

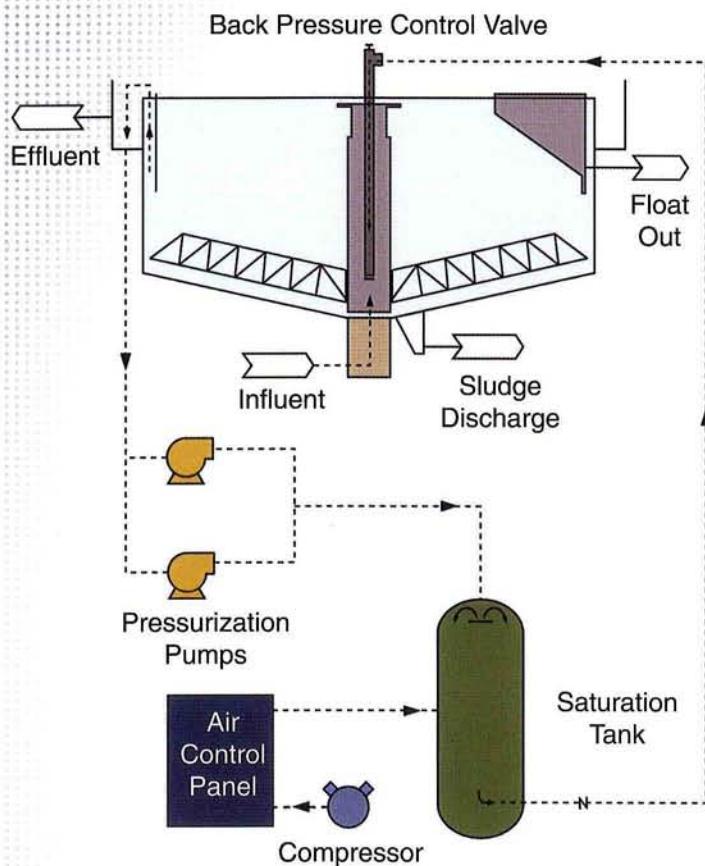
Dissolved Air Flotation
Dissolved Nitrogen Flotation
Thickeners and Clarifiers



WesTECH

Understanding the Process

Process Diagram



Process Design Basics

WesTech builds a complete line of Dissolved Air Flotation (DAF) and Dissolved Nitrogen Flotation (DNF) equipment for both municipal and industrial applications. The equipment incorporates many superior designs, both mechanical and operational.

Dissolved Air/Nitrogen Flotation is used in applications where the specific gravity of the solids or contaminants is close to or less than 1.0.

Dissolved air or nitrogen provides the driving force for separation. The gas is dissolved into a liquid (water) under pressure in a specially designed saturation tank. The saturated liquid flows under pressure to the mechanism. The pressure is released by the back pressure control valve near the influent. The sudden release of pressure causes the gas to come out of solution and form microscopic bubbles. These microscopic bubbles adhere to the incoming solids and form a buoyant blanket which rises to the surface for removal by mechanical means.

The two main components of Dissolved Air/Nitrogen Flotation are the flotation mechanism and the pressurization system. The pressurization system consists of pressurization pump(s), saturation tank, air/nitrogen compressor, air/nitrogen control panel, back pressure control valve, and instrumentation.



Pressurization system with saturation tank, compressor, air control panel, and pumps

Processes:

- Storm Water
- Water Clarification
- Activated Sludge Thickening
- Algae Separation
- Oil and Grease Removal

Industrial Applications:

- Refineries
- Food Processing
- Chemical Processing
- Water Treatment
- Laundry
- Power Plants
- Pulp and Paper

Complete Project Services



Turn-Key Services

WesTech offers complete turn-key services including design and installation. Our technical staff can aid in solving many of the problems encountered in today's sophisticated and automated flow sheets. WesTech uses the latest in computer-aided design to ensure quality while drawing on the extensive experience of its engineering staff to produce superior equipment. Complete turn-key support can be provided in the following areas:

- Civil and Mechanical Engineering Design
- Process Analysis and Support
- Instrumentation Design and Supply
- Electrical Panels and Support
- Tankage, Erection, and Installation Service
- Start-up and Optimization

Laboratory Services

WesTech offers complete laboratory testing facilities to assist in your project planning. WesTech's laboratory technicians are specialists in filtration, sedimentation, and flotation. Careful testing and analysis of your sample can provide the answers to your most difficult process problems, helping to establish design parameters and size equipment based on bench scale testing results. WesTech bench scale units are also available for rental or purchase for use at your testing facility.



