

# Series 100 Pressure Switch

With non-bleed two port output switching

Data sheet : S100P/2012

- NON-BLEED IN EITHER SWITCHED STATE
- CONFIGURABLE FOR N.O. OR N.C. OUTPUT
- COMPACT AND ROBUST
- ALUMINIUM OR ST.ST. CONSTRUCTION
- HIGH ACCURACY

These switches were designed for use on monitoring systems associated with natural gas transmission. Typically the switch can be used to protect a system or pipeline from an abnormally high or low pressure which might result in the discharge of gas.

The switch has an integral 2-port changeover valve connected to a regulated natural gas supply. As the switch operates the output of this valve changes between the regulated supply pressure and zero. This output can be used to control the operation of a valve which would then isolate the system.

For low pressure switching the output valve would typically be configured as normally closed (N.C.) to give an output above the set-point of the switch. This output is lost as the process pressure falls below the setpoint.

For high pressure switching the output valve would typically be configured as normally open (N.O.) to give an output below the set-point of the switch. This output is lost as the process pressure rises above the setpoint.

In either mode there is no continuous bleed of gas in either switched state. The only time gas is vented is during switching as the output falls from the supply pressure to zero. A tapped connection is provided on

the vent port so that this gas can be piped away if necessary.

With an anodised aluminium or 316 stainless steel construction typically 121mm long and 55mm diameter the Series 100 pressure switch is both compact and robust. It provides high switching accuracy with low switching differentials (the change in process pressure required to change the output). Standard ranges provide set-point adjustment pressures from 0.1 bar up to 100 bar.

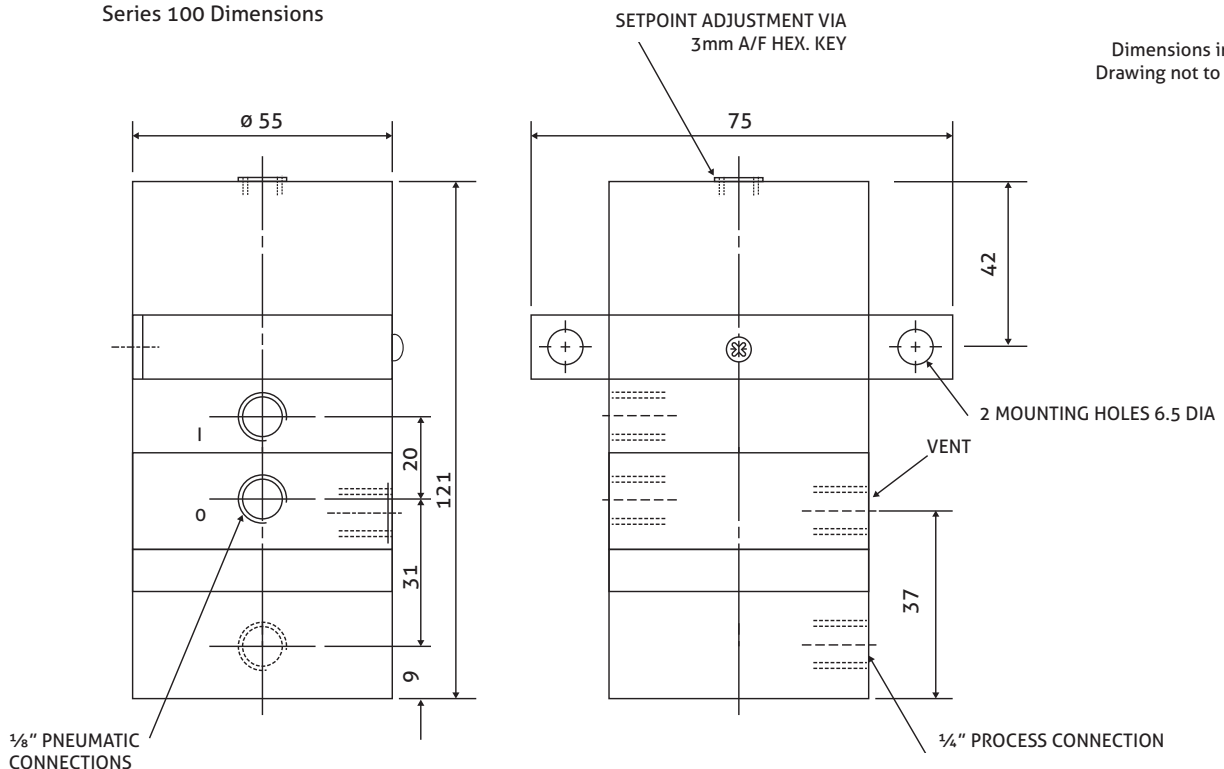
In addition Rototherm can offer many non-standard options or customise this product to meet your unique requirements e.g. custom ranges, alternative materials of construction, modified port layout etc.

