

Instructions-Parts List



STAINLESS STEEL, WATERBASE COMPATIBLE

Fluid Pressure Regulators

308292D

Used to regulate fluid pressure in low pressure systems only.

Fluid Flow up to 1.4 GPM (5.3 liters/min.)

Air Operated Regulators

*250 psi (18 bar) Maximum Inlet Fluid Pressure
5 to 100 psi (0.3 to 7.0 bar) Regulated Fluid Pressure*

Part No. 830351, Series B

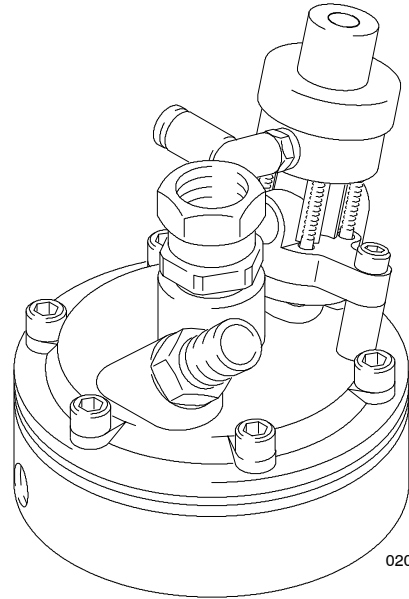
Supplied with Dump Valve

Part No. 830352, Series B

Bare Regulator (order dump valve separately)

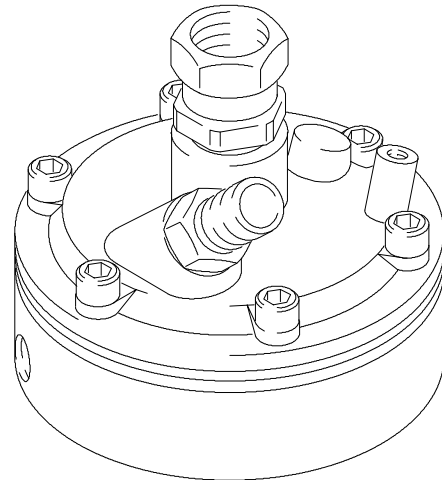
Part No. 830353, Series B

Without Dump Valve



Important Safety Instructions

Read all warnings and instructions in this manual.
Save these instructions.
See page 2 for table of contents.



Model 830353

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Symbols

Warning Symbol






This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

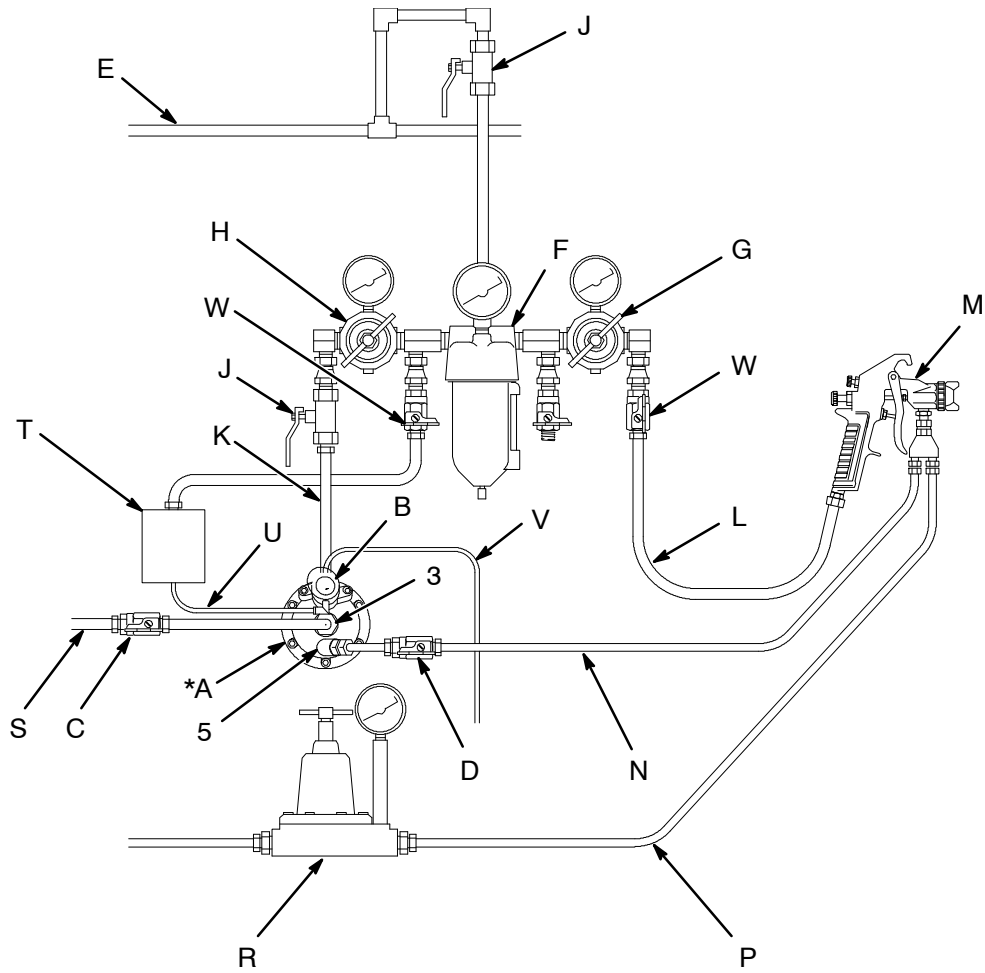
Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the corresponding instructions.

