



CheckMark[®] Paint Sludge Dryers



Innovations • Solutions

System Performance

The CheckMark® Hybrid Design Dewatering Filter offers cost effective, continuous paint sludge collection, consolidation, and dewatering. ALSI equipment designs are compatible with all suspension/flotation chemical programs.

ALSI/CheckMark® Options

- Owner Specified Control System
- Media Separator
- Stainless Steel Wetted Surface Construction
- Auxiliary Heat: Infrared, Stem, Hot Water Coil
- Gravity, Single and Dual Vacuum Designs Available

Other ALSI Liquid Products

- AutoWeir (Patented)
- Sludge Consolidator (Patented)
- Gravity and Vacuum Filters
- Membrane Filtration
- Phosphate Filtration
- Hydrocyclones/Tore Technology
- Dewatering Bags and Media

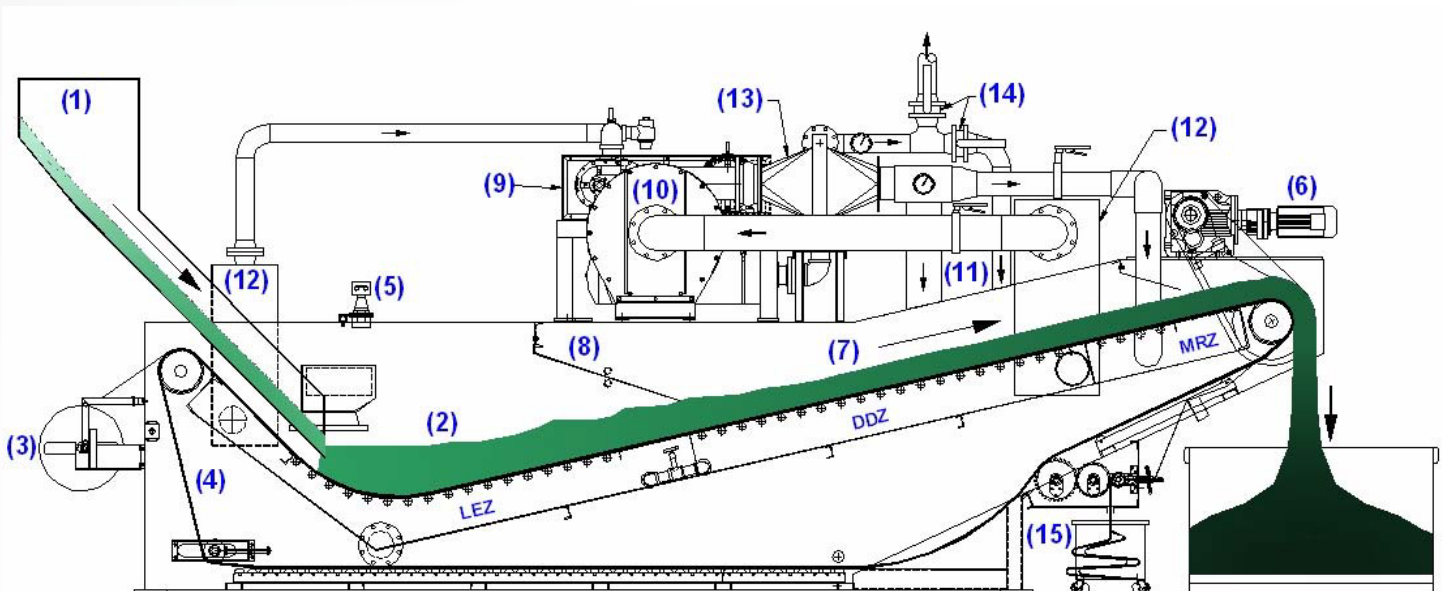
Objectives

- Optimize scrubber efficiency
- Reduce disposal costs
- Provide sludge ready for recycling/disposal
- Minimize booth downtime for cleaning

ALSI CheckMark® systems have been online since the early 1980's. Our track record includes installations of all sizes and complexity.

Features and Benefits

- Removal efficiency to 90%
- Dewatering to 70% plus solids by weight
- Energy recovered heat source up to 140°F maintains safe, controlled drying environment
- Automatic operation with minimal operator intervention



- **Liquid Extraction Zone (LEZ)** allows for variable sludge feed rates and adequate residence time for solids coagulation and the vacuum extraction of free water.
- **Dry Down Zone (DDZ)** Enhances water removal utilizing warm air flow down and across the sludge cake, producing dewatering efficiencies as high as 70% plus solids by weight.
- **Media Release Zone (MRZ)** Aerates the filter media from below, drying the sludge and allowing release and separate disposal of sludge and media.

