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Unlimited Polymer Solutions

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AWASHAFT DN400

Product and Installation Guide

AWASHAFT DN400
Safety for generations

The AWASHAFT DN400 is a cleaning, inspection and transfer chamber for installation in private or municipal sewerage or drainage systems.

The AWASHAFT DN400 maintenance shaft is compatible to all smooth walled sewer pipes DN150 made of PVC, PP and PE that comply with standards AS/NZS 5065. The elastomeric `lip seal' joint sealing system meets all the requirements of EN 681.

The AWASHAFT DN400 maintenance shaft can be installed to a maximum depth of 4 meters and has a buoyancy safety with permissible groundwater level of 4 meters above invert level. The shaft assembly can withstand a wheel load of 10 tonnes when installed with a cover of load class D that distributes the load to the surrounding ground. The DN400 chamber base has a flat base. The push fit joint with lip seal can accommodate a 1˚ deflection in either direction.

The chamber can be flexibly adjusted to suit local site conditions using an AWADUCT PP DN/OD 160 ball joint which allows a 7.5º adjustment in all directions.

Transport, Storage and Handling

Secure loose components during transport to prevent them from moving.

All materials should be suitably protected to prevent them from mechanical and/or chemical damage (e.g. oil). The socket area must also be protected from dirt.

All pipes and fittings should be protected from direct sunlight during transport and storage.

Quality and Certifications

AWASHAFT DN400 is independently tested and locally approved by leading laboratories and authorities. Tests are carried out according to relevant standards including WSA137, WMTS509 and EN681.

WATER SERVICES ASSOCIATION OF AUSTRALIA

WaterMark®

MTPA Official Testing Centre

Installation Procedure

1. Prepare bedding area for chamber base as per the site requirements and in accordance with local regulatory requirements.

2. Place AWASHAFT chamber base into the pipe trench. Ensure sockets align with connecting pipes.

3. Apply appropriate lubricant to DWV PVC-U reducer DN375/300 and insert into the chamber base. Align offset.

4. Apply appropriate lubricant to upstream and downstream connecting pipes. Ensure gaskets are undamaged, clean and correctly positioned before pushing the connecting pipes into the chamber base sockets. Refer to page 6 on how to accommodate different approach angles.

5. Cap unused inlet branches with plugs. The plugs should be secured in place as specified by the local regulator. Some methods include:
- placing a bag of dry premix concrete or cement in front of the plug.
- placing a wet concrete mix in front of the plug.
- placing a metal or wooden stake/peg in front of the plug.

6. Ensure that the chamber is level and add fine bedding material/sand. Compact bedding material layer by layer to a minimum cover of 100mm above chamber base.

