Cold Jet®

OPERATOR MANUAL

SDI Select™ 60

Original Instructions

September 2018

OM.SS60.20141016

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OM.SS60.20141016

EC Declaration of Conformity

Original [EN]

We as the manufacturer:

Cold Jet, LLC
455 Wards Corner Road
Loveland, OH 45140 USA

Hereby declares that the following product:

Product Designation: SDI Select 60

Type/Serial no.:

Is in compliance with the following European directives:

Directive 2006/42/EC	[Machinery Directive]
Directive 2014/30/EU	[EMC Directive]
Directive 2014/35/EU	[Low Voltage Directive]

Harmonized standards applied:

EN ISO 12100:2010	EN ISO 4414:2010	EN ISO 13857:2008
EN ISO 14120:2016-03	EN ISO 13732-3:2008	EN 60204-1:2006/AC:2010
EN ISO 14119:2014-03	EN ISO 13849-1:2015	

Person in the European Community authorized to compile the technical documentation:

Cold Jet Sp.zo.o, Product Development Manager Maciej Doczekala, Lukowska 12, Oborniki 64-600, Poland

Place and Date of Issue: Loveland, US on June 7, 2018

Arvid Nielsen
Head of Technology & Engineering, VP

Compliant with Directive 2006/42/EC Annex II A

[2018.06.07 – ECaSP-Global]

CONTENTS

SECTION 1

SAFETY GUIDELINES

The SDI Select™ 60 is safe and easy to operate; however, certain precautions must be followed during its use. To understand all the necessary precautions, you must read the entire SDI Select 60 manual before operating the unit.

⚠ The SDI Select 60 should only be operated by authorized and trained personnel.

IN THIS SECTION

GENERAL SAFETY REQUIREMENTS

- Always wear personal protective equipment including safety glasses, gloves, and 32+NRR ear plugs and ear muffs.
- Always operate the SDI Select 60 with protective clothing to cover all exposed skin.
- Always direct the blast stream in a safe direction. Never direct the blast stream at yourself or others.
- Never use a wire tie to hold the applicator trigger in the ON position. Doing so violates safety regulations, can damage the applicator and voids warranty coverage of the applicator.
- Always turn source air OFF and bleed down the system before disconnecting the air supply hose.
- Always turn source air OFF and remove the applicator control line before removing the blast hose.
- Always follow all of the governing codes of your local/national body.
- Always ensure the finger guard over the feeder exhaust port is installed. The finger guard on the feeder protects from a potential personal injury site located inside the SDI Select 60.
- Always ensure all panels are installed before operating.
- Only operate the SDI Select 60 at or below the recommended hose or blasting unit pressure levels.
- Always ensure the blast hose is free of kinks.
- Always ensure that both ends of all hoses are properly attached and tightened before pressurizing any hoses.
- Always electrostatic ground the material being cleaned.
- Always ensure hoses and tubes are free of nicks and gouges.
- Always repair any damage to the SDI Select 60 before attempting to start or operate the unit.
- Always ensure the ventilation holes are free of obstruction.
- Always wear gloves to protect hands from exposure to cryogenic temperatures and sharp blade surfaces.

ELECTROSTATIC DISCHARGE

⚠ Static discharge may ignite flammables.

Electrostatic discharge can be hazardous to the operator and the equipment. The static charge of CO_2 varies with the amount of dry ice and humidity present.

GROUND THE MATERIAL BEING CLEANED

Always ground the material being cleaned to assure safe operation while blasting.

1. Know your environment.
    - Electrostatic buildup changes as humidity levels change and will vary by location. Electrostatic discharge is higher at low humidity levels and occurs most often during winter.
2. Attach static bond cable.
    - To minimize electrostatic buildup between the part being cleaned and the applicator, attach the static bond cable between the target surface and the blast hose connection or to an electrically conductive supporting structure. Use a conductivity tester for confirmation.
3. Plug into a grounded power outlet.
    - This step is critical for electrostatic dissipation. If the ground is not connected, a charge may build up on the unit or the applicator.

CO_2 SAFETY

- The SDI Select 60 uses solid state carbon dioxide (CO_2). CO_2 is nontoxic, non-corrosive and nonconductive. It is approved by the FDA and USDA.
- Solid CO_2 is extremely cold (-109 °F/-78 °C). Always protect skin from direct contact with CO_2 pellets, nuggets or slices. Direct contact with skin or eyes quickly causes tissue damage.
- Vapor CO_2 can displace the oxygen from any breathing environment rapidly. Only operate the SDI Select 60 with a proper ventilation system that maintains the concentration levels of the governing codes of your local/national body.
- Always review and observe all safety guidelines when using materials that displace oxygen.
- All operators and supervisors should familiarize themselves with the literature on the physiological characteristics of CO_2 before using the SDI Select 60. The information can be obtained from the governing codes of your local/national body.
- Always use a CO_2 monitoring device when using the SDI Select 60 in a confined space.

