XONOX

METROLOGY FOR OPTICS REDEFINED

Product Catalogue

_ **Fizeau Interferometers**
with Static and Phase Shifting Analysis

_ **Fringe Analysis Systems**
with various measurment modes and advanced, extrememly user oriented functionality

_ **Interferometer Workstations**
with AccuSlide air bearing technology in various sizes and configurations

_ **Fizeau Transmission Spheres**
with 30% increased lens coverage / vis. aperture

_ **Center Thickness Measurement Systems**
tactile and non contact, for testing Center Thickness, Sagittal Depth, Aperture Diameter and Total Height on Lenses

_ **Diameter Measurement Systems**
for testing diameters, roundness and conic errors on circular workpieces

_ **Centering Error / Wedge Measurment Systems**
for testing optical axis / wedge on optical components

_ **Cosmetic Inspection Systems**
for analysing and documenting scratches and digs

_ **Cementing Systems**
for aligning and cementing doublets and triplets

_ **Edge Painting Systems**
for painting edges and precise surface masks on optical components

_ **Lab and QC Software**
for tracking jobs, linking of measurement systems and performing professional QC documentations

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METROLOGY FOR OPTICS REDEFINED

X-fiz

PHASE SHIFTING FIZEAU INTERFEROMETER

- innovative, high quality Fizeau interferometer with high resolution 1.3 MP camera
- remote controlled and positioned, motorized zoom with 10X optical magnification
- remote controlled and positioned, motorized focus adjustment
- smart electronic attenuator with automatic saturation adjustment
- highly rigid frame and robust opto-mechanical design ensure alignment is maintained when mounting and that alignment will be maintained over time
- high quality piezo phase shifter with tip-tilt TS holder, compatible with Zygo style bayonet and XONOX 4+ connector
- industry standard 632.8nm HeNe laser
- 100mm (4"), 132mm (5.2") and 150mm (6") versions available, 5.2" version compatible with XONOX 4+ series TS objectives without need of optical connector
- Smart Remote – innovative remote allows for quick selection of zoom and focus.
- Smart Maintenance Concept – innovative design concept allows for change of laser and electrical components within minutes; all without opening the sensitive optical area of the system. A laser change does not require a realignment and the process can be done with the interferometer still installed within the measurement platform
- 1-interface Concept – industry standard USB 3.0 protocol used for all communications between computer and interferometer on a single cable
- USB 3.0 Interface for access to all functions via software

LASER SOURCE	632.8 nm HeNe Laser / polarized / class IIIA - 3R / 2mW output
VERSIONS 4" (100mm) APERTURE	_ **X-fiz 100 Eco** - 4" (100mm) Fizeau Interferometer _ **X-fiz 100 ST** - 4" (100mm) Fizeau Interferometer with **X-fringe ST** static fringe analysing system _ **X-fiz 100 PS2** - 4" Phase Shifting Fizeau Interferometer **X-fringe2 PS** phase shifting fringe analysing system **TS connection for all X-fiz100 Versions:** 4" Zygo type bayonet
VERSIONS 5.2" (132mm) APERTURE	_ **X-fiz 130 Eco** - 5.2" (100mm) Fizeau Interferometer _ **X-fiz 130 ST** - 5.2" (100mm) Fizeau Interferometer with **X-fringe ST** static fringe analysing system _ **X-fiz 130 PS2** - 5.2" Phase Shifting Fizeau Interferometer **X-fringe2 PS** phase shifting fringe analysing system **TS connection for all X-fiz130 Versions:** 5.2" XONOX 4+ Interface with adapter to 4" Zygo type bayonet
VERSIONS 6" (150mm) APERTURE	_ **X-fiz 150 Eco** - 6" (100mm) Fizeau Interferometer _ **X-fiz 150 ST** - 6" (100mm) Fizeau Interferometer with **X-fringe ST** static fringe analysing system _ **X-fiz 150 PS2** - 6" Phase Shifting Fizeau Interferometer **X-fringe2 PS** phase shifting fringe analysing system **TS connection for all X-fiz150 Versions:** 6" Zygo type bayonet
CAMERA	1.3 Mpx, 8bit monochrome CMOS sensor, 210 FPS, shutter min 50µs
IMAGING SYSTEM	10x motorized zoom with positioning, motorized focus with positioning
CONTROL PANEL	Wired remote controller with rotating positioning controllers for zoom and focus (saturation auto adjusted)
CONNECTIONS	110-240 V / 50-60 Hz
COMPUTER/SOFTWARE	High performance Dell PC, 24" touch screen, 19" live image screen, WIN10 64 bit, X-fringe2 PS / X-fringe ST
DIMENSIONS (WxHxD) / WEIGHT	310 x 285 x 530 (595 incl. phase shifter) / approx. 35kg
COLOR	Perl-light-grey RAL 9022

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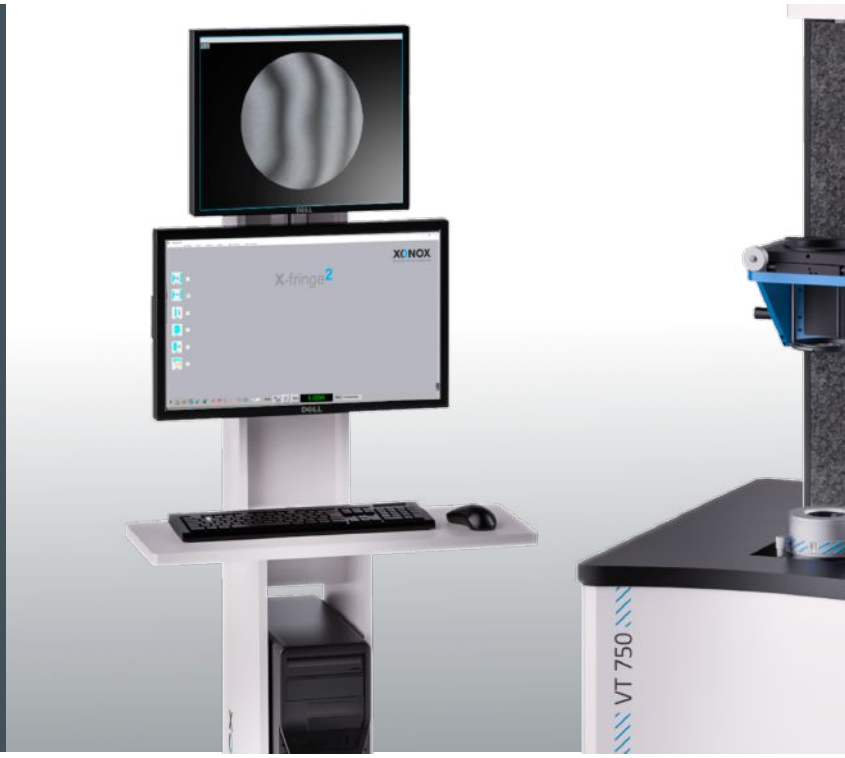
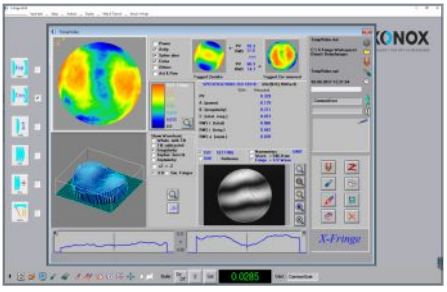
X-fringe2

