



BILL SPITZER & ASSOCIATES

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Automatic Oil Mist System for the Petrochemical Industry

Location: Beaumont, TX

Date: June 2018

Oil Mist System: Alemite - SKF

Application: Petrochemical - CHD² Unit

Client: Major publicly traded company that explores and produces oil and gas globally. Additionally, the organization works through upstream, chemical, and downstream business units. The customer has over 20,000 operated wells, 70,000 employees, and 20 billion oil-equivalent barrels in reserves.

Key Outcomes:

- Developed a procedure to remove and replace an existing oil mist cabinet while the unit and equipment remained in operation
- Enabled the ability to increase reliability and reduce costs associated with shutting down production or the unit
- Replaced a troublesome PLC controlled unit with a new Alemite electro-mechanical system with proved more efficient, reliable, and reduced service-related costs.



Bill Spitzer & Associates delivered a creative way to simplify equipment and adapt to the facility obstacles to reduce \$17,000 in annual costs and maintain productivity

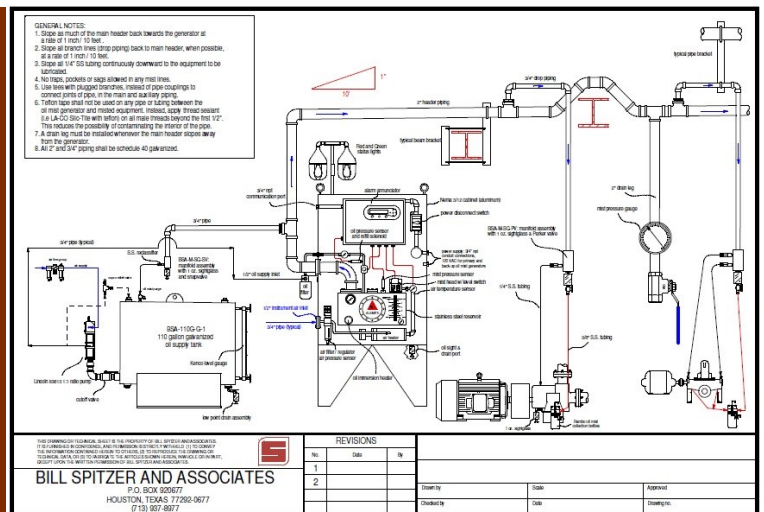
Overview:

Oil mist lubrication began in the United States around the early 1900s. Originally, it was used in the steel industry and made its way into the refining, petrochemical, and paper markets. Our client was dealing with computer atomization and redundant sensor issues, which had been trending since the 1990s for the oil mist market. Oil mist is a straightforward process made by combining instrument air, or nitrogen, with oil through a venturi nozzle. The system will make mist while these three components are present and operating properly. Some reoccurring settings and ancillary component problems with the customer were air heater, oil heater, alarms, and automatic oil refill that has a high and low setting. Our client wanted to eliminate the overly technical alarming capabilities that signaled regulated air flow, mist density, and oil refill speed. For this circumstance, the equipment had antiquated components with parts that the manufacturer no longer provided. Moreover, the constant triggering of alarms was a nuisance and caused employees to ignore the constant signals from faulty components.

Site Facility Situation:

Refinery coker converts residual crude oil from distillation units into automotive fuel feedstocks and petroleum coke, which may be substituted for coal. Hydrotreaters eliminates hydrogen sulfide from automotive fuels and feedstocks to comply with USA environmental laws. The sulfur recovery units pull sulfur from hydrogen sulfide taken away by the hydrotreaters.

Bill Spitzer & Associates (BSA) can create customized solutions to fit the clients needs, obstacles, or specifications for the entire oil mist system. The customized approach enables BSA to provide a turnkey solution for design, installation, commission, equipment reliability, and preventative maintenance.



