# Air/Liquid Bypass Valves

**MODELS 1701-1, 170-2 AND 1701-3**


## Automatically Depressurize Your Unit

With the Hankison By-Pass Valve you can service your system components and still use the system. The By-Pass Valve eliminates the expensive installation costs and space limitations of conventional three valve by-pass systems. It can be used with gases and liquids compatible with nylon Buna N and brass.

### EASY TO INSTALL

- No need for separate valves and fittings to braze them into proper sequence
- All parts are enclosed in one integral unit
- Compression fittings utilize a reusable rubber ferrule
- Metal to plastic design makes fittings completely rotatable and eliminates leakage
- Compact design permits ease of installation

### TWO TYPES TO CHOOSE FROM

**1701-1 – Non-Bleed Type**

When this model is in by-pass mode, the component being by-passed remains pressurized

**1701-2 and 1701-3 – Bleed Type**

When these models are placed in the by-pass mode, the component being by-passed automatically depressurizes through a bleed hole in the valve

# Air/Liquid Bypass Valve Product Specifications

| Model | Maximum Working Pressure | | Maximum Operating Temperature | | Connections | | Dimensions A | | B | | C | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | psig | bar | °F | °C | Dryer Side | Service Side | in | mm | in | mm | in | mm | lbs | kg |
| **1701-1** | 200 | 14.0 | 120°F | 49°C | 3/8" Tube | 3/8" NPT | 4 5/8 | 117 | 3 1/4 | 83 | 2 | 51 | 0.5 | 0.23 |
| **1701-2** | 200 | 14.0 | | | | | 4 5/8 | 117 | 3 1/4 | 83 | 2 | 51 | 0.5 | 0.23 |
| **1701-3** | 200 | 14.0 | | | | | 4 5/8 | 117 | 3 1/4 | 83 | 2 | 51 | 0.5 | 0.23 |

## Flow vs. Pressure Drop

Table 1 indicates the pressure drop through both channels of the by-pass valve at various flows at 100 psig (7 bar). For pressures other then 100 psig (7 bar) multiply pressure drop from Table 1 at the required flow by the pressure correction factor from Table 2 that corresponds to your system's operating pressure.

For example: With the valve on line and flow at 5 scfm and system pressure at 125 psig, find corrected pressure drop by multiplying 0.19 from Table 1 by 0.82 from Table 2. The pressure drop at these conditions is (0.19 x 0.82) = 0.16 psid. To find pressure drop through valve in by-pass mode divide corrected pressure drop by 2. In this case pressure drop in the by-pass mode would be 0.08 psid.

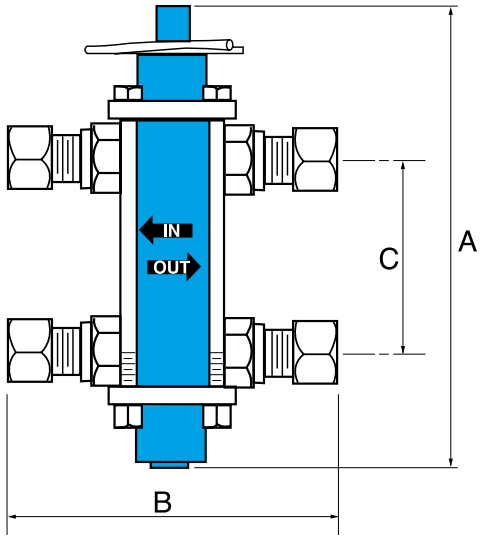
### Table 1 – Flow vs. Pressure Drop @ 100 psig

| Flow | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **scfm** | 5 | 7.5 | 10 | 15 | 20 | 25 | 30 | 35 |
| **nm³/h** | 0.14 | 0.21 | 0.28 | 0.42 | 0.57 | 0.71 | 0.85 | 0.99 |

| Pressure Drop | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **psig** | 0.19 | 0.45 | 0.85 | 2.1 | 3.9 | 6.3 | 9.3 | 13.0 |
| **bar** | 0.01 | 0.03 | 0.06 | 0.15 | 0.27 | 0.44 | 0.65 | 0.91 |

### Table 2 – Pressure Correction Factors

| System Pressure | psig | 40 | 50 | 60 | 80 | 100 | 125 | 150 | 175 | 200 |
|---|---|---|---|---|---|---|---|---|---|---|
| | nm³/h | 2.8 | 3.5 | 4.2 | 5.6 | 70 | 8.8 | 10.5 | 12.3 | 14.1 |
| Multiplier | | 2.1 | 1.8 | 1.5 | 1.2 | 1.0 | 0.82 | 0.70 | 0.60 | 0.53 |

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4647 SW 40th Avenue, Ocala, Florida 34474-5788 U.S.A.
P: (724) 745-1555 F: (724) 745-6040 E: hankison.sales@spx.com

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