

Commercial/Industrial LP Regulators and Meters



ACTARIS

metering systems

BelGASTM

A DIVISION OF MARSH BELLOFRAM



Available through authorized distributors.

First Stage Regulators



MODEL P32



MODEL P36



MODEL P37

P32* Field adjustable

P36* Factory set tamperproof

- 60 Mesh screen on inlet
- 1/4" FNPT 250 PSI
- Excellent stability

P37*

- Patented balance spindle design eliminates changes on outlet due to inlet fluctuations
- 1/2" FNPT

*UL Approved

Capacity Chart

@ 100 PSI

P32 & P36 2 MBTUPH

P37 8 MBTUPH

Outlet spring range: 0 to 30 PSI

First Stage Regulators

- The P627 is a First Stage Regulator used for First Stage applications and in conjunction with PGS10 & 12 Second Stage Regulators.
- Maximum Inlet Pressure 250 PSI
- Capacities up to 45.5 MBTUPH
- Construction Materials Cast Ductile Iron Body Aluminum Bonnet & Diaphragm Case.
- Temperature Range -20° to 180° F
- Sizes Available: 1" & 2" FNPT
- Outlet Pressure Ranges:
 - 5 to 20 PSI
 - 15 to 40 PSI
- Monitor Regulators Available



BelGas Regulators

Capacity Chart

MAXIMUM FLOW OF PROPANE IN **MILLION BTUPH**
OUTLET PRESSURE

INLET PRESSURE	SIZE	10 PSI			20 PSI		
		ORIFICE			ORIFICE		
		1/4"	3/8"	1/2"	1/4"	3/8"	1/2"
60 PSI	1"	7.5	13	21.7	7.5	15.3	23
	2"	7.5	11.5	28.2	7.5	13.3	24.9
100 PSI	1"	11.6	19.8	25.4	11.6	22	37
	2"	11.6	25.7	45.5	11.6	25.7	45.5
150 PSI	1"	16.6	27	28.5	16.6	28	34.2
	2"	16.6	36.9	41.1	16.6	36.9	46
200 PSI	1"	21.7	28.5	29.3	21.7	42.2	62
	2"	21.7	36	38	21.7	38	52.3

HOW TO ORDER:

P627 1" OR 2"

ORIFICES: A = 1/4" B = 3/8" C = 1/2"

SPRING RANGES: A = 5 TO 20 PSI B = 15 TO 40 PSI

MONITOR REGULATORS ALSO AVAILABLE

First Stage Gas Regulators Pilot Loaded

- The PGP12 is a First Stage Regulator, but can also be used as Second Stage or with models PGS 10, 12, or 24
- Maximum Inlet Pressure 250 PSI
- Capacities up to 100 MBTUPH
- Outlet Pressure Ranges:
2 to 30 PSI
- Size: 2" FNPT



Model PGP12

Features

- Pilot Loaded design keeps outlet pressure constant despite varying flow rates
- Spring Loaded pilot with partial internal relief
- Field interchangeable pilot adjustment spring controlled internal bleed hole eliminates pulsation
- No down-stream sensing line required except for monitor
- Operator/Monitor versions available

Principle of Operation (See Operating Schematic below)

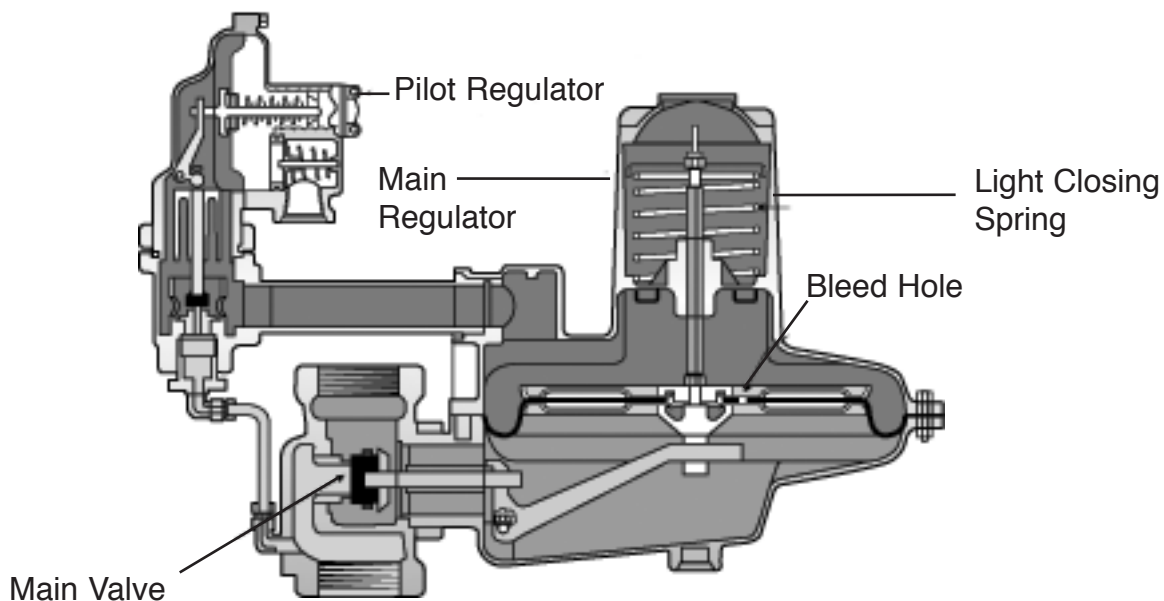
Inlet pressure connected by tubing to the pilot regulator is utilized as supply pressure for pilot. Outlet pressure of the Pilot Regulator is applied to top of Main Regulator diaphragm. This loading pressure is a constant pressure equal to the desired outlet pressure plus the pressure required to counter-balance the Light Closing Spring.

