

DC12

High-Volume Metering System

312896C

For dispensing 2 component high viscosity Epoxy Adhesive or Tooling Paste materials.

100 psi (0.7 Mpa, 7 bar) Maximum Air Inlet Pressure
2500 psi (17.2 Mpa, 172 bar) Maximum Working Pressure
Not designed for use in Explosive Atmospheres.



Important Safety Instructions

Read all warnings and instructions in this and all supplied manuals. Save these instructions.

See page 3 for product configuration information

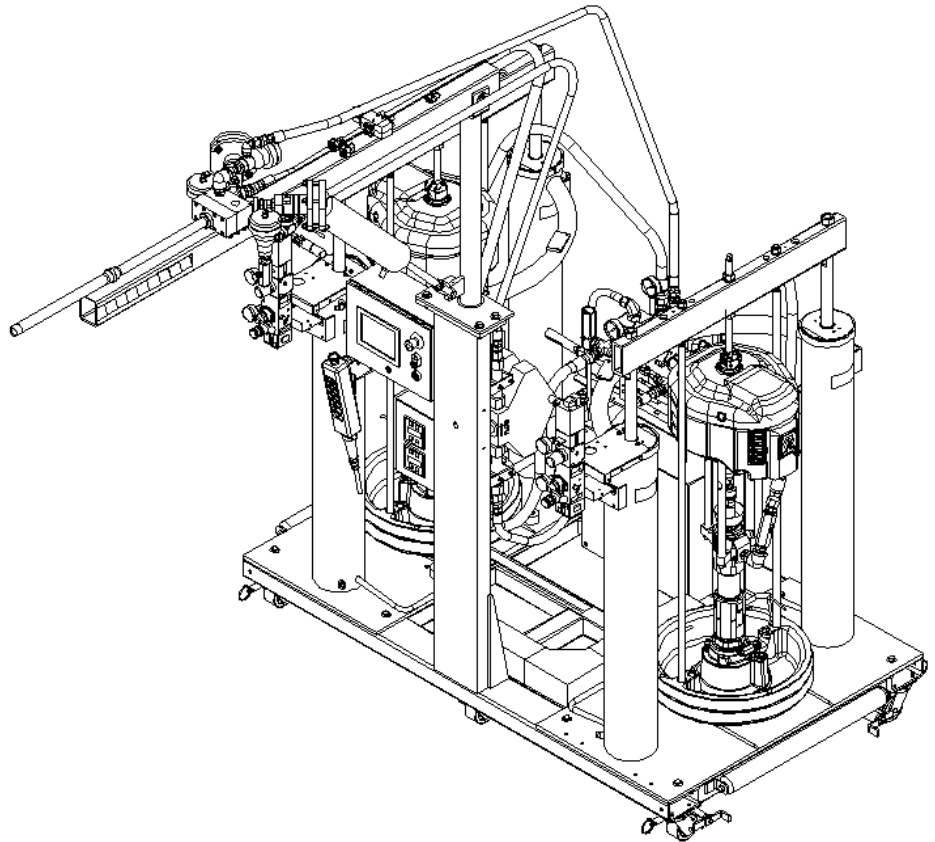


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Product Configurator

DC12 - 1 - 1 - 1 - 1 - 2 - 1
 Code: A B C D E F

Ratio and Supply Pumps Dispense Valve, Ratio Check, and Mounting Controls Flow Meters and Hoses Mixer Flush Recommended Spares

DC12 - - - - - -
 Code: A B C D E F

The Following table applies to the DC12 configurations and indicates all of the options available for each letter shown above.

Code A	Ratio and Supply Pumps
1	2:1 with A1 and B1 NXT Pumps
2	1:1 with A1 and B1 NXT Pumps
3	2:1 No Supply Pumps
4	1:1 No Supply Pumps
5	2:1 with A1, A2 and B1 NXT Pumps
6	1:1 with A1, A2, B1 and B2 NXT Pumps
Code B	Dispense Valve, Ratio Check, and Mounting
1	Auto Disp. Valve and Auto Ratio with Swivel Boom
2	Auto Disp. Valve and Auto Ratio with Fixed Mixer
3	Auto Disp. Valve and Manual Ratio with Fixed Mixer
4	Manual Disp. Valve and Manual Ratio with Fixed Mixer
Code C	Controls
1	Performance Monitor Plus 240V, 1PH, 50-60 HZ
2	Performance Monitor Plus 120V, 1PH, 50-60 HZ
3	Pneumatic Performance Monitor, Auto Disp. Valve
4	Pneumatic Performance Monitor, Manual Disp. Valve
5	Pneumatic Auto Disp. Valve, No Monitor
6	No Controls for Manual DV only

Code D	Flow Meters and Hoses
1	2:1 Flow Meter Package for Swivel Boom
2	1:1 Flow Meter Package for Swivel Boom
3	2:1 Flow Meter Package for Fixed Mixer
4	1:1 Flow Meter Package for Fixed Mixer
5	2:1 No Flow Meters for Swivel Boom
6	1:1 No Flow Meters for Swivel Boom
7	2:1 No Flow Meters for Fixed Mixer
8	1:1 No Flow Meters for Fixed Mixer

Code E	Mixer Flush
1	Solvent Pump and Hardware for Fixed Mixer
2	Solvent Pump and Hardware for Swivel Boom
3	Solvent Hardware for Fixed Mixer
4	Solvent Hardware for Swivel Boom
5	Auto Base Purge for Fixed Mixer
6	Auto Base Purge for Swivel Boom
7	Manual Base Purge for Fixed Mixer

Code F	Recommended Spares
1	2:1 Recommended Spares Kit
2	1:1 Recommended Spares Kit
3	2:1 Recommended Spares Kit Tandem
4	1:1 Recommended Spares Kit Tandem
N	None

DC12 Accessories

Ram Supply Pump Kits

255513	KIT,COMPLETE SEAL, L250CS (55:1 PUMP)
255509	KIT,COMPLETE SEAL, L200CS (36:1 PUMP)
255517	KIT,COMPLETE SEAL, L500CS (14:1 PUMP)
255615	KIT,BLEEDVALVE, ALL CARBON
94/0432-2/50	VALVE,CHECK,1""NPT,F,MS

Shot Meter Components

C23136	RATIO CYLINDER #1000
C23200	RATIO CYLINDER #500
C24166	KIT,REPAIR,RATIO CYLINDER
C05032	PACKING,CUP, PISTON #1000 (2 REQ'D)
C23350	PACKING,CUP, PISTON #1500 (2 REQ'D)
C07067	KIT,REPAIR,4 WAY VALVE

Dispense Valve and Mixer Components

15T682	MANIFOLD,MIX,OUTLET
15T683	MANIFOLD,MIX,INLET
918540	KIT,REPAIR,3/4 BALL SEAT
918538	KIT,REPAIR,1/2 BALL SEAT
60/0008-A/98	MIXER,ASSY,1""X12EL (2 Per Assembly)
U70010	COUPLING,1",SS
107078	PACKING,O-RING,TEF (2 Required)

Manuals

Supplied Manuals

The following manuals will be supplied with the DC12.

Refer to these documents for detailed machine information.

DC12 Operation	
Part	Description
312767	Manual, Operation DC12
DC12 Repair	
Part	Description
312896	Manual, Repair DC12

Related Manuals

The following manuals are for standard components used on the DC12

Dispense Valve, DC12	
Part	Description
310551	Manual, 3/4 Ball Seat Applicator
310550	Manual, 1/2 Ball Seat Applicator
Supply Systems	
Part	Description
312371	Supply System Operation Manual
312373	Supply System Repair-Parts Manual
312468	200 cc Pump Lower
312469	250 cc Pump Lower
312470	500 cc Pump Lower
Tandem Supply System	
Part	Description
312897	Operation and Maintenance

Mixer Flush Options

- See Manual 312767

Troubleshooting

- See Manual 312767

Pressure Relief

- See Manual 312767

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual when applicable.

⚠ WARNING	
	ELECTRIC SHOCK HAZARD Improper grounding, setup, or usage of the system can cause electric shock. • Turn off and disconnect power cord before servicing equipment. • Use only grounded electrical outlets. • Connect only to grounded power source. • Do not expose to rain. Store indoors. • All electrical wiring must be done by qualified electrician and comply with all local codes and regulations.
	SKIN INJECTION HAZARD High-pressure fluid from dispense valve, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment. • Do not point dispense valve at anyone or at any part of the body. • Do not put your hand over the end of the dispense nozzle. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.
	TOXIC FLUID OR FUMES HAZARD Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed. • Read MSDS's to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines. • Always wear impervious gloves when spraying or cleaning equipment.
	FIRE AND EXPLOSION HAZARD Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion: • Use and clean equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Ground equipment, personnel, object being sprayed, and conductive objects in work area. See Grounding instructions. • Use only Graco grounded hoses. • Check gun resistance daily. • If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem. • Do not flush with gun electrostatics on. Do not turn on electrostatics until all solvent is removed from system. • Keep a working fire extinguisher in the work area.

Warnings

WARNING



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- 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. For complete information about your material, request MSDS forms from distributor or retailer.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.



MOVING PARTS HAZARD

Moving parts can pinch or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** in this manual. Disconnect power or air supply.



PERSONAL PROTECTIVE EQUIPMENT

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:

- Protective eyewear
- Clothing and respirator as recommended by the fluid and solvent manufacturer
- Gloves
- Hearing protection

Component Identification

Typical Installation

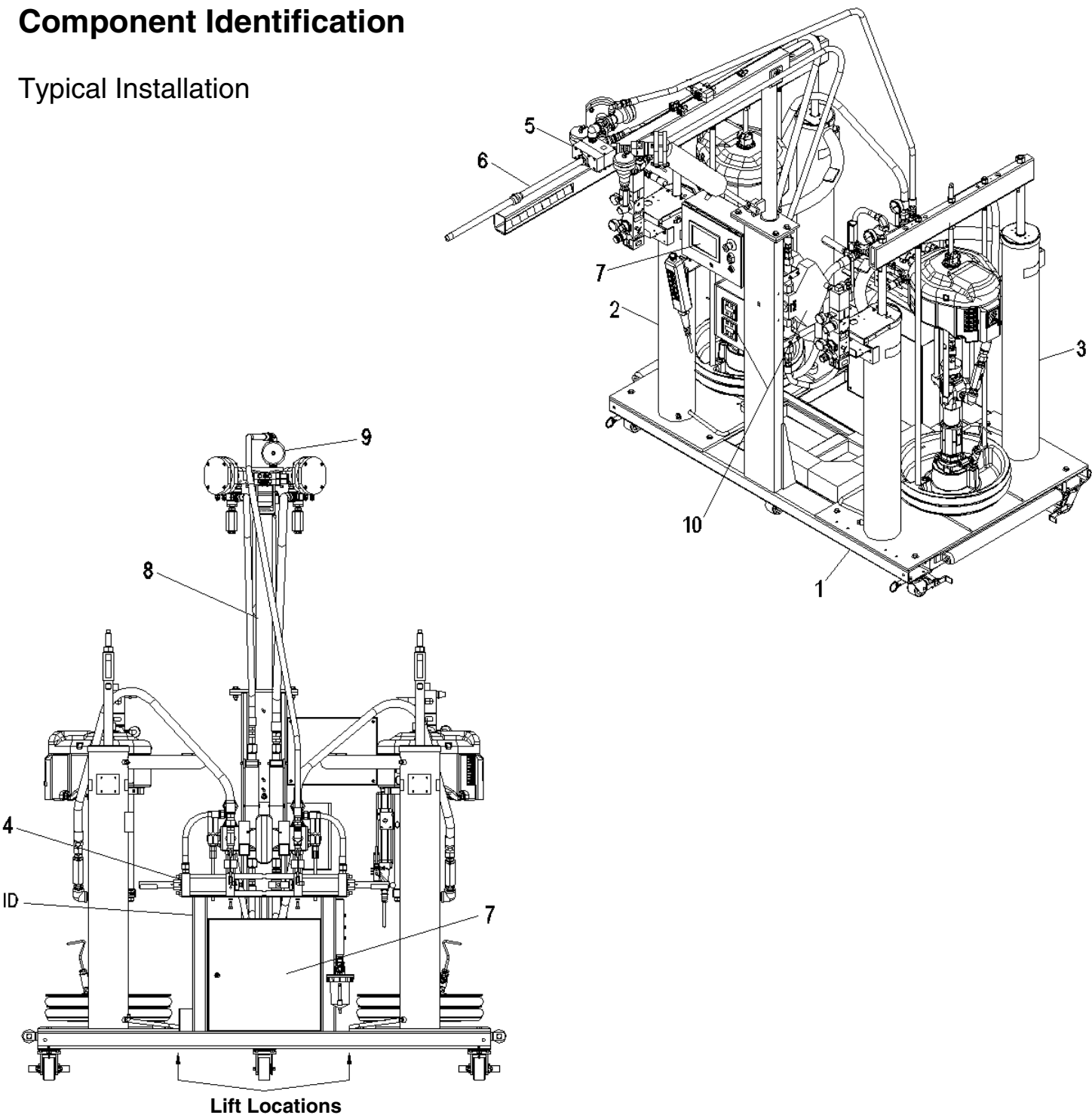


Fig. 1

Main System Parts List

Ref	Description	Ref	Description
1	Base Frame	6	Static Mixer
2	A Supply System	7	Performance Monitor Plus
3	B Supply System	8	Swivel Boom
4	Shot Meter	9	Automatic Base Purge
5	Automatic Dispense Valve	10	Ratio Monitor Option

Component Identification

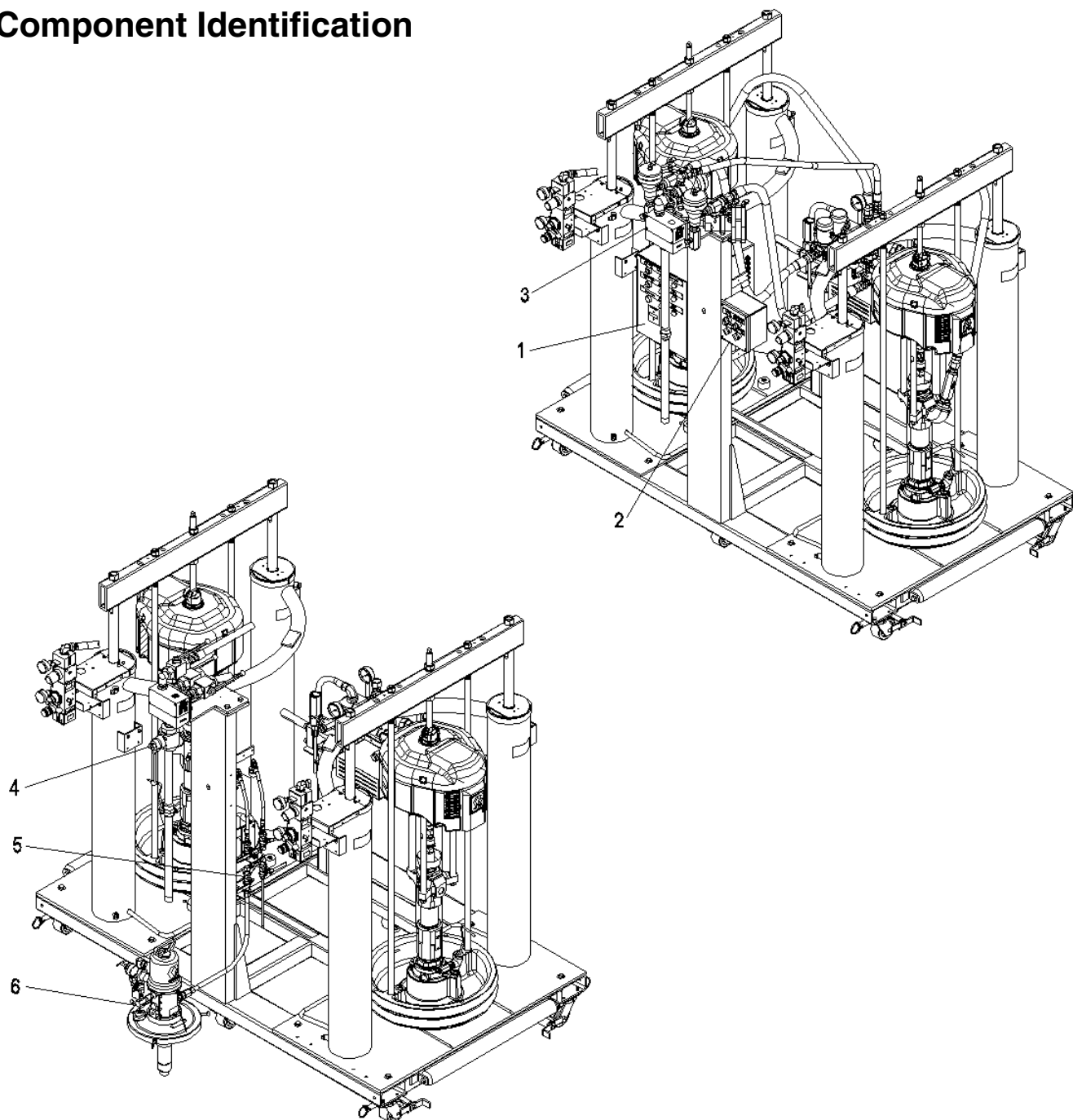


Fig. 2

Main System Parts List

Ref	Description	Ref	Description
1	Pneumatic Performance Monitor	4	Fixed Manual Dispense Valve
2	Pneumatic Dispense Valve Control	5	Solvent Hardware
3	Fixed Automatic Dispense Valve	6	Solvent Pump

Repair

Supply Systems

- See Manual 312371

Dispense Valves

- See Manual 310551

Ratio Valves

- See Manual 310550

Checks



Troubleshooting this equipment may require access to parts that can cause electric shock or other serious injury if work is not performed properly. Have a qualified electrician perform all electrical troubleshooting. Be sure to shut off all power to the equipment before repairing.

CAUTION

Use fluids and solvents that are compatible with the equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufactures warnings. For complete information about your material, request MSDS forms from your distributor or retailer.

Repair



Perform Pressure Relief Procedure before repairing components. See **Pressure Relief Procedure** located in manual 312767

Shot Meter

Refer to Fig. 3 and Fig. 22

1. Turn main power OFF if equipped with electric control.



2. Remove front and rear guard.
3. Remove Inlet and Outlet Supply hoses at the swivel connection (400).
4. Remove pressure relief tubing (401).
5. Disconnect LRT connector (linear transducer) and remove mounting nuts. Remove electrical connector on 4-Way solenoid (402). Disconnect pressure transducers from main panel. For pneumatic machines remove pneumatic switch assembly. See **Fig. 23**

 Do not remove LRT (403) from mounting block during pump service.

6. Remove 4 mounting bolts between frame and Shot Meter (404).
7. Remove Shot Meter from machine frame and locate on flat work surface.
8. Disconnect hose on pump end (405).
9. Remove pump shaft guard (406).
10. Remove lock nuts (407).
11. Remove bolt on connecting block. Separate connecting block to expose pump shaft (408).
12. Remove outside block (409).
13. Remove shaft and piston assembly from cylinder (410).
14. Remove packing nut from outside cylinder block. Remove V-Packings and glands (411).

15. Remove packing nut from inside cylinder block. Remove V-Packings and glands (412).

16. Remove Pistons from pump shafts (413).

17. Follow instructions for rebuilding Metering Pump. See **Metering Pump Repair** for details on seal and piston replacement.

18. Install components in reverse order. Install lock nuts and equally tighten (407).

 Torque to 100 Ft-lb (135.6 N-m)

19. Follow steps 8 - 18 for both Metering Pumps.

20. Install Shot Meter to DC12 frame. Make all fluid and electrical connections. Verify all connections.

21. After Shot Meter Repair the system will need to be primed before returning to normal operation. See **Priming Section** located in manual 312767.

Repair Shot Meter

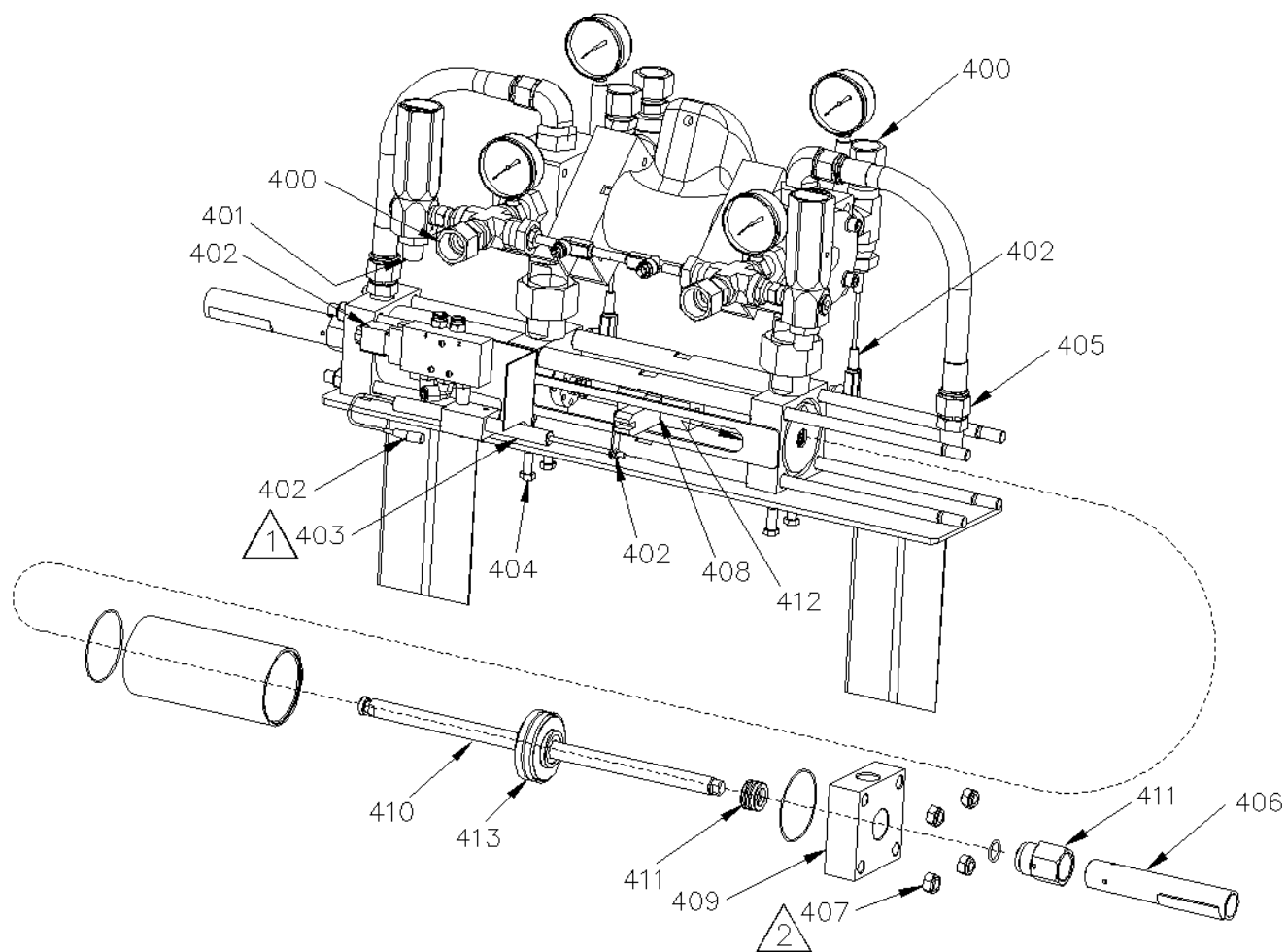


Fig. 3

Repair

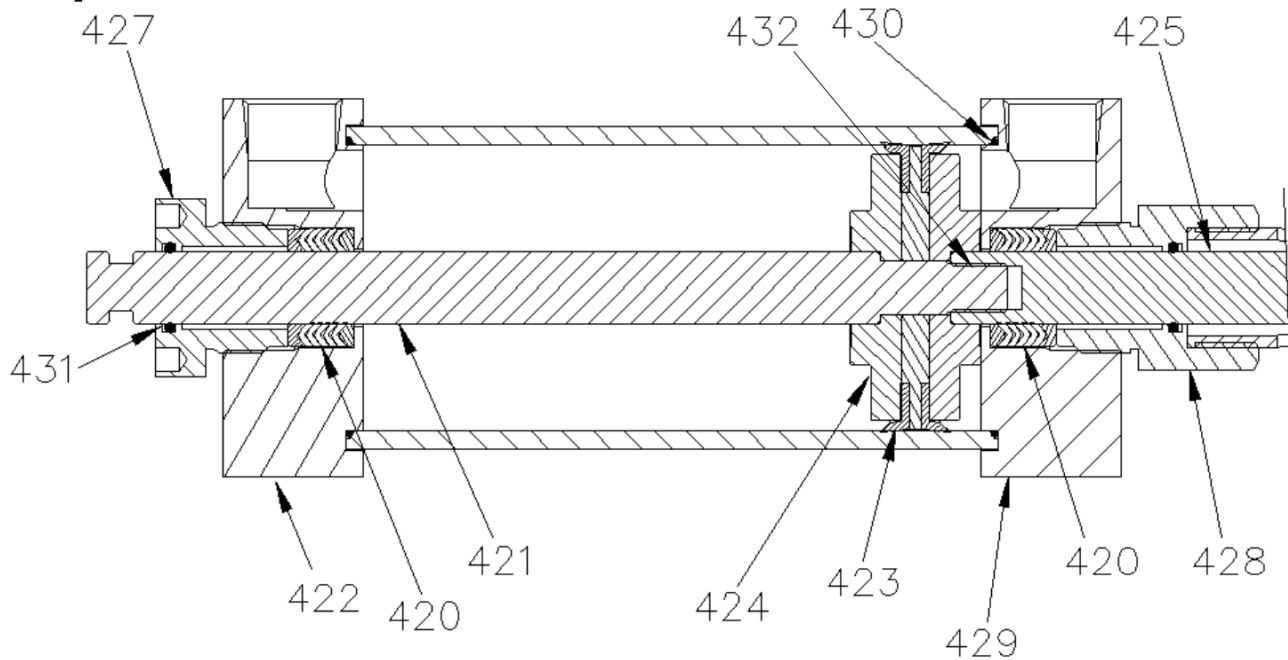


Fig. 4A: C24145 shown

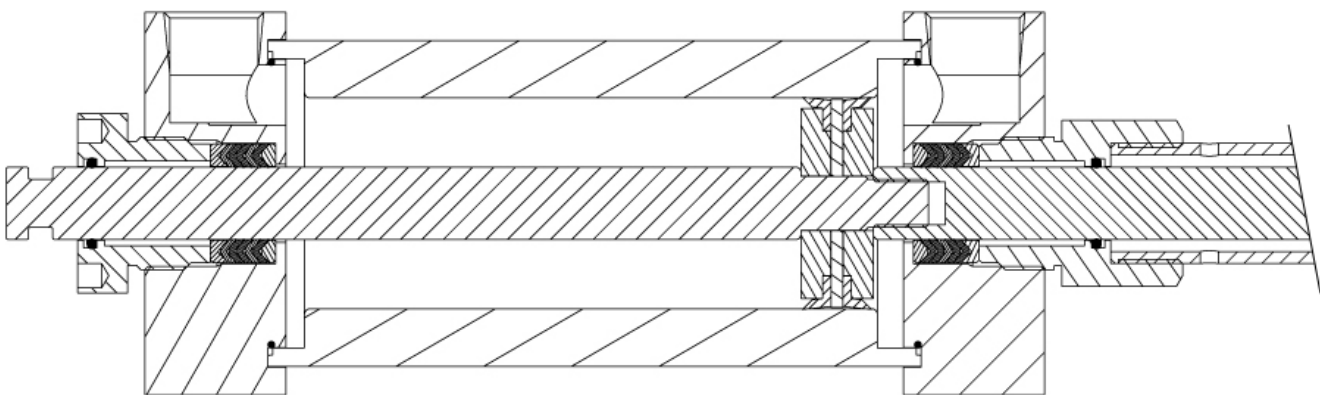


Fig. 4B: 570367 shown

Metering Pump

Refer to Fig. 4A, 4B, and Fig. 11

1. Install male gland and 5 V-Packings. Install female gland (420).

2. Install packing nut o-rings (431).

 Lubricate all V-Packings, o-rings and piston seals during assembly. Use lubricant that is compatible with the materials to be dispensed.