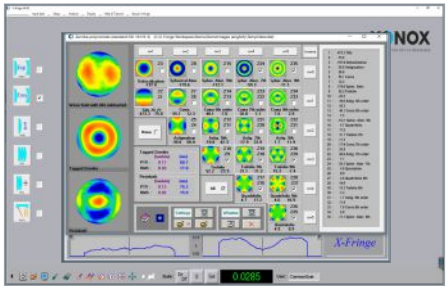
ADVANCED FRINGE ANALYSIS SYSTEM

- _ available as static version "X-fringe ST" for static fringe analysis and "X-fringe PS2" for phase shifting fringe analysis with XONOX Piezo Phase Shifter "X-phase PMR"
- _ different, smart Expert- and Production Modes for convenient wave front analysis and result documentation to suit various applications
- _ very smart and convenient, fully automatic masking and scaling funcion with integrated transmission sphere database and selection tool.
- _ setup manually or via XONOX QR-Code metrology network
- _ automatic lens numbering, creation of files and directories for complete and comprehensive documentation of measuring results of complete batches
- _ ISO compliant result sheets and batch documentation with In- / Out of spec display in different colours
- _ interface for linear measuring system for using lens position for various applications directly in the software
- _ automated radius measuring tool for precise RoC measurement independent of precise catseye or confocal position
- _ automatic identification and documentation of used transmission sphere, transmission sphere data and lens holder system

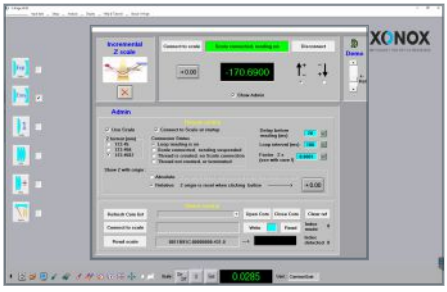




Expert Mode for comprehensive analysis

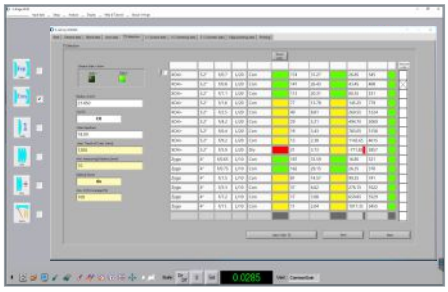


advanced analysis of Zernike polynominals

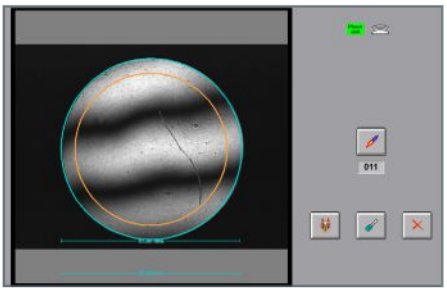


integrated interface to linear measuring system

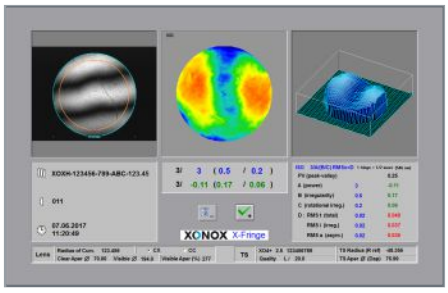
radius of curvature measurement tool


integrated transmission sphere data base / selection

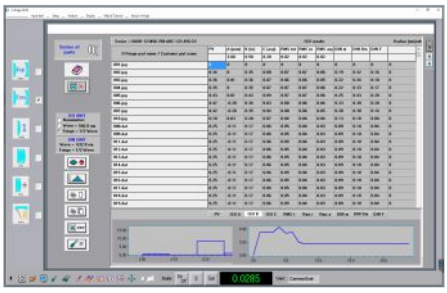
Easy Production Mode with fast QR Code setup



automatic mask, scaling and lens numbering



Clean and clear ISO result sheet for lens production


series documentation with results and statistics

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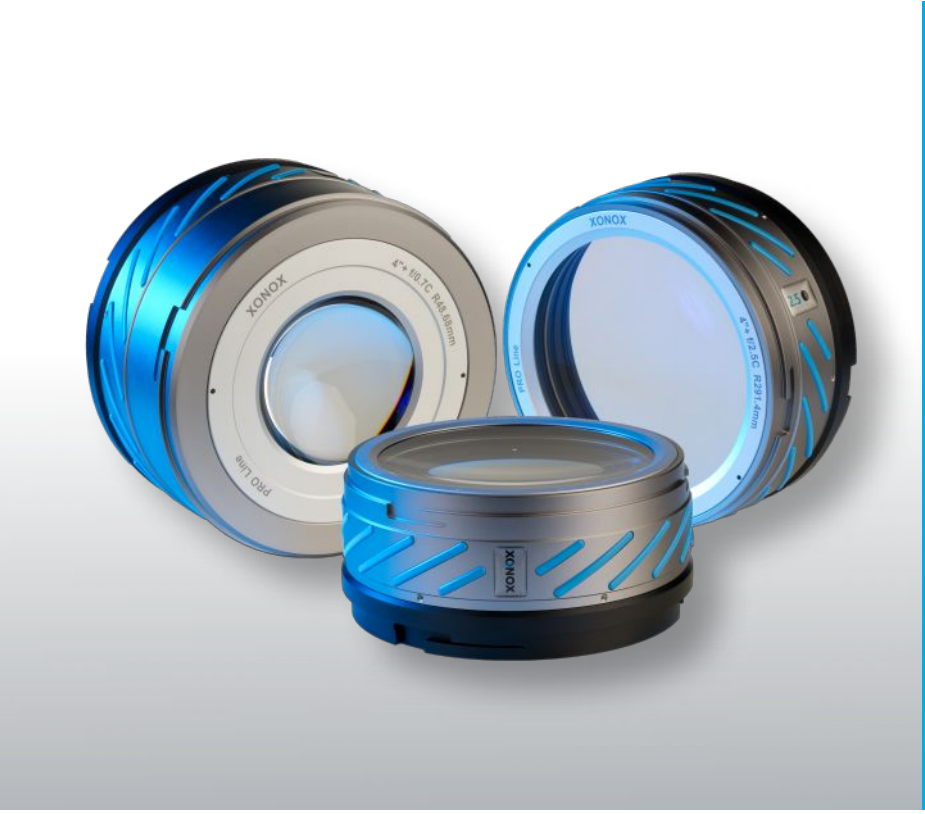
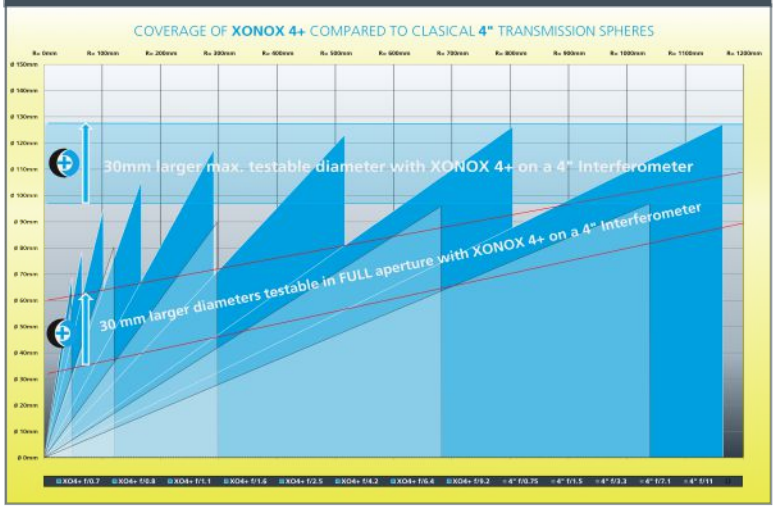
XONOX 4+