 WARNING	
	<p>PRESSURIZED EQUIPMENT HAZARD</p> <p>Fluid from the gun/dispense valve, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> ● Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking, or servicing equipment. ● Tighten all fluid connections before operating the equipment. ● Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.
	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> ● Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Data in all equipment manuals. ● Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. ● Check equipment daily. Repair or replace worn or damaged parts immediately. ● Do not alter or modify equipment. ● For professional use only. ● Use equipment only for its intended purpose. Call your Graco distributor for information. ● Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. ● Do not use hoses to pull equipment. ● Comply with all applicable safety regulations.

Installation



***NOTE:** The fluid regulator (A) is shown from the top, to help clarify its fluid and air connections. When installing the regulator, orient it as shown on the front cover.

KEY

- | | | | |
|---|---------------------------------------|---|-----------------------------|
| A | Fluid Pressure Regulator | L | Gun Air Supply Line |
| B | Dump Valve (supplied on Model 830351) | M | Air Spray Gun |
| C | Inlet Ball Valve | N | Gun Fluid Supply Line |
| D | Outlet Ball Valve | P | Fluid Return Line |
| E | Main Air Line | R | Back Pressure Valve |
| F | Air Filter and Moisture Separator | S | Regulator Fluid Supply Line |
| G | Gun Air Regulator | T | Dump Valve Pilot |
| H | Air Regulator for Fluid Regulator | U | Pilot Air Line |
| J | Bleed-Type Master Air Valves | V | Fluid Dump Line |
| K | Air Supply Line | W | Air Shutoff Valves |

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Fig. 1

Installation

Fluid pressure regulators (A) are used for accurate, positive control of the fluid pressure to spray guns (M), dispensing valves or atomizing heads.

Regulators installed at circulating line take-offs or with pumps are used to reduce main line pressure and maintain the desired fluid pressure to the spray gun or atomizing head.

NOTE: Reference numbers and letters used in the text refer to Figs. 1 and 2 and the Parts Drawings on pages 9 and 10.

Before Installing the Fluid Regulator

1. Determine where to locate the regulator (A). See Fig. 1.
2. Install a ball valve at the regulator fluid inlet (C) and outlet (D).
3. Install temporary plumbing between the inlet and outlet ball valves.
4. Thoroughly flush the system to remove metal chips and other contaminants and to check for leaks.

Installing the Fluid Regulator

1. Remove the temporary plumbing and install one regulator (A) for each spray gun (M). See **Dimensions**, page 12, for regulator dimensions. Mount the regulator with the fluid outlet at the bottom, for the best flow and minimum pigment settling.
2. Install a bleed-type master air valve (J) in the air supply line (K) to the fluid regulator, to relieve air pressure in the fluid regulator after the air regulator (H) is shut off.
3. Install another bleed valve (J) upstream from all other air line accessories, to isolate the accessories for servicing.
4. Provide an air filter (F) to eliminate moisture and harmful contaminants from the compressed air supply.
5. Use air regulators (G, H) to control the air pressure to the gun and fluid regulator. The fluid output pressure of the fluid regulator is the same as the air input pressure set on the air regulator (H).
6. Install air shutoff valves (W) on the air supply lines to the gun and dump valve pilot.
7. **On regulators with a dump valve**, connect a 5/32 in. O.D. air line tube from the dump valve pilot (T) to the air inlet fitting on the dump valve (B). Connect a fluid dump line (V) to the 1/8 npt(f) port of the dump valve. Place the free end of the dump line in a properly grounded container to catch the fluid.
8. Install a back pressure valve (R) to maintain constant back pressure in the return line (P).
9. Connect the fluid supply line (S) to the regulator's swivel inlet (3). Connect the gun fluid supply line (N) to the regulator's angled fluid outlet (5).
10. Put pipe thread sealant on threaded connections, except on swivel unions; sealant interferes with the swivel action.
11. Flush and test the entire system. Be sure to follow the flushing procedure on page 5.

