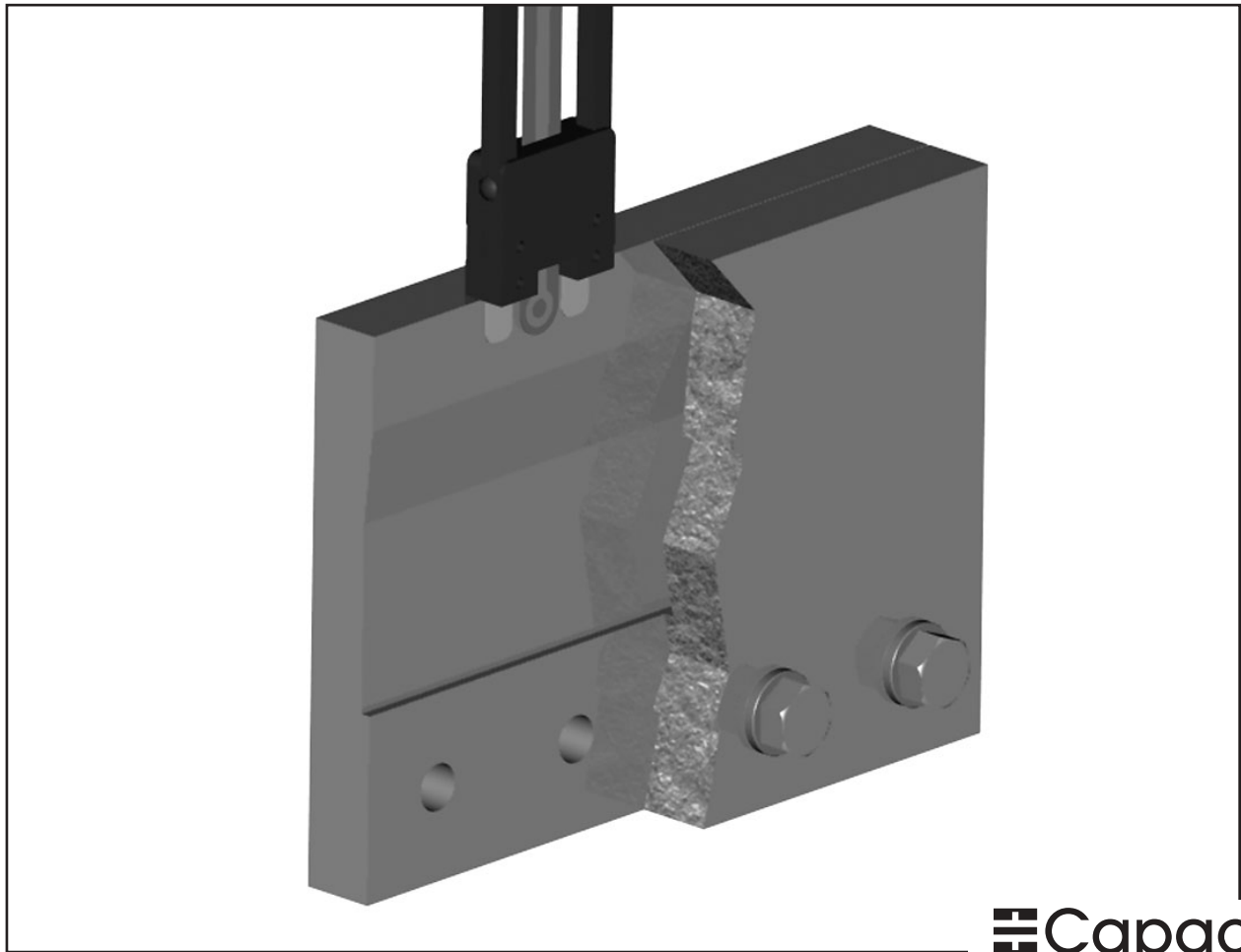


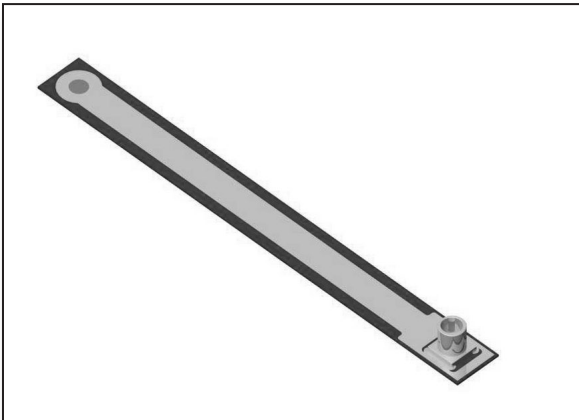
SLOT DIE COATER
GAP SENSOR SYSTEM



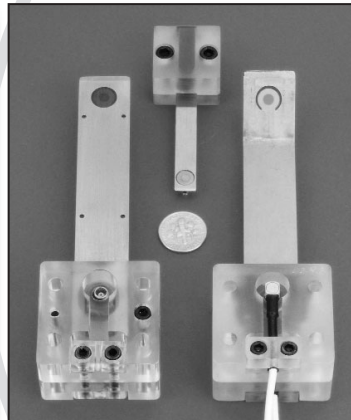
SYSTEM OVERVIEW

For the past 10 years Capacitec has been working closely with leading global manufacturers of labels, tapes and films to develop a system to precisely measure slot die coater gaps. The new non-contact capacitive gap measurement solution includes sensor wands, special wand holders, and signal conditioning electronics and software.

