

ALSI/Palin Consolidation System



The ALSI/Palin Consolidation System offers cost effective, automated and continuous paint sludge collection, consolidation, and removal. ALSI equipment designs are compatible with all suspension/flotation chemical programs.

ALSI design objectives are to optimize scrubber efficiency, reduce disposal costs, and minimize booth downtime for cleaning.

ALSI/Palin system designs have been online since the early 1980's. Our track record includes hundreds of installations of all sizes and complexities.

From central systems to satellite booths, ALSI's high performance sludge processing systems are suitable for any type of wet booth design, single or multiple. Paint booth recirculating water is kept clean and make up water is minimized.



ALSI/Palin Consolidators with Dewatering Bag, Access Platform, & Autoweir (right foreground)

ALSI Performance:

- Removal efficiency to 85%
- Dewatering to 60% by Weight
- Minimal Operator Intervention

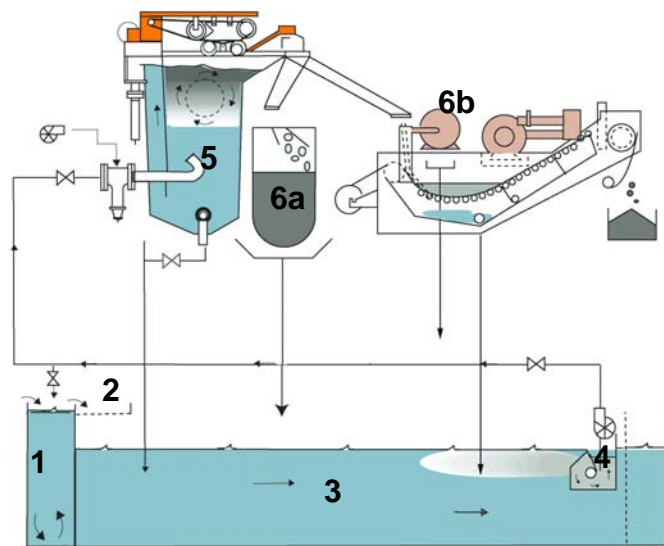
ALSI Capabilities:

- Total System Design
- Equipment Selection
- Design and Build Turnkey Systems
- Customized for Your Application
- Startup, Training, and Service

System Design Review

ALSI examines the entire system; whether totally new or retrofit. We analyze the chemical program, solids loading, and hydraulics to provide the engineered solution for sludge removal.

- (1) **Hydraulics Review:** In-depth study of system flow characteristics and the impact on equipment sizing.
- (2) **Roughing Screen:** Simple, cleanable, large debris removal.
- (3) **Flotation Zone:** Solids loading and mass balance are compared to flotation chemical efficiency.
- (4) **Autoweir:** Patented, self-adjusting, solids concentrator is utilized to maximize tank/pit efficiency and minimize consolidator sizing.
- (5) **Consolidator:** Palin™, vertical separation module assists chemical flotation programs. Automatic, self-cleaning design incorporates durable, reliable components.
- (6) **Sludge Dewatering:**
 - (a) Bag Systems
 - (b) CheckMark™ Dryers: gravity, vacuum and heat of compression systems increase dewatering efficiency, facilitating solids removal and minimizing volume.



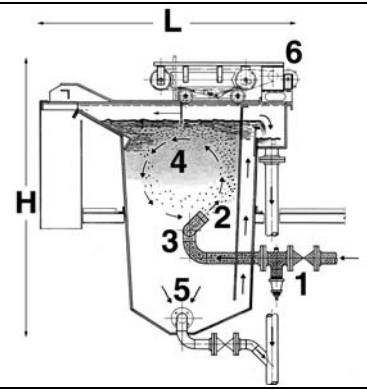
ALSI's Complete System Design Capability

ALSI/ Palin Specifications

Model	032E**	048	054	066-08	066-10	084-10
Top Width*	43"	58"	63"	80"	80"	98"
Length (L)	77"	90"	131"	170"	170"	184"
Height (H)	84"	97"	100"	126"	152"	165"
Inlet	3"FLG	4"FLG	4"FLG	6"FLG	8"FLG	10"FLG
Drain	3"FLG	3"FLG	3"FLG	6"FLG	6"FLG	6"FLG
Overflow	3"FLG	4"FLG	6"FLG	8"FLG	12"FLG	14"-16"FLG
Flow Rate (GPM)	40-80	125-175	250-400	600-800	1000-1500	1400-1600

*Not Shown

**Includes Support Stand



OPERATION

ALSI/Palin Consolidators float, concentrate, and then skim solids from the liquid stream. The ALSI/Palin Consolidator provides the retention time necessary for effective solids/liquid separation.

ALSI/Palin's patented four-stage process utilizes the most effective consolidation technologies and solids separation designs.

STAGE 1 (CHEMICAL AERATION) (1)

A side stream pump brings the liquid flow to and through the chemical/aeration chamber. Here chemistry/polymer and aeration are fed into the liquid stream.

STAGE 2 (WASTE CONSOLIDATION) (2)

The flow distribution module provides retention time to blend suspended solids with treatment chemistries. Patented tidal flow pattern washes floatable solids towards the surface and discharge beach.

STAGE 3 (LIQUID/SOLID SEPARATION) (3)

Vertical separation and tidal flow induce solid flotation by creating two distinct liquid separation zones.

Consolidation Zone: (4)

The solid/chemistry/aeration mix reaches flotation density. Vertical separation brings solids to the surface. With minimal turbulence, the tidal flow pushes the solids blanket toward the discharge beach.

ALSI/Palin uses gravity to drop out non-separated solids. These solids are then re-circulated through the bottom liquid return port.

With a sloped wall tank design, ALSI/Palin Consolidators do not allow dead spots for solid build up, minimizing costly tank clean out.

Clarification Zone: (5)

Since the liquid stream is directed upward, a quiet turbulence-free Clarified Zone forms at the bottom of the Consolidator. The lack of turbulence ensures that floating solids are not re-entrained into the returned liquid flow.

STAGE 4 (SOLID DISPOSAL) (6)

An air or electric driven scraper assembly automatically removes the floating solids blanket from the surface of the liquid. The solids can be discharged to a container for convenient disposal or transferred to a secondary dewatering system.

The Consolidator replaces conventional filters. No filter media is required, significantly reducing operating costs.

ALSI/Palin Consolidators achieve high liquid/solid separation efficiency with minimal upkeep and maintenance. Simple in design, ALSI/Palin Consolidators provide a reliable process liquid clean-up for suspended solid separation applications.

INSTALLATION

The ALSI/Palin Consolidator is compatible with all suspension/flotation chemical programs. The Consolidator's operating efficiencies allow for side stream treatment keeping pump size small and piping modifications simple.

Floor space requirements are minimal for ALSI/Palin Consolidators (refer to ALSI/Palin Specifications table).



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ALSI Liquids Division Products:

- Automatic Backflush Filter
- Consolidator
- Gravity Filter
- Vacuum Filter
- Phosphate Pressure Filter
- Membrane Filtration
- Dewatering Bags & Media
- Autoweir (Patented)
- Heat of Compression
- Hydrocyclone
- Paint Sludge
- Reverse Osmosis
- Watertest Booth