

# AVDS ADVANCED VACUUM DRYING SYSTEM



TECHNICAL VACUUM EXCELLENCE SINCE 2008

ACTIVELY CONDITIONING NUCLEAR WASTE AT UK SITES  
MAGNOX INNOVATION AWARD WINNER - NDA HIGHLY COMMENDED

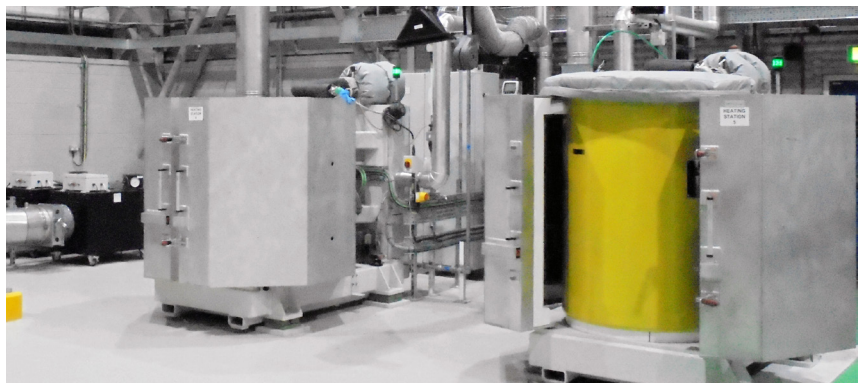
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Advanced Vacuum Drying System (AVDS) is a proven solution for removing moisture content from intermediate level nuclear waste (ILW), e.g. IX resin, sludges and fuel element debris.

AVDS is designed, manufactured and supported by UK SME vacuum system specialists, MechaTech Systems Ltd.



AVDS VACUUM CONDITIONING UNIT (VCU)



AVDS HEATING STATIONS FOR MOSAIK (CYLINDRICAL) CONTAINER



AVDS HEATING STATIONS FOR TYPE VI (CUBOIDAL) CONTAINER

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Waste is conditioned inside final, disposable, transportable container for long term, above ground storage</li> </ul> | <ul style="list-style-type: none"> <li>Heat and vacuum are used to remove moisture content down to a level of less than 1% wt/wt (waste dependent)</li> </ul>     |
| <ul style="list-style-type: none"> <li>Conditioning waste achieves long term stability and prevents corrosion and gas generation</li> </ul>                  | <ul style="list-style-type: none"> <li>Conditioned waste can be stored safely above ground and transported to interim ILW stores in the same container</li> </ul> |

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AVDS comprises a Vacuum Conditioning Unit (VCU), which serves up to six heating stations.

The heating stations are adaptable to the container shapes, whether they are cuboidal or cylindrical. Each heating station can be run independently.

AVDS incorporates high level automation, maximising efficiency and minimising operator intervention.

AVDS has a purpose-built transport frame, and plug and socket connectivity for ease of installation.



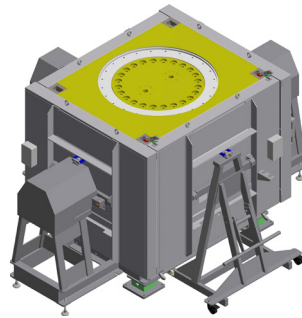
WET WASTE BEFORE CONDITIONING



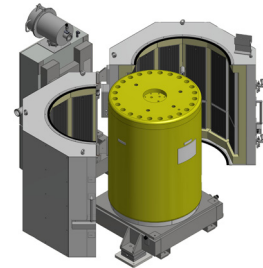
DRY WASTE AFTER CONDITIONING



AVDS VACUUM CONDITIONING UNIT (VCU)



CUBOIDAL HEATING STATION



CYLINDRICAL HEATING STATION

**COST EFFECTIVE:** conditions waste inside original and final disposable, transportable container for long term, above ground storage

**PROVEN:** actively conditioning at UK nuclear sites for over five years

**TIME AND ENERGY SAVING:** reduced temperature drying with automatic endpoint determination and duty/standby condenser system enable fast, high efficiency waste conditioning

**SUSTAINABLE:** incorporates well established, commonly available parts for long term maintenance

**SAFE:** closed system design with high level control automation enables minimal operator intervention; hydrogen management system prevents explosive atmospheres

**SUPPORTED:** MechaTech Systems have a combined experience of over sixty years in design, manufacture, installation, commissioning, operational qualification, and maintenance of high vacuum systems

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