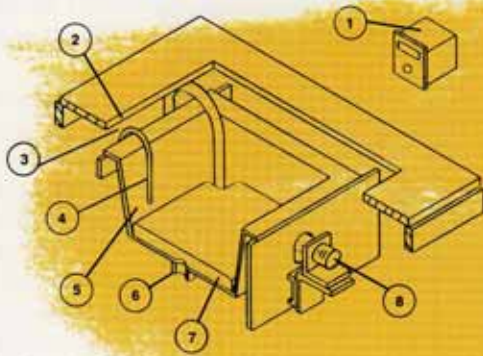


**T-921 Etch Tank—  
High  
Temperature,  
To 200°C**



1. Digital readout temperature controller with proportional control, accuracy of  $\pm 0.25\%$  of span
2. Cut out in work surface
3. Lip exhaust
4. Teflon sleeved thermocouple
5. Molded P.F.A. teflon tank
6. Drain (optional)
7. Bottom located teflon encapsulated immersion heater
8. Liquid level sensor and heater cut-off

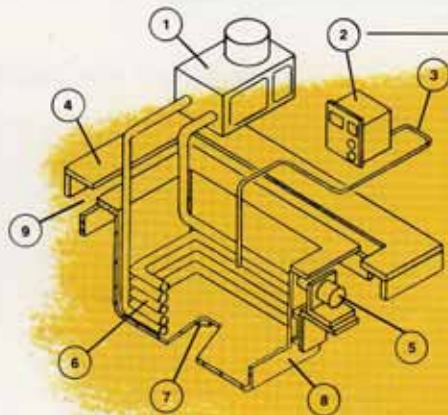
**Options:**

- Teflon encapsulated wall hugging immersion heaters where additional tank depth is required.
- Teflon wall hugging cooling coils.
- Audio visual timer for monitoring etch cycle.
- Fixed aspirator for tank drainage.
- Manual ball valve controlled bottom drain.
- Toggle switch controlled pneumatic valve operated bottom drain.
- Rear liner mounted variable speed mechanical agitation system.

- Automated transfer mechanism interfacing between etch and adjacent rinse tank, with mechanical agitation included.
- Model W-859 digital readout temperature controller with settable over-temperature heater cut-off, and audible, visible alarm.
- Model 2901 microcomputer based temperature controller and event timer, with acid resistant, membrane-type control panel.

**T-922 Etch Tank—  
Heated, To 65°C**

Similar to T-921 (above) but with polypropylene tank, fabricated with formed, cornerless bottom in standard and custom sizes.



**T-924 Etch Tank—  
Subambient,  
10°C-65°C**

1. Refrigeration unit
2. Remote control module
3. Teflon sleeved thermocouple
4. Work surface segment 1/2" thick
5. Liquid level sensor with alarm (optional)
6. Cooling coils

7. Drain (optional)
8. Fabricated from 1/4" white polypropylene with formed tank bottom
9. Lip exhaust (optional)

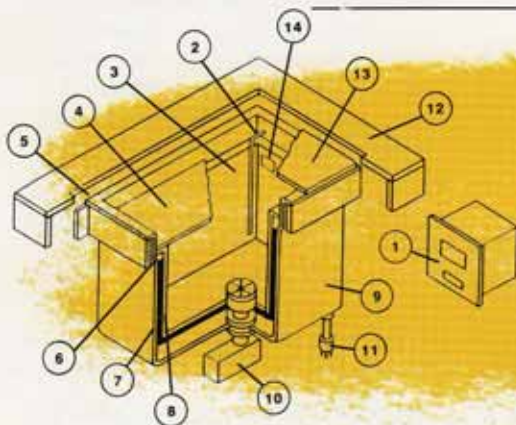
**Options**

- Lip exhaust ports in side walls.
- Manual, electric, or pneumatic valve controlled bottom drain.
- Aspirator for tank drainage.
- Liquid level sensor with alarm.

- Audio visual timer for monitoring etch cycle.
- Tank cover.
- Standard tank sized to accommodate two 5 inch diameter wafer carriers. Other tank sizes available.

**T-923 Etch Tank—  
Ambient**

Similar to T-924 (above) but without cooling coils, refrigeration unit, thermocouple and liquid level sensor.



