 100 mm	UN-VICE/230	
	F	Wire testing fixture	UN-WIRE/105	
6	Embedded A sample holders	Sample holder for 1 sample, 50mm/2"	UN-ESH1	
	B	Sample holder for 4 samples, 50mm/2"	UN-ESH4	
	C	Sample holder for 6 samples, 50mm/2"	UN-ESH6	
	D	Insert 25mm, for sample holders	UN-ESHI25	
	E	Insert 30mm, for sample holders	UN-ESHI30	
	F	Insert 40mm, for sample holders	UN-ESHI40	
7	Sample holder	Universal clamp and levelling device	UN-CLAMP/105	
8	Vibration isolation stage	Passive vibration isolation stage, clamping of vibration for low force testing.	UN-AVS-150	
9	Projector	On request, any brand of your choice	UN-PROJECTOR	
10	Printer	Laser printer	UN-PRINT	
1	LCD screen	Portrait mode 15 " capacitive touch screen	UN-SCREEN1	STANDARD
12	Keyboard and mouse	Logitech keyboard and mouse	UN-SKBSET	STANDARD
B	Bench stands	Cabinet test table with drawer 71x75x80cm	UN-STAND/960	
		Cabinet test table with drawer 150x75x80cm	UN-STAND/965	
		Pre installation, calibration, handling and standard packing (for sea and airworthy transportation)	SEAPACK/032	



# **ACCESSORIES**

# **OBJECTIVES**



2.5x Long Working Distance objective



10x Long Working Distance objective



50x Long Working Distance objective



5x Long Working Distance objective





100x Long Working Distance objective

# INDENTERS



Vickers indenter ISO-ASTM certified



Brinell indenter 1mm ISO/ASTM certified



Brinell indenter 5mm ISO/ASTM certified



**STAGES** 

Knoop indenter ISO-ASTM certified





# CLAMP



# **VIBRATION ISOLATION STAGE**



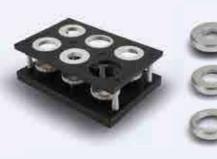
# FIXTURES & VICES



# SAMPLE HOLDERS







# V-ANVILS



# **ORDER DETAILS**

# **SOFTWARE**

Manual on-screen measurement	UN-MANM	STANDARD
Automatic measurement	UN-AUTOM	STANDARD
Automatic focussing	UN-AUTOFOC	STANDARD
Report configurator	UN-REPORTA	STANDARD
User level management	UN-LEVMAN	STANDARD
Overview / Full view zoom camera + software functionality, field of view 45x35mm up to 155x125mm	UN-OVCAM2C	
CHD, SHD, NHD configurator & graphic interface. Requires: indent pattern configurator (TESTPAT01)	UN-PATCHD	
CHD, SHD, NHD configurator & graphic interface for analogue and digital micro meter stage only (not including full pattern editor) (supports manual & digital micrometer stages ONLY).	UN-MCHD	
Video overlay graphic pattern editor	UN-TESTPAT01	
Advanced 3 axis coordinate & free style indent pattern configurator, includes CHD, SHD, NHD and EDGE DETECTION (supports manual & digital micrometer stages ONLY).	UN-TESTPAT02	
Weld inspection (ISO 9015) Requires: indent pattern configurator (TESTPAT01)	UN-WELDPAT	
Ammunition testing pattern configurator & reporting	UN-SHELLCONF	
Hardness of screw thread decarbonized zone ISO 898-1	UN-ISO898/1	
Automatic edge detection	UN-EDGEDTC	
Automatic contour scanning	UN-CSCAN	
Drawing & measuring application	UN-DRMEAS	
Snapshot function	UN-SNAPSH	STANDARD
Full stage view scanning	UN-STAGESC	
Klc crack measurement under load. Palmqvist & Median / Radial fracture toughness	UN-CRKPAR	
2D / 3D hardness chart (scanning/mapping, includes automatic contour scanning)	UN-CSCAN2D3D	
$\label{power} \textbf{DualView Technology, 2 viewing screens software ; screen, cables, European and US power cables included*}$	UN-DVTECHSET	
Virtual joystick, on-screen		STANDARD
Advanced 3-axis communication protocol for robotic systems	UN-REMC	
Q-DAS Certified connectivity protocol	UN-QDAS	



# **SPECIFICATIONS**

# HARDNESS SCALES



VICKERS  ISO 6507 ASTM E384, E92 JIS B 7725	HV0.001   HV0.002   HV0.003   HV0.004   HV0.005   HV0.006   HV0.007   HV0.008   HV0.009   HV0.010   HV0.015   HV0.020   HV0.025   HV0.050   HV0.1   HV0.2   HV0.3   HV0.5   HV1   HV2   HV2.5   HV3   HV4   HV5   HV10   HV20   HV25   HV30   HV40   HV50
Kic Fracture toughness	All Vickers forces & scales
KNOOP ISO 4545 ASTM E92 JIS Z 2251	HK0.001   HK0.003   HK0.005   HK0.015   HK0.01   HK0.02   HK0.025   HK0.05   HK0.1   HK0.2 HK0.3   HK0.5   HK1   HK2   HK5
BRINELL ISO 6506, ASTM E10 JIS Z 2243	HBW1/1   HBW1/1.25   HBW1/2.5   HBW1/5   HB1/10   HBW1/30   HBW2.5/6.25 HBW2.5/7.8125   HBW2.5/15.625   HBW2.5/31.25   HBW2.5/62.5   HBW5/25   HBW5/62.5
CONVERSIONS	Conversion to other hardness scales according to ASTM E140, ISO 18265, GB/T 1172

