



## APPLICATION EQUIPMENT

# Patented Millennium Cyclone 5/15



### Low Pressure Pump Cart (by Garlock)

#### DESCRIPTION

The Patented Millennium Cyclone 5/15\* low pressure adhesive pump cart is a bulk delivery system specifically designed to dispense two component 1:1 ratio low viscosity polyurethane adhesives. These adhesives are widely used to adhere rigid insulation and coverboards to structural roof decks as well as to adhere fleecebacked single-ply membranes in both new roofing and recover applications.

The Cyclone 5/15 features a custom designed and fabricated adhesive tray that accommodates both five and fifteen gallon containers of adhesive. The Cyclone 5/15 includes one applicator manifold/nozzle assembly and 50 feet of hose. The patented features, proven performance and reliability of the Millennium Cyclone 5/15 Pump Cart makes this the perfect delivery solution for applying adhesives on large commercial roofing projects.



#### SAFETY

Protective equipment such as safety glasses and protective gloves must be worn when operating or servicing the Millennium Cyclone 5/15 pump cart.

The Patented Millennium Cyclone 5/15 pump cart operates on 110 volt 60Hz AC current. Use a grounded power cord that is in good condition, rated for outdoor use, and a minimum of 14- gauge construction. Servicing electrical components should only be done by trained personnel and only after disconnecting power to the equipment. CAUTION: The electrical circuitry is not of explosion proof design and should not be used in any environment requiring such a design.

The Patented Millennium Cyclone 5/15 pump cart operates with pressure. The applicator should never be pointed toward people. The applicator should never be actuated when the outlet tip is blocked or restricted by cured adhesive or any object.

Consult adhesive product label and Safety Data Sheet (SDS) for necessary safety precautions.

#### FEATURES

#### BENEFITS

Custom designed and fabricated adhesive tray	Accommodates both five and fifteen gallon containers of adhesive
Ergonomic EZ Load Drum System	Reduces risk of injury
Dual pump system	Reduces risk of catastrophic pump failure / lowers maintenance cost
Quick connect fittings	Facilitates quick adhesive container change-outs
Heavy-duty solid core tires	Provides increased mobility

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## START UP

Make sure the manifold valves are in the OFF mode and motor is turned off.

### Instructions for loading five-gallon bladders of adhesive:

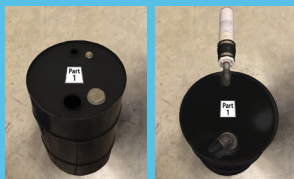
1. Remove adhesive bladders from over packed boxes.
2. Insert adhesive bladder labeled Part 1 into the tray labeled Part 1. Apply small amount of non-lithium grease to female end of quick connect coupling. Attach quick connect fitting on bladder to the Part 1 pump inlet hose.\*\*
3. Insert adhesive bladder labeled Part 2 into the tray labeled Part 2. Apply small amount of non-lithium grease to female end of quick connect coupling. Attach quick connect fitting on bladder to the Part 2 pump inlet hose.
4. Continue to "Instructions for Dispensing Adhesive".

### Instructions for loading fifteen-gallon drums of adhesive:

1. Remove covers from both the top and bottom of the desiccant filter. Note: The desiccant filter sensor will turn purple indicating the filter needs to be replaced.



2. Insert desiccant filter into rubber holder as shown and tighten clamp. A light lubricant is advised when inserting the filter. Do not block or cover holes with lubricant or grease.
3. Remove drum bung caps from adhesive Part 1(A) side using the drum bung wrench supplied. Install desiccant filter assembly and black quick connect as shown in the pictures below.



4. Remove drum bung caps from adhesive Part 2(B) side using the drum bung wrench supplied. Install plastic vent assembly and gray quick connect assembly as shown in the pictures below.



5. Lock pump cart wheels and carefully load adhesive drums onto drum rack. Desiccant filter and vent should be placed at the highest point. Secure drums to drum rack with the ratcheting tie downs provided.
6. Place a small amount of grease on both the male and female sides of the Part 1 black quick connect fitting and connect the drum and inlet hoses together. Repeat process for Part 2 gray quick connect side.

## INSTRUCTIONS FOR DISPENSING ADHESIVE

### Once adhesive is loaded into pump cart continue as follows:

1. With the manifold in the OFF mode, flip power switch to "on".
2. Slowly open manifold valves, motor will start automatically. Let a small amount of material flow out into a waste container to ensure that an equal amount of material is coming out of each manifold port.
3. Shut off manifold valves, motor will stop automatically when shut-off pressure is reached.
4. Wipe threaded portion of manifold clean with rag, apply non-lithium grease to threaded portion of manifold.
5. Attach static mixing nozzle to applicator manifold using retaining nut or one-piece mixing nozzle. Ensure that it is completely seated and then begin applying adhesive.
6. Apply adhesive directly to the substrate as recommended by the product manufacturer.