5.2" FIZEAU TRANSMISSION SPHERE LINE FOR USE ON 4" INTERFEROMETERS - PROVIDING EXTENDED MEASURING RANGE

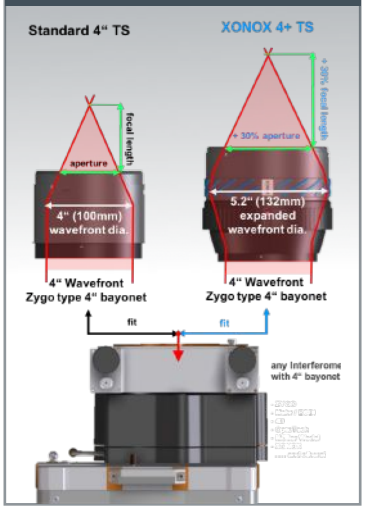
- integrated 30% wavefront expansion turns each standard 4" interferometer virtually into a 5.2"system with 30% larger aperture
- no mechanical or optical modification required on existing systems - just mount in existing 4" standard bayonet and start
- fully interchangeable with existing standard 4" TS
- huge added value by up to 60% more coverage of lens surfaces in terms of visible lens aperture and pricing like classical 4" TS
- innovative f/ number line for improved and gap free coverage of many more surfaces for full aperture measurement
- high quality optics, mechanics and innovative assembly for long term sealing against dust
- excellent, hand crafted reference surfaces, free of any features caused by machine- or sub aperture polishing
- „Smart Case" - the practical, user oriented and safe box- and handling system
- highest quality 100% made at XONOX, Germany

The Added Value



The „SMART CASE"

The Technology



TRANSMISSION SPHERE	f / 0.7	f / 0.8	f / 1.1	f / 1.6	f / 2.5	f / 4.2	f / 6.4	f / 9.2	f / 5.9D	f / ∞
APERTURE ANGLE	91.4°	74.5°	55.4°	36.8	23.3°	13.7°	9.0°	6.3°	9.8°	-
APERTURE DIAMETER [mm]	⌀69.7	⌀79.0	⌀95.0	⌀105.4	⌀117.5	⌀123.2	⌀126.3	⌀127.1	⌀128.0	⌀129.5
RADIUS REF. SURFACE [mm]	-48.68	-65.26	-102.21	-167.10	-291.40	-516.60	-804.90	-1164.5	+750.00	flat
HOUSING DIAMETER	⌀158 mm									
HOUSING HEIGHT	82.7 mm				58.5 mm		45.5 mm		58.5 mm	45.5 mm
QUALITY OF REF. SURFACE	BASE Line: λ/10 PV • PRO Line: λ/20 PV • PRIME Line: λ/50 PV (@ 632.8 nm)									
MECHANICAL CONNECTION	ZYGO compatible 4" bayonet									

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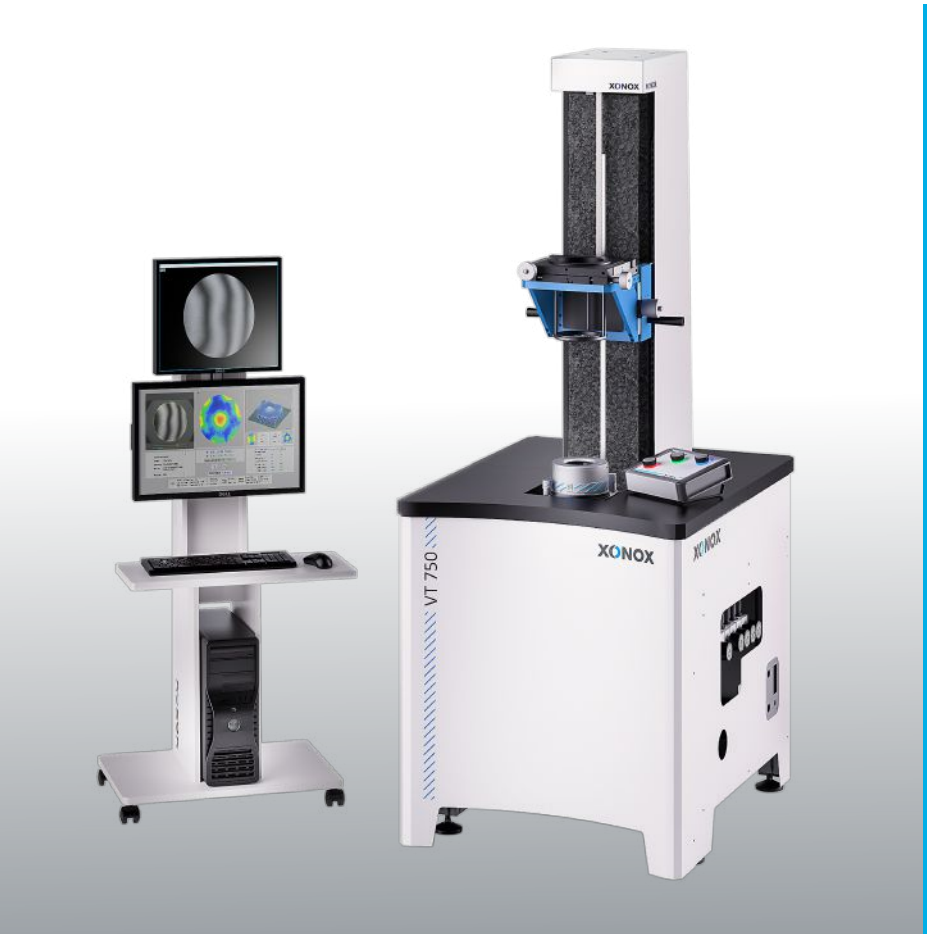
VT 750



VERTICAL INTERFROMETER SYSTEM

- precision interferometer tower for production-, quality inspection- and metrology lab environments
- natural granite column with extremely flat and precise guiding surfaces provide for ease of use and very accurate measurement of radius of curvature on optical components
- highly precise and accurate linear scale with exceptional resolution, directly interfaced to fringe analysis software
- measurement table is balanced and guided on air bearing slide for quick, easy and accurate setup and movement
- small foot print and exceptional value combined with high accuracy and and rigit, maitenance free design
- robust vibration damping system, prefect for use in industrial production environments
- XONOX **X-fiz 100** (4") or **X-fiz 130** (5.2") high performance Fizeau interferometer with electronic control of optical zoom (1x to 10x), focus and contrast
- innovative, powerful and user friendly fringe analysis system **X-fringe2** with different smart and intelligent modes to suit various applications
- choose from low cost „ST" version with static fringe analysis up to high performance „PS2" phase shifting version
- system can be equipped either with PC table, 2 screens, mouse and keyboard or with built-in PC and and touch panel for optimized operation and minimized space requirement in production environment
- additionally available in a "tower only" version „B" for integrating existing or 3rd party interferometer units or version „Z" equipped with ZYGO Verifire and ZYGO MX fringe analysis software

