• Underground Lining
• Ground Support in Tunneling and Mining
• Wet- and Dry-Process Shotcrete
UNDERGROUND

Tunneling and Mining
Shotcrete is ideal for ground support in tunneling and mining. It provides early ground support after blasting or excavating; early strength development, which provides flexibility to allow for ground stabilization and stress relief; and offers the ability to conform to the natural irregular profile of the ground without formwork, which makes it ideal for any tunnel. It is also the preferred material/process for underground stations, side drifts and shops. Shotcrete provides long-term stability and can be used as a final or permanent lining for underground structures.

Additionally, shotcrete is the preferred material in the construction of many new structures. It reduces the cost of placement by minimizing the need for forms, provides the durability of concrete, and is particularly suited for curved surfaces. This material and placing method is also ideal for repair and restoration of concrete, one of the fastest growing segments of the construction industry. This growth is not restricted to infrastructure, but extends to the private and industrial sectors.
POWERCRETER® 10
- Fills the void between small-line mechanical ball valve pumps and 5” (127mm) to 6” (152mm) cylinder-diameter concrete pumps.
- State-of-the-art electronic pump controls and hydraulic valves.
- Up to 2,085 psi (144 bar) material pressure.
- Compared to ball valve-type pumps, the Powercreter swing-tube design gives the operator the benefits of reversing for relieving pressure due to plugs, pumping difficult low slump or fiber mixes and lower maintenance costs.
- The 3” (76mm) material cylinders and variable, smooth hydraulics allow extremely controlled low output for specialized applications and maintain much of their output pressure when reducing to smaller diameter conveying lines.

POWERCRETER® 20
- Allentown's answer for midrange pumping requirements.
- Rated for up to 17 yd³/hr (4.6m³/hr), this pump is chosen for a broader range of pumping applications than any other model.
- Can be fed by ready mix truck, on-site mixer, optional integrated batch or continuous mixer.
- Rugged, high pressure pumping system.
- Easily handles harsh mixes, including low cement, low moisture and refractory pumping castables.
- Ideal for large grouting applications and pump casting.
- Offers superb control for the most critical geotechnical and compaction grouting applications.
- When shotcreting, the fast switch-over of the swing tube reduces pulsing at the nozzle.

POWERCRETER® 60HP
- Powerful, high pressure model ideal for shotcrete applications.
- Rugged construction and an angled hopper.
- Proven Putzmeister S-Valve technology offers reliable and long-lasting performance.
- Smooth operation with twin-shifting cylinders.
- Offers a maximum volume output of 60 yd³/hr (46m³/hr).
GUNNING MACHINE

GM-060 Rotary Gun
• Has a worldwide reputation for ruggedness and reliability since 1957.
• Designed specifically for high-volume, heavy construction dry-process shotcrete applications, such as underground.
• Requires little maintenance and is easy to operate.
• Available with several power options, rotors and discharge sizes for optimum performance on every application.
• Can be ordered with a hopper vibrator, remote control and dust collector.

PRE-DAMPENERS

PD-1/GRH Gunning Rig
• For use with packaged, pre-blended materials for shotcrete and refractory applications.
• Provides the opportunity to add a controlled amount of moisture to the bagged material as it is transported and fed into the gun.
• The addition of moisture, as much as 60 percent of the total water required, and the mixing action of the auger starts the hydration process long before the material reaches the nozzle.
• The controlled design or prebagged mixes ensure the amount of water added at the nozzle, in the split second that the material passes through the water ring, produces proper, in-place shotcrete.

PD-1 Continuous Pre-Dampener
• Designed to be used with packaged, preblended materials for shotcrete and refractory applications.
• Provides the opportunity to add a controlled amount of moisture to the bagged material as it is transported and fed into the gun.
• Greatly reduces rebound.
• Eliminates dust, providing greater visibility for the nozzleman.
• Produces quality material in place.
• Reduces amount of wear on gun wear parts.
CHEMICAL/ACCELERANT DOSING PUMPS

A10 Peristaltic

- Handles abrasive fluids with little wear since only the hose and hose inserts are in contact with the material.
- Hoses are constructed of natural rubber, Buna or EPDM within the pump’s casing, providing high levels of volumetric accuracy for sampling, transfer and metering applications.
- Dry-run capability allows tank and line stripping.
- Seal-less design eliminates leaks, contamination and wear problems associated with difficult to seal products.
- Self-priming up to 29’ 6” (9m).
- Reversible operation allows pumping in both directions.
- Pressures up to 116 psi (8 bar) at discharge.
- Available in air, electric and hydraulic power options.

A20 Peristaltic

- The almost total vacuum of the pump transports high viscosity liquids.
- There are no valves or glands where crystals can build up and clog the pump.
- Absence of product slip in the hose gives a 100 percent volumetric efficiency.
- The hose is the only wear part and downtime is minimal.
- The pump can run dry as the hose is lubricated from outside.
- Pressures up to 116 psi (8 bar) at discharge.
- Available in air, electric and hydraulic power options.

ROBOTIC NOZZLE CARRIERS

PM 407

- Modular flexibility and ease of use.
- Compact remote control allows freedom of movement and parameter control.
- All-wheel drive vehicle features high ground clearance and center pivot steering.
- Swing-out hopper makes cleanup simple.
- Ideal for underground applications such as mines, tunnels and pits.
- Telescoping arm reach from 7 – 28’ (2 – 8.5m).
- Outputs from 141 – 706 ft³/hr (4 – 20m³/hr).

