Actiflo® ACP Package Plants

The World’s most advanced packaged clarifier designed to fit a wide range of applications: drinking water, industrial process water, primary and tertiary wastewater treatment
The result of years of research and development, the Actiflo® ballasted clarification process, developed by OTV, can solve the most severe treatment problems and meet the most stringent economic limitations. The Actiflo® process represents the most advanced available clarification process on the market today.

The Actiflo® ACP package plants are engineered to provide a compact modular system in response to the ever growing demand for high performance water treatment process in an affordable and practical format. The ACP package plants are particularly compact and thus ideal for sites with important space limitations. They are designed to offer easy access to all its components, allowing efficient maintenance and inspection routines.

**KEY FEATURES**

The Actiflo® ACP units represent a breakthrough in water treatment technologies. It combines the following elements:

- **Microsand** serves as seed for floc formation and ballast to increase floc density and high settling velocity.

- **Plate settling** greatly reduces the clarifier surface.

- **Package Plant** configuration for manufactured compact and affordable installation.

**CHARACTERISTICS**

- **High efficiency**
  The Actiflo® package plants are designed to treat a wide variety of raw water. By reducing turbidity, color, suspended solids, metals, TOC, taste and odor more efficiently than any other process in the market, the ACP insures water production of the highest quality. Even though the ACP units are extremely compact, they nevertheless offer performances comparable to systems built on a much larger scale.

- **Savings**
  The extremely high efficiency of the Actiflo® ballasted floc settling process allows settling rates ranging from 40 to 200 m/h (16 to 80 gpm/sf), leaving conventional systems settling performance far behind. Since the units are standard, extremely compact and competitively priced, civil engineering costs are, as a result, greatly reduced.

- **Process stability**
  The ACP produced water quality remains stable even under major raw water fluctuations in flow-rate, turbidity or temperature.

- **Very short start-up time**
  Actiflo® ACP will reach a steady state operation very quickly (usually less than 20 minutes).
The process retention time is very short, leading to a very quick response to changes in raw water quality. Chemical dosages are therefore minimized. Operating the ACP units in start / stop mode becomes a major advantage, considering energy consumption efficiency.

- **Reduced operating costs**
  Chemical savings of up to 40% can be achieved with the Actiflo® process, compared to conventional systems. Operating costs can further be reduced by operating with Dusenflo® DUS packaged filters, specially designed for operation with Actiflo®. Dusenflo® combines efficient air and water backwashing techniques and specially designed under drain nozzles, maintaining a perfectly clean filter media and a reduced number of backwash cycles. All these elements combined translate into major energy savings, as well as increased water production.

**HOW DOES IT WORK**

**ACTIFLO® settling process**

The Ballasted Clarification process is based on a tank configuration doing coagulation, injection and maturation of the flocc, dosage of the microsand and a lamellar settling, all combined to provide a high performance and reliable water treatment system.

- **Water coagulation**
  A coagulant is injected to the raw water upstream of the unit. The water then enters a rapid mix tank to destabilize colloidal matter.

- **Flocculation**
  A polymer is injected to the coagulated water. The microsand is used to weigh down the flocs. Moderate mixing accelerates the formation of polymer bridges between pin flocs, suspended solids and microsand. Larger and heavier flocs are formed.

- **High-rate settling**
  Heavy flocs, ballasted by microsand, settle quickly in the lamellar tube area down to the thickening hopper. Clarified water is collected in a series of troughs. Filtration and disinfection can follow, if required.
• **Microsand recirculation**
  The settled sludge is continually pumped to a hydrocyclone, where sand and sludge are efficiently separated. The hydrocyclone recycles the microsand back into the injection tank and discharges the sludge throughout the process.

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**OPERATION AND CONTROL**

The Actiflo® package plant comes complete with all the required monitoring equipment. It also includes a control panel and a Human Machine Interface. On board instruments can include such items as turbidimeters, pH-meter, and chlorine analyzer. As an option, John Meunier can offer a remote monitoring system to complete the ACP package plant.

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**MODELS**

• The Actiflo® units are manufactured in our plant and delivered pre-assembled.

• For increased treatment capacity, these units may be installed in parallel.

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Capacity 2 at 40 m/h (16 gpm/sf)</th>
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<tbody>
<tr>
<td></td>
<td>m³/d</td>
</tr>
<tr>
<td>ACP-150R</td>
<td>1000</td>
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<tr>
<td>ACP-300R</td>
<td>2000</td>
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<tr>
<td>ACP-450R</td>
<td>4000</td>
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<tr>
<td>ACP-600R</td>
<td>8000</td>
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<tr>
<td>ACP-700R</td>
<td>12500</td>
</tr>
<tr>
<td>ACP-750R</td>
<td>14250</td>
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</tbody>
</table>

1. Other units are available upon request.
2. Unit capacities are adjusted depending on application and can be up to double the presented value.

• The Actiflo® ACP units are available in three configurations: as the Actiflo® ACP process alone (clarifier only), added with a separate Dusenflo® DUS filter package unit (clarifier and one or multiple filters) or as the Actifloc™ AFP (also called Actifilter), combining the Actiflo® clarifier and the Dusenflo® filter in the same packaged unit (clarifier and filter).

• Different options are available to complete the package plant supply.

• Some ACP models can be installed on truck floats, trailers or containers.

• Manufacturing, delivery, installation and start-up are carried-out promptly.

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