

# Instructions-Parts List



## HIGH PRESSURE, MEDIUM VOLUME “red alert” Filters

307252P

EN

**For filtration of common industrial paints and coatings in finishing applications. For professional use only.**

*3000 psi (21.0 MPa, 210 bar) Maximum Working Pressure*

*10 gpm (38 liter/min) Flow Capacity*

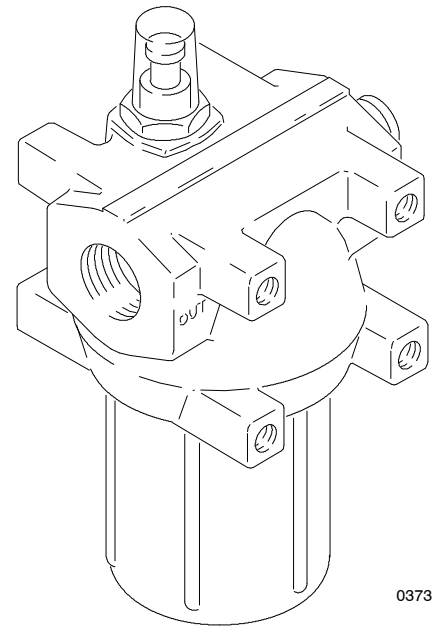
*36 sq. in. (230 cm<sup>2</sup>) Filtering Area*

**Part No. 210090**, 60 mesh (250 micron) element 108116

**Part No. 210091**, 100 mesh (149 micron) element 108117

**Part No. 210092**, 200 mesh (74 micron) element 108118

**Part No. 104435**, without element



03731



### **Important Safety Instructions**

Read all warnings and instructions in this manual.  
Save these instructions.

# WARNINGS

**High Pressure Spray Can Cause Serious Injury. Observe All Warnings.  
Read and understand all instruction manuals before operating equipment.**

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## SKIN INJECTION HAZARD

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### General Safety

This equipment is used in a system which generates very high fluid pressure. Spray from leaks or ruptured components can inject fluid through your skin and into your body and cause extremely serious bodily injury, including the need for amputation. Also, fluid injected or splashed into the eyes or on the skin can cause serious damage.

Never try to stop or deflect leaks with your hand or body.

Keep hands away from the end of the drain valve when opening the drain valve.

### Medical Alert - Airless Spray Wounds

If any fluid appears to penetrate your skin, **get immediate surgical treatment. Do not treat as a simple cut.** Tell the doctor exactly what fluid was injected.

**NOTE TO PHYSICIAN:** Injection into the skin is a traumatic injury. **It is important to treat the injury surgically as soon as possible.** Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.

### Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, or injury from moving parts, always follow this procedure whenever you install, remove, clean or repair any part of the system.

1. Engage the spray gun safety latch and any other equipment safety locks.
2. Shut off the air or hydraulic supply to the pump.
3. Disengage the gun safety latch.
4. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
5. Engage the gun safety latch.
6. Keeping your hands away from the end of the drain valve, slowly open the drain valves (required in your system) having a container ready to catch the drainage.
7. Leave the drain valves open until you are ready to use the system again.

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## EQUIPMENT MISUSE HAZARD

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### General Safety

Any misuse of the equipment or accessories, such as overpressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause them to rupture and result in fluid injection, splashing in the eyes or on the skin, or other serious bodily injury, or fire, explosion or property damage.

Never alter or modify any part of this equipment; doing so could cause it to malfunction.

### System Pressure

Do not exceed *3000 psi (210 bar) Maximum Working Pressure*, or the maximum working pressure of the lowest rated component or accessory in your system.

Be sure all components and accessories are rated to withstand the maximum working pressure of your pump.

### Fluid Compatibility

Be sure that all fluids and solvents used are chemically compatible with the wetted parts shown in the **Technical Data** on page 5 and in all other components used in the system.

# Installation

To clean or service the filter without shutting down the system, install a dual filter or a filter bypass system as explained below.

The numbers and letters in parentheses refer to Figs. 1, 2, and 3 and the Parts Drawing. **Accessories** and **Technical Data** are on the page 5.

**NOTE:** Allow 3 in. (76 mm) minimum clearance below the filter for easy removal of the bowl (10).

## Fluid Drain Valve (required in all systems)

### WARNING

A fluid drain valve is required in the base of each fluid filter. Use this drain valve to relieve fluid pressure in the filter, to reduce the risk of serious injury, including fluid injection and splashing in the eyes or on the skin.

