

**ENGINEERED
SOLUTIONS
FOR YOUR
COOLING ASSETS**

A BUSINESS OF





ACC360 is a subsidiary business of SPG Dry Cooling that focuses on engineered performance enhancement of cooling assets



Our team works on performance improvement studies, wet to dry conversions, retrofit engineering and remote performance management programs.

ACC360 offers solutions that bring substantial performance benefits by maximizing generation output and reducing operating costs.

ACC360 works on any kind of cooling assets, whether originally engineered and constructed by SPG Dry Cooling or by another company.

As degraded asset performance becomes more recognized, selecting the appropriate corrective measures and applying the most cost-effective solutions are critical for maintaining availability and increasing profitability.



**ENGINEERED
RETROFIT**



**WET TO DRY
CONVERSION**



**PERFORMANCE
IMPROVEMENT**



**REMOTE
PERFORMANCE
MANAGEMENT**

ENGINEERED RETROFIT



Our team of engineers and construction experts will lead the tasks associated with evaluating the benefits, logistics methods, schedule and costs of potential modifications or retrofits for your condenser. If modification or retrofit is pursued, whether due to technological, economical or environmental reasons, **our ACC360 team has the required know-how and skills to deliver on-budget and on-time.**

COMPLETE OFFERING

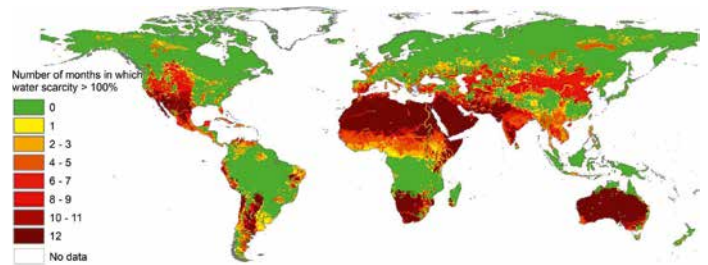
- Feasibility studies
- Modifications and revampings
- Site works
- Relocation activities
- Dismantling
- Commissioning services



WET TO DRY CONVERSION

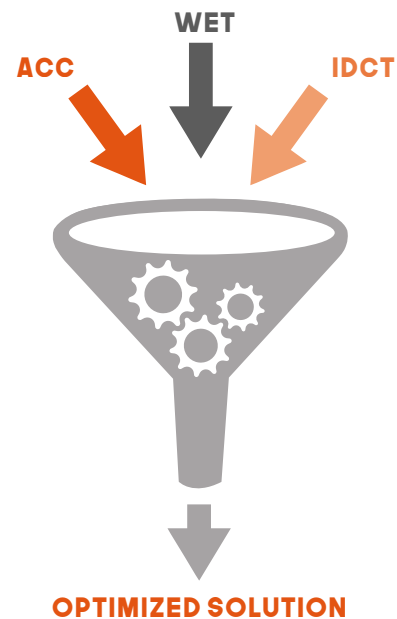


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- ▶ More and more power plants are facing reduced water availability and/or increased cost of water.
- ▶ Water availability today is no guarantee for the future.
- ▶ The challenge for power plant owners and operators: maintaining normal operation in parallel with significantly less or zero water consumption and maximizing the plant output.
- ▶ Areas that were historically rich in water are also facing reduced water availability or significant cost of water set by local authorities or governments. Power plants located in these areas are going to face operational problems in the near future.

Our team analyzes the actual situation and conducts a study to recommend the most efficient water saving engineered solution.



INPUTS

- Turbine data
- Existing cooling system data
- Climate data
- Other relevant data

