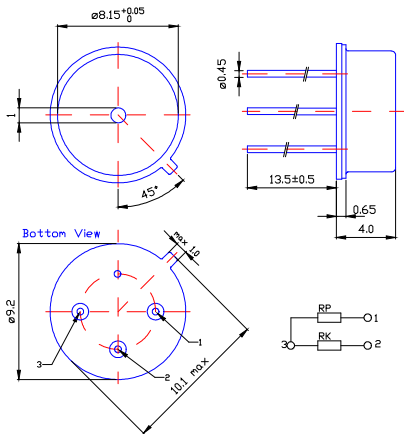




# HVS Series

# MEMS Type Pirani Vacuum Sensor

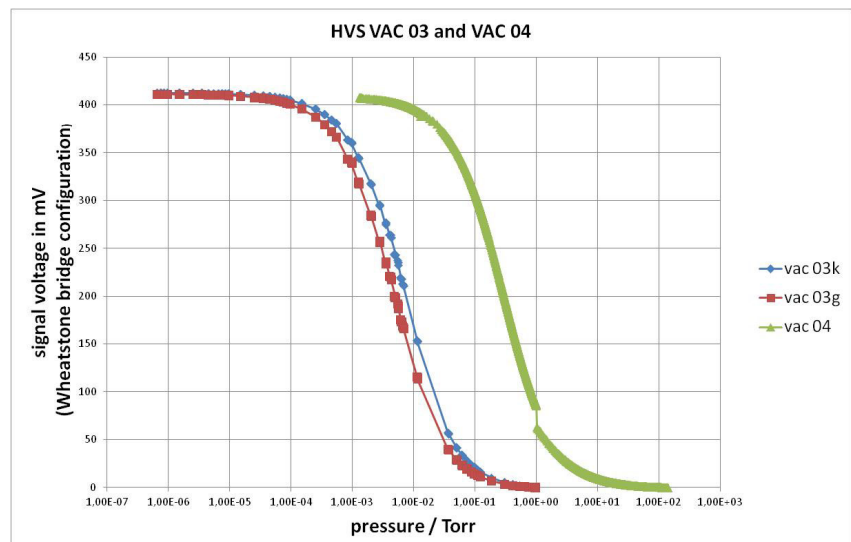
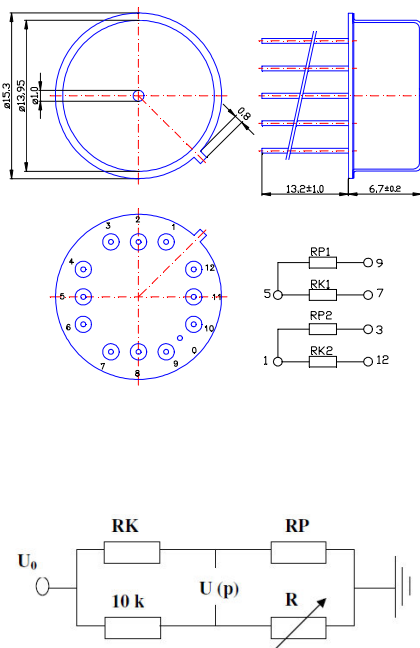
The Heimann vacuum sensor HVS is a miniature Pirani-type sensor based on a heated resistor structure on a thin micromachined membrane. The sensor comes in a small, robust, TO type metal housing.



Parameter	HVS Vac 03g	HVS Vac03k	HVS Vac04	Unit
Housing	TO8	TO39	TO8 (dual) / TO39 (single)	
chip size	5.2 x 5.2	4.0 x 4.0	1.2 x 1.2	mm <sup>2</sup>
resistance sensor chip RP	9 - 10	7 - 8	1.2	kOhm
on chip reference resistor RK	9 - 10	7 - 8	1.2	kOhm
max. supply voltage U <sub>0</sub>	3.5	3.2	4 (1..1000 mbar) 2 (p < 1mbar)	Volt
operating temperature		-20..120		°C
storage temperature		-40..120		°C

The sensor types HVS Vac 03g and HVS Vac 03k show a response U(p) typically ranging from 0 – 400 mV in the pressure range 1mbar - 10<sup>-5</sup> mbar. HVS Vac 04 can be used in the 1...1000 mbar range. Two chips, Vac 03g together with Vac 04, can be mounted in the same TO8 housing to make the HVS dual chip model. This allows for a wider measurement range by switching from Vac 03g to Vac 04.

Recommended read-out is a Wheatstone bridge arrangement. The measuring resistor RP and one of the compensation resistors RK will form one side of the bridge. The voltage U(p) should be balanced (output = zero) by adjusting the variable resistor R (e.g. 8...12 kOhm) at 1013 mbar.



Modifications reserved Rev.10 21.08.2014