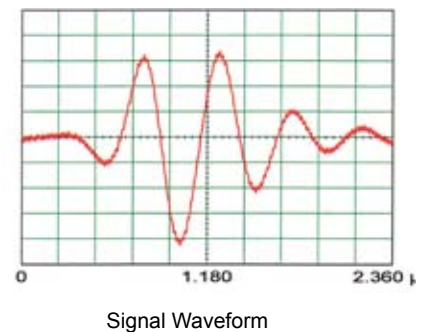
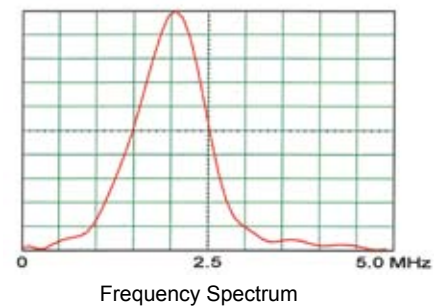


Sonatest Transducer Datasheet

LMA 2-45

Applicable to transducer serial nos: s-1001 onwards.

Category	Soll Ref	Tolerance	Dimension
Test Frequency	2	± 0.1	MHz
Relative Bandwidth @-6dB	40	± 10	%
Near Field Length	90	± 14	mm
Focal width Vertical @-6dB	3.8	± 0.5	mm
Focal width Horiz. @-6dB	3.0	± 0.1	mm
Transducer dimensions	20 x 22	± 0.2	mm x mm
Effective Transducer Dims	19.2 x 21.1	± 0.3	mm x mm
Beam Angle	45	± 1	Grad/degree
Temperature Dependence	0.6	± 0.1	Grad/deg/ 10 °C
Delay path (2730 m/s)	15.5	± 2	mm
Squint Angle	0.5	-	Grad/degree
Offset	1	-	mm
Probe Index	± 2	-	mm
Angle of Divergence (Vert)	2.7	± 0.3	Grad/degree
Angle of Divergence (Horiz)	1.9	± 0.3	Grad/degree
Wear Allowance	5	-	mm
Point pressure resistance	100	-	N
Working Temp. Range	-20 - +60	-	°C
Short duration Temperature	150	-	°C
v_r	81	± 6	dB
s_0	0	-	mm
s_{20}	8	± 4	mm
s_{40}	21	± 10.5	mm
t_0	0	-	mm
t_{20}	4	± 2	mm
t_{40}	15	± 7.5	mm
e_0	4	± 2.0	mm
e_{20}	7	± 3.5	mm
r_0	3	± 1.5	mm
r_{20}	5	± 2.5	mm



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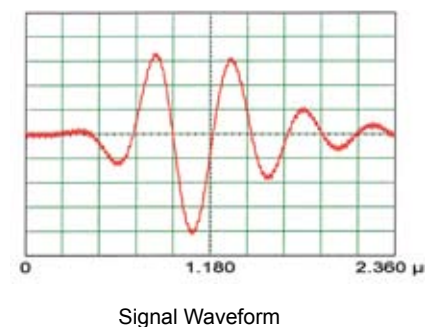
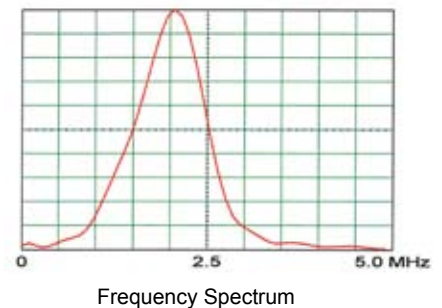
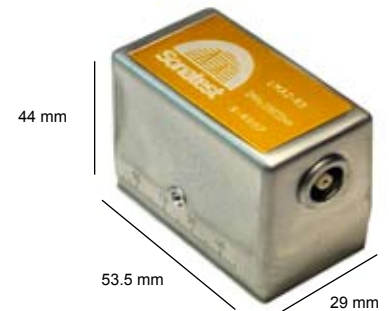
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Sonatest Transducer Datasheet

LMA 2-60

Applicable to transducer serial nos: s-1001 onwards.

