

HYDRAULIC BOLT TENSIONING

echometer[®] Transducer Data and Selection

There are several factors that cover the selection of which transducer to use with Boltight Echometer Ultrasonic Measurement Kit BT-EMS-1:

1. The crystal diameter should be completely in contact with the bolt end surface.
2. The outside diameter should be clear of any obstruction.
3. The frequency should be chosen to suit the bolt length.
4. In general the larger the diameter the stronger the signal and therefore better results are obtained by using the largest size transducer that will fit on the bolt.
5. Boltight recommends the 3/8" diameter, 5 MHz transducer as the best general purpose transducer covering 90% or more of typical bolting applications.
6. If in doubt or you need any help please contact one of our engineers.

Diameter Reference	Outside Diameter	Wearface Diameter	Crystal Diameter
Non-Magnetic Transducers			
1/8" (3.1mm)	0.23" (5.8mm)		1/8" (3.1mm)
1/4" (6.3mm)	0.355" (9.0mm)		1/4" (6.3mm)
1/2" (12.7mm)	0.605" (15.3mm)		1/2" (12.7mm)

Magnetic Transducers			
1/8" (3.1mm)	0.38" (9.6mm)	0.2" (5.0mm)	1/8" (3.1mm)
1/4" (6.3mm)	0.75" (19.0mm)	0.32" (8.1mm)	1/4" (6.3mm)
3/8" (9.5mm)	0.81" (20.5mm)	0.47" (11.9mm)	3/8" (9.5mm)
1/2" (12.7mm)	1" (25.4mm)	0.63" (16.0mm)	1/2" (12.7mm)
3/4" (19.0mm)	1.21" (30.7mm)	0.82" (20.8mm)	3/4" (19.0mm)

Size	Frequency	Application
1/8" (3.1mm) diameter	5 Mhz	General Purpose
1/8" (3.1mm) diameter	10 Mhz	Hi Resolution/Short Bolts
1/4" (6.3mm) diameter	2.25 Mhz	Long Bolts
1/4" (6.3mm) diameter	5 Mhz	General Purpose
1/4" (6.3mm) diameter	10 Mhz	Hi Resolution/Short Bolts
3/8" (9.5mm) diameter	2.25 Mhz	Long Bolts
3/8" (9.5mm) diameter	5 Mhz	General Purpose
1/2" (12.7mm) diameter	2.25 Mhz	Long Bolts
1/2" (12.7mm) diameter	5 Mhz	General Purpose
3/4" (19.0mm) diameter	2.25 Mhz	Long Bolts
3/4" (19.0mm) diameter	5 Mhz	General Purpose



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