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Excellent Treatment

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NOMINAL SIZE CLASS 1 & CLASS 2 BYPASS SEPARATORS



INTRODUCTION

Klargester are very pleased to provide a revised range of separators designated NSB. The NSB code denotes the flow at which the separator operates and is only able to be applied to products which have been independently tested and certified. The British Standards Institute (BSI) have tested the required range of Klargester Separators and have certified their performance in relation to their flow and process performance. Klargester are the first UK manufacturer to have the required product range certified in the UK.

Klargester Bypass Separators are designed to meet the requirements of the Environment Agency Pollution Prevention Guideline, PPG-3, issued March 2000. & EN 858 (PART 1)

The use of an oil/water separator is required wherever there is the risk of hydrocarbon pollutants causing contamination at the point of discharge i.e. an open ditch, river, stream or groundwater. Each Bypass separator design includes the necessary volume requirements for

- Oil separation capacity
- Oil storage volume.
- Silt storage capacity
- Coalescer. (Class 1 units only)

The Unit is designed to treat 10% of the peak flow. The calculated drainage areas served by each separator are indicated according to the formula given by PPG-3 $NSB = 0.0018A(m^2)$. Flows generated by higher rainfall rates will pass through part of the separator and bypass the main separation chamber.

Klargester Separators are frequently specified and accepted by Local Authorities, major ground working contractors & National environmental regulatory bodies.

FEATURES

- Independently tested and performance sampled, certified by the BSI.
- Light and easy to install.
- Comprehensive range.
- Class 1 and Class 2 designs
- Inclusive of silt storage volume
- Rapid availability.
- Fitted inlet/outlet connectors.
- Extension access shafts for deep inverts.
- Maintenance from ground level.
- Optional Separate tube to contain oil probe to operate excess Oil Alarm System.

APPLICATIONS

Bypass Separators are used when it is considered an acceptable risk not to provide full treatments for very high flows, and are used, for example where the risk of a large spillage and heavy rainfall occurring at the same time is small.

e.g. Surface car parks.
Roadways.

Lightly contaminated commercial areas.

High risk areas require Full Retention Separators; see separate data sheet. Reference should be made to EA/SEPA Guidelines PPG 3 when selecting a separator.

PRODUCT SELECTION

To select the correct Class 1 or Class 2 Bypass Separator turn to the table overleaf. Klargester have fully trained technical representatives operating throughout the UK who can offer on-site advice on request. Alternatively consult our Technical Sales Department at our head office in Aston Clinton. ☎ 01296 633014.

OPERATION

100% of the liquid, up to the units designated flow passes through both chambers of the unit. The separation chamber retains the

lighter than water pollutants, oils and petrol which rise to the surface. These pollutants are stored within the separator, the separated water discharges from the unit by gravity. If the flow rate rises above NS rating i.e. up to 10x the NS rating (Peak Flow) the excess flow is diverted by a bypass arrangement and discharged without passing through the separation chamber. This ensures that excess flows will not cause "wash out" of stored pollutants. Class 1 Bypass Separators include a coalescer assembly to provide an improved effluent quality. Class 2 units do not include a coalescer assembly.

OIL LEVEL ALARM

Alarm systems are available to meet PPG3 guidelines. In quiescent conditions, a visual and audible warning is provided by the control unit to indicate when removal of retained hydrocarbons is required. The alarm is triggered by a probe which activates when the oil stored in the separator reaches 90% of the allowable storage volume. Alarm Control Units are available as mains, battery or solar powered.

We recommend that the oil probe is fitted within a dedicated tube located either in the body of the unit or in the access neck. This dedicated tube provides easy access for maintenance and reduces the chance of damage during emptying and coalescer removal. Please request when ordering the separator.

CONSTRUCTION & QUALITY

Klargester oil/water separators are manufactured from durable, rot and corrosion proof glass reinforced plastic, combining light weight with outstanding strength. The required range of separators has been certified as meeting the Environment Agencies PPG 3 guidelines and also meets the requirements of EN 858 Pt 1. All Klargester products are manufactured and accredited to BS EN ISO 9002 Quality Management System.

