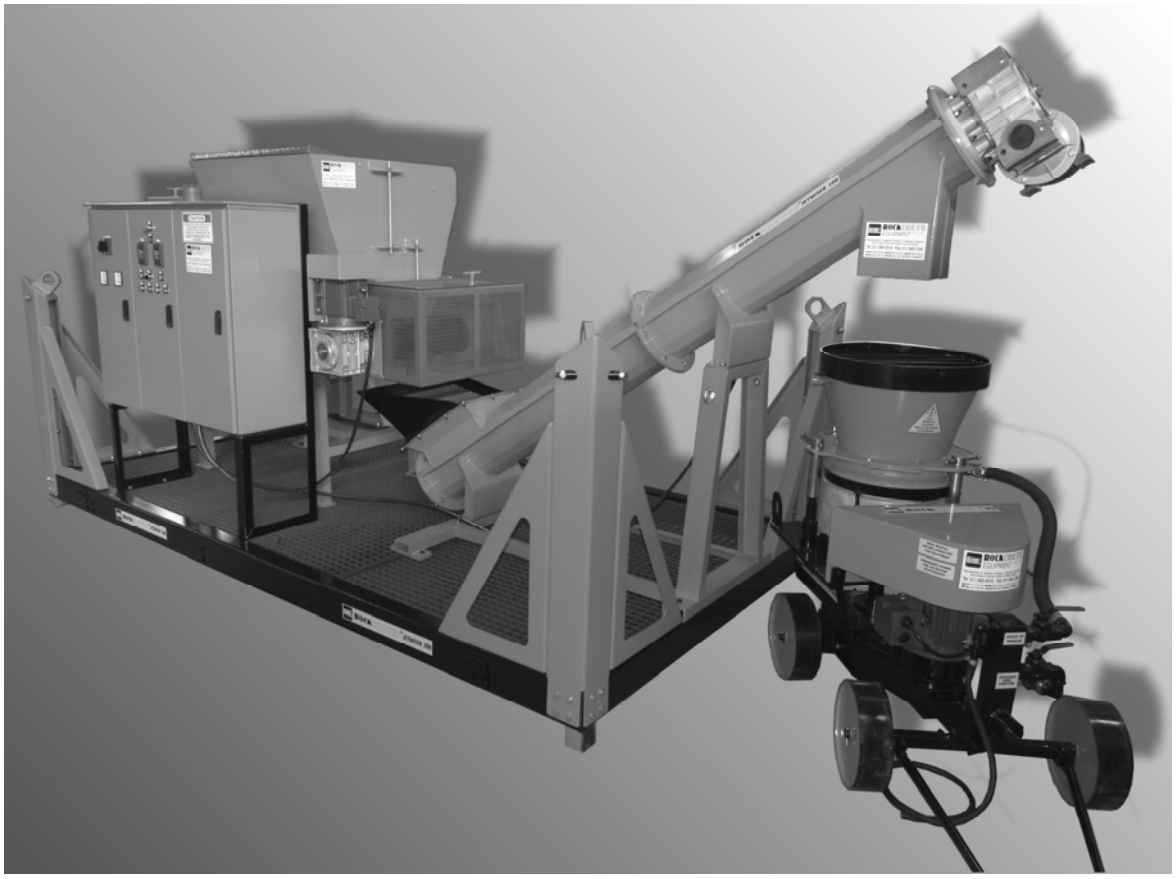
ROCKCRETE EQUIPMENT (PTY) LTD
Company Reg. No: 1947/24677/07

OPERATORS MANUAL
FOR
JETMIXER 300



SOUTH AFRICAN SHOTCRETE TECHNOLOGY
Designed to perform, the power to succeed!

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CONTENTS LIST

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1. SAFETY PROCEDURES

Recommended items to keep the batch plant safe:

a. Hard hats.
b. Safety goggles.
c. Dust masks in confined spaces or unventilated areas.
d. Good lighting.
e. Rubber gloves to protect workmen with skins sensitive to cement burns (also use barrier cream).
f. Sturdy and safe lifting devices, platforms and scaffolding maintenance operations that are performed off the ground. All platforms should be equipped with safety rails.
g. A qualified electrician must do all electrical connections.
h. Do not remove the screen/sieve supplied on the hopper whilst the machine is in operation.
i. Do not tamper with any safety grids conveying moving parts.
j. Do not carry out any maintenance whilst the air or electrical connections are connected to the machine.
k. Do not poke or prod any instrument of any sort into the hopper whilst the machine is in operation.

2. TECHNICAL SPECIFICATIONS

	Auger Feeder	Belt Feeder
Height	2200 mm	1800 mm
Width	700 mm	1200 mm
Length	1400 mm	5500 mm
Weight	1400 kg	
Output	Up to 8 Cubes / hr.	
Drive	Drive 380 V / 525 V	
Options	Variable Electric	
Conveying Height	1340 mm	

3. PRINCIPLES OF OPERATION

a. Different aggregates and cement are loaded into separate holding compartments on the belt feeder.
b. Each compartment is equipped with an adjustable door to regulate the feed rate to suit your design mix.
c. Once the variable speed electric motor is switched on it conveys the contents of both compartments though the adjustable doors on the conveyor belt that feeds the auger feeder.
d. The auger feeder must be running at all times to ensure the receiving hopper is not over fed by the belt feeder.
e. The auger feeder is a complete shaft-less auger allowing a 100% mix ratio of product that is fed through it.
f. The auger feeder will convey the product to the advised discharge height.
g. The receiving machine will now be able to operate continuously.

