CDS® SEPARATOR

131 004
rocla.com.au
CDS® SEPARATOR

CDS® Separator are designed to capture and retain gross pollutants, litter, grit, sediments and associated oils, utilising patented CDS® indirect screening technology.

Rocla offers a complete design service for CDS® products that takes into account the catchment’s characteristics, pollution load, hydraulic site constraints and opportunities, system capacities, velocity, backwater, as well as the location of services and access for cleaning.

Hydraulic reports are available on request and are automatically carried out for larger units.

CHARACTERISTICS
- Non-blocking functionality
- 95% capture of gross pollutants >1mm
- 95% sediment capture >200μm
- Captures organics and oils
- Captures adsorbed toxics and nutrients
- Can treat any pipe or multiple pipes
- Various sump sizes available
- Customised bypass requirements
- Underground - small footprint
- Easy installation
- No moving parts
- Lowest life cycle costs
- More water treated than comparable treatment designs
- Pollutants stored in the sump, not the screens

BENEFITS
- Subdivisions and roads
- Residential, commercial and industrial developments
- Car parks and shopping centres
- Pre-treatment for wetlands
- Pre-treatment for reuse applications
- Pipes, channels, culverts and creeks

Other CDS® models are available for non-stormwater applications involving high flow solids/liquids separation, such as industrial processes and sewer overflows.

CDS® CONTINUOUS DEFLECTIVE SEPARATION

The CDS® Separator utilises the energy of the inflow to create a vortex flow regime within the CDS® screening chamber.

The CDS® Separator simply creates a whirlpool that draws all the deflected and settling pollutants to the centre of the screening chamber where they fall out into the storage sump below.

The pollutant storage sump located below the screening chamber allows pollutants to be removed from the flow path and away from the screens, thus maintaining a reliable treatment efficiency.

The unique CDS® technology is the most reliable way to effectively and efficiently treat gross pollutants in stormwater drainage systems.

One of the leading stormwater traps
CDS® UNIT MODELS

The size and type of CDS® separator required depends on catchment area, flows, pollution loads, performance requirements, maintenance method, hydraulic limitations and site constraints.

Visit the Rocla website for a sizing request form. Details submitted with this form provide all the information needed to calculate the size of device most applicable for the site.

<table>
<thead>
<tr>
<th>CDS® Separator Model No.¹</th>
<th>Overall Dia¹ (mm)</th>
<th>Treatment² Flow (L/s)</th>
<th>Weir Height² (mm)</th>
<th>Minimum DTI³ (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nipper 0506</td>
<td>1300</td>
<td>20-22</td>
<td>300</td>
<td>1035</td>
</tr>
<tr>
<td>CDS 0708</td>
<td>1750</td>
<td>50-55</td>
<td>400</td>
<td>1105</td>
</tr>
<tr>
<td>CDS 0708 Maxi</td>
<td>2600</td>
<td>50-55</td>
<td>400</td>
<td>1185</td>
</tr>
<tr>
<td>CDS 1009</td>
<td>1950</td>
<td>100-110</td>
<td>500</td>
<td>1610</td>
</tr>
<tr>
<td>CDS 1012</td>
<td>1950</td>
<td>140-150</td>
<td>600</td>
<td>1610</td>
</tr>
<tr>
<td>CDS 1015</td>
<td>1950</td>
<td>180-200</td>
<td>700</td>
<td>1610</td>
</tr>
<tr>
<td>CDS 1512</td>
<td>2600</td>
<td>220-250</td>
<td>650</td>
<td>1610</td>
</tr>
<tr>
<td>CDS 1518</td>
<td>2600</td>
<td>350-400</td>
<td>800</td>
<td>1610</td>
</tr>
<tr>
<td>CDS 2018</td>
<td>3400</td>
<td>500-600</td>
<td>900</td>
<td>1610</td>
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<tr>
<td>CDS 2028</td>
<td>3400</td>
<td>800-900</td>
<td>1100</td>
<td>1610</td>
</tr>
<tr>
<td>CDS 3018</td>
<td>5000</td>
<td>800-900</td>
<td>900</td>
<td>1610</td>
</tr>
<tr>
<td>CDS 3024</td>
<td>5000</td>
<td>1250-1400</td>
<td>1000</td>
<td>1610</td>
</tr>
<tr>
<td>CDS 3030</td>
<td>5000</td>
<td>1750-1900</td>
<td>1200</td>
<td>1800</td>
</tr>
</tbody>
</table>

