XONOX

METROLOGY FOR OPTICS REDEFINED

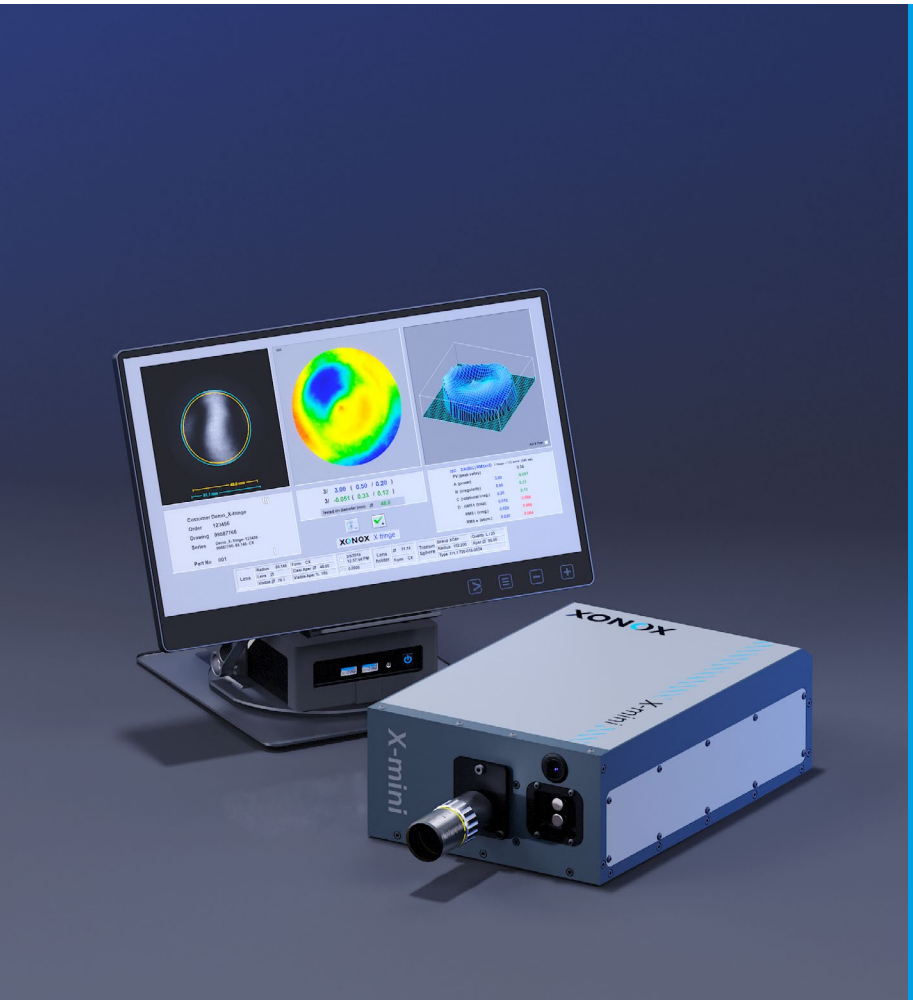
PRODUCT CATALOGUE 2026



INTERFEROMETERS
INTERFEROMETER OPTICS
INTERFEROMETER WORKSTATIONS
INTERFEROMETER SOFTWARE
MEASURING SYSTEMS
MEASURING SOFTWARE
LENS TREATMENT SYSTEMS
QC-SOFTWARE AND SYSTEMS
JOB MANAGEMENT TOOLS AND SOFTWARE

XONOX Technology GmbH
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X-mini



COMPACT TWYMAN-GREEN INTERFEROMETER

_ innovative, high quality Twyman-Green interferometer with high resolution 5MP camera and seperate 1.6MP alignment camera

Smart Interface

_ software controlled, digital zoom for optimal image processing
_ software controlled, motorized pupil focus
_ automatic exposure and gain to achieve ideal fringe contrast
_ industry standard USB protocol used for all communications between computer and interferometer
_ robust vibration damping system, prefect for use in industrial production environments

Smart Construction

_ highly rigit frame and robust opto-mechanical design ensure alignment is maintained when mounting retained over time
_ high quality integrated piezo phase shifter
_ fiber coupled 633nm, wavelength stabilized laser

Smart Maintenance

_ automatic control of laser conserves lifetime and warns user when nearing end-of-life
_ innovative design concept allows for change of laser and electrical components within minutes (A laser change does not require a realignment and the process can be done with the interferometer still installed within the measurement platform)

Right Sized for Micro Optics

_ 20mm aperture supports use of industry standard long working distance microscope objectives for testing spherical surfaces or creating spherical wavefronts

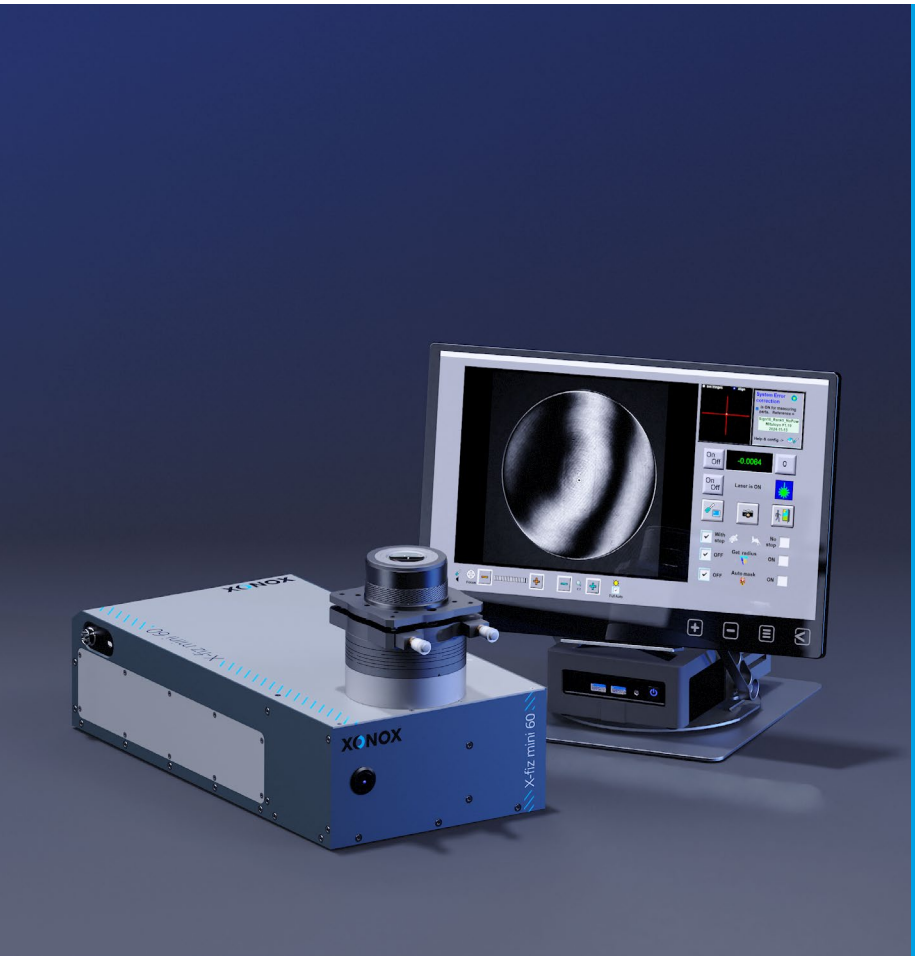
LASER SOURCE	633nm, wavelength stabilized, fiber coupled, TEC cooled, laser diode module				
OBJECTIV MOUNT	Mounting Threads: M26 x 36 TPIt				
IMAGING SYSTEM	low distortion imaging system with motorized pupil plane focus control _Main Camera: 5MP CMOS, 12 bit dynamic range _Alignment Camera: 1.6 MP CMOS				
CONTROLS	full software controll of all functions on PS2 versions via X-fringe PS2 analysis system				
COMPUTER / SOFTWARE	High performance micro PC, 15.6" touch screen, WIN11 64bit, X-fringe PS2				
DIMENSIONS (WxHxD)	310mm x 210mm x 100mm plus space for Screen and PC				
WEIGHT	approx. 10kg	**CONNECTIONS**	110-240 V / 50-60 Hz	**COLOR**	Perl-light-grey RAL 9022

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X-fiz mini 60



COMPACT PHASESHIFTING FIZEAU INTERFEROMETER

_ innovative, high quality Fizreau interferometer with high resolution 5MP camera and seperate 1.6MP alignment camera

Smart Interface

_ software controlled, digital zoom for optimal image processing
_ software controlled, motorized pupil focus
_ automatic exposure and gain to achieve ideal fringe contrast
_ industry standard USB protocol used for all communications between computer and interferometer

Smart Construction

_ highly rigit frame and robust opto-mechanical design ensure alignment is maintained when mounting retained over time
_ high quality integrated piezo phase shifter
_ fiber coupled 633nm, wavelength stabilized laser

Smart Maintenance

_ automatic control of laser conserves lifetime and warns user when nearing end-of-life
_ innovative design concept allows for change of laser and electrical components within minutes (A laser change does not require a realignment and the process can be done with the interferometer still installed within the measurement platform)

Right Sized for Small and Mid-Size Optics

_ 60mm aperture supports use of Transmission Spheres with 60mm entrance aperture or smaller for testing spherical surfaces or creating spherical wavefronts

LASER SOURCE	633nm, wavelength stabilized, fiber coupled, TEC cooled, laser diode module				
OBJECTIV MOUNT	various available depending on used Transmission Spheres				
IMAGING SYSTEM	low distortion imaging system with motorized pupil plane focus control _Main Camera: 5MP CMOS, 12 bit dynamic range _Alignment Camera: 1.6 MP CMOS				
CONTROLS	full software controll of all functions on PS2 versions via X-fringe PS2 analysis system				
COMPUTER / SOFTWARE	High performance micro PC, 15.6" touch screen, WIN11 64bit, X-fringe PS2				
DIMENSIONS (WxHxD)	205mm x 180mm x 400mm plus space for Screen and PC				
WEIGHT	approx. 14kg	**CONNECTIONS**	110-240 V / 50-60 Hz	**COLOR**	Perl-light-grey RAL 9022

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X-fiz



PHASE SHIFTING FIZEAU INTERFEROMETER

_ innovative, high quality Fizeau interferometer with high resolution 5MP camera and seperate 1.6MP alignment camera

Smart Interface

_ software controlled, digital zoom for optimal image processing
_ software controlled, motorized pupil focus
_ automatic exposure and gain to achieve ideal fringe contrast
_ industry standard USB protocol used for all communications between computer and interferometer
_ robust vibration damping system, prefect for use in industrial production environments

Smart Construction

_ highly rigit frame and robust opto-mechanical design ensure alignment is maintained when mounting retained over time
_ high quality piezo phase shifter with tip-tilt TS holder, compatible with Zygo style bayonet and XONOX 4+ connector
_ fiber coupled 633nm, wavelength stabilized laser

Smart Maintenance

_ automatic control of laser conserves lifetime and warns user when nearing end-of-life
_ innovative design concept allows for change of laser and electrical components within minutes (A laser change does not require a realignment and the process can be done with the interferometer still installed within the measurement platform)

Right Sized

_ 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

LASER SOURCE	633nm, wavelength stabilized, fiber coupled, TEC cooled, laser diode module				
VERSIONS 4“ (100mm) APERTURE	_ **X-fiz 100 Eco - 4“** (100mm) Fizeau Interferometer _ **X-fiz 100 PS2 - 4“** (100mm) Phase Shifting Fizeau Interferometer X-fringe² phase shifting fringe analysing system TS connection for all X-fiz100 Versions: 4“ Zygo type bayonet				
VERSIONS 6“ (150mm) APERTURE	_ **X-fiz 150 Eco - 4“** (150mm) Fizeau Interferometer _ **X-fiz 150 PS2 - 4“** (150mm) Phase Shifting Fizeau Interferometer X-fringe² phase shifting fringe analysing system TS connection for all X-fiz100 Versions: 6“ Zygo type bayonet				
CAMERA	5.0 MP, 8bit monochrome CMOS sensor				
IMAGING SYSTEM / OPTICAL AXIS	low distortion imaging system with motorized pupil plane focus control / optical axis height: 131mm				
CONTROLS	PC controller for live image and control for zoom and focus (saturation auto adjusted) for ECO versions - full software controll of all functions on PS2 versions via X-fringe PS2 analysis system				
COMPUTER / SOFTWARE	High performance PC, 24“ touch screen, 17“ live image screen, WIN11 64bit, X-fringe² for PS2 Versions				
DIMENSIONS (WxHxD)	310mm x 285mm x 530mm (595mm incl. phase shifter)				
WEIGHT	approx. 35kg	**CONNECTIONS**	110-240 V / 50-60 Hz	**COLOR**	Perl-light-grey RAL 9022

