ABRASIVE BLAST MACHINES
CLASSIC SERIES
SIMPLE, RUGGED, RELIABLE

CLEMCO

MADE IN THE USA

Clemco Industries Corp. • ISO 9001 Certified
More than 75 years of reliable field service have made Clemco blast machines the preferred equipment for industrial blasting and painting contractors.

Clemco machines are built tough to endure real world use. With wear-parts positioned for quick replacement, Clemco blast machines virtually eliminate downtime, so they spend more time at the job site; less time in the shop.

Choose from 1/2-cu. ft. to 20-cu. ft. capacity, in portable or stationary models—blast machine only or machine system.

Take the guesswork out of buying a blast machine by ordering a complete system, which includes the blast machine, remote controls, nozzle, couplings, blast hose, Apollo helmet, air filter, and spare parts — everything but the compressed-air components and abrasive.
Classic Blast Machines...

**Blast Machine Construction**

- **Pressure vessels built to ASME code. Most models registered in most Canadian provinces.**
- **Concave head stores abrasive for loading.**
- **Conical bottom ensures smooth abrasive flow and complete emptying.**

**Model 1028**

- **1/2 cubic foot capacity**
- Clemco’s smaller machines are light, transportable, and industrial quality. Maximum working pressure 125 psi.

**Model 1042**

- **1 cubic foot capacity**
- Tall and slim, can be moved empty with ease from blast site to blast site. Maximum working pressure 125 psi.

**Complete System**

- Clemco’s fully equipped and accessorized systems offer everything needed to blast except air and abrasive.

- **Large inspection door for access to the interior.**
- **Wear-resistant urethane-coated pop-up valve seals tight and lasts longer.**

1/2 cuft and 1 cuft systems include the Apollo 20 Supplied-Air Respirator.
with a working pressure of 150 psi

*Machines available with alternate metering valves. See application guide on page 10.
Classic Blast Machines

*Machines available with alternate metering valves. See application guide on page 10.

**Model 3661***
10 cubic foot capacity
Stationary models are suitable for industrial use or applications requiring a large volume, yet economical, blast machine.

**Model 3054***
7 cubic foot capacity
Larger capacity models allow for extended blast time without refilling the machine.

**Model 3680***
20 cubic foot capacity
Stationary models adapt to fixed sites or to custom truck (or trailer) mounted systems.

**Model 2463***
8 cubic foot capacity
Dual blast chambers permit continuous blasting. The 8 cuft machine can be equipped with twin outlets allowing two operators to work without interruption.

*Pictures of blast machines are not to scale.*
Built to offer years of reliable service...

Semi-elliptical head for larger storage of abrasive.

Urethane-coated pop-up valve with external sleeve for long life and fast pressurization.

Large 6” x 8” inspection door for easy access to inside.

Heavy-gauge construction pressure vessel fabricated for rugged field service. Built to ASME standards. Most models registered in most Canadian provinces.

Conical 35° bottom ensures total use of abrasive and uninterrupted abrasive flow.

45° abrasive flow into air stream – the natural way to uniformly mix air and abrasive. Eliminates premature wear found in 90° systems. A tough stainless steel plate meters precisely. Clean-out provides access to foreign matter.

Self-cleaning exhaust muffler greatly reduces bleed-off noise.

Pop-up valve umbrella (optional) relieves load pressure, when hopper is in place.

Fast, safe TLR remote controls with solid brass valves built for years of dependability.

Chrome-plated forged brass ball valve with brass body for durability and long service life.

Flexible pusher line guarantees air flow without pressure loss caused by elbows; and eases valve replacement.

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### Compressed Air and Abrasive Consumption

**PRESSURE AT THE NOZZLE (PSI)**

<table>
<thead>
<tr>
<th>Nozzle Orifice</th>
<th>PRESSURE AT THE NOZZLE (PSI)</th>
<th>Air (cfm) Abrasive Use Compressor HP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. 2 (1/8&quot;)</strong></td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>No. 3 (3/16&quot;)</td>
<td>26</td>
<td>30</td>
</tr>
<tr>
<td>No. 4 (1/4&quot;)</td>
<td>47</td>
<td>54</td>
</tr>
<tr>
<td>No. 5 (5/16&quot;)</td>
<td>77</td>
<td>89</td>
</tr>
<tr>
<td>No. 6 (3/8&quot;)</td>
<td>108</td>
<td>126</td>
</tr>
<tr>
<td>No. 7 (7/16&quot;)</td>
<td>147</td>
<td>170</td>
</tr>
<tr>
<td>No. 8 (1/2&quot;)</td>
<td>195</td>
<td>224</td>
</tr>
</tbody>
</table>
Remote Controls...