Bill Spitzer & Associates Oil Mist System & Service: Diagnosis, System Design, Installation, Commissioning, and Preventative Maintenance



- Reviewal of application, measurements, and on-site walkdown of facility
- Analysis of proper oil mist console, bulk oil storage tanks, piping, reclassifiers and oil mist collection
- Field matter experts install oil mist system in the field
 - * Oil mist generator, supply header, drop lines, feed lines, connections, drain lines, collection container, and drain legs
- Commissioning, start-up, and training of facility personnel on system to avoid minor call out fees
- Overview of preventative maintenance plan that fits the needs of the system and customer

Recommendations and Implementations:

- Verified and measured the sizing of the new cabinet by performing a walkdown of the unit and reviewing all bearing sizes
- Reviewed and analyzed piping diagrams for new equipment system
- Installed the Alemite EM oil mist cabinet in close proximity to the existing operating unit
- Pre-Fabricated and modularized piping for a seamless transfer
- Commissioned the new system
- Confirmed operational success and performance
- Provided new system orientation and training for all operations and preventative maintenance personnel
 - * Included walkdown details, troubleshooting scenarios, alarm notification instructions, plot plans, & field notes
- Proposed stocked parts, preventative maintenance plans, and lubrication rates



Bill Spitzer & Associates EM Oil Mist Equipment:

- Customizable & 6 Standard Sizes
- NEMA 4x SS Enclosure
- Filter/Regulator with Pressure Gauge
- 5 gal SS Oil Reservoir
- Oil Level Sight-Glass
- Oil Heater & Thermostat
- Oil Temperature Gauge
- Oil Level Float Switch
- Automatic Oil Refill Capability
- Hi-Lo Mist Pressure Switch
- Mist Pressure Gauge
- Mist Pressure Alarm
- LED Status Alarm Lights
- LED System Parameter Indicator Lights
- Air Heater
- Backup Mist Generator
- Cabinet Cooling System
- Bulk Oil Storage Tank
- Oil Collection Containers
- Pure & Purge Mist Kits

Results:

- No loss in operations or production from the ease of installation
 - * The CHD² Unit can effect the hydrogen process, which can cost over \$1 million in unproductivity and downtime expenses
- Highly experienced service department was able to install the cabinet in under 2 hours
- Elimination of nuisance and frequent alarms that were plaguing the unit and operations
- Trained personnel on the new oil mist system, which reduced expenses associated with simple service repairs, downtime, expenses, and maintenance calls
 - * Estimated \$17,000 annual cost decrease from less call outs
- Standardized the control panel for easy access



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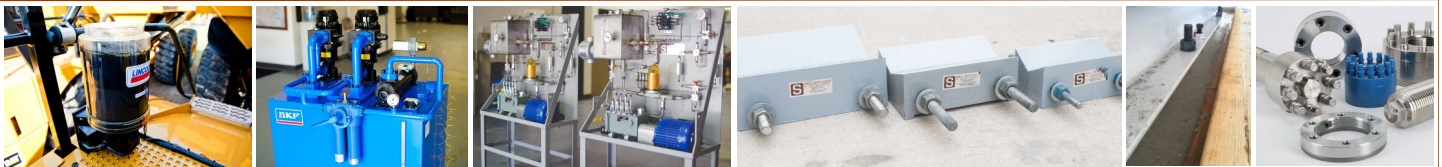
Odessa, TX (817) 456-7417



We exist to take care of customers

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CORE PRODUCT PARTNERS:



Our Story

Bill Spitzer and Associates, Inc. (BSA) was founded in 1978 by Bill Spitzer, Shirley Spitzer, and Jim Mosebrook with a primary focus on servicing reciprocating compression equipment used in the pipeline, oil and gas, petrochemical, and refining markets. Lincoln Lubrication Systems, ITW foundation products (Previously Philadelphia Resins), and Spitzer Enterprises air filtration systems were the primary product lines. The addition of Alemite Oil Mist systems, Superbolt technologies, specialty ready mix concrete designs, industrial coatings, and anchor

bolt products created opportunities to expand into a wider variety of new markets: food and beverage, heavy and light manufacturing, construction, over the road equipment, liquified natural gas (LNG), oil well servicing equipment, pulp and paper, power generation, railways, and many more. We continue to support these markets with an evolving portfolio of products and services.

Currently, BSA still employs a small business mindset that started back in 1978; however, BSA has methodically grown and integrated competitive advantages, differentiation, modernization, and technological advancements. Connor Spitzer, 3rd generation, commenced his leadership in 2014 to merge an "old school" mentality with an improved focus on continuous process improvement and strategic planning methods. All of these adaptations are performed with one goal in mind, ensuring customers receive the best possible service and support found everyday.

*We proudly serve NM, TX,
LA, MS, AL, GA, SC, and FL*