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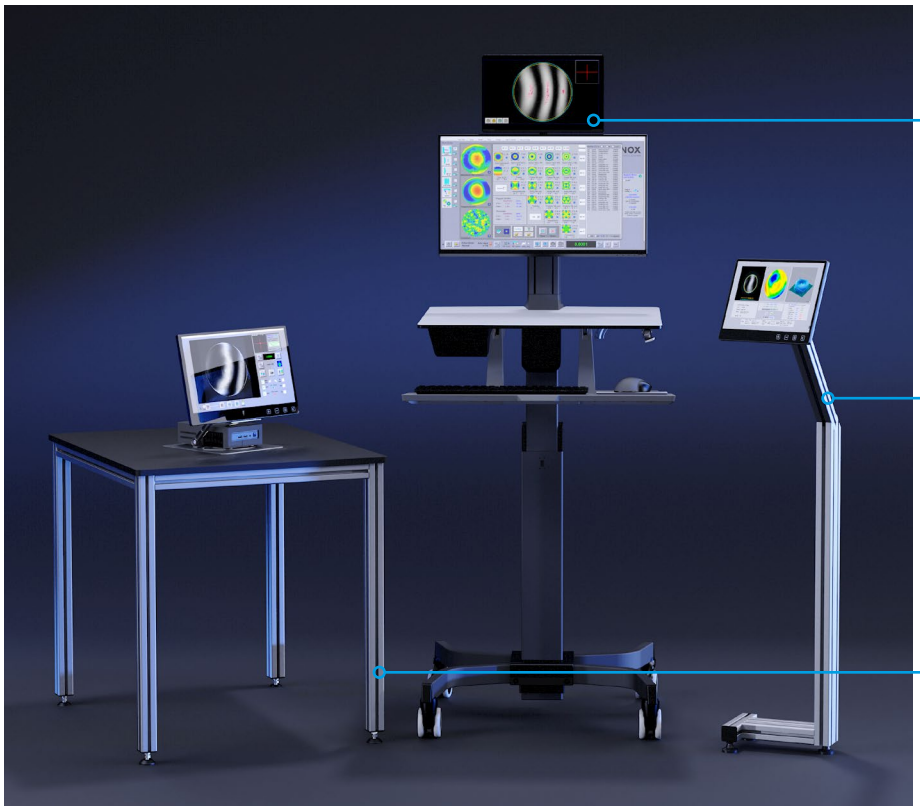
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XONOX SOFTWARE

X-fringe

FRINGE ANALISYS: ADVANCED // SMART // MODULAR // PRECISE // VIBRATION INSENSITIV



BIG WORKPLACE (BWP)

_ 2 screens, keyboard and mouse
_ for complex analysis in QC and R&D
_ height adjustable computer cart optionally available.
_ PC installed in Interferometer workstation

SMALL WORKPLACE (SWP)

_ for big workstations
_ space saving touch screen stand
_ for manufacturing and standard QC
_ Touch optimized user interface.
_ PC installed in Interferometer workstation

MINI WORKPLACE (MWP)

_ for small workstations
_ space saving touch screen stand
_ compact keyboard with trackpad
_ Touch optimized user interface.
_ equipped with high performance mini PC

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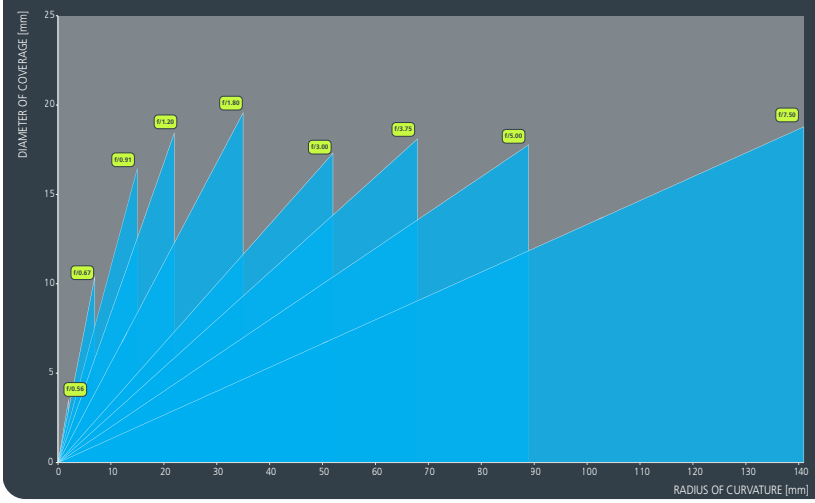
X-mini Objectives



INTERFEROMETER OBJECTIVES

- _ compatible with XONOX X-mini - phase shifting Twyman Green style interferometer
- _ infinity corrected designs
- _ very affordable and cost efficient
- _ industry standard M26 x 0.7 interface
- _ selection provides excellent coverage for the measurement of spherical surfaces 13mm (0.5“) and smaller (many more compatible objectives are commercially available)
- _ high quality reference surface is supplied for objectives
- _ software supported callibration on X-mini Interferometer system
- _ X-mini system accuracy is Lambda/20 PV due to integrated reference and advanced system error compensation via XONOX X-fringe phase shifting analysis software
- _ for testing flat surfaces of diameter 20mm and smaller, there is no objective required
- _ small form factor

COVERAGE OF XONOX X-mini INTERFEROMETER OBJECTIVES



Size compared to XONOX 4+ TS



OBJECTIVE	f / 0.56	f / 0.67	f / 0.90	f / 1.20	f / 1.80	f / 3.00	f / 3.75	f / 5.00	f / 7.50
MANUFACTURER	Mitutoyo					XONOX			
TYPE	100X	50X HR	50X	20X	10X	f=60	f=75	f=100	f=150
NUMERICAL APERTURE	0.90	0.75	0.55	0.42	0.28	0.17	0.13	0.10	0.07
WORKING DISTANCE [mm]	1.30	5.20	13.00	20.00	34.00	51.50	67.50	88.80	141.30
MOUNTING INTERFACE	M26 x 0.7 Thread								
HOUSING DIAMETER [mm]	34					31			

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60mm Transmission Spheres



FIZEAU TRANSMISSION SPHERES

_ compatible with XONOX X-fiz mini60 - phase shifting Fizeau interferometer

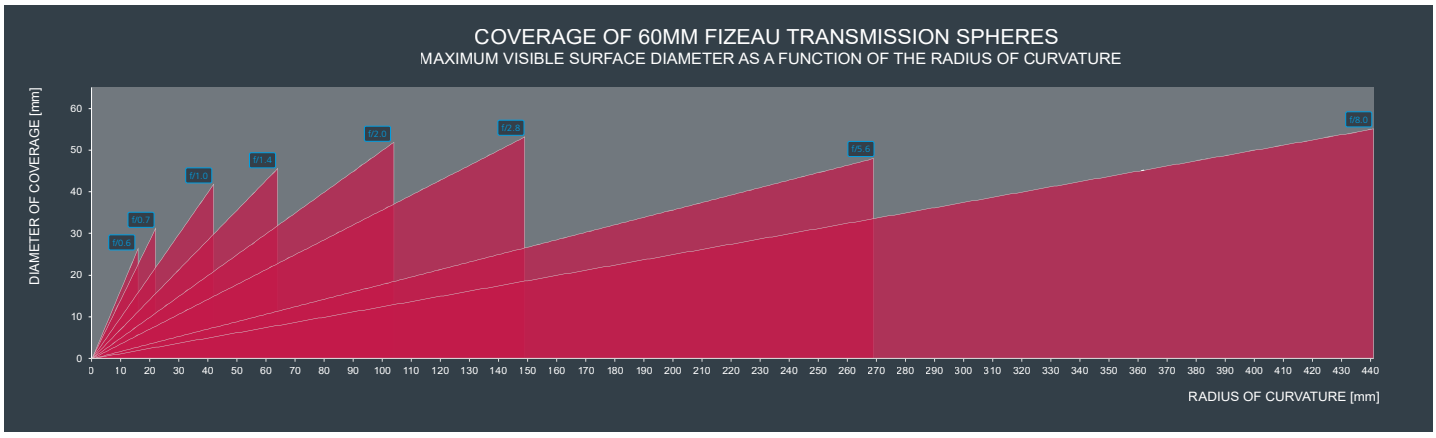
_ affordable and cost efficient

_ selection provides excellent coverage for the measurement for spherical surfaces of small and mid-size diameters

_ high quality reference surfaces

_ supplied with protection caps for both sides

_ quality case for safe storage



TRANSMISSION SPHERE	f / 0.6	f / 0.7	f / 1.0	f / 1.4	f / 2.0	f / 2.8	f / 5.6	f / 8.0
APERTURE ANGLE	Mitutoyo					XONOX		
APERTURE DIAMETER [mm]	27	32	40	46	53	53	48	55
RADIUS REF. SURFACE [mm]	17	23	43	65	105	150	270	442
HOUSING DIAMETER [mm]	80							
QUALITY OF REF. SURFACE	λ / 20 PV @ 632.8							
MECHANICAL CONNECTION	76mm Thread Connection							

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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 to an 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

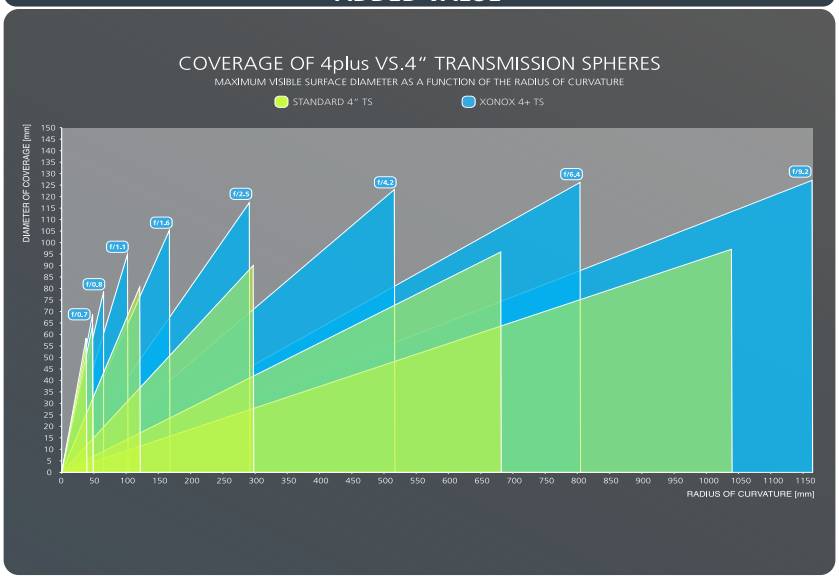
_ high quality optics, mechanics and innovative assembly for long term sealing against dust