Operation

CAUTION

- The new system must be cleaned and tested thoroughly before admitting fluid to the regulator to avoid contaminants clogging or damaging the regulator.
- Always use the lowest possible air and fluid pressures for your application. High pressures cause premature spray nozzle and pump wear.

NOTE: Reference numbers and letters used in the text refer to Figs. 1 and 2 and the Parts Drawings on pages 9 and 10.

Pressure Relief Procedure

⚠ WARNING

To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- Clean, check, or service any of the system equipment,

1. Shut off the pump.
2. Close the fluid regulator's inlet ball valve. Refer to Fig. 1, page 3.
3. Relieve all fluid and air pressure in the fluid regulator.

Regulating Fluid Pressure

1. Start the pump and open the fluid regulator's inlet ball valve (C) to admit fluid to the regulator. See Fig. 1.
2. Increase the air pressure to obtain the desired fluid pressure. *Before reducing the regulator pressure, partially relieve pressure in the gun fluid supply hose to ensure the correct gauge reading.*

NOTE: For the best results, use an air regulator with at least a 2 in. (51 mm) diameter diaphragm to control this fluid regulator.

Using the Dump Valve

1. Shut off the fluid supply to the regulator.
2. Trigger the dump valve pilot (T). The valve will open and relieve fluid pressure in the regulator.

Flushing Procedure

1. Flush the regulator with a compatible solvent whenever the rest of the system is flushed.
2. Remove the gauge if the fluid pressure will exceed the gauge range.
3. Flush until thoroughly clean. Always use the lowest possible pressure when flushing.

Troubleshooting

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 5.

Before servicing this equipment always make sure to **Relieve the Pressure**.

Check all possible remedies in the Troubleshooting Chart before disassembling the fluid regulator.

PROBLEM	CAUSE	SOLUTION
No pressure regulation.	Damaged or clogged air regulator or line.	Clear obstruction in line. Service regulator if necessary.
	Damaged diaphragm (10).	Replace diaphragm.
Fluid leaks from under bowl (18).	Bowl is loose.	Tighten screws (2). See Service section.
	Worn gasket (15).	Replace gasket. See Service section.
Pressure creeps above setting.	Damaged or clogged air regulator or line.	Clear obstruction in line. Service regulator if necessary.
	Damaged diaphragm (10).	Replace diaphragm.
	Seat (7) leaking.	Replace stem assembly (16), gasket (8), seat (7) and ball (17).
Pressure drops below setting.	Damaged or clogged air regulator or line.	Clear obstruction in line. Service regulator if necessary.
	Empty/clogged fluid supply line.	Refill or flush supply line.
	Clogged air spray gun or fluid dispensing valve.	Refer to gun or valve manual for service instructions.
	Using regulator above its rated flow capacity (see Technical Data , page 13).	Use additional regulators.

Service

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 5.

NOTE: Repair Kit 222651 is available to service the regulator. See page 11 to order. Parts included in the kit are marked with an asterisk, for example (6*).

1. Shut off the pump.
2. Close the ball valve at the regulator's air inlet. Refer to Fig. 1, page 3.
3. Release all the air and fluid pressure in the regulator and disconnect the air and fluid lines.
4. Remove the swivel union (3), o-ring (6), and spring (4) from the regulator bowl. See Fig. 2.
5. Remove the ball (17), seat (7) and gasket (8).

CAUTION

Use special care when handling the hard carbide ball (17) and seat (7) to avoid damaging them.