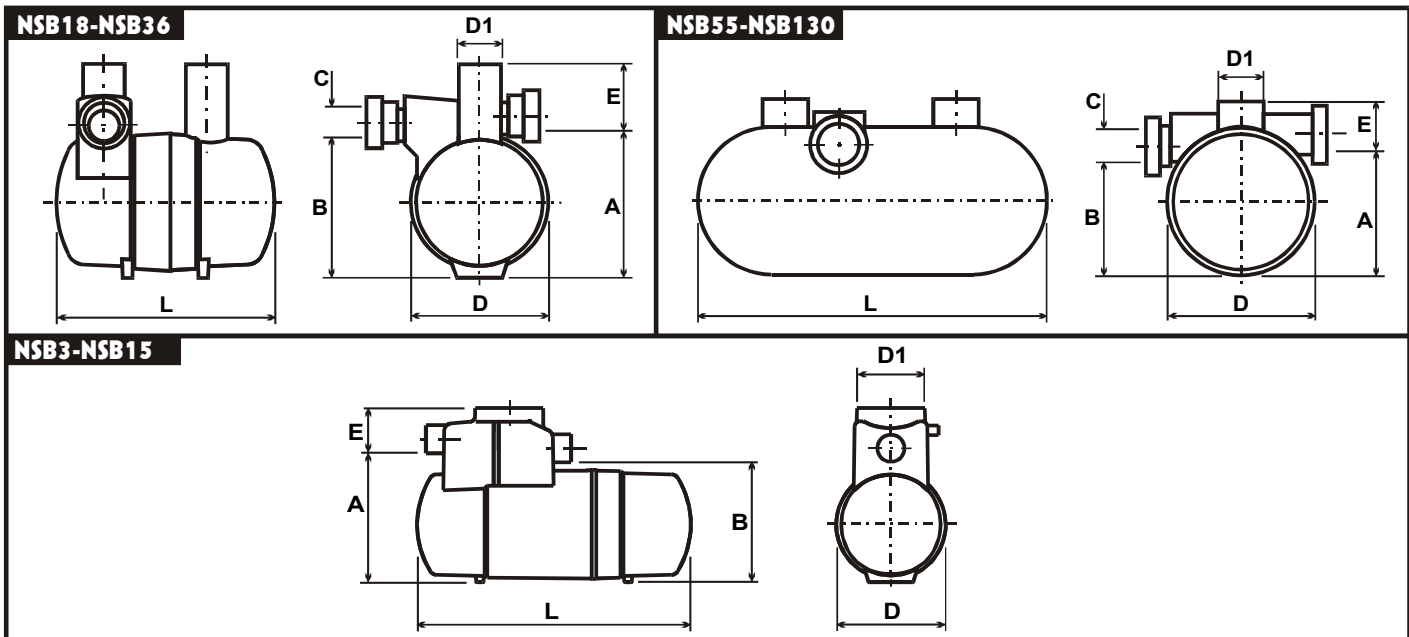
INSTALLATION

The unit should be installed on a suitable concrete base slab and surrounded with a concrete backfill. If the separator is to be installed within a trafficked area, a suitable cover slab must be designed to ensure that superimposed loads are not transmitted to the top or side walls of the unit. Separators should be vented in accordance with BS8301:1985: Building Drainage or Health and Safety Guidance Note HS(G)41 for filling stations subject to Local Authority requirements. Detailed installation guidelines are supplied with each unit.

MAINTENANCE

Hydrocarbon pollutants and silt should be removed periodically to ensure that maximum effectiveness of the unit is maintained. The coalescer assembly should be inspected and cleaned at the same time. When required, the coalescer media can be replaced. When the alarm has activated, the separator should be emptied of oil and accumulated sediments. In the event of a major pollutant spillage, or if the oil level alarm activates, stored pollutants should be removed from the unit immediately. Separator waste is a "special waste" under the terms of The Waste Management Code of Practice. A site where the surface is not sealed may produce considerable amounts of silt which may be washed into the separator. This should be considered when designing the whole the drainage system and inspection frequency.

