

# Model 121 Regulators

Brochure

## Introduction

### For Commercial, Industrial Combustion and Distribution Applications

The **Model 121** is a new dimension in spring regulator capability, offering spring regulator **dependability, simplicity** and **economy**.

**New technology plus contemporary design provides greater capacity, higher inlet pressure, more accurate performance and faster response, with resulting economy** — in most cases a smaller regulator will do the job.

Use the 121 for commercial and industrial applications: burners, boilers, furnaces, air heaters, kilns, gas engines and benefit from its fast response.

Use it also as a large capacity supply regulator on commercial or industrial service lines, or as a small district regulator.

It's excellent for primary control or monitoring — use it for either or both.

The 121 is actually a whole new family of regulators — standard regulator, zero governor or atmospheric regulator, differential regulator, back pressure regulator, or relief valve, vacuum regulator and vacuum breaker.

Compatible with natural gas, propane, LPG, air nitrogen, etc. Special material available for certain corrosive gases. For installation, servicing and parts, see Bulletin IN-G-REG-1328.

And, for a complete 121 regulator, ready to go back to work for you — contact your Sensus Representative or Authorized Industrial Distributor.

## Outlet Pressure Ranges and Springs

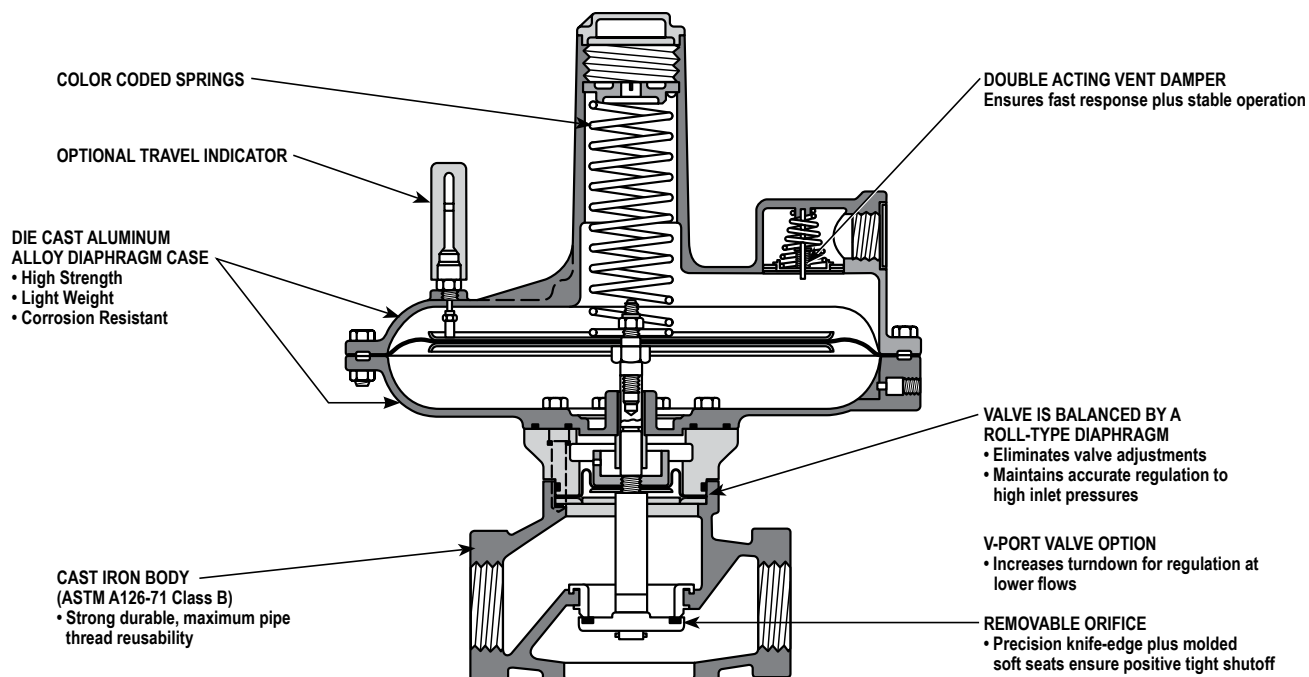
| Size                               | Outlet Pressure Range | Spring Color             | Spring Part Number                                           | Maximum Inlet Pressure | Nominal Diaphragm Size |
|------------------------------------|-----------------------|--------------------------|--------------------------------------------------------------|------------------------|------------------------|
| ¾", 1", and 1¼" **<br>Model 121-8  | 1½" to 3½" w.c.       | blue-black<br>black-red  | 143-82-021-01 (main spring)<br>121-10-021-50 (counterspring) | 60 psi                 | 8"                     |
|                                    | 1½" to 12" w.c.       | green-black<br>black-red | 143-82-021-02 (main spring)<br>121-10-021-50 (counterspring) |                        |                        |
|                                    | 3½" to 6½" w.c.       | red-black                | 143-82-021-00                                                |                        |                        |
|                                    | 5" to 8½" w.c.        | blue-black               | 143-82-021-01                                                |                        |                        |
|                                    | 6" to 14" w.c.        | green-black              | 143-82-021-02                                                |                        |                        |
|                                    | 12" to 28" w.c.       | green (2" O.D.)          | 143-16-021-05                                                |                        |                        |
| ¾", 1" and 1¼" **<br>Model 121-8HP | 1 psi to 2 psi        | orange (2" O.D.)         | 143-16-021-06                                                | 60 psi                 | 8"                     |
|                                    | 2 psi to 4¼ psi       | black                    | 143-16-021-07                                                |                        |                        |
|                                    | 3 psi to 6 ½ psi      | cadmium*                 | 143-16-021-08                                                |                        |                        |
| 1½", 2" and 2½"<br>Model 121-12    | 6 psi to 10 psi       | cadmium*<br>white        | 143-16-021-08 (outer)<br>143-16-021-13 (inner)               | 60 psi                 | 12"                    |
|                                    | 1½" to 3½" w.c.       | red<br>—                 | 143-16-021-03(main spring)<br>120-10-021-10 (counterspring)  |                        |                        |
|                                    | 1½" to 12" w.c.       | maroon<br>—              | 121-42-021-00 (main spring)<br>120-10-021-10 counter spring) |                        |                        |
|                                    | 3½" to 6½" w.c.       | red (2" O.D.)            | 143-16-021-03                                                |                        |                        |
|                                    | 5" to 8½" w.c.        | blue (2" O.D.)           | 143-16-021-04                                                |                        |                        |
|                                    | 6" to 14" w.c.        | green (2" O.D.)          | 143-16-021-05                                                |                        |                        |
| 1½", 2" and 2½"<br>Model 121-8     | 12" to 28" w.c.       | orange (2" O.D.)         | 143-16-021-06                                                | 60 psi                 | 8"                     |
|                                    | 1 psi to 2 psi        | black                    | 143-16-021-07                                                |                        |                        |
| 1½", 2" and 2½"<br>Model 121-8HP   | 1½ psi to 3 psi       | cadmium                  | 143-16-021-08                                                | 60 psi                 | 8"                     |
|                                    | 3 psi to 6½ psi       | cadmium*                 | 143-16-021-08                                                |                        |                        |
| 3" and 4"<br>Model 121-16          | 6 psi to 10 psi       | cadmium*<br>white        | 143-16-021-08 (outer)<br>143-16-021-13 (inner)               | 60 psi                 | 8"                     |
|                                    | 3½" to 6½" w.c.       | red (3" O.D.)            | 121-62-021-50                                                |                        |                        |
| 3" and 4"<br>Model 121-16          | 5" to 8½" w.c.        | blue (3" O.D.)           | 121-62-021-51                                                | 40 and 15†             | 16"                    |
|                                    | 6" to 14" w.c.        | green (3" O.D.)          | 121-62-021-52                                                |                        |                        |
|                                    | 14" to 28" w.c.       | orange (3" O.D.)         | 121-62-021-53                                                |                        |                        |
|                                    | ½ psi to 1¼ psi       | yellow                   | 121-62-021-56                                                |                        |                        |
| 3" and 4"<br>Model 121-12          | 1 psi to 2 psi        | black                    | 143-16-021-07                                                | 40 and 15†             | 12"                    |
|                                    | 1½ psi to 3 psi       | cadmium                  | 143-16-021-08                                                |                        |                        |

\* Require High Pressure Spring Adjustment.

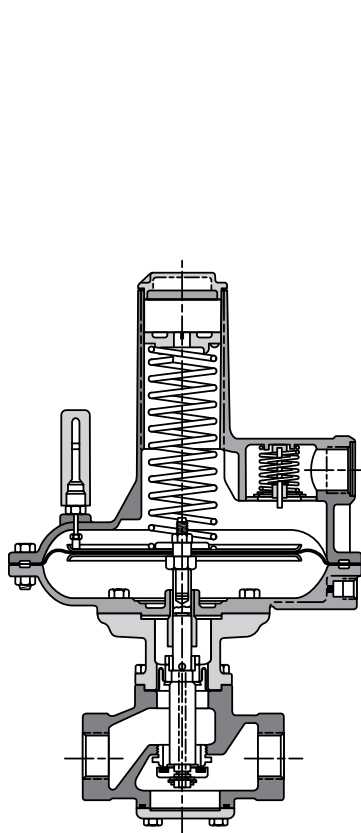
† 3" 121 is 40 psi., 4" 121 is 15 psi.

