Steam Turbine Solutions

03 Unique Turbine Designs Optimized For Energy Efficiency

04 Most innovative turbine features in the industry

05 Turbines for Mechanical Driver Applications

06 Power Recovery for Electrical Generation

06 Single Stage Turbines Multi Stage Turbines
Unique Turbine Designs Optimized For Energy Efficiency And Power Recovery

Buffalo Turbines applies the benefits of modern computer modeling and manufacturing to provide robust, cost-effective solutions for your power plant needs.

Unique Turbine Designs Optimized for energy and power recovery.

- Our steam turbines are backed by both the ISO 9001 and 14001 certifications for our plant.
- Our extensive portfolio of steam turbine products is designed to your specific market requirements.
- We provide rapid delivery and worldwide installation – guaranteed.
Most innovative turbine features in the industry

Buffalo Turbines state-of-the-art turbines feature the industry’s first clean-sheet design in 70 years. Our single-stage design incorporates stiffer blades than competitive products and oversized bearings for rugged, reliable performance.

Buffalo Turbines turbines also feature:

- Corrosion-resistant gland case
- Superior carbon ring seal design
- Highly standardized components
- Mechanical overspeed trip system
- Shallow-exit-angle nozzles for high efficiency and low blade stress
- Lubrication system adaptable for optimized performance across the entire range of operating speeds and temperatures

Designed from the ground up, our turbines are engineered for durability.
Buffalo Turbines steam turbines serve as mechanical drivers that ideally fit your process-driven industrial applications to power fans, pumps and compressors.

Your Benefits:
- Fewer spare parts needed
- Simple installation and easy maintenance
- Deliveries start at 26 weeks
- Configure horizontally or vertically
- Compliant with API 611, 4th edition standard

Buffalo Turbines is introducing power recovery systems. Based on our existing steam turbine designs, our power recovery systems offer you a payback period of about 1-1/2 years – less than half the payback time of other co-generation packages on the market.

Our rotors blades are designed to handle low-quality saturated steam.

We utilize highly-engineered specialty alloys & advanced ceramic technology to deliver superior resistance against erosion often encountered on wet saturated steam applications.
**Single Stage Turbines**

**Power Capabilities**
- 5 Kw to 3000 kW
- Speeds up to 5000 RPM
- Highly standardized components
- Pressure up to 67 Kg/cm² / 925 Psig
- Temperatures up to 500 °C / 932 °F

**Variants**
- Back Pressure Turbines
- Condensing Turbines

Our single-stage system steam turbines have been a fixture in most process industries for nearly 12 years, providing clients with economical and reliable mechanical drives for Pumps, Fans, Knives, Compressors and Generators. For many years our engineering staff have worked with various consultants to meet the strict standards of API 611 and 612. Buffalo Turbines also offers one-of-its-kind single stage condensing turbines.

**Industries Served**
Oil & Gas, Food Processing, Chemical Processing, Pharmaceutical, Steel, Paper, Sugar, Distilleries, Palm oil, Marine, Edible oil, Rice, Fertilizer, etc.

**Applications**
Pump drives, Fan drives, Mill drives, Generator drives, Compressors drives, Knives and Shredder drives.

**Design Capabilities**
- 7 models, Horizontal (axial and radial split), Vertical, API 611 and 612 compliant, Overhung and ‘between the bearings’ wheel designs,
- Metallic and carbon seals, Electronic / Hydraulic Mechanical governors, Customized steam path components, Mechanical / Electronic safety trip systems, Direct-drive or integral gear boxes with suitable lubrication systems.

---

**Multi Stage Turbines**

**Power Capabilities**
- 250 kW to 30000 kW
- Speeds from 3000 to 12000 RPM
- Inlet pressures up to 105 bar
- Inlet temperatures up to 560 °C
- Exhaust pressures from vacuum to 12 bar

**Industries Served**
Oil & Gas, Power, Sugar, Ethanol, Paper, Medical, Food and beverage processing, Petrochemical, Steel, Paper, Sugar, Distilleries, Steel & Education (Universities)

**Mechanical Drive Applications**
Compressors, Boiler Feed Water and other pumps, Milling / Shredding equipment, Fans, Blowers.