PM 500

- Highly mechanized sprayed concrete system.
- For use in tunnels with average to large cross sections.
- Robust construction of the spray arm allows use of a peristaltic pump with a diameter of more than 3” (76mm).
- Guaranteed mobility, accuracy and absolute controllability.
- Convenient component access results in easy maintenance.
AST 25
- Track-mounted robotic boom for use with a concrete or shotcrete pump.
- Achieves a maximum spraying height of 25’ (7.62m) and 35’ (10.67m) side to side.
- 10 hp (7.5kW) 460V/60hz electric motor for boom and nozzle functions.
- 27 hp (20kW) water-cooled diesel engine for tracks and outriggers.
- Accommodates larger nozzle sizes of 2.5” or 3” (65mm or 76mm), allowing higher rates of shotcrete application.
- Keeps the nozzleman back from newly excavated, exposed rock.

TSV 2-4 Snorkel
- The smallest slewing distributor on scissor pipes.
- Telescopic snorkel pipe extends to 172 degrees horizontally.
- Easily adapts to tunnel diameters of 6.5 - 13’ (2 – 4m).
- Pressures from 14.5 – 145 psi (1 – 10 bar).
- Scissor pipes allow working progress of 39’ (12m) without moving the Snorkel.
- Hydraulic rail car mounting enhances efficiency of material placement.

TSV 3-6 Snorkel
- Ideal for fast and efficient concrete distribution, the TSV 3-6 Snorkel rides on rails set into tunnel formwork.
- The telescopic snorkel pipe can be turned 360 degrees rectangular to the formwork axle.
- Features a 10 hp (7.5kW) power pack for the snorkel system.
- The unit is linked to a 5” (127mm) diameter scissor pipe system, which also rides on rails.
- Capable of distributing up to 28’ (8.53m) without the need for additional concrete pipe.
- Driving length can be increased by additional scissor pipes.

TSV 5-12 Snorkel
- The TSV 5-12 Snorkel rides on rails set into tunnel formwork.
- The telescopic snorkel pipe can be turned 360 degrees rectangular to the formwork axle.
- Extendable 5” or 6” (127mm or 152mm) diameter scissor system also rides on rails.
- Features a 20 hp (15kW) individual power pack.
- Capable of distributing up to 49’ 3” (15m) without the need for additional concrete pipe.
- Driving length can be increased by additional scissor pipes.
BSA 100 Series
- Durable, global-use flatpack components.
- Ideal for long-distance applications including high-rise and civil construction, tunnels and mines.
- Rugged and easily towed.
- Heavy-duty tandem axles.
- Maximum output of 114 yd³/hr (87 m³/hr).
- Maximum pressure of 1,030 psi (71 bar).

BSA 2109 H-D
- Ideal for difficult jobs extending up to 800' (244m).
- Makes quick work of tough mixes.
- Convenient controls and rugged delivery cylinders.
- S-Valve and RS 900 Hopper.
- Maximum output of 124 yd³/hr (95 m³/hr).
- Maximum pressure of 2,205 psi (152 bar).

BSA 2110 HP-D
- Designed for jobs extending up to 800' (244m).
- Convenient controls are fully enclosed for weatherproof wear.
- Automatic central lubrication of the delivery cylinders.
- Heavy-duty tandem axles.
- Maximum output of 133 yd³/hr (102 m³/hr).
- Maximum pressure of 3,190 psi (220 bar).

BSA 14000 Series
- Highest pressures and outputs on the market today.
- Maximum volume at the greatest distances.
- Multiple equipment variations available.
- Great for tunnel construction and long-distance concrete pumping.
- Maximum output up to 260 yd³/hr (200 m³/hr).
- Maximum pressure up to 3,626 psi (250 bar).
Covering the World with Shotcrete Solutions for 100 Years

From the beginnings of shotcrete over 100 years ago, the Allentown name has been synonymous with the process of spraying mortar onto a surface at a high velocity. In its first iteration as The Cement Gun Company, the organization capitalized on the fact that only certain mix designs placed by a genuine “Cement Gun” could be classified as its registered trademark “Gunite.”

Today, Allentown Shotcrete Technology, Inc. is the industry leader in the design and manufacture of wet- and dry-process shotcrete equipment including:

- Gunning Machines
- Pre-Dampeners
- Pumps
- Combination Mixer Pumps
- Mixers
- Chemical Additive Pumps
- Nozzle Carriers
- Mortar Machines
- Concreting Machines
- Parts and Accessories

Committed to serving customers with the industry’s best service, as well as dependable, high performance equipment, Allentown is now a Putzmeister America company. Known and respected worldwide for its full line of concrete and material placing equipment, Putzmeister combines its products and industry expertise with Allentown’s to offer over 50 complementary products. The organization now provides the world’s most comprehensive range of sprayed concrete equipment for large and small applications in refractory, underground, mortar and civil work.

Allentown Shotcrete Technology: the only name you need to know for shotcrete.

For model specifications and available options, please consult model specification sheets or contact the factory.

Authorized Distributor

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