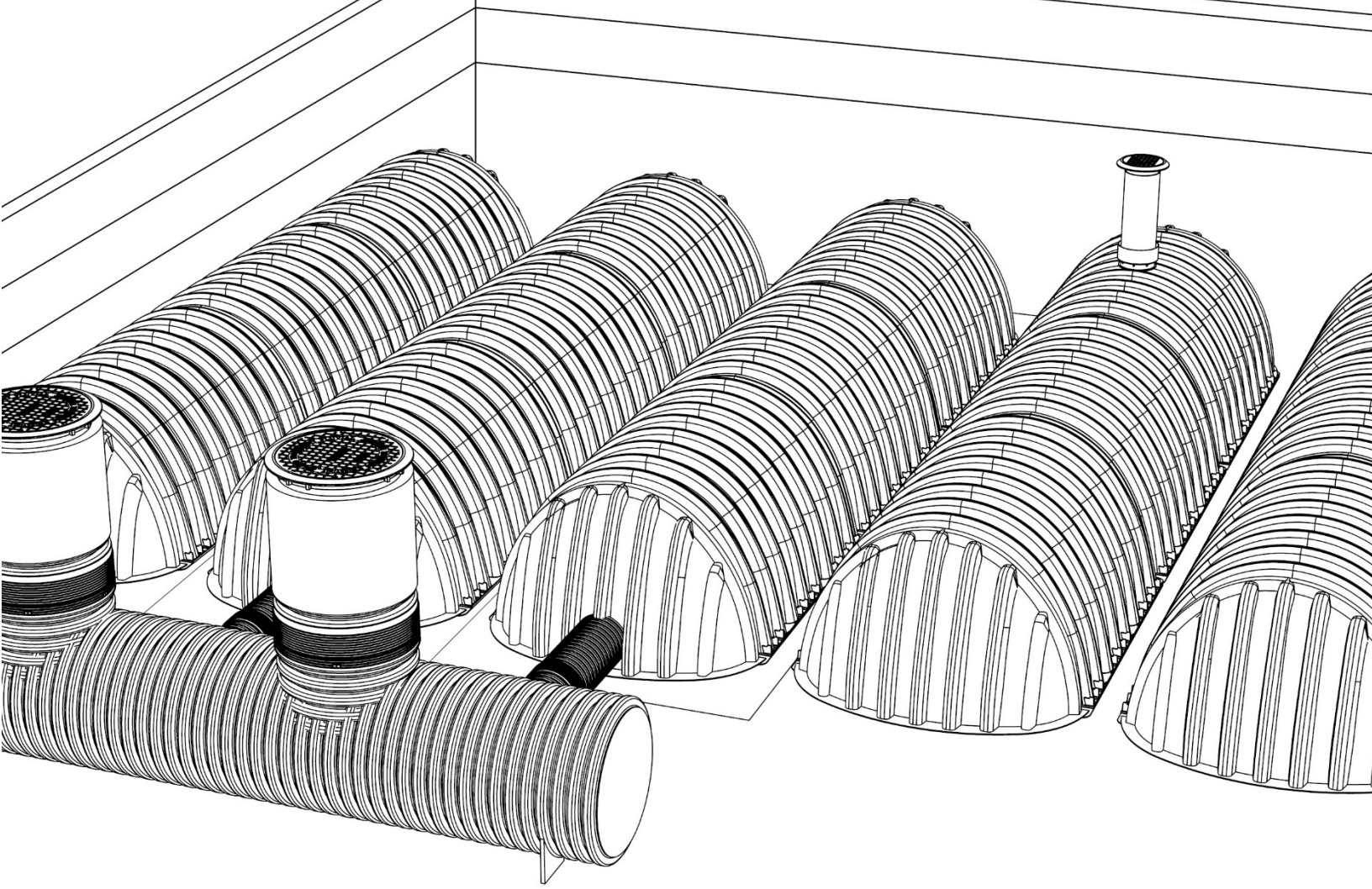


HYDROSTOR™ RETENTION SYSTEM

INSTALLATION GUIDE

INSTALLATION INSTRUCTIONS FOR HYDROSTOR™ RETENTION CHAMBER

STEPS

1. Before undertaking the work
2. Handling and storage
3. Preparing the trench
4. Placing the separation nonwoven geotextile
5. Preparing the bedding
6. Installing the pretreatment unit (if required)
7. Placing the protection woven geotextile
8. Chambers installation
9. Connecting the pipes (to the end caps)
10. Backfilling
11. Installation of frames and covers for the inspection ports (if required)

Note: The warranty applies only if all the components specified in the HydroStor system are installed. No substitute part will be accepted.

