

PRECISION PRESSURE TRANSDUCERS

- 5" W.C. TO 50,000 PSI GAGE
- 5 to 10,000 PSI ABSOLUTE
- 5" W.C. TO 5,000 PSI DIFFERENTIAL
- VACUUM



FOR
MEASUREMENT
& CONTROL OF
EXTRUDING MACHINERY
GAS AND DIESEL ENGINES
HYDRAULIC PUMPS & MOTORS
ENVIRONMENTAL SYSTEMS
LIQUID LEVEL
FLUID FLOW



- ALL STAINLESS STEEL
- FOIL STRAIN GAGE SENSING
- NBS TRACEABLE CALIBRATION

S.H.C. S. HIMMELSTEIN AND COMPANY

Description

S. HIMMELSTEIN AND COMPANY PRESSURE TRANSDUCERS are high accuracy bonded foil strain gage devices suitable for virtually any laboratory or industrial application. Compensation eliminates zero and span errors with temperature change. When they are de-rated to 300% overload (proof pressure), the resultant accuracy is equal to or greater than conventional, general purpose units with 150% overload ratings.

Gage, absolute and differential models are available. For each type of measurement a different reference pressure is used. Absolute pressure models have a sealed reference cavity evacuated to 0.002 torr. Gage pressure measurements are made with atmosphere for reference — automatically introduced through a porous, stainless ballie.

Two types of differential transducers are offered, i.e. unidirectional, wet/dry (UD/WD) and bidirectional, wet/wet (BD/WW). The UD/WD (types 326D and 550D) must operate with the lower pressure at the reference port and, additionally, the reference fluid must be a clean, dry, inert gas (such as breathable air). No such restrictions apply to the BD/WW (type 538D) transducers; they are completely bidirectional and will accept any fluid compatible with stainless steel.

Vacuum Measurements

Types 550D and 326D can be used for vacuum measurements. In either case the differential port is connected to the vacuum source and the main port is vented to atmosphere. Under these conditions, and when the system is balanced with atmosphere at both ports, output will be obtained as vacuum is pumped.

HIMMELSTEIN PRECISION PRESSURE TRANSDUCERS

150" W.C., MAX.



550G (Gage)
550D (Unidirectional differential, UD/WD)

10,000 PSI, MAX.



326G (Gage)
326A (Absolute)
326D (Unidirectional differential, UD/WD)

50,000 PSI, MAX.



548G (Gage)

±5,000 PSI, MAX.



538D (Bidirectional differential, BD/WW)

Detailed Specifications

STANDARD RANGES

NOMINAL OUTPUT (mv/v)

RESPONSE TIME (ms)

HYSTERESIS (% of F.S.)

LINEARITY (% of F.S.)

NATURAL FREQUENCY

ACCELERATION ERROR* (% of F.S./g)

DEAD VOLUME (cubic inches)

PROOF PRESSURE

BURST PRESSURE

DIFFERENTIAL BASE PRESSURE (psi)

DIFFERENTIAL REFERENCE FLUID

NOMINAL WEIGHT (ounces)

Operating Range: - 65 to +250° F.

0-5, 10, 15, 20, 30, 50, 100, 150 inches W.C.

3 except 5" and 10" ranges are 2

less than 5

± 0.20%

± 0.25%

5 Hz for 5" up to 125 Hz for 150"

0.9 for 5" range to 0.04 for 150"

0.6 except 0.75 for 5" range

150% of F.S. Rating

500% of F.S. Rating

100 max., except 50 for 5" range; applies to 550D only

Clean, dry, inert gas

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Operating Range: - 65 to +250° F.

0-5, 10, 15, 20, 25, 30, 50, 75, 100, 150, 200, 300, 500, 1000, 2000, 3000, 4000, 5000, 7500, 10000, 15000 psi

3 except 5 and 10 psi ranges are 2

less than 1

±0.10% except ±0.15% for 100 psi and lower ranges.

± 0.1% except ± 0.2% for 150 psi and lower ranges

2 kHz for 5 psi range to 40 kHz for 15,000 psi

0.04 for 5 psi range to 0.01 for 100 psi and higher

0.047 thru 50 psi range, 0.025 above 50 psi

150% of F.S. Rating

The lesser of 22,500 psi or 400% of F.S. Rating

1000 max., applies to 326D only

Clean, dry, inert gas

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Operating Range: - 20 to +190° F.

