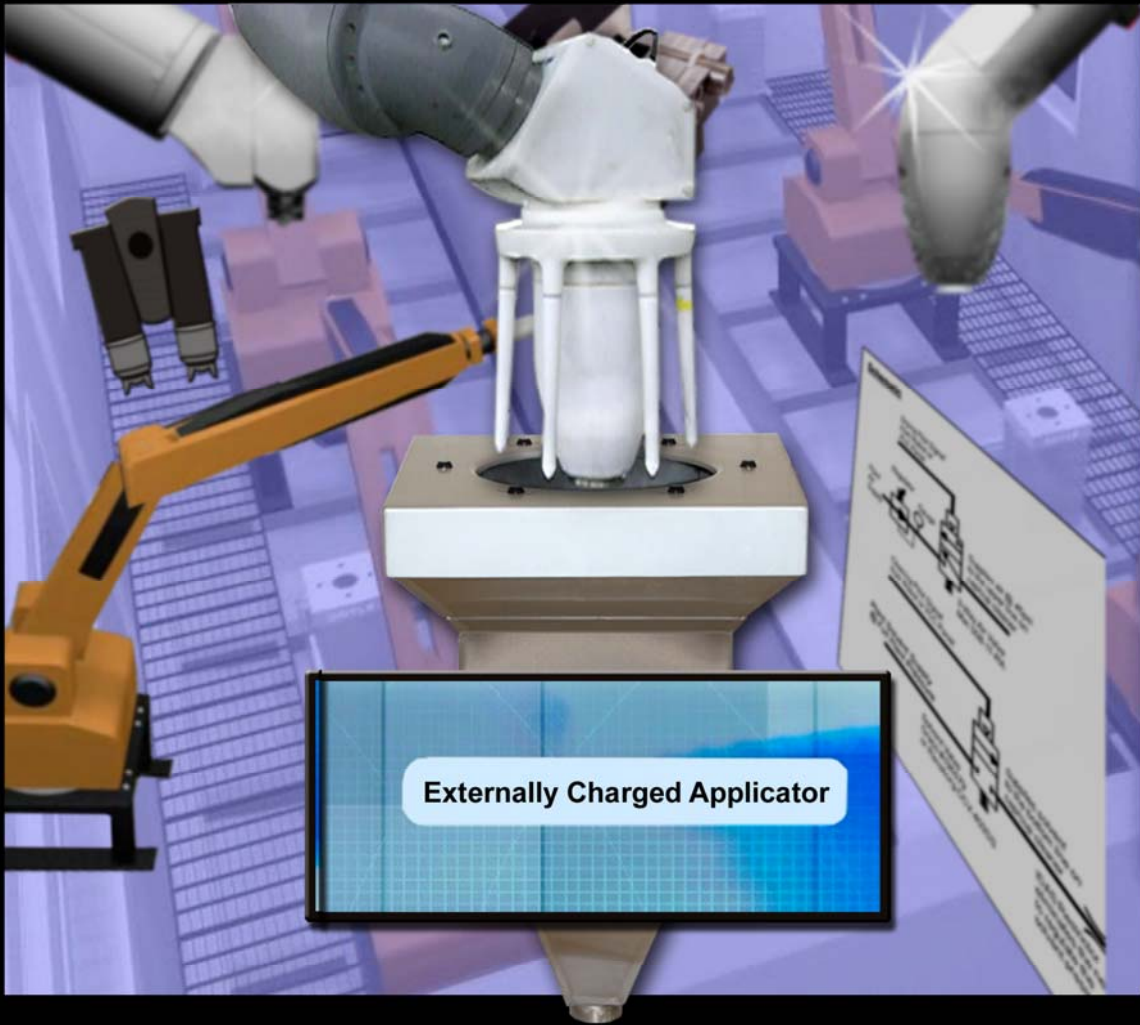


THE EC3000™

Hd HAPPY
DYNAMICS LIMITED

Applicator Cleaner

International Patents Pending



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Innovative Designs and Solutions
266 Charlotte Street, #414
Peterborough, ON K9J 2V4

1-705-768-2225
chrisl@happydynamics.com

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Why do you want an Applicator cleaner?

