

CLEMCO®

ABRASIVE BLAST MACHINES
CLASSIC SERIES
SIMPLE, RUGGED, RELIABLE



★★★★★
MADE IN THE
USA

Clemco Industries Corp. • ISO 9001 Certified



CLEMCO
CLASSIC
BLAST MACHINE



MADE IN
USA

6 cuft

Classic Blast Machines

Abrasive blasting is tough on equipment, employees, and you. For more than 75 years, for professional contractors and for industrial operations, Clemco has made abrasive blasting easier.

Clemco Classic Blast Machines are rugged, reliable, and versatile. Models range in size from 0.5 cuft to 20 cuft, and come as the blast machine only or with a complete machine system. A complete system includes the blast machine, remote controls, a nozzle, couplings, blast hose, an Apollo Supplied-Air Respirator, an air filter, and spare parts — which are easy to install for quick maintenance.

Popular Uses

- Remove contamination, corrosion, mill scale, and coatings from most surfaces.
- Produce uniform surface textures.
- Create surface profiles to increase bonding for coatings and paints.

Popular Industries

- Construction and manufacturing
- Shipping and transportation
- Storage tank maintenance
- Road and bridge maintenance
- Water tower maintenance
- Petroleum and oil pipeline maintenance
- Contractors and industrial shops

Classic Blast Machines



◀ Model 1028 0.5 cubic foot capacity

Clemco's smaller machines are light, transportable, and industrial quality. Maximum working pressure 125 psi.



0.5-cuft and 1-cuft systems include the Apollo 20 Supplied-Air Respirator.



◀ 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.



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.



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

3-cuft and Larger Machines Have a 150-psi Working Pressure



Model 1648
3 cubic foot capacity

*A midsize blast machine,
a favorite of rental yards.*



Model 2452
6 cubic foot capacity

*Clemco's most popular blast
machine. Ideal for professional blasting
contractors, shipyards, railcar re-man facilities,
and large-scale industrial production.*



Model 2443
6 cubic foot capacity Lo-Pot

*The lower height of
the Lo-Pot Blast Machine
eases abrasive loading.*



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.*

Classic Blast Machines



▲ **Model 3661**

10 cubic foot capacity

Stationary models are suitable for industrial use or applications requiring a large-volume, yet economical, blast machine.



▲ **Model 3680**

20 cubic foot capacity

Stationary models adapt to fixed sites, or to custom truck-mounted or trailer-mounted systems.

Built for Years of Reliable Service

- Semi-elliptical head for more abrasive storage.
- 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.
- Pressure vessel designed 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.

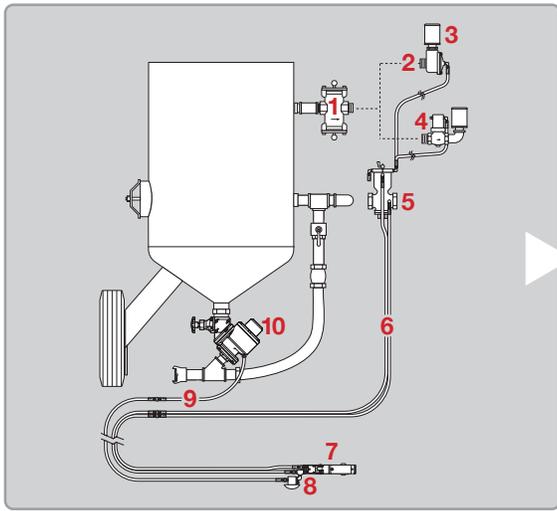


- Self-cleaning exhaust muffler greatly reduces bleed-off noise.
- Pop-up valve umbrella (optional) relieves load pressure when hopper is in place.
- Fast, safe TLR Remote Controls with solid brass valves built for years of dependability.
- Chrome-plated, forged-brass ball valve with brass body for durability and long service life.
- Flexible pusher line eases valve replacement and also guarantees air flow without pressure loss caused by elbows.