0-20,000, 30,000, 40,000, 50,000 psi

1

less than 1

± 0.1%

± 0.2

greater than 40 kHz

0.01 all ranges

0.015

120% of F.S. Rating

150% of F.S. Rating

N/A

N/A

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Operating Range: - 30 to +180° F.

±5, 10, 20, 30, 50, 100, 200, 300, 500, 1000, 2000, 3000, 4000, 5000 psid

3 except 2 for ± 30 — ± 50 ranges and 1 below ± 30 range

less than 10

± 0.1

± 0.2

500 Hz. for ± 5 range thru 20 kHz for ± 5,000 range

0.01 for ± 300 range and higher to 0.3 for ± 5 range

0.041 for ± 100 range and higher, 0.113 for lower ranges

The lesser of 7500 psi and 8 times F.S. Rating

The lesser of 12000 psi and 10 times F.S. Rating

5,000 except 3,000 for ± 50 range and lower

Any fluid compatible with stainless steel

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General Specifications

Bridge Impedance: 350 ohms, nominal

Zero Balance: 2% of F.S.

Temperature Effects —

Zero Drift: 0.005% of F.S./°F

Span Change: 0.005% of rdg./°F

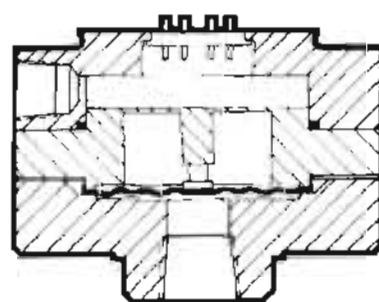
Repeatability: ±0.075% of F.S.

Shunt Calibration Resistor: Furnished

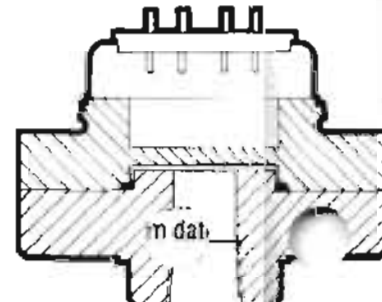
Allowable Acceleration: 200 g's, max.

Bridge Excitation: 15V. (a-c or d-c), max.

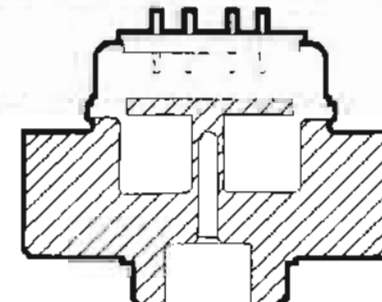
10V. recommended.



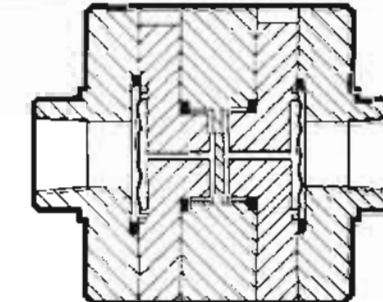
550D WITH DUAL SENSOR ELEMENT



326A WITH SINGLE ELEMENT SENSOR



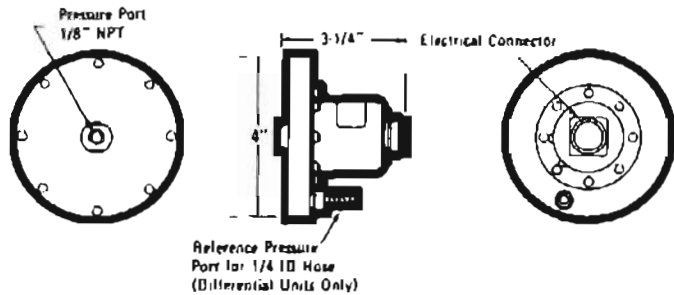
548G WITH SINGLE ELEMENT SENSOR



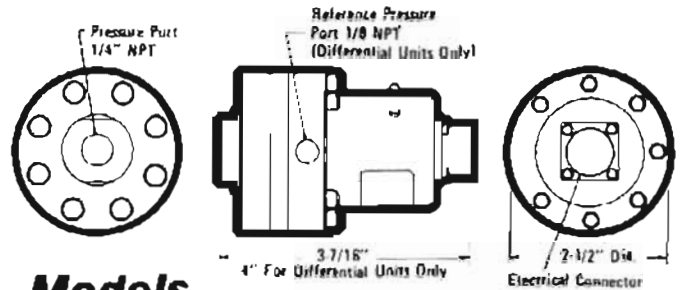
538D SINGLE ELEMENT DIFFERENTIAL SENSOR

* Applies to axial direction for Models 550, 326 and 538 which are insensitive in other planes. Model 548 is insensitive in axial direction; sensitivity figures apply to all other planes.