As you know the single most important aspect to running an efficient paint line is cleanliness. This cleanliness extends to the paint applicator as well. Dirty cups cause drips, spits and KV faults, costing millions in wasted time, paint, parts and man-hours.

All coating applicator manufacturers and painting experts agree that clean dry parts and equipment are fundamental to high first run capability. As paint leaves the applicator the tip becomes contaminated with over spray and paint defects are the result.

The solution to paint line defects caused by dirty cups is an applicator cleaner that is:

1. Effective
2. Easily installed
3. Low maintenance

How the EC3000 Applicator Cleaner Works

WARNING: High voltage must always be turned OFF prior to the start of the cleaning sequence and insertion of the applicator into the cleaner. Shape air should be turned off or reduced to the minimum level.

The dirty applicator passes down through the opening in the top of the cleaner at 50-100mm per second, to a maximum depth of 50-75mm from the top of the lid to the face of the bell cup.

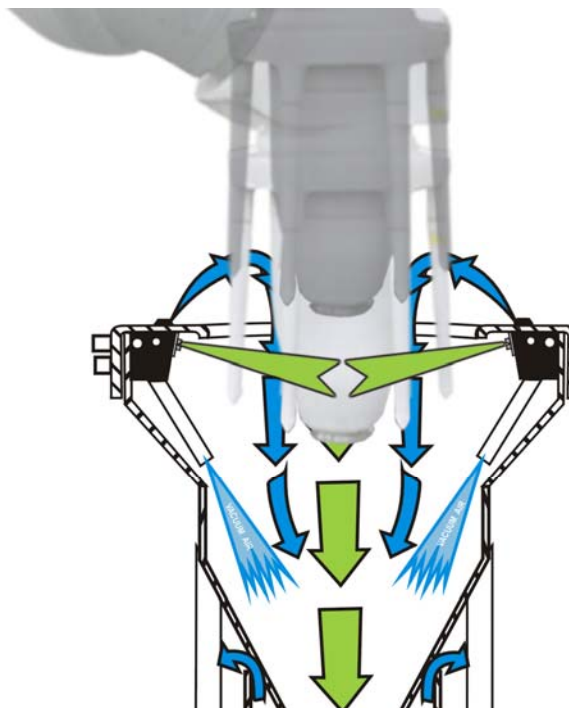
Vacuum air is turned on when the face of the cup is even with the top of the cleaner lid. The air will create a vacuum pulling the cleaning solution downwards. Air must always be on when the applicator is in the cleaner.

When purging and filling are complete cleaning solution is turned on and the applicator begins it's movement up out of the cleaner.

The applicator is rotated about it's axis and proceeds upward at a rate of 25-50mm per second. The cleaning solution should be turned off just as the bell cup clears the top of the lid opening. The air should remain on until the bell cup is 50mm above the top of the lid. (This should dry the applicator. If the applicator is not dry, rotating the applicator around it's axis in the drying air may be necessary. If the applicator is still not dry, adding the auxiliary blow-off ring, part #500-054 may be necessary.) The air to the cleaner is then turned off.

