



★ Made In The USA

# Accu-Flow Air Gaging

For non-contact measurement of parts & materials ... in process or at the bench



Series AG-698 with Digital Indicator

The lowest cost, longest range non-contact system



Series AG-698 with Dial Indicator



Series AG-699 with Digital Sensor & Remote Readout

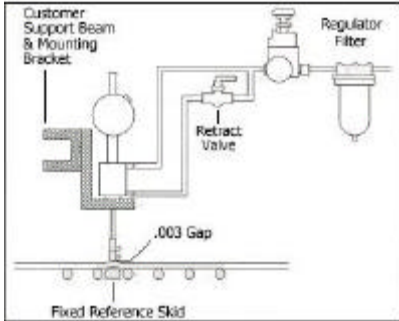


# THE AMES ACCU-FLOW<sup>®</sup>

The AMES Accu-Flow<sup>®</sup> Air Follower system is unique. Unlike any other air gaging system, it incorporates a high force, pneumatic balancing arrangement which maintains a precise constant air gap between the nozzle and the work being measured. This nozzle motion is transferred to either a dial or digital indicator or cartridge probe.

## FOR THE CONTINUOUS PROCESS:

Pneumatic servo operation permits the AMES Accu-Flow<sup>®</sup> system to measure on a day in, day out basis without ever touching the material, constantly and accurately indicating size changes and trends in thickness. It is the most easily installed system you can select (see diagram)



And because it's so economical, there is no high-cost problem to installing multiple followers (3" centers or less) to get indication of cross sectional contour. Using the AMES Digital Indicator or Digital Remote Readouts these followers offer endless

capabilities for either static or in-process control gaging through BCD, RS-232, etc. interfacing.

## APPLICATIONS

### Materials

Semiconductor Wafers  
Optical Disks  
Stripfelt  
Woven Wool  
Paper Coating  
Medical Filter Paper  
Polyethylene Sheeting  
Adhesive Sheets  
Rubber Extensions  
Newspaper Mattes  
Plastic Tubing  
Insulation Paper  
Plastic Strapping  
Auto Seat Covering  
Urethane Sheeting  
Neoprene Strips

### Parts

Printed Circuit Boards  
Photo Film Holders  
Ceramic Discs  
Semi-Finished Lens Buttons  
Finished Lenses  
Video Cassette Cases  
Diaphragm Capsules  
Nuclear Component Profiles  
Gum Capsules  
Computer Memory Disks  
Fiber Optic Lenses  
Contact Lenses  
Photographic Film  
Missile Components  
Leaf Springs

General Purpose,  
non-contact comparator Model  
AG-698-1008

## For Bench Gaging

The AMES Accu-Flow<sup>®</sup> Air Follower is easily installed on most bench comparators, using a simple bracket to give you non-contact gaging capability for checking delicate piece parts. It has the added value of permitting long range retraction to clear deep lips, flanges, or other interferences on the part which make normal comparator set-ups impractical. A typical bench gaging application is shown.



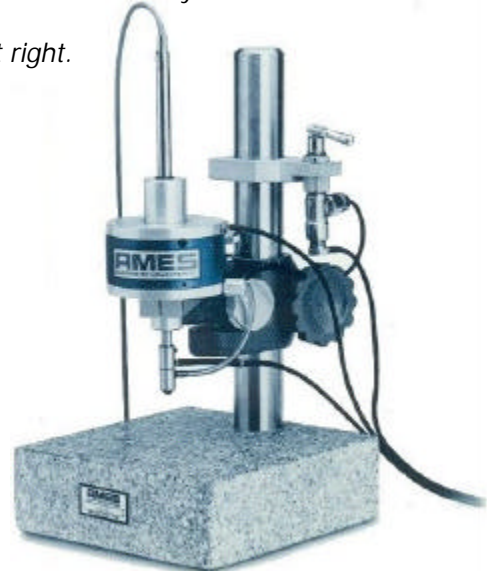
## A Complete High Accuracy Non-Contact Gaging System

For use on materials too fragile, highly polished, or easily distorted for normal gaging. Includes: The AF-798-100 Air Follower, Digital Readout Amplifier, Cartridge Probe, Fine Adjustment, Column Mounted React Valve, and Granite Base Assembly.

