

### **Typical Specification**

## **BIG BLASTER<sup>®</sup> XHV Air Cannon with MARTIN<sup>®</sup> TORNADO Exhaust Valve**

Material flow will be maintained/enhanced by the installation of an air cannon system to introduce “blasts” of compressed air into the structure to knock down (or prevent the formation of) bridges, rat holes, and material accumulations.

The air cannon system will be composed of ASME code-welded, national board inspected and certified, CRN-registered pressure vessel air reservoirs, each equipped with a piston/valve assembly to control the flow of compressed air into the reservoir, and the discharge of stored air out of the reservoir.

The piston valve assembly will discharge each air cannon in response to a positive surge of air pressure sent by a solenoid valve. This “positive discharge” system will prevent the air cannon from firing accidentally as a result of a drop in line pressure due to a failure in the air supply.

Discharge of the air cannon system will be controlled by a ½ inch solenoid valves or 3/8 inch solenoid manifold assembly housed in a dust-tight/weather-tight enclosure. Solenoids can be located at a distance of up to 200 feet (60 m) from the air cannon valve assembly. The individual air cannons can also be discharged by a manual lever at the air cannon assembly.

The piston/valve assembly shall be cast aluminum and shall be flange mounted to the outside of the pressure vessel. This disk-shaped, cast-aluminum piston will be retained in alignment through an outboard bearing surface.

To minimize wear, the system shall discharge with a 5/8 inch (16 mm) piston stroke. A low-friction composite bearing will maintain concentric piston travel without requiring lubrication. A return spring will aid in piston closure and sealing after discharge.

To inhibit corrosion and provide long service life, the pressure vessel will be coated on both its interior and exterior surfaces with epoxy paint.

The supplier of the air cannon system shall provide system engineering for guaranteed effectiveness. Supplier may quote on guaranteed installation of the air cannon system. The supplier of the air cannon system will be certified to ISO 9001: 2000 quality system standards.

The air cannon system shall be BIG BLASTER<sup>®</sup> XHV Air Cannon with the MARTIN<sup>®</sup> Tornado Exhaust Valve System, as supplied by Martin Engineering, Neponset, Illinois.