

#### **Technical features**

Non-entry inspection chambers DIAMIR 600

Main components of a chamber

-base unit, a base of an inspection chamber, allowing for direct connection of storm water drainage or sanitary sewer systems installed in the ground, including incorporated channels with possible branches along with possible branches

-a riser, riser pipe of internal diameter equalling 600

**-a telescope** section, allowing for compensation of settlement which may take place after installation and making it possible to adjust the chamber height A telescope pipe is installed to the depth of 0,8 m below the ground level.



Standards:

-DIAMIR 600 inspection chamber is compliant with

#### EN 13598-2:2009

#### EN 476:2011

-approval for use in road ROWs

Technical Approval IBDiM AT/2010-02-2706

Technical approval IK AT/07-2011-0242-00

Technical Approval IBDiM AT/2011-02-2706

-GIG (Central Mining Institute) Opinion approving their use in the areas of mining damages up to the 4th category

-Chemical resistance of chamber PP components to chemical substances is compliant with

#### the ISO/TR 10358 Guidelines

-Gully tops and manhole tops meet the requirements of standard

EN 124:2000 Seals meet the requirements of standard

#### EN 681-1:2002

-Chemical resistance of elastomeric seals to chemical substances is compliant with

#### the ISO/TR 7620 Guidelines

#### Usage:

-maximum installation depth 6 m -acceptable ground water table 5 m -acceptable load caused by traffic SLW60 according to ATV-A127P



#### Solution options



#### **Technical features**

#### Technical data

Base units are made of polypropylene, with reinforcing ribs. They are adapted to connection with vertical riser pipes vertical riser pipes. There is a horizontal channel in the base unit with one or a few inlet connector pipes and one outlet connector pipe ending with bells for connection with plain wall pipes made of PVC-U, PP or PE or connector pipes adapted to connection with structural pipes K2-KAN.





Type 1 0°		Type 2 90°		
DN	DN 1	DN	DN 1	
160	160	160	160	
200	200	200	200	
250	250	250	250	
315	315	315	315	
400	-	-	-	
200K2-Kan	200K2-Kan	200K2-Kan	200K2-Kan	
250K2-Kan	250K2-Kan	250K2-Kan	250K2-Kan	
300K2-Kan	300K2-Kan	300K2-Kan	300K2-Kan	
400K2-Kan	-	-	-	

A ball-and-socket joints ±7,5 ° may be used in connection bells 160; 200; 250; 315 (page 28)

- for other base unit variants consult the manufacturer

#### Height adjustment

Non-entry inspection chambers DIAMIR 600

Specifications and height adjustment

Preparing specifications for materials required for an investment, total numbers of individual inspection chamber components should be indicated:

-base units, -riser pipes, -tops

The input parameter is chamber height specified in the design – the distance between the ground level and the chamber bottom (base unit level). We label it as **Hs**. In order to make calculations easier, there is useful height (**Hu**) specified for each base unit type, that is, the difference between the bottom of a base unit and the bottom of base unit socket in which a riser pipe is installed. For calculations, we label the height of a riser pipe as **Hw** The height of a top section (telescope) will be **Ha**. One should bear in mind that the useful height of the telescope must not be smaller that thickness of the structural pavement layer.

No-entry inspection chamber DIAMIR 600

Ha = Ht + Hz





Solution options Non-entry inspection chambers DIAMIR 600



Assortment

Ч

Flow-through base unit 600 with a gasket Type 1







DN	DN 1	Н	Hu	H1	L	L1	Weight	index
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	-
160	685	556	260	160	732	572	19,1	2581120300
200	685	556	278	160	732	552	21,7	2581130300
250	865	704	378	233	739	508	23,1	2581140300
315	685	704	407	233	739	475	23,6	2581150300
400	685	704	432	248	1218	544	28,2	2581160300
200 K2 *	685	556	278	165	753	552	21,7	2581530300
250 K2 *	685	704	378	240	762	508	23,1	2581540300
300 K2 *	685	704	407	235	778	475	23,6	2581550300
400 K2 *	685	704	432	260	1230	544	29,2	2581560300

\* no gaskets in connection sockets

for other base unit variants consult the manufacturer

#### Multi-inlet base unit

with a gasket

Type 2







6300
6300
6300
6300
6300
6300
6300

\* no gaskets in connection sockets

other base unit variants to be discussed with the manufacturer



#### Assortment

Blind base unit 600







DN	DN 1	Н	Hu	L	Weight	index
[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	-
600	685	618	268	732	21,1	2580000300

