



SEP. 2013

Innovative Stylish Dynamic

ISO-9001:2008 / ISO-14001:2004

Fluid Pressure Regulators

For Use In Low-Pressure Systems Only



SPRING OPERATE FLUID PRESSURE REGULATOR

* The main line pressures on the fluid supply system:

The fluid supply system main line pressures often exceed the pressure range of the gauge supplied with regulator. Exposing this gauge to excessive pressure can damage the gauge, causing inaccurate readings, and the needle will not return to zero. Such damage is not covered by the HASCO warranty.

<< Standard

STAINLESS STEEL REGULATOR A68000

100 psi (0.7 MPa, 7 bar) Maximum Working Pressure 20-100 psi (4-7 bar)
Regulator Fluid Pressure Range



Table of Contents

1. Symbols3

1-1 EQUIPMENT MISUSE HAZARD

2. Warnings.....4

2-1 INJECTION HAZARD

2-2 TOXIC FLUID HAZARD

3. Installation5

3-1 Introduction

3-2 Before Installing the Fluid Regulator

3-3 Installing the Fluid Regulator

3-4 Pressure Relief Procedure

3-5 Spring-Operated Regulator Installation

4. Operation7

4-1 Regulating Fluid Pressure

4-2 Flushing Procedure

5. Service8

6. Troubleshooting9

7. Parts10

8. Technical Data10

1. Symbols



- Warning Symbol

 **WARNING**

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

- Caution Symbol

 **CAUTION**

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

WARNING



1-1 EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are not sure, call your HASCO distributor.
- Do not alter or modify this equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. Refer to the **Technical Data** on page 10 for the maximum working pressure of this equipment.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose HASCO hoses to temperatures above 180°F (82°C) or below -40°F (-40°C).
- Wear hearing protection when operating this equipment.
- Do not lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.



2. Warnings

⚠ WARNING

2-1 INJECTION HAZARD



Spray from the gun, leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.



- Fluid injected into the skin might look like just a cut, but it is a serious injury. Get immediate medical attention.
- Do not point the gun at anyone or at any part of the body.
- Do not put your hand or fingers over the spray gun tip or extruder gun tip.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Always have the tip guard and the trigger guard on the gun when spraying.
- Check the gun diffuser operation weekly. Refer to the gun manual.
- Be sure the gun trigger safety operates before spraying.
- Lock the gun trigger safety when you stop dispensing.
- Follow the Pressure Relief Procedure on page 5 if the spray tip clogs and before cleaning, checking, or servicing the equipment.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.
- Fluid hoses must have spring guards on both ends to help protect them from rupture caused by kinks or bends near the couplings.

2-2 TOXIC FLUID HAZARD



HASCO does not manufacture or supply the reactive chemical components that may be used in this equipment and is not responsible for injury or property loss, damage, expense or claims (direct or consequential) that arise from the use of such chemical components.

3. Installation



3-1 INTRODUCTION

Fluid pressure regulators are used for accurate, positive control of the fluid pressure to spray guns, dispensing valves or atomizing heads. Regulators installed at circulating line take-offs or pumps are used to reduce main line pressure and maintain the desired fluid pressure to the spray gun or atomizing head.

3-2 BEFORE INSTALLING THE FLUID REGULATOR

- Determine where to locate the regulator.
- Install a ball valve for the regulator inlet and outlet.
- Install temporary plumbing between the ball valves.
- Thoroughly flush the system to remove metal chips and other contaminants and to check for leaks.

3-3 INSTALLING THE FLUID REGULATOR

- See Figs. 1 on page 6. Install one regulator for each spray gun. Mount the regulator in a vertical position for the best flow and minimum pigment settling. The gauge, if used, must be mounted vertically. If the regulator is mounted horizontally, an elbow must be used so the gauge will be vertical.
- Put sealer on threaded connections, except for swivel unions as it interferes with the swivel action.
- Flush and test the entire system. Be sure to follow the flushing procedure on page 7.

