



## AUDIT SERIES - 105,106,107 THICKNESS GAUGES

**INTRODUCTION** Baugh & Weedon Ltd., have been designing and manufacturing Ultrasonic test equipment for over 40 years. During this period a policy of continuous technological development and close observation of user requirements has enabled us to offer an excellent range of thickness gauges for industrial applications.

The Audit Series provides users with an optimum combination of economy, accuracy, robustness and simplicity of operation.

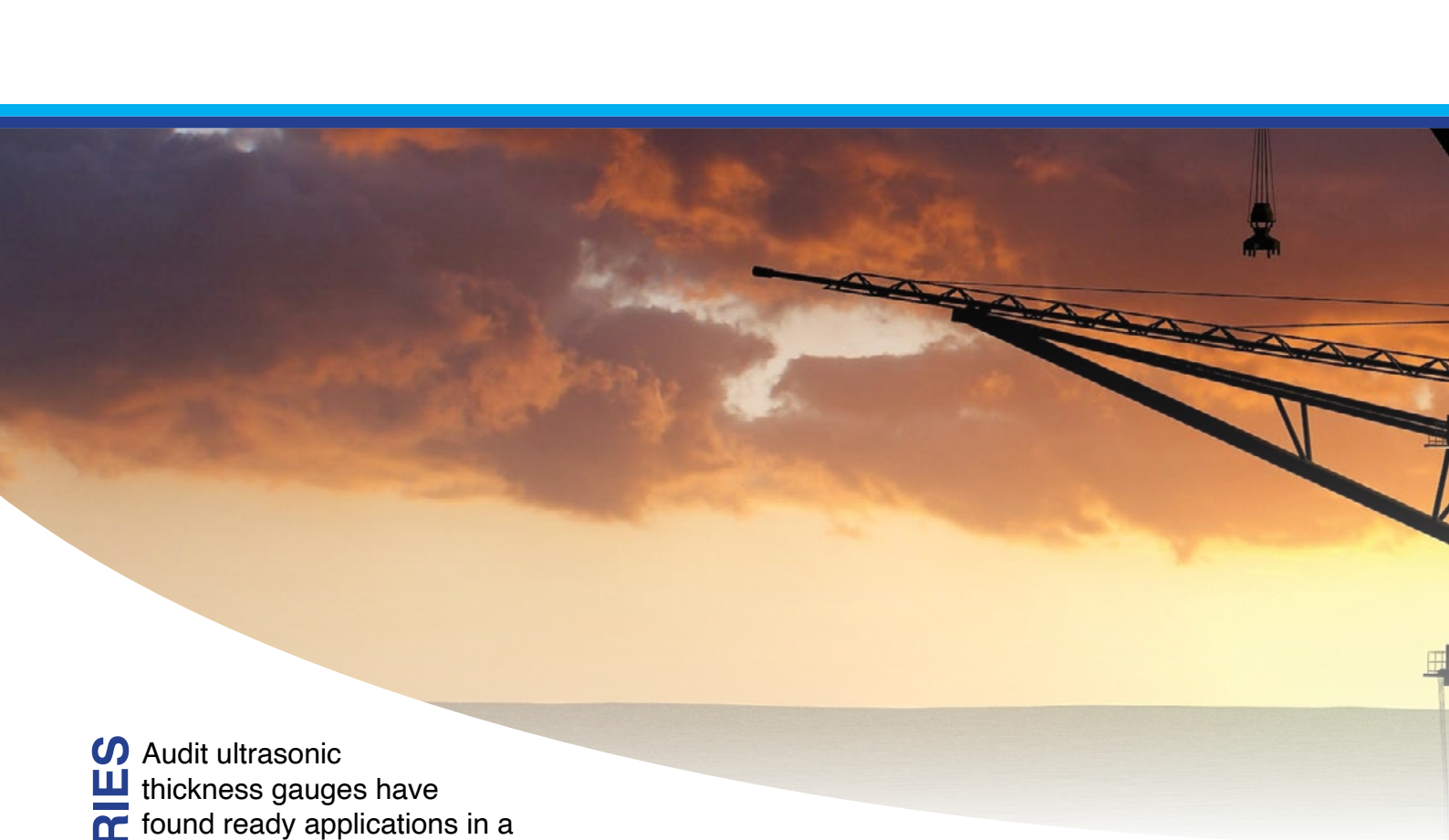
Both Audit 105 and Audit 106 are exceptionally tough, yet well finished instruments. Electronic micro circuitry is housed in a rigid hermetically sealed ABS case, with a front panel membrane ensuring excellent environmental protection.

