



INSTRUCTIONS FOR LIMEINATOR® DESCALERS

USE TO REMOVE & DISSOLVE SCALE, LIME, RUST & CALCIUM
FROM MOLD FLUID PASSAGES - Requires cleaning solutions.

THE BETTER NON-ORIGINAL WATER SYSTEM DESCALER!

- A. **STRONG SEAMLESS ROTO-MOLDED LEAK PROOF TANK, NOT WELDED PIECES! NO SEAMS TO LEAK! THAT'S SAFER!**
- B. **LONG LASTING PLASTIC TANK, FITTINGS, PUMP & HARDWARE TO RESIST CORROSION!**
- C. **AND BETTER SAFER CLEANING SOLUTIONS FOR STEEL, ALUMINUM & STAINLESS!**
- D. **CAN BE USED WITH COMPETITORS HARSH ACID CLEANERS!**

— SPECIFICATIONS —

- Tank: Seamless Roto-Molded MDPE
- Tank Capacity: 17 gallons/33 gallons
- Operating Capacity: 6 to 13 gallons or 10 to 30 gallons
- Max Operating Temperature: 140°F
- Fluid Connections: 1/2" N.P.T.
- Hi-Flow CPVC acid resistant Plastic Pump with Thermal Protected Continuous Duty Motor. Built-in On-Off Switch.
- Pump Motor: 1/5 H.P., 3450 RPM, 115 Volt with 8 ft. grounded line cord, 18 G.P.M. Open Discharge with Reset
- Integral grounded motor switch box mounted on Pump Motor
- Height Overall: 33" or 34"
- Tank Dimensions: 13" H x 17" W x 24" L
14" H x 24" W x 31" L
- Caster mounted, swivels, 4" dia.
- Special polypro acid resistant outlet-inlet manifolds included.
- Integral roto-molded handles & power cord storage.

**WE OFFER
SAFER**
CLEANING SOLUTIONS,
BIODEGRADABLE, SUPERIOR
CORROSION INHIBITORS,
POWERFUL AND LASTS LONGER
FOR LOWER OPERATING COSTS.
FOR STEEL, ALUMINUM
& STAINLESS STEEL.

**2
MODELS**



**ONLY
AVAILABLE
FROM
PPE!**

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PLASTIC PROCESS EQUIPMENT, INC.

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DESCALER SOLUTIONS

3 TYPES AVAILABLE

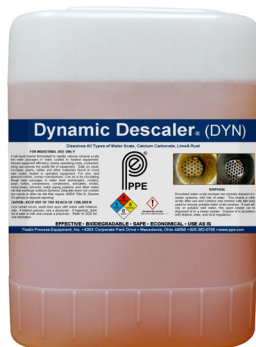
STEEL MOLD DESCALER

SAFE - POWERFUL - BIODEGRADABLE

Dynamic Descaler® is a revolutionary liquid descaler that rapidly dissolves all water scale and lime plus it removes mud, rust, and other non-soluble sedimentation deposits safely and effectively. No neutralizing necessary. That's safe!

CAUTION: Do not use on aluminum, stainless steel, galvanized metal or zinc!

- **Safe.** Won't harm workers when used as directed.
- **NSF Category Code A3 Certified.**
- **Powerful detergents and penetrating agents.** Lasts 3 times longer before breaking down.
- **Biodegradable.** Won't harm the environment. Empty into sanitary sewer and flush with water.
- **Fast.** Equipment is cleaned within 2 hours. 25% faster than acid. Do not circulate more than 4 hours.
- **Superior corrosion inhibitors.** Lowest corrosion rate of any descaler.
- **Economical.** Compare cost to other products and cleaning options.



