

DOCUMENT No: DG-001	TITLE: Dimensioning and Tolerancing Guidelines for Diaphragms (Cones, Domes, etc.)	PAGE: 1 of 2
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Note: All tolerance units are millimeters (mm) unless otherwise stated.

Feature	Special Characteristics	Tolerance
Body O.D. Size (circular only)	S	± 0.25 or $\pm 0.2\%$ of the nominal, whichever is greater
Body O.D. Position (circular only)	S	$\varnothing 0.8$
Body O.D. Major (elliptical only) Body O.D. Minor (elliptical only)	N/A	N/A (BASIC)
Body O.D. Profile (elliptical only)	S	0.65 or 0.5% of the major nominal, whichever is greater
Neck I.D.	C	± 0.13 or $\pm 0.5\%$ of the nominal, whichever is greater
Body Height	S	± 0.4
Neck Height	S	± 0.13
Body Thickness	S	± 0.13
Body Angle (Major/Minor)	S	$\pm 2^\circ$
Body/Dome Radius (Inner/Outer; Major/Minor)	S	± 0.25
Lead Hole Diameter	S	± 0.13
Lead Hole Width	S	± 0.25
Lead Hole Length	S	± 0.25
Lead Hole Radius		± 0.4
Body Mass	C	$\pm 5\%$ of the nominal
Attach Angle (Major/Minor)	S	$\pm 2^\circ$
Flange Thickness	S	± 0.05
Inner Roll Radius	S	± 0.25
Surround Thickness	S	± 0.05
Flange Width		± 0.5 or $\pm 0.25\%$ of the nominal, whichever is greater
Flange Flatness	S	1.6 \bar{U}
Roll Height	S	± 0.25
Roll Depth	S	± 0.4
Shoulder Height	C	± 0.5 or $\pm 0.33\%$ of the nominal, whichever is greater
Overall Height	S	± 0.5 or $\pm 0.33\%$ of the nominal, whichever is greater
Surround O.D. Size (circular only)	S	± 0.5
Surround O.D. Position (circular only)	S	$\varnothing 0.5 \hat{O}$
Surround O.D. Major (elliptical only) Surround O.D. Minor (elliptical only)	N/A	N/A (BASIC)

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Surround O.D. Profile (elliptical only)	S	0.75
Roll O.D. Size (circular only)	S	± 0.5
Roll O.D. Position (circular only)	S	Ø 0.8
Roll O.D. Major (elliptical only) Roll O.D. Minor (elliptical only)	N/A	N/A (BASIC)
Roll O.D. Profile (elliptical only)	S	0.9
Roll I.D. Size (circular only)	S	± 0.5
Roll I.D. Position (circular only)	S	Ø 0.8
Roll I.D. Major (elliptical only) Roll I.D. Minor (elliptical only)	N/A	N/A (BASIC)
Roll I.D. Profile (elliptical only)	S	0.9
Surround I.D. Size (circular only)	S	± 0.5
Surround I.D. Position (circular only)	S	Ø 0.8
Surround I.D. Major (elliptical only) Surround I.D. Minor (elliptical only)	N/A	N/A (BASIC)
Surround I.D. Profile (elliptical only)	S	0.9
Surround Mass		± 10% of the nominal
Assembly Mass	C	± 5% of the nominal
Resonance	C	± 10 Hz or ± 10% of the nominal, whichever is greater
Deflection	S	± 10% of the nominal
Measurement Clamp I.D. (Major/Minor)		± 0.13

Revision History

Rev Level	Description of Change	Prepared/ Changed By/ Date	Approved By/ Date
DRAFT	Create document	Brian Sterling 7/21/03	--
2/2/04	Release document	Brian Sterling 7/21/03	ALMA Committee 1/7/04