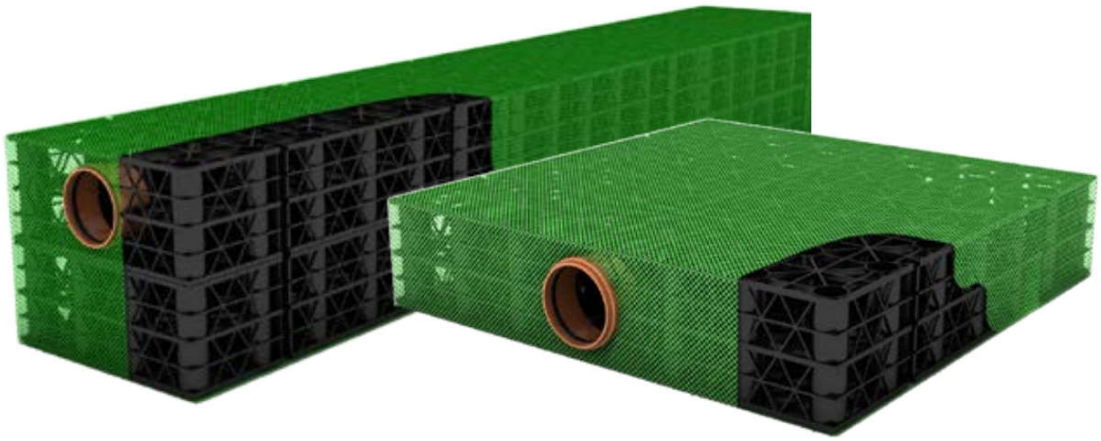
the Foundation for our Future

PVOD Diffuser

Specifications and Applications v2



Due to continuous product development, products, materials and specifications may vary from this brochure. Interested parties may visit the Permavoid website for any product enquiries. Copyright Permavoid Limited. All rights reserved.

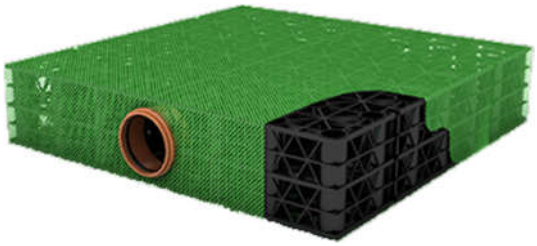
PVOD Diffuser

Introduction

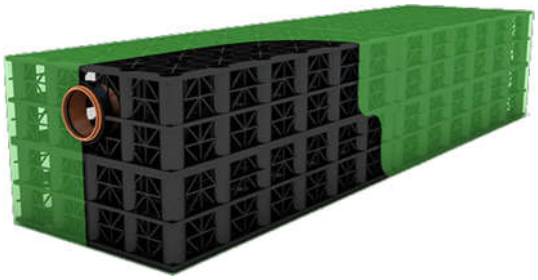
PVOD Diffuser units are a recognised method for efficient diffusion of collected rainwater run-off into and out of the voided sub-base aggregate layers beneath permeable pavements. Diffuser Units are fully compliant with BS7533-13:2009 and arrive to site ready to install with no-site assembly required. They are simply joined to standard underground push-fit pipework.

Run-off from building roofs or hard surfaces would pass through a silt catchpit chamber before discharge into a voided sub-base. The run-off will be efficiently distributed into the voided subbase layer through the highly voided surface structure of the diffuser unit.

Standard Diffuser Units



PVOD05101
for 100m² catchments
or 3 l/s discharge



PVOD05201
for 250m² catchments
or 6.3 l/s discharge

Application

The PVOD Diffuser units are installed within the pavement construction zone as a sub-base replacement system and are fully compliant with BS7533-13:2009, 'Pavements constructed with clay, natural stone or concrete pavers'.

The PVOD Diffuser is particularly useful where there are ground problems, such as high groundwater levels, contamination or shallow rock layers.

Each diffuser module is encapsulated by a 2mm mesh, which provides an excellent open surface area, allowing collected surface water runoff to easily flow into surrounding aggregate.

Coverage

A general principle for application of the diffuser unit is:

Use a 710x710x150 diffuser for up to 100m² of catchment area OR up to 3 l/s discharge*

OR

Use a 2130x355x300 diffuser for up to 250m² of catchment area OR up to 6.3 l/s discharge*

*Performance is based on the diffusers installed within a SudsAgg layer.

Bespoke Units

The above will satisfy most situations but if a larger area for inflow or higher discharge rate is required, the first recommendation is to use a 'manifold' type arrangement from a silt catchpit. If that does not provide a solution then bespoke diffuser units are available, contact the distributor who can calculate your specific requirement.

