

The image shows the DuPont logo, which consists of the word "DUPONT" in a stylized, red, sans-serif font inside a red oval. The logo is mounted on the roof of a multi-story office building.

# Cool air conditioning for the EMEA headquarters of DuPont de Nemours

The international science company DuPont de Nemours counts, for its Swiss location in Geneva, on JAEGGI ADC adiabatic coolers which precisely fit into the ambitious sustainability concept of the company. Four coolers with a total capacity of 2,640 kW efficiently cool the office building.

The EMEA headquarters of DuPont de Nemours (Europe, Middle East, Africa) was built in 1989. The existing coolers on the roof of the office building date from this time. With its sustainability strategy 2020, the group committed itself to reducing greenhouse gases company-wide by seven per cent from 2015 to 2020 and, at the same time, to saving ten per cent of energy between 2010 and 2020. This is why it was decided to replace the old coolers by the innovative JAEGGI ADC adiabatic coolers.

## Sustainable economics

Former DuPont Chief Sustainability Officer Linda J. Fisher stated: „Innovation and sustainability remain two of DuPont’s greatest strengths and represent significant growth opportunities for DuPont, while creating value for our customers, the marketplace and

### Overview

Business line:	Air Conditioning
Application:	Air conditioning
Country/Region:	Switzerland/Le Grand-Saconnex
Fluid:	Water/glycol mixture
Product:	ADC 2x5/SD9-D1C-1-/2P

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▲ Four JAEGGI ADC units cool the EMEA headquarters at Lake Geneva in Switzerland.



▲ A crane lifts a 4,600 kg JAEGGI adiabatic cooler onto the roof of the office building of DuPont de Nemours.



▲ The old cooling units were removed prior to the new installation...

society.“ But it is not only the products from DuPont that have to be lastingly effective – the whole company works in accordance with these principles.

This is precisely why a long-lasting cooling solution with integration into the building management system, a high energy efficiency and a low operating noise – combined with a hygienic mode of operation – was required. In order to reduce the risk of failure to a minimum, backup cooling capacities were required as well.

### Careful timing

The thorough preparation with regard to time and space and the installation of backup cooling capacity were the reasons why the supplied coolers could be integrated quickly into the cooling system on top of the roof without disrupting operations.

First, the existing pipework on the roof was modified for the JAEGGI ADC coolers while the old cooling units were removed. As soon as there was enough space on the roof, the 4,600 kg JAEGGI ADC coolers were, one after another, safely lifted onto the roof by crane where they were installed.

### No water treatment

The JAEGGI ADC is a dry cooler offering the possibility of additional adiabatic air pre-cooling at increasing external temperatures. The required wetting water does not, as a rule, require any water treatment.

Adiabatic pre-cooling is applied above ambient temperatures of 24.8 °C via humidification pads being placed in the air stream, prior to the heat exchanger. In dry mode as well as in adiabatic mode, the JAEGGI ADC can reach very high cooling capacities at a small footprint and at low operating costs – particularly if, as is the case here, exceptionally efficient EC fans equipped with the appropriate control (Güntner Motor Management EC) are in use.

### Operating mode in line with German Engineer Association (VDI) guideline 2047-2

The JAEGGI ADC fully meets the stringent hygiene requirements of the German VDI guideline 2047-2 (for UK and Ireland: the units also comply fully with ACOP L8 and HSG274 Part 1). The humidification pads allow for easy cleaning and also replacement if required. As the feed pipes for the wetting water are drainable and as there is no collection basin, there are no areas with standing water. This effectively prevents an uncontrolled proliferation of germs.

Technical Details		
<b>Main details</b>		
Cooler type	ADC 2x5/SD9-D1C-1-/2P	
Quantity	4	
Thermal output for design in total	660 kW	
<b>Product side</b>		
Cooling medium	Water/glycol 60/40 %	
Target fluid temperatures (inlet/outlet)	43/37 °C	
<b>Air side</b>		
Operating status of cooler	Cooler wet operation	Cooler dry operation
Air status at input	35 °C/35 % rel. humidity	25 °C
Corresponds to wet-bulb temperature (input)	26,2 °C	--
<b>Total wetting water consumption</b>		
Evaporation water quantity	1.2 m³/h in design state (1177.2 kg/h)	

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▲ ...and replaced by space-saving JAEGGI ADC adiabatic coolers.

The JAEGGI ADC units operate plume-free throughout the year. In addition, no water droplets or breathable aerosols are emitted and so the risk of legionella being dissipated to the ambient air is eliminated. The humidification pads are separated from the dry heat exchanger, which means there will not be any deposits or corrosion at the coils.

It is, however, not only the technical qualities of the JAEGGI ADC which convinced the persons in charge at DuPont de Nemours but also the on-time and flawless delivery as well as the competent support by the JAEGGI team, from the planning stage of the project to the startup of the units.