The previous times and distances are only provided as a starting point and may need to be adjusted. Coating type, available cycle time, time between cleanings and robot speed will all be contributors to adjusting the cleaning process. Regardless, the sequence of events should ALWAYS be as follows:

- Lid Air On (vacuum created)
- Cleaning Solution On
- Cleaning Solution Off
- Lid Air Off

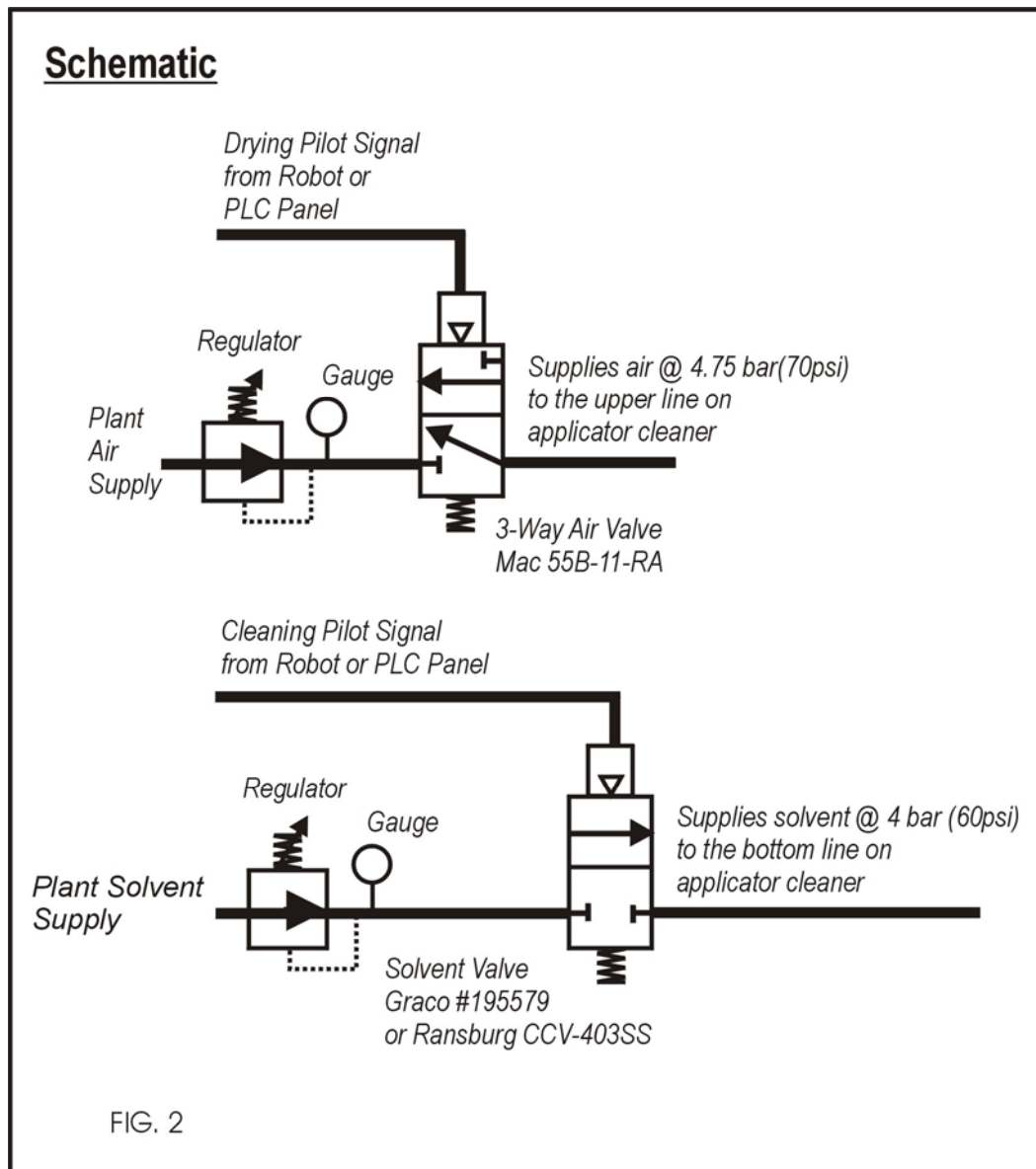


Installing the Cleaner

Install an 8mm non-regulated purge solvent supply line.

Install a two-way solvent supply valve. The EC3000 applicator cleaner contains a check valve in the spray block and will not allow siphoning of solvent.