Category	Soll Ref	Tolerance	Dimension
Test Frequency	2	± 0.1	MHz
Relative Bandwidth @-6dB	40	± 10	%
Near Field Length	90	± 14	mm
Focal width Vertical @-6dB	4.5	± 0.6	mm
Focal width Horiz. @-6dB	3.0	± 0.1	mm
Transducer dimensions	20 x 22	± 0.2	mm x mm
Effective Transducer Dims	19.2 x 21.1	± 0.3	mm x mm
Beam Angle	60	± 1.5	Grad/degree
Temperature Dependence	0.7	± 0.1	Grad/deg/ 10 °C
Delay path (2730 m/s)	18.5	± 2	mm
Squint Angle	0.5	-	Grad/degree
Offset	1	-	mm
Probe Index	± 2	-	mm
Angle of Divergence (Vert)	3.1	± 0.3	Grad/degree
Angle of Divergence (Horiz)	1.9	± 0.3	Grad/degree
Wear Allowance	5	-	mm
Point pressure resistance	100	-	N
Working Temp. Range	-20 - +60	-	°C
Short duration Temperature	150	-	°C
v_r	79	± 6	dB
s_0	0	-	mm
s_{20}	3	± 1.5	mm
s_{40}	10	± 5	mm
t_0	0	-	mm
t_{20}	0	-	mm
t_{40}	8	± 4	mm
e_0	4	± 2.0	mm
e_{20}	7	± 3.5	mm
r_0	3	± 1.5	mm
r_{20}	5	± 2.5	mm



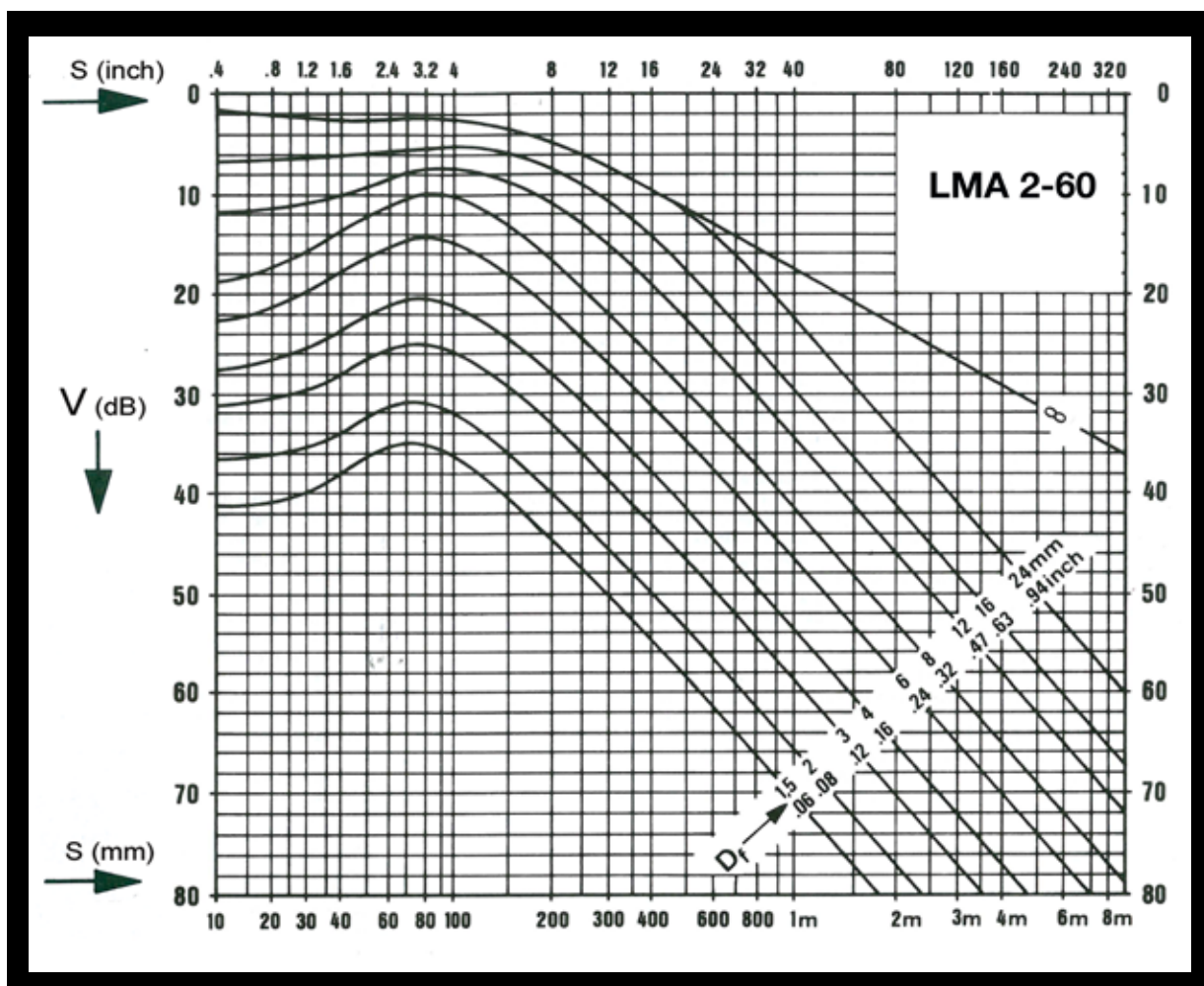
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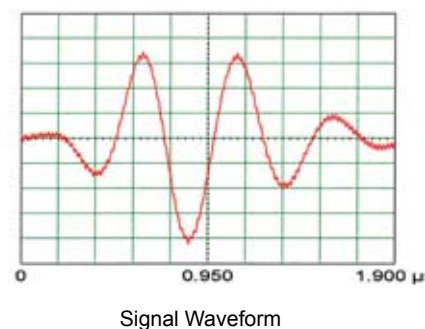
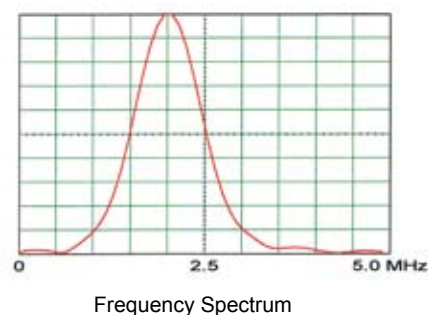
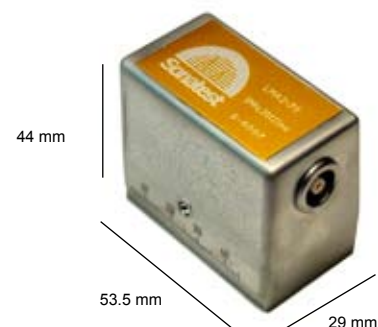
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Sonatest Transducer Datasheet