\*\* ¾" x ¾" not available.

## 1½", 2" and 2½" Model 121-12 Regulator

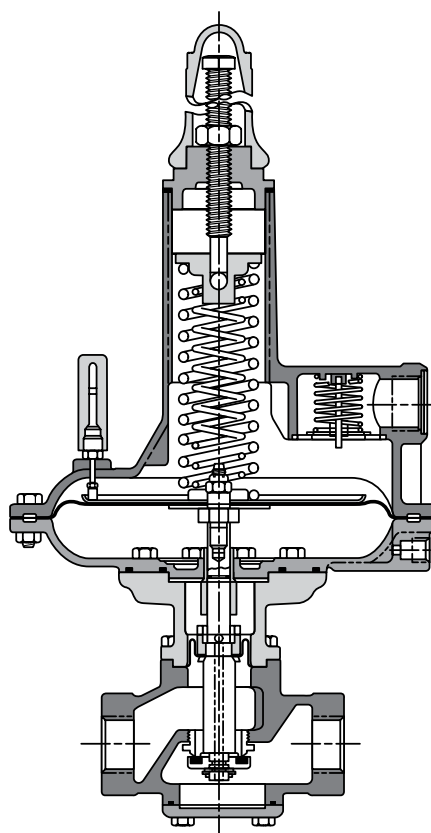


GCD1328-005



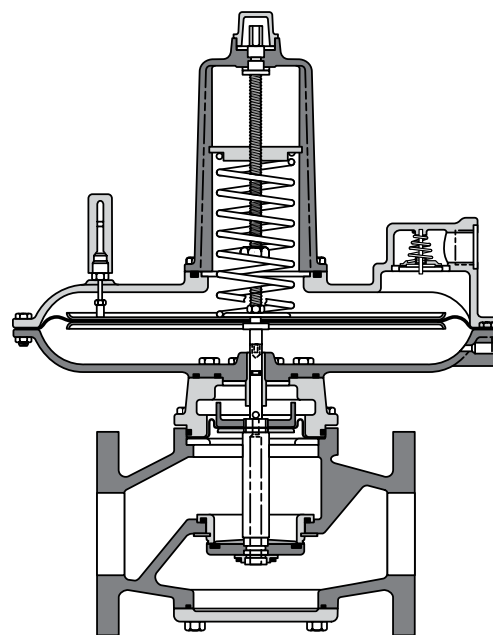
GCD1328-010

**¾", 1" AND 1¼"  
MODEL 121-8**



GCD1328-015

**HIGH PRESSURE SPRING ADJUSTMENT  
FOR 3 PSI TO 10 PSI OUTLET PRESSURE  
MODEL 121-8HP**

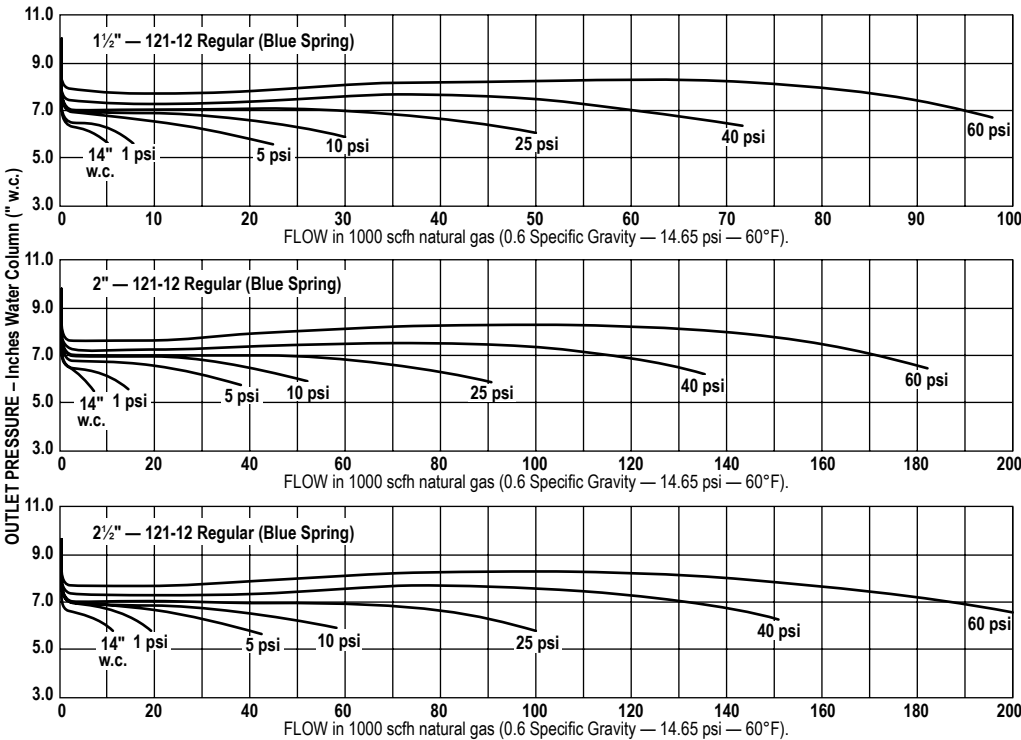


GCD1328-020

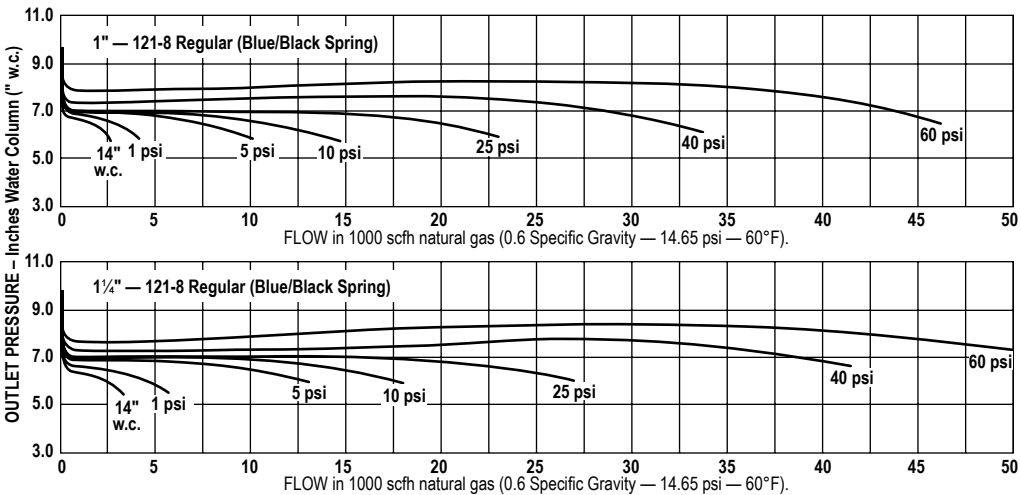
**3" AND 4"  
MODEL 121-16**

Typical Performance Curves

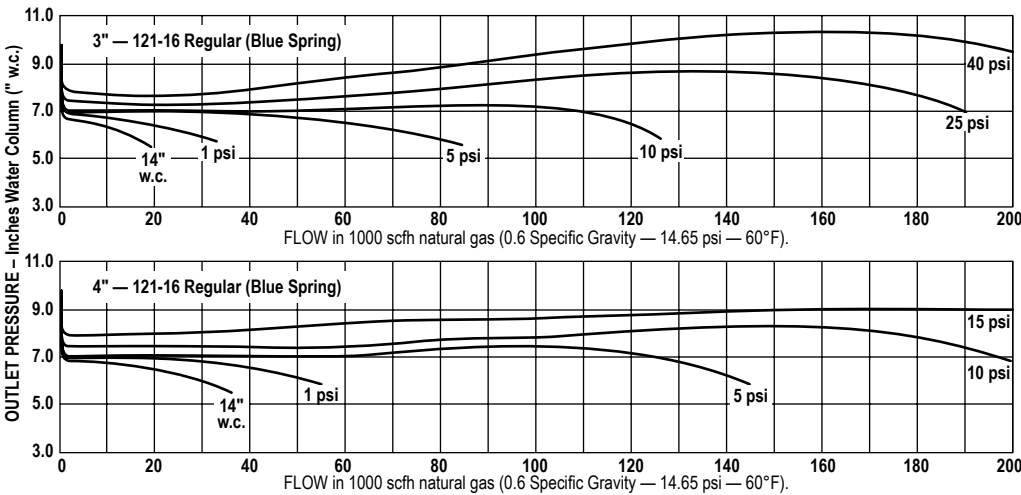
Model 121-12



Model 121-8



Model 121-16



## 1½", 2" and 2½" Model 121-12

### Capacity in scfh of natural gas

(0.6 Specific Gravity – 14.65 psia – 60°F)

An outstanding feature of the 121 is large capacity. It has so much that at higher inlet pressure it is necessary to increase the size of the outlet piping.

