






Special Purpose Sensors - Diaphragm Patterns

Strain gages are frequently used in pressure transducers incorporating a circular diaphragm as the spring element. The full-bridge patterns shown on this page were designed specifically to take maximum advantage of the strain distribution on a rigidly clamped diaphragm of uniform thickness, and represent an abbreviated selection of gages available for this application.

The actual design and development process for building pressure transducers "in-house" requires careful study before arriving at the best compromise between sensitivity, linearity, and frequency response. Vishay Micro-Measurements

Tech Note TN-510, Design Considerations for Diaphragm Pressure Transducers, outlines some of these design considerations. For more information, contact our Transducer Applications Department.

Most pressure measurement applications can be handled with commercially available transducers. These gages are, however, an excellent choice when (1) there is no commercially available product, or (2) the application requires modification of an existing component to sense pressure.

GAGE PATTERN AND DESIGNATION Actual size shown Insert desired S-T-C No. in spaces marked XX ¹	RES. IN OHMS	DIMENSIONS			
		PATTERN DIAMETER	CIRCULAR TRIM DIAMETER²	MINIMUM DIAPHRAGM DIAMETER³	MATRIX SIZE (SQUARE)
 EA-XX-182JC-120 EA-XX-182JB-350 SA-XX-182JC-120 SA-XX-182JB-350	120 ±1.0%	0.182	0.200	0.210	0.26
	350 ±1.0%	4.62	5.08	5.33	6.6
	120 ±2.0%				
	350 ±2.0%				
 EA-XX-228JC-120 EA-XX-228JB-350 SA-XX-228JC-120 SA-XX-228JB-350 SK-XX-228JC-350	120 ±1.0%	0.228	0.250	0.260	0.30
	350 ±1.0%	5.79	6.35	6.60	7.6
	120 ±2.0%				
	350 ±2.0%				
	350 ±2.0%				
 EA-XX-364JC-120 EA-XX-364JB-350 SA-XX-364JC-120 SA-XX-364JB-350 SK-XX-364JC-350	120 ±0.5%	0.364	0.400	0.410	0.46
	350 ±0.5%	9.25	10.16	10.41	11.7
	120 ±1.0%				
	350 ±1.0%				
	350 ±1.0%				
 EA-XX-455JC-120 EA-XX-455JB-350 EA-XX-455JB-10C SA-XX-455JC-120 SA-XX-455JB-350 SA-XX-455JB-10C SK-XX-455JC-350	120 ±0.5%	0.455	0.500	0.510	0.56
	350 ±0.5%	11.56	12.70	12.95	14.2
	1000 ±0.5%				
	120 ±1.0%				
	350 ±1.0%				
	1000 ±1.0%				
	350 ±1.0%				
 EA-XX-500JD-120 WA-XX-500JD-120 WK-XX-500JD-350 SA-XX-500JD-120 SK-XX-500JD-350	120 ±0.15%	0.500	—	0.510*	0.70
	120 ±0.3%	12.70	—	12.95*	17.8
	350 ±0.3%				
	120 ±0.3%				

*Normally used on 1-in (25.4-mm) diameter or larger diaphragms.
Circular trim, Option SP70, not available.

¹ Minimum Order Requirement (MOR) may apply.

² Option SP70 circular trim is available in EA Series only.

³ A minimum 0.005 in (0.13 mm) radius is recommended on a machined diaphragm section.