¹: Excludes Diversion Chamber except for models 0506, 0708 & 0708M
²: Measured from outlet invert with no tailwater
³: CDS treatment flows are indicative only
4: Model sizing is undertaken independently from the bypass hydraulics of the diversion chamber
5: In most cases minimum DTI is determined by diversion chamber depth

CDS® SEPARATOR PERFORMANCE

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Pollutant Removal</td>
<td>98% (&gt;3mm)</td>
</tr>
<tr>
<td>Sediments Capture</td>
<td>&gt;80% (&gt;75μm)</td>
</tr>
<tr>
<td>TSS Removal</td>
<td>&gt;70% (d_{50} = 106μm)</td>
</tr>
<tr>
<td>Total Phosphorous (TP) Removal</td>
<td>&gt;30% (at 70% TSS removal)</td>
</tr>
<tr>
<td>Hydrocarbon Capture</td>
<td>80-90%</td>
</tr>
</tbody>
</table>

'at typical stormwater concentrations for free oil

MAINTAINING CDS® SEPARATOR

The CDS® Separator has the lowest life-cycle costs due to its non-blocking functionality, large off-line storage and multiple cleaning options. There are 3 methods of emptying CDS® Separators:

- Removable basket
- Material grab
- Suction method

With no requirement to unblock screens, confined space entry is minimised. Large off-line sump volumes (up to 10m³ available) also minimise cleaning frequency.
DIVERSION CHAMBER
Precast diversion chambers can be manufactured to suit most typical installations, or chambers can be tailored to meet the hydraulic limitations of the site.

The diversion chamber has the capacity to cater for the highest possible flow in the stormwater system. The chamber is configured on the assumption that the CDS® Separator has not been maintained and there is no flow passing through the unit.

A weir is located within the diversion chamber to create a driving head and direct the majority of flows into the CDS® GPT.

CHAMBER OPTIONS
The CDS® Separator and diversion chamber design depends on the system capacity and site constraints. Rocla will design the most suitable CDS® Separator configuration to meet project requirements.

- Precast diversion chambers
- Semi-precast diversion chambers
- Customised designs for multiple pipes, drops and bends
- In-situ channel designs
- Fixed or collapsible weirs
- Any flow capacity
- No flooding

CDS® CONTINUOUS DEFLECTIVE SEPARATION
It has long been acknowledged that best management practice for stormwater pollutant traps involves locating the devices off-line.

- GPTs located on-line suffer badly from turbulence and eddies, often resulting in the re-suspension and loss of previously captured pollutants.
- GPTs which store pollution in the screening area suffer decreasing screen area and therefore decreasing flow rates, as they fill up.
- GPTs which function by direct filtration have a treatable flow rate decay that is proportional to the percentage of screen blockage.
- GPTs that utilise a vortex only, without a screen, cannot guarantee neutrally buoyant pollution removal.

Only CDS® Separators combine the advantages of being off-line, having non-blocking functionality, vortex forces and storing pollution outside the screening area. For these reasons, no other device is “equivalent” to a CDS® Separator.
CDS® 0506 Separator

The PL0506 in-line CDS® Unit, known as the Nipper, is the smallest in the CDS® range of gross pollutant traps. It provides the fully proven performance of CDS® Separators in a pint-sized polymer unit.

The Nipper is ideally suited for installation at the collection source in small catchment areas of less than a hectare and is designed to remove gross pollutants, organic waste, silt, sediment and oils.

Manufactured from strong, lightweight polymer material, the CDS® 0506 is delivered to site in one piece, making it easy to install and cost-effective.

SPECIFICATIONS
Storage
- 0.72 cubic metres

Weight
- 140 kilograms

Footprint
- 1050mm diameter

Material
- High density polyethylene

Treatment
- Self-cleaning screens, vortex and gravity

Screens
- 2.4mm stainless steel

Inlet Size
- Up to 375mm diameter

APPLICATIONS
- Small subdivisions
- Bus and train stations
- Pre-screening bio-retention systems
- Pre-screening construction wetlands
- Packaging warehouses
- Roadside drains
- Car parks

PRODUCT APPLICATION DESIGN (PAD) SERVICES

Rocla offers a full design and drafting service in support of its water quality products, including the CDS® separator.

These service are available to all customers. To see how Rocla can assist you with your water sensitive urban design (WSUD) solutions please visit the Rocla website or call your local sales representative on 131 004.
For more information call Rocla on 131 004 or visit rocla.com.au

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Before application in a particular situation, Rocla recommends that you obtain appropriate independent qualified expert advice confirming the suitability of product(s) and information in question for the application proposed.

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