SECTION 2

COMPONENT GUIDE

The SDI Select 60 is designed with you in mind. Its unrivaled innovation and unmatched performance, based on years of customer input, saves you real time and real money. The SDI Select 60 is simply the most powerful and efficient dry ice blast cleaning system ever made. It is blazingly fast, remarkably economical, and environmentally friendly.

IN THIS SECTION

SPECIFICATIONS

Weight (empty)	334 lbs (161 kg) / 365 lbs (166 kg) with optional pressure regulator
Dimensions	28 x 24 x 43 in (72 x 61 x 110 cm)
Dry Ice Capacity	60 lbs (27.2 kg) – Dry Ice Block 50 lbs (22.6 kg) – Dry Ice Pellets Trough/Hopper is 12 x 10 x 12 in (300 x 250 x 300 mm)
Variable Feed Rate	0 - 6 lbs/min (0 - 2.7 kg/min)
Power Requirements	100 - 140 VAC 1 . 50/60 Hz 8 A 200 - 240 VAC 1 . 50/60 Hz 4 A
Feeder Drive	1 HP, 3 Phase AC Variable Speed Motor
Blast Pressure Range	20 - 250 PSI (1.4 – 17.2 bar) with optional pressure regulator
Supply Pressure Range	65 - 250 PSI (4.5 - 17.2 bar)

FRONT VIEW

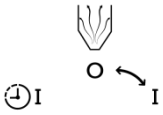
1. dry ice pellet / nugget loading lid
2. dry ice block loading door
3. air supply
4. whip check cable
5. bleed valve
6. brakes

REAR VIEW

1. dry ice level indicator
2. power cord
3. control panel (see p.6)
4. nozzle hanger
5. blast cable connector
6. blast hose connector
7. compressed air nozzle

CONTROL PANEL

1. power switch
2. hour meter
3. agitation control switch
4. disable blast button
5. dry ice feed rate control
6. pusher plate retract switch
7. regulator bypass switch (optional)
8. incoming air pressure
9. blast pressure control (optional)
10. regulated air pressure (optional)

Symbol	Meaning
	agitation control – intermittent/off/on
	variable dry ice feed rate
	pusher plate retract
	regulated air pressure

Symbol	Meaning
	regulator bypass – bypass/regulated
	disable blast
	hour meter

BLAST APPLICATOR

NOTE: THE BLAST APPLICATOR PICTURED INCLUDES AN OPTIONAL LIGHT.

II air + ice

I air only

I on

O off

1. LED light switch (optional)
2. applicator safety switch
3. air / ice control
4. blast cable connection
5. nozzle retention collar
6. blast hose connector
7. trigger
8. LED light (optional)

UNIT OPERATION

START UP

- ⚠ Read all safety instructions before operation and follow them closely (p. 1-2)
- ⚠ Always wear proper personal protective equipment including eye protection to guard against flying objects, ear protection to prevent hearing loss and gloves to protect hands from exposure to cryogenic temperatures and sharp blade surfaces.
- ⚠ If an air drop is seldom used or is being used with the SDI Select 60 for the first time, water and rust may have collected in the line. Before connecting to the air supply, purge the line to prevent contamination of the SDI Select 60.
- ⚠ Before loading dry ice, clean excess moisture from the trough area with compressed air nozzle.

Before starting the SDI Select 60, verify the following parameters:

- The air supply pipe is at least 1" (25 mm) in diameter.
- The air pressure does not exceed the blast hose and blast system pressure ratings.
- The incoming air temperature does not exceed 122 ºF (50 ºC).
- The power switch, bleed valve and applicator safety switch are in the OFF (O) position.
- The dry ice trough is dry, clean and free of debris (use compressed air nozzle if it is not).

To start the SDI Select 60:

