

# FENIX 200 SERIES

Rockwell | Brinell Hardness Testers

MANUAL & SEMI-AUTOMATIC



# FENIX 200AR

## Fast & affordable Rockwell testing...

Quality long life mechanics, readings from a precision analogue indicator. Load applied from a dead weight force actuator, with solid test load selector design. The newly designed C frame made out of steel (no casting) provides 100% more rigidity compared to traditional casted designs and assures excellent results, even after years of use.

The internal system can be easily serviced by removing the side and top covers, no need to turn the machine around.



## HARDNESS SCALES



**ROCKWELL** 10kgf – 150kgf



## ROCKWELL FORCE RANGE

|      |       |              |        |          |
|------|-------|--------------|--------|----------|
| 1kgf | 10kgf | FENIX 200 AR | 150kgf | 187.5kgf |
|------|-------|--------------|--------|----------|

## HIGHLIGHTS

- 1 Rockwell scales : A | B | C | D | E | F | G | H | K | L | M | P | R | S | V
- 2 Test loads, pre-load : 10kgf, main-load : 60 | 100 | 150kgf
- 3 Adjustable hydraulic force speed damper
- 4 Adjustable dial indicator with 0.5 HR Rockwell units
- 5 Throat depth : 150mm
- 6 Working height : 260mm
- 7 Rockwell EN-ISO 6508, ASTM E-18
- 8 Machine weight (net) : 122kg
- 9 Machine dimensions : H765mm / W270mm / D555mm

# FENIX 200ACL

## Affordable Rockwell testing, re-invented...

A load cell, closed loop, force feedback, test force application system that is absolutely unique in this class of instruments. Limited mechanical structure, without weights or weight selection. Hardness scales can be selected on the digital display. Conduct Rockwell hardness testing with great force precision and without the disadvantage of a relative complex mechanical dead weight system.

The internal system can be serviced by removing the side and top covers, no need to turn the machine around.



### HARDNESS SCALES



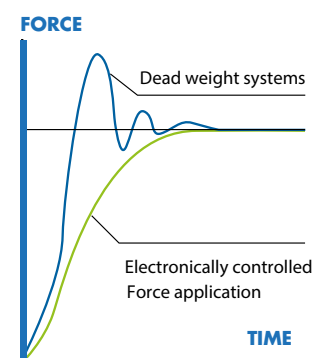
**ROCKWELL** 10kgf – 150kgf



**BRINELL** 10kgf – 187.5kgf



#### TECHNOLOGY OF TODAY



Load cell, closed loop,  
force feedback system

### ROCKWELL & BRINELL FORCE RANGE

|      |       |               |          |
|------|-------|---------------|----------|
| 1kgf | 10kgf | FENIX 200 ACL | 187.5kgf |
|------|-------|---------------|----------|

## HIGHLIGHTS

- 1 Load cell, closed loop, force feedback, force application system, error <0,25%
- 2 Rockwell scales : A | B | C | D | E | F | G | H | K | L | M | P | R | S | V  
Brinell scales : HBW1/10 | HBW1/30 | HBW2.5/31.25 | HBW2.5/62.5 | HBW2.5/187.5  
HBW5/25 | HBW5/62.5 | HBW5/125 | HBW5/187.5 | HBW10/100
- 3 Digital display for scale indication, dwell time count down.
- 4 Start/stop & menu selection buttons.
- 5 Adjustable dial indicator with 0.5 HR Rockwell units
- 6 Throat depth : 150mm
- 7 Working height : 260mm
- 8 Machine weight (net) : 104kg.
- 9 Machine dimensions : H765mm/W270mm/D555mm