LMA 2-70

Applicable to transducer serial nos: s-1001 onwards.

Category	Soll Ref	Tolerance	Dimension
Test Frequency	2	± 0.1	MHz
Relative Bandwidth @-6dB	40	± 10	%
Near Field Length	90	± 14	mm
Focal width Vertical @-6dB	5.0	± 0.7	mm
Focal width Horiz. @-6dB	3.0	± 0.1	mm
Transducer dimensions	20 x 22	± 0.2	mm x mm
Effective Transducer Dims	19.2 x 21.1	± 0.3	mm x mm
Beam Angle	70	± 2.0	Grad/degree
Temperature Dependence	0.7	± 0.1	Grad/deg/ 10 °C
Delay path (2730 m/s)	21	± 2	mm
Squint Angle	0.5	-	Grad/degree
Offset	1	-	mm
Probe Index	± 2	-	mm
Angle of Divergence (Vert)	3.5	± 0.4	Grad/degree
Angle of Divergence (Horiz)	1.9	± 0.3	Grad/degree
Wear Allowance	5	-	mm
Point pressure resistance	100	-	N
Working Temp. Range	-20 - +60	-	°C
Short duration Temperature	150	-	°C
v_r	77	± 6	dB
s_0	0	-	mm
s_{20}	3	± 1.5	mm
s_{40}	9	± 4.5	mm
t_0	0	-	mm
t_{20}	0	-	mm
t_{40}	7	± 3.5	mm
e_0	4	± 2.0	mm
e_{20}	7	± 3.5	mm
r_0	3	± 1.5	mm
r_{20}	5	± 2.5	mm