RESULTS

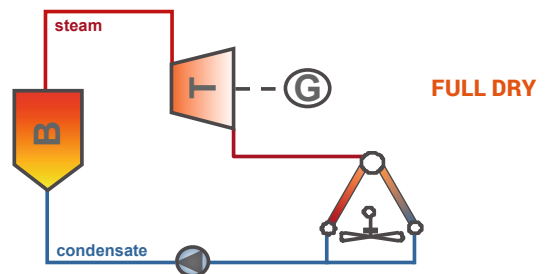
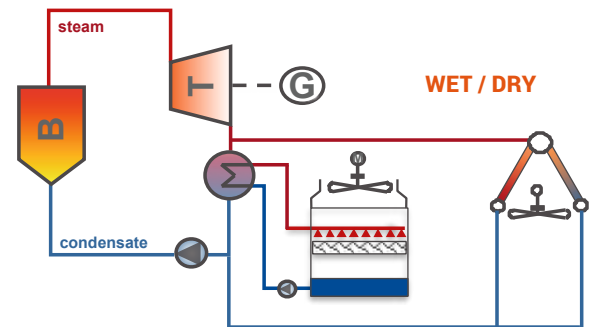
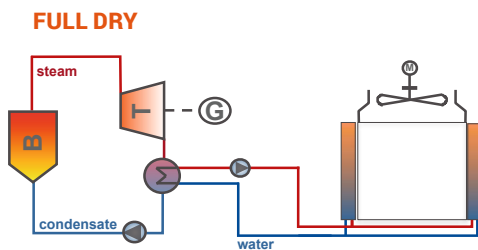
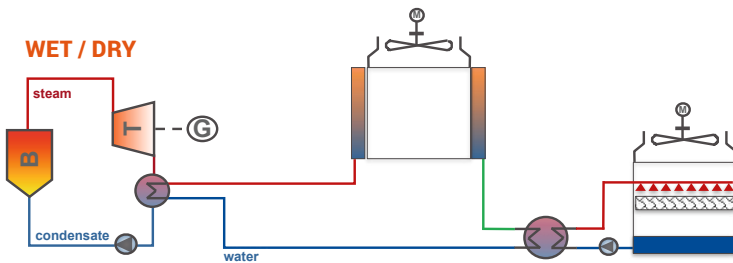
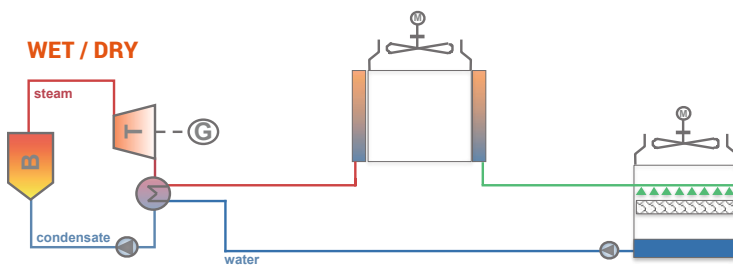
- Year round power output
- Year round water consumption
- Year round auxiliary power consumption

WET TO DRY CONVERSION



Conversion based on INDIRECT Dry Cooling solutions

Conversion based on DIRECT Dry Cooling solutions

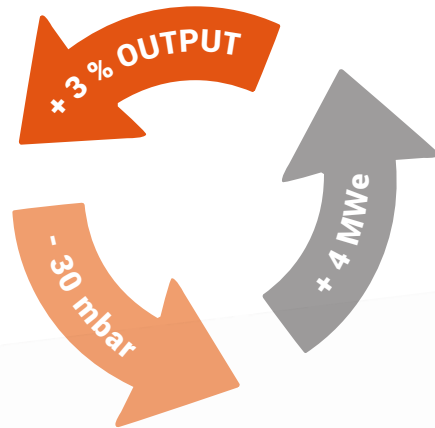


PERFORMANCE IMPROVEMENT



The greater part of the total cost of ownership arises during the operating phase. These costs are predominantly energy costs, but significant additional costs are also associated with reduced performance or changing operating conditions. To gain optimal plant operation, adjusting condenser operation to specific requirements can in some cases considerably reduce these costs and increase your net electrical output.

About 50% of the fuel energy ends up condensing in the cooling system. The greatest potential for heat rate improvements in most Rankine cycles is through achieving and maintaining **year-round lowest possible back pressure beyond original design conditions, for example, higher wind speeds.**



VAST PORTFOLIO OF ENGINEERED SOLUTIONS

- Wind Mitigation System®
- Fan drive group upgrade
- BoxAir ACC® addition
- State of the art cleaning systems
- Adiabatic operation
- Many other tailor made solutions

REMOTE PERFORMANCE MANAGEMENT



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First-of-its-kind solution to enhance ACC performance and reliability with Industry 4.0 and asset management principles.