How it works

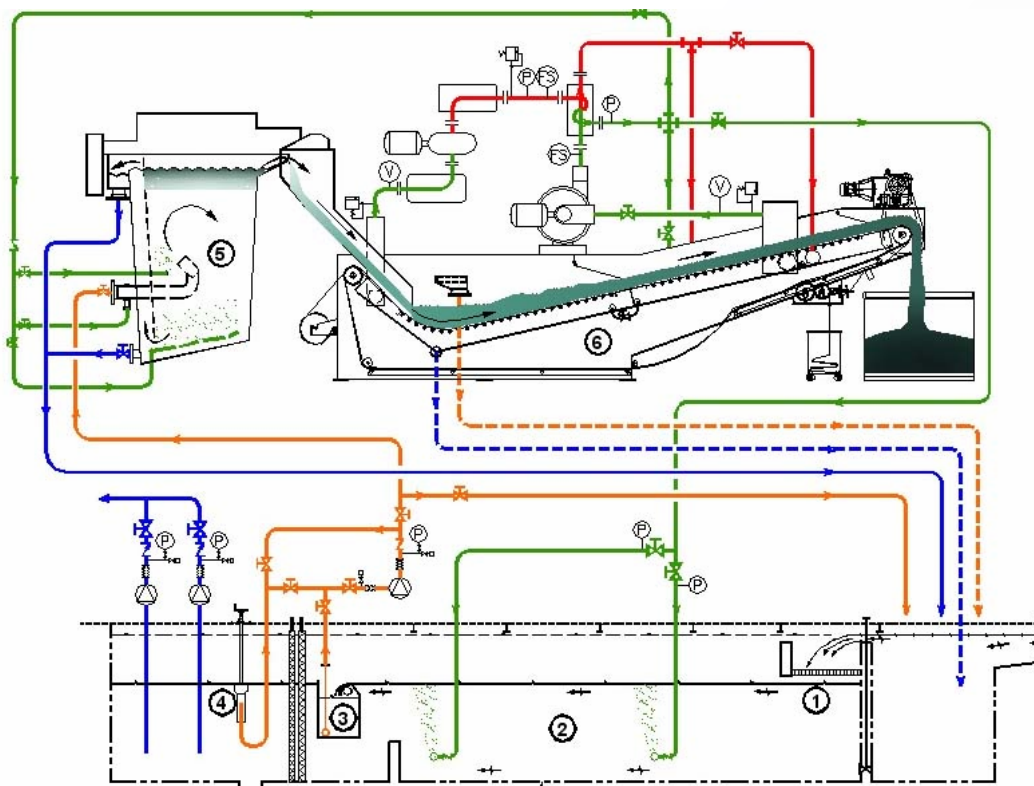
Consolidated paint sludge enters the LEZ (1) and continues to coagulate via polymer chemistry (2) on top of the porous replaceable media (3). The media is supported by a permanent flat wire belt (4) and unique side seal to contain paint sludge and minimize maintenance. As sludge cake builds to optimum depth and density the automatic level control (5) initiates the automatic belt/media index cycle.

The media drive motor (6) is energized and as clean media is pulled into the system, the media with drying sludge rides up onto the heated drying ramp (7) into the DDZ. The adjustable doctor blade (8) sets the depth and spreads the sludge cake, assuring even heated vacuum air drying. The unique dewatering drying force for the ALSI CheckMark® Dewatering Filter is driven by a low pressure compressor (9) extracting liquid from the LEZ. The inlet side of the compressor is protected by a stainless steel mist eliminator (12).

The high temperature/low volume air flow (11) from the low pressure compressor (9) transfers heat to the high volume/low pressure vacuum producer (10) via a special heat exchanger (13). Constant drying temperature is controlled through two valves (14). By controlling the discharge pressure of the low pressure compressor a constant temperature is maintained for sludge drying. The two valves (14) allow excess air to be utilized for recirculation tank/pit aeration or consolidator aerations as the overall system demands. Optional Media Separation System (15) separates media from sludge for separate disposal.

System Design With CheckMark® Hybrid Design Dewatering Filter

ALSI engineers examine the entire system, whether new or retrofit. We analyze the chemical program, solids loading, and hydraulics to provide an economically engineered solution for sludge removal suited for your plant requirements.



- 1. Roughing Screen:** Simple, cleanable, large debris removal.
- 2. Flotation Zone:** Solids loading and mass balance are compared to flotation chemical efficiency.
- 3. Auto-Weir:** Patented, self adjusting, solids concentrator is utilized to maximize tank/pit efficiency and minimize consolidator size.
- 4. Suction T:** Allows semi-automatic solids removal for the hard to get at pump well area when vertical pumps are utilized.
- 5. Consolidator:** Patented, vertical separation module assists

chemical flotation programs. Automatic, self-cleaning design incorporates durable, reliable components. Aeration can be provided from the CheckMark® Hybrid Design Heat of Compression Dewatering Filter.

- 6. ALSI CheckMark® Hybrid Design - Heat of Compression Dewatering Filter:** Produces dewatered sludge without costly electrical, gas or oil heat source.

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