

The selections of finishes are virtually unlimited and so are the applications.

FINISHING

- Add matte or satin finish, or decorative frost
- Remove glare or imperfections
- Blend marks
- Hone and burnish
- Mark identifications

CLEANING & REMOVAL

- Chemical impurities
- Coatings
- Paint
- Sealants and adhesives
- Carbon deposits
- Scale
- Excess brazing
- Casting materials
- Flashing
- Burrs
- Rust
- Oxidation

SURFACE TREATMENT & PREPARATION

- Strengthen
- Add fatigue resistance
- Improve wear properties
- Reduce design weights, porosity, friction or susceptibility to corrosion
- Expose flaws for inspection
- Improve lubrication
- Etch for bonding and adhesion
- Cut

MEDIA GUIDE

	Ceramic Shot	Glass Bead	Stainless Cut Wire	Steel Shot	Alum. Oxide	Crushed Glass	Garnet	Jet Mag™	Silicon Carbide	Stel Grit	Plastic Media
Finishing	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Cleaning/Removal	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Peening	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO
Surface Profiling (Etch)	NO	NO	YES	NO	YES	YES	YES	YES	YES	YES	YES
Working Speed	MED	MED	MED	MED	HIGH	HIGH	HIGH	LOW-HIGH	VERY-HIGH	MED-HIGH	MED-HIGH
Recyclability	HIGH	HIGH-LOW	HIGH	VERY-HIGH	MED-HIGH	MED-LOW	MED	LOW	MED-LOW	VERY-HIGH	MED
Probability of Metal Removal	VERY-LOW	VERY-LOW	VERY-LOW	VERY-LOW	MED-HIGH	LOW-MED	MED	MED-HIGH	MED-HIGH	MED	VERY-LOW
Hardness, MOH Scale (Rockwell RC)	7 (57-63)	5.5	6-7.5 (35-55)	6-7.5 (20-66)	8-9	5.5	8	7-7.5	9	8-9 (40-66)	3-4
Bulk Density (lb/cu.ft.)	150	100	280	280	125	100	130	85	96	230	46-60
Mesh Size	8-46	30-440	20-62	8-200	12-325	30-400	16-325	16-60	36-220	10-325	18-80
Typical Blast Pressure (psi)	30-90	30-80	30-90	30-90	30-90	30-50	30-80	50-100	30-80	30-90	30-50
Shapes	● Spherical ▲ Angular	●	●	●	●	▲	▲	▲	▲	▲	▲ or ●

NOTES :

Above information is intended as a general reference guide. Consult your authorized ISTblast distributor for specific media specifications.

AIR CONSUMPTION THROUGH SUCTION BLAST NOZZLE (cfm)

Air jet	Nozzle	40 psi/ lpc	50 psi/ lpc	60 psi/ lpc	70 psi/ lpc	80 psi/ lpc	100 psi/ lpc
1/8"	1/4"	12	15	17	19	21	26
5/32"	5/16"	19	23	27	30	34	42
3/16"	3/8"	27	33	38	43	48	58
7/32"	7/16"	38	46	52	60	65	80
1/4"	1/2"	49	58	67	76	85	94

AIR CONSUMPTION THROUGH PRESSURE BLAST NOZZLE (cfm)

Pressure	20	25	30	35	40	45	50	60	70	80	90	100	120
Nozzle diam.	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
1/8"	7	7	8	9	10	12	13	14	15	17	19	20	25
3/16"	15	16	18	20	22	24	26	30	33	38	41	45	55
1/4"	27	30	32	37	41	45	49	55	61	68	74	81	97
5/16"	42	46	50	57	64	70	76	88	101	113	126	137	152
3/8"	55	63	73	82	91	100	109	126	143	161	173	196	220
7/16"	72	85	99	112	124	137	149	170	194	217	240	254	300
1/2"	96	112	129	146	163	179	194	224	252	280	309	338	392
5/8"								356	404	452	504	548	611

