

# GlaxoSmithKline Biologicals



> The former Sächsisches Serumwerk, located in the heart of Dresden, Germany, was acquired in 1992 by British drugmaker SmithKline Beecham. In 2000, the company merged with Glaxo Wellcome and has operated the factory since 2008 as GlaxoSmithKline Biologicals. This plant manufactures the influenza vaccine called Influsplit SSW® (trade name Fluarix® outside of Germany) which is distributed to nearly 70 countries worldwide.



Since 1992, annual vaccine production capacity at the facility has grown from 2 million to 70 million syringes, helping to make GlaxoSmithKline Biologicals the third largest supplier of flu vaccine in the world. In fact, Glaxo SmithKline (GSK) was the first manufacturer licensed to produce the influenza pandemic vaccine in Europe.

> **Objective:** The GSK Plant required both new cooling towers and retrofits of existing units. In addition to the objective of operating efficiency, the client required that the installation avoid disturbing the plant's residential neighbors.

**Solutions:** With the proximity of Facility 1 to apartment houses in mind, JAEGGI worked with GSK to ensure a focus on acoustics and plume abatement, as well as water conservation and energy efficiency for Facilities 1, 2 and 3. The GSK project required three unique industrial cooling installations: one new installation and two retrofits. The primary goal for the retrofit projects was to upgrade the existing dry coolers to evaporative coolers. In order to improve the capacity without the typical high water consumption of evaporative products JAEGGI hybrid dry coolers were installed. The retrofit for Facilities 2 and 3 required four 2.4/5.45 units. The new installation called for adding four hybrid dry coolers type 2.4/9.6.

The GSK Biologicals complex now houses eight JAEGGI hybrid dry coolers with a combined cooling capacity of 11 MW (2,500 evaporative tons). The JAEGGI hybrid dry coolers ensure an efficient operation of water cooled chillers for the air conditioning of the dust-free rooms essential to the continued production of GSK's life-saving vaccines.

## > Engineering a sustainable future

Individual cooling units are operated by **HYBRIMATIC®S** controllers with Rockwell components. In several hydraulically separated loops, the operation of each cooler is optimized by the integration of the super ordinate **HYBRIMASTER®S** control.

**Result:** The GSK Biologicals facility enjoys all the advantages of evaporative cooling, without the typical high water consumption. In consideration of the residential neighborhood, the low noise and plume abatement thus truly made JAEGGI the ideal choice for this inner city installation.

## Selected Specifications for the Installation at GlaxoSmithKline Biologicals

### 1. MAIN DATA FOR ONE INSTALLED COOLER

Type of Hybrid Dry Cooler	HTK 2.4 / 5.45-2S-P4-CU-SX3
Cooling capacity	732 kW (166.5 evaporative tons)

#### 1.1 Product Side

Cooling media	30% Glycol / 70% Water
Medium temperatures (in/out)	38°C / 33°C
Flow rate	281.6 t/hr (= 269.6 m <sup>3</sup> /hr)
Hydraulic connection	Parallel; 4pass; cross counter flow

#### 1.2 Air Side

Operating mode of the cooler	Wet mode	Dry mode
Fanspeed	79% nom. rpm	100% nom. rpm
Air condition at the inlet	38°C / 33%	RH 18°C
Corresponds to a wet bulb temp. of	25.0°C	not relevant
Air condition at discharge	33.5°C / 80% RH	34.8°C

#### 1.3 Wetting Water Consumption

Outside air condition	38°C / 33% RH
Evaporation quantity at 100% capacity	2.68 m <sup>3</sup> /hr

#### 1.4 Physical Data

Footprint per series cooler	7 m x 2.4 m
Overall height of the series cooler	3.7 m
Operating weight of the series cooler	7'233 kg

### THE ENTIRE INSTALLATION CONSISTS OF THE FOLLOWING COOLERS

Cooler type	4 x HTK 2.4 / 5.45-2S-P4-CU-SX3 4 x HTK 2.4 / 9.6-2S-P2-CU-SX3
Controls	8 x single cooler controls <b>HYBRIMATIC®R</b> 3 x master controls <b>HYBRIMASTER®R</b>
<b>Total installed cooling capacity</b>	<b>11MW (2,500 evaporative tons)</b>

> JAEGGI – the original