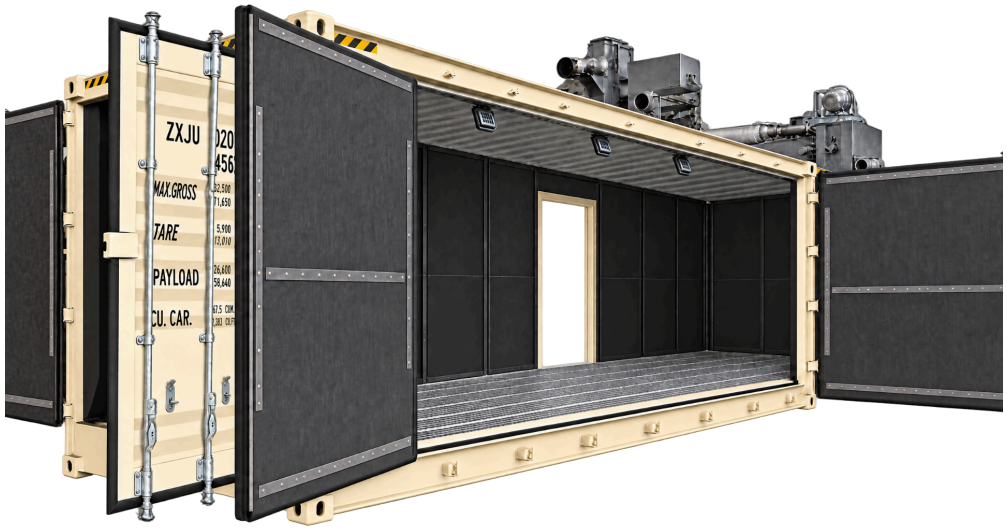
MULTIBLAST

PROBRS6000 BLASTING ROOM

Container Blast System with Open Side Container

Installation & Operation Manual



Model	PROBRS6000
Configuration	20 ft fixed side-opening container blast room (blast pot not included)
Power Supply	415 V / 50 Hz, 3-Phase
Document Date	11/03/2026
Supplied By	Capital Machinery Sales Pty Ltd

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Table of Contents

1. Introduction 3

2. Safety Information 3

2.1 Safety Alert Definitions 3

2.2 General Safety Precautions 3

2.3 Emergency Stop 4

3. Product Overview & Specifications 4

3.1 Key Specifications 4

3.2 Major Components 4

4. Installation 4

4.1 Removal of Container Wall Sections for Cutouts 5

4.2 Install Dust Collector 7

4.3 Install Screw Conveyor and Bucket Elevator Base 7

4.4 Install Bucket Elevator Top and Separator 8

4.5 Install Elevator Belt and Hopper 9

4.6 Install Air Pipe 10

4.7 Install Electric Cabinet 11

5. Operation12

5.1 Pre-Operation Checks 12

5.2 Start-up Procedure 12

5.3 Shutdown Procedure 12

5.4 Emergency Stop Procedure 13

6. Maintenance 13

6.1 Daily (Each Shift) 13

6.2 Weekly 13

6.3 Monthly 13

6.4 Quarterly 13

7. Troubleshooting 14

1. Introduction

The Multiblast PROBRS6000 is an integrated, closed dry-blast room built from a brand-new 20 ft side-opening shipping container. The interior is lined with wear-resistant rubber sheeting and the unit is fitted with an automatic abrasive recovery system, explosion-proof lighting, a workpiece transfer trolley, a pulse dust collector, and an electrical control system. This model does not include an external blast pot.

The unit is designed to meet Australian electrical requirements and is fitted with door safety interlocks, access-door interlocks, and multi-point emergency-stop protection. Abrasive media is recovered automatically by scrapers, a screw conveyor, and an elevator, reducing manual clean-up. The container-based construction allows the whole unit to be transported and installed as a single item.

Typical applications include surface rust removal, oxide-scale removal, and surface-finishing blasting of workpieces.

2. Safety Information

2.1 Safety Alert Definitions

This manual uses the following notice types to draw attention to safety and operating information:



WARNING

Indicates a hazard that could result in serious injury if not avoided.

CAUTION

Indicates a hazard that could result in minor injury or damage to the machine if not avoided.

NOTE

Indicates additional information that helps ensure correct operation.

2.2 General Safety Precautions

WARNING - Door Interlocks

Never bypass or defeat the access-door or dust-collector-door safety interlocks. Bypassing these interlocks creates a serious safety hazard. Blasting is automatically stopped whenever a door is opened.

- Do not wash electrical components or junction boxes directly with water.
- The unit must be reliably earthed at all times. Check earthing connections periodically to prevent build-up of static electricity.
- Internal cabling is protected by sealed steel conduits and steel cable glands. Unauthorised disassembly is forbidden, as it allows dust to enter and damage electrical components.
- The solenoid valve control circuit operates at 24 V AC; the main power circuit is 415 V. Isolate and lock out the main power supply before carrying out any electrical maintenance.

- Operators must wear a full blasting protective suit, helmet, and respiratory protective equipment at all times while blasting.
- Do not subject the heavy-duty floor grating to heavy impact. Stop the equipment immediately and arrange repair if the grating is deformed.

2.3 Emergency Stop

WARNING - Emergency Stop

In an emergency, press the E-stop button on the control cabinet or inside the blast room. All actuators will stop immediately. Do not reset the E-stop or restart the equipment until the fault has been fully identified and corrected.

3. Product Overview & Specifications

3.1 Key Specifications

Model	PROBRS6000
Container Size	20 ft (fixed side-opening)
Blast Pot	Not included - customer-supplied
Power Supply	415 V / 50 Hz, 3-Phase
Dust Collector	HL-4 pulse dust collector, 5.5 kW
Workpiece Trolley Capacity	2 tonnes

3.2 Major Components

1. Container Housing - 20 ft side-opening container lined with wear-resistant rubber sheeting and fitted with a compressed-air isolation valve.

2. Abrasive Recovery System - heavy-duty walk-on grating floor with two scrapers and one screw conveyor beneath the floor, working with an elevator to automatically recover scattered abrasive.

3. Workpiece Trolley - 2-tonne transfer trolley used to move workpieces into and out of the blast room.

4. Lighting System - low-voltage explosion-proof lamps providing illumination for blasting operations.

5. Access Door - fitted with a safety interlock; blasting stops automatically as soon as the door is opened.

6. Dust Removal System - HL-4 dust collector (5.5 kW).

4. Installation

This section covers assembly of the internal blasting equipment into the 20 ft container shell. It assumes the container has already been positioned at its final site location.

WARNING - Lifting & Rigging

The container and its internal equipment are heavy. Use rated lifting equipment and trained riggers for all positioning and lifting operations. Do not work beneath a suspended load.

4.1 Removal of Container Wall Sections for Cutouts

Wall sections for the access door and service penetrations are pre-marked at the factory. Identify the pre-cut marking lines shown below before cutting.