Non-Hazmat for shipping.
Safe for use on:
Steel - Iron - Brass
Copper - Plastic
Rubber

— **SUPPLIERS TIP** —
Use a 50/50 mix.

| PART NO. | DESCRIPTION |
|----------|----------------------------------|
| DYN05 | Dynamic Descaler® - 5 Gal. Pail |
| DYN15 | Dynamic Descaler® - 15 Gal. Drum |
| DYN30 | Dynamic Descaler® - 30 Gal. Drum |

ALUMINUM MOLD DESCALER

FOR USE ON 6061 & 7075 ALUMINUM

Aluminum Descaler is a safe liquid cleaner formulated to rapidly remove mineral scale from water passages in water cooled or heated equipment, improves equipment efficiency, lowers operating costs, conserves energy and extends the useful life of cleaned equipment. Safe on plastic molds and extruders, safe on 6061 and 7075 aluminum, steel, stainless steel, iron, copper, plastic, rubber and other materials found in most water cooled, heated or operated equipment. Use as is by circulating through water passages in water heat exchangers, coolers, pumps, boilers, compressors, condensers, extruders, molds, cooling towers, furnaces, water piping systems and other water side heat exchange surfaces. Does not contain toxic cresols or other tar oils that require SARA Title III, Section 313 spill loss or disposal reporting.



- **Ready** for use as is.
- **First application** use at 100%. Subsequent use diluted at no more than 50% water.
- **Best** used at room temperature. Do not use above 180°F.
- **Safely** cleans your 6061 or 7075 aluminum with no negative effects.
- **Biodegradable.** Won't harm the environment. Empty into sanitary sewer and flush with water.
- **Safe** for use on steel molds with aluminum plugs or fittings.

Non-Hazmat for shipping.
Safe for use on:
6061 & 7075 Aluminum
Steel - Iron - Brass
Copper - Plastic
Rubber & other
materials found in water
heated/cooled systems

| PART NO. | DESCRIPTION |
|----------|----------------------------------|
| ALD05 | Aluminum Descaler - 5 Gal. Pail |
| ALD15 | Aluminum Descaler - 15 Gal. Drum |
| ALD30 | Aluminum Descaler - 30 Gal. Drum |

STAINLESS STEEL MOLD DESCALER

**FOR USE ON STAINLESS STEEL - NICKEL - TITANIUM - STEEL - IRON
BLACK PIPE - BRASS - COPPER - PLASTIC - FIBERGLASS - RUBBER**

Platinum Descaler does not corrode, erode, attack, pit, oxidize, nor have deleterious effects on metals or materials such as stainless steel, steel, copper, fiber, leather, rubber, iron, lead, or other materials or metals found in boilers, pipes, valves, pumps, strainers, radiators, convectors, unit heaters, heat exchangers, engines, evaporators, turbines condensers and/or other water-heated, water-cooled, or water operated equipment when used as directed. Avoids equipment dismantling.

- **Best** used at room temperatures. Do not use above 180°F.
- Can be diluted 80/20 - 80% water 20% Platinum Descaler.
- Does not contain (HCL) Hydrochloric Acid.
- Won't pit or discolor surfaces.

Non-Hazmat for shipping.
Safe for use on:
Stainless Steel - Nickel
Titanium - Steel - Iron
Black Pipe - Brass
Copper - Plastic
Fiberglass - Rubber
& other materials found
in water heated/cooled
systems



Always wear gloves and safety glasses when handling chemicals.

READY TO USE AS IS.



| PART NO. | DESCRIPTION |
|----------|----------------------------------|
| PLD05 | Platinum Descaler - 5 Gal. Pail |
| PLD15 | Platinum Descaler - 15 Gal. Drum |
| PLD30 | Platinum Descaler - 30 Gal. Drum |



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LIMEINATOR™ DESCALERS

FACTS, CAUTIONS & SAFETY ISSUES:

The PPE Limeinator™ is a fluid recirculating device designed for use with cleaning or descaling solutions to chemically clean mold passages and heat exchangers. Because of the need the use cleaning chemicals, the use of which is beyond our control, we ask you to user to be extra cautious with it's handling!! Be certain the operator has read all handling and instructions from PPE and has read all SDS (Safety Data Sheets) and more importantly the instructions from the cleaning chemical supplier for the chemical that will be used. Follow the chemical suppliers instructions for cleaning solution use and/or the neutralizer.

FOR EXAMPLE HANDLING:

- A) Simple table salt can be a danger if thrown in someone's eyes, yet a small amount in warm water gargled can help heal a sore throat.
- B) Household bleach can be a serious danger if mishandled. Yet, as a properly handled product, it is a ideal clothes whitener and a great disinfectant and germ killer.
- C) Drano: If not properly used can cause eye injury, skin burns and attacks mucous membranes on contact. Directions for use must be followed.

