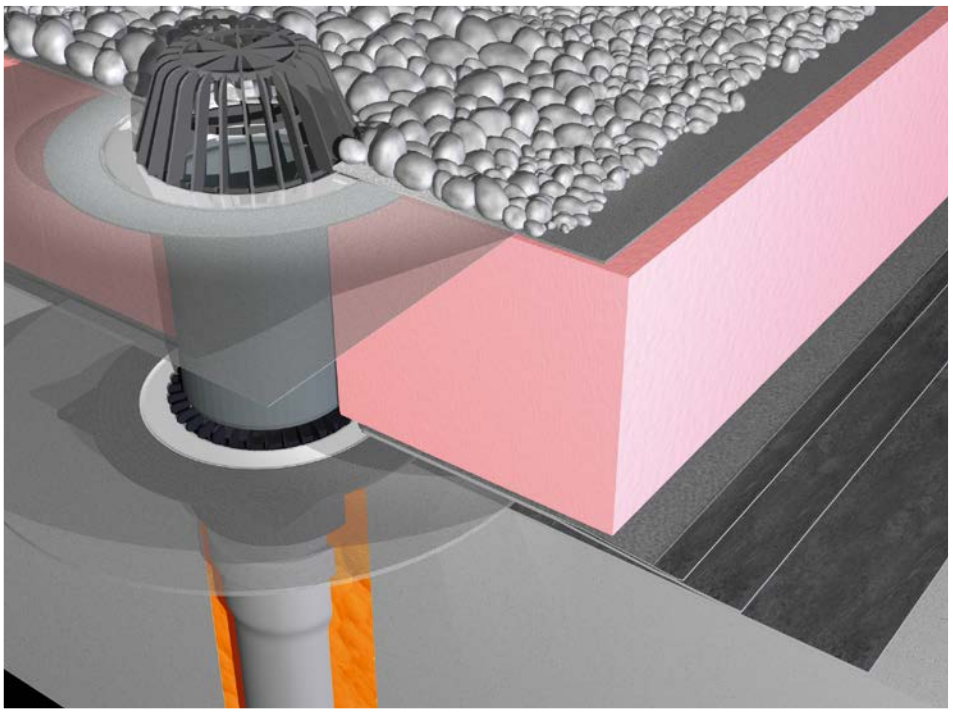
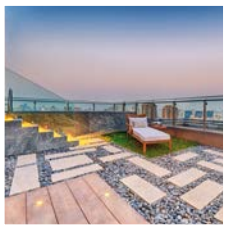
SIPHONS ABLÄUFE





HL Drains

11. Roof 11

HL Roof drains

Basic information about design and installation

For conventional roof drainage systems HL provides solutions for nearly every kind of roof construction. The challenge for the designer and the installer is very detailed. Different constructions, layer compositions and roof functions ask for varied drain combinations. Before designing please notice following topics:

▲ Calculation of the quantity of roof drains
First the quantity of rainwater has to be calculated. Acc. EN12056 and ÖNORM B2501 this is a minimum 300l/ (s x ha), which means one incident of intense rain, happening one time within 5 years for the time of 5 minutes. If this data is higher at the location of construction, this higher rain yield factor has to be taken into consideration for the calculation (please ask your local meteorological station).
Example: Roof surface = 1500m², rain yield factor = 400l/ (s x ha), coefficient 1
Rain water quantity, which has to be drained off = (400 x 1 x 1500) / 10.000 = 60 l/s.
Basically every low point of the roof should be provided with a single drain.
Anyway, the number of drains and the drain capacities has to be at least the calculated rain yield factor.
Example: Rain yield factor = 60 l/s,
drain capacity of the roof drain = 5 l/s
Quantity of roof drains = 60/5 = 12 roof drains

▲ Emergency overflows
To protect from damages, please check acc. DIN 1986-100 and ÖNORM B2501 (or local standard), if emergency overflows are requested. Acc. DIN 1986-100 and ÖNORM B2501 it has to be checked at all roof constructions, if emergency overflows are necessary, considering the expected incidents of rain at the construction site, the construction itself, the hydro-insulation, the statics of the roof and the special character of the drainage system. Two possibilities: Installation of a second drainage system or draining off by a gap in the attic. The quantity of rain water, drained off by emergency overflows, results from the difference between the century and the standard rain yield factor. (The term „century rain yield factor“ means a heavy rain incident, which may occur one time in 100 years for the time of 5 minutes).

Example:
Century rain yield factor = 800 l/ (s x ha),
standard rain yield factor = 400 l/ (s x ha)
Rain water quantity for emergency overflows = 800 - 400 = 400 l/ (s x ha).

▲ Waterproofing
Empirically roof openings most often are responsible for damages by water. That means, you have to pay most attention already during the period of designing, to have a 100% waterproof connection between the sheeting and the gully. HL provides solutions for all established waterproof sheeting. We recommend to use gullies, which are prefabricated with flanges made off the same material, as the sheeting.

▲ Drainage layers
Depending on the roof design, there might be more than one layer, which has to be drained off. Please take care, that each layer, where water may occur, is drained off (e.g. by a gravel guard).

▲ Heating
To avoid the freezing of the gully during the winter time, we recommend generally the installation of a roof drain with integrated heating. From our experience, these drains are installed, when they are connected to only storm water sewers. A heated gully is absolutely necessary, when it is at a position, where snow water may occur during day, whilst at night it might be blocked by ice.

▲ Condensed water
Roof drains should have an integrated thermo-insulation, to avoid, that condensed water arises (e.g. all HL roof drains have a double wall drain body, which functions as thermo-insulation).

Relevant standards/directives

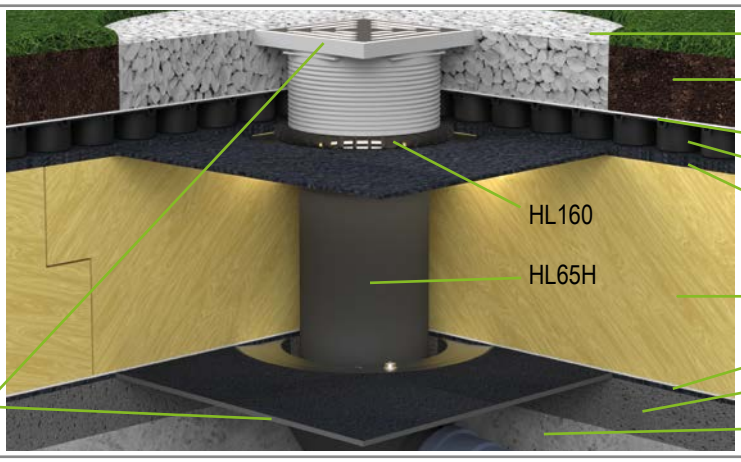
ÖNORM B 2501 ..... Drainage of buildings
DIN 1986-100 ..... Drainage systems for buildings and estates
EN 1253..... Drains for buildings
ÖNORM B 2209 ..... Waterproofing works
ÖNORM B 2220 ..... Roof waterproofings with bitumen and plastic sheetings
ÖNORM B 7209 ..... Waterproofings for buildings
ÖNORM B 7220 ..... Roofs with waterproofings

Selection of the convenient drain

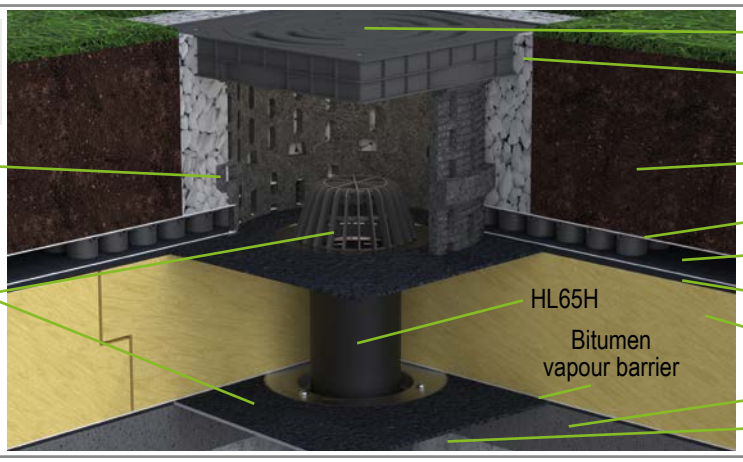
Selective criteria	Requirements	Product
Drainage surface	When you calculate the quantity of occuring rain water acc. ÖNORM B2501 and DIN 1986-100, you have to use at least the standard rain yield factor of 300 l/ (s x ha). Quantity of rain water = 0,03 l/s x drainage surface (m^2) Quantity of gullies = $\frac{\text{Absolute quantity of rain water}}{\text{Capacity of the gully}}$	For the exact definition of the right drain and the quantity of gullies, please mind the capacity of the particular article.
Waterproofing	For the right choice of the convenient drain, please find out, which waterproof sheeting material is used on the roof. Please prefer drains with prefabricated PVC- or bitumen flanges, when the roof is sheeted with PVC or bitumen. For all other sheeting you may use drains with a clamping ring.	
	Bitumen sheeting, liquid bitumen compounds	Roof drain vertical HL62H Roof drain horizontal HL64H
	PVC-sheeting	Roof drain vertical HL62P Roof drain horizontal HL64P
	FPO-sheeting	Roof drain vertical HL62F Roof drain horizontal HL64F
	Polymer sheeting	Roof drain vertical HL62 Roof drain horizontal HL64
Roof construction	To find out, what is the best composition of the drain, like extension (with our without flange), gravel guard (e.g. for inverted roofs) or heating, a detailed plan of the different layers is necessary.	
	Extension with flange for e.g. warm roofs	HL65(H)(P)(F)(PE)
	Gravel guard for e.g. inverted roofs	HL160, HL161
	Extension with flange	HL350.0
	Extension	HL350
	Drainage- and inspection-chamber	HL635N
Heating	All types of roof drains, signed with the appendix „.1“ are equipped with an integrated, self-adjusting 230 V heating (10 - 30 Watt). We recommend gullies with heating especially, when the drainage system is connected to the rainwater drain.	„.1“
Siphon trap	All types of drains are without siphon trap. If the drainage system is connected to the sewer, it is possible, to install a central, vertical flap valve for down pipes below the roof as a stench trap.	HL603

HL Roof drains – Installation examples – Warm roof

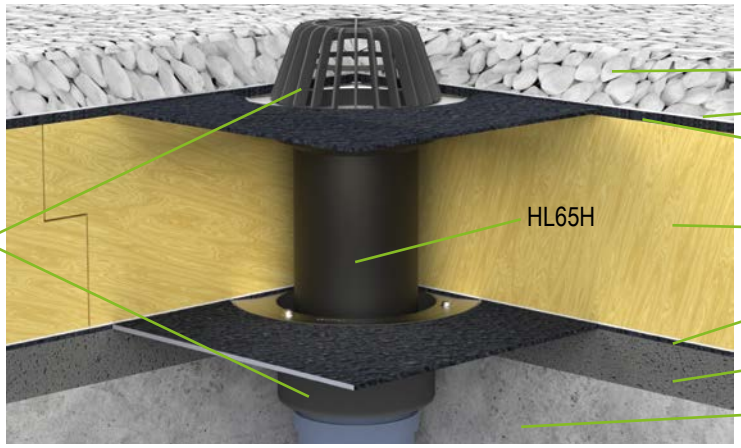
Extensive green roof



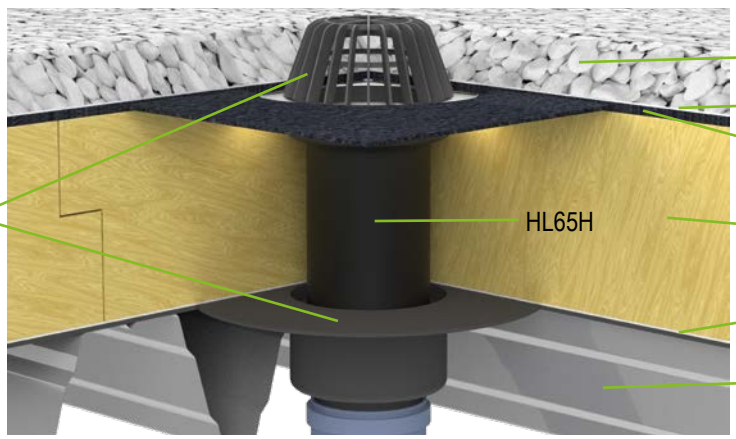
Intensive green roof with drainage and inspection chamber



Gravel roof



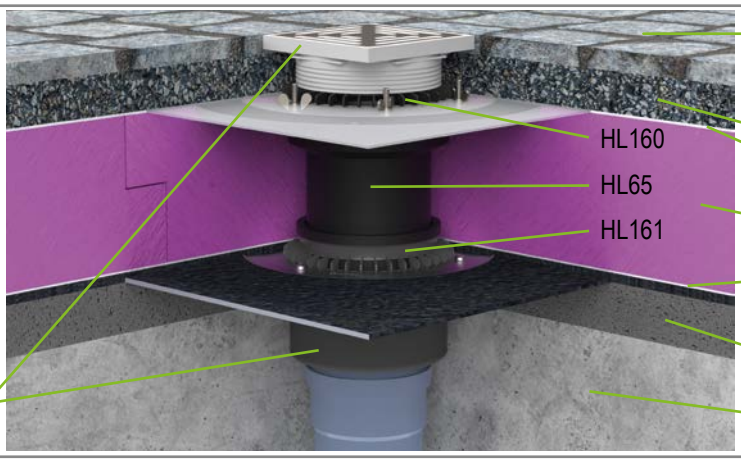
Lightweight design with gravel



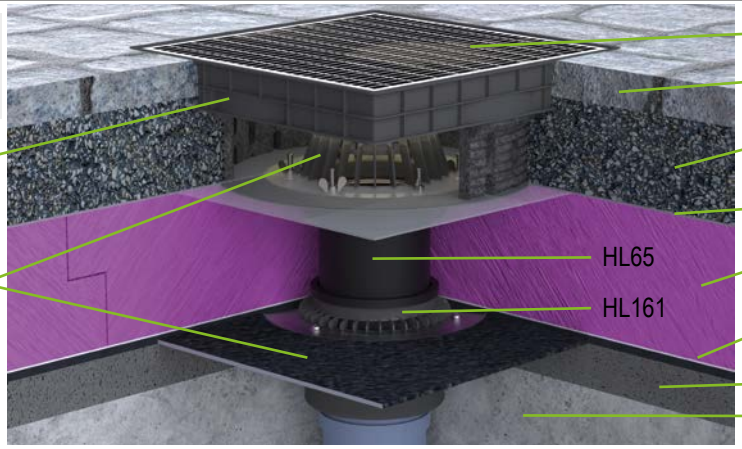
Further installation examples can be found at http://hl.blucina.net

HL Roof drains – Installation examples – Inverted roof

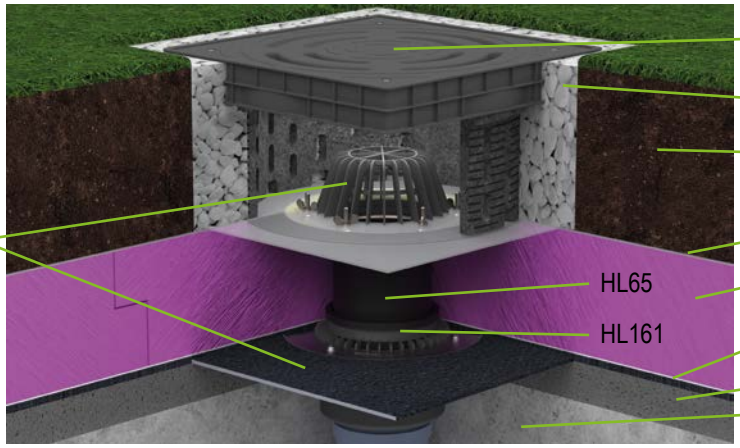
Stone slabs on gravel



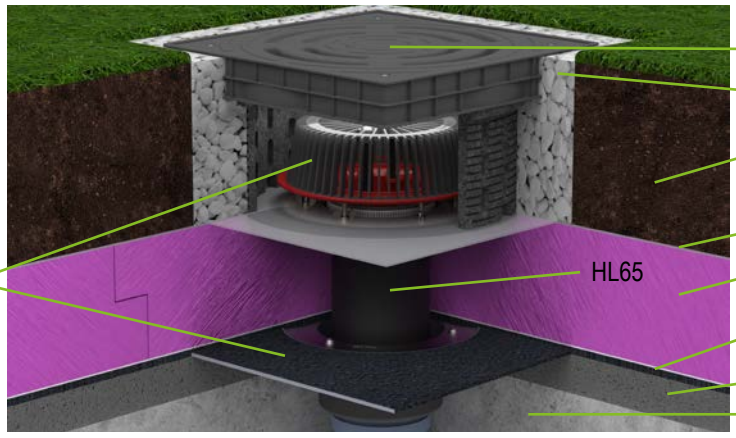
Stone slabs on gravel with drainage and inspection chamber



