



# Hardware and Diaphragm Tolerances

## Hardware Tolerances

	CYLINDER BORE DIAMETER				
	0.25–1.00 in. (6.4–25.4mm)	1.01-2.50 in. (26.6–63.5mm)	2.51-4.00 in. (63.8–101.6mm)	4.01-8.00 in. (101.8–203.2mm)	8.01-12.00 in. (203.4–304.8mm)
CYLINDER BORE	±0.003 in. (±0.075mm)	±0.005 in. (±0.125mm)	±0.010 in. (±0.25mm)	±0.020 in. (±0.5mm)	±0.030 in. (±0.75mm)
PISTON DIAMETER	±0.003 in. (±0.075mm)	±0.005 in. (±0.125mm)	±0.010 in. (±0.25mm)	±0.020 in. (±0.5mm)	±0.030 in. (±0.75mm)
PISTON SKIRT LENGTH	±0.062 in. (±1.60mm)	±0.094 in. (±2.40mm)	±0.125 in. (±3.20mm)	±0.125 in. (±3.20mm)	±0.125 in. (±3.20mm)
PISTON RADIUS	±0.20 in. (±0.50mm)	±0.20 in. (±0.50mm)	±0.30 in. (±0.75mm)	±0.30 in. (±0.75mm)	±0.30 in. (±0.75mm)
FLANGE RADIUS	0.20 in. (±0.50mm)	±0.20 in. (±0.50mm)	±0.30 in. (±0.75mm)	±0.30 in. (±0.75mm)	±0.30 in. (±0.75mm)

## Diaphragm Tolerances

	CYLINDER BORE DIAMETER							
	0.0–0.39 in. (0–9mm)	0.40–0.62 in. (10–15mm)	0.63–0.99 in. (16–25mm)	1.00–1.59 in. (25–39mm)	1.60–2.49 in. (40–62mm)	2.50–3.99 in. (63–99mm)	4.00–6.29 in. (100–159mm)	6.30 in. + (160mm+)
CYLINDER BORE	±0.008 in. (±0.20mm)	±0.010 in. (±0.25mm)	±0.013 in. (±0.32mm)	±0.016 in. (±0.40mm)	±0.020 in. (±0.50mm)	±0.025 in. (±0.63mm)	±0.032 in. (±0.80mm)	1%
PISTON DIAMETER	±0.008 in. (±0.20mm)	±0.010 in. (±0.25mm)	±0.013 in. (±0.32mm)	±0.016 in. (±0.40mm)	±0.020 in. (±0.50mm)	±0.025 in. (±0.63mm)	±0.032 in. (±0.80mm)	1%
DIAPHRAGM HEIGHT	±0.013 in. (±0.32mm)	±0.016 in. (±0.40mm)	±0.020 in. (±0.50mm)	±0.025 in. (±0.63mm)	±0.032 in. (±0.80mm)	±0.040 in. (±1.00mm)	±0.060 in. (±1.25mm)	1%
DIAPHRAGM THICKNESS	±0.008 in. (±0.20mm)	±0.010 in. (±0.25mm)	±0.013 in. (±0.32mm)	±0.016 in. (±0.40mm)	±0.020 in. (±0.50mm)	±0.025 in. (±0.63mm)	±0.032 in. (±0.80mm)	1%
FLANGE DIAMETER	±0.010 in. (±0.25mm)	±0.010 in. (±0.25mm)	±0.010 in. (±0.25mm)	±0.016 in. (±0.40mm)	±0.20 in. (±0.50mm)	±0.025 in. (±0.63mm)	±0.032 in. (±0.80mm)	1%
BOLT HOLE DIAMETER	±0.008 in. (±0.20mm)	±0.010 in. (±0.25mm)	±0.013 in. (±0.32mm)	±0.016 in. (±0.40mm)	±0.020 in. (±0.50mm)	±0.025 in. (±0.63mm)	±0.032 in. (±0.80mm)	1%
BOLT HOLES	±0.010 in. (±0.25mm)	±0.010 in. (±0.25mm)	±0.010 in. (±0.25mm)	±0.016 in. (±0.40mm)	±0.016 in. (±0.40mm)	±0.020 in. (±0.50mm)	±0.025 in. (±0.63mm)	1%

The tolerances set forth above should be used as a guide in setting up specifications. RPP will treat all stated diameter dimensions as averages. If you require tighter tolerances, please contact our Technical Department for assistance. Our technical staff welcomes the opportunity to assist your engineering department to reconcile your requirements to RPP's manufacturing capabilities.