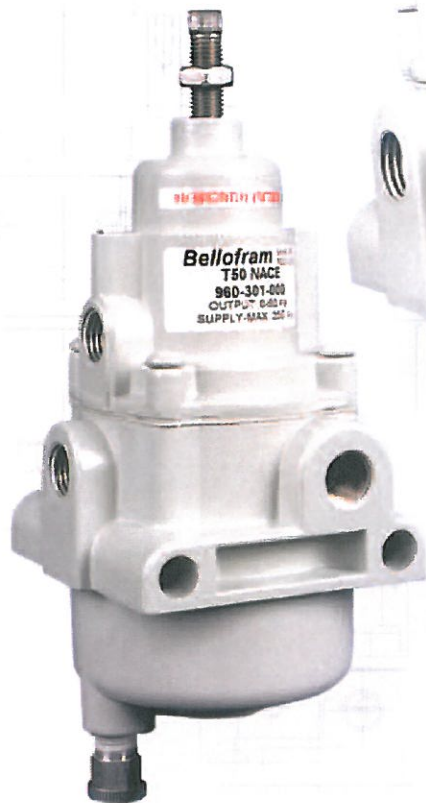


**MB MARSH BELLOFRAM®**

# Type-50

Type 50 & Type 50 NACE

General  
Purpose  
Filter  
Regulators



Precision  
Control  
Devices

**MB T-50 & T-50 NACE** Adjustable Air Filter Regulators

**FEATURES**

- Superior regulation characteristics
- Rugged, corrosion-resistant construction
- Excellent stability and repeatability
- Self-relieving
- Integral, 40 micron, self cleaning filter
- Low droop at high flow
- Several mounting options
- Low cost

**APPLICATIONS**

The design of these regulators is especially well suited to pilot-operated controllers, and instruments, as well as applications such as air chucks, air spray guns, air cylinders and actuators, and a wide range of industrial pneumatic systems and equipment.