Intensive green roof with drainage- and inspection chamber



Emergency drainage for green roofs with drainage- and inspection chamber



HL Roof drains – Installation

Thermal insulated inverted roof with gravel embankment

1. Produce tap hole with Ø 255 mm, insert drain HL62H

2. Apply prime coat on the raw ceiling

3. Weld the first bitumen layer on the raw ceiling, then weld the bitumen flange of the drain on the biumen layer

4. Connect second bitumen layer with the bitumen flange of the drain

5. Professional integration of the gully in a 2-layer bitumen sheeting

6. Remove lid cover, apply the fleece, insert gravel guard HL160

7. Put the extension HL350.0 on the gravel guard HL160

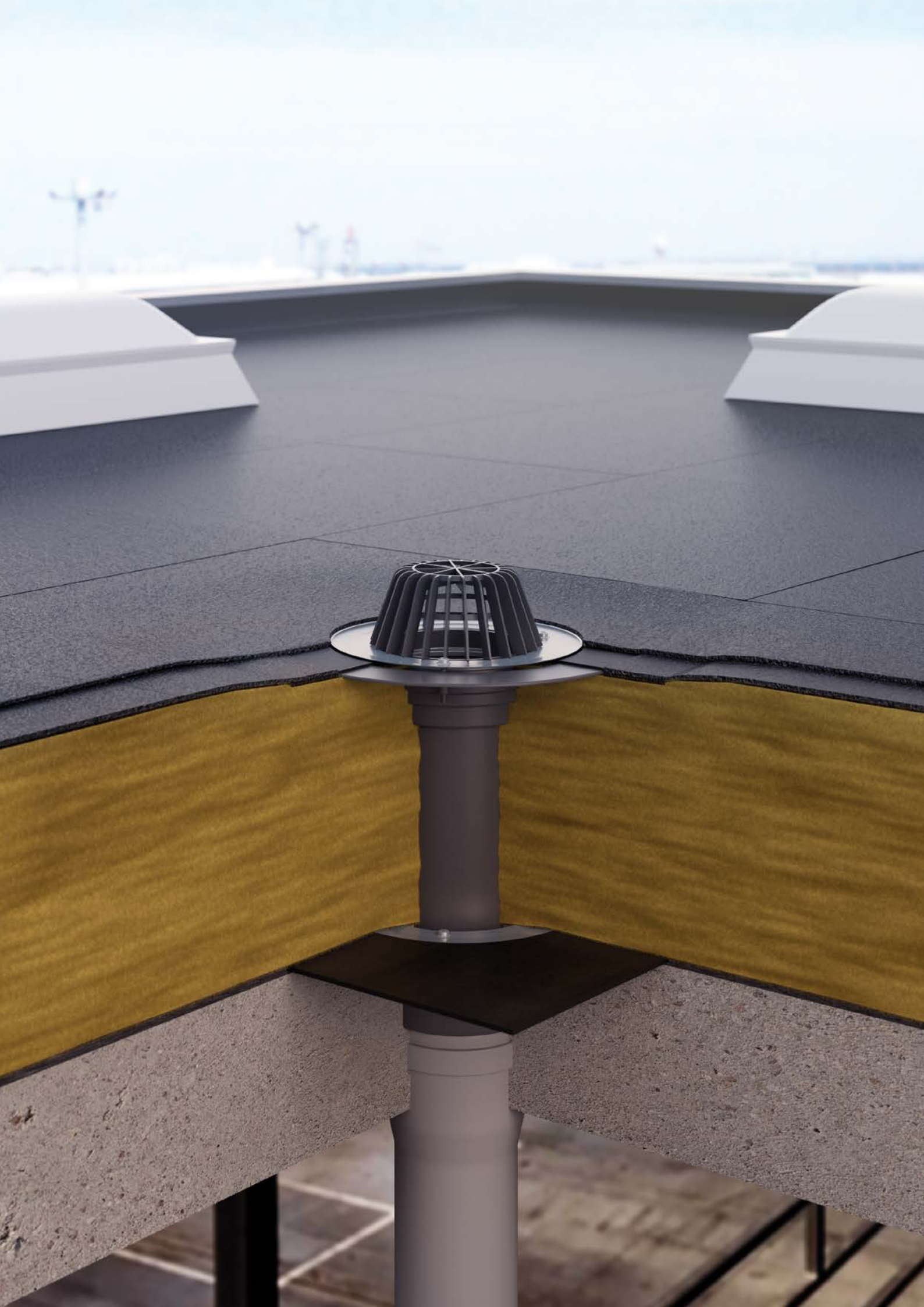
8. Set the thermal insulation plates, adjust the height of the extension by cutting

9. Insert the transparent plastic ring in the groove of the flange

10. Clamp the fleece on the flange with the stainless steel ring

11. Insert leaf catcher, dispense the gravel with minimum grain size 16/32 around the leaf catcher

12. Fill with gravel



HL Roof drains – Products – Overview

Drains

Product	HL62	HL62H	HL62P	HL62F	HL64	HL64H	HL64P
Description	Standard roof drain vertical with clamp ring	Roof drain vertical with bitumen membrane	Roof drain vertical with PVC-flange	Roof drain vertical with PP-flange	Standard roof drain horizontal with clamp ring	Roof drain horizontal with bitumen membrane	Roof drain horizontal with PVC-flange
Function	To clamp polymer sheeting	Especially for connection to bitumen sheeting	Especially for connection to PVC-sheeting	Especially for connection to FPO-sheeting based on PP	For clamping of polymer sheeting	Especially for connection to bitumen sheeting	Especially for connection to PVC-sheeting

All drains of series HL62 and HL64 are also available with an assembly kit for terraces.
All drains of series HL62 and HL64 are also available with integrated heating.
For more information see product data.

Drains

More spare parts for HL80.3 and HL80.3H find in chapter „balcony - terraces".

Product	HL80.3	HL80.3H
Description	Flat roof drain	Flat roof drain with bitumen flange
Function	For roof areas up to 33 m² and rain yield factor of 300 l/ (s x ha)	For roof areas up to 33 m² and rain yield factor of 300 l/ (s x ha) especially for connection to bitumen sheeting

Extensions

Product	HL65	HL65H	HL65P	HL65F(HL65PE)	HL350	HL350.0
Description	Standard extension	Extension with bitumen flange	Extension with PVC-flange	The extension with PP or PE flange	Extension	Extension with insulation set
Function	For clamping of polymer sheeting, e.g. warm roofs	Especially for connection to bitumen sheeting, e.g. warm roofs	Especially for connection to PVC sheeting, e.g. warm roofs	Especially for connection to FPO based on PP or PE	To extend the leaf catcher or the grating of the walkalble type	To extend the leaf catcher or the grating of the walkable type with additional clamp ring

HL Roof drains – Products – Overview

HL64F	HL63	HL63H	HL63P	HL69	HL69H	HL69P
Roof drain horizontal with PP-flange	Roof drain „Drainbox“ vertical with clamp ring	Roof drain „Drainbox“ vertical with bitumen membrane	Roof drain „Drainbox“ vertical with PVC-flange	Flat-roof renovation drain vertical with clamp ring	Flat-roof renovation drain vertical with bitumen membrane	Flat-roof renovation drain vertical with PVC-flange
Especially for connection to FPO sheeting based on PP	For clamping of polymer sheeting and for the installation in thermal insulations from 100 - 160 mm	Especially for connection to bitumen sheeting, and for the installation in thermal insulations from 100 - 160 mm	Especially for connection to PVC sheeting, and for the installation in thermal insulations from 100 - 160 mm	For clamping of polymer sheeting and for the renovation of the drainage system. Easily to be plugged into the body of the old drain	Especially for connection to bitumen sheeting and for the renovation of the drainage system. Easily to be plugged into the body of the old drain	Especially for connection to PVC sheeting and for the renovation of the drainage system. Easily to be plugged into the body of the old drain

Sealing kits

Product data please see Chapter Sealing kits-Extensions

Product	HL84.H	HL84.CU	HL84.E
Description	Sealing kit with bitumen membrane	Sealing kit with copper plate	Sealing kit with galvanized steel plate
Function	For clamping to a standard roof drain or a standard extension. „Problem solver“	Fits to a standard roof drain or to a standard extension - for roofs with copper sheeting	Fits to a standard roof drain or to a standard extension - for roofs with steel sheeting

Accessories

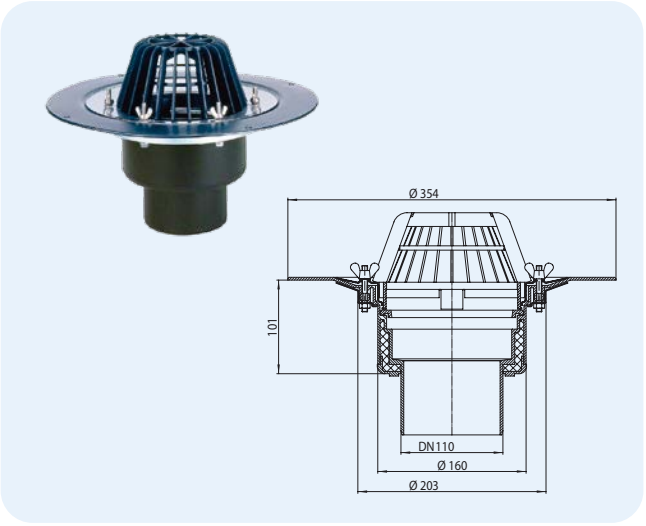
Product	HL160	HL161	HL66.9	HL635N	HL603
Description	Gravel guard for inverted roofs	Drainage element	Walkable extension	Stainless steel leaf catcher	Flap valve for downpipes DN110 or DN160
Function	For the drainage of rainwater on the hydro-insulation layer, e.g. inverted roof construction	For drainage of condensation water on the vapour barrier, e.g. with aered flat roofs.	To convert roof drains with leaf catcher to a walkable type	Fits for all roof drains and extensions with clamp ring	Prevents from sewer stench

HL Roof drains – Products – Data

HL62 Roof drain with thermal insulation
HL62.1 Roof drain like HL62, but electrically heated

Data

Material	PP, drain body thermal insulated
Outlet	vertical
Sealing flange	PP with stainless steel clamp ring
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	Polymer sheeting
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover, 6 pcs. HL062N.4E hex nut alternative to wing nuts

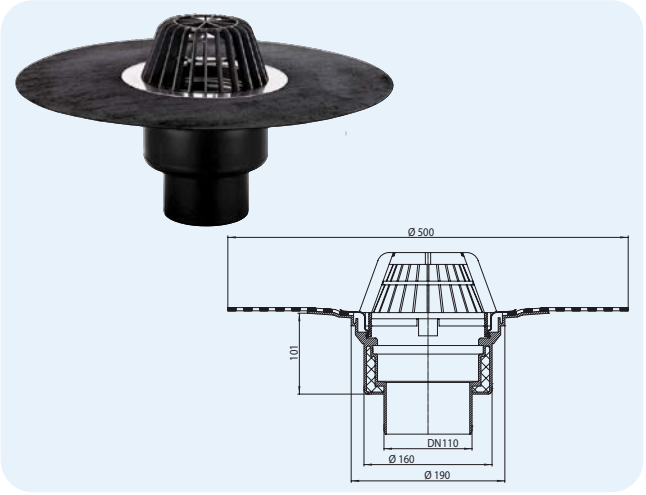


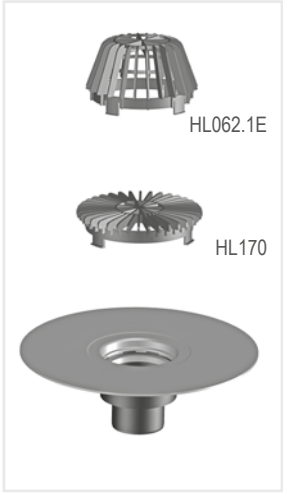
HL-No.	Dimension	Weight	EAN	Piece/package	Type
62/7	DN75	1507 g	+830626	1	Standard
62.1/7	DN75	1647 g	+832620	1	**with heating**
62/1	DN110	1486 g	+800629	1	Standard
62.1/1	DN110	1626 g	+802623	1	**with heating**
62/2	DN125	1481 g	+810628	1	Standard
62.1/2	DN125	1621 g	+812622	1	**with heating**
62/5	DN160	1515 g	+820627	1	Standard
62.1/5	DN160	1655 g	+822621	1	**with heating**

HL62H Roof drain with bitumen membrane
HL62.1H Roof drain like HL62H, but with electrical heating

Data

Material	PP, drain body thermal insulated
Outlet	vertical
Sealing flange	PP, stainless steel, prefabricated welded **bitumen membrane**
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	Bitumen sheeting
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1H: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover





HL-No.	Dimension	Weight	EAN	Piece/package	Type
62H/7	DN75	1853 g	+831623	1	Standard
62.1H/7	DN75	1993 g	+806225	1	**with heating**
62H/1	DN110	1832 g	+801626	1	Standard
62.1H/1	DN110	1972 g	+816217	1	**with heating**
62H/2	DN125	1827 g	+811625	1	Standard
62.1H/2	DN125	1967 g	+826216	1	**with heating**
62H/5	DN160	1861 g	+821624	1	Standard
62.1H/5	DN160	2001 g	+836215	1	**with heating**

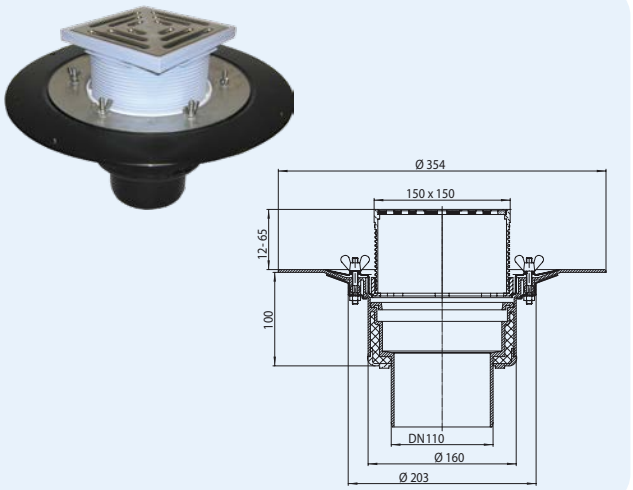
Drainage table HL62, HL62.1, HL62H, HL62.1H
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 vertical	1,7 (35 mm)	0,9	3,5	6,8	9,9	13,2	15,0	15,1	15,2
DN110 vertical	4,5 (35 mm)	1,0	4,1	7,3	10,7	14,5	18,3	23,2	29,4
DN125 vertical	7,0 (45 mm)	1,0	4,1	6,9	10,2	14,0	17,7	22,4	27,7
DN160 vertical	8,1 (45 mm)	1,0	4,2	7,1	10,3	14,1	18,0	22,6	28,4

HL62B Roof drain, walkable
HL62.1B Roof drain like HL62B, but with electrical heating

Data

Material	PP, drain body thermal insulated
Outlet	vertical
Extension	PP, 150 x 150 mm, adjustable in length
Sealing flange	PP with stainless steel clamp ring
Inlet	Stainless steel grate, 137 x 137 mm
Standard	EN 1253
Load classification	K3, max. 300 kg
Recommended for	Polymer sheeting, walkable flat roofs
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1B: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover, 6 pcs. HL062N.4E hex nut alternative to wing nuts

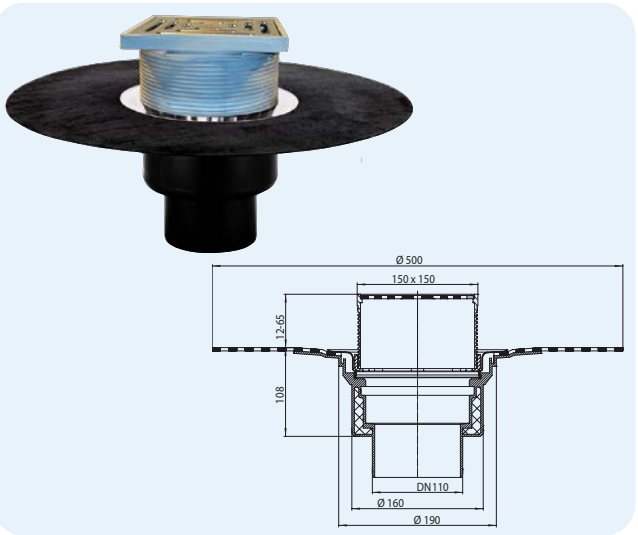


HL-No.	Dimension	Weight	EAN	Piece/package	Type
62B/7	DN75	1803 g	+836253	1	Standard
62.1B/7	DN75	1943 g	+832514	1	**with heating**
62B/1	DN110	1782 g	+806256	1	Standard
62.1B/1	DN110	1922 g	+802517	1	**with heating**
62B/2	DN125	1777 g	+816255	1	Standard
62.1B/2	DN125	1917 g	+812516	1	**with heating**
62B/5	DN160	1811 g	+826254	1	Standard
62.1B/5	DN160	1951 g	+822522	1	**with heating**

HL62BH Roof drain walkable, with bitumen membrane
HL62.1BH Roof drain like HL62BH, but electrically heated

Data

Material	PP, drain body thermal insulated
Outlet	vertical
Extension	PP, 150 x 150 mm, adjustable in length
Sealing flange	PP, stainless steel, prefabricated welded **bitumen membrane**
Inlet	Stainless steel grate, 137 x 137 mm
Standard	EN 1253
Load classification	K3, max. 300 kg
Recommended for	Bitumen sheeting; walkable flat roofs
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1BH: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover



HL-No.	Dimension	Weight	EAN	Piece/package	Type
62BH/7	DN75	2104 g	+846221	1	Standard
62.1BH/7	DN75	2244 g	+802128	1	**with heating**
62BH/1	DN110	2083 g	+816224	1	Standard
62.1BH/1	DN110	2223 g	+812127	1	**with heating**
62BH/2	DN125	2078 g	+826223	1	Standard
62.1BH/2	DN125	2218 g	+822126	1	**with heating**
62BH/5	DN160	2112 g	+836222	1	Standard
62.1BH/5	DN160	2252 g	+832125	1	**with heating**

Drainage table HL62B, HL62.1B, HL62BH, HL62.1BH
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 vertical	1,7 (35 mm)	0,70	1,85	4,60	7,40	10,25	-	-	-
DN110 vertical	4,5 (35 mm)	0,80	1,80	3,70	6,45	9,15	9,35	9,40	9,60
DN125 vertical	7,0 (45 mm)	0,65	1,85	3,65	5,10	6,05	7,75	8,10	8,50
DN160 vertical	8,1 (45 mm)	0,80	2,10	4,20	5,95	6,95	7,50	7,85	8,00

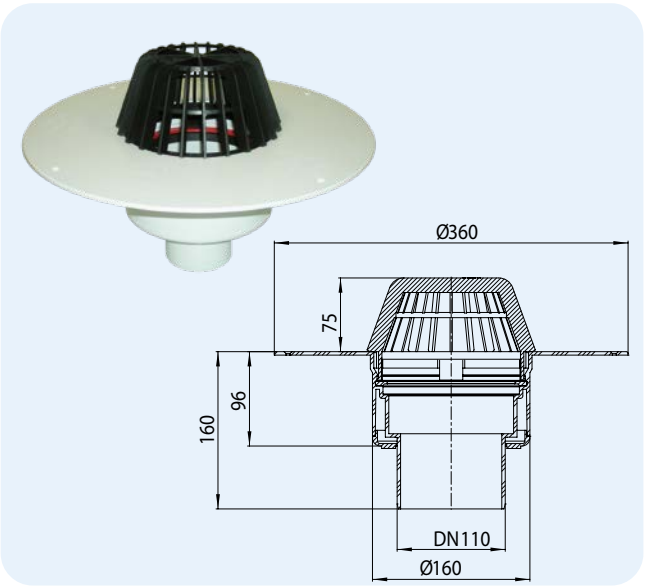
Drainage capacity measured according to EN 1253-2:2015 according to clause 5.5.1.2 free draining

Nominal width	DIN EN 1253	5 mm	15 mm	20 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 vertical	0,8 (35 mm)	0,70	2,00	3,10	3,95	4,10	4,15	4,40	4,45
DN110 vertical	1,4 (35 mm)	0,45	1,80	2,60	3,90	4,55	5,00	5,55	5,90
DN125 vertical	2,8 (45 mm)	0,50	1,65	2,65	3,70	4,20	4,65	5,05	5,40
DN160 vertical	4,0 (45 mm)	0,50	1,75	2,75	3,80	4,20	4,75	5,00	5,40

HL62P Roof drain with PVC-flange
HL62.1P Roof drain like HL62P, but electrically heated

Data

Material	PP, PVC, drain body thermal insulated
Sealing flange	**PVC**, weldable with hot air
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	PVC-sheeting
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1P: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover

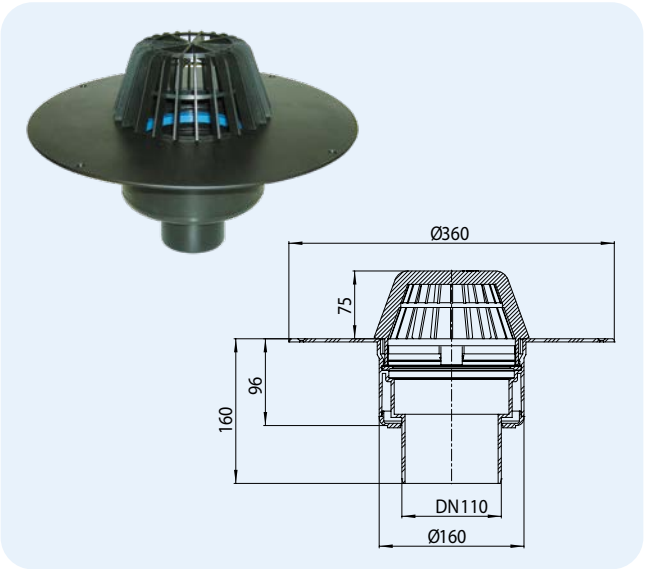


HL-No.	Dimension	Weight	EAN	Piece/package	Type
62P/7	DN75	1307 g	+022144	1	Standard
62.1P/7	DN75	1447 g	+022205	1	**with heating**
62P/1	DN110	1286 g	+022090	1	Standard
62.1P/1	DN110	1426 g	+021925	1	**with heating**
62P/2	DN125	1281 g	+022113	1	Standard
62.1P/2	DN125	1421 g	+022168	1	**with heating**
62P/5	DN160	1315 g	+022120	1	Standard
62.1P/5	DN160	1544 g	+022182	1	**with heating**

HL62F Roof drain with PP-flange
HL62.1F Roof drain like HL62F, but electrically heated

Data

Material	PP, drain body thermal insulated
Sealing flange	PP, weldable with hot air
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	FPO-sheeting, based on PP
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1F: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover



HL-No.	Dimension	Weight	EAN	Piece/package	Type
62F/7	DN75	1307 g	+031740	1	Standard
62.1F/7	DN75	1447 g	+031825	1	**with heating**
62F/1	DN110	1286 g	+031726	1	Standard
62.1F/1	DN110	1426 g	+031788	1	**with heating**
62F/2	DN125	1281 g	+031764	1	Standard
62.1F/2	DN125	1421 g	+031801	1	**with heating**

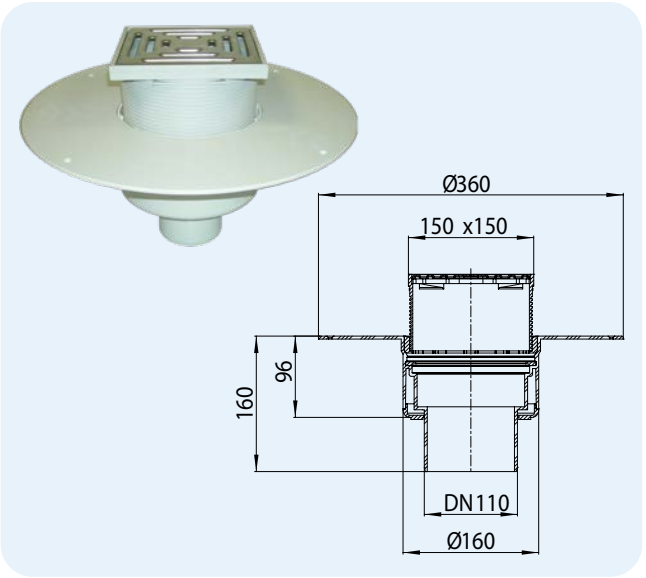
Drainage table HL62P, HL62.1P, HL62F, HL62.1F
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 vertical	1,7 (35 mm)	0,55	2,30	4,50	7,40	10,60	12,85	16,30	16,30
DN110 vertical	4,5 (35 mm)	0,65	2,50	5,00	7,85	11,45	15,20	19,20	23,60
DN125 vertical	7,0 (45 mm)	0,65	2,50	4,90	7,50	10,75	14,40	18,70	23,10
DN160 vertical	8,1 (45 mm)	0,55	2,55	4,95	7,70	11,10	14,50	18,20	23,60

HL62BP Roof drain with PVC-flange, walkable
HL62.1BP Roof drain like HL62BP, but electrically heated

Data

Material	PP, PVC, drain body thermal insulated
Extension	PP, 150 x 150 mm, adjustable in length
Sealing flange	**PVC**, weldable with hot air
Inlet	Stainless steel grate, 137 x 137 mm
Standard	EN 1253
Load classification	K3, max. 300 kg
Recommended for	PVC-sheeting, walkable flat roofs
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1BP: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover



HL66.9


HL0317.1E


HL062B.2E


HL062B.3E

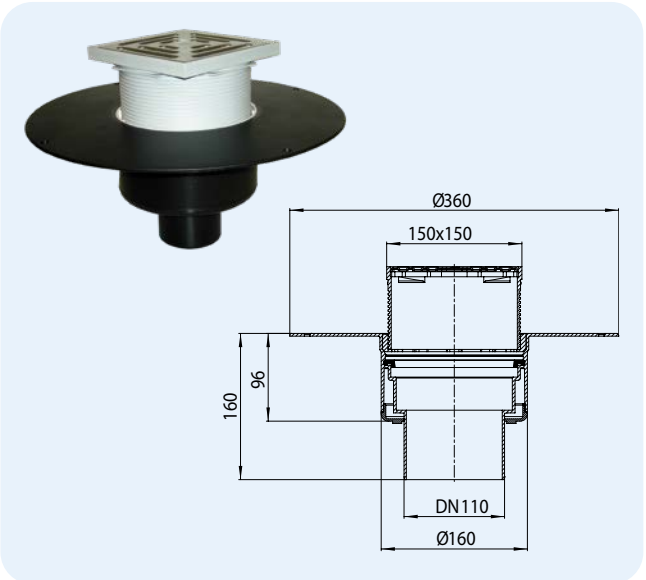

HL170

HL-No.	Dimension	Weight	EAN	Piece/package	Type
62BP/7	DN75	1603 g	+022311	1	Standard
62.1BP/7	DN75	1743 g	+022397	1	**with heating**
62BP/1	DN110	1582 g	+022250	1	Standard
62.1BP/1	DN110	1722 g	+022335	1	**with heating**
62BP/2	DN125	1577 g	+022274	1	Standard
62.1BP/2	DN125	1717 g	+022359	1	**with heating**
62BP/5	DN160	1611 g	+022298	1	Standard
62.1BP/5	DN160	1751 g	+022373	1	**with heating**

HL62BF Roof drain with PP-flange, walkable
HL62.1BF Roof drain like HL62BF, but electrically heated

Data

Material	PP
Extension	PP, 150 x 150 mm, adjustable in length
Sealing flange	PP, weldable with hot air
Inlet	Stainless steel grate, 137 x 137 mm
Standard	EN 1253
Load classification	K3, max. 300 kg
Recommended for	FPO-sheeting, based on PP, walkable flat roofs
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1BF: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover



HL66.9


HL0317.1E


HL062B.2E


HL062B.3E


HL170

HL-No.	Dimension	Weight	EAN	Piece/package	Type
62BF/7	DN75	1603 g	+031344	1	Standard
62.1BF/7	DN75	1743 g	+031849	1	**with heating**
62BF/1	DN110	1582 g	+031351	1	Standard
62.1BF/1	DN110	1722 g	+031863	1	**with heating**
62BF/2	DN125	1577 g	+031368	1	Standard
62.1BF/2	DN125	1717 g	+031887	1	**with heating**

Drainage table HL62BP, HL62.1BP, HL62BF, HL62.1BF
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 vertical	1,7 (35 mm)	0,70	1,85	4,60	7,40	10,25	-	-	-
DN110 vertical	4,5 (35 mm)	0,80	1,80	3,70	6,45	9,15	9,35	9,40	9,60
DN125 vertical	7,0 (45 mm)	0,65	1,85	3,65	5,10	6,05	7,75	8,10	8,50
DN160 vertical	8,1 (45 mm)	0,80	2,10	4,20	5,95	6,95	7,50	7,85	8,00

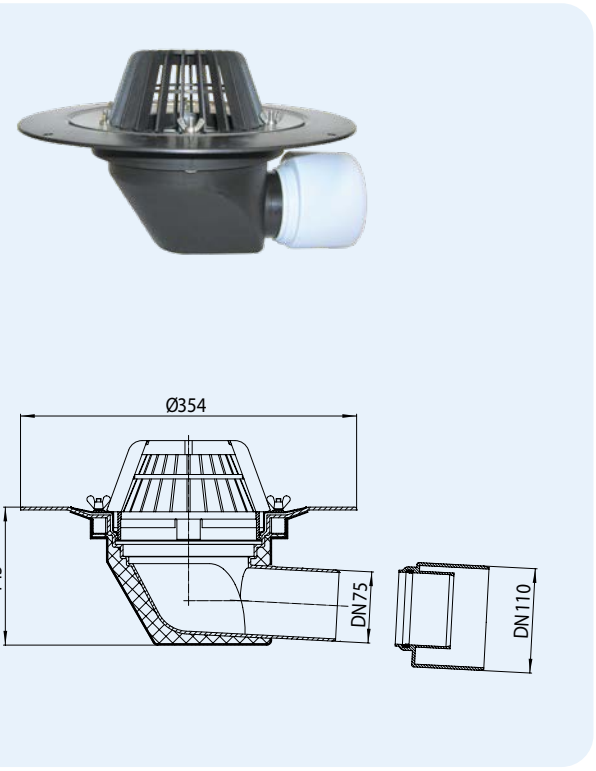
Drainage capacity measured according to EN 1253-2:2015 according to clause 5.5.1.2 free draining

Nominal width	DIN EN 1253	5 mm	15 mm	20 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 vertical	0,8 (35 mm)	0,70	2,00	3,10	3,95	4,10	4,15	4,40	4,45
DN110 vertical	1,4 (35 mm)	0,45	1,80	2,60	3,90	4,55	5,00	5,55	5,90
DN125 vertical	2,8 (45 mm)	0,50	1,65	2,65	3,70	4,20	4,65	5,05	5,40
DN160 vertical	4,0 (45 mm)	0,50	1,75	2,75	3,80	4,20	4,75	5,00	5,40

HL64 Roof drain with thermal insulation
HL64.1 Roof drain like HL64, but electrically heated

Data

Material	PP, drain body thermal insulated
Sealing flange	PP with stainless steel clamp ring
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	Polymer sheeting
Additional information	Notch dimension: 260 x 380 mm HL64.1: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover, 6 pcs. HL062N.4E hex nut alternative to wing nuts

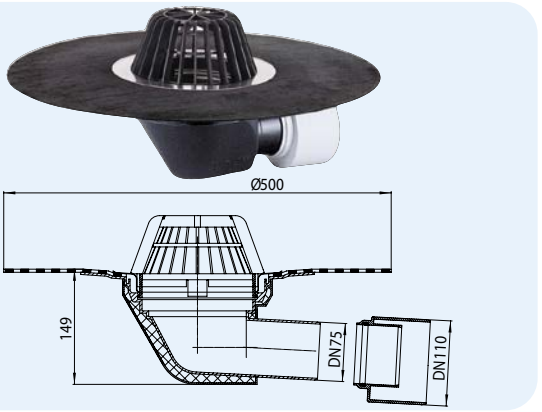


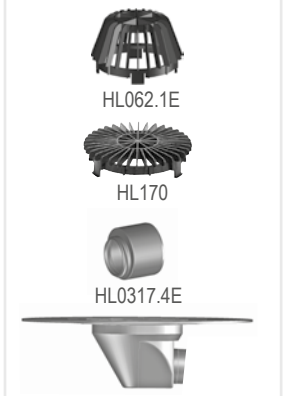
HL-No.	Dimension	Weight	EAN	Piece/package	Type
64	DN75/110	1639 g	+800643	1	Standard
64.1	DN75/110	1781 g	+806416	1	**with heating**

HL64H Roof drain with bitumen membrane
HL64.1H Roof drain like HL64H, but electrically heated

Data

Material	PP, drain body thermal insulated
Sealing flange	PP, Stainless steel, prefabricated welded **bitumen membrane**
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	Bitumen sheeting
Additional information	Notch dimension: 260 x 380 mm HL64.1H: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover





HL-No.	Dimension	Weight	EAN	Piece/package	Type
64H	DN75/110	1953 g	+801640	1	Standard
64.1H	DN75/110	2095 g	+816415	1	**with heating**

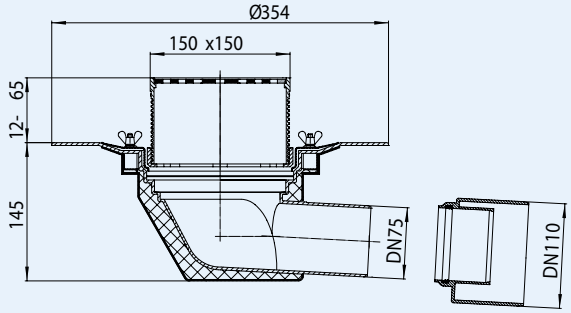
Drainage table HL64, HL64.1, HL64H, HL64.1H
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN 75 horizontal	1,7 (35 mm)	0,90	3,80	6,00	10,00	13,50	16,50	16,70	16,80
DN 110 horizontal	4,5 (35 mm)	0,90	3,80	5,10	6,00	6,50	6,50	6,50	6,50