**T-926 Etch Tank—  
Heated Quartz  
Vessel  
Modutek Q Series**

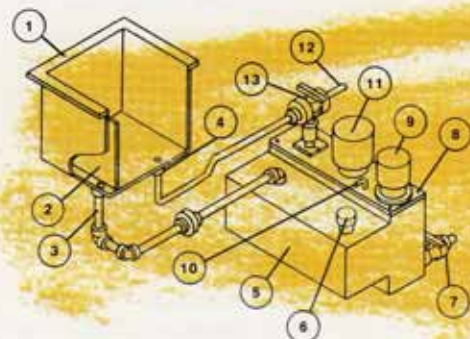
1. Digital readout temperature controller with membrane technology
2. Process thermocouple
3. Molded quartz process vessel (teflon available on QB model only)
4. PVDF process vessel cover (optional)

5. Lip exhaust
6. Viton vessel gasket
7. Insulating material
8. Grid heater
9. Formed white polypropylene vessel housing
10. Aspirator drain (optional)
11. Power harness
12. Work surface segment
13. Polypropylene vessel housing cover (optional)
14. Over-temperature thermo-

couple (mounted on exterior wall of process vessel).

**Options**

- Magnetic stirrer (Air Driven)
- Drain, Aspirator
- Process vessel cover (PVDF)
- Vessel housing cover (polypro)
- 110 VAC operation
- Teflon process vessel (QB model only)



**T-925 Acid  
Recirculating  
Filtration System**

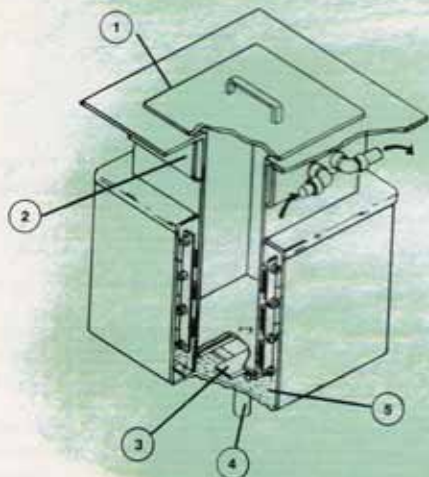
1. Process tank
2. Overflow weir
3. Tank drain
4. Inlet
5. Storage tank
6. Fill cap

7. Ball valve to drain storage tank
8. Removable cover
9. Pump
10. Vent to exhaust system
11. Filter housing
12. Storage tank drain
13. Three-way ball valve

**Features**

- 0.2 micrometer filtration at approximately 5 gpm provided by replaceable Millipore polypro filter cartridge and 1/8 hp. seal-less pump.
- Remote filtration chamber may be mounted below or at rear of station for easy servicing and increased work deck space.
- May be combined with T-924 system for precise control of acid temperature, 10°-65°C.

**T-961 Stainless Steel Tank—  
High Temperature  
To 150°C**



1. Lid with handle
2. Cooling jacket
3. 3000 watt external heaters around sides and bottom
4. Tank drain (optional)
5. Insulation around sides and bottom
6. Temperature controller digital readout

**Options**

- Teflon wall hugging cooling coils.
- Audio visual timer for monitoring etch cycle.
- Fixed aspirator for tank drainage.
- Manual ball valve controlled bottom drain.
- Toggle switch controlled

solenoid operated bottom drain.

- Rear liner mounted variable speed mechanical agitation system.
- Automated transfer mechanism interfacing between etch and adjacent rinse tank, with mechanical agitation included.
- Model W-859 digital readout temperature controller with settable over-temperature heater cut-off, and audible, visible alarm feature.
- Model 2901 microcomputer based temperature controller and event timer, with acid resistant, membrane-type control panel.

**T-960 Stainless Steel Tank—  
High Temperature  
To 150°C**

Similar to T-961 (above) except

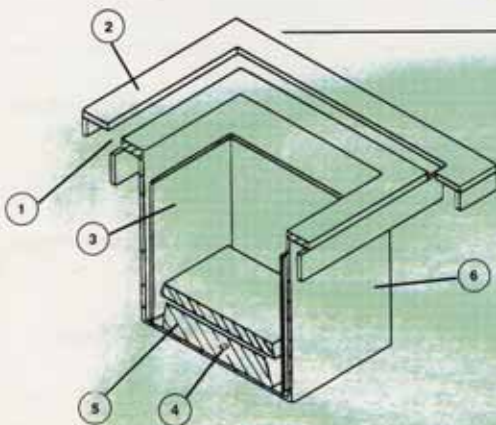
without cooling manifold.