⚠ CAUTION

Avoid overtightening threaded connections into the regulator's plastic inlet and outlet threads. Check to be sure the threaded connections are tight and leak-free, but **do not overtighten!**

3-4 PRESSURE RELIEF PROCEDURE

⚠ WARNING

INJECTION HAZARD



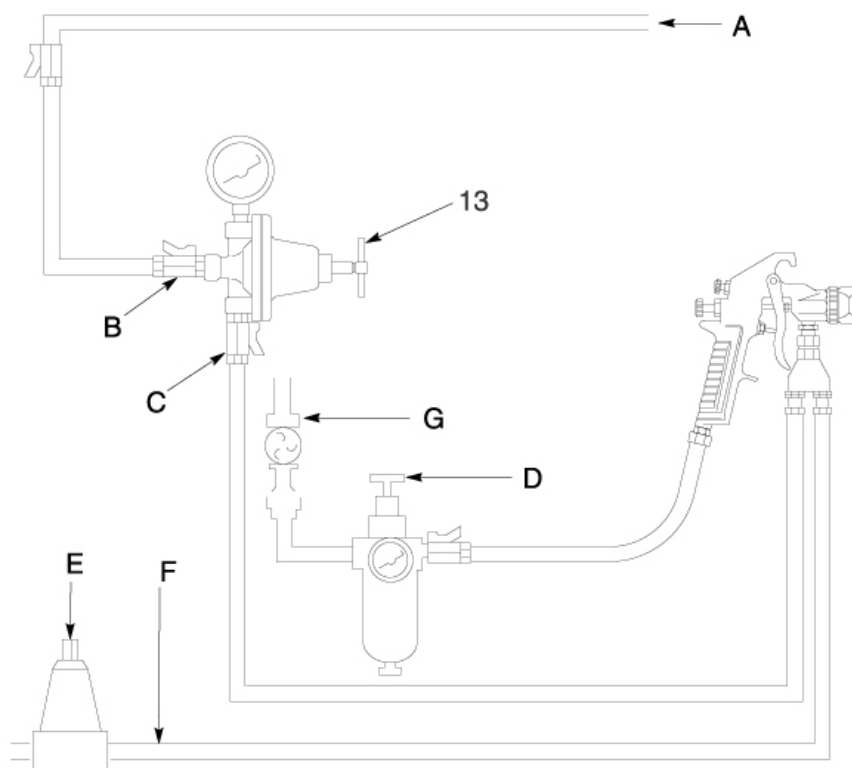
The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the Pressure Relief Procedure whenever you

- are instructed to relieve the pressure
- stop spraying
- check or service any of the system equipment
- or install or clean the spray tip

3. Installation

- Shut off the pump.
 - Close the fluid regulator's inlet ball valve (B). Refer to Fig.1, page 6.
 - Relieve fluid pressure in the fluid regulator by triggering the spray gun.
 - In case of spring-operated regulators, turn the adjustment handle (13) counterclockwise until the spring force is relieved.
- If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely, then clear the tip or hose

3-5 SPRING-OPERATED REGULATOR INSTALLATION



KEY	
A	Fluid supply
B	Inlet ball valve
C	Outlet ball valve
D	Air filter and regulator
E	Back pressure valve
F	Fluid return
G	Air supply
13	Regulator adjustment handle

<Fig. 1>

4. 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 can cause premature spray tip, regulator, and pump wear.**

* NOTE: Reference numbers and letters in parentheses in the text refer to Page-10

4-1 REGULATING FLUID PRESSURE

- Close the regulator: turn the adjustment handle (13) counterclockwise to relieve the spring tension.
- Start the pump and open the fluid regulator's inlet ball valve (B) to admit fluid to the regulator.
- Turn the adjustment handle (13) clockwise to increase fluid pressure. See Fig. 1. Adjust for the desired spray pattern. Before reducing the regulator pressure, partially relieve pressure in the gun hose to ensure the correct gauge reading. Tighten the nut (14) to the Spring housing (10) to ensure the proper pressure setting.

4-2 FLUSHING PROCEDURE

- Flush the regulator with a compatible solvent whenever the rest of the system is flushed.
- Remove the gauge if the fluid pressure will exceed the gauge range.
- Only for Spring - Operated Regulators
 - a. Shut off the pump and relieve fluid pressure in the system by opening the back pressure valve (E) or other bypass valve. See Fig. 1.
 - b. Turn the adjustment handle (13) clockwise to open the regulator valve to the desired flushing outlet pressure and flow.
- Flush until thoroughly clean. Always use the lowest possible pressure when flushing.
- Only for Spring - Operated Regulators After flushing, turn the adjustment handle (13) counterclockwise to the previous pressure setting. Partially relieve pressure in the gun hose to ensure the correct gauge reading.