HL64B Roof drain walkable
HL64.1B Roof drain like HL64B, but electrically heated

Data

Material	PP, drain body thermal insulated
Extension	PP, 150 x 150 mm, adjustable in length
Sealing flange	PP with stainless steel clamp ring
Inlet	Stainless steel grate, 137 x 137 mm
Standard	EN 1253
Load classification	K3, max. 300 kg
Recommended for	Polymer sheeting, walkable flat roofs
Additional information	Notch dimension: 260 x 380 mm HL64.1B: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover, 6 pcs. HL062N.4E hex nut alternative to wing nuts



HL66.9


HL0317.1E


HL062B.2E


HL062B.3E


HL170


HL062.4E


HL062.3E

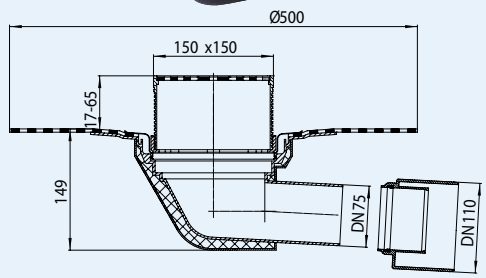

HL0317.4E

HL-No.	Dimension	Weight	EAN	Piece/package	Type
64B	DN75/110	1900 g	+806423	1	Standard
64.1B	DN75/110	2042 g	+814121	1	**with heating**

HL64BH Roof drain walkable, with bitumen membrane
HL64.1BH Roof drain like HL64BH, but electrically heated

Data

Material	PP, drain body thermal insulated
Extension	PP, 150 x 150 mm, adjustable in length
Sealing flange	PP, Stainless steel, prefabricated welded **bitumen membrane**
Inlet	Stainless steel grate, 137 x 137 mm
Standard	EN 1253
Load classification	K3, max. 300 kg
Recommended for	Bitumen sheeting; walkable flat roofs
Additional information	Notch dimension: 260 x 380 mm HL64.1BH: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover



HL66.9


HL0317.1E


HL062B.2E


HL062B.3E


HL170


HL0317.4E

HL-No.	Dimension	Weight	EAN	Piece/package	Type
64BH	DN75/110	2293 g	+816422	1	Standard
64.1BH	DN75/110	2435 g	+864126	1	**with heating**

Drainage table HL64B, HL64.1B, HL64BH, HL64.1BH
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b) and pt. 5.5.1.2 Fig. 9
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 horizontal	1,7 (35 mm)	0,55	1,80	4,00	6,50	9,55	-	-	-
DN110 horizontal	4,5 (35 mm)	0,60	1,90	3,45	3,85	4,15	4,50	4,70	4,80

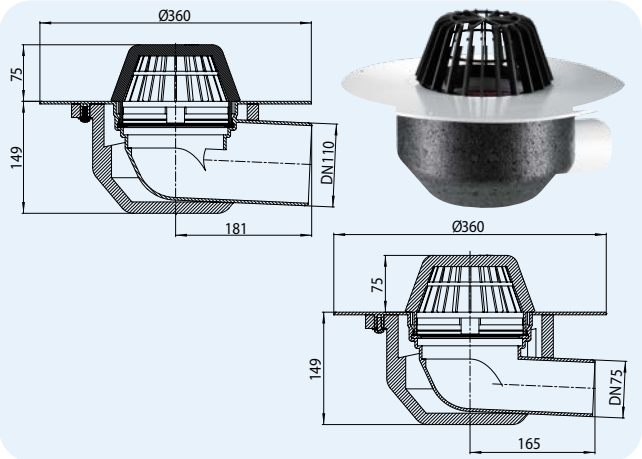
Drainage capacity measured according to EN 1253-2:2015 according to clause 5.5.1.2 free draining

Nominal width	DIN EN 1253	5 mm	15 mm	20 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 horizontal	0,8 (35 mm)	0,65	1,85	2,95	3,65	3,85	3,90	4,00	4,05
DN110 horizontal	1,4 (35 mm)	0,55	1,80	3,05	3,65	3,85	3,95	4,10	4,15

HL64P Roof drain with PVC-flange
HL64.1P Roof drain like HL64P, but electrically heated

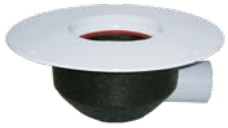
Data

Material	PP, PVC, drain body thermal insulated
Sealing flange	**PVC**, weldable with hot air
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	PVC-sheeting
Additional information	Notch dimension: 260 x 380 mm HL64.1P: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover




HL062.1E


HL170

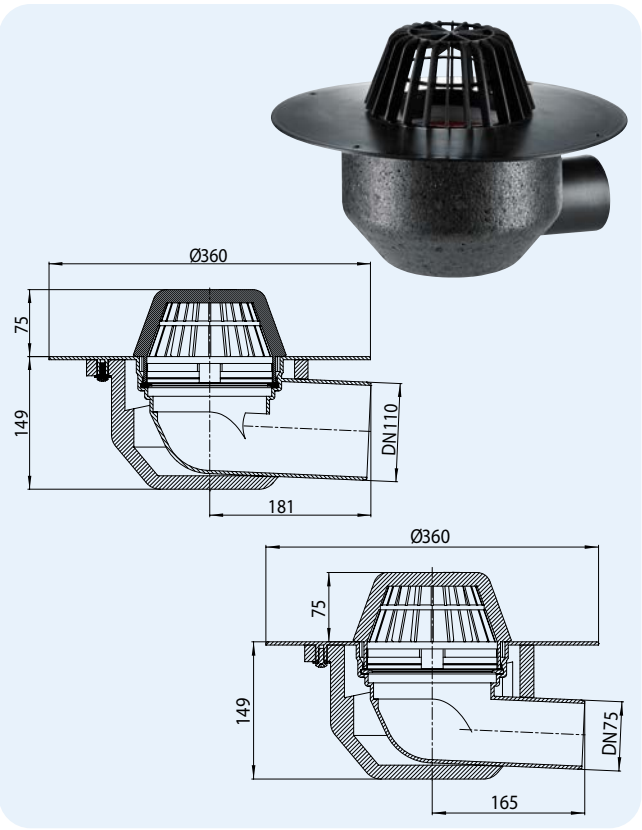


HL-No.	Dimension	Weight	EAN	Piece/package	Type
64P/7	DN75	1739 g	+031405	1	Standard
64.1P/7	DN75	1881 g	+031443	1	**with heating**
64P/1	DN110	1739 g	+031429	1	Standard
64.1P/1	DN110	1881 g	+031467	1	**with heating**

HL64F Roof drain with PP-flange
HL64.1F Roof drain like HL64F, but electrically heated

Data

Material	PP, drain body thermal insulated
Sealing flange	PP, weldable with hot air
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	FPO-sheeting, based on PP
Additional information	Notch dimension: 260 x 380 mm HL64.1F: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover




HL062.1E


HL170

HL-No.	Dimension	Weight	EAN	Piece/package	Type
64F7	DN75	1739 g	+031689	1	Standard
64.1F/7	DN75	1881 g	+031665	1	**with heating**
64F/1	DN110	1739 g	+031702	1	Standard
64.1F/1	DN110	1881 g	+031641	1	**with heating**

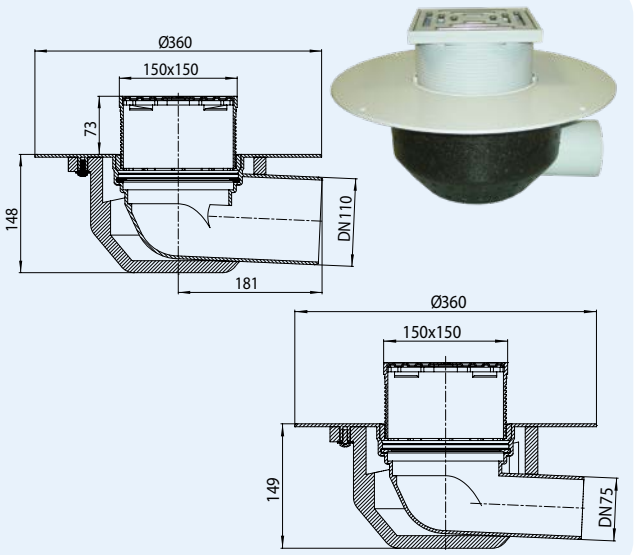
Drainage table HL64P, HL64.1P, HL64F, HL64.1F
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN 75 horizontal	1,7 (35 mm)	0,65	2,50	4,40	6,90	10,30	13,60	17,15	17,60
DN 110 horizontal	4,5 (35 mm)	0,60	2,70	5,10	7,80	11,40	15,25	19,40	24,20

HL64BP Roof drain with PVC-flange, walkable
HL64.1BP Roof drain like HL64BP, but electrically heated

Data

Material	PP, PVC, drain body thermal insulated
Extension	PP, 150 x 150 mm, adjustable in length
Sealing flange	**PVC**, weldable with hot air
Inlet	Stainless steel grate, 137 x 137 mm
Standard	EN 1253
Load classification	K3, max. 300 kg
Recommended for	PVC-sheeting, walkable flat roofs
Additional information	Notch dimension: 260 x 380 mm HL64.1BP: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover



HL66.9


HL0317.1E


HL062B.2E


HL062B.3E

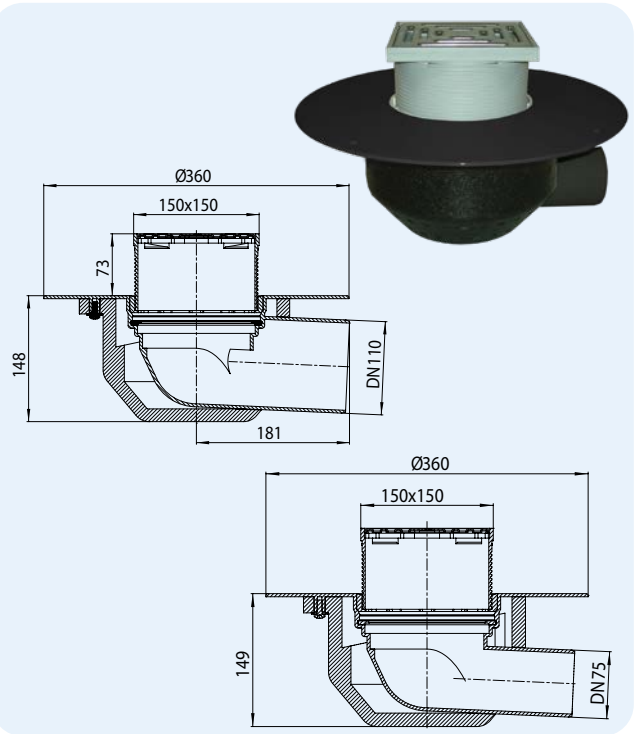

HL170

HL-No.	Dimension	Weight	EAN	Piece/package	Type
64BP/7	DN75	2000 g	+031481	1	Standard
64.1BP/7	DN75	2142 g	+031566	1	**with heating**
64BP/1	DN110	2000 g	+031504	1	Standard
64.1BP/1	DN110	2142 g	+031542	1	**with heating**

HL64BF Roof drain with PP-flange, walkable
HL64.1BF Roof drain like HL64BF, but electrically heated

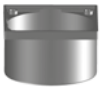
Data

Material	PP, drain body thermal insulated
Extension	PP, 150 x 150 mm, adjustable in length
Sealing flange	PP, weldable with hot air
Inlet	Stainless steel grate, 137 x 137 mm
Standard	EN 1253
Load classification	K3, max. 300 kg
Recommended for	FPO-sheeting, based on PP, walkable flat roofs
Additional information	Notch dimension: 260 x 380 mm HL64.1BF: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover



HL66.9


HL0317.1E


HL062B.2E


HL062B.3E


HL170

HL-No.	Dimension	Weight	EAN	Piece/package	Type
64BF/7	DN75	2000 g	+031603	1	Standard
64.1BF/7	DN75	2142 g	+031566	1	**with heating**
64BF/1	DN110	2000 g	+031627	1	Standard
64.1BF/1	DN110	2142 g	+031580	1	**with heating**

Drainage table HL64BP, HL64.1BP, HL64BF, HL64.1BF
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b) and pt. 5.5.1.2 Fig. 9
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 horizontal	1,7 (35 mm)	0,55	1,80	4,00	6,50	9,55	-	-	-
DN110 horizontal	4,5 (35 mm)	0,60	1,90	3,45	3,85	4,15	4,50	4,70	4,80

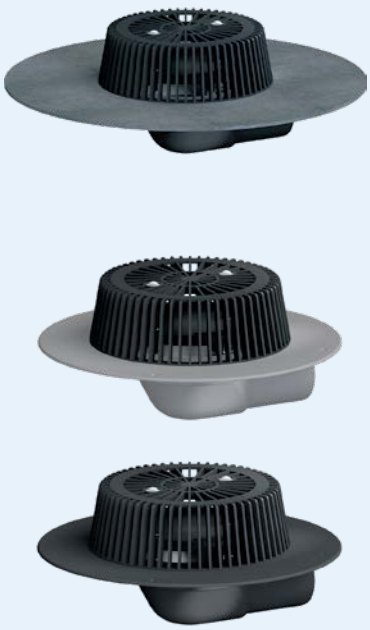
Drainage capacity measured according to EN 1253-2:2015 according to clause 5.5.1.2 free draining

Nominal width	DIN EN 1253	5 mm	15 mm	20 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 horizontal	0,8 (35 mm)	0,65	1,85	2,95	3,65	3,85	3,90	4,00	4,05
DN110 horizontal	1,4 (35 mm)	0,55	1,80	3,05	3,65	3,85	3,95	4,10	4,15

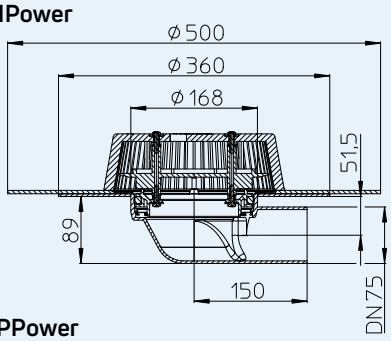
HL64HPower Power roof drain with bitumen flange
HL64PPower Power roof drain with PVC-flange
HL64FPower Power roof drain with PP-flange

Data

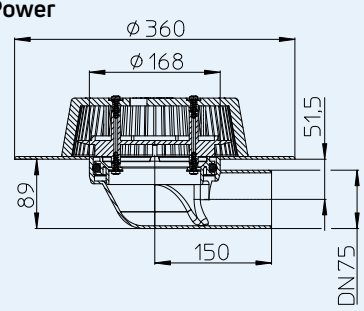
Material	HL64HPower: PP, bitumen HL64PPower: PP, PVC HL64FPower: PP, PP
Flange	HL64HPower: Pre-mounted bitumen membrane HL64PPower: Fixed PVC-flange for hot air HL64FPower: Fixed PP-flange for hot air
Inlet	Crewed leaf catcher diameter 240mm
Standard	EN 1253
Recommended for	Installation in thermo-insulations min. 120mm, high capacity alternative for attica drains
Additional information	Notch dimension 180mm x 260mm
Including	Lid cover



HL64HPower



HL64PPower
HL64FPower



Drainage table HL64HPower, HL64PPower, HL64FPower
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

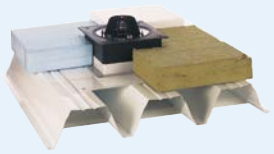
Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN 75 horizontal	1,7 (35 mm)	0,70	3,20	7,30	12,00	15,60	16,00	16,00	

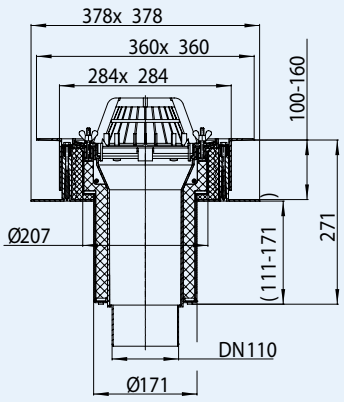
HL-No.	Dimension	Weight	EAN	Piece/package
64HPower	DN75	3817 g	+040797	1
64PPower	DN75	2920 g	+040810	1
64FPower	DN75	2646 g	+040780	1

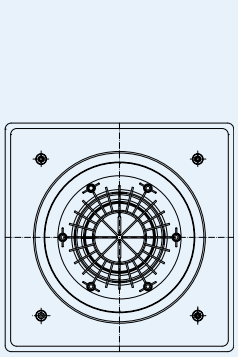
HL63 Roof drain „Drainbox", with thermal insulation
HL63.1 Roof drain like HL63, but electrically heated

Data

Capacity	HL63/7, HL63.1/7: 8,60 l/s HL63/1, HL63.1/1: 8,70 l/s HL63/2, HL63.1/2: 12,20 l/s
Material	PP, Drain body with thermal insulation and **adjustable in height**
Connection dimension	HL63/7, HL63.1/7: DN75 HL63/1, HL63.1/1: DN110 HL63/2, HL63.1/2: DN125
Outlet	vertical
Sealing flange	PP with stainless steel clamp ring
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	Polymer sheeting; **for the installation in thermal insulation plates** from 100 – 160 mm
Additional information	Notch dimension: 255 x 400 mm Tap hole dimension: Ø 255 mm HL63.1: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover, 6 pcs. HL062N.4E hex nut alternative to wing nuts







