

# PENN COMMERCIAL REFRIGERATION

## PRESSURE CONTROLS

### ADJUSTABLE PRESSURE SWITCH

## P77

### SINGLE PRESSURE, IP54

The P77 series pressure controls may be used for control functions or limit functions, depending on model number. All models are provided with alarm contacts. All standard models have phosphor bronze bellows and brass pressure connections.

Models for use with ammonia are provided with stainless steel bellows and connectors. Devices conforming to PED 2014/68/EU Cat. IV (HP models) have the fail-safe function with double bellows.

Their IP54 classification means that these pressure controls are suitable for almost all applications.

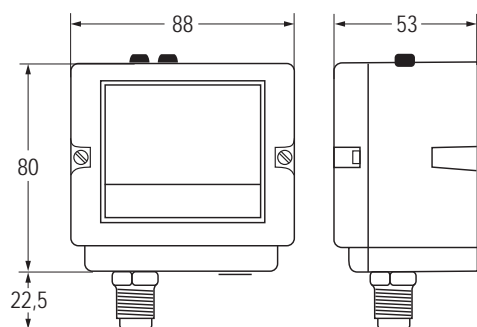
## FEATURES

- Generous wiring space
- Splash-proof enclosure (IP54)
- SPDT contacts are provided as standard on single pressure controls.
- Trip-free manual reset
- High refrigerant pressure. Suitable for R410A and CO<sub>2</sub> subcritical applications.
- Wetted materials approved for use with standard and (mild) flammable A2L / A3 refrigerants

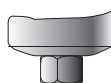
## APPLICATION

These pressure controls are designed for use in a variety of applications involving refrigeration high or low pressure. Models supplied have a "whole range" design, enabling them to be used with refrigerants R22, R134A, R404A, R410A, R290 and CO<sub>2</sub> sub-critical and all other non-corrosive refrigerants which are within the operating range of the control. They may also be used for other high or low pressure applications such as air, water etc. Models which can be used with ammonia are included in the program. Also models tested and approved to PED 2014/68/EU Cat. IV (supersedes DIN and TUV approval) are included in the program.

## DIMENSIONS (in mm)



Style 5



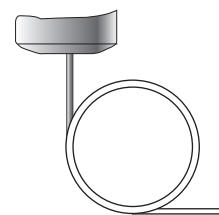
Style 15



Style 28



Style 30



Style 35





## P77 ADJUSTABLE PRESSURE SWITCH

### ORDERING INFORMATION

#### FOR NON-CORROSIVE REFRIGERANTS

| FAMILY CODES | STYLE 5    |          | STYLE 28 | STYLE 30   | STYLE 35   | RANGE (bar) | DIFF. (bar)            | MAX BELLOWS PRESSURE |
|--------------|------------|----------|----------|------------|------------|-------------|------------------------|----------------------|
|              | Ind. pack. | Bulkpack | Bulkpack | Ind. pack. | Ind. pack. |             |                        |                      |
| P77AAA       | -9300      | -9320    | -9800    | -9400      | -9500      | -0.5 to 7   | 0.6 to 3               | 22                   |
|              | -9301      | ---      | ---      | ---        | ---        | -0.2 to 10  | 1 to 4.5               | 15                   |
|              | -9302      | ---      | ---      | ---        | ---        | -0.3 to 2   | 0.4 to 1.5             | 4                    |
|              | -9350      | -9370    | -9850    | -9450      | -9550      | 3 to 30     | 3 to 12                | 33                   |
|              | -9351      | -9371    | ---      | -9451      | ---        | 3.5 to 21   | 2.1 to 5.5             | 30                   |
| P77BCA       | -9300      | ---      | ---      | ---        | ---        | -0.5 to 7   | Man. res. <sup>1</sup> | 22                   |
| P77BEA       | -9350      | ---      | ---      | -9450      | ---        | 3 to 30     | Man. res. <sup>2</sup> | 33                   |

#### FOR AMMONIA AND NON-CORROSIVE REFRIGERANTS

| FAMILY CODES | STYLE 15   |          | RANGE (bar) | DIFF. (bar)            | MAX BELLOWS PRESSURE |
|--------------|------------|----------|-------------|------------------------|----------------------|
|              | Ind. pack. | Bulkpack |             |                        |                      |
| P77AAA       | -9700      | ---      | -0.5 to 7   | 0.6 to 3               | 14                   |
|              | -9750      | ---      | 3 to 30     | 3.5 to 12              | 33                   |
| P77BCA       | -9700      | ---      | -0.5 to 7   | Man. res. <sup>1</sup> | 14                   |
| P77BEA       | -9750      | ---      | 3 to 30     | Man. res. <sup>2</sup> | 33                   |

