Surface Finish Solutions

AIRBLAST

www.airblast.com

Index

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Introduction

Welcome to "Airblast Surface Finish Solutions".

This guide features the most effective and efficient equipment to improve your blasting and painting process.

For each of the industries we serve Airblast has ranges of equipment tried and tested in the harshest of environments. Supplied complete with accessories the "Airblast System 7" is the industry standard for traditional blasting. Combined with the Airblast Inspection Equipment range as well as Graco paint spraying equipment this product platform satisfies the core requirements of steel surface treatment. From on-shore to off-shore, from ship building to construction, Airblast provides high quality products upon which you can depend.

The impetus to invest in Airblast Equipment may be driven by the desire to gain an edge over your competors, to better control the quality achieved, or by environmental legislation – whatever the reason Airblast Equipment ensures that each process is undertaken in the most efficient and effective manner.

Each section features a different range of equipment designed to be used in the Surface Finish Industry.






As this guide features only the main pieces of equipment required there may be items which you wish to purchase which are not mentioned within these pages – please consult with your local Airblast representative to receive details of the full range of products.

For more than 40 years Airblast has been the world leader in providing blasting and painting solutions to the anticorrosion industries. With an unparalleled network of offices around the world Airblast works closely with our customers and distribution partners providing tried and tested equipment as well as developing customized solutions for specific applications.

Airblast is dedicated to maintain a profitable organization on a long term basis through ethically and morally sound business practices. By investing in the long term future of our organization, and those with whom we conduct business, Airblast believes that we can share sustained mutual success.

Our manufacturing facilities in Europe and the Far East produce fit for purpose quality products with region specific certification. All Airblast equipment is manufactured according to the highest relevant safety standards and passes our rigorous quality controls before dispatch.

Mindful of the environmental responsibilities faced by our generation Airblast is committed to a programme of research and development into technologies facilitating zero emission blasting and painting along with an education programme promoting planet friendly operations.

Blasting

Airblast recognises the needs of the Anti Corrosion Industry and our abrasive blasting equipment offers all the features that the professional user requires. Our core range of open blasting pots all feature a well designed and proven single piece remote control & dead-man handle system and silencer ensuring reduced labour costs, high efficiency of abrasive utilisation, as well as operator safety.

All machines are designed to be used with a wide range of accessories including an extensive choice of nozzles, wet blast attachments, and internal pipe cleaning devices. Numerous metering valve options are available depending upon the application including Micro Valve, Flat Sand Valve, Steel Grit Valve, and Thompson Valve.

A wide range of high production single or double chamber and multiple outlet machines are available, manufactured to cover all possible requirements of the industry. All equipment is designed to facilitate fast filling, unrestricted airflow, as well as easy access for inspection and maintenance. The portable range from 17 liters to 300 liters features the same high quality construction, security and performance as our 3400 liter and 4500 liter bulk blast systems.

Airblast offers numerous dust free blasting solutions which provide onsite flexibility as well as high performance including: mobile wheel blast machines, vacuum blasting machines, wet blast nozzle attachment, Aquastorm slurry blasting system, and UHP.

Products

Blast Pots / Bulk Blasters

Blasting Accessories

Personal Protection Equipment

Blast Pots
Airblast has a comprehensive range of open blasting pots available as either stand alone units or as complete systems. Each blast pot is manufactured to be fit for purpose and is supplied with region specific certification.

Bulk Blasters
Designed to supply up to eight blasters operating independently bulk blast systems are designed to be easily transported being supplied as either skid mount or on a yard trailer. As each blaster operates independently down time is minimized and production optimized.

Blasting accessories
Airblasts wide range of accessories includes everything which is required for the blasting operations such as:
- A full selection of blasting nozzles incorporating a wide range of sizes in the most popular materials of tungsten carbide and aluminum as well as more specialist configurations such as boron carbide and silicon nitride
- High quality blast hoses 25x7 as well as 32x8 available with various wear ratings
- A full selection of nozzle holders, hose couplings, and whip checks
- Blast lights for illuminating the blasting area as well as individual lights for single user operation
- A full selection of abrasives metering valves including Flat Sand Valve, Micro Valve, Steel Grit Valve, Abrasive Membrane Valve, Thompson Valve