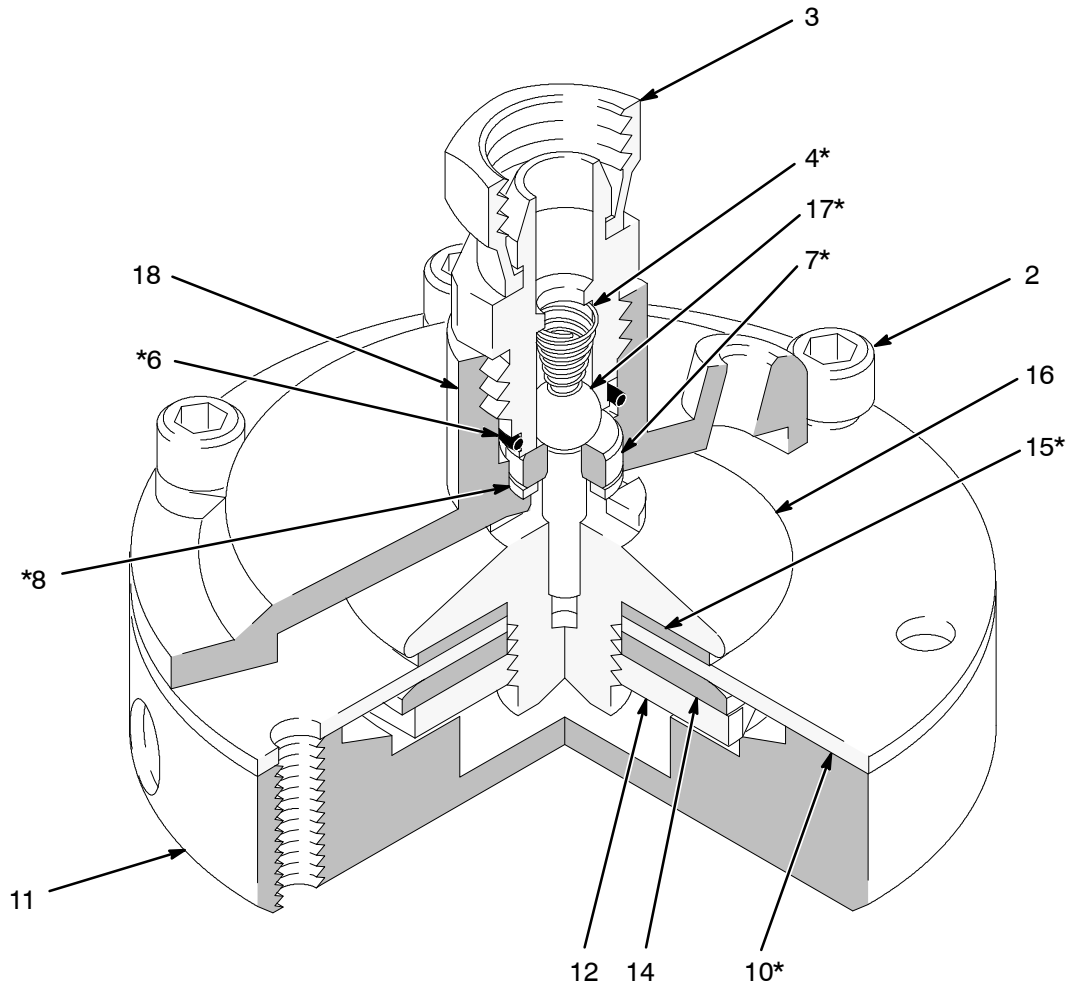
6. Remove the six cap screws (2) while holding the regulator housing (11) to the bowl (18). Separate the bowl and housing.

7. Remove the jam nut (12) and washer (14) from the stem assembly (16).
8. Remove the diaphragm (10) and gasket (15).
9. Thoroughly clean and inspect all parts. Replace any parts that appear to be worn or damaged.
10. One at a time, place the gasket (15*), diaphragm (10*) - *white PTFE side facing up toward regulator bowl*, and washer (14) on the stem assembly (16). Secure them with the jam nut (12). Torque the jam nut to 15-19 ft-lb (20-25 N•m).
11. Install the assembled parts in the housing (11).
12. Install the regulator bowl (18) on the housing (11). Tighten the six cap screws (2) in the sequence shown in Fig. 2, **Top View**, and to the torque noted.
13. Install the gasket (8*), valve seat (7*), and ball (17*) into the bowl (18).

NOTE: The seat may be turned upside down and reused.

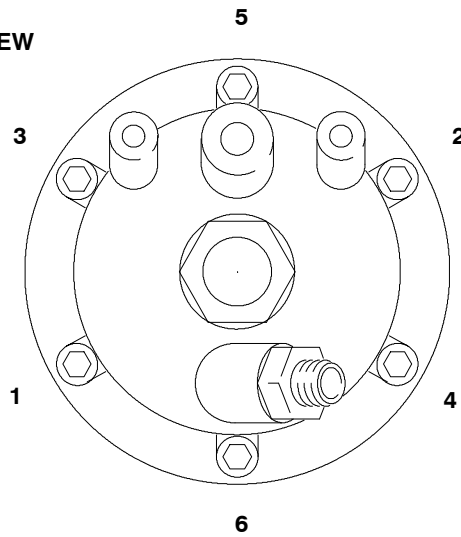
14. Screw the swivel union (3), with the o-ring (6*) attached and the spring (4*) in place, into the inlet. Torque to 23-27 ft-lb (31-36 N•m).

Service



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TOP VIEW



NOTE: Numbers indicate tightening sequence. Tighten evenly to 7-10 in-lb (0.8-1.1 N•m), then retorque to 125 in-lb (14 N•m) three times, consecutively, to compensate for diaphragm relaxation.