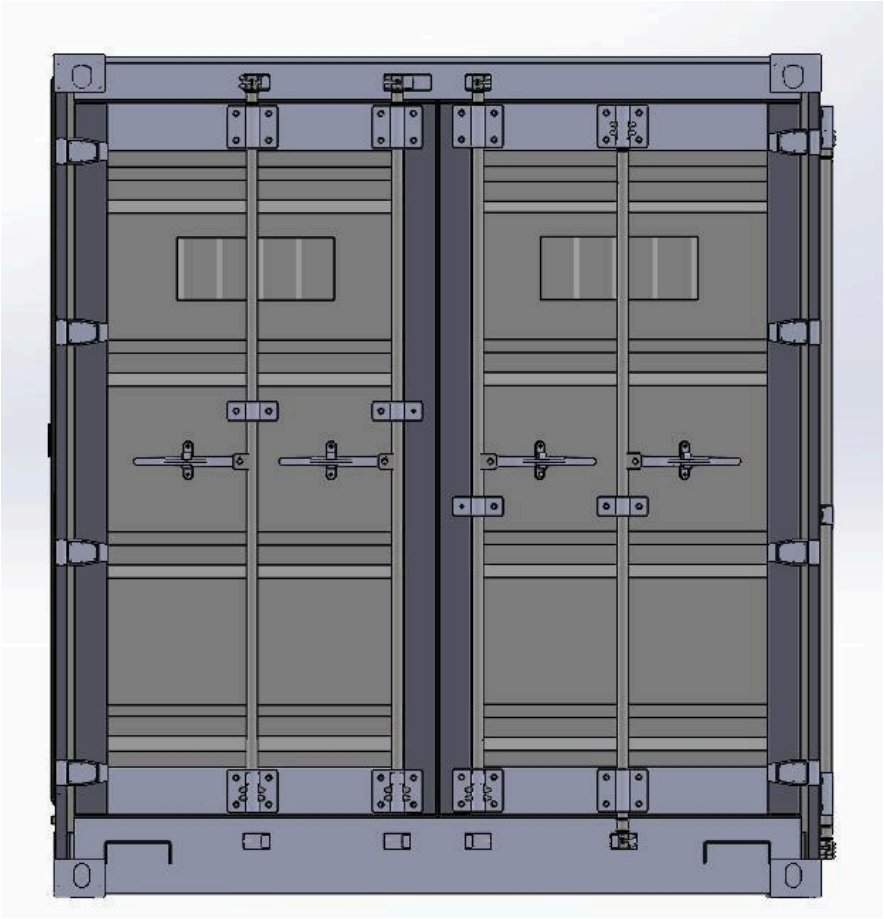


Figure 1 - Rear door panel (interior view)

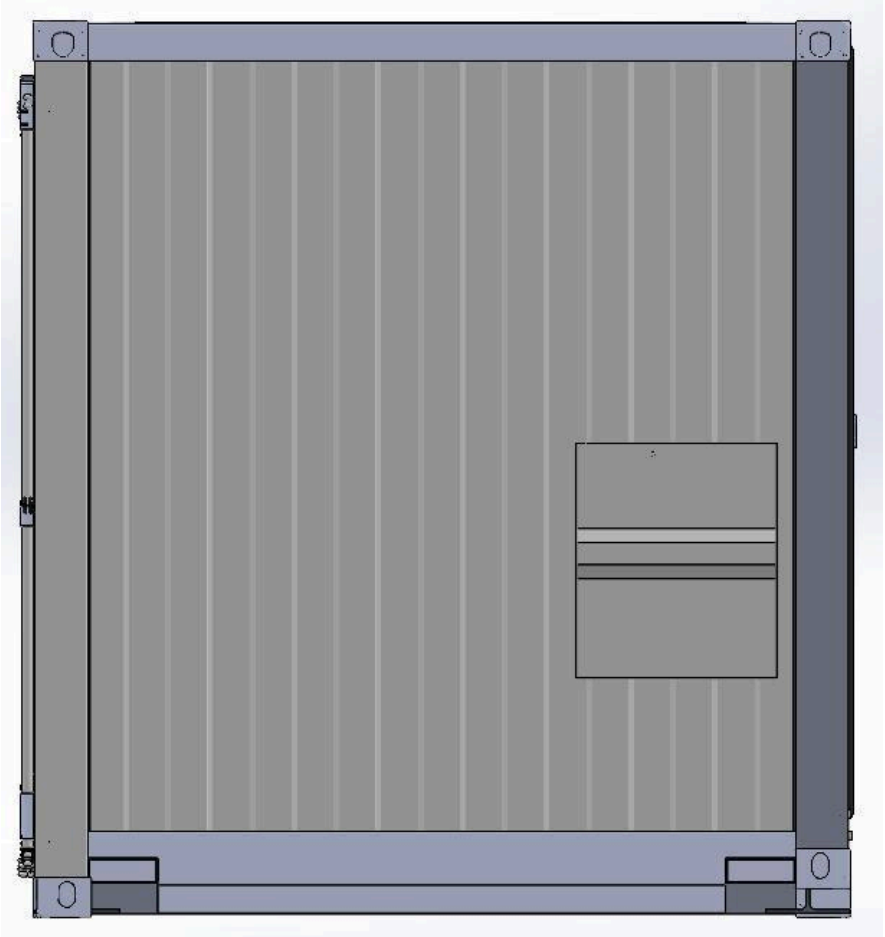


Figure 2 - Side wall panel with marked service cutout

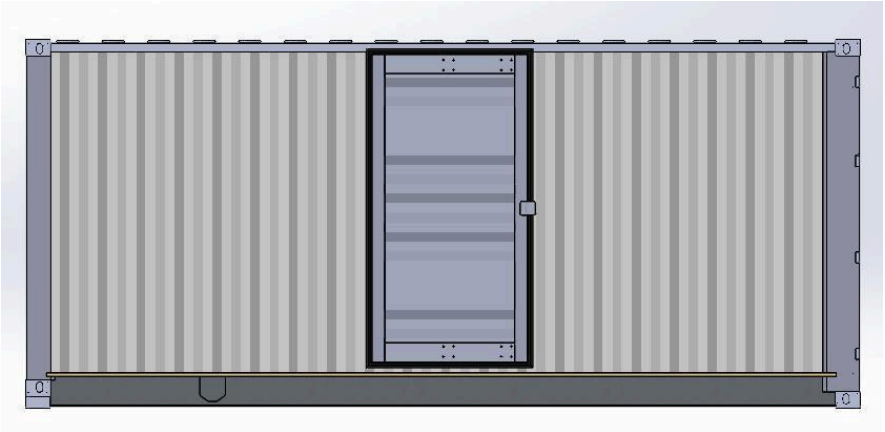


Figure 3 - Access door cutout position (exterior elevation)