Diffuser Unit 710x710x150; 110mm ø Socket

PVOD05101

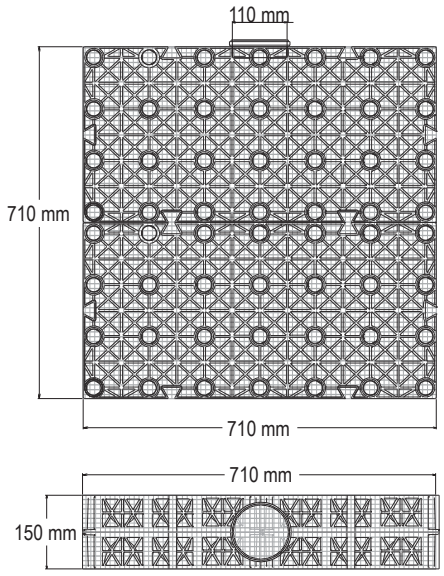
Description

The Permavoid Diffuser Unit 710x710x150; 110mm ø Socket is used for the efficient diffusion of collected surface water runoff in or out of permeable aggregates. This technique can be utilised in conjunction with both pervious and impervious surfaces, in particular where there are high groundwater levels, contamination or shallow rock layers. Each diffuser module is complete with a pre-formed 110mm Ø push fit socket for easy connection to standard PVC-u underground pipework. All diffusers are encapsulated by a 2mm mesh which avoids debris clogging and provides an excellent open surface area for surface water runoff to easily flow into the surrounding aggregate.



Packaging Details

Element	Value	Unit
Packaging unit type	Double wall cardboard	
Packaging unit dimension	726 x 712 x 152 (LxWxD)	mm
Packaging unit weight	7	kg
Number of units per pallet	27	nr
Pallet dimensions	1200 x 1200 x 150 (LxWxD)	mm
Pallet weight	214	kg



Specification

Element	Value	Unit
Unit length	710	mm
Unit width	710	mm
Unit depth	150	mm
Socket OD ⌀	110	mm
No. of sockets	1	nr
Approximate storage volume	70	L
Effective perforated surface area	59	%
Maximum roof catchment area *	100	m2
Unit weight	7	kg
Material	HDPE / PP	

Diffuse up to 100m2 roof catchment

Mesh encapsulation to avoid clogging

Standard PVC-u 110mm ⌀ Socket Connection

*Based on rainwater dispersal into a granular material with permeablitiy greater than or equal to 0.02 m/s, in accordance with UK building regulations. Please check the design and build regulations for your country or region when considering this product.

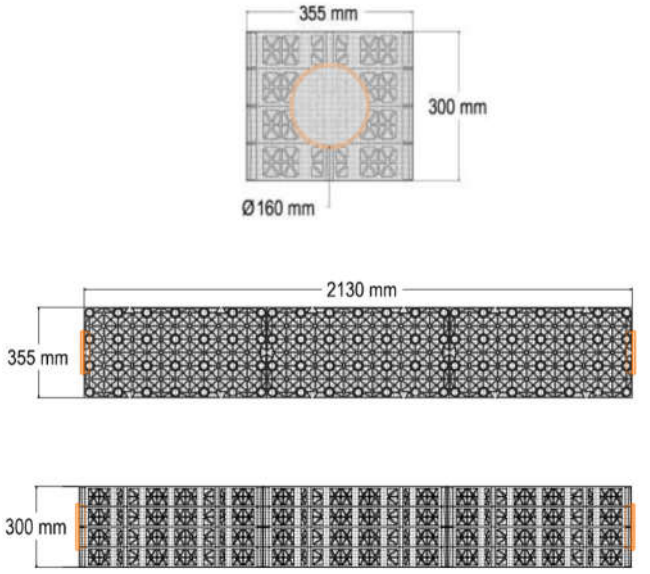
High Performance Diffuser 2130x355x300; Ø160mm Sockets

PVOD05202



Description

The PVOD05202 - High Performance Diffuser 2130x355x300; 160mm Ø Sockets is designed for the efficient diffusion of collectedsurface water runoff into permeable aggregates. This techniquecan be utilised in conjunction with both pervious and impervioussurfacings. The PVOD05202 units can also be used to supplement the storage provided within permeable aggregate layers without increasing construction depths, or to form a propriety soakaway beneath a driveway or other trafficked hardstanding.



