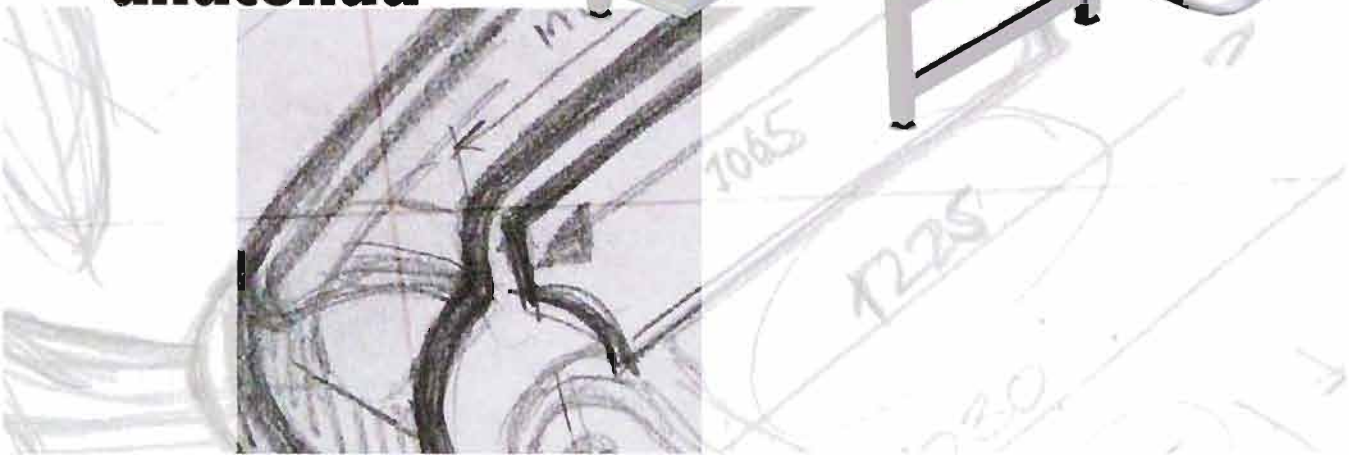


# DISSOLVED AIR FLOTATION UNIT



Anaconda: Dissolved Air Flotation System for physical-chemical treatment.

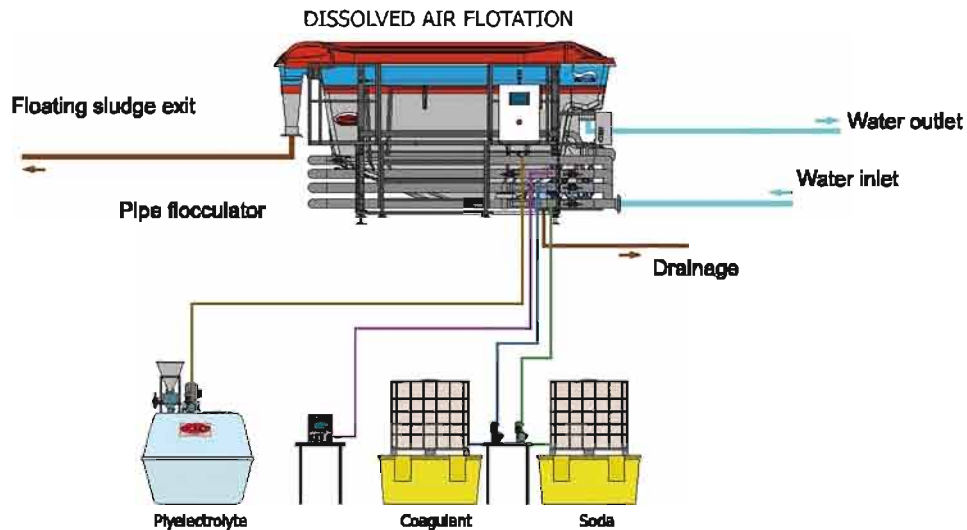
Advanced FADAR® Flotation technology. Solid removal performance levels of up to 99%.

Anaconda is made of FRP with high chemical and mechanical resistance resins.

Accessibility and safety.