Personal Protection Equipment
The safety and comfort of the blaster is paramount – the Airblast range of Personal Protection Equipment ensures that a tough job is made a little bit easier and can be conducted in the safest possible manner.
- Blasting Helmets: Extreme, Panorama, Astro, and Nova
- Blasting suits made from heavy cotton with leather reinforcement
- HAF Air Filtration system with optional CO Monitor providing clean safe air for the blaster
- Cool tube air conditioning system to provide warm or cool air to the blasting helmet preventing the ingress of dust and ensuring comfortable breathing

Painting

Airblast is proud to be a longstanding Graco Gold Distributor certified to market and support exclusively Graco products throughout specific regions of the world.

Graco is the world leader in industrial airless spray technology and continues to develop new and innovative solutions to apply the demanding coatings available now and in the future.

Graco equipment is robust, easy to maintain and has proved highly popular with multi-unit and single-unit users alike. Airless atomization provides the optimum blend of reliability, versatility and speed of operation and can be used to apply a wide range of single and plural component anti-corrosive coatings.

In addition to the traditional single component coatings plural component coatings are becoming more and more popular due to their high performance characteristics. Graco offers a full range of plural component spray units designed to apply coatings with different mix ratios and cure times.

In addition to the spray units Graco manufactures a full range of accessories including:

- Spray Guns, Pole Guns, Extensions, Gun Service Kits
- Spray Tips, Tip Guards
- Airless Hoses (single and twin braided), Adapters, Couplings
- Swivels, Unions, Filters, Valves, Regulators, Lubricators, Gauges
- Agitators, Pump Repair Kits, Pressure Cups, Tanks, Air / Fluid Hoses

Products

Xtreme NXT
High Performance
Airless Sprayer

X-Force
Powerful Cordless
Sprayer

XP70
Plural Component
Sprayer

XM Plural Component Sprayer

XM PFP Application System

NXT Xtreme: High-Performance, High-Pressure, Airless Sprayers
The Xtreme Airless sprayers set a new industry standard in airless spraying. During development the units were thoroughly tested and proven to outperform and outlast all other sprayers in the market. The Extreme sprayers are designed to withstand the harshest environmental conditions and easily handle the toughest protective coatings and corrosion control applications. With ratios of 45:1, 60:1, 70:1 and 90:1 there is a sprayer with the correct pressure and flow characteristics for your application.

X-Force: Handheld Airless Sprayer
Designed to be used as a quick and easy method of touching up completed jobs the X-Force does not require an external power source and can be quickly and easily moved to complete emergency repairs. Powerful batteries ensure that this hand held gun can applied coatings originally sprayed by an Xtreme Sprayer.

XP70: Plural Component Airless Sprayers
The trend in the coatings industry is towards plural component high solids content. Formulated with less solvent, these coatings reduce VOC emissions and speed up production with faster cure times. Utilizing Xtreme technology the range of fixed ratio XP70 Plural-Component Sprayers are designed to pump, mix and atomize high-viscosity materials with a pot life of approximately 10+ minutes with superior results.

XM: Plural Component Airless Sprayers
Utilising Xtreme Technology the range of variable ratio XM Plural Component Sprayers are designed to pump, mix and atomise high viscosity materials with a pot life of approximately less than 10 minutes with superior results. With advanced features such as ratio accuracy control, ratio assurance, and data down load the XM range is ideally suited to today demanding shipyard environment.

XM PFP: Passive Fire Protection Application System
The protection of steel from the effects of fire requires a coating of Passive Fire Protection material (PFP). This high performance material requires exacting standards to be adhered to in each application to ensure that the system will work as designed. A thick film coating of up to 20mm is applied, in the event of a fire the coating provides a heat resistant shield to protect the steel substrate from the effects of the fire which could cause weakening and collapse of the structure.

Inspection

Airblast Inspection Equipment
Each stage in the process of surface treatment is critical in guarding against premature coating failure. There are many tests and safeguards which can be put in place to ensure that the interaction of the substrate to the coating is as intended. The Airblast Inspection Equipment range breaks down the process of inspection into six distinct steps – each step requiring certain pieces of equipment.

Step 1: Climatic Conditions
The prevailing climatic conditions during blasting and painting are critical in achieving a successful coating application and must be monitored to avoid condensation forming on the substrate.

