

# Inspection Chambers for sewerage networks DN500 Specifications

Nabridas 500 is an inspection chamber for shallow non-road application to be used as per EN 13598-1:2003) to a max. depth of 500 mm. It is made of polyethylene (PE) and it is intended for usage in non-pressure underground drainage and sewerage systems conforming to EN 1401-1:1998 and EN 13476-1:2007. It can be used for connecting drainage or sewerage installations and/or for changing the direction of drainage / sewerage runs.

## Specifications

- Nabridas 500 inspection chambers are manufactured of black UV stabilized PE as a monoblock structure.
- It has a base and riser shaft of internal dia 500mm permitting the introduction of cleaning, inspection and test equipment and the removal of debris. It does not provide access for personnel.
- It is manufactured in 5 sizes with max. depth from invert of drain to top of riser.
- Nabridas 500 inspection chambers are designed for use in house connections, pedestrian and green areas as well streets with low, light traffic.
- The chambers are manufactured in two classes, medium and heavy duty, according to application area and clients requirements.
- Nabridas 500 chambers are provided with 5 inlets at 45°, 90° right & left and 180° of direction of flow and allow for connection of pipes DN 110 on all inlets and pipe DN 160 on inlet 180°. This allows high flexibility for installation on site.
- The chambers have one outlet with standard pipe connection DN 110 and DN 160 mm. The base outlet is sloped 1-2%.
- The riser shaft outside is reinforced with circular ribs 10 mm thick and 30 mm wide which enhance the products resistance to compression and anchoring in the soil
- Nabridas 500 can be used for industrial sewerage installations. However the chemical nature and temperature of the effluents is to be considered and assessed according to ISO/TR 10358 and ISO/TR 7620.

## Manufacturing Process

Nabridas 500 inspection chambers are manufactured by rotational molding process out of virgin polyethylene compound (in powder form). The PE compound contains incorporated all additives (carbon black) and no further treatment is required prior to use.

## Manhole covers and rubber seal joints

Nabridas 500 inspection chamber can be used with standard commercial CI manhole covers and precast concrete based ring (installation drawings are provided on request).

For use of the chambers in house hold connections or in green areas, Nabridas 500 can be supplied with "walkable PE" manhole covers, surface water-tight with labyrinth seal for direct shift-free assembly on the PE chamber.

For connection of the sewer pipes to the chamber inlets specially designed rubber seals (EPDM or SBR as per EN 681-1) are used which provide complete tightness with the pipes produced to EN 1401-1: 1998 or EN 13476-1:2007 as an option. The same rubber seals can be used also to connect the pipes to any position on the raiser shaft, after drilling a hole with special size cup saw.

The chamber spigot outlets are manufactured according to the requirements for spigot dimensions in EN 1401-1:1998 and EN

13476-1:2007 and allow direct connection of pipes with rubber seal sockets as per same standards. This allows tightness of the seal at pipe deflection up to 5°.

## Product properties and quality control

Raw material and finished products are subjected to quality control as per Quality Assurance Plan

Properties	Test method	Requirements
1. PE - molded compound		
1.1. Density, g/cm <sup>3</sup>	ISO 1183	≥ 0.937
1.2. Tensile stress & yield, MPa	ISO 527	≥17
2. Finished Product ( in-process control)		
2.1. Outside diameter	RML spec.	
- Raiser shaft, mm		513 ± 3
- Outlet DN 110 mm		109.0 ÷ 110.4
DN 160 mm		159.0 ÷ 160.5
1.2. Length of spigot, mm	EN 1401-1	
DN 110		>60
DN 160		>80
3. Mechanical Properties (final Product Inspection)		
3.1. Stiffness of riser shaft. kN/m <sup>2</sup>	ISO 9969	≥0.7
3.2. Resistance to external pressure (vacuum test) to ground water pressure at -0.3 bar, 100 hrs	EN 13598-1 EN 1277	No damage to the base structure and residual deformation of the spigot
3.3. Water tightness of stealing ring joints @23°C, 10% spigot deflection. 5° socket deflection	EN 13598-1 EN 1277	No leakage
Water pressure 0,05 bar		No leakage
Water pressure 0.5 bar		≤0.27 bar
Air pressure -0.3 bar		

### Notes:

- 1) Wall thickness measurement by ultrasonic measuring device calibrated with the same molding material.
- 2) Negative pressure -0.3 bar is used for testing heavy duty chambers and installation depths above > 1.5m. Chambers for shallow installation depths < 1.25m and medium duty chamber are tested at negative pressure -0.15 bar.

## Identification

Nabridas 500 are marked in compliance to EN 13598 requirements including manufacturer's name, material, date of manufacture, nominal size, height, application area code, product standard.

