



Vertical Turbine Snowmaking Pumps Models VTP and VPC



The Most Rugged and Dependable Pumps in the Snowmaking Industry

Flowserve VTP and VPC vertical pumps are widely used in snowmaking at the world's finest ski resorts and Olympic venues. With unmatched dependability and a proven record of experience in this industry, Flowserve vertical turbine pumps are the preferred choice in a business where performance on-demand is critical to success.

For 25 years the world's largest manufacturer of pre-packaged pump stations for ski area snowmaking has been using Flowserve vertical turbine can (VPC) and wet pit (VTP) pumps for virtually all of their snowmaking installations. By utilizing these pumps they have been able to design a flow control station that provides constant discharge pressure, without fluctuation, for optimum snowmaking results.



VPC



VTP

Experience In Motion



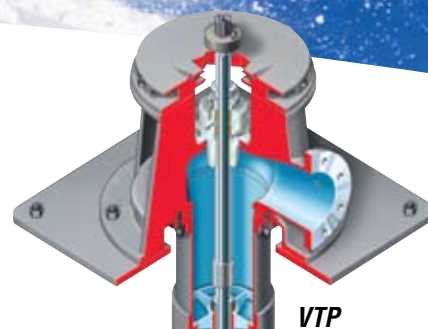
Flowserve manufactures one of the world's most comprehensive lines of mixed flow, diffuser type vertical turbine pumps. Their broad hydraulic coverage is well complemented by their application versatility.

VTP Vertical Turbine, Wet-Pit Pump

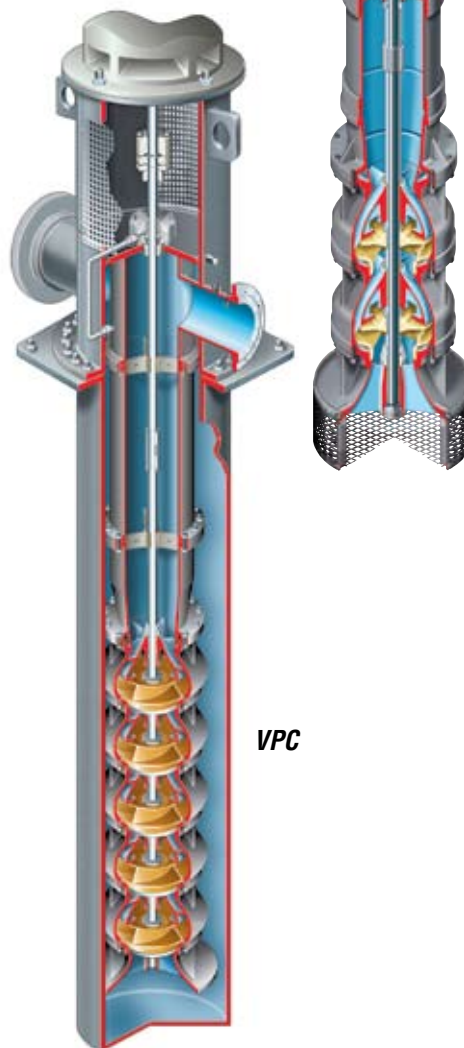
The Flowserve VTP is a single case, wet-pit model designed for heavy-duty, continuous service in sumps, lakes, rivers and wells. Available with ASME Class 150, 300 and 600 raised face flanges, the VTP is well suited for high-pressure snowmaking systems.

VTP Operating Parameters

- Flows to 13 600 m³/h (60 000 gpm)
- Heads to 700 m (2300 ft)
- Pressures to 100 bar (1450 psi)
- Temperatures from -45°C (-50°F) to 200°C (400°F)



VTP



VPC



VPC Vertical Turbine, Canned Pump

The Flowserve VPC is a double casing, diffuser type vertical turbine pump. Available in single or multistage construction the VPC incorporates the proven hydraulics of the VTP pump into a double casing configuration. It is designed for continuous duty applications with limited NPSH.

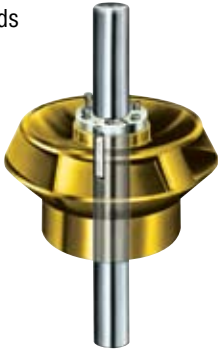
VPC Operating Parameters

- Flows to 13 600 m³/h (60 000 gpm)
- Heads to 1070 m (3500 ft)
- Pressures to 100 bar (1450 psi)
- Temperatures from -45°C (-50°F) to 230°C (450°F)

Available Options

VTP and VPC vertical turbine pumps are available in a wide variety of configurations, constructions and materials to suit site and application requirements.

- Fabricated or cast iron discharge heads
- ASME Class 150, 300 or 600 flanges
- Precision-balanced, adjustable spacer coupling
- Extra high-pressure stuffing box
- Mechanical seal
- Wear rings for bowls and impellers
- Double keyed impellers (shown)
- Thrust balanced impellers
- Low NPSHR impellers
- High strength bowls
- 70 bar (1000 psi); class 45 cast iron
- 100 bar (1450 psi); ductile iron
- Material upgrades (bowls, impellers, shafting)



D800 Single-Stage, End-Suction Pump

For lower pressure snowmaking packages leading manufacturers turn to the Flowserve D800 single-stage, end-suction pump. Available in frame-mounted and close-coupled configurations, the D800 offers a large flow and head range and incorporates proven features that reduce and facilitate maintenance.