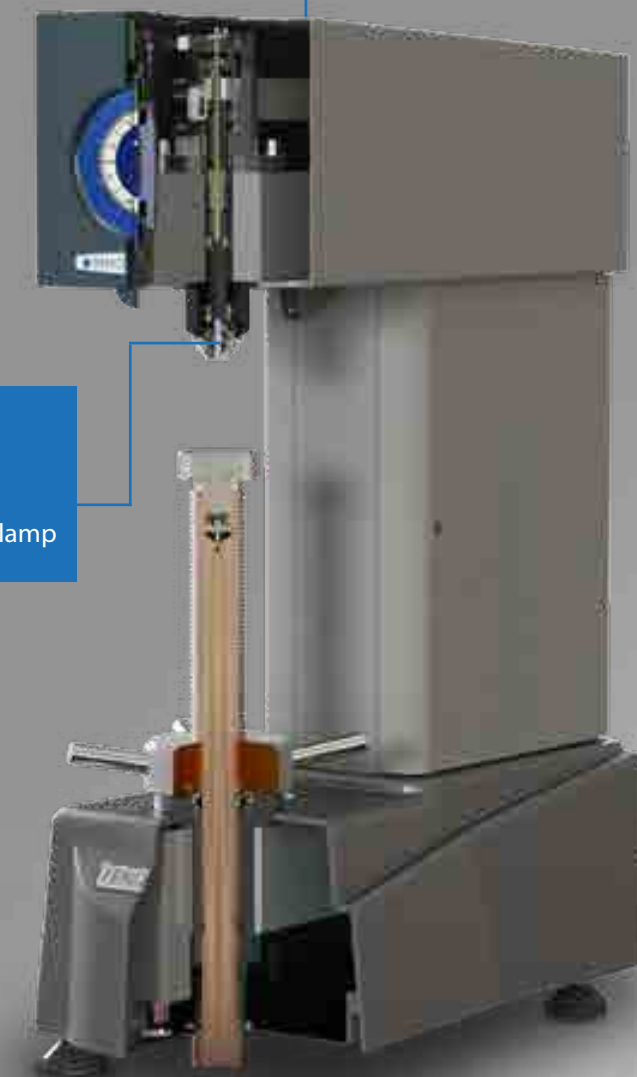


# SENSIBLE INNOVATION



**200 ACL**  
Multi loadcell,  
ball bearing,  
force actuator

**STANDARD**  
Force  
adjustable  
workpiece clamp



## Observe, Think, Try, Change...

Unparalleled in this class of Rockwell hardness testing machines is the electronic Load cell, closed loop, force feedback, force application system. Absolute maintenance free, automatic setting of test forces by choosing the Rockwell hardness scale. Error free operation, due to an automatic test cycle, applying the main load and correct pre-set dwell time.

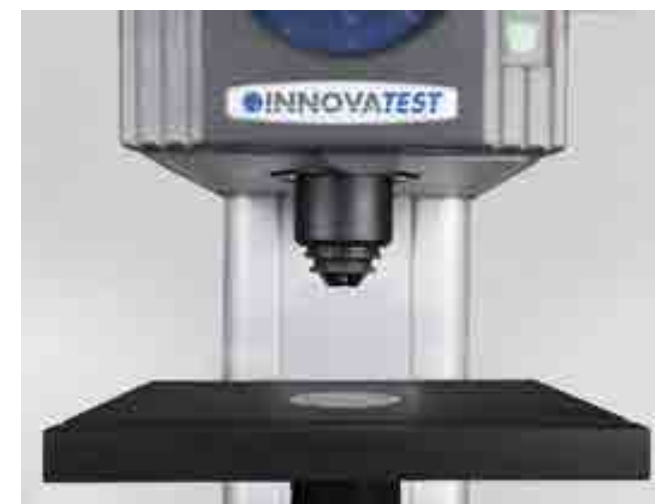
# VARIOUS POSSIBILITIES

The FENIX 200 is larger than most other machines in its class. With a throat depth of 150mm and maximum workpiece height of 240mm, it offers the user a generous workspace. Moreover the FENIX 200 is super rigid, sturdy and can withstand the harshest environments. Compare these parameters with alternative products and find that FENIX is leading in its class.



## INDENTER COVER & CLAMP

The FENIX 200 series is standard equipped with an indenter protection cover that includes an integrated spring loaded workpiece clamp pressing the workpiece firmly on the anvil and eliminating possible workpiece and spindle hysteresis. Adjustable clamp force, to avoid impressions on softer materials.