This pressure switch can also be used on other applications requiring the switching of any dry inert gas that is compatible with the materials of construction.

Note: For range 1505 P dimensions are 131mm long and chamber is 76mm diameter.

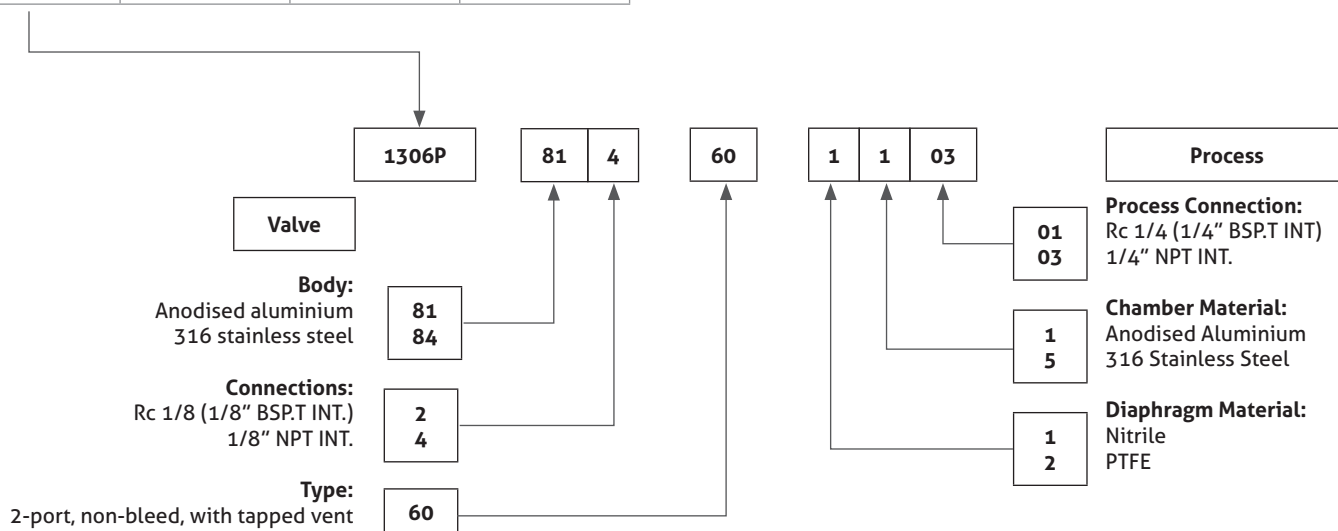


Series 100 Dimensions



## Pressure Ranges

| Range Code | Setpoint Ranges (bar) |     | Proof Pressure |
|------------|-----------------------|-----|----------------|
|            | MIN                   | MAX |                |
| 1304 P     | 0.1                   | 1.4 | 30             |
| 1305 P     | 0.2                   | 3.0 | 30             |
| 1306 P     | 0.7                   | 7.0 | 30             |
| 130B P     | 1                     | 10  | 30             |
| 1307 P     | 2                     | 21  | 35             |
| 1154 P     | 0.5                   | 5   | 60             |
| 1155 P     | 1.2                   | 12  | 60             |
| 1156 P     | 2.5                   | 28  | 60             |
| 115B P     | 4                     | 40  | 60             |
| 1157 P     | 8                     | 80  | 120            |



## Materials

|                        |                                                                                  |
|------------------------|----------------------------------------------------------------------------------|
| Valve Internals:       | Brass                                                                            |
| Range Spring:          | Spring steel for range codes 1307P & 1157P all other range codes stainless steel |
| Valves Springs:        | Stainless Steel                                                                  |
| Screws:                | Stainless Steel                                                                  |
| Valve Seal & "O" Rings | Nitrile                                                                          |

## NOTES ON OUTPUT VALVE

The output valve is made of two blocks which are anodised blue on the aluminium bodied switch (see photo on page 1). To operate it requires a supply pressure of 2 to 8 bar on Port 'I', the output port is identified with an 'O'. The remaining port is the vent.

The output valve assembly can be built into the switch either way up. If the supply port is nearest to the setpoint adjustment screw it is configured for N.C. operation (as shown on photo). If the output port is nearest to the setpoint adjustment screw it is configured for N.O. operation.

Although this configuration is easily changed it is preferable to specify the required mode N.O. or N.C. when ordering.

It should be noted that this valve is not designed to provide outputs at high flow rates and in most applications would be used to provide the pilot signal to a spool valve which in turn would operate an actuator.

An unregulated pilot supply (2 to 8 bar) can be used to operate the output valve however there may be some variation of the switching pressure if the pilot supply pressure changes. For the greatest switching accuracy the pilot signal should be regulated at a fixed pressure within the 2 to 8 bar range.