_ 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

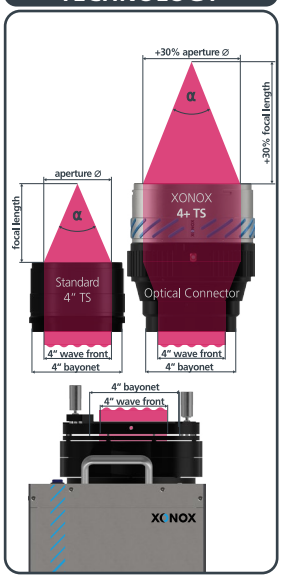
ADDED VALUE



SMART CASE



TECHNOLOGY



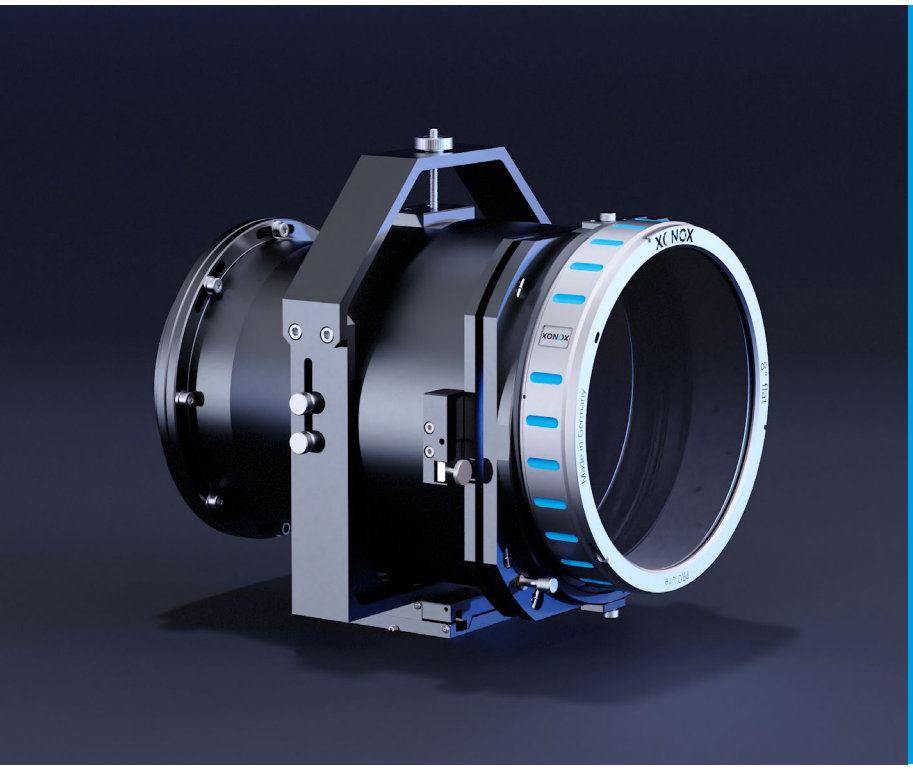
TRANSMISSION SPHERES	f / 0.7	f / 0.8	f / 1.1	f / 1.6	f / 2.5	f / 4.2	f / 6.4	f / 9.2	f / 5.0D	f / 5.9D	f / ∞
APERTURE ANGLE	91.4°	74.5°	55.4°	36.8°	23.3°	13.7°	9.0°	6.3°	13.2°	9.8°	-
APERTURE DIAMETER [mm]	Ø69.7	Ø79.0	Ø95.0	Ø105.4	Ø117.5	Ø123.2	Ø126.3	Ø127.1	Ø130.0	Ø128.0	Ø129.5
RADIUS REF. SURFACE [mm]	-48.68	-65.26	-102.21	-167.10	-291.40	-516.60	-804.90	-1164.50	+650.00	+750.00	flat
HOUSING DIAMETER	Ø158.0mm										
HOUSING HEIGHT	82.7mm				58.5mm		45.5mm		58.5mm		45.5mm
QUALITY OF REF. SURFACE	PRO Line λ/20 PV • PRIME Line λ /50										
MECHANICAL CONNECTION	ZYGO compatible 4" bayonet										

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XONOX 6“-8“



8“ (203.2mm) APERTURE CONVERTER SET FOR USE ON 6“ INTERFEROMETERS PROVIDING EXTENDED MEASURING RANGE

_ the XONOX 6“ - 8“ Beam Expander has been designed to be fully compatible with commercially available 6“ Fizeau interferometers

_ the Beam Expander and matching 8“ Transmission Flat in λ/20 PVr quality are ideally suited for evaluating transmitted wavefront error or surface figure error of large aperture optics

_ additional diffractive holograms or null lenses might be used to test large aperture optics of various shapes

_ optional dedicated fixture to facilitate the usage of the Beam Expander and Transmission Flat in horizontal setups. The Fixture has been designed to support the weight of the assembly without restricting motion along the optical axis

_ fine adjustment system for perfect setting to the systems optical axis

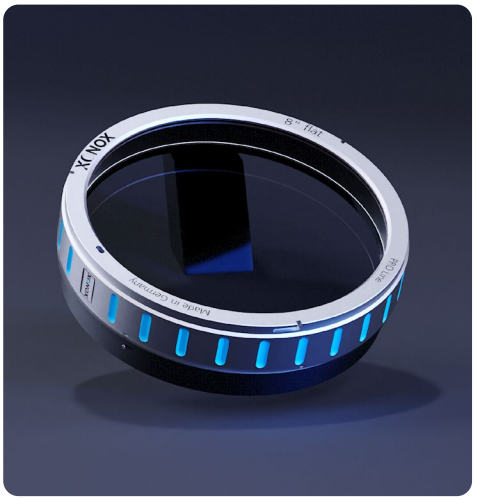
Version for horizontal use



Version for vertical use



203.2mm Transmission Flat



Beam Expander 6“ - 8“	
INPUT BEAM DIAMETER	6“ (152.4mm)
INPUT MOUNTING	ZYGO compatible 6“ bayonet
OUTPUT BEAM DIAMETER	8“ (203.2mm)
OUTPUT MOUNTING	XONOX 8“ bayonet
OVERALL LENGTH	364.2mm
MECHANICAL DIAMETER	241mm
WEIGHT	approx. 8kg

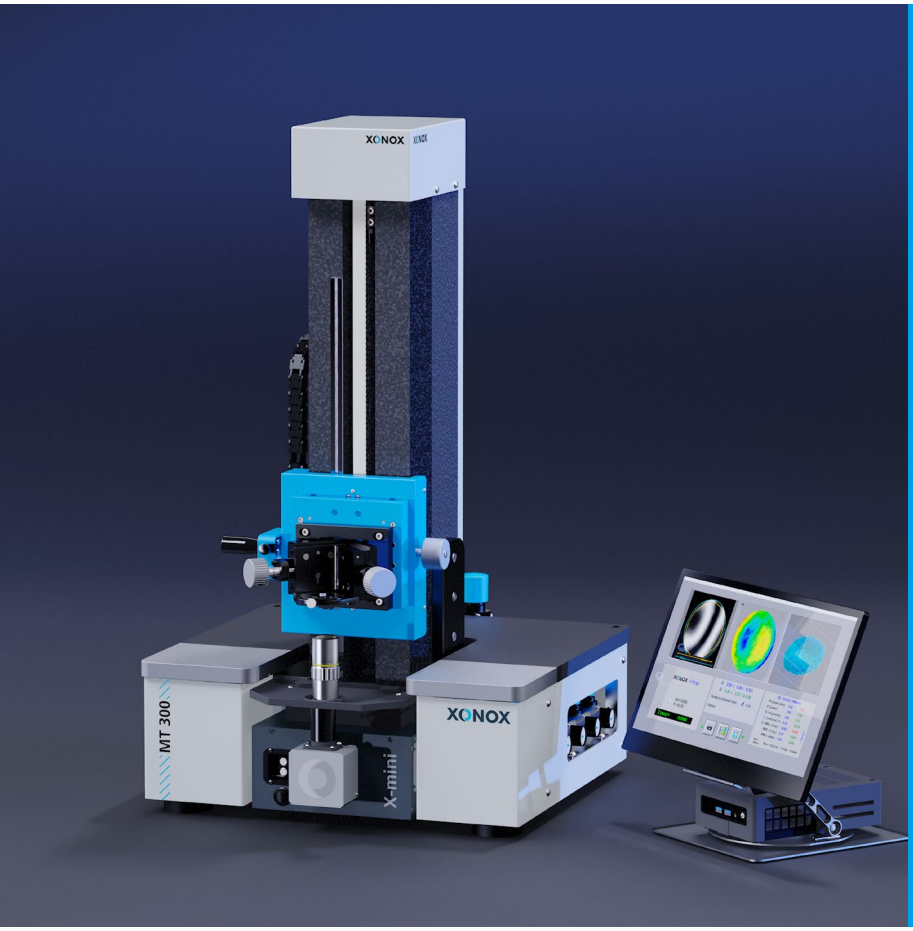
8“ Transmission Flat	
APERTURE DIAMETER	8“ (203.2mm)
MOUNTING	8“ XONOX bayonet
OUTPUT BEAM DIAMETER	8“ (203.2mm)
HOUSING DIAMETER	236mm
OVERALL LENGTH	65mm (adds 45mm when installed)
REF. SURFACE QUALITY	λ/20 PVr (@ 632.8nm)
WEIGHT	approx. 5kg

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MT 300 micro



VERTICAL INTERFEROMETER SYSTEM FOR MICROOPTICS

_ precision vertical interferometer workstation

_ optimized for testing of optical surfaces < Ø13mm (Ø20mm for plano)

_ integrated, granite based, air-bearing provides precise and maintenance free vertical motion with 300mm of available travel

_ integrated linear scale supports precise radius measurements

_ compact tabletop design saves space on manufacturing floor

_ X-Y-Z adjustment stage provides flexible platform for XONOX supplied tooling or customer specific fixturing

_ fine Z-axis adjustment for precision nulling of power

_ XONOX **X-mini** small aperture, phase shifting Twyman Green Interferometer optimized for use with industry standard long working distance microscope objectives for unparalleled freedom and value

_ X-mini interferometer equipped with with 5MPx Cmos camera, stabilized diode laser and electronic control of zoom, focus and-contrast

_ XONOX **X-fringe PS2** software, fully featured and equipped with dedicated modes for production environments to streamline use

_ compact integrated housing including standard Windows PC, motor controller, phase shifter driver and support electronics

WORKING RANGE	300mm of vertical travel range; >100mm between optical axis and column
INTERFEROMETER	XONOX X-mini Twyman-Green, 633nm, phase shifting interferometer with adjustable pupil focus
LINEAR MEASUREMENT	incremental linear measuring system with PC interface and integration with X-fringe
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035
DIMENSIONS (WxHxD)	480x850x500mm

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MT 300 fizeau



VERTICAL FIZEAU INTERFEROMETER SYSTEM FOR SMALL AND MID-SIZE OPTICS

_ precision vertical interferometer workstation

_ optimized for using 2" and 60mm Fizeau Transmission Spheres

_ integrated, granite based, air-bearing provides precise and maintenance free vertical motion with 300mm of available travel

_ integrated linear scale supports precise radius measurements

_ compact tabletop design saves space on manufacturing floor

_ X-Y-Z adjustment stage provides flexible platform for XONOX supplied tooling or customer specific fixturing

_ fine Z-axis adjustment for precision nulling of power

_ XONOX **X-fiz mini 60** phase shifting Fizeau Interferometer optimized for use with Fizeau Transmission Spheres with 60mm entrance aperture or smaller

_ X-mini interferometer equipped with with 5MPx Cmos camera, stabilized diode laser and electronic control of zoom, focus and-contrast

_ XONOX **X-fringe PS2** software, fully featured and equipped with dedicated modes for production environments to streamline use

_ compact integrated housing including standard Windows PC, motor controller, phase shifter driver and support electronics

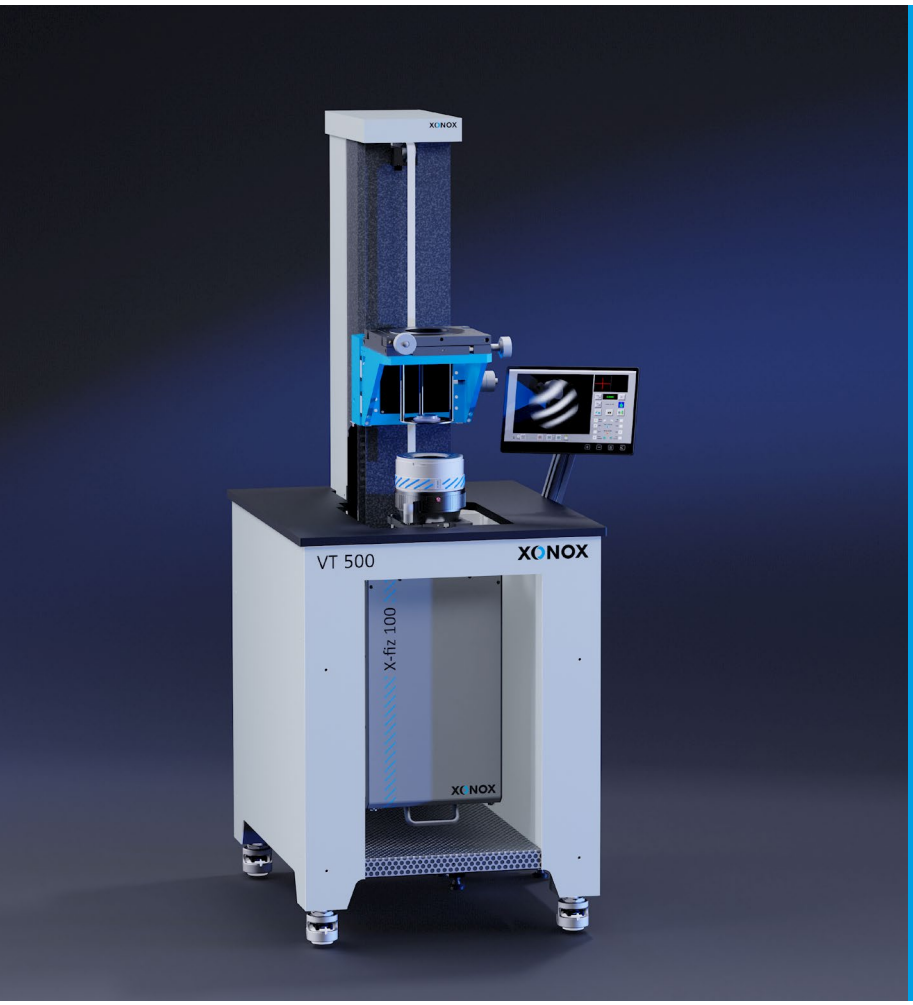
WORKING RANGE	300mm of vertical travel range; >100mm between optical axis and column
INTERFEROMETER	XONOX X-fiz mini 60 Fizeau, 633nm, phase shifting interferometer with adjustable pupil focus
LINEAR MEASUREMENT	incremental linear measuring system with PC interface and integration with X-fringe
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035
DIMENSIONS (WxHxD)	480x850x500mm

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VT 500



VERTICAL AND COMPACT INTERFEROMETER SYSTEM

_ precision interferometer tower for production-, quality inspection and metrology lab environments

_ extremely compact and easy to move and relocate

_ 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 with integrated wheels (optional)

_ small foot print and exceptional value combined with high accuracy and and rigit, maintenance free design

_ robust vibration damping system, perfect for use in industrial production environments

_ XONOX X-fiz 100 (4" & 5.2") high performance Fizeau interferometer with electronic control of zoom, focus and contrast/saturation

_ useable with transmission sphere sizes from 1" to 4+ (5.2") due to smart CCD camera management.