The ACC360 Remote Performance Management (RPM) solution is an innovative, purpose built cloud based offering designed to perform predictive maintenance and guarantee highest availability, efficiency and performance of your Air Cooled Condenser (ACC).

Following a true hybrid physics approach, ACC360 combines data analytics with the ACC's thermo-physical model. **Continuous Condition Based Monitoring** as well as capabilities required to realize **Intelligent Performance Analytics** are included in RPM.



SENSORS

Custom site-specific sensors and edge analytics



DATA ANALYTICS & AI

Machine learning capabilities



MODELLING

Common failure mode identification and enhanced pattern analysis



CLOUD PLATFORM

Scalable, flexible, and secure environment for end-to-end connectivity and integration



OEM EXPERTISE

Application of domain knowledge and thermo-physical models

AVAILABILITY & RELIABILITY

- Lifecycle management
- Optimized maintenance
- Minimized wear and tear

PERFORMANCE OPTIMIZATION

- Increased turbine output
- Reduced auxiliary power

PREDICTION & FORECASTING

- Net electrical output forecast
- Turbine trip & alarm level optimization
- Real-time link to trading desk

More information about our patents: <https://spgdrycooling.com/ip-legal/patents/>

GLOBAL ACCESS

ACC360 is accessible through SPG Dry Cooling's global network.



SPG DRY COOLING IS AN
**INNOVATIVE
GLOBAL LEADER**

SPG DRY COOLING GLOBAL NETWORK

SPG Dry Cooling Belgium SRL
Avenue Ariane 5
B-1200 Brussels
Belgium
T +32 (0)2 761 61 11

SPG Dry Cooling Hungary
Mester Street 87
H-1095 Budapest
Hungary
T +36 1 557 5 557

SPG Dry Cooling USA, LLC
7450 West 130th Street, Suite 310
Overland Park, KS 66213
United States
T +1 913 685 0009

Paharpur Cooling Towers Limited
Paharpur House
8/1/B Diamond Harbour Road
Kolkata 700027, India
T +91 33 4013 3000

SPG Dry Cooling Italia SRL
Lungolago di Calcinatè 88
I-21100 Varese
Italy
T +39 0332 150 5948

**Paharpur SPG Dry Soğutma
Tic. Ltd. Şti.**
Sair Esref Bulv. 22/812
35210 Konak, İzmir, Turkey
T +90 (232) 483 07 79

SPG Dry Cooling USA, LLC
1200 US Rt. 22 East, Suite 1
Bridgewater, NJ 08807
United States
T +1 908 450 8008

SPG Dry Cooling Beijing
Room 402, Block B, First Shanghai Center,
No. 39 Liangmaqiao Road,
Chao Yang District, Beijing 100125, China
T +86 10 5676 2158

SPG Dry Cooling Spain
Avenida de Europa 14
28108 Alcobendas, Madrid
Spain
T +34 911 890 518

Paharpur Nigeria FZE
Dangote Industries
Free Zone Development Company
Lekki Coastal Road
Ibeju-Lekki, Lagos, Nigeria
T +41 78 754 17 41

SPG Dry Cooling Mexico
Av. Prolongación Paseo de
la Reforma No. 215,
Oficina 503, 5o. Piso
Col. Paseo de las Lomas
Ciudad de México, 01330
T +52 (55) 5292 8343

SPG Dry Cooling Paharpur Korea
11F, Samsung Life Insurance
Yoido Building
24, Kukjegeumyung-Ro 2-Gil,
Yeongdeungpo-Gu
0732 Seoul, Korea
T +82 (0)2 6297 5030

Paharpur Europe SA
Via Laveggio, 3
CH-6855 Stabio
Switzerland
T +41 91 980 42 06

SPG Dry Cooling Taiwan
Level 37, No. 7, Section 5
Xinyi Road, Xinyi District
Taipei City, 110
Taiwan
T +886 2 8758 2894



hello@acc-360.com
www.acc-360.com



HEADQUARTERS

SPG Dry Cooling Belgium SRL
Avenue Ariane 5,
B-1200 Brussels, Belgium
T +32 (0) 2 761 61 11
F +32 (0) 2 761 61 86
www.spgdrycooling.com