Start-Up Services

WesTech provides complete technical and performance start-up services from installation assistance through plant operator training. WesTech field engineers and technicians bring process knowledge, installation experience, and training expertise to your project. WesTech technical service can reduce your overall installation expense, save on your annual maintenance costs, and help you achieve optimum performance from your quality process equipment.

Experience and Process Knowledge



Customized Applications

Using customer specifications, standard design methods, and computer software for sizing calculations, WesTech customizes each project to the specific application. Cost competitive designs and proven results ensure that your process needs are fully considered in the design of each system.

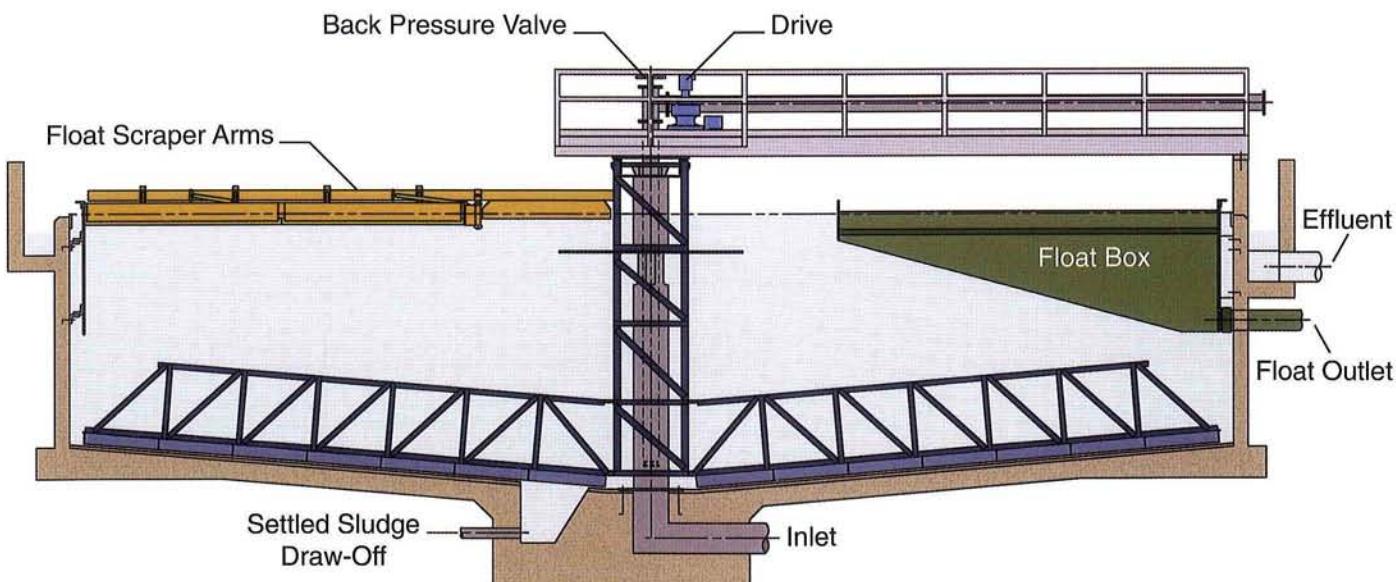
Circular Design

Circular units are designed to evenly distribute flow and effectively remove the float from the surface. The units may be provided with two support configuration options: column supported or bridge supported. Circular units are provided from 4 ft. to 80 ft. in diameter. Rake blades transport any settled solids to the center for removal. Properly spaced and sized skimmers, along with properly sized float boxes, remove floated solids in an efficient and effective manner. Skimmers and wipers can be constructed from a variety of materials compatible with your process. Optional fiberglass, aluminum or steel covers with seals can be provided to contain odors and fugitive emissions to meet NESHAP standards.

