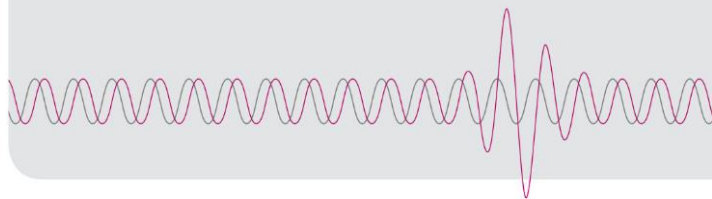# OMCAT.
SPECIFICATIONS

General description	Optical measuring and form testing systems for determining geometrical parameters of monoliths and fully assembled exhaust catalytic converters. The geometrical parameters of the monolith and of the sheet metal sleeve, the gap between the monolith and sleeve and the mat density, GBD (optional), are determined by means of a non-contact inspection for the purposes of quality assurance and control of the manufacturing process. The evaluation is carried out automatically using the saved nominal contour and tolerances.

Measured quantity	Standard:
	    - Contour and circumference
	    - Diameter and radius
	    - Gap

	Optional:
	    - Mat weight and GBD
	    - Circularity and cylindricity
	    - Straightness and perpendicularity
	    - Height

	Calculation of average, minimum, maximum and standard deviation per measurement level and across all measurement levels for shape deviation, diameter, radius, gap and GBD.

Measuring range	Diameter	Any convex cross-sections		
		OMCAT L55	**OMCAT 550**	**OMCAT 600**
		45…205 mm infinitely variable up to 290…450 mm	45…205 mm	50…450 mm
	Measurement object height	Max. 500 mm		
	Mat weight	Max. 3000 g		

Performance	Measuring times	< 7 seconds at 3 measurement levels with a speed of rotation of 360°/s
	Poka Yoke	Prevention of manipulation and operator errors

Accuracy[1]	Radius	0.01 mm	Standard deviation < 0.003 mm
	Gap	0.015 mm	Standard deviation < 0.003 mm
	Mat weight	0.2 g	Standard deviation < 0.05 g
	GBD	0.002 g/cm³	Standard deviation < 0.0005 g/cm³
	Rotation	Determination of the position and rotation of the monolith in the sleeve with the "Local evaluation of gap and GBD" option	
		0.2°	Standard deviation < 0.05°
	SPC measurement	Duration	< 7 seconds
		Recommended frequency	1x per shift
	Sensor calibration	Duration	< 4 minutes
		Recommended frequency	After 90 days or 90,000 measurements

Triangulation sensor	Laser class	Class II (FDA (CDRH) part 1040.10), class 2 (IEC 60825-1)

Positioning systems	Maintenance-free stages with stepper motor Rotary stage with a maximum load rating of 200 kg

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[1] All parameters refer to an ambient temperature of 20°C

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Operation	Integrated touch screen for display of measurement results and for easy operation of the device. Robust function buttons for ergonomically optimised operation of the measurement functions in production.		
	Software	OMCAT Vision	
	Control	Function buttons made of aluminium and touch screen	
	Display	10" colour TFT graphical touch screen (1024 x 780 pixels) with backlighting	
Interfaces	**OMCAT L55**	13 x Ethernet RJ 45 (1x for network connection; 12x for peripherals, locked)	
	OMCAT 550 OMCAT 600	13 x Ethernet RJ 45 (1x for network connection; 12x for peripherals, locked) 5 x USB (1x freely accessible; 4x locked)	
Housing	Table-top device with sheet steel casing		
	OMCAT L55	Dimensions (W x H x D) mm	350 x 860 x 790
		Weight	65.0 kg
	OMCAT 550	Dimensions (W x H x D) mm	430 x 1100 x 929
		Weight	72.5 kg
	OMCAT 600	Dimensions (W x H x D) mm	430 x 1100 x 1254
		Weight	77.5 kg
Code scanner	Code scanner in the turntable for reading codes on the base of the measurement objects. Optional: Additional scanners connected via Ethernet for automatic or manual acquisition of product codes located on the side of the measurement objects or codes located on boxes.		
	Supported 2D codes	DataMatrix (ECC200), GS1 DataMatrix, QR, MicroQR, PDF417, MicroPDF, Composite Code (CC-A, CC-B, CC-C)	
	Supported 1D codes	Code 128, GS1-128, GS1 DataBar (formerly RSS), Code 39, Code 39 FullASCII, Trioptic Code 39, Interleaved 2of5, Industrial 2of5, COOP 2of5, Codabar, JAN, EAN, UPC, Code 93	
	Maximum resolution	Process codes on the base or codes on boxes in focal distance	0.19 mm (2D) or 0.127 mm (1D)
		Product codes located on the side	0.2 mm for objects with medium diameter (at centre of measuring range) 0.5 mm for parts with maximum or minimum diameter (at measuring range limits)
		Focal distance box code scanner	100 mm
Label printer	Optional compact or industrial printer using the thermal transfer or direct thermal method for printing transfer and shipping labels.		
	Supported 2D codes	DataMatrix, QR, PDF417, MicroPDF417, MaxiCode, Aztec, Codablock, Code 49	
	Supported 1D codes	Code 128, GS1 DataBar (formerly RSS), Code 39, Interleaved 2of5, Codabar, JAN, EAN, UPC, Code 93, MSI, Plessey, Postnet	
	Print speed	Compact printer	127 mm/s
		Industrial printer	305 mm/s
	Label rolls for compact printers	Internal diameter of the core	25 mm
		Maximum external diameter	127 mm
		Maximum width	108 mm
		Standard length	74 m
	Label rolls for industrial printers	Inner diameter of core	76 mm
		Maximum outer diameter	203 mm
		Maximum width	114 mm
		Standard length	150 m
	Dimensions (W x H x D) mm	Compact printer	193 x 191 x 254
		Industrial printer	262 x 394 x 518
	Weight	Compact printer	2.1 kg
		Industrial printer	22.7 kg

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Digital precision scales	Dimensions (W x H x D) mm	370 x 133 x 454, weighing platform: 370 x 260
Quality system		Developed and manufactured to DIN ISO 9001:2000
Voltage supply		Rated voltage: 88…264 V AC, 47…63 Hz
Environment	Operating temperature range	5…40°C
	Relative humidity	5…85%, non-condensing