

P143 Pressure Regulator

- Versatile
- Control Accuracy
- Compact Design
- Low Pressure Cut-off

The Type P143 pressure regulator is ideal for natural gas, air, propane and general purpose gas pressure regulation. Uses include commercial, residential and light industrial for burners and unit heaters. The P143 has an internal relief device and is available in the low pressure cut off – LPCO – version.

Applications

Applicable to a wide range of gaseous fluids, including air, natural gas and propane. Can be used as a LP regulator.



Materials of Construction

| | P143 |
|--------------------|------------------------|
| Body, Bonnet | Iron, Aluminum |
| Diaphragm | Nitrile |
| Diaphragm Assembly | Zinc/Nitrile |
| Gaskets | Non-asbestos, CGR 2750 |
| Pin | Stainless Steel |
| Vent screen | Stainless Steel |
| Spring | Zinc-Plated Steel |
| Diaphragm Piston | Zinc-Plated Steel |

Specifications

| | P143 | |
|----------------------------------|---|---------|
| Inlet / Outlet | 3/4" x 3/4", 3/4" x 1", 1" x 1", 1" x 1-1/4", 1-1/4" x 1-1/4" | |
| Maximum allowable inlet pressure | See Chart | |
| Temperature Range | -20 °F to 150 °F | |
| Approximate Weight | 5.63 lb. | 2.6 kg. |

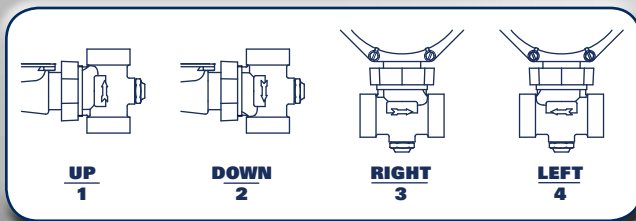
Max Inlet Pressure (PSIG)

| Orifice | LPCO | Standard |
|---------|------|----------|
| 1/8 | | 125 |
| 3/16 | | 125 |
| 1/4 | 60 | 60 |
| 5/16 | 40 | 40 |
| 3/8 | 25 | 40 |
| 7/16 | 15 | — |
| 1/2 | | 20 |
| 5/8 | | 10 |