Step 2: Surface Cleanliness
After blasting it is important to assess the cleanliness of the steel. Most high performance coating systems require the steel to be cleaned to a recognised standard such as: S.S.P.C., N.A.C.E., or SA.

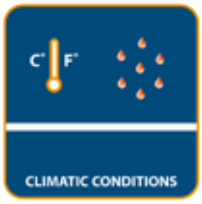
Step 3: Surface Profile
As well as cleaning – the blasting process also achieves a profile which allows the coating to adhere correctly.

Step 4: Coating Thickness
High performance coating systems require that each application is of a specified thickness when dry.

Step 5: Adhesion
If the coating does not adhere correctly to the substrate the coating may suffer premature failure.

Step 6: Inspection
The coating applied to the substrate should protect against premature corrosion. The integrity of the coating can be assessed with respect to porosity and remedial work carried out if required.

Products



Step 1

Step 2

Step 3

Step 4

Step 5

Step 6

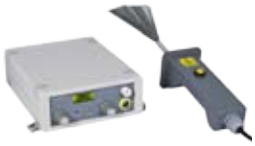
DPM-120
RH% Dewpoint Meter

SSM-200
Soluble Salt Meter

TXT-300/TXG-320
Testex Tape
Testex Gauge

DFT-441
Dry Film Thickness Gauge

CHC-520
Cross Hatch Cutter



HOD-600
DC Holiday Detector

Each of the steps includes numerous pieces of equipment which can be used in conjunction with each other to monitor the complete process. The key pieces of equipment required for each stage of the process are detailed below. For further information please refer to The AIE Guide.

DPM-120 Dewpoint Meter
The DPM-120 constantly measures the surface temperature of the substrate, the air temperature, and the relative humidity in order to calculate the dew point temperature. Internal memory and an audible alarm make this unit essential for any blasting operation.

SSM-200 Soluble Salt Meter
The SSM-200 is a patented design that provides a hand held, automatic method for detection of salts on magnetic surfaces and can be used instead of the Bresle Test. Up to 1000 measurements can be stored in the internal memory for down load and analysis.

TXG-320 Testex Gauge
The TXG-320 when used in conjunction with the TXT-300 Testex Tape accurately reads the depth of the profile recorded from the blasted surface. The Tape can be retained for records and future reference.

DFT-400, DFT-420, DFT-440, DFT-441 Dry Film Thickness Gauges
The Airblast range of Dry Film Thickness gauges features a range of capabilities to suit the most demanding applications. The range features integral and separate probes, measurement storage and download capabilities, and the unique wireless probe option!

HAT-500 Hydraulic Adhesion Tester
The HAT-500 can be used for destructive and non-destructive adhesion testing using dollies which are glued to the substrate before being tested, the dollies can be removed using the heated dolly remover or left in place and retested as part of a scheduled maintenance programme.

HOD-600 DC Holiday Detector
The HOD-600 passes as voltage through a brush electrode which is moved over the coated surface – the voltage will spark through a pin hole or flaw to the substrate identifying the area for closer inspection.

Dust Free

The Airblast range of dust free blasting equipment was developed in response to environmental legislation as well as customer demands for equipment to blast without dust in specific applications such as refineries, engine rooms, etc. Whatever the application Airblast has a dust free solution to fit your requirement. Each of the types of dust free blasting method detailed in this section incorporate many different models with different performance characteristics.

Aquastorm
Method: Water and non-metallic abrasive are mixed together in the blast pot under pressure before flowing through a special valve and down the blast hose to the nozzle. The dust created by blasting is contained within the water and can be removed from the work site quickly and easily for disposal or reuse.
Application: Complex substrates can be blasted quickly and in a dust free manner. Due to the "hot spark" free nature of the Aquastorm it is popular for refinery maintenance. The performance achieved is superior to traditional open blasting and maintenance costs are reduced due to the lubricating effect of the water.

Vacuum Blast
Method: Recyclable abrasive is transported by air pressure through a blast hose to the work piece where a blast head with sealing brush ensures that no abrasive or dust escape, after impacting the surface the abrasive and the dust created are sucked back along a suction hose to the blast unit where the dust is separated by a filter and deposited in a collection bin, and the clean abrasive is returned to the blast pot for reuse.
Application: Different blast heads seal onto different shapes of substrate such as: flat plate, plate edge, inside corner, outside corner, pipe diameters from 2" upwards. Hose lengths up to 45 meters make blasting in confined areas possible.