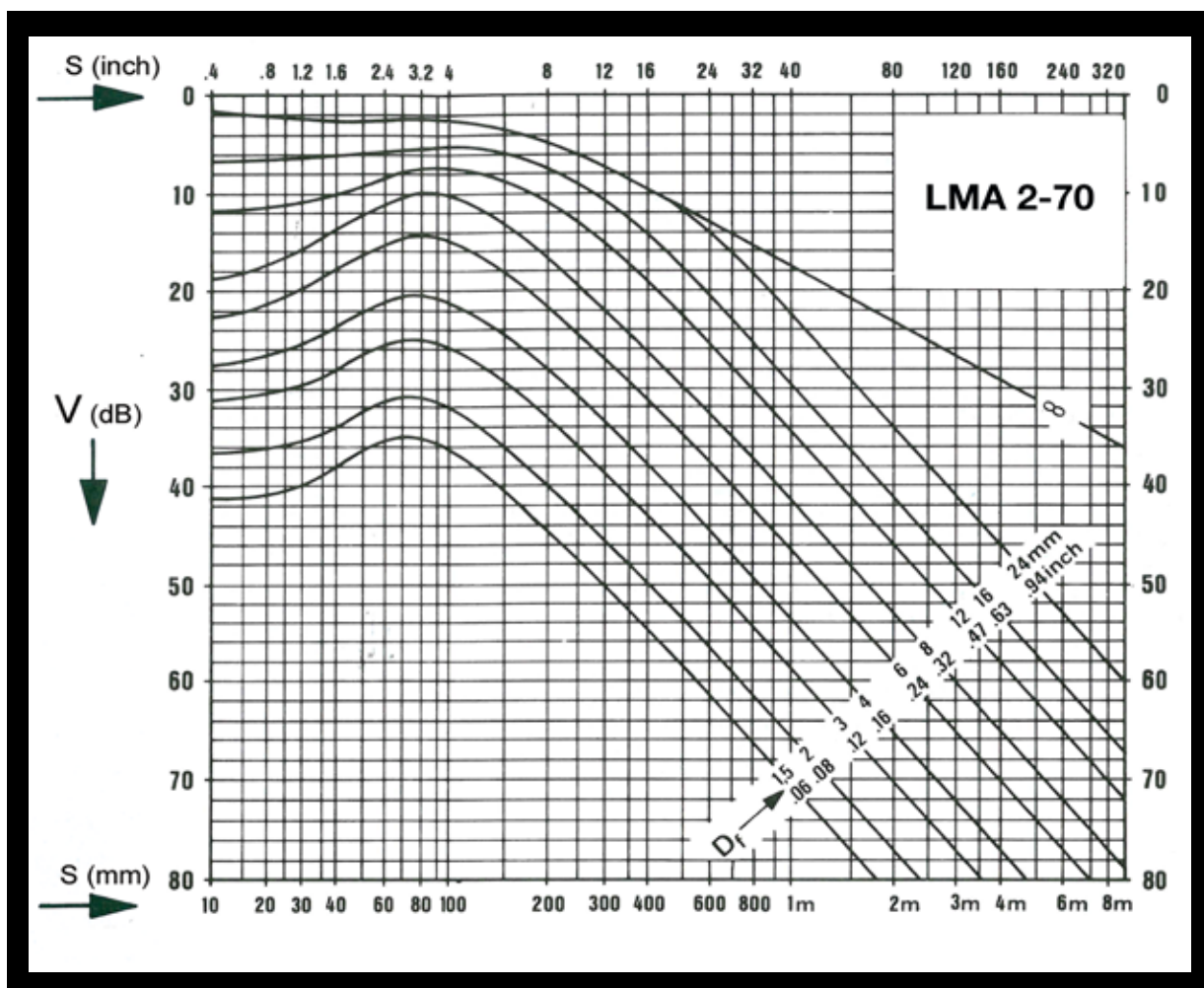
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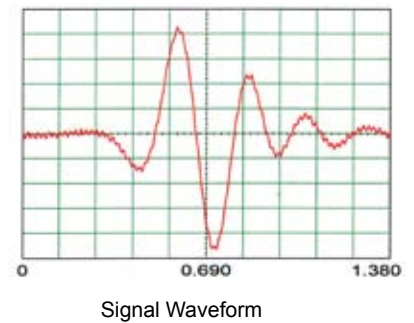
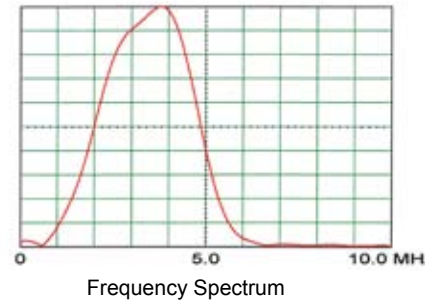
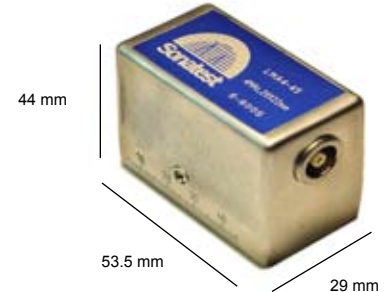
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Sonatest Transducer Datasheet

LMA 4-45

Applicable to transducer serial nos: s-1001 onwards.