**T-962 Stainless Steel Tank—  
High Temperature  
To 150°C**

Similar to T-960 (above) except with bottom located teflon encapsulated immersion heater instead of externally located tank wall heaters.

**T-963 Stainless Steel Tank—  
High Temperature  
To 150°C  
with Cooling  
Manifold**

Similar to T-961 (above) except with bottom located teflon encapsulated immersion heater instead of externally located tank wall heaters.



**Hot Plate Wells**

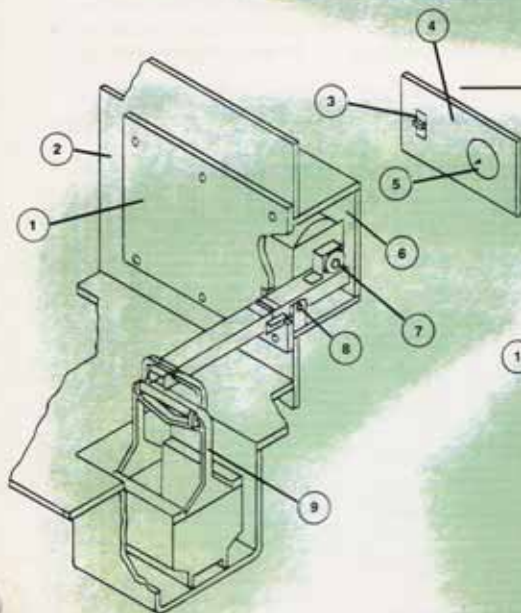
1. Lip exhaust (optional)
2. Work surface segment 1/2" thick
3. Replaceable stainless steel radiant heat baffle
4. Open bottom drain (tub units only)
5. Hot plate
6. Fabricated from 1/4" white flame retardant polypropylene

**Options**

- T-950 single Fluoroware Model 674 hot plate with remote controls. Hot plate area 10 in. x 11 in.

- T-951 single Fluoroware Model 675 hot plate with remote controls. Hot plate area 6 in. x 7 in.
- T-954 single Corning Model PC505-RC hot plate with remote controls. Hot plate area 10 in. x 10 in.
- T-955 single Corning Model PC351-RC hot plate with stirrer and remote controls. Hot plate area 5 in. x 7 in.
- T-958 single Corning Model PC520 hot plate with stirrer and integral controls. Hot plate area 10 in. x 10 in.
- T-952 double Fluoroware Model 674 hot plate with remote controls. Hot plate area 10 in. x 11 in.

- T-953 double Fluoroware Model 675 hot plate with remote controls. Hot plate area 6 in. x 7 in.
- T-956 double Corning Model PC505-RC hot plate with remote controls. Hot plate area 10 in. x 10 in.
- T-957 double Corning Model PC351-RC hot plate with stirrer and remote controls. Hot plate area 5 in. x 7 in.
- T-959 double Corning Model PC520 hot plate with stirrer and integral controls. Hot plate area 10 in. x 10 in.



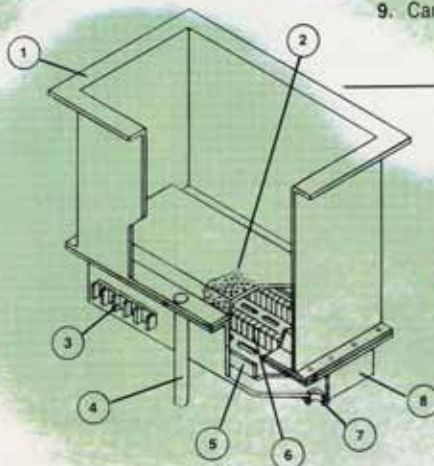
**T-933 Wall Mounted  
Variable Speed  
Mechanical Agitation**

1. Removable front cover
2. Rear wall of station

3. On-off switch
4. Electrical panel
5. Speed control
6. Motor housing
7. Cam
8. Pivot point
9. Carrier handle adapter

**Features**

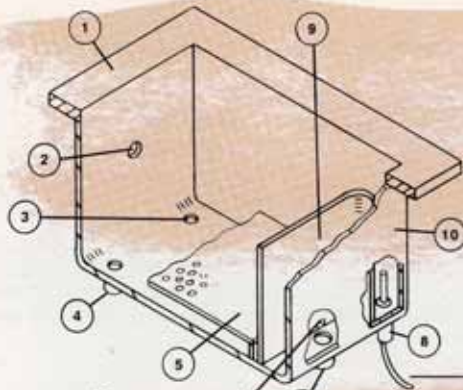
- 0-83 rpm, controlled from instrument panel.
- Approximate 1" stroke.
- Hinged arm for easy tank access in polypropylene or stainless steel construction.
- Simple, positive loading arrangement.



