ATMOSPHERIC THERMAL ENERGY STORAGE TANK
TECHNICAL QUESTIONNAIRE

Western Technological Solutions | techsolutions.lt | solution@wsy.lt **CONFIDENTIAL**

TES-050-ATM-H – TES-500-ATM-H | 50–500 m³ | Atmospheric service ≤ 0.5 bar g | Max. medium temp. +95 °C

1. CUSTOMER INFORMATION

* **Company name**	
* **Contact person**	
* **E-mail**	
Phone	
Project name / Reference	
Required delivery date [DD/MM/YYYY]	

2. APPLICATION DETAILS

* **Application type**	☐ Heating	☐ Cooling
System description (brief)		
* **Installation location**	☐ Indoor	☐ Outdoor
* **Site location (city, country)**		
Altitude above sea level [m a.s.l.]		
	Required for wind and seismic load design per EN 1991 / Eurocode 8	
Seismic zone / design category		

3. TANK SELECTION

TES-050-ATM-H – TES-500-ATM-H | Non-pressurised, vertical, above-ground stainless steel per EN 14015 | Specify model below.

Tank Model	Nominal Cap. m³	Int. Dia. mm	Approx. Height mm	Usable Energy ΔT = 30 K
TES-050-ATM-H	50	2 760	8 360	1.56 MWh
TES-080-ATM-H	80	3 220	9 830	2.51 MWh
TES-100-ATM-H	100	3 480	10 520	3.13 MWh
TES-150-ATM-H	150	3 980	12 060	4.70 MWh
TES-200-ATM-H	200	4 380	13 280	6.27 MWh
TES-300-ATM-H	300	5 030	15 100	9.40 MWh
TES-400-ATM-H	400	5 540	16 600	12.54 MWh
TES-500-ATM-H	500	5 960	18 000	15.67 MWh
Custom / TBD				

* Heights without insulation. Outer Ø increases with insulation thickness. Std. delivery basis: min. ambient −30 °C.

* **Preferred tank model**	
	Enter model code or 'Custom'
* **Number of tanks [pcs]**	
Thermal stratification	☐ Yes – internal diffusers (standard) ☐ No
Required total storage volume (if different) [m³]	

4. MATERIAL & MEDIUM

* **Tank material**	☐ Austenitic SS	☐ Duplex SS (recommended if Cl^- > 100 ppm)
Stainless steel grade		
	European EN designation, e.g.: EN 1.4301 (SS304), EN 1.4404 (SS316L), EN 1.4162 (Lean Duplex)	
* **Operating medium**	☐ Water	☐ Glycol mixture ☐ Other – specify
Glycol type & concentration (if applicable) [% vo		
	MEG or MPG	
Chloride content in medium [ppm]		
	Duplex SS recommended if content > 100 ppm	
pH of operating medium		
Dissolved oxygen content [mg/L]		

5. OPERATING CONDITIONS

Max. medium temp. +95 °C at ≤ 0.5 bar g. For pressure > 0.5 bar g → refer to WTS Pressurised Heating Buffer Tanks.

* **Design min. ambient temperature [°C]**	
	Standard: −30 °C
* **Design max. medium temperature [°C]**	
	Max. +95 °C for atmospheric service
* **Heating system supply / return temps [°C /**	
	e.g. 80 / 60
* **Design temperature difference ΔT [K]**	
Design daily energy consumption [kWh/day]	
Design charging heating capacity [kW]	
Design discharging heating capacity [kW]	
Thermal charging flow rate [m³/h]	
Thermal discharging flow rate [m³/h]	
Charge / discharge cycles per day [cycles/day]	

6. INSULATION

Standard: PUR foam – EN 17956:2024 Class A (highest EU energy efficiency grade).

* **Insulation required**	☐ Yes (standard)	☐ No

Insulation type:

- ☐ PUR foam
- ☐ Mineral wool (stone wool)
- ☐ Other – specify in comments

Insulation thickness or max. heat-loss target [m	
Min. ambient temp. for insulation sizing [°C]	
	Standard design basis: −30 °C

7. OUTER CLADDING

Select cladding type:

- ☐ Aluminium sheet
- ☐ Trapezoidal profiled steel sheet, coated
- ☐ Trapezoidal profiled steel sheet, hot-dip galvanised
- ☐ Stainless steel sheet
- ☐ No cladding required

8. CONNECTIONS / NOZZLES

Standard nozzle rating: PN16. Specify requested qty and DN in the fillable columns. Attach P&ID or arrangement drawing where available.

#	Connection Item	Standard Qty	Requested Qty	DN / Notes
1	**Manhole**	1 (standard)		
2	**Hot Charging Inlet flange**	1 (standard)		
3	**Hot Discharging Outlet flange**	1 (standard)		
4	**Cold Charging Inlet flange**	1 (standard)		
5	**Cold Discharging Outlet flange**	1 (standard)		
6	**Drain flange**	1 (standard)		
7	**Vent flange**	1 (standard)		
8	**Temperature sensor flange**	1 std. + on req.		
9	**Lifting Eyes**	2 std. + on req.		
10	**Nozzle PN rating**	PN16 (standard)		

9. ACCESSORIES

#	Accessory Item	Standard Qty	Requested Qty	Notes
1	**Multi-Spot Temperature sensor**	on request		
2	**Loads for foundation design**	Included (standard)		
3	**Foundation anchor bolt template**	1 (on request)		
4	**Other accessories**	—		

10. STANDARDS

Applicable Standard	Confirm / Applicable ✓
EN 14015:2004+A1:2006	☐
Design and manufacture of above-ground welded steel tanks	
EN 17956:2024 Class A	☐
Energy performance of hot water storage – highest EU efficiency grade	
Other – specify	

11. DELIVERY & LOGISTICS

Incoterms® 2020	☐ EXW	☐ FCA	☐ DAP	☐ DDP	☐ Other
Delivery address (if different from project site)					
Special transport / lifting requirements					
Site access restrictions					
	Road width, bridge load limit, crane capacity, etc.				

12. ADDITIONAL REQUIREMENTS / COMMENTS