

DA35 AUTOCAN EXTRUDER



Controller, valve, wiper plate
and braided hose must be
ordered separately



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Table of Contents

1. Warnings	4
1-1. Equipment Misuse Hazard	4
1-2. Pressurized Equipment Hazard	5
1-3. Moving Parts Hazard	5
2. Diagram	6
3. Installation	7
3-1. Pump Location	7
3-2. Main Air Supply	7
3-3. Wiper Plate	7
4. Operation	8
4-1. Starting and Adjusting the Ram	8
4-2. Priming the Pump and Pumping Fluid	9
4-3. Changing Fluid Cans	10
4-4. Shutdown and Care of the Pump	11
4-5. Pressure Relief Procedure	11
4-6. Disconnecting the Material Hose	11
5. Troubleshooting	12
6. Technical Data	13
7. Setup Example	14
8. Warranty	16

1. Warnings



1-1. Equipment Misuse Hazard

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

- Read the instruction manual before operating the equipment.
- This equipment is for authorized personnel only. Operators must be trained regarding system capabilities and limitations before operating this machine.
- Do not exceed the maximum working pressure of the lowest rated system component. Refer to “Technical Data” in Section 6 for the maximum working pressure of this equipment. This equipment has a 4 bar (approximately 60 psi) maximum working pressure.
- Use fluids and solvents that are compatible with the equipment wetted parts. Read the fluid and solvent manufacturer’s warnings.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose hoses to temperatures above 82°C (180°F) or below -40°C (-40°F).
- Do not lift the pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical and safety regulations.
- Power consumption
 - DA35: 115 - 230 V~, 50-60 Hz, rated input current 20 mA.
 - FUSE: 250V T32mAL (φ5mm x 20mm glass fuse)
When replacing the fuse, always use a fuse with the ratings listed above
- Environmental conditions for the equipment operation:
 - For indoor use only
 - Altitude up to 2000m
 - Temperature 0°C to 50°C
 - Maximum relative humidity 80%
 - Main supply voltage fluctuations not to exceed ±10% of the nominal voltage
 - Transient over voltages according to INSTALLATION CATEGORIES (OVERVOLTAGE CATEGORIES) II
 - POLLUTION DEGREE 2 in accordance with IEC 664
 - Be sure not to spray water or use a wet cloth when you clean the electric parts and remember to unplug the main power cord.



1-2. Pressurized Equipment Hazard

Spray from the gun/valve, hose leaks, or ruptured components can splash fluid in the eyes or on the skin and can also cause serious injury.

- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not point the gun/valve at anyone or at any part of the body.
- Follow the “Pressure Relief Procedure” in Section 4-5 whenever you:
 - are instructed to relieve pressure
 - stop dispensing
 - clean, check, or service the equipment
 - install or clean the nozzle
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn, damaged, or loose parts immediately. Permanently coupled hoses cannot be repaired; replace the entire hose.