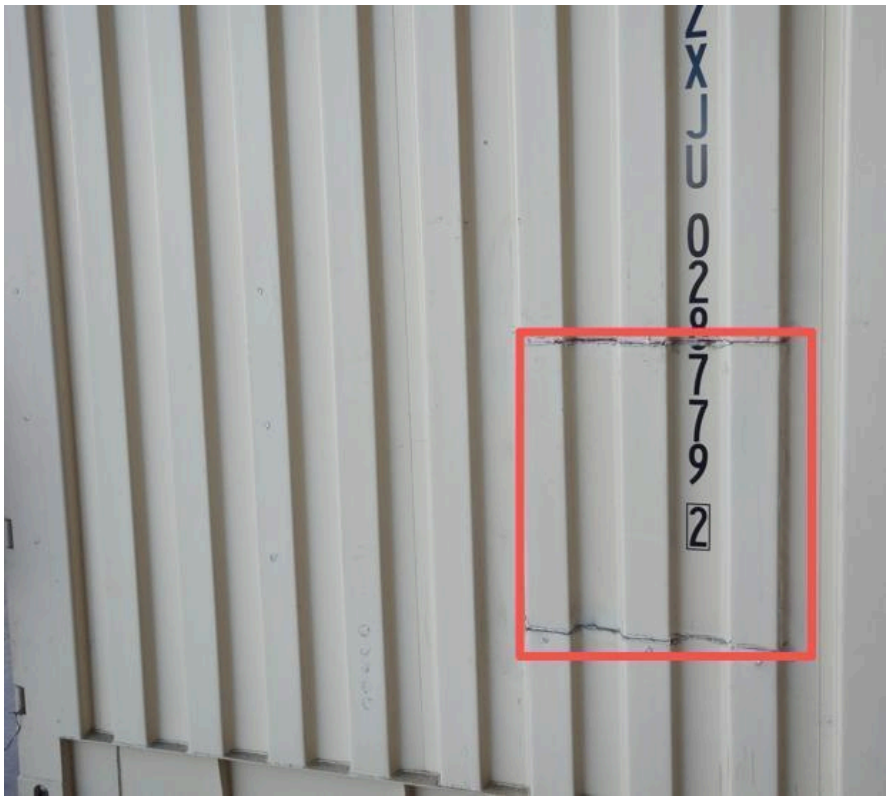


Figure 4 - Pre-cut marking lines on the container wall

Cut open the rear wall along the pre-cut marking lines shown in Figure 4.

4.2 Install Dust Collector

Position the dust collector assembly (fan housing and hopper) at the front end of the container as shown, and secure it to the mounting points provided.

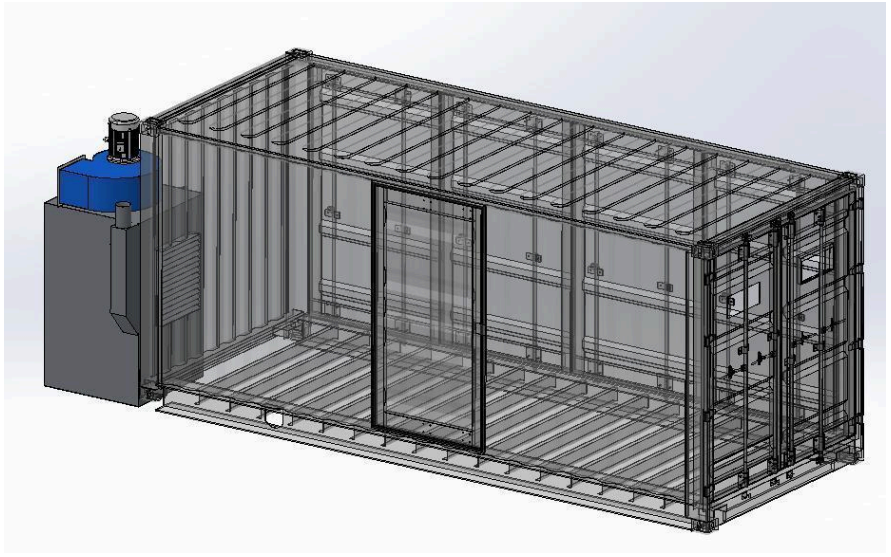


Figure 5 - Dust collector installed in container

4.3 Install Screw Conveyor and Bucket Elevator Base

Install the screw conveyor beneath the floor grating and position the base of the bucket elevator alongside the dust collector as shown.

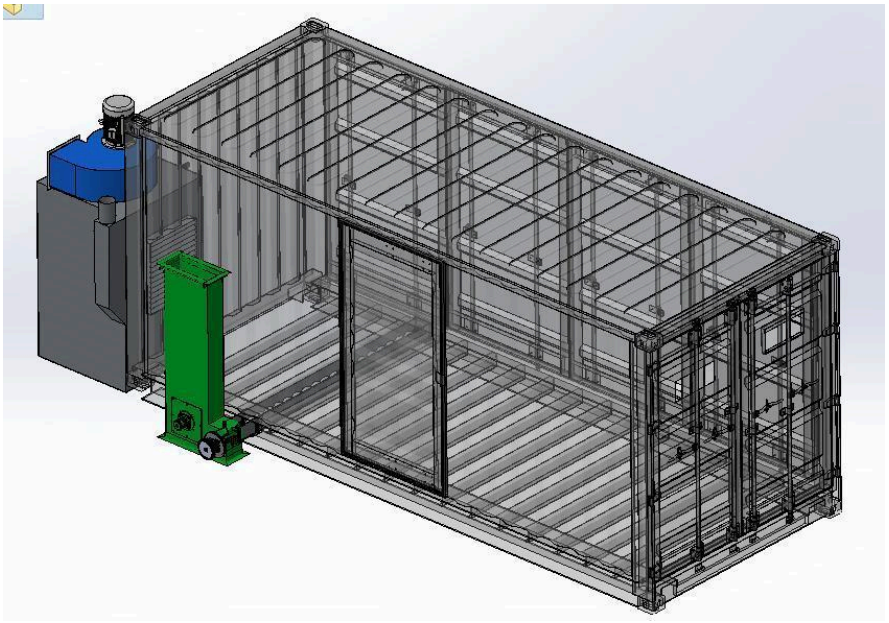


Figure 6 - Screw conveyor and elevator base installed

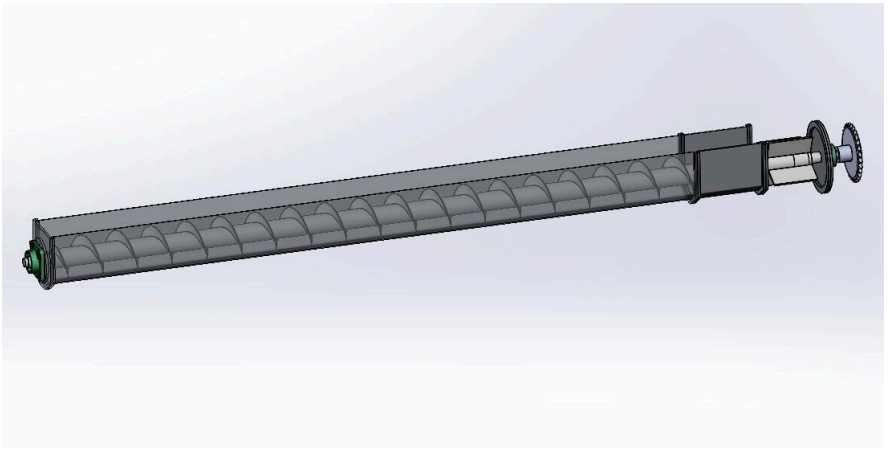


Figure 7 - Screw conveyor assembly detail

4.4 Install Bucket Elevator Top and Separator

Fit the top section of the bucket elevator and the abrasive separator to the elevator column as shown.

