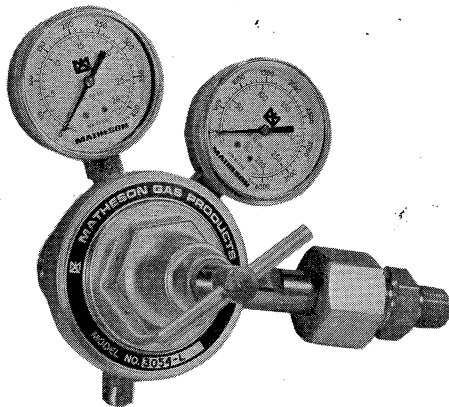


HIGH CAPACITY REGULATORS

Model 3050 Series

SPRING LOADED DESIGN

Models 3052 and 3054 are used for low delivery pressures and high flows. They are designed to supply pipelines from manifolds or tube trailers.



DESIGN FEATURES

- Balanced poppet for constant delivery pressure.
- Relief valve for added safety.

MATERIALS OF CONSTRUCTION

Body & bonnet:	Brass
Diaphragm:	Neoprene
Seat:	Nylatron
Trim:	Stainless Steel

SPECIFICATIONS

Maximum inlet pressure:	3000 psi (20,700 kPa) 3600 psi when equipped with 4000 psi gauge)
Maximum flow of air:	500 scfm
Outlet pressure rise per 100 psi inlet pressure decay:	1/4 psi
Inlet & outlet connection:	1/2" NPT Female
Flow coefficient:	$C_v = 1.65$ ^{150°F Gauges}
Temperature range:	-60 to 160°F (-50 to 70°C)
Overall dimensions:	6 1/2" w x 7 3/8" h x 7 3/4" d (16 x 19 x 20 cm)
Shipping weight:	7.5 lbs (3.4 kg)

For additional information, request Tech/Brief-134.

MODELS & PRICES

Model	Outlet Pressure Range	Delivery Pressure Gauge	Cylinder Pressure Gauge	Relief Valve Setting (psig)	Price
3052	0-125 psig	0-200	0-3000	200	\$390.00
3054	0-250 psig	0-400	0-3000	400	390.00

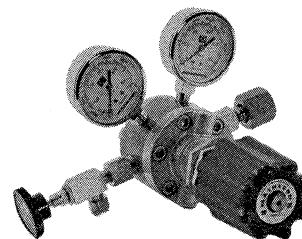
OPTIONS

0-4000 psi cylinder pressure gauge	Add \$ 4.50
Special high capacity inlet connection: R.H.: 96208206	\$21.00
L.H.: 96209206	\$21.00

Model 3075

HIGH PRESSURE DOME LOADED DESIGN

Model 3075 is used for high delivery pressures and high flows. Recommended for non-corrosive, non-flammable, non-toxic gases only.



DESIGN FEATURES

- Integral relief valve opens automatically when the outlet pressure exceeds regulated set pressure or when the pressure setting is reduced.
- Provided with two jam nuts to permit single hole panel mounting.

MATERIALS OF CONSTRUCTION

Body and diaphragm plates:	Bronze
Diaphragm:	Neoprene
Seat:	Nylatron
Valve stem:	303 Stainless Steel
"O" rings:	Neoprene

SPECIFICATIONS

Maximum inlet pressure:	7000 psi (48,300 kPa)
Outlet:	1/4" tube fitting (except 3075-1/4 which has 1/4 FNPT)
Inlet port in body:	1/4" NPT
Operating temperature:	-65 to 160°F (-55 to 70°C) ^{1/2"}
Flow coefficient:	$C_v = 0.44$ (w/o outlet valve) 0.32 (with outlet valve)
Maximum flow of air:	1300 scfm
Overall dimensions:	10 3/4" w x 6 3/4" h x 9" d (27 x 17 x 23 cm)
Shipping weight:	14 lbs. (6.4 kg)

For additional information, request Tech/Brief-121.