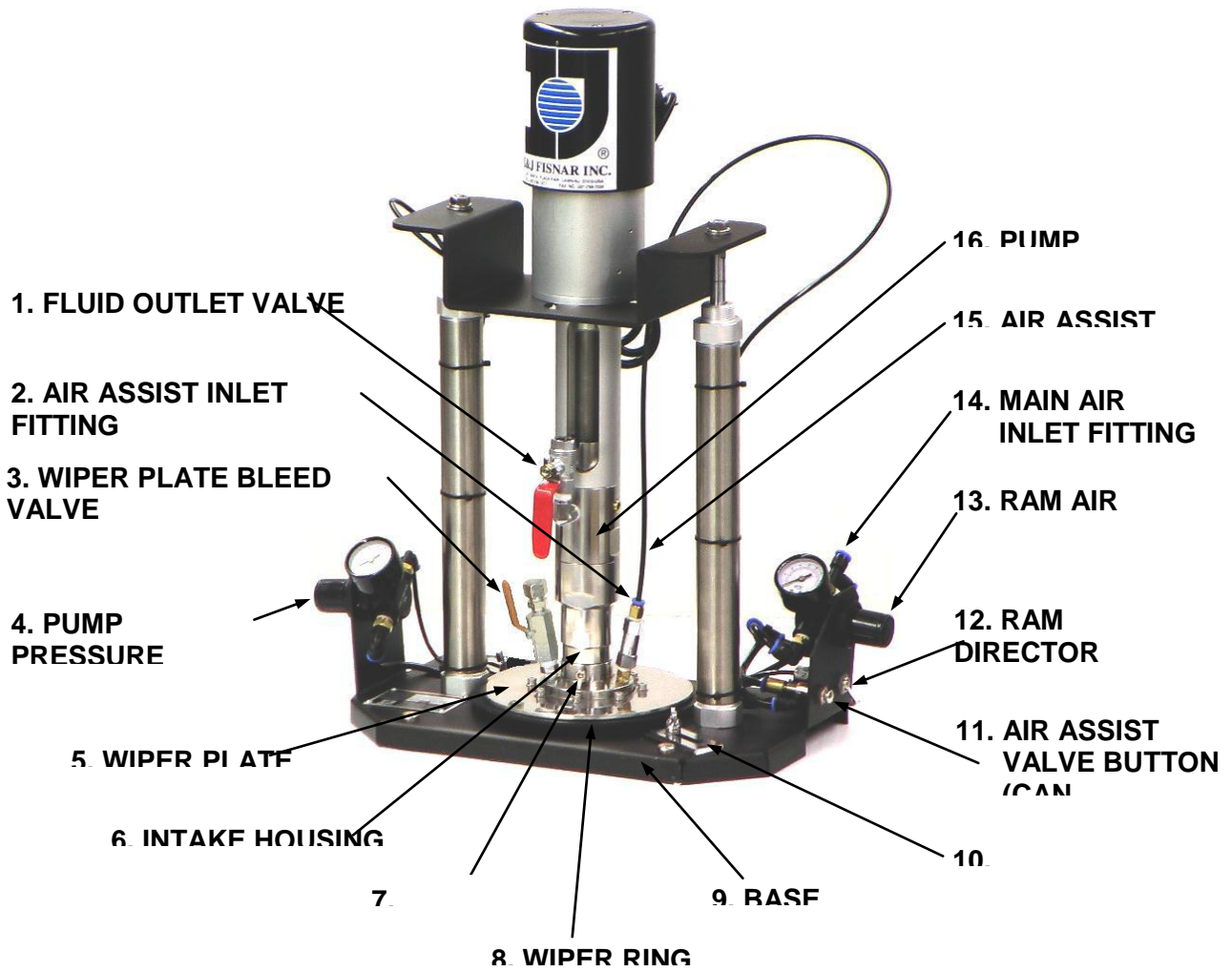


1-3. Moving Parts Hazard

CAUTION! Moving parts, such as the priming piston, can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Keep hands and fingers away from the priming piston during operation and whenever the pump is charged with air.
- Before servicing the equipment, follow the “Pressure Relief Procedure” in Section 4-5 to prevent the equipment from starting unexpectedly.
- Keep your hands away from the wiper plate and the lip of the fluid container while the ram is operating.
- Do not place your fingers into the air motor coupling cavity while the pump is operating.
- Do not shut off the air supply to the ram while it is being raised. Doing so will cause the pump to fall to the bottom in an uncontrolled manner.

2. Diagram



NOTE: Reference numbers in parentheses in the text refer to the callouts in the figure above.

3. Installation

- Please open the windows for air ventilation before you operate the equipment in your working room.
- This equipment must be set 50cm x 50cm (20" x 20") away from the wall or table corner.
- If you supply your own accessories, be sure they are adequately sized and pressure-rated to meet the system's requirements (refer to "Technical Data" in Section 6).