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Fig. 2

Parts

Model 830352, Series B

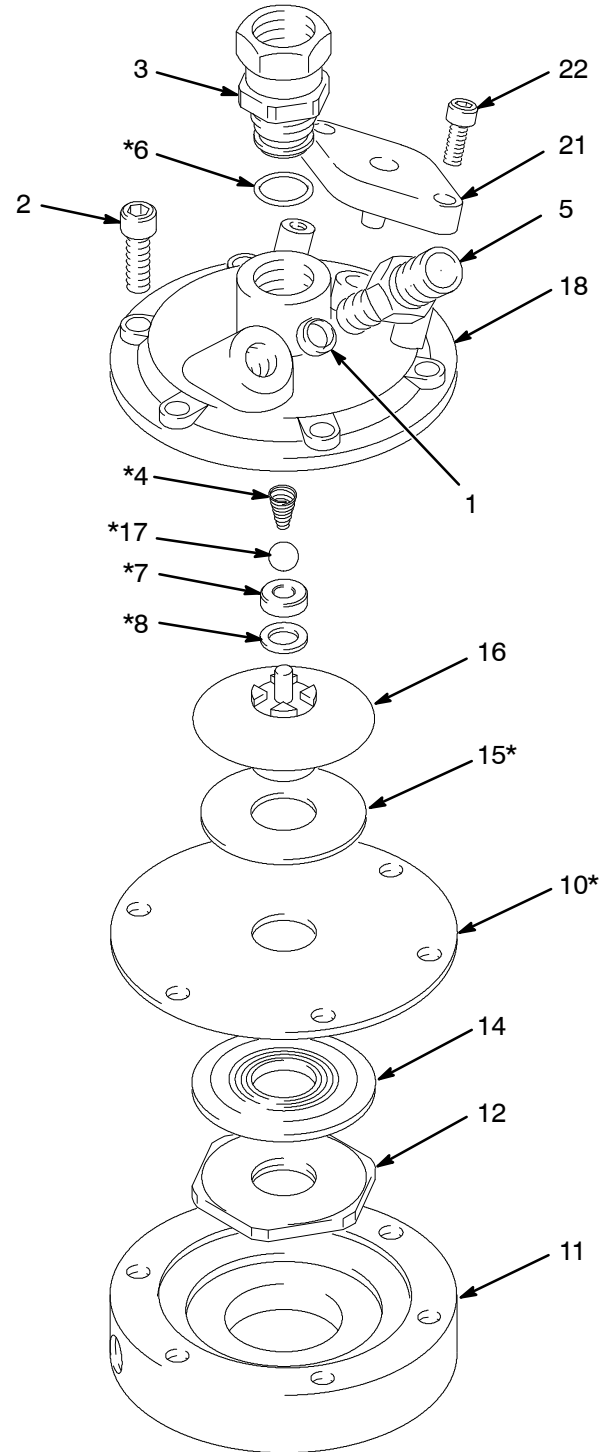
Without dump. Includes items 1-22.

Ref. No.	Part No.	Description	Qty.
1	178422	GASKET, fluid outlet; acetal	1
2	100644	SCREW, cap, socket hd; 1/4-20 x 0.75 in. (19 mm) long	6
3	235209	UNION, swivel, fluid inlet; 3/8 npsm(f); sst	1
4*	111858	SPRING, compression; sst	1
5	178415	CONNECTOR, fluid outlet; 1/4 npsm(m); sst	1
6*	104319	O-RING; PTFE	1
7*	112366	SEAT, valve; tungsten carbide	1
8*	171860	GASKET, seat; nylon	1
10*	171868	DIAPHRAGM; PTFE	1
11	833166	HOUSING, regulator; aluminum	1
12	171858	NUT, jam, special; cst	1
14	171862	WASHER; acetal	1
15*	172132	GASKET; cellulose fiber	1
16	836115	STEM ASSEMBLY; sst	1
17*	112365	BALL; tungsten carbide	1
18	833383	BOWL w/dump, regulator; sst; <i>Used on Model 830352</i>	1
	833382	BOWL w/o dump, regulator; sst; <i>Used on Model 830353</i>	1
21	181036	COVER, dump port; <i>Used on Model 830352 only</i>	1
22	102598	SCREW, cap, socket hd; 10-32 x 0.5 in. (13 mm) long; <i>Used on Model 830352 only</i>	2

* These parts are included in Repair Kit 222651, which may be purchased separately. See page 11 to order. The kit includes some parts not used on these regulators.

Model 830353

Without dump. Includes items 1-18.