WORKING RANGE	min. 750mm travel (800mm linear scale range), up to 200mm test diameter (depending on used TS and part holder) + micrometer fine adjustment for easy and precise setting of cats eye and confocal position
VERSIONS	_ **VT750 ST** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom and static fringe analysis system XONOX „**X-fringe ST**" _ **VT750 PS2** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom, phase shifting fringe analysis system XONOX „**X-fringe2**" and piezo phase shifter XONOX „**X-phase PMR**" _ **VT750 Z** with ZYGO Verifire 4" or 6" interferometer unit and Mx / MetroPro phase shifting fringe analysis _ **VT750 B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe ST or X-fringe PS with X-phase PMR phase shifter.
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface + attachment SRM-plus for short radius measurement (option) or laser distance measuring system (option)
MEASURING ACCURACY	up to +/- 0.7µ per 500mm , up to 1 nanometer resolution
DIMENSIONS (WxDxH) / WEIGHT	800 x 900 x 2100 mm when using touch screen for fringe analysis (additional space required if PC is used for fringe analysis, XONOX PC-table optionally available) / approx. 500kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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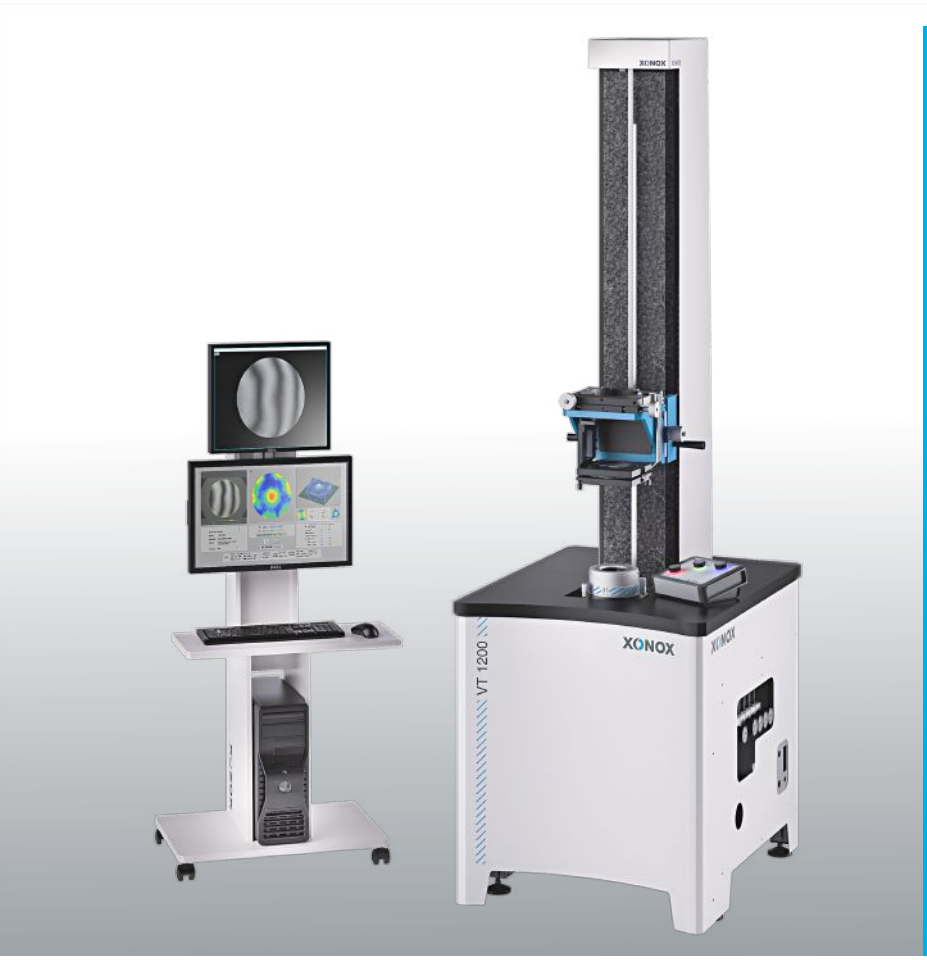
METROLOGY FOR OPTICS REDEFINED

VT 1200



VERTICAL INTERFROMETER SYSTEM

- precision interferometer tower for production-, quality inspection- and metrology lab environments
- exceptionally large measuring range for radii up to 1400mm
- natural granite column with extremely flat and precise guiding surfaces provide for ease of use and very accurate measurement of radius of curvature on optical components
- highly precise and accurate linear scale with exceptional resolution, directly interfaced to fringe analysis software
- measurement table is balanced and guided on air bearing slide for quick, easy and accurate setup and movement
- small foot print and exceptional value combined with high accuracy and and rigit, maitenance free design
- robust vibration damping system, prefect for use in industrial production environments
- XONOX **X-fiz 100** (4") or **X-fiz 130** (5.2") high performance Fizeau interferometer with electronic control of optical zoom (1x to 10x), focus and contrast
- innovative, powerful and user friendly fringe analysis system **X-fringe2** with different smart and intelligent modes to suit various applications
- choose from low cost „ST" version with static fringe analysis up to high performance „PS2" phase shifting version
- system can be equipped either with PC table, 2 screens, mouse and keyboard or with built-in PC and and touch panel for optimized operation and minimized space requirement in production environment
- additionally available in a "tower only" version „B" for integrating existing or 3rd party interferometer units or version „Z" equipped with ZYGO Verifire and ZYGO MX fringe analysis software

WORKING RANGE	min. 1200mm travel (1400mm linear scale range), up to 200mm test diameter (depending on used TS and part holder) + micrometer fine adjustment for easy and precise setting of cats eye and confocal position
VERSIONS	_ **VT1200 ST** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom and static fringe analysis system XONOX „**X-fringe ST**" _ **VT1200 PS2** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom, phase shifting fringe analysis system XONOX „**X-fringe2**" and piezo phase shifter XONOX „**X-phase PMR**" _ **VT1200 Z** with ZYGO Verifire 4" or 6" interferometer unit and Mx / MetroPro phase shifting fringe analysis _ **VT1200 B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe ST or X-fringe PS with X-phase PMR phase shifter.
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface + attachment SRM-plus for short radius measurement (option) or laser distance measuring system (option)
MEASURING ACCURACY	up to +/- 0.7µ per 500mm , up to 1 nanometer resolution
DIMENSIONS (WxDxH) / WEIGHT	800 x 900 x 2650 mm when using touch screen for fringe analysis (additional space required if PC is used for fringe analysis, XONOX PC-table optionally available) / approx. 650kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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XONOX
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VT 1000 DL

VERTICAL DOWNWARD LOOKING INTERFROMETER SYSTEM

- precision vertical downward looking interferometer system for full aperture testing of optics in production-, quality inspection- and metrology lab environments
- optimized for the use in combination with sub-aperture polishing- and correction processes on flat optics, spheres and aspheres
- integratedn features and technologies for perfect alignment of measuring data with the coordinate system/axis of sub aperture correction machines for achievement of highest correction quality and efficiency
- natural granite column with extremely flat and precise guiding surfaces provide for ease of use and very accurate measurement of radius of curvature on optical components
- highly precise and accurate linear scale with exceptional resolution, directly interfaced to fringe analysis software
- measurement table(s) is balanced and guided on air bearing slide for quick, easy and accurate setup and movement
- fully closed measuring area with innovative door system for precise and reliable, undisturbed measurements
- robust vibration damping system, prefect for use in industrial production environments
- XONOX **X-fiz 100** (4") or **X-fiz 130** (5.2") high performance Fizeau interferometer with electronic control of optical zoom (1x to 10x), focus and contrast
- innovative, powerful and user friendly fringe analysis sys-tem **X-fringe2** with different smart and intelligent modes to suit various applications
- choose from low cost „ST" version with static fringe analysis up to high performance „PS2" phase shifting version
- additionally available in a "tower only" version „B" for integrating existing or 3rd party interferometer units or version „Z" equipped with ZYGO Verifire and ZYGO MX fringe analysis software

