

Instructions – Parts List



3 in. (76 mm) and 6.5 in. (165 mm) Ram

310293 rev.H

Pneumatic Crossover Kit

250 psi (1.7 MPa, 17.2 bar) Maximum Air Inlet Pressure

Part No. 918468, Series B Pneumatic Crossover Kit (shown)

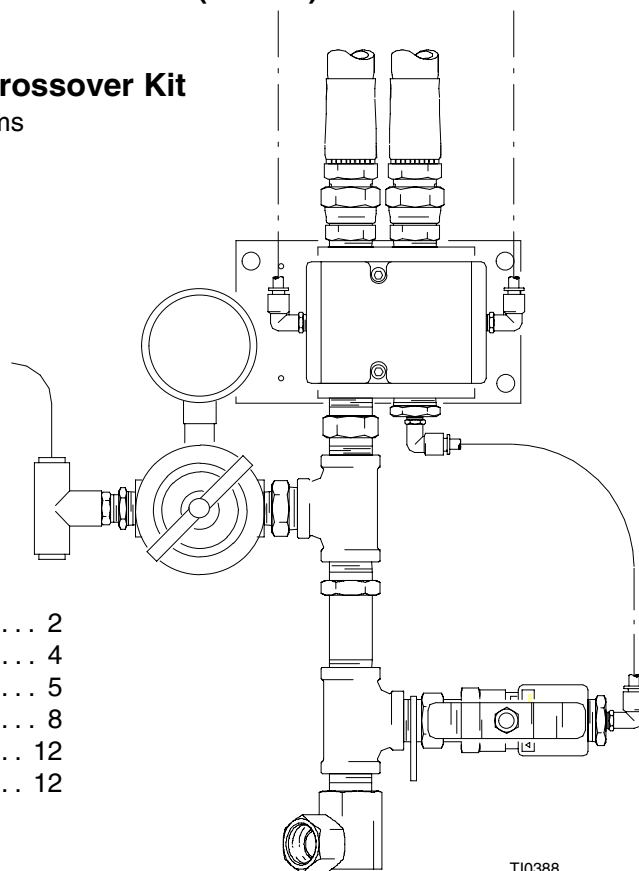
For 3 in. (76 mm), 2 post, 55 gal. (200 liter) rams

Part No. 918393, Series A Pneumatic Crossover Kit

For 6.5 in. (165 mm), 2 post, 55 gal. (200 liter) rams

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T10388



Important Safety Instructions

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

Model 918468 Shown

PROVEN QUALITY. LEADING TECHNOLOGY.

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 instructions.

WARNINGS



INSTRUCTIONS

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 Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure stated on the equipment or in the **Technical Data** for your equipment. Do not exceed the maximum working pressure of the lowest rated component in your system.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Wear hearing protection when operating this equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

WARNINGS



MOVING PARTS HAZARD

Moving parts, such as the ram follower plate/pump inlet can pinch fingers.

- Do not operate the equipment with the guard removed.
- Keep clear of all moving parts when starting or operating the equipment.
- Keep hands and fingers away from the priming piston during operation and whenever the pump is charged with air.
- Keep clear of the follower plate, pump fluid inlet, and lip of the fluid container when raising or lowering the ram.
- Before checking or servicing the ram or pump, follow the **Pressure Relief Procedure** in the ram or pump manual.



TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.
- Avoid exposure to heated material fumes.
- Provide adequate ventilation.

Component Identification and Function

KEY

- | | | | |
|---|-------------------------|---|-----------------------------|
| A | Ball Valve | F | 1/4 in. Nylon Tube |
| B | Regulator | G | 3/8 in. Nylon Tube |
| C | 4-Way Piloted Air Valve | H | 15 ft. (4.6 m) Coupled Hose |
| D | Limit Valves (2) | J | 6 ft. (1.8 m) Coupled Hose |
| E | 3/4 npsm Main Air Inlet | | |