Install a three-way regulated air valve.



The EC3000 applicator cleaner has a footprint of 35cm x 35cm and should be securely installed over grating in a location convenient to the robot. Optional T-Bracket, Part Number 500-041 is available.

If a solvent recovery system is not being used, take the cleaner from the box and bolt it to its mount. Connect a ground strap to the ground terminal.

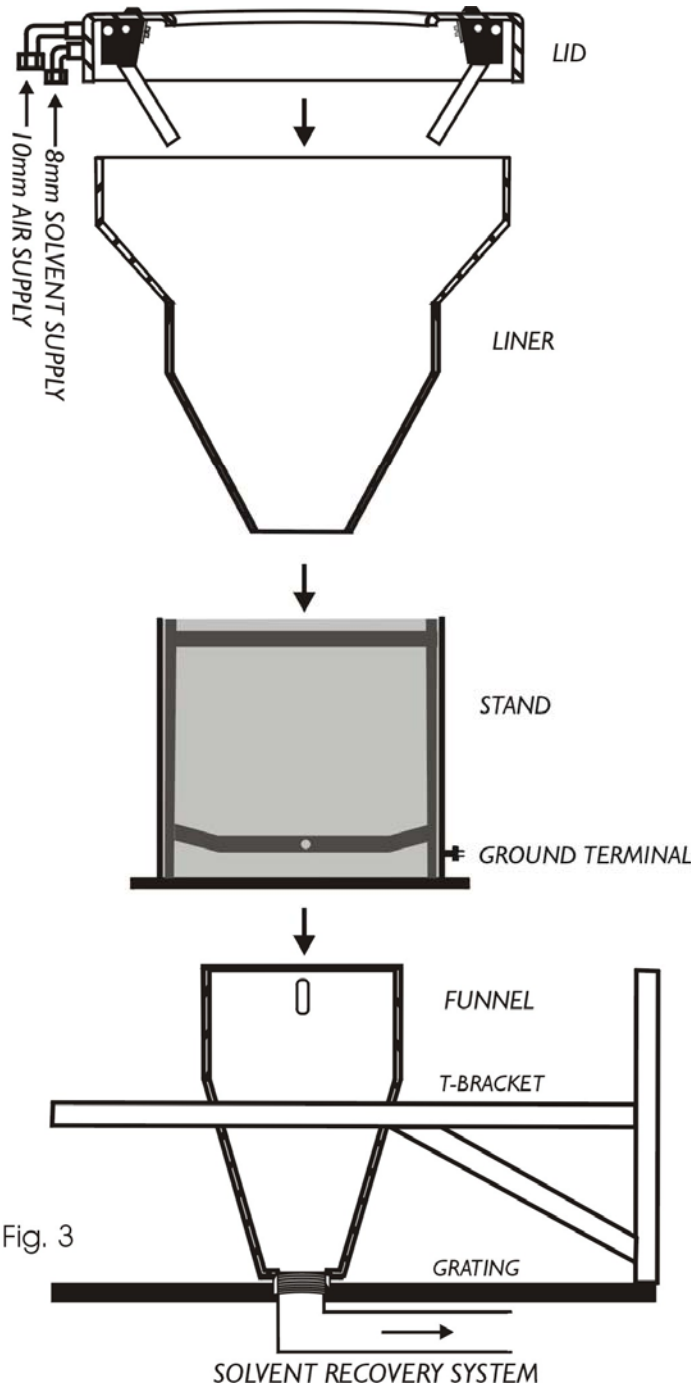


Fig. 3

Connect a 10mm air supply line from the three-way regulated air valve to the uppermost line on the cleaner. Set the air pressure to 4.75 Bar*(70psi).

Connect the solvent supply line from solvent color change valve to the bottom line on the cleaner. Set the solvent pressure to 4 bar (60psi).

If you recover solvent add a 2" npt nipple to attach funnel.