The standard DT25 probe is specially constructed to withstand the most arduous operating conditions and the roughest of handling. An integral probe lead is connected to the durable stainless steel probe housing via a flexible fitting to reduce the risk of

breakage. The cable is further protected by a covering sheath, and connects to the instrument via a robustly constructed plug.

An alternative DT15 Probe with separate lead is available. The DT1, used with a spring loaded holder, is able to locate accurately on curved surfaces down to a radius of 20mm.





## USER INDUSTRIES

Audit ultrasonic thickness gauges have found ready applications in a wide variety of industries, including:

- + Road Transport
- + Chemicals & Petrochemicals
- + Warehousing
- + Food Manufacture
- + Railways
- + Shipping
- + Offshore
- + Civil Engineering
- + Process Industries
- + Defence
- + Aircraft
- + Glass
- + General Engineering
- + LPG and mains gas distribution
- + Mechanical Handling
- + Plastics
- + Mines & Quarries
- + Engineering
- + Insurance
- + Water Distribution
- + Fabrication
- + Paper
- + Cement
- + Forges & Foundries
- + Tube-making

## APPLICATIONS

Audits are essential tools for the Plant Maintenance Engineer or Engineering Surveyor.

From pipelines to pressure vessels, tubes to tankers, castings to casings, boilers to bunkers, stairways to stanchions, cranes to conveyors, and gas tanks to gantries, Audit ultrasonic thickness gauges are the cost effective way to:

- + **Comply with statutory requirements.**
- + **Measure abrasion wear rates.**
- + **Measure rates of corrosion.**
- + **Plan intervals between inspections.**
- + **Avoid costly unscheduled maintenance.**
- + **Assess working plant without shutdown.**

In addition, many applications exist in Quality Control & Quality Assurance where it is important to confirm that dimensions are within specified requirements.



## OPERATION

The Audit 105 is pre-calibrated to measure mild steel and offers the ultimate in ease of operation. Press the ON button, apply couplant (liquid or gel) to the area to be measured, place the probe on the surface, and read the LCD display. And that's all - no controls, and no difficult calibration procedures.

A built-in warning display eliminates the risk of spurious readings, and the instrument switches itself off when not in use. As a confidence check, a 6mm test block mounted on the front panel is always available for reference, to ensure the correct operation of instrument and probe.

The Audit 106 offers the additional facility of ten preset calibration programs for a selection of commonly used engineering materials. Program selection is simply effected by pressing the MAT button. The Audit 106 also features a zero facility.

The Audit 107 allows full Operator calibration either by setting velocity or using testpieces of known thickness, of the material to be measured. This allows greater accuracy of the results.