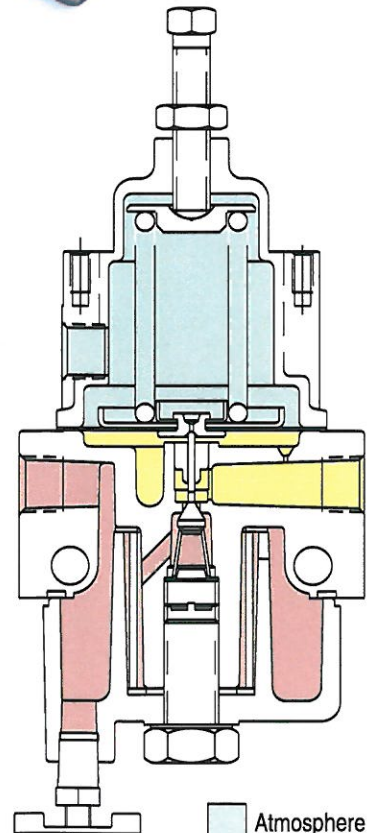
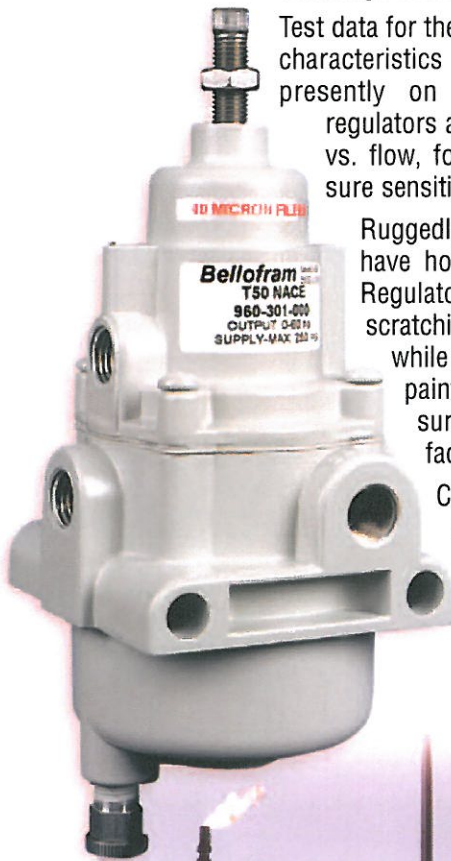
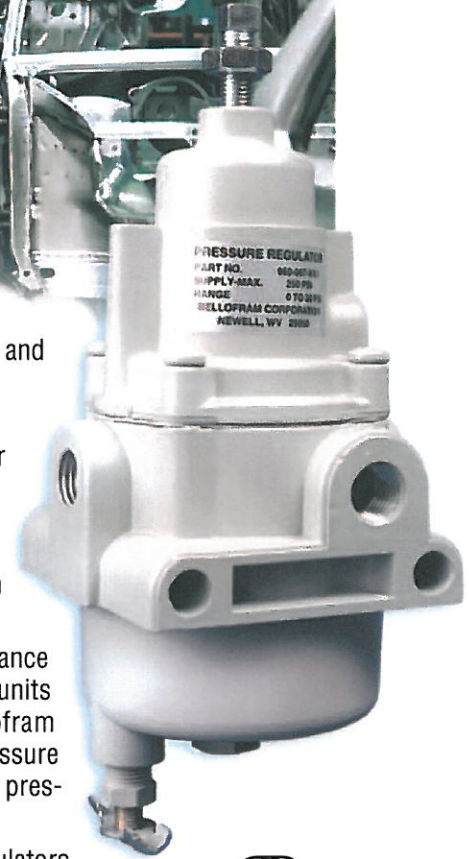
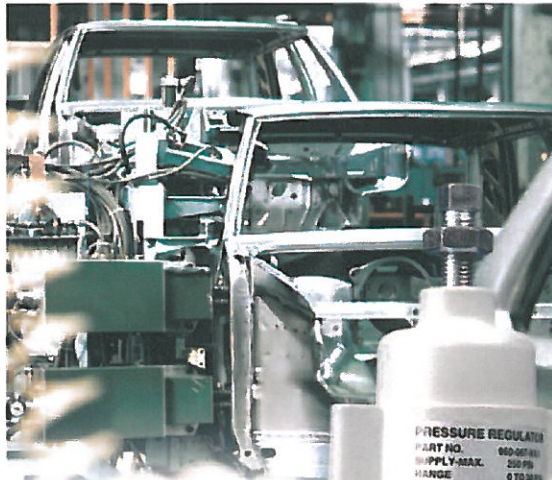
**DESCRIPTION**

Marsh Bellofram's General Purpose Type 50 & Type 50 NACE Filter Regulators are reliable precision units designed for instrumentation and general purpose use in both standard environments (Type 50), and corrosive environments (Type 50 NACE). The Type 50 NACE complies with NACE Standard MR0175, "Metals for Sulfide Stress Cracking and Stress Corrosion Cracking Resistance in Sour Oilfield Environments."

Test data for these regulators show excellent performance characteristics compared with those of similar units presently on the market. These Marsh Bellofram regulators are generally superior in regulated pressure vs. flow, forward-to-reverse flow offset, supply pressure sensitivity, repeatability and stability.

Ruggedly designed and constructed, the regulators have housings of diecast aluminum. The Type 50 Regulator is finished with vinyl paint (which resists scratching, weathering & other physical abuse), while the Type 50 NACE is finished with epoxy paint for added protection. Both models are pressure and leak tested prior to shipment from the factory.