Category	Soil Ref	Tolerance	Dimension
Test Frequency	4	± 0.2	MHz
Relative Bandwidth @-6dB	40	± 10	%
Near Field Length	180	± 15	mm
Focal width Vertical @-6dB	4.1	± 0.7	mm
Focal width Horiz. @-6dB	3.0	± 0.1	mm
Transducer dimensions	20 x 22	± 0.2	mm x mm
Effective Transducer Dims	19.2 x 21.1	± 0.3	mm x mm
Beam Angle	45	± 1	Grad/degree
Temperature Dependence	1.2	± 0.2	Grad/deg/ 10 °C
Delay path (2730 m/s)	15.5	± 2	mm
Squint Angle	0.5	-	Grad/degree
Offset	1	-	mm
Probe Index	± 2	-	mm
Angle of Divergence (Vert)	1.3	± 0.2	Grad/degree
Angle of Divergence (Horiz)	1	± 0.1	Grad/degree
Wear Allowance	5	-	mm
Point pressure resistance	100	-	N
Working Temp. Range	-20 - +60	-	°C
Short duration Temperature	150	-	°C
v_r	75	± 6	dB
s_0	0	-	mm
s_{20}	6	± 3	mm
s_{40}	18	± 9	mm
t_0	0	-	mm
t_{20}	3	± 1.5	mm
t_{40}	12	± 6	mm
e_0	3	± 1.5	mm
e_{20}	5	± 2.5	mm
r_0	2	± 1	mm
r_{20}	4	± 2	mm



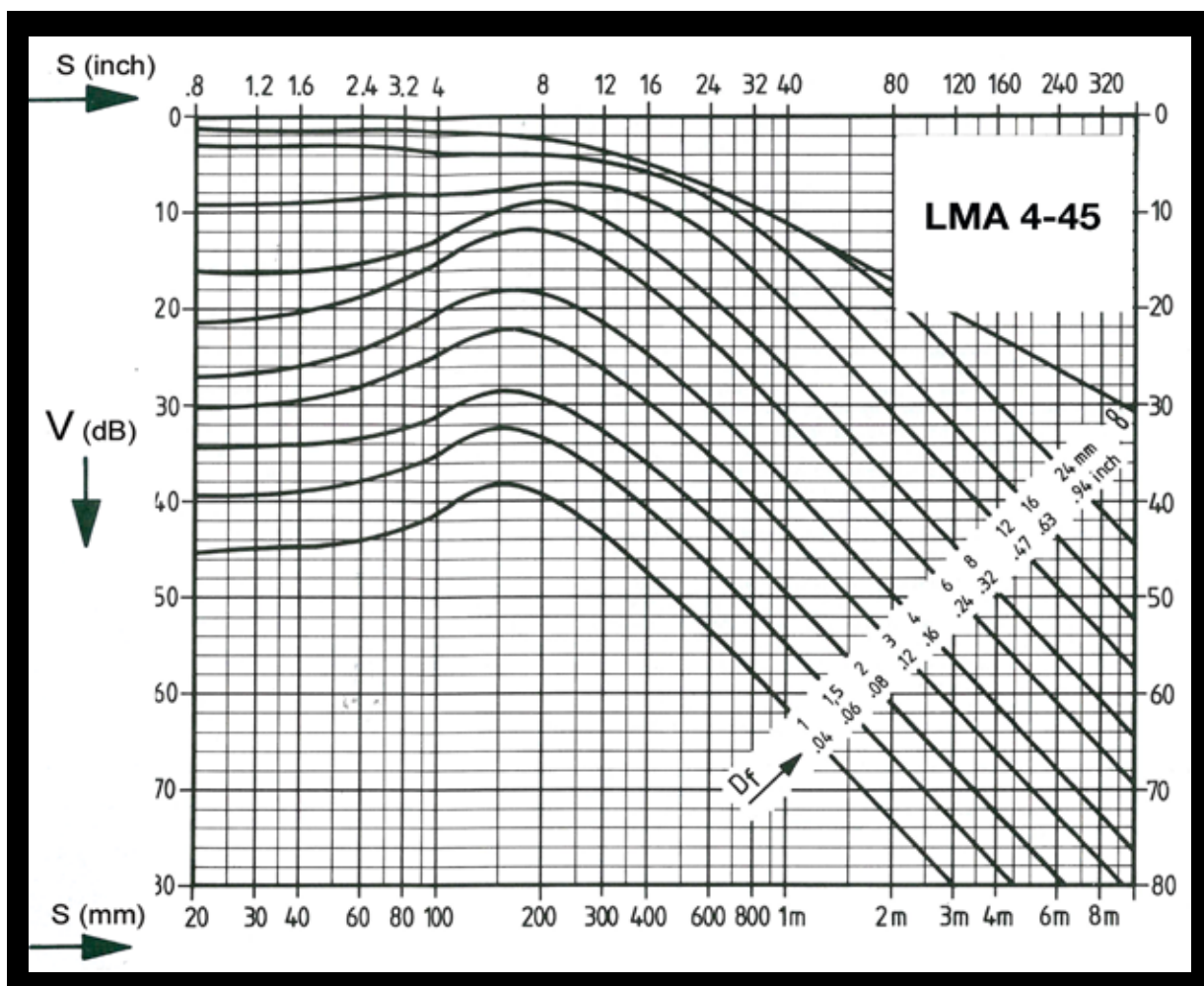
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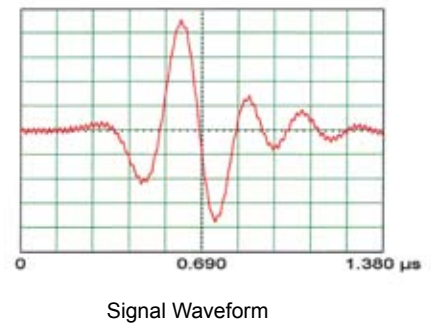
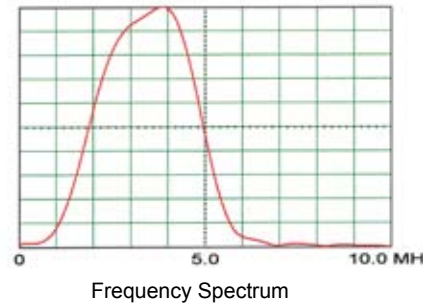
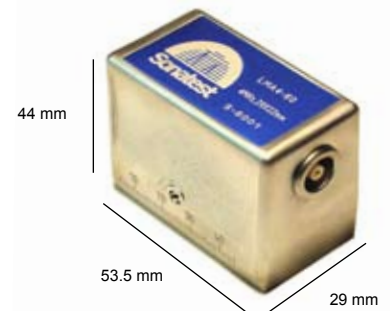
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Sonatest Transducer Datasheet