## 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

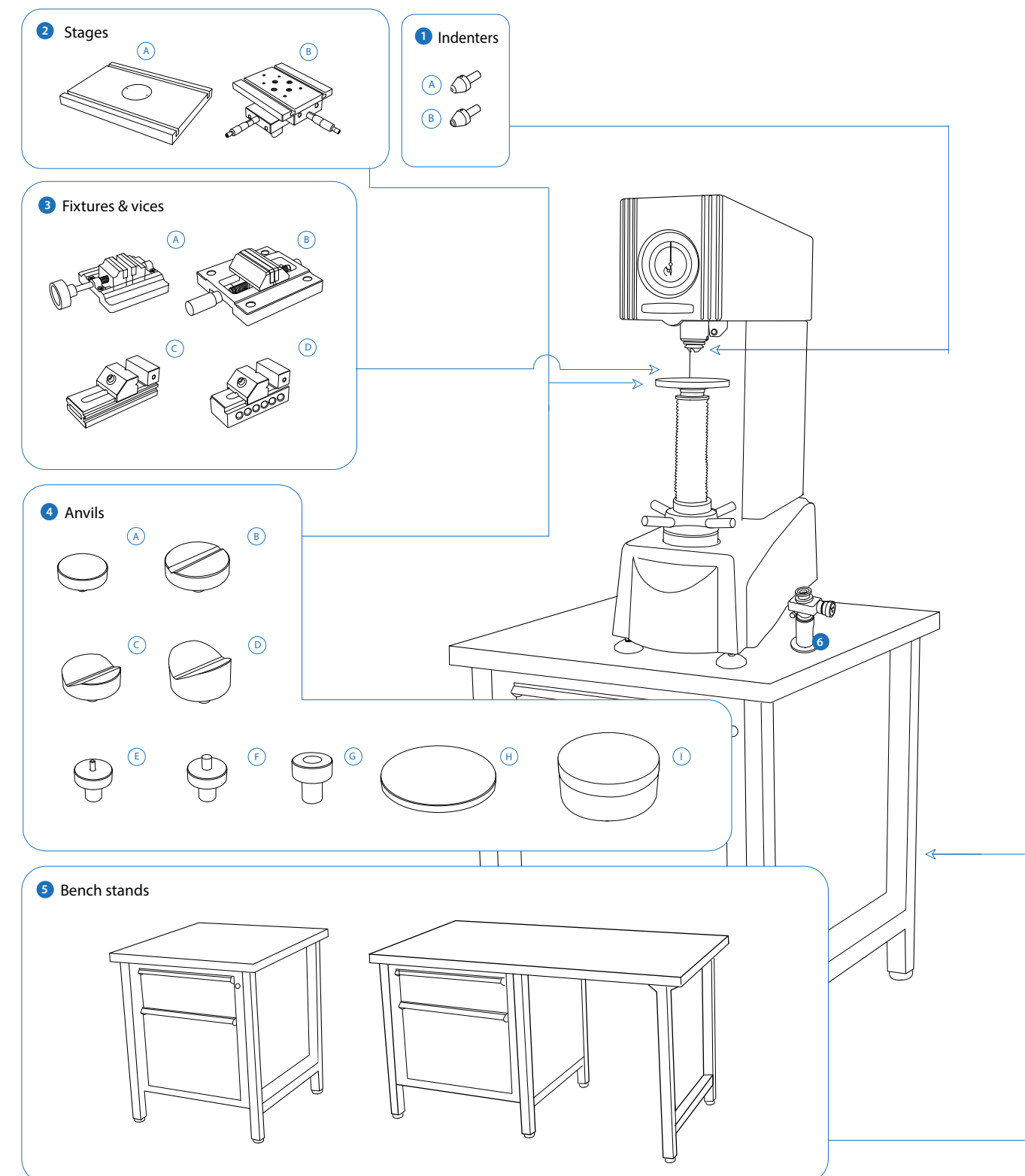


UN-STAND/965 150 x 75 x 80 cm

## ACCESSORIES

## FENIX 200


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

## FENIX 200

|   |   |              |  |
|---|---|--------------|--|
|  | FENIX 200AR Rockwell hardness tester            | FENIX 200AR  |  |
|   | FENIX 200ACL Rockwell (Brinell) hardness tester | FENIX 200ACL |  |
|   |   |              |  |
|   |   |              |  |