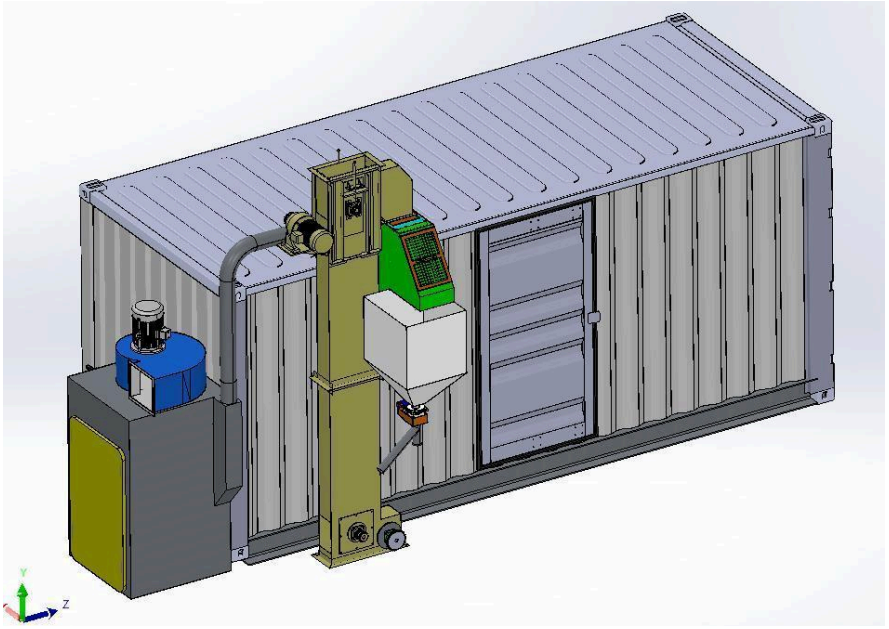


Figure 8 - Bucket elevator top and separator installed

4.5 Install Elevator Belt and Hopper

Fit the elevator belt over the head and tail pulleys, and install the hopper at the elevator discharge. Bolt the belt retaining bracket in place at the connection point as shown.

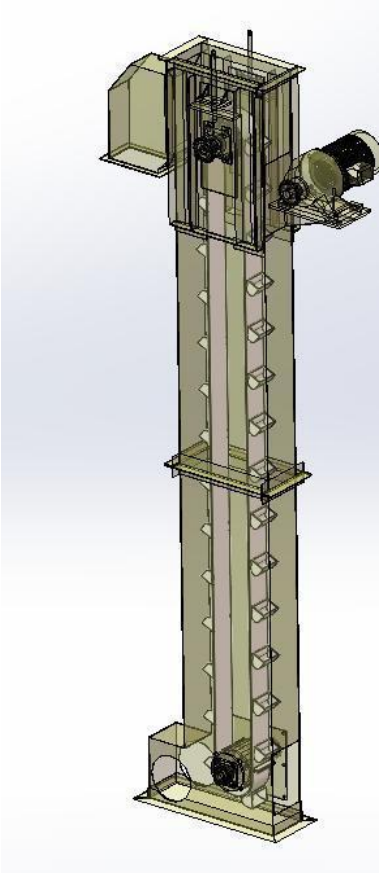


Figure 9 - Elevator belt assembly

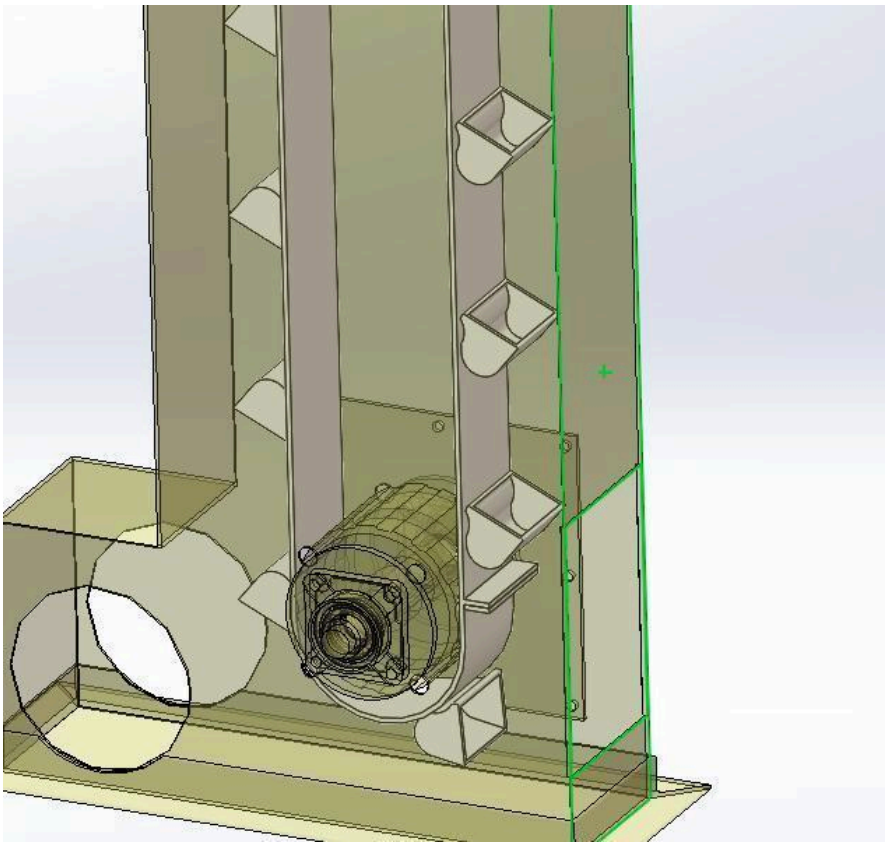


Figure 10 - Elevator head detail with hopper



Figure 11 - Belt retaining bracket detail

4.6 Install Air Pipe

Mount the compressed-air filter/regulator panel and connect the air lines to the isolation valve and blast equipment as shown.