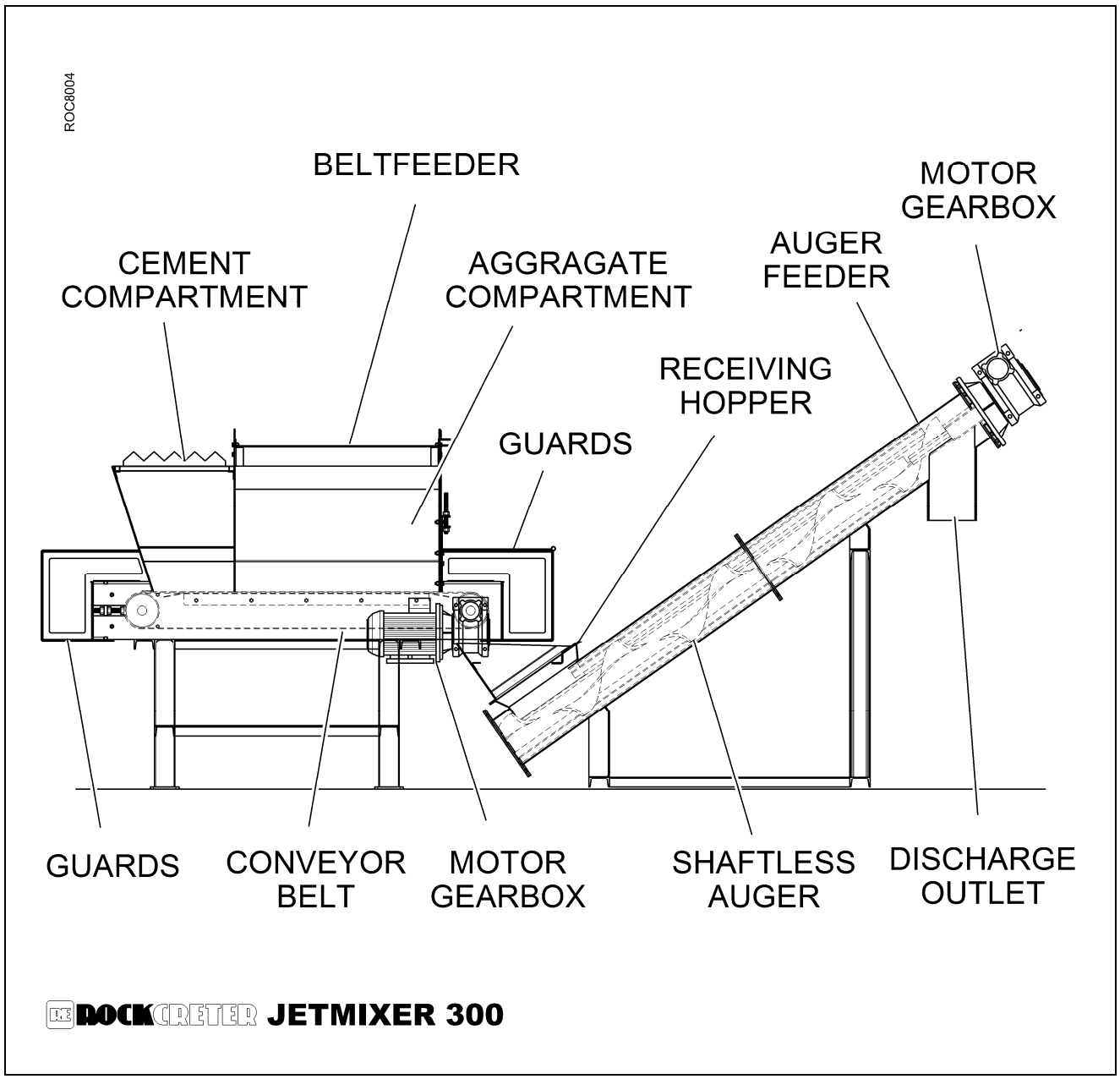

ROC8004
BELTFEEDER
MOTOR GEARBOX
CEMENT COMPARTMENT
AGGRAGATE COMPARTMENT
AUGER FEEDER
RECEIVING HOPPER
GUARDS
GUARDS
CONVEYOR BELT
MOTOR GEARBOX
SHAFTLESS AUGER
DISCHARGE OUTLET
ROCKCRETER JETMIXER 300

Figure 1

4. OPERATING PROCEDURES

IMPORTANT

MAKE SURE THAT THE AGGREGATES HAVE A MOISTURE CONTENT OF AT LEAST 5% PRIOR TO MIXING THE CEMENT. THIS WILL REDUCE DUST AT THE MACHINE NOZZLE AND REBOUND AT THE WORKING FACE.

