



PNEUMATIC CONTROLLERS AND TRANSMITTERS

Precalibrated Measuring Elements

PRESSURE

“C” Type Bourdon Tubes: Model 40 Pneumatic Controllers and Transmitters are furnished with precalibrated “C” type Bourdon tube measuring elements. The wide, powerful Bourdon tube is carefully drawn, coiled and heat-treated to ensure a precise measuring element, permanent in calibration, and having exceptional overrange capacity. Phosphor bronze tubes are soft-soldered into cast brass sockets. Stainless steel elements are inert gas welded to provide maximum corrosion resistance. Standard ranges are listed in Table 1.



**Model 40
Pneumatic
Controller**

Table 1. Bourdon Tube Ranges/Materials

Element Range	Phosphor Bronze	316 SS
0-30" Hg VAC	✓	✓
0-13 to 0-17 psi	✓	✓
0-25 to 0-35	✓	✓
0-50 to 0-70	✓	✓
0-85 to 0-110	✓	✓
0-150 to 0-180	—	✓
0-190 to 0-230	✓	✓
0-250 to 0-350	✓	✓
0-350 to 0-450	—	✓
0-450 to 0-550	—	✓
0-550 to 0-700	—	✓
0-700 to 0-900	—	✓
0-900 to 0-1200	—	✓
0-1200 to 0-1700	—	✓
0-1700 to 0-2300	—	✓
0-2300 to 0-3000	—	✓

✓ = Available elements
Compound ranges available. Consult your representative.

Differential Pressure Cell: The differential pressure element used in the Model 40 controller is available in ranges from 10" W.C. to 400 psid with static working pressure to 3000 psi. The basic unit incorporates a high and low pressure bellows connected to a center plate. When two different pressures are applied to the high and low side, the high pressure bellows contract, forcing the fill fluid through the center plate into the low pressure bellows which expand. The motion of the low pressure bellows is transmitted via a temperature compensated linkage to the instrument output shaft.

Consult factory for available ranges, bellows, housing materials, and static working pressure.



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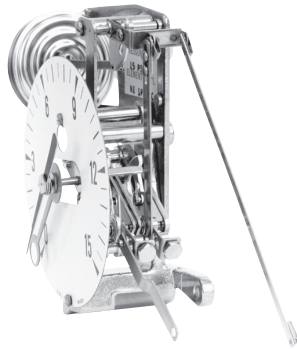
Diaphragm: Low pressure controllers and transmitters are offered with a standard diaphragm measuring element comprised of stacked capsules of Ni-Span C or stainless steel. Diaphragm capsules are made of contoured plates with nested corrugations and silver-brazed, or welded edges. They have a long working stroke, yet occupy minimum space. A sturdy element with large effective area, this design provides friction-free operation and precise indication. The constant thermal elastic characteristic of Ni-Span C practically eliminates thermal shift with wide variation in ambient temperatures. Welded type 316 stainless steel diaphragms are also offered for the ranges indicated in Table 3. Diaphragm elements are interchangeable with bourdon elements.

Table 3. Diaphragm Ranges/Materials

Element Range	Ni-Span C	316 SS
0-50 to 0-60"	—	✓
0-65 to 0-85"	—	✓
0-120 to 0-160"	—	✓
0-6 to 0-8 psi	—	✓
0-8 to 0-11 psi	—	✓
0-9 to 0-12 psi	✓	—
3-15 psi	✓	✓

✓ = Available elements

Low Pressure Controller



Slack Diaphragms: Extremely low gauge pressures are measured and controlled by molded BUNA-N slack diaphragm elements (Table 4) for measuring clean, dry air only.

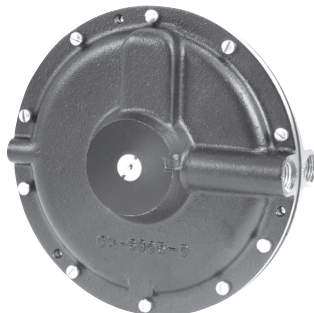
Low differential pressures such as encountered in air flow and draft applications are measured by molded BUNA-N slack diaphragm elements. Elements are also used in extremely low compound pressure ranges and vacuum range transmitters and controllers. Differential measurements at static pressures as high as 15 psi can be made.

Table 4. Low Pressure Diaphragm Ranges

Range Inches H ₂ O	Pressure	Pressure Differential
0-4.5 to 0-8.4	✓	✓
0-8.5 to 14.5	✓	✓
0-14.6 to 0-24.9	✓	✓
0-25 to 0-43.9	✓	✓
0-44 to 0-80	✓	✓

✓ = Available elements

Center zero DP ranges are also available from 4.5/0/4.5 W.C. through 44/0/44 W.C.



Slack Diaphragm

**for measuring clean, dry air only –
for other media, see DP cell options**