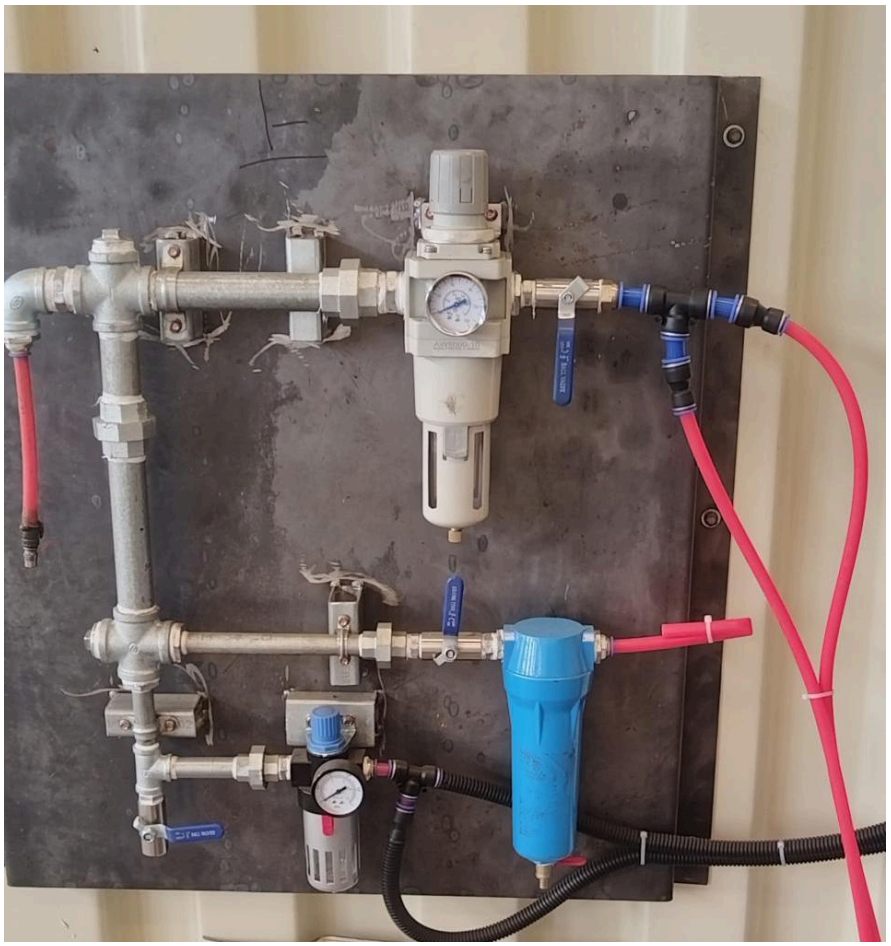


Figure 12 - Compressed-air filter/regulator panel

4.7 Install Electric Cabinet

Mount the electric control cabinet to the container as shown and route cabling through the sealed steel conduits to the dust collector, recovery system, and lighting circuits.

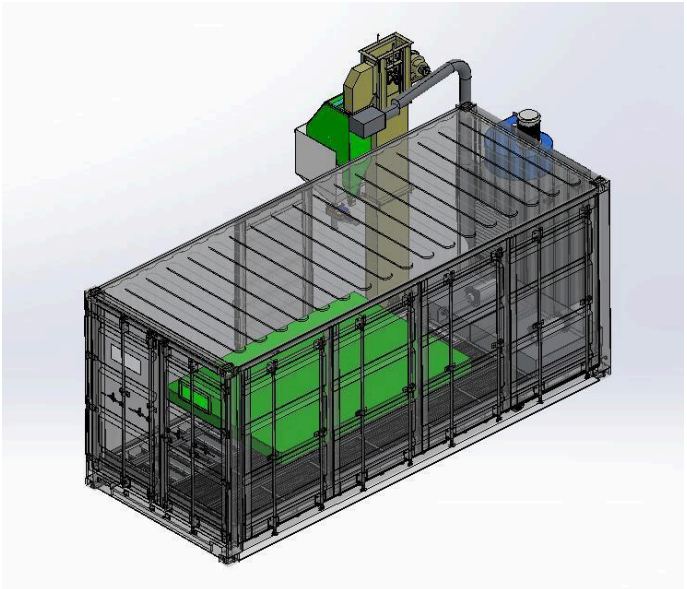


Figure 13 - Electric cabinet installed

[Site preparation, crane lifting/rigging specifications, and final electrical commissioning and test procedures are not included in the source documentation — Capital Machinery Sales / Multiblast to confirm before this manual is issued to customers.]

5. Operation

5.1 Pre-Operation Checks

- Operator is wearing complete blasting PPE.
- No unauthorised personnel are inside the blast room.
- All access doors and the side door are fully closed.
- Compressed-air piping is connected correctly, with the air isolation valve initially closed.

5.2 Start-up Procedure

1. Close the lockable main isolator to supply 415 V 3-phase power to the unit and energise the control cabinet.

2. Confirm the access door and dust-collector door are fully closed with no interlock alarm showing. Reset all emergency-stop buttons.

3. Start the dust collector and allow the fan to reach stable running speed.

4. Start the abrasive recovery system (scraper–screw–elevator) and run it unloaded for 3–5 minutes, listening for any unusual noise.

5. Use the 2-tonne transfer trolley to move the workpiece into the blast room, position it correctly, and close the container side door.

6. Open the compressed-air isolation valve and confirm normal air supply from the (customer-supplied) blast pot.

7. The operator may now enter the room and begin blasting.

NOTE - Interlock Behaviour

If an access door is opened during blasting, the blast output is cut off automatically. Blasting can only resume once the door is closed and the interlock is reset.

5.3 Shutdown Procedure

1. Stop blasting and close the compressed-air isolation valve to cut off the air supply.

2. Keep the dust collector and abrasive recovery system running for a further 5–10 minutes to fully recover dust and scattered abrasive.

3. Stop the abrasive recovery system, then stop the dust collector.

4. Open the doors to ventilate the room. Personnel may only enter once dust has fully cleared.

5. Confirm all equipment has stopped, then switch off the lockable main isolator to cut power to the whole unit.

6. Use the transfer trolley to move the workpiece out of the blast room.

5.4 Emergency Stop Procedure

If a dangerous situation occurs, press the E-stop button on the control cabinet or inside the blast room. All actuators stop immediately. Reset the E-stop only after the fault has been cleared, before restarting the equipment.

6. Maintenance

6.1 Daily (Each Shift)

- After blasting finishes, keep the dust collector and recovery system running for 5–10 minutes before shutting down.
- Visually inspect the internal wear-resistant rubber sheeting; repair or replace damaged sections promptly.
- Check the sealing gaskets on the access door and dust-collector door; confirm they close tightly and that interlock switches are not loose.
- Confirm the emergency-stop buttons reset correctly.
- Confirm the compressed-air isolation valve operates correctly.

6.2 Weekly

- Inspect the floor grating for deformation or cracking and clear any debris from the gaps.
- Inspect the drive chains for the scraper, screw conveyor, and elevator; apply grease and adjust chain tension as needed.
- Monitor dust collector differential pressure. Clean the filter cartridges if the reading is high; replace if heavily blocked.
- Inspect explosion-proof lamps and replace any damaged units with the same-spec low-voltage explosion-proof type.
- Check steel conduits and cable glands for looseness or damage and ensure sealing is intact.