Attach the funnel to solvent recovery, at a height that will center the slots in the funnel with the mounting holes in the cleaner stand, 419mm from the top of the T-Bracket to the top of the funnel.

Lower the stand over the funnel and bolt funnel to stand. Bolt the stand to the T-Bracket. Connect a ground strap to the ground terminal. Lower the liner inside the cleaner stand.

Install the lid using the pull down catches.

Set the air pressure to 4.75 Bar*(70psi).

Connect an 8mm solvent supply line from the solvent color change valve to the bottom line on the cleaner. Set the solvent pressure to 4 bar (60psi).

Connect a 10mm air supply line from the three way regulated air valve to the uppermost line on the cleaner.

*NOTE: This pressure setting is very important and must be set properly for the cleaner to function correctly and perform it's self-cleaning.

Maintenance

Maintenance on the EC3000 Applicator Cleaner requires replacing the balls, springs, o-rings and nozzles in the spray heads. This only needs to be done once per year or after a million cycles.

Do Not Remove Spray Block Head from the Lid.

Remove the 2 screws (7)

Remove the retainer plate (6)

Remove the nozzle (5), o-ring (4), spring (3) and check ball (2).

Discard parts 2, 3, 4 and 5.

Using the repair kit Part Number 500-030:

Replace the check ball (2) with new ball

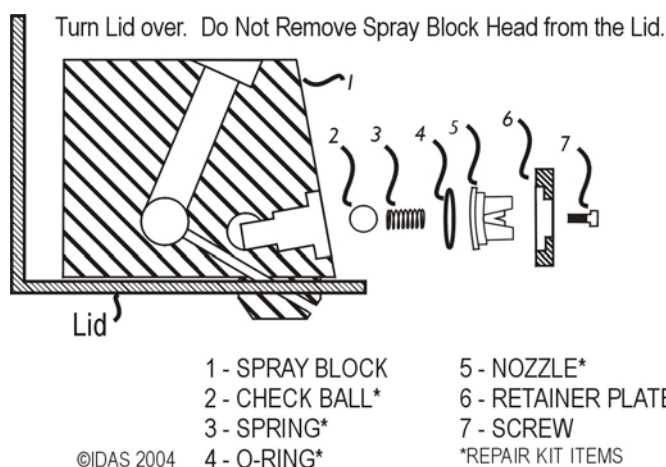
Replace the spring (3) with new spring

Replace the o-ring (4) with new o-ring*

Replace the nozzle (5) with new nozzle

Reinstall the original retainer plate (6) and original screws (7)