LMA 4-60

Applicable to transducer serial nos: s-1001 onwards.

Category	Soll Ref	Tolerance	Dimension
Test Frequency	4	± 0.2	MHz
Relative Bandwidth @-6dB	40	± 10	%
Near Field Length	180	± 15	mm
Focal width Vertical @-6dB	4.6	± 0.7	mm
Focal width Horiz. @-6dB	3.0	± 0.1	mm
Transducer dimensions	20 x 22	± 0.2	mm x mm
Effective Transducer Dims	19.2 x 21.1	± 0.3	mm x mm
Beam Angle	60	± 1.5	Grad/degree
Temperature Dependence	1.4	± 0.3	Grad/deg/ 10 °C
Delay path (2730 m/s)	18.5	± 2	mm
Squint Angle	0.5	-	Grad/degree
Offset	1	-	mm
Probe Index	± 2	-	mm
Angle of Divergence (Vert)	1.45	± 0.2	Grad/degree
Angle of Divergence (Horiz)	1	± 0.1	Grad/degree
Wear Allowance	5	-	mm
Point pressure resistance	100	-	N
Working Temp. Range	-20 - +60	-	°C
Short duration Temperature	150	-	°C
v_r	71	± 6	dB
s_0	0	-	mm
s_{20}	2	± 1	mm
s_{40}	8	± 4	mm
t_0	0	-	mm
t_{20}	0	-	mm
t_{40}	7	± 3.5	mm
e_0	3	± 1.5	mm
e_{20}	5	± 2.5	mm
r_0	2	± 1	mm
r_{20}	4	± 2	mm