Packaging Details

Element	Value	Unit
Packaging unit dimension	2158 x 712 x 302 (LxWxD)	mm
Packaging unit weight	18	kg
Number of units per pallet	18	nr
Pallet dimensions	2400 x 1200 x 150 (LxWxD)	mm
Pallet weight	374	kg

Specification

Element	Value	Unit
Unit length	2130	mm
Unit width	355	mm
Unit depth	300	mm
Socket ID ⌀	160	mm
No. of sockets	2	nr
Approximate storage volume	210	L
Effective perforated surface area	59	%
Maximum roof catchment area	250	m2
Unit weight	18	kg
Material	HDPE / PP	

Effective water dispersal

Standard PVC-u Ø160mm Socket Connection

Lightweight, high strength construction

Standard Diffuser Units

Below are a selection of standard diffuser units which will satisfy most situations for inflow or discharge. The first recommendation is to use a ‘manifold’ type arrangement from a silt catchpit maintaining the correct length to dispersion. If that does not provide a solution then bespoke diffuser units are available. If you cannot see a diffuser to satisfy your requirements, then contact the distributor who can provide advice.

Product Code	Length mm	Width mm	Depth mm	Connection Type	Connection Size	Connection Qty	Catchment Area* m²	Discharge Rate* l/s	Length to Dispersion m
PVOD05201	2130	355	300	Socket	110	2	250	6.3	4.225
PVOD05202	2130	355	300	Socket	160	2	250	6.3	4.225
PVOD05203	2130	355	300	Spigot	225	1	250	6.3	4.225
PVOD05101	710	710	150	Socket	110	1	100	3.0	1.937
PVOD05102	710	710	150	Spigot	160	1	100	3.0	1.937
PVOD05103	710	710	150	Socket	110	2	100	3.0	1.937
PVOD05104	710	710	150	Socket	110	2	100	3.0	1.937
PVOD05105	710	710	150	Socket	110	3	100	3.0	1.937

*Catchment areas and discharge rates based on rainwater dispersal into a granular material with permeability greater than or equal to 0.02 m/s, in accordance with UK building regulations. Ensure minimum length to dispersion is maintained for single diffuser units or double the length to dispersion between adjacent diffuser units within the granular layer. Figures quoted are based on a 130mm surcharge above the diffuser unit. Please check the design and build regulations for you country or region when considering this product.

SIDE

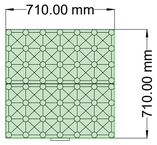
Up to 100sqm inflow
Up to 3l/s outflow



END



PLAN



PVOD
Ø110

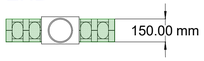
PVOD05101
Diffuser Unit
710mm x 710mm x 150mm
110mm Ø Socket

SIDE

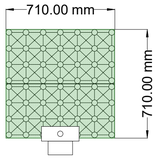
Up to 100sqm inflow
Up to 3l/s outflow



END



PLAN



PVOD
Ø160

PVOD05102
Diffuser Unit
710mm x 710mm x 150mm
160mm Ø Spigot

SIDE

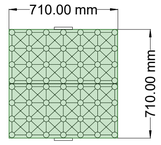
Up to 100sqm inflow
Up to 3l/s outflow



END



PLAN



PVOD
Ø110

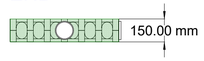
PVOD05103
Diffuser Unit
710mm x 710mm x 150mm
2x110mmØ Socket 180 deg

SIDE

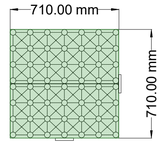
Up to 100sqm inflow
Up to 3l/s outflow



END



PLAN



PVOD
Ø110

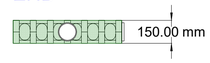
PVOD05104
Diffuser Unit
710mm x 710mm x 150mm
2x110mm Ø Socket 90 deg

SIDE

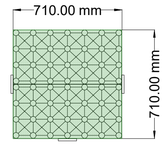
Up to 100sqm inflow
Up to 3l/s outflow



END



PLAN

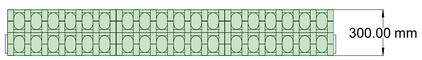


PVOD
Ø110

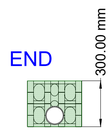
PVOD05105
Diffuser Unit
710mm x 710mm x 150mm
3x110mm Ø Socket 90 deg

SIDE

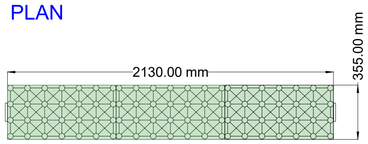
Up to 250sqm inflow
Up to 6.3l/s outflow