**ANACONDA, HIGH PERFORMANCE DISSOLVED AIR FLOTATION**

# Process Description

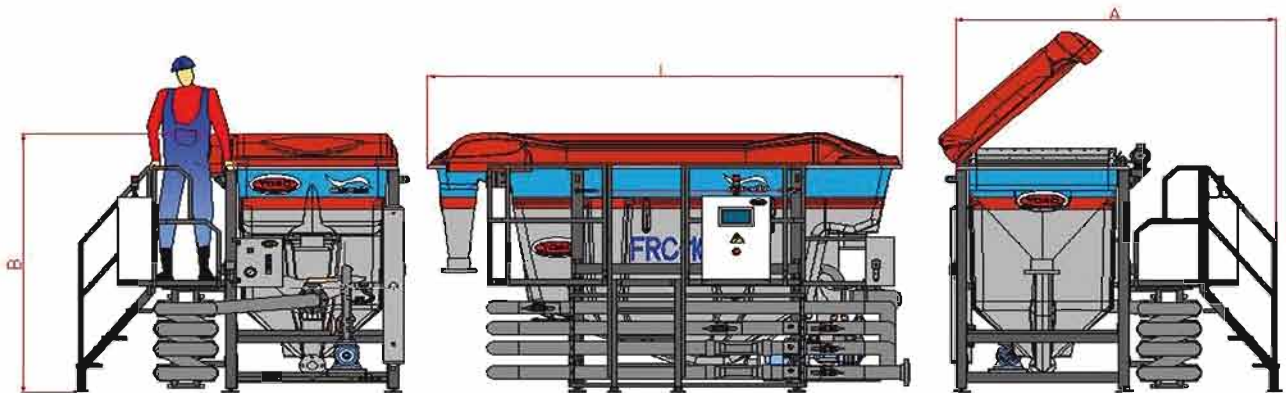


## Applications:

- Pretreatment:
  - In urban and industrial wastewater. In urban wastewater oil and grease reduction of up to 60% of pollution load.
  - Drinking and industrial process water.
- Physical-chemical:
  - In urban wastewater performance depends on the application, volume and type of prior homogenization.
  - In industrial water (such as solid-liquid separators).
    - Slaughterhouses
    - Dairy water
    - Paper mills
    - Precooked products
    - Biofuels
    - Canned fish
    - Surface Treatment
    - Timber Industry
- Sludge thickening (See Sludgeway file).
- Grease separation: (See Fatflot file).



# Technical Specifications



Model	FRC-2	FRC-5	FRC-10	FRC-15*	FRC-20*	FRC-40*	FRC-80*
<b>Nominal flow m<sup>3</sup>/h</b>	<b>2</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>60</b>	<b>100</b>
<b>Dimensions</b>							
Maximun width	795	1.885	1.805	1.885	1.845	2.546	3.295
Maximun height	1.300	2.525	2.525	2.525	2.525	2.525	2.525
Length	2.120	2.330	3.360	4.670	5.900	7.200	9.200
Space requirement	3,5x2	3,7x3	4,7x3	6x3	7x3	8,5x4	10,5x4,6
Total installed power, kW	2,7	4,1	4,1	4,1	4,1	7,55	13,75
<b>Diameters</b>							
Water inlet	63	110	110	125	160	160	200
Water outlet	63	110	110	125	160	200	2x200
Sludge outlet	110	125	125	125	160	160	250
Blowdow	63	75	75	90	90	90	110

**\* These models are being phased out of catalogs.**

STANDARD COMPOSITIONS				
Model	TWIN-60	TWIN-100	TRI-60	TRI-100
<b>Nominal flow m<sup>3</sup>/h</b>	<b>120</b>	<b>200</b>	<b>180</b>	<b>300</b>
<b>Measurements</b>				
Maximun width	4.700	5.700	7.360	8.800
Maximum height	2.250	2.450	2.250	2.450
Length	8.700	11.000	8.700	11.000
Space requirement	10,5X6	13X7	10,5X8,5	13X10
Total installed power, kW	19	26	20	27

**NOTE:**

- (1) Floating sludge removal system by surface scraping. Rigid FRP scrapers.
- (2) Built-in compressor. Pneumatic control and adjustment panel.
- (3) Blowdown with automatically operated pneumatic valve.
- (4) The machine has an electrical pre-Installation, an indication box and another power box. Electrical panel with PLC and control display optional.
- (5) The measurements and technical specifications may vary slightly due to the normal development of products by the technical team at Toro Equipment SL. When placing your order request the specifications drawing. More specific values can be found on our website at web. [www.toroequipment.com](http://www.toroequipment.com).





## Installation tips:

- It is advisable to install constant and adjustable flow pumping systems. This is achieved through a flow meter and a frequency inverter that operates the pump. We can as an option include it in the supply. (Diagram of pump / Frequency Inverter / Magnetic Flowmeter).
- The pre-flotation pools shall be stirred. In many applications, stirring with air will be a great advantage for the process (see DBF file).
- The amount accumulated in these pools will vary from one process to another. A minimum of 6-10 hours is recommended. It is also recommended to have a fixed or slave amount of 2-4 hours.
- If the preliminary pool is higher than the DAF (ANACONDA), an automatic shutoff valve should be available.