Compressed-Air and Abrasive Consumption

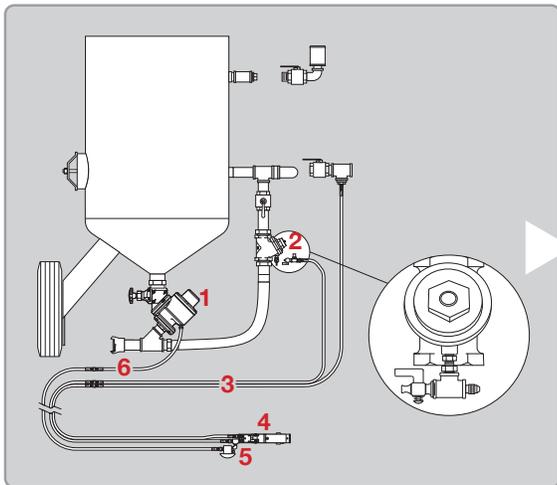
Nozzle Orifice	PRESSURE AT THE NOZZLE (psi)								Air (cfm) Abrasive Use Compressor HP		
	50	60	70	80	90	100	125	140	Air (cfm)	Abrasive (cuft/hr)	Abrasive (lbs/hr)
No. 2 (1/8")	11	13	15	17	18.5	20	25	28	Air (cfm)		
	.67	.77	.88	1.01	1.12	1.23	1.52	1.70	Abrasive (cuft/hr)		
	2.5	3	3.5	4	4.5	5	5.5	6.2	Abrasive (lbs/hr)	170	
									Compressor HP		
No. 3 (3/16")	26	30	33	38	41	45	55	62	Air (cfm)		
	1.50	1.71	1.96	2.16	2.38	2.64	3.19	3.57	Abrasive (cuft/hr)		
	150	171	196	216	238	264	319	357	Abrasive (lbs/hr)	357	
									Compressor HP		
No. 4 (1/4")	47	54	61	68	74	81	98	110	Air (cfm)		
	2.68	3.12	3.54	4.08	4.48	4.94	6.08	6.81	Abrasive (cuft/hr)		
	268	312	354	408	448	494	608	681	Abrasive (lbs/hr)	681	
									Compressor HP		
No. 5 (5/16")	77	89	101	113	126	137	168	188	Air (cfm)		
	4.68	5.34	6.04	6.72	7.40	8.12	9.82	11.0	Abrasive (cuft/hr)		
	468	534	604	672	740	812	982	1100	Abrasive (lbs/hr)	1100	
									Compressor HP		
No. 6 (3/8")	108	126	143	161	173	196	237	265	Air (cfm)		
	6.68	7.64	8.64	9.60	10.52	11.52	13.93	15.60	Abrasive (cuft/hr)		
	668	764	864	960	1052	1152	1393	1560	Abrasive (lbs/hr)	1560	
									Compressor HP		
No. 7 (7/16")	147	170	194	217	240	254	314	352	Air (cfm)		
	8.96	10.32	11.76	13.12	14.48	15.84	19.31	21.63	Abrasive (cuft/hr)		
	896	1032	1176	1312	1448	1584	1931	2163	Abrasive (lbs/hr)	2163	
									Compressor HP		
No. 8 (1/2")	195	224	252	280	309	338	409	458	Air (cfm)		
	11.60	13.36	15.12	16.80	18.56	20.24	24.59	27.54	Abrasive (cuft/hr)		
	1160	1336	1512	1680	1856	2024	2459	2754	Abrasive (lbs/hr)	2754	
									Compressor HP		

Remote Controls



1. Abrasive Trap
2. Diaphragm Outlet Valve (optional)
3. Muffler (order separately)
4. Piston Outlet Valve
5. Inlet Valve
6. Twinline Hose
7. RLX Control Handle
8. ACS Switch
9. Single-Line ACS Hose
10. Auto Quantum Valve

TLR 300C Pressure-Release Pneumatic Systems feature an abrasive cutoff system (ACS), which enables operators to shut off the abrasive flow for clearing the blast hose and for blowing down surfaces after blasting. These remote control systems include inlet and outlet valves, an abrasive trap, and the air-operated normally closed Quantum Abrasive Metering Valve. Also available in electric models. (See next page.)