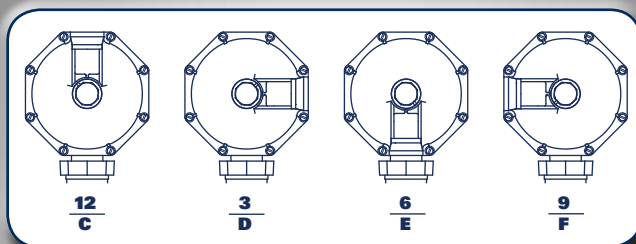
P143 Part Matrix

| P143 | | | | | | | 0 | 0 |
|----------|------------|--|--|--|--|--|---|--|
| C | | | | | | | | Low Pressure Cut Off |
| S | | | | | | | | Standard |
| | 06 | | | | | | | Body Size |
| | 07 | | | | | | | 3/4 x 3/4 NPT Ports |
| | 08 | | | | | | | 3/4 x 1 NPT Ports |
| | 09 | | | | | | | 1 x 1 NPT Ports |
| | 12 | | | | | | | 1 x 1-1/4 NPT Ports |
| | | | | | | | | 1-1/4 x 1-1/4 NPT Ports |
| | | | | | | | | Spring Ranges |
| | 020 | | | | | | | Red Spring LPCO Red Spring Standard |
| | | | | | | | | 4.5" – 7.5" W.C. 3.5" – 6.5" W.C. |
| | 040 | | | | | | | Blue Spring LPCO Blue Spring Standard |
| | | | | | | | | 6" – 9.5" W.C. 5" – 8.5" W.C. |
| | 060 | | | | | | | Green Spring LPCO Green Spring Standard |
| | | | | | | | | 7.5" – 15" W.C. 6" – 14" W.C. |
| | 080 | | | | | | | Orange Spring LPCO Orange Spring Standard |
| | | | | | | | | 13.5" – 29" W.C. 12" – 33" W.C. |
| | 100 | | | | | | | Purple Spring 1/2 – 2 PSIG (Standard Only) |
| | 120 | | | | | | | Yellow Spring 1/2 – 3 PSIG (Standard Only) |
| | 140 | | | | | | | Black Spring 2 – 6 PSIG (Standard Only) |
| | | | | | | | | Orifice Size |
| | 2 | | | | | | | 1/8" (Standard Only) |
| | 3 | | | | | | | 3/16" (Standard Only) |
| | 4 | | | | | | | 1/4" |
| | 5 | | | | | | | 5/16" |
| | 6 | | | | | | | 3/8" |
| | 7 | | | | | | | 7/16" (LPCO Only) |
| | 8 | | | | | | | 1/2" (Standard Only) |
| | A | | | | | | | 5/8" (Standard Only) |
| | | | | | | | | Body Position |
| | 1 | | | | | | | Up Position |
| | 2 | | | | | | | Down Position |
| | 3 | | | | | | | Right Position |
| | 4 | | | | | | | Left Position |
| | | | | | | | | Vent Position |
| | C | | | | | | | 12 Position |
| | D | | | | | | | 3 Position |
| | E | | | | | | | 6 Position |
| | F | | | | | | | 9 Position |

P143 Body Positions

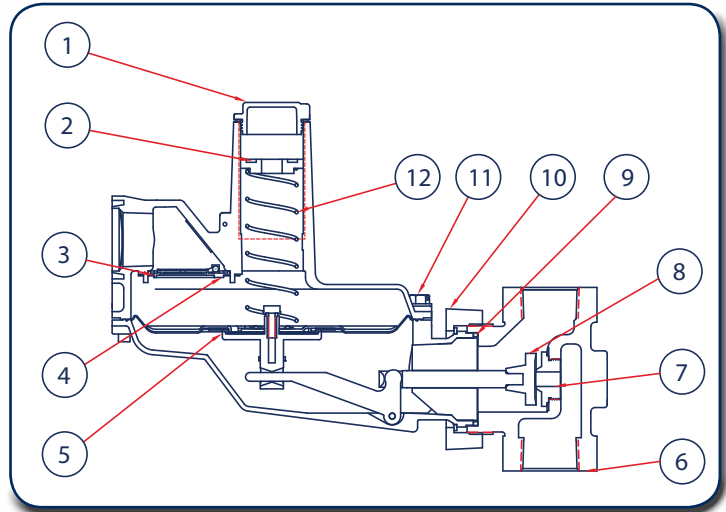


P143 Vent Positions



P143 Standard Parts

| Item | Description | Part Number | |
|------|---|---------------------------------|-------------|
| 1 | Bonnet Cap with gasket for Standard, acetal | 812-031-000 | |
| 2 | Adjustment Screw, steel | 648-528-000 | |
| 3 | Vent Subassembly | 822-036-000 | |
| 4 | | Collar (2 required) | 612-008-000 |
| 5 | Diaphragms | | |
| | Standard Diaphragm, plate & washer nitrile | 804-266-000 | |
| 6 | Standard Bodies | | |
| | 3/4" x 3/4" Port Iron | 664-357-000 | |
| | 3/4" x 1" Port Iron | 664-357-002 | |
| | 1" x 1" Port Iron | 664-357-001 | |
| | 1" x 1-1/4" Port Iron | 664-357-003 | |
| | 1-1/4" x 1-1/4" Port Iron | 664-357-004 | |
| 7 | Standard Orifice - Aluminum | 1/8" | 688-053-000 |
| | | 3/16" | 688-053-001 |
| | | 1/4" | 688-053-002 |
| | | 5/16" | 688-053-003 |
| | | 3/8" | 688-053-004 |
| | | 1/2" | 688-053-005 |
| | 5/8" | 688-053-006 | |
| 8 | Main Seat, nitrile | 650-168-000 | |
| 9 | Square Ring | 662-226-000 | |
| 10 | Housing Nut & Retaining Ring, | 803-073-000 | |
| 11 | Build Screws, plated steel (8 required) | 648-529-000 | |
| 12 | Range Springs | 3.5"-6.5" WC Red, Plated Steel | 655-723-000 |
| | | 5"-8.5" WC Blue, Plated Steel | 655-723-001 |
| | | 6"-14" WC Green, Plated Steel | 655-723-002 |
| | | 12"-33" WC Orange, Plated Steel | 655-723-003 |
| | Range Springs (Not for use in LPCO) | .5-2 PSI - Purple, Plated Steel | 655-723-004 |
| | | .5-3 PSI - Yellow, Plated Steel | 655-723-005 |
| | 2-6 PSI - Black, Plated Steel | 655-723-006 | |