3. Install inner packing nut (427). Do not tighten.

4. Install inner shaft (421) through inside block (422).

5. Install piston cups (423) and back-up plates (424) onto inner shaft (421) as shown. Secure outer shaft (425) to inner shaft (421).

 Use threadlocker (432) when reassembling rods (421, 425). Torque to 55 ft-lb (74.25 N-m).

6. Install cylinder o-rings (430).

Repair

7. Lubricate the ID of cylinder (426) and carefully slide it over the piston assembly until seated on the inside block (422).
8. Install outer packing nut (428). Do not tighten.
9. Carefully slide outer cylinder block (429) over outer shaft (425) until seated on cylinder (426).
10. Hand tighten both inner and outer packing nuts until firmly seated on V-Packings then wrench tight $\frac{1}{4}$ turn.



See **Maintenance Section** in the **Operation manual 312767** for additional information on V-Packing adjustment.



Inside (422) and Outside (429) cylinder block are different. The Inside block has a straight thread connection between the 4-Way valve and the pump. The Outside block has an NPT thread for the hose connection.

Repair

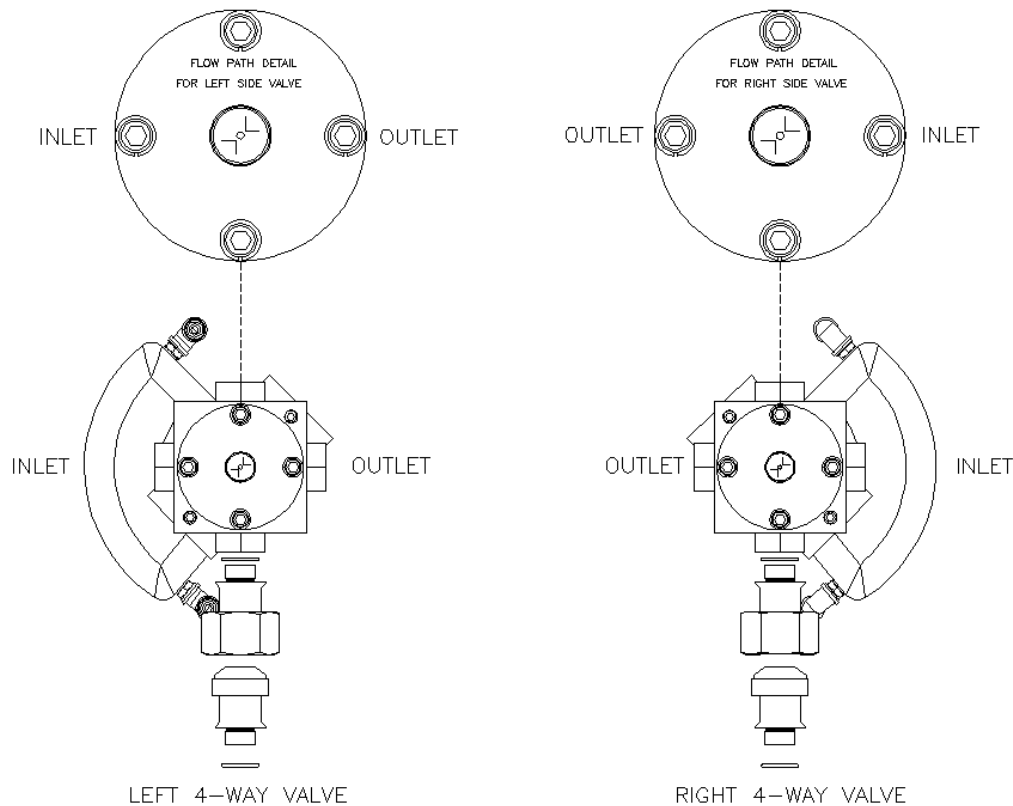


Fig. 5



Perform Pressure Relief Procedure before repairing components. See **Pressure Relief Procedure** located in manual **312767**

4-Way Fluid Valve

Refer to Fig. 5 and Fig. 13

1. Remove 4-Way Valve from Shot Meter assembly.
2. Remove end cap mounting screws (15).
3. Remove end cap (13).
4. Remove Ball Passage (11), Back up rings (9), o-ring (10) and bushing (8).
5. Remove packing assemblies consisting of seal (2), o-ring (3), bushing (4), o-rings (6), (7), and connector (5).



Lubricate bearings and o-rings during assembly. Use lubricant that is compatible with the materials to be dispensed.

6. Install Seal kit part number C07067. Refer to **Fig. 13**.
7. Tighten connectors (5) evenly during assembly.
8. Install 4-Way Valve on to Shot Meter in reverse order. Note the bottom connector (5) is stamped with an "S" for a straight thread connection with union.

CAUTION

4-Way Fluid Valve must be installed so that the flow paths marked on the shaft match **Fig. 5**. The Shot Meter will not cycle if the flow paths are not in the correct orientation.

Parts

Frame

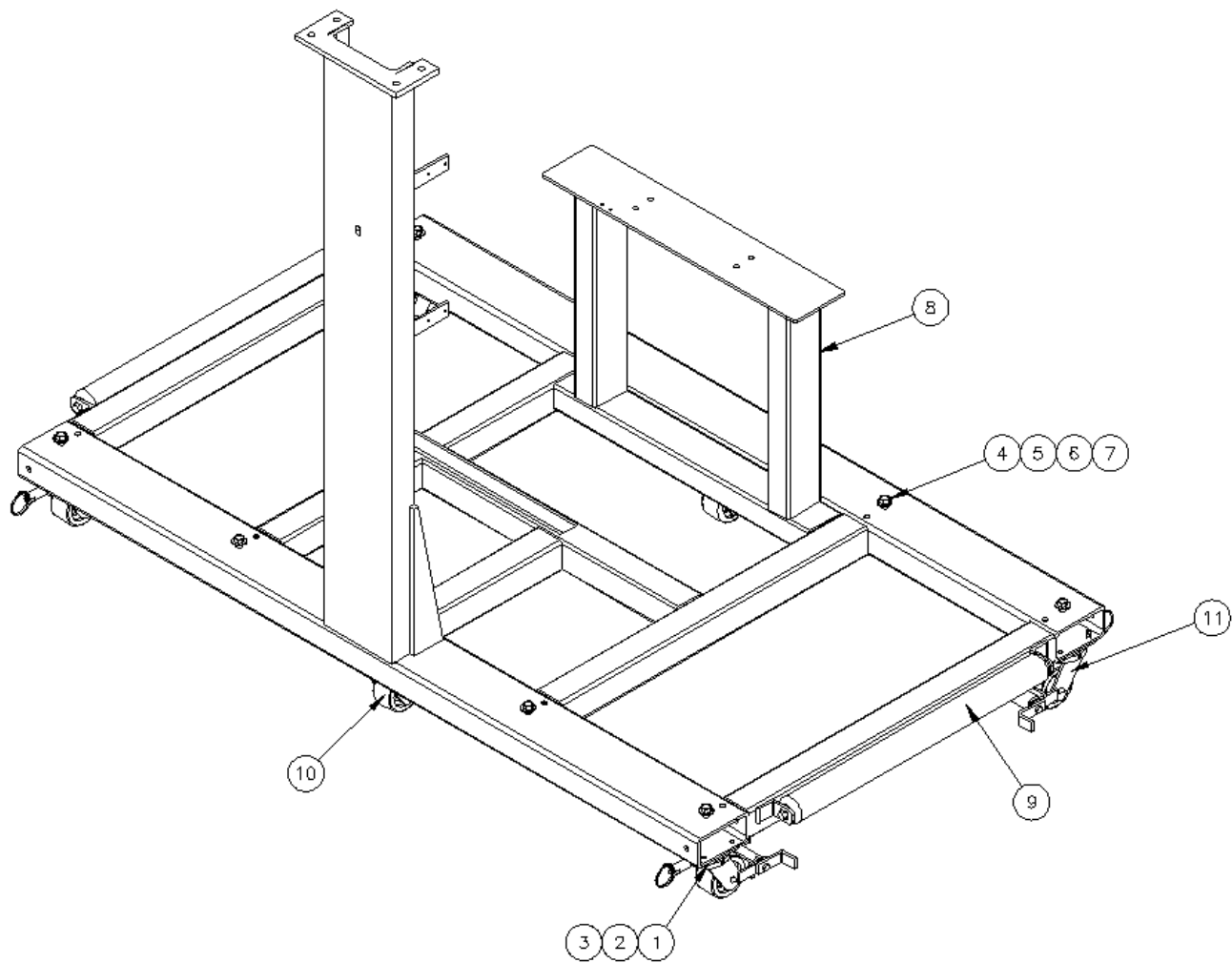


Fig. 6

Ref	P/N	Description	Qty	Ref	P/N	Description	Qty
1	96/0036/99	WASHER,FLAT,3/8,0.41X0.81X0	24	7	96/0409-1/99	WASHER,FLAT,1/2,0.53X1.06X0	8
2	96/0046/99	WASHER,LOCK,SPLIT,3/8,MS@@@	24	8	256480	BASE,FRAME,PAINTED	1
3	96/0070/99	SCREW,HHC,3/8-16X0.75,MS,GR	24	9	U70011	ROLLER,STEEL,2.5"DIA,650#CA	2
4	96/0071/99	NUT,HEX,1/2-13,MS,GR2	8	10	U70012	CASTER,SWLV,4"DIA X2"WIDE,70	2
5	96/0091/99	WASHER,LOCK,SPLIT,1/2,MS	8	11	U70013	CASTER,SWLV,4"DIA X2"WIDE,BR	4
6	96/0252/99	SCREW,HHC,1/2-13X1.50,MS,GR	8				

Parts

Boom

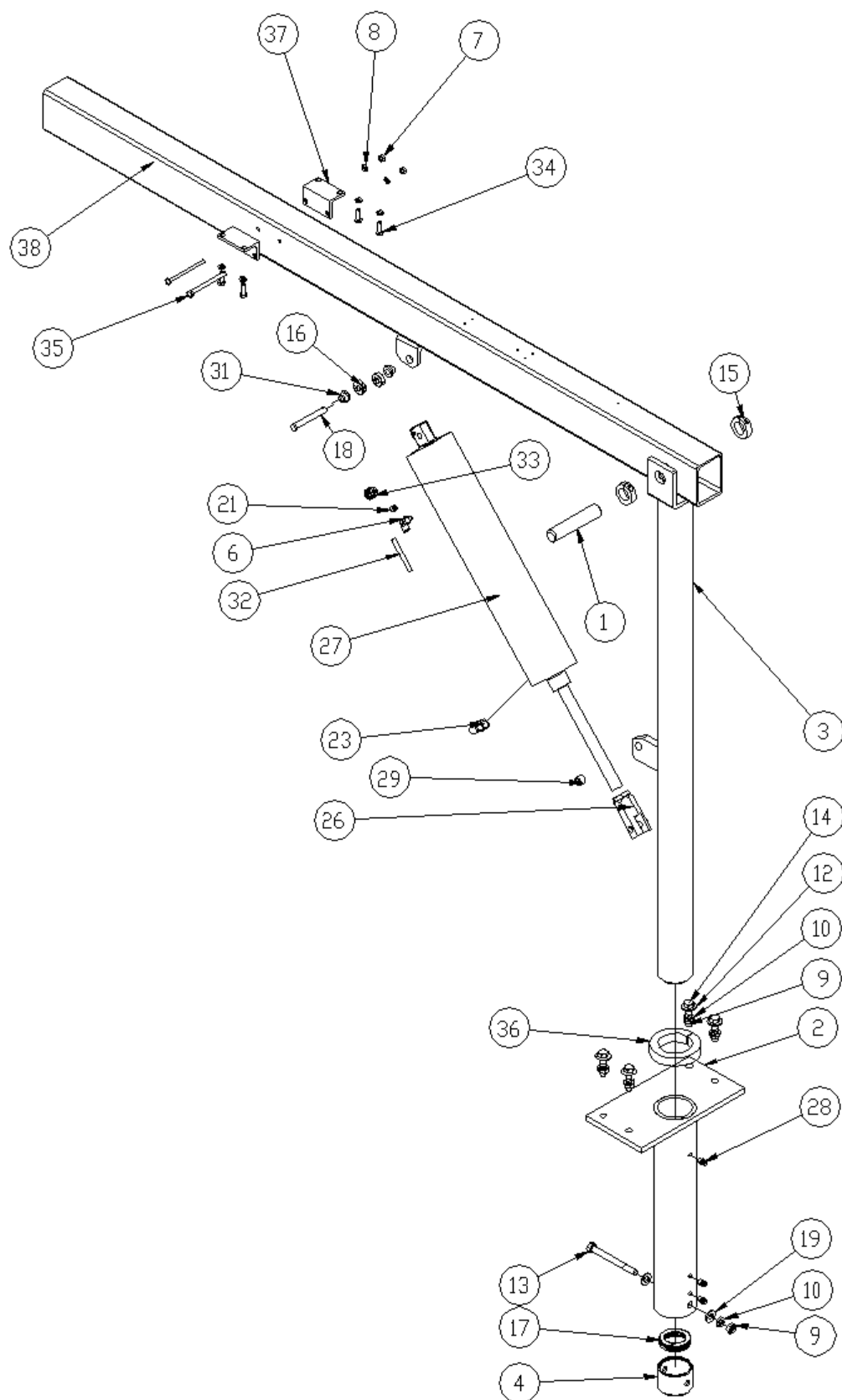


Fig. 7

Parts

Boom

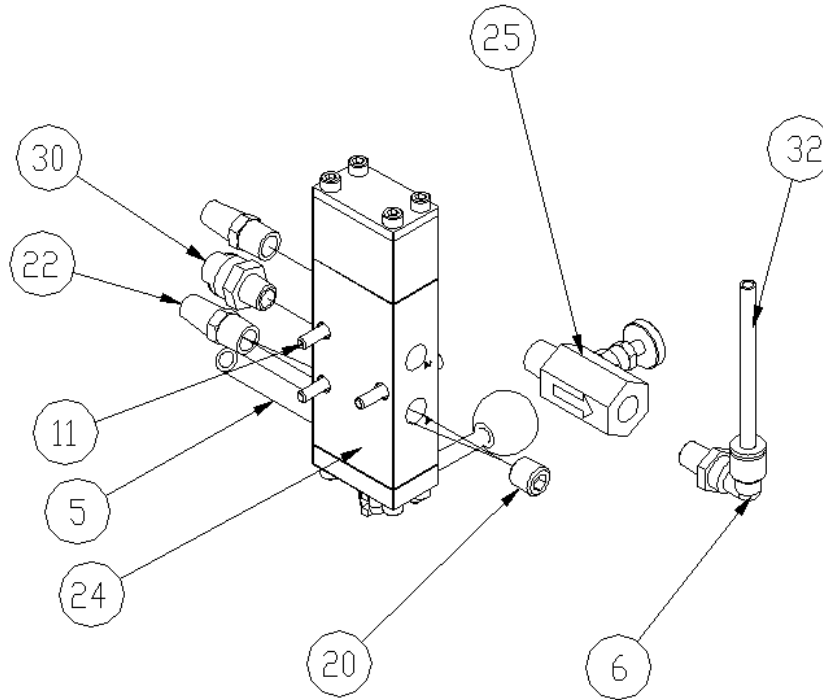


Fig. 8

Ref	P/N	Description	Qty	Ref	P/N	Description	Qty
1	52.10.1.4	PIN,PIVOT,ARM,BOOM>	1	24	6311-17	SOL VLV 4WAY 3POS W/L	1
2	256450	ARM,BOOM,BASE,ASY	1	25	6311-18	BLEED VALVE NMF 20 10 SK	1
3	256451	ARM,BOOM,POST,ASY	1	26	6318-38-1	CLEVIS ROD W/PIN	1
4	52.10.3.4	BEARING SUPPORT	1	27	6318-38-2	AIR CYLINDER W/NUT	1
5	61/2906-BK/11	TUBING,0.245IDX0.375OD	15	28	6319-26	GREASE FTG 90DEG 1/8-27	3
6	94/0704-1/96	ELBOW,SWVL,1/4TUBEX1/4	2	29	17008-2	1/2X3/4X1/2 BRZ BEARING	1
7	96/0026/99	NUT,HEX,5/16-18,MS,GR2	2	30	20042	1/4MPT X 3/8TBE 90 PRTLOK	1
8	96/0045/99	WASHER,LOCK,SPLIT,5/16	6	31	26023-2-6	1/2X3/4 FLG BRZ BEARING	2
9	96/0071/99	NUT,HEX,1/2-13,MS,GR2	1	32	61/2904-BK/11	TUBING,0.160IDX0.250OD	10
10	96/0091/99	WASHER,LOCK,SPLIT,1/2,MS	1	33	P3594-2	BUSHING MOD,1/2NPTX1/4N	1
11	96/0216/99	SCREW,SHC,10-32X1.50,MS	3	34	96/0025/99	SCREW,HHC,5/16-18X1.00,	4
12	96/0409-1/99	WASHER,FLAT,1/2,0.53X	4	35	96/0170/99	SCREW,HHC,5/16-18X4.00,MS	2
13	96/0438/99	SCREW,HHC,1/2-13X5.00,MS	1	36	0125-2	2.875 CLAMP COLLAR 1PC	1
14	96/0830/99	SCREW,HHC,1/2-13X2.00,MS	4	37	256441	BRACKET,MIX BLOCK,BOOM	2
15	0125-1	1.125 CLAMP COLLAR 1 PC	2	38	256445	ARM,BOOM,PAINTED	1
16	0125-3	1/2 CLAMP COLLAR 1PC	2				
17	0126-2	THRUST BEARING 45X65X14	1				
18	0168-3	CLEVIS PIN 1/2X3-1/2 SST	1				
19	0216-5	1/2 SAE FLAT WASHER-PLT	2				
20	576	1/4 FLUSH SEAL PIPE PLUG	1				
21	0576-5/64	1/4 PIPE PLUG W5/64 HOLE	1				
22	4803-3	MUFFLER,1/4NPT	2				
23	6212-49	1/2NPT AIR MUFFLER-BRNZ	1				

Parts **Supply System**

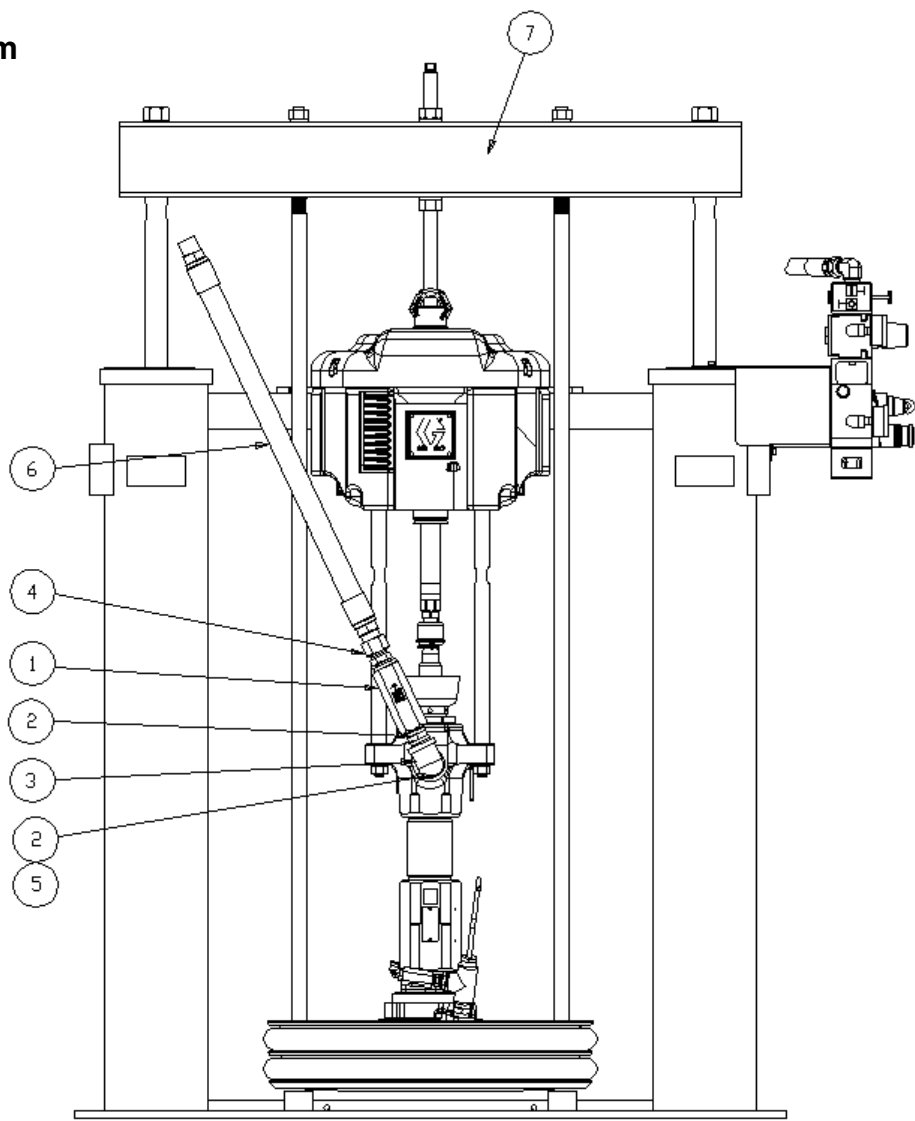


Fig. 9

		Pump Assemblies			
Ref	P/N	Description	55:1 Qty	36:1 Qty	14:1 Qty
1	94/0432-2/50	VALVE,CHECK,1"NPT,F,MS,45PS	1	1	1
2	94/0433/99	NIPPLE,HEX,1NPT,MM,MS,4.5K	2	2	1
2	6301-16	BUSHING,1.5NPTX1NPT,MF,MS,3			1
3	94/0675/99	ELBOW,90,1NPT,FF,MS,2.5K	1	1	
4	94/0676/99	ADAPTER,SWVL,1NPTSX1NPT,FM,	1	1	1
5	U70002	FITTING,90,1.5NPT,FF,MS,1.5			1
6	U70055	HOSE SET,1"X76"W/1"NPTM,MS	1	1	1
7	CM3979	PUMP,PKG,55:1,NXT6500,CM250	1		
7	CM2979	PUMP,PKG36:1,NXT3400,CM200		1	
7	CM5179	PUMP,PKG14:1,NXT3400,CM500,			1



See Manual 312371 for additional information on Supply Systems.
 A DC12 configured for 2:1 uses (1) 55:1 and (1) 36:1 supply pump.
 A DC12 configured for 1:1 uses (2) 14:1 supply pumps.

Parts

Shot Meter

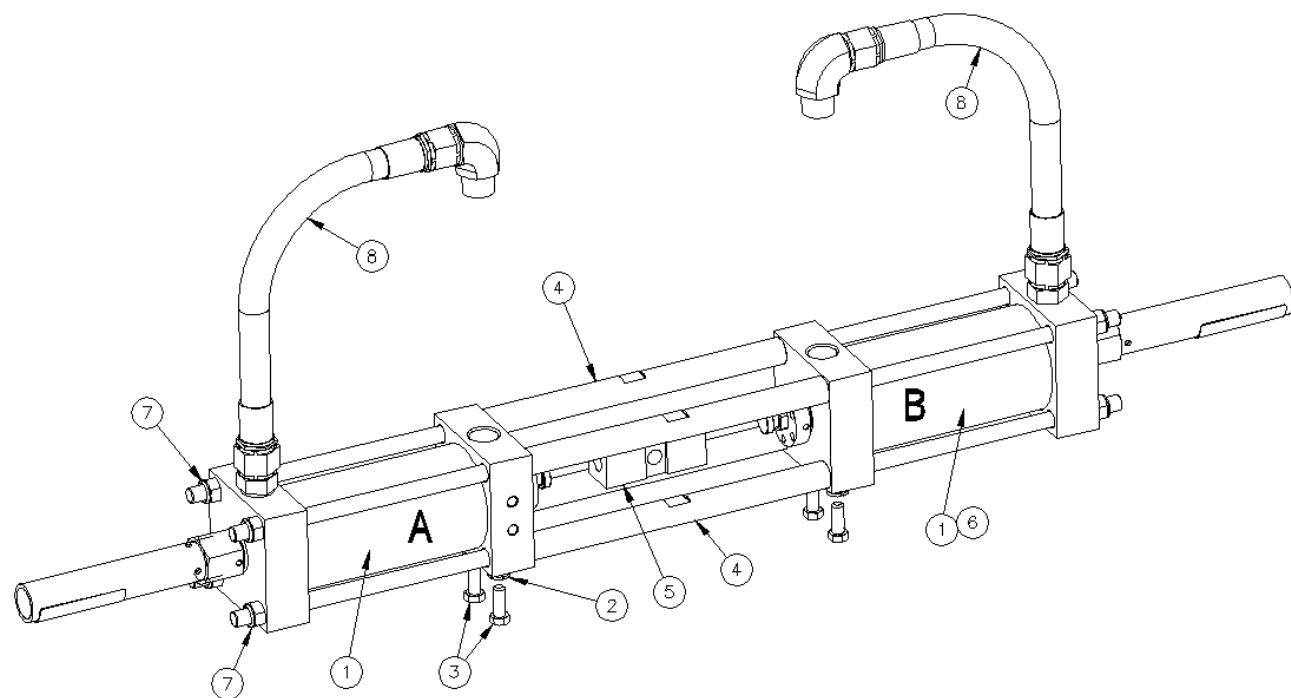


Fig. 10

		Shot Meter Assemblies		
Ref	P/N	Description	U50031 Qty	U50032 Qty
1	C24145	CYLINDER,ASSY 8900-1000	2	1
2	96/0046/99	WASHER,LOCK,SPLIT,3/8,MS@@@	4	4
3	96/0038/99	SCREW,HHC,3/8-16X1.00,MS,GR	4	4
4	C24013	SPACER,8900	4	4
5	C23016	COUPLING,PAIR,8900	1	1
6	570367	CYLINDER,ASSY 8900-500		1
7	U70016	NUT,HEX,LOCK,1/2-20,GRD8	8	8
8	552272	HOSE,TEF 3/4-18" 5000 PSI N	2	2

