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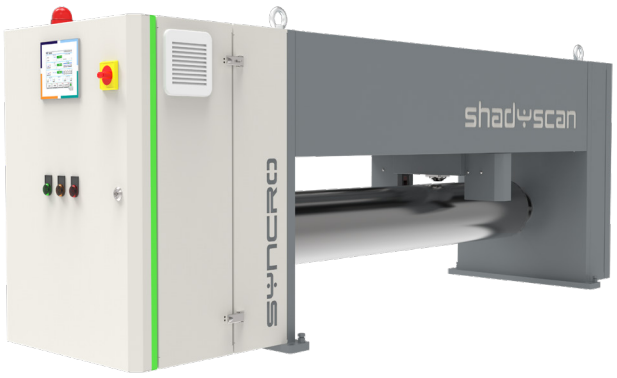
shadyscan

Projected shadow & Eddy-Current Scanner

SHADYSCAN is a non-contact profile thickness measuring system that combines the signal of a through-beam sensor with the signal of an inductive eddy current sensor. SHADYSCAN has many applications. In particular it is suitable to measure the thickness of materials and expanded sheets that cannot be measured with absorption systems such as X-rays and capacity-based systems.



OPERATING PRINCIPE

The light beam is aimed tangentially to the surface of the film laid over the roller. The through-beam is collected by a CCD camera which monitors the increase and decrease of the shadow generated by the film. This measurement depends on the relative movement between the roller and the sensing beam, as well as the variation of the film thickness. In order to read only the film thickness without the contribute from the roller, which is taken as the zero, an inductive sensor contantly monitors the roller-sensor gap and a software maps its surface to increase the precision.

MAIN FEATURES

ABSOLUTE PERFORMANCE

Calibration is not required as the measuring process is not affected by material composition, colour, or transparency.

HEAVY DUTY STRUCTURE

The structure is designed and built to ensure maximum structural stiffness, essential for precise measurement under all operating conditions.

DIMENSIONS

The frame of the machine is compact and has an integrated electrical panel and control panel. Installation is quick and easy (plug and play).

MOTORISED ROLLER

ShadYscan uses a motorised roller to eliminate the risk of material slipping. The motor is synchronized with the line speed in order to eliminate friction and drag-based defects.

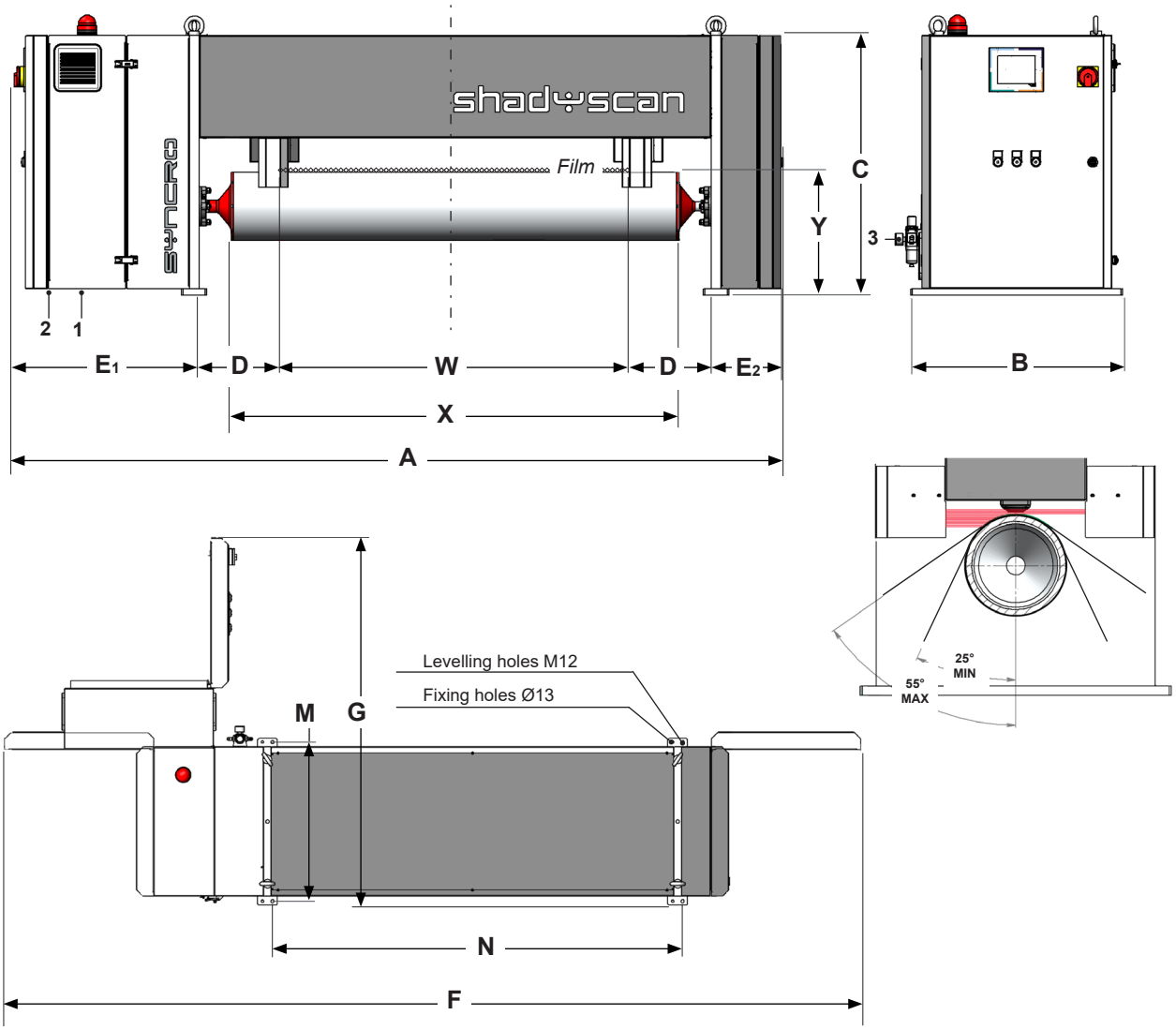
INDUSTRY 4.0 & IoT

ShadYscan is prepared with OPC-UA protocol for Industry 4.0.

EASY ACCESS FOR MAINTENANCE

SHADYSCAN has been designed to ensure easy access to all parts requiring maintenance. A pneumatic control allows the entire sensor to be moved away from the measuring roller.

TECHNICAL DATA



Model	W max. film width (mm)	Y h. film (mm)	X (mm)	A (mm)	B (mm)	C (mm)	E1 (mm)	D (mm)	E2 (mm)	G (mm)	F (mm)	M (mm)	N (mm)	Linearity (µm)	Max Thickness (mm)	Resolution (µm)	Gap Sensor-Roll (mm)	Transversal speed (mm/S)	Power (kW)	Weight (kg)
900	900	387,5	1200	2230	670	820	590	260	220	1450	3290	640	1490	≤3	3,5	0,3	5,5	100	1,38	375
1100	1100		1400	2430							3490		1690							400
1300	1300		1600	2630							3690		1890							425
1500	1500		1800	2830							3890		2090							450
1700	1700		2000	3030							4090		2290							475
1900	1900		2200	3230							4290		2490							500
2100	2100		2400	3430							4490		2690							525
2300	2300		2600	3630							4690		2890							550
2500	2500		2800	3830							4890		3090							575
2700	2700		3000	4030							5090		3290							600

1_ Communication interface; 2_ Power supply; 3_ Compressed air inlet.