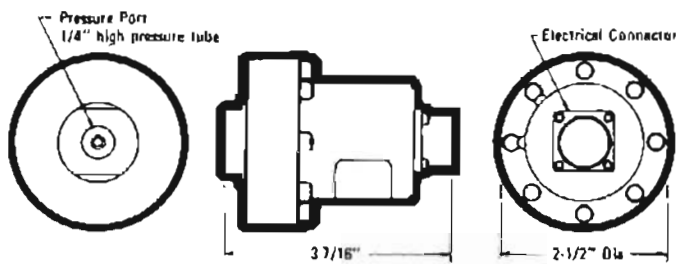
S. HIMMELSTEIN AND COMPANY PRECISION PRESSURE TRANSDUCERS



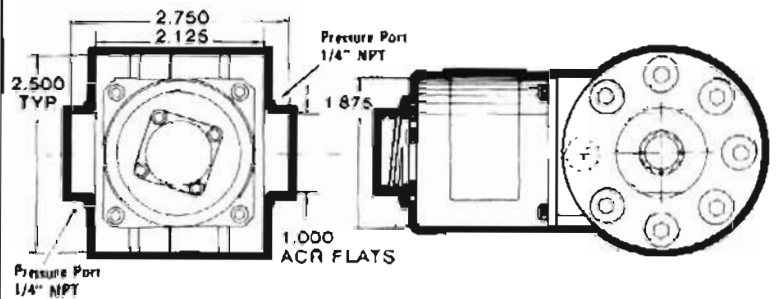
Models 550D, 550G



**Models
326D, 326G, 326A, 326VG**



Model 548G

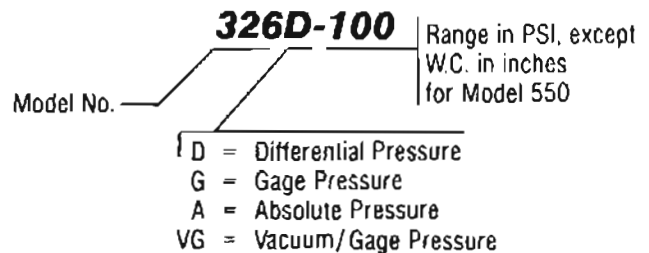


Model 538D

Electrical Connections

PIN	FUNCTION	CONNECTOR
A	+ Excitation	CF-3102E-14S-6P
B	+ Excitation Sense	Mating Connector Furnished
C	- Excitation Sense	
D	- Excitation	OUTPUT POLARITY Positive for Increasing Pressure
E	- Signal	
F	+ Signal	

Numbering System



Model 326VG compound range

This version of the Model 326G may be used when pressure excursions include both vacuum and pressure, i.e., for pump suction measurements, etc. The sum of the vacuum and pressure ranges must equal a standard 326G range per page 2. Vacuum ranges are -5, -10, and -15 PSIV. A valid Model Number specifies both ranges. Thus, a Model 326VG+25/-5 is rated 25 PSIG and 5 PSIV. Proof pressures are 125% of the vacuum and, 150% of the pressure plus vacuum ratings: -6.25 PSIV and 45 PSIG for the 326VG+25/-5. All other specifications of the Model 326G apply.

Model 367D high overload differential

This capacitance bridge transducer offers high sensitivity, high accuracy, high overload and 0 to 5 volt output in a wet/wet, bidirectional configuration. It's available in ranges of ± 5 , ± 10 , ± 20 , ± 50 , ± 100 , ± 300 , ± 750 inch W.C. and ± 50 , ± 100 , ± 300 PSID. Base pressure is 2000 PSID and burst pressure is 3500 PSI. Combined non-linearity and hysteresis error is 0.25% of range. It will handle any fluid compatible with 316 stainless and Viton C. See Bulletin 563 for more details.

Complete Systems

When supplied with precision pressure transducers, Himmelstein Systems include solid state readout, interconnecting cable, System checkout and calibration. You receive an operating system with guaranteed System Performance, single source System Responsibility and a full one year System Warranty.

Guarantee

All Himmelstein products are unconditionally guaranteed not to deviate from stated specifications and to be free from defects in materials and workmanship for a period of one year from date of shipment.