HL062.1E

HL170

HL062.4E

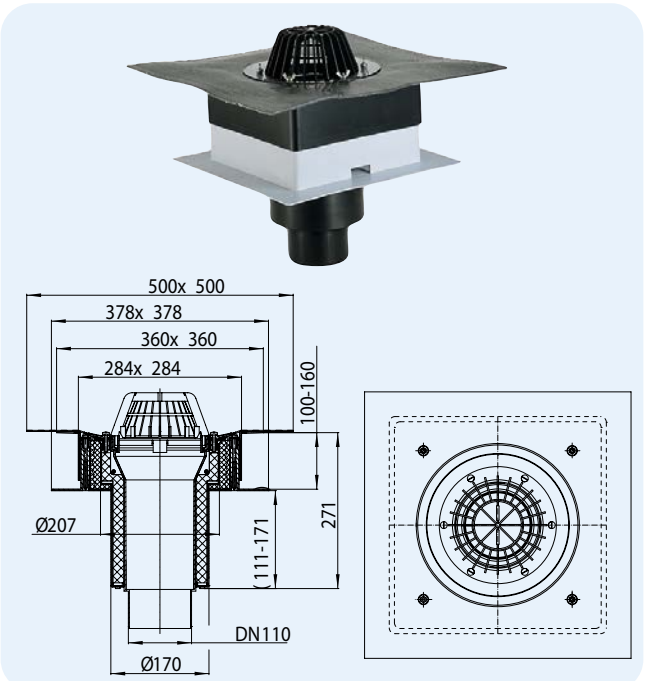
HL062.3E

HL-No.	Dimension	Weight	EAN	Piece/package	Type
63/7	DN75	3054 g	+806300	1	Standard
63.1/7	DN75	3173 g	+806317	1	**with heating**
63/1	DN110	3078 g	+816309	1	Standard
63.1/1	DN110	3197 g	+816316	1	**with heating**
63/2	DN125	3098 g	+826308	1	Standard
63.1/2	DN125	3217 g	+826315	1	**with heating**

HL63H Roof drain „Drainbox" with bitumen membrane
HL63.1H Roof drain like HL63H, but electrically heated

Data

Capacity	HL63H/7, HL63.1H/7: 8,60 l/s HL63H/1, HL63.1H/1: 8,70 l/s HL63H/2, HL63.1H/2: 12,20 l/s
Material	PP, Drain body with thermal insulation and **adjustable in height**
Connection dimension	HL63H/7, HL63.1H/7: DN75 HL63H/1, HL63.1H/1: DN110 HL63H/2, HL63.1H/2: DN125
Outlet	vertical
Sealing flange	PP, Stainless steel, prefabricated welded **bitumen membrane**
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	Bitumen sheeting; **for the installation in thermal insulation plates** from 100 – 160 mm
Additional information	Notch dimension: 255 x 400 mm Tap hole dimension: Ø 255 mm HL63.1H: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover




HL062.1E

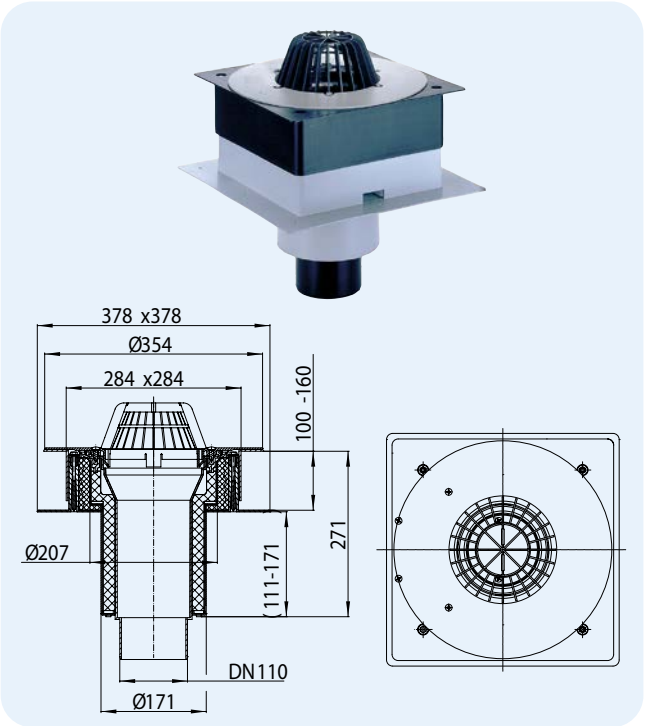

HL170

HL-No.	Dimension	Weight	EAN	Piece/package	Type
63H/7	DN75	3571 g	+806324	1	Standard
63.1H/7	DN75	3690 g	+806331	1	**with heating**
63H/1	DN110	3595 g	+816323	1	Standard
63.1H/1	DN110	3714 g	+816330	1	**with heating**
63H/2	DN125	3615 g	+826322	1	Standard
63.1H/2	DN125	3734 g	+826339	1	**with heating**

HL63P Roof drain „Drainbox" with PVC-flange
HL63.1P Roof drain like HL63P, but electrically heated

Data

Capacity	HL63P/7, HL63.1P/7: 6,48 l/s HL63P/1, HL63.1P/1: 5,82 l/s HL63P/2, HL63.1P/2: 9,25 l/s
Material	Drain body with thermal insulation and **adjustable in height**
Connection dimension	HL63P/7, HL63.1P/7: DN75 HL63P/1, HL63.1P/1: DN110 HL63P/2, HL63.1P/2: DN125
Outlet	vertical
Sealing flange	**PVC**, weldable with hot air
Inlet	Leaf catcher Ø 170 mm
Standard	EN 1253
Recommended for	PVC-sheeting **for the installation in thermal insulation plates** from 100 – 160 mm
Additional information	Notch dimension: 255 x 400 mm Tap hole dimension: Ø 255 mm HL63.1P: heated type with self-adjusting heat source for the connection to a 230 V power grid (10 - 30 Watt)
Including	Lid cover




HL062.1E


HL170

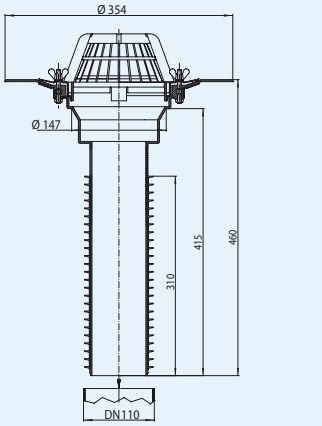
HL-No.	Dimension	Weight	EAN	Piece/package	Type
63P/7	DN75	2779 g	+806348	1	Standard
63.1P/7	DN75	2898 g	+806355	1	**with heating**
63P/1	DN110	2803 g	+816347	1	Standard
63.1P/1	DN110	2922 g	+816354	1	**with heating**
63P/2	DN125	2823 g	+826346	1	Standard
63.1P/2	DN125	2942 g	+826353	1	**with heating**

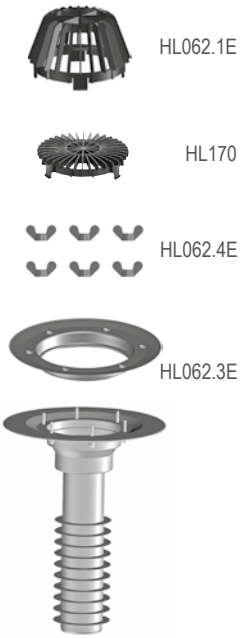
HL69 Roof renovation drain

Data

Material	PP
Sealing flange	PP with stainless steel clamp ring
Inlet	Leaf catcher Ø 170 mm
Recommended for	Polymer sheeting; for the simple and quick renovation of the old drainage system
Additional information	Easily to be plugged into the body of the old drain with vertical outlet - ready installed. Fits excactely into the old pipes with the prefabricated lip-gaskets.
Including	Lid cover, 6 pcs. HL062N.4E hex nut alternative to wing nuts

Gasketdiameter min. / max.		
Roof drain HL69	Ø min. Gasket	Ø max. Gasket
DN75	64 mm	73,5 mm
DN110	100 mm	108 mm
DN125	105 mm	123 mm
DN160	145 mm	159 mm



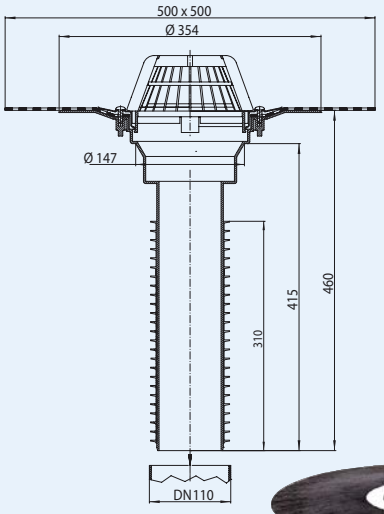


HL-No.	Dimension	Weight	EAN	Piece/package
69/7	for DN75	1523 g	+000580	1
69/1	for DN110	1781 g	+004515	1
69/2	for DN125	1877 g	+004522	1
69/5	for DN160	2265 g	+008261	1

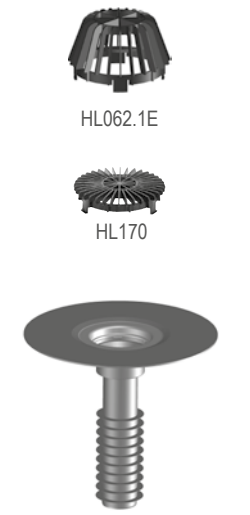
HL69H Roof renovation drain with bitumen membrane

Data

Material	PP
Sealing flange	PP, prefabricated welded **bitumen membrane**
Inlet	Leaf catcher Ø 170 mm
Recommended for	Bitumen sheeting; for the simple and quick renovation of the old drainage system
Additional information	Easily to be plugged into the body of the old drain with vertical outlet - ready installed. Fits excactely into the old pipes with the prefabricated lip-gaskets.
Including	Lid cover



Gasketdiameter min. / max.		
Roof drain HL69	Ø min. Gasket	Ø max. Gasket
DN75	64 mm	73,5 mm
DN110	100 mm	108 mm
DN125	105 mm	123 mm
DN160	145 mm	159 mm



Drainage table HL69, HL69H
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

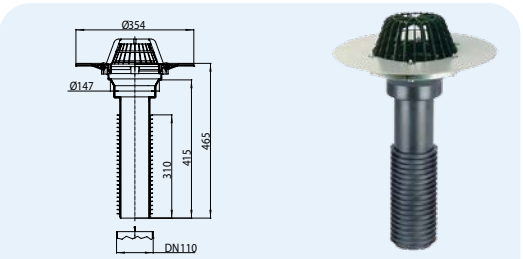
Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 vertical	1,7 (35 mm)	0,80	3,60	6,80	9,70	12,90	13,30	13,50	13,60
DN110 vertical	4,5 (35 mm)	0,90	3,90	6,90	9,60	12,50	15,50	17,50	22,30
DN125 vertical	7,0 (45 mm)	0,90	4,30	7,50	10,90	14,20	18,50	23,00	24,30
DN160 vertical	8,1 (45 mm)	1,00	4,30	7,40	10,70	15,00	19,00	22,70	29,80

HL-No.	Dimension	Weight	EAN	Piece/package
69H/7	für DN75	2074 g	+004539	1
69H/1	für DN110	2332 g	+004546	1
69H/2	für DN125	2428 g	+004553	1
69H/5	für DN160	2816 g	+008285	1

HL69P Roof renovation drain with PVC-flange

Data

Material	PP, PVC
Sealing flange	**PVC**, weldable with hot air
Inlet	Leaf catcher Ø 170 mm
Recommended for	PVC-sheeting; for the simple and quick renovation of the old drainage system.
Additional information	Easily to be plugged into the body of the old drain with vertical outlet - ready installed. Fits excactely into the old pipes with the prefabricated lip-gaskets.
Including	Lid cover



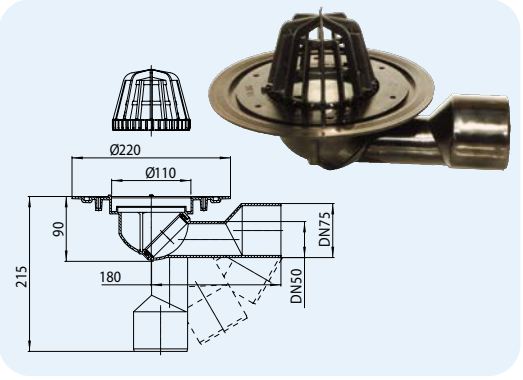
Gasketdiameter min. / max.		
Roof drain HL69	Ø min. Gasket	Ø max. Gasket
DN75	64 mm	73,5 mm
DN110	100 mm	108 mm
DN125	105 mm	123 mm
DN160	145 mm	159 mm

HL-No.	Dimension	Weight	EAN	Piece/package
69P/7	for DN75	2103 g	+022663	1
69P/1	for DN110	2461 g	+022601	1
69P/2	for DN125	2557 g	+022625	1
69P/5	for DN160	2845 g	+022649	1

HL80.3 Roof drain with continuously variable outlet

Data

Material	PP, PE
Connection dimension	DN50/75 crosscutable
Outlet	convertable from horizontal to vertical, Material PE, pluggable and weldable
Inlet	Leaf catcher Ø 110 mm
Standard	EN 1253
Recommended for	Roof areas up to 33 m² and rain yield factor of 300 l/ (s x ha)
Additional information	Tap hole dimension Ø 185 mm
Including	Lid cover

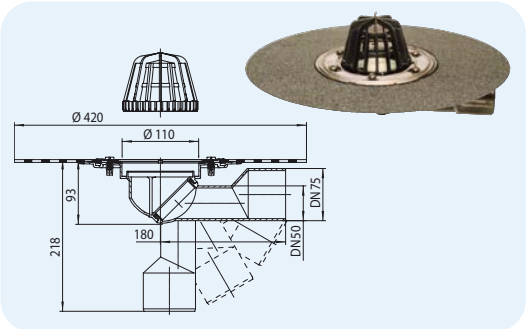


HL-No.	Dimension	Weight	EAN	Piece/package
80.3	DN50/75	550 g	+908035	1

HL80.3H Roof drain with continuously variable outlet and bitumen membrane

Data

Material	PP
Connection dimens.	DN50/75 adjustable in length
Outlet	convertable from horizontal to vertical, Material PE, pluggable and weldable
Sealing flange	PP, prefabricated welded **bitumen membrane**
Inlet	Leaf catcher Ø 110 mm
Standard	EN 1253
Recommended for	Bitumen sheeting, Roof areas up to 33 m² and rain yield factor of 300 l/ (s x ha)
Additional information	Tap hole dimension Ø 185 mm
Including	Lid cover



HL-No.	Dimension	Weight	EAN	Piece/package
80.3H	DN50/75	550 g	+918034	1

Drainage table HL69P
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b)
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN75 vertical	1,7 (35 mm)	0,80	2,70	4,90	7,90	11,00	13,30	13,50	13,60
DN110 vertical	4,5 (35 mm)	0,80	2,80	5,10	8,10	11,70	15,50	19,00	23,90
DN125 vertical	7,0 (45 mm)	0,80	2,80	5,20	8,30	11,80	15,50	19,50	24,00
DN160 vertical	8,1 (45 mm)	0,80	2,50	5,00	8,00	11,30	14,80	18,90	23,70

Drainage table HL80.3, HL80.3H
Tested according to EN 1253-2:2015 according to pt. 5.5.2.1 Fig. 10a) + 10b) and pt. 5.5.1.2 Fig. 9
Drainage capacity tested according to EN 1253-2:2015 according to pt. 5.5.2.1 on downpipe 3 m

Nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN 50	0,9 (35 mm)	0,65	1,25	1,35	4,80	6,15	6,30	6,35	6,40
DN75	1,7 (35 mm)	0,55	1,45	2,50	2,80	-	-	-	-

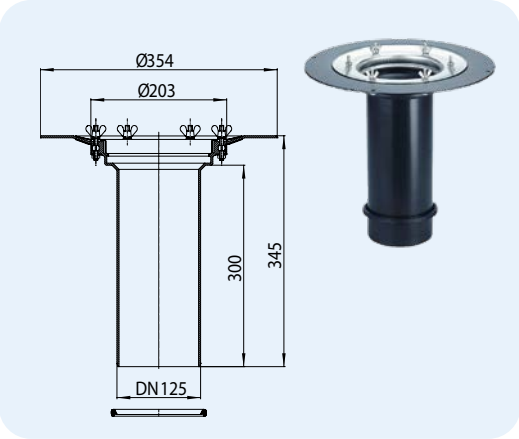
Drainage capacity measured according to EN 1253-2:2015 according to clause 5.5.1.2 free draining

Nominal width	DIN EN 1253	5 mm	15 mm	20 mm	35 mm	45 mm	55 mm	65 mm	75 mm
DN 50	0,8 (20 mm)	0,35	1,45	1,50	1,55	1,60	1,70	1,75	1,80
DN75	0,8 (20 mm)	0,50	1,35	1,60	1,80	1,95	2,00	2,10	2,20

HL65 Extension

Data

Material	PP
Connection dimension	DN125
Outlet	vertical
Sealing flange	PP with stainless steel clamp ring
Recommended for	Polymer sheeting; fits to HL62(.1)(H), HL64(.1)(H)
Additional information	incl. backflow gasket
Including	6 pcs. HL062N.4E hex nut alternative to wing nuts