The Clemco TLR 100C and 300C pressure-release pneumatic systems feature an abrasive cut-off system (ACS), which permits the operator to shut-off the abrasive flow for clearing the blast hose and for blowing down the surface after blasting. These remote control systems include inlet and outlet valves, abrasive trap, self-cleaning muffler that reduces air exhaust noise, and the air-operated normally-closed Quantum abrasive metering valve.

For applications that require frequent starts and stops, machines should be equipped with Quantum pressure-hold pneumatic remote controls, which keep the blast machine under pressure but allow the operator to start and stop blasting as frequently as needed. The machine is pressurized and depressurized manually, and the remote control handle controls the on/off of the abrasive and air independently. These systems are available in pneumatic and electric models.

OSHA’s requirements for remote-controlled blasting safety lie at the heart of Clemco Remote Control Systems:

“Abrasive blast cleaning nozzles shall be equipped with an operating valve which must be held open manually...”
OSHA 1926.302 (b) (10) and 29CFR 1910.244 (b)

“A ‘deadman’ control device shall be provided at the nozzle end of the blasting hose... to provide direct cut-off (of abrasive to the blast hose) in the event the blaster loses control of the hose...”
OSHA 1915.34 (c) (1) (iv)

Apart from respiratory protection, the most important blasting safety accessory is the remote control. All Clemco remote control systems meet the OSHA requirements for remote-controlled blasting.
Critical Operator Safety Accessory

Clemco’s RLX remote control handle
‘The workhorse of the industry!’

The Clemco TLR 100 and 300 pressure-release pneumatic systems operate on the return-air principle. A handle installed at the nozzle connects pneumatically to inlet and outlet valves on the blast machine. With the safety petcock on the inlet valve closed, the operator depresses the handle which opens the inlet valve and closes the outlet to start blasting; releasing the handle reverses the process and blasting stops. This safety system stops blasting should the operator lose control of the nozzle. And when the blast session is over, the safety petcock is opened to prevent activation, even when the handle is depressed. The diaphragm outlet valve is recommended for aggressive or fine-mesh abrasive applications. The TLR 50 system (not shown) is for 1/2-inch piped machines.

The Clemco EAC 100/300 (AC electrics) and EDC 100/300 (DC electrics) pressure-release electric remote control systems are available for extremely cold weather applications or where a continuous length of 100 feet or more of blast hose is used. An electric switch sends a signal through electric cord to open and close the inlet and outlet valves, avoiding the delay that would be experienced with air hose. Electric systems feature an anti-freeze injector accessory, which is optional on pneumatic systems. Electric remotes operate on a compressor’s 12-volt system or 120-volt line power. Only 12-volt power reaches the handle for the safety of the operator. The diaphragm outlet valve is an option with the EAC/EDC remotes and is recommended for aggressive or fine-mesh abrasive applications.
Metering Valves: Precise Abrasive Metering

One of the most important features of the blast machine is the abrasive metering valve. Selecting the right valve for your application is the key to productivity and efficiency. The FSV, Manual Quantum, and Auto Quantum valves are designed to feed abrasive into the air stream at 45 degrees. This design feature eliminates turbulence, minimizes wear on fittings, and ensures smooth, consistent flow.

The MQV handles all types of media; minerals, slags, and metallic. Its design allows for precise metering and easy maintenance. The Quantum fits machines from 2-cubic feet to 20-cubic feet capacity.

The AQV is used for pressure-hold systems and pressure-release systems with abrasive cut-off. Abrasive cut-off permits shutting off abrasive to blow down the surface with air. Available in both pneumatic and electric.

The FSV, an original Clemco design, is the tried-and-true work horse of the industry. It is among the most imitated Clemco components. It is standard on machines from 2-cubic feet to 20-cubic feet capacity.

The MSV is a manual valve suited for expendable media; it is used on our 1/2- and 1-cubic foot machines.

