

# Hydrocell® Induced Gas Flotation Separators

## Innovative, Energy-Efficient Oil/Solids Separation

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

- processing oil field produced water
- processing plant wastewater effluents prior to biological treatment or discharge to public waterways
- tank and drum reconditioning plant applications
- ballast/bilge water processing
- latex emulsions
- pulp and paper white water
- de-inking wastewater
- vegetable oil and tail oil processing
- food plant wastes
- coke processing

The Hydrocell® 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 Hydrocell® 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 gas-tight and pressurized designs.

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



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)
H-3 1/2D	102 (386)	3,500	12'-10" (3.9)	7'-0" (2.1)	5'-6" (1.7)	4,100 (1,860)	8200 (3,719)
H-5D	146 (553)	5,000	16'-0" (4.9)	7'-0" (2.1)	4'-7" (1.4)	5,700 (2,585)	11300 (5,126)
H-7 1/2D	219 (829)	7,500	16'-2" (4.9)	7'-0" (2.1)	5'-8" (1.7)	6,500 (2,948)	15500 (7,031)
H-10D	292 (1,105)	10,000	18'-4" (5.6)	8'-0" (2.4)	7'-0" (2.1)	8,500 (3,856)	19000 (8,618)
H-15D	438 (1,658)	15,000	18'-4" (5.6)	8'-0" (2.4)	7'-0" (2.1)	10,000 (4,536)	26100 (11,839)
H-20D	538 (2,037)	20,000	22'-0" (6.7)	9'-0" (2.7)	7'-0" (2.1)	13,300 (6,033)	35000 (15,876)
H-30D	875 (3,312)	30,000	27'-3" (8.3)	9'-0" (2.7)	7'-0" (2.2)	16,300 (7,394)	39400 (17,872)
H-35D	1021 (3,865)	35,000	32'-0" (9.5)	9'-5" (2.9)	8'-0" (2.4)	17,300 (7,847)	41600 (18,869)
H-40D	1167 (4,418)	40,000	32'-0" (9.5)	10'-3" (3.2)	7'-0" (2.1)	21,300 (9,662)	66800 (30,300)
H-50D	1458 (5,519)	50,000	32'-0" (9.5)	10'-4" (3.2)	8'-0" (2.4)	23,350 (10,591)	80000 (36,287)
H-70D	2042 (7,730)	70,000	37'-6" (11.4)	11'-0" (3.4)	8'-0" (2.4)	27,300 (12,383)	97200 (44,089)
H-1000D	2917 (11,042)	100,000	42'-0" (12.8)	11'-6" (3.5)	9'-1" (2.8)	37,100 (16,828)	130000 (58,967)

### 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.

Induced air flotation technology offers exceptional efficiency because the contaminants have eight to 12 opportunities to come in contact with the bubbles, compared to a single chance in a dissolved air unit.

### Hydrocell® Separator Operation

The Hydrocell® separator operates on a low energy, low capital cost, hydraulic 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 Hydrocell® system design, a single pump is used to drive four patented air (gas) eductors, rather than having separate motor-driven impellers for each cell. With no moving parts, each eductor efficiently saturates the entire volume of each separation cell with fine bubbles.

### Systems Innovation

The Hydrocell® separator uses less power, is substantially lighter, and has fewer moving parts than standard impeller driven systems. It generally costs less, too, which adds up to more treatment capacity for less money.

Hydrocell® separator models fit applications up to 100,000 BPD, and are available in rectangular or pressurized cylindrical designs. The cylindrical design offers a unique backpulse method for skimming, eliminating the need for mechanical skimmers and minimizing the number of moving parts. The cylindrical design is also ideal for controlling benzene and other gas emissions, as well as for use in pressure applications.

### Expert Planning

To help you plan the best system for your application, Siemens provides 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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