Mobile Wheel Blast
Method: Steel abrasive flows down onto a spinning blast wheel which throws the abrasive onto the substrate, the abrasive and dust rebound back up into the machine where a vacuum separates the dust from the reusable abrasive which is deposited back into the hopper for reuse.

Products

Aquastorm

Vacuum Blast

Mobile Wheelblast

Shot Blasting Machines

Blast Cabinets

Blast Rooms

Application: This range incorporates both horizontal and vertical machines – both of which are designed to blast large flat areas quickly, safely and with a minimum of man power. Typical applications include: floor and walls of oil storage tanks, floor of ship tanks, ship decks, ship sides, and helidecks.

Shot Blasting Machines
Method: Steel abrasive is fed to multiple spinning blast wheels which throw the abrasive onto the substrate, after impact the abrasive is transported through a recycling system and clean abrasive is returned to the hoppers for reuse.
Application: The more consistent and regular the shape of the substrate – the higher production can be achieved from the wheel blast machine. Standard machines are available for steel plate, steel pipes of various diameters, and I-beams.

Blast Cabinets
Method: The substrate is loaded into the blast cabinet – the recyclable abrasive is propelled by suction or pressure along a short blast hose to the manually controlled blast nozzle. A spinning turn table allows the work piece to be maneuvered for ease of blasting. The used abrasive falls to the bottom of the cabinet where it is filtered and reused.
Application: Blast cabinets are used to blast small (up to approx. 1 meter square) complex substrates in many industries, for example in a production facility, or to clean old parts before refurbishment etc.

Blast Rooms
Method: The workpiece is transported into the blast room where it is manually blasted by one or more blasters. The blasting is operated by traditional open blasting pots using steel abrasive. After blasting the abrasive is moved manually or automatically to the bucket elevator which transports it into the recycling system after which it is deposited into a storage hopper from where it is returned to the blast pot for reuse. The dust is extracted from the blast room and deposited in a filter system.
Application: Blast rooms are normally used to blast larger objects which are transported into the blast room either by crane or rail mounted dolly. As the blasting is conducted manually by one or more blasters the possibilities are endless, any substrate from a small engine block or turbine, up to a ship section or truck body can be accommodated.

Pipeline

Constant expansions in the oil and gas industry mean continued investments in pipelines to transport the products. Todays sophisticated coating systems guarantee many years of maintenance free operation on the proviso that they are applied to a substrate which has been prepared according to the specification. Airblast has a complete range of equipment dedicated to ensure that the pipeline is blasted correctly internally and externally either in a production facility or in-situ. Each of the ranges detailed in this section incorporate many different models with different performance characteristics.

Pipelines of a smaller diameter present a specific problem in terms of access for abrasive blasting, as well as visual verification of surface cleanliness and profile achieved. Equipment to internally blast pipes is available for pipes from:

-	0.5″ – 1.25″	(13 - 32 mm)	=	Airblast Mini Blast
-	1.25″ – 12″	(32 - 305 mm)	=	Airblast Circle Blast
-	8″ – 36″	(204 - 915 mm)	=	Airblast Spinner Blast
-	35″ - 63″	(890 - 1600 mm)	=	Airblast Jumbo Pipe Blaster

Traditionally, these types of blasting systems required the equipment to be manually pulled through the pipe. Any increase or decrease in speed would result in a variance in blasting cleanliness and profile and, due to the access issues described above, when blasting smaller diameter pipes of a significant length, access to verify the cleanliness and profile is impossible. Therefore, the only way to ensure that the surface is prepared to the required standard is the mechanization of the blasting process. This removes the possibility for any variation of the speed at which the equipment is pulled through the pipe. In the past, the mechanized equipment was not only expensive and complex, but also not portable. The Airblast Winch System is the perfect solution.

For blasting the outside of pipes Airblast has a full range of stationary wheel blast machines from single wheel units which rotate the pipe to ensure complete blasting coverage – up to multi wheel machines for high production.