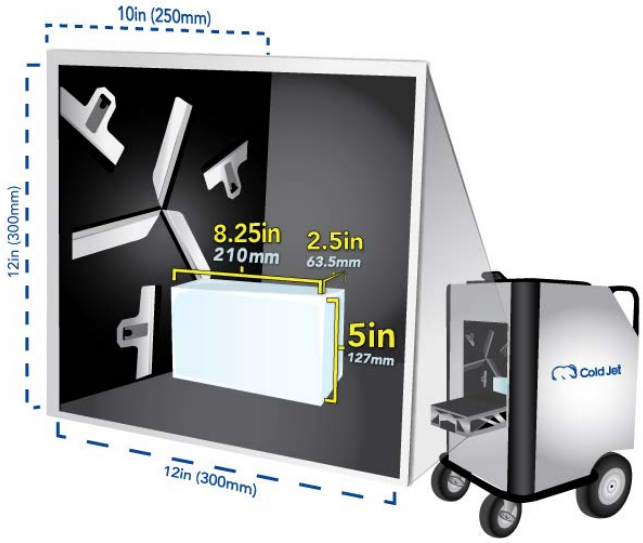
1. Securely attach the blast hose and control cable to the SDI Select 60.
2. Securely attach the blast applicator to the blast hose and control cable.
3. Securely attach a nozzle to the blast applicator.
4. Securely attach the air supply hose to the SDI Select 60 and fully extend hose whip check.
5. Securely attach the static bonding cable to the target surface and to an electrically conductive supporting structure or the blast hose.
6. Turn on the air compressor or open air supply valve and allow the air supply hose to pressurize.
7. Plug the power cord into an electrical outlet.
    - If an extension cord is necessary, it must comply with the power requirements of the SDI Select 60 and all governing electrical codes. The SDI Select 60's data plate indicates the operating voltage and amperage range.
8. Move the power switch to the ON (I) position.
9. Release disable blast button.
    - The light will go off.
10. Move the bleed valve to the ON (I) position to purge water out of the lines.
11. Move the bleed valve to the OFF (O) position.
12. Move the feed rate control to maximum.
13. Move the applicator blast mode switch to the “Air Only” position.
14. Point the nozzle in a safe direction and squeeze the trigger to purge the system.

- The SDI Select 60 must be purged to ensure it is free of moisture to avoid forming a clog between the feeder and shaver.

16. Set the dry ice feed rate and blast pressure to the desired setting.
17. Move the applicator blast switch to the "Off" position.
18. Verify the pusher plate is pushed back to the end of the trough away from shaver wheel.
19. Place dry ice into the trough. The SDI Select 60 is designed to use any type of dry ice, including feeding full 3mm pellets (see p. 13).

- If using ice blocks/slices, load through the dry ice block loading door, placing dry ice against the rotary knives.

- For best performance, position smaller blocks/slices as shown in the following image when stacking them in the trough.



- If using pellets/nuggets, load through the dry ice pellet/nugget loading lid. Fill to the top of the blade wheel.

- Do not overfill the SDI Select 60 (fill only to the top of pusher plate).

⚠ When using pellets/nuggets in extreme humidity, set pusher plate to the middle of the trough. In order to achieve this, first ensure you have an empty trough. Next, pull the trigger to move the pusher plate to the shaver disc, open the lid and manually slide the pusher plate to the middle of the trough.

20. Close the dry ice loading block door or the dry ice pellet/nugget loading lid.
21. Move the applicator blast mode switch to the “Air and Ice” position.
22. Squeeze the blast applicator trigger to blast.

ADJUST THE AGITATION CONTROL

The SDI Select 60's design helps keep dry ice from forming a clog in the trough and between the feeder and the shaver by isolating the trough, adding thumper agitation and using bursts of air in the feeder chamber to break up any dry ice clumps that may begin to form during operation.

The bursts of air are controlled by the agitation control switch located on the Control Panel. The switch can be set to automatic, manual or off.

The agitation control switch's center position is OFF (O). Cold Jet recommends using this setting unless clogging is a frequent problem.

The agitation control switch's left position is AUTOMATIC. In the automatic setting, thumper agitation will actuate and there will be a short blast of air in the feeder chamber every time the blast applicator trigger is pulled and every 5-7 seconds afterwards. This setting is useful in high humidity environments where the dry ice particles want to cling together.

The agitation control switch's right position is MANUAL (I). The SDI Select 60 will blast air into the feeder chamber and the thumper agitation will actuate as long as the switch is held in this position. The manual setting can be used as necessary to ensure the trough and feeder chamber remain free and clear of any buildup that may form during use. Cold Jet recommends using the manual setting occasionally during normal use.

ADJUST THE BLAST PRESSURE

The blast pressure regulation is an optional feature that allows you to adjust the blast pressure of the SDI Select 60. By turning the blast pressure control knob, an operator can go from maximum available operating pressure to a controlled blast pressure.

To adjust the blast pressure:

1. Turn the regulator bypass switch clockwise to activate blast pressure regulation.
2. To increase air pressure, rotate the blast pressure control knob clockwise until the desired pressure is displayed on the regulated air pressure gauge. To decrease air pressure, rotate the blast pressure control knob counter-clockwise until the desired pressure is displayed on the regulated air pressure gauge.
    - If the blast pressure control knob will not rotate, unlock the knob by pulling it outward.
3. With the blast applicator on, pull the blast applicator trigger for a brief moment to verify blast pressure setting.

