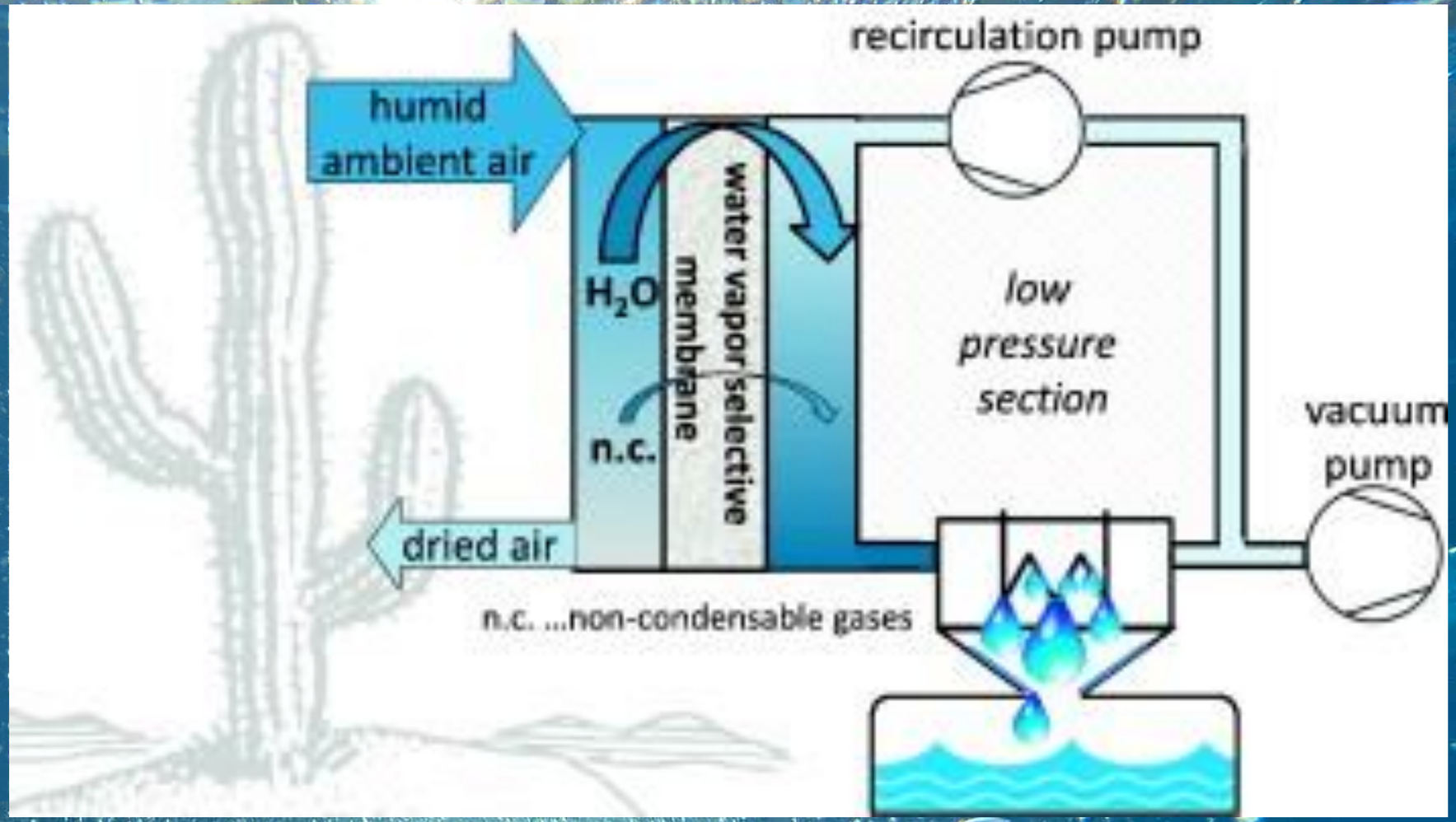
I.I.S.S. E. MAJORANA BARI

SYSTEMS THAT PRODUCES WATER FOR PLANTS FROM THE HUMIDITY IN THE AIR

Progetto Erasmus+

KA220 - SCH - 705199D0