Increasing Load Condition- As load increases downstream, the outlet pressure in lower diaphragm chamber is reduced and constant pressure above the main diaphragm forces the diaphragm downward. This motion is transmitted through the Main Regulator lever to open the main valve to the proper position to meet the flow rate. Gas simultaneously begins to flow across the Bleed Hole, which momentarily reduces the loading pressure. The pilot diaphragm senses the reduced loading pressure and the pilot valve opens to maintain a constant loading pressure.

Decreasing Load Condition- When the flow rate is decreased, the outlet pressure tends to increase. The pressure increase is reflected in the lower diaphragm chamber increasing pressure below the main diaphragm, thereby decreasing the differential pressure across the main diaphragm. This allows the closing spring to move diaphragm upward, closing the main valve and throttling gas flow. The pilot then senses a pressure rise in the loading pressure chamber and closes its valve.

No-Load (Lock-up) Condition- As load decreases to zero, the downstream pressure begins to rise which stops the flow of gas through the bleed hole in the main diaphragm. At the same time, the pressure across the main diaphragm is equalized, which allows the closing spring to close the main valve. The upward movement of the main diaphragm causes the loading chamber pressure to increase slightly, which in turn causes the pilot to close.

PGP Operating Schematic



Pilot Loaded Capacity Chart

FLOW OF PROPANE IN MILLION BTUPH ORIFICE SIZE

INLET PRESSURE	OUTLET PRESSURE	3/8"	1/2"	5/8"	3/4"
20 PSI	5 PSIG> MODEL #	7 PGP12AA	13 PGP12BA	13 PGP12CA	24 PGP12DA
30 PSI	11PSIG> MODEL #	10 PGP12AB	17 PGP12BB	24 PGP12CB	31 PGP12DB
40 PSI	16 PSIG> MODEL #	12 PGP12AB	21 PGP12BB	29 PGP12CB	38 PGP12DB
60 PSI	26 PSIG> MODEL #	15 PGP12AC	29 PGP12BC	39 PGP12CC	52 PGP12DC
100 PSI	30 PSIG> MODEL #	25 PGP12AD	44 PGP12BD	61 PGP12CD	80 PGP12DD
150 PSI	30 PSIG> MODEL #	31 PGP12AD	53 PGP12BD	76 PGP12CD	95 PGP12DD

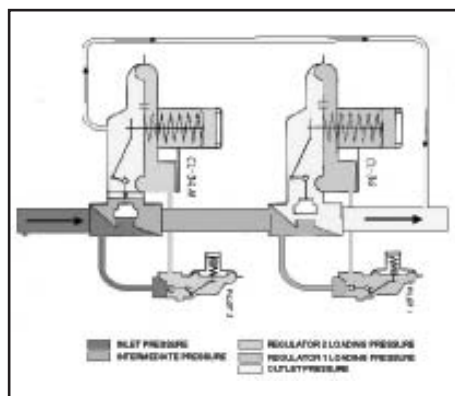
OUTLET SPRING RANGES (ADD SPRING TO PART NUMBER)

A 1 TO 8 PSI

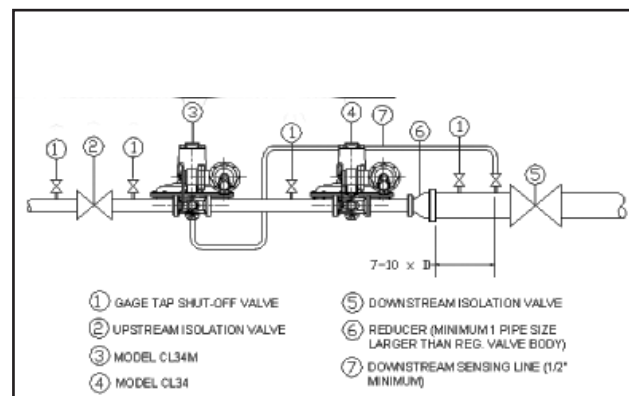
B 5 TO 10 PSI

C 9 TO 30 PSI

Operator/Monitor Pressure Schematic



Operator/Monitor Installation Schematic



First Stage Regulators Direct Acting



MODEL PGD1

- Maximum Inlet Pressure 250 PSI
- Capacities up to 220 MBTUPH
- Outlet Pressures from 11" WC to 30 PSI
- Size Ranges:
 - Model PGD1
1 1/2" FNPT
 - Model PGD11
2" & 3" Flanged