BLAST CLEANING TECHNIQUE

⚠ Read all safety instructions before operation and follow them closely.

1. Upon start-up, after breaks and before loading dry ice, always purge the system with air to melt any water ice and/or remove any moisture built up in the system.
2. Position the blast hose for maximum maneuverability before blasting.
3. Do not kink the blast hose.
4. Hold nozzles perpendicular to the surface for fastest cleaning (recommended for most applications).
5. Optimum standoff distance is 2 in (5 cm) for most nozzles.
6. Never allow foreign objects in the dry ice trough.
7. Do not abuse the blast hose, applicator or cable.
8. Reduce the feed rate to avoid clogging the nozzle at pressures below 50 psi (3.4 bar).
9. To find the optimum feed rate, set the feeder speed to 0 and increase the rate to achieve desired results.

SHUT DOWN

⚠ Always wear gloves to protect hands from exposure to cryogenic temperatures and sharp blade surfaces.

To shut down the SDI Select 60:

1. Release trigger to stop blasting.
2. Move the blast applicator mode switch to the “Off” position.
3. Press the disable blast button.
   - The button will illuminate.
4. Rotate the pusher plate retract switch to move the pusher plate away from shaver wheel.
5. Turn the power switch to the OFF (O) position to shut off the power.
6. Open the dry ice block loading door and/or the dry ice pellet/nugget loading lid.
7. Remove remaining dry ice from the trough.
8. Close the dry ice block loading door and/or the dry ice pellet/nugget loading lid.
9. Shut off the compressed air supply.
10. Open the bleed valve to evacuate all remaining pressure.
11. When the air hose is fully depressurized, disconnect all electric cables and hoses.

CHANGE FROM SHAVED TO FULL PELLET BLASTING

- ⚠ Use caution around the sharp blades on the shaver disc when opening or closing the sliding doors.
- ⚠ Always wear gloves to protect hands from exposure to cryogenic temperatures and sharp blade surfaces.

1. Insert a flat-head screwdriver in the slot at the end of the lever and lift lever.

2. Push the slide into the open position for pellet blasting or into the closed position for shaved blasting.
   - The dry ice used for pellet blasting must be 3 mm or smaller if the sliding pellet doors are in the open position.
   - The following image shows the sliding pellet door in the open position for pellet/nugget blasting.

- The following image shows the sliding pellet door in the closed position for block/slice/nugget blasting.

- With a glove-protected finger, close the lever to secure the slide.

MAINTENANCE

DAILY MAINTENANCE

- Drain water out of the lines before using the SDI Select 60 by turning the bleed valve to the ON (I) position.
- While the SDI Select 60 is in operation, check the pressure gauge for damage.
- Inspect the air and blast hoses for damage like cuts or kinks.
- Inspect the silicone blast hose's sleeve for damage like cuts or kinks.
    - If hose sleeve inflates during operation or hose leak is otherwise detected, hose is damaged and must not be used.

WEEKLY MAINTENANCE

- Inspect the rotary knives for wear and damage.
- Ensure the nozzle airflow exit end is not deformed or burred.

MONTHLY MAINTENANCE

- Check the air filter element and replace if needed using Cold Jet part number 4I0308.
- Lubricate the chain using Cold Jet part number 80635-001.

BIANNUAL MAINTENANCE

- Inspect pneumatic air lines for damage.
- Inspect the power cord for damage.
- Inspect all lights.
- Inspect the static bonding cable for damage.
- Inspect all the accessories for damage.
- Inspect all valves.
- Inspect chain tension.

TROUBLESHOOTING

If the solutions do not solve your problem, please contact our Customer Support Hotline at +1-800-777-9101 (+1-513-576-8981).

UNCLOG THE DRY ICE CHUTE

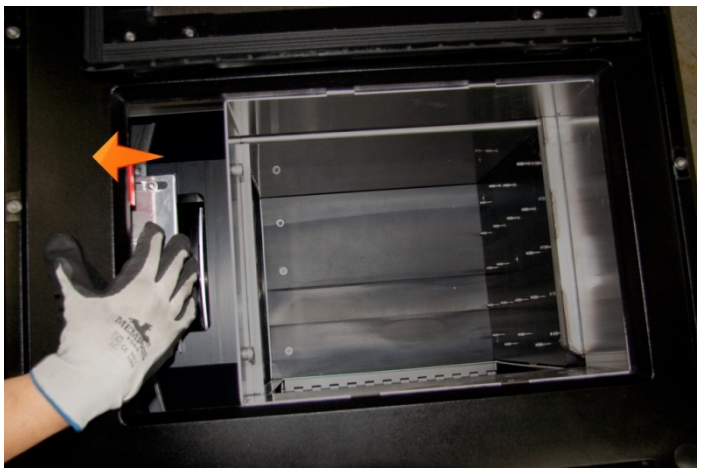
⚠ Always wear proper personal protective equipment including eye protection to guard against flying objects, ear protection to prevent hearing loss and gloves to protect hands from exposure to cryogenic temperatures and sharp blade surfaces.