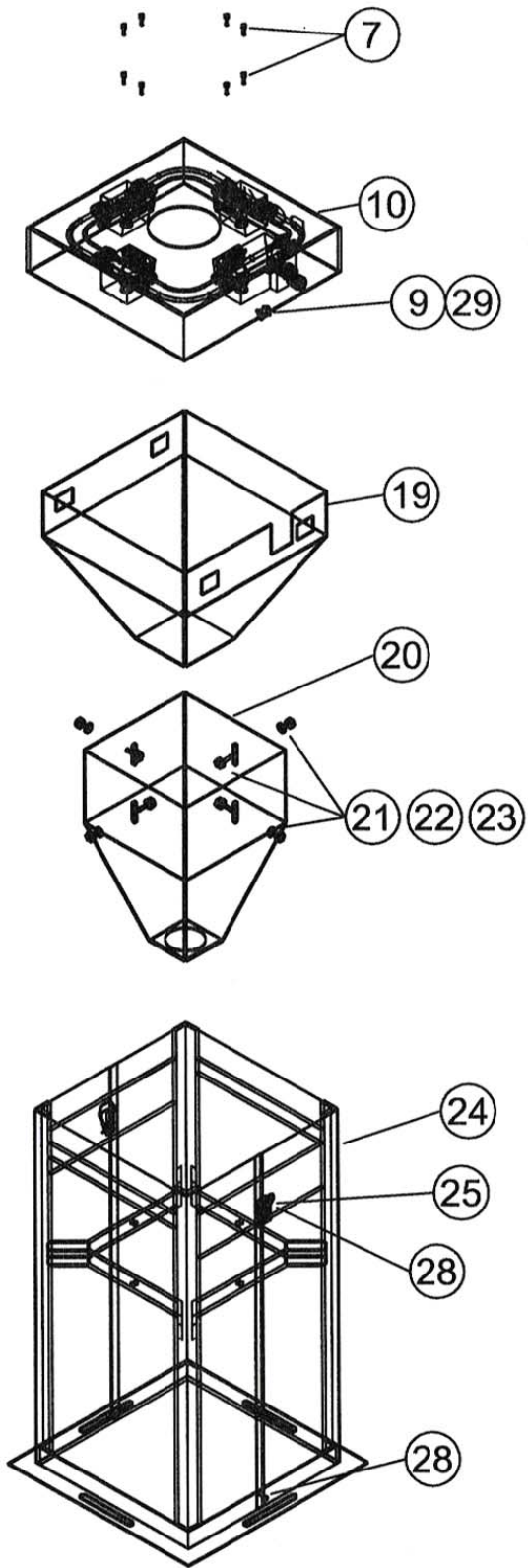
**NOTE: Do not reuse Teflon o-ring.*

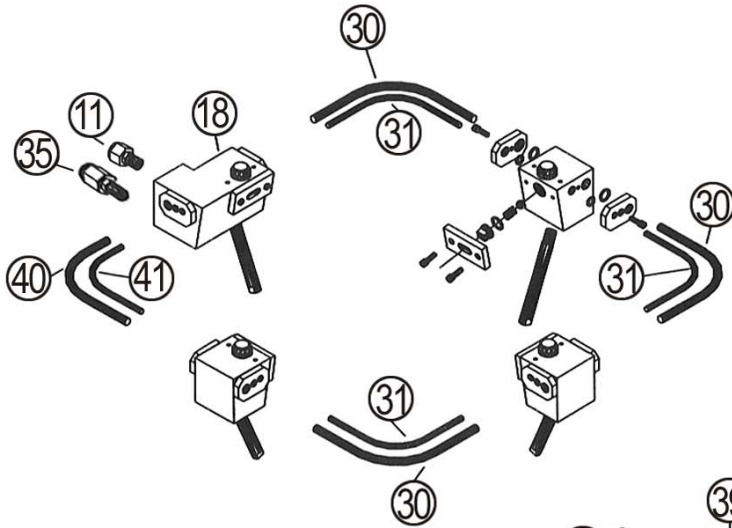
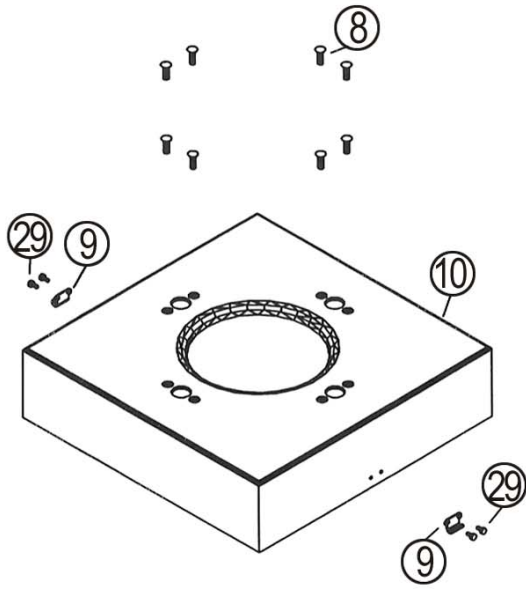