1. Auto Quantum Valve
2. ACE Air Valve
3. Twinline Hose
4. RLX Control Handle
5. ACS Switch
6. Single-Line ACS Hose

Quantum Pressure-Hold Pneumatic Remote Controls are designed for applications that require frequent starts and stops. Operators manually pressurize and depressurize machines equipped with these remote controls. Operators can then keep the machines pressurized regardless of how often they start and stop blasting. The remote control handle can close the abrasive valve independently of the air valve so that only air exits the nozzle. This step permits clearing the blast hose and blowing down surfaces after blasting. Also available in electric models. (See next page.)

OSHA's

requirements for safe remote-controlled blasting 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.”

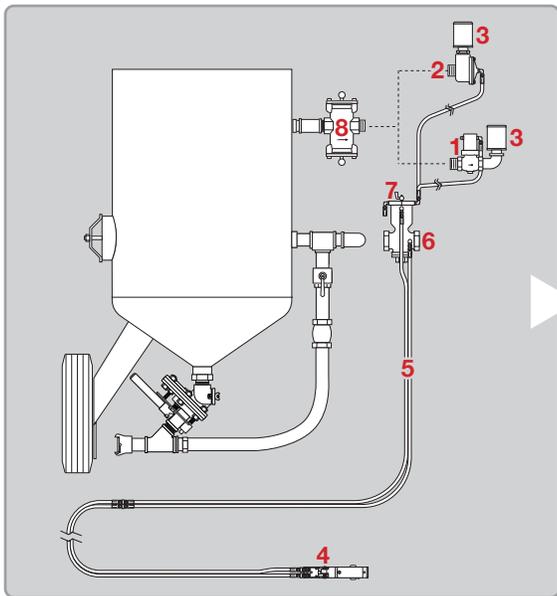
OSHA 1926.302 (b) (10) and 29CFR 1910.244 (b)

“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)

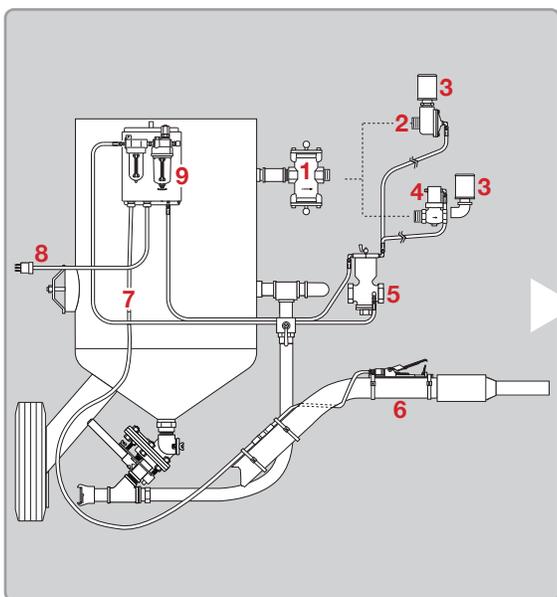
Apart from respiratory protection, the most important blasting safety accessory is the remote control. All Clemco remote control systems meet OSHA requirements for remote-controlled blasting.

Critical Operator Safety Accessory



1. Piston Outlet Valve
2. Diaphragm Outlet Valve (optional)
3. Muffler (order separately)
4. RLX Control Handle
5. Twinline Hose
6. Inlet Valve
7. Petcock
8. Abrasive Trap

TLR 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 then opens the inlet valve and closes the outlet valve to start blasting. Releasing the handle, intentionally or unintentionally (such as dropping the hose), reverses the process and blasting stops. After 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" piped machines.