General rule for sizing compressors : 4 cfm per 1 horsepower

Example : 20 cfm ÷ 4 = 5 hp

Abrasive Blast Equipment: Pressure versus Suction

- ▶ One of the first decisions frequently made when developing a new air blasting process is determining whether the equipment should be suction blast equipment or pressure blast equipment. Suction blast and pressure abrasive blast machines can both be economical and productive solutions to a surface preparation application - selection of one or the other is dependent on a number of factors.
- ▶ First some quick definitions:
- ▶ **Suction Abrasive Blast Equipment:** Uses the venturi principle to draw abrasive from a non-pressurized hopper to the blast gun where it is combined with the compressed air stream and propelled against the work surface. Suction blast machines are most easily distinguished by having two hoses (one for air and one for abrasive) running to the blast gun.
- ▶ **Pressure Abrasive Blast Equipment:** Uses a pressurized vessel or “blast pot” that holds the abrasive media. In a pressure blast machine the air pressure in the vessel and in the “pusher” line is the same. This means that there is no pressure differential between the blast pot and the blast line - this allows the abrasive media to meter into the air stream at the blast pot and then run the length of the blast hose out to the nozzle. Pressure abrasive blast equipment has a single hose running to the blast nozzle.

Suction Abrasive Blast Equipment

- ▶ **Advantages**
- ▶ **Lower capital equipment cost.** Suction abrasive blast cabinets are lower cost than the same sized pressure blast cabinet.
- ▶ **Easier maintenance.** There are far fewer moving parts and valves in a suction abrasive blast machine than a pressure abrasive blast unit. This translates into much easier maintenance and trouble shooting.
- ▶ **Less air and abrasive demand.** A suction abrasive blast gun has its air demand governed by the abrasive air jet, which is typically half the size of the blast nozzle diameter. This means that for a given nozzle size, a suction abrasive blast machine uses a fraction of the amount of air volume (CFM) than is required for a pressure abrasive blast machine, when both units are blasting at the same pressure (PSI).
- ▶ **Continuous blasting.** Because there is no pressure blast pot in a suction abrasive blast system, there is no reason to stop, depressurize the vessel and allow abrasive to refill the pot (there is no pressure vessel, remember?). In a pressure blast system, the length of continuous blasting time is dictated by the amount of abrasive media the pot will hold at one time.
- ▶ So, there are clearly advantages and drawbacks to both a suction and pressure abrasive blaster. Confused? How can you decide which one is right for your job?