NON-CONTACT SENSOR WANDS



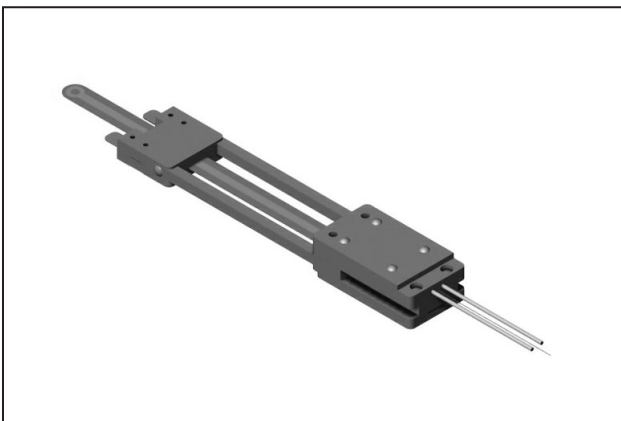
Kapton® style Thin Gap Wand



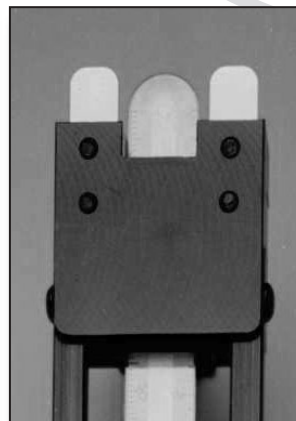
Composite laminate Gap Wands

Two capacitive non-contact displacement sensors are mounted on either side of the sensor wand to create an "electronic feeler gauge". Sensor size and wand thickness is dependent upon the range and gap size being measured. Typical wand thickness for Kapton® wands is 0.009" (0.23mm) to 0.40" (1.0mm) with a gap range of 0.009" (0.23mm) to 0.10" (2.5mm). Composite wand thickness is from 0.035" (0.90mm) to 0.20" (5.0mm) for gap ranges of 0.040" (1.0mm) and above. Maximum accuracy ($\pm 0.1\%FS$) is attained by selecting the wand to "fill" the measured gap to within 0.004" (100 microns) below the targeted slot gap resulting in a total range of 0.010" (250 microns).

CUSTOM WAND HOLDER



Custom wand holder with adjustable insertion length and slot guides



Custom wand holder (top section)

Measurement accuracy is enhanced with the use of wand fixtures to secure the sensor wand in a parallel position relative to the two halves of the coater die. The two positioning tabs on each side of the wand tip (see top section) further prevent the wand from twisting or rocking out of position. The easy to grip fixture allows ease of use in measuring the coater die gap along the full three to six foot (1 to 2 meters) length. Standard cables are available to connect the sensor wand and fixture to the signal conditioning electronics.