_ innovative, powerful and user friendly fringe analysis system X-fringe PS2 with different smart and intelligent modes to suit various applications

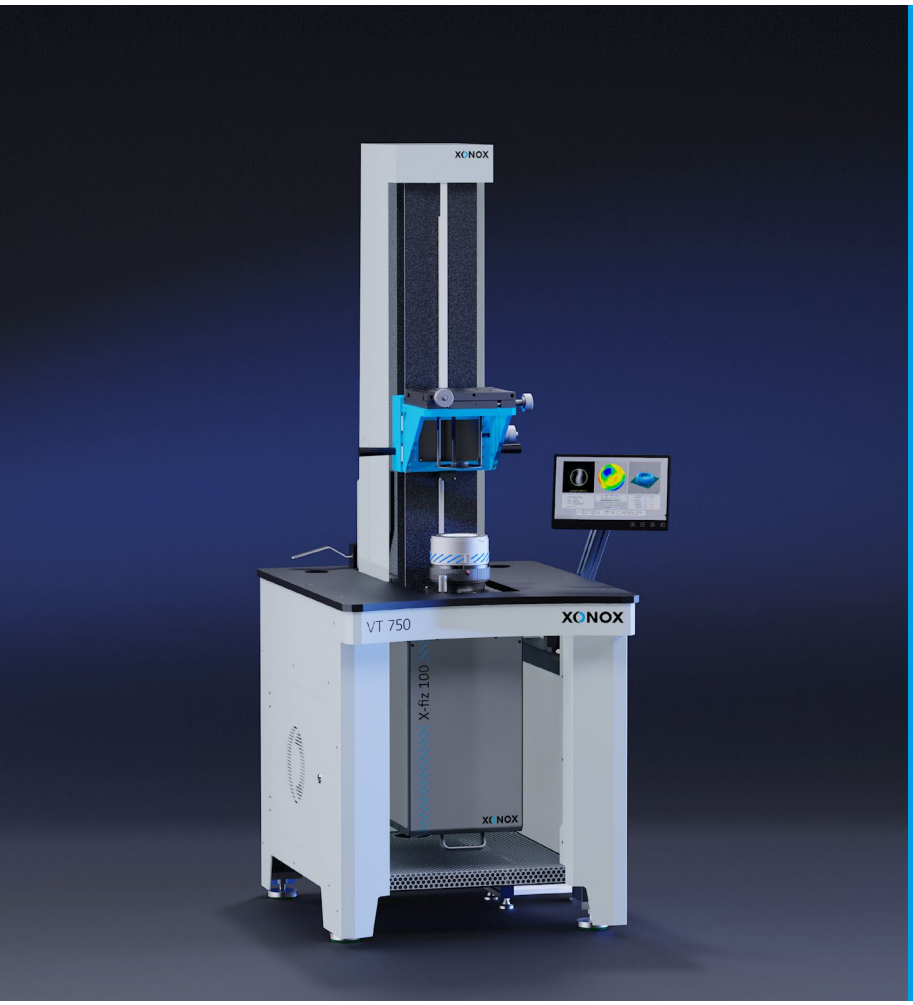
WORKING RANGE	500 mm travel, up to 200mm test diameter (depending on used TS and partholder) + micrometer fine adjustment for easy and precise setting of catseye and confocal position Distance between column and optical axis = 145mm allows for lodaing workpieces up to Ø290mm - adaptation diameter for lens holders = Ø152.4mm				
VERSIONS	_ **VT500 PS2** with XONOX **X-fiz 100 (4" & 5,2")** with eletronic zoom, focus and contrast (saturation) controll and 5MPX CMOS camera. Phase shifting fringe analysis system XONOX **„X-fringe PS2"** and piezo phase shifter XONOX **„X-phase PMR"** _ **VT500 B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe PS2 and X-phase PMR phase shifter.				
MEASURING AXIS	counterbalanced, air bearing guided axis with smooth, „zero weight" manual movement via handle (standard). Optionally electric driven via joystick (optional). Wear out and maintenance free design.				
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface and temperature expansion compensation function (standard) / alternatively with „in axis" distance measuring laser interferometer (LDM)with compensation unit for temperature, humidity and air preasure (optional)				
MEASURING ACCURACY	linear scale: up to +/- 1.5µm per 1000mm @ 20°C, up to 0.1µm resolution (standard 0.5µm) optionally with callibration and error compensation (on request) optional LDM: +/- 0.2 per 1000mm including automatic environmental compensation. Resolution 0.1µm				
VIBRATION ISOLATION	Equipped with 4 adjustable passive vibration dampeners (standard). Optionally with active, piezo controlled vibration dampening system with 4 piezo blocks and fully automatic vibration dampening (optional)				
DIMENSIONS (WxDxH)	700 x 845 x 1750 mm when using touch screen and integrated PC for fringe analysis (additional space required if separate PC is used for fringe analysis, XONOX PC-table optionally available)				
WEIGHT	approx. 500kg	**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

VT 750



VERTICAL INTERFEROMETER SYSTEM

_ precision interferometer tower for production-, quality inspection and metrology lab environments

_ large measuring range for radii up to 800mm

_ 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, maintenance free design

_ robust vibration damping system, perfect for use in industrial production environments

_ XONOX X-fiz 100 (4" & 5.2") or X-fiz 150 (6") high performance Fizeau interferometer with electronic control of zoom, focus and contrast/saturation

_ innovative, powerful and user friendly fringe analysis system X-fringe PS2 with different smart and intelligent modes to suit various applications

_ system can be equipped either with PC table, 2 screens, mouse and keyboard or with 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

WORKING RANGE	min. 750mm travel (800mm linear scale range), up to 200mm test diameter (depending on used TS and partholder) + micrometer fine adjustment for easy and precise setting of catseye and confocal position Distance between column and optical axis = 145mm allows for lodaing workpieces up to Ø290mm - adaptation diameter for lens holders = Ø152.4mm				
VERSIONS	_ **VT750 PS2** with XONOX **X-fiz 100 (4" & 5,2") / X-fiz 150 (6")** with eletronic zoom, focus and contrast (saturation) controll and 5MPX CMOS camera. Phase shifting fringe analysis system XONOX **„X-fringe PS2"** and piezo phase shifter XONOX **„X-phase PMR"** _ **VT750 B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe PS2 and X-phase PMR phase shifter.				
MEASURING AXIS	counterbalanced, air bearing guided axis with smooth, „zero weight" manual movement via handle (standard). Optionally electric driven via joystick (optional). Wear out and maintenance free design.				
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface and temperature expansion compensation function (standard) / alternatively with „in axis" distance measuring laser interferometer (LDM)with compensation unit for temperature, humidity and air preasure (optional)				
MEASURING ACCURACY	linear scale: up to +/- 1.5µm per 1000mm @ 20°C, up to 0.1µm resolution (standard 0.5µm) optionally with callibration and error compensation (on request) LDM: +/- 0.2 per 1000mm including automatic environmental compensation. Resolution 0.1µm				
VIBRATION ISOLATION	Equipped with 4 adjustable passive vibration dampeners (standard). Optionally with active, piezo controlled vibration dampening system with 4 piezo blocks and fully automatic vibration dampening (optional)				
DIMENSIONS (WxDxH)	800 x 900 x 2100 mm when using touch screen and integrated PC for fringe analysis (additional space required if separate PC is used for fringe analysis, XONOX PC-table optionally available)				
WEIGHT	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

VT 1200



VERTICAL INTERFEROMETER 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, maintenance free design

_ robust vibration damping system, perfect for use in industrial production environments

_ XONOX X-fiz 100 (4" & 5.2") or X-fiz 150 (6") high performance Fizeau interferometer with electronic control of zoom, focus and contrast/saturation

_ innovative, powerful and user friendly fringe analysis system X-fringe PS2 with different smart and intelligent modes to suit various applications

_ system can be equipped either with PC table, 2 screens, mouse and keyboard or with 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

WORKING RANGE	min. 1200mm travel (1400mm linear scale range), up to 200mm test diameter (depending on used TS and partholder) + micrometer fine adjustment for easy and precise setting of catseye and confocal position Distance between column and optical axis = 145mm allows for lodaing workpieces up to Ø290mm - adaptation diameter for lens holders = Ø152.4mm				
VERSIONS	_ **VT1200 PS2** with XONOX **X-fiz 100 (4" & 5,2") / X-fiz 150 (6")** with eletronic zoom, focus and contrast (saturation) controll and 5MPX CMOS camera. Phase shifting fringe analysis system XONOX **„X-fringe PS2"** and piezo phase shifter XONOX **„X-phase PMR"** _ **VT1200 B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe PS2 and X-phase PMR phase shifter.				
MEASURING AXIS	counterbalanced, air bearing guided axis with smooth, „zero weight" manual movement via handle (standard). Optionally electric driven via joystick (optional). Wear out and maintenance free design.				
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface and temperature expansion compensation function (standard) / alternatively with „in axis" distance measuring laser interferometer (LDM)with compensation unit for temperature, humidity and air preasure (optional)				
MEASURING ACCURACY	linear scale: up to +/- 1.5µm per 1000mm @ 20°C, up to 0.1µm resolution (standard 0.5µm) optionally with callibration and error compensation (on request) LDM: +/- 0.2 per 1000mm including automatic environmental compensation. Resolution 0.1µm				
VIBRATION ISOLATION	Equipped with 4 adjustable passive vibration dampeners (standard). Optionally with active, piezo controlled vibration dampening system with 4 piezo blocks and fully automatic vibration dampening (optional)				
DIMENSIONS (WxDxH)	800 x 900 x 2650 mm when using touch screen and integrated PC for fringe analysis (additional space required if separate PC is used for fringe analysis, XONOX PC-table optionally available)				
WEIGHT	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

VT 1200 XL



VERTICAL INTERFEROMETER 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, maintenance free design

_ robust vibration damping system, perfect for use in industrial production environments

_ XONOX X-fiz 100 (4" & 5.2") or X-fiz 150 (6") high performance Fizeau interferometer with electronic control of zoom, focus and contrast/saturation

_ innovative, powerful and user friendly fringe analysis system X-fringe PS2 with different smart and intelligent modes to suit various applications

_ system can be equipped either with PC table, 2 screens, mouse and keyboard or with 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

WORKING RANGE	min. 1200mm travel (1400mm linear scale range), up to 200mm test diameter (depending on used TS and partholder) + micrometer fine adjustment for easy and precise setting of catseye and confocal position Distance between column and optical axis = 180mm allows for lodaing workpieces up to Ø360mm - adaptation diameter for lens holders = Ø220mm				
VERSIONS	_ **VT1200XL PS2** with XONOX **X-fiz 100 (4" & 5,2") / X-fiz 150 (6")** with eletronic zoom, focus and contrast (saturation) controll and 5MPX CMOS camera. Phase shifting fringe analysis system XONOX **„X-fringe PS2"** and piezo phase shifter XONOX **„X-phase PMR"** _ **VT1200XL B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe PS2 and X-phase PMR phase shifter.				
MEASURING AXIS	counterbalanced, air bearing guided axis with smooth, „zero weight" manual movement via handle (standard). Optionally electric driven via joystick (optional). Wear out and maintenance free design.				
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface and temperature expansion compensation function (standard) / alternatively with „in axis" distance measuring laser interferometer (LDM)with compensation unit for temperature, humidity and air preasure (optional)				
MEASURING ACCURACY	linear scale: up to +/- 1.5µm per 1000mm @ 20°C, up to 0.1µm resolution (standard 0.5µm) optionally with callibration and error compensation (on request) LDM: +/- 0.2 per 1000mm including automatic environmental compensation. Resolution 0.1µm				
VIBRATION ISOLATION	Equipped with 4 adjustable passive vibration dampeners (standard). Optionally with active, piezo controlled vibration dampening system with 4 piezo blocks and fully automatic vibration dampening (optional)				
DIMENSIONS (WxDxH)	800 x 900 x 2650 mm when using touch screen and integrated PC for fringe analysis (additional space required if separate PC is used for fringe analysis, XONOX PC-table optionally available)				
WEIGHT	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