# SPECIFICATION

## Audit 105 & 106

## Audit 107

|                           |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                       |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General:                  | The Audit 105 and Audit 106 are microprocessor controlled precision instruments housed in rigid injection moulded plastic cases, with front panel membranes ensuring excellent environmental protection.                                                             | The Audit 107 is a microprocessor controlled precision instrument housed in a rigid injection moulded plastic case with front panel membrane ensuring excellent environmental protection.                                             |
| Display:                  | 4 digit LCD                                                                                                                                                                                                                                                          | 4 Digit LCD for thickness readings and display of sound velocity. Selectable between metric and imperial units.                                                                                                                       |
| Range:                    | 1.5mm to 99.9mm in steel                                                                                                                                                                                                                                             | 1.2-200 mm or 0.050-7.999 in in steel (DT25 probe).                                                                                                                                                                                   |
| Resolution:               | 0.1mm                                                                                                                                                                                                                                                                | 0.1 mm or 0.001 in.                                                                                                                                                                                                                   |
| Accuracy:                 | ±0.1mm ±1 digit, or ±1%, whichever is greater.                                                                                                                                                                                                                       | +/- 0.1 mm (0.00±in)±1 digit, or±1%, whichever is greater.                                                                                                                                                                            |
| Batteries:                | 2 x AA alkaline cells, internally                                                                                                                                                                                                                                    | 2 x AA alkaline cells, internally mounted.                                                                                                                                                                                            |
| Battery Life:             | Approx. 100 hours continuous use, equivalent to many weeks in practical situations.                                                                                                                                                                                  | Approx. 70 hours continuous use, equivalent to many weeks in practical use.                                                                                                                                                           |
| Low Battery Warning:      | Displayed when approx 10 hours continuous use remain available.                                                                                                                                                                                                      | Displayed when approx. 10 hours continuous use remain available.                                                                                                                                                                      |
| Auto Power Off:           | Instruments automatically power off 60 seconds after last use.                                                                                                                                                                                                       | Instrument automatically powers off 60 seconds after last use.                                                                                                                                                                        |
| Display Retention:        | 5 seconds from probe lift off.                                                                                                                                                                                                                                       | 5 seconds from probe lift off.                                                                                                                                                                                                        |
| Environmental Protection: | Sealed to IP65.                                                                                                                                                                                                                                                      | Sealed to IP65                                                                                                                                                                                                                        |
| Temp Range:               | Operation 5 to +55°C                                                                                                                                                                                                                                                 | Operation: -5 to +55°C                                                                                                                                                                                                                |
| Storage:                  | -20°C to +70°C                                                                                                                                                                                                                                                       | Storage: -20 to +70°C                                                                                                                                                                                                                 |
| Weight:                   | 290 grams / 10.2 ounces                                                                                                                                                                                                                                              | 290 grams / 10.2 ounces                                                                                                                                                                                                               |
| Dimensions:               | 151 x 82 x 33mm                                                                                                                                                                                                                                                      | 151 x 82 x 33mm                                                                                                                                                                                                                       |
| Calibration:              | A105 Preset for steel only<br>A106 Preset selectable programs for:<br>0 Steel            1 Stainless Steel<br>2 Aluminium    3 Copper<br>4 70/30 Brass   5 SG Iron<br>6 Flake Iron    7 Perspex/Nylon<br>8 PVC            9 Polypropylene<br>Zero Facility Available | a) User definable velocity of sound for the material under test. Range from 2000 to 8192 m/s (787 to 3224 in/ 10 msec available.<br>b) User definable thickness during measurement, allowing standardising on known thickness sample. |
| Confidence Check:         | A 6mm thick test block, mounted on the front panel enables the operator to check at will that the instrument and probe are functioning satisfactorily.                                                                                                               | A 6 mm thick test block mounted on the front panel enables the user to check at any time that the instrument and probe are functioning satisfactorily.                                                                                |
| Validity of Data:         | A decimal point only display indicates that the probe work piece coupling is inadequate, or that an out of range measurement is being attempted.                                                                                                                     | A decimal point only display indicates that the probe to work piece coupling is inadequate, or that an over-range measurement is being attempted.                                                                                     |

## STANDARD KIT

Each instrument is supplied with:

2AAalkaline cells, DT25, 5MHz, probe fitted with integral probe lead, Operator Manual, Moulded plastic transit case, Ultrasonic coupling agent in 125 ml container.

## OPTIONAL KIT

DT15, 5MHz, Probe, fitted with subvis connectors, Twin Probe Cable for use with DT15 Probe, Probe holder to allow use of DT15 Probe on curved surfaces down to a radius of 20mm, DT27 5MHz Side Entry Probe with subvis connectors.

The above is available with the Audit 107 plus:

DT21 high temperature probe ( 150°C intermittent) (3-100 mm), TCE20-2.5 probe, 2.5MHz (3-200mm) for attenuative materials, Probe holder to allow use of DT15 curved surfaces down to a radius of 20 mm.

AGENT / DISTRIBUTOR



Document number BR1002: Issue 1

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