Parts

C24145 and 570367 Pump Assemblies

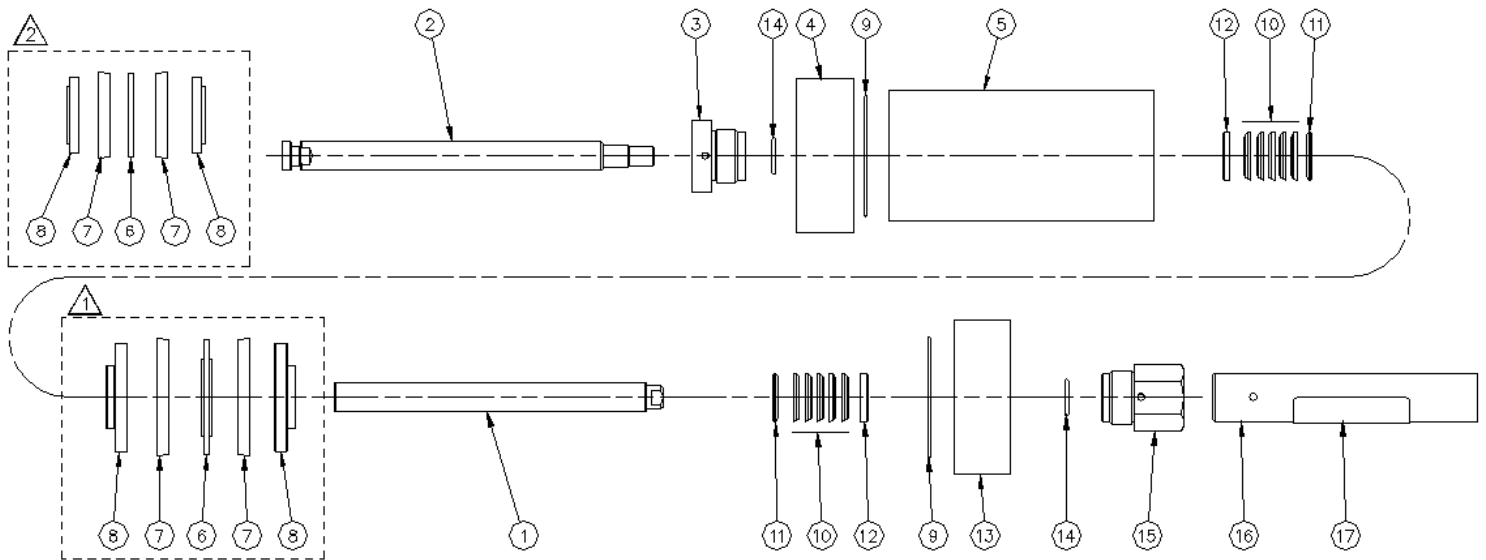


Fig. 11

P/N C24145 Pump Assembly -1000

Ref	P/N	Description	Qty
1	C24054	SHAFT,PISTON,OUTER	1
2	C24055	SHAFT,PISTON,INNER	1
3	C24022	NUT,PACKING	1
4	C24026	BLOCK,CYLINDER,INNER	1
5	C23136	CYLINDER,-1000	1
6	C05031	SPACER,PISTON	1
7	C05032	PACKING,CUP,PISTON	2
8	C05029	PISTON,BACK-UP,-1000	2
* 9	C20278	PACKING,O-RING	2
* 10	C21002	PACKING,VEE	10
* 11	C36244	GLAND,MALE	2
* 12	C36246	GLAND,FEMALE	2
13	C24023	BLOCK,CYLINDER,OUTER	1
* 14	188554	PACKING,O-RING	2
15	C57617	NUT,PACKING	1
16	C57618	TUBE,GUARD	1
17	179788	LABEL,WARNING	1

P/N 570367 Pump Assembly -500

Ref	P/N	Description	Qty
1	C24054	SHAFT,PISTON,OUTER	1
2	C24055	SHAFT,PISTON,INNER	1
3	C24022	NUT,PACKING	1
4	C24026	BLOCK,CYLINDER,INNER	1
5	C23200	CYLINDER,-500	1
6	C23460	SPACER,PISTON	1
7	C23350	PACKING,CUP,PISTON	2
8	C23574	PISTON,BACK-UP,-500	2
* 9	C20278	PACKING,O-RING	2
* 10	C21002	PACKING,VEE	10
* 11	C36244	GLAND,MALE	2
* 12	C36246	GLAND,FEMALE	2
13	C24023	BLOCK,CYLINDER,OUTER	1
* 14	188554	PACKING,O-RING	2
15	C57617	NUT,PACKING	1
16	C57618	TUBE,GUARD	1
17	179788	LABEL,WARNING	1



-1000 Pistons shown



-500 Pistons shown

*** Items contained in Kit P/N C24166**

Parts
4-WAY Assembly

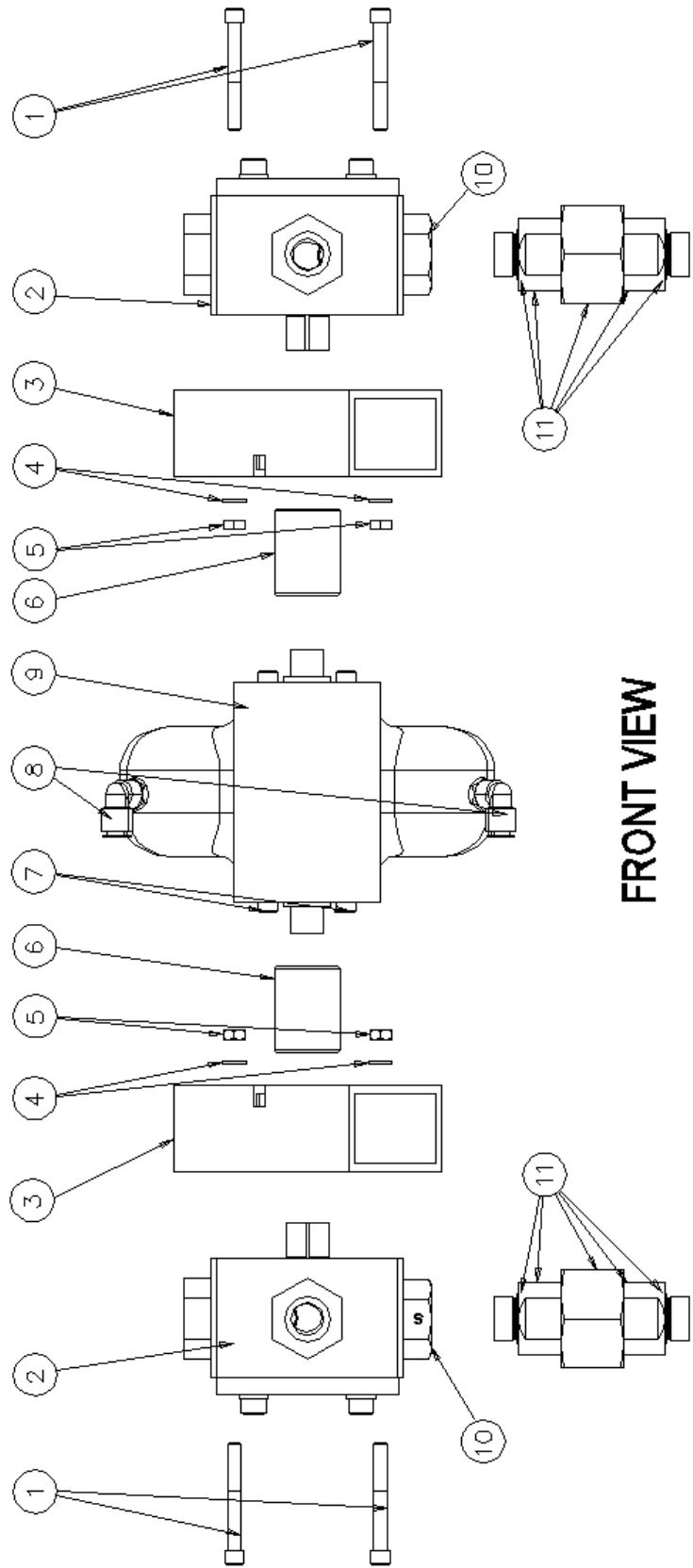


Fig. 12

Parts

4-WAY Assembly

See Fig. 12

Ref	P/N	Description	Qty
1	C19829	SCREW,CAP, SOCKET HEAD,8900	4
2	C24029	VALVE,4-WAY,8900	2
3	256477	BRACKET,3/4 VALVE MOUNTING,	2
4	100214	WASHER,LOCK	4
5	111303	NUT,HEX,8900	4
6	C24053	COUPLING,8900,4WAY VLV	2
7	109212	CAP,SCREW,SCH,8900	8
8	94/0703-1/96	ELBOW,SWVL,3/8TUBEX1/4NPT,F	2
9	C24046	ACTUATOR,PNEUMATIC,8900	1
10	15T898	FITTING,MOD,C24034,3/4 STRT	2
11	C24042	FITTING,UNION,ASSEMBLY,8900	2

Parts

4-Way Assembly P/N C24029

See Fig. 12

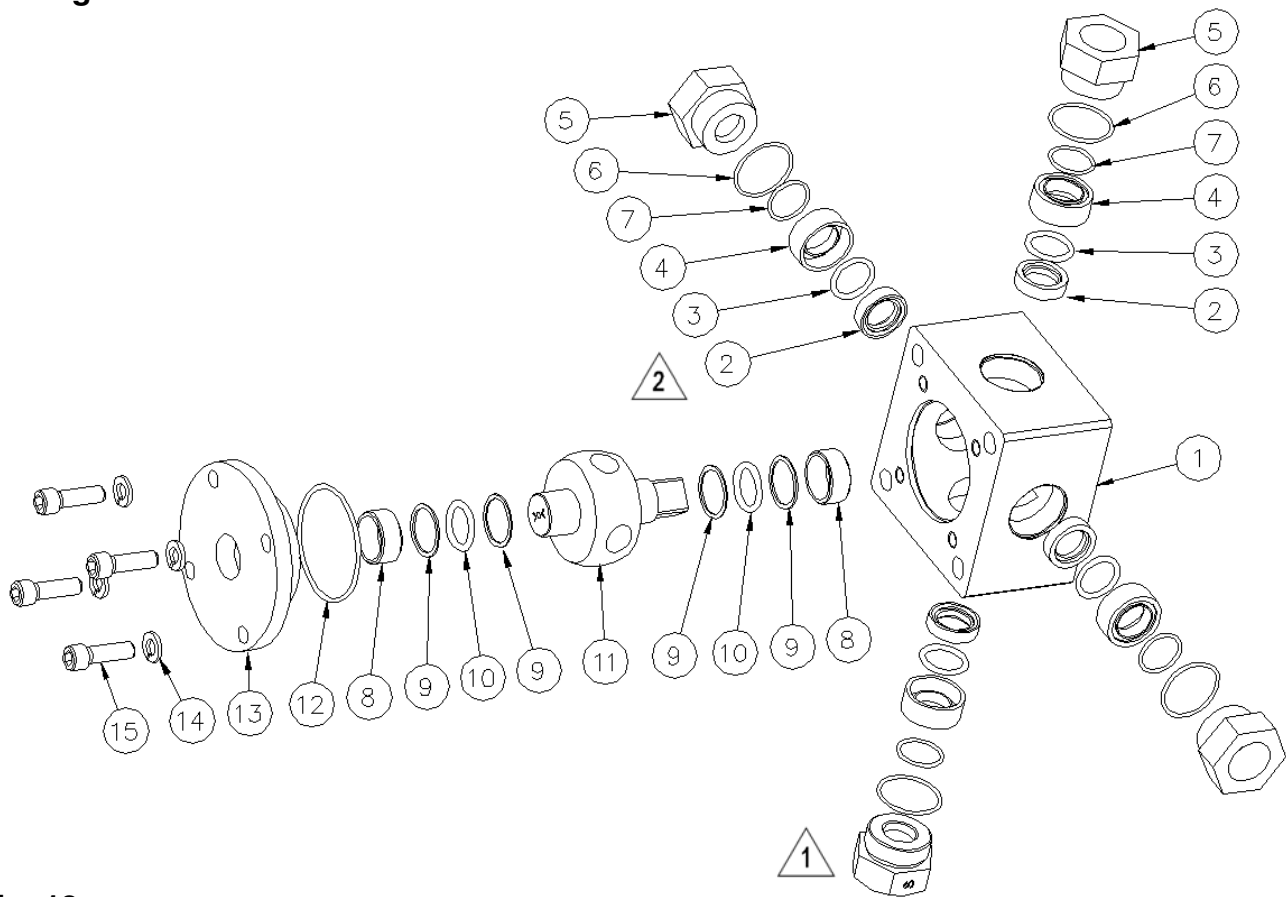


Fig. 13

Ref	P/N	Description	Qty
1	C24030	VALVE BODY	1
* 2	C24031	SEAL	4
* 3	C24036	O-RING	4
4	C24033	BUSHING	4
5	C24034	CONNECTOR	4
* 6	C24035	O-RING	4
* 7	C24032	O-RING	4
* 8	C24037	BUSHING	2
* 9	C24038	RING, BACK-UP	4
* 10	103611	O-RING	2
11	C07068	BALL, PASSAGE	1
* 12	C24040	O-RING	1
13	C24041	CAP, END	1
14	100133	WASHER, LOCK	4
15	C19839	SCREW	4

* Items contained in Kit P/N C07067



See **Fig. 12** item 10 for Part number. Refer to 4-Way Valve Repair section of this manual.



Orient beveled side of seal toward item 11 as shown.

Parts

Inlet and Outlet Assembly Machines Equipped with Performance Monitor Plus

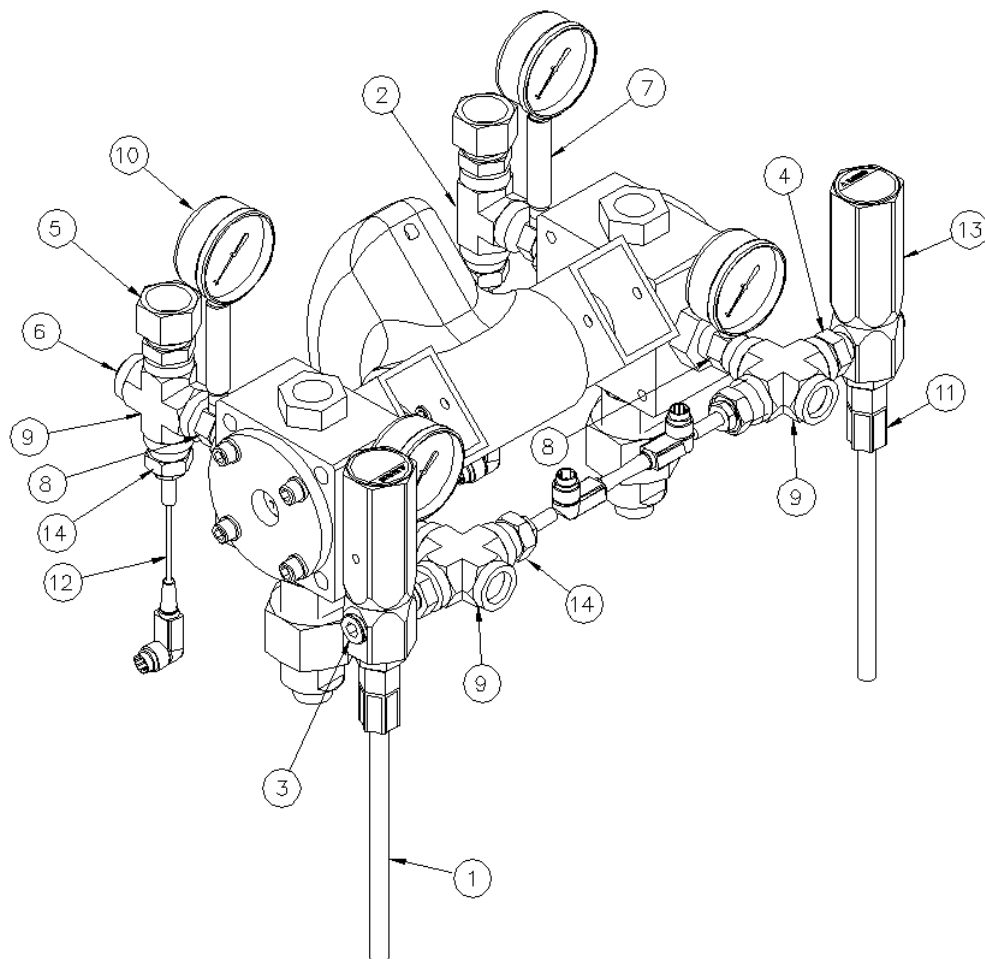


Fig. 14

Ref	P/N	Description	Qty
1	61/0010/88	TUBING,0.500OD,POLYFLO,90PS	6
2	94/0099/99	TEE,3/4NPTX3/4NPTX3/4NPT,FF	1
3	94/0375/99	PLUG,1/2NPT,SKT HD,M,MS,3K	2
4	94/0562/99	NIPPLE,HEX,3/4NPTX1/2NPT,MM	2
5	94/0422/99	ADAPTER,SWVL,1NPTX3/4FSW,M	2
6	14428-2	PLUG,3/4NPT,SKT HD,M,MS,2.5	1
7	187877	TUBE,GAUGE,8900,INLET	2
8	624545	FITTING,TEE,3/4M RUN X 1/4	4
9	U70015	FITTING,CROSS,3/4"NPT,FFFF,	3
10	102814	GAUGE,PRESS,FLUID,0-5000PSI	4
11	113187	CONNECTOR,TUBE,1/2NPTF,NYLO	2
12	198082	TRANSDUCER PRESS. CONTROL>	4
13	237062	VALVE,RELIEF,2000 PSI	2
14	15T761	ADAPTER,HEX,3/4"NPTM,X-DUCE	4

Parts

Inlet and Outlet Assembly Machines Equipped with Pneumatic Performance Monitor

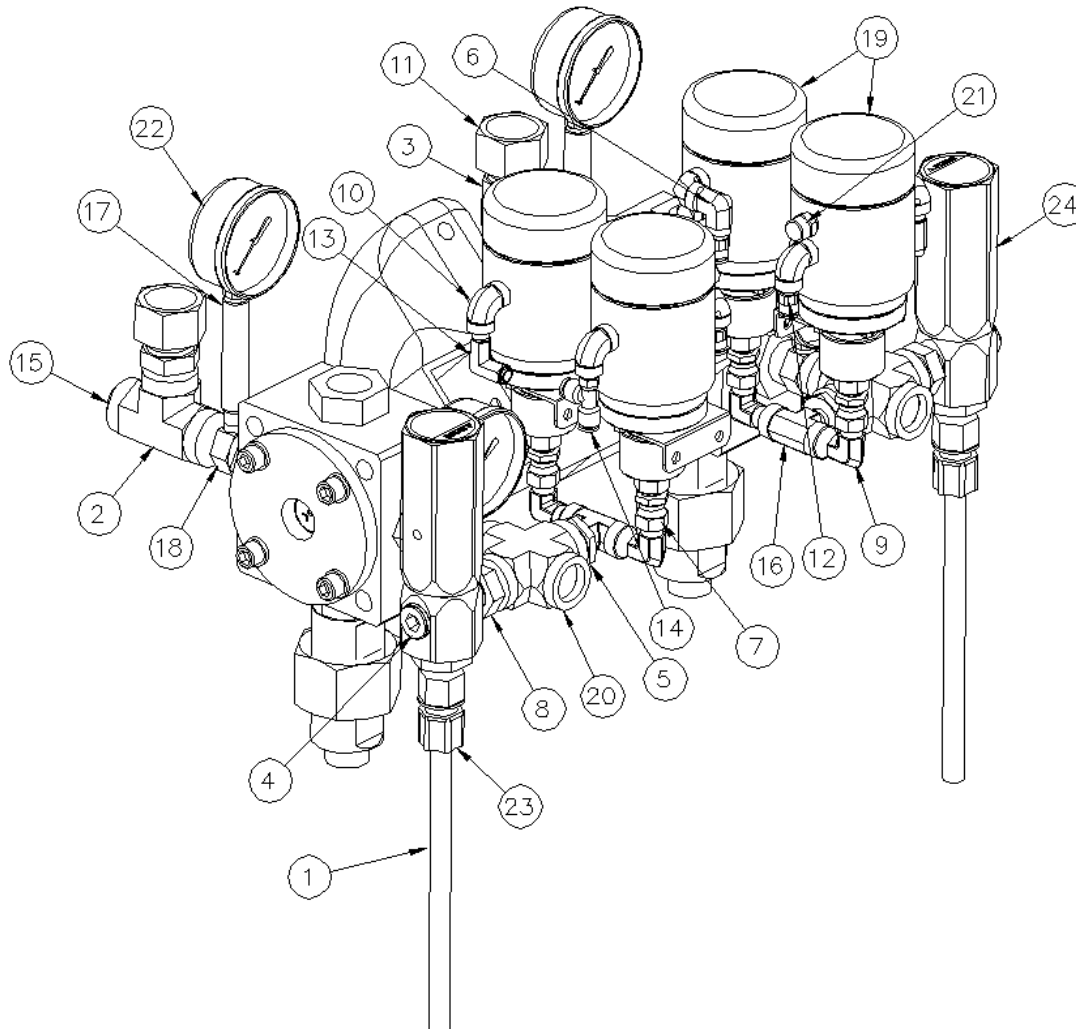


Fig. 15

Ref	P/N	Description	Qty	Ref	P/N	Description	Qty
1	61/0010/88	TUBING,0.500OD,POLYFLO,90PS	6	13	94/0705-1/96	ELBOW,SWVL,1/4TUBEX1/8NPT,F	2
2	94/0099/99	TEE,3/4NPTX3/4NPTX3/4NPT,FF	1	14	94/0708/96	TEE,RUN,1/4TUBEX1/8NPT,M,BR	2
3	94/0302-2/99	ELBOW,90,3/4NPT,FF,MS,2.5K	1	15	14428-2	PLUG,3/4NPT,SKT HD,M,MS,2.5	1
4	94/0375/99	PLUG,1/2NPT,SKT HD,M,MS,3K	2	16	108638	TEE,1/4NPT,MXFXF,MS	2
5	94/0425/99	BUSHING,3/4NPTX1/4NPT,MF,MS	2	17	187877	TUBE,GAUGE,8900,INLET	2
6	94/0527/96	ELBOW,STRT,90,1/8NPT,MF,BRS	2	18	624545	FITTING,TEE,3/4M RUN X 1/4	4
7	94/0561/99	ADAPTER,SWVL,1/4NPSX1/4NPT,	4	19	U70014	VALVE,PRESSURE,PNEUMATIC,3W	4
8	94/0562/99	NIPPLE,HEX,3/4NPTX1/2NPT,MM	2	20	U70015	FITTING,CROSS,3/4"NPT,FFFF,	2
9	94/0619/99	ELBOW,90,1/4NPT,MM,MS,5K	4	21	5-675-80	CAP,PIPE,BRASS,1/8"	4
10	94/0642/96	ELBOW,1/8NPT,F,90DEG,BRS>	8	22	102814	GAUGE,PRESS,FLUID,0-5000PSI	4
11	94/0422/99	ADAPTER,SWVL,1NPSX3/4NPT,M	2	23	115921	CONNECTOR,FEMALE,1/2"ODTX1/	2
12	94/0702/96	CONNECTOR,1/4TUBEX1/8NPT,M,	4	24	237062	VALVE,RELIEF,2000 PSI	2

Parts

Automatic Dispense Valves, Automatic Ratio Valves, with Swivel Boom

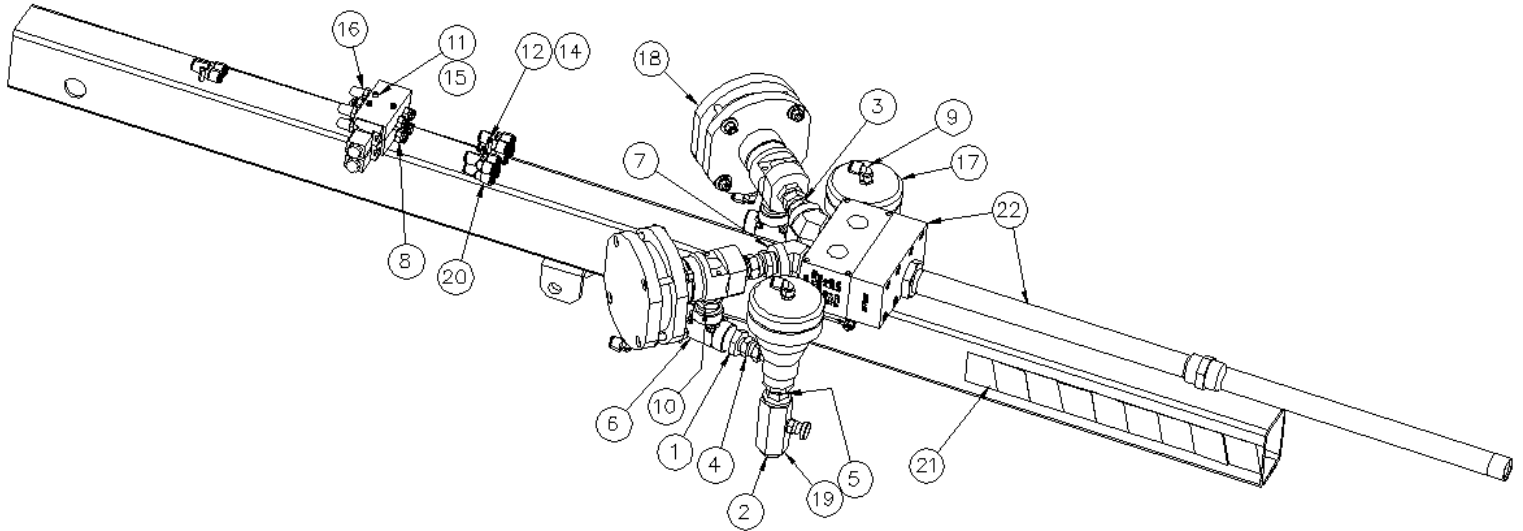
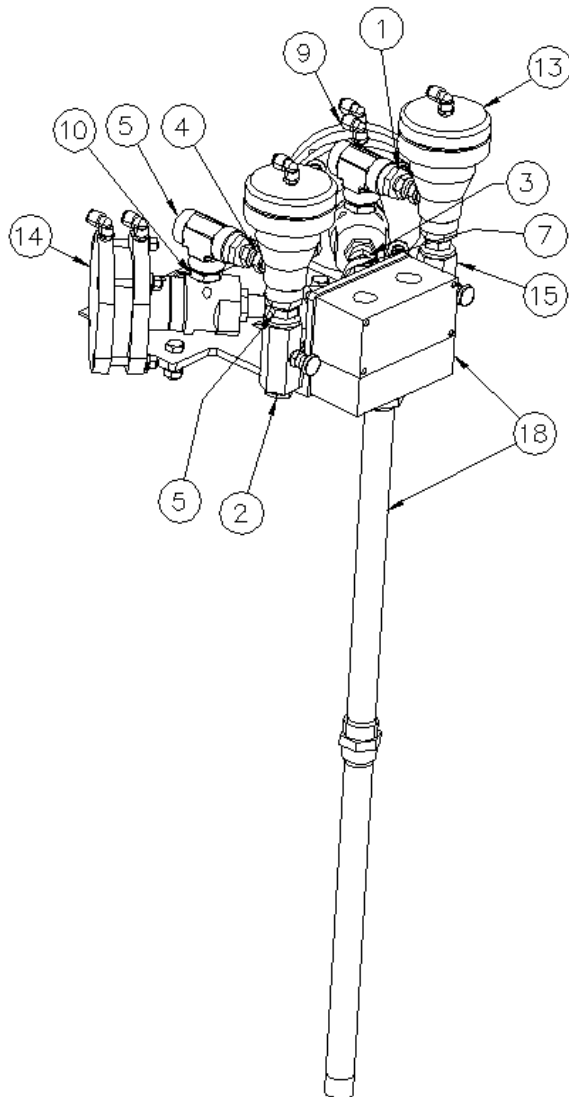


Fig. 16

Ref	P/N	Description	Qty
1	94/0037-HP/99	NIPPLE,HEX,1NPTX1/2NPT	2
2	94/0425/99	BUSHING,3/4NPTX1/4NPT,	2
3	94/0550/99	ADAPTER,SWVL,3/4NPSX1NP	2
4	94/0559/99	ADAPTER,SWVL,1/2NPSX1/2	2
5	94/0562/99	NIPPLE,HEX,3/4NPTX1/2NP	2
6	94/0672/99	TEE,1NPTX1NPTX1NPT,FFF	2
7	94/0674/99	ELBOW,STRT,45,1NPT,MF,MS,2.	2
8	94/0700/96	CONNECTOR,3/8TUBEX1/4NPT	6
9	94/0703-1/96	ELBOW,SWVL,3/8TUBEX1/4N	6
10	94/0758-1/99	NIPPLE,HEX,1NPTX3/4NPT	2
11	96/0178/99	WASHER,LOCK,SPLIT,#8,MS	3
12	96/0342/99	SCREW,SHC,6-32X1.75,MS,E	2
13	96/0345/99	SCREW,SHC,6-32X1.00,MS	1
14	96/0432/99	WASHER,LOCK,SPLIT,#6	3
15	0204-84	SCREW,SHC,8-32X2.25,MS	3
16	121021	MUFFLER,AIR,1/4NPT,BRONZ	4
17	918537	APPLICATOR,BALL SEAT	2
18	918539	APPLICATOR,BALL SEAL,3/4	2
19	U70023	VALVE,NEEDLE,3/4NPT,F,MS	2
20	U70058	FITTING,UNOIN,"Y",3/8TUBE,P	5
21	U70068	STRIPE,2",YEL/BLK>	3
22	U50027	MANIFOLD,MIXER ASSY	1