VT 1000 DL



VERTICAL DOWNWARD LOOKING INTERFEROMETER SYSTEM

_ precision interferometer tower for production-, quality inspection and metrology lab environments

_ exceptionally large measuring range for radii up to 1000mm

_ 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" & 5.2") or X-fiz 150 (6") high performance Fizeau interferometer with electronic control of zoom, focus and contrast/saturation

_ innovative, powerful and user friendly fringe analysis system X-fringe PS2 with different smart and intelligent modes to suit various applications

_ system can be equipped either with PC table, 2 screens, mouse and keyboard or with 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

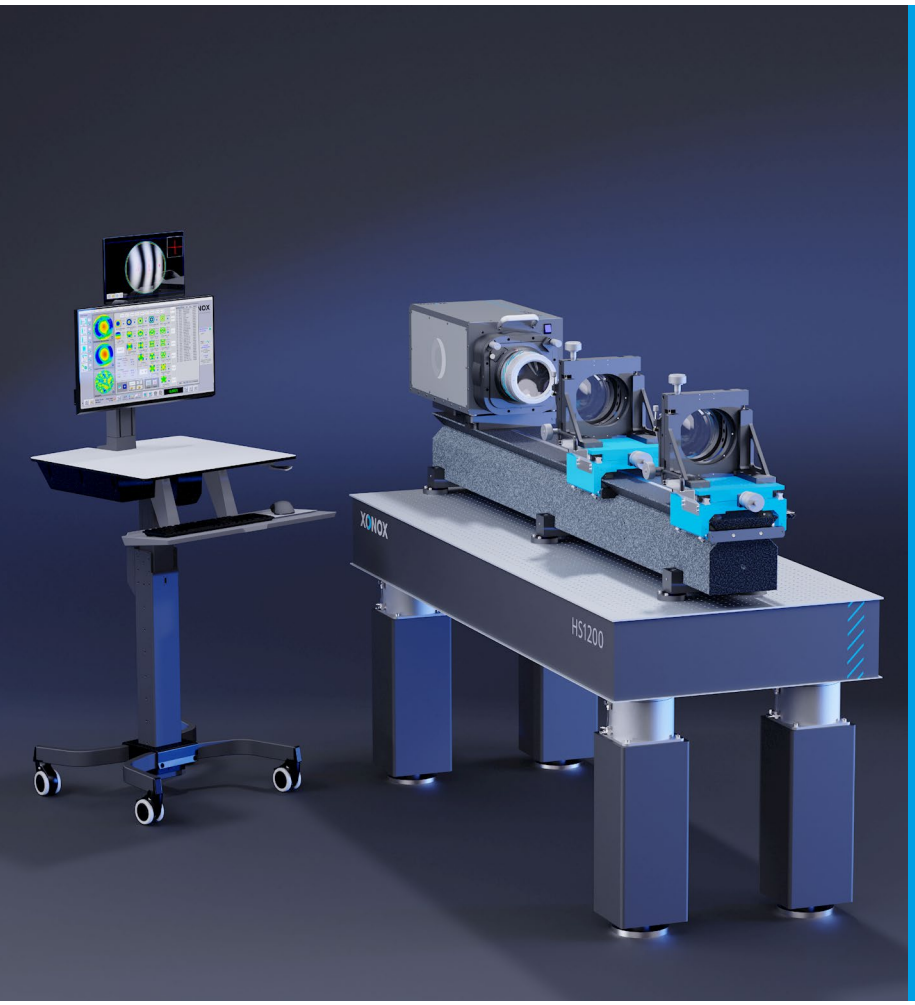
WORKING RANGE	min. 1000mm travel, up to 200mm test diameter (depending on used TS and partholder) + micrometer fine adjustment for easy and precise setting of catseye and confocal position				
VERSIONS	_ **VT1000DL PS2** with XONOX **X-fiz 100 (4" & 5,2") / X-fiz 150 (6")** with eletronic zoom, focus and contrast (saturation) controll and 5MPX CMOS camera. Phase shifting fringe analysis system XONOX **„X-fringe PS2"** and piezo phase shifter XONOX **„X-phase PMR"** _ **VT1000DL B** „tower only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe PS2 and X-phase PMR phase shifter.				
MEASURING AXIS	counterbalanced, air bearing guided axis with smooth, „zero weight" manual movement via handle (standard). Optionally electric driven via joystick (optional). Wear out and maintenance free design.				
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface and temperature expansion compensation function				
MEASURING ACCURACY	linear scale: up to +/- 1.5µm per 1000mm @ 20°C, up to 0.1µm resolution (standard 0.5µm) optionally with callibration and error compensation (on request)				
VIBRATION ISOLATION	Equipped with 4 adjustable passive vibration dampeners (standard). Optionally with active, piezo controlled vibration dampening system with 4 piezo blocks and fully automatic vibration dampening (optional)				
DIMENSIONS (WxDxH)	1100 x 1000 x 2500 mm when using touch screen and integrated PC for fringe analysis (additional space required if separate PC is used for fringe analysis, XONOX PC-table optionally available)				
WEIGHT	approx. 850kg	**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

HS 1200



HORIZONTAL INTERFEROMETER 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 guided on air bearing slide for quick, easy and accurate setup and movement

_ additional 5 axis fine adjustment (X-Y-Z-tip/tilt)

_ rigit and maintenance free design

_ XONOX **X-fiz 100** (4" & 5.2") or **X-fiz 150** (6") high performance Fizeau interferometer with 5MPX CMOS camera, electronic control of zoom, focus and contrast/saturation

_ innovative, powerful and user friendly fringe analysis system **X-fringe PS2** with different smart and intelligent modes to suit various applications

_ system can be equipped either with optional PC table, 2 screens, mouse and keyboard

_ additionally available in a "workstation only" version „B" for integrating existing or 3rd party interferometer units

_ light version is made for mounting on customers existing optical table. HS1200 full version is available including vibration dampened plattform.

WORKING RANGE	min. 1200mm travel (1400mm linear scale range), up to 200mm test diameter (depending on used TS and partholder) + micrometer fine adjustment for easy and precise setting of catseye and confocal position Distance between column and optical axis = 175mm allows for lodaing workpieces up to Ø350mm - adaptation diameter for lens holders = Ø152.4mm
VERSIONS	_ **HS1200**light **PS2** with XONOX **X-fiz 100 (4" & 5,2") / X-fiz 150 (6")** with eletronic zoom, focus and contrast (saturation) controll and 5MPX CMOS camera. Phase shifting fringe analysis system XONOX **„X-fringe PS2"** and piezo phase shifter XONOX **„X-phase PMR"** _ **HS1200**light **B** „workstation only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe PS2 and X-phase PMR phase shifter.
MEASURING SYSTEM	incremental high precision linear measuring system with PC interface and temperature expansion compensation function (standard) / alternatively laser distance measuring system (option)
MEASURING ACCURACY	approx. 500kg
DIMENSIONS (WxDxH)	2500 x 320 x 620mm (additional space required for, PC-table (optionally available) and vibration dampening platform/optical table which is **not** included in light version
WEIGHT	linear scale: up to +/- 0.7µm per 500mm @ 20°C, up to 0.1 µm resolution (standard 0.5µm)
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar

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XONOX
METROLOGY FOR OPTICS REDEFINED

PI 500



PLANO INTERFEROMETER SYSTEM

_ precise vertical interferometer for testing flat optical components and plano multiple blocks

_ part holder with air bearing for easy movement even of 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 with 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" & 5.2") **X-fiz 150** (6") high performance phaseshifting Fizeau interferometer with 5MPx Cmos camera, stabilized diode laser and electronic control of zoom, focus and contrast

_ Optionally available beam expander 4" to 5.2" with 5.2" transmission flat for upscaling X-fiz 100

_ Optionally available beam expander 6" to 8" with 8" transmission flat for upscaling X-fiz 150

_ innovative, powerful and user friendly fringe analysis system **X-fringe PS2** with different smart and intelligent modes to suit various applications

_ system can be equipped either with PC table, 2 screens, mouse and keyboard or with built-in PC and touchpanel for optimized operation and minimized space requirement in production environment

WORKING RANGE	up to workpiece diameter / diagonal of 550mm
VERSIONS	_ **PI 500** with **X-fiz 100 4"** interferometer, **X-fringe PS2** fringe analyzing system - optionally available beam expansion to 5.2" _ **PI 500 XL** with **X-fiz 150 6"** interferometer, **X-fringe PS2** fringe analyzing system - optionally available beam expansion to 8" _ **PIS00 B** ,,platform only" version for integrating existing interferometer units. Optionally with XONOX fringe analysis system X-fringe PS with X-phase PMR phase shifter.
DIMENSIONS (WxDxH)	850 x 1100 x 2150 mm when using touch screen for fringe analysis (additional space required if PC is used forfringe analysis, XONOX PC-table optionally available)
WEIGHT	approx. 700kg
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 XL



8" PLANO INTERFEROMETER SYSTEM

_ precise vertical interferometer for testing large flat optical components in full aperture and plano multiple blocks

_ part holder with air bearing for easy movement even of 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 with 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 150** (6") high performance phaseshifting Fizeau interferometer with 5MPx Cmos camera, stabilized diode laser and electronic control of zoom, focus and contrast

_ equipped with XONOX 6" to 8" Aperture Converter an high precission 8" Transmission Flat

_ innovative, powerful and user friendly fringe analysis system **X-fringe PS2** with different smart and intelligent modes to suit various applications

_ system can be equipped either with PC table, 2 screens, mouse and keyboard or with built-in PC and touchpanel for optimized operation and minimized space requirement in production environment

WORKING RANGE	up to workpiece diameter / diagonal of 550mm
VERSIONS	**PI 500 XL** with **X-fiz 150 6"** interferometer, **X-fringe PS2** fringe analyzing system - optionally available beam expansion to 8"
DIMENSIONS (WxDxH)	850 x 1100 x 2450 mm when using touch screen for fringe analysis (additional space required if PC is used forfringe analysis, XONOX PC-table optionally available)
WEIGHT	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

PI 500 S



SUB APERTURE STITCHING INTERFEROMETER SYSTEM FOR PLANO OPTICS

_ precise vertical interferometer for testing flat optical components in full aperture up to diameter/diagonal 600mm

_ integrated, granite based, air-bearing provides precise and maintenance free horizontal and rotational motion

_ easy to operate Tip-/Tilt setting for fringes adjustment

_ automatic stitching pattern calculation according to workpiece shape and size

_ electronic positioning for sub aperture measurements using electronic controlled C and Y axis

_ precision, vibration dampened measuring table made of natural granite with high flatness for accurate analyzis

_ adjustable interferometer height for setting best position for different workpiece thicknesses

_ XONOX X-fiz 150 (6“) high performance phaseshifting Fizeau interferometer with 5MPx Cmos camera, stabilized diode laser and electronic control of zoom, focus and contrast

_ innovative, powerful and user friendly fringe analysis system X-fringe PS2 with different smart and intelligent modes to suit various applications in non stitching operation

_ sub aperture stitching software package for X-fringe PS2 allowing full aperture analysis of large flat optical surfaces by combining a calculated number of sub aperture measurements to a full surface analysis.