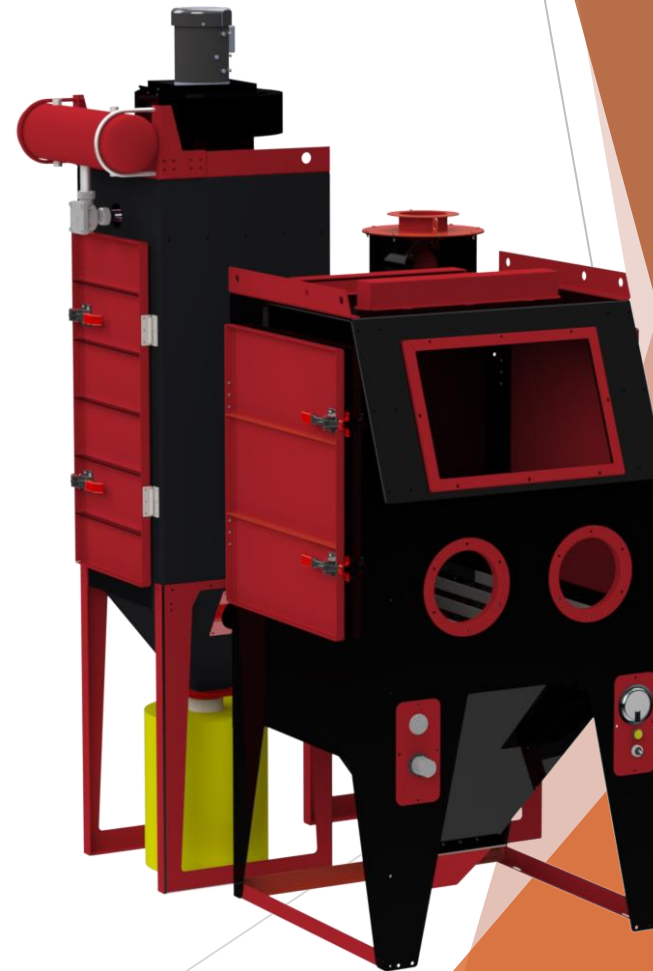
Pressure Abrasive Blast Equipment

- ▶ **Advantages**
- ▶ **Greater media velocity.** A pressure blast machine produces greater abrasive particle velocity than a suction blast machine which means faster cleaning of tough contaminants.
- ▶ **Moves more media.** More abrasive particles are propelled against the work surface per minute, for a given nozzle size. Again, this translates into greater productivity, particularly on difficult applications
- ▶ **Greater stand-off distance.** Because the abrasive particles are moving faster to begin with, you can increase the stand-off distance of the blast nozzle from the work surface, producing a larger blast pattern while still achieving velocities great enough to clean the work. Again, this translates into greater overall productivity than a suction blast machine.
- ▶ **More productive.** As a general rule of thumb, pressure abrasive blast machines are four times as productive as suction abrasive blast machines.
- ▶ Sounds like a no-brainer for pressure abrasive blast machines, right? Well, not so fast...



CLEANBLAST Series

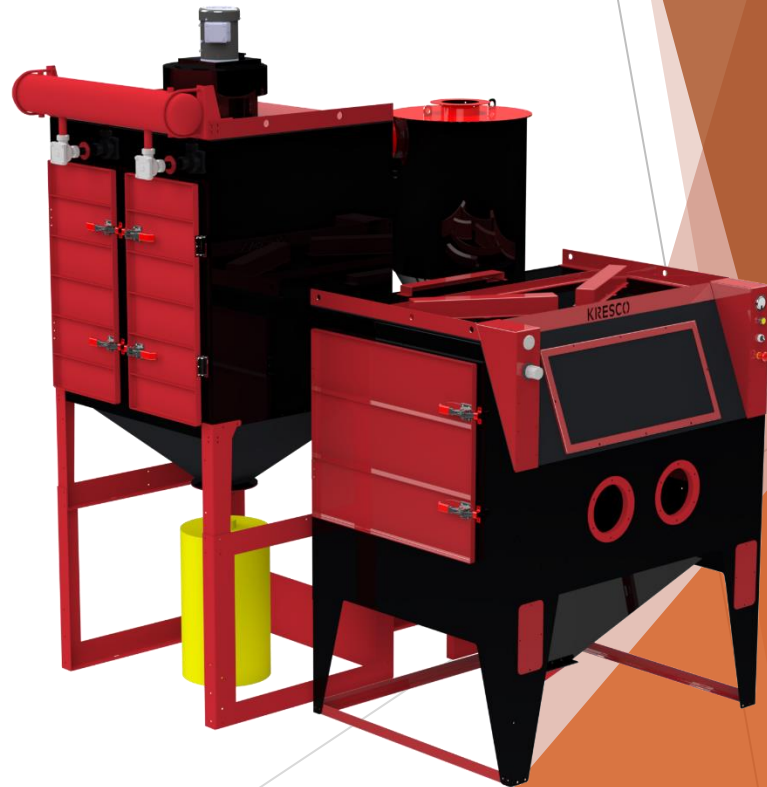
- Reliability and performance at an economical price
- Series offers mid-level semi-industrial blast finishing cabinets for medium duty cleaning, etching, deburring, finishing, trimming, and more.
- After contact with the work piece, abrasive media (glass bead, aluminum oxide, etc.) is transferred to the cyclonic reclaimer where it is separated into reusable media and dust.
- All that is needed is several pounds of sandblasting media
- Air compressor that generates a minimum of 22 CFM.
- Led Lights