SYSTEM ANALYSIS OF MEMBRANE FACILITATED WATER GENERATION FROM AIR HUMIDITY



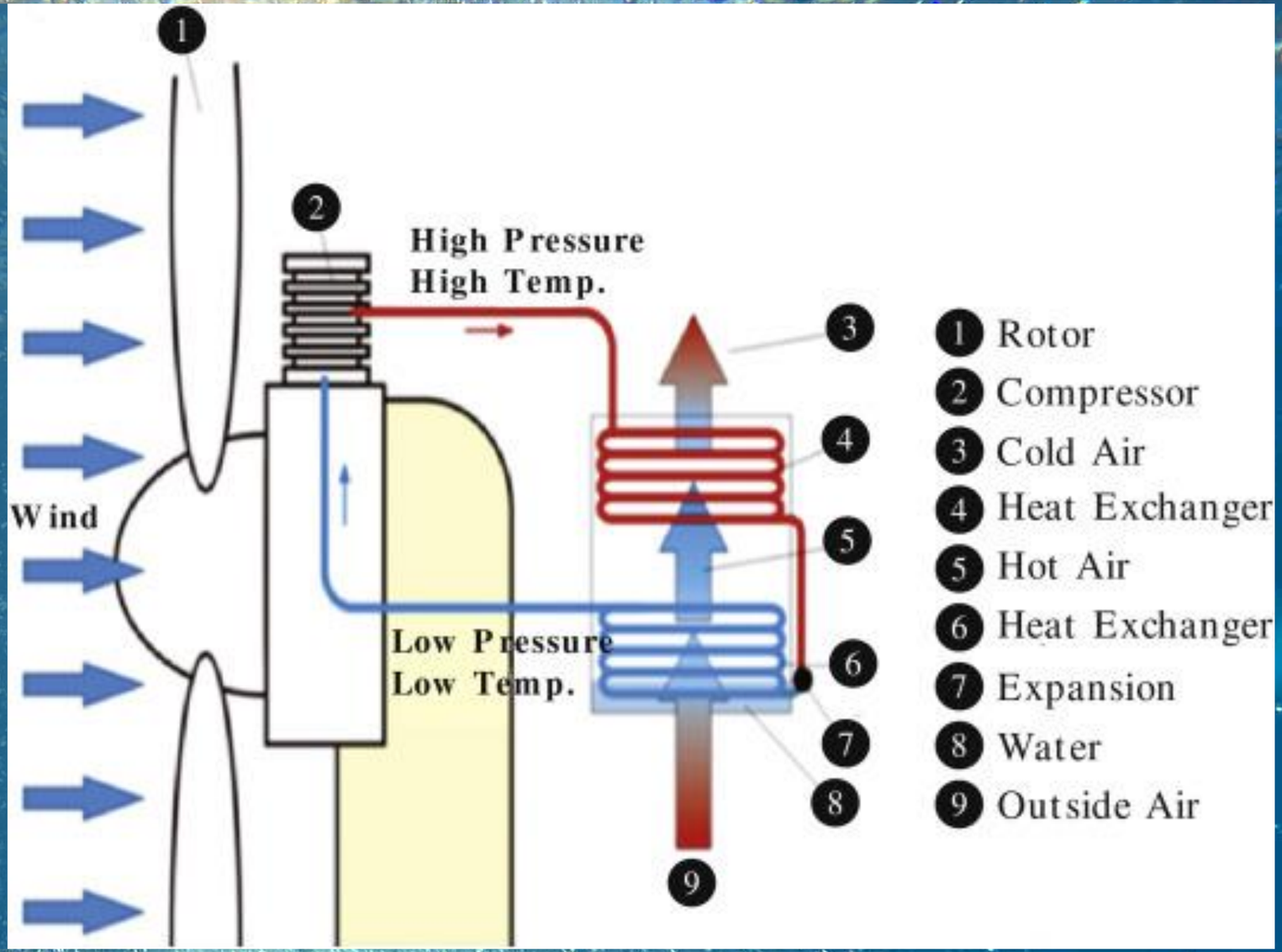
https://www.sciencedirect.com/science/article/abs/pii/S0011916414000708