Remove the 3/4 unf plug (12) from the bottom of the filter and install a high pressure adapter and drain valve (A,B). See Fig. 2.

## Dual Filter System

This setup enables you to redirect the fluid to another filter while one filter is cleaned or serviced.

Install two filters as shown in Fig. 2. Install four suitable shutoff valves (D), one at each filter and outlet, to redirect the fluid and isolate the filter not in use.

## Filter Bypass System

This setup enables you to redirect the fluid through pipes which bypass the filter while cleaning or servicing the filter.

Install the filter and bypass pipes as shown in Fig. 1. Install four suitable shutoff valves (D), one each at the filter inlet, the filter outlet, the bypass pipe inlet, and the bypass pipe outlet. These valves redirect the fluid and isolate the filter while cleaning and servicing.

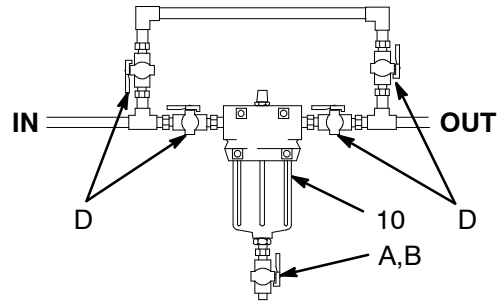


Fig. 1 Filter Bypass System

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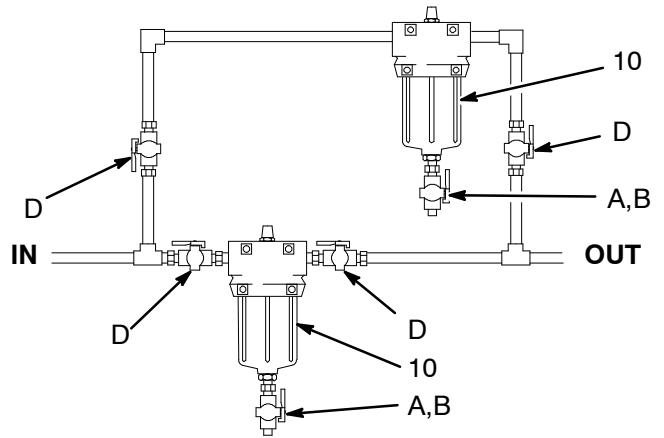
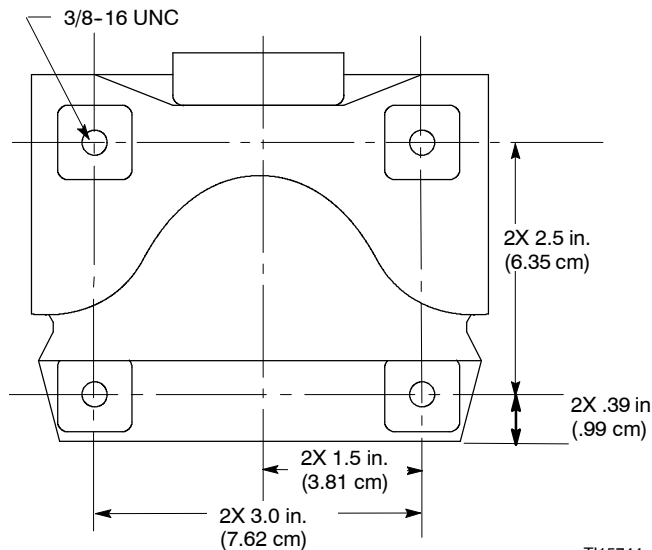


Fig. 2 Dual Filter System

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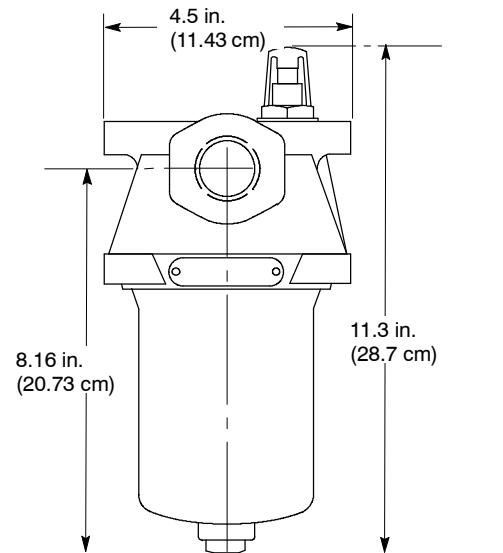
# Dimensions

## Mounting Dimensions



T115744a

## Basic Overall Dimensions



T115743a

# Service

## CAUTION

If the filter will not be used for a while, thoroughly clean all the parts in solvent and blow them dry before the paint dries and clogs the filter. To help prevent damaging the parts, do not clean them with a wire brush or sharp object.