WORKING RANGE	up to workpiece diameter / diagonal of 480mm
VERSIONS	_ **PI 500 XL** with **X-fiz 150 6“** interferometer, **X-fringe PS2** fringe analyzing system including sub aperture stitching mode
AXIS	_ electronic controlled C-axis with 360° of travel _ electronic controlled Y-axis with 300mm travel _ manually adjustabel tip/tilt
DIMENSIONS (WxDxH)	850 x 1100 x 2150 mm plus additional space for XONOX PC-table (optionally available)
WEIGHT	approx. 800kg
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

_ equipped with electronic control of measuring cycle via touch screen interface

_ software controlled editing and configuration of automated motion cycles, linked to the specific job (X-ct package required)

_ highly precise and robust center thickness measurement system for ground, polished and coated optics in both, prodution and quality inspection environments

_ designed for long term reliability and cost effective operation

_ measurement 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

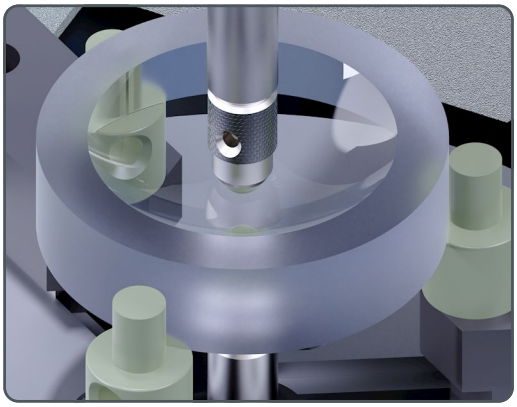
_ direct measurement of CT achieved through automatic, pneumatic actuation of probes that touch the upper and lower sides of the workpiece simultaniously

_ easy, fast and safe setup and loading of workpieces

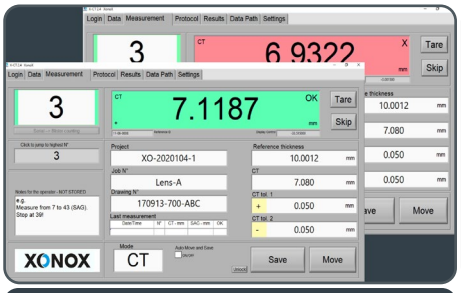
_ proven by many independent parties to virtually eliminate the risk of damage to even the most sensitive polished and coated optics with strict cosmetic requirements

_ large measurement range from below Ø8mm up to Ø200mm

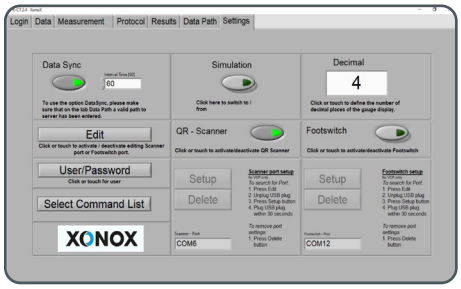
_ foot switch for easy and efficient measurement of series



Sensitive touch of upper and lower probe simultaniously



_ 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



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

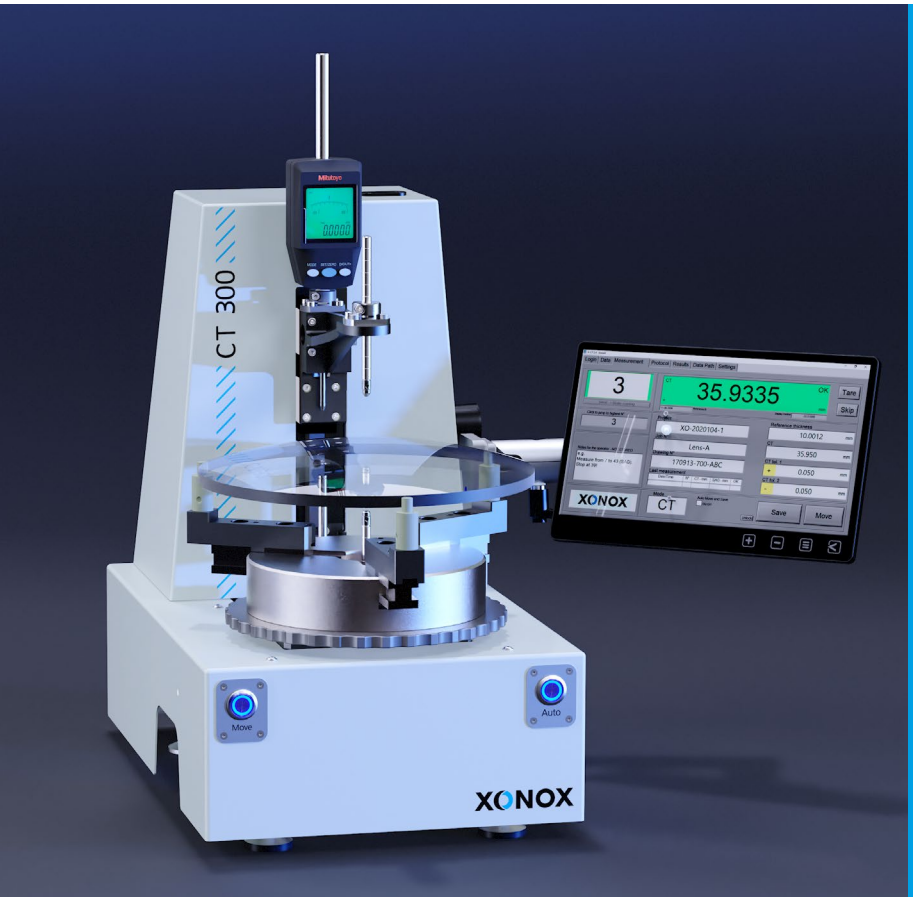
WORKING RANGE	50mm travel of measuring gauges on different adjustable positions
DIAMETER RANGE	Ø8mm - Ø200mm
MEASURING SYSTEM	digital precision measuring gauge with 0.5µm resolution.
MEASURING ACCURACY	resolution: 0.5µm | Accuracy ≤ 2µm @ 20°C (higher accuracies via setup procedures | Repeatability: 1µm
DIMENSIONS (WxDxH) / WEIGHT	460 x 300 x 650mm / 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 300



CENTER THICKNESS MEASUREMENT SYSTEM

_ equipped with electronic control of measuring cycle via touch screen interface

_ software controlled editing and configuration of automated motion cycles, linked to the specific job (X-ct package required)

_ highly precise and robust center thickness measurement system for ground, polished and coated optics in both, prodution and quality inspection environments

_ designed for long term reliability and cost effective operation

_ measurement 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

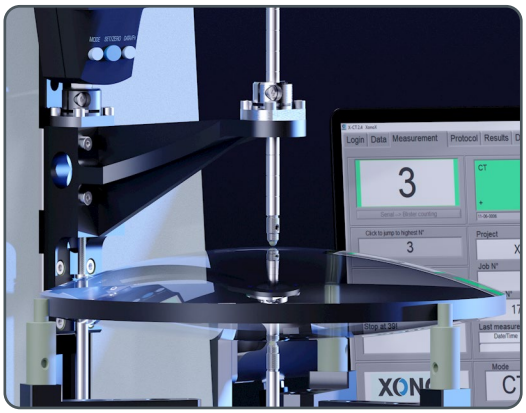
_ direct measurement of CT achieved through automatic, pneumatic actuation of probes that touch the upper and lower sides of the workpiece simultaniously

_ easy, fast and safe setup and loading of workpieces

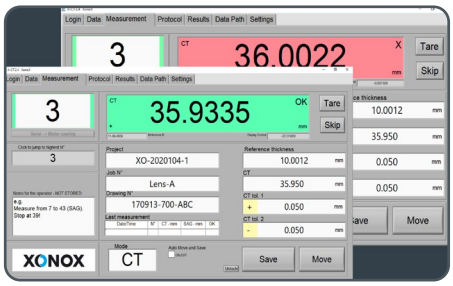
_ proven by many independent parties to virtually eliminate the risk of damage to even the most sensitive polished and coated optics with strict cosmetic requirements

_ large measurement range from below Ø10mm up to Ø300mm

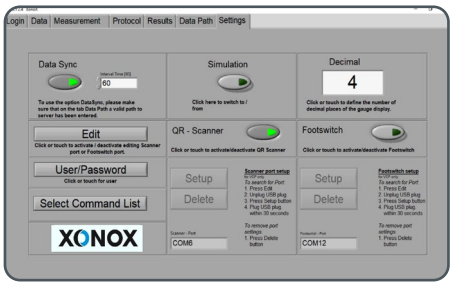
_ foot switch for easy and efficient measurement of series



sensitive touch of upper and lower probe simultaniously



_ 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



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

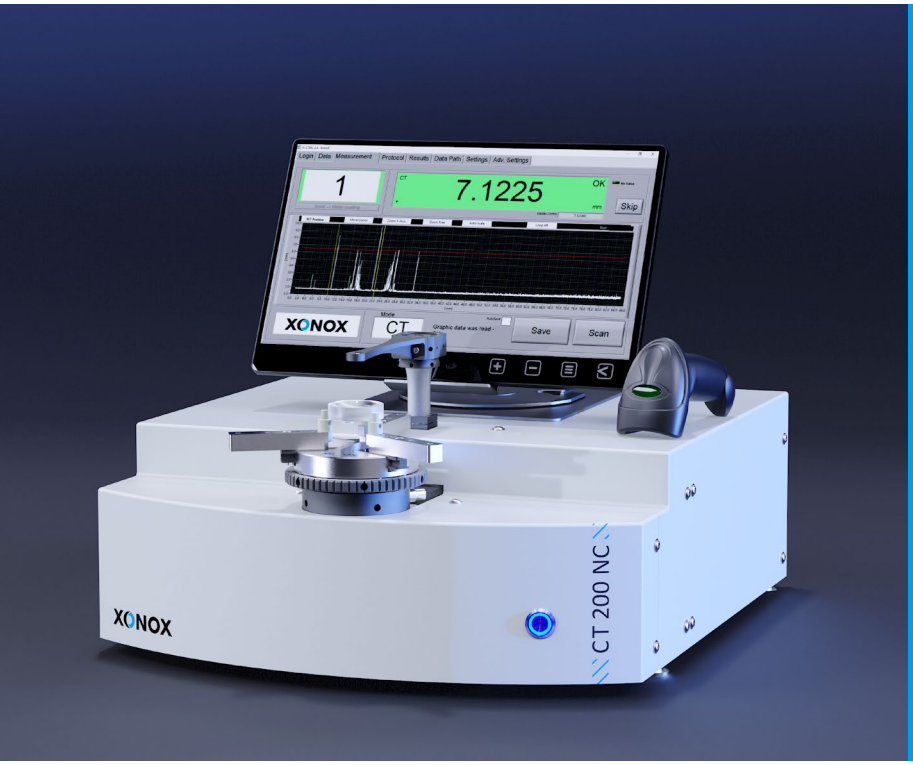
WORKING RANGE	50 mm travel of measuring gauges on different adjustable positions
DIAMETER RANGE	Ø8mm - Ø300mm
MEASURING SYSTEM	digital precision measuring gauge with 0.5µm resolution.
MEASURING ACCURACY	resolution: 0.5µm | Accuracy ≤ 2µm @ 20°C (higher accuracies via setup procedures | Repeatability: 1µm
DIMENSIONS (WxDxH) / WEIGHT	360 x 480 x 650mm / approx. 40Kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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iQC READY

XONOX
METROLOGY FOR OPTICS REDEFINED

CT 200 NC



NON-CONTACT
CENTER THICKNESS MEASURING SYSTEM

_ Generation 2 - now with improved, continuous measuring signal, increased accuracy and faster measurements

_ 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

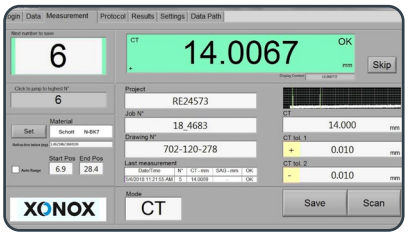
_ lenses automatically centered with an innovative precision 3-jaw chuck system

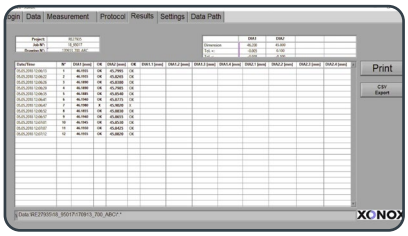
_ measurements of elements with one side access only is accommodated. Ideal for testing lenses - even mounted to holders - with demanding CT tolerances in the polishing operation

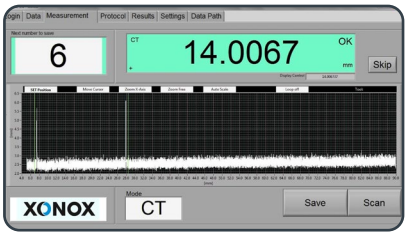
_ measurement of SAG depth, surface aperture diameter, total lens height and stock removal are supported in addition to CT measurement

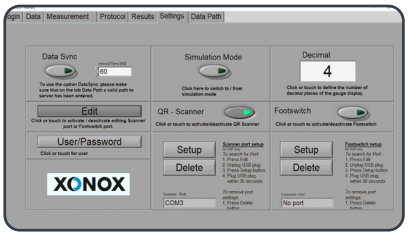
_ ergonomically positioned lens holder provides for safe, easy and fast loading and setup of workpieces up to Ø200mm

_ extensive integrated glass database provides ready access to index data. Software supported Index finding device allows for easy and quick automatic analysis of unknown index values