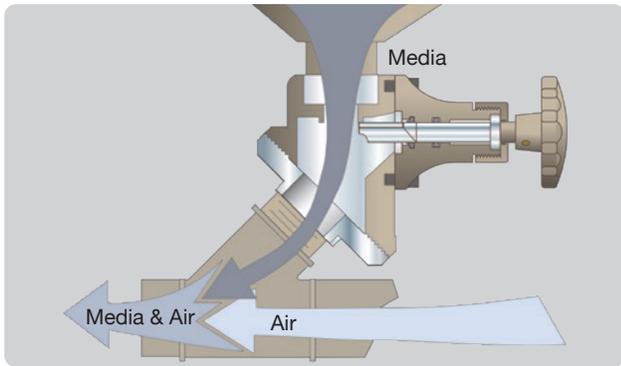


1. Abrasive Trap
2. Diaphragm Outlet Valve (optional)
3. Muffler (order separately)
4. Piston Outlet Valve
5. Inlet Valve
6. RLX Control Handle
7. Electric Cable
8. to 12V or 120V cable source
9. Control Panel

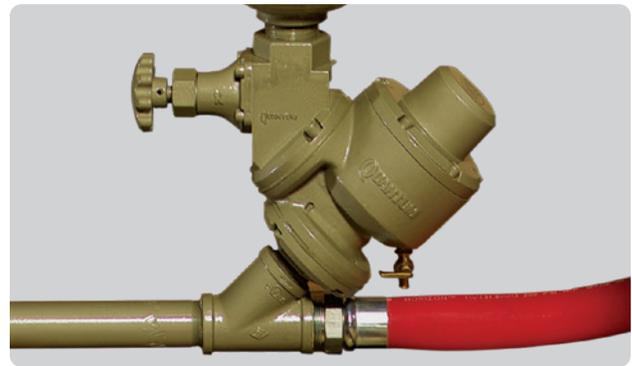
EAC 300 and EDC 300 Pressure-Release Electric Remote Control Systems are available for applications in extremely cold weather or when a continuous length of 100 ft or more of blast hose is used. An electric switch instantly sends a signal through an electric cord to open and close the inlet and outlet valves, avoiding the delay that would occur with a pneumatic system. Electric systems feature an antifreeze injector accessory, which is optional on pneumatic systems. The EAC 300 operates off a 120-volt AC power supply, and the EDC 300 operates off a 12-volt DC power supply. With both systems, only 12-volt power reaches the handle for the safety of the operator. The diaphragm outlet valve is an option with these remotes and is recommended for aggressive or fine-mesh abrasive applications.

Metering Valves: Precise Abrasive Metering

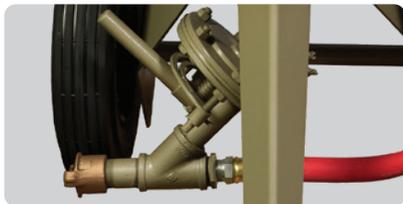
One of the most important components of a blast machine is its abrasive metering valve. The correct valve for your application will promote efficient blasting and reduce maintenance requirements on the machine. The Manual Quantum, Auto Quantum, and FSV Valves feed abrasive into the air stream at a 45° angle. This design eliminates turbulence, minimizes wear on fittings, and ensures smooth, consistent media flow.



The **Manual Quantum Valve (MQV)** handles all types of media: mineral, slag, and metallic. Its design allows for precise metering and easy maintenance. It fits machines with 3-cuft to 20-cuft pressure vessels.



The **Auto Quantum Valve (AQV)** is for pressure-hold remotes and pressure-release remotes equipped with an abrasive cutoff system. Abrasive cutoff permits shutting off abrasive to blow down surfaces with air. Available in pneumatic or electric.



The **FSV**, an original Clemco design, is the tried-and-true workhorse of the industry. It is among the most imitated Clemco components. It is standard on machines with 3-cuft to 20-cuft pressure vessels.



The **MSV** is a manual valve suited for expendable media. It is designed for Clemco 0.5-cuft and 1-cuft blast machines.



The **LPV** is a low-profile valve for mineral and slag abrasives. It is designed for Lo-Pot blast machines.