3-1. Pump Location

Place the unit on a hard, level surface. Check that the unit is level in all directions. Ensure that there is sufficient overhead clearance for the pump when the ram is fully raised. Leave room on both sides so that the air regulators (13 and 4) will be easily accessible.

3-2. Main Air Supply

Connect the main air hose to the main air inlet fitting (14). The main air inlet fitting is designed for $\phi 6$ mm tubing. Be sure that the tube is securely connected, and will not come out when air pressure is applied.

3-3. Wiper Plate

- 3-3-1. Raise the ram by setting the ram director valve switch (12) to the UP position and then turning the ram air regulator (13) clockwise. The setting of the ram air regulator should be increased enough to make the ram start moving up. Let the ram rise to its full height.
- 3-3-2. Place the wiper plate (5) on the base (9), making sure to align the center of the wiper plate with the pump intake housing (6).
- 3-3-3. Set the ram air regulator (13) to zero to make the ram unit move downward. As the ram unit slowly falls, guide the pump intake housing (6) onto the wiper plate (5).
- 3-3-4. Set the ram director valve switch (12) to the DOWN position.
- 3-3-5. Set the ram air regulator (13) to 10 psi (0.7 bar). Push down on the pump to install the wiper plate (5) onto the intake housing (6).
- 3-3-6. Secure the wiper plate to the pump with the two screws (7).
- 3-3-7. Connect the air assist tube (15) to the air assist inlet fitting (2).

Be sure that the tube is securely connected, and will not come out when air pressure is applied. To check, pull back gently on the tube to ensure that it will not get pulled out.

4. Operation

4-1. Starting and Adjusting the Ram

- 4-1-1. Set the ram air regulator (13) to zero.
- 4-1-2. Close the wiper plate bleed valve (3).
- 4-1-3. Be sure all air regulators and bleed-type air valves are closed.
- 4-1-4. Insert the main air hose into the main air inlet fitting (14) to supply air.
Please keep the fluid outlet valve (1) closed.
- 4-1-5. Open the valve in the main air supply.
- 4-1-6. Turn the ram air regulator (13) clockwise until the pressure becomes 28 psi (2 bar).
- 4-1-7. Set the ram director valve switch (12) to the UP position and let the ram rise to its full height.
You can see that the whole pumping part is moving up.
- 4-1-8. To change the speed at which the ram is raised and lowered, adjust the ram air regulator (13) to increase or decrease the air pressure.
- 4-1-9. Check that the fluid can is not dented or out of shape, which will damage the wiper plate and cause leakage around the wiper. Cut off the top of the fluid can with a can opener, or remove the bottom of the can. Be sure that the edge is free of burrs, which will damage the wiper plate. If necessary, bend the edge of the fluid can back with pliers so the wiper plate will enter the can easily. Lubricate the wiper ring (8) to help the plate enter the can easily.
- 4-1-10. Align the center of the wiper plate (5) with the center of the can containing the liquid to be dispensed.
- 4-1-11. Make sure that the fluid outlet valve (1) is closed.
- 4-1-12. Slowly open the bleed valve (3). This will allow air trapped under the wiper plate to escape when the ram is lowered.
- 4-1-13. With your hands away from the lip of the can and the wiper plate (5), set the director valve switch (12) to the DOWN position to lower the ram until the wiper plate enters the can. Adjust the position of the can to ensure the center of the can is aligned with the center of the wiper plate.



Always keep your hands away from the lip of the can and the wiper plate when the ram is being lowered.

4-1-14. When the wiper plate enters the can, reduce the setting of the ram air regulator (13).

NOTE: If the wiper plate does not enter the can easily, increase the ram pressure by adjusting the ram air regulator (13); once it enters the can, immediately reduce the pressure.

4-1-15. Continue to lower the ram. As soon as fluid appears at the wiper plate bleed valve (3) outlet, close the wiper plate bleed valve (3).

4-1-16. Secure the can in place using the clamps (10).

4-2. Priming the Pump and Pumping Fluid

4-2-1. Make sure to close the fluid outlet valve (1) before operating the pump.