POWER BLAST SUCTION Series

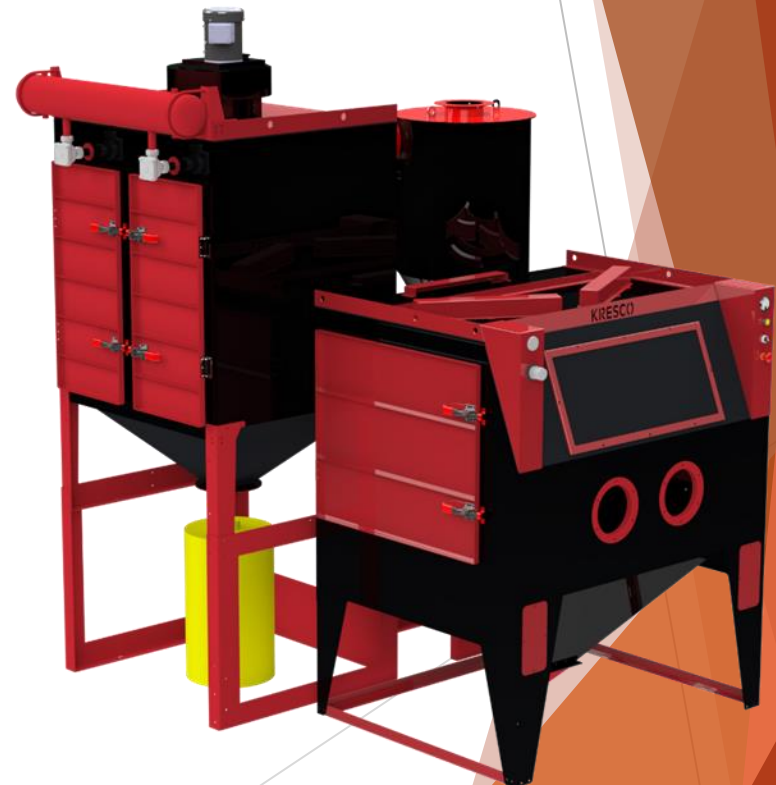
- ▣ An economical suction type cabinet is ideal for everyday maintenance and light duty jobs.
- ▣ Compressed air (released by the operator's pedal or trigger gun) enters the gun and creates a vacuum which draws and expels the abrasive onto the work piece.
- ▣ Media then returns to reclaimer to be cleaned, and dust is expedited to dust bags.
- ▣ This system operates with lightweight reclaimable abrasive such as glass beads or aluminum oxide.
- ▣ If cabinet is used more than one hour per day, we recommend a high-performance dust collector for maximum results.
- ▣ Led Lights





POWERBLAST PRESSURE Series

- Rapid results in hard-to-reach areas, these high performance pressure type cabinets
- Have 1 cubic foot pressure vessels that force media through blasting hose and tungsten carbide nozzle.
- After contact with the work piece, lightweight, reclaimable abrasive media (glass beads, aluminum oxide, etc.) is transferred to the reclaimer, where it is separated into reusable media and dust.
- High performance dust collectors are standard with all **POWERBLAST** pressure type cabinets.
- Led Lights



▣ Some general facts to understand:

■ Sand blasting really is the term for the ABRASIVE BLAST CLEANING that:

- ▣ Eliminates surface contamination
 - Removes brazing residue
 - Cleans high pressure welded parts
 - Surface preparation for bonding
 - Removes excess flash from molds
 - Removes scale from castings
- ▣ Creates an anchor pattern
- ▣ Peening and stress relieving
- ▣ Requires ventilation system

■ Abrasive Blast Cleaning

- ▣ Can be suctioned or pressurized
- ▣ Suction systems allow you to blast longer
- ▣ Pressure systems allow for larger products to be blasted

■ Terms to recognize:

- ▣ Mesh is another word for grit
- ▣ Abrasive comes in sharp and spherical shapes
- ▣ Recovery systems can be pneumatic or mechanical

QUESTIONS TO KNOW AND ASK YOUR CUSTOMER:

- 1- Does he use already a sandblasting cabinet, this can be obvious or to be uncovered if a new opportunity.
- 2- What is being sandblasted; a wheel, fire hydrant, industrial valve, aircraft part, special alloy ...
- 3- What is on the surface of the part that needs to be removed;
 - powder coating(wheels),
 - lead paint (fire hydrants),
 - crud (industrial valves),
 - light surface roughness to be smoothed out (aircraft parts)
 - carbon deposit on jet engine nozzles (special alloys)
- 4- What is the size of the part; here you need to know the hypothénuse! = $\sqrt{a^2 + b^2}$ and parts are 3 dimensional (you'll laugh at your customers' answers)
- 5- Expected sandblasting time per part (if customer already is sandblasting, he'll know)
- 6- Is it a government organisation as they have specific safety regulations when it comes to machinery and equipment.
- 7- How much air supply does he have (here is where you use the air consumption chart at the beginning, page2) OEM nozzle size 5/16th.
- 8- **More as a qualifying question for you to your customer; "is he shopping around and what has he found." This will give you an indication of his spending budget and how to steer the conversation.*