# **TEST FORCE**



Force application	Multi-load cell, closed loop, force feedback system
Test forces	0.001kgf – 62.5kgf
Force range per model	FALCON 501 3gf- 2kgf
	FALCON 503 10gf - 10kgf
	FALCON 505 200gf - 31.25kgf
	FALCON 507 10gf - 31.25kgf
	FALCON 508 1gf - 31.25kgf
	FALCON 509 200gf - 62.5kgf
	FALCON 510 10gf - 62.5kgf
	FALCON 511 1gf - 62.5kgf
Test force tolerance	< 0.25% for test force 100gf to 62.5kgf
	< 0.5% for test force below 100gf
Dwell time settings	Default 10 seconds, user defined. Up to 250 seconds

# TURRET



Motorized turret	Ultra-fast, 6 position turret, 2 indenter positions, 4 objective positions
Objectives	Long working distance 2.5x, 5x, 10x, 20x, 50x, 100x
Indenters	Certified indenters (ISO/ASTM) available at choice
Camera 1 (objective)	5 Megapixels, HD, Machine vision system
Camera 2 (overview)	Full HD, Optical zoom system, variable FOV 45 x 35mm - 155 x 125mm

# SYSTEM



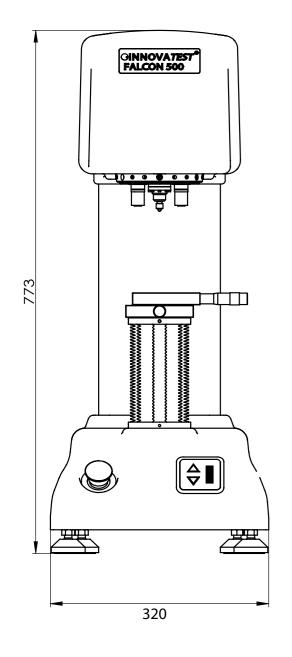
Electronic system	High performance embedded controller, i7, mSSD 120 GBxx, MS Windows® 10 operated
CNC support	5 Axis CNC controller (for motorized stages) or stage accessories
Screen(s)	15" portrait mode capacitive touch screen, second screen option
<b>Display resolution</b>	0.01 HV, HK, HB
Statistics	Total test, max, min, average, range, standard deviation, All in real time after each test
Hardness conversion	Rockwell, Rockwell Superficial, Vickers, Brinell, Knoop, Leeb & Tensile
Software	IMPRESSIONS™ V2, work flow system & tester control
Data storage capacity	Internal and external mSSD, SSD or HDD
Data output	XML, CSV, Certified for Q-DAS (Optional)
Connectivity	5 USB ports, RJ45 Ethernet LAN, W-LAN, RS-232, Blue Tooth, 5 Axis CNC & motorized X-Y stage
	connector, Dual HDMI screen connectors
Printer	A4, A3 full color laser printer (optional)

# GENERAL



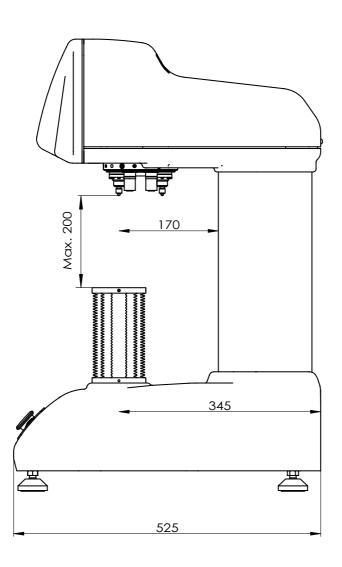
<b>Machine dimension</b>	773 mm x 350 mm x 506 mm
Machine weight	78 kg
Power supply	100VAC to 240VAC, 50/60Hz, single phase
Operating temperature	10°C to 35°C, non-condensing
Power consumption	100W
Humidity	10% to 90%, non-condensing

# TECHNICAL DRAWINGS



All dimensions in these drawings are in mm, approximate. Working heights and or workpiece accommodation varies depending on the stages and stage accessories used.

Please contact our sales department for more details.



# OTHER MODELS IN THE FALCON RANGE



# FALCON 400

Load Cell, closed loop Micro/Macro Vickers, Knoop & Brinell Hardness testers With fine adjustable Z-axis side handwheel See brochure B18F400/XX



# FALCON 450

Load Cell, closed loop Macro/Micro Vickers, Knoop & Brinell Hardness tester With Z-axis handwheel See brochure B18F450/XX



# **FALCON 600**

Multi Load Cell, Closed loop Fully automatic, free to configure Micro/Macro Vickers, Knoop & Brinell Hardness testers. With ball bearing motorized Z-axis See brochure B18F600/XX



# **FALCON 5000**

Multi Load Cell, Closed loop Fully automatic, 8 position turret, laser postioning. Micro/Macro Vickers, Knoop & Brinell Hardness testers. Descending test head, fixed work piece position See brochure B18F5000/XX



# **FALCON 5003XL**

Multi Load Cell, Closed loop Fully automatic, 8 position turret, laser postioning. Micro/Macro Vickers, Knoop & Brinell Hardness testers Descending test head, fixed work piece position See brochure B18F5000/XX

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Changes in products and/ or product specifications can emerge due to new technologies and continuous development.

We reserve the right to change or modify specifications of the products without prior notice. We recommend you to contact our sales office for up-to-date information.

Brochure B18F500/09/EN

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