4-2-2. Connect the material hose to the fluid outlet valve (1). Be sure that the hose is securely connected.

4-2-3. Make sure that the pump pressure regulator (4) is set to zero.

4-2-4. Set the ram air regulator (13) to about 22 psi (1.5 bar).

4-2-5. Turn the pump pressure regulator (4) clockwise to start pumping.

4-2-6. Open the fluid outlet valve (1) slowly to make the fluid come out through the material hose.

4-2-7. Adjust the pumping speed as needed by turning the pump pressure regulator (4) as follows:
- turn clockwise to increase the pumping speed
- turn counterclockwise to decrease the pumping speed

4-2-8. Keep the director valve switch (12) in the DOWN position while the pump is operating.

NOTE: Adjust the ram air pressure (13) as needed, but do not increase it to a level where fluid is forced past the wiper plate.

4-3. Stopping the Pump and Removing the Fluid Can

- 4-3-1. To stop the pump, set the pump pressure regulator (4) to zero by turning the pump pressure regulator (4) counterclockwise.
- 4-3-2. Close the wiper plate bleed valve (3).
- 4-3-3. Set the ram air regulator (13) to 30 psi (2.1 bar).
- 4-3-4. Open the fluid outlet valve (1) to relieve all fluid pressure in the system.
- 4-3-5. Set the director valve switch (12) to the UP position. This causes both the pump and the can to move up simultaneously. Make sure the whole pumping part including the can is moving up.
- 4-3-6. Separate the can from the wiper plate (5) by pressing the air assist valve button (11) slowly and keep pressing it until the wiper plate (5) clears the top of the can.

By pressing the air assist valve button, air is supplied through the air assist inlet fitting (2).

NOTE: If the ram director valve switch (12) is set to the DOWN position, you will not be able to separate the can from the rubber plate even though you are pressing the air assist valve button (11), because the cylinders on both sides are being held down.



If the fluid has been used up and the wiper plate is stuck inside the can, do not increase the setting of the ram air regulator (13) to remove the plate. Excessive pressure in the can may cause the can to rupture.

- 4-3-7. Remove the empty can.

4-4. Shutdown and Care of the Pump (Cleaning)

- 4-4-1. Always flush the pump with a compatible solvent before the fluid dries in the pump.
- 4-4-2. Set the ram air regulator (13) to zero to make the ram unit move downward. Allow the ram to go to the lowest position.
- 4-4-3. Set the director valve switch (12) to the DOWN position.

Shut off the air supply to the pump and relieve the pressure (refer to “Pressure Relief Procedure” in Section 4-5).



To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the “Pressure Relief Procedure” in Section 4-5.

4-5. Pressure Relief Procedure

- 4-5-1. Make sure that the ram air regulator (13) is set to zero.
- 4-5-2. Close the wiper plate bleed valve (3).
- 4-5-3. Open the fluid outlet valve (1) to relieve pressure.

If you suspect that the dispensing valve, nozzle, or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly open the pump bleeder valve, having a container ready to catch the drainage. Leave the pump bleeder valve open until you are ready to dispense again. Very slowly loosen the material hose end coupling and relieve pressure gradually, then loosen completely. Clear the nozzle or hose.

4-6. Disconnecting the Material Hose From the Fluid Outlet Valve

- 4-6-1. Make sure the pressure has been relieved by following the “Pressure Relief Procedure” in Section 4-5.
- 4-6-2. Close the fluid outlet valve (1).
- 4-6-3. Open the bleed valve (3) to relieve any pressure.
- 4-6-4. Remove the material hose out of the fluid outlet valve (1).
- 4-6-5. To reuse the tubing, cut off the previously connected portion at 90°, being careful not to damage the outer diameter of the tube. Use of a tube cutter is recommended. The fitting will leak if the tubing is not cut at 90°.

5. Troubleshooting



Before servicing this equipment always make sure to relieve the air pressure. Check all possible problems and solutions before disassembling the pump.