6.3 Monthly

- Isolate power to the unit and inspect all earthing connections for corrosion or looseness.
- With power off, clear dust from inside the control cabinet and check contactors and relays for burn damage.
- Functionally test the door interlocks: open the access door and dust-collector door separately and confirm the alarm and blast-inhibit functions operate correctly.
- Test the protective function of all emergency-stop buttons.
- Grease the transfer trolley wheel assemblies.

6.4 Quarterly

- Carry out a complete inspection of the recovery system drive components and replace worn parts promptly.
- Calibrate the dust collector differential-pressure sensor.
- Inspect the container welds and rubber lining fixings, and repair any sections that have come loose.

NOTE - Scope of Supply

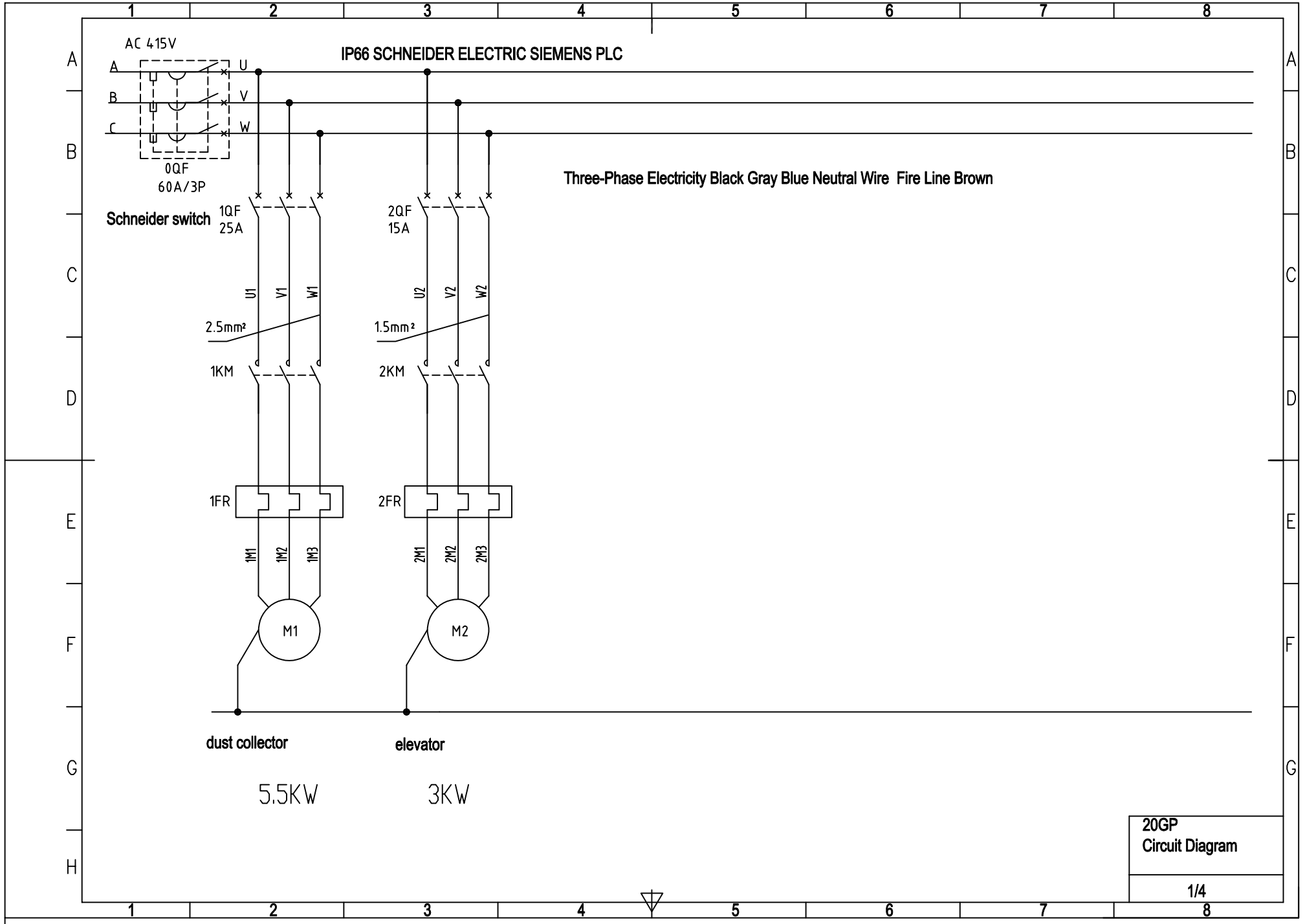
The blast pot, air compressor, and external compressed-air piping are customer-supplied accessories and are not covered by this equipment's maintenance scope.

