

Typology 2 c: storage

Structure built for water collection and storage purposes, also used for collecting and storing oil, wine, ice and snow.

The need for water storage, above all drinking water, has resulted in a wide range of storage works. Due to the advent of modern aqueducts for drinking water, these have largely fallen into disuse or are now used for irrigation purposes. Cisterns, for the storage of aqueduct water are not included in this typology. Water is collected in its solid form and deposited in special areas (icehouse and snowstores) for food preservation purposes. This typology also includes oil storage cisterns and wine treatment and storage cisterns.

Cistern

Normally a semi-subterranean or underground structure, for the collection and storage of rainwater from a collecting surface.

A cistern can be described as a large container. These are normally to be found underground, although there are many semi-subterranean and surface examples. The many types of cistern are to be found in all soil types and are used for the storage of rainwater, collected from roofs or special collecting surfaces. Cisterns were used when there were no other means of obtaining water. The system was simple and efficient so long as periodic maintenance took place.

Pit cistern: simple ditch-shaped excavation in either soil or rock, for the collection of meteoric water; financially economic.

Open-air cistern: similar to the pit cistern but larger with articulated collection and distribution systems. Laureano mentions «open-air cisterns» when describing the water-collection systems used in Qana (Yemen), consisting of tanks and filtering and decantation devices.

Single chamber cistern: this is the most common and undoubtedly the most well known, providing a wide range of architectonic solutions. In its most basic form, a cistern can be cylindrical, tronococonical, bottle-shaped, demijohn or dome-shaped (*tholos*) or irregular in shape, with multiple variants. One type is known as the “*bagnarola* cistern”. Rectangular in shape, its lower sides rounded, records of this type of cistern were documented at the *Tharros* settlement in Sardinia (Italy).

Multi-chamber cistern: this type of cistern is less common and generally consists of two or more cisterns, which have been joined together. Sometimes this type of cistern was created in environments, which were only subsequently used for water storage and whose original purpose is unknown.

Dual-chamber cistern: this consists of two concentric chambers, which can be round or square, the internal chamber being the storage chamber and the external chamber being used for filtering purposes. The two chambers are joined via the transfer outlet.

Cistern with passages: normally consists of a network of connecting passages; in its more complex form, it is not dissimilar to a room and pillar mine.

Filtering cistern: of the various types of cistern, this ensured a good degree of potability. The most common type is known as the *Venetian-style cistern*. This consists of a conical excavation, which is at least 3 m deep, the walls and base of which, are lined with a layer of compressed sand and clay. A cylindrical well, which communicates directly with the lower section of the conical excavation rises centrally from the cistern’s base. The gap between the well and the wall is filled with washed

silica sand. Collected rainwater is filtered by the sand and channelled into the well, from where it is then removed. During dry spells, the cistern was often filled with water collected in barrels or other containers.

Icehouse

Normally a semi-subterranean or underground structure, used to hold ice for the preservation of food.

Room for the storage of ice either collected during the winter or dug and transported from natural cavities or mountain glaciers. There were various methods of building or obtaining icehouses:

external icehouse;

semi-subterranean icehouse;

underground man-made icehouse;

underground icehouse, excavated in the ground or cut into a rocky wall;

icehouse obtained from the exploitation of a natural cavity.

Snowstore

Semi-subterranean or underground structure, used to store snow for the preservation of food.

Cave, cellar or special chamber used in the past to hold snow for the chilling of food and drink and the preservation of perishable food. Icehouses are often referred to as snowstores. Instead of removing layers of ice, snow was placed inside the room and compacted.