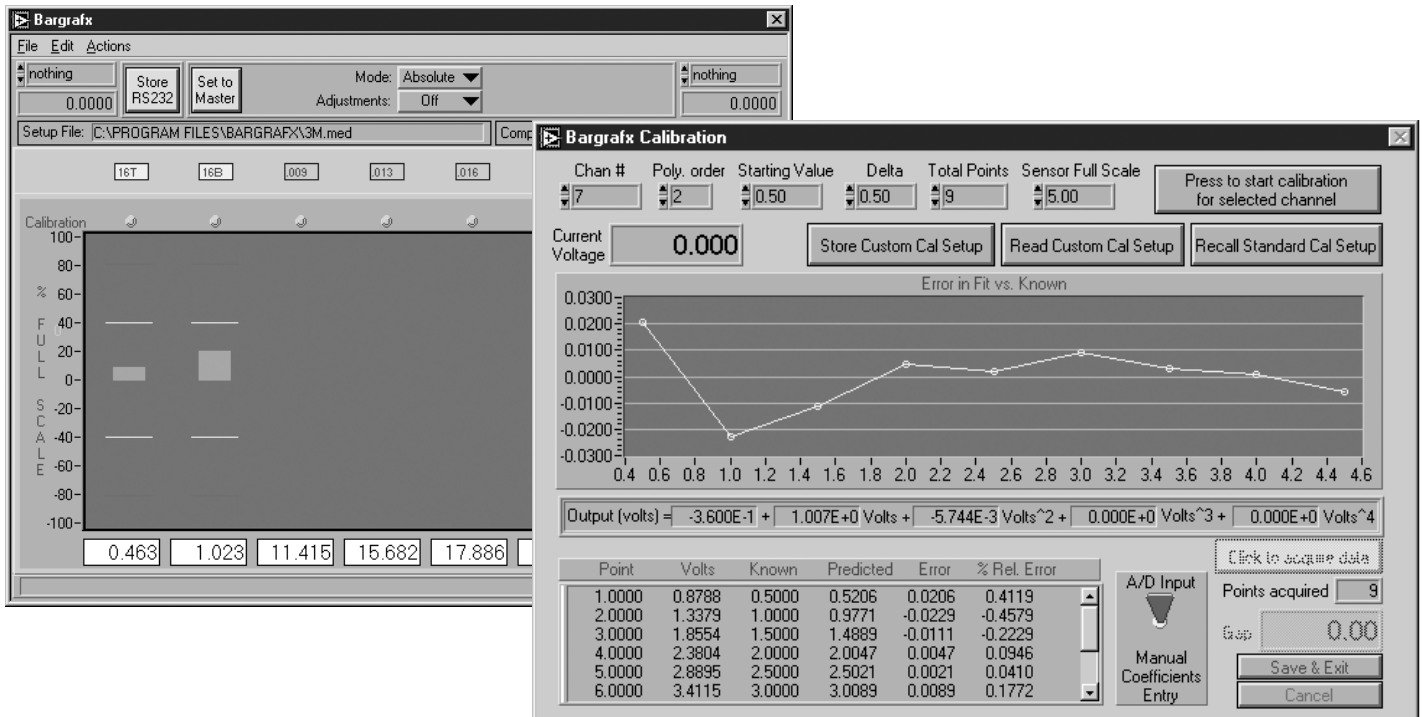
INSTRUMENTATION

The dual sensor wands are combined with a matching Capacitec 4000 series instrumentation package that consists of an electronic rack, signal conditioning amplifiers, power supply and cables. The 4000 series Capacitec amplifiers and racks were designed to offer the best signal to noise ratio and wide band width response options in a simple modular option. When coupled with Capacitec sensor wands the electronics produce a linear output voltage of 0-10.000VDC proportional to the gap. Amplifiers come standard with 232Hz, -3dB frequency response.



Two channel system with instrumentation, wand holder and calibration block

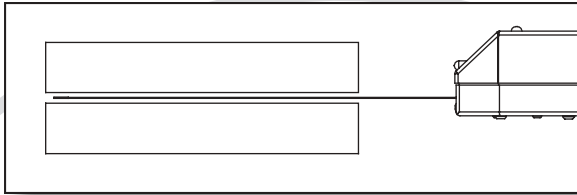
BarGrafx SOFTWARE



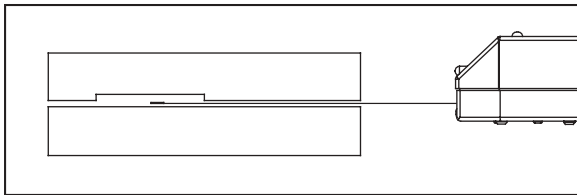
Screen shot showing upper and lower critical value display

GAP MEASUREMENTS

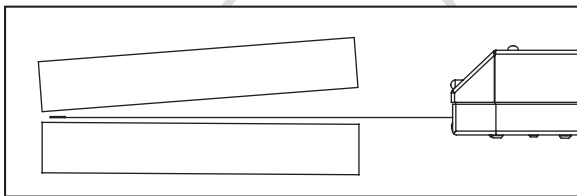
TYPICAL MEASUREMENTS



FLAT GAP



HIDDEN GAP



TAPERED

ADDITIONAL POSSIBILITIES



KNIFE EDGE TO ROLLER



ROLLER TO ROLLER

GAPMAN®

Portable Gap Measurement Instrument

GAPMAN is the world's first high precision, non-contact, portable electronic gap measurement gage. It features a dual capacitive sensor for position-compensated measurement and easy insertion into very narrow gaps down to 0.009" (0.22mm) in a wide range of parallel and roller gap applications. Microprocessor based and application software driven, GAPMAN records and stores data points for easy transfer to SPC and other quality systems. Additional information is available.



 **Capacitec**

US HEADQUARTERS
Capacitec, Inc.
87 Fitchburg Road
P.O. Box 819
Ayer, Massachusetts 01432
USA
978-772-6033
FAX: 772-6036
email: sales@capacitec.com

EUROPEAN HEADQUARTERS
Capacitec Europe
16, rue Séjourné
94044 CRETEIL cedex
FRANCE
33 1 43 39 48 68
FAX: 49 80 07 49
email: eurosales@capacitec.com