CLEMCO ABRASIVE METERING VALVES APPLICATION GUIDE

Model/Descrip.	Standard Equip. On	Stock #	Manual or Pneu.	Remote Control Type	Applications (abrasives/media)
MSV	0.5-cuft and 1-cuft Classic Machines	01247	Manual	Pressure-Release	Expendable mineral and slag abrasives; not recommended for use with fine-mesh media or glass bead
LPV	Lo-Pot Machines	05680	Manual	Pressure-Release	Expendable mineral and slag abrasives
FSV	Classic Blast Machines, 3 cuft and Larger	02427	Manual	Pressure-Release	Expendable mineral and slag abrasives; not suitable for metallic media
MQV	Contractor and Classic Machines, 3 cuft & Larger	22845	Manual	Pressure-Release	All common abrasives: mineral, slag, or metallic
AQV	Contractor and Classic Pressure-Hold Remotes or ACS	24447	Pneumatic	Pressure-Hold or Pressure-Release and ACS	All common abrasives: mineral, slag, or metallic; requires 80 psi to fully open plunger

BLAST MACHINE SPECIFICATIONS

Model	Dimensions Dia. X Height	Standard Working Pressure	Capacity in Cuft.	Portable or Stationary	Piping (I.D.)	ACS Option	Remote Controls Pneu. or Electric	Metering Valve	Pop-up Valve & O-ring
1028	10" x 28"	125 psi	1/2	Portable	1/2"	N/A	TLR 50 pneu. only	MSV	01242 01245
1042	10" x 42"	125 psi	1	Portable	1/2"	N/A	TLR 50 pneu. only	MSV	01242 01245
1648	16" x 48"	150 psi	3	Portable	1" or 1-1/4"	Available	TLR 100, 300 or Quantum pneu. or electric	FSV or Quantum	03699 02325
2443	24" x 43"	150 psi	6	Portable	1" or 1-1/4"	N/A	TLR 100 or 300 pneu. or electric	LPV	03699 02325
2452	24" x 52"	150 psi	6	Portable	1" or 1-1/4"	Available	TLR 100, 300 or Quantum pneu. or electric	FSV or Quantum	03699 02325
2463	24" x 63"	150 psi	8	Portable	1-1/4"	Available	Quantum pressure hold only	Auto Quantum Only	03699 02325
3661	36" x 61"	150 psi	10	Stationary	1-1/4"	Available	TLR 100 or Quantum pneu. or electric	FSV or Quantum	03699* 02325
3680	36" x 80"	150 psi	20	Stationary	1-1/4"	Available	TLR 100 or Quantum pneu. or electric	FSV or Quantum	03699 02325

NOTES: 10-cuft machines manufactured before 1983 use a different pop-up valve and seat. Consult your Clemco distributor for details. MSV, FSV, MQV, and LPV Abrasive Metering Valves are suitable for blasting with mineral and slag expendable media. The MQV and AQP Valves handle all common media, including steel grit. An optional ACS is available for TLR Pressure-Release Remote Controls equipped with AQP Valves, but an ACS is standard on machines with Quantum Pressure-Hold Remote Controls. Kits are available to convert portable Classic Blast Machines into stationary machines.

Remote Control Specifications

Machine Piping Size	Pressure-Release		Pressure-Release w/ACS		Pressure-Hold		Pneumatic or Electric
	Pneumatic	Electric	Pneumatic	Electric	Pneumatic	Electric	
1/2"	TLR 50	—	—	—	—	—	Pneumatic Only
1-1/4"	TLR 300	EAC 300 or EDC 300	TLR 300C	EAC 300C or EDC 300C	Quantum Remote Controls Single and dual-operator systems available. Consult distributor for details.		Pneumatic or Electric

NOTES: Remote control systems have valves that match the sizes of blast machine piping, and they come in models that vary to suit blasting applications. Pneumatic remote controls work best with blast hose lengths up to 100 ft. Electric remotes (pneumatic valves controlled electrically) are for hose lengths greater than 100 ft. TLR 300D and 300DC Remote Controls feature a 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 Remote Controls: Pressurize/depressurize machine by pressing/releasing handle—simplest system to operate.

Pressure-Release Remotes with Abrasive Cutoff System: Allows the operator to stop the flow of abrasive to blow off surfaces after blasting.

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

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