## ACCESSORIES

|   |                  |   |   |                  |          |
|---|------------------|---|---|------------------|----------|
| 1 | Indenters        | A | Rockwell cone diamond indenter  | IN/6011          | STANDARD |
|   |                  |   | Rockwell cone diamond indenter & ASTM/ISO certificate   | IN/6005          |          |
|   |                  |   | Rockwell indenter 1/16" carbide ball & ASTM/ISO certificate   | IN/7506          |          |
|   |                  |   | Rockwell indenter 1/8" carbide ball & ASTM/ISO certificate  | IN/7606          |          |
|   |                  |   | Rockwell indenter 1/4" carbide ball & ASTM/ISO certificate  | IN/7706          |          |
|   |                  |   | Rockwell indenter 1/2" carbide ball & ASTM/ISO certificate  | IN/7806          |          |
|   |                  | B | Brinell Indenter 1mm, includes 1 carbide ball & ASTM/ISO certificate  | IN/7000          |          |
|   |                  |   | Brinell indenter 2.5mm, includes 1 carbide ball & ASTM/ISO certificate  | IN/7005          |          |
|   |                  |   | Brinell indenter 5mm, includes 1 carbide ball & ASTM/ISO certificate  | IN/7010          |          |
|   |                  |   | Brinell indenter 10mm , includes 1 carbide ball & ASTM/ISO certificate  | IN/7015          |          |
| 2 | Stages           | A | Flat test table with 2 T-slots, 350x250mm, req. ASV700-21-01 locking Ring   | UN-TESTTABLE/015 |          |
|   |                  |   | Locking ring  | ASV700-21-01     |          |
|   |                  | B | Manual X-Y stage with analogue metric micrometers, 180x160mm<br>Displacement: 25x25mm, scale 0.01mm, max load 300kg,<br>requires UN-XYZ BUSH42 1x + UN-XYZ30FP40-42 1 | UN-TESTTABLE/030 |          |
|   |                  |   | Fixing bush 42 XY Stage   | UN-XYZ BUSH42    |          |
|   |                  |   | Fixing plate 40-42 XY Stage   | UN-XYZ30FP40-42  |          |
|   |                  |   |   |                  |          |
| 3 | Fixtures & vices | A | Polished precision vice with lock down system, jaw 25mm, depth 20mm   | UN-VICE/210      |          |
|   |                  |   | Polished precision vice with lock down system, jaw 36mm, depth 42mm   | UN-VICE/215      |          |
|   |                  |   | Polished precision vice with lock down system, jaw 48mm, depth 75mm   | UN-VICE/220      |          |
|   |                  |   | Polished precision vice with lock down system, jaw 75mm, depth 100mm  | UN-VICE/230      |          |
| 4 | Anvils           | A | Flat Anvil 60mm   | ASX600-19-04     | STANDARD |
|   |                  | B | V-Anvil ø80mm 3.3-20mm  | UN-ANVIL/040     |          |
|   |                  | C | V-Anvil ø80mm 12-80mm   | UN-ANVIL/045     |          |
|   |                  | D | V-Anvil ø80mm 20-140mm  | UN-ANVIL/050     |          |
|   |                  | E | Spot anvil 5mm  | UN-ANVIL/010     |          |
|   |                  | F | Spot anvil 10mm   | UN-ANVIL/011     |          |
|   |                  | G | Anvil for round specimen ø6-25,4mm  | UN-ANVIL/200     |          |
|   |                  | H | Testing table flat ø150mm   | ASX600-19-06     |          |
|   |                  | I | Irregular part table support, ø150mm  | UN-ANVIL/020     |          |
|   | Machine cover    |   | Anti Static machine cover   | UN-TESTERCOVER06 |          |
| 5 | Bench stands     |   | Cabinet test table with drawer 71x75x80cm   | UN-STAND/960     |          |
|   |                  |   | Cabinet test table with drawer 150x75x80cm  | UN-STAND/965     |          |
| 6 | Microscopes      |   | Analogue measuring microscope 20 x  | ASS3001-MICRO/01 |          |
|   |                  |   | Analogue measuring microscope 40 x  | ASS3001-MICRO/02 |          |
|   |                  |   | Pre installation, calibration, handling and standard packing<br>(for sea and airworthy transportation)  | SEAPACK/032      |          |