Products

Circleblast

Spinnerblast

Jumbo Blast

Pipeblasters

Pipecoaters

Winch System

Circleblast
Capable of internal blasting of pipes as small as 1 1/4" ID the Circle blast uses a tungsten carbide deflection tip to ensure an even blast pattern. Centering lobes and legs are available to blast larger diameter pipes up to a maximum of 12".

Spinnerblast / Jumbo
Using two venturi blast nozzles the Spinnerblast is capable of high production rates when internally blasting pipes from 8" up to 36" ID.

Pipeblaster
For the ultimate production rates when internally blasting pipes from 6" up to 381" the Pipeblaster uses multiple venturi nozzles mounted on a motorized cart system.

Pipecoater
For the internal coating of pipes from 1"- 37" ID the Pipecoater utilizes a standard spray unit to transport the paint to the coating head. A spinning head atomises the paint making a smooth consistent application possible.

Winch System
The winch System can be used with the circleblast, spinnerblast, and pipecoater to ensure a consistent rate of travel through the pipe (as opposed to manual operation).

Shot Blasting Machines
Various stationary wheel blast machines are available for the external blasting of different sizes of pipe. Single blast wheel units are available which rotate the pipe to ensure full coverage, and multiple wheel units are available which optimize production rates.

Capital

The Airblast range of Capital Equipment was developed in response to environmental legislation as well as customer demands for equipment to optimize their blasting and painting operations both in terms of the quality produced and the profit generated. What-ever the application Airblast has a range of Capital Equipment to fit your requirement.

Blast Rooms
Method: The substrate is transported into the blast room where it is manually blasted by one or more blasters using traditional open blasting pots with steel abrasive. After impact the abrasive is moved manually or automatically to the bucket elevator which transports it into the recycling system after which it is deposited into a storage hopper from where it is returned to the blast pot for reuse. The dust is extracted from the blast room and deposited in a filter system.
Application: Blast rooms are normally used to blast larger objects which are transported into the blast room either by crane or rail mounted dolly. As the blasting is conducted manually by one or more blasters the possibilities are endless, any substrate from a small engine block or turbine, up to a ship section or truck body can be accommodated.

Paint Rooms
Method: The substrate is transported into the paint room where it is manually painted by one or more painters. The painting is operated by traditional air spray, air-assisted, or airless spray using the appropriate equipment. The overspray paint is extracted by filter systems which ensure that clean air is exhausted to the atmosphere. Heating elements are available to increase cure times and speed up production.
Application: Paint rooms are normally used to paint larger objects which are transported into the paint room either by crane or rail mounted dolly.

Shot Blasting Machines
Method: Steel abrasive is fed to multiple spinning blast wheels which throw the abrasive onto the substrate, after impact the abrasive is transported through a recycling system to remove the contaminants including dust which is deposited in a collection bin, the clean abrasive is returned to the hoppers for re-use.
Application: The more consistent and regular the shape of the substrate – the higher production can be achieved from the wheel blast machine. Standard machines are available for steel plate, steel pipes of various diameters, and I-beams.

Products

Blast Rooms

Paint Rooms

Shot Blasting Machines

Mobile Dust Collectors

Abrasive Recycling

Vacuum Recovery

Application: Climatic conditions must be a consideration in any blasting process due to the potential for coating failure in the event of condensation prior to the application of the coating system. Typical areas in which dehumidifiers are used include: ship tanks, blast rooms, oil storage tanks.

Mobile Dust Collectors
Method: Dust laden air enters through the inlet plenum of the collector, where heavy particles fall immediately into the hopper. As the air flows through the filter cartridges, dust is deposited on the outside of the filtering media. The filter cartridges are cleaned automatically and continually without interrupting the operation of the dust collector. An adjustable timer controls the cycle-time.
Application: A complete range of easy-to-transport filter units, cartridge type for use on shipyards, bridges or for many other blast cleaning operations.