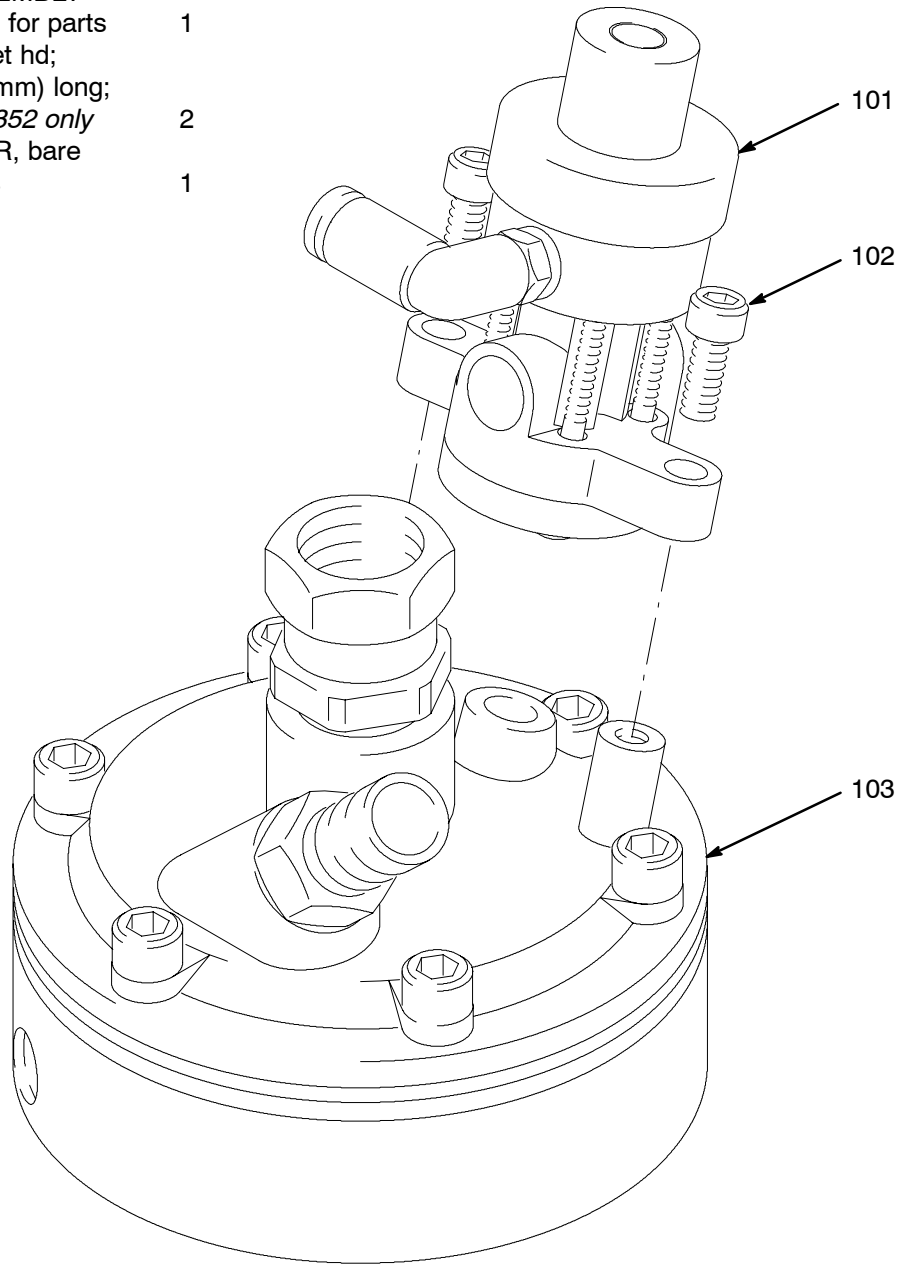


Parts

Model 830351, Series B

With dump. Includes items 101-103.

Ref. No.	Part No.	Description	Qty.
101	218964	DUMP VALVE ASSEMBLY See manual 307941 for parts	1
102	102598	SCREW, cap, socket hd; 10-32 x 0.5 in. (13 mm) long; <i>Used on Model 830352 only</i>	2
103	830352	FLUID REGULATOR, bare see page 9 for parts	1



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Repair Kits

Repair Kit 222651

Must be ordered separately. Includes the following (the kit also includes other parts not used with this regulator).

Part No.	Description	Qty	Part No.	Description	Qty
104319	O-RING; PTFE	1	171868	DIAPHRAGM; PTFE with nylon fabric/Buna-N base	1
171860	GASKET, seat	1	172132	GASKET; cellulose fibre	1
112366	SEAT, valve; tungsten carbide	1	111858	SPRING, compression	1
112365	BALL; tungsten carbide	1			

Accessories

Bleed-Type Master Air Valve 107142

21 bar (300 psi) Maximum Working Pressure

Relieves air pressure in the fluid regulator when this valve is closed. 1/2 npt(m) inlet x 1/2 npt(f) outlet.

Fluid Dump Valve 218964

Included with Model 830351. Air-activated. See manual 307941 for instructions.