This pipe size increase is indicated by the asterisks in the capacity tables below and on pages 4, 5, 6 and 7. The following note explains how to read this data from the tables:

**NOTE:** Each capacity figure immediately above the heavy horizontal lines is a maximum capacity for the outlet pipe size shown. Increasing the inlet pressure will not increase the capacity without also increasing the outlet pipe size as indicated.

For example: a 1½" Model 121-12 at 5" w.c. set-point has the following maximum capacities:

1. With 1½" size outlet piping ..... 14,600 SCFH at 3 psi to 60 psi inlet pressure.
2. With 2" size outlet piping ..... 37,000 SCFH at 15 psi to 60 psi inlet pressure.
3. With 3" size outlet piping ..... 95,000 SCFH at 60 psi inlet pressure.

The designated increase in outlet pipe size must be made immediately downstream of the regulator outlet.

This **NOTE** applies to the asterisks in all capacity tables, pages 4, 5, 6 and 7.

| Pipe Size | Inlet Pressure | Outlet Pressure          |                           |                            |                             |                             |                           |                      | Regulator Size and Model |
|-----------|----------------|--------------------------|---------------------------|----------------------------|-----------------------------|-----------------------------|---------------------------|----------------------|--------------------------|
|           |                | Set-Point 5" W.C.        | Set-Point 7" W.C.         | Set-Point 11" W.C.         | Set-Point 18" W.C.          | Set-Point 28" W.C.          | Set-Point 2 psi.          | Set-Point 3 psi.     |                          |
|           |                | Red Spring 1" w.c. Droop | Blue Spring 1" w.c. Droop | Green Spring 2" w.c. Droop | Orange Spring 2" w.c. Droop | Orange Spring 3" w.c. Droop | Black Spring ¼ psi. Droop | Cadmium ½ psi. Droop |                          |
| 1½" *     | 8" w.c.        | 4000                     | 3000                      | —                          | —                           | —                           | —                         | —                    | 1½" Model 121-12         |
|           | 14" w.c.       | 4900                     | 4500                      | 3700                       | —                           | —                           | —                         | —                    |                          |
|           | 1 psi          | 7400                     | 7000                      | 6500                       | 6000                        | —                           | —                         | —                    |                          |
|           | 2 psi          | 11500                    | 11000                     | 10300                      | 9500                        | 10000                       | —                         | —                    |                          |
|           | 3 psi          | 14600                    | 14500                     | 13750                      | 12500                       | 13000                       | 10000                     | —                    |                          |
| 2" *      | 5 psi          | 19500                    | 19400                     | 18500                      | 17300                       | 18000                       | 16400                     | 14000                |                          |
|           | 10 psi         | 30000                    | 30000                     | 28000                      | 27000                       | 27500                       | 25100                     | 25500                |                          |
|           | 15 psi         | 37000                    | 37000                     | 36200                      | 35000                       | 35700                       | 34000                     | 31500                |                          |
| 3" *      | 25 psi         | 50000                    | 50000                     | 49000                      | 47400                       | 48000                       | 46000                     | 45500                |                          |
|           | 40 psi         | 68000                    | 68000                     | 67100                      | 66000                       | 66600                       | 64200                     | 63500                |                          |
|           | 50 psi         | 80000                    | 80000                     | 79000                      | 77700                       | 78000                       | 74900                     | 76000                |                          |
|           | 60 psi         | 95000                    | 95000                     | 93500                      | 90000                       | 92000                       | 87000                     | 86500                |                          |
| 2" *      | 8" w.c.        | 5000                     | 4000                      | —                          | —                           | —                           | —                         | —                    | 2" Model 121-12          |
|           | 14" w.c.       | 8900                     | 8000                      | 6600                       | —                           | —                           | —                         | —                    |                          |
|           | 1 psi          | 13000                    | 12500                     | 12000                      | 11000                       | —                           | —                         | —                    |                          |
|           | 2 psi          | 20500                    | 20000                     | 19400                      | 17500                       | 18000                       | —                         | —                    |                          |
|           | 3 psi          | 26300                    | 26000                     | 25000                      | 23400                       | 23800                       | 19000                     | —                    |                          |
|           | 5 psi          | 35000                    | 35000                     | 34500                      | 33500                       | 34000                       | 30000                     | 27500                |                          |
| 3" *      | 10 psi         | 52000                    | 52000                     | 51000                      | 49600                       | 50000                       | 49000                     | 46500                |                          |
|           | 15 psi         | 68000                    | 68000                     | 67500                      | 65500                       | 66000                       | 64700                     | 61500                |                          |
|           | 25 psi         | 90000                    | 90000                     | 89000                      | 88000                       | 88500                       | 84500                     | 87000                |                          |
| 4" *      | 40 psi         | 125000                   | 125000                    | 124000                     | 120000                      | 121500                      | 118000                    | 116500               |                          |
|           | 50 psi         | 150000                   | 150000                    | 148000                     | 145000                      | 146500                      | 143300                    | 139500               |                          |
|           | 60 psi         | 175000                   | 175000                    | 174000                     | 171200                      | 172000                      | 170000                    | 165500               |                          |
| 2½" *     | 8" w.c.        | 5500                     | 4500                      | —                          | —                           | —                           | —                         | —                    | 2½" Model 121-12         |
|           | 14" w.c.       | 9700                     | 9000                      | 7300                       | —                           | —                           | —                         | —                    |                          |
|           | 1 psi          | 14400                    | 14000                     | 13000                      | 12000                       | —                           | —                         | —                    |                          |
|           | 2 psi          | 22200                    | 22000                     | 21000                      | 19100                       | 20000                       | —                         | —                    |                          |
|           | 3 psi          | 29100                    | 29000                     | 27900                      | 26000                       | 27100                       | 21500                     | —                    |                          |
|           | 5 psi          | 39500                    | 39500                     | 38700                      | 37000                       | 37600                       | 33500                     | 27500                |                          |
| 3" *      | 10 psi         | 5800                     | 58000                     | 57000                      | 54800                       | 55500                       | 53000                     | 52000                |                          |
|           | 15 psi         | 75500                    | 75500                     | 74000                      | 71900                       | 72300                       | 70100                     | 66500                |                          |
|           | 25 psi         | 100000                   | 100000                    | 99000                      | 97100                       | 98000                       | 94000                     | 94000                |                          |
| 4" *      | 40 psi         | 140000                   | 140000                    | 138000                     | 133500                      | 135000                      | 130000                    | 129500               |                          |
|           | 50 psi         | 166000                   | 166000                    | 164000                     | 156000                      | 158000                      | 155000                    | 153500               |                          |
|           | 60 psi         | 195000                   | 195000                    | 193000                     | 189700                      | 191000                      | 188000                    | 179000               |                          |

\*See NOTE in upper part of page 4.

**NOTE:** The above performance data is based on normal testing at 70°F flowing temperature. Changes in performance can occur at extreme low flowing temperatures.

## 1½", 2" and 2½" Models 121-8 and 121-8HP

### Capacity in scfh of natural gas

(0.6 Specific Gravity – 14.65 psia – 60°F)