Parts

Automatic Dispense Valves, Automatic Ratio Valves, with Fixed mounting



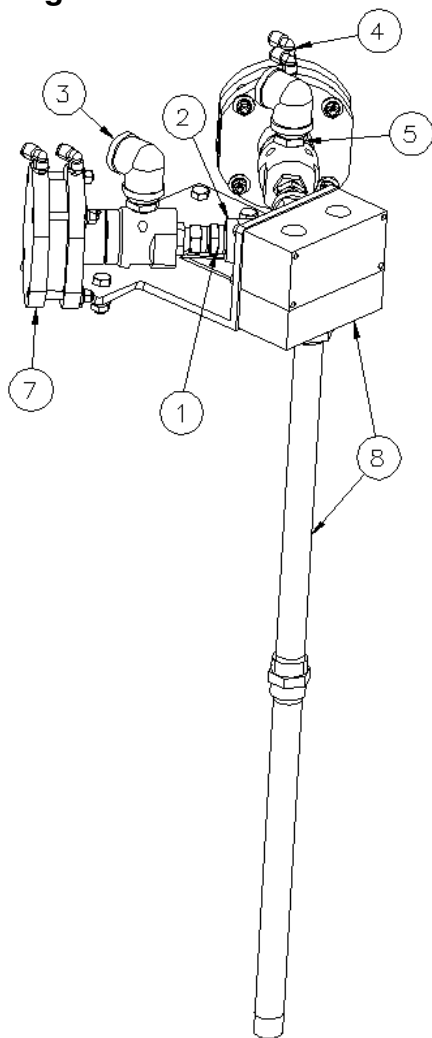
Ref	P/N	Description	Qty
1	94/0037-HP/99	NIPPLE,HEX,1NPTX1/2NPT,MM,M	2
2	94/0425/99	BUSHING,3/4NPTX1/4NPT,MF,MS	2
3	94/0550/99	ADAPTER,SWVL,3/4NPSX1NPT,FM	2
4	94/0559/99	ADAPTER,SWVL,1/2NPSX1/2NPT,	2
5	94/0562/99	NIPPLE,HEX,3/4NPTX1/2NPT,MM	2
6	94/0672/99	TEE,1NPTX1NPTX1NPT,FFF,MS,2	2
7	94/0674/99	ELBOW,STRT,45,1NPT,MF,MS,2.	2
8	94/0700/96	CONNECTOR,3/8TUBEX1/4NPT,M,	2
9	94/0703-1/96	ELBOW,SWVL,3/8TUBEX1/4NPT,F	6
10	94/0758-1/99	NIPPLE,HEX,1NPTX3/4NPT,MM,M	2
* 11	96/0157/99	SCREW,RHM,6-32X1.50,MS	4
* 12	96/0432/99	WASHER,LOCK,SPLIT,#6,MS@@@	4
13	918537	APPLICATOR,BALL SEAT,1/2 PO	2
14	918539	APPLICATOR,BALL SEAL,3/4	2
15	U70023	VALVE,NEEDLE,3/4NPT,F,MS	2
* 16	U70037	MANIFOLD,4STATION,L20 VALVE	1
* 17	U70069	COVER,BLANK,STATION,MANIFOL	2
18	U50027	MANIFOLD,MIXER ASSY	1

* Not shown

Fig. 17

Parts

Automatic Dispense Valves with Fixed mounting



Ref	P/N	Description	Qty
1	94/0550/99	ADAPTER,SWVL,3/4NPSX1NPT,FM	2
2	94/0674/99	ELBOW,STRT,45,1NPT,MF,MS,2.	2
3	94/0675/99	ELBOW,90,1NPT,FF,MS,2.5K	2
4	94/0703-1/96	ELBOW,SWVL,3/8TUBEX1/4NPT,F	4
5	94/0758-1/99	NIPPLE,HEX,1NPTX3/4NPT,MM,M	2
* 6	U70069	COVER,BLANK,STATION,MANIFOL	2
7	918539	APPLICATOR,BALL SEAL,3/4	2
8	U50027	MANIFOLD,MIXER ASSY	1

* Not shown

Fig. 18

Parts

Manual Dispense Valves with Fixed mounting

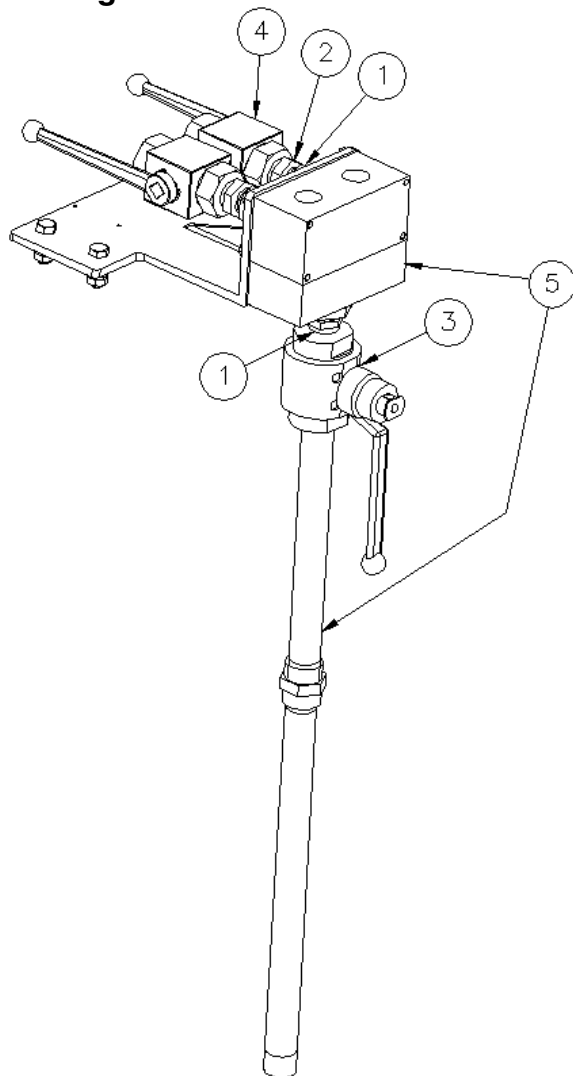


Fig. 19

Ref	P/N	Description	Qty
1	94/0433/99	NIPPLE,HEX,1NPT,MM,MS,4.5K	3
2	94/0676/99	ADAPTER,SWVL,1NPTSX1NPT,FM,	2
3	U70001	VALVE,BALL,2W,1"FULL PORT,M	1
4	U70057	VALVE,BALL,2W,1"NPT,F,5800,	2
5	U50027	MANIFOLD,MIXER ASSY	1

Manual Ratio Check Assembly

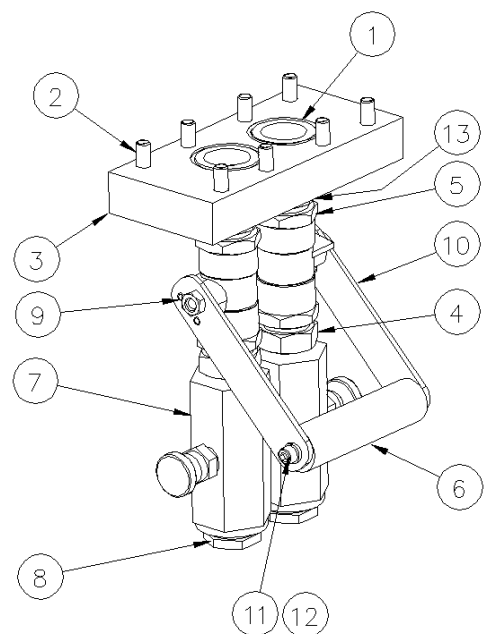


Fig. 20

Ref	P/N	Description	Qty
1	107078	PACKING, O-RING	2
2	96/0268/99	SCREW,SHC,5/16-18X1.25,MS,E	8
3	15T760	BLOCK,RATIO	1
4	94/0322-1/99	NIPPLE,HEX,3/4NPT,MM,MS,5.5	4
5	94/0903-R2/99	VALVE,BALL,2W,3/4NPT,F,2000	2
6	15T762	HANDLE,BALL VALVE,RATIO CHE	1
7	U70023	VALVE,NEEDLE,3/4NPT,F,MS	2
8	94/0603/99	BUSHING,1NPTX1/4NPT,MF,MS,2	2
9	96/0136/99	SCREW,RHM,10-24X0.38,MS	2
10	01/0260/99	HANDLE,LEVER,BV,DUAL,902-R2	2
11	96/0037/99	WASHER,LOCK,SPLIT,1/4,MS@@@	2
12	96/0834/99	SCREW,SHC,10-32X1.25,MS,E@@	2
13	1433A-3	ADAPTER,SWVL,3/4NPSX3/4NPT,	2

Parts

Mixer Assembly

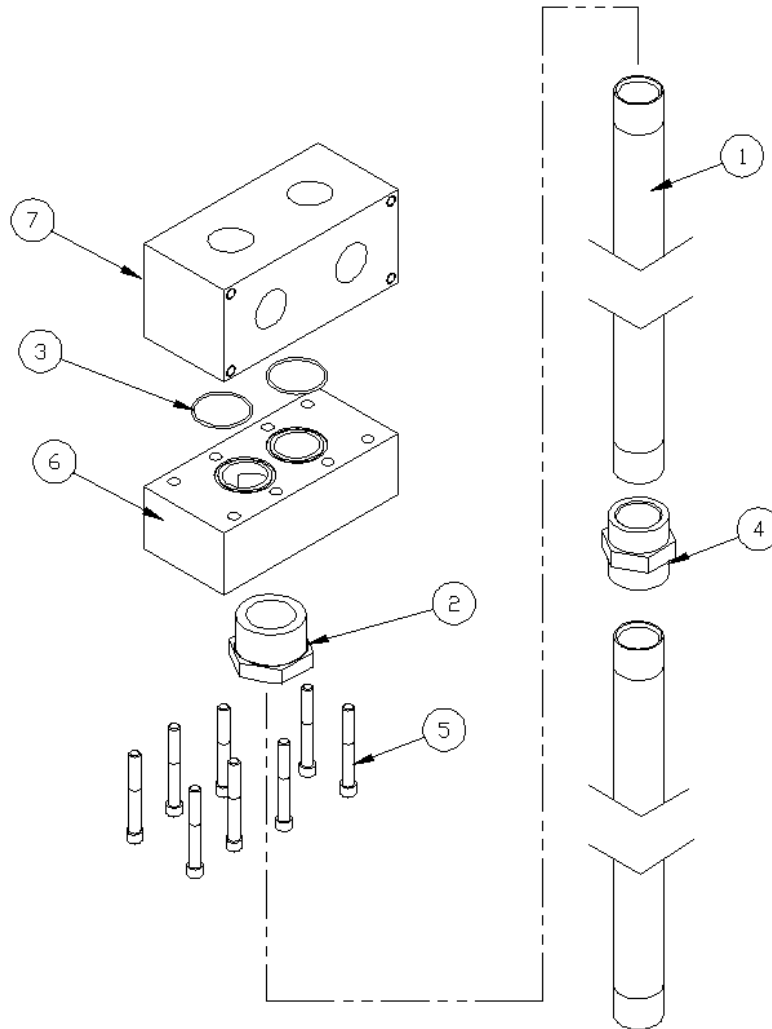


Fig. 21

Ref	P/N	Description	Qty
1	60/0008-A/98	MIXER ASSY,1"X12EL	2
2	6301-16	BUSHING,1.5NPTX1NPT,MF,MS,3	1
3	107078	PACKING, O-RING	2
4	U70010	COUPLING,1",SS,3.8KWP	1
5	U70036	SCREW,SHC,5/16-18X2.25,MS	8
6	15T682	MIX,OUTLET>	1
7	15T683	MIX,INLET>	1

Parts

Machines equipped with Performance Monitor Plus Linear Transducer

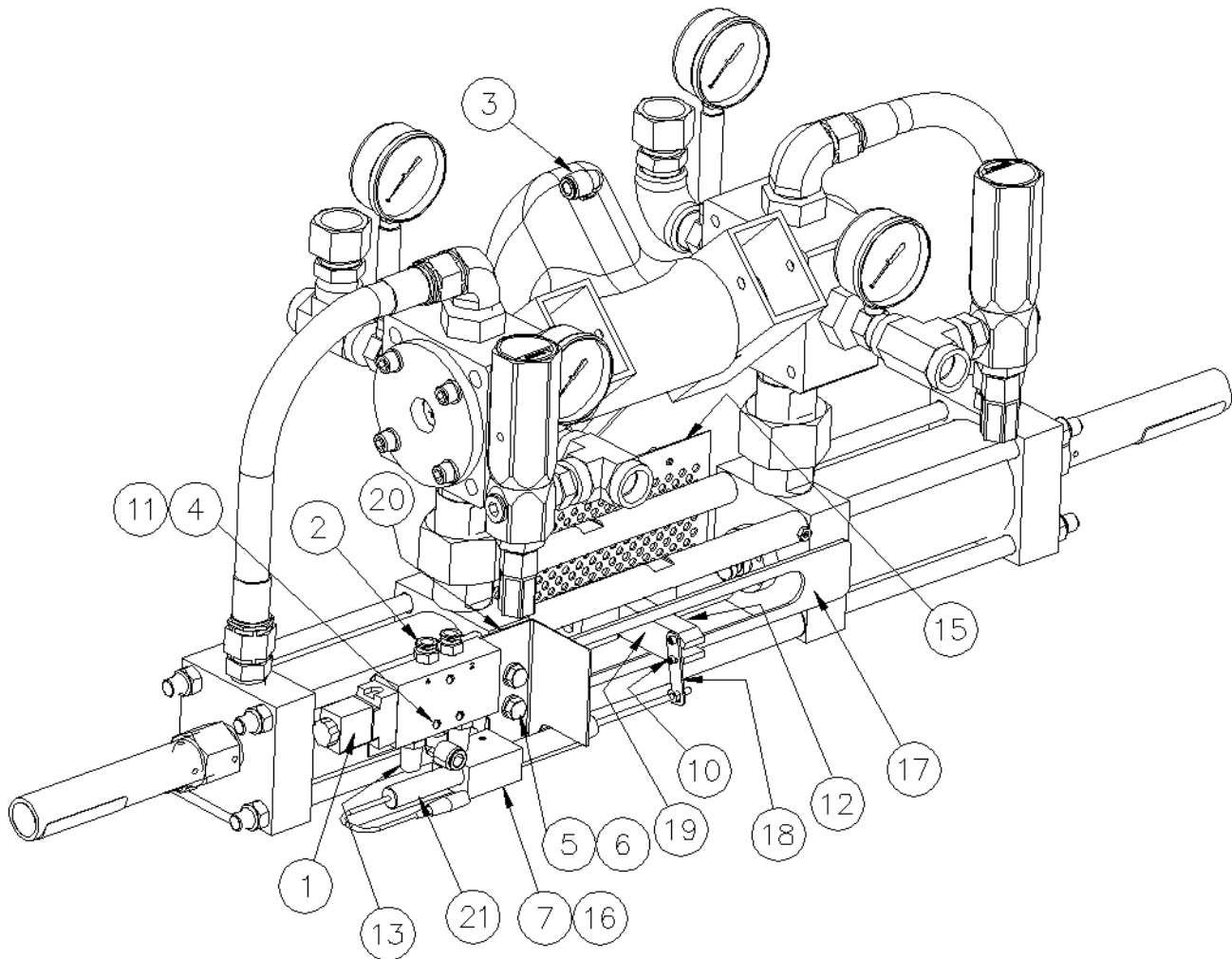


Fig. 22

Ref	P/N	Description	Qty	Ref	P/N	Description	Qty
1	83/1414-12/11	VALVE,PWR,4W,SSSR,1/4NPT,IA	1	12	110343	SCREW,CAP,SCH,8900	1
2	94/0700/96	CONNECTOR,3/8TUBEX1/4NPT,M,	2	13	121021	MUFFLER,AIR,1/4NPT,BRONZE	2
3	94/0703-1/96	ELBOW,SWVL,3/8TUBEX1/4NPT,F	3	14	256473	GUARD,FRONT,PAINTED	1
4	96/0020-A/99	SCREW,RHM,6-32X1.25,MS	3	* 15	256474	GUARD,REAR,PAINTED	1
5	96/0038/99	SCREW,HHC,3/8-16X1.00,MS,GR	2	16	15T756	BLOCK,MOUNTING,LRT	1
6	96/0046/99	WASHER,LOCK,SPLIT,3/8,MS@@@	2	17	256447	GUIDE,LVDT,PAINTED	1
7	96/0097/99	SCREW,SHC,10-24X1.25,MS,E	2	18	15T771	BRACKET,LRT	1
* 8	96/0125/98	SCREW,SHC,10-24X0.50,SS@@@	2	19	15T772	ARM,TRIP,MOD,LRT,C24016>	1
* 9	96/0304-4/98	NUT,HEX,LOCK,10-24,SS@@@	2	20	256448	BRACKET,VALVE,MTG,LRT,PAINT	1
10	96/0363/99	SCREW,SHC,6-32X0.38,MS@@@	2	21	U50029	TRANSDUCER,LRT ASSY	1
11	96/0432/99	WASHER,LOCK,SPLIT,#6,MS@@@	3	* Not shown			

Parts

Pneumatic Switch

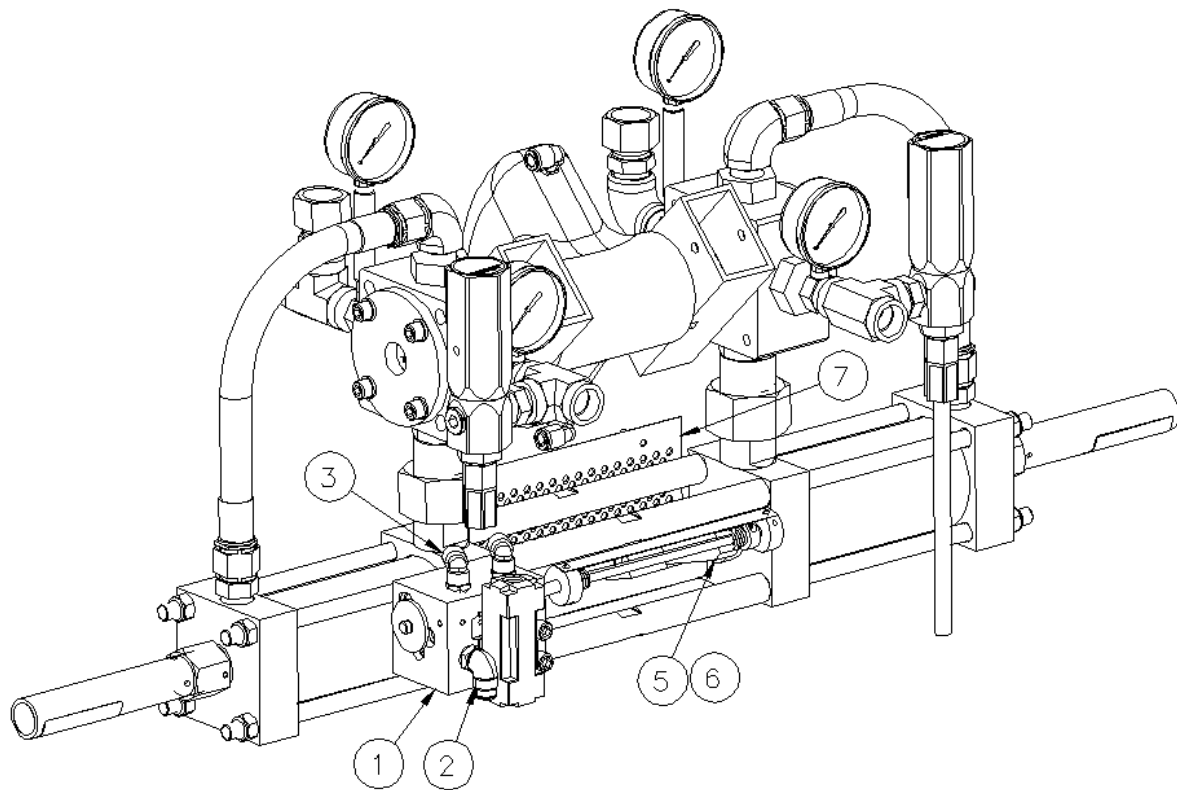


Fig. 23

Ref	P/N	Description	Qty
1	C24014	VALVE,LIMIT,8900	1
2	94/0697/96	ELBOW,SWVL,3/8TUBEX3/8NPT,F	1
3	94/0703-1/96	ELBOW,SWVL,3/8TUBEX1/4NPT,F	2
4	256473	GUARD,FRONT,PAINTED	1
5	C24016	ARM,TRIP,8900	1
6	110343	SCREW,CAP,SCH,8900	1
* 7	256474	GUARD,REAR,PAINTED	1
* 8	96/0304-4/98	NUT,HEX,LOCK,10-24,SS @ @ @	2
* 9	96/0125/98	SCREW,SHC,10-24X0.50,SS @ @ @	2

* Not shown

Parts

Flow Meter Hardware

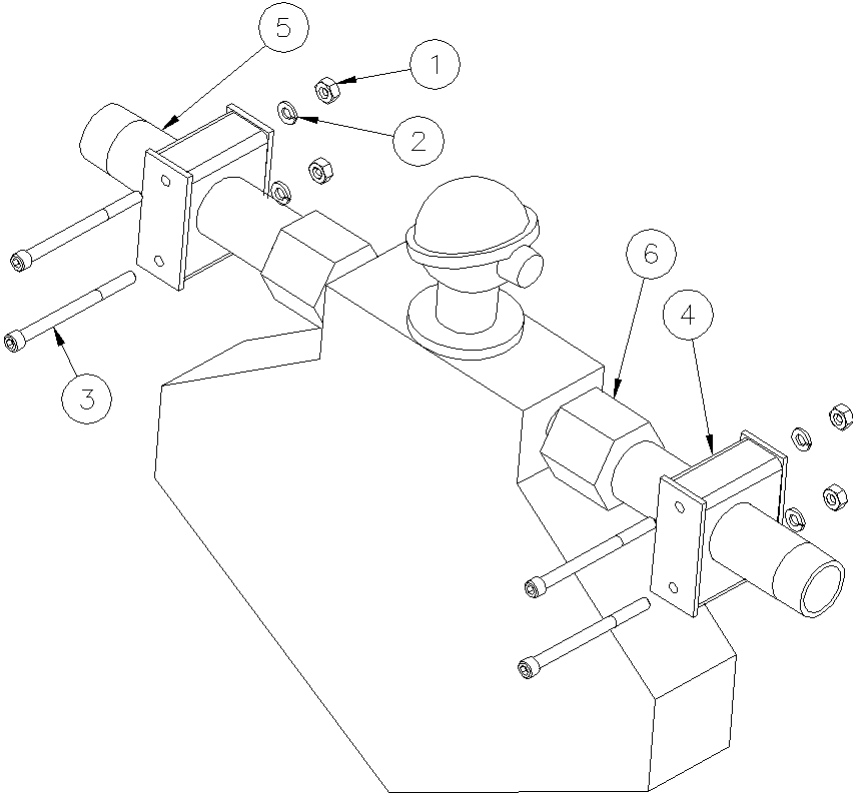
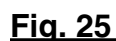


Fig. 24

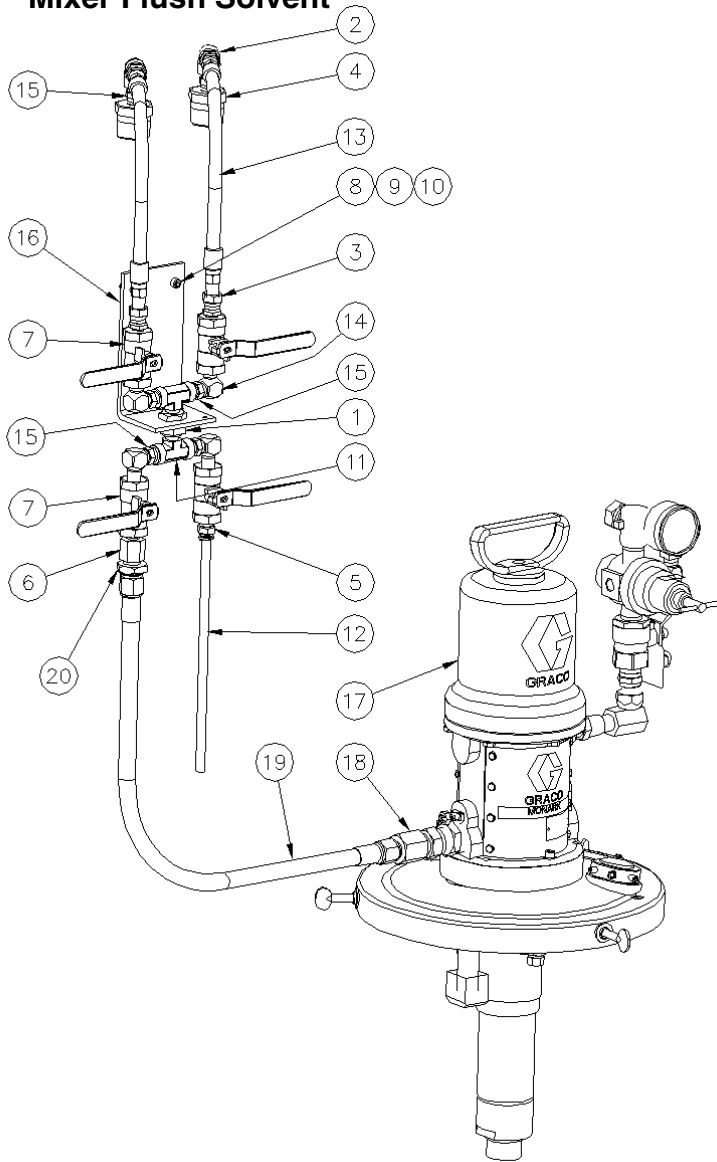
Ref	P/N	Description	Qty
1	96/0017/99	NUT,HEX,1/4-20,MS,GR2@@@	4
2	96/0037/99	WASHER,LOCK,SPLIT,1/4,MS@@@	4
3	96/0730/99	SCREW,SHC,1/4-20X3.25,MS,E	4
4	20039-48	PIPE CLAMP KIT 1 STAUFF	2
5	U70017	FITTING,NIPPLE,1NPTX6.0,MM,	2
6	U70018	FITTING,REDUCER,1NPTX1/2NPT	2

Air Inlet

312896C

Parts

Mixer Flush Solvent



Ref	P/N	Description	Qty
1	94/0508/96	BULKHEAD, 1/4NPT, F, BRS	1
2	94/0544/99	ELBOW, 90, 1/4NPT, FF, MS, 5K	2
3	94/0561/99	ADAPTER, SWVL, 1/4NPSX1/4NPT,	4
4	94/0603/99	BUSHING, 1NPTX1/4NPT, MF, MS, 2	2
5	94/0700/96	CONNECTOR, 3/8TUBEX1/4NPT, M,	1
6	94/0745/99	REDUCER, 3/8NPTX1/4NPT, FM, MS	1
7	94/0900-R2/99	VALVE, BALL, 2W, 1/4NPT, F, 2000	4
8	96/0017/99	NUT, HEX, 1/4-20, MS, GR2 @ @ @	2
9	96/0030/99	SCREW, SHC, 1/4-20X0.75, MS, E @	2
10	96/0037/99	WASHER, LOCK, SPLIT, 1/4, MS @ @ @	2
11	108638	TEE, 1/4NPT, MXFXF, MS	2
12	61/2906-BK/11	TUBING, 0.245IDX0.375OD, PU, 9	1
13	U50075	HOSE SET, 1/4"X48", NYL 1/4"N	2
13	U50074	HOSE SET, 1/4"X126", NYL 1/4N	2
14	94/0300-1/99	ELBOW, STRT, 90, 1/4NPT, MF, MS,	4
15	114378	VALVE, CHECK, 1-2.5PSI, BRASS	6
17	902278	PUMP PK, 5, 5:1, SS, PTFE/PE, R,	1
18	94/1012/99	ADAPTER, JIC08X1/2NPT, MF, MS,	1
19	61/0039-M120/11	HOSE ASSY, SS BRD, 1/2X120, MS	1
20	94/1009/99	ADAPTER, JIC08X3/8NPT, MM, MS,	1