Abrasive Recycling
Method: Used abrasive is manually fed into the intake hopper from where it is collected by the bucket elevator and poured onto the spreading plate which ensures an even, shallow, and wide flow down into the cascade cleaner. Inside the cascade cleaner the larger particles are separated into a dust bag, and the smaller particles are extracted by a separate cartridge filter. The units can be fine-tuned for different kinds of abrasive.
Application: Airblast offers a range of recycling units which can be configured to work with different kinds of recyclable abrasive – the most common types of recyclable abrasive are garnet and steel shot / grit. Recyclable abrasives offer many advantages: vastly reduced material handling, better control of abrasive size and therefore better control of surface profile, and less dust creation leading to less demanding dust filtration requirements.

Vacuum Recovery
Method: A vacuum is generated by an electrical powered motor, using a suction tool to fluidise the material to be recovered the abrasive then flows along a suction hose and is deposited in a hopper, dust is transported further into a filter system and clean air is exhausted to atmosphere.
Application: Typical applications include shipyards for removing abrasive from dry docks, as well as many other industries using bulk abrasive.

Airblast Group

THE NETHERLANDS
Airblast B.V. - Corporate Headquarters
P.O. Box 1075
1700 BB Heerhugowaard
Tel. : + 31 72 5718002
Fax : + 31 72 5714340
Email : info@airblast.com
Web : www.airblast.com

Airblast-Abrasives B.V.
Fluorietweg 23 E
1812 RR Alkmaar
Tel. : + 31 72 5715569
Fax : + 31 72 5714340
Email : info@airblast-abrasives.com
Web : www.airblast-abrasives.com

UNITED ARAB EMIRATES
Airblast Middle East LLC
P.O. Box 33419
Dubai
Tel. : + 971 4 3242776
Fax : + 971 4 3242778
Email : airblast@emirates.net.ae

SAUDI ARABIA
Airblast Saudi Trading & Industrial Est.
P.O. Box 30476
Al-Khobar 31952
Tel. : + 966 13847 3178
Fax : + 966 13847 1430
Email : info@airblast.com.sa

QATAR
Airblast Qatar WLL
P.O. Box 47044
Wakra
Tel : + 974 4 463 1043 / 1074
Fax : + 974 4 463 1154
Email : info@airblast.com.qa

SINGAPORE
Asia Airblast Pte Ltd.
No. 55 Tuas Avenue 1
Singapore 639503
Tel. : + 65 6266 6010
Fax : + 65 6266 6968
Email : airblastsg@singnet.com.sg

MALAYSIA
AB Corrosion Control Equipment
No. 60, Jalan Permas 9/7,
Bandar Baru Permas Jaya
81750 Masai, Johor Darul Takzim
Tel : + 60 7387 4989
Fax : + 60 7387 5989
Email : abcorrosion@airblastasia.org

INDONESIA
PT Airblast Equipment Indonesia
Komplek Mutiara Taman Palem
Blok C6 no 38-39
Cengkareng – Jakarta Barat
Tel. : +62 21 543 570 99
Fax : +62 21 543 570 98
Email : christianto@airblastasia.org

INDIA
Airblast Equipment India Pvt Ltd
#5-9-30/5 Unit 203
Paigah Plaza, Basheer Bagh
Hyderabad - 500063
Telangana State
Tel. : + 91 40 6674 8855
Fax : + 91 40 6674 8851
Email : info@airblastindia.com
Web : www.airblastindia.com

CHINA
Airblast Surface Treatment Co. Ltd.
Suit 14B - No.58 Xin Jin Qiao Rd.
Pudong New Area
Shanghai
Tel. : + 86-21-61060216
Fax : + 86-21-61062017
Email : airblast@outlook.com.cn

AUSTRALIA
Airblast Australia (Perth)
Unit 5, 16-18 Kewdale Rd
Kewdale WA 6105
Tel : +61 (08) 9451 4600
Fax : +61 (08) 9451 4966
Email : sales@airblastwa.com.au
Web : www.airblastaustralia.com

Airblast Australia (Victoria)
13B The Crossway
Campbellfield VIC 3061
Tel : +61 (03) 9357 6522
Fax : +61 (03) 9357 7511
Email : peter@airblastvic.com.au
Web : www.airblastaustralia.com

Airblast Australia (Queensland)
Unit 1 / 272 Lavarack Ave
Pinkenba QLD 4008
Tel : +61 (07) 3260 2670
Fax : +61 (07) 3260 2672
Email : ross@airblastqld.com.au
Web : www.airblastaustralia.com

Or contact your local distributor.