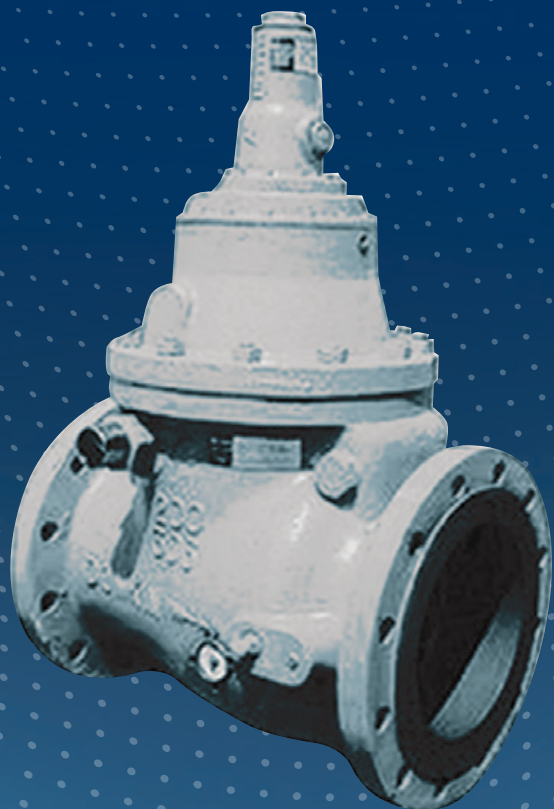


# Safety Cut-Off Valve HON 303 MK5



PRODUCT INFORMATION

**Serving the Gas Industry  
Worldwide**

**Honeywell**

# SAFETY CUT-OFF VALVE HON 303 MK5

## Introduction, Application, Features, Technical Data

### Introduction

- The HON 303 is a safety cut-off valve of single in line orifice design, overpressure operated, with external control line connection, manual reset and pressure balancing bypass. Completely self-acting and requires no separate power source to close the valve.
- Use with confidence on natural and manufactured gases of non-aggressive nature, including Nitrogen, Carbon Dioxide, Propane, Butane etc.

### Application

Designed to safeguard gas distribution systems, normally installed upstream of the pressure regulator with the external control line piped to the downstream of the regulator, closing automatically in the event of an overpressure condition. After closure, the valve must be manually reset to the open position after normal pressure conditions have been restored by use of the manual bypass valve.

### Features

- Precise and dependable operation
- Fully enclosed valve door position indicator - colour coded to show valve status (Open/Closed).
- Specially designed spindle and seal between trigger mechanism and diaphragm actuator practically eliminates effect of inlet pressure variation on trip set-point.
- Pressure equalising valve
- Manual Reset

### Size Range

DN 250 Flanged

DN 300 Flanged

Connections to PN16:BS EN1092-2:1997

(can be drilled to other standards on request)

| SPRING SELECTION |        |           |                     |
|------------------|--------|-----------|---------------------|
| Model            | Spring |           | Trip Range in mbarg |
|                  | Number | Colour    |                     |
| 303 LP           | 879    | Grey      | 37 to 170           |
|                  | 880    | Brown     | 160 to 480          |
| 303 MP           | 756    | Silver    | 420 to 550          |
|                  | 757    | Orange    | 540 to 760          |
|                  | 758    | Yellow    | 750 to 970          |
|                  | 759    | Black     | 950 to 1250         |
|                  | 760    | White     | 1230 to 1600        |
|                  | 761    | Lt. Green | 1580 to 2000        |
|                  | 762    | Pink      | 1970 to 2630        |
|                  | 763    | Lt. Blue  | 2600 to 3460        |
|                  | 764    | Gold      | 3430 to 4500        |

### OPTIONS

#### OPTION: 1

Can be fitted with Pepperl & Fuchs Kontex proximity sensor system, to initiate 'Valve Open' or 'Valve Closed' indicator on remote panel.

#### OPTION: 2

Can be fitted with Encapsulated Tilt Switch assembly, to initiate 'Valve Open' or 'Valve Closed' indicator on remote panel.

### Installation

For installation in a horizontal pipeline with spring housing pointing vertically upwards and aligned with the gas flow direction, as indicated by the arrow on the valve body.

| SERVICE CONDITIONS     |                    |
|------------------------|--------------------|
| Maximum Inlet Pressure | 7 barg             |
| Pressure Range:        |                    |
| 303LP                  | 0.037 to 0.48 barg |
| 303MP                  | 0.42 to 4.5 barg   |
| Temperature Range:     | -20°C to +60°C     |

| MATERIALS OF CONSTRUCTION                                  |   |
|--|---|
| Component  | Material  |
| Body, Top Cover, Spring Housing & Top Cap                  | Ductile Iron to: BSEN 1563 Grade: EN-GJS-400-18 |
| Operating levers, Link plates, Valve door Diaphragm plates | Carbon Steel (Zinc Plated)                      |
| Torsion & compressor springs                               | Carbon Spring Steel (Lanolised)                 |
| Trigger block, Spindle bushes and bypass valve             | Brass: BS249                                    |
| Diaphragm  | Nylon Reinforced Pentane Resistant Nitrile      |
| Door, Operating spindles and bushes                        | Stainless Steel: BS970 - 416S21                 |
| Spring Adjuster: LP MP                                     | Aluminium C800 Cast Iron: BS1452 220            |