P143 Standard Model Flow Capacities

Capacity* in SCFH Natural Gas
(0.6 specific gravity - 14.65 psig -65 °F)

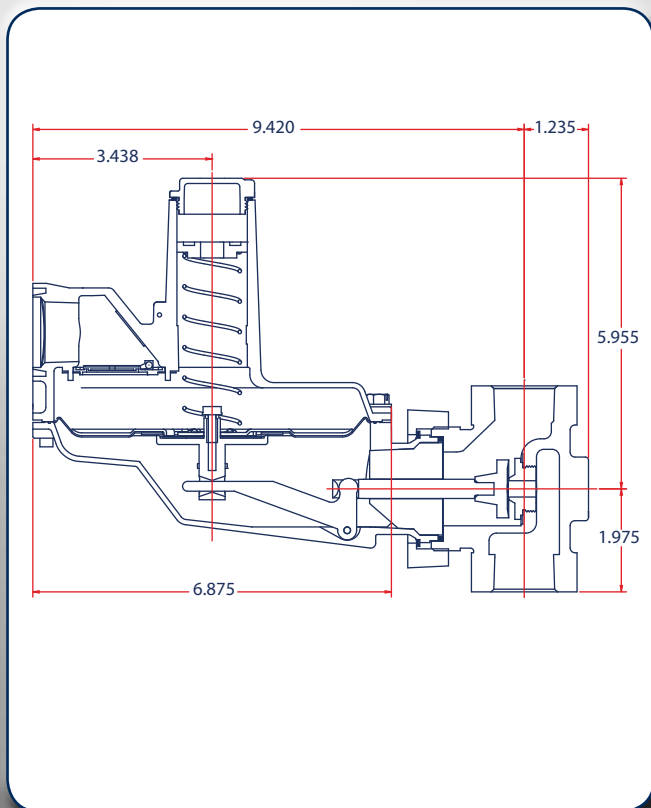
| Body Size 3/4" x 3/4" | | | | | | | |
|-----------------------|---------|-------|------|-------|------|------|------|
| Inlet psig | Orifice | | | | | | |
| | 1/8" | 3/16" | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" |
| 1/2 | - | - | - | - | 340 | 450 | 510 |
| 1 | - | - | - | 480 | 500 | 510 | 530 |
| 2 | - | - | 530 | 560 | 570 | 580 | 600 |
| 3 | - | 420 | 600 | 560 | 630 | 650 | 670 |
| 5 | 250 | 560 | 700 | 720 | 730 | 770 | 790 |
| 7.5 | 310 | 700 | 840 | 860 | 880 | 900 | 900 |
| 10 | 370 | 830 | 950 | 970 | 1000 | 1020 | 1020 |
| 20 | 530 | 1200 | 1220 | 1240 | 1250 | 1270 | - |
| 40 | 860 | 1570 | 1330 | 1340 | 1450 | - | - |
| 60 | 1200 | 1660 | 1520 | - | - | - | - |
| 80 | 1500 | 1710 | - | - | - | - | - |
| 125 | 1800 | 1900 | - | - | - | - | - |