To unclog the dry ice chute:

1. Move the blast applicator's blast mode switch to the “air only” position.
2. Point the nozzle in a safe direction.
3. While pulling the applicator trigger, turn the agitation control switch to the right (I).
4. Repeat step 3 until no dry ice comes out of the nozzle.

- If steps 1 through 4 do not work, there is a serious clog. Proceed to step 5.

5. Open dry ice pellet/nugget loading lid.
6. Open the cleanout access door located at top of shaver wheel assembly.

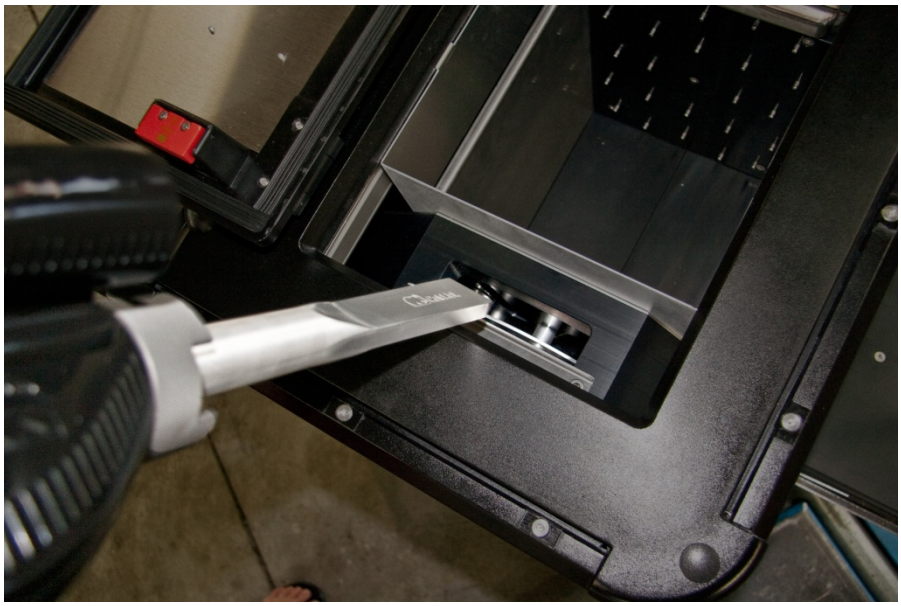


⚠
⚠
⚠
⚠
⚠
⚠

⚠ Remember to use preventative methods to avoid clogging in extremely humid environments:

- Before loading dry ice, clean excess moisture from the trough area with compressed air nozzle
- When using pellets/nuggets in extreme humidity, set pusher plate to the middle of the trough. In order to achieve this, first ensure you have an empty trough. Next, pull the trigger to move the pusher plate to the shaver disc, open the lid and manually slide the pusher plate to the middle of the trough.

7. Blow out the dry ice with the nozzle until clear.
   ⚠ Dry ice will blow out. Protect eyes, face and skin from contact with dry ice particles.



SDI SELECT 60 WILL NOT START (ON/OFF YELLOW LIGHT IS NOT ON)

1. Is the SDI Select 60 plugged in?
   - Plug the SDI Select 60 in.
2. Is there electric at the outlet?
   - Turn the power on to the outlet.
3. Is the power switch in the ON (I) position?
   - Move power switch to the ON (I) position.

SDI SELECT 60 WILL NOT BLAST

1. Is the disable blast light on?
   - Pull the disable blast button out.
2. Is the applicator blast mode switch in the “Off” position?
   - Move the applicator blast mode switch to the “Air and Ice” position.
3. Is the air filter clogged?
   - Remove the side panel and replace the filter element.

4. Is the incoming air pressure gauge showing pressure?
    - Connect the air supply hose and turn air supply on.
    - Make sure the regulator is open by adjusting clockwise.
5. Is the control cable connected to the SDI Select 60 and the applicator?
    - Connect cable to machine and applicator.
6. If still not blasting?
    - The nozzle may be clogged. To unclog the nozzle, blast with air only.

