

New instrument Fischerscope X-Ray XDVM-P

As we informed in December, both the instruments Fischerscope X-RAY XDVM-T7-W 602-636 (measuring head 602-557) and Fischerscope X-RAY XDVM-T7.1-W 602-637 (measuring head 602-558) will be replaced by the **new Fischerscope X-RAY XDVM-P 603-767** (measuring head 603-878) starting from now on.

This new model will be delivered with the XY stage T7 with the 250 x 250 mm travel; the version T7.1 with the 175 x 175 mm travel is omitted.

Instead of the four fixed measuring distances, the XDVM-P model has the optical system of the XDLM-C4 model with the DCM method which allows measuring distances between 0 – 80 mm.

More details can be taken from the attached technical data sheet. A leaflet will be available from the beginning of 2007.

The quotation text as well as the price can be found in the internet sales support price list.

This new device can be ordered starting from now on and will be available for delivery by the 2nd quarter 2007.

The XDVM-T7-W and XDVM-T7.1-W models are no longer available.


The placed and already confirmed orders will be delivered according to the confirmed delivery time.

New orders for old instruments must be placed for the new type XDVM-P.

Existing quotations for the old models XDVM-T7-W and XDVM-T7.1-W which have no reservation at FIAG must be changed at customers and renewed by the new model XDVM-P. Please make an effort to send us requests for X-RAY reservations because of the long delivery time.

Technical Data Sheet for FISCHERSCOPE® X-RAY XDVM®-P



Instrument model Part number	FISCHERSCOPE® X-RAY XDVM®-P 603-767	
Measuring head picture; primary X-ray beam measuring direction	 <p style="text-align: center;">Primary X-ray beam top down ↓</p>	
Characteristic features	<ul style="list-style-type: none"> • Ultra-precise XY(Z) stage type T7 with additional axis in Y-direction for 4x stage travel velocity (rapid stage loading!) • Three primary filters. The use of primary filters provides application-adjusted primary X-radiation • Set of very small collimators • Video microscope with comprehensive range of functions 	
Measuring head outside dimensions	Width 660 mm Depth 950 mm Height 720 mm	
Measurement chamber: effective internal dimensions	Width 580 mm Depth 560 mm Height 145 mm	
Measuring head design	Slotted chamber with large, upward opening, transparent, door. Housing made of sheet and cast metal.	
Measurement chamber keyboard	Keyboard with buttons for Start, Stop, Run, two Z drive speed steps (slow/fast); 1 joystick for controlling the XY-stage; video zoom settings (see section "Video zoom magnification" for more details); video brightness; key switch for X-ray energy.	
Measuring head mass	Approx. 135 kg	
Test stage design	Test stage type T 7. Programmable XY-stage, controlled by joystick or mouse (left mouse button for point and shoot, right mouse button as joystick) or controlled by automatic program. Additional axis in Y-direction for 4x stage travel velocity (rapid stage loading!).	
Stage loading and specimen positioning	Stage moves out automatically when the chamber door is opened (loading function). Laser beam marker points to the test spot. Exact positioning by means of the joystick or mouse (point & shoot).	
Test stage design Useful dimensions	Width: 370 mm Depth: 320 mm	

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XY stage travel range	250 mm x 250 mm	
XY stage speed	0 - 25 mm/s	
XY stage precision	0.005 mm (unidirectional repeatability precision) that means: repeatability precision with approach from one direction.	
XY stage max. specimen mass	5 kg (with reduced precision up to 20 kg)	
Z axis	Motorized, programmable X-ray cradle travel (in Z-direction). Two speed steps: slow/fast.	
Z travel range	0 – 140 mm	
Viewing control of the measurement spot	<p>High resolution color video camera. Unique <u>perpendicular viewing of the measurement spot</u> because of a patented optical path design. Picture in picture presentation of the video image in the WinFTM® main window. The image of the actual measurement spot dimensions (not collimator dimensions!) has electronically inserted true-to-scale crosshairs superimposed onto it. This allows for exact positioning.</p> <p>Calibrated recticle and test spot size indication. Measurement spot and measurement location are shown in the video image true to scale at any measurement distance. Brightness control by an on-screen control bar on the video image.</p> <p>Programmable settings of the video camera: Automatic and manual white balance; automatic and manual exposure control; AGC (automatic or manual); edge enhance for sharpness and anti-aliasing control.</p>	
Video zoom magnification	<p>Optical magnification: 20 - 45x switchable; digital: 100 %, 200 %, 300 %, 400 %.</p> <p>Wide angle presentation in two steps with the software feature "Overview image". 3 x 3 video images around the measuring spot can be combined. The other wide angle feature which can be started with the function keys on the measuring head is 5 x 5 video images. The software feature "Overview image" enables a number of further presentation possibilities.</p> <p>Total magnification: 20 - 180x depending on the measuring distance (all data related to a 17" TFT monitor)</p>	
Focussing on the measurement spot	<ul style="list-style-type: none"> •Optical focussing of the video image with manually controlled, motorized movement. •Auto-focus function: Automatic focussing with a control loop optical image processing and motorized Z-axis control. Fully functional also in the XY-programming mode. 	
Measuring distance correction method	<p>The patented DCM-method (Distance Controlled Measurement) allows for measurements in indentations of the specimen surface (see sketch). This method works over the whole Md-range (see „Measuring distance / Usable focal range “). The measurement value is mathematically corrected, dependent on the measurement distance Md after focussing of the test spot. Patents: US 6,038,280 (USA patent); UK GB 2323164 B (UK Patent); France (No. de publication 2760833, No. d'enregistrement national 9803095); Germany (No. 19710420).</p>	
Usable focal range = Measuring distance Md	Measuring distance Md (calibrated range): 0 mm ... Md ... 80 mm	