| Body Size 3/4" x 1" • 1" X 1" | | | | | | | |
|-------------------------------|---------|-------|------|-------|------|------|------|
| Inlet psig | Orifice | | | | | | |
| | 1/8" | 3/16" | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" |
| 1/2 | - | - | - | - | 350 | 460 | 520 |
| 1 | - | - | - | 480 | 550 | 600 | 650 |
| 2 | - | - | 530 | 700 | 840 | 880 | 780 |
| 3 | - | 420 | 650 | 870 | 1000 | 920 | 810 |
| 5 | 250 | 580 | 890 | 1120 | 1160 | 950 | 970 |
| 7.5 | 310 | 700 | 1140 | 1340 | 1270 | 1140 | 1060 |
| 10 | 370 | 840 | 1360 | 1500 | 1330 | 1200 | 1180 |
| 20 | 530 | 1230 | 2000 | 1600 | 1480 | 1400 | - |
| 40 | 860 | 1700 | 2000 | 1640 | 1900 | - | - |
| 60 | 1200 | 1900 | 2000 | - | - | - | - |
| 80 | 1540 | 2000 | - | - | - | - | - |
| 125 | 2100 | 2100 | - | - | - | - | - |

| Body Size 1" X 1-1/4" • 1-1/4" X 1-1/4" | | | | | | | |
|---|---------|-------|------|-------|------|------|------|
| Inlet psig | Orifice | | | | | | |
| | 1/8" | 3/16" | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" |
| 1/2 | - | - | - | - | 350 | 460 | 520 |
| 1 | - | - | - | 480 | 550 | 680 | 760 |
| 2 | - | - | 530 | 700 | 840 | 1020 | 1030 |
| 3 | - | 420 | 650 | 870 | 1030 | 1200 | 1050 |
| 5 | 250 | 580 | 890 | 1180 | 1350 | 1490 | 1060 |
| 7.5 | 310 | 700 | 1140 | 1500 | 1610 | 1580 | 1060 |
| 10 | 370 | 840 | 1360 | 1700 | 1710 | 1800 | 1180 |
| 20 | 630 | 1230 | 1600 | 1800 | 1900 | 1900 | - |
| 40 | 860 | 1800 | 2200 | 1900 | 2000 | - | - |
| 60 | 1200 | 2100 | 2400 | - | - | - | - |
| 80 | 1550 | 2200 | - | - | - | - | - |
| 125 | 2250 | 2400 | - | - | - | - | - |

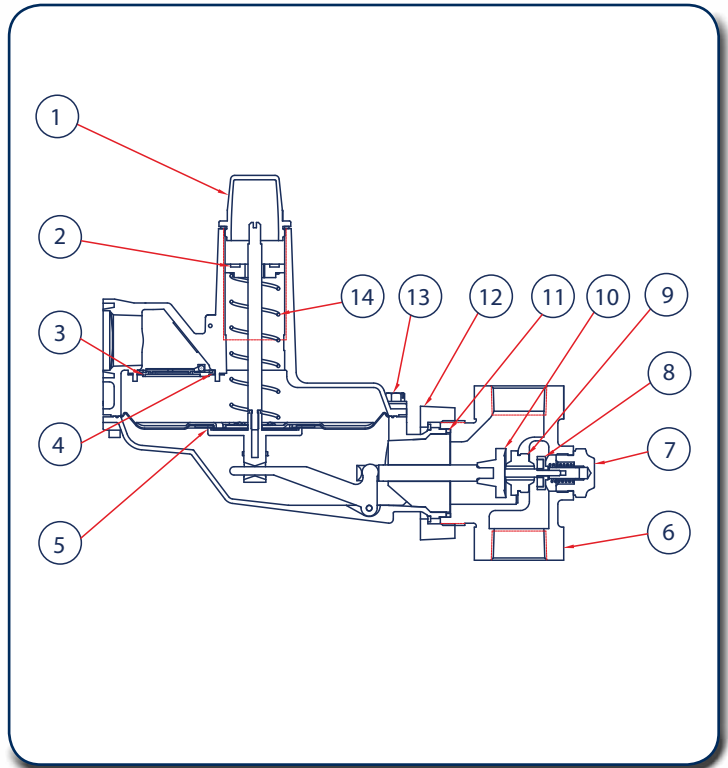
*Consult manufacturer for test conditions

