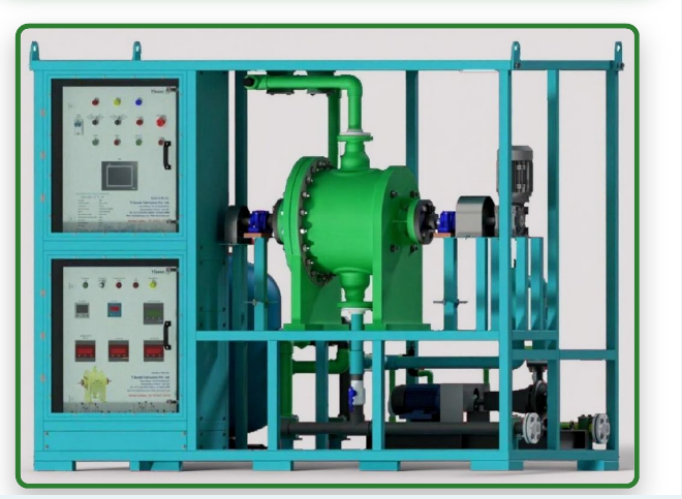
Maanvi Ecotech
CATALYZING GREEN FUTURE

Maanvi ICETS™

Integrated Continuous Electrolytic Cooling Tower Solution

An integrated side-stream platform combining electrolytic conditioning, in-situ oxidation and filtration for greener cooling tower operation.



100%
chemical-free treatment*

Up to 40%
water savings*

24×7
continuous operation

5–60 m³/h
modular model range

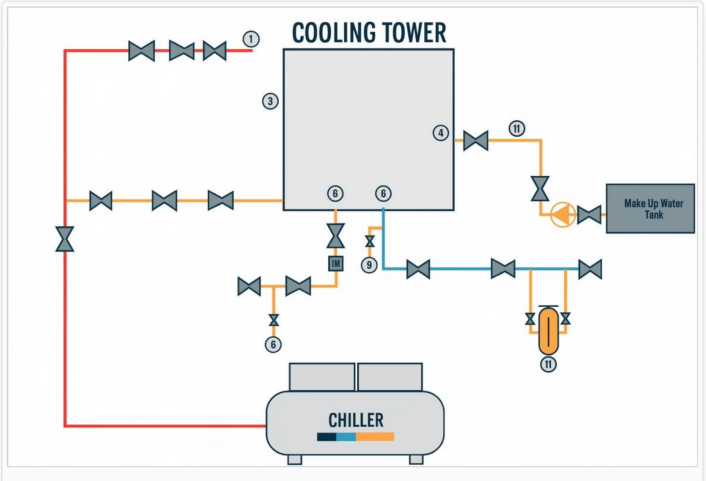
** Performance depends on raw-water chemistry, cycles of concentration and site operating conditions.*

Green & Chemical-Free with Integrated Side-Stream Filtration

How ICETS™ works

Continuous side-stream treatment without interrupting the cooling process

Side-stream integration concept



Cooling tower circulation is continuously treated through the ICETS™ side-stream s

1. Side-stream extraction

A controlled portion of circulating cooling water is routed through the ICETS™ treatment skid.

2. Electrolytic conditioning

MMO-coated titanium electrodes promote scale control while generating in-situ oxidising species for bio-control.

3. Integrated filtration

An automatic 80–100 µm side-stream filter removes suspended solids and precipitated material.

4. Treated-water return

Conditioned and filtered water is returned continuously to the cooling circuit; polarity reversal supports self-cleaning operation.

Automatic

PLC/HMI + Modbus/RS-485

Monitored

pH • ORP • Conductivity • Flow

Self-cleaning

Automatic polarity reversal

Why ICETS™ lowers cooling-tower lifecycle cost

Eliminate routine chemical dosing while improving water efficiency, maintenance intensity and heat-transfer condition

100%
chemical use eliminated*

7–9
cycles of concentration*

Up to 40%
water conservation*

3–5%
potential COP improvement*

Continuous scale control

Electrolytic conditioning and automatic polarity reversal reduce dependence on acid-cleaning interventions.

In-situ bio-control

Electro-generated HOCl is used for microbial control without routine hazardous biocide handling.

Lower blowdown burden

Higher cycles of concentration can reduce make-up and blowdown volumes; suitable blowdown may be reusable.

Lower operator effort

Automated control, filtration and quarterly maintenance reduce day-to-day chemical handling and manual intervention.

Standard model range

Model	Flow m³/h	Power kW	Slip %	Electrode life
ICETS-5	5	0.4	10	10,000 h
ICETS-10	10	0.8	8	10,000 h
ICETS-20	20	1.6	7	12,000 h
ICETS-40	40	3.2	5	12,000 h
ICETS-60	60	4.8	5	15,000 h

** Expected/design performance from reference documents; actual performance is site-specific and should be confirmed from operating data.*

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Catalyzing Green Future

Integrated cooling-tower treatment for facilities seeking lower chemical dependence, reduced water use and more automated operation.

For an ICETS™ site assessment, share:

- Cooling-tower circulation and make-up flow
- Raw / make-up water analysis and current cycles of concentration
- Current chemical programme and blowdown quantity
- Chiller / condenser operating data and available side-stream tie-ins

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Water • Chemical • Energy Reduction