The LPV is a low-profile valve for mineral and slag abrasives; it is used on Lo-Pots.

### CLEMCO ABRASIVE METERING VALVES APPLICATION GUIDE

<table>
<thead>
<tr>
<th>Model/Descrip.</th>
<th>Standard Equip. on</th>
<th>Stock #</th>
<th>Manual or Pneu.</th>
<th>Remote Control Type</th>
<th>Applications (abrasives/media)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSV</td>
<td>1/2 and 1 cuft Classic machines</td>
<td>01247</td>
<td>Manual</td>
<td>Pressure-Release</td>
<td>Expendable mineral and slag abrasives; not recommended for use with fine mesh media or glass bead</td>
</tr>
<tr>
<td>LPV</td>
<td>Lo-Pot machines</td>
<td>05680</td>
<td>Manual</td>
<td>Pressure-Release</td>
<td>Expendable mineral and slag abrasives</td>
</tr>
<tr>
<td>FSV</td>
<td>Classic blast machines, 2 cuft and larger</td>
<td>02427</td>
<td>Manual</td>
<td>Pressure-Release</td>
<td>Expendable mineral and slag abrasives; not suitable for metallic media</td>
</tr>
<tr>
<td>MQV Quantum</td>
<td>Contractor and Classic machines, 2 cuft &amp; large</td>
<td>22845</td>
<td>Manual</td>
<td>Pressure-Release</td>
<td>All common abrasives: mineral, slag, or metallic</td>
</tr>
<tr>
<td>AQV</td>
<td>Contractor and Classic pressure-hold remotes or ACS</td>
<td>24447</td>
<td>Pneumatic</td>
<td>Pressure-hold or pressure-release and abrasive cut-off system</td>
<td>All common abrasives: mineral, slag, or metallic; requires 80 psi to fully open plunger</td>
</tr>
</tbody>
</table>
### NOTES:

*10 cuft. machines manufactured before 1983 use different pop-up valve and seat. Consult your Clemco distributor for details. MSV, FSV, MQV (Quantum) and LPV abrasive metering valves are suitable for blasting with mineral and slag expendable media. The Quantum metering valve handles all common media including steel grit. ACS is an optional accessory for TLR pressure release remotes with Quantum metering valves and is standard on machines with Quantum pressure hold remotes.

Remote Controls: Remote control systems have valves matched in size to the blast machine piping. Remote control system styles vary to suit the blasting operation or application. Pneumatic remote controls work best with blast hose lengths up to 100 ft.; and Electric remotes, powered electro-pneumatically, are for hose lengths greater than 100 ft. TLR 100D, 300D, 100DC, and 300DC feature the diaphragm outlet valve. The diaphragm outlet valve is recommended when using aggressive abrasive or fine mesh abrasive (50 mesh or finer).

### Piping Size:
Size varies with pressure vessel capacity. Choose larger diameter piping for high production operations.

### Pressure-Release Remotes:
Pressurize/depressurize machine by pressing/releasing handle—simplest system to operate.

### Pressure-Release Remotes with Abrasive Cut-off:
Allows the operator to stop the flow of abrasive to blow off the surface after blasting.