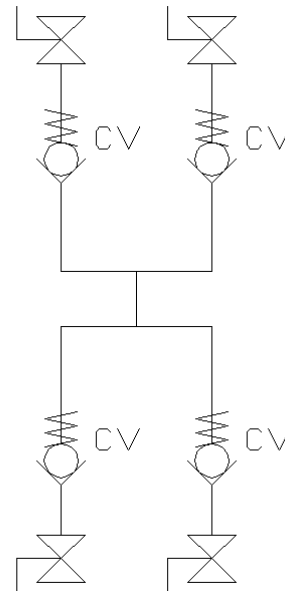
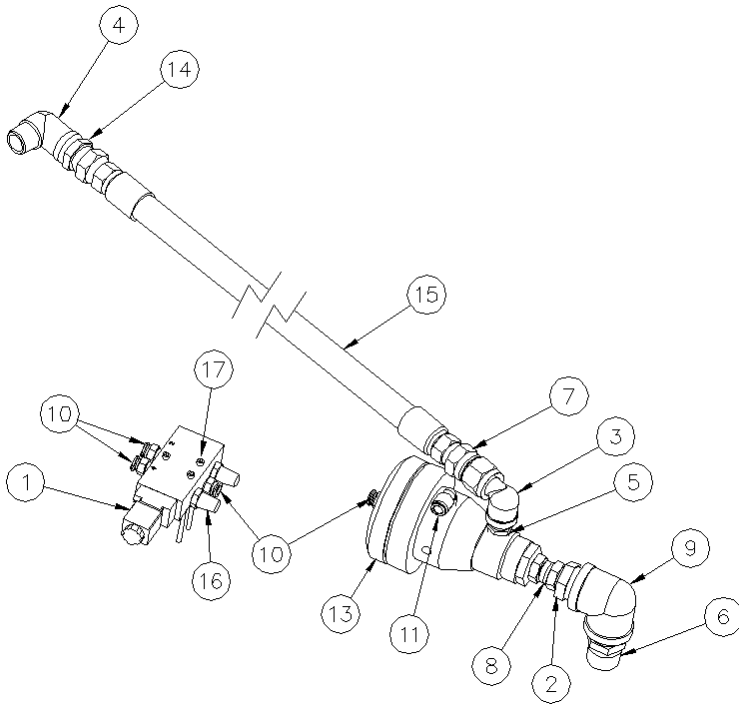


Fig. 26

Fig. 26 Solvent Hardware schematic

Parts

Mixer Flush Automatic Base Purge



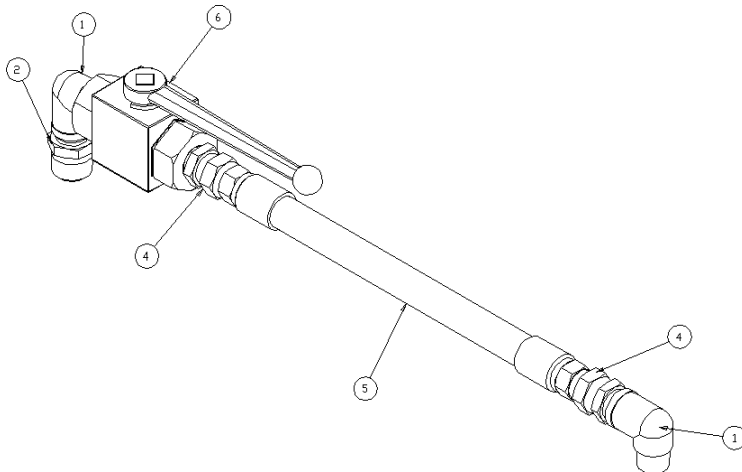
Ref	P/N	Description	Qty
1	83/1414-12/11	VALVE,PWR,4W,SSSR,1/4NPT	1
2	94/0037-HP/99	NIPPLE,HEX,1NPTX1/2NPT,MM	1
3	94/0301-1/99	ELBOW,STRT,90,1/2NPT,MF	1
4	94/0302-1/99	ELBOW,STRT,90,3/4NPT,MF	1
5	94/0321-1/99	NIPPLE,HEX,1/2NPT,MM,MS	1
6	94/0433/99	NIPPLE,HEX,1NPT,MM,MS,	1
7	94/0558/99	ADAPTER,SWVL,1/2NPSX3/4N	1
8	94/0559/99	ADAPTER,SWVL,1/2NPSX1/2	1
9	94/0675/99	ELBOW,90,1NPT,FF,MS,	1
10	94/0700/96	CONNECTOR,3/8TUBEX1/4	3
11	94/0703-1/96	ELBOW,SWVL,3/8TUBEX1/4	1
* 12	6302-20	PLUG,1NPT,HEX HD,M,MS	1
13	918537	APPLICATOR,BALL SEAT	1
14	1433A-3	ADAPTER,SWVL,3/4NPSX3/4	1
15	U70050	HOSE SET,3/4"X76"W3/4"N	1
+ 15	U70065	HOSE,SET,3/4"X144"W3/4	1
+ 16	121021	MUFFLER,AIR,1/4NPT	2
+ 17	U70064	SCREW,SHC,8-32X3.5,MS	3

+ Parts for Swivel Boom

* Not shown

Fig. 27

Manual Base Purge



Ref	P/N	Description	Qty
1	94/0302-1/99	ELBOW,STRT,90,3/4NPT,MF,MS,	2
2	94/0758-1/99	NIPPLE,HEX,1NPTX3/4NPT,MM,M	1
* 3	6302-20	PLUG,1NPT,HEX HD,M,MS,4.5K	1
4	1433A-3	ADAPTER,SWVL,3/4NPSX3/4NPT,	2
5	U70050	HOSE SET,3/4"X76"W3/4"NPTM,	1
6	U70056	VALVE,BALL,2W,3/4"NPT,5KSI	1
* Not shown			

Fig. 28

Parts

Hose Assemblies

Machines equipped with Flow Meters (Ratio Monitor)



Shown with Swivel Boom Hoses.

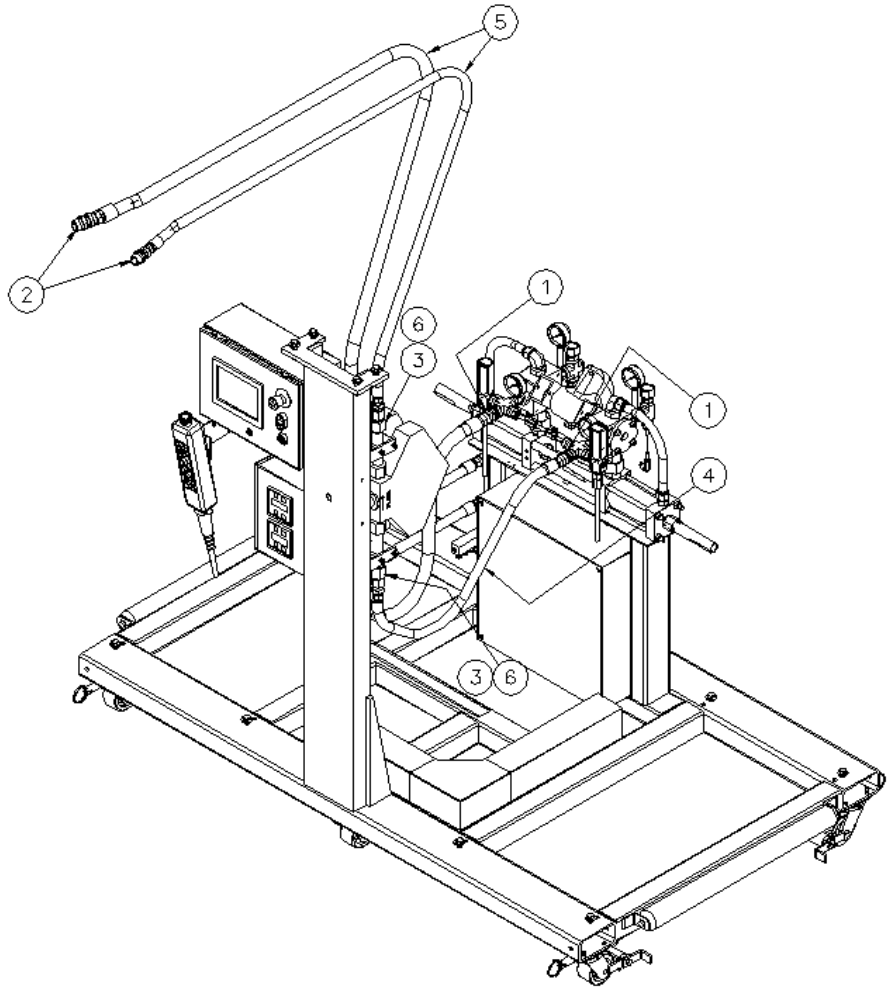


Fig. 29

Ref	P/N	Description	Hose Diameter			
			Swivel Boom 1in (25mm)	Swivel Boom 3/4 in (19mm)	Fixed Mixer 1in (25mm)	Fixed Boom 3/4 in (19mm)
			Qty	Qty	Qty	Qty
1	94/0422/99	ADAPTER,SWVL,1NPSX3/4	1		1	
1	1433A-3	ADAPTER,SWVL,3/4NPSX		1		1
2	94/0676/99	ADAPTER,SWVL,1NPT SX1	1		1	
2	94/0550/99	ADAPTER,SWVL,3/4NPSX1		1		1
3	94/0677/99	ADAPTER,SWVL,1NPSX1	2		1	
3	94/0452/99	REDUCER,1NPTX3/4NPT,FM		2		2
4	U70053	HOSE SET,1\"X50\"W/1\"NPTM	1		1	
4	U70049	HOSE SET,3/4\"X50\"W3/4\"		1		1
5	U70055	HOSE SET,1\"X76\"W/1\"NPTM	1			
5	U70050	HOSE SET,3/4\"X76\"W3/4\"		1		
5	U70052	HOSE SET,1\"X30\"W/1NPTM			1	
5	U70070	HOSE,SET,3/4\"X30\"W/3/4\"				1
6	6303-19	ADAPTER,SWVL,3/4NPSX		2		2

Parts

Hose Assemblies
Not equipped with
Flow Meters



Shown with Fixed Mixer
Hoses.

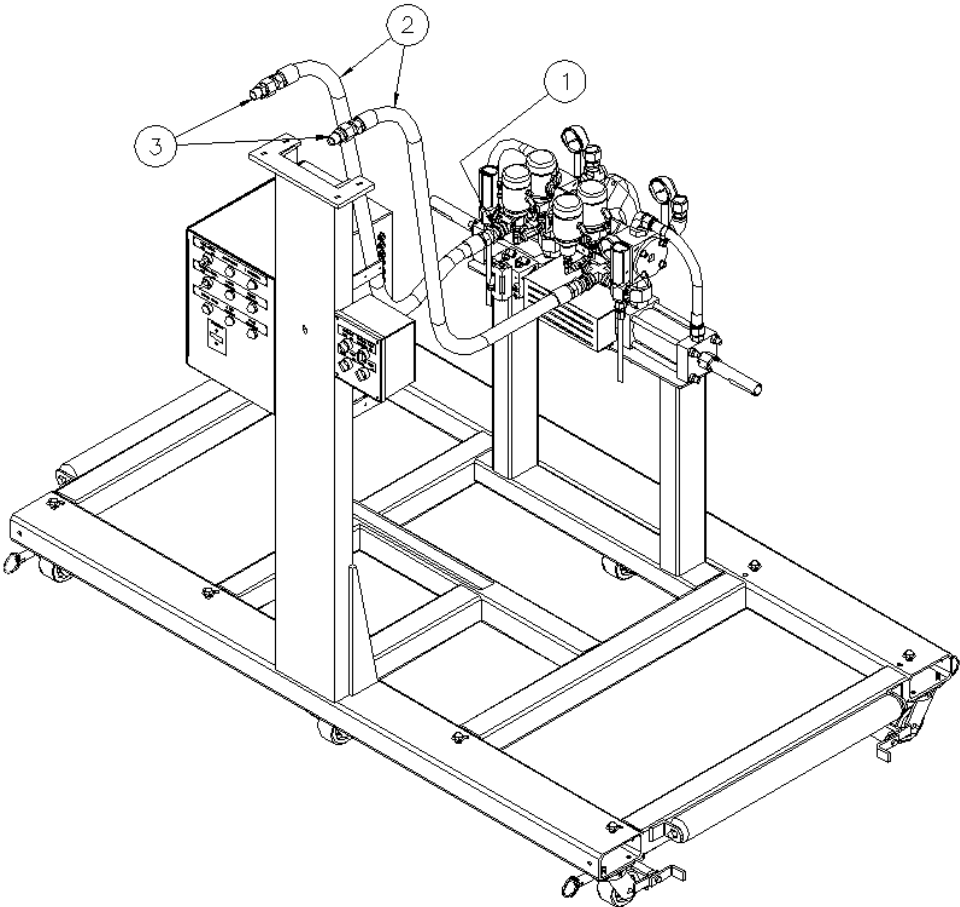


Fig. 30

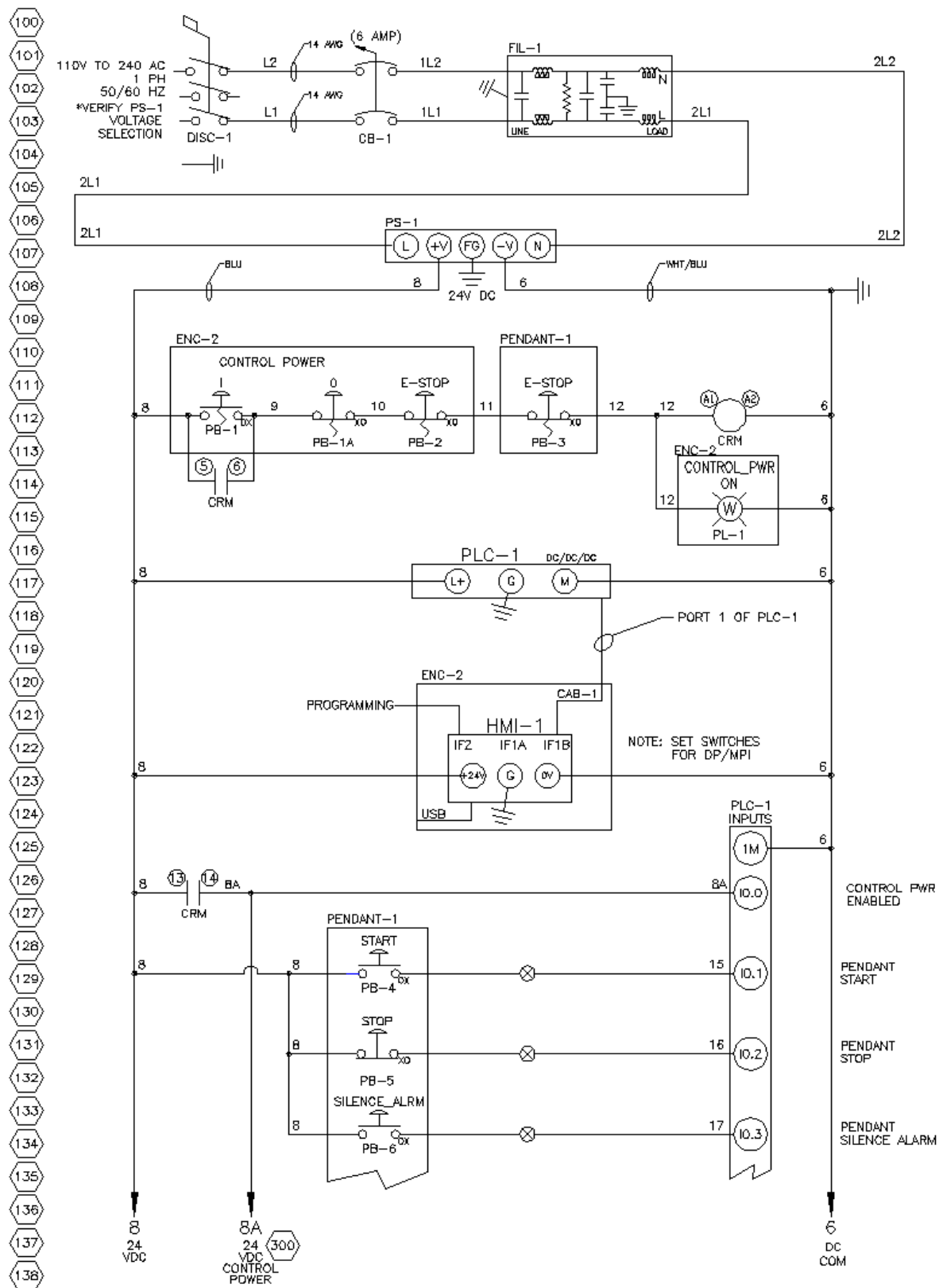
Ref	P/N	Description	Hose Diameter			
			Swivel Boom 1in (25mm)	Swivel Boom 3/4 in (19mm)	Fixed Mixer 1in (25mm)	Fixed Boom 3/4 in (19mm)
			Qty	Qty	Qty	Qty
1	94/0422/99	ADAPTER,SWVL,1NPSX3/4	1		1	
1	1433A-3	ADAPTER,SWVL,3/4NPSX3/4		1		1
2	U70051	HOSE SET,1"X120"W1"NPT	1			
2	U70048	HOSE SET,3/4"X120"W3/4		1		
2	U70054	HOSE SET,1"X60"W1"NPT			1	
2	U70072	HOSE,SET,3/4"X60"W3/4N				1
3	94/0676/99	ADAPTER,SWVL,1NPTSX1	1		1	
3	94/0550/99	ADAPTER,SWVL,3/4NPSX1		1		1

Parts

This image shows a single page of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

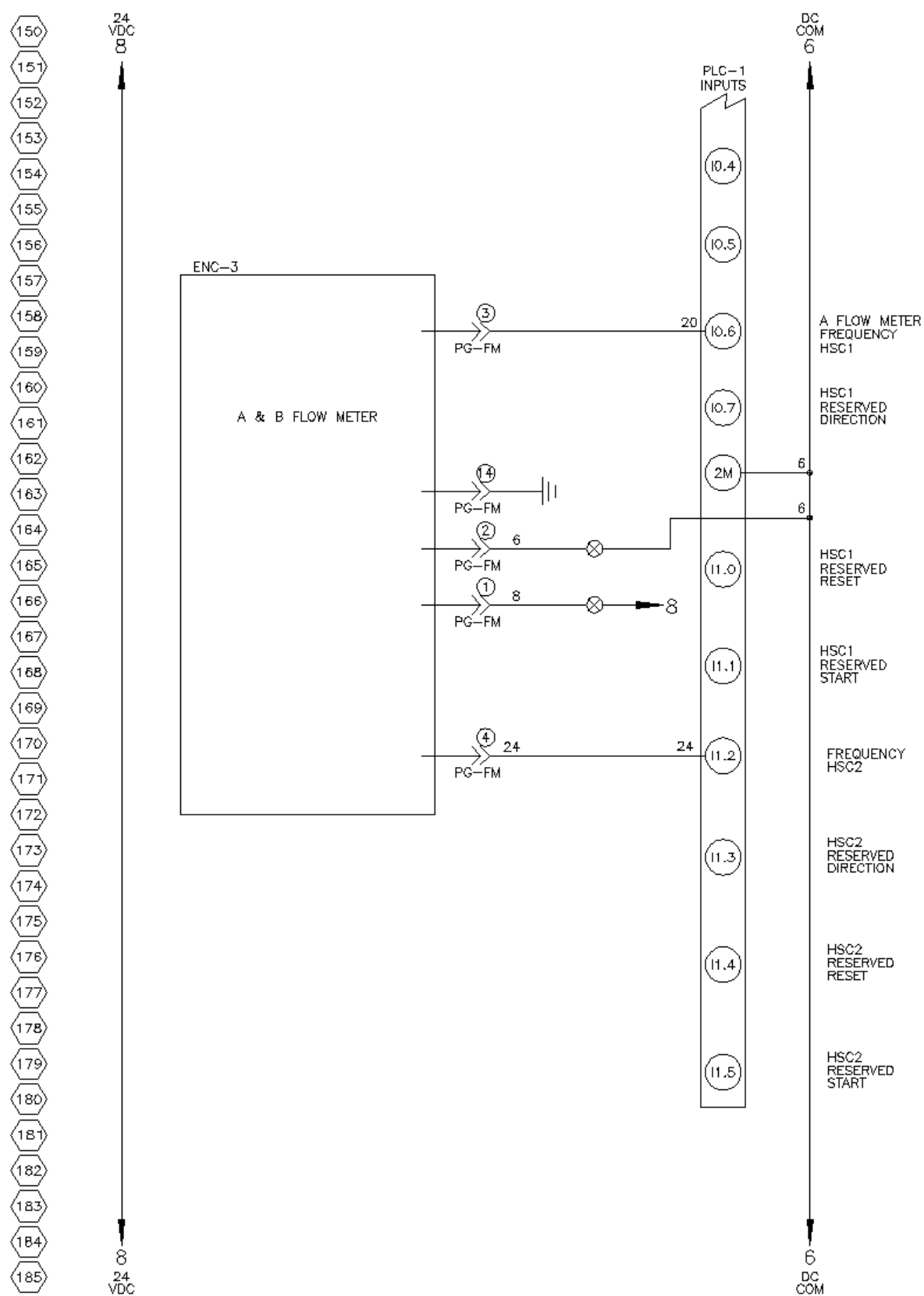
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



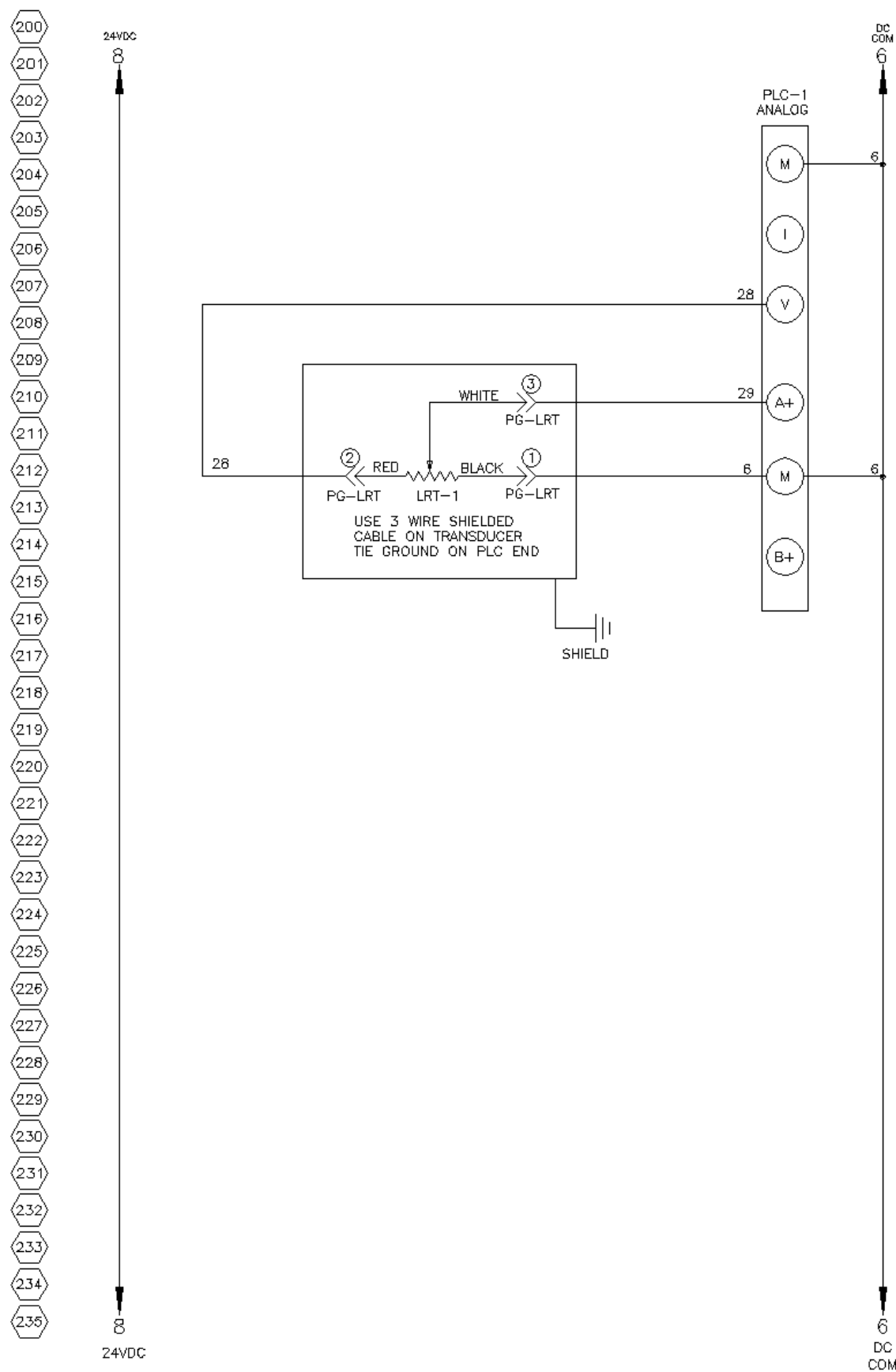
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



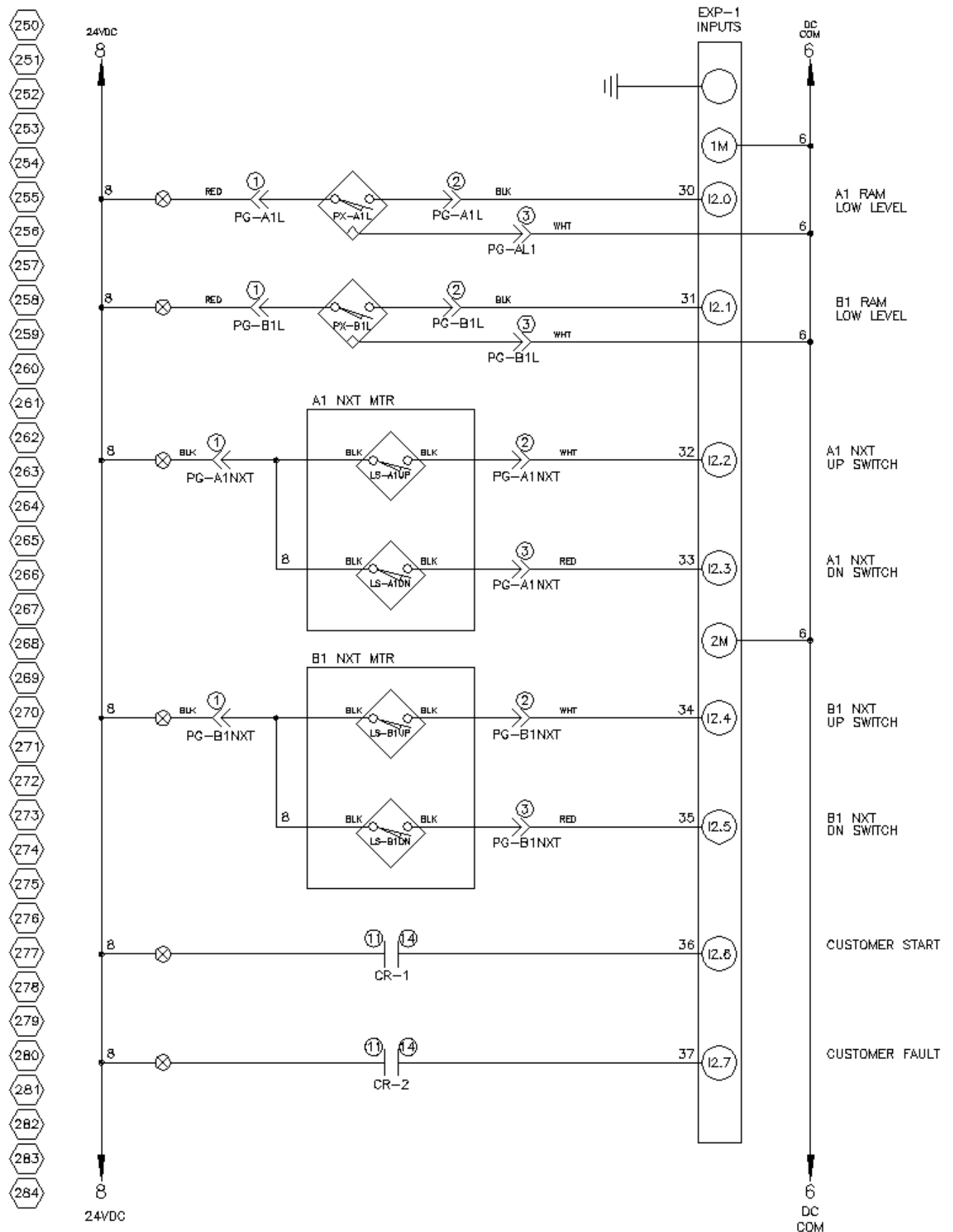
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