WORKING RANGE	min. 1000mm travel, up to 250mm test diameter (depending on used TS and part holder) + micrometer fine adjustment for easy and precise adjustment of cats eye and confocal position
VERSIONS	_ **VT1000 DL ST** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom and static fringe analysis system XONOX „**X-fringe ST**" _ **VT1000 DL PS2** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom, phase shifting fringe analysis system XONOX „**X-fringe2**" and piezo phase shifter XONOX „**X-phase PMR**" _ **VT1000 DL Z** with ZYGO Verifire 4" or 6" interferometer unit and Mx / MetroPro phase shifting fringe analysis _ **VT1000 DL B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe ST or X-fringe PS with X-phase PMR phase shifter. _ **All versions** can be equipped with 1 or 2 meausring slides and CGH multi axis holder on request
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface + attachment SRM-plus for short radius measurement (option) or laser distance measuring system (option)
MEASURING ACCURACY	up to +/- 0.7µ per 500mm , up to 1 nanometer resolution
DIMENSIONS (WxDxH) / WEIGHT	1200 x 900 x 2800 mm (additional space required if PC is used for fringe analysis, XONOX PC-table optionally available) / approx. 950kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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XONOX
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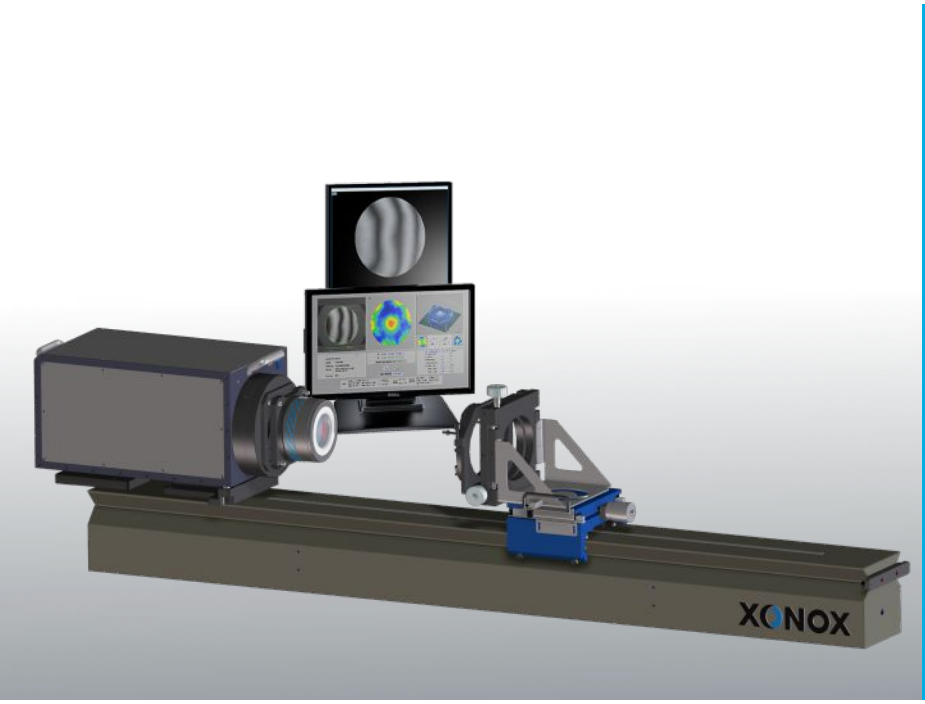
HS 1200 light



HORIZONTAL INTERFROMETER SYSTEM

- precise horizontal interferometer system for laboratories, R&D, optical workshops and quality inspection
- prepared for mounting on customers existing optical table
- linear measuring slide guided by precision air bearing for quick, easy and accurate movement
- natural granite column with extremely flat and precise guiding surfaces for high precision radius of curvature measurements on optical components and precise linear setup's
- high precision incremental linear scale with highest resolution and direct software interface
- XONOX X-fiz 100 (4") or X-fiz 130 (5.2") high performance Fizeau interferometer with electronic control of optical zoom (1x to 10x), focus and contrast
- innovative, powerful and user friendly fringe analysis system X-fringe2 with different smart and intelligent modes to suit various applications
- choose from low cost „ST" version with static fringe analysis up to high performance „PS2" phase shifting version

WORKING RANGE	min. 1200mm travel (1400mm linear scale range), up to 200mm test diameter (depending on used TS and part holder)
VERSIONS	_ **HS1200 ST** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom and static fringe analysis system XONOX „**X-fringe ST**" _ **HS1200 ST PS2** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom, phase shifting fringe analysis system XONOX „**X-fringe2**" and piezo phase shifter XONOX „**X-phase PMR**"
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface + attachment SRM-plus for short radius measurement (option) or laser distance measuring system (option)
MEASURING ACCURACY	up to +/- 0.7µ per 500mm , up to 1 nanometer resolution
DIMENSIONS (WxDxH) / WEIGHT	2500 x 1200 x 1200 mm when using touch screen for fringe analysis (additional space required if PC is used for fringe analysis, XONOX PC-table optionally available) / approx. 900kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	natural granite

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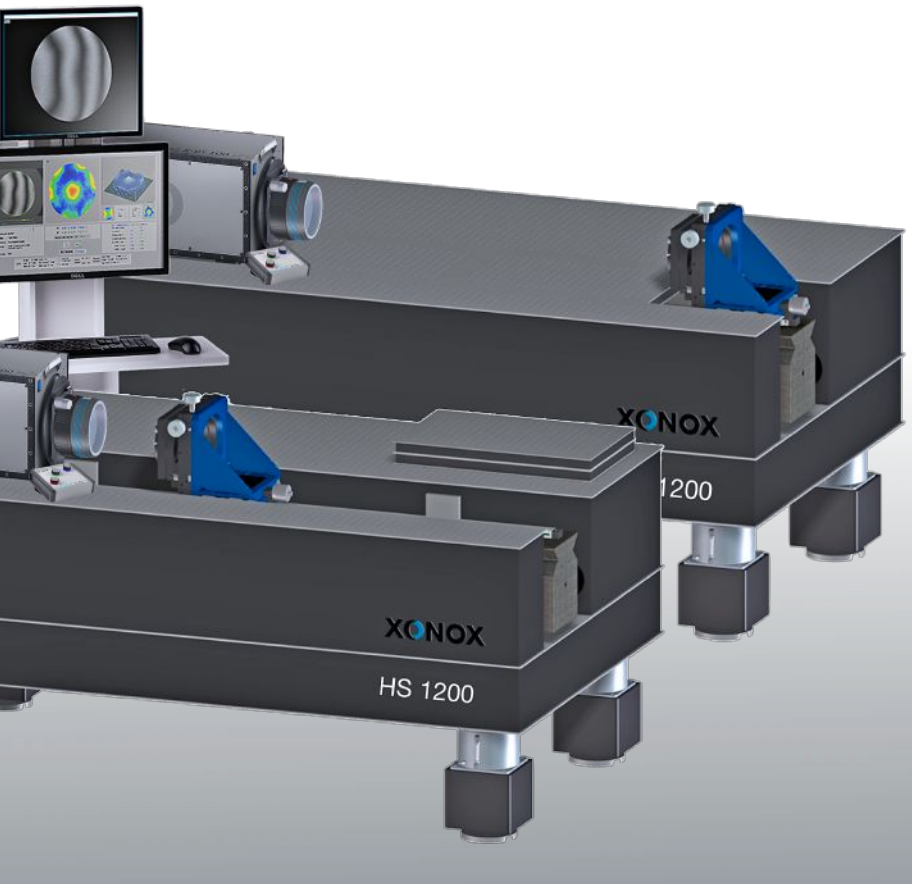
HS 1200



HORIZONTAL INTERFROMETER SYSTEM

- precise horizontal interferometer system for laboratories, R&D, optical workshops and quality inspection
- fully functional optical table in combination with high precision linear axis embedded in optical table
- vibration damping and level regualting system for perfect usage in R&D as well as industrial environment
- linear measuring slide guided by precision air bearing for quick, easy and accurate movement
- natural granite column with extremely flat and precise guiding surfaces for high precision radius of curvature measurements on optical components and precise linear setup's
- high precision incremental linear scale with highest resolution and direct software interface
- XONOX X-fiz 100 (4") or X-fiz 130 (5.2") high performance Fizeau interferometer with electronic control of optical zoom (1x to 10x), focus and contrast
- innovative, powerful and user friendly fringe analysis system X-fringe2 with different smart and intelligent modes to suit various applications
- choose from low cost „ST" version with static fringe analysis up to high performance „PS2" phase shifting version
- additionally available in a "tower only" version „B" for integrating existing or 3rd party interferometer units or version „Z" equipped with ZYGO Verifire and ZYGO MX fringe analysis software