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High voltage for X-ray generation	Setting adjustable to optimize applications: 30 kV; 40 kV; 50 kV. Fully reliable high voltage generator: During continuous operation, the high voltage generator controls both the voltage and X-ray anode current within extremely tight limits to ensure great stability. Due to the intelligent thermal design, incorporating generous spare capacity, high voltage can be generated during continuous operation at maximum performance.
X-ray tube	Microfocus tungsten X-ray tube with Beryllium window. Programmable energy saving function.
Primary filters	One of three different primary filters can be set by software: 1) Nickel 2) free 3) Aluminum
Standard collimator(s)	Collimator assembly I: ø 0.1 mm ø 0.2 mm 0.05 mm x 0.05 mm 0.03 mm x 0.2 mm
Optional collimator(s)	Collimator assembly II (p/n 602-559) ø 0.1 mm ø 0.2 mm ø 0.3 mm 0.05 mm x 0.3 mm
Spot sizes of standard collimators. Approximate values at minimum meas. distance.	ø 0.16 mm ø 0.3 mm 0.1 mm x 0.1 mm 0.3 mm x 0.07 mm
Spot sizes of optional collimators. Approximate values at minimum meas. distance.	ø 0.16 mm ø 0.3 mm ø 0.44 mm 0.44 mm x 0.1 mm
Detector	Proportional counter tube
Control computer	<i>Standard:</i> Personal computer FMC-XPENT: state-of-the-art-type Intel Pentium or comparable processor, frame grabber video board, hard disk, CD-RW drive, 3 1/2" floppy drive, mouse, CD-RW drive, Windows® keyboard XK <i>Optional:</i> Handscanner (p/n 603-678).
Monitor	<i>Standard:</i> 17" flat screen TFT monitor <i>or</i> <i>Optional:</i> 19" flat screen TFT monitor (p/n 603-798). All for picture-in-picture specimen viewing and data display.
Printer	<i>Optional:</i> EPSON ink jet-type color printer (p/n 602-555)
Operating system	<i>Standard:</i> Windows® XP professional <i>Optional:</i> Windows® 2000 (available in various language versions)

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Instrument model Part number	FISCHERSCOPE® X-RAY XDVM®-P 603-767
Standard software	WinFTM® V.6 LIGHT+PDM
Optional, supplemental software	WinFTM® V.6 BASIC WinFTM® SUPER <i>for the experienced user</i> See separate data sheet "WinFTM® V.6" for complete software features (p/n 952-049).
Accessories	Pure element calibration set with 12 elements, tooling- and cable set, diverse small accessory parts.
Intended use	Coating thickness measurement and materials analysis.
Measuring method	Energy-dispersive X-ray fluorescence (EDXRF) according to ASTM B 568, EN ISO 3497 and DIN 50987.
Element range	Chlorine (Z=17) to Uranium (Z=92).
X-ray safety	Full protection instrument with design approval according to German X-ray ordinance RöV § 4 Abs. 3, Anlage 2.3. Thus, no radiation safety officer is needed at the customer's site.
Power supply	115 V – 230 V; 50 Hz – 60 Hz
Power consumption	Max. 120 W (only measuring head; without PC and monitor)
Environmental conditions	Ambient temperature (operation): 10°C to 40°C / 50° to 104°F; storage temperature: 0°C to 50°C / 32° to 122°F; relative humidity: 0 % to 95 % (non-condensing).
Service for instrumentation	HELMUT FISCHER-owned/operated world-wide service network.
Application service	Hotline for application questions. Service for creation of Def.MA-data sets i.e. parameter sets for special customer applications.
Product training and seminars	Product training to ensure optimal operation of the instrument. Seminars are run several times each year providing information on the X-ray fluorescence method together with practical techniques for X-ray measurement.
Registered trademarks	FISCHERSCOPE®, XDVM® and WinFTM® are registered trademarks of Helmut Fischer GmbH+Co.KG, Sindelfingen, Germany. Windows® is a registered mark of Microsoft Corporation.

Subject to change

Data sheet's part no.: 952-088

Validity: December 18, 2006