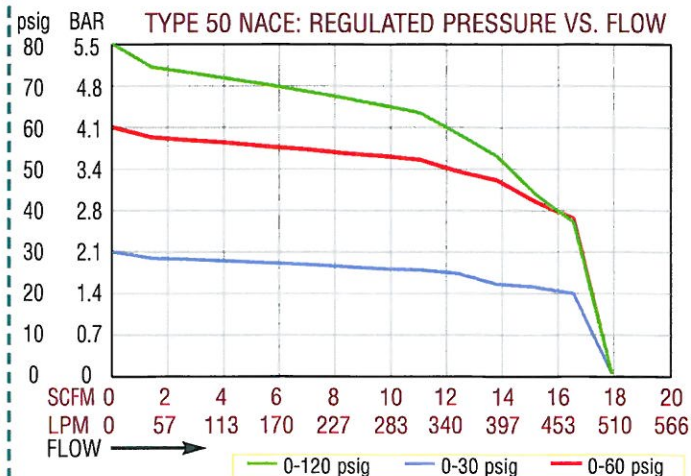
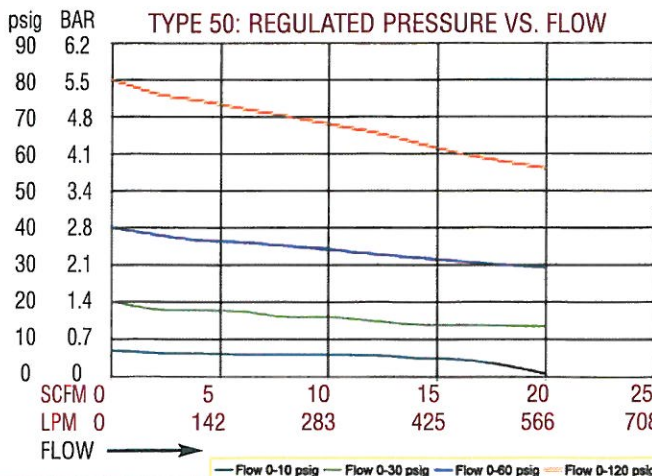
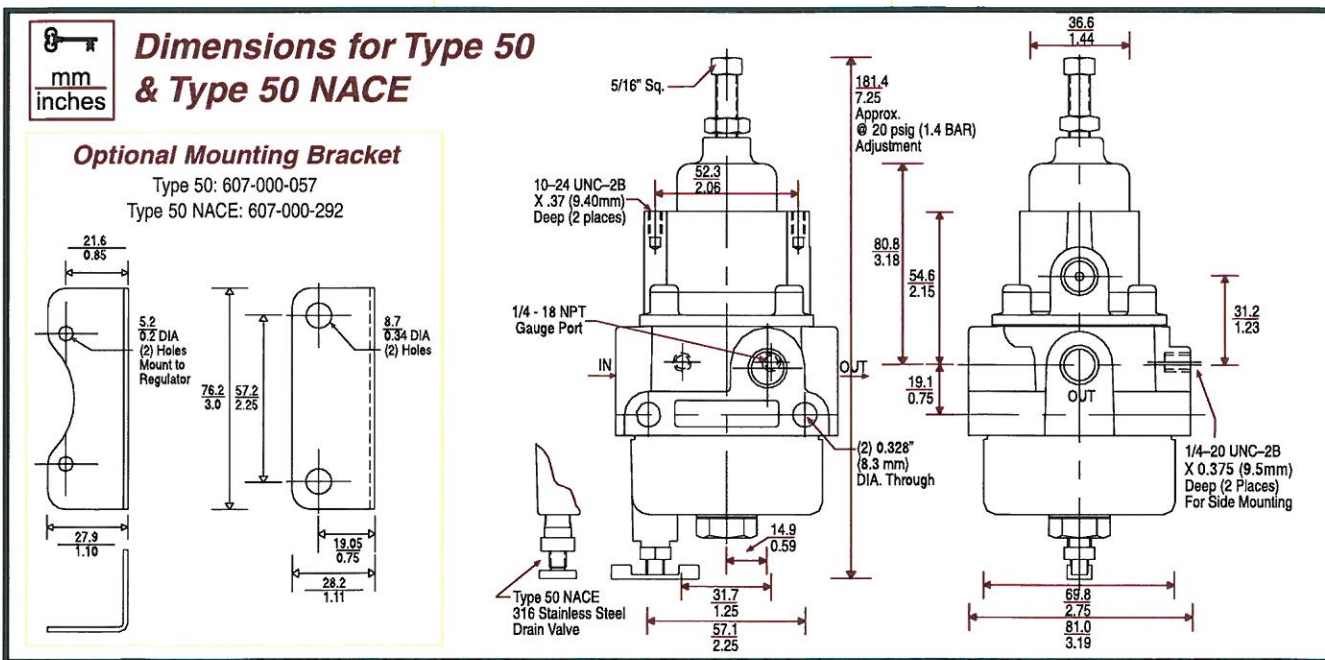
Careful design and quality materials throughout assure long, trouble-free operation in the most difficult industrial environments. A rubberized, soft-seat valve stem provides positive shut-off and "forgives" dirt or other foreign matter. An aspirator maintains downstream pressure and compensates for droop when high flow occurs. The full flow gauge port is convenient for gauge installation and can also be used as an additional full flow outlet. The Type 50 regulators include a unique self-cleaning 40 micron nylon mesh filter (316 stainless steel in the Type 50 NACE) that can be easily removed.