| Regulator Size and Model | Outlet Pressure              |                               | Pipe Size | Inlet Pressure | Outlet Pressure                |                                        | Regulator Size and Model |
|--------------------------|------------------------------|-------------------------------|-----------|----------------|--------------------------------|----------------------------------------|--------------------------|
|                          | Set-Point 3 psi              | Set-Point 2 psi               |           |                | Set-Point 5 psi                | Set-Point 10 psi                       |                          |
|                          | Black Spring<br>½ psi. Droop | Orange Spring<br>¼ psi. Droop |           |                | Cadmium Spring<br>½ psi. Droop | Cadmium & White Spring<br>1 psi. Droop |                          |
| 1½" Model 121-8          | —                            | 8500                          | 1½" *     | 3 psi          | —                              | —                                      | 1½" Model 121-8HP†       |
|                          | 11000                        | 13000                         |           | 5 psi          | —                              | —                                      |                          |
|                          | 20000                        | 21000                         |           | 10 psi         | 16500                          | —                                      |                          |
|                          | 26000                        | 27000                         |           | 15 psi         | 24500                          | 22000                                  |                          |
|                          | 35100                        | 36000                         |           | 25 psi         | 33000                          | 30000                                  |                          |
|                          | 47000                        | 50000                         | 2" *      | 40 psi         | 44500                          | 42700                                  |                          |
|                          | 63500                        | 66000                         |           | 50 psi         | 62000                          | 60500                                  |                          |
|                          | 70000                        | 71500                         |           | 60 psi         | 68000                          | 66500                                  |                          |
| 2" Model 121-8           | —                            | 15000                         | 2" *      | 3 psi          | —                              | —                                      | 2" Model 121-8HP†        |
|                          | 20000                        | 24000                         |           | 5 psi          | —                              | —                                      |                          |
|                          | 37000                        | 39000                         |           | 10 psi         | 30000                          | —                                      |                          |
|                          | 48000                        | 50000                         |           | 15 psi         | 45000                          | 40000                                  |                          |
|                          | 64000                        | 65000                         |           | 25 psi         | 60000                          | 55000                                  |                          |
|                          | 85000                        | 90000                         | 3" *      | 40 psi         | 80000                          | 76000                                  |                          |
|                          | 116000                       | 120000                        |           | 50 psi         | 114000                         | 110000                                 |                          |
|                          | 127000                       | 130000                        |           | 60 psi         | 123000                         | 121000                                 |                          |
| 2½" Model 121-8          | —                            | 16700                         | 2½" *     | 3 psi          | —                              | —                                      | 2½" Model 121-HP†        |
|                          | 22000                        | 26700                         |           | 5 psi          | —                              | —                                      |                          |
|                          | 41000                        | 43500                         |           | 10 psi         | 33500                          | —                                      |                          |
|                          | 53500                        | 55000                         |           | 15 psi         | 50000                          | 44500                                  |                          |
|                          | 71000                        | 72000                         |           | 25 psi         | 66500                          | 61000                                  |                          |
|                          | 94500                        | 100000                        | 3" *      | 40 psi         | 89000                          | 85000                                  |                          |
|                          | 129000                       | 133000                        |           | 50 psi         | 127000                         | 122000                                 |                          |
|                          | 140000                       | 144000                        |           | 60 psi         | 135000                         | 130000                                 |                          |

\* See NOTE in upper part of page 4.

† These Regulators use the High Pressure Spring Adjustment.

**NOTE:** The above performance data is based on normal testing at 70°F flowing temperature. Changes in performance can occur at extreme low flowing temperatures.

## ¾", 1" and 1¼" Models 121-8 and 121-8HP

### Capacity in scfh of natural gas

(0.6 Specific Gravity – 14.65 psia – 60°F)

| Pipe Size | Inlet Pressure | Outlet Pressure                |                                 |                                  |                            |                            |                            |                           | Regulator Size and Model                         |
|-----------|----------------|--------------------------------|---------------------------------|----------------------------------|----------------------------|----------------------------|----------------------------|---------------------------|--------------------------------------------------|
|           |                | Set-Point 5" W.C.              | Set-Point 7" W.C.               | Set-Point 11" W.C.               | Set-Point 18" W.C.         | Set-Point 28" W.C.         | Set-Point 2 psi.           | Set-Point 3 psi.          |                                                  |
|           |                | Red/Black Spring 1" w.c. Droop | Blue/Black Spring 1" w.c. Droop | Green/Black Spring 2" w.c. Droop | Green Spring 2" w.c. Droop | Green Spring 3" w.c. Droop | Orange Spring ¼ psi. Droop | Black Spring ½ psi. Droop |                                                  |
| 1" *      | 8" w.c.        | 1500                           | 1000                            | —                                | —                          | —                          | —                          | —                         | ¾" x 1"<br>1" x 1"<br>Model 121-8                |
|           | 14" w.c.       | 2500                           | 2300                            | 2000                             | —                          | —                          | —                          | —                         |                                                  |
|           | 1 psi          | 4200                           | 4000                            | 3600                             | 2500                       | —                          | —                          | —                         |                                                  |
|           | 2 psi          | 6100                           | 6000                            | 5500                             | 5000                       | 5200                       | —                          | —                         |                                                  |
|           | 3 psi          | 7700                           | 7500                            | 7400                             | 7200                       | 7300                       | 6000                       | —                         |                                                  |
| 2" *      | 5 psi          | 11200                          | 10000                           | 9900                             | 9700                       | 9800                       | 9000                       | 7500                      |                                                  |
|           | 10 psi         | 14500                          | 14000                           | 13700                            | 13000                      | 13500                      | 12200                      | 11500                     |                                                  |
|           | 15 psi         | 17300                          | 17000                           | 16500                            | 15800                      | 16000                      | 15000                      | 14300                     |                                                  |
|           | 25 psi         | 23200                          | 23000                           | 22700                            | 22000                      | 22500                      | 21400                      | 20000                     |                                                  |
|           | 40 psi         | 32000                          | 32000                           | 31200                            | 30000                      | 31000                      | 30100                      | 29500                     |                                                  |
| 3" *      | 50 psi         | 38000                          | 38000                           | 37700                            | 37000                      | 38000                      | 35500                      | 34500                     |                                                  |
|           | 60 psi         | 44000                          | 44000                           | 43300                            | 42500                      | 43000                      | 42000                      | 40000                     |                                                  |
| 1¼" *     | 8" w.c.        | 2000                           | 1500                            | —                                | —                          | —                          | —                          | —                         | ¾" x 1¼"<br>1" x 1¼"<br>1¼" x 1¼"<br>Model 121-8 |
|           | 14" w.c.       | 3500                           | 3000                            | 2200                             | —                          | —                          | —                          | —                         |                                                  |
|           | 1 psi          | 5500                           | 5000                            | 4500                             | 4000                       | —                          | —                          | —                         |                                                  |
|           | 2 psi          | 7800                           | 7500                            | 7000                             | 6000                       | 6200                       | —                          | —                         |                                                  |
|           | 3 psi          | 9700                           | 9500                            | 9000                             | 8000                       | 8400                       | 7200                       | —                         |                                                  |
|           | 5 psi          | 12700                          | 12500                           | 11200                            | 10400                      | 10800                      | 9700                       | 8300                      |                                                  |
| 2" *      | 10 psi         | 18000                          | 17850                           | 17000                            | 16000                      | 16300                      | 15400                      | 15000                     |                                                  |
|           | 15 psi         | 22500                          | 22000                           | 21700                            | 20500                      | 21000                      | 18900                      | 18000                     |                                                  |
|           | 25 psi         | 27100                          | 27000                           | 26200                            | 25400                      | 25900                      | 24900                      | 24000                     |                                                  |
| 3" *      | 40 psi         | 41000                          | 41000                           | 40000                            | 39000                      | 39600                      | 38400                      | 38000                     |                                                  |
|           | 50 psi         | 48000                          | 48000                           | 45000                            | 43600                      | 44000                      | 42000                      | 40800                     |                                                  |
|           | 60 psi         | 56000                          | 56000                           | 55000                            | 53000                      | 53800                      | 52100                      | 51600                     |                                                  |

| Regulator Size and Model             | Outlet Pressure                     |                             | Pipe Size | Inlet Pressure | Pipe Size | Outlet Pressure             |                                     | Regulator Size and Model                            |
|--------------------------------------|-------------------------------------|-----------------------------|-----------|----------------|-----------|-----------------------------|-------------------------------------|-----------------------------------------------------|
|                                      | Set-Point 10 psi                    | Set-Point 5 psi             |           |                |           | Set-Point 5 psi             | Set-Point 10 psi                    |                                                     |
|                                      | Cadmium & White Spring 1 psi. Droop | Cadmium Spring ½ psi. Droop |           |                |           | Cadmium Spring ½ psi. Droop | Cadmium & White Spring 1 psi. Droop |                                                     |
| ¾" x 1"<br>1" x 1"<br>Model 121-8HP† | —                                   | 11000                       | 1" *      | 10 psi         | 1¼" *     | 14200                       | —                                   | ¾" x 1¼"<br>1" x 1¼"<br>1¼" x 1¼"<br>Model 121-8HP† |
|                                      | 10000                               | 14000                       |           | 15 psi         |           | 17300                       | 14000                               |                                                     |
|                                      | 17000                               | 19200                       |           | 25 psi         |           | 23100                       | 20000                               |                                                     |
|                                      | 24000                               | 28000                       |           | 40 psi         |           | 37200                       | 34000                               |                                                     |
|                                      | 30000                               | 34000                       |           | 50 psi         | 2" *      | 39800                       | 37000                               |                                                     |
|                                      | 35000                               | 38500                       | 2" *      | 60 psi         |           | 50000                       | 45000                               |                                                     |

\* See NOTE in upper part of page 4.

† These 121-8 Regulators use the High Pressure Spring Adjustment.

**NOTE:** The above performance data is based on normal testing at 70°F flowing temperature. Changes in performance can occur at extreme low flowing temperatures.