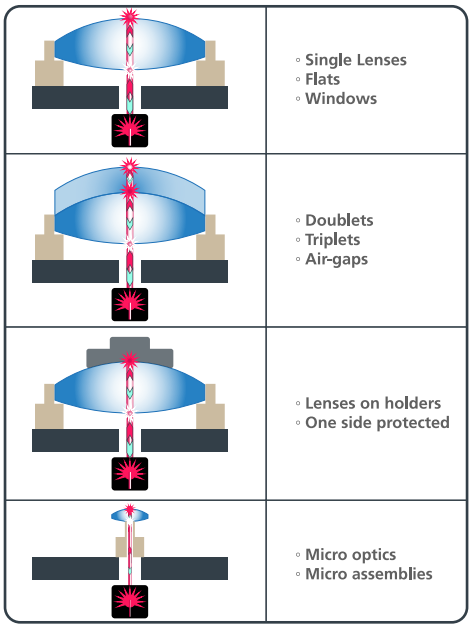






_ easy and touch screen optimized dialogue user interface
_ automatic numbering of lenses, IN/OUT of spec colors
_ full glass database for index settings
_ live display of measuring signal - zoomable by finger tip

_ 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 + XONOX IQC compatible



◦ Single Lenses
◦ Flats
◦ Windows

◦ Doublets
◦ Triplets
◦ Air-gaps

◦ Lenses on holders
◦ One side protected

◦ Micro optics
◦ Micro assemblies

WORKING RANGE	80mm max. optical thickness, max. part thickness depending on material index
DIAMETER RANGE	from micro optics sizes up to Ø200mm
MEASURING SYSTEM	Optical interferometer based measurement with precision coaxial distance measurement system
MEASURING ACCURACY	+/- 1 µm (depending on lens centration and index uncertainty) / Repeatability: +I- 0.5µm
MEASURING SPEED	Real-time measurements updated multiple times per second
DIMENSIONS (WxDxH) / WEIGHT	530 x 490 x 540 mm (plus touch screen height on top of instrument) I approx. 25kg
CONNECTIONS	110-240 V / 50-60 Hz
COLOR	Light grey RAL 7035

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DT 140



DIAMETER MEASURING SYSTEM

_ equipped with electronic control of measuring cycle via touch screen interface. software controlled editing and configuration of automated motion cycles, linked to the specific job (X-dt package required)

_ 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, roundness and taper 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 work-piece

_ 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

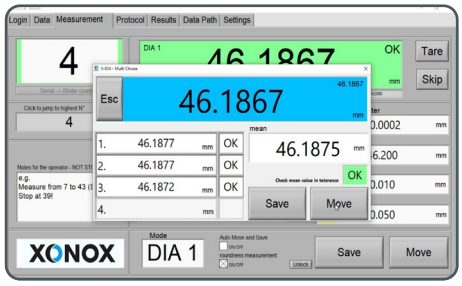
_ large measurement range from below Ø8mm up to Ø140mm

_ foot switch for easy and efficient measurement of series

_ software and controller package „X-dt" offers additional measure-ment modes, automatic documentation creation and datalogging of measurement results



_ 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



_ measurement of Diameter(s), Roundness and Taper / Conic Error
_ automatic marking IN/OUT of spec for all dimensions
_ extensive data export functions + XONOX IQC compatibility



_ intelligent and easy-to-use setup for administrative functi-ons and user handling
_ quick setup for auxilliarry equipment such as QR reader, foot switch etc.
_ easy network integration and path settings for documen-tation

WORKING RANGE	50 mm travel of measuring gauges on different adjustable positions
DIAMETER RANGE	Ø8mm - Ø140mm
MEASURING SYSTEM	digital precision measuring gauge with 0.5µm resolution.
MEASURING ACCURACY	resolution: 0.5µm | Accuracy ≤ 2µm @ 20°C (higher accuracies via setup procedures | Repeatability: 1µm
DIMENSIONS (WxDxH) / WEIGHT	460 x 400 x 650mm / 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

CM 140 micro



CENTERING ERROR MEASURMENT AND DOUBLET CEMENTING SYSTEM FOR MICRO OPTICS

_ automatic z-axis positioning plus software supported electronic motion- and vacuum control, linked to the specific job.

_ Additional HR screen, displaying actual status of rotation-, led- and vacuum level.

_ 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 be measured in transmission or reflection.

_ unique, multi axis lensholder, securely centers microlenses of various diameters and correctly locates friction wheel for efficient loading and operation.

_ very fast and convenient setup of lensholder adjustable for normal lenses and rod lenses.

_ commonly used functions are conveniently located for easy access and direct control over Z-axis height, vacuum, speed, crosshair display.

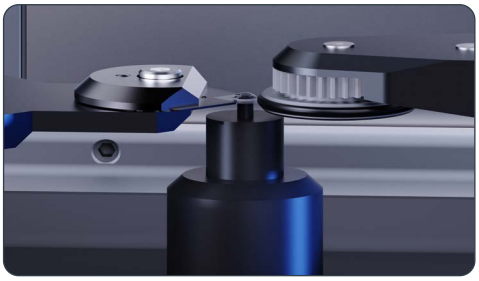
_ equipped with "X-cm", an extensive software and controller package, that offers various operating modes and provides automatic measurement results of complete series.

_ cementing of doublets and triplets by using additionaly available accessories such as glue dispensers and UV light sources

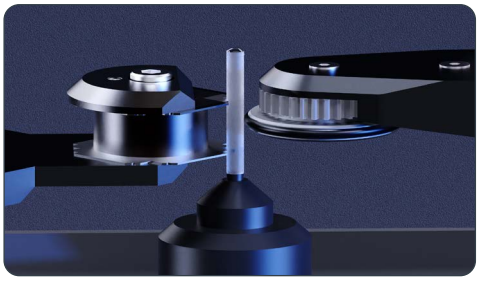
MULTI AXIS PRECISION LENSHOLDER



LENSES DOWN TO 0.5MM DIAMETER



ROD LENSES - DOUBLETS - LENS GROUPS



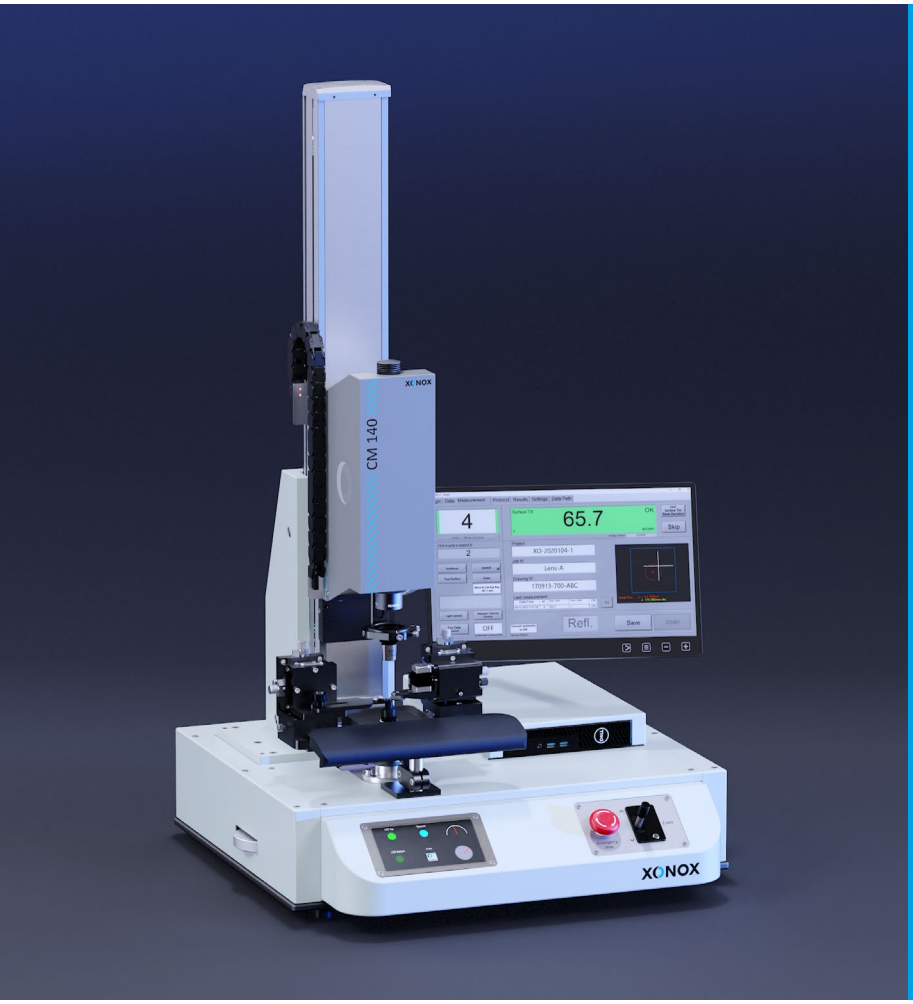
WORKING RANGE	625mm travel of Z-axis
DIAMETER RANGE	Ø1mm and above
MEASURING SYSTEM	precision autocollimator and optional secondary substage collimator
DIMENSIONS (WxDxH) / WEIGHT	590 x 570 x 1300 / approx. 35kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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CM 140 micro



CENTERING ERROR MEASURMENT AND DOUBLET CEMENTING SYSTEM FOR MICRO OPTICS

_ automatic z-axis positioning plus software supported electronic motion- and vacuum control, linked to the specific job.

_ Additional HR screen, displaying actual status of rotation-, led- and vacuum level.

_ 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 be measured in transmission or reflection.

_ unique, multi axis lensholder, securely centers microlenses of various diameters and correctly locates friction wheel for efficient loading and operation.

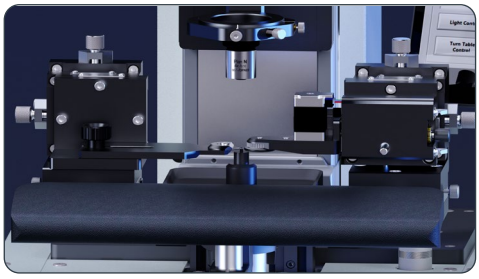
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_ commonly used functions are conveniently located for easy access and direct control over Z-axis height, vacuum, speed, crosshair display.

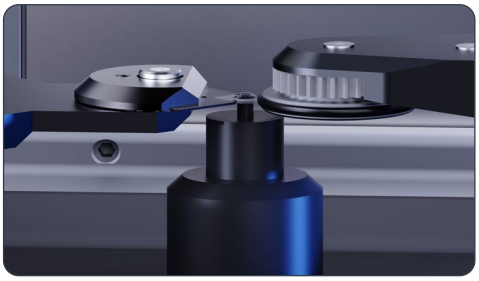
_ equipped with "X-cm", an extensive software and controller package, that offers various operating modes and provides automatic measurement results of complete series.

_ cementing of doublets and triplets by using additionaly available accessories such as glue dispensers and UV light sources