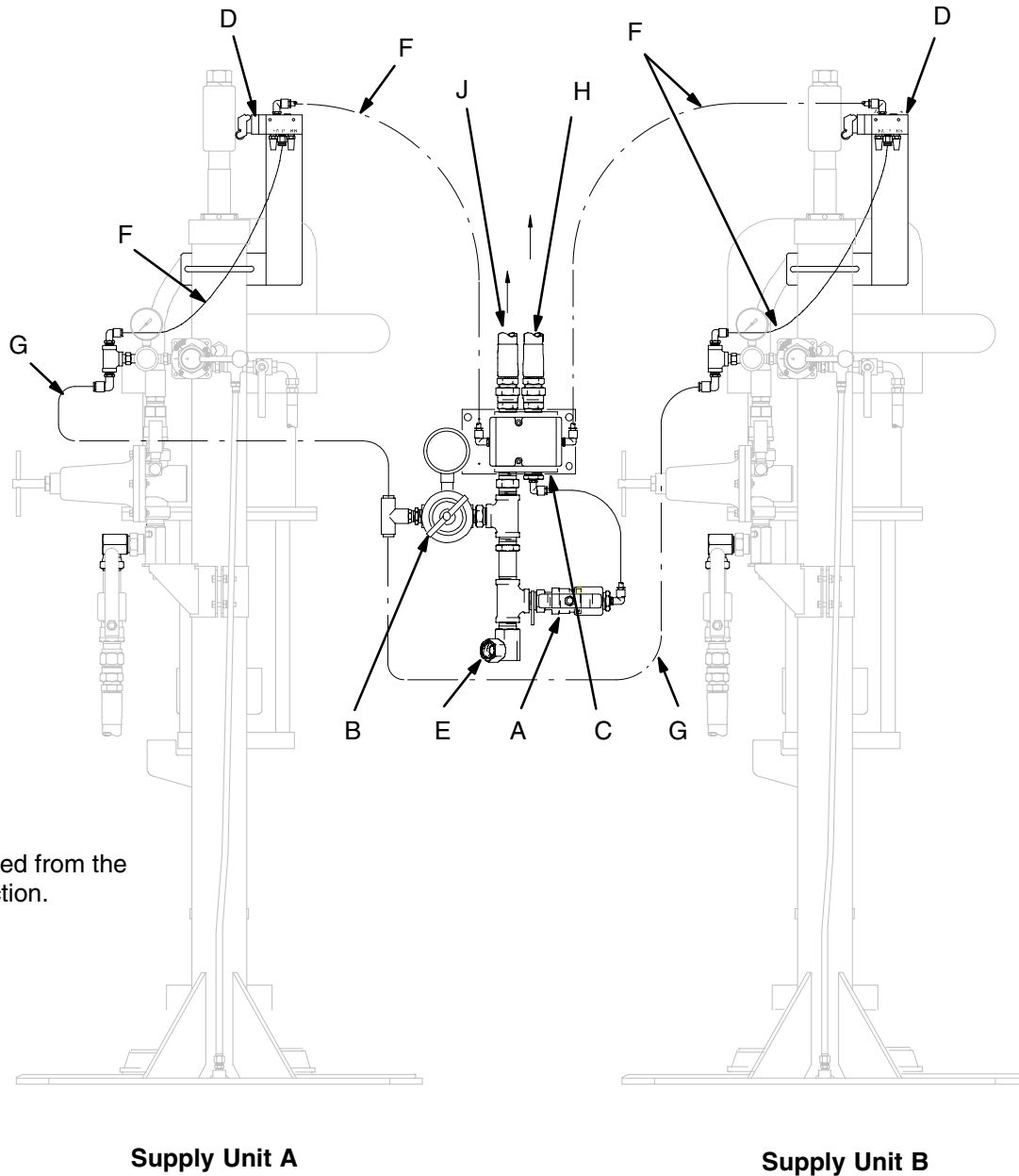


Fig. 1

Installation

Prepare the Site

NOTE: Always use Genuine Graco Parts and Accessories, available from your Graco distributor. If you supply your own accessories, be sure they are adequately sized and pressure rated for your system.

NOTE: Letters and numbers in parenthesis refer to the callouts and the parts list on page 10.

Bring a compressed air supply line from the air compressor to the pump location. Be sure all air hoses are properly sized and pressure-rated for your system. Use only electrically conductive hoses. The air hose should have a 3/4 npsm(m) thread.