## Handling, storage, delivery

The low weights of Nabridas 500 allow all sizes to be handled, manually by a single person during loading / unloading operations.

The chamber can be handled / stored in horizontal or vertical position.

For long term storage, it is preferable to store the chamber upside down, with spigot on top.

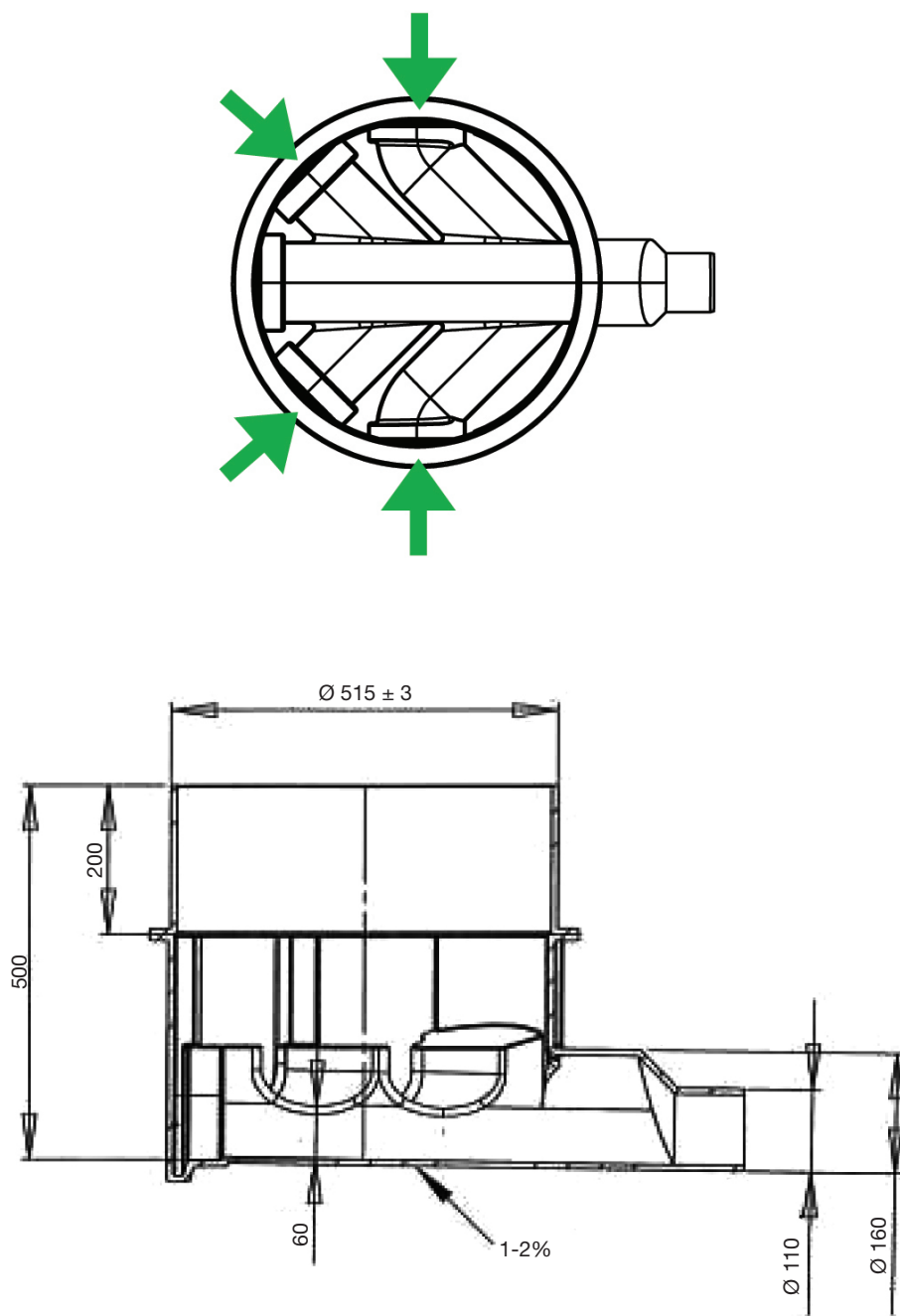
There are no particular requirements for storage of the Nabridas 500. They can be stored in any open storage in direct sunlight up to 12 months

## Utilization

The utilization of Nabridas 500 inspection chambers should respect the same code of practices as that of plastic pipes & fittings for sewerage systems with regard to excavation, embedding, assembly and covering.

In case of ground water during installation a provisional ballast weight are to be provided to keep the chamber in place before final covering of excavation works.

## Base Design



**NOTE:** As shown below, the side inlets are 60 mm higher than the main channel. Manhole chamber DN 500 mm height 500 mm