**Generator Drive Applications**
Synchronous generators, Induction generators.

**Applications**
Generator drives, Compressors drives, Knives and Shredder drives.

**Design Capabilities**
- Single and multi-valve inlet
- Controlled Extraction, Uncontrolled Bleeds
- Extraction Condensing / Back Pressure
- Mixed Pressure Induction
- API 611 and 612 compliant
- Hydraulic, Mechanical and Electronic Governors
- Remote Monitoring / Controls
- Base load operation
- Parallel operation with Local / National Grid
### Single Stage Turbines

<table>
<thead>
<tr>
<th></th>
<th>Power kW</th>
<th>Inlet Pressure MAX ATA</th>
<th>Inlet Temperature MAX °C</th>
<th>Exhaust Pressure</th>
<th>Speed RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTPS 10</td>
<td>~ 200</td>
<td>45</td>
<td>450</td>
<td>12</td>
<td>~ 5000</td>
</tr>
<tr>
<td>BTPS 20</td>
<td>~ 200-750</td>
<td>67</td>
<td>500</td>
<td>12</td>
<td>~ 5000</td>
</tr>
<tr>
<td>BTPS 902</td>
<td>~ 500-1500</td>
<td>67</td>
<td>500</td>
<td>12</td>
<td>~ 5000</td>
</tr>
<tr>
<td>BTPS 902C</td>
<td>~ 200-750</td>
<td>67</td>
<td>500</td>
<td>0,2</td>
<td>~ 5000</td>
</tr>
</tbody>
</table>

### Multi Stage Turbines

<table>
<thead>
<tr>
<th></th>
<th>Power kW</th>
<th>Inlet Pressure MAX ATA</th>
<th>Inlet Temperature MAX °C</th>
<th>Exhaust Pressure</th>
<th>Speed RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTMS 42</td>
<td>500-2000</td>
<td>67</td>
<td>500</td>
<td>12</td>
<td>~ 6700</td>
</tr>
<tr>
<td>BTMS 42 c</td>
<td>500-1750</td>
<td>67</td>
<td>500</td>
<td>vacuum</td>
<td>~ 8750</td>
</tr>
<tr>
<td>BTMS 52</td>
<td>2000-6000</td>
<td>67</td>
<td>500</td>
<td>12</td>
<td>~ 6400</td>
</tr>
<tr>
<td>BTMS 52 C</td>
<td>1200-2500</td>
<td>67</td>
<td>500</td>
<td>vacuum</td>
<td>~ 7500</td>
</tr>
<tr>
<td>BTMSK 52 C</td>
<td>2500-6000</td>
<td>84</td>
<td>525</td>
<td>vacuum</td>
<td>~ 6500</td>
</tr>
<tr>
<td>BTMS 102</td>
<td>6000-15000</td>
<td>105</td>
<td>540</td>
<td>15</td>
<td>~ 5500</td>
</tr>
<tr>
<td>BTMS 102 c</td>
<td>6000-13500</td>
<td>105</td>
<td>540</td>
<td>vacuum</td>
<td>~ 5500</td>
</tr>
<tr>
<td>BTMS 102 EC</td>
<td>6000-13500</td>
<td>105</td>
<td>540</td>
<td>vacuum</td>
<td>~ 5500</td>
</tr>
<tr>
<td>BTMS 152</td>
<td>13500-30000</td>
<td>105</td>
<td>540</td>
<td>15</td>
<td>~ 5500</td>
</tr>
<tr>
<td>BTMS 152 C</td>
<td>13500-20000</td>
<td>105</td>
<td>540</td>
<td>vacuum</td>
<td>~ 5500</td>
</tr>
<tr>
<td>BTMS 201</td>
<td>20000-30000</td>
<td>105</td>
<td>540</td>
<td>15</td>
<td>3000-5500</td>
</tr>
<tr>
<td>BTMS 201</td>
<td>20000-30000</td>
<td>105</td>
<td>540</td>
<td>vacuum</td>
<td>3000-5500</td>
</tr>
</tbody>
</table>
For more information:

Phone Number: +1 (800) 226-2504

Address: 380 Wellington Street, Tower B, 6th Floor, London, ON, N6A 5B5

e-mail: sales@buffaloturbines.com

www.buffaloturbines.com