CLASS 1 & CLASS 2 BYPASS SEPARATORS



| Nominal Size | Flow (l/s) | Peak flow Rate (l/s) | Drainage Area (m ²) PPG 3 (0.0018) | Silt Storage Capacity litres | Oil Storage Capacity Litres | Length (L) | Dia. (D) | Access Shaft Dia. (D1) | Base to Inlet Invert (A) | Base to Outlet Invert (B) | Standard Fall Across Unit | Min. Inlet Invert (E) | Standard Pipe work Dia DIN (C) |
|--------------|------------|----------------------|--|------------------------------|-----------------------------|------------|----------|------------------------|--------------------------|---------------------------|---------------------------|-----------------------|--------------------------------|
| NSB3 | 3 | 30 | 1670 | 300 | 45 | 1765 | 1225 | 600 | 1450 | 1350 | 100 | 500 | 160 |
| NSB4 | 4.5 | 45 | 2500 | 450 | 68 | 1765 | 1225 | 600 | 1450 | 1350 | 100 | 500 | 200 |
| NSB6 | 6 | 60 | 3335 | 600 | 90 | 1765 | 1225 | 750 | 1450 | 1350 | 100 | 500 | 200 |
| NSB8 | 8 | 80 | 4445 | 800 | 120 | 3065 | 1225 | 750 | 1450 | 1350 | 100 | 500 | 225 |
| NSB10 | 10 | 100 | 5560 | 1000 | 150 | 3915 | 1225 | 750 | 1450 | 1350 | 100 | 500 | 300 |
| NSB12 | 12 | 120 | 6670 | 1200 | 180 | 3915 | 1225 | 750 | 1450 | 1350 | 100 | 500 | 300 |
| NSB15 | 15 | 150 | 8335 | 1500 | 225 | 3915 | 1225 | 750 | 1450 | 1350 | 100 | 500 | 300 |
| NSB18 | 18 | 180 | 10000 | 1800 | 270 | 4530 | 1442 | 600 | 1530 | 1430 | 100 | 500 | 375 |
| NSB24 | 24 | 240 | 13340 | 2400 | 360 | 3200 | 2012 | 600 | 2110 | 2010 | 100 | 1000 | 375 |
| NSB30 | 30 | 300 | 16670 | 3000 | 450 | 3945 | 2012 | 600 | 2110 | 2010 | 100 | 1000 | 450 |
| NSB36 | 36 | 360 | 20000 | 3600 | 540 | 4625 | 2012 | 600 | 2110 | 2010 | 100 | 1000 | 525 |
| NSB55 | 55 | 550 | 30560 | 5500 | 825 | 5085 | 2820 | 600 | 2310 | 2060 | 250 | 1000 | 600 |
| NSB72 | 72 | 720 | 40000 | 7200 | 1080 | 5820 | 2820 | 600 | 2310 | 2060 | 250 | 1500 | 675 |
| NSB84 | 84 | 840 | 46670 | 8400 | 1260 | 6200 | 2820 | 600 | 2310 | 2010 | 300 | 1500 | 750 |
| NSB96 | 96 | 960 | 53340 | 9600 | 1440 | 7375 | 2820 | 600 | 2310 | 2010 | 300 | 1500 | 825 |
| NSB110 | 110 | 1100 | 61110 | 11000 | 1650 | 7925 | 2820 | 600 | 2360 | 2010 | 350 | 1500 | 825 |
| NSB130 | 130 | 1300 | 72225 | 13000 | 1950 | 8725 | 2820 | 600 | 2360 | 2010 | 350 | 1500 | 900 |

All dimensions are in millimetres. *Some units have more than one access shaft - diameter of largest given.

To specify a Nominal Size Klargestor Bypass Separator, the following information is needed:

- **The calculated flow rate(NS) or the drainage area served**

Our designs are based on the assumption that any interconnecting pipework fitted elsewhere on site does not impede flow into or out of the separator. Run-off from low risk areas, such as roofs, should not be connected to a separator. When this cannot be avoided, the separator must be re-sized accordingly.

- **The required discharge standard.**

This will decide whether a Class 1 or Class 2 unit is required. Class 1 separators produce an improved effluent quality (when performance tested under lab conditions class 1 produced <5mg/l oil, class 2 <100 mg/l oil

- **The drain invert inlet depth.**

The difference between the drain invert depth and the minimum invert (F) above rounded up to the nearest half metre, is the length of extension shaft(s) needed. Extension shafts, for site fitting, are available in 0.5 metre increments. The maximum recommended extension is 1.5m above the standard i.e. 2 or 2.5m total. Units may be installed at greater depths with an

appropriate civil engineering design which must include access for colescer removal.

- **With or without alternate Oil Probe tube.**
- **Oil Alarm System.**

See separate data sheet for full details and available options.

- **Pipework type, size and orientation.**

Unless specified otherwise, units are supplied with the standard (minimum) invert depth and pipework size and orientation shown in the above table. Pipework internal diameter less than 315 will be PVCu. Larger sizes are GRP connectors. Units will be supplied without the alternate oil probe position. Please contact our Technical Sales Department if you require details of available options, but please note we do not alter internal pipework.

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In keeping with the Company policy of continuing research and development, Klargestor reserves the right to alter specifications and drawings without notice.