Before installing any air line components, blow out the air lines to remove scale and other debris. Use pipe compound or tape sparingly and only on male threads.

Install a bleed-type shutoff valve in the air line upstream from all other air line components, to isolate them for servicing.

Application

The pneumatic crossover kit is designed to allow two drum ram systems to be converted into a continuous-flow system. It shifts pumping from an online ram when the drum becomes empty.

Typical Pneumatic Crossover Installation

WARNING

Never leave fingers between the ram plate and the drum when the ram plate is being operated.

WARNING

Never enter the operating area of the ram , when the ram is in the top position. When the air pressure is lost or in the case of leaks in the air pressure system, the ram plate may drop.

The typical installation, shown on the cover of this manual, is only a guide. See the system manual for your application or contact your Graco distributor for assistance in designing a system to meet your needs.

See your ram manual if installing a new ram or relocating an existing ram.

Installation

Pneumatic Crossover Setup

Install the pneumatic crossover as shown in Fig. 1. Also refer to the applicable Schematic, Figs. 2 and 3.

NOTE: During system operation, as the ram approaches the drum bottom, the top of the ram contacts the limit valve switch. The switch shuts off air to the ram air motor via a 4-way piloted air valve (3). As the valve stops air to one air motor it starts air to the other air motor. This allows constant material flow and changing out of material drums.

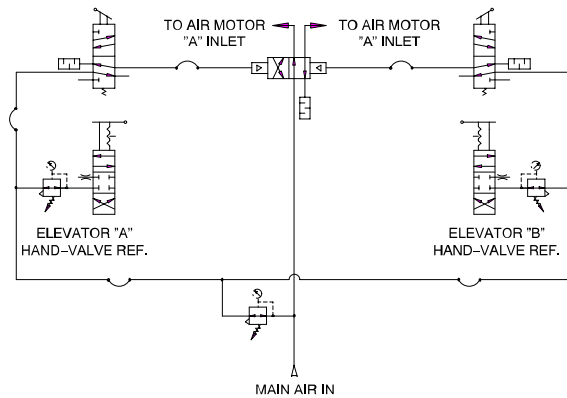
NOTE: The position of the limit valve (4) on the ram determines when the ram air motor is turned on and off. During operation this position can be adjusted as desired. See Fig. 1.

1. Cut nylon tubing (3,9) to fit.

2. Adjust limit valve (10) to trip with the ram plate 1" from base plate (see Fig. 1).

NOTE: Do not remove factory installed plugs from pilot ports.

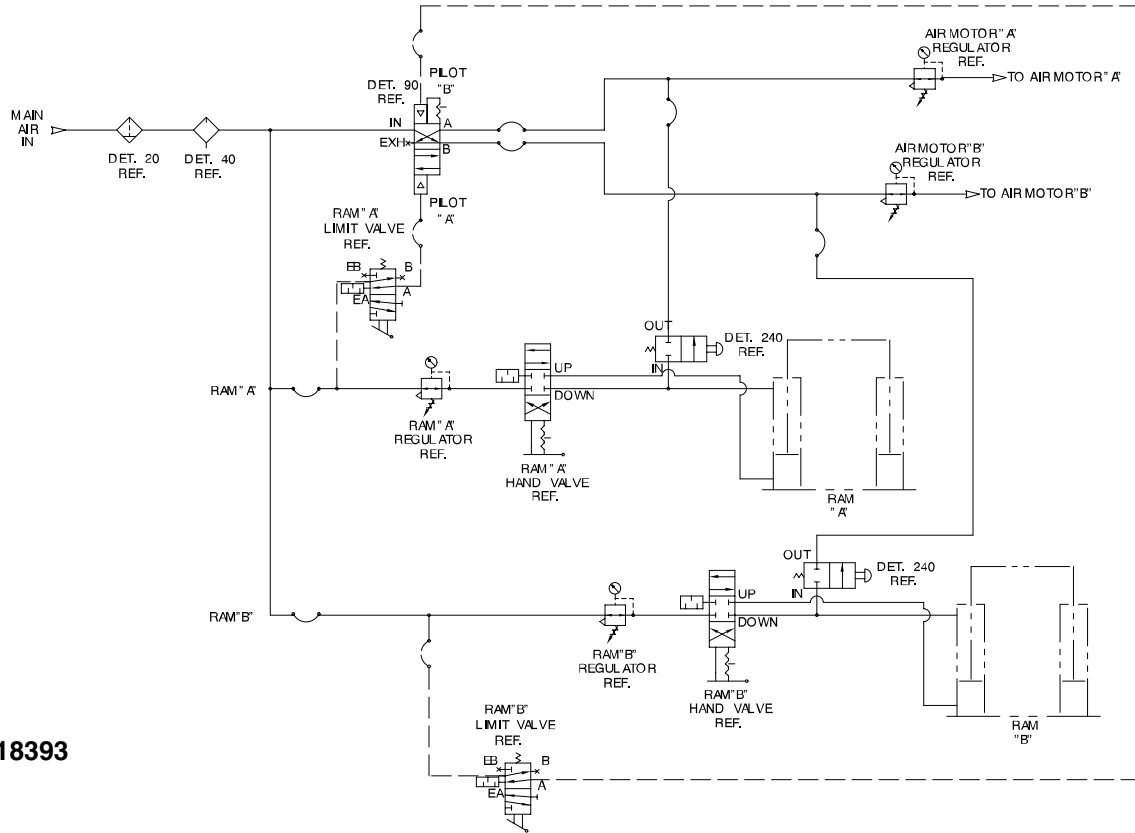
3. Remove roller and extension piece from limit valve (10) and replace roller, without extension, on limit valve.



