



Pre-Service Weld Inspection Manual Scanner

The R/D Tech® HSMT-Flex is intended for the inspection of circumferential welds on pipes 4 in. OD and up using four probes. It can also be used on plates with up to eight probes.

The scanner offers an efficient way to make a complete manual weld inspection. It can perform TOFD, pulse-echo, and phased array inspection separately or all at once.

The basic configuration is intended for construction welding inspection. In order to be used in more restricted areas, the scanner can also be reconfigured with the provided short frame bars.

HSMT-Flex Kit Includes:

- Scanner frame
- Two additional 200-mm (8 in.) frame bars
- Four magnetic wheels
- Splashproof spring-loaded wheel encoder
- 5-m encoder cable for OmniScan®
- Four metric/English rulers
- Four 90°-probe holder brackets
- Four spring-loaded arms (SLA)
- Four TOFD/PE 40-mm yokes
- Two PA 40-mm yokes
- Irrigation tubing and accessories
- Hard carrying case

Note: Umbilical cable, probes, and wedges are not included in the basic kit.



Features

- Folding frame to optimize probe contact on pipes
- Compact and versatile. The provided frame bars allow size customization.
- Full range of pulse-echo and TOFD probes and wedges, including the composite CentraScan™ series
- Can support up to 4 conventional or phased array probes on pipes
- Can support up to 8 conventional or phased array probes on flat surfaces.
- Light aluminum frame
- Fully adjustable probes positions
- Metric/English rulers on the scanner frame for easy probe separation measurement
- Probe holders are independently spring-loaded
- Splashproof spring-loaded wheel encoder
- Removable handles
- Eyelet for umbilical attachment
- The water manifold is integrated to the scanner frame



Options

Probes, Wedges, and Umbilical

Refer to tables on pages 2 and 3

Remote P/R Kit

Four-channel 40dB Remote Pulser/Receiver with LEMO connectors to amplify probe signal. The use of the Remote P/R and composite probes enhances the S/N ratio in TOFD inspections. Kit includes a Remote P/R, a bracket compatible with HSMT scanners, 4 2-in. LEMO to Microdot 90° cable.

Manual Water Pump Kit

Water pump is compatible with scanner umbilical cables. It can also be used with provided tubing. Includes tank, tubing, and Y splitters.

Laser Guide Kit

Battery-operated laser-guiding device for easier weld tracking.

Spring-Loaded Arm Kit

Set of two spring-loaded arms (SLA) with 90° brackets. SLA optional kit is required for simultaneous 8-probe scan.

TOFD/PE Yoke Kit

Set of two yokes to hold a pair of TOFD or conventional UT wedges (ST, SP and SCW series)

PA Yoke Kit

One yoke to hold phased array 40 mm wedge.

Umbilical Cables for HSMT-Flex Scanner

| Part Number | Cable Length (m) | Probe Cable Type | Remote P/R Cable |
|----------------|------------------|----------------------------|------------------|
| UMB1-UT-5-R | 5 | UT only | Included |
| UMB1-UT-10-R | 10 | UT only | Included |
| UMB1-UT-20-R | 20 | UT only | Included |
| UMB1-UT-30-R | 30 | UT only | Included |
| UMB1-UTPA-5-R | 5 | UT + phased array 128 coax | Included |
| UMB1-UTPA-10-R | 10 | UT + phased array 128 coax | Included |
| UMB1-UTPA-20-R | 20 | UT + phased array 128 coax | Included |
| UMB1-UTPA-30-R | 30 | UT + phased array 128 coax | Included |

All UMB1 umbilical extension cables include the following:

- 8 UT probe connecting cables
- 2 spare UT cables
- Encoder cable with integrated amplifiers
- Irrigation tube
- Safety hook on both ends

Phased Array Probes and Wedges Ordering Information

| A1 phased array probes to fit SA1 wedges | | | | |
|---|-----------------|---------------------|------------------|--------------------|
| Part number | Frequency (MHz) | Number of elements | Cable length (m) | Connector type |
| 2L16-A1 | 2.25 | 16 | 2.5 | OmniScan |
| 5L16-A1 | 5.0 | 16 | 2.5 | OmniScan |
| 10L32-A1 | 10.0 | 32 | 2.5 | OmniScan |
| A2 phased array probes to fit SA2 wedges | | | | |
| 5L64-A2 | 5.0 | 64 | 2.5 | OmniScan |
| PWZ1 phased array probes to fit SPWZ1 wedge | | | | |
| 5L60-PWZ1 | 5.0 | 60 | 2.5 | OmniScan |
| 7.5L60-PWZ1 | 7.5 | 60 | 2.5 | OmniScan |
| SA1 phased array wedge to fit 40 mm PA yoke | | | | |
| Part number | Type of beam | Refracted angle (°) | Wave type | Wedge option group |
| SA1-N55S-IHC | Normal | 55 | Shear | IHC |
| SA2 phased array wedge to fit 40 mm PA yoke | | | | |
| SA2-N55S-IHC | Normal | 55 | Shear | IHC |
| SPWZ1 phased array wedge to fit 40 mm PA yoke | | | | |
| SPWZ1-N55S-IHC | Normal | 55 | Shear | IHC |

See R/D Tech® *Phased Array Ultrasound Probe Catalog 2005-2006* for further choice and information.

TOFD Probes and Wedges Ordering Information

| High-sensitivity composite probes to fit ST1 wedge type | | | |
|---|---------------------|-----------------------|----------------|
| Part number | Frequency (MHz) | Element diameter (mm) | Connector type |
| C542-SM | 2.25 | 6.0 | Microdot® |
| C543-SM | 5.0 | 6.0 | Microdot |
| C544-SM | 10.0 | 6.0 | Microdot |
| C563-SM | 10.0 | 3.0 | Microdot |
| High-sensitivity composite probes to fit ST2 wedge type | | | |
| C540-SM | 2.25 | 12.5 | Microdot |
| C541-SM | 5.0 | 12.5 | Microdot |
| ST1 TOFD wedges to fit TOFD/PE yoke | | | |
| Part number | Refracted angle (°) | Wedge option group | |
| ST1-45L | 45 | Plain | |
| ST1-45L-IHC | 45 | IHC | |
| ST1-60L | 60 | Plain | |
| ST1-60L-IHC | 60 | IHC | |
| ST1-70L | 70 | Plain | |
| ST1-70L-IHC | 70 | IHC | |
| ST2 TOFD wedges to fit TOFD/PE yoke | | | |
| Part number | Refracted angle (°) | Wedge option group | |
| ST2-45L | 45 | Plain | |
| ST2-45L-IHC | 45 | IHC | |
| ST2-60L | 60 | Plain | |
| ST2-60L-IHC | 60 | IHC | |
| ST2-70L | 70 | Plain | |
| ST2-70L-IHC | 70 | IHC | |

UT Probes and Wedges Ordering Information

| High-sensitivity composite probes for pulse-echo to fit SPE2 wedges | | | |
|---|---------------------|-----------------------|--------------------|
| Part number | Frequency (MHz) | Element diameter (mm) | Connector type |
| C549-SM | 2.25 | 9.5 | Microdot® |
| C550-SM | 3.5 | 9.5 | Microdot |
| C551-SM | 5.0 | 9.5 | Microdot |
| SPE2 wedges to fit TOFD/PE yoke | | | |
| Part number | Refracted angle (°) | Wave type | Wedge option group |
| SPE2-45S-IHC | 45 | Shear | IHC |
| SPE2-60S-IHC | 60 | Shear | IHC |
| SPE2-70S-IHC | 70 | Shear | IHC |

IHC: irrigation holes and carbide wear pins



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