5. Service

REGULATOR DISMANTLED

- Shut off the pump. Close the ball valve at the regulator's air inlet.
- Release all fluid pressure in the regulator and disconnect the fluid line. Remove the regulator from the system.
- Turn the adjustment handle(13) counterclockwise until the spring force is relieved
- Remove the six hex head bolt(11) from the spring housing(10) and the housing(2). Refer to page 10.
- Remove the spring(8), spring guide(9) from the regulator spring housing(10)
- Remove the diaphragm guide nut(3) and diaphragm guide(4) from the diaphragm seat(5).
- Remove the diaphragm(7*). Remove the ball guide(6*) from the diaphragm seat(5).

⚠ CAUTION

Use special care when handling the tungsten carbide ball(16*) and ball guide(6*) to avoid damage to them.

- Remove the ball(16*) and spring(17), gasket(15*), nipple(18)
- Thoroughly clean and inspect all parts. Replace any parts that appear to be worn or damaged.

REASSEMBLY

- Place the gasket(15*) into the housing(2). Place the spring(17) into the housing(2), then the ball(16*) on top of the spring.
- Tighten the nipple(18) into the housing(2).

⚠ CAUTION

Use special care when tightening the diaphragm seat(5). Tighten it by hand several turns before using a wrench.

- Assemble the following parts onto the diaphragm seat(5). First, place the diaphragm(7*), with the PTFE side facing down, towards the diaphragm(7*). Then, place the diaphragm guide(4), with ridges facing the rubber side of the diaphragm, onto the diaphragm(7*). Secure them with the diaphragm nut(3).
- Place the ball guide(6*) into the diaphragm seat(5). Install the assembled parts in the housing(2).
- Place the spring(8) on top of the diaphragm nut(3) and the spring guide(9) on top of the other end of the spring(8). Apply lithium base grease in the drill point of the spring guide for lubrication.
- Place the bolt(11) and plate washer(12) into the six holes in the spring housing(10) and install onto the housing(2)
- Screw the adjustment handle(13) into the nut(14) in the spring housing(10).

6. Troubleshooting



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

⚠ WARNING

TO REDUCE THE RISK OF SERIOUS INJURY WHENEVER YOU ARE INSTRUCTED TO RELIEVE PRESSURE, ALWAYS FOLLOW THE PRESSURE RELIEF PROCEDURE ON PAGE 5.

Problem	Cause	Solution
No pressure regulation.	Damaged or clogged air regulator or line No flow or pressure to the inlet of the regulator. Damaged diaphragm (7*)	Clear obstruction in line, service regulator if necessary. Clear obstruction in the fluid line to the regulator. Replace diaphragm.
Fluid leaks from between the cap(5) and the housing (20).	Loose cap (5) Loose Spring housing(10)	Tighten screws (18,19) in sequence shown in Service section. Replace gasket. Replace o-ring.
Pressure creeps above setting.	Damaged or clogged air regulator or line Damaged diaphragm (7*) Contamination between ball (16*) and diaphragm seat (5)	Clear obstruction in line, service regulator if necessary. Replace diaphragm. Replace ball (16*), diaphragm seat (5)
Pressure drops below setting.	Damaged or clogged air regulator or line Empty/clogged supply line. Clogged air spray gun or fluid dispensing valve. Using regulator beyond its rated flow capacity.	Clear obstruction in line, service regulator if necessary. Fill/flush supply line. Replace, see gun or valve manual for service instructions. Install additional regulators.

