DISSOLVED AIR FLOATATION SYSTEM (DAF)

- Recovery of valuable materials
- Low capital investment
KAWAN® DISSOLVED AIR FLOATATION (DAF) is a solid-liquid separation process that transfers solids to the liquid surface through attachment of fine air bubbles to solid particles. DAF functions under three processes which consist of bubble generation, attachment of solid to the bubbles, and solid separation.

**ADVANTAGES OF DAF INCLUDED:**
- Recovery of valuable materials
- Low capital investment
- Simple operation and maintenance
- Practical for on-spot treatment process
- Versatile application

**TECHNICAL DESCRIPTIONS**

I. Dissolved air flotation is a very practical technique for separating suspended particles and colloidal materials from liquids in general and from industrial waste streams in particular. It works on high surface tension theory of water molecules under effect of dissolved high pressure compressed air.

II. Cavitations take place in the Air Dissolved Unit, a pressure vessel where water is saturated with high pressure compressed air. Micro bubbles are created almost immediately when vacuum take place in the cavitations chamber. Micro bubbles can even be seen by noticing the milky color of the water being recycle back to the DAF.

III. The surface tension of water waste changed due to the presence of micro bubbles. This enables the water molecules to carry up bigger load, and float up the suspended solid in the waste water and formed scum on top of the surface.

IV. In DAF the micro bubbles travel vertically less than 1m before reaching the water surface. This ensures the energy carried by them will not be exhausted. The water level is controlled by adjustable weir. The weir can be adjusted by either mechanical mean or by pneumatic cylinders.

V. By attaching air bubbles to the suspended particles until there combined net specific gravity becomes less than that water, the particles are made buoyant. These buoyant particles then rise quickly to the surface forming a “float” which can be removed by skimming. This separated solid material is available for re-use or disposal. Clarified effluent is generally acceptable for safe disposal, return to process or for other plant uses.

VI. KAWAN® DAF comes in circular or rectangular shape, to suit the site condition. It is an excellent equipment to remove suspended solids in treatment of waste & raw water.

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**Kawan Engineering Sdn. Bhd.**
No. 18, Lebuhraya Suruah, 1, IGB Industrial Park, 31200 Ipoh, Perak, Malaysia
Tel: 605-291 3840 / 41 Fax: 605-291 3842
Email: kawan@kawanengineering.com.my
Website: www.kawanengineering.com.my

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