**T-991 Heated  
Nitrogen  
Drying Tank**

1. Fabricated from 16 gauge 316L stainless steel

2. Perforated shelf
3. Terminal board
4. Drain pipe (typical other side)
5. Vent plate
6. Heaters
7. Nitrogen inlet
8. Removable heater housing



### T-970 Quench Tank

1. Work surface segment 1/2" thick
2. Low flow DI reclaim port (optional)
3. Nitrogen inlet for agitation (optional)
4. DI water inlet
5. Perforated stand-off shelf

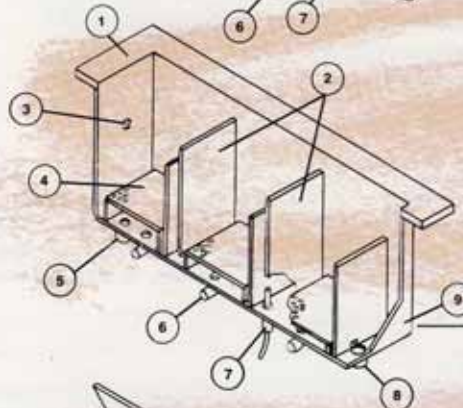
6. Weep hole for compartment drainage (optional)
7. Tank drain
8. Resistivity probe (optional)
9. Overflow weir
10. Fabricated from 1/4" white polypropylene with formed tank bottom

#### Options

- Nitrogen agitation with on/off

toggle switch control and PVC needle valve for flow adjustment.

- Nitrogen burst agitation with dual timer solenoid control and PVC needle valve for flow adjustment.
- Pneumatic quick dump feature with on/off toggle switch control.
- Timer controlled DI water inlet.
- Resistivity monitor with probe.



### T-980 Cascade Rinse Tank

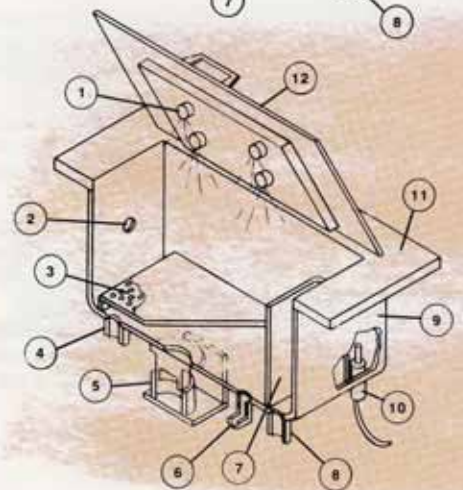
1. Work surface segment 1/2" thick
2. Double weir configuration
3. Low flow DI reclaim port (optional)
4. Perforated stand-off shelf
5. DI water inlet fast/slow flow

6. Nitrogen inlet for agitation typical (3) compartments
7. Resistivity probe (optional)
8. Overflow drain
9. Fabricated from 1/4" white polypropylene with formed tank bottom

#### Options

- Resistivity monitor with probe.

- Auto recycle controlled by resistivity monitor.
- Nitrogen agitation with on/off toggle switch control and PVC needle valve for flow adjustment.
- Nitrogen burst agitation with on/off toggle switch control, PVC needle valve for flow adjustment, and dual timer for on/off cycle adjustment.