THE TERRARIUN WATER CYCLE

OFFSHORE STRUCTURES COULD HARVEST CITY DRINKING WATER FROM OCEAN AIR

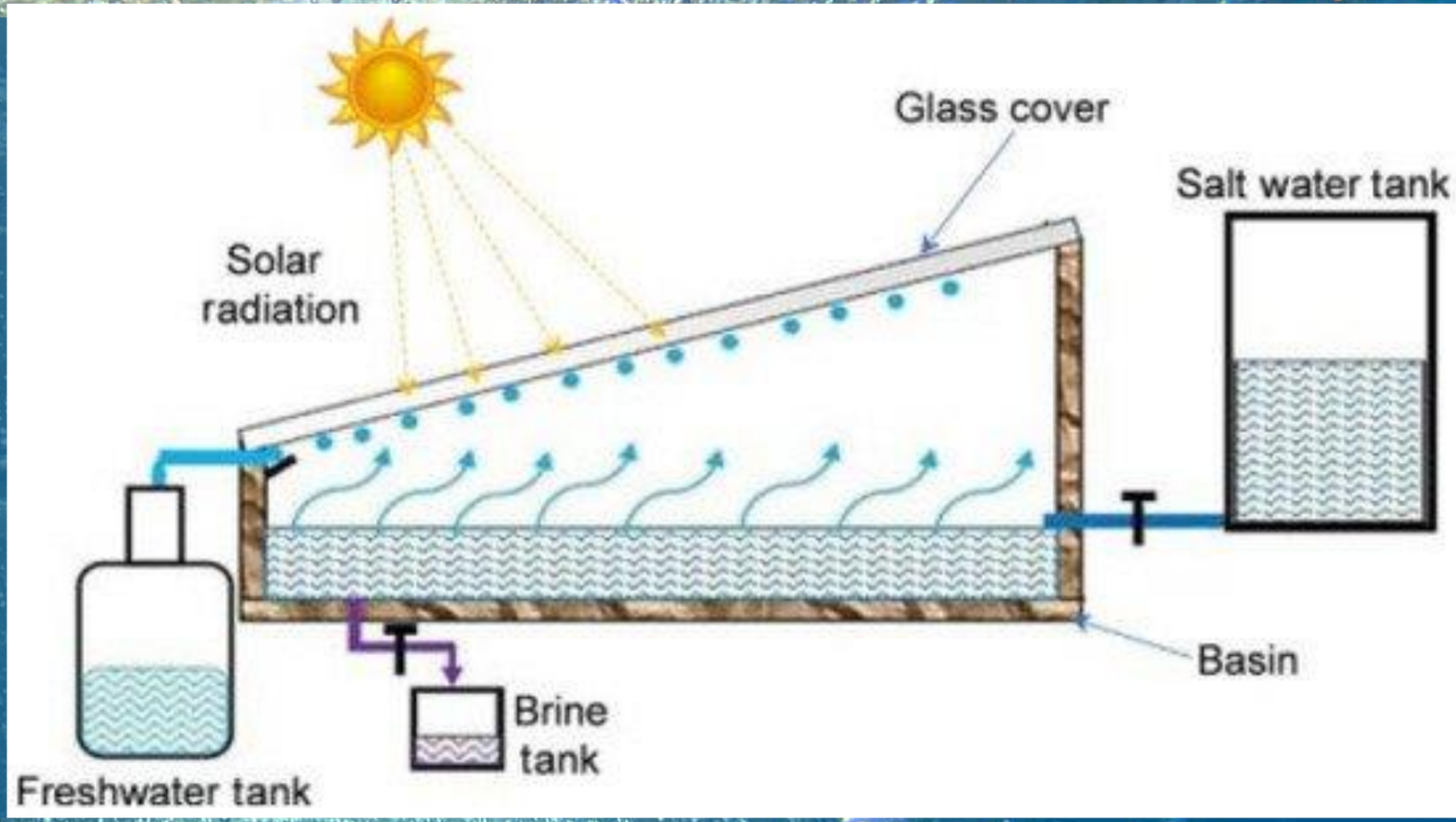
https://newatlas.com/environment/drinking-water-vapor-offshore-structures/#:~:text=The%20team%20proposes%20that%20structures,a%20region%20needs%20it%20for.