## Implementation

- Implementing the Anaconda in a raised plant allows the sludge to fall by gravity into the TAF (Sludge Conditioning Tank), thereby saving pumping. (See TAF file).
- Ask for polypropylene cover and pipe options in outside installations.
- Consider the problems of reagent freezing and process water, especially in stopping.
- For hot or salt water consult the application, since the solubility of air in water decreases. The pressurization system shall be oversized.
- As a reference, it should be known that Anaconda supports up to 5,000 mg/l of solids (SMS) and its design flow indicated in charts is by way of guidance, in accordance with that maximum load.
- There are cases where the flow can be increased by up to 100% of the nominal flow and others where it will be necessary to reduce it by up to 50% of the nominal flow. In such cases it will be necessary to modify the pipe flocculator.
- The blowdown returns to the preliminary pumping or homogenization. It is advisable to do this through a small chamber-sandbox, which collects very large dense solids.
- Raw water prior to flotation will have to be screened to at least a 1 mm aperture.
- Ask our sales department or in our Website drawing dwg.

# Other considerations

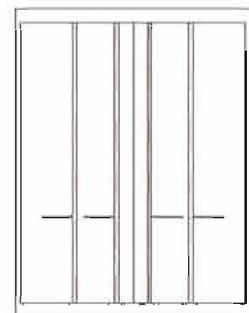
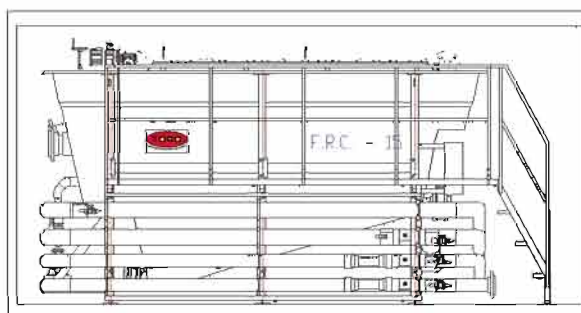
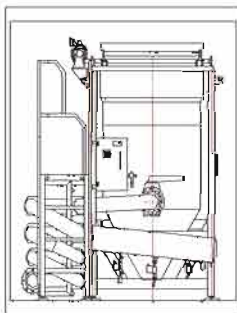
## Other materials:

- Other materials can be used in the construction of Anaconda.
- Equipment is made of polyester resin reinforced in isophthalic fibreglass with high chemical resistance. (Ask for chart) Chemical resistance far superior to stainless steel.
- Standard steel items are AISI 304 grade, other options being available.
- Continuous working temperature of up to 50°C in continuous. With respect to strength of materials, it can be constructed for a higher temperature. Request more information on our website, [www.toroequipment.com](http://www.toroequipment.com) or consult our technical staff.

## Transport:

- At the request of the customer, equipment can be plasticized for shipping.
- Up to FRC-40 transportable in sea containers\*.
- Compact plants are containerized (consult our sales or technical team).

\* Note : Consult de containerized option





# Options

- Some models are supplied with a cover as standard, in others it is optional.
- PVC coagulation-flocculation pipe, optionally in polypropylene, PP.
- Flow meter and frequency inverter for flow control.
- ATEX Executions.
- The equipment performance will depend on the quality and concentration of incoming solids. Consult our technical department.
- Electrical power and control panel optional.

The electrical panel contains all the protection and control systems necessary for the operation and monitoring of the machine.

It includes:

- Motor guard to protect the compressor.
- Starter for the control and protection of the pressurization pump.
- Frequency inverter for scraper motor control and protection for dragging sludge, it being possible to vary the speed, adjusting it to the type of water to be treated.

The control voltage is 24V DC for greater safety at installations in wet locations, with separate protection for each control circuit.

The control cabinet has its own differential protection to protect people and equipment from shunts and indirect contact.

The automation system consists of a PLC to perform all the machine operations. The standard interface used is a 5.7" touch screen from which you can observe the different operating parameters of the machine, and modify them. In case of malfunction, the problem is shown on the screen, along with help text for solving this problem.

The cabinet assembly and the electrification of the machine is under a PVC tube and sheath, together with sealed boxes, achieving an IP55 class assembly, allowing the installation of the machine with the electrical cabinet outside.

The FRC assembly with the electrical cabinet are supplied already connected and tested to minimize electrical problems in starting.

The electrical cabinet design is flexible, allowing customer standards to be covered, including communications systems, integrating our automation system with the customer's, external signals, etc...

- Can be manufactured according to specific standards. CE marking. ISO 9000.



# Worldwide Presence



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