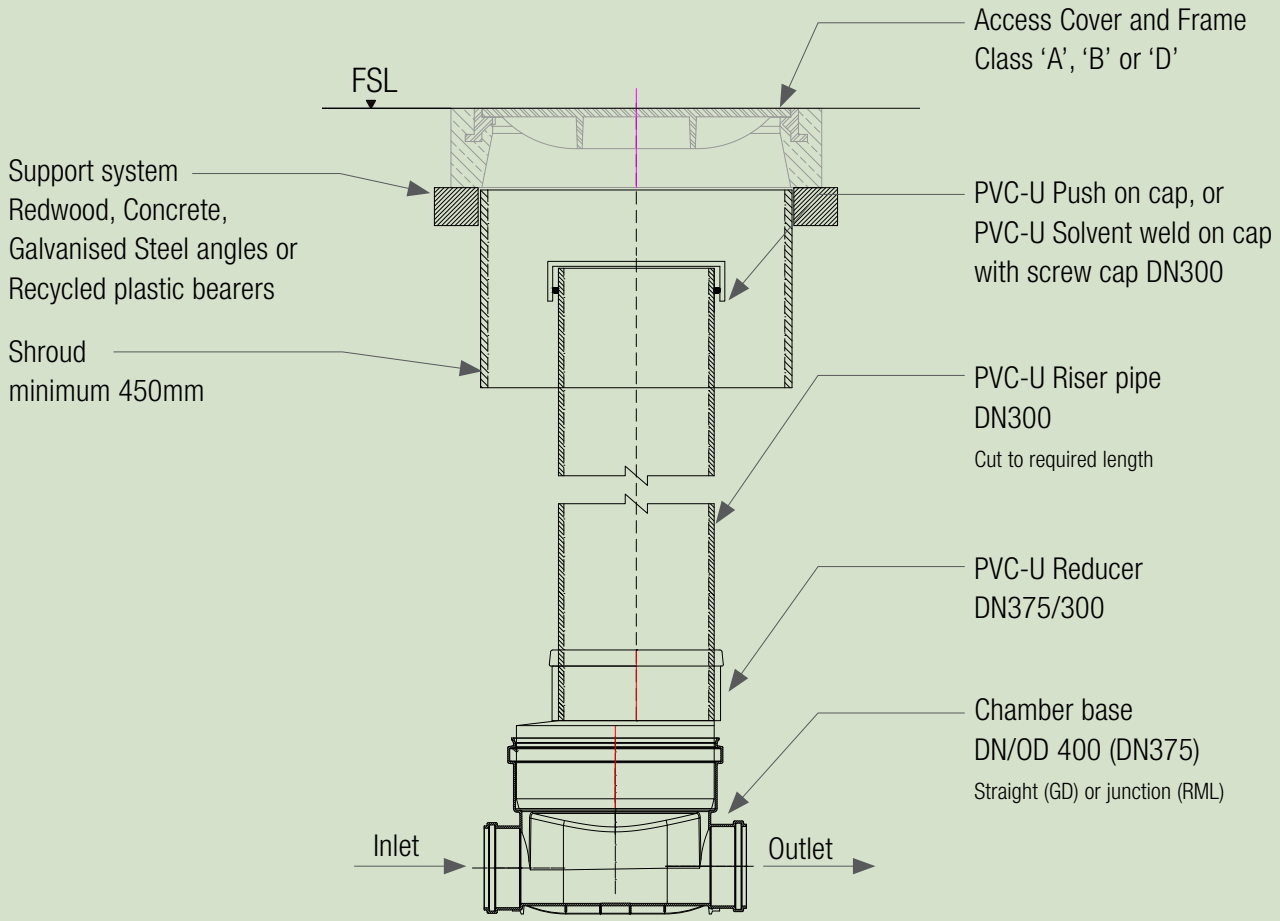
7. Insert ascending PVC-U riser pipe DN300 into the reducer socket. Backfill is to be placed in layers and compacted in accordance with the specifications.

8. Cut riser pipe between 200mm to 300mm below finished surface level and install PVC-U push-on cap DN300 or PVC-U solvent weld-on cap with screw lid DN300.

9. Place shroud (minimum 450mm) over the riser pipe. Install support frame and access cover in accordance with local regulatory requirements and complete backfill.

Cohesionless (non-cohesive) soils or low cohesive soil types of maximum grain size of 16mm (eg stepped soil with fine grains, graded sand/gravel mixes, etc) can be used to backfill around the chamber components.

Installation Overview



Access Cover

Access cover and support system are installed independently of the maintenance shaft and riser pipe.

Select the access cover and support system based on the site specific requirements.

Suitable load classes are:

- Load class A: areas accessible to pedestrian traffic including footpaths
  > concrete shaft cover with 400mm clear opening

- Load class B: areas accessible to vehicles including footpaths and light carriage ways
  > class B concrete shaft cover with 400mm clear opening

- Load class D: roadways, carriageways and areas subject to commercial vehicles up to 10 tonnes wheel load
  > class D ductile iron shaft cover with 400mm clear opening

Install shroud pipe and surface fitting in accordance with WSA 02 standard drawing SEW 1317 and client and local regulatory requirements.

The shroud may be PVC or PE material and shall be minimum 450mm in diameter.

The support frames shall be placed on either side of the shroud and have to bear and sufficiently distribute the traffic loads into the surrounding ground.