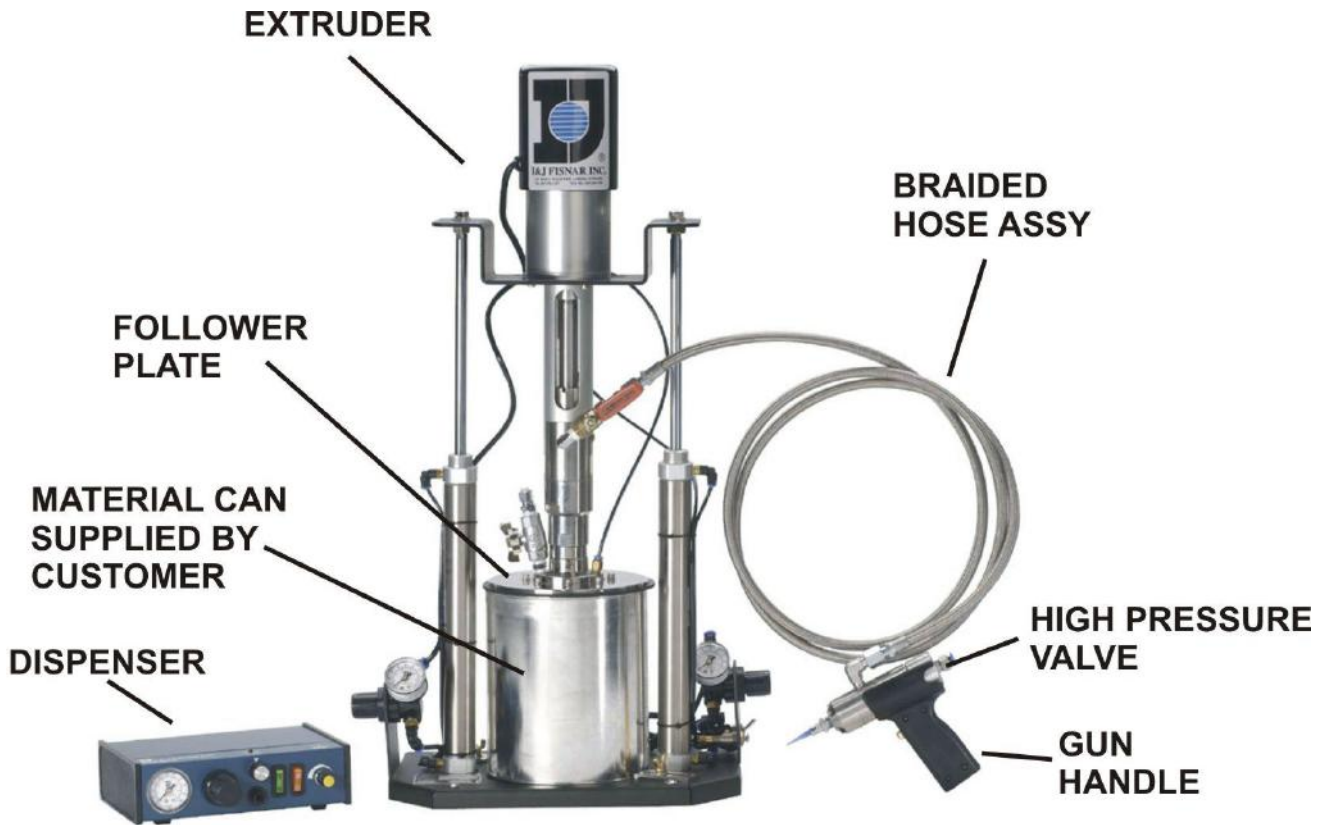
Problem	Cause	Solution
Pump does not operate	Restricted air line, clogged air passages, or inadequate air supply	Clear the air lines; see "Technical Data" in Section 6.
	Main air valve is closed	Open valve
	Air regulator malfunction	Repair or replace.
	Dirty or worn air motor parts; air motor leak	Clean and overhaul air motor.
	Obstructed fluid hose or dispensing valve; fluid hose ID is too small	Increase pump air regulator pressure
	Fluid is too heavy; pump is laboring	Clean.
	Fluid has dried on the fluid piston	Clean and overhaul air motor
Pump operates, but in small strokes	Dirty or worn air motor parts; air motor leak	Clean and overhaul air motor.
Pump operates, but output is low	Restricted air line, clogged air passages, or inadequate air supply	Clear the air lines
	Dirty or worn air motor parts; air motor leak	Clean and overhaul air motor
	Obstructed fluid hose or dispensing valve; fluid hose ID is too small	Clear*; use hose with larger ID
	Fluid is too heavy; pump is laboring	Increase pump air regulator pressure.
	Worn intake valve	Contact I&J Fisnar Inc.
Pump running too fast	Exhausted fluid supply	Replace or refill can.
	Worn intake valve	Contact I&J Fisnar Inc.
	Dirty or worn air motor parts; air motor leak	Clean and overhaul air motor
Ram does not move up or down	Restricted air line, clogged air passages, or inadequate air supply	Clear the air lines.
	Main air valve is closed	Open valve
	Air regulator malfunction	Repair or replace
	Wiper plate is lodged in container	Use air assist valve.
Pump does not prime	Fluid is too heavy	Open pump bleeder valve
Wiper plate leaks	Ram pressure is too high	Reduce air pressure to ram
	Wiper plate ring is worn	Replace
Leakage past throat packing	Worn u-cup packing	Replace (wet-cup is not adjustable)