Also note each chemical product clearly says DANGER: Keep out of reach of children. Our point, don't let someone use this equipment that would not be capable or qualified to do so. Management should always supervise and instruct in the use of this descaling device and all chemical products used in the cleaning process.

KNOW YOUR WARNING SIGNS AND SYMBOLS!

Be aware of and always follow Safety Warnings & Symbols. Always read chemical suppliers instructions & SDS information. Always have SDS on hand for quick reference. SDS are included with all containers of cleaning solutions from PPE.

WARNING:



Wear full eye and skin protection when using this device. Also be aware of the dangers when handling acid cleaners. Follow chemical suppliers label instructions. Read their labels! Wear eye, hand and body protection for your safety!

WASH YOUR HANDS AFTER HANDLING ANY CHEMICALS.



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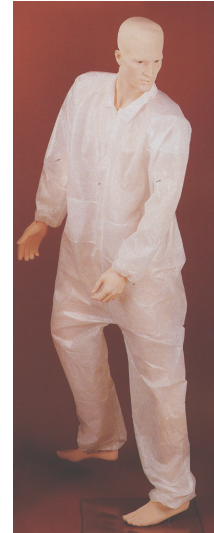
**REFER TO THE PPE CATALOG
FOR SAFETY ITEMS AVAILABLE.**



Faceshield & Headgear
#HFS378 & #HFS840



Neoprene Rubber Gloves
#650NL560



Disposable
Coveralls
Laminated
Polypropylene
#CVL-NWPXL

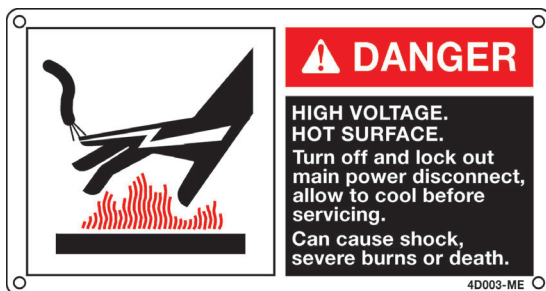
ADEQUATE VENTILATION:

The acid type chemical supplier repeatedly cautions users to provide adequate ventilation! Avoid breathing dust or vapors. If adequate ventilation is not available, wear suitable respiratory equipment.



ELECTRICAL:

Motor & Pump have warning stickers listed, so be aware of the danger that exists if the electrical system is worked on for any reason. Only use a qualified Electrician!



CLEAN UP & SPILLS:

Read all chemical suppliers labels for any products used to descale or neutralize. Always read SDS (Safety Data Sheets) for precautions and instructions. Always be prepared to clean up spills. Have on hand spill absorbent products and/or neutralizer solution.

Never invert the motor after use. Always keep upright. If removed, place it upright over a 5 gallon empty pail to avoid acids from entering pump motor which can cause damage.



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CAUTION: NO HOT FLUIDS! DO NOT ADD CLEANING SOLUTIONS TO HOT FLUIDS:

Hot fluids above 120°F will damage the pump or can cause a damaging reaction with a acid cleaning solution. The pump is rated for 180°F, but a cleaning acid can only rise in temperature to between 130° to 140°F MAXIMUM. The neutralizing solution cautions not to add their product to water warmer than 110° to 120°F (32° to 49°C). You must allow your molds or heat exchangers to cool down below 120°F. The use of heated fluids is not necessary for the descaling process. ALLOW ACID TYPE FLUIDS TO COOL DOWN BELOW 120°F. We suggest you use our safer Dynamic Descaler which should be used at room temperature.

UNPACKING & SET UP:

- A) Be sure shipping container is not damaged. If it is, call the delivering carrier.
- B) Remove Limeinator™ from shipping container.
- C) NOTE: The 50 feet of PVC filer reinforced hose and fittings are contained within the tank.
- D) Remove the wing nuts from the motor mounting plate. Remove the plate. Remove the hose and fittings from inside the tank.
- E) Replace the motor manifold plate and secure it tightly with the wing nuts. Careful not to damage the sealing gasket. BE SURE TANK IS EMPTY BEFORE USE.
- F) Make your connection to and from your mold with the hose and fittings supplied. CAUTION: Always use stainless worm gear hose clamps to ensure against leaks! DANGER: Be sure your mold passages are clear and/or empty of any other chemical solutions as mixing other chemicals with a descaling acid can prove to be hazardous.