SDI SELECT 60 BLASTS AIR BUT NOT DRY ICE

1. Is the air/ice control switch in the air only (I) position?
    - Move the air/ice control switch to the air and ice (II) position.
2. Has dry ice been placed behind the pusher plate?
    - Remove dry ice, push the plate to the back of the trough and re-load dry ice.
3. Do rotary knives look damaged?
    - Call Cold Jet for support.
4. Is too much dry ice clogging the feeder chute?
    - Complete the Unclog the Dry Ice Chute procedure (p. 16-17).
5. Is the feeder rate greater than 0?
    - Increase feeder rate.
6. Is the dry ice loading block door or the dry ice pellet/nugget loading lid open?
    - Close the dry ice loading block door or the dry ice pellet/nugget loading lid.
7. Is a foreign object lodged in the feeder chute and the feeder shaver is not turning?
    - Call Cold Jet for support.
8. Are you using extended lengths of blast hose?
    - Make sure your feed rate and compressed air supply is sufficient to compensate for the extended length of your blast hose setup.

SECTION 3

CONTACTING COLD JET

For technical support, accessories and spare parts, contact the appropriate Cold Jet office.

North America USA - Cold Jet, LLC (World Headquarters)	24-hour Customer Support and Technical Service Inside the US: +1 800.777.9101 24-hour Customer Support and Technical Service Outside the US: +1 513.576.8981 FAX: +1 513.831.3672
Canada - Cold Jet Canada	Phone: +1 800.337.9423 Ext. 501 FAX: +1 513.831.1209 After Hours Technical Support: +1 800.777.9101
Latin America - Cold Jet Latinoamérica	Phone: +52 (81) 1097.0445 After Hours Technical Support: +1 513.576.8981
Europe Belgium - Cold Jet Europe bvba (European Headquarters)	Phone: +32 (0)13 53 95 47 FAX: +32 (0)13 53 95 49 After Hours Technical Support: +1 513.576.8981
Germany - Cold Jet Deutschland GmbH	Phone: +49 (0)6551 9606-0 FAX: +49 (0)6551 9606-26 After Hours Technical Support: +1 513.576.8981
Middle East - Cold Jet Middle East	Phone: +32 (0)13 53 95 47 FAX: +32 (0)13 53 95 49 After Hours Technical Support: +1 513.576.8981
Asia - Pacific	Phone: +81 3 4360 8347 After Hours Technical Support: +1 513.576.8981

SECTION 4

APPENDIX A: BLAST AIR QUALITY

IN THIS SECTION

PLANT AIR (CENTRAL COMPRESSED AIR SYSTEM)

Manufacturing plants with central compressed air systems should have an after cooler and a 2-stage coalescing filter assembly downstream of the receiver tank. Hot metal pipes are an indication this is needed.

To verify that the plant air system is adequate for the SDI Select 60, the air compressor needs to produce an air volume 10% greater than the SDI Select 60 maximum air volume in addition to the air volume consumed by normal plant operation.

To determine adequate air volume, watch the pressure gauge while blasting.

- If the gauge drops slowly, the compressor is insufficient.
- If the gauge drops quickly, there is a restriction or the pipe is too small.
- If the gauge stays steady, then the compressor and piping are adequate.

To maintain adequate pressure to the SDI Select 60:

- For distances less than 50 ft (15 m) between the air compressor and the SDI Select 60, Cold Jet recommends a flexible 1 in (25 mm) air hose, preferably the hose supplied with the SDI Select 60.
- For distances greater than 50 ft (15 m) between the air compressor and the SDI Select 60, Cold Jet recommends a larger hose/pipe to maintain adequate blast pressure

⚠ If an air drop is seldom used or is being used with the SDI Select 60 for the first time, water and rust may have collected in the line. Before connecting to the air supply, purge the line to prevent contamination of the SDI Select 60.

USING PORTABLE AIR (85 - 500 HP / 64 - 373 KW)

Portable air compressors are mainly used for shop tools, not dry ice blasting units; therefore, they are not able to cool or remove air moisture.

⚠ An after cooler and moisture trap/filter MUST be used. An after cooler with a 15 °F (-9 °C) approach is required to reduce the discharge air temperature 180 °F (82 °C) to within 15 °F (-9 °C) of ambient air temperature.

If an air cooler is not used:

- Incoming air moisture will rapidly cool and freeze at the SDI Select 60 feeder.
- Ice will accumulate in the feeder, distorting the air flow and seal.
- Ice will break off inside the hose and lodge in the nozzle, causing a jam.
- Ice may exit the nozzle and damage the target surface.

If blasting continuously, use an air dryer to further reduce the air moisture (dew point). Desiccant dryers produce a dew point of -40 °F (-40 °C), resulting in a dew point low enough for continuous blasting.

To verify the compressor is of adequate size for the SDI Select 60, the air compressor needs to produce an air volume 10% greater than the SDI Select 60's maximum permissible air volume. To determine adequate air volume, watch the pressure gauge while blasting.

- If the gauge drops slowly, the compressor is insufficient.
- If the gauge drops quickly, there is a restriction or the pipe is too small.
- If the gauge stays steady, then the compressor and piping are adequate.