MODELS & PRICES

Model	Delivery Pressure Range (psig)	Delivery Pressure Gauge (psig)	Cylinder Pressure Gauge (psig)	Price
3075-1/4 (line use)	200-6000	0-7500	0-7500	\$610.00
3075 (specify CGA)	200-6000	0-7500	0-7500	635.00
3075-677	200-6000	0-7500	0-7500	643.00

OPTIONS

3000 psi or 4000 psi delivery pressure gauges available.

Deduct \$5.00/gauge

CAUTION: If 3000 or 4000 psi gauge is used, delivery pressure must never exceed gauge rating.

HIGH CAPACITY REGULATORS MODELS 3052 AND 3054

DESIGN FEATURES

- ... Flows to 30,000 scfh.
- ... Balanced poppet for constant delivery.
- ... Pressure relief valve for added safety protection.

DESCRIPTION

Matheson's 3052 and 3054 high capacity regulators are single stage brass units designed for use with manifolds, tube trailers and high pressure pipelines. Available in two delivery pressure ranges, these regulators feature a large orifice for large flows. To eliminate significant change in delivery pressure as the source pressure decays, the poppet has been balanced by subjecting both sides of the poppet to the downstream pressure, thereby cancelling the effect of a change in inlet pressure. The result is a steady delivery pressure similar to that obtained with a double stage regulator.

The delivery pressure chamber is protected by a relief valve set to prevent exceeding the maximum delivery range by more than 60 to 75%.

The inlet and outlet are 1/2" FNPT. If a standard CGA connection is desired, a 1/2" M x 1/4" F reducing bushing would be supplied with a standard CGA inlet connection. This, however, is not recommended if high flows are desired since the standard CGA connection generally has a 3/16" orifice. A special high capacity swivel connection, 1" NPS-11½ right hand or left hand, which terminates in 1/2" NPT thread is available. The left hand version is for flammable gases.



Model 3054 shown with optional hi-capacity swivel connection and adapter.

SPECIFICATIONS

Maximum inlet pressure 3000 psi (20700 kPa)
3600 psi when equipped with 4000 psi gauge.

Outlet pressure ranges: 3052: 0-125 psig
3054: 0-250 psig

Fluid media: Non-corrosive gases and liquids.
Maximum air flow: 30,000 scfh (see curves).
Temperature range: -60°F to +160°F -50° to 70°
Flow coefficient: Cv @ 1.65

Gauges: 2-1/2" dia. brass

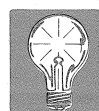
Body ports: 1/2" FNPT in & out, 1/4" NPT gauges and relief valve.