Model 918468

Fig. 2

Installation



Model 918393

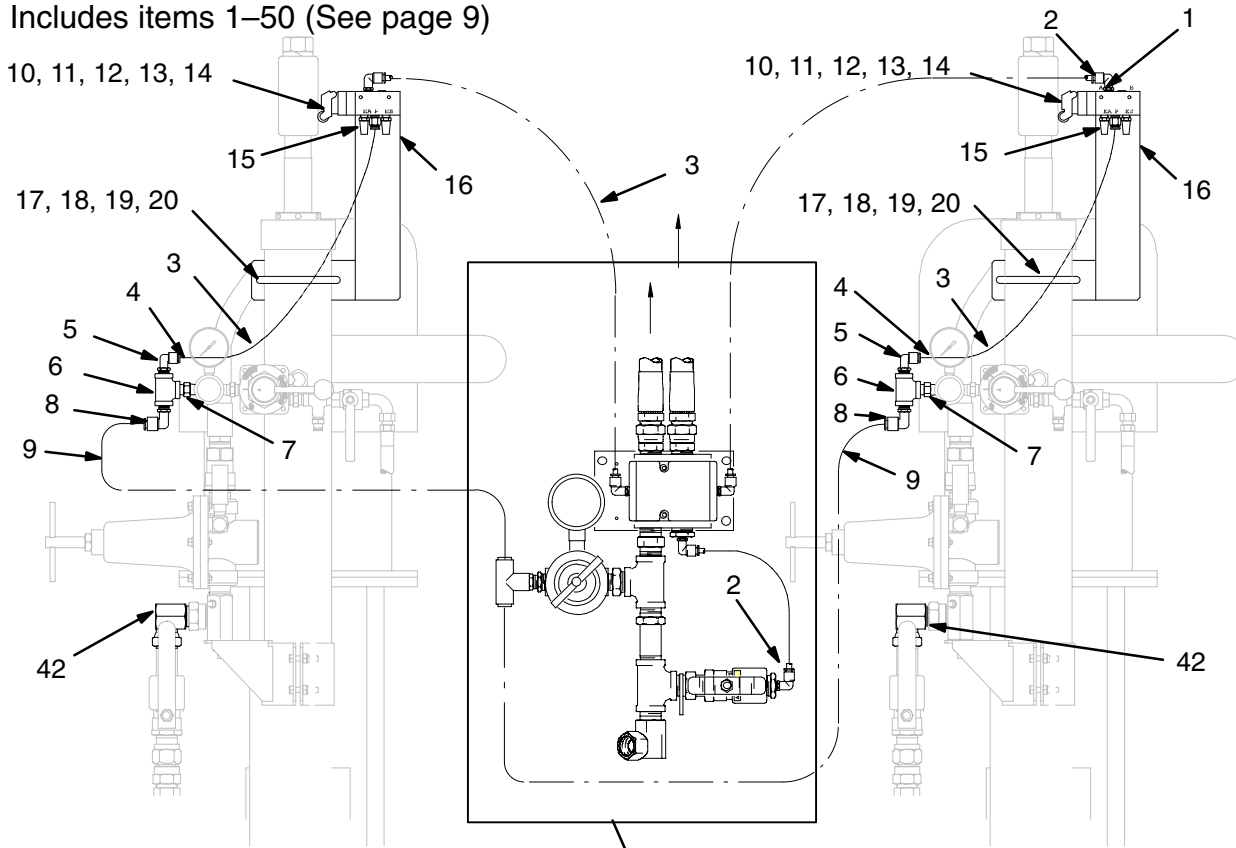
Fig. 3

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Model 