Features



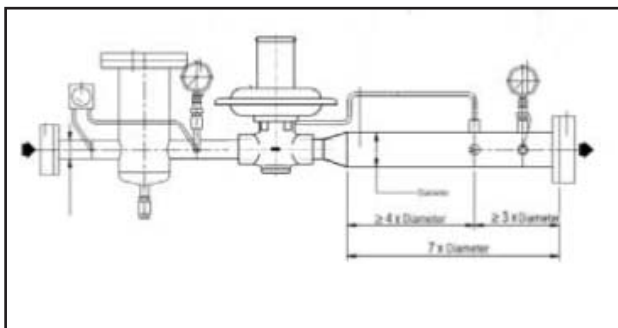
MODEL PGD11

- Balanced valve design
- Built-in pulsation damper
- Available with high and/or low pressure shut-off valve (PGD11 only)
- Requires down-stream sensing line

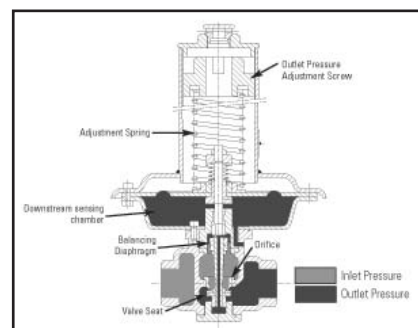
Direct Acting Capacity Chart

MAXIMUM FLOW OF PROPANE IN MILLION BTUPH OUTLET PRESSURE

INLET PRESSURE	11"WC		2 PSI		5 PSI		10 PSI	
	MODEL #	CAPACITY	MODEL #	CAPACITY	MODEL #	CAPACITY	MODEL #	CAPACITY
2 PSI	PGD1A PGD11A	15 27						
5 PSI	PGD1A PGD11A	25 54	PGD1B PGD11B	16 45				
10 PSI	PGD1A PGD11A	38 88	PGD1B PGD11B	24 75	PGD2C PGD22B	21 45	PGD2D PGD22C	
20 PSI	PGD1A PGD11A	50 150	PGD1B PGD11B	42 106	PGD2C PGD22B	38 78	PGD2D PGD22C	34 109
30 PSI	PGD1A PGD11A	60 152	PGD1B PGD11B	49 125	PGD2C PGD22B	52 99	PGD2D PGD22C	48 155
40 PSI	PGD1A PGD11A	73 156	PGD1B PGD11B	60 155	PGD2C PGD22B	57 121	PGD2D PGD22C	57 192
50 PSI	PGD1A PGD11A	87 187	PGD1B PGD11B	72 191	PGD2C PGD22B	67 143	PGD2D PGD22C	67 211
60 PSI	PGD1A PGD11A	100 216	PGD1B PGD11B	83 221	PGD2C PGD22B	78 154	PGD2D PGD22C	77 264



Installation Schematic



PGD1 Operating Schematic

Second Stage Regulators Spring Loaded



MODEL PGS10



MODEL PGS12



MODEL PGS24

- Maximum Inlet Pressure 125 PSI
- Capacities up to 31 MBTUPH
- Outlet Pressures from 11" WC to 7 PSI
- Size Ranges:
 - Model PGS6 3/4", 1", & 1 1/4"
 - Model PGS8 1" to 1 1/4"
 - Model PGS10 & PGS12
1 1/4" to 2" FNPT
2" & 3" Flanged
 - Model PGS24
2" FNPT
2" & 3" Flanged

Features

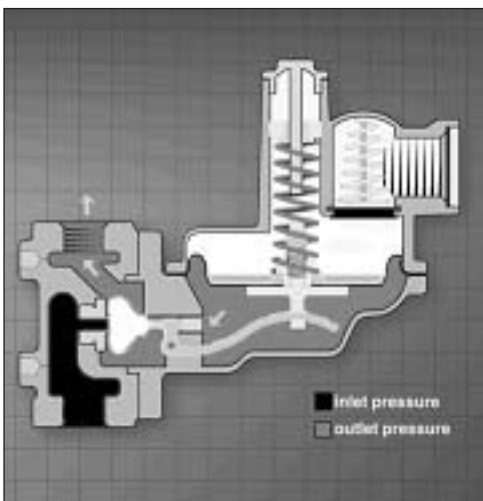
- Spring Loaded internal relief valve assembly
- Field interchangeable adjustment spring
- Controlled size breather orifice eliminates pulsation

