

NON-CONTACT ABSOLUTE PROFILE MEASUREMENT

PRO-SCAN

**HIGH ACCURACY GAUGE MEASUREMENT USING
UNIQUE AIR CUSHION TECHNOLOGY**



**IMPROVEMENT OF QUALITY AND COST REDUCTION
THROUGH CONSTANT PRODUCT THICKNESS**



is a **non-nuclear non-contact** scanning gauge system that provides an absolute sheet thickness measurement. Available in rigid O-Frame and C-Frame configurations PRO-SCAN is designed for applications in flat sheet processing 8 mil (200 microns) and higher.

System Description: The PRO-SCAN gauging principle utilises two traversing air cushion measuring sensors, one located on each side of the sheet, to provide an absolute measurement of sheet thickness. As the sheet thickness varies the air suspension sensor heads on each side of the sheet move to maintain their equilibrium distance relative to the sheet. Since the equilibrium distance between the sheet and each sensor is constant, measuring and calculating the distance that separates the sensors provides the actual gauge of the sheet. The measured movement of each sensor head is

compared in the system software in real time and the actual sheet thickness is calculated to an accuracy of 1 micron (0.040 mil).

PRO-SCAN is additionally equipped with infrared edge detection sensors that accurately locate the edge of the sheet; reversing of the scan is based on this measurement. PRO-SCAN edge detection provides an absolute measurement of the sheet width that is displayed on the scan profile and in the tabular reports.

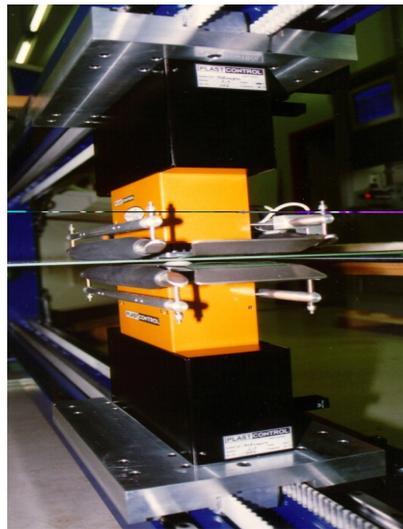
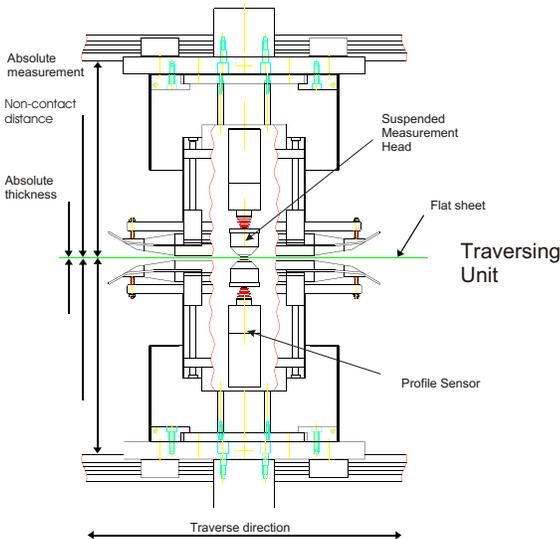
Features: On screen fixed positioning of the sensors for machine direction gauge measurement facilitates efficient extrusion die set up. Audible alarms for excessive profile deviation, profile printouts and interface links to customer database are available. PRO-SCAN is capable of measuring foam and hollow structures and may be applied in applications with embossed and textured surfaces.

MEASUREMENT PRINCIPLE

Two opposing measuring sensors are mounted on ultra low friction linear bearings and driven by a precision motor across the sheet. The sensors are suspended at an equilibrium distance from the sheet by the reaction force to an air cushion emitted from each sensor. As thickness varies, the air suspension sensor heads on each side of the sheet move to maintain their equilibrium distance to the sheet. A DIADUR incremental glass scale measures and reports the sensor movement to a computer which calculates an absolute thickness measurement. The system is 100% self-calibrating and independent from material type.

The measurement sensors are driven by a DC motor that is mounted in a chassis that runs between parallel mounted precision linear bearings.

PROFILE SENSOR



TECHNICAL DATA



Measurement range: A	6	Mil	-	240	Mil
Measurement range: B	60	Mil	-	590	Mil
(Measurement range over 0.5" upon specification)					
Static Resolution	0.2	Micron			
Dynamic Resolution	<1	Micron			
Profile Resolution			-	1	Micron
Integr.measurement point	240	Mil	-		
Traverse Speed			-	16	Ft/min
Air pressure (System)	30	PSI			
Recommended air supply	60	PSI	-	90	PSI

SYSTEM ADVANTAGES

- Non-Contact
- Non-nuclear (no regulatory reporting)
- Provides an absolute measurement
- Material and structure insensitive
- Self-calibrating
- Easy operator interface through key pad and color monitor
- Measurement range up to 0.5" (12mm)
- Embossed & textured surface materials may be measured
- Non-plastic material may be measured