*Gaging Specifications at right.*



Model AF-798-1006

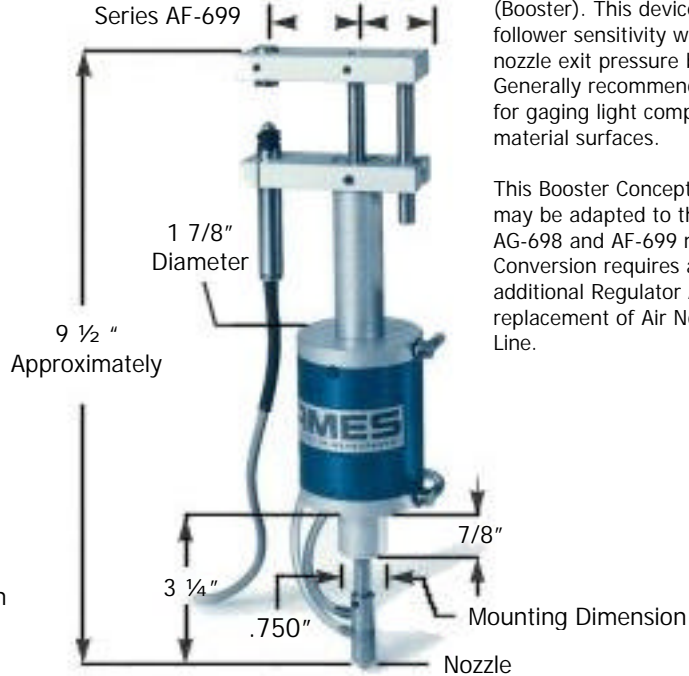
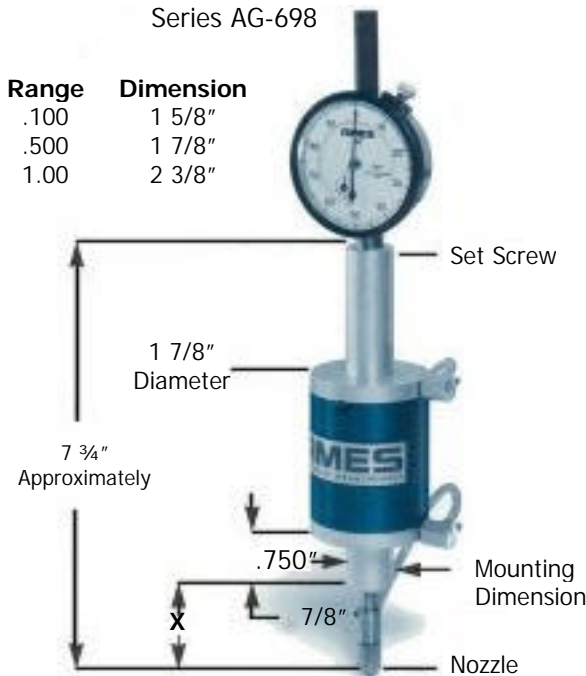


# AIR FOLLOWER

## Booster Models

The AG-698B and AF-699B Series are equipped with a pneumatic amplifier (Booster). This device increases follower sensitivity while reducing nozzle exit pressure below 1 psi. Generally recommended for gaging light compressed material surfaces.

This Booster Concept may be adapted to the basic AG-698 and AF-699 models. Conversion requires an additional Regulator Assembly, replacement of Air Nozzle and Hose Line.



**The AG-698 Series Air Followers** are designed for use with most any AMES Mechanical Dial or Digital Indicators with grads or resolutions to .001" (.02 mm) or .0005" (.01 mm) – up to 1" range.

This Air Follower Series is available in three retract ranges (.100", .500" and 1.000") to suit the gage-head range or a special application. The .100" range follower is often selected for gaging thin materials (films, paper, plastics, etc.). When equipped with a limited range (.100" or less) gage-head, this Follower, mounted in a rigid bench stand can offer .0001" (.002 mm) readouts under static gaging conditions.

Indicators can be positioned vertically or radially to meet a particular requirement

**The AF-699 Series Air Follower** also uses most any AMES Mechanical Dial or Digital Indicator with grads or resolutions to .001" (.02 mm) or .0005" (.01 mm). This design configuration is particularly ideal with gage-heads with very limited ranges such as Electronic Cartridge probes, applications requiring minimum grad values to .0001 (.002 mm) would be best applied to static gaging.

The following two design features are worthy of consideration for special applications.

