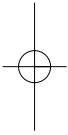
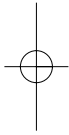


# Humes Sand Filter keeping our environment clean



## Stormwater management and treatment device – designed to meet *ARC TP10 (2003)* requirements\*

**For capture and removal of 75% of total suspended solids including:**

- **Particulate trace metals**
- **Particulate nutrients**
- **Oil and grease on sediments**
- **Coarse sediments**

Sand filtration has been demonstrated to be both an economical and effective option for removing pollutants. The Humes Sand Filter is an in-line design for both small or large catchments.

### **Applications**

- Commercial and industrial carparks
- High density residential housing
- Motorways and Transit applications
- Vehicle service centres
- Other situations where high stormwater sediment loads exist

### **Features**

- Meets *ARC TP10 (2003)* design requirements
- Removes 75% of total suspended solids
- Bypass flow capability
- Small footprint
- Low head loss
- Easy installation
- High sediment capacity

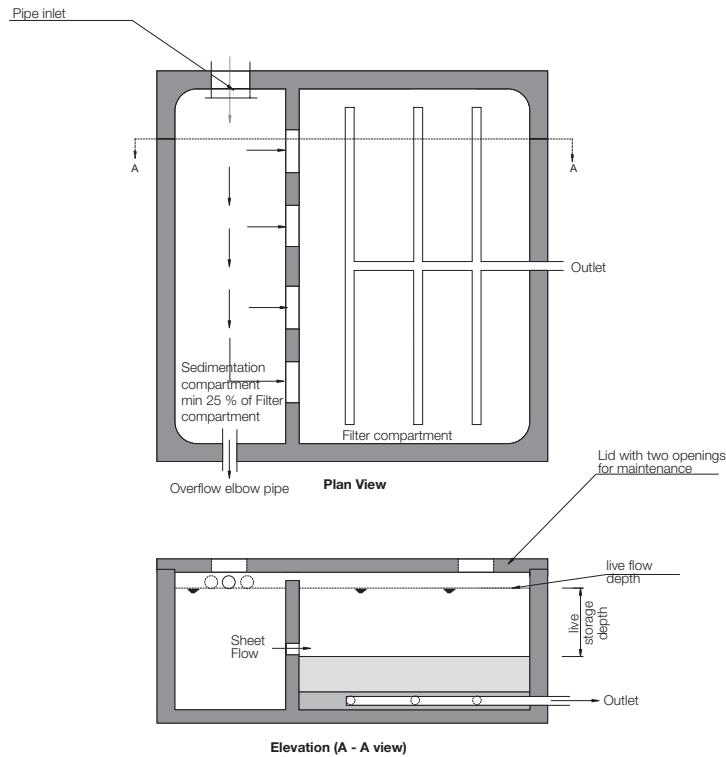
### **Benefits**

- Positive environmental impact
- Suitable where space is constrained
- Cost effective
- Low maintenance costs
- Simple technology

\*TP10 is a design guideline manual for Stormwater Management Devices published by the Auckland Regional Council



## Humes Sand Filter **keeping our environment clean**



Sand Filters are composed of two components: a sedimentation chamber and a filtration chamber.

The sedimentation chamber removes floatables and coarse sediments, while the filtration chamber removes fine sediments and additional pollutants by filtering flow through a sand bed.

Treated filtrate is normally diverted back to the storm drainage system via an underdrain system or pipe network.

Pollutants such as suspended solids are effectively removed from stormwater flows when treated by a sand filter system. Many metals dissolve or precipitate in response to changes in water chemistry.

### Design

The size of the Sand Filter will be determined by the combined permeable and impermeable surface areas of the catchment requiring treatment and the design storm to be treated. While the total volume of the Sand Filter for a particular application will stay the same, the depth and footprint can be varied proportionately, according to space constraints.



Disclaimer: "Buyers and users must make their own assessment of our products under their own conditions for their own use. All queries regarding product suitability or purpose or installation should be directed to the nearest Humes office for advice and assistance". Availability of product may differ slightly from that available in your area. © Copyright Humes Pipeline Systems 2003

### Humes Sand Filter (In-line)

Treatment area (sqm)	Sand Filter units	Internal height (mm)
<b>500</b>	HSF 500-B1500	1500
	HSF 500-B2950	2950
<b>750</b>	HSF 750-B1500	1500
	HSF 750-B2400	2400
<b>1000</b>	HSF 1000-B1500	1500
	HSF 1000-B2950	2950
<b>1250</b>	HSF 1250-B2000	2000
	HSF 1250-B2950	2950
<b>1500</b>	HSF 1500-B2050	2050
	HSF 1500-B2950	2950
<b>1750</b>	HSF 1750-B2000	2000
	HSF 1750-B2500	2500
<b>2000</b>	HSF 2000-B2200	2200
	HSF 2000-B3050	3050

Note: Sand Filters for larger areas are available on request.

See table above for a guide on catchment areas and the relevant model sizes. (Based on a 100% impervious surfaces and typical two year ARI design storm).

For further details please contact your local Humes Sales Representative.

### Installation

Humes Sand Filters are made of modular precast concrete units with factory pre-assembled internal fittings, all ready to be placed into the excavated ground and connected to the drainage system. All internal filtration media and drainage pipe can be supplied to site separately.

### Maintenance

Sand Filters have demonstrated service life and consistent pollutant removal when properly maintained. Maintenance for Sand Filters is simple and inexpensive.

Normal maintenance requirements include raking of the sand surface and disposal of accumulated trash. The upper few inches of dirty sand must be removed and replaced with clean sand when the filter clogs.

The pre-treatment devices must be cleaned to remove sediment and debris.

### Manufacturing standards

All materials comply with the relevant New Zealand standard. Precast manufacture is to NZS 3109:1997 with surface finishes to NZS 3114:1987, F4 and U2 for formed and trowelled respectively. Concrete has a design strength of 40 MPa.

**Freephone 0800 502 112**

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