Spring Loaded Capacity Chart

MAXIMUM FLOW OF PROPANE IN **MILLION BTUPH**
OUTLET PRESSURE

INLET PRESSURE	11"WC		2 PSI		5PSI	
	MODEL#	CAPACITY	MODEL#	CAPACITY	MODEL #	CAPACITY
2 PSI	PGS6BA PGS8BA PGS10EA PGS12EC PGS24GC	1.1 1.9 3 7 8				
5 PSI	PGS6BA PGS8BA PGS10EA PGS12EC PGS24GC	1.9 2.7 7 10.3 14.2	PGS6BF PGS10EB PGS12ED	1.7 3.6 9.5		
10 PSI	PGS6BA PGS8BA PGS10EA PGS12EC PGS24GC	2.5 3.8 12 16 21	PGS6BF PGS10EB PGS12ED	2.7 6 19	PGS6BB PGS12EE PGS24GE	1 4 6.3
20 PSI	PGS24GC	31	PGS12ED	30	PGS12EE PGS24GE	7.1 8.2

OPERATING PRINCIPLE





MODEL 90 LP



MODEL 95 LP

- Maximum Inlet Pressure up to 5 PSI

- Size Ranges:

- Model 90LP

- 1/2" FNPT

- Model 95LP

- 3/4" FNPT

- Vent Limiter Included

Capacity Chart

2 PSI to 11' WC

1/2" 90LP 370 BTUPH

3/4" 95LP 750 BTUPH

Relief Valve



- Size Ranges:

1" and 2" FNPT

- Maximum Inlet Pressure 1" 100 PSI, 2" 25 PSI

- Spring Ranges

for 1":

1 to 4.5 PSI

4 to 15 PSI

10 to 20 PSI

15 to 50 PSI

for 2":

.5 to 2.5 PSI

1.75 to 7 PSI

4 to 10 PSI

Capacity Chart

Set Pressure

1"	2 PSI	23 MBTUPH
	5 PSI	24 MBTUPH
	10 PSI	40 MBTUPH
	20 PSI	66 MBTUPH
2"	1 PSI	28 MBTUPH
	2 PSI	41 MBTUPH
	5 PSI	50 MBTUPH
	10 PSI	50 MBTUPH

How to order:

289.1 or .2 plus spring range

Vapor Meters



M250 TC

- Standard 5 PSI MAOP option HP version for 10 PSI
- Direct read, temperature compensated standard
- Available with 3/4" or 1 " MNPT swivels or 3/4" 90 MNPT swivels



400 ATC

- Standard 10 PSI MAOP option HP version for 25 PSI
- Direct read, temperature compensated standard
- Available with 1 1/4" and 1 1/2" MNPT swivels

Vapor Meter Capacity Chart

MAXIMUM FLOW OF PROPANE IN BTUPH

Inlet	250 TC	250TCHP	400ATC	400ATCHP
11"WC	630,000		1,000,000	
2 PSI	1,600,000		2,300,000	
5PSI	1,800,000		2,600,000	
10PSI		2,300,000	3,000,000	
25PSI				4,500,000

For higher capacities consult your local distributor.

For pressure correction factor to compensate for over 11"WC pressure use chart below.

Pressure	Multiply
2 PSI	x 1.113
5 PSI	x 1.317
10 PSI	x 1.656
25 PSI	x 2.675

Meter index reading in SCFH.

To convert SCFH to gallons per hour LP divide by 36.39.



- Sizes available:
2," 3," and 4" Flanged
- No moving parts
- Install in any orientation
- No oil required
- Fixed pressure factor standard
- Temperature compensation available
- Low frequency pulse output available
1 Pulse = 10 SCFH
- Maximum Inlet Pressure 175 PSI

Dattus Meter Capacity Chart

MAXIMUM FLOW OF PROPANE IN **MILLION** BTUPH

Model Number	2M	3M	5M	7M
2PSI	5.5	9.0	14.0	20.1
5PSI	6.5	10	16.6	23.4
10PSI	8.3	12.6	20.9	29.4
20PSI	11.8	17.6	29.4	41.3

For higher flows and inlet pressures please contact your local distributor.

Meter index reading in SCFH.

To convert SCFH to gallons LP divide reading by 36.39.

Master Distributor



www.globalgasproducts.com

Application specialist available*

Cross Reference Sheet

Actaris	Belgas	Fisher
PGS6		HSRL
PGS8		S102
PGS10		S302
PGS12		S202
PGS24		
	P627	627/630
	P37	64
	P32	67
PGP12		99/299
PGD1		133
PGD11		1098 EGR

*Belgas and Actaris Standard Warranty Applies