D800 Operating Parameters

- Flows to 455 m³/h (2000 gpm)
- Heads to 150 m (500 ft)
- Pressures to 15 bar (220 psi)
- Temperatures from -45°C (-50°F) to 120°C (250°F)



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Flowserve Vertical Turbine Pumps Are Serving These Slopes

Alpine Meadows	Butternut Basin	Jackson Hole Resort	Mount St. Anne (Canada)	Snowbird Resort
Alpine Valley	Camelback	Jay Peak	Mount St. Mathieu	Snowmass Ski Area
Alta Ski	Cannon Mountain	Jiminy Peak	Mountain Creek	Soldier Hollow
Alyeska Resort	Canyon Ski	Jisan Resort (Korea)	Mystic Mountain	Spanish Peaks
American Ski Company	Canyons, The Cardrona (New Zealand)	Joeatsu (Japan)	Nakiska (Canada)	Squaw Valley
Andes Tower Hills	Cascade Mountain	Kelso (Korea)	Nemaolin Woodlands Resort	Steamboat Ski Resort
Angel Fire Resort	Cataloochie Ski Area	Keystone Resort	Northstar at Tahoe	Stowe Mountain Resort
Appalachian Ski	Cherokee	Killington Resort	Nubs Nob Ski	Stratton Mountain
Arapahoe Basin	Cleary Summit	King Pine	Okemo Mountain Resort	Sugar Mountain Ski
Ascutney	Conquistador	Kirkwood Ski Resort	Osler Bluff (Canada)	Sugarbush Resort
Aspen Highlands	Copper Mountain	Kon Jiam (Korea)	Ozeiwakura (Japan)	Sugarloaf USA
Aspen Mountain	Coronet Peak (New Zealand)	La Parva Ski Area (Chile)	Park City	Sun Peaks Resort
Attitash Bear Peak	Crabee Mountain	Labrador Ski Area	Peek'N Peak	Sundance
Balsam Wilderness	Crotched Mountain	Lake Placid	Perfect North Slopes	Sunday River Ski Resort
Bear Hollow, Olympic Park	Crystal Mountain	Lake Louise Ski Area (Canada)	Perisher (Australia)	Suzeran Kogan (Japan)
Bear Mountain Ski Resort	Cuchara Valley	Laurel Mountain	Pikes Peak	Tanglewood Lakes
Bear Valley Ski Area	Cypress Mountain (Canada)	Le Relais (France)	Pine Mountain Resort	Telluride
Beaver Creek Resort	Dartmouth Skiway	Limeone Piemonte (Italy)	Pleasant Mountain	Tenney Mountain
Beech Mountain Ski Resort	Deer Crest at Deer Valley	Loon Mountain	Porter Heights (New Zealand)	Tenzan (Japan)
Belleayre Mountain	Devils Glen	Loveland Ski Area	Powder Ridge Ski Area	Thredbo Alpine Ski (Australia)
Big Boulder	Doe Mountain	Mad River	Powderhorn Resort	Toyomenka (Japan)
Big Mountain	Eagle Rock	Magic Mountain	Ragged Mountain	Treble Cone Ski Area (New Zealand)
Big Sky Resort	Eden Valley (Korea)	Maple Valley	Red Lodge Resort	Tremblant Resort (Canada)
Black Mountain	Elk Mountain	Marmot Basin (Canada)	Rio Costella	Turoa (New Zealand)
Blackcomb Ski Area	Fortress Mountain	Marquette Mountain	Saddleback	Tussey Mountain
Blue Cow Mountain (Australia)	Gold Mine	Mast Hope	Seohak (Korea)	Tyrol Basin
Blue Knob	Gray Rocks	McCauley Mountain Ski Area	Seven Springs	Vail Resorts
Blue Mountain	Granite Peak Ski Area	Michewei Ski Area	Shanty Creek Resort	Valle Nevado Resort (Chile)
Bolton Valley	Great Gorge	Middlebury	Shawnee Mountain	Vista Ridge Ski Area (Canada)
Bosquet Ski Area	Guilford	Mohawk Mountain	Shiga (Japan)	Whitetail
Boston Mills/Brandywine	Gunstock Ski Area	Montage Ski	Shiramine (Japan)	Ward Hill
Boyce Park Ski	Hakuba 47 (Japan)	Monteau	Silver Creek	Waterville Valley Ski Resort
Boyne Highlands Ski Area	Hanson Hills Ski	Morrin Heights	Ski Apache	Welch Village
Boyne Mountain Ski	Harbin Ski Area (China)	Mt. Abram	Ski Liberty	Wentworth
Breckenridge	Haystack Mountain	Mt. Allen	Ski Paoli	Whistler Mountains (Canada)
Bretton Woods	Hidden Valley	Mt. Shasta Ski Area	Ski Roundtop	Wildcat Ski Area
Brianhead Resort	Highland Hills	Mt. Sunapee	Ski Searchmont	Wilderness Ski Area
Brighton Ski Area	Homestead Resort	Mount Brighton	Ski World	Winnona Lakes
Bristol Mountain	Hotham Resort (Australia)	Mount Cranmore	Ski Windham	Winter Park Resort
Brodie Mountain	Hunter Mountain	Mount Edouard	Smuggler's Notch	Winterplace Resort
Bromley Mountain	Inawashiro (Japan)	Mount Kosciusko	Snow Creek	Wisp Ski Area
Bryce Resort	Jack Frost	Mount Orford	Snow King Ski Area	Wolf Laurel Ski Slopes
Burke Mountain		Mount Snow Resort	Snow Trails Ski	Yabuli Training Ground (China)
			Snow Valley	

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