918468 Pneumatic Crossover

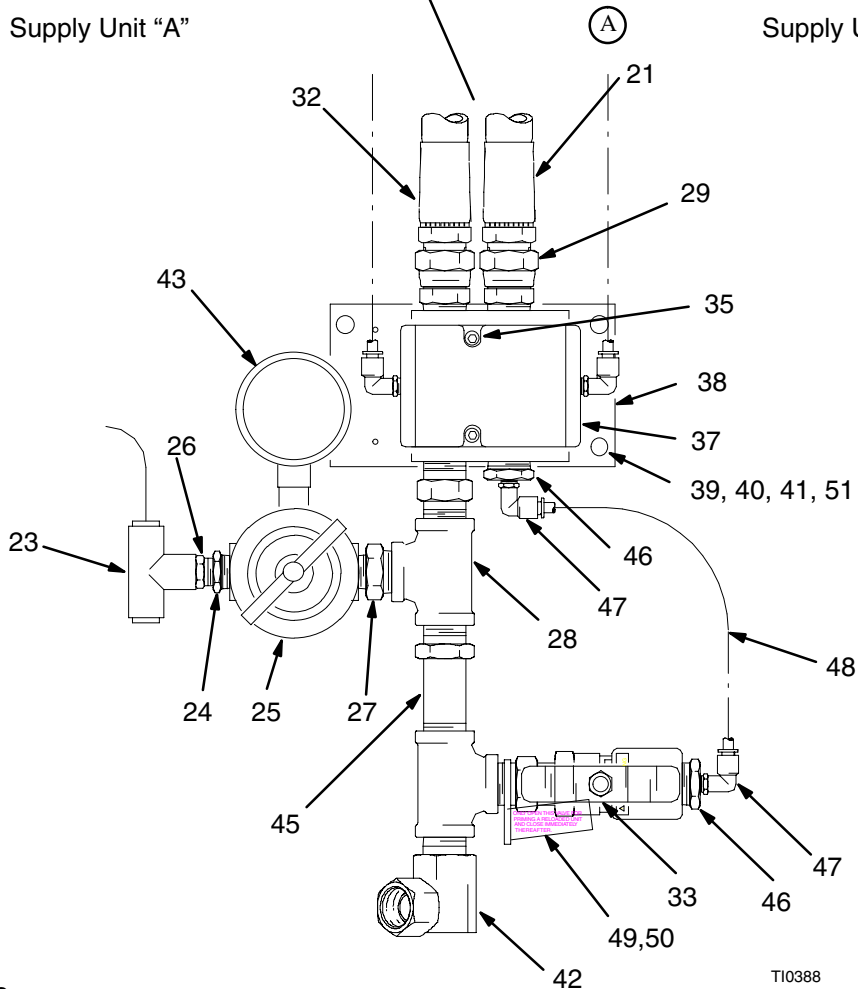
Parts

Includes items 1–50 (See page 9)



Supply Unit "A"

Supply Unit "B"