What The Applicator Cleaner Will do for You

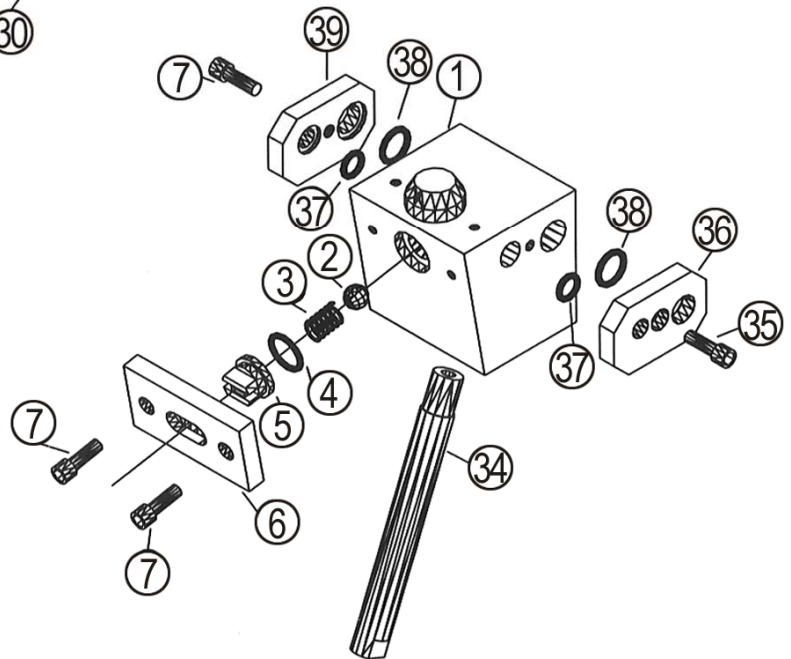
The EC3000 applicator cleaner will eliminate all problems and paint defects caused by dirty cups. Trouble shooting paint line problems and defects, requires identifying the cause of the problem. By eliminating all problems related to dirty cups, identifying the real problem becomes much easier contributing to the success and morale of the paint line group.

With our assistance the EC3000 applicator cleaner is designed to be installed, by the plant's paint line group, in a few hours with minimal disruption to the line. After the initial installation the paint line group will be empowered to install the rest of the applicator cleaners between shifts, and will benefit from instant, direct, measurable improvements.





Spray Block Head Detail



Parts List

The EC3000 Applicator Cleaner

DWG. #	Part Number	Description
1	500-001	Block Aluminum - small
2	500-002	Ball-Check Nylon
3	500-003	Spring-Check SS
4	500-004	O-Ring Teflon
5	500-005	Nozzle
6	500-006	Retainer Plate Aluminum
7	500-007	Screw - 8-32 x ½ Sock Head Hex SS
8	500-008	10-24 x ½ Socket Flat Head B Screw
25	500-025	Pull Down Catch SS
9	500-009	Pull Down Strike SS
10	500-010EC	Lid
	500-110EC	Lid with circuitry
	500-210EC	Lid with insert
	500-310EC	Lid with insert with circuitry
	500-410	Retro Lid
	500-510	Retro Lid with circuitry
	500-610	Retro Lid with insert
	500-710	Retro Lid with insert with circuitry
11	500-011	Fittings - Supply ¼ npt m x ¼ npt f B
12	500-012	Fittings - Air ¼ npt m x 3/8 Tube SS
13	500-013	Tube - Air 3/8 Teflon
14	500-014	Tube - Solvent ¼ Teflon
15	500-015	Tube - Solvent ¼ Teflon
16	500-016	Tube - Air 3/8 Teflon
17	500-017	Fittings – Sol. 1/8 npt m x ¼ Tube SS
18	500-018	Supply Spray block Aluminum - Big
19	500-019	Liner - Standard SS
20	500-020	Funnel SS
21	500-021	Bolt ¼ -20 x ¾ lg. Hex Head SS
22	500-022	Nut ¼ -20 Hex SS
23	500-023	Washer ¼ " Plate SS
28	500-029	Rivet - Tubular SS 1/8 x 5/16
29	500-028	Rivet - Tubular SS 1/8 x ¼
24	500-024	Stand with cover 24" SS
		Repair Kit
	500-030	(contains number 2, 3, 4, 5)
36	500-031	Right Hand Keeper Plate
39	500-032	Left Hand Keeper Plate
		#50 Fixed Solvent Reg.
35	500-044	(Flow Restrictor)
		#55 Fixed Solvent Reg.
35	500-045	(Flow Restrictor)
		#60 Fixed Solvent Reg.
35	500-046	(Flow Restrictor)
37	500-047	O-Ring 010
38	500-048	O-Ring 012
41	500-049EC	Short circuit tubing 1/4"