To determine if the fluid hose or gun is obstructed, relieve the pressure. Disconnect the fluid hose and place a container at the pump fluid outlet to catch any fluid. Turn on the air just enough to start the pump (about 20-40 psi [1.4-2.8 bar]). If the pump starts when the air is turned on, the obstruction is in the fluid hose or gun.

6. Technical Data

Category	Data
Maximum fluid output pressure	850 psi (60 bar)
Air input pressure range	35-100 psi (2.4-7.0 bar)
Maximum fluid viscosity	600,000 cps
Volume per stroke (dispenses on down-stroke only)	5.0 cc (0.17 oz.)
Recommended pump speed for continuous operation	40 cpm
Maximum recommended pump speed	60 cpm
Maximum flow (250,000 cps fluid)	940 cc/min (32 oz/min); 0.162 m ³ /min (5.8 scfm) air consumption at 100 psi (7 bar)
Stroke length	19 mm (3/4 in.)
Maximum pump operating temperature	50°C (122°F)
Air inlet size	1/4 / ϕ 6mm
Fluid outlet size	1/4 npt(f)
Weight	Approx. 8.4 kg (18.5 lb)
Wetted parts	304 and 17-4 pH Stainless steel; Teflon, Viton, PEEK
Sound pressure level at 100 psi (7 bar) @ 40cpm	64.12 dB(A)
Sound power level at 100 psi (7 bar) @ 40cpm	70.84 dB(A)

7. Setup Example



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8. Warranty

The manufacturer warrants this product to the Original purchaser for a period of one year from the date of purchase to be free from defects in material and workmanship, but not against damages caused by misuse, negligence, accident, faulty installation, abrasion, corrosion or by not operating in accordance with factory recommendations and instructions. Manufacturer will repair or replace (at factory's option) free of charge, any component of the equipment thus found to be defective, upon return of the component "PREPAID" to the factory during the warranty period of the equipment. This warranty is only valid if the defective DA35 Autocan Extruder is returned as a complete assembly without physical damage. The manufacturer's written liability, as stated herein, cannot be altered or enlarged except by a written statement signed by an officer of the company. A return authorization is required from Fisnar, Inc. prior to shipping a defective unit to the factory.

Manufacturer reserves the right to make engineering or product modifications without notice.

Send warranty returns to:



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