Air Filter, Moisture Separator With Regulators 217075

200 psi (14 bar) Maximum Inlet Pressure

For moisture separation and to separate air regulation to spray gun and fluid regulator. 1/2 npt(f) inlet. With two 0-100 psi (0-7 bar) 1/4 npt(m) Regulated Ports and two 0-200 psi (0-14 bar) 3/8 npt(f) Unregulated Ports.

Air Filter 106146

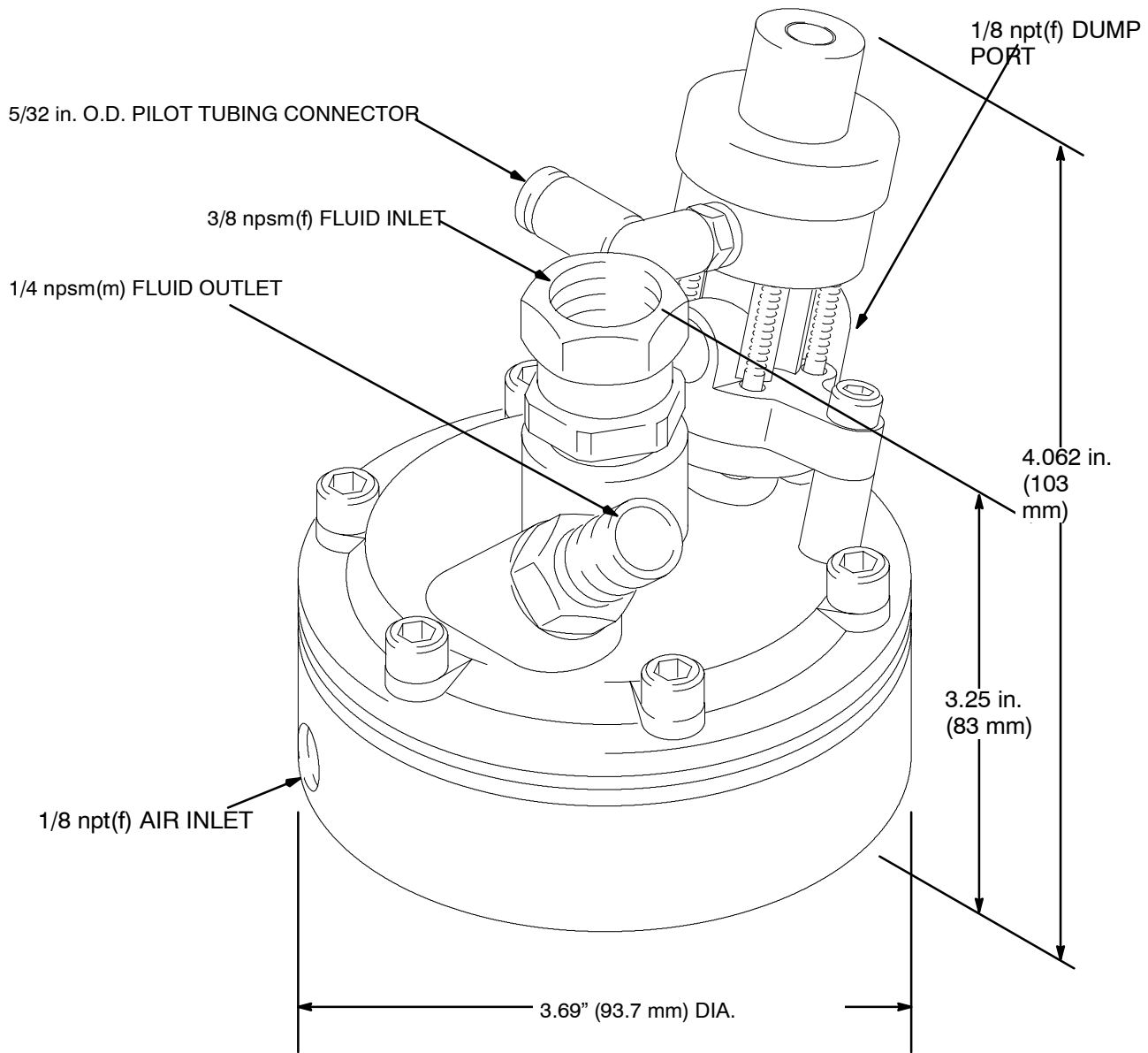
250 psi (17.5 bar) Maximum Working Pressure

Removes oil, water and dirt from main air line. 1/2 npt, 0 to 200 psi (0 to 14 bar) regulated pressure range, manual bowl drain, 40 micron element, 40 oz. bowl.

Air Regulator and Gauge 206199

0 to 125 psi (0-9 bar) Regulated Pressure Range
200 psi (14 bar) Steel Pressure Gauge
1/2 npt(f) inlet and outlet.