### 3" and 4" Models 121-16 and 121-12

#### Capacity in scfh of natural gas

(0.6 Specific Gravity – 14.65 psia – 60°F)

| Pipe Size | Inlet Pressure | Outlet Pressure          |                           |                            |                             |                             | Regulator Size and Model |
|-----------|----------------|--------------------------|---------------------------|----------------------------|-----------------------------|-----------------------------|--------------------------|
|           |                | Set-Point 5" W.C.        | Set-Point 7" W.C.         | Set-Point 11" W.C.         | Set-Point 18" W.C.          | Set-Point 28" W.C.          |                          |
|           |                | Red Spring 1" w.c. Droop | Blue Spring 1" w.c. Droop | Green Spring 2" w.c. Droop | Orange Spring 2" w.c. Droop | Orange Spring 3" w.c. Droop |                          |
| 3" *      | 8" w.c.        | 10000                    | 9700                      | —                          | —                           | —                           | 3" Model 121-16          |
|           | 14" w.c.       | 19500                    | 19000                     | 18000                      | —                           | —                           |                          |
|           | 1 psi          | 31000                    | 30800                     | 29000                      | 27000                       | —                           |                          |
|           | 2 psi          | 47000                    | 46000                     | 46000                      | 34000                       | 35000                       |                          |
|           | 3 psi          | 60000                    | 59000                     | 58000                      | 53000                       | 55000                       |                          |
|           | 5 psi          | 80000                    | 80000                     | 78000                      | 74000                       | 75000                       |                          |
| 4" *      | 10 psi         | 12500                    | 125000                    | 120000                     | 120000                      | 125000                      | 4" Model 121-16          |
|           | 15 psi         | 14500                    | 145000                    | 145000                     | 138500                      | 140000                      |                          |
| 6" *      | 25 psi         | 190000                   | 190000                    | 190000                     | 185000                      | 190000                      |                          |
|           | 40 psi         | 260000                   | 260000                    | 260000                     | 260000                      | 260000                      |                          |
| 4" *      | 8" w.c.        | 18000                    | 17200                     | —                          | —                           | —                           | 4" Model 121-16          |
|           | 14" w.c.       | 34500                    | 34000                     | 29000                      | —                           | —                           |                          |
|           | 1 psi          | 56400                    | 56000                     | 49000                      | 47200                       | —                           |                          |
|           | 2 psi          | 90000                    | 85000                     | 80000                      | 68000                       | 70000                       |                          |
|           | 3 psi          | 110000                   | 110000                    | 105000                     | 99000                       | 100000                      |                          |
|           | 5 psi          | 145000                   | 145000                    | 140000                     | 131000                      | 135000                      |                          |
| 6" *      | 10 psi         | 202000                   | 202000                    | 200000                     | 191000                      | 200000                      | 6" *                     |
|           | 15 psi         | 252000                   | 252000                    | 245000                     | 240000                      | 250000                      |                          |

\* See NOTE in upper part of page 4.

| Regulator Size and Model | Outlet Pressure             |                           |                           | Inlet Pressure | Outlet Pressure           |                           |                             | Regulator Size and Model |
|--------------------------|-----------------------------|---------------------------|---------------------------|----------------|---------------------------|---------------------------|-----------------------------|--------------------------|
|                          | Set-Point 3 psi             | Set-Point 2 psi           | Set-Point 1 psi           |                | Set-Point 1 psi           | Set-Point 2 psi           | Set-Point 3 psi             |                          |
|                          | Cadmium Spring ½ psi. Droop | Black Spring ¼ psi. Droop | Black Spring ¼ psi. Droop |                | Black Spring ¼ psi. Droop | Black Spring ¼ psi. Droop | Cadmium Spring ½ psi. Droop |                          |
| 3" Model 121-12          | —                           | —                         | 35000                     | 2 psi          | 60000                     | —                         | —                           | 4" Model 121-12          |
|                          | —                           | 40000                     | 53000                     | 3 psi          | 90000                     | 70000                     | —                           |                          |
|                          | 55000                       | 65000                     | 74000                     | 5 psi          | 120000                    | 110000                    | 80000                       |                          |
|                          | 90000                       | 100000                    | 110000                    | 10 psi         | 190000                    | 175000                    | 140000                      |                          |
|                          | 125000                      | 135000                    | 139000                    | 15 psi         | 240000                    | 225000                    | 200000                      |                          |
|                          | 175000                      | 183000                    | 185000                    | 25 psi         | —                         | —                         | —                           |                          |
|                          | 200000                      | 20000                     | 100000†                   | 40 psi         | —                         | —                         | —                           |                          |

† 100,000 is the capacity at a boost of 3" w.c. instead of the 5" w.c. droop indicated.

**NOTE:** The above performance data is based on normal testing at 70°F flowing temperature. Changes in performance can occur at extreme low flowing temperatures.

## Maximum Emergency Pressures

**NOTE:** Before using any of the following data, make sure this entire section is clearly understood.

The maximum pressure the regulator inlet may be subjected to under abnormal conditions without causing damage to the regulator is:

|                                |        |
|--------------------------------|--------|
| ¾" through 2½" Pipe Sizes..... | 70 psi |
| 3" Pipe Size.....              | 50 psi |
| 4" Pipe Size.....              | 25 psi |

The maximum pressure the regulator outlet may be subjected to without causing damage to the internal parts of the regulator is:

|              |                    |
|--------------|--------------------|
| 121-8.....   | set-point + 5 psi  |
| 121-8HP..... | set-point + 10 psi |
| 121-12.....  | set-point + 5 psi  |
| 121-16.....  | set-point + 2 psi  |

Set-point is defined as the outlet pressure a regulator is adjusted to deliver. If any of the above pressure limits are exceeded, the regulator must be taken out of service and inspected. Damaged parts must be repaired or replaced.

The maximum pressure that can be safely contained by the diaphragm case is:

|              |        |
|--------------|--------|
| 121-8.....   | 25 psi |
| 121-8HP..... | 25 psi |
| 121-12.....  | 20 psi |
| 121-16.....  | 10 psi |

Safely contained means no leakage as well as no bursting.

## Over-pressurization Protection

Protect the downstream piping system and the regulator's low pressure chambers against over-pressurization due to the possible regulator malfunction or failure to achieve complete lockup. The allowable outlet pressure is the lowest of the maximum pressures permitted by federal codes, state codes, Sensus bulletin RDS-1498, or other applicable standards. The method of protection can be a relief valve, monitor regulator, shutoff device, or similar mechanism.

## Full Open Capacity

Capacity of the Model 121 in the full open position can be calculated using the following formulas and K factors:

- $Q = K\sqrt{P_0(P_1 - P_0)}$  ..... (for  $P_1/P_0$  less than 1.894)
- $Q = \frac{K P_1}{2}$  ..... (for  $P_1/P_0$  greater than 1.894)

Q = Full open capacity in SCFH of 0.6 specific gravity natural gas.

$P_1$  = **absolute** inlet pressure (psia)

$P_0$  = **absolute** outlet pressure (psia)

|                             |         |
|-----------------------------|---------|
| 1" Pipe Size (outlet).....  | K=1400  |
| 1½" Pipe Size.....          | K=2750  |
| 2" Pipe Size.....           | K=4750  |
| 2½" Pipe Size.....          | K=5250  |
| 1¼" Pipe Size (outlet)..... | K=1750  |
| 3" Pipe Size.....           | K=11000 |
| 4" Pipe Size.....           | K=18000 |

Remember, at the above full open capacities the droop is significantly greater than specified in the capacity tables on pages 4, 5, 6 and 7.

When checking 121 regulator capacity for use in providing adequate relief capacity, use the above calculated full open capacity. Do not use 121 capacity values from the tables on pages 4, 5, 6 and 7.

## Pipe Sizes

| Screwed NPT |           | Flanged ANSI<br>125 lb. FF. |
|-------------|-----------|-----------------------------|
| ¾" x 1"     | 1½" x 1½" | 2" x 2"                     |
| ¾" x 1¼"    | 1½" x 2"  | 3" x 3"                     |
| 1" x 1"     | 2" x 2"   | 4" x 4"                     |
| 1" x 1¼"    | 2½" x 2½" |                             |
| 1¼" x 1¼"   | 3" x 3"   |                             |

## Other Gases

Model 121 Regulators are most widely used with natural gas. However, they perform equally well with LP gas, nitrogen, dry CO<sub>2</sub> and air.

For other gas capacities, multiply the table values on page 4, 5, 6 and 7 by the applicable correction factors:

| Type of Gas                                      | Correction Factor |
|--------------------------------------------------|-------------------|
| Air (Specific Gravity 1.0)                       | 0.77              |
| Propane (Specific Gravity 1.53)                  | 0.63              |
| 1350 BTU Propane-Air Mix (Specific Gravity 1.20) | 0.71              |
| Nitrogen (Specific Gravity 0.97)                 | 0.79              |
| Dry Carbon Dioxide (Specific Gravity 1.52)       | 0.63              |

For other non-corrosive gases use the following formula:

$$\text{CORRECTION FACTOR} = \sqrt{\frac{0.60}{\text{Specific gravity of the gas}}}$$

For use with gases not listed above, please contact your Sensus representative or Industrial Distributor for recommendations.