P143 Standard Dimensions

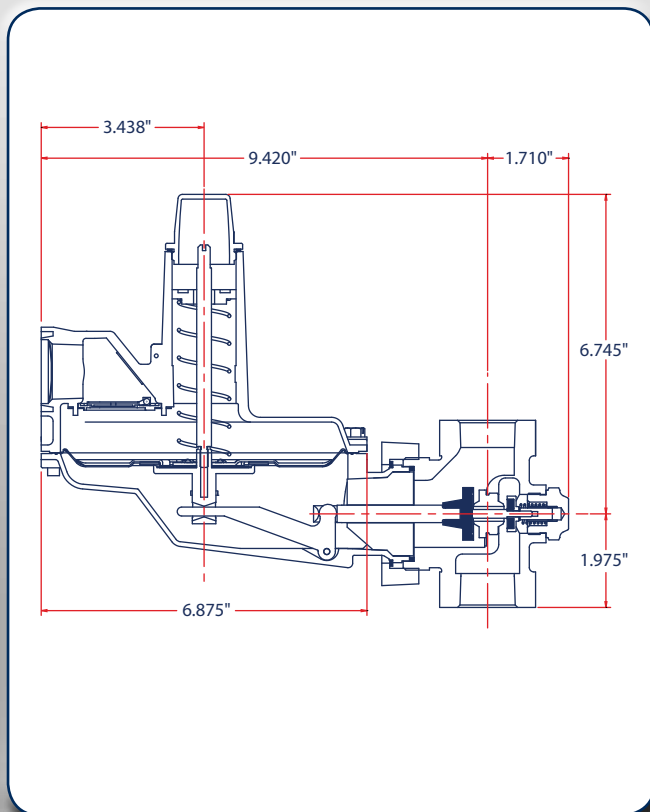


P143 Low Pressure Cut Off Parts

| Item | Description | Part Number |
|------|---|-------------|
| 1 | Bonnet Cap with gasket for LPCO, acetal | 812-030-000 |
| 2 | Adjustment Screw, steel | 648-528-000 |
| 3 | Vent Collar (2 required) | 612-008-000 |
| 4 | Subassembly | 822-036-000 |
| 5 | Diaphragms | |
| | LPCO Diaphragm, plate & washer, nitrile | 804-265-000 |
| 6 | 3/4" x 3/4" Port Iron | 664-351-000 |
| | 3/4" x 1" Port Iron | 664-351-002 |
| | 1" x 1" Port Iron | 664-351-001 |
| | 1" x 1-1/4" Port Iron | 664-351-003 |
| | 1-1/4" x 1-1/4" Port Iron | 664-351-004 |
| 7 | LPCO Bottom Plug Assembly | 810-043-000 |
| 8 | LPCO Cutoff Seat Assembly | 819-009-000 |
| 9 | 1/4" - Double Sided | 688-052-000 |
| | 5/16" - Double Sided | 688-052-001 |
| | 3/8" - Double Sided | 688-052-002 |
| | 7/16" - Double Sided | 688-052-003 |
| 10 | Main Seat, nitrile | 650-168-000 |
| 11 | Square Ring | 662-226-000 |
| 12 | Housing Nut & Retaining Ring | 803-073-000 |
| 13 | Build Screws, plated steel (8 required) | 648-529-000 |
| 14 | 4.5"-7.5" WC Red, Plated Steel | 655-723-000 |
| | 6"-9.5" WC Blue, Plated Steel | 655-723-001 |
| | 7.5"-15" WC Green, Plated Steel | 655-723-002 |
| | 13.5"-29" WC Orange, Plated Steel | 655-723-003 |