END



PLAN

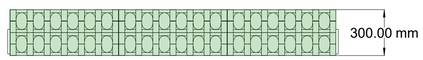


PVODØ110

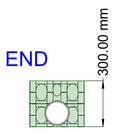
PVOD05201
High Performance Diffuser
2130 x 355 x 300mm
110mmØ Sockets

SIDE

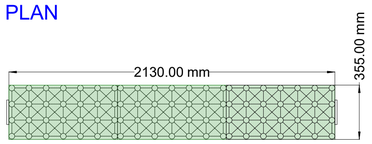
Up to 250sqm inflow
Up to 6.3l/s outflow



END



PLAN

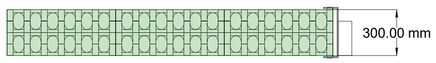


PVODØ160

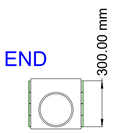
PVOD05202
High Performance Diffuser
2130 x 355 x 300mm
160mmØ Sockets

SIDE

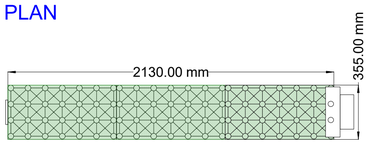
Up to 250sqm inflow
Up to 6.3l/s outflow



END



PLAN



PVODØ225

PVOD05203
High Performance Diffuser
2130 x 355 x 300mm
225mmØ Spigot

Standard Diffuser Units

the Foundation for our Future

Sel Environmental Ltd
Innovation Materialised

Canal House, Bonsall Street, Blackburn, BB2 4DD
T: 01254 589987 Sales@selenvironmental.com

Bespoke Diffuser Units

Below are a selection of bespoke diffuser units to cover situations where the standard stock diffuser units are not suitable, for instance if a larger area for inflow or higher discharge rate is required. The first recommendation is to use a 'manifold' type arrangement from a silt catchpit maintaining the correct length to dispersion. If that does not provide a solution then bespoke diffuser units are available as below. If you cannot see a diffuser to satisfy your requirements, then contact the distributor who can provide advice.

Product Code	Length mm	Width mm	Depth mm	Connection Type	Connection Size	Connection Qty	Catchment Area* m²	Discharge Rate* l/s	Length to Dispersion* m
PVOD05001	710	355	150	Socket	110	1	60	2.5	1.811
PVOD05002	710	355	150	Spigot	160	1	60	2.5	1.811
PVOD05010	710	355	300	Socket	110	1	162	4.8	3.482
PVOD05011	710	355	300	Spigot	160	1	162	4.8	3.482
PVOD05012	710	355	300	Spigot	225	1	162	4.8	3.482
PVOD05120	1065	710	150	Socket	110	1	108	3.2	1.983
PVOD05121	1065	710	150	Spigot	160	1	108	3.2	1.983
PVOD05130	1420	710	150	Socket	110	1	118	3.5	2.109
PVOD05131	1420	710	150	Spigot	160	1	118	3.5	2.109
PVOD05140	1065	710	300	Socket	110	1	189	5.6	3.893
PVOD05141	1065	710	300	Spigot	160	1	189	5.6	3.893
PVOD05150	1065	1065	150	Socket	110	1	125	3.7	2.156
PVOD05151	1065	1065	150	Spigot	160	1	125	3.7	2.156

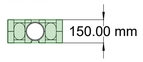
*Catchment areas and discharge rates based on rainwater dispersal into a granular material with permeability greater than or equal to 0.02 m/s, in accordance with UK building regulations. Ensure minimum length to dispersion is maintained for single diffuser units or double the length to dispersion between adjacent diffuser units within the granular layer. Figures quoted are based on a 130mm surcharge above the diffuser unit. Please check the design and build regulations for you country or region when considering this product.

SIDE

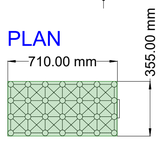
Up to 60sqm inflow
Up to 2.5l/s outflow



END



PLAN



PVOD
Ø110

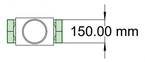
PVOD05001
Diffuser Unit
710mm x 355mm x 150mm
110mm Ø Socket

SIDE

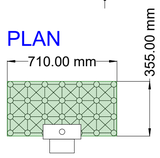
Up to 60sqm inflow
Up to 2.5l/s outflow



END



PLAN



PVOD
Ø160

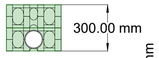
PVOD05002
Diffuser Unit
710mm x 355mm x 150mm
160mm Ø Spigot

SIDE

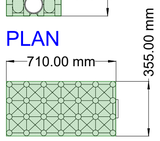
Up to 162sqm inflow
Up to 4.8l/s outflow