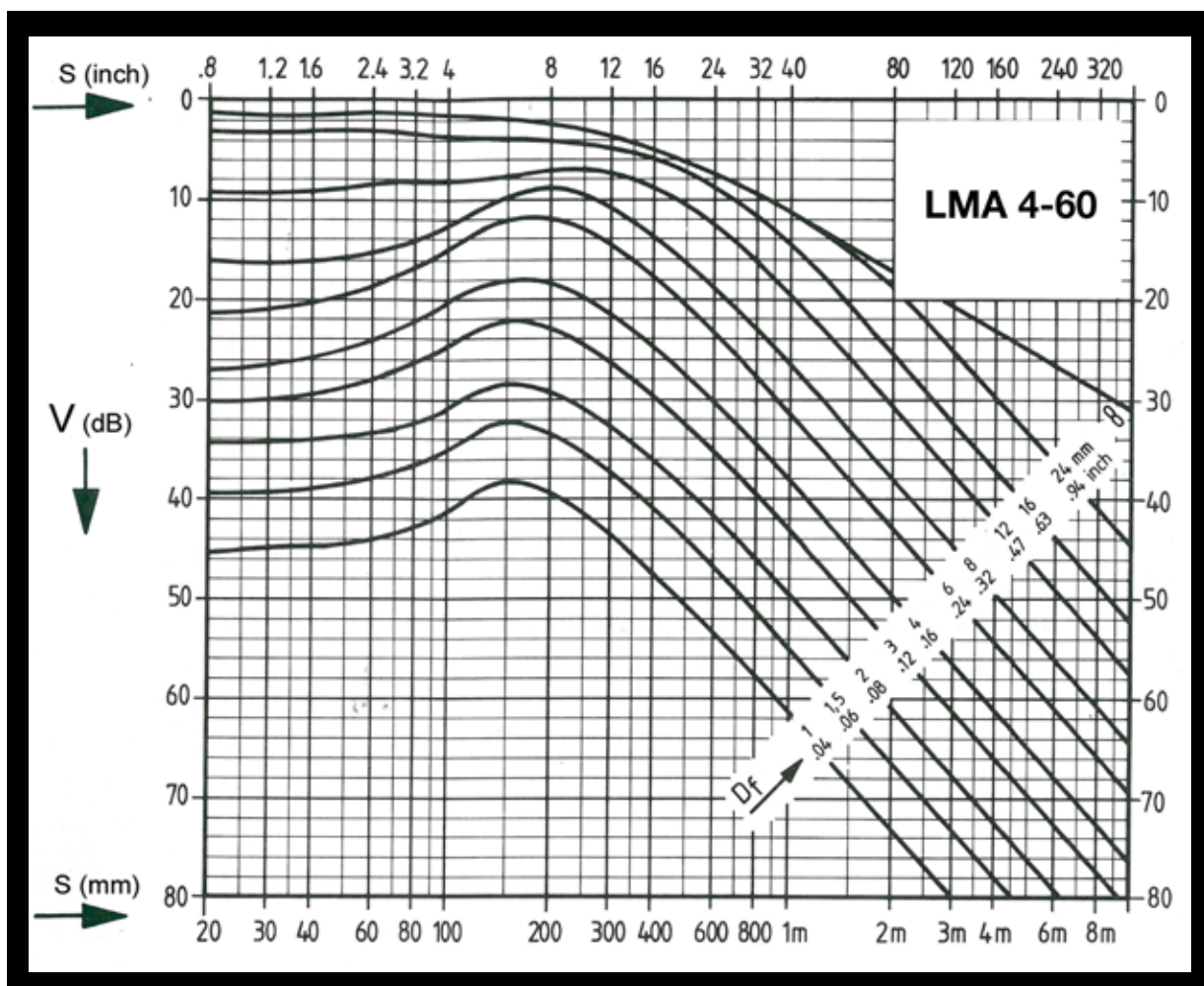
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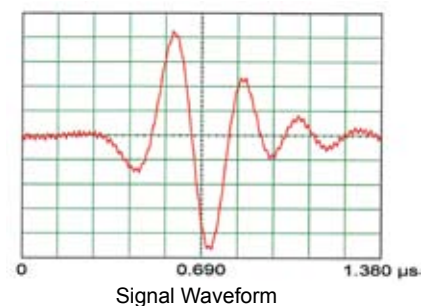
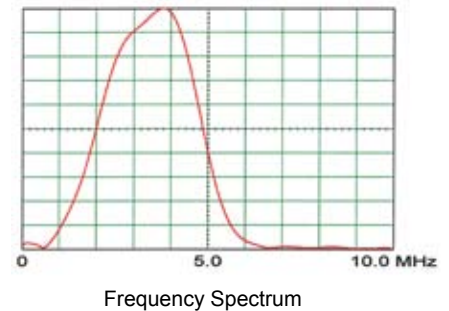
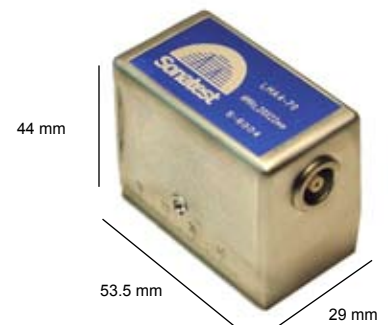


Sonatest Transducer Datasheet

LMA 4-70

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Category	Soll Ref	Tolerance	Dimension
Test Frequency	4	± 0.2	MHz
Relative Bandwidth @-6dB	40	± 10	%
Near Field Length	180	± 15	mm
Focal width Vertical @-6dB	5.0	± 0.7	mm
Focal width Horiz. @-6dB	3.0	± 0.1	mm
Transducer dimensions	20 x 22	± 0.2	mm x mm
Effective Transducer Dims	19.2 x 21.1	± 0.3	mm x mm
Beam Angle	70	± 2.0	Grad/degree
Temperature Dependence	1.5	± 0.3	Grad/deg/ 10 °C
Delay path (2730 m/s)	21	± 2	mm
Squint Angle	0.5	-	Grad/degree
Offset	1	-	mm
Probe Index	± 2	-	mm
Angle of Divergence (Vert)	1.6	± 0.2	Grad/degree
Angle of Divergence (Horiz)	1	± 0.1	Grad/degree
Wear Allowance	5	-	mm
Point pressure resistance	100	-	N
Working Temp. Range	-20 - +60	-	°C
Short duration Temperature	150	-	°C
v_r	69	± 6	dB
s_0	0	-	mm
s_{20}	2	± 1	mm
s_{40}	7	± 3.5	mm
t_0	0	-	mm
t_{20}	0	-	mm
t_{40}	5	± 2.5	mm
e_0	3	± 1.5	mm
e_{20}	5	± 2.5	mm
r_0	2	± 1	mm
r_{20}	4	± 2	mm