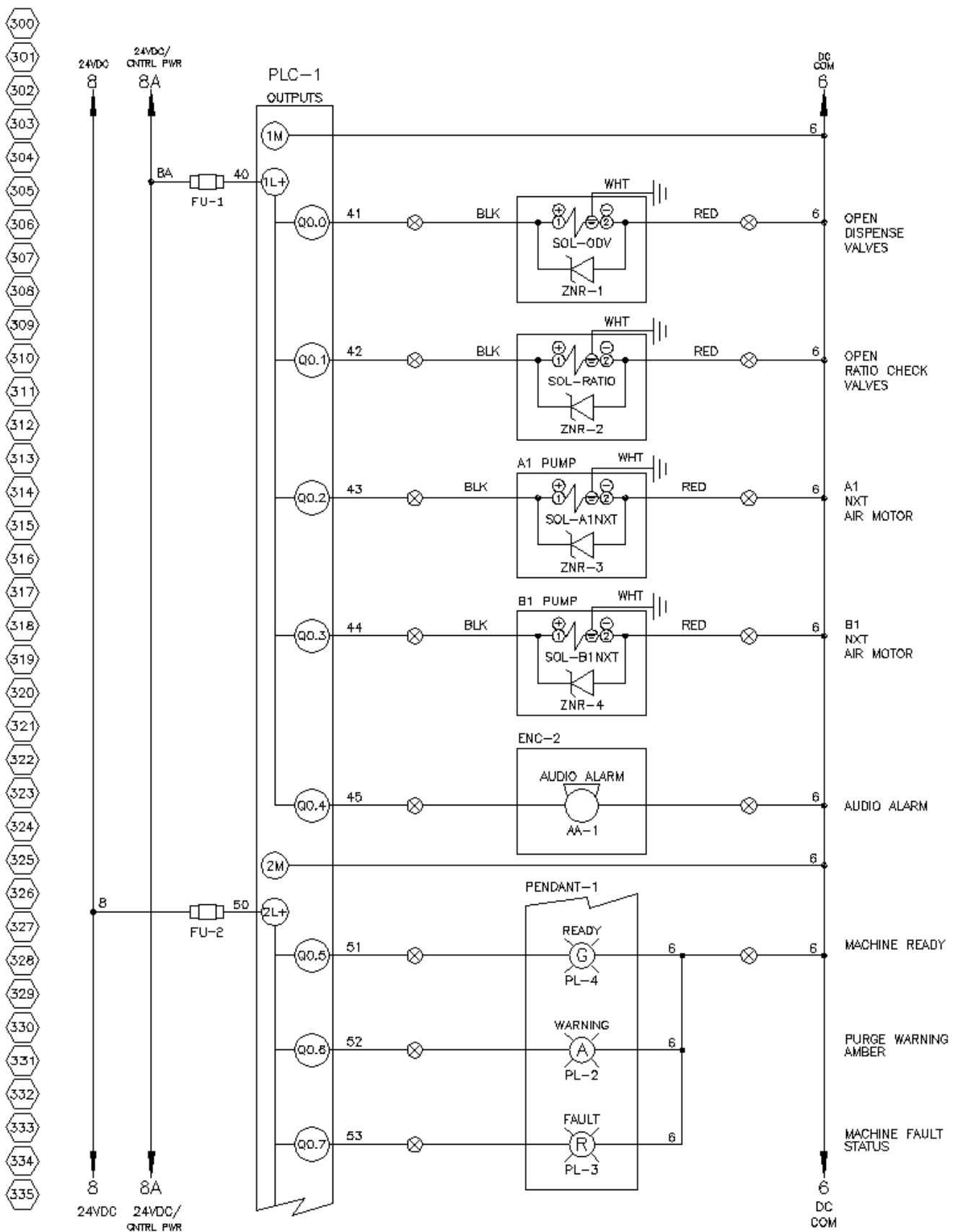
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



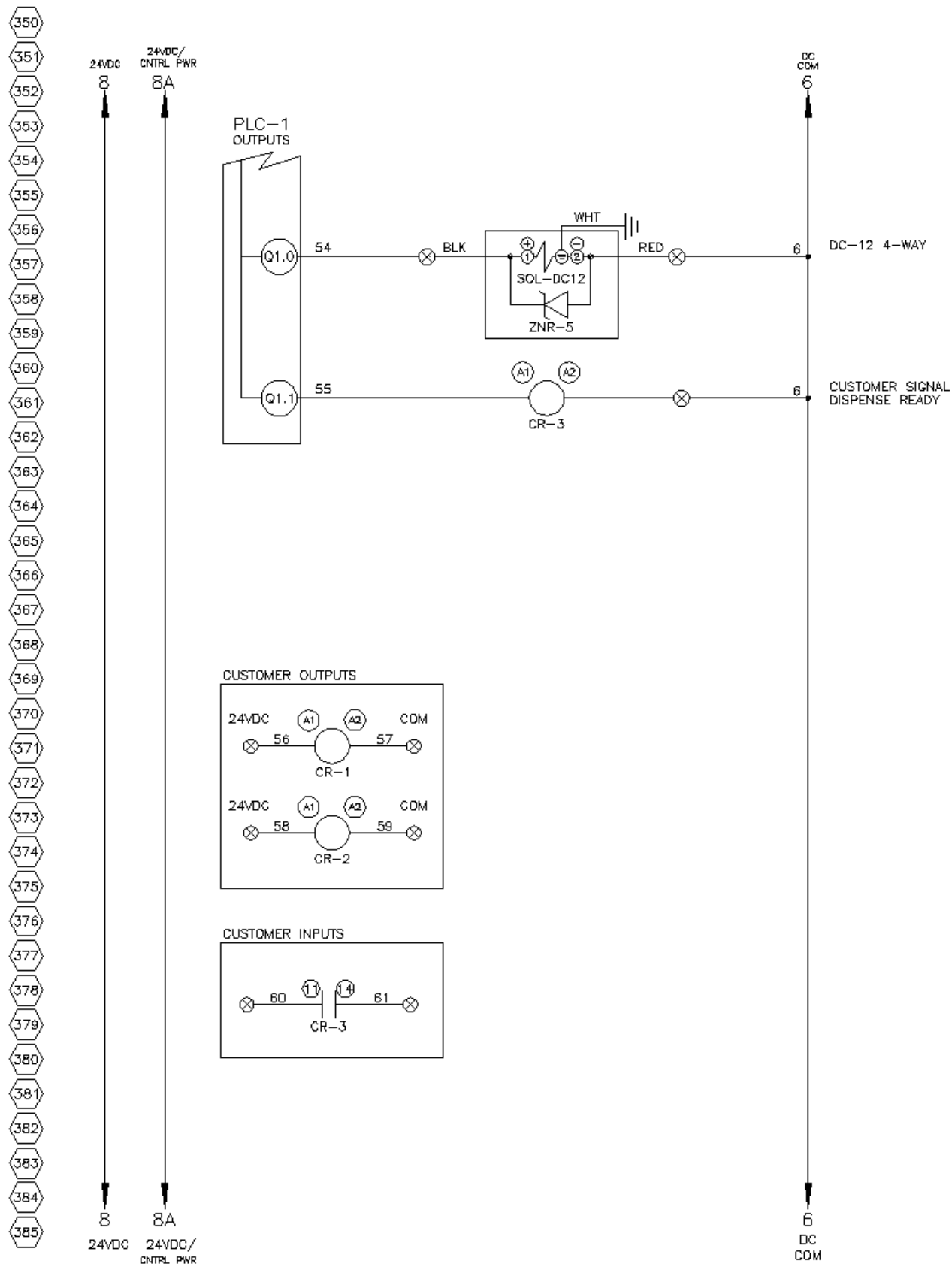
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



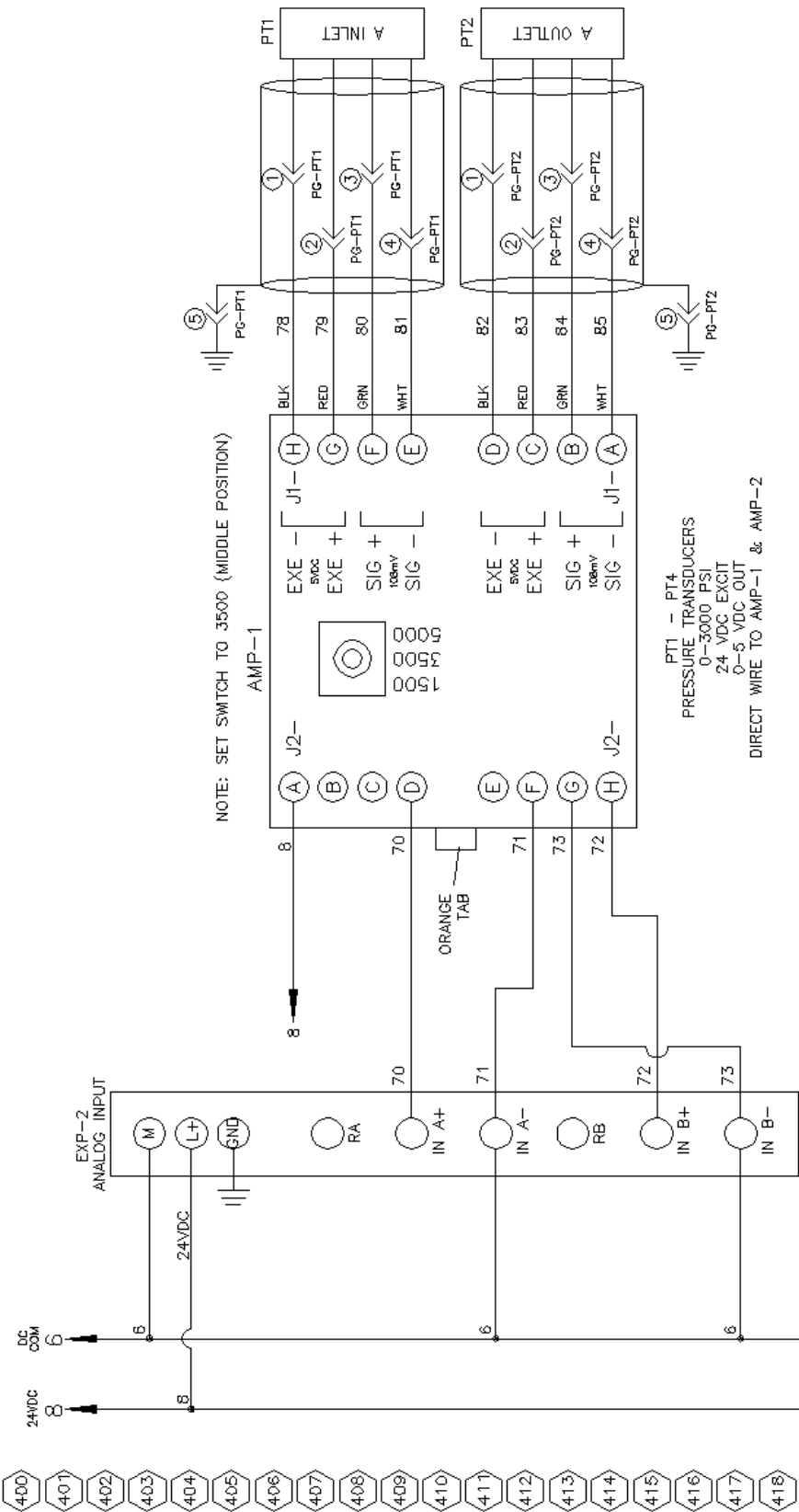
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



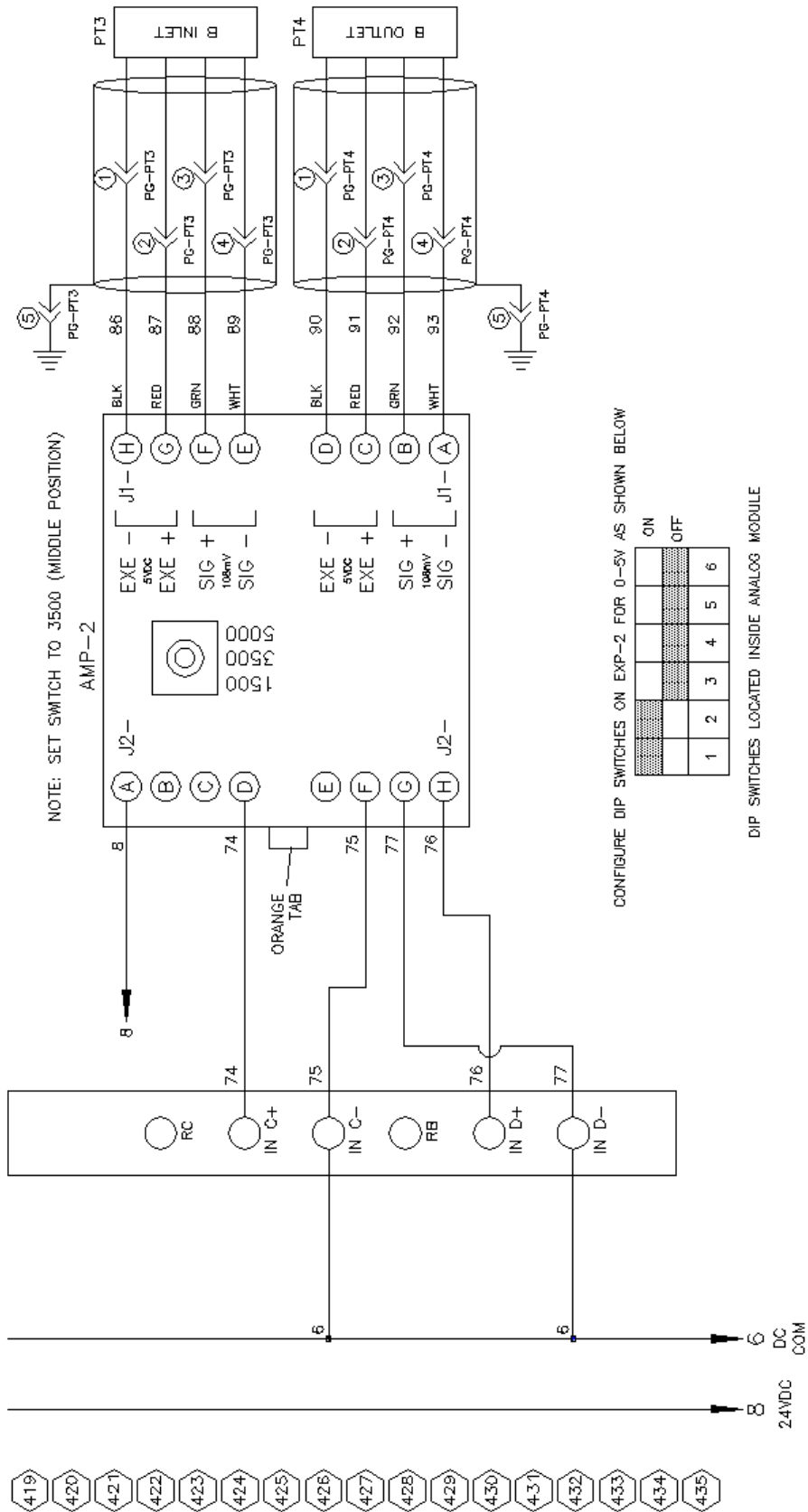
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



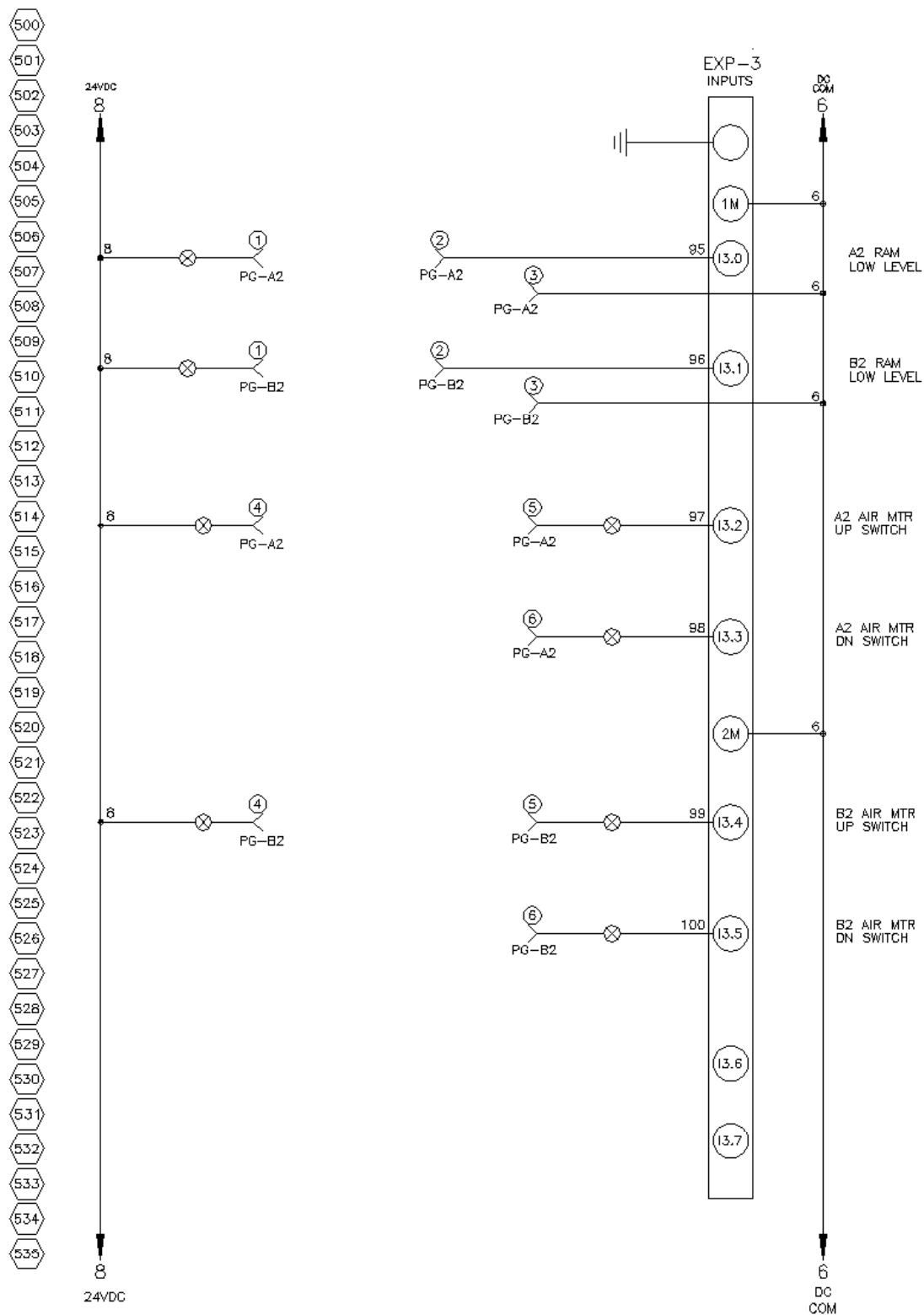
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



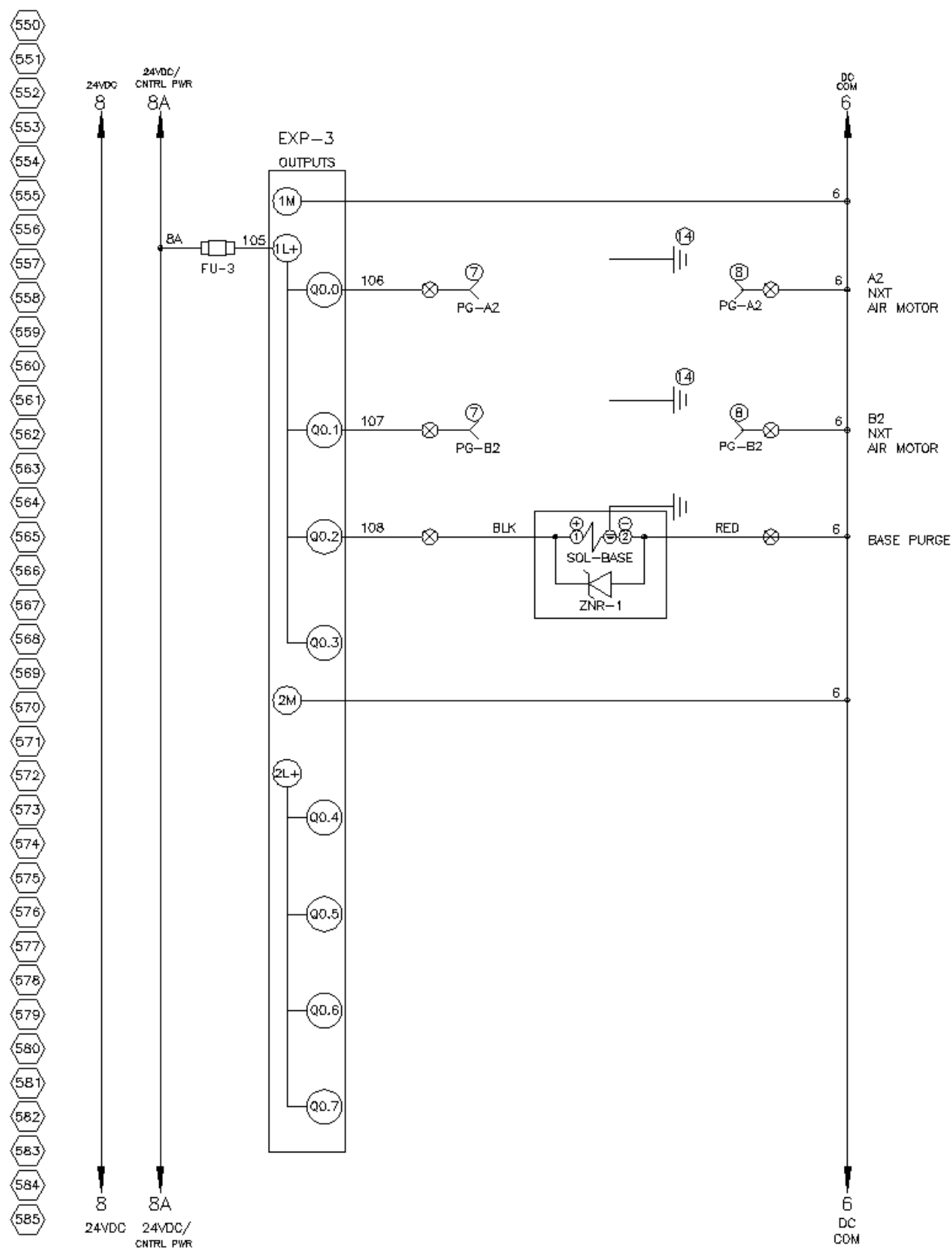
Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



Wiring Diagrams

Wiring Diagrams - Performance Monitor Plus



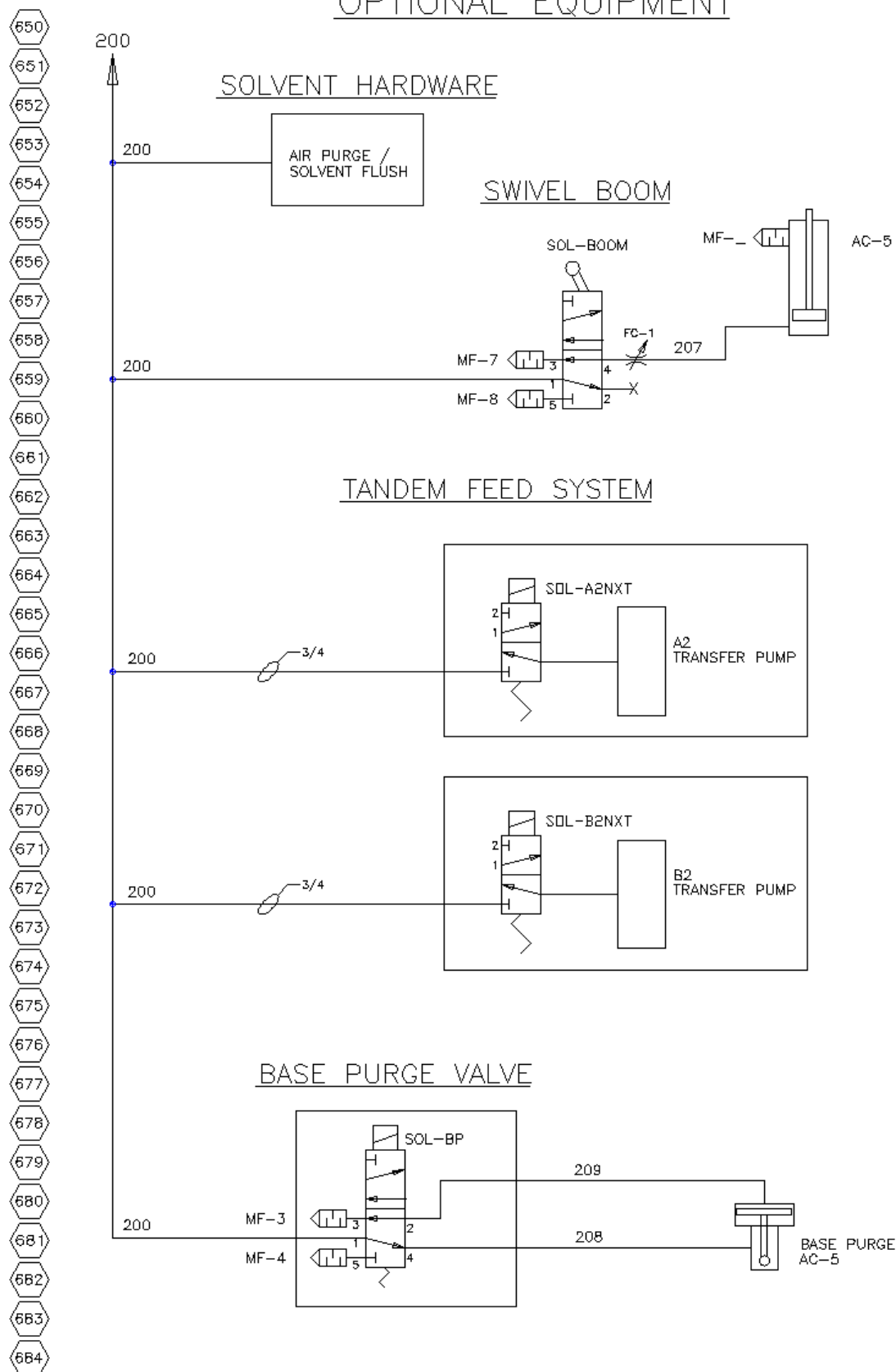
Pneumatic Schematic - Performance Monitor Plus