REV 07.2022

STEP 1
BEFORE UNDERTAKING THE WORK

In case of discrepancy between the instructions contained in this guide and those contained in the plans and specifications, please contact your Soleno representative.

Contact your Soleno representative at least 48 hours before work begins. A visit from your authorized Soleno representative is recommended after receipt of the materials on site or before work begins.

Upon receipt of the materials, ensure that all items required on the shop drawing are delivered and in good condition. Please notify immediately your Soleno representative in case of damage.

CHAMBERS

END CAPS

TX90 SEPARATION NONWOVEN GEOTEXTILE

PROTECTION WOVEN GEOTEXTILE 2006W

STEP 2
HANDLING AND STORAGE

Unloading
Unloading of the chambers must be done with an equipment with forks measuring a minimum of 1.8 m (6 ft) in length and with a minimum lifting capacity of 1134 kg (2500 lb). We recommend that you keep the chambers and end caps on their respective pallets until use.

Handling the chambers
To remove the chambers from the pallet, carefully cut the retaining straps around the chambers. Use the side handles to lift and remove the chambers (two persons are required for this step).

WARNING: The chambers must never be moved by tipping them. This approach could cause product breakage, personal injury or even death.

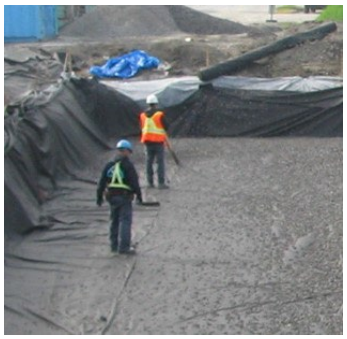
STEP 3
PREPARING THE TRENCH

- Proceed with the trench localization and excavation according to the approved shop drawings and plans. Make sure the bottom of the excavation is dry before proceeding further.

STEP 4
PLACING THE SEPARATION NONWOVEN GEOTEXTILE

- Unroll the TX-90 separation geotextile according to the shop drawings* and provide an overlap of 305 mm (12 in) at the joints and a surplus to fold back over the stone backfill above the system.

  *Normally, the TX-90 separation geotextile is installed at the bottom as well as on the excavation walls and on the clean stone backfill above the system.



STEP 5
PREPARING THE BEDDING

- Unroll the drain on the downstream side and keep a spacing of 152 mm (6 in) with the chamber rows (if required).

- Level and tamp the 20 mm (3/4 in) washed crushed angular stone bedding with a vibrating plate.

NOTE: Refer to the shop drawing and engineering plan for the required thickness of the stone layer required for the bedding.

STEP 6
INSTALLING THE PRETREATMENT UNIT (IF REQUIRED)

Install the pretreatment unit by connecting the inlet pipeand the outlet diffuser, as appropriate.

STEP 7
PLACING THE PROTECTION WOVEN GEOTEXTILE

- Unroll the protection geotextile 2006W on the washed crushed stone, at the locations indicated in the shop drawings.
- For reference, the stabilization geotextile is installed under chambers with an external water inlet to prevent any stone movement.
- Protection geotextile could be provided:
    1. In section of predetermined dimensions depending on the chamber model.
    2. In rolls to be cut on site, according to the layout in the shop drawings.

STEP 8
CHAMBERS INSTALLATION

- Installation of the system must always start from the **upstream** side and as per arrows.
- Install the end cap on the first chamber exterior corrugations and secure it to the chambers with three evenly spaced screws.