### Pressure-Hold Remotes:
Keep the blast machine under pressure for frequent starting and stopping.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions Dia. X Height</th>
<th>Standard Working Pressure</th>
<th>Capacity in Cuft.</th>
<th>Portable or Stationary</th>
<th>Piping (I.D.)</th>
<th>ACS Option</th>
<th>Remote Controls Pneu. or Electric</th>
<th>Metering Valve</th>
<th>Pop-up Valve &amp; O-ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1028</td>
<td>10&quot; x 28&quot;</td>
<td>125 psi</td>
<td>1/2</td>
<td>Portable</td>
<td>1/2&quot;</td>
<td>N/A</td>
<td>TLR 50 pneu. only</td>
<td>MSV</td>
<td>01242 01245</td>
</tr>
<tr>
<td>1042</td>
<td>10&quot; x 42&quot;</td>
<td>125 psi</td>
<td>1</td>
<td>Portable</td>
<td>1/2&quot;</td>
<td>N/A</td>
<td>TLR 50 pneu. only</td>
<td>MSV</td>
<td>01242 01245</td>
</tr>
<tr>
<td>1642</td>
<td>16&quot; x 42&quot;</td>
<td>150 psi</td>
<td>2</td>
<td>Both</td>
<td>1&quot;</td>
<td>Available</td>
<td>TLR 100 or Quantum pneu. or electric</td>
<td>FSV</td>
<td>03699 02325</td>
</tr>
<tr>
<td>1648</td>
<td>16&quot; x 48&quot;</td>
<td>150 psi</td>
<td>3</td>
<td>Both</td>
<td>1&quot; or 1-1/4&quot;</td>
<td>Available</td>
<td>TLR 100, 300 or Quantum pneu. or electric</td>
<td>FSV or Quantum</td>
<td>03699 02325</td>
</tr>
<tr>
<td>2443</td>
<td>24&quot; x 43&quot;</td>
<td>150 psi</td>
<td>6</td>
<td>Portable</td>
<td>1&quot; or 1-1/4&quot;</td>
<td>N/A</td>
<td>TLR 100 or 300 pneu. or electric</td>
<td>LPV</td>
<td>03699 02325</td>
</tr>
<tr>
<td>2452</td>
<td>24&quot; x 52&quot;</td>
<td>150 psi</td>
<td>6</td>
<td>Both</td>
<td>1&quot; or 1-1/4&quot;</td>
<td>Available</td>
<td>TLR 100, 300 or Quantum pneu. or electric</td>
<td>FSV</td>
<td>03699 02325</td>
</tr>
<tr>
<td>2463</td>
<td>24&quot; x 63&quot;</td>
<td>150 psi</td>
<td>8</td>
<td>Both</td>
<td>1-1/4&quot;</td>
<td>Available</td>
<td>Quantum pressure hold only</td>
<td>Auto Quantum Only</td>
<td>03699 02325</td>
</tr>
<tr>
<td>3054</td>
<td>30&quot; x 54&quot;</td>
<td>150 psi</td>
<td>7</td>
<td>Stationary</td>
<td>1-1/4&quot;</td>
<td>Available</td>
<td>TLR 300 or Quantum pneu. or electric</td>
<td>FSV</td>
<td>03699 02325</td>
</tr>
<tr>
<td>3079</td>
<td>30&quot; x 76&quot;</td>
<td>150 psi</td>
<td>14 (pot &amp; hopper)</td>
<td>Stationary</td>
<td>1-1/4&quot;</td>
<td>Available</td>
<td>TLR 100 or Quantum pneu. or electric</td>
<td>FSV or Quantum</td>
<td>03699 02325</td>
</tr>
<tr>
<td>3661</td>
<td>36&quot; x 61&quot;</td>
<td>150 psi</td>
<td>10</td>
<td>Stationary</td>
<td>1-1/4&quot;</td>
<td>Available</td>
<td>TLR 100 or Quantum pneu. or electric</td>
<td>FSV</td>
<td>03699 02325</td>
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<tr>
<td>3680</td>
<td>36&quot; x 80&quot;</td>
<td>150 psi</td>
<td>20</td>
<td>Stationary</td>
<td>1-1/4&quot;</td>
<td>Available</td>
<td>TLR 100 or Quantum pneu. or electric</td>
<td>FSV or Quantum</td>
<td>03699 02325</td>
</tr>
</tbody>
</table>

### Table: Machine Piping Size

<table>
<thead>
<tr>
<th>Machine Piping Size</th>
<th>Pressure-Release</th>
<th>Pressure-Release w/ACS</th>
<th>Pressure-Hold</th>
<th>Pneumatic or Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pneumatic Electric</td>
<td>Pneumatic Electric</td>
<td>Pneumatic Electric</td>
<td>Pneumatic or Electric</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>TLR 50</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1&quot;</td>
<td>TLR 100</td>
<td>EAC 100 or EDC 100</td>
<td>TLR 100C</td>
<td>EAC 100C or EDC 100C</td>
</tr>
<tr>
<td>1-1/4&quot;</td>
<td>TLR 300</td>
<td>EAC 300 or EDC 300</td>
<td>TLR 300C</td>
<td>EAC 300C or EDC 300C</td>
</tr>
</tbody>
</table>

Pneumatic only

Pneumatic or Electric

Pneumatic or Electric

Quantum Remote Controls
Single and dual operator systems available, consult distributor for details.