## SHUT DOWN AND EXTENDED BREAKS

1. Close manifold valves.
2. Turn off power.
3. Remove static mixing tip and retaining nut (if needed) and discard.
4. Relieve any pressure in hoses by opening and closing applicator valves.
5. Pump a non-lithium grease into both grease fittings on the gun manifold until it flows out of the tip. Install grease into the part 1 (A) grease fitting first.

**CAUTION:** Remove static mixing nozzle during any pause in application or operation. Do not allow pressure to build up in the static mixing nozzle. If static mixing nozzle remains on applicator manifold, material can react and harden in the manifold and possibly the ends of the hoses. During removal and attachment of static mixing nozzles, a wrench may be necessary for removal. Clean manifold threads and re-grease frequently.

## MACHINE STORAGE

Long term storage (30 days +) will require that the pump system and hoses are flushed with Millennium Cyclone System Solution. (Refer to Millennium Cyclone System Solution Product Information Sheet and Technical Bulletin for detailed instructions). After extended storage the gravity feed supply lines and quick connects may need to be replaced.

Material can be allowed to stand in the machine for short periods of time, however, it is very important that Part 1 not be exposed to air or moisture to prevent crystallization.

Material should be run through the pump and hoses every three to four weeks when the pump is not in use. Cyclone System Solution can be run through the pump for this purpose.



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### SURFACE PREPARATION

All work surfaces should be clean, dry, and free of dirt, dust, debris, oils, loose and/or embedded gravel, un-adhered coatings, deteriorated membrane and other contaminants that may result in a surface that is not sound or is uneven. In recover applications Millennium Surface Treatment or Millennium Universal Primer may be required. Contact H.B. Fuller's Technical Service Department at 216-235-2853 for more information.

### LIMITATIONS

- Do not apply adhesive to wet or damp surfaces.
- Not recommended for use with insulation boards larger than 4' x 4' (1.2m x 1.2m).
- Do not use warped or curled insulation boards. All insulation boards must lay flat upon the roof surface.
- Pump grade adhesives are designed for application temperatures of 25°F and above.

### MATERIAL PACKAGING AND COVERAGE

Millennium PG-1 Pump Grade Adhesive is available in the following packages:

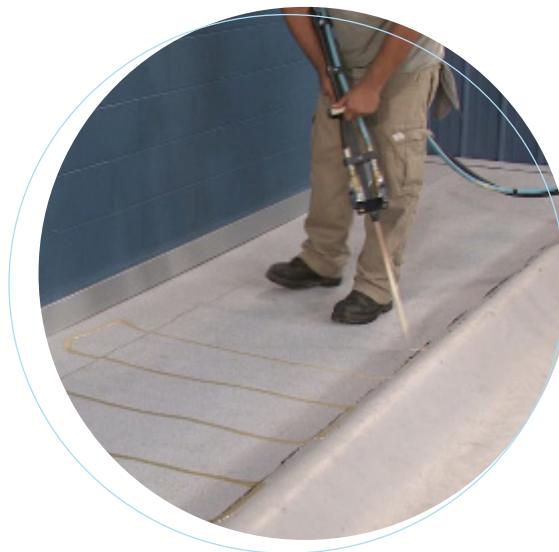
Size	Part #	Sets/Pallet
5 gal (18.9L) box, Part 1 (A)	PG-IA5B-A01	18
5 gal (18.9L) box, Part 2 (B)	PG-IA5B-B01	
15 gal (58L) drum, Part 1 (A)	PG-15DR-A01	4
15 gal (58L) drum, Part 2 (B)	PG-15DR-B01	

Part 1 and Part 2 mixed through Patented Millennium Cyclone 5/15 Low Pressure Pump Cart will produce the following coverage rates:

- 5 Gallon (18.9L) Kit: 2,500-3,000 sq. ft. (232m<sup>2</sup>-279m<sup>2</sup>)
- 15 Gallon (56.7L) Kit: 7,500-9000 sq. ft. (697m<sup>2</sup>-836m<sup>2</sup>)

Coverage estimates indicate total square feet of insulation attachment per kit. Rates are based on an application pattern of 4 (four) 1/2" - 3/4" (1.3cm - 1.9cm) ribbons spaced 12" (30cm) o.c. per 4' x 4' (1.2m x 1.2m) insulation board. NOTE: A 1/2" - 3/4" (1.3cm - 1.9cm) wide uncured adhesive bead will produce a 2" - 3" (5.1cm - 7.6cm) wide cured adhesive bead that will rise approximately 3/4" - 1" (1.9cm - 2.5cm) above the substrate. Coverage rates may be lower when used over irregular surfaces and will vary depending on roughness. For fleeceback applications consult your waterproofing membrane manufacturer's guidelines.

The Patented Millennium Cyclone 5/15 can be used with any brand of 2-part urethane roofing adhesives and Cubitainer® packaging.



Code #xxxx-0819

\*US 9,573,150 B2; US 9,566,594 B2  
\*\*US 9,174,234 B2; CA 2,806,690 C



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