■ Atmosphere  
■ Supply Pressure  
■ Regulated Pressure



	<b>TYPE 50 Filter Regulator</b>	<b>TYPE 50 NACE Filter Regulator</b>
Sensitivity	1" ( 25.4 mm) Water Column	1" ( 25.4 mm) Water Column
Flow Capacity	20 SCFM ( 565 LPM)	18 SCFM ( 510 LPM)
Effect of Supply Pressure variation (25 psig) on Outlet Pressure	< 0.2 psig (0.01 BAR)	< 0.2 psig (0.01 BAR)
Exhaust Capacity (5 psig above 20 psig set point)	0.1-0.45 SCFM Typical (2.8-12.7 LPM)	0.1-0.45 SCFM Typical (2.8-12.7LPM)
Maximum Input / Supply Pressure	250 psig (17.2 BAR)	250 psig (17.2 BAR)
Effect of Changes in Flow on Regulated Pressure (100 psig/6.9 BAR Supply)	4 psig ( 0.3 BAR) over flow 10 SCFM ( 283 LPM) (1/4" NPT, 20 psig / 1.4 BAR set point)	5 psig ( 0.3 BAR) over flow 10 SCFM ( 283 LPM) (1/4" NPT, 20 psig / 1.4 BAR set point)
Output Pressure Ranges	0-10 psig (0-0.7 BAR), 0-30 psig (0-2.1 BAR) 0-60 psig (0-4.1 BAR), 0-120 psig (0-8.3 BAR)	0-30 psig (0-2.1 BAR) 0-60 psig (0-4.1 BAR), 0-120 psig (0-8.3 BAR)
Temperature Range	0 to 160° F (-18 to 71° C)	-20 to 180° F (-29 to 82° C)
Total Air Consumption @ Maximum Output	6 SCFH (2.8 LPM)	6 SCFH (2.8 LPM)
Port Size	1/4" NPT, BSPT	1/4" NPT, BSPT
Size	3.19" X 3.19" X 7.25" (81 X 81 X 184 mm)	3.19" X 3.19" X 7.25" (81 X 81 X 184 mm)
Weight	1.81 lb. (0.8 kg)	1.81 lb. (0.8 kg)
Materials of Construction	Body: Diecast aluminum with vinyl paint Adjusting Screw: Plated steel Trim: Plated steel, brass, acetal resin Diaphragm: Buna-N elastomer with polyester fabric Knob: Phenolic plastic (option) Spring: Music wire	Body: Diecast aluminum with epoxy paint Adjusting Screw: Stainless steel Trim: Stainless steel, Neoprene, EPDM Diaphragm: Neoprene, Polyester Spring: Inconel
Tamper Proof Cover	Yes	Yes
Mounting	Pipe, Panel, Bracket or Thru Body Holes	Pipe, Panel, Bracket or Thru Body Holes