MODIFICATIONS:

WARNING! Do not modify this machine in any way. Do not add a heating or cooling device to this machine. Modifications of any kind not only void any warranty, but it can cause serious injury or damage to the equipment and/or personnel.

FILLING THE TANK:

Fill the clean PPE Limeinator™ with clear clean water up to the higher fill mark on the tank, approximately 13 gallons or 30 gallons on the LX model. Do not overfill, however as you circulate through your mold, you may need to add water. Take note! The pump will not circulate fluid until the water level rises 2 inches above the minimum 6 gallon level line or 10 gallon level line on the LX model.

The lower fill line on the tank is the minimum fluid level that should be maintained, although the pump intake line is located within 1 inch off of the tank bottom, you still need a fluid reservoir.



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LIMEINATOR™ DESCALERS

FILLING THE TANK: continued

After hose and fitting connections are made, test run the system with plain water only which allows you to check for possible fluid leaks or that passages are not fully blocked. Our Limeinator Descaler units can be used with both our Safer Dynamic Descaler Fluids or acid type fluids. REFER TO ACID Suppliers cleaning instructions. Before you add acid cleaner, follow acid suppliers instructions carefully.

DANGER:

If you use acid type chemicals:
Always pour acid powder into the tank of water!
Do not pour water onto dry acid powder!!
Do not pour water onto dry acid powder!!
Pouring water onto dry acid powder will start a dangerous chemical reaction causing splatter & fumes.

IF YOU ARE USING ACID CLEANERS ADDING ACID POWDER:

FOLLOW ACID POWDER INSTRUCTIONS ON THE CHEMICAL CONTAINER!

- A) Be sure you have on protective gear! Be ready to fix a leak or spill. Always use a small plastic scoop to pour acid into the tank. Do not pour out of the large container as overdosing or splashing may occur!!
- B) Add acid powder slowly thru the 3" diameter fill port on the tank top.
- C) CAUTION: Too much acid could cause damage or injury!
- D) Be sure to seal 3" fill port before start up.
- E) Plug unit into 120 volt supply and unit is ready to energize.



CAUTION:

Do not add acid cleaners while motor is running! Shut pump off!

CAUTION:

Never leave a acid type solution in the Limeinator™ tank for long periods unused. Flush tank and mold passages with neutralized solution or clean fluids to evacuate acid cleaners. Be sure pump has been flushed with clean water also. When you remove pump and motor mounting plate, set entire unit upright on a 5 gallon empty pail. Always keep motor and pump upright!

DANGER: STORAGE OF ACID CLEANERS

Do not store in metal. Do not store acids or alkaline products in metal containers as they will eat through metal! Neutralizer will attack aluminum!



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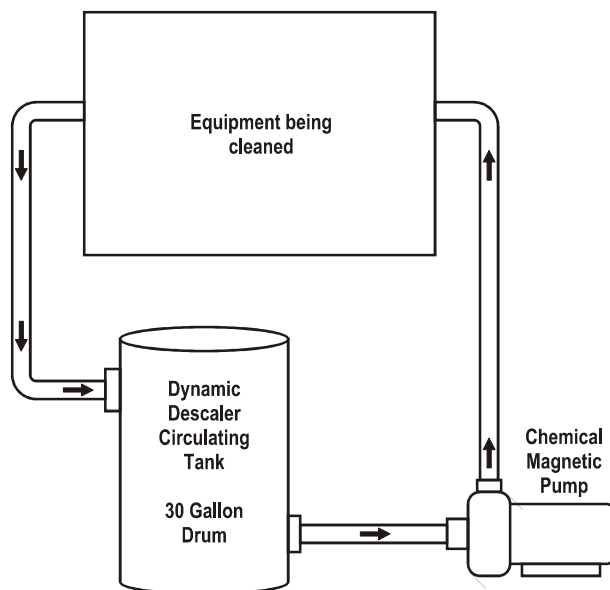
LIMEINATOR™ DESCALERS