Single-layer riser pipe 600



DN	DN 1	Hw	Weight	index
[mm]	[mm]	[mm]	[kg]	-
600	683	1000	6,2	2713832100
600	683	2000	12,3	2713832200
600	683	3000	18,9	2713832300
600	683	6000	37,8	2713832600



for a base unit







Base unit DN 600

DN	Н	Weight	index
[mm]	[mm]	[kg]	-
600	35	2,0	5161181010



#### Assortment

with a gasket

Telescope adapter 600

ギ \_\_\_\_\*



aczmarel

DN	DN 1	D	Н	H1	Ht	Weight	index
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	-
600	770	800	490	440	290	9,6	2589120090
600	850	870	490	440	290	10,6	2589140090

DN

되고

D DN 1

PP Telescope cover 600

with a gasket A15 D D D D T T T D T





DN	D	D1	Н	H1	Ha	Weight	index
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	-
600	800	650	490	390	290	13,9	2589411090

#### Gasket 600

- for adapter 600
- for PP telescope cover 600







 DN
 H
 Weight
 index

 [mm]
 [mm]
 [kg]

 600
 40
 2,3
 5163181010

# Non-entry inspection chambers **DIAMIR 600**Assortment

#### Load bearing ring 600





DN	D	D2	Н	H1	Ht	Weight	index
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	-
600	1100	690	170	90	120	220,0	2953184000

#### Cast iron cover 600





	DN	DN 1	D1	D2	Н	Weight	index
	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	-
A15	600	680	630	670	50	35,9	2901281500
B125	600	750	640	680	150	103,5	2901282500
C250	600	750	640	680	150	112,0	2901283500
D400	600	760	640	680	150	145,0	2901284500

#### Gully grating





	DN	DN 1	D1	Н	Weight	index
	[mm]	[mm]	[mm]	[mm]	[kg]	-
D400	600	750	680	100	119,0	2902284500

#### Assortment

Sewer manhole

with a sedimentation tank for stormwater



		D1	⊔ *	⊔1	Moight	indov
DIN		וט	п	пі	weight	index
	[mm]	[mm]	[mm]	[mm]	[kg]	-
600	683	160	2000	500	40,9	2818120200
600	683	200	2000	500	41,7	2818130200

\* other manhole heights available on request



DN	D1	L	Weight	index	
	[mm]	[mm]	[kg]	-	
110	138	120	0,5	5168201010	
160	177	120	0,8	5168231010	
200	226	120	1.6	5168251010	_

Z

#### Hole cutter

"In situ" gasket

Cutter holder – all-purpose





DN	D1	L	Weight	index
	[mm]	[mm]	[kg]	
110	138	90	0,8	5191201100
160	177	90	1,2	5191231100
200	226	90	1,7	5191252100
uniwersalny	-	-	0,6	5191000100





#### Installation instructions



#### Installation instructions

DIAMIR inspection chambers should be installed in conditions specified in the technical design. The ground around chambers (0,3 m) should be composed of compactable soil, approved for use in road construction according to standard PN-S-02205:1998. Earthworks should be carried out in accordance with standard PN-EN 1610: 2002/Ap1:2007. Soil compaction should be performed in layers as specified in standard PN-ENV 1046:2007 to prevent from excessive ovalisation of a chamber cross-section.



Prepare a trench in an inspection chamber location removing large and sharp-edged stones. On the trench bottom prepare bedding composed of compactable soil, preferably sand (coarse- medium- or fine-grained) of minimum 10 cm thickness An inspection chamber zone should include an area of at least a 30 cm wide strip around the chamber.



Place a base unit on a prepared earlier sand bedding and level it and then connect sewage pipes to the chamber.



Fill up the trench with preliminary backfill (10 cm above the pipe level). Compaction should be performed manually, in layers every 15 cm or with light mechanical equipment (each layer up to 30 cm). Base unit socket 600 should protrude above the backfill level.



Prepare a corrugated riser pipe of the required length. The pipe can be cut to the required chamber height. Install a gasket in the lowest groove on the outside of the riser pipe. The gasket is delivered along with a base unit.



Lubricant should be applied on the inner side of a base unit socket 600 and gasket. Products approved for rubber gaskets and plastic should be used.



Insert a riser pipe with an installed gasket 600 into a base unit.



Compact the area around the pipe. Compaction should be performed manually, in layers every 15 cm or with light mechanical equipment (each layer up to 30 cm) in open areas to at least 90% of the Proctor compaction test and for inspection chambers located in a carriageway or road shoulder backfill should meet the requirements specified for compaction index resulting from the installation depth, road construction type (cutting, embankment) or traffic intensity category.



For inspection chambers equipped with riser pipes connected with telescope pipes with a cuff gasket, ensure a telescope pipe is inserted into a riser pipe to the depth of approximately 20 cm.

