Quadricell® Induced Gas Flotation Separators

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Innovative, Energy-Efficient Oil/Solids Separation

Quadricell® separators are used in many applications, both on- and off-shore, including:

- processing oil field produced water
- refineries and petrochemical plants
- vegetable oil, tail oil and coke processing
- tanker ballast water
- paper mill white water
- manufacturing emulsions

The Quadricell® separator has been engineered to provide the most efficient means of removing oil and suspended solids from water in large volumes. Combining 95 percent efficiency with high throughput, these units can process solids and oils from 50 ppm to several hundred ppm, with product effluents containing less than 5 ppm.

The choice for a wide range of industries, our induced air flotation (IAF), or induced gas flotation (IGF) separators are innovative, adaptable and affordable. The Quadricell® separator is ideal for use where oil/water separation is required in large volumes, or where other organic matter must be removed from water or industrial effluents.

For the removal of volatile organic compounds (VOCs) from wastewater streams, we also offer pressurized designs.

As complete, self-contained units, these separators occupy minimum space and can be easily installed for fixed or portable operation.

Flotation Separation Technology

Induced air (gas) flotation separators operate by inducing air bubbles into a chemically treated water stream. The chemicals cause the contaminants to attach themselves to the air bubbles, which then rise to the surface and are skimmed off.

Quadricell Separator Operation

The Quadricell® separator operates on low energy, low capital cost, mechanical air (gas) induction principle to process streams that are characterized by the presence of mostly free oil, non-dissolved solids, and the absence of any emulsifying agents such as soaps and caustics.

In the system design, a rotating shaft and impeller create a vortex, which draws the air (gas) down the draft tube, entraining it in the water and forcing the air-rich water throughout the cell.

Design Capacity			Engineering Dimensions			Weight	
Model	GPM (LPM)	B/D	Length Ft.-in. (m)	Width Ft.-in. (m)	Height Ft.-in. (m)	Dry lbs. (kg)	Operating lbs. (kg)
Q-4	40 (151)	1,400	13'-0" (4.0)	3'-5" (1.0)	4'-6" (1.4)	2,300 (1,860)	4,300 (1,950)
Q-10	100 (379)	3,440	15'-8" (4.8)	4'-9" (1.4)	5'-2" (1.6)	6,300 (2,585)	10,000 (4,536)
Q-21	210 (795)	7,200	18'-6" (5.6)	5'-4" (1.6)	6'-1" (1.9)	9,000 (2,948)	17,000 (7,711)
Q-32	320 (1,211)	11,000	21'-3" (6.5)	6'-0" (1.8)	6'-3" (1.9)	12,000 (3,856)	23,800 (10,796)
Q-50	500 (1,893)	17,000	26'-0" (7.9)	6'-11" (2.1)	6'-6" (2.0)	15,000 (4,536)	35,000 (15,876)
Q-75	750 (2,839)	25,700	30'-0" (9.1)	8'-0" (2.4)	6'-8" (2.0)	20,000 (6,033)	50,000 (22,680)
Q-110	1,100 (4,164)	38,000	31'-0" (9.4)	8'-1" (2.5)	8'-7" (2.6)	24,500 (7,394)	67,000 (30,391)
Q-160	1,600 (6,057	55,000	35'-6" (10.8)	9'-3" (2.8)	8'-5" (2.6)	28,100 (7,847)	86,300 (39,145)
Q-230	2,300 (8,706	79,000	40'-0" (12.2)	10'-0" (3.0)	9'-10" (3.0)	41,000 (9,662)	128,000 (50,060)
Q-340	3,400 (12,870)	116,500	47'-6" (14.5)	11'-8" (3.6)	10'-1" (3.1)	57,000 (10,591)	187,000 (84,822)
Q-500	5,000 (18,927)	171,500	55'-0" (16.8)	13'-6" (4.1)	10'-4" (3.2)	69,000 (12,383)	255,200 (115,757)

Cells can operate in any order, removing 75 percent of contaminants. Because the cells operate independently of each other, the system will remain operational even if one cell is shut down.

Quadricell® separators also incorporate a unique patented feature to assist in contaminant removal and enhance the efficiency of the unit.

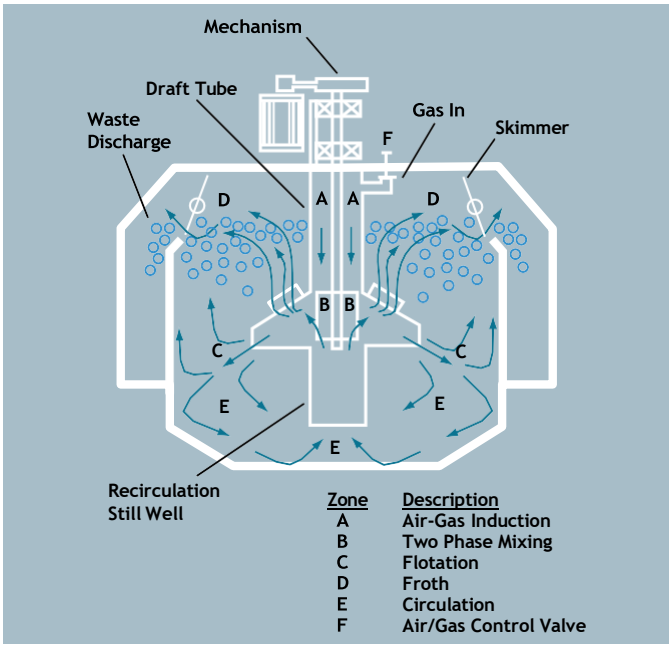
After contaminants are floated to the surface froth, they are immediately removed to prevent re-entrainment into the liquid. The separator then directs a small portion of the air/water mixture upward and radially outward, keeping the froth moving towards the skimmers where contaminants can be removed.

Systems Innovation

The Quadricell® separator uses four cells in series for maximum liquid/air contact. Cells are individually adjustable for maximum skimming efficiency and optimum air introduction for any set of conditions. The separator is designed to provide high performance and greater throughput capacity for the treatment of highly entrained streams that require intensive aeration for flow rates up to 5,000 gpm (18,927 LPM).

Expert Planning

To help you plan the best system for your application, we provide an experienced team of application and engineering specialists trained to help you design, build and install your system to be operational as soon as possible. And to keep you up and running, the same team is available for field support, should the need arise.



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