**PART NUMBERS:**

	Part Number	Port Size (NPT)	Set Point Range	
			BAR	psig
T-50	960-062-000	1/4"	0-0.7	0-10
	960-067-000	1/4"	0-2.1	0-30
	960-068-000	1/4"	0-4.1	0-60
	960-069-000	1/4"	0-8.3	0-120
T-50 NACE	960-300-000	1/4"	0-2.1	0-30
	960-301-000	1/4"	0-4.1	0-60
	960-302-000	1/4"	0-8.3	0-120

**OPTION ORDERING MATRIX:**

Replace last three digits of part number with digits from table below.

OPTION	1	2	3	4	5	6	7	8	9	10	11
1 Fluorocarbon Pintle	001	021	031	041	051	061	071	081	091	101	111
2 Non-Relieving		002	032	042	052			082	092		112
3 Knob			003	043	053	063	073	083		103	113
4 5 Micron Filter				004	054	064	074	084	094	104	114
5 Epoxy Coating					005	065	075	085	095	105	115
6 Tapped Vent						006	076	086	096	106	116
7 Mounting Bracket							007	087	097	107	117
8 Pressure Gauge								008	098	108	118
9 Tamper-Resistant Cover									009	109	119
10 Soft Relief Seat										010	110
11 Fluorocarbon Diaphragm											011

**REGULATOR OPTIONS & ACCESSORIES:**

**FLUOROCARBON PINTLE**

A special elastomeric pintle used where elements in the supply air, such as flame retardant synthetic lubricants, are particularly destructive to ordinary pintle material.

**NON RELIEVING**

Used in applications where it is desirable to relieve pressure downstream of the regulator, for some constant flow applications, and where the gas flowing through the regulator must not escape at the regulator. Non-relieving regulators should not be used for low or no flow applications.

**KNOB**

Option to replace the square head pressure adjusting screw.

**5 MICRON FILTER**

Replaces the 40 micron filter supplied with the standard Type 50 for more complete air filtration.

**CORROSIVE RESISTANT EPOXY FINISH**

An epoxy paint applied to the body and dripwell of the regulator exterior surfaces to provide increased corrosion resistance. (Standard with Type 50 NACE)

**TAPPED VENT**

Allows installation of plumbing to capture exhaust air. (Standard with Type 50 NACE)

**MOUNTING BRACKET**

T-50: Steel (dichromate finish) bracket for side mounting.

T-50 NACE: Stainless Steel bracket for side mounting.

**PRESSURE GAUGE**

T-50: Dual scale 2 in. (50.8 mm) gauges. Ranges include 0-30 psig (0-200 kPa), 0-60 psig (0-400 kPa), 0-100 psig (0-700 kPa) and 0-160 psig (0-1100 kPa).

T-50 NACE: A dual scale, 0-60 psig (0-400 kPa) or 0-200 psig (0-1400 kPa) 2.47" diameter (63mm) stainless steel pressure gauge is available and must be ordered separately, p/n 625-000-016 (0-60 psig) and p/n 625-000-018 (0-200 psig).

NOTE: Although the case is stainless steel, the internal components are not made of NACE qualified materials.

When specified with regulator, the correct range will be supplied.

**TAMPER RESISTANT COVER**

An aluminum tubular cover placed over a slotted head adjusting screw and screwed onto the bonnet of the regulator with a wrench. Prevents ordinary hand adjustments. Supplied with an o-ring that is designed to seal the adjusting screw threads in capture bleed applications.