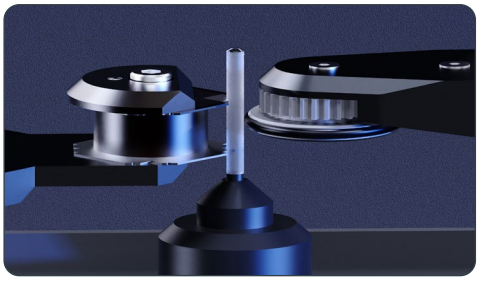
MULTI AXIS PRECISION LENSHOLDER



LENSES DOWN TO 1MM DIAMETER



ROD LENSES - DOUBLETS - LENS GROUPS



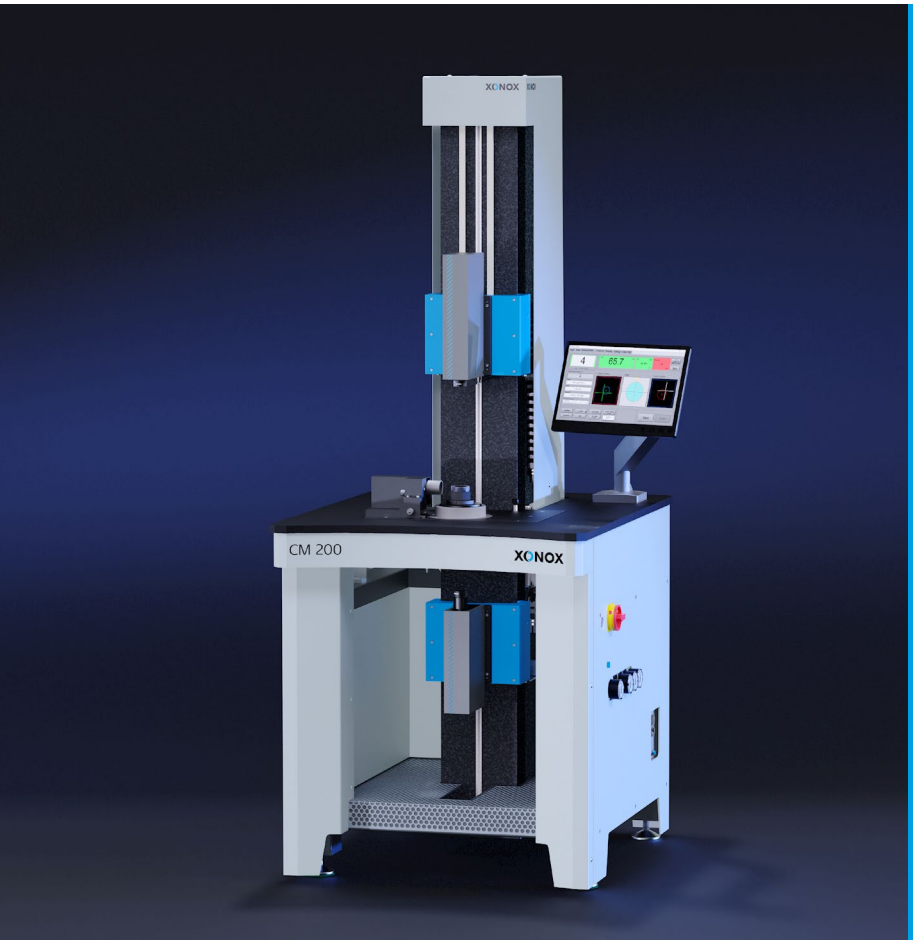
WORKING RANGE	625mm travel of Z-axis
DIAMETER RANGE	Ø1mm and above
MEASURING SYSTEM	precision autocollimator and optional secondary substage collimator
DIMENSIONS (WxDxH) / WEIGHT	590 x 570 x 1300 / approx. 35kg
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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CM 200



ADVANCED CENTRATION TESTING SYSTEM

_ precise measuring system for measuring centration on precision optical lenses

_ simultanious measurement of the runout of upper and lower surface plus edge runout relative to the rotational position on the rotational position controlled lens.

_ high precise, balanced linear axis, air bearing guided, for each autocollimator

_ accurate, contactless edge detection sensor located on positionable X-Z slide

_ precise, encoded rotational axis - airbearing guided - for lens movement

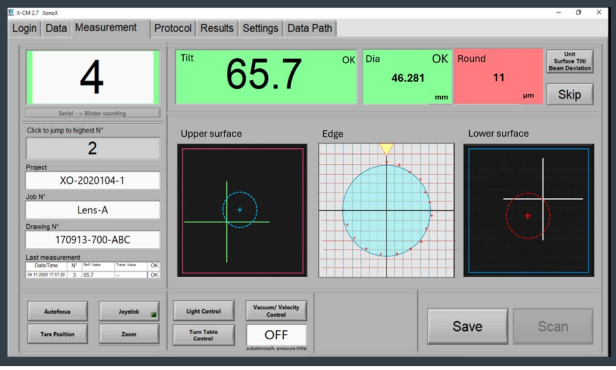
_ diameter and taper analysis optional

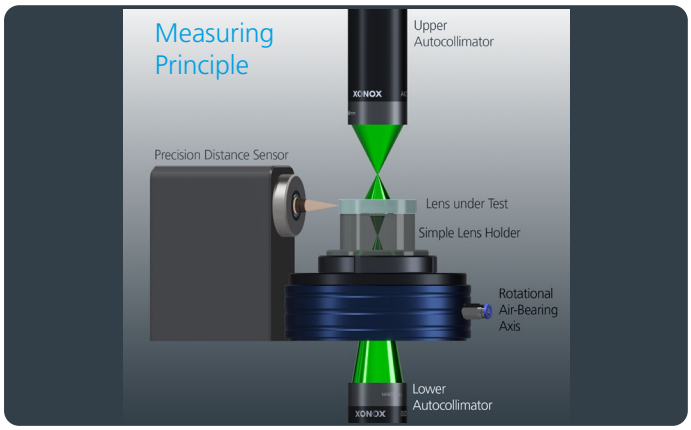
_ small foot print and exceptional value combined with high accuracy and and rigit, maintenance free design

_ innovative, powerful and user friendly analysis system X-cm with different smart and intelligent modes to suit various applications

_ compatibility with XONOX IQC system for automated setup and automated documentation of measurements in series.

X-cm user interface





WORKING RANGE	up to lens diameter 200mm				
POSITIONING AXIS	counterbalanced, air bearing guided axis with smooth, „zero weight“ electronic driven equiped with linear encoder - software controlled movement. Wear out and maintenance free design. precision air bearing guided rotational axis equipped with rotary encoder - electronic driven and software controlled. Wear out and maintenance free design.				
MEASURING SYSTEM	- 2x autocollimators (DL and UL) with high resolution CMOS cameras - high precision contactless distance measuring sensor.				
DIMENSIONS (WxDxH)	800 x 900 x 2650 mm when using touch screen and integrated PC for fringe analysis (additional space required if separate PC is used for fringe analysis, XONOX PC-table optionally available)				
WEIGHT	approx. 750kg	**CONNECTIONS**	110-240 V / 50-60 Hz, compressed air: 6 bar	**COLOR**	Light grey RAL 7035

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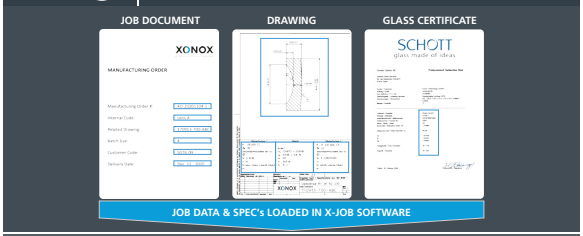
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XONOX SOFTWARE

X-job

JOB MANGEMENT // AUTOMATIC SYSTEM SETUP // QC DOCUMENTATION

STEP 1 JOB PREPARATION







SERVER LOADED WITH ALL JOB DATA AND LENS SPECIFICATIONS



SERVER SUPPLIES JOB DATA TO INSTRUMENTS AND RECEIVES MEASUREMENTS FROM INSTRUMENTS

QR-LABELED BOXES, LENSES AND QR-JOB-SHEET READY TO GO TO INSPECTION



STEP 3 QC DOCUMENTATION

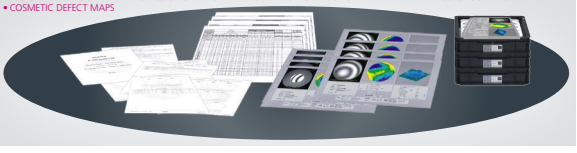


COMPREHENSIVE AND PROFESSIONAL QC DOCUMENTATION WITH JUST A MOUSE-CLICK

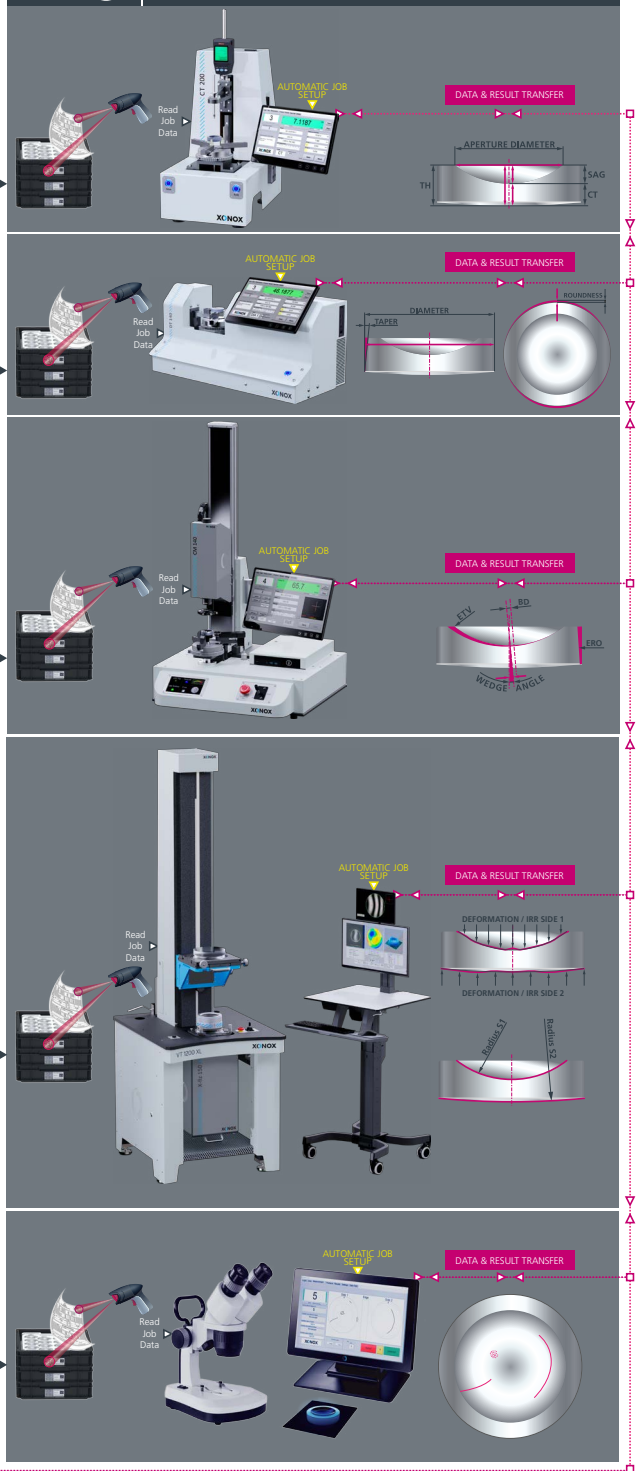
DETAILED INSPECTION REPORTS INCLUDING:
- OPERATOR / DATE / MEASUREMENT TIMESTAMP
- MACHINE INFORMATION & SERIAL NO'S
- ID'S OF REFERENCES AND TRANSMISSION SPHERES
- COSMETIC DEFECT MAPS

SUMMARY REPORTS:
- ALL SPECIFICATIONS FOR ALL LENSES
- TABULAR FORMAT FOR EFFICIENT PRESENTATION OF RESULTS

INTERFEROMETRIC RESULTS:
- COLOR SURFACE MAPS
- MASK AND CLEAR APERTURE SIZING
- RADIUS OF CURVATURE



STEP 2 MEASUREMENT OF ALL DIMENSIONS



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EPS 100



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

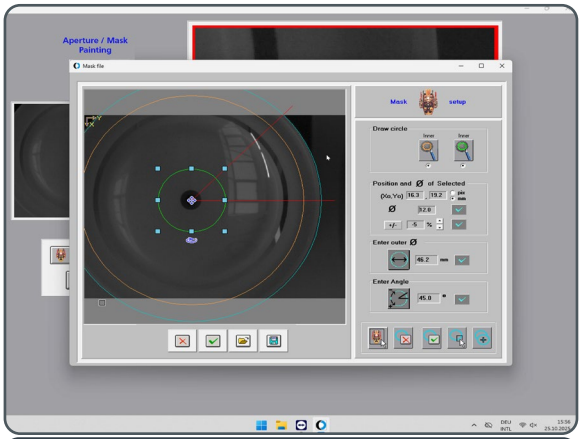
_ quality control for mask diameter directly after finishing of painting

_ infinitely adjustable rotation speed of workpiece spindle

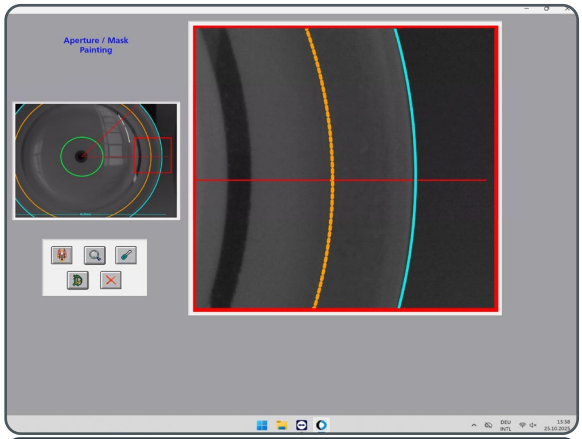
_ infinitely adjustable vacuum for lens holding on resin chuck

_ 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



_ comprehensive, easy to use mask and angle editor with precise scalling tool
_ multiple masks, angles angle marks and precise scalling 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) / WEIGHT	500 x 300 x 700 mm (additional space required for PC and monitor)
CONNECTIONS	110-240 V / 50-60 Hz, compressed air: 6 bar
COLOR	Light grey RAL 7035

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