

Snow Production

Protection of the Pumps and Nozzles of Snow Cannons

Customer:

TechnoAlpin, our long-standing partner, is headquartered in Bolzano (South Tyrol), Italy, and has been producing manual and fully automated snowmaking systems since 1990. For the “Churwalden Downhill Run” project, the mountain railways in Lenzerheide - one of the largest ski areas of Switzerland - were supplied with more than 30 snow lances and 19 fan guns during the expansion phase in 2016.

Background:

Snow guns are used to supplement low levels of natural snow on ski slopes. The required amount of snow is produced by means of an air stream which freezes the water supplied. A snowmaking system generates snow artificially and comprises of water tanks, pumps, water/air/power supply lines, compressors, snow guns and appropriate filter systems.

For the “Lenzerheide” project, an existing, small, natural lake has been restored which had previously been used for power generation. In the course of the restoration, this area was extended to include the snowmaking system and, therefore, the following concept was implemented:

- A DN500 supply line from the reservoir to the pump station and, from this station, the ability to select between power generation or snow production.
- Three snowmaking pumps with a capacity of about 120 l/s for the supply of the snow guns.

Description of the function:

For this application, the BOLLFILTER Automatic Type 6.19 filters the reservoir water with a grade of filtration of 150 µm. This solution protects the snowmaking pumps, preventing failures and prevents blocking of the snow gun nozzles. Since the complete snowmaking system is to run with a minimum need of personnel and requiring little or no maintenance, the self-cleaning BOLLFILTER is an ideal solution and essential to ensure reliable system operation.

Advantages and added value for the customer:

The automatic filter has been in service since its installation in 2016. Since the filter was put into operation, it has been working without any failures, protecting the pumps and nozzles and contributing to the smooth operation of the “Lenzerheide” snowmaking system.

System used:

Filter:	BOLLFILTER Automatic Type 6.19 GR 250 DN 300
Housing:	EN-GJS-400-18U-LT
Interior parts:	stainless (CrNi) steel
Grade of filtration:	150 µm
Capacity:	245 l/s (882 m ³ /h)



Picture 1: Exterior view of the pump station



Picture 2: Reservoir during the summer months



Picture 3: Filter system in the pump station