To maintain adequate pressure, the hose size from the compressor to the SDI Select 60 needs to be 1" (25 mm) in diameter

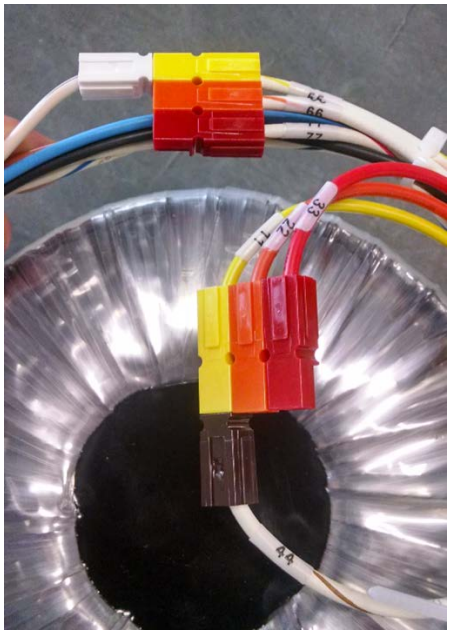
APPENDIX B: TRANSFORMER CONFIGURATION

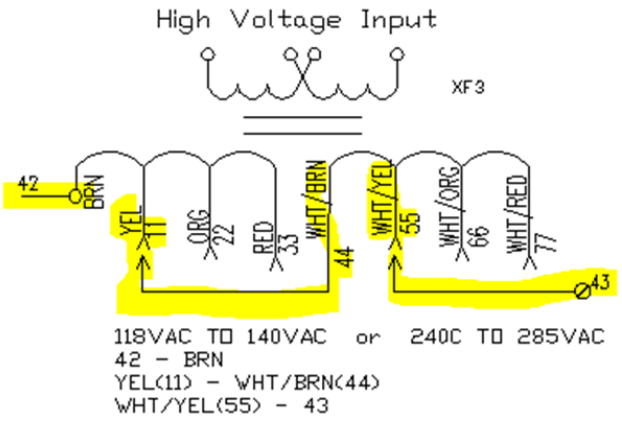
IN THIS SECTION

HIGH VOLTAGE CONNECTION:

If the incoming voltage is between 118 – 140 VAC *OR* between 240 – 285 VAC, the transformer should be configured as shown below:

- Wire #43 (white) should be connected to wire #55 (white/yellow), and
- Wire #44 (white/brown) should be connected to wire #11 (yellow)

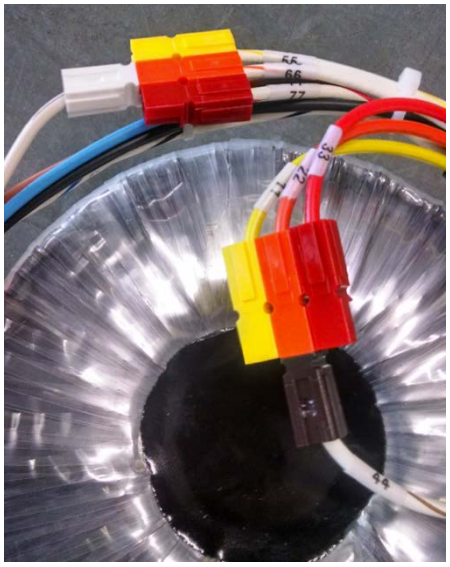


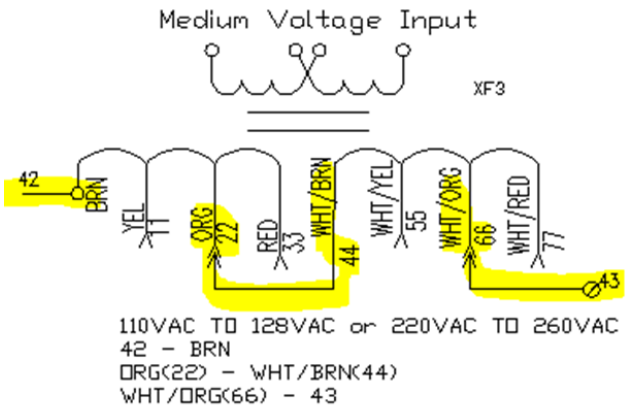


NORMAL / MEDIUM VOLTAGE CONNECTION:

If the incoming voltage is between 110 – 128 VAC *OR* between 220 – 260 VAC, the transformer should be configured as shown below:

- Wire #43 (white) should be connected to wire #66 (white/orange), and
- Wire #44 (white/brown) should be connected to wire #22 (orange)





SECTION 5

SYMBOL GLOSSARY

The SDI Select 60 uses ISO safety symbols. The symbols come in three categories:

1. A yellow warning triangle/black graphical symbol indicates what the hazard is.
2. A blue mandatory action circle/white graphical symbol indicates an action to take to avoid the hazard.
3. A red circle-with-slash/black graphical symbol indicates a prohibited action to avoid the hazard.