# ACCESSORIES

## INDENTERS

A



Rockwell cone diamond indenter\*



Rockwell cone diamond indenter  
ASTM/ISO certificate



Rockwell indenter 1/16" carbide ball



Rockwell indenter 1/8" carbide ball



Rockwell indenter 1/4" carbide ball



Rockwell indenter 1/2" carbide ball

B



Brinell Indenter 1mm &amp; 1 carbide ball



Brinell indenter 2.5mm &amp; 1 carbide ball



Brinell indenter 5mm &amp; 1 carbide ball




Brinell indenter 10mm &amp; 1 carbide ball


\* Without ISO/ASTM Certificate

## STAGES

A



B



## FIXTURES & VICES

A





## ANVILS

A



B



C



D



E



F



G



H



I



## MICROSCOPES

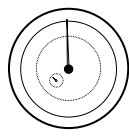




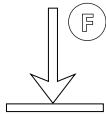


# SPECIFICATIONS

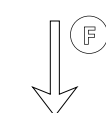
## HARDNESS SCALES

|   |                                      |   |
|---|--------------------------------------|---|
|  | <b>ROCKWELL</b>                      | A   B   C   D   E   F   G   H   K   L   M   P   R   S   V   |
|   | EN-ISO 6508, ASTM E-18<br>JIS Z 2245 |   |
|   | <b>BRINELL*</b>                      | HBW1/30   HBW2.5/31.25   HBW2.5/62.5   HBW2.5/187.5   HBW5/25   HBW5/62.5  <br>HBW5/125   HBW10/100 |
|   | EN-ISO 6506, ASTM E92<br>JIS Z 2243  | * FENIX 200ACL only   |

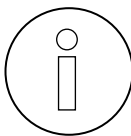
## TEST FORCE 200AR

|   |                             |   |
|---|-----------------------------|---|
|  | <b>Force application</b>    | Dead weight system via load selector            |
|   | <b>Test forces</b>          | Preload : 10kgf, main loads : 60   100   150kgf |
|   | <b>Force range</b>          | FENIX 200AR 10kgf – 150kgf                      |
|   | <b>Test force tolerance</b> | < 1% for test force 10kgf to 150kgf             |
|   | <b>Dwell time settings</b>  | User defined                                    |

## TEST FORCE 200ACL

|   |                             |   |
|---|-----------------------------|---|
|  | <b>Force application</b>    | Load cell, closed loop, force feedback system   |
|   | <b>Test forces</b>          | Preload : 10kgf, main loads : 15.625   25   30   31.25   60   62.5   100   125   150   187.5kgf |
|   | <b>Force range</b>          | FENIX 200ACL 10kgf – 187.5kgf   |
|   | <b>Test force tolerance</b> | < 0.25% for test force 10kgf to 187.5kgf  |
|   | <b>Dwell time settings</b>  | Default 10 seconds, user defined. Up to 999 seconds   |

## GENERAL

|   |                              |   |
|---|------------------------------|---|
|  | <b>Machine dimension</b>     | 765mm x 270mm x 555mm                       |
|   | <b>Machine weight</b>        | FENIX 200ACL: 104kg      FENIX 200AR: 122kg |
|   | <b>Power supply</b>          | 100VAC to 240VAC, 50/60Hz, single phase     |
|   | <b>Operating temperature</b> | 10°C to 35°C, non-condensing                |
|   | <b>Power consumption</b>     | 10W   |
|   | <b>Humidity</b>              | 10% to 90%, non-condensing                  |