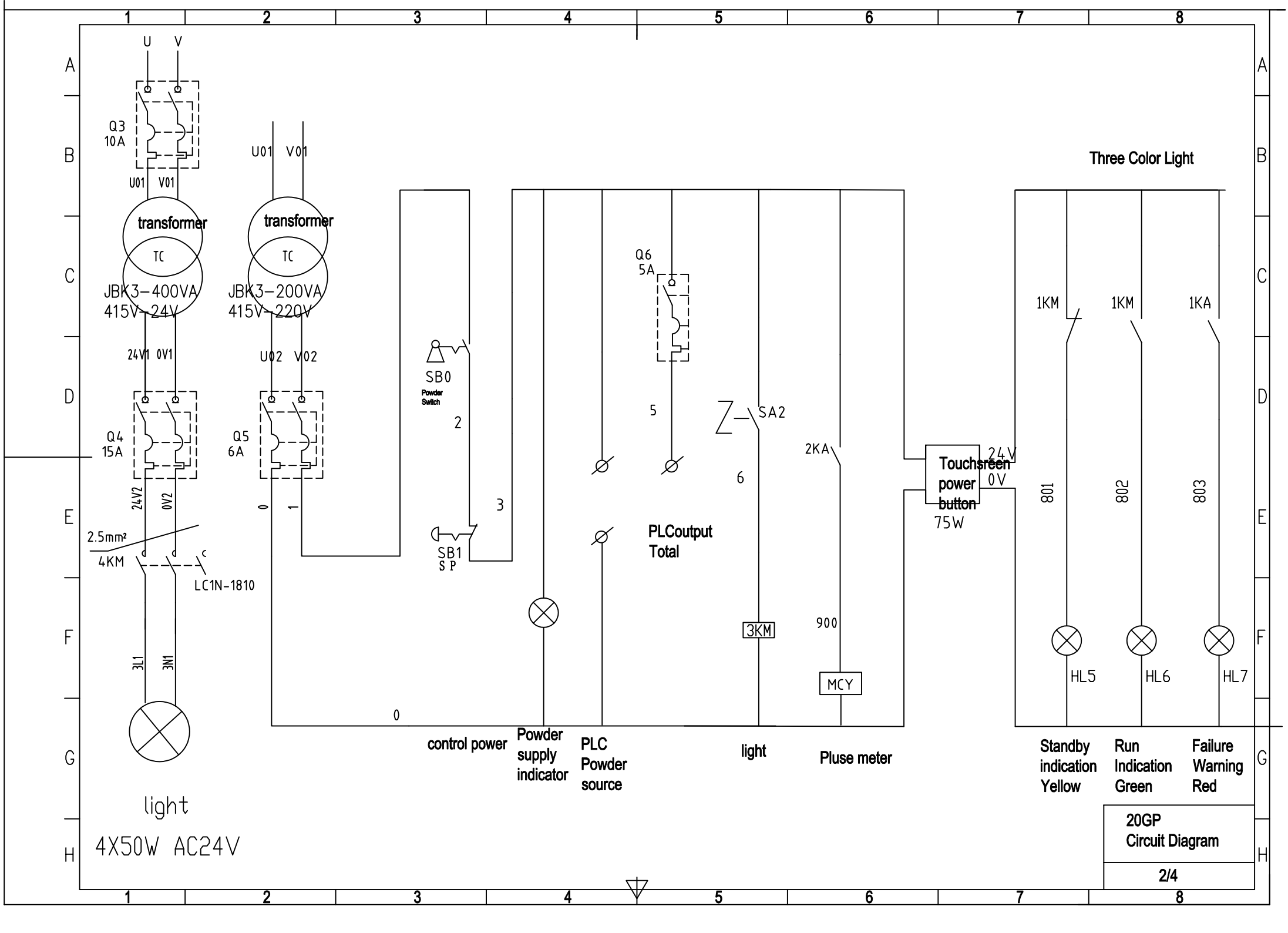
7. Troubleshooting

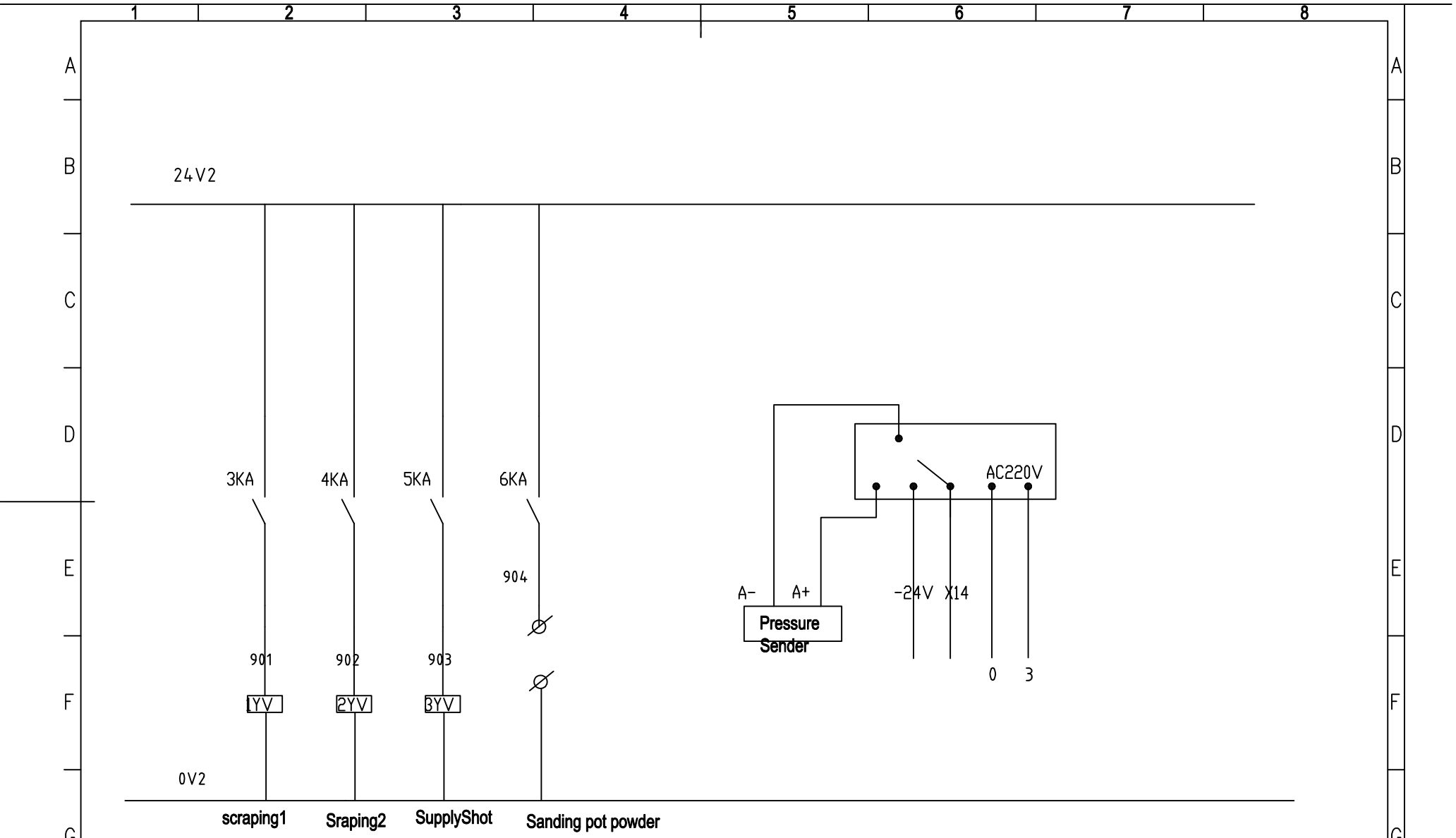
Fault	Possible Cause	Solution
Unit has no power	Main isolator switched off; incoming power has lost a phase; power circuit fuse blown	Switch on the lockable isolator; check the 415 V incoming supply; replace the fuse and locate any short circuit
Door interlock alarm - blasting will not start	Access door / dust-collector door not fully closed; limit switch misaligned or damaged	Fully close all doors; adjust or replace the limit switch
Dust collector will not start	E-stop not reset; circuit fault; thermal overload tripped	Reset all E-stops; reset the thermal relay
Abrasive recovery system noisy or jammed	Abrasive caking and jamming; large foreign objects present; drive components under-lubricated	Power off and clear the jam; grease the drive chains; do not force a start under load
Heavy dust inside room, poor dust removal	Dust collector differential pressure too high; filter cartridges blocked; door sealing poor; fan rotating in the wrong direction	Clean or replace filter cartridges; tighten the access door; correct the motor phase sequence
Elevator not running, scraper and screw conveyor OK	Chain has fallen off or broken; motor overload tripped	Isolate power and inspect the chain; reset the thermal protection and clear any jam
System operating normally but no blasting action	External blast pot air supply fault; air isolation valve closed; 24 V solenoid valve fault	Check the air compressor and blast pot; open the isolation valve; inspect the solenoid valve
Emergency stop triggering frequently	E-stop button pressed accidentally; E-stop wiring damaged or short-circuited	Check all E-stop buttons; inspect and repair wiring

NOTE - Electrical Repairs

Electrical repairs must only be carried out by a licensed electrician.