### T-985 Multi-Wash System, with Transparent Lid

1. Spray nozzles
2. Low flow DI reclaim port (optional)
3. Perforated stand-off shelf
4. DI water inlet fast/slow flow
5. Pneumatic quick dump valve
6. Nitrogen inlet for agitation
7. Overflow weir
8. Tank drain
9. Fabricated from 1/4" white polypropylene construction with formed tank bottom
10. Resistivity probe (optional)
11. Work surface segment 1/2" thick
12. Hinged lid with handle

12. Hinged lid with handle

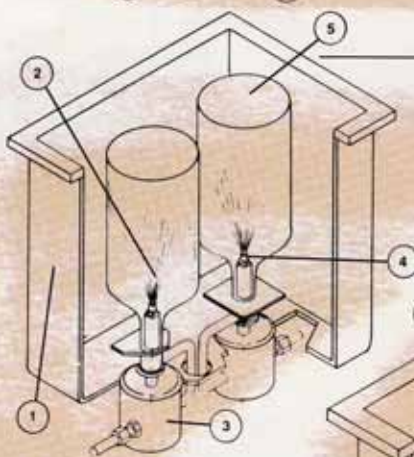
A single-compartment all-polypropylene tank with easily adjustable electrical and plumbing controls, which automatically quenches and washes two loaded wafer carriers. The system provides stand-by low flow DI water, timed high flow DI water wash with cascade overflow and N<sub>2</sub> agitation, quick dump of the contaminated tank water, spray rinse, tank fill, and cycle repeat. Each of the six parameters is adjustable over a broad range.

- Resistivity monitor with probe.

- Auto recycle resistivity probed control.
- Dual dump valve and DI reclaim feature.
- Low flow DI reclaim port.
- Standard logic or Model #1201 microprocessor control with acid resistant membrane-type control panel.

### T-987 Multi-Wash System, with Open Top

Similar to T-985 (above) except that spray nozzles are located obliquely on formed sides and top is open to accommodate automated wafer transfer systems.

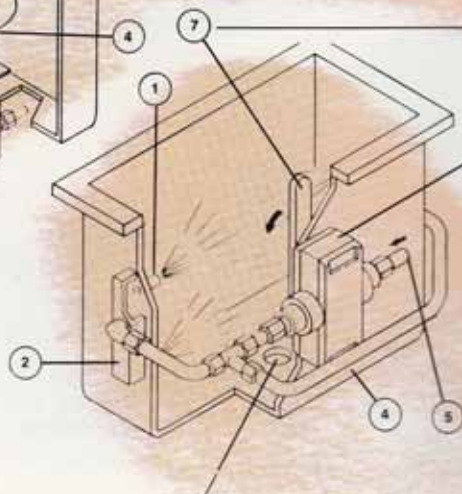


### T-982 Bottle Washer

1. Fabricated from 1/4" white polypropylene with formed tank bottom

2. Actuate sprays by pressing bottles downward
3. Valves
4. Spray 3/4 GPM @ 35 PSI
5. Bottle

Inside dimensions:  
8" x 16" x 15" Deep  
Depth including plumbing: 17"

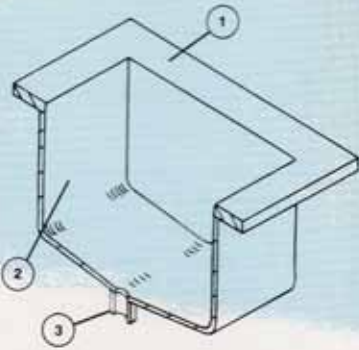


### T-940 Glove Rinse Tank

1. Sprays
2. Manifold (Typ. other end)
3. Drain Hole
4. Fabricated from 1/4" white polypropylene with formed tank bottom
5. Water supply inlet

6. Ball valve
7. Valve handle

Inside dimensions:  
5 1/2" x 10" x 10" Deep  
Outside dimensions:  
8" x 16" including plumbing



### T-995 General Purpose Polypro Sink

1. Work surface segment 1/2" thick
2. Fabricated from 1/4" white polypropylene. Formed tank bottom sloped to center drain, insures easy cleaning and complete drainage.
3. 1" drain