### CAUTION

**Turn gas on slowly. If an outlet stop valve is used, it should be opened first. Do not overload the diaphragm with a sudden surge of inlet pressure. Monitor the outlet pressure during start-up to prevent an outlet pressure overload. REFER TO RM-1328 FOR MORE DETAILED START-UP PROCEDURES.**



## Materials of Construction

|                                                                                      |                                           |
|--------------------------------------------------------------------------------------|-------------------------------------------|
| Body and Adapter .....                                                               | Cast Iron                                 |
| Diaphragm Case<br>(8" and 12" Diaphragm) .....                                       | Die Cast Aluminum Alloy                   |
| Diaphragm Case<br>(16" Diaphragm) .....                                              | Permanent Mold Aluminum Alloy             |
| Main and Seal Diaphragms .....                                                       | Buna-N on Nylon                           |
| Piston for Seal Diaphragm<br>(¾" thru 2½" Model 121) .....                           | Powdered Iron-Zinc Plated                 |
| Piston for Seal Diaphragm<br>(3" and 4" Model 121) .....                             | Aluminum Alloy                            |
| Stem, Stud, Pans and Plates for<br>8", 12" and 16" Diaphragms .....                  | Stainless Steel                           |
| Stem bushing .....                                                                   | Stainless Steel                           |
| Orifice (¾" thru 1¼" Model 121) .....                                                | Brass                                     |
| Orifice (1½" thru 4" Model 121) .....                                                | Cast Iron                                 |
| Retaining Ring (1½" thru 4" Model 121) .....                                         | Plated Steel                              |
| Valve .....                                                                          | Plated Steel with Molded Buna-N Soft Seat |
| Valve Holder .....                                                                   | Stainless Steel                           |
| Retaining Ring and Wave Washer .....                                                 | Stainless Steel                           |
| O-Rings and Tetraseals .....                                                         | Buna-N                                    |
| Adjustment Spring Ferrule .....                                                      | Zinc Die Casting                          |
| Bottom Spring Button .....                                                           | Powdered Iron-Plated                      |
| Adjustment Screw (16" Diaphragm) and<br>H.P. Adjustment Spring Ferrule) .....        | Plated Steel                              |
| Adjustment Ferrule Screw (16" Diaphragm)<br>and H.P. Adjustment Spring Ferrule ..... | Cast Iron                                 |
| Seal Cap (8" and 12" Diaphragm) .....                                                | Zinc Die Casting                          |
| Seal Cap (16" Diaphragm) .....                                                       | Die Cast Aluminum Alloy                   |

## Body Taps

Inlet and outlet taps are available on either side of the body. Tap size is ¼" NPT. Refer to "dimensions" on page 13. Desired taps must be specified when ordering.

## Metrication

Use the following for Metric Conversions:

std. meters<sup>3</sup>/hr. x 35.31 = std. ft.<sup>3</sup>/hr. (SCFH)  
std. ft.<sup>3</sup>/hr. (SCFH) x 0.0283 = std. meters<sup>3</sup>/hr.

kilograms/centimeter<sup>2</sup>(kg/cm<sup>2</sup>) x 14.22 = psig  
psig x 0.0703 = kilograms/centimeters<sup>2</sup>(kg/cm<sup>2</sup>)

kilopascals (kPa) x 0.145 = psig  
psig x 6.90 = kilopascals (kPa)

bars x 14.50 = psig  
psig x 0.69 = bars

millimeters water (mm H<sub>2</sub>O) x .0394 = in. w.c.  
in. w.c. x 25.4 = millimeters water (mm H<sub>2</sub>O)

millimeters mercury (mm Hg) x 0.535 = in w.c.  
in. w.c. x 1.868 = millimeters mercury (mm Hg)

## How to order

Specify:

1. Model Number.
2. Pipe size (on 2" and 3" specify whether screwed or flanged).
3. Inlet pressure.
4. Outlet Pressure.
5. Capacity required — SCFH.
6. Kind of gas (natural gas, propane, air, etc.)

## Buried Service

These regulators are designed for above ground or vault installations and are not recommended for direct earth burial.

## Temperature Limits

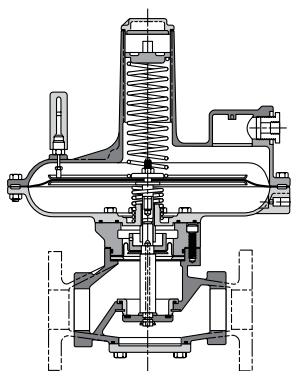
Model 121 regulators can be used for temperatures from -20°F to 150°F.



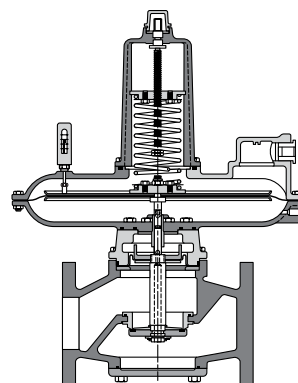
### CAUTION

It is the user's responsibility to ensure all regulator vents and/or vent lines exhaust to a non-hazardous location away from ANY POTENTIAL sources of ignition. Refer to Sensus Bulletin RM-1328 for more detailed information.

## Variations



GCD1328-040



GCD1328-045

### Zero Governor

**Zero Governors** are also called **Atmospheric Regulators**. They are used for outlet pressures close to atmospheric, from slightly above this to slightly below. Inlet pressures are the same as on standard 121 regulators (see Page 8).

All pipe sizes listed on Page 8 are available: ¾" through 4". Note from the illustrations that the 3" and 4" sizes use a reversed main spring design while the remaining sizes 2½" and smaller, use a counterspring along with the standard main spring. With the exception of certain parts required for the foregoing, everything else is the same as on standard 121 regulators.

### Pressures and Springs

| Size                         | Outlet Pressure Range                     | Springs                                                                                  |
|------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------|
| ¾", 1" and 1¼" Model 121-8   | 1½" w.c. vacuum (–1½" w.c.) to + 1½" w.c. | Main Spring (red-black).....143-82-021-00<br>Counterspring (red-black).....121-10-021-50 |
| 2½", 2" and 2½" Model 121-12 | 1" w.c. vacuum (–1" w.c.) to + 1½" w.c.   | Main Spring (red-black).....143-82-021-00<br>Counterspring.....120-10-021-10             |
| 3" and 4" Model 121-16       | 1¼" w.c. vacuum (–1¼" w.c.) to + 1¼" w.c. | Main Spring only.....121-62-021-54                                                       |

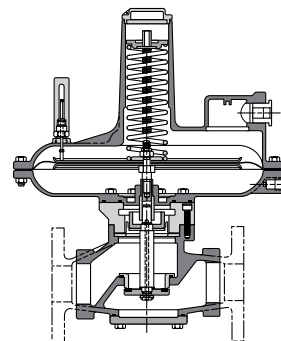
### Differential Regulators

**Differential regulators** are used to maintain a constant difference between gas pressure and air or combustion chamber pressure in certain types of premix and nozzle mix burners. This is done by adding a second control line which applies the air or combustion chamber pressure to the top of the diaphragm.

**Differential regulators** can also be used to maintain a constant pressure drop across an orifice. On the 121-8 and 121-12, both control lines are ¼" NPT. On the 121-16 both are ½" NPT.

All of the pipe sizes listed on Page 8 are available; ¾" through 4". Parts are interchangeable with standard 121 regulators.

For differentials lower than 3½" w.c., please contact your Sensus Representative.



GCD1328-045A

| Size                             | Differential Pressure Range | Spring Color     | Spring Part Number | Maximum Body Pressure | Maximum Diaphragm Pressure Differential | Maximum Diaphragm Case Pressure |
|----------------------------------|-----------------------------|------------------|--------------------|-----------------------|-----------------------------------------|---------------------------------|
| ¾", 1" and 1¼"<br>Model 121-8 ** | 3½" to 6½"                  | red-black        | 143-82-021-00      | 60 psi                | 2 psi                                   | 35 psi                          |
|                                  | 5" to 8½" w.c.              | blue-black       | 143-82-021-01      |                       |                                         |                                 |
|                                  | 6" to 14" w.c.              | green-black      | 143-82-021-02      |                       |                                         |                                 |
|                                  | 12" to 28" w.c.             | green            | 143-16-021-05      |                       |                                         |                                 |
|                                  | 1 psi to 2 psi              | orange (2" O.D.) | 143-16-021-06      |                       |                                         |                                 |
| 1½", 2" and 2½"<br>Model 121-12  | 3½" to 6½" w.c.             | red (2" O.D.)    | 143-16-021-03      | 60 psi                | 2 psi                                   | 20 psi                          |
|                                  | 5" to 8½" w.c.              | blue (2" O.D.)   | 143-16-021-04      |                       |                                         |                                 |
|                                  | 6" to 14" w.c.              | green (2" O.D.)  | 143-16-021-05      |                       |                                         |                                 |
|                                  | 12" to 28" w.c.             | orange (2" O.D.) | 143-16-021-06      |                       |                                         |                                 |
|                                  | 1 psi to 2 psi              | black            | 143-16-021-07      |                       |                                         |                                 |
| 3" and 4"<br>Model 121-16        | 3½" to 6½" w.c.             | red (3" O.D.)    | 021-62-021-50      | 40 and 15 *           | 1 psi                                   | 10 psi                          |
|                                  | 5" to 8½" w.c.              | blue (3" O.D.)   | 121-62-021-51      |                       |                                         |                                 |
|                                  | 6" to 14" w.c.              | green (3" O.D.)  | 121-62-021-52      |                       |                                         |                                 |
|                                  | 12" to 28" w.c.             | orange (3" O.D.) | 121-62-021-53      |                       |                                         |                                 |
| 3" and 4"<br>Model 121-12        | 1 psi to 2 psi              | black            | 143-16-021-07      | 40 and 15 *           | 2 psi                                   | 20 psi                          |
|                                  | 1½ psi to 3 psi             | cadmium          | 143-16-021-08      |                       |                                         |                                 |

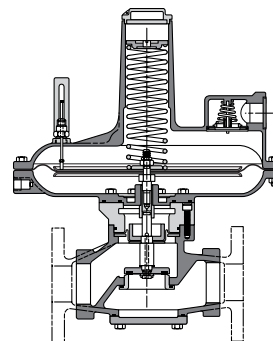
\* 3" Model 121-16 is 40 psi and 4" Model 121-16 is 15 psi. \*\* ¾" x ¾" not available.