END



PLAN

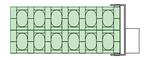


PVOD
Ø110

PVOD05010
Diffuser Unit
710mm x 355mm x 300mm
110mm Ø Socket

SIDE

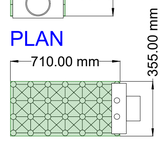
Up to 162sqm inflow
Up to 4.8l/s outflow



END



PLAN

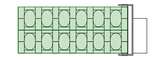


PVOD
Ø160

PVOD05011
Diffuser Unit
710mm x 355mm x 300mm
160mm Ø Spigot

SIDE

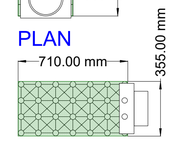
Up to 162sqm inflow
Up to 4.8l/s outflow



END



PLAN



PVOD
Ø225

PVOD05012
Diffuser Unit
710mm x 355mm x 300mm
225mm Ø Spigot

SIDE

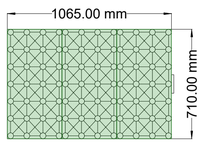
Up to 108sqm inflow
Up to 3.2l/s outflow



END



PLAN



PVOD
Ø110

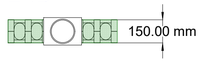
PVOD05120
Diffuser Unit
1065mm x 710mm x 150mm
110mm Ø Socket

SIDE

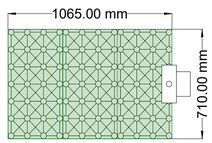
Up to 108sqm inflow
Up to 3.2l/s outflow



END



PLAN



PVOD
Ø160

PVOD05121
Diffuser Unit
1065mm x 710mm x 150mm
160mm Ø Spigot

SIDE

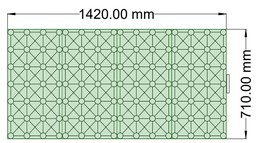
Up to 118sqm inflow
Up to 3.5l/s outflow



END



PLAN



PVOD
Ø110

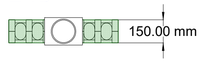
PVOD05130
Diffuser Unit
1065mm x 710mm x 150mm
110mm Ø Socket

SIDE

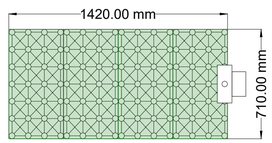
Up to 118sqm inflow
Up to 3.5l/s outflow



END



PLAN

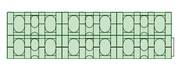


PVOD
Ø160

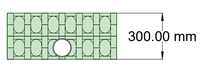
PVOD05131
Diffuser Unit
1065mm x 710mm x 150mm
160mm Ø Socket

SIDE

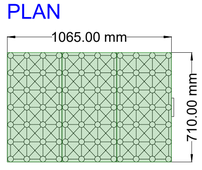
Up to 189sqm inflow
Up to 5.6l/s outflow



END



PLAN

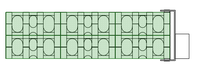


PVOD
Ø110

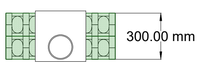
PVOD05140
Diffuser Unit
1065mm x 710mm x 300mm
110mm Ø Socket

SIDE

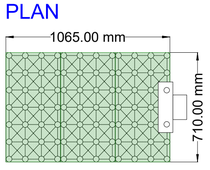
Up to 189sqm inflow
Up to 5.6l/s outflow



END



PLAN



PVOD
Ø160

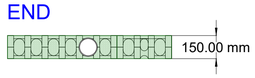
PVOD05141
Diffuser Unit
1065mm x 710mm x 300mm
160mm Ø Socket

SIDE

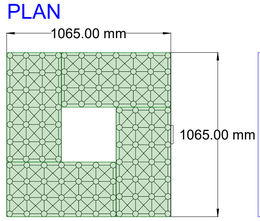
Up to 125sqm inflow
Up to 3.7l/s outflow



END



PLAN



PVOD
Ø110

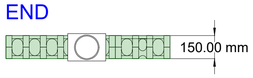
PVOD05150
Diffuser Unit
1065mm x 1065mm x 150mm
110mm Ø Socket

SIDE

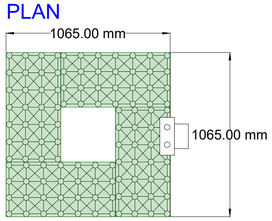
Up to 125sqm inflow
Up to 3.7l/s outflow



END



PLAN



PVOD
Ø110

PVOD05151
Diffuser Unit
1065mm x 1065mm x 150mm
160mm Ø Socket

Bespoke Diffuser Units

pvod

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