All symbols may not apply to the SDI Select 60.

IN THIS SECTION

YELLOW WARNING TRIANGLE/BLACK GRAPHICAL SYMBOLS

A yellow warning triangle/black graphical symbol indicates what the hazard is.

Symbol	Meaning
	burn hazard/hot surface
	electrical shock/electrocution
	general danger
	hand crush - force from above
	hand crush - force from below
	hand crush - force from left
	hand crush - force from right

Symbol	Meaning
	hand crush - force from top and bottom
	hand crush - moving parts
	hand entanglement – belt drive top
	hand entanglement – belt drive
	hand entanglement – chain drive
	lifting hazard
	low temperature

BLUE MANDATORY ACTION CIRCLE/WHITE GRAPHICAL SYMBOLS

A blue mandatory action circle/white graphical symbol indicates an action to take to avoid the hazard

Symbol	Meaning
	consult operators manual
	disconnect power
	general mandatory
	lock out in de-energized state
	lock out/tag out

Symbol	Meaning
	maintain safe pressure
	wear ear protection
	wear eye protection
	wear protective gloves
	wear safety boots

RED CIRCLE-WITH-SLASH/BLACK GRAPHICAL SYMBOLS

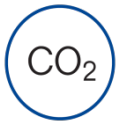
A red circle-with-slash/black graphical symbol indicates a prohibited action to avoid the hazard.

Symbol	Meaning
	do not operate with guard removed
	no foreign objects

Symbol	Meaning
	no maintenance
	stay clear

OTHER SYMBOLS

Symbol	Meaning
	on
	off
	Agitation control – intermittent/off/on
	variable dry ice feed rate
	pusher plate retract

Symbol	Meaning
	regulated air pressure
	regulator bypass – bypass/regulated
	disable blast
	hour meter
	CO_2 only
	air bleed

SECTION 6

WARRANTY

Cold Jet® ("CJ") warrants its products ("Equipment") provided under this Agreement to be free from defects in materials and workmanship for a period of 12 months (90 days on used equipment), under normal use, maintenance and service as stipulated in the Operator's Manual, Commissioning, and Operator Training. At the discretion of CJ, failure to complete Installation, Commissioning, and Operator Training shall result in forfeit of warranty rights. CJ warrants that the equipment will be in good working order on the Date of Shipment and will conform to CJ's official published specifications.

The warranty period is 12 months (90 days for used equipment) for CJ manufactured Equipment. Original Equipment Manufacturers' warranties provided by CJ on equipment purchased under this Agreement not manufactured by CJ will be passed through to the Buyer. The warranty period commences on the Date of Shipment of the Equipment.

CJ's liability is limited to repairing or replacing, at its option, any covered part of its Equipment, which CJ has determined to be defective. Said repair or replacement will be made by CJ or its authorized representative free of charge to the Buyer during the warranty period. Any replaced part will become the property of CJ. If, after repeated efforts, CJ is unable to restore its Equipment to good working order, or to replace the defective parts all as warranted, CJ may replace the Equipment in its entirety at its discretion. Any claim must be made in writing to CJ within 30 days after the defect is discovered and any claim not made within that period shall be deemed waived or released and denied.

Warranty service provided under this Agreement does not assume uninterrupted operation of the Equipment. The suitability of the equipment for the purpose intended is not included in the warranty.

This warranty shall not apply and CJ shall be neither responsible nor liable for:

a) Consequential, collateral or special losses or damages;

b) Equipment conditions caused by abnormal conditions of use, accident, neglect or misuse of Equipment, improper storage or damages resulting during shipment as determined by CJ;

c) The replacement of normal wear items, including but not limited to air, blast and whip end hoses;

d) Deviation from the Equipment's prescribed maintenance programs, replacement parts, operating instructions, specifications or other terms of sale;

e) Labor charges, loss or damage resulting from improper operation, maintenance or repairs made by person(s) other than CJ or CJ-authorized service representatives;

f) Improper application of the product.

In no event shall CJ be liable for claims, whether arising from breach of contract or warranty claims of negligence or negligent manufacture, in excess of the purchase price.

THIS WARRANTY IS THE SOLE WARRANTY OF CJ AND ANY OTHER WARRANTIES, EXPRESS, IMPLIED IN LAW OR IMPLIED BY FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE, ARE HEREBY SPECIFICALLY EXCLUDED.

SECTION 7

SCHEMATICS

IN THIS SECTION

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TRAINING VIDEO