#### Installation instructions



#### Chamber tops

Location of a DIAMIR chamber and expected load caused by traffic are the basis for selection of riser and telescope pipe stiffness and a choice of cast iron covers.

Depending on the chamber location within a ROW and a traffic intensity category, different manhole/gully tops are used, also construction requirements and top type which are classified into the following groups may differ.

Group 1 - Class A15 - green areas intended solely for pedestrians and pedal cyclists

Group 2 - Class B125 - Roads and areas for pedestrians, and comparable areas, parking lots or places where cars are parked

Group 3 - Class C250 - Applies solely do sewer gully tops installed in the area of kerbside channels of roads and road shoulders

Group 4 - Class D400 - Carriageways of roads (including pedestrian streets) hard shoulders, and parking areas for all types of road vehicles

There are different rules of the manhole/gully top support sepending on their type and class, and soil conditions. A manhole/gully top should sit on a reinforced concrete slab which is supported by an appropriately constructed load bearing structure adapted to loads caused by traffic. That may be reinforced bedding made of well compacted soil or a precast load-relieving slab made of reinforced concrete. For very heavy load caused by traffic or doubts about compaction of soil constituting top base, a slab should be based on B30 concrete ring of minimum height of 20 cm cast on the building site



Cast iron chamber cover 600 Telescope adapter 600

Cast iron chamber cover 600 Telescope adapter 600



Cast iron chamber cover 600 Load bearing concrete ring 600



PP Telescope cover 600



Solution options



#### Catch basins 600

A catch basin is constructed using a corrugated riser pipe DN 315, 425 or plain wall pipe 400. A pre-blinded pipe of appropriate length should be ordered, it may be also blinded on a building site. A tight basin bottom blinds the pipe For stormwater chambers, a top is a cast iron grating mounted on a telescope pipe. For a drain age chambers all other tops specified in the catalogue of DIAMIR manholes/chambers are applied. They are used depending on the existing loads and investor preferences. In a riser pipe holes are made to construct appropriate outlets or inlets. Appropriate in-situ gasket should be installed in the holes. Insert in-situ gasket depends on the riser pipe used (single- or double-layer). See the Declaration of Conformity for details. In drainage chambers gaskets are mounted in situ and connectors are inserted to drainage pipes.

Note: There are precast drainage and storm water chambers available.

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#### **Backdrop manholes**

Sometimes it is necessary to connect a channel to a manhole above a base unit.

Then, a so called backdrop manhole is constructed. According to standard PN-B-10729 "backdrop manholes in channels of diameters up to 0.40 m and drop height from 0,5 - 4,0 m may be constructed with a backdrop pipe placed inside our outside of a manhole. In a non-entry inspection chamber a drop pipe may be not installed.

That means that for non-entry inspection chambers, if a channel diameter does not exceed 160 mm, connection may be made through a hole in a riser pipe.

Appropriate in-situ gaskets are installed in the hole. If a channel is a K2-Kan structured pipe, a special fitting (adapter to a PVC socket) should be inserted into the in situ gasket. A backdrop pipe is not used. However, if a channel diameter exceeds 200 mm, a backdrop pipe has to be used and it should be connected to a chamber base unit. A T-branch connection is fitted to the channel. One of T-branches is connected to the backdrop pipe and the second one (after diameter reduction to 60 mm) is connected to a riser pipe (hole with an in situ gasket).



## **DIAMIR 1000 manholes**

Przedsiębiorstwo Barbara Kaczmarek Sp. J. Malewo 2, 63-800 Gostyń tel. 65 572 35 55 fax 65 572 35 30



H1000

Inlet/Outlet slope (standard 0%) %

Order form/Query

<b>Contact details</b>	:				
Company / cont	ractor:				
Building site:					
tel.:	fax:		n	mobile:	
delivery date:					
Flow-through b with additional in	base unit 1000 hlets				
90 °		270 °			
α	0° Outlet				
Flow-throug Blind base of Ring DIAMI	h base unit DIAMIR unit DIAMIR 1000 w R 1000 with additior	1000 with additiona ith additional inlets nal inlets	l inlets H500 H500	H1000 H750	
No.		DN	α	Н	
-	[mm]	[mm]	[°]	[mm]	
	Outlet	-	0 °		
	Inlet 1				

Notes:

-Distances are measured from the blind base unit invert or from the lowest point of a ring -available diameters of sewerage plain-wall stump pipes *110;* 160; 200; 250; 315; 400; 500 -available diameters of K2-Kan sewerage plain-wall stump pipes 160; 200; 250; 300; 400; 500

Inlet 2

Inlet 3

Inlet 4

# **DIAMIR** manholes/chambers



Notes

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# **RELIABLE POLISH SYSTEMS**



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