P143 LPCO Dimensions



P143 LPCO Flow Capacities

Capacity* in SCFH Natural Gas
(0.6 specific gravity - 14.65 psig - 65 °F)

| Pipe Size (inches) | Inlet Pressure (psig) | Outlet Pressure Red Spring 4 - 7-1/2" w.c. | | | | Outlet Pressure Green Spring 7-1/2 - 15" w.c. | | | |
|--------------------------------|-----------------------|--|------|------|------|---|------|------|------|
| | | Blue Spring 6-1/2" - 9-1/2" w.c. | | | | | | | |
| | | Orifice Size, Inches | | | | Orifice Size, Inches | | | |
| | PSIG BAR | 7/16 | 3/8 | 5/16 | 1/4 | 7/16 | 3/8 | 5/16 | 1/4 |
| 3/4" x 3/4" | 1/2 | .034 | 240 | 180 | 90 | 140 | 120 | 90 | |
| | 1 | .068 | 400 | 300 | 200 | 250 | 200 | 160 | 90 |
| | 2 | .137 | 580 | 420 | 300 | 140 | 370 | 320 | 240 |
| | 5 | .344 | 800 | 750 | 600 | 230 | 580 | 530 | 460 |
| | 10 | .684 | 1050 | 990 | 740 | 380 | 780 | 720 | 700 |
| | 15 | 1.03 | 1140 | 1050 | 950 | 46 | 920 | 860 | 800 |
| | 25 | 1.72 | | 1100 | 1100 | 640 | | 900 | 1000 |
| | 40 | 2.75 | | | 1300 | 870 | | | 1300 |
| 60 | 4.14 | | | | 1160 | | | | |
| 3/4" x 1" 1" x 1" | 1/2 | .034 | 270 | 210 | 90 | 160 | 120 | 90 | |
| | 1 | .068 | 430 | 310 | 210 | 100 | 260 | 230 | 160 |
| | 2 | .137 | 650 | 420 | 300 | 140 | 410 | 350 | 270 |
| | 5 | .344 | 1100 | 750 | 610 | 230 | 800 | 730 | 470 |
| | 10 | .684 | 1300 | 1120 | 760 | 380 | 1220 | 1090 | 740 |
| | 15 | 1.03 | 1300 | 1300 | 960 | 460 | 1300 | 1300 | 930 |
| | 25 | 1.72 | | 1300 | 1300 | 640 | | 1300 | 1160 |
| | 40 | 2.75 | | | 1300 | 870 | | | 1300 |
| 60 | 4.14 | | | | 1160 | | | | |
| 1" x 1-1/4" 1-1/4" x 1-1/4" | 1/2 | .034 | 270 | 210 | 90 | 160 | 120 | 90 | |
| | 1 | .068 | 430 | 310 | 210 | 100 | 260 | 230 | 160 |
| | 2 | .137 | 650 | 420 | 300 | 140 | 430 | 350 | 270 |
| | 5 | .344 | 1100 | 750 | 510 | 230 | 870 | 730 | 470 |
| | 10 | .684 | 1300 | 1120 | 760 | 380 | 1300 | 1090 | 740 |
| | 15 | 1.03 | 1300 | 1300 | 960 | 460 | 1300 | 1300 | 930 |
| | 25 | 1.72 | | 1300 | 1300 | 640 | | 1300 | 1160 |
| | 40 | 2.75 | | | 1300 | 870 | | | 1300 |
| 60 | 4.14 | | | | 1160 | | | | |

*Consult manufacturer for test conditions



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The screenshot shows the BelGAS website interface. On the left is a navigation menu with the following items: Products, High Pressure Gas Regulators, General Purpose Gas Regulators, Back Pressure Regulators / Relief Valves, Air Gas Regulator Systems / Manifolds / Instrument, Industrial Regulators, Electronic Products, Gauge Thermometers/Thermowells, Needle Valves. The main content area features the text: 'The BelGAS division of Marsh Bellofram is a global leader in the manufacture of both high- and low-pressure, general purpose gas regulators, back pressure relief regulators, flow controllers, manifold systems, treatment air regulators, gauge thermometers, thermowells, needle valves and electronic products for oil, gas and petrochemical pipelines; industrial plant air and gas regulators; and general industrial pressure and flow-measuring instruments.' Below the text is an image of various gas regulator components.