**SOFT RELIEF SEAT**

Used in applications where it is desirable to reduce the standard bleed rate from 6 SCFH [0.17 m3hr] to less than 0.1 SCFH [0.003 m3hr]. (Not available with Type 50 NACE)

**FLUOROCARBON DIAPHRAGM**

Diaphragm as well as all seals are made of fluorocarbon elastomer to prevent deterioration from elements in the air supply, such as flame retardant synthetic lubricants normally destructive to standard Buna-N material.

To order BSPT add "BSPT" to end of part number.

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**SALES & APPLICATIONS**

(800) 727-5646 fax: (304) 387-4417

[www.marshbellofram.com](http://www.marshbellofram.com)

# **Bellofram**

## **CORPORATION**

**NEWELL, WV U.S.A. 26050**  
**(304) 387-1200**

These regulators are designed for air and gas service. Maximum pressures are described on the individual labels. Operating temperatures are 0 to 160°F.

### **Installation:**

Install the regulator as close to the instrument or tool it is to service. The words "IN" and "OUT" are cast in the body to indicate the direction of flow. (NOTE: If a lubricator is to be used in the system, install it downstream of the regulator.)

### **Operation:**

**Types 40 & 50:** Before turning on the supply air, screw out the adjusting screw until there is no compression on the regulating spring. Turn on the air supply and turn the adjusting screw until the desired secondary pressure is reached.

**Types 60 & 65:** These regulators are preset at the factory and no further adjustment can be made.

### **Maintenance:**

Periodic cleaning of the filter is recommended on Type 50 and Type 60 regulators.

A. To remove condensate, slowly open drain valve and bleed accumulated liquid.

B. To clean filter element:

- 1) Shut off air supply.
- 2) Drain condensate.
- 3) Remove large bolt from bottom of unit.
- 4) Remove bowl, filter and gasket.
- 5) Clean all parts thoroughly and reassemble in reverse order.

C. To install replacement parts:

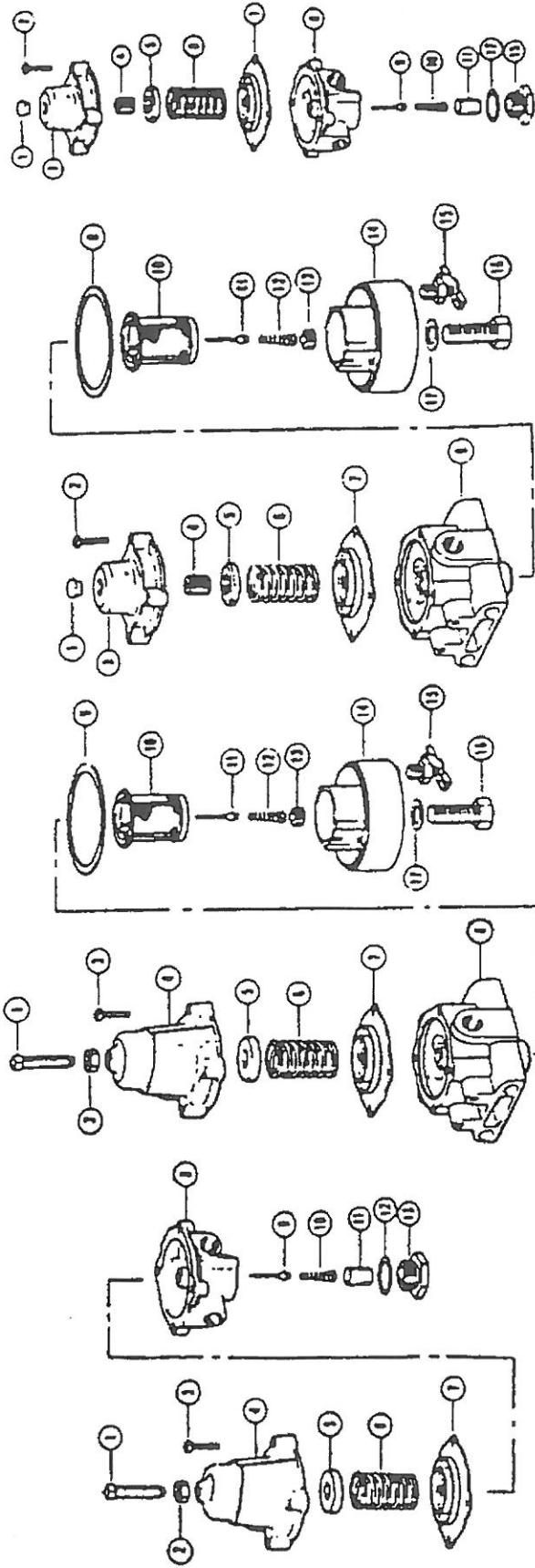
- 1) Order repair kit for Type 40, 50, 60, or 65 regulator. See exploded views on back of this sheet.
- 2) Shut off air supply. on Types 40 & 50, screw out adjusting screw.
- 3) Remove 4 screws and bottom plug and remove all parts.
- 4) Replace parts that show excessive wear with items in kit.
- 5) Clean all parts and replace in reverse order.