WORKING RANGE	min. 1200mm travel (1400mm linear scale range), up to 200mm test diameter (depending on used TS and part holder) + micrometer fine adjustment for easy and precise setting of cats eye and confocal position
VERSIONS	_ **HS1200 ST** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom and static fringe analysis system XONOX „**X-fringe ST**" _ **HS1200 ST PS2** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom, phase shifting fringe analysis system XONOX „**X-fringe2**" and piezo phase shifter XONOX „**X-phase PMR**" _ **HS1200 ST Z** with ZYGO Verifire 4" or 6" interferometer unit and Mx / MetroPro phase shifting fringe analysis _ **HS1200 ST B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe ST or X-fringe PS with X-phase PMR phase shifter.
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface + attachment SRM-plus for short radius measurement (option) or laser distance measuring system (option)
MEASURING ACCURACY	up to +/- 0.7µ per 500mm , up to 1 nanometer resolution
DIMENSIONS (WxDxH) / WEIGHT	2500 x 1200 x 1200 mm when using touch screen for fringe analysis (additional space required if PC is used for fringe analysis, XONOX PC-table optionally available) / approx. 900kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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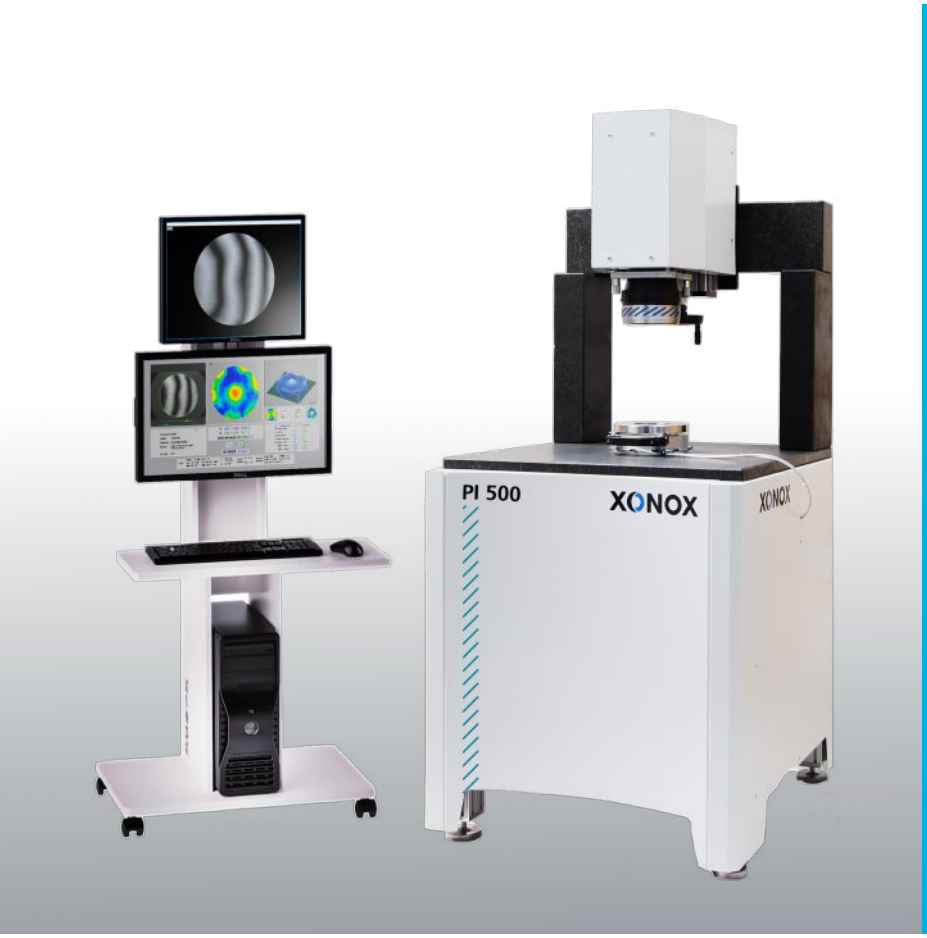
XONOX
METROLOGY FOR OPTICS REDEFINED

PI 500



PLANO INTERFROMETER SYSTEM

- precise vertical interferometer for testing flat optical components and plano multiple blocks
- part holder with air bearing for easy movement of even heavy workpieces for fringe analyzing in different positions
- tip-tilt unit for easy adjustment of fringes, integrated in moveable part holder
- precision, vibration dampened measuring table made of natural granite in high flatness for comfortable analyzing in different positions without loosing fringes
- adjustable interferometer height for setting best position for different workpiece thicknesses
- XONOX **X-fiz 100** (4") or **X-fiz 130** (5.2") high performance Fizeau interferometer with electronic control of optical zoom (1x to 10x), focus and contrast
- innovative, powerful and user friendly fringe analysis system **X-fringe2** with different smart and intelligent modes to suit various applications
- choose from low cost „ST" version with static fringe analysis up to high performance „PS2" phase shifting version
- system can be equipped either with PC table, 2 screens, mouse and keyboard or with built-in PC and and touch panel for optimized operation and minimized space requirement in production environment
- additionally available in a "tower only" version „B" for integrating existing or 3rd party interferometer units or version „Z" equipped with ZYGO Verifire and ZYGO MX fringe analysis software

WORKING RANGE	up to workpiece diameter 500 mm
VERSIONS	_ **PI500 ST** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom and static fringe analysis system XONOX „**X-fringe ST**" _ **PI500 PS2** with XONOX **X-fiz 100** (4") / **X-fiz 130** (5.2") with **10x** optical zoom, phase shifting fringe analysis system XONOX „**X-fringe2**" and piezo phase shifter XONOX „**X-phase PMR**" _ **PI500 Z** with ZYGO Verifire 4" or 6" interferometer unit and Mx / MetroPro phase shifting fringe analysis _ **PI500 B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe ST or X-fringe PS with X-phase PMR phase shifter.
DIMENSIONS (WxDxH) / WEIGHT	800 x 900 x 2200 mm when using touch screen for fringe analysis (additional space required if PC is used for fringe analysis, XONOX PC-table optionally available) / approx. 750kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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XONOX
METROLOGY FOR OPTICS REDEFINED

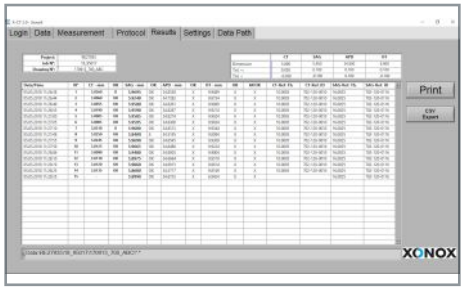
CT 200

CENTER THICKNESS MEASUREMENT SYSTEM

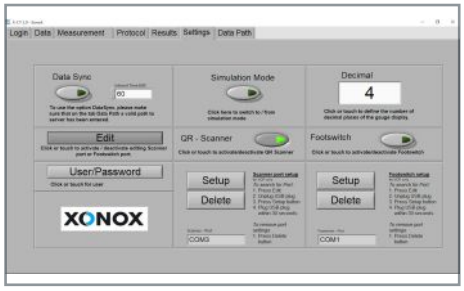
- highly precise and robust Center Thickness measurement system for ground, polished and coated optics in both, production and quality inspection environments
- designed for long term reliability and cost effective operation
- measurements of SAG depth, surface aperture diameter, total lens height and stock removal are supported in addition to CT measurement
- lenses automatically centered with an innovative precision 3-jaw chuck system
- direct measurement of CT achieved through automatic, pneumatic actuation of probes that touch the upper and lower sides of the workpiece simultaniously
- easy, fast and safe setup and loading of workpieces
- proven by many independent parties to virtually eliminate the risk of damage to even the most sensitive polished and coated optics with strict cosmetic requirements
- large measurement range from below Ø8mm up to Ø200mm
- foot switch for easy and efficient measurement of series
- optional software and controller package, "**X-ct**" offers additional measurement modes, automatic documentation creation, and data logging of measurement results