40	500-050EC	Short circuit tubing 3/8"
31	500-051EC	Long circuit tubing 1/4"
30	500-052EC	Long circuit tubing 3/8"
34	500-053	Drive Extension

Optional Accessories

500-033	Control Panel Base
500-034	Air Valve Mac 55-B-11-RA
500-035	Solvent Regulator DeVilbiss DVHGS
500-036	Solvent Supply Graco 195-579
	Air Supply Regulator
500-037	Norgren R736-3AK-RMN
	Air Regulator Mounting Bracket
500-038	Norgren 4461-50
500-039	Air Gauge 2" Winters E1407 100psi
	Control Panel Complete 500-033,034, 035,036,037,038,039
500-140	
500-040	Solvent Valve Graco GR218-964
500-141	Water Borne Solvent Valve Assembly
	Water Borne Control Panel 500-033, 034,035x2,037,038,039
500-142	
500-041	T-Bracket for wall mount
500-042	Strainer Basket
500-043	Delrin Safety Cover

**For overnight delivery of parts, contact:
Happy Dynamics Limited
Call 1-705-768-2225**

**Available 24 hours, 7 days a week
pjessup@happydynamics.com**

Two Year Limited Warranty

PRODUCT LIMITED WARRANTY: Manufacturer Happy Dynamics Limited warrants its product to be free from defects in workmanship and/or material for two (2) years from date of shipment from factory. Manufacturer shall have no liability under the warranty or otherwise if:

1. The product is not inspected by Buyer within ten (10) days after delivery; 2. The product is used other than in accordance with current operating instructions; 3. The product is subjected to any abuse or abnormal or unintended use; 4. A claim in writing under this warranty is not presented to manufacturer at Peterborough, Ontario, Canada address on or before ninety (90) days after the date of alleged defect was first known or could reasonably have been known, whichever is sooner, or; 5. The product is not returned unaltered to Manufacturer within such ninety (90) day period for inspection. Any warranty extends only to the first user of the product.

DISCLAIMER: the above Limited Warranty is EXCLUSIVE of any and all other warranties, liabilities or obligations of Manufacturer. MANUFACTURER DISCLAIMS ANY OTHER WARRANTY AND MAKES NO REPRESENTATIONS OR WARRANTY OF ANY KIND EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHER MATTER. Manufacturer neither authorizes nor assumes responsibility for any other affirmation of fact, description or other representation with respect to its product.

LIMITATIONS OF LIABILITY: Manufacturer's liability shall be limited to: 1. Product replacement, 2. Product repair, or 3. A refund of the product purchase price F.O.B. point of manufacture, and as Manufacturer, at its option may elect. The above remedies shall be Buyer's exclusive remedies for any and all loss or damage claimed by or through Buyer from any cause whatsoever including, without limitation, inability to supply product, errors or delays in shipment, Manufacturer's negligence, or any other matter. Manufacturer shall not be liable for any incidental, special, or consequential damages.

CE: When plastic hoses are used, the plastic hoses must be according to EN13463-1 (anti-static). There is no self-ignition source in the EC3000 Applicator Cleaner.