## SAFETY CUT-OFF VALVE HON 303 MK5

Pressure Loss, Materials of Construction

### Pressure Loss

The HON 303 is designed for minimal pressure loss ( $\Delta P$ ).

$$P_i - P_o = \left(\frac{Q}{K}\right)^2 \times \frac{1}{P_o}$$

Where:

Q = Valve flow M<sup>3</sup>/Hr (SG 0.6)

P<sub>i</sub> = Inlet Pressure bar (abs)

P<sub>o</sub> = Outlet Pressure bar (abs)

K = Flow Constant

(abs) = Absolute pressure 1.01325

When sizing valves in accordance with GIS/V9-1, the maximum recommended gas velocity through the safety cut-off valve, should not exceed 80 m/sec.

Consideration given to higher gas velocities on request - please contact Honeywell for details.

### FLOW CONSTANT

| Valve Size | Flow Constant |
|------------|---------------|
| DN 250     | 102675        |
| DN 300     | 176600        |

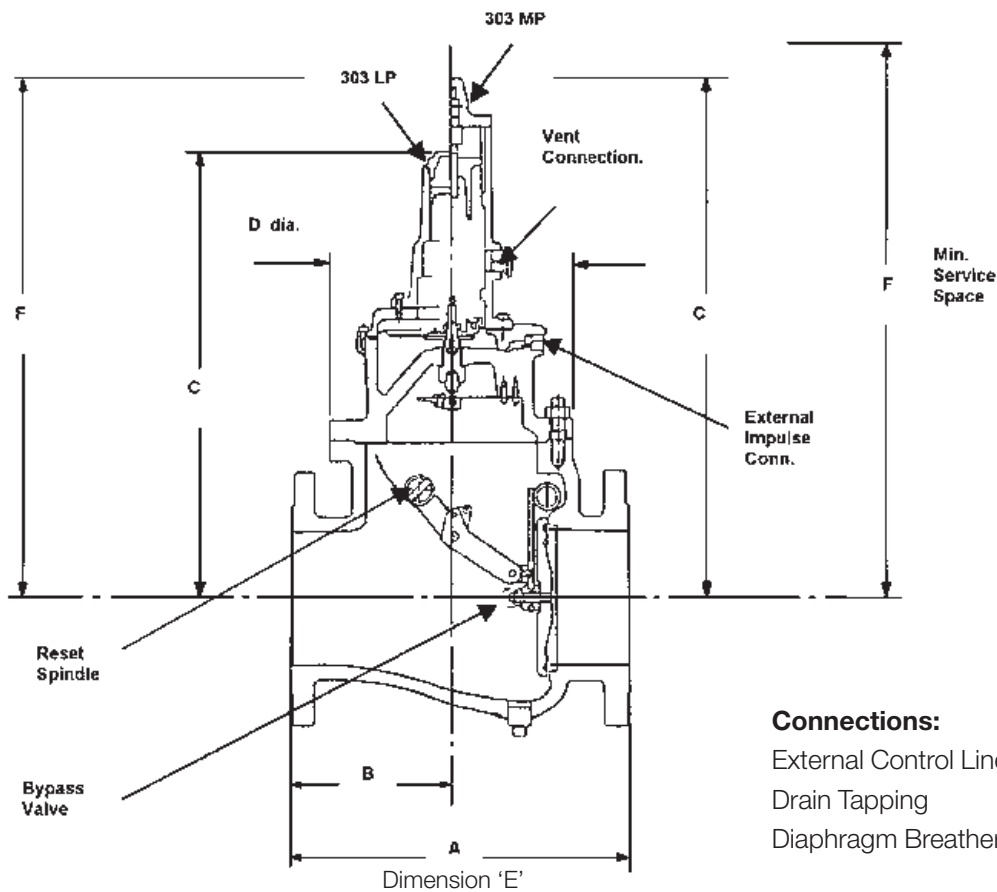
### Conversion Factor

The pressure loss calculation is given in terms of natural gas (SG 0.6). For all other gases multiply by the following correction factor

$$\sqrt{\frac{0.6}{\text{SG of Gas handled}}}$$

Conversion to ft<sup>3</sup>/hr - multiply by 35.3

3



Centre line valve to max. Extent bypass valve

### Connections:

|                         |             |
|-------------------------|-------------|
| External Control Line   | BS21 Rc 1/4 |
| Drain Tapping           | BS21 Rp 1   |
| Diaphragm Breather Vent | BS21 Rc 3/4 |

### DIMENSIONS & WEIGHTS

| Size   | A   | B   | C   |     | D   | E   | F   |     | Weight Kg's |     |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|
|        |     |     | LP  | MP  |     |     | LP  | MP  | LP          | MP  |
| DN 250 | 533 | 241 | 639 | 721 | 406 | 259 | 856 | 897 | 158         | 167 |
| DN 300 | 610 | 279 | 698 | 779 | 489 | 292 | 915 | 956 | 214         | 228 |

All Dimensions in mm

**For More Information**

To learn more about Honeywell's  
Advanced Gas Solutions, visit  
[www.honeywellprocess.com](http://www.honeywellprocess.com) or contact  
your Honeywell account manager.

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