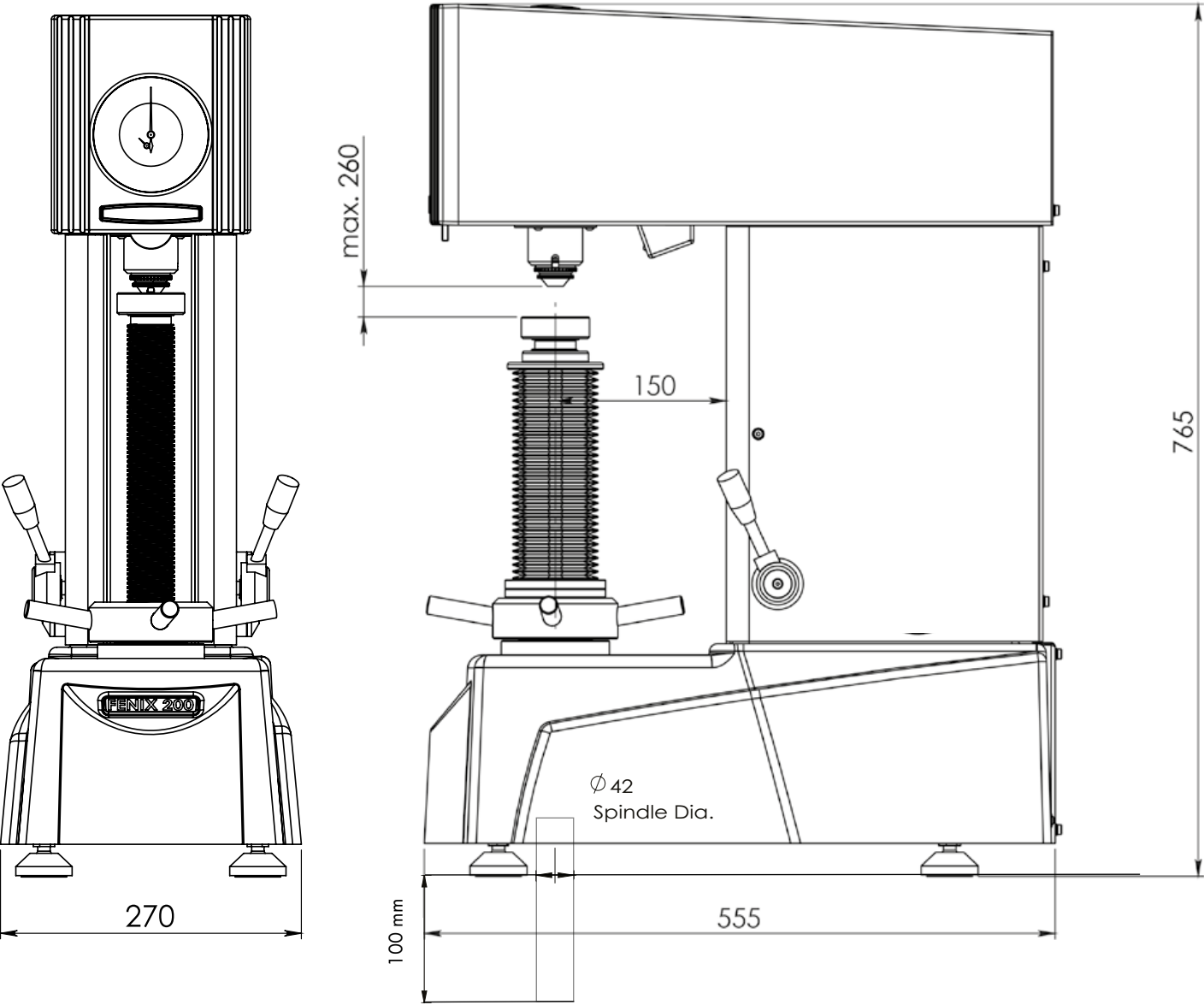


# TECHNICAL DRAWINGS

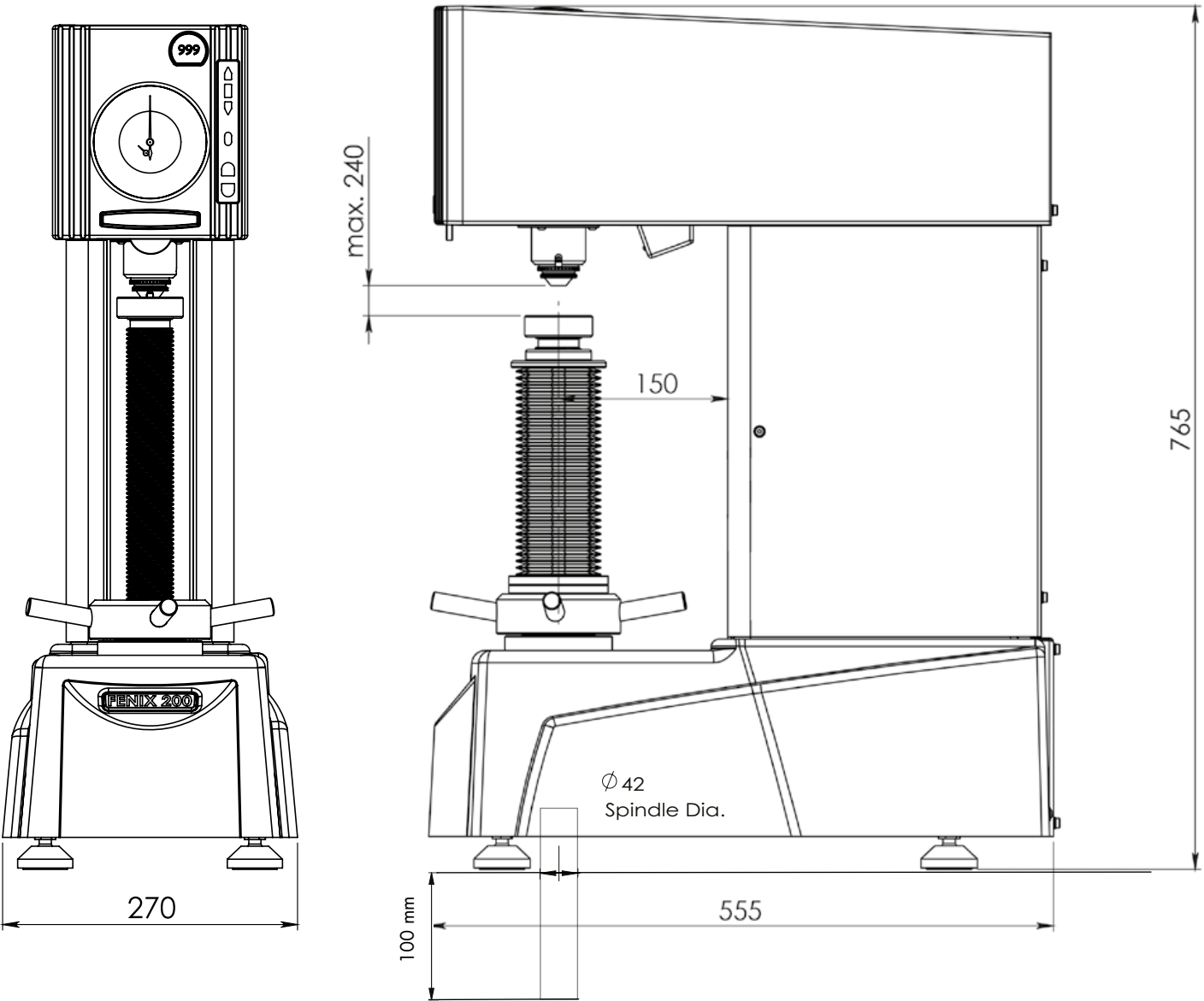
All dimensions in these drawings are in mm, approximate. Working heights and or workpiece accommodation varies depending on the stages and stage accessories used.

Please contact our sales department for more details.

FENIX 200AR



FENIX 200ACL



## OTHER MODELS IN THE ROCKWELL RANGE



### NEXUS 605

Load Cell, closed loop  
Rockwell/Superficial Rockwell/  
Brinell hardness tester,  
with full color touch  
screen.  
*See brochure B18N605/XX*



### NEXUS 610

Load Cell, closed loop  
Rockwell/Superficial Rockwell/  
Brinell hardness tester,  
with integrated PC,  
Windows 10, wifi etc.  
full color touch screen.  
*See brochure B18N610/XX*



### VERZUS 710

Load Cell, closed loop  
Rockwell/Superficial Rockwell/  
Brinell hardness tester, with  
direct depth measuring system,  
integrated PC, Windows 10,  
wifi, full color touch screen.  
*See brochure B18V710/XX*



### NEMESIS 6100

Load Cell, Closed loop  
Fully automatic Rockwell/  
Superficial Rockwell  
(Brinell) hardness tester  
with descending test head  
& fixed workpiece position.  
full color touch screen  
operation.  
*See brochure B18N6100/XX*



### NEMESIS 6200

Load Cell, Closed loop  
Fully automatic Rockwell/  
Superficial Rockwell (Brinell)  
hardness tester with  
descending test head & fixed  
workpiece position, integrated  
PC, Windows 10, Wifi, full color  
15 " industrial capacitive touch  
screen.

Includes CNC motorized  
X-Y stage, overview camera  
and advanced software  
(IMPRESSIONS) for automatic  
pattern testing and fixture  
recognition.  
*See brochure B18N6200/XX*

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or product specifications  
can emerge due to new  
technologies and continuous  
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the products without prior  
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up-to-date information.

Brochure B18F200/08/EN

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