EXTRACTING POTABLE WATER FROM HUMID AIR PLUS ELECTRIC WIND GENERATION



https://www.sciencedirect.com/science/article/abs/pii/S0960148117312430

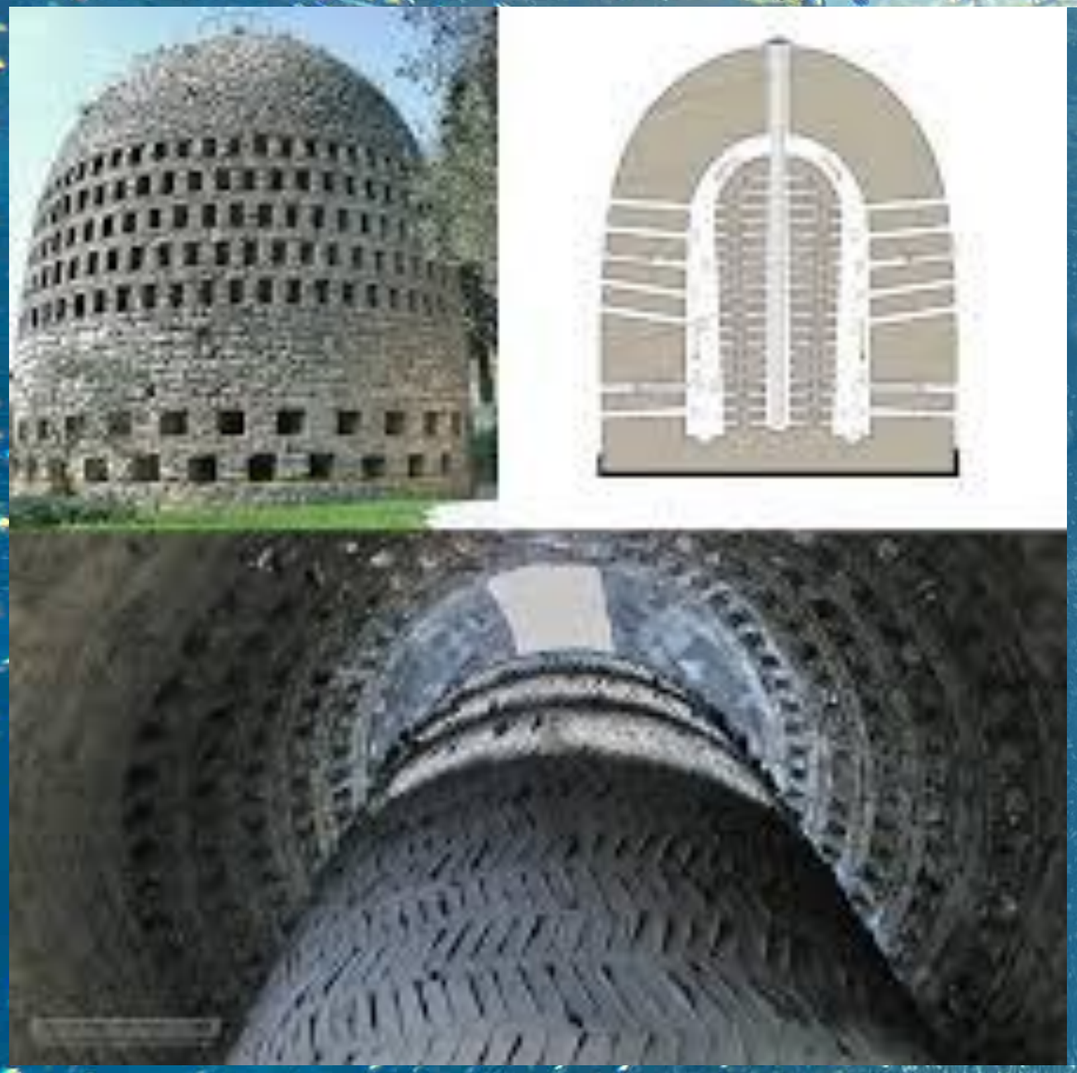
WATER EXTRACTION FROM THE ATMOSPHERE FOR ARID ZONES



https://encyclopedia.pub/entry/18035

TRADITIONAL METHODS

HTTPS://EN.WIKIPEDIA.ORG/WIKI/AIR_WELL_%28CONDENSER%29



HIGH-MASS AIR WELL OF BELGIAN ENGINEER ACHILLE KNAPEN IN TRANS-EN-PROVENCE.

An air well or aerial well is a structure or device that collects water by promoting the condensation of moisture from air. Designs for air wells are many and varied, but the simplest designs are completely passive, require no external energy source and have few, if any, moving parts.

Three principal designs are used for air wells, designated as high mass, radiative, and active:

- High-mass air wells
- Low-mass, radiative collectors
- Active collectors

TRADITIONAL METHODS

HTTPS://EN.WIKIPEDIA.ORG/WIKI/AIR_WELL_%28CONDENSER%29

A 550 M2 (660 SQ YD) RADIATIVE CONDENSER IN NORTHWEST INDIA

- High-mass air wells: used in the early 20th century, but the approach failed.
- Low-mass, radiative collectors: Developed in the late 20th century onwards, proved to be much more successful.
- Active collectors: these collect water in the same way as a dehumidifier; although the designs work well, they require an energy source, making them uneconomical except in special circumstances. New, innovative designs seek to minimise the energy requirements of active condensers or make use of sustainable and renewable energy resources.

TRADITIONAL METHODS

HTTPS://EN.WIKIPEDIA.ORG/WIKI/AIR_WELL_%28CONDENSER%29

Structures with metal roofing, such as this one, can be used to harvest dew water simply by adding gutters and, for increased output, a layer of insulation underside. without the insulation the output is nearly half of that from plastic condensers.

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Co-funded by the
Erasmus+ Programme
of the European Union