CONDENSER AND CHILLER APPLICATION GUIDE

Dynamic Descaler Application Instructions:

1. Bypass Condenser or Chiller from operation.
2. Remove the existing water in the Condenser or Chiller. This must be done to ensure proper results.
3. Disconnect the water in/out connections from the Condenser or Chiller.
4. Attached the necessary hoses to the water in/out connections on the Condenser or Chiller to a circulation pump and a circulating tank. (See drawing below for cleaning set up.) Refer to our chart for necessary circulation time/set time and the amount of Dynamic Descaler to be used.
5. Circulate Dynamic Descaler for 20 minutes, then turn the circulating pump off and let the Dynamic Descaler sit for another 20 minutes. Repeat this process for the total amount of time listed on the chart.
6. After the first 20 minutes of circulating time, check the pH of the Dynamic Descaler with a pH meter or pH strips. Before use, Dynamic Descaler has a pH between 0 and 1. If the pH rises to around 3 or 3.5 after the first 20 minutes, add more Dynamic Descaler to lower the pH to around 1. Continue this process through the duration of the circulating time shown on the chart below. When the pH of the Dynamic Descaler stays the same, there should no more scale so the Condenser or Chiller should be cleaned.
7. Pump or move the remaining Dynamic Descaler into another container. If the Dynamic Descaler still has a pH around 1-3, use the Dynamic Descaler for another cleaning.
8. After removing Dynamic Descaler from the Condenser or Chiller, flush the Condenser or Chiller with water to remove all debris and remaining Dynamic Descaler. If you want to completely neutralize the Condenser or Chiller, add sodium bicarbonate (baking soda) to the water while circulating. Add a ratio of ½ pound of sodium bicarbonate to 25 gallons of water.
9. Once you have neutralized the Condenser or Chiller, disconnect the hoses from the circulating pump and circulating tank. Re-connect the water inlet and outlet to the Condenser or Chiller.

| Tonnage | Amount of Dynamic Descaler (gallons) | Circulating Time (hours) |
|---------|--------------------------------------|--------------------------|
| 10 | 2 | 3 |
| 25 | 5 | 3 |
| 50 | 8 | 4 |
| 75 | 10 | 4 |
| 100 | 15 | 4 |
| 125 | 15 | 4 |
| 150 | 15 | 4 |
| 200 | 25 | 5 |
| 250 | 40 | 5 |
| 400 | 55 | 5 |
| 500 | 65 | 5 |
| 750 | 100 | 6 |
| 1000 | 125 | 7 |
| 2000 | 275 | 7 |
| 3000 | 400 | 8 |
| 4000 | 600 | 10 |
| 5000 | 900 | 10 |





LIMEINATOR™ DESCALERS



Always wear gloves and safety glasses when handling chemicals.

DO YOU NEED A CLEANING ACID AND A NEUTRALIZER?

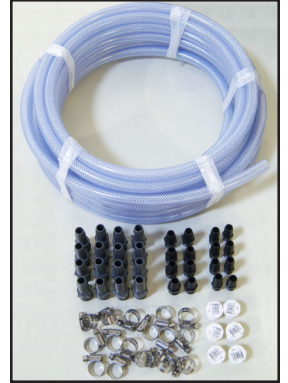
The answer is NO! PPE has researched and discovered the better safer liquid descaler that rapidly dissolves scale, lime, etc, etc 25% faster than strong acid. Just read on and you'll buy and use our **Dynamic Descaler®** every time.

Now available for Steel, Aluminum and Stainless Steel molds.



PLUMBING KIT INCLUDES:

- A) 50 ft. of #102-08 heavy transparent PVC Fiber Reinforced Fluid Hose.
- B) 16 ea. plastic fittings 1/2" N.P.T. x 1/2" dia. hose barb.
- C) 8 ea. plastic fittings 3/8" N.P.T. x 1/2" dia. hose barb.
- D) 8 ea. plastic fittings 1/4" N.P.T. x 1/2" dia. hose barb.
- E) 6 ea. 1/2" N.P.T. blank plugs.
- F) 16 ea. #HSS-6 stainless steel hose clamps.



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