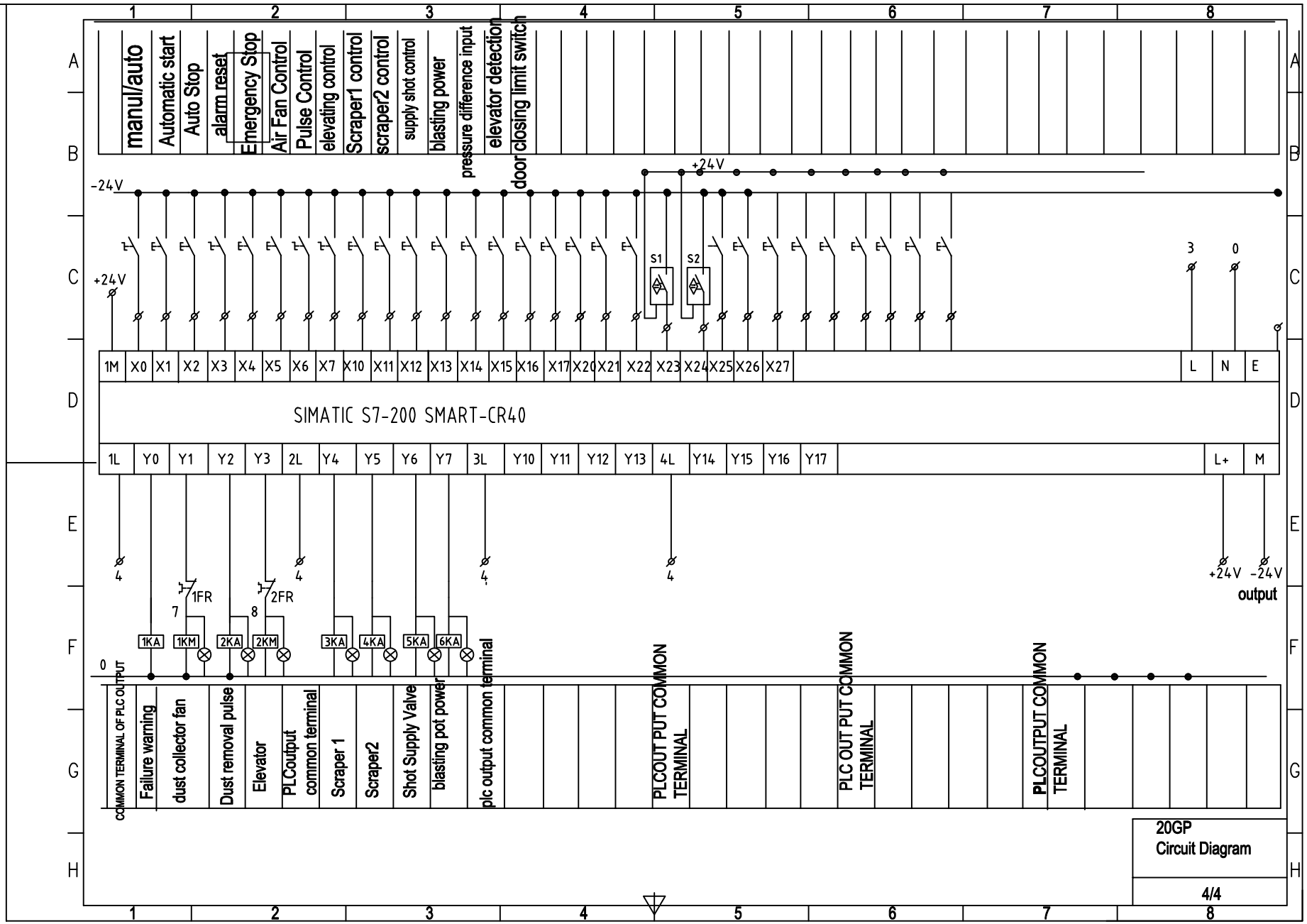

AC 415V
IP66 SCHNEIDER ELECTRIC SIEMENS PLC
A
B
C
U
V
W
0QF
60A/3P
Schneider switch
1QF
25A
2QF
15A
Three-Phase Electricity Black Gray Blue Neutral Wire Fire Line Brown
U1
V1
W1
U2
V2
W2
2.5mm²
1.5mm²
1KM
2KM
1FR
2FR
1M1
1M2
1M3
2M1
2M2
2M3
M1
M2
dust collector
elevator
5.5KW
3KW
20GP
Circuit Diagram
1/4


U
V
Q3
10A
U01
V01
transformer
TC
JBK3-400VA
415V-24V
24V1
0V1
Q4
15A
24V2
0V2
2.5mm²
4KM
LC1N-1810
3L1
3N1
light
4X50W AC24V
U01
V01
transformer
TC
JBK3-200VA
415V-220V
U02
V02
Q5
6A
0
1
SB0
Powder
Switch
2
SB1
S P
3
0
control power
Powder
supply
indicator
Q6
5A
5
PLCoutput
Total
PLC
Powder
source
SA2
6
3KM
light
2KA
900
MCY
Pluse meter
Touchsreen
power
button
75W
24V
0V
Three Color Light
1KM
1KM
1KA
801
802
803
HL5
HL6
HL7
Standby
indication
Yellow
Run
Indication
Green
Failure
Warning
Red
20GP
Circuit Diagram
2/4



20GP
Circuit Diagram

3/4


manul/auto
Automatic start
Auto Stop
alarm reset
Emergency Stop
Air Fan Control
Pulse Control
elevating control
Scraper1 control
scraper2 control
supply shot control
blasting power
pressure difference input
elevator detection
door closing limit switch
-24V
+24V
S1
S2
3
0
1M X0 X1 X2 X3 X4 X5 X6 X7 X10 X11 X12 X13 X14 X15 X16 X17 X20 X21 X22 X23 X24 X25 X26 X27 L N E
SIMATIC S7-200 SMART-CR40
1L Y0 Y1 Y2 Y3 2L Y4 Y5 Y6 Y7 3L Y10 Y11 Y12 Y13 4L Y14 Y15 Y16 Y17 L+ M
4
1FR
2FR
7
8
1KA
1KM
2KA
2KM
3KA
4KA
5KA
6KA
0
+24V -24V
output
COMMON TERMINAL OF PLC OUTPUT
Failure warning
dust collector fan
Dust removal pulse
Elevator
PLCoutput common terminal
Scraper 1
Scraper2
Shot Supply Valve
blasting pot power
plc output common terminal
PLCOUT PUT COMMON TERMINAL
PLC OUT PUT COMMON TERMINAL
PLCOUTPUT COMMON TERMINAL
20GP
Circuit Diagram
4/4