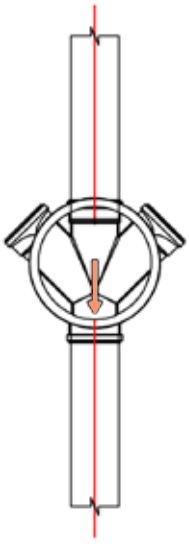
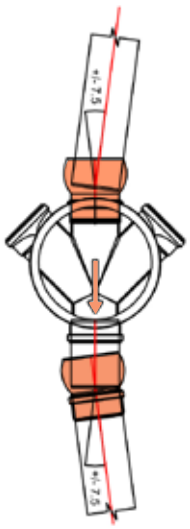
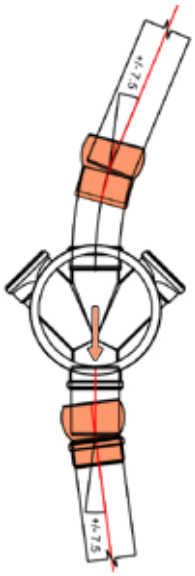
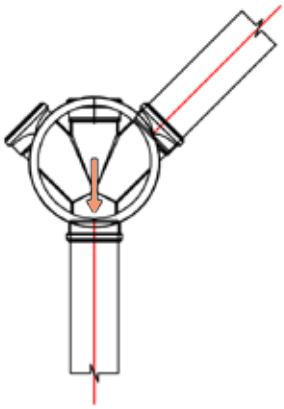
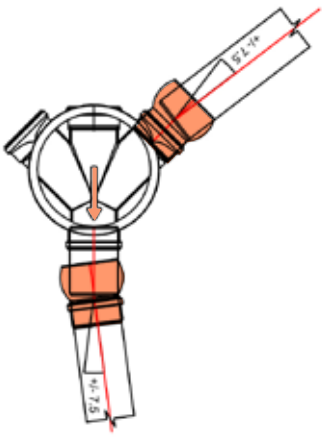
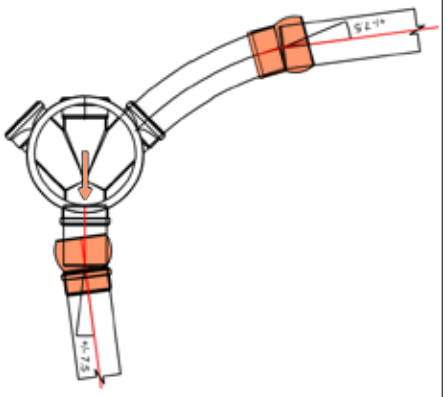
Approach Angles

Continuous adjustable approach angles between 90° and 180°:

Install ball joint fitting on the inlet and/or the outlet chamber base sockets (arrow indicates direction of flow). Certain approach angles require additional PVC-U (long variable) bends 15° or 30°.

Ball joint

AWADUCT PP ball joint

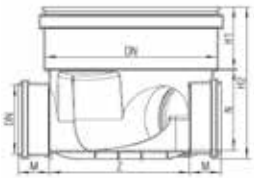
180°	180° - 165°	165° - 150°
		
135°	**150° - 120°**	**120° - 90°**
		

Product Range

Chamber base straight (GD)
1 inlet, 1 outlet
Material: PP-HM (High Modulus)

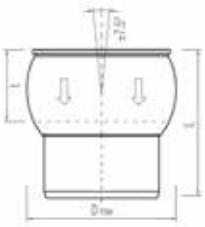
REHAU Art. no.	REECE code	DN	Inlet/outlet DN/OD	M [mm]	Z [mm]	N [mm]	H1 [mm]	H2 [mm]	Weight [kg/pc.]
175165	750350	400	160	74	383	189	146	356	3.0

Chamber base junction (RML)
3 inlets, 1 outlet
Material: PP-HM (High Modulus)



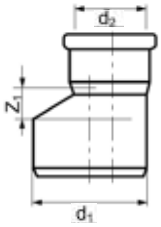
REHAU Art. no.	REECE code	DN	Inlet/outlet DN/OD	M [mm]	Z [mm]	N [mm]	H1 [mm]	H2 [mm]	Weight [kg/pc.]
175167	750351	400	160	74	329	189	146	356	3.5

Ball joint
AWADUCT PP ball joint
Continuously adjustable up to +/-7.5^0 horizontally or vertically
with EPDM sealing ring (Safety-Lock)
Material: RAU-PP 2300



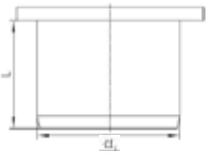
REHAU Art. no.	REECE code	Design	DN/OD	L [mm]	D_{max} [mm]	t [mm]	Weight [kg./pc.]
176055	750353	Socket/spigot	160	207	210	101	1.21

PVC-U Reducer
AWADUCT connecting reducer
with lip sealing ring
Material: RAU-PVC 1100



REHAU Art. no.	REECE code	DN [d_1/d_2]	Z_1 [mm]*	Weight [kg/pc.]
171906	750352	375/300	155	5.7

PP Plug
AWADUCT plug
Material: RAU-PP 2300



REHAU Art. no.	REECE code	DN/OD	d_1 [mm]	L [mm]	Weight [kg/pc.]
100918	750390	160	160	63	0.2

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The use of REHAU products in conditions that are beyond our control or for applications other than those specified releases us from any obligation in regard to claims made in respect of the products.
We recommend that the suitability of any REHAU product for the intended application should be checked. Utilisation and processing of our products are beyond our control and are therefore exclusively your responsibility. In the event that a liability is nevertheless considered, any compensation will be limited to the value of the goods supplied by us and used by you.
Our warranty assumes consistent quality of our products in accordance with our specification and in accordance with our general conditions of sale.

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Errors and changes are to be expected

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