

# THYRACONT

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## Operating Instructions Vacuum Transducer

### VSP52MA4 , VSP52MV1



**Measurement Range: 1000...20 – 0,001 mbar**

#### **Measurement Principle:**

The VSP52 transducer for absolute pressure is equipped with a temperature compensated Pirani sensor (heat conduction). Materials in contact with media are stainless steel (1.4301), Nickel and Tungsten. The measurement is depending on gas type. In order to get a correct pressure display below 0,5 mbar, a gas-correction-factor can be entered on Thyracont measurement and control units (like VD9), which is multiplied with the (uncorrected) pressure measurement:

Ar	1,6	H2	0,57	Ne	1,4
CO	1,0	He	1,0	Kr	2,4
CO2	0,89	N2	1,0		

#### **Operation:**

The transducer is connected to a Thyracont measurement and control unit or according to connector PIN's to power supply. Connection to vacuum chamber is made via DN16KF small flange.

#### **Re-Adjustment:**

Readjustment on atmosphere pressure and zero can be done by two potentiometers "Span" (atmosphere) and "Zero" (pressure < 5,0e-4 mbar). Please note that a warm-up of approx. 5 minutes is necessary before any adjustment.

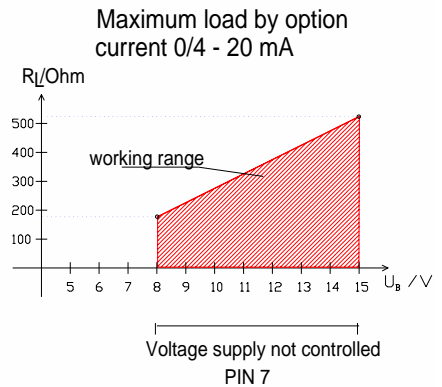
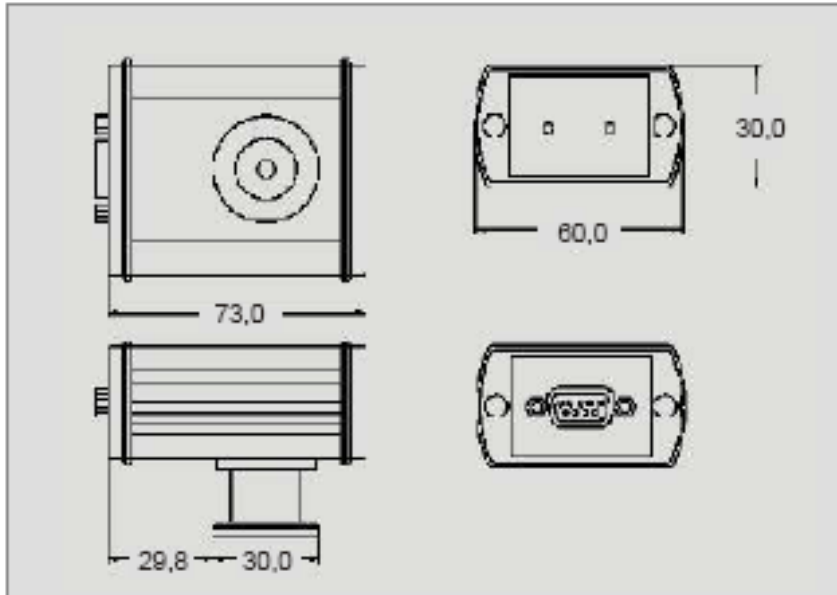
#### **Connector:**

SubD,	9pole, female
Pin 1:	out: 0-1 V (VSP52MV1)
Pin 3:	out: 4-20 mA (VSP52MA4)
Pin 7:	8-16 VDC (external resistor for 16-30VDC: 220Ω/1W)
Pin 9:	AGND



## Vacuum Transducer

**Absolute Pressure 1000 - 0.001 mbar (Torr) VSP52M**



### Technical Data

Measuring Principle	Pirani, depending on gas type
Materials in Contact with Vacuum	Stainless steel, tungsten, nickel
Measuring Range	1000...20 - 0,001 mbar (1000 - 0,001 Torr) admitted overload: 4 bar abs.
Accuracy	depending on range 1000 - 100 mbar: tendency 100 - 10 mbar: < 30 % from reading 10 - 0,01 mbar: ca. 10 % from reading < 0,01 mbar: < factor 2
Operating Temperature	10 ... 40°C
Storage Temperature	-20 ... +70°C
Power Supply	8-16 VDC, 16-30 VDC with ext. resistor (accessories)
Power Consumption	Approx. 50 mA
Output Signal	VSP52MV1: 0 - 1 V VSP52MA4: 4 - 20 mA (non linear, according characteristic) Max. load 180Ω / 8VDC, 280Ω / 15VDC
Electrical Connection	SubD, 9pol, female
Vacuum Connection	DN 16 KF, stainless steel
Justification	Potis for zero pressure and atmosphere
Weight	180 g

### Article Numbers

#### ▶ VSP52MA4

Pirani transducer 1000 - 0.001 mbar with DN16 KF connection; output 4 - 20 mA

#### ▶ VSP52MV1

Pirani transducer 1000 - 0.001 mbar with DN16 KF connection; output 0 - 1 V

#### Accessories

#### ▶ W0900002

Measuring cable, shielded, 2 m

#### ▶ W0900006

Measuring cable, shielded, 6 m

#### ▶ R220RM5EN

External resistor for power supply 16-30VDC

## Output Characteristic

Reference (mbar)	VSP52 MV1 0 - 1 V (mV)	VSP52 MA4 4 - 20 mA (mA)
Zero	50	4,00
0,001	53	4,05
0,002	56	4,09
0,004	61	4,18
0,007	69	4,31
0,01	76	4,43
0,02	98	4,80
0,04	133	5,39
0,07	175	6,10
0,1	209	6,68
0,2	295	8,12
0,4	405	9,99
0,7	510	11,7
1	579	12,9
2	709	15,1
4	817	16,9
7	880	18,0
10	911	18,5
20	951	19,2
40	971	19,5
70	981	19,7
100	986	19,8
1000	1000	20,0

Date: 28.05.2008 /sa subject to alterations