### Indicator

The indicator provides gradual warning of a dirty element. When the indicator shows 3/4 red, clean the element. If not cleaned promptly, the filter bypass valve opens and fluid will not be filtered.

Replace the indicator assembly (1) if the indicator is not working correctly (it is always red or never red). See Fig. 3.

### Bypass Valve

The valve opens when a dirty element causes the filter's outlet pressure to drop 15 psi (1 bar) below the inlet pressure. This keeps the system pressure steady and prevents the element from collapsing.

Replace the bypass valve (2) if it is damaged or worn.

### Fluoroelastomer O-Ring and O-Ring Backup

The o-rings seal the bowl (10) to the housing (3). If material leaks around the bowl, replace the o-ring (6) and o-ring backup (7).

Follow the Pressure Relief Procedure on page 2. Remove the bowl and o-rings. Clean the parts in a compatible solvent. Be careful not to damage the o-ring or sealing surfaces of the bowl and housing. Before assembling, lubricate the parts with No. 2 grease. Be sure the o-ring backup is installed with the groove facing up.

### Bowl, Element and Spring

To reduce downtime, keep a spare bowl (10), element (8) and spring (9) on hand. Before removing the bowl, direct the fluid through the bypass pipes or shut down the system. Relieve fluid pressure by opening the drain valve (B). Have a container ready to catch the drainage.

Remove the bowl, element and spring. Replace immediately with the spare bowl, element and spring to keep the paint from

drying on the housing (3) and other parts. Install the element with the dome end up. Lubricate the threads of the bowl before screwing it into the housing. Tighten it securely.

Clean the bowl, element and spring you removed with a compatible solvent before the paint dries. Do not use a wire brush or sharp object to clean. Store until needed.

**NOTE:** Clean the filter element (8) with a small paint brush. Blow out lodged particles with air, and inspect for damage. Replace if ruptured, damaged or too dirty to clean.

- 1 3/4" npt(f) Inlet and outlet
- 2 3/4-16 unf (f) drain port

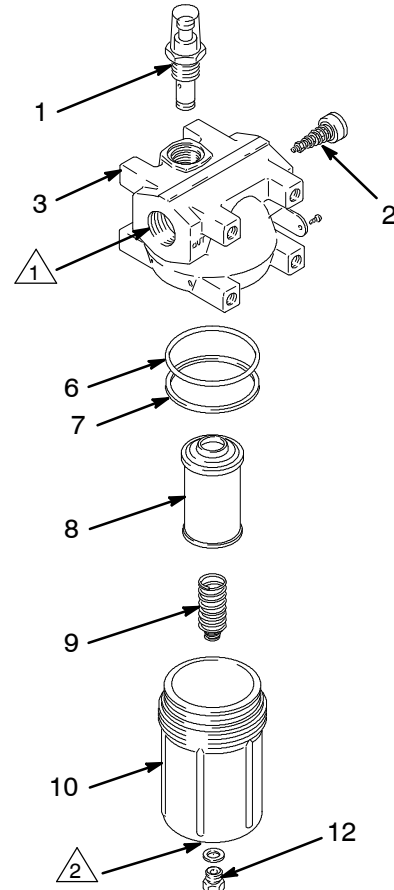


Fig. 3

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# Parts

## Model No. 210090 to 210092

Includes items 1 to 12.