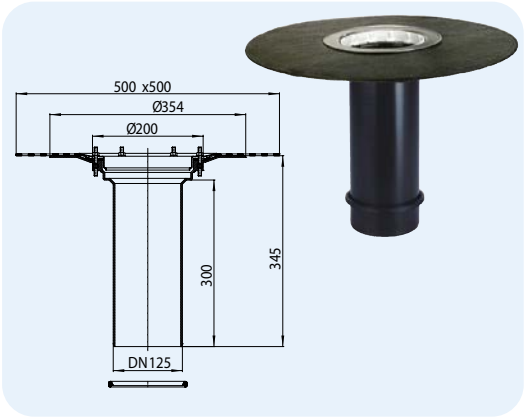


HL-No.	Weight	EAN	Piece/package
65	1438 g	+800650	1

HL65H Extension with bitumen membrane

Data

Material	PP
Connection dimension	DN125
Outlet	vertical
Sealing flange	PP, prefabricated welded **bitumen membrane**
Recommended for	Bitumen sheeting
Additional information	incl. backflow gasket

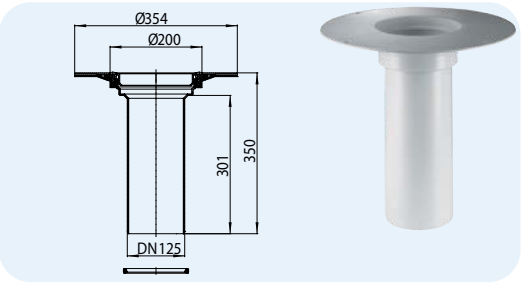


HL-No.	Weight	EAN	Piece/package
65H	2137 g	+801657	1

HL65P Extension with PVC-flange

Data

Material	PVC
Connection dimension	DN125
Outlet	vertical
Sealing flange	**PVC**, weldable with hot air
Recommended for	PVC-sheeting
Additional information	incl. backflow gasket

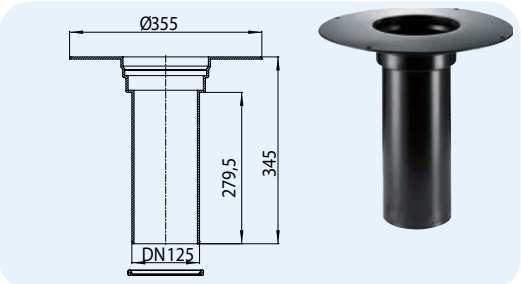


HL-No.	Weight	EAN	Piece/package
65P	1338 g	+022588	1

HL65F Extension with PP-flange
HL65PE Extension with PE-flange

Data

Material	HL65F: PP HL65PE: PE
Connection dimension	DN125
Outlet	vertical
Sealing flange	PP resp. PE, weldable by hot air
Recommended for	HL65F: FPO-sheeting, based on PP HL65PE: FPO-sheeting, based on PE
Additional information	incl. backflow gasket



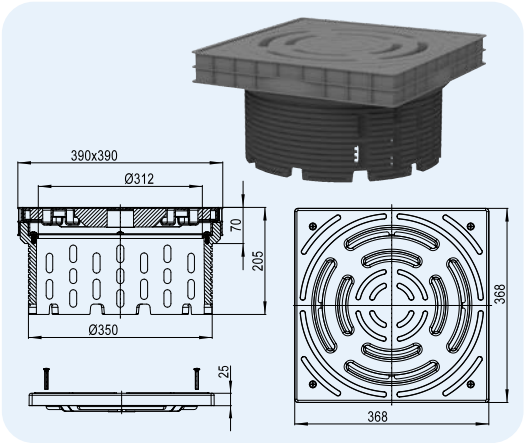
HL-No.	Weight	EAN	Piece/package
65F	1338 g	+031900	1
65PE	1600 g	+017126	1

HL Roof drains – Accessories – Data

HL635N Drainage and inspection chamber for green, gravel and terrace roofs
HL635N.0 Drainage and inspection chamber for green, gravel and terrace roofs, without grate

Data

Installation height	70 -205 mm
Material	EPS-230 / PP
Dimensions	frame outer dimensions: 390 x 390 mm inlet grate: 368 x 368 x 25 mm, 4 x screwed, part can be cut to length: Ø 350 mm
Load class	plastic inlet grate K3 (300 kg)
Standard	DIN 1986-3
Additional information	For easy inspection and maintenance of roof drains on green, gravel and terrace roofs

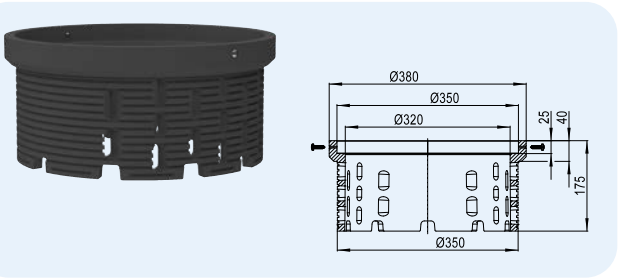


HL-No.	Weight	Grate	EAN	Piece/package
635N	2151 g	with	+032228	1
635N.0	1178 g	without	+032389	1

HL636N Extension element for drainage and inspection chamber HL635N

Data

Installation height	25 - 150 mm
Material	EPS-230
Dimensions	See tech. Drawing
Standard	DIN 1986-3
Additional information	For extension of the drainage and inspection chamber HL635N. The chamber can be extended to any length by connecting two or more extension elements.

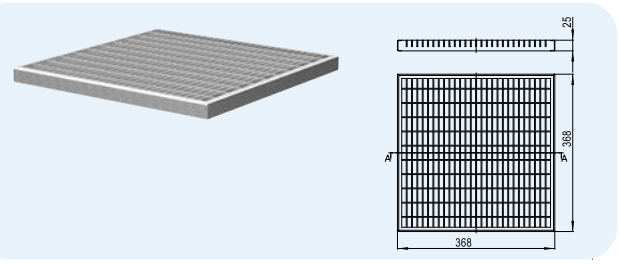


HL-No.	Weight	EAN	Piece/package
636N	600 g	+032396	1

HL0635N.2 Galvanized steel grating for drainage and inspection chamber HL635N.0

Data

Material	Galvanized sheet steel
Dimensions	**368 x 368 x 25 mm**
Load class	L15 or A15 - max 1,5 t
Additional information	For surfaces with high load demands

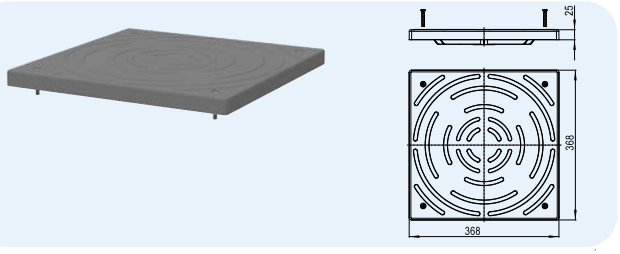


HL-No.	Weight	EAN	Piece/package
635N.2	3000 g	+006199	1

HL0635N.3 Closed plastic lid for drainage and inspection chamber HL635N.0

Data

Material	PP (polypropylene)
Dimensions	**368 x 368 x 25 mm,** **4 x screwable**
Load class	K3 (300 kg)
Additional information	Specially designed for retention roofs with rain retention

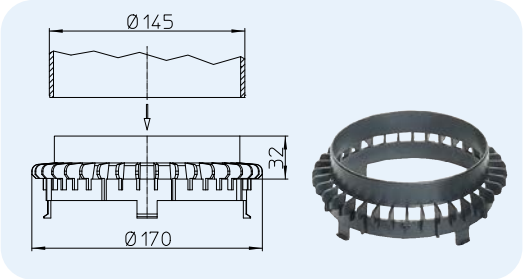


HL-No.	Weight	EAN	Piece/package
635N.3	1013 g	+007202	1

HL160 Gravel guard for inverted roofs

Data

Material	PP
Additional information	for installation between drain flange and extension, to drain enough water in the second drainage level, e.g. inverted roofs. Fits to drain series HL62, HL63, HL64, HL69 and extension HL350(.0)

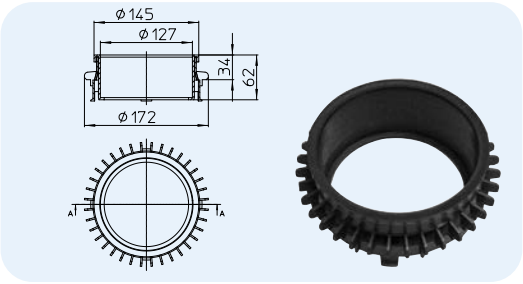


HL-No.	Dimension	Weight	EAN	Piece/Package
160	Ø 170 mm	53 g	+001606	1

HL161 Drainage element for series HL65

Data

Material	PP
Additional information	for installation between drain flange and extension HL65-series, to drain water on the second drainage level or on the vapour barrier, e.g. at aered roofs. Fits to drain series HL62, HL63, HL64, HL69 and extension HL65.

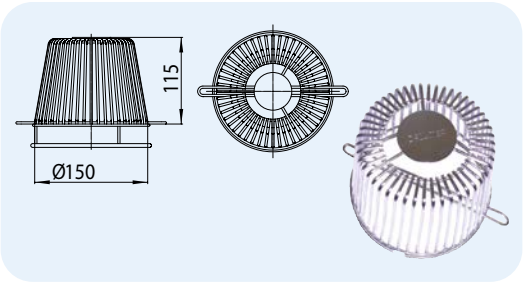


HL-No.	Dimension	Weight	EAN	Piece/Package
161	Ø 172 mm	134 g	+034772	1

HL175 Stainless steel leaf catcher

Data

Material	Stainless steel 1.4301
Additional information	Fits to all HL roof drains and extensions

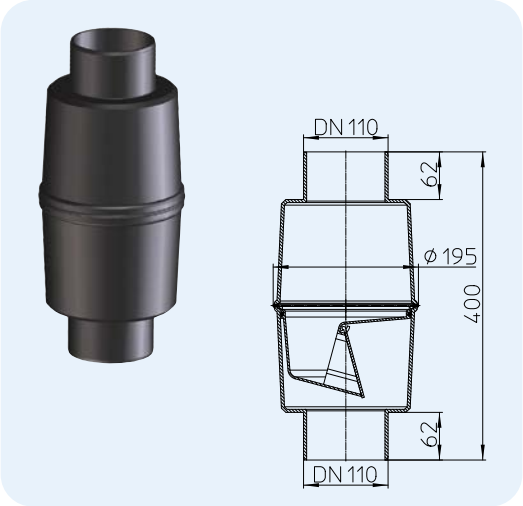


HL-Nr.	Dimension	Weight	EAN	Piece/Package
175	Ø 150 mm	520 g	+018031	1

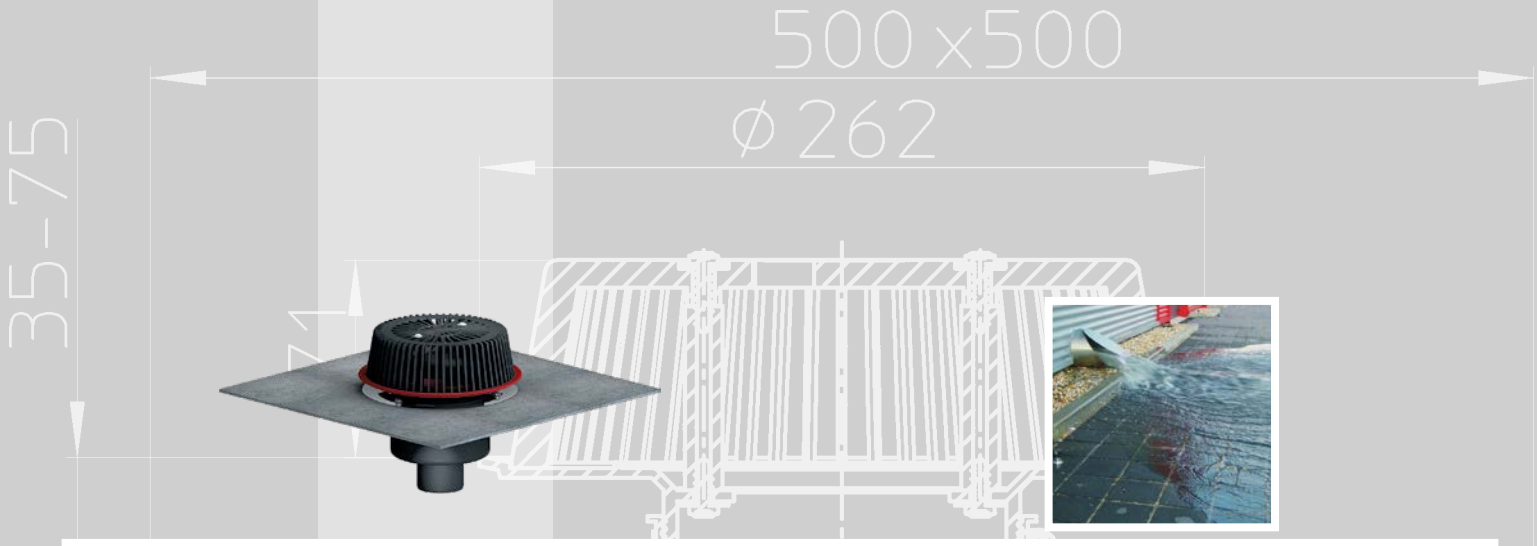
HL603 Flap seal for external downpipes

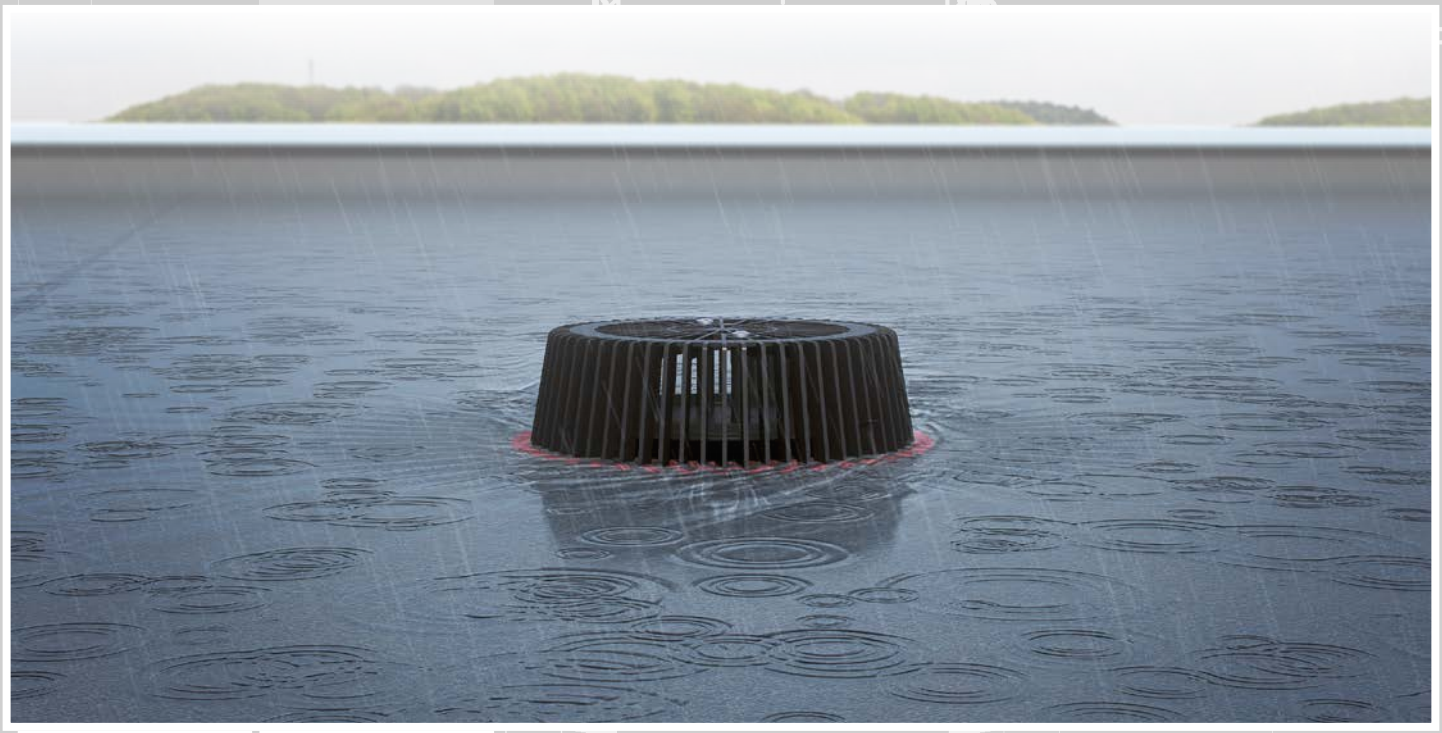
Data

Capacity	DN110 and DN160: 6l/s
Material	PP
Connection	HL603/1: DN110 HL603/5: DN160
Outlet	HL603/1: DN110 HL603/5: DN160
Recommended for	Avoids stench, coming up the downpipe, e.g. for roof drains, which are connected to the sewer
Additional information	Only for vertical installation, care for access for cleaning!