## Back Pressure Regulator

**Back Pressure Regulators** are also used as Relief Valves. When so used, the 121 is a throttling or modulating type of relief valve, not a “pop” type. During an emergency it only relieves excess pressure. In addition, it closes tight when the emergency ends.

Back Pressure Regulators maintain constant upstream pressure by allowing excess gas to exit to a lower pressure downstream.

All of the pipe sizes listed on Page 8 are available: ¾" through 4". Note on the cutaway drawing that the valve opens upwards (in standard 121 regulators it opens downwards). With the exception of certain stem and orifice parts in the valve assembly, everything else is interchangeable with standard 121 regulators.



GCD1328-050

## Pressures and Springs

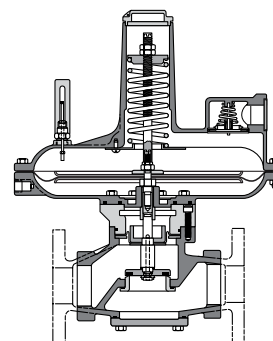
| Size                            | Relief or Back Pressure Range | Spring Color                      | Part Number                    | Maximum Diaphragm Case Pressure |
|---------------------------------|-------------------------------|-----------------------------------|--------------------------------|---------------------------------|
| ¾" thru 2½"<br>Model 121-8      | 3" to 5½" w.c.                | red-black                         | 143-82-021-00                  | 10 psi                          |
|                                 | 5" to 7½" w.c.                | blue-black                        | 143-82-021-01                  |                                 |
|                                 | 6" to 13" w.c.                | green-black                       | 143-82-021-02                  |                                 |
|                                 | 10" to 15" w.c.               | blue (2" O.D.)                    | 143-16-021-04                  |                                 |
|                                 | 12" to 25" w.c.               | green (2" O.D.)                   | 143-16-021-05                  |                                 |
|                                 | 18" w.c. to 2 psi             | orange (2" O.D.)                  | 143-16-021-06                  |                                 |
|                                 | 1 psi to 4 psi                | black                             | 143-16-021-07                  |                                 |
| ¾" thru 2½"<br>Model 121-8      | 3 psi to 6 psi                | cadmium*                          | 143-16-021-08                  | 20 psi                          |
|                                 | 6 psi to 10 psi               | cadmium (outer)*<br>white (inner) | 143-16-021-08<br>143-16-021-13 |                                 |
|                                 |                               |                                   |                                |                                 |
| 1½", 2" and 2½"<br>Model 121-12 | 3" to 5½" w.c.                | red (2" O.D.)                     | 143-16-021-03                  | 10 psi                          |
|                                 | 5" to 7" w.c.                 | blue (2" O.D.)                    | 143-16-021-04                  |                                 |
|                                 | 6" to 12" w.c.                | green (2" O.D.)                   | 143-16-021-05                  |                                 |
|                                 | 12" to 25" w.c.               | orange (2" O.D.)                  | 143-16-021-06                  |                                 |
| 1½" thru 4"<br>Model 121-12     | 20" w.c. to 1¾ psi            | black                             | 143-16-021-07                  | 10 psi                          |
|                                 | 1½ to 2¾ psi                  | cadmium                           | 143-16-021-08                  |                                 |
| 3" and 4"<br>Model 121-16       | 3" to 4½" w.c.                | red (3" O.D.)                     | 121-62-021-50                  | 5 psi                           |
|                                 | 3" to 6" w.c.                 | blue (3" O.D.)                    | 121-62-021-51                  |                                 |
|                                 | 5" to 11" w.c.                | green (3" O.D.)                   | 121-62-021-52                  |                                 |
|                                 | 10" to 24" w.c.               | orange (3" O.D.)                  | 121-62-021-53                  |                                 |
|                                 | 14" w.c. to 1¼ psi            | yellow                            | 121-62-021-56                  |                                 |

\* Require High Pressure Spring Adjustment (121-8HP).

## Vacuum Regulator

**Vacuum Regulators** are used to maintain a certain negative pressure (vacuum) in enclosed spaces such as tanks, vessels, chambers, piping systems, etc. In general, these are piped to the regulator inlet and control line connections and the regulator outlet piped to the inlet of a vacuum pump or other vacuum source.

Available pipe sizes are ¾" thru 2½", as listed on Page 8. Note on the cutaway drawing that the spring assembly is arranged for an upward force on the valve. Also, the valve itself is normally open and moves downward to close rather than upwards as in the standard 121. With the exception of certain parts involved in the foregoing, everything else is interchangeable with standard 121 regulators.



GCD1328-055

## Vacuum and Springs

| Size                            | Vacuum Range<br>" w.c. vacuum (" w.c.) | Spring Color | Spring<br>Part Number |
|---------------------------------|----------------------------------------|--------------|-----------------------|
| ¾", 1" and 1¼"<br>Model 121-8   | 3" to 6½"                              | red-black    | 143-82-021-00         |
|                                 | 5" to 8½"                              | blue-black   | 143-82-021-01         |
|                                 | 8" to 14"                              | green-black  | 143-82-021-02         |
|                                 | 12" to 20"                             | blue         | 143-16-021-04         |
|                                 | 18" to 30"                             | green        | 143-16-021-05         |
| 1½", 2" and 2½"<br>Model 121-12 | 3½" to 6½"                             | red          | 143-16-021-03         |
|                                 | 5" to 8½"                              | blue         | 143-16-021-04         |
|                                 | 8" to 14"                              | green        | 143-16-021-05         |

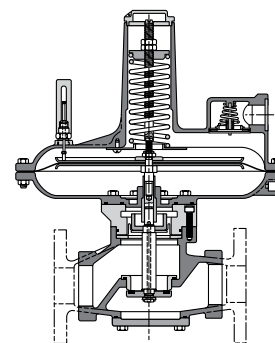
## Vacuum Breaker

**Vacuum Breakers** are vacuum limiting devices. In their general function, they can be compared to relief valves or back pressure regulators.

The breaker outlet and control line are piped to the vacuum. The breaker inlet connects to a lesser vacuum, to atmosphere, or to a positive pressure. The maximums for the positive pressure are 60 psi for ¾" through 2½" sizes, 40 psi for 3", and 15 psi for 4".

The vacuum breaker is normally closed and excess vacuum creates a valve opening movement which increases flow from the inlet and thereby relieves or "breaks" the excess.

All of the pipe sizes listed on Page 8 are available ¾" through 4". Note on the cutaway drawing that the main spring is reversed to provide the upward closing force on the valve. Except for certain parts used in the spring assembly, everything else is interchangeable with standard 121 regulators.



