

To complement our range of ultrasonic thickness gauges we offer a range of ultrasonic probes. The performance of any ultrasonic thickness gauge relies heavily on the quality of the probe and its suitability to the material being measured. Therefore selecting the right probe is vital.

Single crystal probes are used with the gauge in Multiple-Echo mode and allow measurements to be taken ignoring coatings.

Constructed from stainless steel, they have a soft face incorporating a replaceable wear membrane. This protects the probe face ensuring years of reliable, accurate service.

### GUIDELINES FOR PROBE FREQUENCY SELECTION

The probe frequency will be determined by the minimum thickness you need to measure. However, the lower the frequency the more effective the ultrasound will be at penetrating coatings and corrosion. The S2C 2.25 MHz 13 mm (0.5 inch) INOX probe is recommended for the majority of applications as it performs the best on corroded metal and through thick coatings.

### PROBE SPECIFICATIONS

Probe ID Number	Frequency	Face Size	Band / Face Colour	Probe Connector	Range in Steel	Typical Applications
S5A	5 MHz	6 mm (0.24 inch)	Black Face	Lemo 00	1 - 50 mm (0.040 - 2 inch)	Small diameter pipes and boiler tubes / heat exchangers
S5C	5 MHz	13 mm (0.5 inch)	Black Band	BNC	1 - 50 mm (0.040 - 2 inch)	Measuring wall thickness down to 1 mm (0.040 inch)
S3C	3.5 MHz	13 mm (0.5 inch)	Orange Band	BNC	2 - 150 mm (0.080 - 6 inch)	Measuring wall thickness down to 2 mm (0.080 inch) with corrosion through coatings
<b>S2C</b>	<b>2.25 MHz</b>	<b>13 mm (0.5 inch)</b>	<b>Red Band</b>	<b>BNC</b>	<b>3 - 250 mm (0.120 - 10 inch)</b>	<b>Standard probe supplied, best for all round measurement of wall thickness with corrosion through coatings</b>
S2D	2.25 MHz	19 mm (0.75 inch)	Red Face	BNC	3 - 250 mm (0.120 - 10 inch)	Large flat plates with heavy corrosion and/or through thick coatings

Probes for use with the Cygnus 2, 2+, 4, 4+ and 6+ gauges are fitted with a BNC connector.

For use with Cygnus DIVE gauge they are fitted with an integral coiled cable with a Fischer connector.

For use with the Cygnus Underwater, Intrinsically Safe and Heavy Duty gauges they are fitted to a nosecone that screws onto the gauge body.



Lemo 00



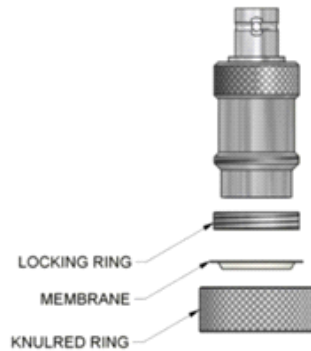
BNC

### PROBE MEMBRANES

Cygnus single crystal probes have a protective membrane fitted in front of the probe face to protect it from damage during use. The membrane also helps the probe face “mould” to surfaces being measured.

The performance of the probe depends on the condition of the membrane and how well it has been fitted. Cygnus recommends membranes are replaced frequently as a precaution or at the first sign of any scoring, tearing or damage.

Membranes are available in two materials, the standard Polyurethane membrane is suitable for surface temperatures up to 75°C (167°F), the Teflon membrane is suitable for surface temperatures up to 150°C (302°F) with a maximum contact time of 5 seconds.



A pack of standard membranes is supplied in each gauge kit. To order spares and Teflon membranes the details are:

Part Number	Probe Size	Size of Head (inc. Knurled Ring) (approx.)	Physical Size of Membrane (approx.)
Standard Polyurethane (75°C) Pack of 20			
001-3702	6 mm (0.24 inch)	18 mm (0.70 inch)	14 mm (0.50 inch)
001-3701	13 mm (0.50 inch)	24mm (0.95 inch)	21 mm (0.82 inch)
001-3700	19 mm (0.75 inch)	30 mm (1.18 inch)	28.5 mm (1.12 inch)
Teflon (150 °C) Pack of 10			
001-4873	6 mm (0.24 inch)	18 mm (0.70 inch)	14 mm (0.50 inch)
001-4874	13 mm (0.50 inch)	24 mm (0.95 inch)	21 mm (0.82 inch)
001-4875	19 mm (0.75 inch)	30 mm (1.18 inch)	28.5 mm (1.12 inch)

### MEMBRANE COUPLANT

Membrane couplant needs to be used between the membrane and the probe face. This creates a thin layer of oil that allows the ultrasound to pass through.

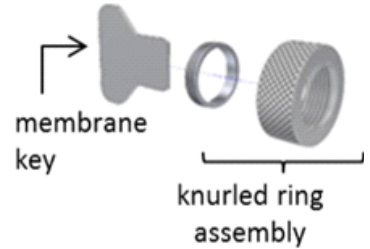
A 25 ml bottle of Membrane Couplant is supplied in each gauge kit.

P/N 001-3706



### KNURLED RINGS AND MEMBRANE LOCKING RING KEYS

Supplied with every single crystal probe, the knurled ring holds the membrane in place.



The membrane key is used to unscrew and screw in the locking ring which the membrane is fitted into.

- Knurled Ring Assembly for 19 mm (0.75 inch) Probes - P/N 001-3705
- Knurled Ring Assembly for 13 mm (0.50 inch) INOX Probes - P/N 001-3709
- Knurled Ring Assembly for 13 mm (0.50 inch) Probes - P/N 001-3704
- Knurled Ring Assembly for 6 mm (0.24 inch) Probes - P/N 001-3703
- Membrane Key for 19 mm (0.75 inch) Probes - P/N 001-2610
- Membrane Key for 13 mm (0.50 inch) Probes - P/N 001-2611
- Membrane Key for 6 mm (0.24 inch) Probes - P/N 001-2612