Direct any specific questions to the nearest Bellofram Sales Engineer or to the factory.

**NOTE:** On Type 50 and Type 60 the pintle spring screw, Item No. 13, should be installed finger tight with a screw driver. Hex head screw, Item No.16, should be torqued to 22-25 ft./lbs.

Warranties of Sale, disclaimer thereof and limitations of liability are covered exclusively by Bellofram's printed warranty statement for the regulators. These instructions do not expand, reduce, modify or alter Bellofram's warranty statement and no warranty or remedy in favor of a customer or any other person arises out of these instructions.

# PRESSURE REGULATORS



## TYPE 40

### Adjustable-without Dripwell

1. Sq. Hd. Adjusting screw
2. Nut, Locking
3. Build Screw
4. Bonnet
5. Guide, Spring
6. Spring, Range
7. \*Diaphragm Assembly
8. Body
9. \*Pintle
10. \*Spring, Pintle
11. \*Screen
12. \*Gasket
13. \*Plug, Bottom

## TYPE 50

### Adjustable-with Dripwell

1. Sq. Hd. Adjusting Screw
2. Nut, Locking
3. Build Screw
4. Bonnet
5. Guide, Spring
6. Spring, Range
7. \*Diaphragm Assembly
8. Body
9. \*Gasket, Dripwell
10. \*Filter
11. \*Pintle, Valve
12. \*Spring, Pintle
13. Screw, Pintle Spring
14. Housing, Dripwell
15. Petcock
16. Screw, Hex. Head
17. \*Washer

## TYPE 60

### Adjustable-with Dripwell

1. Plug, Cover
2. Build Screw
3. Bonnet
4. Screw, Adjusting
5. Guide, Spring
6. Spring, Range
7. \*Diaphragm Assembly
8. Body
9. \*Gasket, Dripwell
10. \*Filter
11. \*Pintle, Valve
12. \*Spring, Pintle
13. Screw, Pintle Spring
14. Housing, Dripwell
15. Petcock
16. Screw, Hex. Head
17. \*Washer

## TYPE 66

### Adjustable-without Dripwell

1. Plug, Cover
2. Build Screw
3. Bonnet
4. Screw, Adjusting
5. Guide, Spring
6. Spring, Range
7. \*Diaphragm Assembly
8. Body
9. \*Pintle, Valve
10. \*Spring, Pintle
11. \*Screen
12. \*Gasket, Plug
13. Plug, Bottom

All items marked with an asterisk (\*) will be included in the repair kit.

Other parts may be ordered separately by specifying the item number, part name and the part number of the regulator for which the parts are intended.

**IMPORTANT:** Orders for these parts cannot be properly filled unless you specify the regulator part number and pressure range.