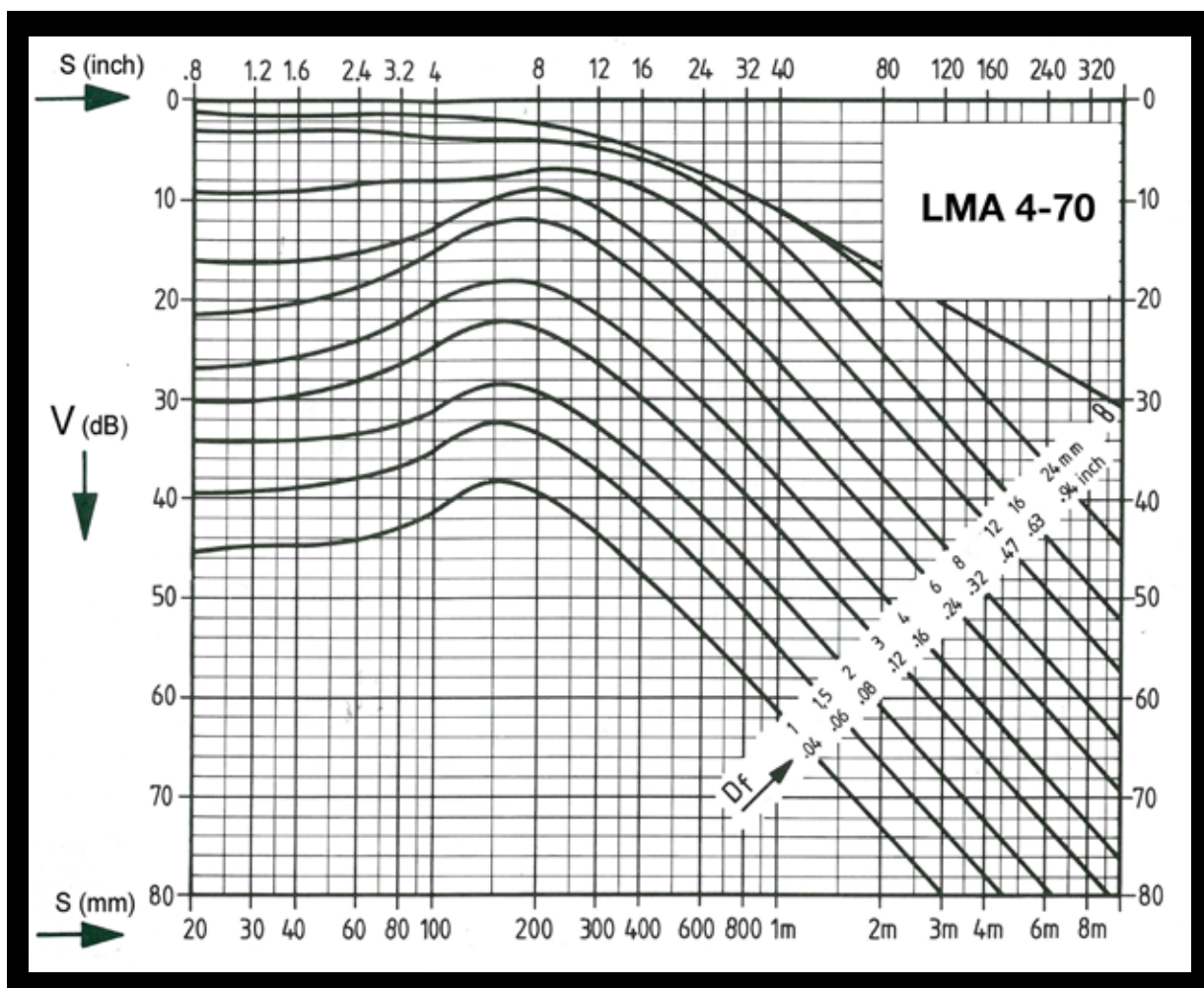
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