SOFTWARE + CONTROLLER PACKAGE X-ct

- easy and touch screen optimized dialogue user interface
- automatic counting / numbering of lenses
- green (in spec) or red (out of spec) display of measurements
- data input manually or via QR code reader



- automatic documentation of all measurements
- listing of CT, SAG depth, Total Height, Apperture Diameter
- automatic marking IN/OUT of spec for all dimensions
- extensive data export functions + X-metrOLINK compatible



- intelligent and easy-to-use setup for administrative functions and user handling
- quick setup for auxilliarry equipment such as QR reader, footswitch etc.
- easy network integration and path settings for documentation

WORKING RANGE	50 mm travel of measuring gauges on different adjustable positions
DIAMETER RANGE	⌀8 - ⌀200 mm
MEASURING SYSTEM	digital precision measuring gauge with 0.5µ resolution
MEASURING ACCURACY	Resolution: 0.0005 mm Accuracy: ≦ 0.002 mm Repeatability: 0.001 mm
DIMENSIONS (WxDxH) / WEIGHT	460 x 300 x 650 mm (additional space required for X-ct PC) / approx. 30kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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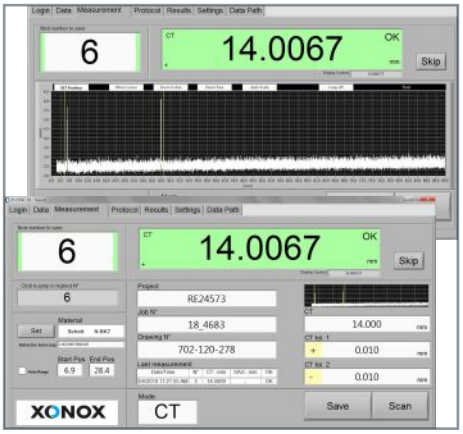
XONOX
METROLOGY FOR OPTICS REDEFINED

CT 200 NC

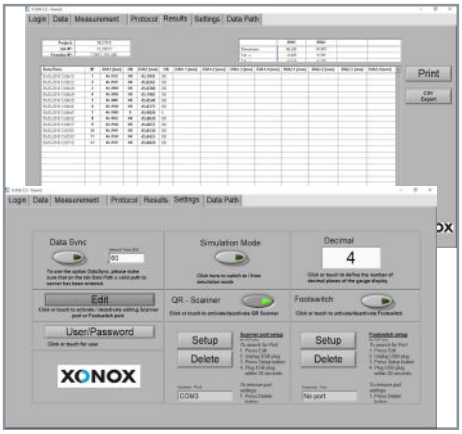
NON-CONTACT CENTER THICKNESS MEASURING SYSTEM

- highly precise and easy to use non-contact system for measuring the thickness of optical elements in both, production and quality inspection environments
- integrated interferometric sensor for fast, reliable and high precision thickness measurement
- measurement of single elements and doublets
- lenses automatically centered with an innovative precision 3-jaw chuck system
- measurements of elements with one side access only is accommodated
- ideal for testing lenses - even mounted to holders - with demanding CT tolerances in the polishing operation
- ergonomically positioned lens holder provides for safe, easy and fast loading and setup of workpieces
- conveniently located touch screen allows for simple and quick operation
- large measurement range from micro-optics up to Ø200mm
- extensive integrated glass database provides ready access to index data
- supported connectivity to CT200 allows for automatic analysis of unknown index values
- equipped with feature rich software and controller package, "**X-ctNC**" and touchscreen interface

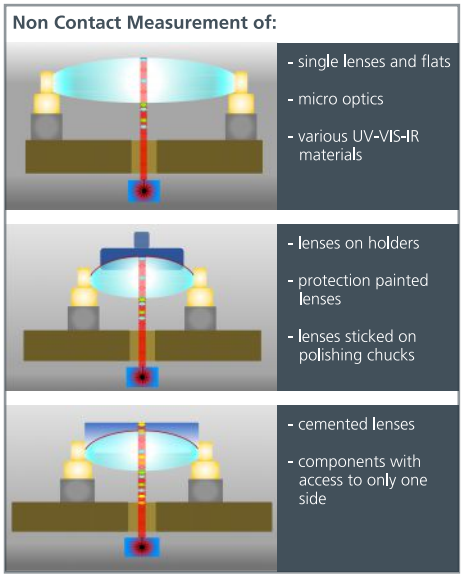
SOFTWARE + CONTROLLER PACKAGE X-ctNC



- easy, touch optimized user interface with QR code setup
- automatic numbering of lenses, IN/OUT of spec colors
- full glass database for index settings
- live display of measuring signal - zoomable by finger tip



- automatic part numbering and result documentation
- automatic marking IN/OUT of spec for all dimensions
- intelligent and easy to use auxilliary and network settings
- extensive data export functions + X-metroLINK compatible



WORKING RANGE	85mm max. optical thickness, max. part thickness depending on material index
DIAMETER RANGE	from micro optics sizes up to ⌀200 mm
MEASURING SYSTEM	Optical low coherence inteferometer with precision incremental encoder
MEASURING ACCURACY	Resolution: 0.0001 mm / Accuracy: +/- 0.001mm (depending on lens centration / index uncertainty)
DIMENSIONS (WxDxH) / WEIGHT	530 x 490 x 540 mm (plus touch screen height on top of instrument) / approx. 25kg
CONNECTIONS	110-240 V / 50-60 Hz
COLOR	Light grey RAL 7035

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XONOX
METROLOGY FOR OPTICS REDEFINED

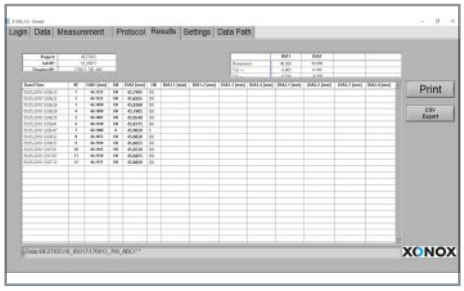
DT 140

DIAMETER MEASURING SYSTEM

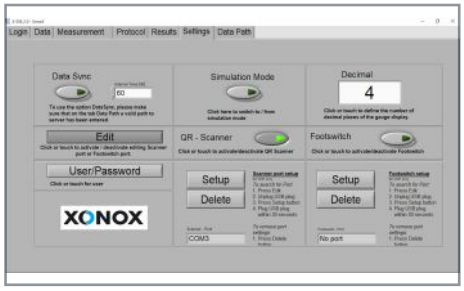
- highly precise and easy to use system for measuring the diameters, roundness and cone on optical elements in both, production and quality inspection environments
- designed for long term reliability and cost effective operation
- measurements of secondary diameters, and roundness are supported in addition to the primary diameter
- lenses automatically centered with an innovative precision 3-jaw chuck system
- direct measurement of diameter achieved through automatic, pneumatic actuation of probes that touch the edge of the workpiece
- probe contact height is adjustable to be compatible with steps and other edge features
- optimized for safe, fast and easy setup and loading of workpiece
- many times proven, absolutely risk- / damage free measurement of even very thin, knife edge and sensitive components
- large measurement range from below Ø8mm up to Ø140mm
- foot switch for easy and efficient measurements of series
- equipped with software and controller package, "**X-dt**" offering additional measurement modes, automatic documentation creation, and data logging of measurement results