Parts

Model 918468 Pneumatic Crossover

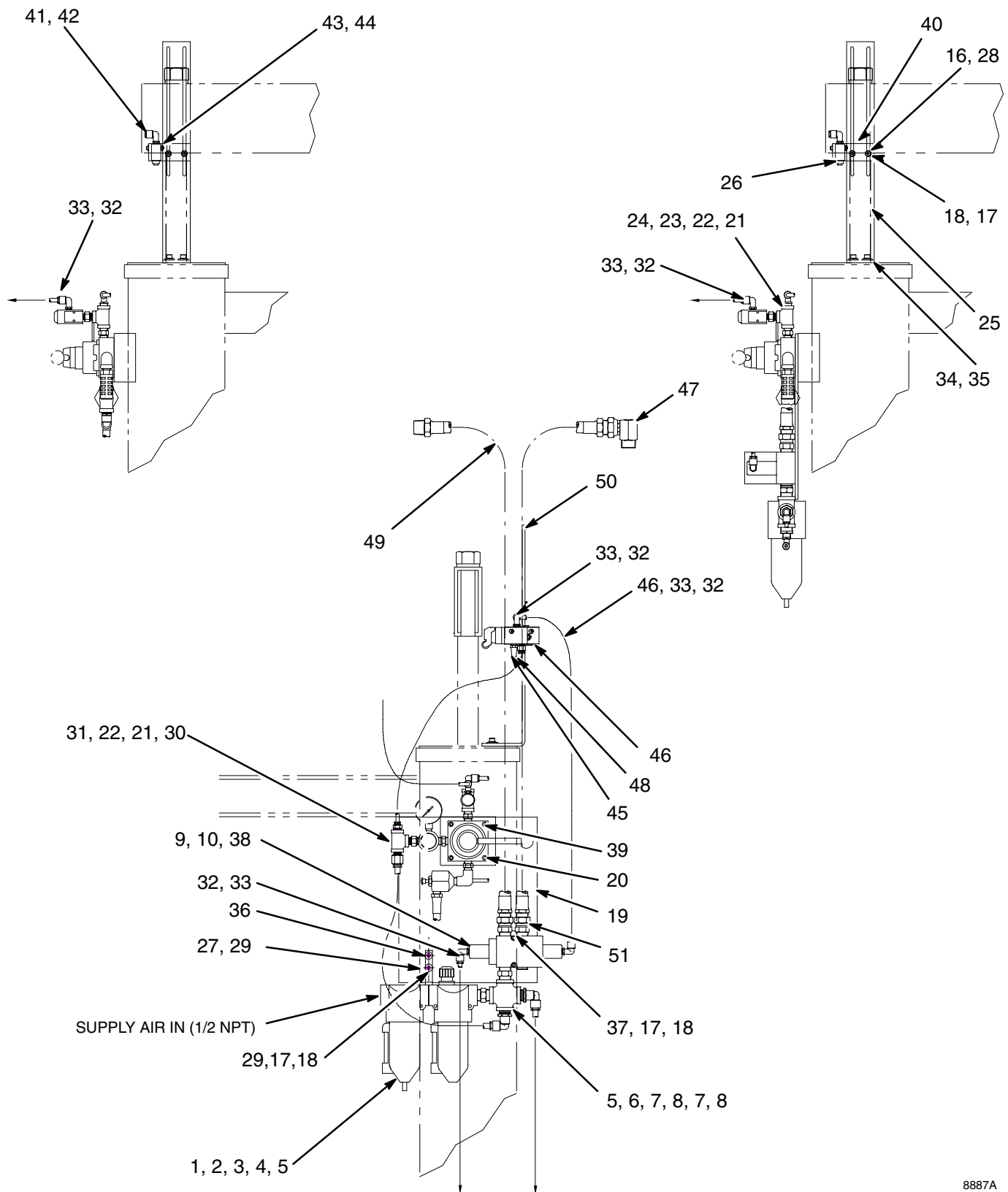
Includes items 1–50

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	100139	PLUG, pipe	2	26	157191	NIPPLE, reducing, hex	1
2	111162	FITTING, elbow	4	27	C20487	NIPPLE, hex	1
3	C12509	TUBE, nylon, round, 1/4 in. OD	20 ft	28	166466	TEE, plain, 3/4 npt	1
4	113208	FITTING, tube	2	29	157785	UNION, swivel	2
5	C19391	FITTING, elbow	2	32	C12034	HOSE, coupled, 3/4 npt, 6 ft	1
6	104984	TEE, pipe	2	33	110226	VALVE, vented, 2-way	2
7	156971	NIPPLE, short	2	35	100642	SCREW, cap, soc hd, 1/4–20 x 2	2
8	C19413	FITTING, tube,	2	37	520070	VALVE, air, 4-way piloted	1
9	C12508	TUBE, nylon, round, 3/8 in. OD	20 ft	38	615023	PLATE, mounting, valve	1
10	C06182	VALVE, limit, air	2	39	520071	U-BOLT, 5/16–18	2
11	C19965	SCREW, cap, soc hd	4	40	100214	WASHER, lock, 5/16	4
12	100813	WASHER, flat, brass, #6	8	41	111303	NUT, hex, 5/16–18	4
13	100068	WASHER, lock,	4	42	160327	UNION, adapter	2
14	100072	NUT, hex, #6	4	43	100960	GAUGE, pressure, air, 0–200 psi	1
15	C06061	MUFFLER	4	45	157129	NIPPLE, 3/4 X 3 1/4 in.	1
16	C50064	BRACKET, valve, limit	2	46	C19685	BUSHING, red, hex; 3/4 x 1/2	2
17	C24332	BOLT, “U”, 3/8–16	2	47	114110	ELBOW, 1/2 npt(m)	2
18	C19200	WASHER, flat, 3/8	4	48	054139	TUBE, nylon	9 in.
19	100133	WASHER, lock, 3/8	4	49▲	C50083	TAG, instruction	1
20	100307	NUT, hex, 3/8–16	4	50	112278	STRAP, tie	1
21	C12030	HOSE, coupled, 3/4 npt, 15 ft	1	51	100023	WASHER, flat	4
23	C20359	FITTING, tee	1	▲ Replacement Danger and Warning labels, tags and cards are available at no cost.			
24	100081	BUSHING, reducing	1				