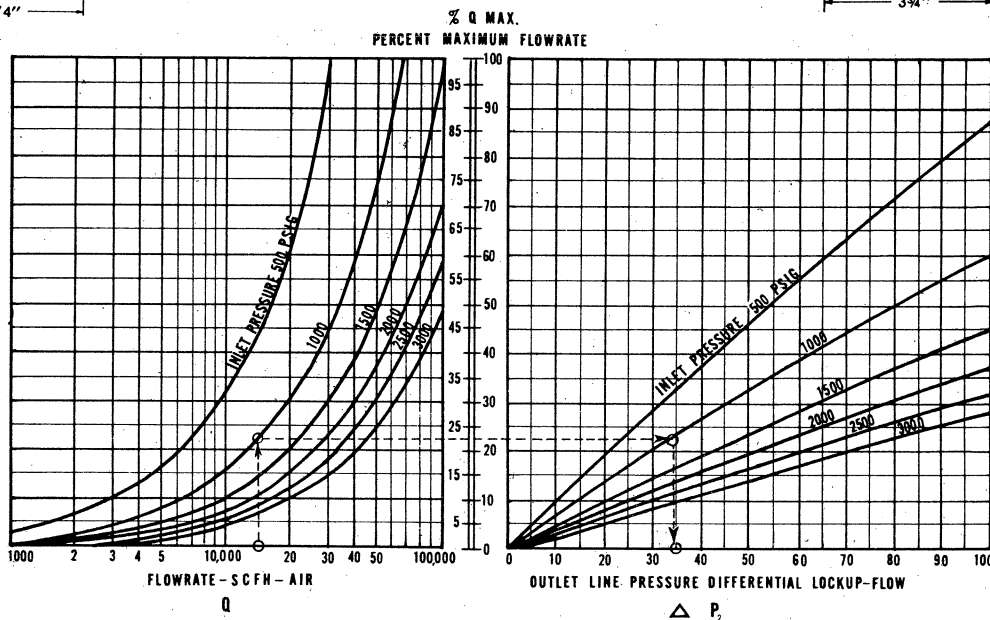
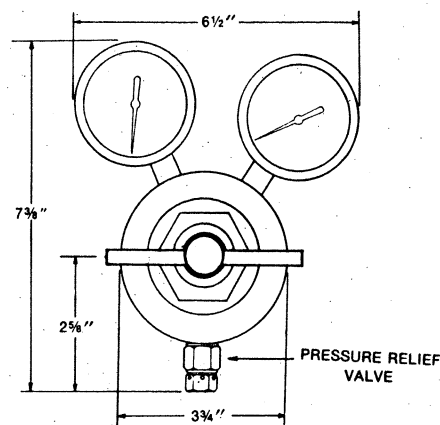
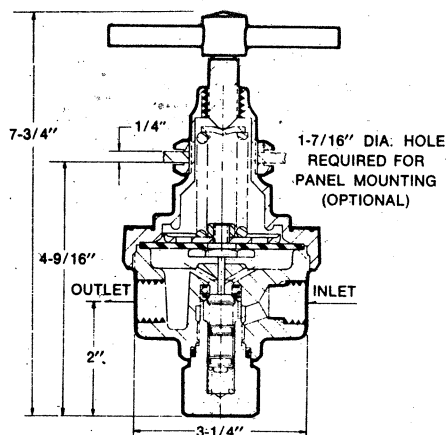
Outlet pressure rise per 100 psi inlet pressure decay: 1/4 psi maximum.

Weight: Approximately 6 lbs.

MATERIALS

Body:	forged brass
Trim:	stainless steel
Spring housing:	forged brass
Springs:	cadmium plated carbon steel
Seat:	nylon
Seals:	neoprene
Diaphragm:	neoprene





HOW TO USE THE CURVES

Knowing the flow required and the minimum inlet pressure, the curves will give you ΔP , which is the pressure drop between no flow and full flow.

Example

- (A) Flow required: 15,000 cfh
Inlet pressure: 1000 psi

Draw vertical line from flowrate of 15,000 cfh until it intersects the inlet pressure at 1000 psi. Draw horizontal line until it intersects the inlet pressure of 1000 psi in the R.H. chart. Draw vertical line. Pressure drop is about 35 psi. This means that if the delivery pressure under no flow condition was 125 psig, the pressure under full flow condition will be 90 psig.

- (B) How much nitrogen can model 3052 pass if it feeds a 100 psig chamber? Gas source has to be emptied down to 500 psi. The maximum delivery pressure of model 3052 is 125 psig. Since the delivery chamber is at 100 psig, this gives us a ΔP of 25 psi. On the R.H. chart, draw a vertical line from $\Delta P=25$ until it intersects the inlet pressure of 500 psi. Draw a horizontal line until it intersects the 500 psi line in the L.H. chart. Draw vertical line and read: 7500 cfh.

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Phone: (201) 933-2400
Cable: TWX-710-989-0173

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947-6397

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Manhattan Road & Richards Street
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Phone: (415) 793-2559
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6655 Amberton Drive - Unit 0
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Phone: (416) 668-3397
Cable: TWX-610-384-2752

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1675 Russell Road - Unit 10
Phone: (613) 521-6504

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6009 - 103A Street
Phone: (403) 435-7812

Edmonton, Alberta T5B 4K6
P.O. Box 6240 Station "C"
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Cable: TWX-610-831-2126

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Cable: TWX-32419

6056 Heusenstamm, West Germany
Ottostrasse 13
Phone: 06104-3355
Cable: TWX-4-10141

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1275 Valley Brook Avenue
Cable: TWX-710-989-0106

Matheson