SOFTWARE + CONTROLLER PACKAGE X-dt

- easy and touch screen optimized dialogue user interface
- automatic counting / numbering of lenses
- green (in spec) or red (out of spec) display of measurements
- data input manually or via QR code reader



- automatic documentation of all measurements
- listing of DIA1, DIA2 and Roundness
- automatic marking IN/OUT of spec for all dimensions
- extensive data export functions + X-metroLINK cpmpatible



- intelligent and easy-to-use setup for administrative functions and user handling
- quick setup for auxilliarry equipment such as QR reader, footswitch etc.
- easy network integration and path settings for documentation

WORKING RANGE	50 mm travel of measuring gauges on different adjustable positions
DIAMETER RANGE	⌀8 - ⌀140 mm
MEASURING SYSTEM	digital precision measuring gauge with 0.5µ resolution
MEASURING ACCURACY	Resolution: 0.0005 mm Accuracy: ≦ 0.002 mm Repeatability: 0.001 mm
DIMENSIONS (WxDxH) / WEIGHT	650 x 300 x 350 mm (additional space required for X-dia PC) / approx. 30kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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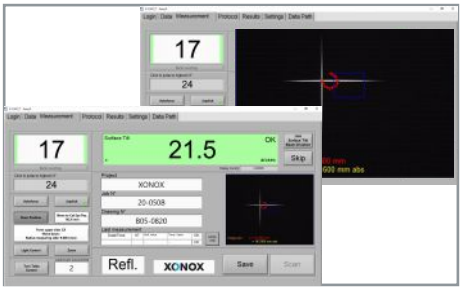
XONOX
METROLOGY FOR OPTICS REDEFINED

CM 140

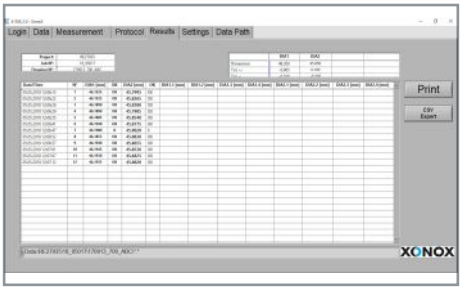
CENTERING ERROR MEASUREMENT SYSTEM

- precise and easy to operate non-contact measurement system for determining centering errors on lens elements in production, quality inspection or metrology lab environments
- measurements facilitated by precision autocollimator and secondary substage collimator
- software recall of previous setups facilitates efficient use for recurring jobs
- lens centering can measured in transmission or reflection
- unique, height adjustable chuck, automatically centers lenses of various diameters and correctly locates friction wheel for efficient loading and operation
- very fast and convenient setup of lensholder without any need for changing or adjusting a V-stop
- commonly used functions are conveniently located for easy access and direct control over Z-axis height, vacuum, speed, crosshair display
- large measuring range
- equipped with extensive software and controller package, "X-cm" for various modes and automatic documentation of measurement results of complete series

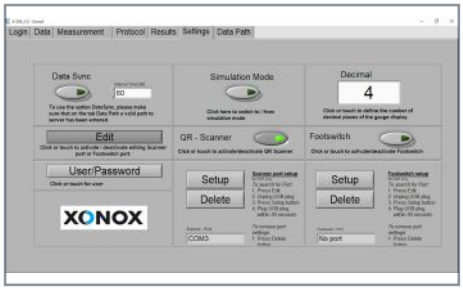
SOFTWARE + CONTROLLER PACKAGE X-cm



- easy and touch screen optimized dialogue user interface
- automatic counting / touch zoom for measuring window
- green (in spec) or red (out of spec) display of measurements
- data input manually or via QR code reader



- automatic documentation of all measurements
- listing of optical axis tilt and edge runout
- automatic marking IN/OUT of spec for all dimensions
- extensive data export functions + X-metroLINK cpmpatible



- intelligent and easy-to-use setup for administrative functions and user handling
- quick setup for auxilliarry equipment such as QR reader, footswitch etc.
- easy network integration and path settings for documentation

WORKING RANGE	750 mm travel of Z-axis
DIAMETER RANGE	ø8 - ø140 mm
MEASURING SYSTEM	precision autocollimator and secondary substage collimator
DIMENSIONS (WxDxH) / WEIGHT	590 x 570 x 1300 mm (additional space required for X-dia PC) / approx. 35kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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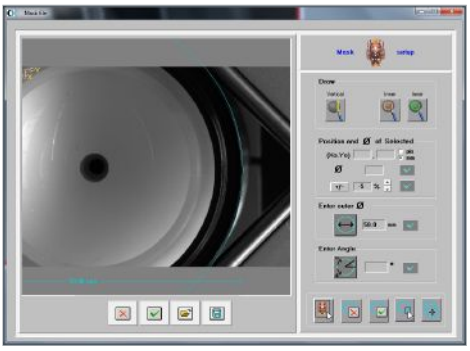
XONOX
METROLOGY FOR OPTICS REDEFINED

EPS100

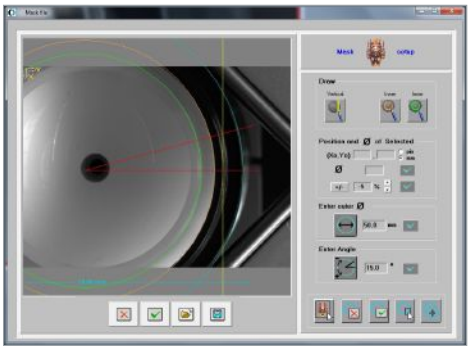
EDGE AND MASK PAINTING SYSTEM

- system for safe, easy and efficient painting and varnishing of edges and precise surface masks on optical components
- observation of the painting area via live video system with monitor and high magnification
- exact adjustment of aperture mask for painting limits via software and precise gauge
- adjustment of lens position and easy re-loading of lenses using precisely adjustable and pneumatically moveable V-Stop
- quality control for mask diameter directly after finishing of painting
- infinitely adjustable rotation speed of workpiece spindle
- infinitely adjustable vacuum for lens holding on resin chuck
- pedals for vacuum on/off and spindle rotation on/off for easy and efficient use even when painting high volumes
- operation optionally via standard camera software or comprehensive software tool XONOX "X-paint" with advanced functionality for various and multiple masks

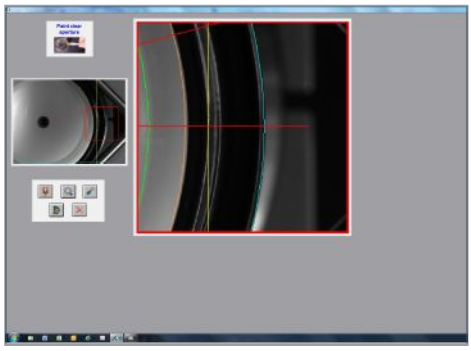
SOFTWARE + CONTROLLER PACKAGE X-paint



comprehensive, easy to use mask and angle editor with precise scaling tool



multiple masks, angles angle marks and precise scaling of mask dimensions.



easy to use, variable zoom for live painting observation and final quality inspection

WORKING RANGE	up to workpiece diameter 100 mm
SPINDLE SPEED	0 - 300 rpm infinitely variable
VACUUM	0 to -0.6 bar infinitely adjustable
DIMENSIONS (WxDxH)	500 x 300 x 700 mm (additional space required for PC and monitor)
WEIGHT	approx. 30 kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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