1. Full 1" range Air Nozzle Retract regardless of the gage-head range.
2. Reduced overall Air Follower height.

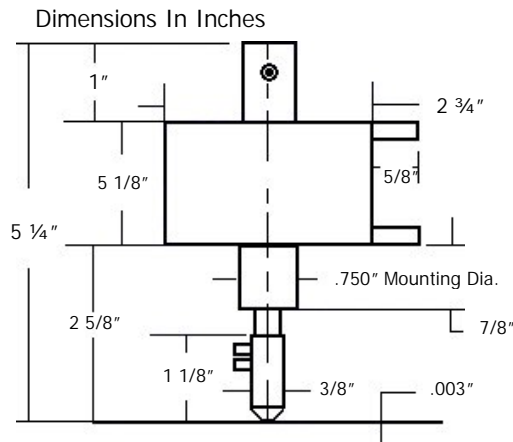
## Higher Accuracy, Non-Contact Measurement With The AMES AF-798-100 System

The High Accuracy Air Follower operates on the same principal as the basic AG-698 & AF-699 series. However, a larger diameter air cylinder increases the piston's effective area giving greater controlled accuracy over the follower's full .100" range. This range is typical of the high accuracy readout devices normally used. Generally used for static gaging applications.

This AF-798-100 Series may be used with dial or digital indicators having .0001" or .00005" graduations or resolutions.

When equipped with an AMES #490 Electronic Cartridge Probe ( $\pm .050"$  range) and the 122 Series Digital or Analog Amplifier, it is capable of repeatability to within .000010" and linear with 0.1% of total range. See Model AF-798-1006 which depicts a complete gaging system.

Series AF-798-100 with Dial Indicator



Model AF-798-100



### Gaging Specifications AF-798-100

Total Range .....	.100"
Linearity Full Scale .....	to within .01%
Repetitive Accuracy .....	to within .000010"

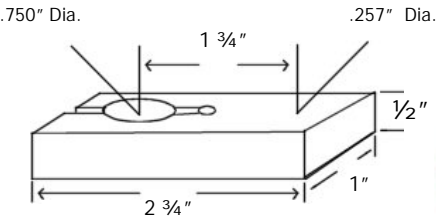
All Readout Instrumentation portrayed, Bench Support Stands, or Mounting Components may be selected for purchase. REQUEST from a selection of available catalogs



# Accessories & Attachments

## Mounting Bracket

Furnished with each model.



No. AG-698-000004

## Air Filter / Regulator

Furnished with each model. Can be installed wherever convenient.

Should connect to source of clean, dry air which has been treated, if necessary, to remove oil, water, sludge, and other liquid contaminants. Source Pressure – 50 to 100 psi.

See Price Sheet For Model Numbers

## Retract Valve

Furnished with each model. To provide full range retraction. Can be located independently of the air follower or filter/regulator assembly.

No. 1-0312-00031  
Valve Only



## Foot Valve

Foot Valves (Push for Retract) or (Push to Measure) are available. Leaves operator's hands free to enter and exit materials being gaged.

See Price Sheet for model numbers



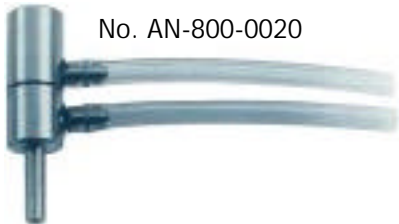
## Contact Ski

If the material is woven or otherwise porous, the addition of a lightweight metal ski below the nozzle makes measurement practical and adds less than one gram of gaging pressure. Nozzle not included.



## Nylon Foot

"Feather Touch" Nylon foot used to check thickness of highly compressible materials. Total gaging pressure is only .01 psi. Nozzle not included



No. AN-800-0020

## Reduced Diameter Nozzle

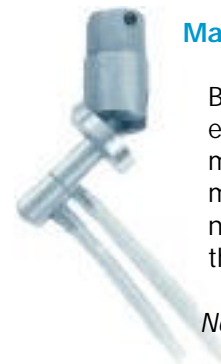
Reduced to 1/8" O.D. is ideal where access to the gaging surface is restricted. For Non-Booster Models Only.



No. AN-800-0014

## Needle Nozzle

This .050" O.D. Needles is required where the gaging surface is less than 1/8" diameter/wide. For Booster Models Only.



No. AG-698-000010

## Magnetic Breakaway Nozzle

Break-Away – Used where extreme variances in moving material thickness may injure a normal nozzle; i.e., blobs, multiple thicknesses, and seams.

Nozzle Not Included.



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Specifications	AG-698	AH-698B	AF-699	AF-699B	AF-798
Gaging Ranges (inches)	.100 .500 1.00	.100 .500 1.00	1.00	1.00	.100
Air Gap (inches)	.003	.003	.003	.003	.003
Exit Pressure (psi)	10.6	.9	10.6	.9	6.1
Gaging Force (grams)	14	1	14	1	8
Air Consumption (cfm)	0.4	0.4	0.4	0.4	0.4
Minimum Gaging Surface Width or Diameter (inches)	.125	.125	.125	.125	.125
Response (milliseconds) (to .010" size change)	50	=50	50	=50	