GCD1328-060

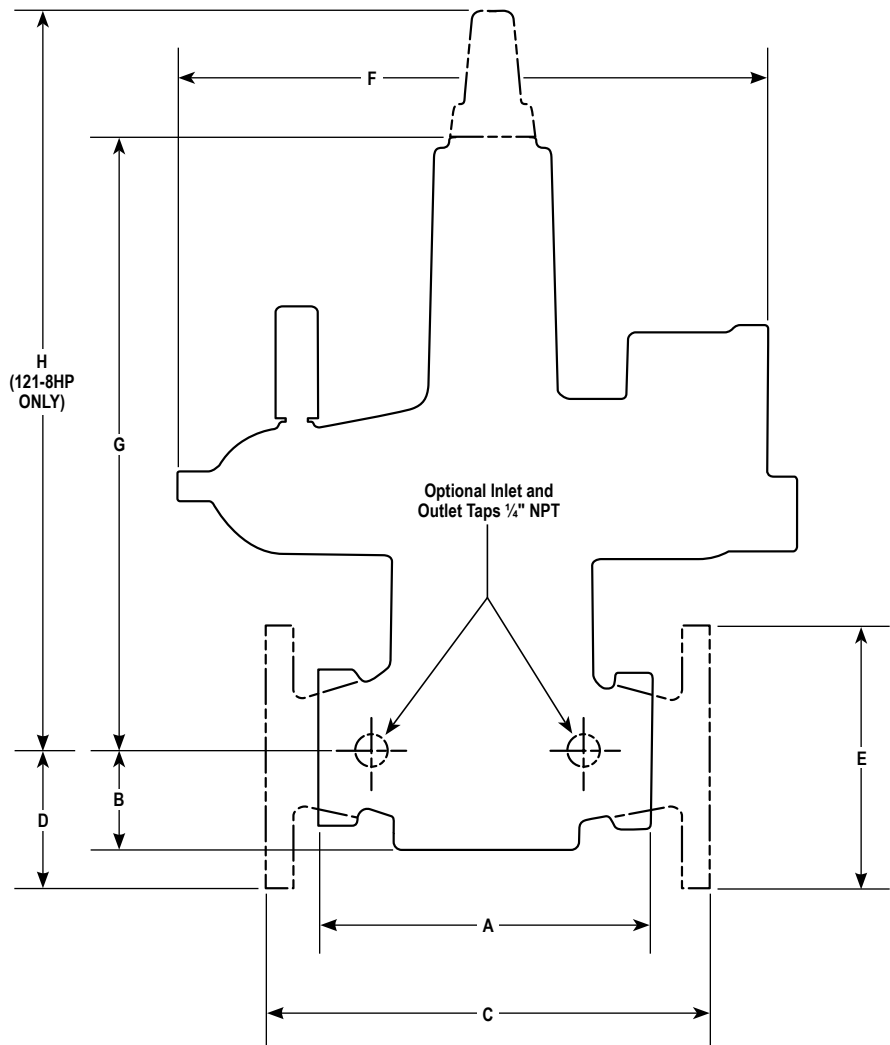
## Vacuum and Springs

| Size                            | Vacuum Range<br>" w.c. vacuum (-" w.c.) | Spring Color     | Spring<br>Part Number |
|---------------------------------|-----------------------------------------|------------------|-----------------------|
| ¾", 1" and 1¼"<br>Model 121-8   | 3" to 6½"                               | red-black        | 143-82-021-00         |
|                                 | 5" to 8½"                               | blue-black       | 143-82-021-01         |
|                                 | 8" to 14"                               | green-black      | 143-82-021-02         |
|                                 | 12" to 20"                              | blue (2" O.D.)   | 143-16-021-04         |
|                                 | 18" to 30"                              | green (2" O.D.)  | 143-16-021-05         |
|                                 | 30" to 56"                              | orange (2" O.D.) | 143-16-021-06         |
| 1½", 2" and 2½"<br>Model 121-12 | 3" to 6½"                               | red (2" O.D.)    | 143-16-021-03         |
|                                 | 5" to 8½"                               | blue (2" O.D.)   | 143-16-021-04         |
|                                 | 8" to 14"                               | green (2" O.D.)  | 143-16-021-05         |
|                                 | 12" to 28"                              | orange (2" O.D.) | 143-16-021-06         |
|                                 | 28" to 56"                              | black            | 143-16-021-07         |
| 3" and 4"<br>Model 121-16       | 3" to 5½"                               | red (3" O.D.)    | 121-62-021-50         |
|                                 | 4" to 7½"                               | blue (3" O.D.)   | 121-62-021-51         |
|                                 | 7" to 14"                               | green (3" O.D.)  | 121-62-021-52         |
| 3" and 4"<br>Model 121-12       | 12" to 28"                              | orange (2" O.D.) | 143-16-021-06         |
|                                 | 28" to 56"                              | black            | 143-16-021-07         |

## Periodic Inspection:

Regulators are pressure control devices with numerous moving parts subject to wear that is dependent upon particular operation conditions. To ensure continuous satisfactory operation, adhere to periodic inspection schedule with the frequency of inspections determined by the security of service and applicable laws and regulations. **See Bulletin RM-1328 for field service instructions and warranty obligation.**

Dimensions



GCD1328-065

| Pipe Size      | Model Number | Screwed NPT |        | Flanged ANSI 125 lb. FF |       |       | F (dia.) | G        | High Pressure Spring Adjustment H |
|----------------|--------------|-------------|--------|-------------------------|-------|-------|----------|----------|-----------------------------------|
|                |              | A           | B      | C                       | D     | E     |          |          |                                   |
| 3/4"-1"-1 1/4" | 121-8 & -8HP | 5 3/4       | 1 1/8  | —                       | —     | —     | 10 3/16  | 13 9/16  | 19 1/8                            |
| 1 1/2"         | 121-8 & -8HP | 7 1/2       | 2 3/8  | —                       | —     | —     | 10 3/16  | 13 11/16 | 19 1/4                            |
| 1 1/2"         | 121-12       | 7 1/2       | 2 3/8  | —                       | —     | —     | 14       | 14 1/8   | —                                 |
| 2"             | 121-8 & -8HP | 7 1/2       | 2 3/8  | 10                      | 3     | 6     | 10 3/16  | 13 11/16 | 19 1/4                            |
| 2"             | 121-12       | 7 1/2       | 2 3/8  | 10                      | 3     | 6     | 14       | 14 1/8   | —                                 |
| 2 1/2"         | 121-8 & -8HP | 8 3/4       | 2 3/8  | —                       | —     | —     | 10 3/16  | 13 11/16 | 19 1/4                            |
| 2 1/2"         | 121-12       | 8 3/4       | 2 3/8  | —                       | —     | —     | 14       | 14 1/8   | —                                 |
| 3"             | 121-12       | 11 3/4      | 3 9/16 | 11 3/4                  | 3 3/4 | 7 1/2 | 14       | 15 1/2   | —                                 |
| 3"             | 121-16       | 11 3/4      | 3 9/16 | 11 3/4                  | 3 3/4 | 7 1/2 | 18       | 19       | —                                 |
| 4"             | 121-12       | —           | —      | 13 7/8                  | 4 1/2 | 9     | 14       | 16 1/2   | —                                 |
| 4"             | 121-16       | —           | —      | 13 7/8                  | 4 1/2 | 9     | 18       | 20       | —                                 |

NOTE: Dimensions are in inches.

Other Sensus Gas Pressure Regulators

Sensus produces a broad product line of Gas Pressure Regulators which are widely used throughout the natural gas industry. These regulators are also suitable for non-corrosive industrial gas applications such as propane, butane, air, nitrogen, dry CO<sub>2</sub>, etc. For additional detailed information on a particular model, please request the indicated bulletin from the local Sensus sales office.

Service Regulators

Model 143-80  
Bulletin: DS-G-REG-1301  
3/4", 1", 1 1/4" pipe size  
Inlet pressures .....to 125 psi  
Outlet pressures ..... 3 1/2" w.c. to 6 psi  
Capacity to 2000 CFH  
Available with straight-through body.  
Also available: internal relief valve and low pressure cut-off.

Model 243-8, 243-12, 243-8HP  
Bulletin: R-1306  
1 1/4", 1 1/2" and 2" pipe size  
Inlet pressures .....to 125 psi  
Outlet pressures ..... 3 1/2" w.c. to 10 psi  
Capacity to 25,000 CFH  
Also available: internal relief valve, low pressure cut-off, and external control line.

Industrial Field Regulators

For intermediate to high pressure applications. Ideal on pipeline taps servicing plants and buildings. Appropriate for double stage reduction ahead of service regulators and for high pressure burners and compressed air systems.

Model 046  
Bulletin: R-1312  
3/4", 1" and 1 1/4" pipe size  
Inlet pressures .....to 1000 psi  
Outlet pressures .....3 to 200 psi  
Capacity to 40,000 SCFH  
Monitor and pressure loaded version, and internal relief valve also available.

Model 141A  
Bulletin: R-1311  
2" pipe size  
Inlet pressures .....to 1500 psi  
Outlet pressures .....5 to 400 psi  
Capacity to 55,000 SCFH

Pilot Loaded Regulators

For intermediate and high pressure applications requiring precise pressure reduction with minimal droop. Ideal for standard and high capacity flows on burners, driers, dehydrators and compressor factor billing.

Model 243-RPC  
Bulletin: R-1343  
1 1/4", 1 1/2" and 2" pipe size  
Inlet pressures .....to 150 psi  
Outlet pressures ..... 3 1/2" w.c. to 35 psi  
Capacity to 76,000 SCFH

Model 1100  
Bulletin: R-1341  
Pipe size: 2" (screwed or flanged)  
Inlet pressures .....to 400 psi  
Outlet pressures ..... 3" w.c. to 100 psi  
Capacity to 414,000 SCFH

Sensus also produces Industrial and Combustion Regulators; High Pressure, High Capacity Regulators, and Safety Relief Valves. Detailed information available on request.

## Notes:

[illegible]

# Model 121 Regulators

Brochure

## Authorized Distributor:

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