Wiring Diagrams

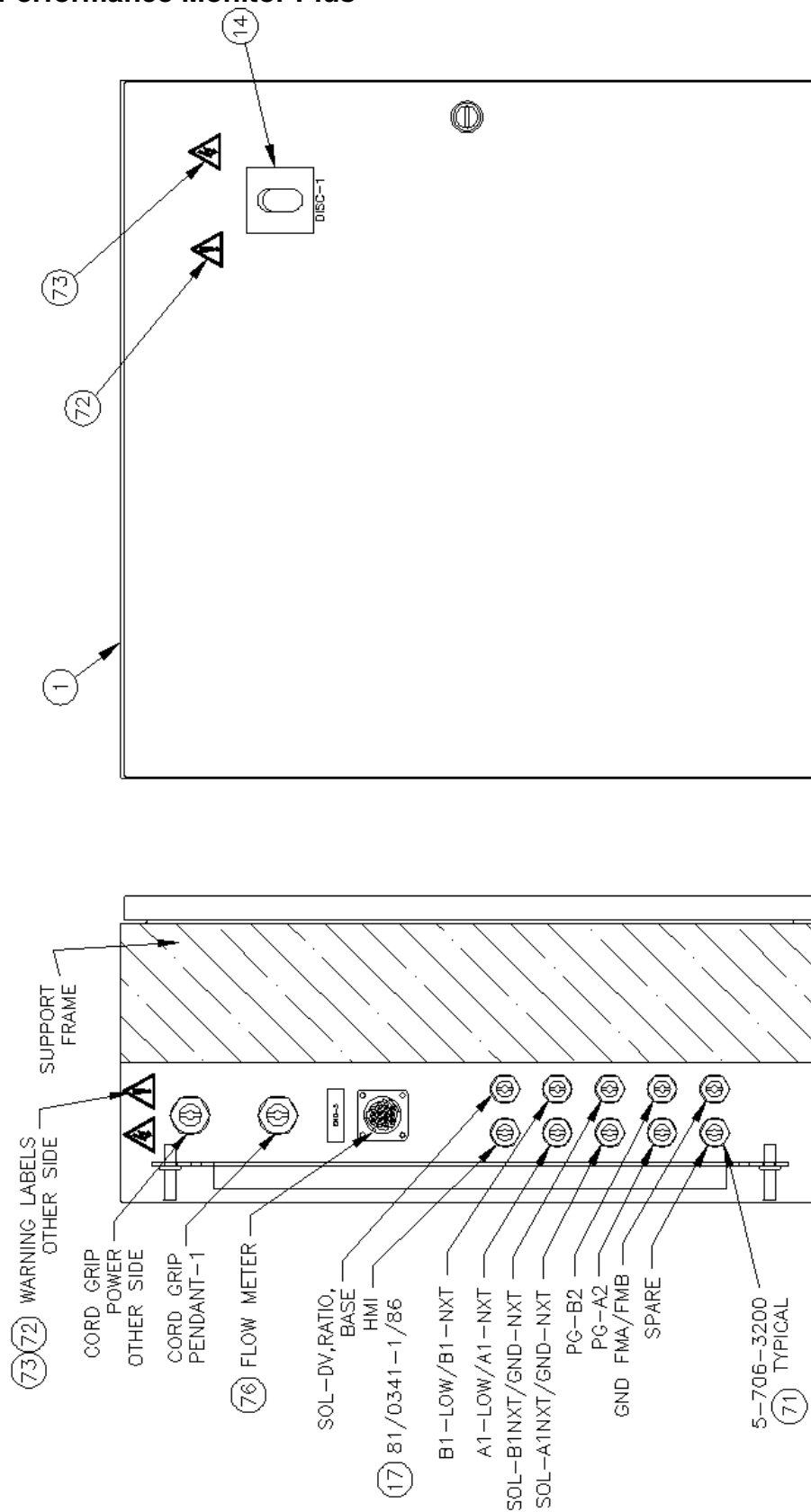
Pneumatic Schematic - Performance Monitor Plus

OPTIONAL EQUIPMENT



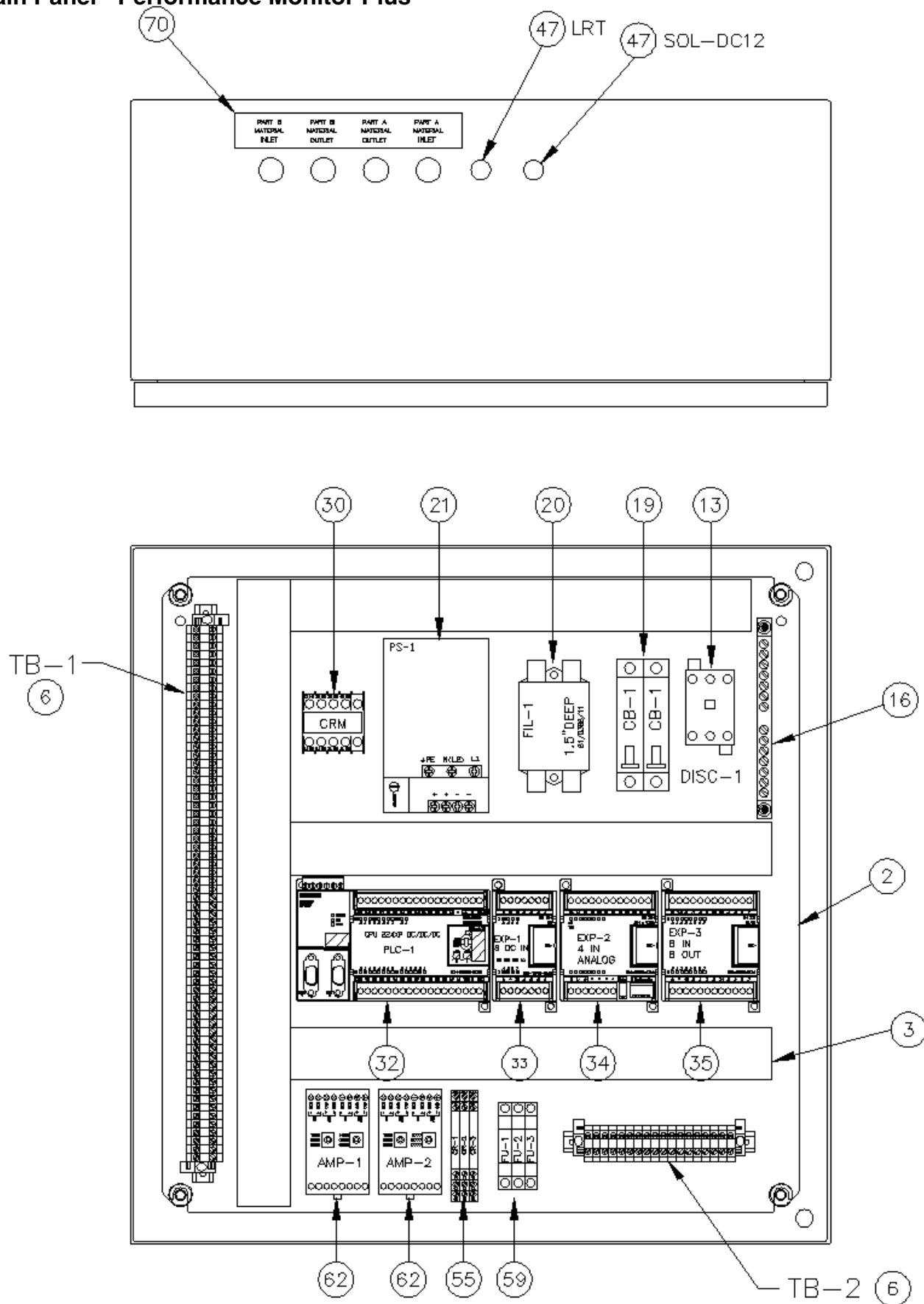
Wiring Diagrams

Main Panel - Performance Monitor Plus



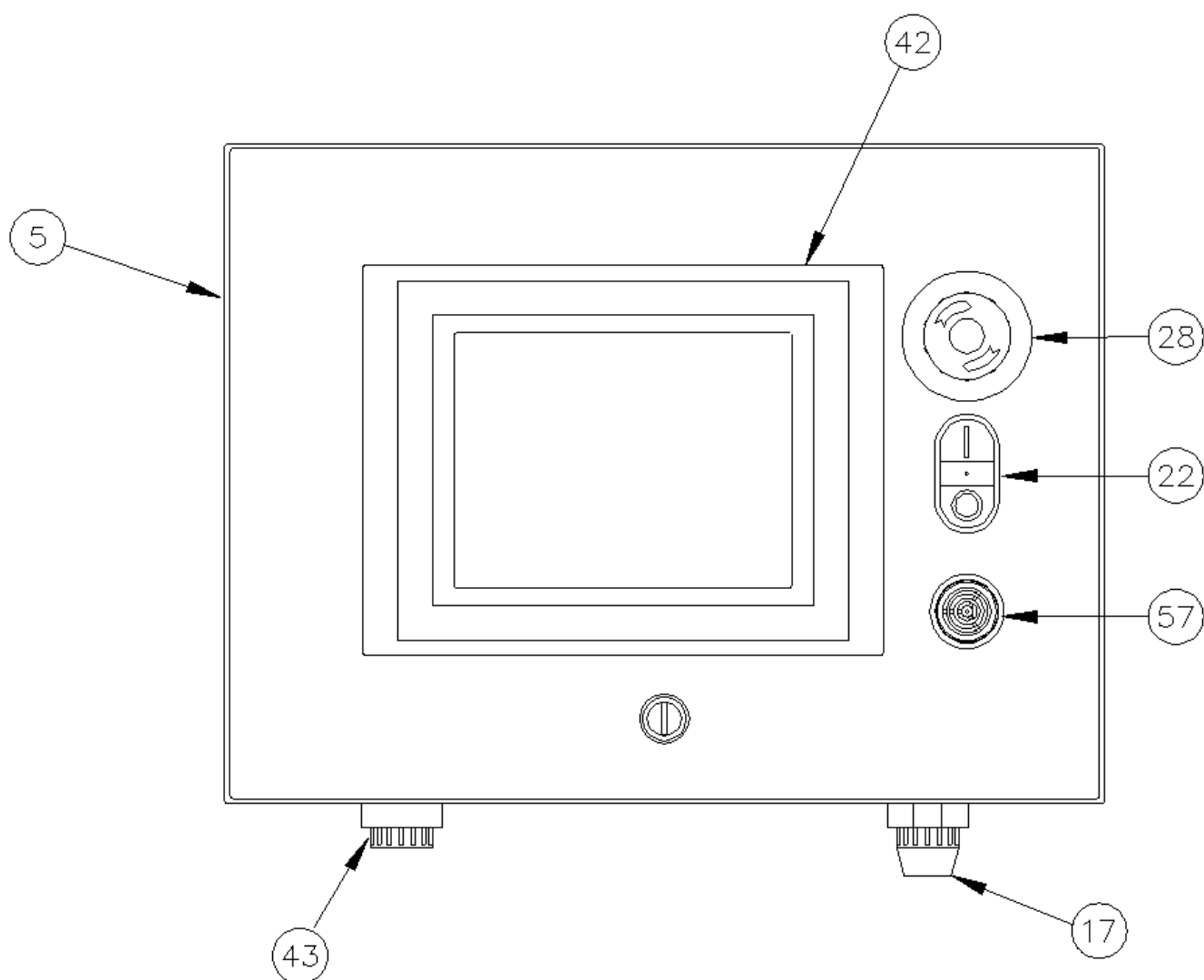
Wiring Diagrams

Main Panel - Performance Monitor Plus



Wiring Diagrams

HMI - Performance Monitor Plus



Wiring Diagrams

Parts- Performance Monitor Plus

Ref	P/N	Description	Qty
1 ENC-1	81/0257-8/99	ENCLOSURE,20X20X8,CONCEPT S	1
2	81/0257-PG/99	PANEL,CNTRL,20X20,CONCEPT,G	1
3	U70075	WIREWAY,PANDUIT,1"X3"X6'	3
4	81/0164/11	COVER,PANDUIT,1"X6'	3
5 ENC-2	U70076	ENCLOSURE,NEMA 12,16HX12WX6	1
6 TB-1,2,3	U70008	BLOCK,TERMINAL,MINI,300V,20	105
7	U70009	BLOCK,TERMINAL,MINI,GND,300	10
8	U70007	MARKER,CARD,SNAP IN,MINI	4
9	U70003	CONNECTOR,JUMPER,10 POLE,14	4
10	U70004	CONNECTOR,JUMPER,2 POLE,149	6
11	U70006	BARRIER,TERMINAL,MINI,300V	4
12	U70005	CLAMP,END,TERMINAL,MINI	6
13 DISC-1	U70060	SWITCH,DISCONNECT,16AMP	1
14	U70059	HANDLE,RED/YEL,PADLOCK,V-OT	1
15	U70061	SHAFT,DISCONNECT,9.8"	1
16 GND	U70077	TERMINAL,LUG,GROUND,BUS TYP	1
17	81/0341-1/86	CONNECTOR,PVC,1/2",STRAIGHT	2
18	81/0341/86	CONDUIT,FLEXIBLE,PVC,BLK,1/	15
19 CB-1	81/0492-6/11	CIRCUIT BREAKER,2 POLE,6AMP	1
20 FIL-1	81/0365-4/11	FILTER,LINE,250VAC,10AMP	1
21 PS-1	81/0365-24CE1/11	POWER SUPPLY,24VDC,5A,120/2	1
22 PB-1	81/2060-P/11	OPERATOR,PB,DUAL,GRN/RED,W/	1
23 PL-1	81/2080-1/11	BLOCK,CONTACT,NO	1
24	81/2081-1/11	BLOCK,CONTACT,NC	3
25	81/2072-2/11	LIGHT,LED,WHITE,24VDC,LATCH	1
26 PB-1A	81/2062-R/11	OPERATOR,PB,EXT,W/PL-RED	1
27	81/2070/11	LATCH,OPERATOR	2
28 PB-2	81/2060-E/11	BUTTON,MUSH,MAINT,TWIST,RED	1
29	81/2060-EL/11	LEGEND,E-STOP,60MM,PLAIN,7/	1
30 CRM	81/0495-6/11	CONTACTOR,4P,6A,24VDC COIL,	1
31 PNDNT-1	U50035	PENDANT,ASSY	1
32 PLC-1	U70021	CONTROL,MODULE,PLC,S7200>	1
33 EXP-1	U70022	MODULE,EXPANSION,8DCIN,S720	1
34 EXP-2	81/1096-EX4ANI/11	EXPANSION,MODULE,ANALOG,4IN	1
35 EXP-3	81/1096-EX16DC/11	EXPANSION,MODULE,8DCIN,8DCO	1
36	81/1096-B/11	BATTERY,BACKUP,200 DAY	1

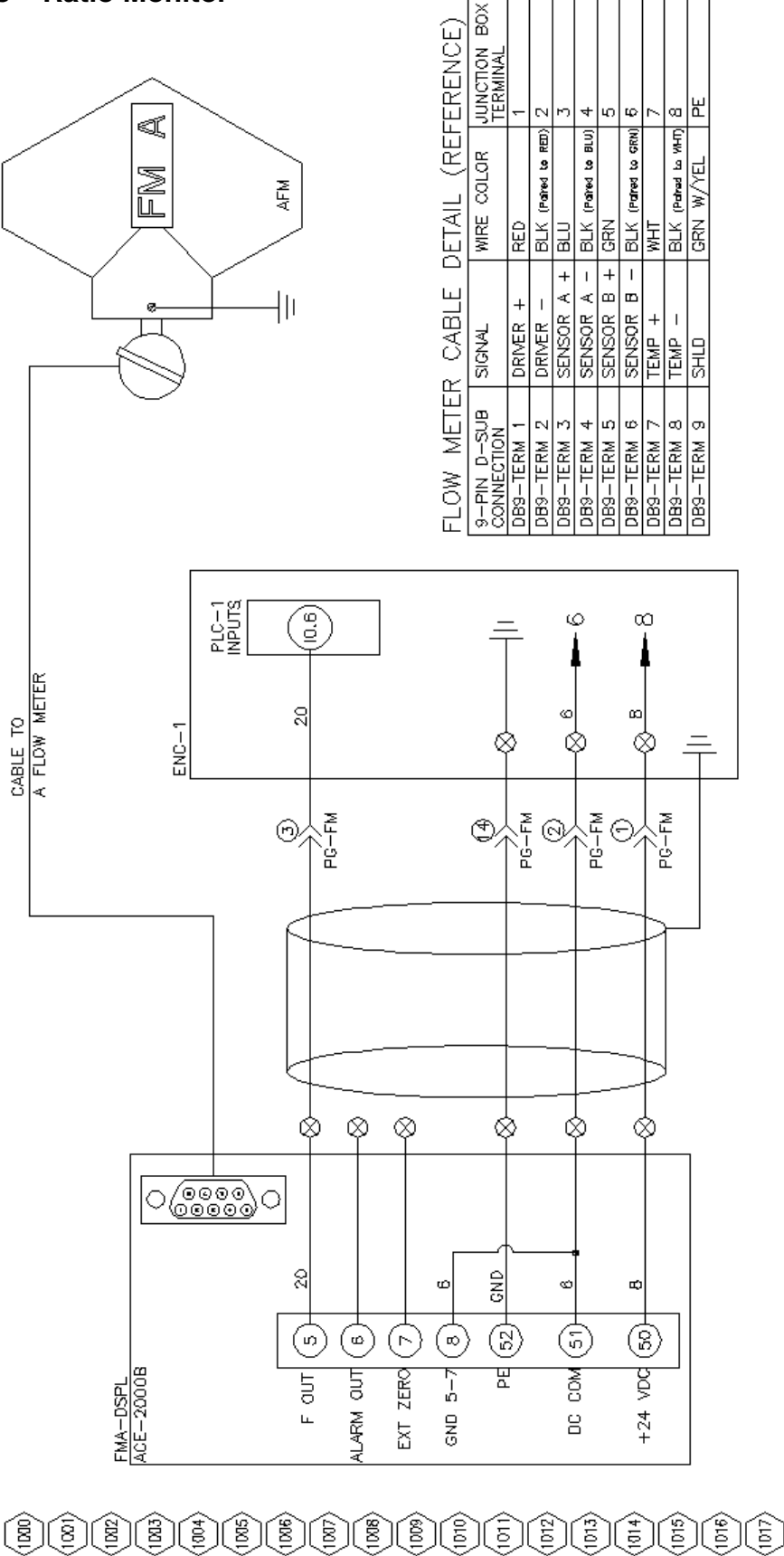
Wiring Diagrams

Parts – Performance Monitor Plus

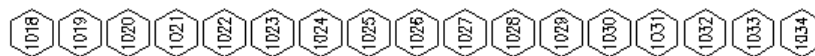
Ref	P/N	Description	Qty
37 CAB-1	81/0360-9M/11	CONNECTOR,DSUB,9P,M>	2
38	81/0360-9H/11	HOOD,CONNECTOR,DSUB,9P	1
39	81/0055-MC4/11	WIRE,MULTI-COND,24AWG,4COND	55
40	61/0086/11	TUBING,SHRINK,1/8,BLK,SEMI-	1
41	81/0360-9H45/11	HOOD,CONNECTOR,DSUB,9P,45DE	1
42 HMI	U70020	DISPLAY,TOUCH SCREEN,8" COL	1
43 USB	U70073	CONNECTOR,USB,TYPEA,PANEL M	1
44 USB CBL	U70074	CORD SET,USB-A,2.0,MXM,3FT	1
46 PG-LRT	81/0360-3F/11	CORD,PLUG,FEM,3PIN,RTD	1
47	81/0291/11	STRAIN RELIEF,CORD,CONNECT	2
48 RAM I/O	U50046	SENSOR,PUMP,NXT	2
49 PG-**	81/0399/11	CONNECTOR,FIELD,STRAIGHT,FE	4
50	81/0055-MC3/11	WIRE,MULTI-COND,24AWG,3COND	120
51PG-**	83/0028-C/11	CONNECTOR,CABLE,SOLENOID,W/	6
52PG-A2&B2	81/1060-14A/25	CONNECTOR,14P W/KEY,7A,FH,S	2
53	81/0056-MC10S/11	WIRE,MULTI-COND,22AWG,10CON	18
54	81/0108-GY/11	WIRE,#14AWG,MTW,THHN,STRAND	18
55CR-1, 3	81/0562-24/11	RELAY,24VDC COIL,SPDT,6A/24	3
56SOL-**	83/1414-12/11	VALVE,PWR,4W,SSSR,1/4NPT,IA	3
57 AA-1	81/0114-3/11	ALARM,AUDIO,CONT,6-28VAC/DC	1
58	81/0114-VC/11	COVER,VOLUME CONTROL,AUDIO	1
59 FU-1,-3	81/0134-2/11	FUSE,TYPE-ABC,2A,NON-TD	3
60	81/0122-4/11	BLOCK,FUSE,DIN RAIL,1/4 X 1	3
61PG-PT1,4	116644	CONNECTOR CIRC. DIN,5 SKT F	4
62 AMP-1,2	244669	BOARD CIRC.,AMB.PR.SEN,DUAL	2
63	U70046	WIREWAY,4X4X12LG,TYPE 1,PAI	1
64	U70047	WIREWAY,4X4X18LG,TYPE 1,PAI	1
65	U70045	CONNECTOR,U,4.00X4.00	2
66	U70044	WIREWAY,4X4,ELBOW,INSIDE,TY	1
67	256449	BRACE,ENC-2,PAINTED	1
68 MF1,2	82/0018-A/11	MUFFLER,AIR,1/4NPT,MINI,>	2
69 MF3,4	82/0195/11	MUFFLER,AIR,3/8NPT	2
70	15T977	LABEL,TRANSDUCER	1
71	5-706-3200	CORD,CONNECT,1/2,ST	10
72	84/0130-12/11	LABEL,CAUTION,REFER TO ACCO	2
73	84/0130-13/11	LABEL,CAUTION,RISK OF ELECT	2
74	61/0111/11	SLEEVING,1/2",VINYL	75
75	61/0109/11	SLEEVING,3/8",VINYL	20
76 PG-FM	81/1060-14/25	CONNECTOR,SQ,14PW/KEY,7A,PA	1

Wiring Diagrams

Wiring Diagrams – Ratio Monitor



Wiring Diagrams – Ratio Monitor



FLOW METER CABLE DETAIL (REFERENCE)

9-PIN D-SUB CONNECTION	SIGNAL	WIRE COLOR	JUNCTION BOX TERMINAL
DB9-TERM 1	DRIVER +	RED	1
DB9-TERM 2	DRIVER -	BLK (pinned to RED)	2
DB9-TERM 3	SENSOR A +	BLU	3
DB9-TERM 4	SENSOR A -	BLK (pinned to BLU)	4
DB9-TERM 5	SENSOR B +	GRN	5
DB9-TERM 6	SENSOR B -	BLK (pinned to GRN)	6
DB9-TERM 7	TEMP +	WHT	7
DB9-TERM 8	TEMP -	BLK (pinned to WHT)	8
DB9-TERM 9	SHLD	GRN, W/VEI	DE

Wiring Diagrams

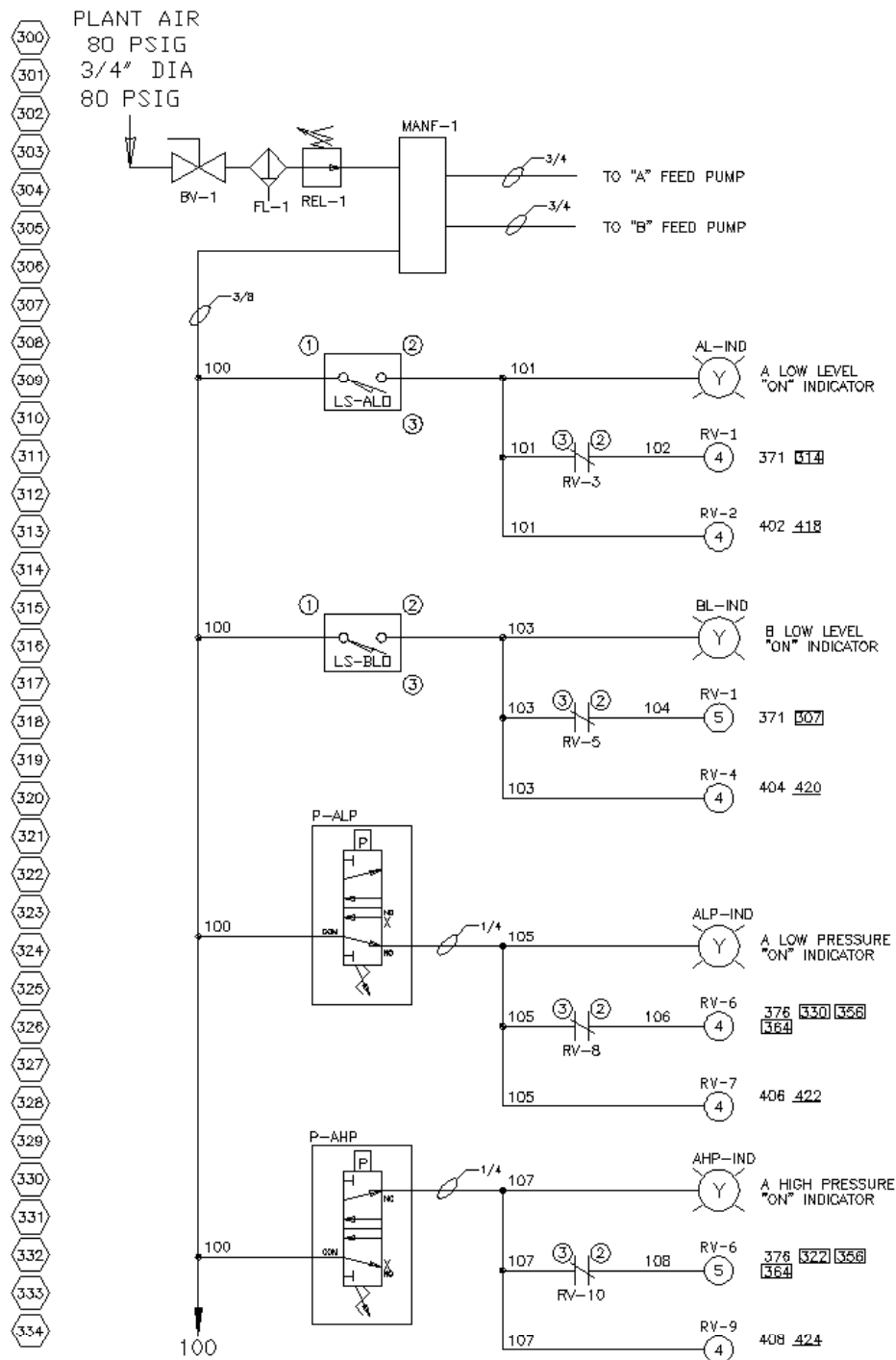
Parts – Ratio Monitor

Ref	P/N	Description	2:1Ratio 1:1Ratio	
			Qty	Qty
1 AFM	U70040	METER,FLOW,CORIOLIS	1	1
2 BFM	U70039	METER,FLOW,CORIOLIS	1	
2 BFM	U70040	METER,FLOW,CORIOLIS		1
3 FM_DSPL	U70038	DISPLAY,CONTROL,FLWMTR,W/10	2	2

