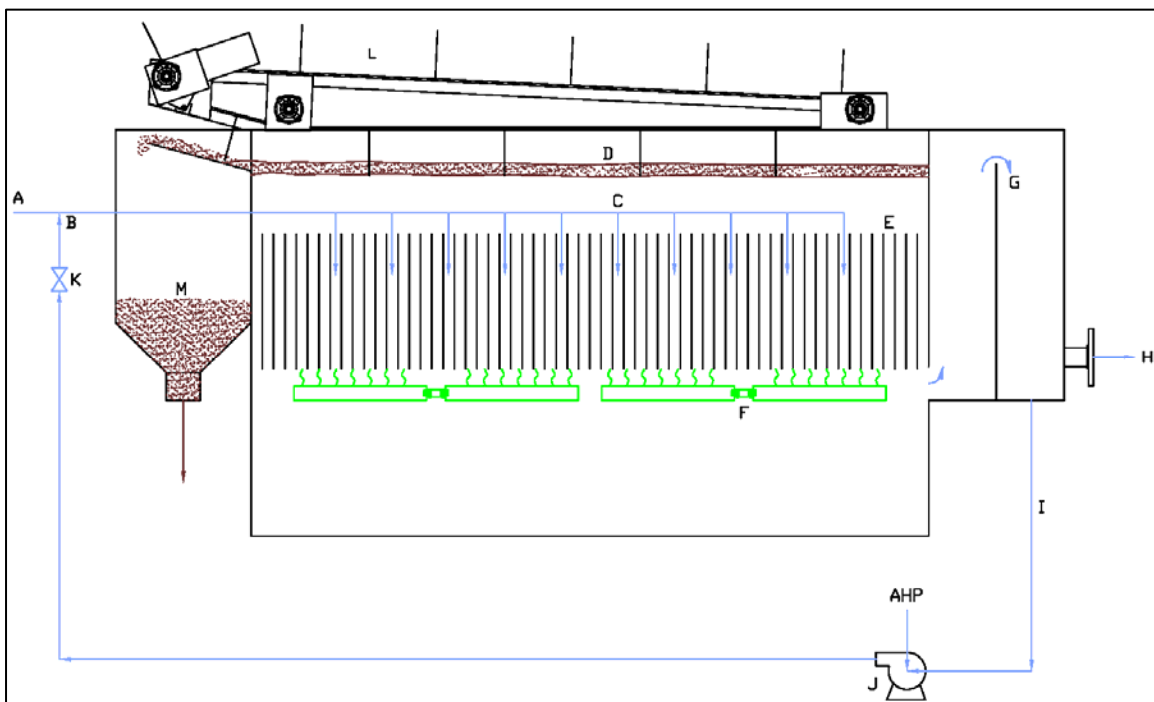


## Dissolved Air Flotation

Integrated Engineers has adapted the proven concept of Dissolved Air Flotation (DAF) to take full advantage of its FloccinAgent™ line of products by incorporating our innovative plate pack concept. The plate pack acts as a hydraulic buffer, channeling flow through the flotation cell and increasing the rise rate. The combination of the plate pack and FloccinAgent™ addition allows much greater hydraulic loading than conventional DAF designs. That means higher flow and wastewater treatment rates in the same floor space.



- A. **Influent wastewater piping.** Prior to this point, FloccinAgent™ has been added to the waste stream and the combination passed through a series of flocculation tubes for mixing.
- B. **Recycle addition.** Pressurized recycle water, supersaturated with air, is added to the influent wastewater stream. The air comes out of solution, and tiny air bubbles attach to flocced solids in the stream.
- C. **Influent header.** The flocculated wastewater enters the flotation cell through the influent header. Flocced solids, given positive buoyancy by the air bubbles that have attached to them, float to the top of the cell.
- D. **Float layer.** Solids that float to the top of the flotation cell accumulate in a thick layer here.

- E. **Plate Pack.** Water flowing toward the effluent port must pass through the plate pack. The plates provide regions of smooth flow where neutrally buoyant solids drop out of the stream and begin to rise upward.
- F. **Supplementary aeration.** These fine-bubble diffusers supply more fine air bubbles to help float solids to the top of the flotation cell.
- G. **Weir.** This adjustable weir allows the height of the water and float in the flotation cell to be adjusted.
- H. **Effluent.** Clean water is discharged through the effluent port.
- I. **Recycle.** A portion of the total flow through the DAF is recycled.
- J. **Recycle pump.** Here water in the recycle line is pressurized and supersaturated with air.
- K. **Pressure-regulating valve.** This valve, located where the recycle water is added to the influent line, maintains pressure in the recycle line and ensures air in the recycle line remains in solution.
- L. **Float skimmer.** A series of skimmer paddles push the float D up and over an inclined ramp into the float tank.
- M. **Float tank.** A conical bottom directs float in the tank to an outlet, to which a pump will be connected to pump the float to a bin for haul off.

DAF systems are available from Integrated Engineers with throughputs ranging from 40 to 1000 gallons per minute.

**DAF Dimensions (approx.)**

<b>Model</b>	<b>Flow (gpm)</b>	<b>Length</b>	<b>Width</b>	<b>Height</b>
DAF-40	40	9' (2.7 m)	4' 6" (1.4 m)	7' (2.1 m)
DAF-60	60	11' (3.4 m)	5' (1.5 m)	7' (2.1 m)
DAF-75	75	11' (3.4 m)	5' 6" (1.7 m)	7' 6" (2.3 m)
DAF-100	100	14' (4.3 m)	6' (1.8 m)	7' 6" (2.3 m)
DAF-150	150	16' (4.9 m)	7' 6" (2.3 m)	8' 6" (2.6 m)
DAF-200	200	16' (4.9 m)	8' 6" (2.6 m)	8' 6" (2.6 m)
DAF-300	300	20' (6.1 m)	10' (3.0 m)	9' 6" (2.9 m)
DAF-500	500	28' (8.5 m)	11' (3.4 m)	10' 6" (3.2 m)
DAF-1000	1000	40' (12.2 m)	18'* (5.5 m)	9' (2.7m)

\* The DAF-1000 is shipped as two 40' L x 8' W modules for side-by-side installation