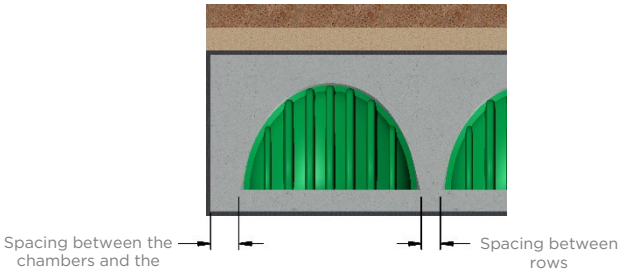
STEP 8
CHAMBERS INSTALLATION (CONT'D)

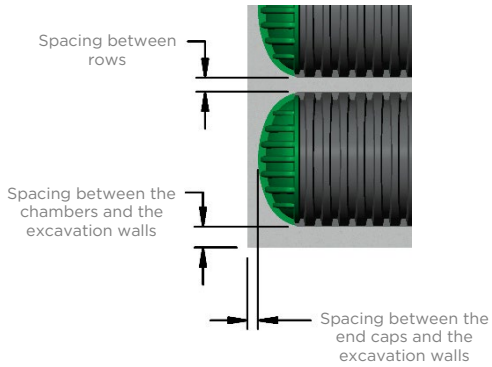
- Observe the required spacings (see table) with the walls of the trench and between the rows throughout the installation process (spacers are recommended).

Chamber	Spacing between rows	Spacing with the excavation walls (end cap)	Spacing with the excavation walls (chamber)
HS31	152 mm (6 in)	305 mm (12 in)	305 mm (12 in)
HS75	152 mm (6 in)	305 mm (12 in)	305 mm (12 in)
HS180	127 mm (5 in)	152 mm (6 in)*	305 mm (12 in)
HS290	216 mm (8.5 in)	305 mm (12 in)	305 mm (12 in)

* Please allow 305mm (12 ") spacing for end caps with inlet pipe.

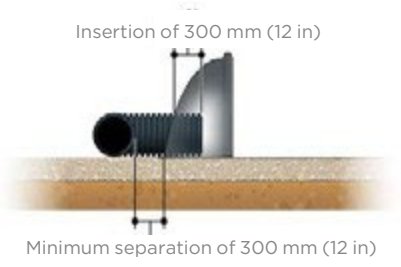
- Continue with the chamber installation, always observing the direction of the arrows and respecting the overlap indicated at the chamber extremities.
- Use end caps to close each row.





STEP 9
CONNECTING THE PIPES (TO THE END CAPS)

- For each end caps to be connected with the inlet or with a diffuser (see shop drawing), align the end cap with the corresponding inlet pipe.
- Cut the end cap at the required elevation and diameter. Insert the pipe according to the figure on the right and provide a TX-90 separation geotextile to prevent stone infiltration.



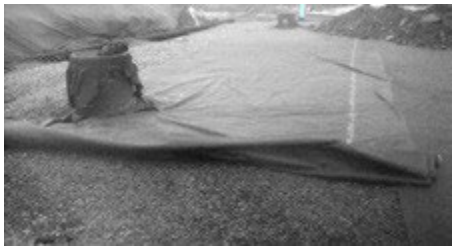
STEP 10
BACKFILLING

- Backfill is critical step to ensure the sustainability of the HydroStor system.
- Backfill with 20 mm (3/4 in) washed crushed angular stone around and between the rows of chambers and on top of the chambers, as per the thickness specified in the shop drawings.

Chamber	Minimum washed crushed stones above the system
HS31	152 mm (6 in)
HS75	152 mm (6 in)
HS180	305 mm (12 in)
HS290	305 mm (12 in)

NOTE: Begin by filling the upper and central part of the chambers to prevent their displacement. Ensure that the stone height difference on each side of the chamber does not exceed 305 mm (12 in).

- Cover the top of the stone completely with the TX-90 separation geotextile, providing an overlap of 305 mm (12 in) at the joints.



STEP 10
BACKFILLING (CONT'D)

- Proceed to backfill of compactable granular material tothe thickness specified in the shop drawings.

  NOTE: The compaction equipment must circulate parallel to the chambers.

- Use the material specified to complete the backfill to therequired elevations.

- Road traffic (load CL-625, H-25 or HS-25) is allowed if the height between the top of the chambersand the final elevation respects these values:

Chamber	Minimum backfill above chamber	Maximum backfill above the chamber
HS31	457 mm (18 in)	2.44 m (8 ft)
HS75	457 mm (18 in)	2.44 m (8 ft)
HS180	457 mm (18 in)	2.44 m (8 ft)
HS290	610 mm (24 in)	2.44 m (8 ft)

NOTE: For values below the minimum or above the maximum, please contact your Soleno representative.

STEP 11
INSTALLATION OF FRAMES AND COVERS FOR THE INSPECTION PORTS (IF REQUIRED)

- Once the final elevation is achieved, install the adjustable frames and covers on the inspection ports.