KSB making snow your daily forecast
Running a resort - Makes tracks to us

Winter is a great time for sport. But every skiing holiday depends on snow. Sadly, the weather doesn’t always cooperate. Mountain resorts can’t guarantee natural snow – but they can prepare great slopes. Snow cannons help keep your winter on track.
KSB has more than 140 years of experience with industrial pumps, valves and systems. If your business is snow, we’ll provide economical solutions all the way from water extraction to the automatic controlling of entire systems. We provide engineering expertise, commissioning, and maintenance. With individual consulting from the planning phase onwards, maturely developed products and comprehensive service, every step fits exactly into place.

KSB solutions help you avoid downtimes and their expensive consequences. We’ve been in action for years with our products and services, and a long-standing partner of major ski resorts in USA, Austria, Switzerland, France, Italy and Germany.

Go skiing in Ischgl/Samnaun, and you’ll be very glad KSB Austria got there first. We planned all the artificial snow production, and provided the pumps. In 2009, we helped expand operations of the snow cannon system in Ischgl with the entire hydraulic equipment for the Vellil pumping station.

It is located at an altitude of 2,500 meters and part of the new Vellil water reservoir with a storage capacity of some 160,000 cubic meters. The operators are so pleased with the results, we’re now planning further projects together.

The Wintergreen ski resort is located in the heart of Central Virginia adjacent to the Blue Ridge Parkway, spanning 11,000 acres on the eastern slopes of the Blue Ridge Mountains. The resort features four seasons of mountain recreation including 45 holes of championship golf; exhilarating winter skiing, snowboarding and tubing, hiking, fishing and swimming.

In 2013 KSB in the USA supplied five Multitec 100/5 with 450 hp motors for their artificial snow making process. The customer is extremely pleased with the performance and reliability of these pumps.
Improve your system’s efficiency with KSB’s SES System Efficiency Services®

Our SES System Efficiency Service will show you ways to increase the energy efficiency of your pump systems and prolong their service lives. Whatever the application - energy, industry, water or waste water - by recording extensive measurement data it is possible to evaluate the operation of a system and identify potential savings (energy efficiency analysis) as well as any causes of damage (damage analysis). Regardless of the installation type (dry/wet) and manufacturer, we assess the operating range of pumps from ratings of 30 kW. We also perform measurements in potentially explosive atmospheres on request.

Our services:
- Recording of process variables and vibration levels through on-site measurements:
  - Pressure
  - Rotational frequency
  - Fluid and bearing temperature
  - Analog signals 0/4-20 mA
  - Vibration
- Determining the effective power
- Performing frequency analyses to identify causes of damage
- Report and presentation of findings including action plan and profitability analysis

Your benefits:
- Transparency of operating data and pump set efficiency
- Expert consulting by experienced product engineers
- Increasing the economic efficiency and availability of systems by identifying the potential for optimization and causes of damage
- Ensuring the sustainable operation of pumps and valves
- Manufacturer know-how from impeller trimming, retrofitting and speed control to the new selection of pumps
**Pumps for water extraction**

Our advanced and well-proven pumps for water extraction can be used even way up in the mountains to reliably handle and transport water.

### Amarex KRT Submersible motor pump DN 40 to DN 700

**Description:**
Vertical single-stage submersible motor pump in close-coupled design with various impeller types, for wet or dry installation, and available as stationary or transportable version.

**Applications:**
Handling of all types of abrasive or aggressive waste water in water and waste water engineering, seawater desalination as well as industry, especially untreated sewage containing long fibers and solid substances, fluids containing gas/air as well as raw, activated and digested sludge.

**Installation:**
In tanks, sumps, or directly in the lake or river. Easy to install, years of operation with low maintenance.

**Technical data:**
- Q [gpm] 44,000 max.
- H [ft] 394 max.
- T [°F] 140 max.

### UPA 200, 200B, 250C Submersible borehole pump

**Description:**
Single- or multistage, single-entry centrifugal pump in ring section design for vertical or horizontal installation. Optionally available with non-return valve or connection branch.

**Applications:**
Handling clean and slightly contaminated water in general water supply, irrigation and spray irrigation, lowering and maintaining groundwater levels, fountains and pressure booster systems, in mining, fire-fighting systems, and for emergency water supply, etc.