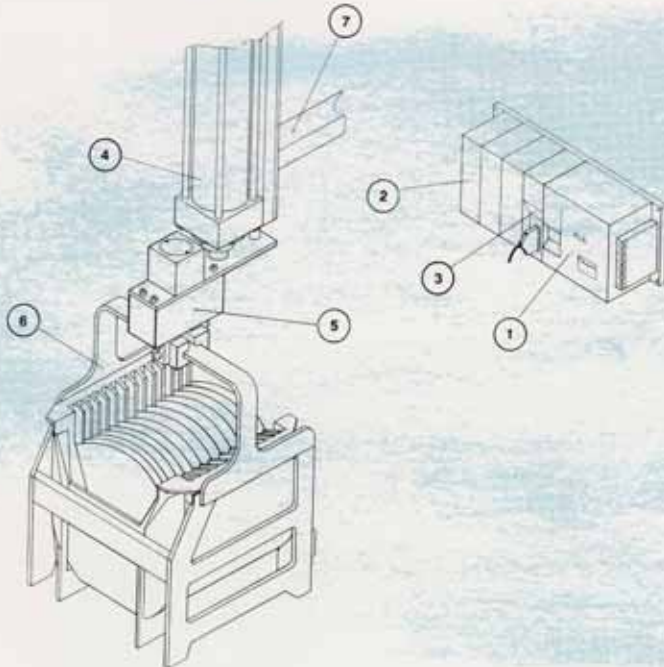
### Options

- Open drain to sub tub area or plumbed to rear of unit.
- Ball valve controlled drainage.
- Standpipe drains to create liquid level heights in the sink area.
- Lip exhaust ports for efficient fume capture.
- Sink size: Recommended sizes 12 x 18 x 8 in. deep, and 18 x

24 x 12 in. deep. Custom sizes available on request.

### T-996 General Purpose Stainless Steel Sink

Similar to T-995 (above) except fabricated from 16 ga. 316L stainless steel.



### T-937 Programmable Pneumatic Transfer System

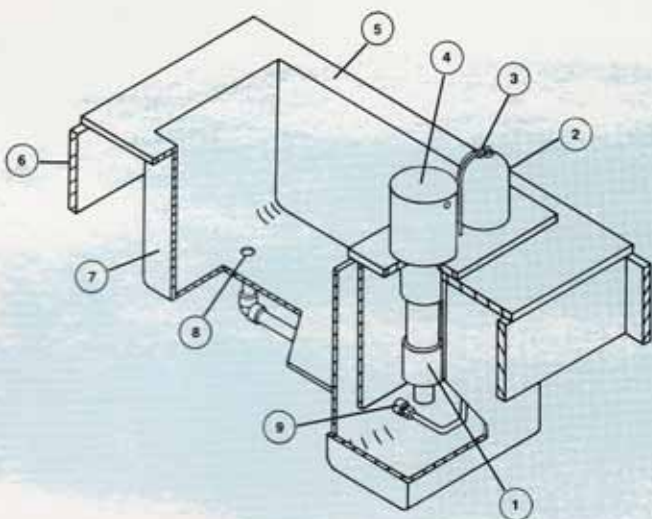
1. Programmable Logic Controller (PLC)
2. Input & Output Modules
3. Host Link Module For PC Interface
4. Pneumatic Cylinder
5. Pneumatic Gripper Assembly
6. Basket Carrier
7. Transfer Arm Assembly

The T-937 Transfer System will automatically transport up to two 6 inch diameter or one 8 inch diameter wafer carriers from a load position to a process tank, after a preset time transfer to the next tank and returns for the next load of wafers, thus keeping all positions in the process full and cutting down on time significantly.

Manual interface is required at the load and unload positions only. One arm with basket grippers can accommodate a variety of optional process tanks.

The important advantages of the T-937 system include:

- **Improved reproducibility**—of the etch and wash process.
- **Utmost in operator safety**—deeply recessed tanks with etching located to the station rear.
- **Reduced labor costs**—frees up operator for other duties.
- **System flexibility**—can be quickly set up or changed to fit the customer's process requirements.
- **System reliability** - All exposed and moving parts fabricated of non-corrosive materials or plastic coated.



### T-927 Acid Recirculation and Filtration System

1. Pump
2. Filter Housing

3. Filter Vent
4. Pump Purge Cover
5. Work Deck Segment
6. Support Structure
7. Process Tank
8. DI Inlet
9. DI Supply

A continuous recirculation and filtration for removal of insoluble particles by 0.2 micrometer membrane filtration. The polypro sump tank contains both the wound polypro filter and the CPVC seal-less pump #717-00-C-05 and is located at the rear of the etch tank that it services.

The important advantages of the T-927 system:

- Significant reduction in particulate concentration leads to higher product yields.

- Extended useful life of process liquids produces cost savings in acid use and acid disposal costs.
- The entire system is located on the work deck thus reducing the volume of fluid required and enhancing ease of operation and maintenance.

### Options

- Heater may be added to process tank as well as nitrogen agitation.
- Systems may be fabricated of Polypro, PVDF, or PVC.