Dimensions



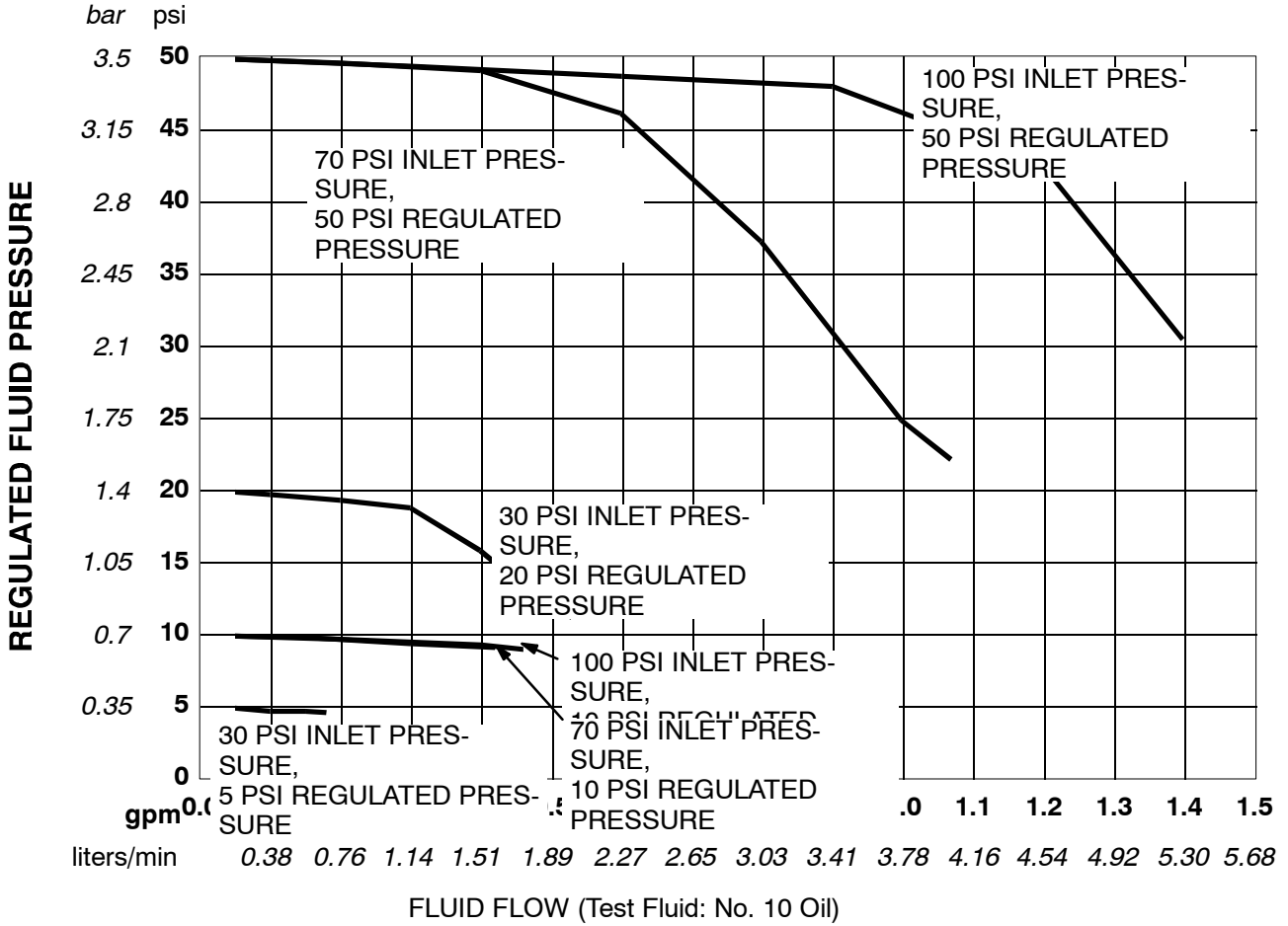
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Technical Data

Maximum Fluid Inlet Pressure 250 psi (18 bar)
Regulated Fluid Pressure Range: 5-100 psi
 (0.3-7.0 bar)
Maximum Flow Capacity . . . 1.4 GPM (5.3 liters/min)
 at 100 psi (7 bar) inlet pressure and
 50 psi (3.5 bar) regulated pressure (see chart)

Wetted Parts Tungsten Carbide, Acetal, PTFE,
 304 & 303 Series Stainless Steel,
 Nylon; Cellulose

Performance Chart



Graco Standard Warranty

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose in connection with accessories, equipment, materials or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

1-800-328-0211 Toll Free

612-623-6921

612-378-3505 Fax

All written and visual data contained in this document reflects the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

This manual contains English. MM 308292

Graco Headquarters: Minneapolis

International Offices: Belgium, China, Japan, Korea

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

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