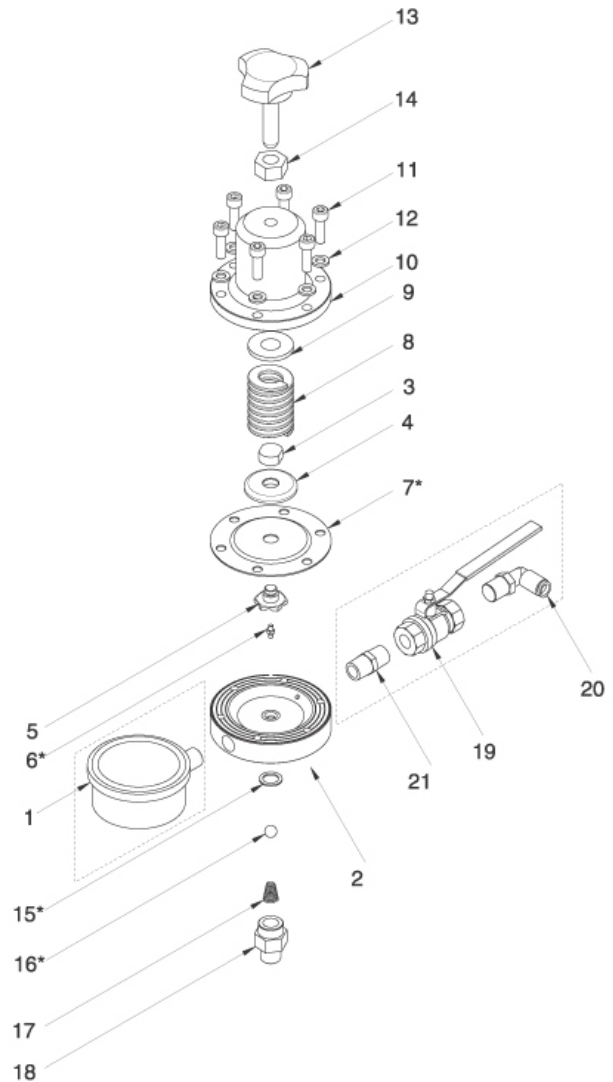


7. Parts

A68000			
No.	Part No.	Description	Qty.
1	A68001	PRESSURE GAUGE , 1/4"	1
2	A68002	HOUSING	1
3	A68003	DIAPHRAM GUIDE NUT	1
4	A68004	DIAPHRAM GUIDE	1
5	A68005	DIAPHRAM SEAT	1
6*	A68006	BALL GUIDE	1
7*	A68007	DIAPHRAM	1
8	A68008	SPRING	1
9	A68009	SPRING GUIDE	1
10	A68010	SPRING HOUSING	1
11	A68011	BOLT	6
12	G30N014-2-3	FLAT WASHER	6
13	A68012	HANDLE	1
14	72115	NUT	1
15*	A68013	GASKET	1
16*	28214	BALL (5/16")	1
17	A68014	SPRING	1
18	A68015	NIPPLE	1
19	28312-A	BALL VALVE (GENERAL)	1
20	55E340	PLUG	1
21	A68016	NIPPLE	1

* Repair kit RA68000 : of (A68006(No.6*),A68007(No.7*), A68013(No.15*),28214(No.16*) These parts are included in the repair kits which may be purchased separately.

* OPTION : A680001(No.1),28312-A(No.19),55E340(No.20), A68016(No.21)



8. Technical Data

Maximum fluid inlet pressure100 psi
(0.7 MPa, 7bar)

Maximum fluid operating temperature150°F
(66°C)

Regulated fluid pressure range
A680003 to 100psi
(.02 to 0.7 MPa, 0.2 to 7 bar)

Maximum flow capacity0.5gpm (1.9lpm)
with 70 cps fluid at 100 psi(0.7 MPa, 7 bar) inbound pressure

Wetted Partsacetal resins, PTFE,tungsten carbide
300 series, stainless steel, 2000 series Aluminum

Weight
A680002.1lb. (0.94kg)
For Option2.9lb. (1.32kg)



MEMO

A series of horizontal dashed lines for writing.

Warranty and Limitations



Warranty General

All HASCO products have a one year guarantee from the invoice date, unless otherwise stated in writing.

The warranty covers all manufacturing faults and material defects. Any spare part replacement or repair operations are covered only if they are carried out by our authorized distributors. This warranty covers when the equipment is installed, operated and maintained in accordance with HASCO's written recommendations. HASCO shall not be liable for, any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of Non-HASCO component parts.

This warranty is conditioned upon the CARRIAGE PAID return of the equipment claimed to be defective to an authorized HASCO distributors for verification of the claim. If the claimed defect is verified, HASCO will repair or replace free of charge any defective parts. This components will be returned to the original purchase CARRIAGE PAID 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.

The Warranty does not cover

- Damage or breakdown caused by improper use or assembly.
- Damage or breakdown caused by the use of spare parts that are different from the original or recommended ones.
- Damage or breakdown caused by bad preservation.
- **Components subject to wear(described in parts list) Warranty Forfeiture:**
- In case of delayed payment or other contractual defaults.
- Whenever changes or repairs are carried out on our equipment without prior authorization.
- When the serial number is damaged or removed.
- When the damage is caused by improper use or functioning, or if the equipment falls, is bumped or by other causes not due to the normal working conditions.
- Whenever the unit disassembled, tampered with or repaired without the authorization of HASCO.



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