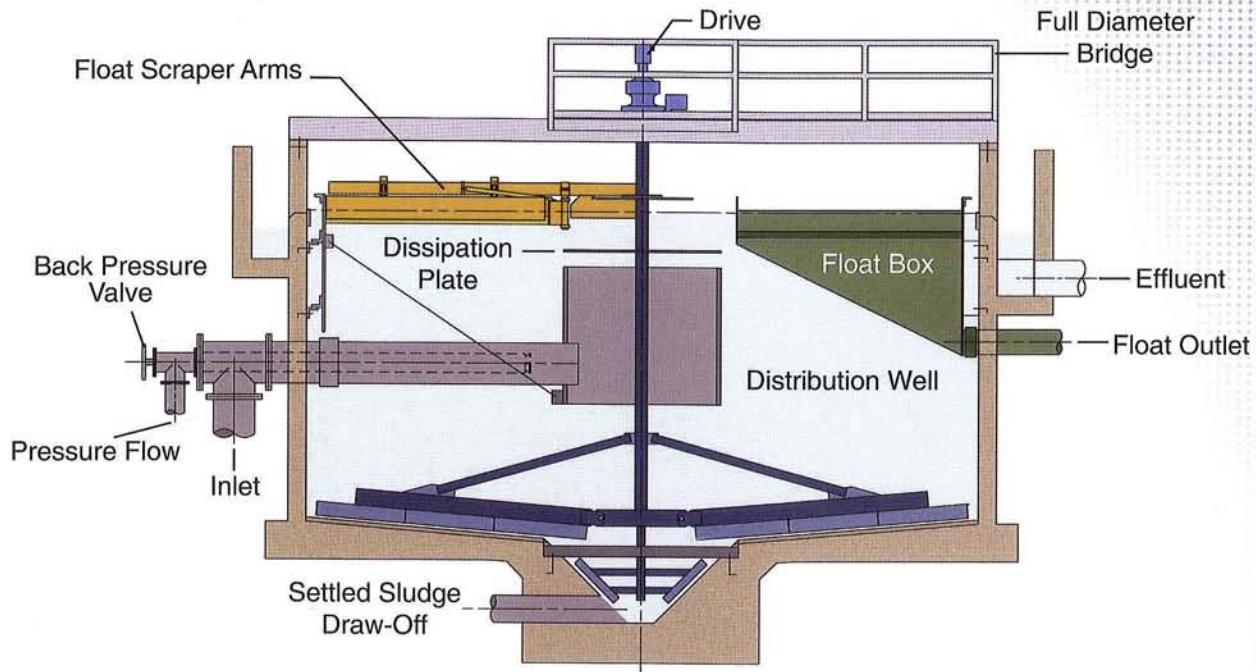


Column Supported Units

For large diameter tanks, a center support column with a heavy duty WesTech cage drive unit is used. The bridge spans from the tank wall to the center. Pressurized flow is introduced near the inlet at the tank bottom, where it mixes intimately with the incoming flow.



Flexibility in Design



Bridge Supported Units

The influent can be designed to enter either on the side or from the tank bottom. The pressurized flow enters from the side or top, dependent on the feed. The released gas contacts the influent and pushes it upward as it enters the distribution well. The largest bridge supported units are usually 50 ft. in diameter. Bridge supported units are also available up to 12 ft. in diameter, fully skid-mounted and assembled with a complete pressurization system and accessories.



Rectangular Units

Rectangular DAF units are available up to 20 ft. wide by 120 ft. long. Stainless steel or non-metallic chain and components accommodate the most corrosive environments. Skimmers and squeegees can also meet your needs with a wide range of materials to choose from. Optional covers can be provided. Space-saving options for restricted job site areas include skid-mounted, shop-assembled units with tank sizes up to 12 ft. wide by 70 ft. long.



Pilot Units

Six foot dia. skid-mounted pilot units are available for rental or sale in order to test various process scenarios. The pilot units have two (2) chemical feed systems; coagulation and flocculation tanks; influent and pressurization pump; air compressor; air, influent, and recycle flow meters; saturation tank; DAF tank and mechanism; and are completely factory wired with all electrical controls, ready for use.



Founded in 1973, WesTech designs, engineers, and supplies water, wastewater, and process equipment for municipal and industrial customers around the world. From headworks to tertiary treatment, from petrochemical process to water reclamation and drinking water,

from small communities to large cities and factories, WesTech offers a wide array of custom process solutions for any application. Call today or visit us online to learn how our process equipment and experience can benefit your plant.

...Call today to discuss your process equipment needs.

WesTech
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