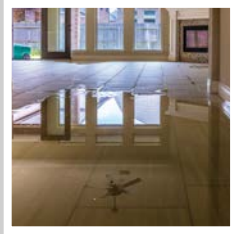


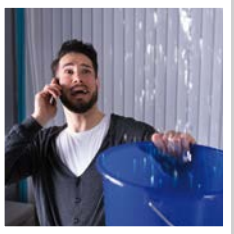
HL-Nr.	Dimension	Weight	EAN	Piece/Package
603/1	DN110	940 g	+005956	1
603/5	DN160	940 g	+011933	1





HL Safety drainage





Basic information on planning and implementation

• Why do I need safety drains?

Basically rain water on flat roofs is being lead away by roof gullies. Either as conventional gravity drainage or as vacuum roof drainage. The dimensioning and planning is based on an average 5-year rainfall intensity (l/(s x ha). Should the rainfall exceed the previous mentioned base (because of higher rain intensity during a 100 year rain event), rain water will not be drained anymore. In that case an independent safety drain should be installed, in order to reliably lead off the coming up rainfall.

The safety drain covers exceptional events like this and protects the roof construction (including any connected structural damage). Usually those thoughts are being neglected by the relevant/responsible people. Should a safety drain be undersized or not even be installed during an extraordinary rain event it can lead to an increase of the water level on the roof surface. For example pulling up of the sealing. The seeping in of water follows and leads to hidden damages and enormous repair costs. Not even to talk about the worst case scenario: break down of the roof construction!

• Where do I find the regulations for planning and implementation of a safety drain?

In Austira there is a regulation called ÖNORM B 2501:2014, also EN…….. ÖNORM B 2501:2014, Extracts:

5.10 Drainage of roofs and site areas
5.10.1 Rated rainfall intensity

Usually the roof drainage is based on a 5-minute rain event with a return frequency of 5 years. The calculated rain fall intensity, with respect to the relevant location, can be taken from the data of the Federal Ministry of Agriculture and Forestry, Environment and Water Management under http://ehyd.gv.at (parameters and measurements). They have to be recalculated to l/(s • ha).

The minimum rainfall intensity for roof surfaces and site areas is being set at 300 l/(s • ha).

The measurement of the roof drainage is made according to ÖNORM EN 12056-3:2000, part 4.1.
Same approach for property drainage.

5.10.5.1 Safety overflow, safety drains
5.10.5.1 General information

Roofs and terraces with inward drainage, in addition to each single individual area (for a rain intensity according to 5.10.1) should be provided with an emergency overflow and drainage. The goal is to cover a minimum sum of all individual areas according to 5.10.2. Should a roof or terrace surface be established with more than two outlets each, it is possible to dimension one or more of the partial surfaces as a safety drain. Within buildings, safety drains are to be drained separate to the roof drainage (according to 5.10.1). While positioning the safety drains, the existing connection heights of the rising components and, if needed, the necessary accumulation height of the drainage system, have to be taken into consideration.

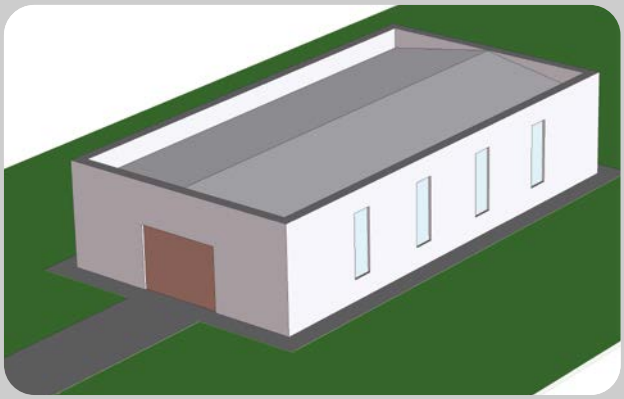
The safety drain must never be connected to any wastewater pipes.

Exceptions are: existing buildings, where the roof drainage had and has to be lead into a mixed water pipe. A mathematical prove of the system performance must be made. The drainage system as well as the safety overflow and drain system are supposed to work together and provide a drainage, concerning an expected 5 minute rain event with a return frequency of a 100 years r (5,100)

• How do I calculate the minimum flow of a safety drain?

Based on an example, we would like to show you how to calculate your safety drain system. Please note the following:

Basic Details



Building Location: Himberg bei Wien
Roof Dimensions: 55 m x 20 m
Roof Surface: 1100 m²
Type of Roof: Flat Roof with attic, slope: 2%
Allowed Roof Load / Snow Load: 0,884 kN/m²
Calculation factor from kN/m² to mm water column = 101,974 428 892 2
Maximum water level on the roof: 90,14 mm

The roof drainage is to be used as vacuum drainage. It is designed to cover a 5 minute rain event.

Water output values of the roof drains are being checked for gravity drainage according to EN1253-2:2015 (table 3) to DN110 with a 35 mm and DN125 + DN150 with 45 mm water level.
For a drainage with pressure flow the water level is to be set to a height of 55mm.

Rated rainfall intensity is based on the data of http://ehyd.gv.at ffor a 5 minute rain event
with the following return frequency $r_{(5,5)}$ = **446,66 l/(s · ha)**

The return frequency for a 5 minute rain event during an average ot 100 years
has been set to $r_{(5,100)}$ = **836,66 l/(s · ha)**

The minimum flow of the emergency drainage is to be calculated as the following:

$$Q_{not} = (r_{(5,100)} - r_{(5,5)} \cdot C) \cdot \frac{A}{10000}$$

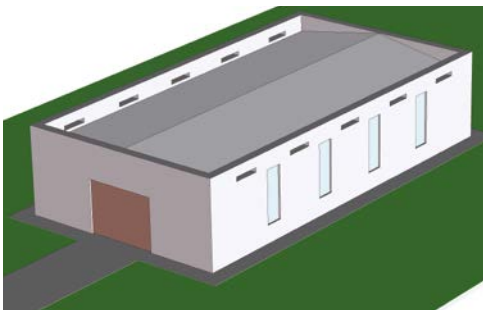
Q_{not}	Minimum run-off capacity of the emergency drainage in l/s
$r_{(5,100)}$	5 minutes-rain event in l/(s•ha) with an interval of recurrence of 100 years = **836,66 l/(s · ha)**
$r_{(5,5)}$	5 minutes-rain event in l/(s•ha) with an interval of recurrence of 5 years = **446,66 l/(s · ha)**
C	Run-off coefficient (without dimension) depending on the roof surface condition = **1**
A	Effective roof surface in m² = **1100 m²**

Q_{not} = (836,66-446,66 . 1) . 0,11 = **42,9 l/s**

• What safety drains should be used?

Basically there are a few different technical solutions to ensure any safety drainage. The decision primarily will be taken by the planner. Following you will find 4 different possibilities to implement a safety drain, according to the example on page 3.

Example 1: Rectangular safety overflow via the attic



Calculation of the overflow with according to ÖNORM 2501 and DIN 1986-100

Overflow Volume (l/s)	42,9
Allowed Roof Load (kN/m²)	0,884
Maximum Water Level (mm)	90,14
Water Level of roof outlets (mm)	55
Overflow height (mm)	35,14

$$Q_W = \frac{L_W \cdot h_Ü^{1,5}}{24\,000} \quad \text{bzw.} \quad L_W = \frac{Q_W \cdot 24\,000}{h_Ü^{1,5}}$$

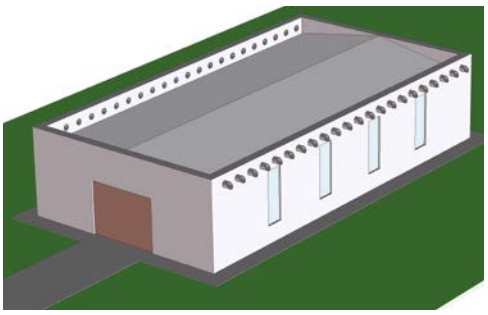
Q_W Drain capacity per meter length in l/s,
L_W Length of the overflow in mm
$h_Ü$ Maximum planned water level in case of overflow (pressure height) in mm

$$L_W = \frac{42{,}9 \text{ l/s} \cdot 24\,000}{h_Ü^{1,5}} = 4942{,}72 \text{ mm} = 4{,}95 \text{ m}$$

For this example the necessary overflow width was calculated on a base of 4,95 m.
Should the slit width be set to 500 mm (as usual), the roof surface will have to be provided with 10 attic outlets, 5 on each of the two longer sides.

Necessary outlets: **10**

Example 2: Round safety overflow as water spout via the attic



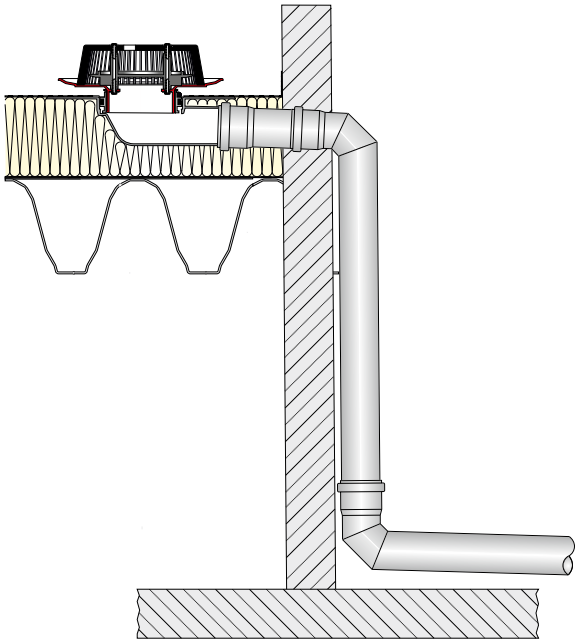
Overflow Volume (l/s): 42,9 l/s
The drain capacity of a round DN 100 opening
with a 35 mm water level and an inclination of 5° is **1 l/s.**
Please see ÖNORM B2501:2015 as pointed out in

Necessary outlets: **44**

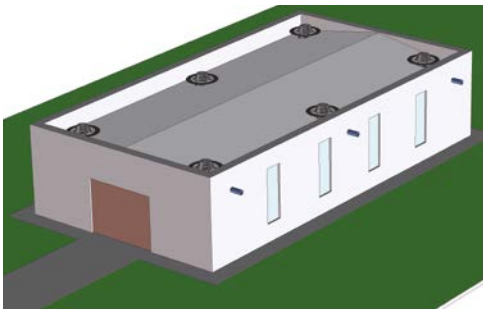
Example 3: Safety drain close to the attic (HL PowerSafe) connected to a 3m down pipe

The drain capacity of the HL PowerSafe system, connected to a 3m down pipe and a water level of 35mm is set to 12 l/s.
Requirement to the safety drainage: 42,9 l/s
Performance of 4 PowerSafe drains: 48 l/s

Necessary outlets: **4**

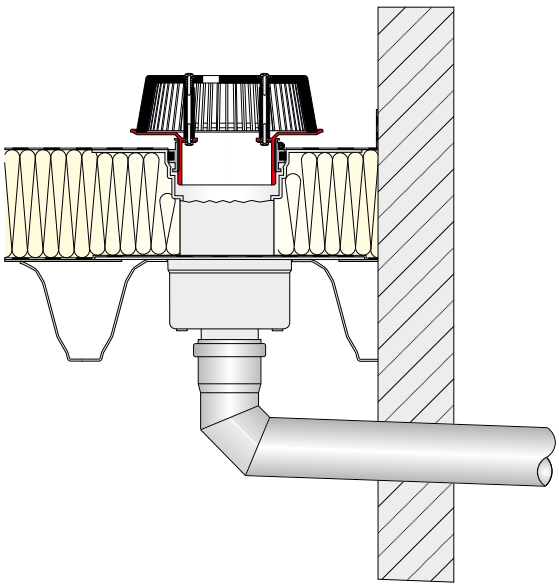


Example 4: Safety drain close to the attic (HL PowerSafe) including extension element



The drain capacity of the HL PowerSafe DN110, connected according to the picture presuming a water level of 35 mm is set to 8,1 l/s.
Requirement to the safety drainage: 42,9 l/s
Performance of 6 PowerSafe drains: 48,6 l/s

Necessary outlets: **6**



HL Roof Drains – Products – Overview

Drains

Product	HL62Safe	HL62HSafe	HL62PSafe	HL62FSafe	HL64Safe	HL64HSafe
Description	Safety roof drain Vertical with clamping ring	Safety roof drain Vertical with bitumen membrane	Safety roof drain Vertical with PVC sealing flange	Safety roof drain Vertical with PP sealing flange	Safety roof drain Horizontal with clamping flange	Safety roof drain Horizontal with bitumen membrane
Function	Clamping of polymeric roof seal strips	Special design for connection to bitumen seals	Special design for connection to PVC seal strips	Special design for connection to PP-based FPO seal strips	Clamping of polymeric roof seal strips	Special design for connection to bitumen seals

Drains

Product	HL64PSafe	HL64FSafe	HL64H PowerSafe	HL64P Power Safe	HL64F PowerSafe
Description	Safety roof drain Horizontal with PVC sealing flange	Safety roof drain Horizontal with PP sealing flange	Safety roof drain PowerSafe with bitumen membrane	Safety roof drain with PVC sealing flange	Safety roof drain PowerSafe with PP sealing flange
Function	Special design for connection to PVC seal strips	Special design for connection to PP-based FPO seal strips	Special design for connection to bitumen seals	Special design for connection to PVC seal strips	Special design for connection to PP-based FPO seal strips

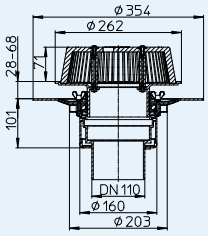
Any safety roof drain is available with heating, except for the PowerSafe series.
Please find further information within the particular product information.

HL Roof Drains – Products – Data

HL62Safe Safety roof drain with 28 - 68 mm height-adjustable inlet edge
HL62.1Safe Safety roof drain like HL62Safe with additional electrical heating

Data

Drainage capacity	please see table
Material	PP, outlet unit thermally insulated
Connections	HL62Safe/7, HL62.1Safe/7: DN75 HL62Safe/1, HL62.1Safe/1: DN110 HL62Safe/2, HL62.1Safe/2: DN125 HL62Safe/5, HL62.1Safe/5: DN160
Outlet	vertical
Sealing flange	PP with stainless steel clamping ring
Inlet	Leaf catcher, height adjustable from 28 - 68 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	polymer sheeting
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1Safe: heated type with self-adjusted heat source for direct connection to a 230 V power grid (10 – 30 Watt)
Including	Lid cover, 6 pcs. HL062N.4E Hex nut alternative to wing nuts



Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,8	3,6	5,9	8,7	12,1	14,8	15
DN110	4,5 (35 mm)	0,9	3,8	6,4	9,1	12,2	15,8	20,1
DN125	7,0 (45 mm)	0,9	3,8	6,2	9,1	12,1	15,7	20
DN160	8,1 (45 mm)	0,9	3,8	6,5	9,3	12,8	16,5	21,5

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

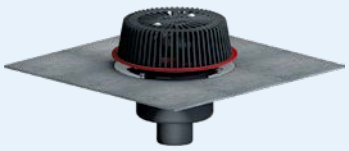
nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,8	3,2	5,4	5,4	5,5	5,6	5,7
DN110	4,5 (35 mm)	0,9	3,2	5,5	8,1	9,6	10,1	10,5
DN125	7,0 (45 mm)	0,9	3,7	6	8,5	11,6	13,9	14,4
DN160	8,1 (45 mm)	0,9	3,2	5,8	8,1	9,2	10,2	11

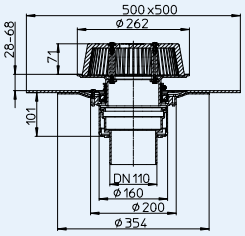
HL-Nr.	Dimension	Weight	EAN	Pcs../Package	Type
62Safe/7	DN75	3014g		1	Standard
62.1Safe/7	DN75	3154g		1	with heating
62Safe/1	DN110	3034g		1	Standard
62.1Safe/1	DN110	3174g		1	with heating
62Safe/2	DN125	3074g		1	Standard
62.1Safe/2	DN125	3214g		1	with heating
62Safe/5	DN160	3094g		1	Standard
62.1Safe/5	DN160	3234g		1	with heating

HL62HSafe Safety roof drain with bitumen membrane and 28 - 68 mm height adjustable inlet edge
HL62.1HSafe Safety roof drain like HL62HSafe with additional electrical heating

Data

Drainage capacity	please see table
Material	PP, outlet unit thermally insulated
Connections	HL62HSafe/7, HL62.1HSafe/7: DN75 HL62HSafe/1, HL62.1HSafe/1: DN110 HL62HSafe/2, HL62.1HSafe/2: DN125 HL62HSafe/5, HL62.1HSafe/5: DN160
Outlet	vertical
Sealing flange	PP, stainless steel with factory made bitumen membrane
Inlet	Leaf catcher, height adjustable from 28 - 68 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	Bitumen sheeting
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension : Ø 255 mm HL62.1HSafe: heated type with self-adjusted heat source for direct connection to a 230 V power grid (10 – 30 Watt)
Including	Lid cover





Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,8	3,6	5,9	8,7	12,1	14,8	15
DN110	4,5 (35 mm)	0,9	3,8	6,4	9,1	12,2	15,8	20,1
DN125	7,0 (45 mm)	0,9	3,8	6,2	9,1	12,1	15,7	20
DN160	8,1 (45 mm)	0,9	3,8	6,5	9,3	12,8	16,5	21,5

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,8	3,2	5,4	5,4	5,5	5,6	5,7
DN110	4,5 (35 mm)	0,9	3,2	5,5	8,1	9,6	10,1	10,5
DN125	7,0 (45 mm)	0,9	3,7	6	8,5	11,6	13,9	14,4
DN160	8,1 (45 mm)	0,9	3,2	5,8	8,1	9,2	10,2	11

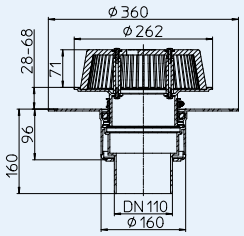
HL-Nr.	Dimension	Weight	EAN	Pcs../Package	Type
62HSafe/7	DN75	3253g		1	Standard
62.1HSafe/7	DN75	3371g		1	with heating
62HSafe/1	DN110	3494g		1	Standard
62.1HSafe/1	DN110	3611g		1	with heating
62HSafe/2	DN125	3504g		1	Standard
62.1HSafe/2	DN125	3621g		1	with heating
62HSafe/5	DN160	3514g		1	Standard
62.1HSafe/5	DN160	3631g		1	with heating

HL Roof Drains – Products – Data

HL62PSafe Safety roof drain with PVC sealing flange and 28 - 68 mm height adjustable inlet edge
HL62.1PSafe Safety roof drain like HL62PSafe with additional electrical heating

Data

Drainage capacity	please see table
Material	PP, outlet unit thermally insulated
Connections	HL62PSafe/7, HL62.1PSafe/7: DN75 HL62PSafe/1, HL62.1PSafe/1: DN110 HL62PSafe/2, HL62.1PSafe/2: DN125 HL62PSafe/5, HL62.1PSafe/5: DN160
Outlet	vertical
Sealing flange	PVC, weldable with hot air
Inlet	Leaf catcher, height adjustable from 28 - 68 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	PVC sheeting
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1PSafe: heated type with self-adjusted heat source for direct connection to a 230 V power grid (10 – 30 Watt)
Including	Lid cover



Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,8	3,6	5,9	8,7	12,1	14,8	15
DN110	4,5 (35 mm)	0,9	3,8	6,4	9,1	12,2	15,8	20,1
DN125	7,0 (45 mm)	0,9	3,8	6,2	9,1	12,1	15,7	20
DN160	8,1 (45 mm)	0,9	3,8	6,5	9,3	12,8	16,5	21,5

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

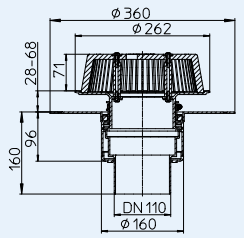
nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,8	3,2	5,4	5,4	5,5	5,6	5,7
DN110	4,5 (35 mm)	0,9	3,2	5,5	8,1	9,6	10,1	10,5
DN125	7,0 (45 mm)	0,9	3,7	6	8,5	11,6	13,9	14,4
DN160	8,1 (45 mm)	0,9	3,2	5,8	8,1	9,2	10,2	11

HL-Nr.	Dimension	Weight	EAN	Pcs../Package	Type
62PSafe/7	DN75	2834g		1	Standard
62.1PSafe/7	DN75	2951g		1	with heating
62PSafe/1	DN110	2874g		1	Standard
62.1PSafe/1	DN110	2991g		1	with heating
62PSafe/2	DN125	2814g		1	Standard
62.1PSafe/2	DN125	2931g		1	with heating
62PSafe/5	DN160	2894g		1	Standard
62.1PSafe/5	DN160	3011g		1	with heating

HL62FSafe Safety roof drain with PP sealing flange and 28 - 68 mm height adjustable inlet edge
HL62.1FSafe Safety roof drain like HL62FSafe with additional electrical heating

Data

Drainage capacity	please see table
Material	PP, outlet unit thermally insulated
Connections	HL62FSafe/7, HL62.1FSafe/7: DN75 HL62FSafe/1, HL62.1FSafe/1: DN110 HL62FSafe/2, HL62.1FSafe/2: DN125
Outlet	vertical
Sealing flange	PP, weldable with hot air
Inlet	Leaf catcher, height adjustable from 28 - 68 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	FPO-sheeting on a PP-Basis
Additional information	Notch dimension: 255 x 380 mm Tap hole dimension: Ø 255 mm HL62.1FSafe: heated type with self-adjusted heat source for direct connection to a 230 V power grid (10 – 30 Watt)
Including	Lid cover



Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,8	3,6	5,9	8,7	12,1	14,8	15
DN110	4,5 (35 mm)	0,9	3,8	6,4	9,1	12,2	15,8	20,1
DN125	7,0 (45 mm)	0,9	3,8	6,2	9,1	12,1	15,7	20

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,8	3,2	5,4	5,4	5,5	5,6	5,7
DN110	4,5 (35 mm)	0,9	3,2	5,5	8,1	9,6	10,1	10,5
DN125	7,0 (45 mm)	0,9	3,7	6	8,5	11,6	13,9	14,4

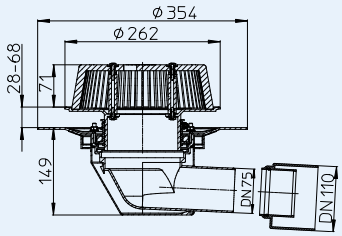
HL-Nr.	Dimension	Weight	EAN	Pcs../Package	Type
62FSafe/7	DN75	2974g		1	Standard
62.1FSafe/7	DN75	3091g		1	with heating
62FSafe/1	DN110	3274g		1	Standard
62.1FSafe/1	DN110	3391g		1	with heating
62FSafe/2	DN125	3514g		1	Standard
62.1FSafe/2	DN125	3634g		1	with heating

HL Roof Drains – Products – Data

HL64Safe Safety roof drain with 28 - 68 mm height adjustable nlet edge
HL64.1Safe Safety roof drain like HL64Safe with additional electrical heating

Data

Drainage capacity	please see table
Material	PP, outlet unit thermally insulated
Connections	DN75/110
Outlet	horizontal
Sealing flange	PP with stainless steel clamping ring
Inlet	Leaf catcher, height adjustable from 28 - 68 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	polymer roof sheeting
Additional information	Notch dimension: 260 x 380 mm HL64.1Safe: heated type with self-adjusted heat source for direct connection to a 230 V power grid (10 – 30 Watt)
Including	Lid cover, 6 pcs. HL062N.4E Hex nut alternative to wing nuts



Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,7	3,9	6,1	8,8	11,1	15	17,5
DN110	4,5 (35 mm)	0,9	3,7	6,4	8,9	12,1	15,9	20,1

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

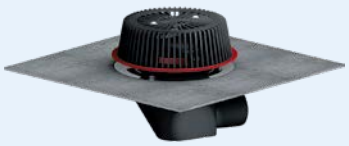
nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	1,2	3,6	5,4	5,6	5,7	5,9	6
DN110	4,5 (35 mm)	0,8	3,3	4,1	4,2	4,3	4,4	4,5

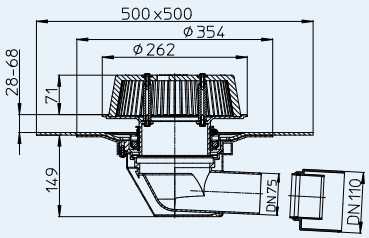
HL-Nr.	Dimension	Weight	EAN	Pcs../Package	Type
64Safe	DN75/110	2934g		1	Standard
64.1Safe	DN75/110	3054g		1	with heating

HL64HSafe Safety roof drain with bitumen membrane and 28 - 68 mm height adjustable inlet edge
HL64.1HSafe Safety roof drain like HL64HSafe with additional electrical heating

Data

Drainage capacity	please see table
Material	PP, outlet unit thermally insulated
Connections	DN75/110
Outlet	horizontal
Sealing flange	PP, stainless steal with factory made bitumen membrane
Inlet	Leaf catcher, height adjustable from 28 - 68 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	bitumen sheeting
Additional information	Notch dimension: 260 x 380 mm HL64.1HSafe: heated type with self-adjusted heat source for direct connection to a 230 V power grid (10 – 30 Watt)
Including	Lid cover





Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,7	3,9	6,1	8,8	11,1	15	17,5
DN110	4,5 (35 mm)	0,9	3,7	6,4	8,9	12,1	15,9	20,1

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	1,2	3,6	5,4	5,6	5,7	5,9	6
DN110	4,5 (35 mm)	0,8	3,3	4,1	4,2	4,3	4,4	4,5

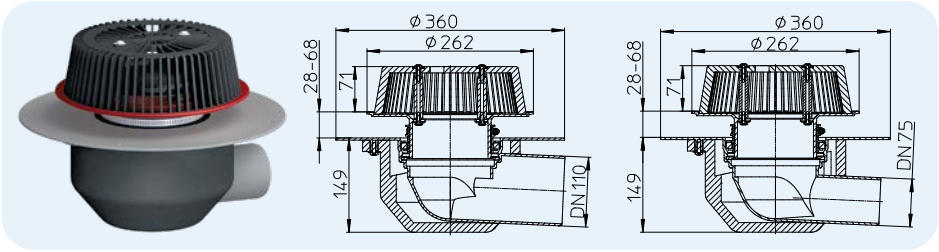
HL-Nr.	Dimension	Weight	EAN	Pcs../Package	Type
64HSafe	DN75/110	3254g		1	Standard
64.1HSafe	DN75/110	3371g		1	with heating

HL Roof Drains – Products – Data

HL64PSafe Safety roof drain with PVC sealing flange and 28 - 68 mm height adjustable inlet edge
HL64.1PSafe Safety roof drain like HL64PSafe with additional electrical heating

Data

Drainage capacity	please see table
Material	PP, PVC, outlet unit thermally insulated
Connections	HL64PSafe/7, HL64.1PSafe/7: DN75 HL64PSafe/1, HL64.1PSafe/1: DN110
Outlet	horizontal
Sealing flange	PVC, weldable with hot air
Inlet	Leaf catcher, height adjustable from 28 - 68 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	PVC sheeting
Additional information	260 x 380 mm HL64.1PSafe: heated type with self-adjusted heat source for direct connection to a 230 V power grid (10 – 30 Watt)
Including	Lid cover



Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,7	3,9	6,1	8,8	11,1	15	17,5
DN110	4,5 (35 mm)	0,9	3,7	6,4	8,9	12,1	15,9	20,1

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

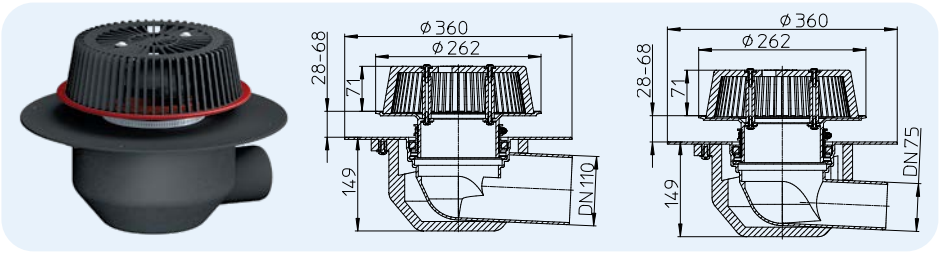
nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	1,2	3,6	5,4	5,6	5,7	5,9	6
DN110	4,5 (35 mm)	0,8	3,3	4,1	4,2	4,3	4,4	4,5

HL-Nr.	Dimension	Weight	EAN	Pcs../Package	Type
64PSafe/7	DN75	2174g		1	Standard
64.1PSafe/7	DN75	2295g		1	with heating
64PSafe/1	DN110	2231g		1	Standard
64.1PSafe/1	DN110	2348g		1	with heating

HL64FSafe Safety roof drain with PP Flange and 28 - 68 mm height adjustable inlet edge
HL64.1FSafe Safety roof drain like HL64FSafe with additional electrical heating

Data

Drainage capacity	please see table
Material	PP, outlet unit thermally insulated
Connections	HL64FSafe/7, HL64.1FSafe/7: DN75 HL64FSafe/1, HL64.1FSafe/1: DN110
Outlet	horizontal
Sealing flange	FPO-sheeting
Inlet	Leaf catcher, height adjustable from 28 - 68 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	FPO-sheeting based on PP
Additional information	260 x 380 mm HL64.1FSafe: heated type with self-adjusted heat source for direct connection to a 230 V power grid (10 – 30 Watt)
Including	Lid cover



Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,7	3,9	6,1	8,8	11,1	15	17,5
DN110	4,5 (35 mm)	0,9	3,7	6,4	8,9	12,1	15,9	20,1

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	1,2	3,6	5,4	5,6	5,7	5,9	6
DN110	4,5 (35 mm)	0,8	3,3	4,1	4,2	4,3	4,4	4,5

HL-Nr.	Dimension	Weight	EAN	Pcs../Package	Type
64FSafe/7	DN75	2163g		1	Standard
64.1FSafe/7	DN75	2279g		1	with heating
64FSafe/1	DN110	2273g		1	Standard
64.1FSafe/1	DN110	2388g		1	with heating

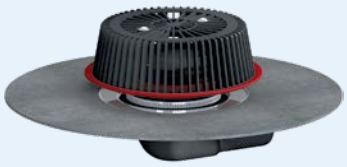
HL Roof Drains – Products – Data

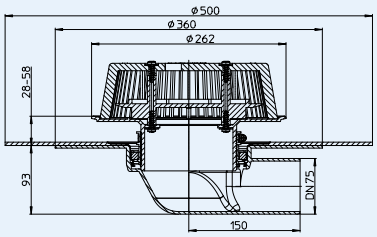
HL64HPowerSafe Power-Safety roof drain with bitumen membrane and 28 - 58 mm height adjustable inlet edge
HL64PPowerSafe Power-Safety roof drain with PVC sealing flange and 28 - 58 mm height adjustable inlet edge
HL64FPowerSafe Power-Safety roof drain with PP- sealing flange and 28 - 58 mm height adjustable inlet edge

Data

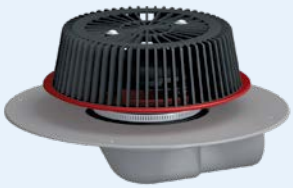
Drainage capacity	please see table
Material	HL64H PowerSafe: PP, Bitumen sheeting HL64P PowerSafe: PVC HL64F PowerSafe: PP
Connections	DN75
Outlet	horizontal
Sealing flange	HL64H PowerSafe: factory made bitumen membrane HL64P PowerSafe: PVC, weldable with hot air HL64F PowerSafe: PP, weldable with hot air
Inlet	Leaf catcher, height adjustable from 28 - 58 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	HL64H PowerSafe: bitumen sheeting HL64P PowerSafe: PVC-sheeting HL64F PowerSafe: FPO-sheeting based on PP
Additional information	Aussparungsmaß: 220 x 380 mm
Including	Lid cover

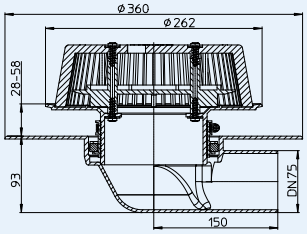
HL64HPowerSafe



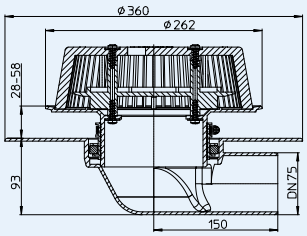


HL64PPowerSafe





HL64FPowerSafe



Drainage capacity according to DIN EN 1253, with connector to a 3 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,7	3,2	7,3	12	15,6	16	16

Drainage capacity according to DIN EN 1253, with connector to a 4,2 m down pipe
Drainage capacity in l/s for a water level of 5 - 65 mm

nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	0,7	3,8	7,5	12,1	17,7	17,9	17,9

Drainage capacity according to DIN EN 1253 with connector freely running out
Drainage capacity in l/s for a water level of 5 - 65 mm

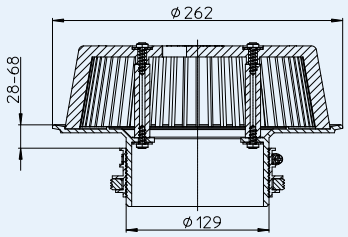
nominal width	DIN EN 1253	5 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm
DN75	1,7 (35 mm)	1	3,8	3,9	4,1	4,2	4,3	4,5

HL-Nr.	Dimension	Weight	EAN	Pcs../Package
64H PowerSafe	DN75	4161g		1
64P PowerSafe	DN75	3284g		1
64F PowerSafe	DN75	3010g		1

HL062.1Safe Safety drain attachment

Data

Drainage capacity	please see table
Material	PP
Inlet	Leaf catcher, height adjustable from 28 - 58 mm
Standard	ÖNORM B2501-2015, EN 1253
Recommended for	roof drains for safety drainage



HL-Nr.	Dimension	Weight	EAN	Pcs../Package
062.1Safe		1250g		1