**Installation:**
In tanks, sumps, lakes or rivers for demanding pressure requirements or transporting water over long distances. Easy and flexible to install, years of operation with low maintenance.

**Technical data:**
- Q [gpm] 1,600 max.
- H [ft] 1,424 max.
- T [°F] +122 max.
**Pumps for pressure booster systems**

Good news for snow cannons: Multitec®, HGM® and Etanorm® pumps keep up the pressure – and keep down your costs:

- Pumps with only one shaft seal, axial inlet and optimal efficiency make for low operating costs
- A long service life reduces maintenance costs
- Easily accessible wear parts facilitate maintenance and service
- Compact design for easy installation, less on-site work and minimum suction heads

### Multitec High-pressure ring-section pump

**Description:**
Multistage horizontal or vertical centrifugal pump in ring-section design, long-coupled and close-coupled versions, with axial or radial suction nozzle, cast radial impellers.

**Applications:**
Water and drinking water supply systems, industry, pressure booster systems, irrigation systems, in power stations, heating, filter, fire-fighting, reverse osmosis and washing plants, snow guns etc.

**Technical data:**
- \( Q \) [gpm] 3,740 max.
- \( H \) [ft] 2,060 max.
- \( p \) [psi] 910 max.
- \( T \) [ºF] +392 max.
- rpm 3,600 max.

### HGM Boiler feed pump

**Description:**
Horizontal, radially split, product-lubricated, multistage ring-section pump with radial impellers, axial and radial single-entry inlet.

**Applications:**
Handling feed water in power stations, boiler feed water and condensate in industrial plants.

**Technical data:**
- \( Q \) [gpm] 1,026 max.
- \( H \) [ft] 4,593 max.
- \( p \) [psi] 2,030 max.
- \( T \) [ºF] +320 max.
- rpm 3,600 max.

### Etanorm/Etanorm-R Standardized pump

**Description:**
Horizontal, single-stage volute casing pump (pump size 125-500 with two stages) with ratings and main dimensions to EN 733, bearing brackets, in back pull-out design, with replaceable shaft sleeves / shaft protecting sleeves and casing wear rings.

**Applications:**
Irrigation, drainage, water supply, heating and air-conditioning, drinking water and service water systems, etc.

**Technical data:**
- \( Q \) [gpm] 3,434 max.
- \( H \) [ft] 525 max.
- \( p \) [psi] 232 max.
- \( T \) [ºF] +284 max.
Valves with shut-off function

**NORI 40 Globe and non-return valves**

The classic globe valve up to PN 40 provides utmost safety and reliability, ever under the toughest conditions. The NORI® 40 is made of steel and available as bellows-type globe valve, globe valve with gland packing and horizontal or slanted seat, as well as non-return valve.
- Double-walled bellows for utmost safety
- Valve disc with conical seat, self-cleaning as seated on the edge, suitable for use with contaminated fluids
- Two-piece stem simplifies actuator mounting

**Technical Data:**
- Pressure class (bar) PN 10-40
- DN 10-400
- T [°F] -140 to +842

**NORI 160 Globe and non-return valves**

Well-proven valve design for safe shut-off for PN 63 to 160. Available as globe valve with gland packing with rotating or non-rotating stem, and as non-return valve. The confined gland packing and serrated bonnet gasket provide reliable sealing to atmosphere.

**Technical Data:**
- Pressure class (bar) PN 63-160
- DN 10-200
- T [°F] -50 to +1,022

**NORI 500 Globe and non-return valves**

The forged NORI® 500 globe valves with gland packing and non-return valves are specially designed to offer optimum operation and function for higher pressure classes from PN 250.
- Bayonet-type connection between body and yoke for quick dismantling and reassembly
- Single-piece body without separate bonnet eliminates the need for re-tightening the bonnet bolting
- One model for shut-off and throttling

**Technical Data:**
- Pressure class (bar) PN 250-500
- DN 10-65
- T [°F] -50 to +1,202

**STAAL 40 AKD/AKDS Gate valves**

**Description:**
Flanged or weld end gate valve with bolted bonnet, body of forged or welded steel construction, non-rotating stem, flexible wedges for exact adaptation to seats. Seats made of wear and corrosion resistant 17% Cr steel.

**Applications:** in industrial plants, power stations and process engineering

**Technical Data:**
- Pressure class (bar) PN 10-40
- DN 50-800
- T [°F] -50 to +752
Technology that makes its mark