Pneumatic Monitor

Schematic – Pneumatic Monitor

Refer to Fig. 2

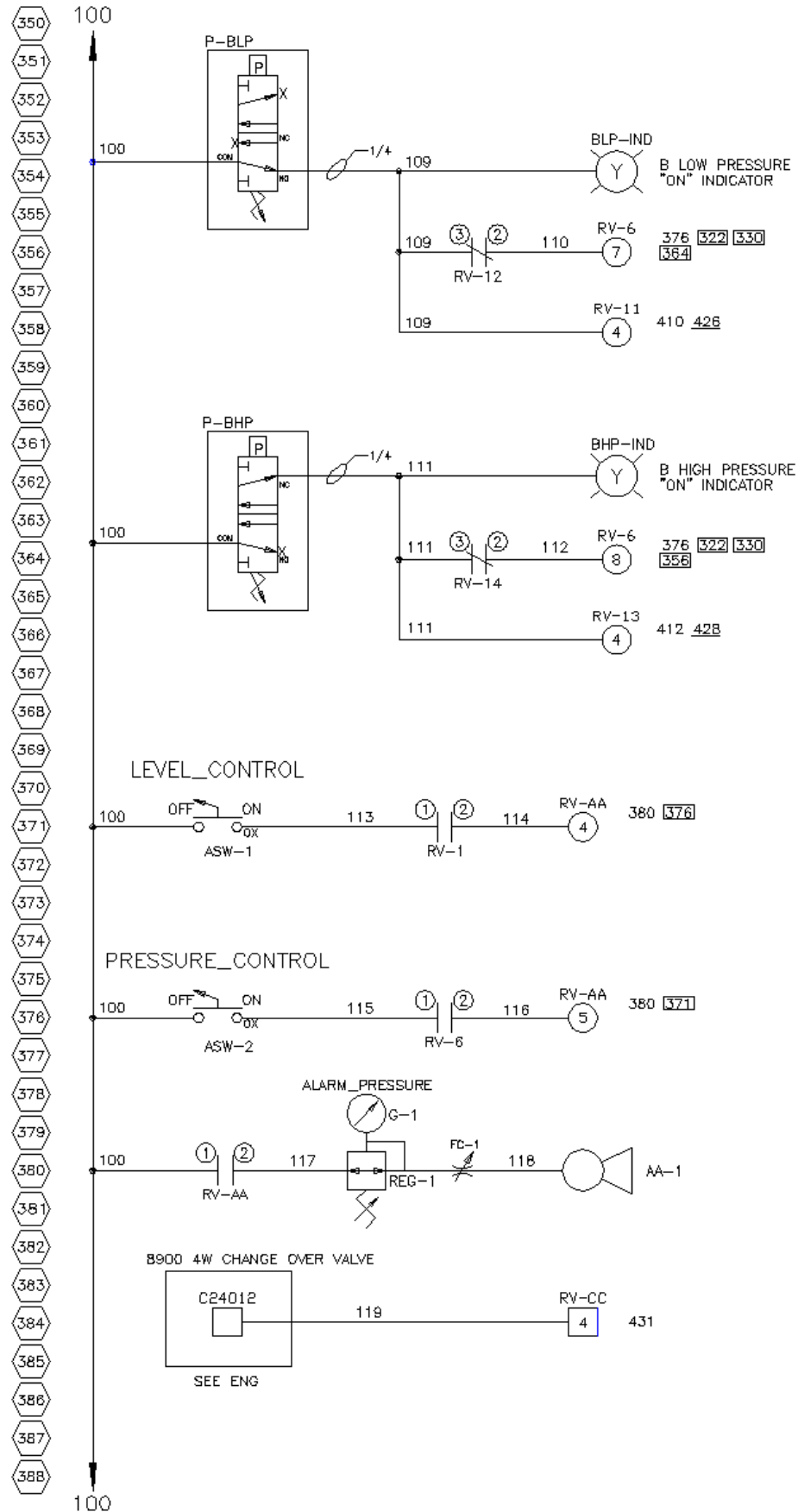


PNEUMATIC LEGEND:

- PILOT ON PILOT RETURN VALVE
- PILOT ON SPRING RETURN VALVE
- REFERENCE LINE NUMBERS OF OTHER PILOTS OF SAME VALVE
- XXX NORMALLY NON-PASSING CONTACT
- XXX NORMALLY PASSING CONTACT

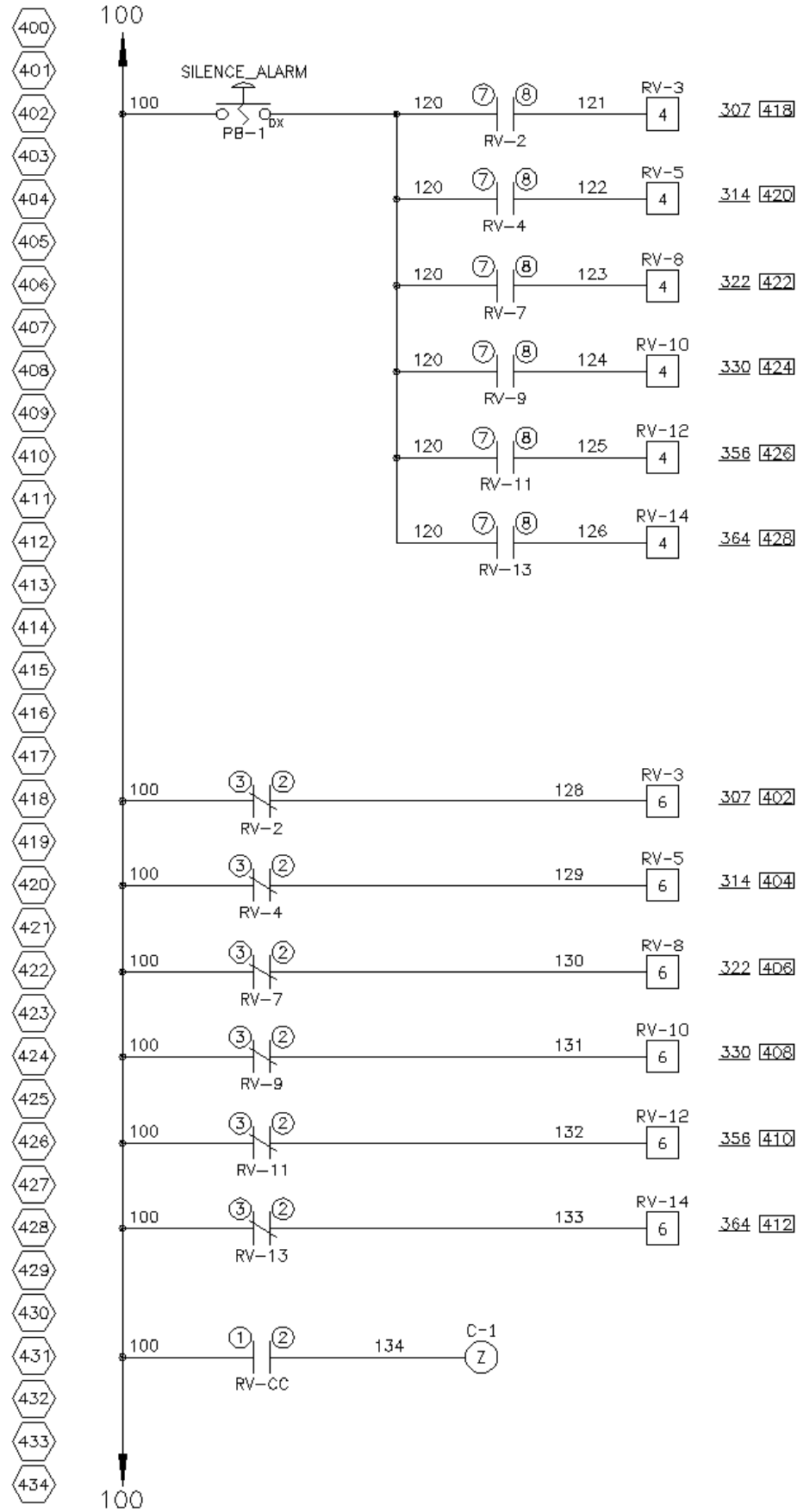
Pneumatic Monitor

Schematic – Pneumatic Monitor



Pneumatic Monitor

Schematic – Pneumatic Monitor



Pneumatic Monitor

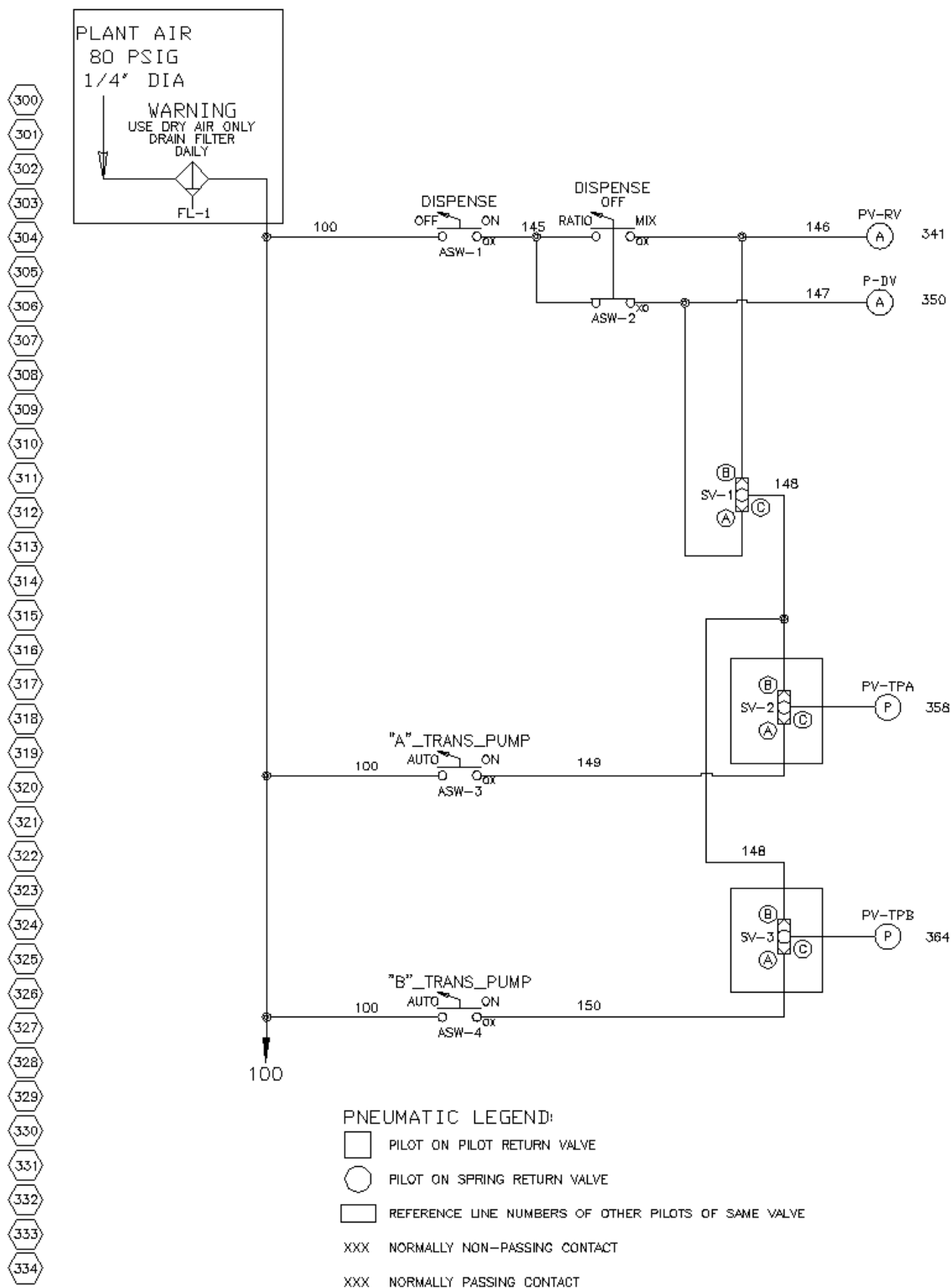
Parts – Pneumatic Monitor

Ref	P/N	Description	Qty
1 ENC-1	U70042	ENCLOSURE,16X16X12,SCREW CO	1
2 LS-ABLO	82/0218/11	VALVE,LIMIT,3W,ROLLER ACT,1	2
3 AL,BL,	U70062	INDICATOR,PNEUMATIC,ON,YEL	6
4 ASW-1,2	82/0367/11	OPERATOR,SEL,2P	2
5 ASW/PB,	82/0369/11	LATCH,MOUNTING,VALVE BLOCK	3
6 ASW/PB	82/0360/11	BLOCK,VALVE,3W,SR,FULL PORT	3
7 PB-1	82/0364-B/11	OPERATOR,PB,FLUSH,BLK	1
8 RV1,6,AA	82/0133/11	VALVE,CNTL,3W,SP,NP,R311	3
9 RV-CC	82/0066/11	VALVE,CNTL,3W,SP,R301	1
10 RV2,4,7	82/0068/11	VALVE,CNTL,4W,SP,R401	6
11 RV3,5,8	82/0067/11	VALVE,CNTL,3W,DP,R302	6
12 C-1	82/0059/11	TOTALIZER,PNEU	1
13 MANF	82/0125/97	BLOCK,MANIFOLD,1/4NPT,4 POR	1
14 OCT-1,2	82/0075/11	CONNECTOR,OCTOPORT	2
15	82/0071/11	OCTOPORT	18
16 RAIL	82/0076/99	STRIP,MTG,12 HOLE	3
17	82/0073/97	STANDOFF KIT	2
18 AA-1	511270	ALARM,AIR HORN,947518	1
19 REG-1	104815	REGULATOR,AIR,1/8NPT,0-60PS	1
20 G-1	110319	GAUGE,PRESS,0-200PSI,1/8NPT	1
21 FC-1	205528	VALVE,NEEDLE,1/8NPT,511270	1
22 L-1	15U000	LABEL,PRESSURE,PNEUMATIC	1
23 L-2	15U001	LABEL,SILENCE,PNEUMATIC	1
24 L-3	15U002	LABEL,CYCLE COUNT,PNEUMATIC	1
25 L-4	15U579	LABEL,LINE NUMBERS,PNEUMATI	1
26	255689	LOW LEVEL SENSOR PACKAGE,NX	1
27	94/0705-1/96	ELBOW,SWVL,1/4TUBEX1/8NPT,F	4
28	96/0075-1/99	WASHER,FLAT,7/16,0.53X0.92X	4
29	96/0551/99	WASHER,FLAT,1/4,0.26X0.88X0	4

Pneumatic Dispense Valve Control

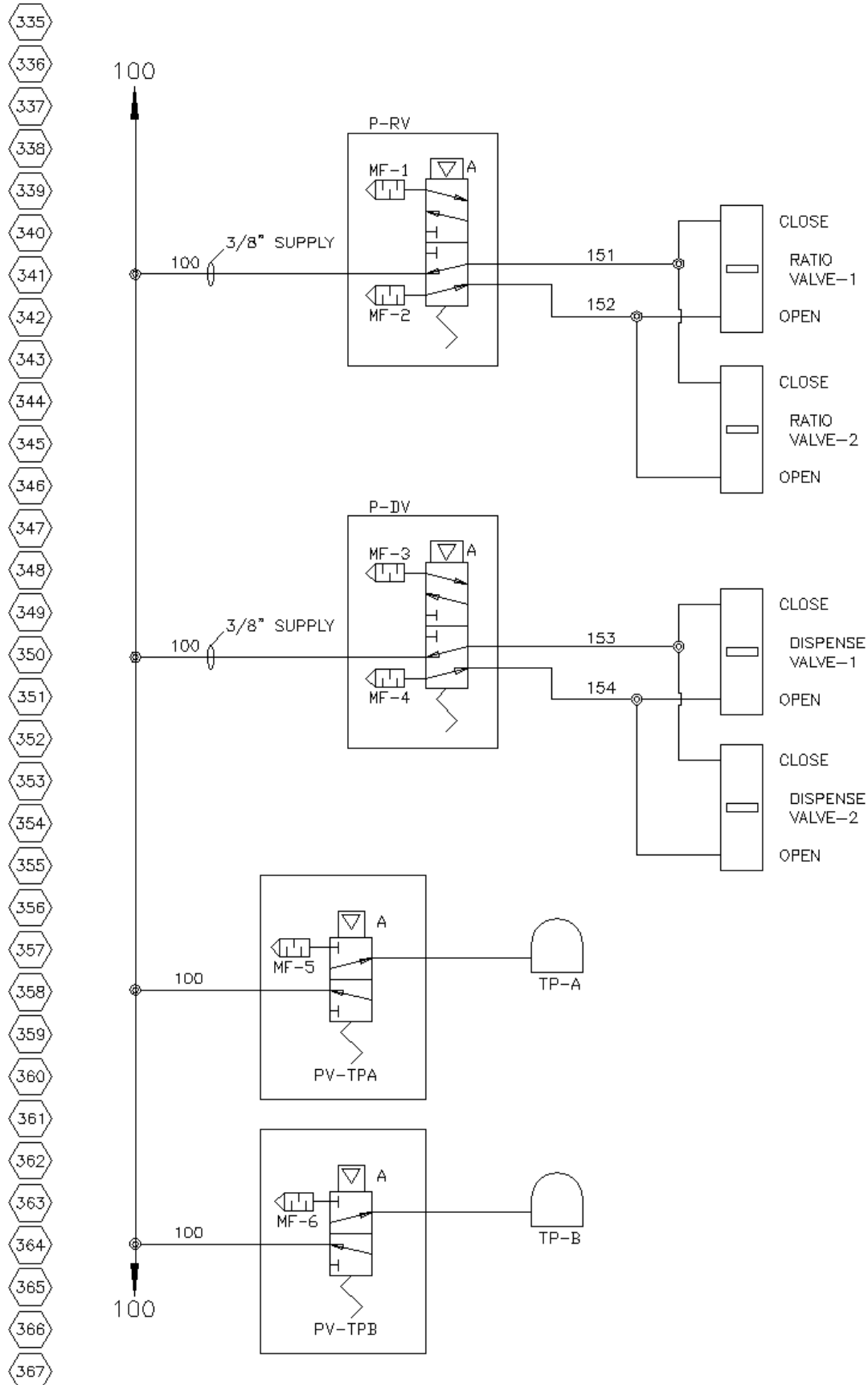
Schematic – Pneumatic Dispense Valve Control

Refer to Fig. 2



Pneumatic Dispense Valve Control

Schematic – Pneumatic Dispense Valve Control



Pneumatic Dispense Valve Control

Parts – Pneumatic Dispense Valve Control

Ref	P/N	Description	Qty
1 ENC-1	U70043	ENCLOSURE,4PB,7.25X6.25X4.7	1
2 ASW1-3-4	82/0367/11	OPERATOR,SEL,2P	3
3 ASW-2	82/0368/11	OPERATOR,SEL,3P	1
4	82/0369/11	LATCH,MOUNTING,VALVE BLOCK	3
5	82/0360/11	BLOCK,VALVE,3W,SR,FULL PORT	5
6 SV 1-3	82/0143/11	VALVE,SHUTTLE,1/8NPT,F	3
7 PV-TP AB	104632	VALVE,PILOTED	2
8 MF -5 -6	512912	MUFFLER,1/2,POLYPRO	2
9 MF 1-4	82/0018-A/11	MUFFLER,AIR,1/4NPT,MINI,>	4
10 PRVPDV	82/1414/11	VALVE,PWR,4W,SPSR,1/4NPT	2

Technical Data

Category	Data
Standard Volume Ratios	2:1
	1:1
	Other ratios, consult factory
Maximum Flow Rate (1)	10 L/min
Motionless Mixer	24 elements X 1 in Dia
Maximum Fluid Pressure	2,500 psi (172 bar)
Wetted components	Carbon Steel
Material Supply System	Dual NXT 55 gal (200 L)
Platen Wipers	EPDM
Power Requirements (2)	120-240V/1PH/50-60 HZ, 6 Amp
Maximum Air Consumption (3)	60 SCFM
Sound Power Level (6)	90 dB(A)
Sound Pressure Level (6)	79 dB(A)
Maximum Inlet air pressure	100 psi (6.9 bar)
Air Inlet size	3/4 NPT
Weight (4)	2,550 lbs (1,156 Kg)
Dimensions (5)	86 in (2.18m) L x 48 in (1.22m) W x 80 in (2.0m) H
Optional Boom	86 in (2.18m) W x 110 in (2.8m) H
Optional Tandem Pump(s)	36 in (.9m) L x 48 in (1.22m) W

(1) At 1:1 volume ratio
Low Density Tooling Paste Up to 6 Kg/Min

(2) Base unit is pneumatic. Power is required for optional
Performance Monitor Plus control

(3) Required compressed air volume for 10 L/min flow

(4) Material weight not included

(5) 112 in (2.84m) H with Supply Ram in the up position

(6) Sound level at 100 psi (6.9 bar) at 20 cycles/min
Sound pressure level 1 meter from equipment

Technical Data

Dimensions

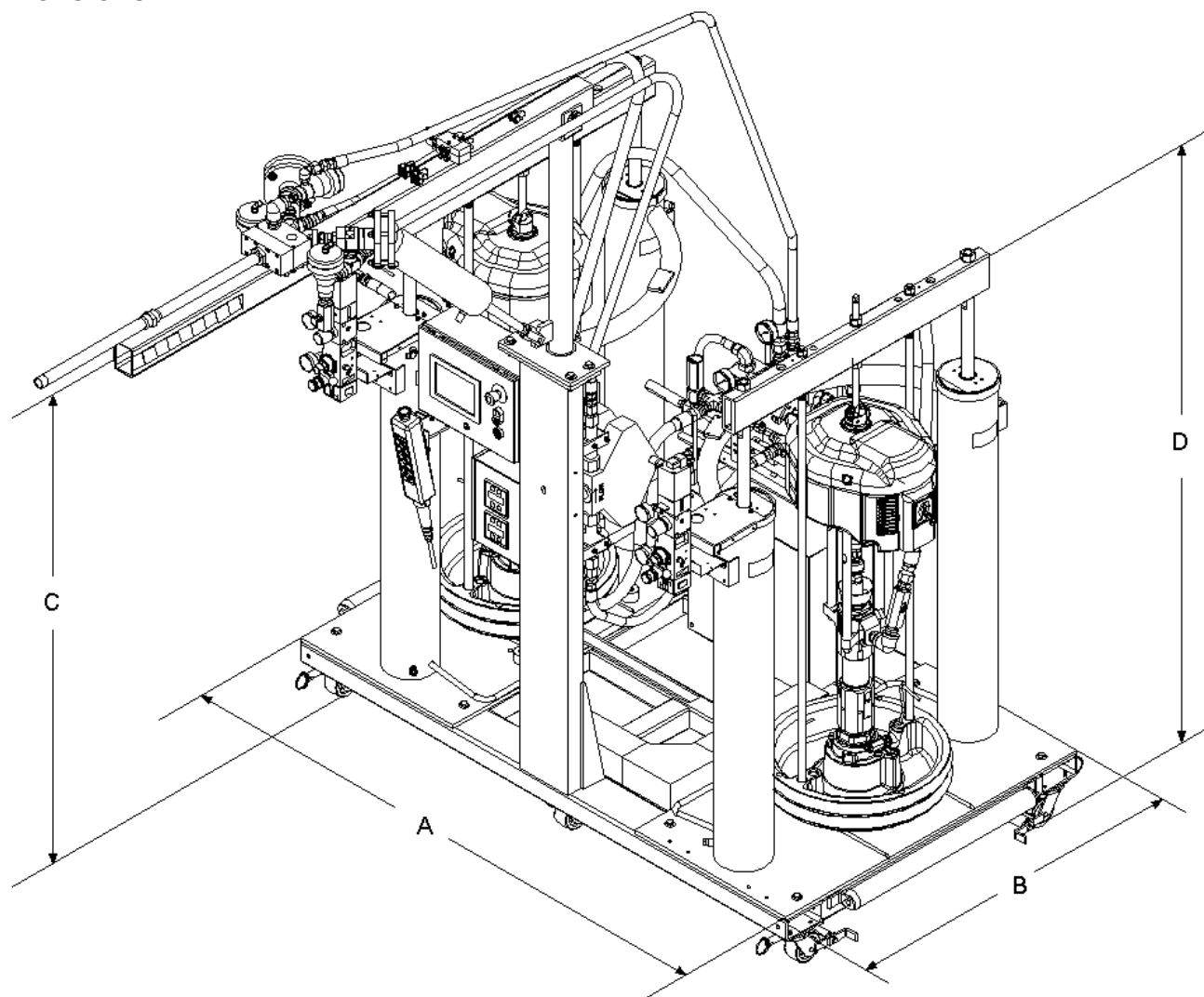


Fig. 31

Key	Description
A	86 in. (218 cm)
B	48 in. (122 cm)
C Boom	110 in. (279 cm)
C No Boom	80 in. (203 cm)
D Ram Down	78.8 in. (200 cm)
D Ram Up	113.4 in. (288 cm)

Graco Ohio Standard Warranty

The warranties contained herein are not made in regard to auxiliary equipment and components (see AUXILIARY EQUIPMENT AND COMPONENTS NOT MANUFACTURED BY SELLER). Unless otherwise specifically stated in writing, warranties are limited to the following: All proprietary goods designed, manufactured and sold by Seller are guaranteed against defective workmanship or material for a period of one (1) year after date of shipment from the factory, provided the goods are properly maintained and operated under the condition for which they were sold. This warranty does not cover seals or components that are out of specification due to normal wear and tear or improper maintenance of the equipment. All claims pursuant to the warranties must be made within such one (1) year period. If Buyer claims the goods are defective within the one (1) year period, Buyer shall notify Seller immediately, in writing. Seller may inspect, by authorized agent, the defective claim or issue shipping instructions for return of the goods to its factory. Seller shall have the option, at its sole discretion, if the goods are found to be defective, to correct the defect or defects by repair or replacement or refund the purchase price. Seller's obligation, with respect to such goods, shall be limited to the replacement or repair F.O.B. Seller's North Canton, Ohio facility, or refund of the purchase price, and in no event shall Seller be liable for consequential or special damages, or for transportation, installation, adjustment or other expenses which may arise in connection with such goods. The Seller assumes no liability for warranty claims that are found to be attributable to components or mixers, which are not supplied by Seller (see AUXILIARY EQUIPMENT AND COMPONENTS NOT MANUFACTURED BY SELLER). Any services and/or parts provided to correct problems associated with components and mixers not supplied by Seller shall be provided at the Buyer's expense. The liability of Seller arising out of supplying such goods and services, or their use, whether on warranties or otherwise, shall not under any circumstances exceed the cost of the equipment and parts involved, and upon the expiration of the specified one (1) year warranty claims period, all such warranties and liabilities shall terminate. Seller assumes no liability for damages or expenses of any character, including those arising out of the installation, use or resale of such goods. No representation or other affirmation of fact not set forth herein, including, but not limited to, verbal or written statements regarding capacity, or suitability for use, or performance of the goods, shall be deemed to be a warranty or representation by Seller for any purpose, nor would they give rise to any liability or obligation of Seller whatsoever. NO WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR ANY PURPOSE, IS MADE, EXCEPT AS SPECIFICALLY PROVIDED IN THIS AGREEMENT.

AUXILIARY EQUIPMENT AND COMPONENTS NOT MANUFACTURED BY SELLER

To the extent that auxiliary equipment and components of other manufacturers (e.g. logic control hardware, valves, transfer pumps, motors, etc.) are included as part of the machine or system described in the quotation and data sheet attached hereto, it is understood that Seller acts only as an agent of Buyer in making such quotations and these products which are not manufactured by Seller are subject to the original manufacturer's warranty policy. FURTHER, SELLER MAKES NO WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR ANY PURPOSE AND ASSUMES NO LIABILITIES WITH RESPECT TO AUXILIARY EQUIPMENT AND COMPONENTS WHICH ARE MANUFACTURED BY OTHERS.

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