#### FOR NON-CORROSIVE REFRIGERANTS

(PRESSURE LIMITER, PRESSURE CUT-OUT, SAFETY PRESSURE CUT-OUT, INCLUDING LOCKPLATE ASSY)

| FAMILY CODES | STYLE 5    |          | STYLE 28   | RANGE (bar) | DIFF. (bar)            | MAX BELLOWS PRESSURE | APPROVED ACCORDING TO PED 2014/68/EU CAT. IV |
|--------------|------------|----------|------------|-------------|------------------------|----------------------|--|
|              | Ind. pack. | Bulkpack | Ind. pack. |             |                        |                      |  |
| P77AAW       | -9300      | -9320    | -9800      | -0.5 to 7   | 0.6 to 3               | 22                   | ---  |
|              | -9350      | -9370    | -9850      | 3 to 30     | 3.5 to 12              | 33                   | ■  |
|              | -9355      | ---      | -9855      | 3 to 42     | 5 to 15                | 47.6                 |  |
| P77BCB       | -9300      | ---      | -9800      | -0.5 to 7   | Man. res. <sup>1</sup> | 22                   | ---  |
| P77BEB       | -9350      | -9370    | -9850      | 3 to 30     | Man. res. <sup>3</sup> | 33                   | ■  |
|              | -9355      | ---      | -9855      | 3 to 42     | Man. res. <sup>4</sup> | 47.6                 |  |
| P77BES       | -9350      | -9370    | -9850      | 3 to 30     | Man. res. <sup>3</sup> | 33                   |  |

#### Notes

- <sup>1</sup> Resettable at 0.5 bar above cut-out point
  - <sup>2</sup> Resettable at 3 bar below cut-out point
  - <sup>3</sup> Resettable at 3.5 bar below cut-out point
  - <sup>4</sup> Resettable at 5 bar below cut-out point
- 100 kPa = 1 bar ≈ 14.5 psi



## ORDERING INFORMATION

FOR AMMONIA AND NON-CORROSIVE REFRIGERANTS

(PRESSURE LIMITER, PRESSURE CUT-OUT, SAFETY PRESSURE CUT-OUT, INCLUDING LOCKPLATE ASSY)

| FAMILY CODES | STYLE 15   |          | RANGE (bar) | DIFF. (bar)            | MAX BELLOWS PRESSURE | APPROVED ACCORDING TO PED 2014/68/EU CAT. IV |
|--------------|------------|----------|-------------|------------------------|----------------------|--|
|              | Ind. pack. | Bulkpack |             |                        |                      |  |
| P77AAW       | -9700      | ---      | -0.5 to 7   | 0.6 to 3               | 14                   | ---  |
|              | -9750      | ---      | 3 to 30     | 3.5 to 12              | 33                   | ■  |
| P77BEB       | -9750      | ---      | 3 to 30     | Man. res. <sup>3</sup> | 33                   |  |
| P77BES       | -9750      | ---      | 3 to 30     | Man. res. <sup>3</sup> | 33                   |  |

FOR HAZARDOUS LOCATION APPLICATION AND NON-CORROSIVE REFRIGERANTS

(PRESSURE LIMITER, INCLUDING LOCKPLATE ASSY) – ATEX CERTIFIED

| FAMILY CODES | STYLE 28   |          | RANGE (bar) | DIFF. (bar) | PRESSURE CONNECTION | MAX BELLOWS PRESSURE | APPROVED ACCORDING TO PED 2014/68/EU CAT. IV |
|--------------|------------|----------|-------------|-------------|---------------------|----------------------|--|
|              | Ind. pack. | Bulkpack |             |             |                     |                      |  |
| P77XAAW      | -18000C    | -18000D  | -0.5 to 7   | 0.6 to 3    | 6 mm Ø copper tube  | 22                   | ---  |
|              | -18500C    | -18500D  | 3 to 30     | 3.5 to 12   |                     | 33                   | ■  |

### Notes

- 1** Resettable at 0.5 bar above cut-out point
- 2** Resettable at 3 bar below cut-out point
- 3** Resettable at 3.5 bar below cut-out point
- 4** Resettable at 5 bar below cut-out point

100 kPa = 1 bar ≈ 14.5 psi