25	104266	REGULATOR, air	1				

Parts

Model 918393 Pneumatic Crossover

Includes items 1–50 (See page 11)



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Parts

Model 918393 Pneumatic Crossover

Includes items 1–51

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	C11037	INSERT	1	30	C19413	FITTING, tube	2
2	C11033	FILTER, air	1	31	C19407	FITTING	2
3	C11039	INSERT	1	32	597151	ELBOW, swivel	6
4	C11034	LUBRICATOR, air	1	33	C12509	TUBE, nylon	26 ft.
5	C20485	NIPPLE, close	2	34	C19810	SCREW, cap	4
6	C20432	CROSS	1	35	100016	WASHER, lock	4
7	C38211	FITTING, tube	2	36	C11055	KIT, filter/regulator/lubricator	1
8	C12508	TUBING, nylon	12 ft.	37	C19988	SCREW, no. 10	2
9	C06018	VALVE	1	38	617425	SPACER, pilot	1
10	100361	PLUG, pipe	1	39	617426	SPACER, hand	1
17	C19204	WASHER, lock	8	40	617423	PLATE, mounting	2
18	100179	NUT, hex	8	41	C19965	SCREW	4
19	617351	PLATE, mounting	1	42	100813	WASHER, flat	4
20	101950	SCREW, cap	4	43	100068	WASHER	4
21	C20479	NIPPLE	4	44	100072	NUT, hex	4
22	104984	TEE, pipe	4	45	C06061	MUFFLER	2
23	111643	NIPPLE, reducing	2	46	100139	PLUG, pipe	4
24	C06065	VALVE, 2-way	2	47	C19029	SWIVEL	1
25	617352	BRACKET	2	48	C19405	FITTING	2
26	C06182	VALVE, limit	2	49	115160	HOSE, air	1
27	111820	SCREW, machine	6	50	115161	HOSE, air	1
28	C19719	WASHER, brass	4	51	190451	SWIVEL	2
29	104116	WASHER, plain	4				

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

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Graco Headquarters: Minneapolis
International Offices: Belgium, Korea, Hong Kong, Japan

www.graco.com

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