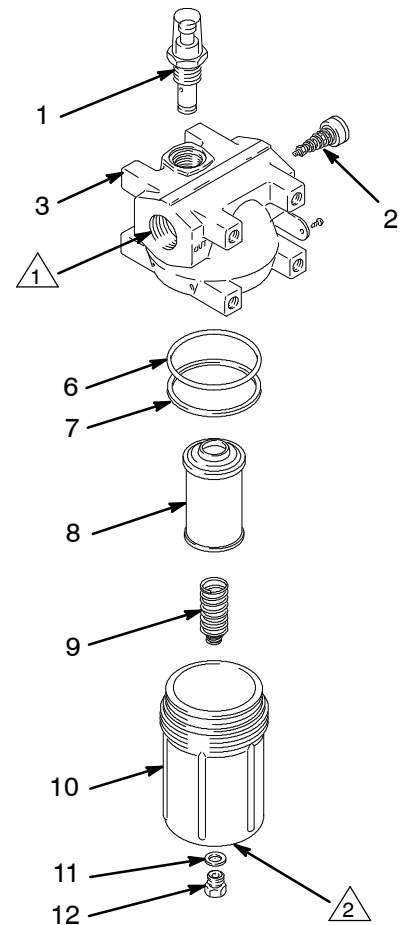
## Model No. 104435

Includes items 1 to 7, 9 to 12;  
Order the filter element separately from those listed under Ref. No. 8.

Ref. No.	Part No.	Description	Qty.
1	104125	INDICATOR, filter	1
2	104440	VALVE, bypass	1
3✓	104441	HOUSING, filter	1
6✓	104445	O-RING, fluoroelastomer <i>See Accessories for ethylene-propylene o-ring</i>	1
7✓	104443	BACKUP, o-ring, fluoroelastomer <i>See Accessories for PTFE backup</i>	1
8✓	108116	ELEMENT, filter, 60 mesh (250 micron <i>(for Model 210090 only)</i>	1
	108117	ELEMENT, filter, 100 mesh (149 micron <i>(for Model 210091 only)</i>	1
	108118	ELEMENT, filter, 200 mesh (74 micron <i>(for Model 210092 only)</i>	1
9✓	104438	SPRING, element	1
10✓	104439	BOWL, filter	1
11✓	104444	O-RING, fluoroelastomer	1
12	104126	PLUG; 3/4-16 unf	1

✓ Keep these spare parts on hand to reduce downtime.

- 1 3/4" npt(f) Inlet and outlet
- 2 3/4-16 unf (f) drain port



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## Accessories

### Replacement Indicator O-Rings

- 109576** small (#016), fluoroelastomer
- or 104093** small (#016), buna
- 104130** large (#119), buna

### Conversion O-Rings

For use with fluids not compatible with fluoroelastomer.

- 105280** O-ring, Ethylene-Propylene
- 105279** Backup o-ring, PTFE

### Adapter 105276

3000 psi (210 bar) Maximum Working Pressure

3/4-16 unf thread x 1/4 npt

Adapts bowl to accept drain valves listed below.

### Drain Valves

5000 psi (350 bar) Maximum Working Pressure

Install in adapter 105276 for relieving fluid pressure in filter

- 210657** 1/4 npt(mbe) fluoroelastomer seals
- 214037** 1/4 npt(mbe) PTFE seals

## Technical Data

Maximum Working Pressure	..... 3000 psi (210 bar)
Flow Capacity	..... 10 gpm (38 liters/min)
Filter Area	..... 36 sq. in. (232 cm <sup>2</sup> )
Wetted Parts	..... Iron, Steel, Fluoroelastomer, Stainless Steel
Dimensions	..... 4.5" (114 mm) width 4.62" (117 mm) depth 11.3" (287 mm) height
Weight	..... 14 lb 8 oz. (6.6 kg)

# The Graco Warranty and Disclaimers

## WARRANTY

Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven 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, 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 with Graco equipment of 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 claim. 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.

## DISCLAIMERS AND LIMITATIONS

The terms of this warranty constitute purchaser's sole and exclusive remedy and are in lieu of any other warranties (express or implied), **including warranty of merchantability or warranty of fitness for a particular purpose**, and of any non-contractual liabilities, including product liabilities, based on negligence or strict liability. Every form of liability for direct, special or consequential damages or loss is expressly excluded and denied. In no case shall Graco's liability exceed the amount of the purchase price. Any action for breach of warranty must be brought within two (2) years of the date of sale.

## EQUIPMENT NOT COVERED BY GRACO WARRANTY

Graco makes no warranty, and disclaims all implied **warranties of merchantability and fitness for a particular purpose**, with respect to accessories, equipment, materials, or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motor, 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.

## Graco Information

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For patent information, see [www.graco.com/patents](http://www.graco.com/patents).

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Phone: 612-623-6921 or Toll Free: 1-800-328-0211 Fax: 612-378-3505

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Original instructions. This manual contains English. MM 307252

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