4.1 Machine Setting

1. Make sure the belt pulleys are tensioned correctly to prevent the drive pulley from slipping when under load.
2. There are two tension bolts at the at the back of the machine for this procedure and must be adjusted evenly to prevent the belt running unevenly.
3. Make sure both feed gates are properly secured to prevent movement during operation as this will affect your mix ratio.

4.2 Starting Up Procedure

1. Switch on all operators and check both directions are correct.
2. Once checked leave the auger feeder on and switch the belt feeder off.
3. Ensure the auger feeder is running at 28 Rpm / 50 Hz.
4. Fill both compartments with material / product.
5. Switch on the belt feeder and adjust the speed until an even feed rate is achieved.
6. The machine operator should liaise with the nozzle operator as to what speed the machine runs at to control the output and also to regulate the feed.

4.3 Shutting Down Procedure

1. Allow the auger to empty of all material
2. Switch off the belt feeder.
3. When the auger feeder has stopped feeding, switch off the complete system.
4. Unbolt the cleaning plate at the bottom of the auger.
5. Refer to the maintenance procedure.

4.4 Checking Output

1. To achieve maximum output of the Jetmixer 300, the machine will have to be set-up using the VSD drives in the control panel.
2. The receiving hopper of the auger feeder must remain half full at all times. This can be determined by the rate of the belt feeder.
3. Both motors can operate to a maximum of 75 Hz.

5. MAINTENANCE PROCEDURES

5.1 Daily Maintenance Routine

1. It is important to appoint a member of the batcher/feeder crew who is solely responsible for the maintenance and operation of the Jetmixer 300 feeder system.
2. After a full shift of operation it is important to carry out cleaning procedures.
3. All motors and gearboxes are closed units and require no further maintenance.

NOTE:

After ± 400 cubes of material has been fed through the machine it is recommended that the complete unit be sent to the OEM for major service/inspection.

REMEMBER

DUE TO THE FACT THAT THE MACHINE OPERATES WITH SAND AND CEMENT, WHICH MAY VARY IN MOISTURE CONTENT, THE MACHINE MUST BE CLEANED AFTER EACH SHIFT OR IF LONG STOPPAGES OCCUR.

5.2 Cleaning Procedure

1. Before switching off the machine, let the hopper of both the belt and auger feeder empty.
2. Disconnect power.
3. Strip the machine safety grids and auger sieves, clear loose material and remove any build-up which has occurred.
4. Inspect wearing parts such as auger, belt and wear bars for uneven or excessive wear.
5. Remove door at the bottom of auger feeder. Reverse the operation of the feeder to allow all excess material to empty from the feeder.
6. Once the machine has been properly cleaned, it is good practice to apply grease to the all the grease points to prevent binding when the machine is restarted.
7. The machine is now ready for the next operation.

6. TROUBLE SHOOTING

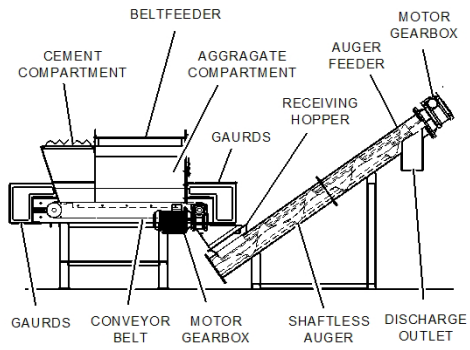
FAULTS	POSSIBLE CAUSE
Excessive dust.	a. Machine not set correctly. b. Material is too dry.
Uneven running.	a. Rollers are set unevenly. b. Material between rollers. c. Bent main shaft.
Insufficient output.	a. Moisture of sand too high. b. Issue with drives (VSD). c. Machine not set correctly. d. Auger blocked

NOTE

Should you experience any other problems contact your supplier.

Checked by:	
Date:	
Time:	
Section:	
Comments:	

JETMIXER 300



JETMIXER 300 – PRE USE CHECK LIST

WARNING: REPORT DAMAGE, DEFECTS OR FAULTY OPERATION IMMEDIATELY. DO NOT OPERATE ROCKCRETE PUMP UNTIL CORRECTED

☐ Checked and in order

☐ Checked and found defective

SAFETY PRECAUTIONS

1. Isolate all air & electric's during inspection and maintenance.
2. Keep hands away from moving parts.
3. Wear all necessary safety gear.

BEFORE STARTING THE JETMIXER 300

1. Check electrical connections are in safe working order.
2. Check roller bearings. Apply grease.
3. Check discharge gates are clean.
4. Check and make sure the sieve is in place and secure.
5. Check auger for wear.
6. Check belt for wear.
7. Check all guard grids are secure.
8. Check all motors and gearbox for oil leaks.

AFTER STARTING THE JETMIXER 300

9. Check rotation of auger – anti clockwise.
10. Check smooth operation of JETMIXER 300.

CHECK	GO	NO GO
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

NOTE: ALWAYS KEEP ENOUGH WATER ON SITE OF CLEANING

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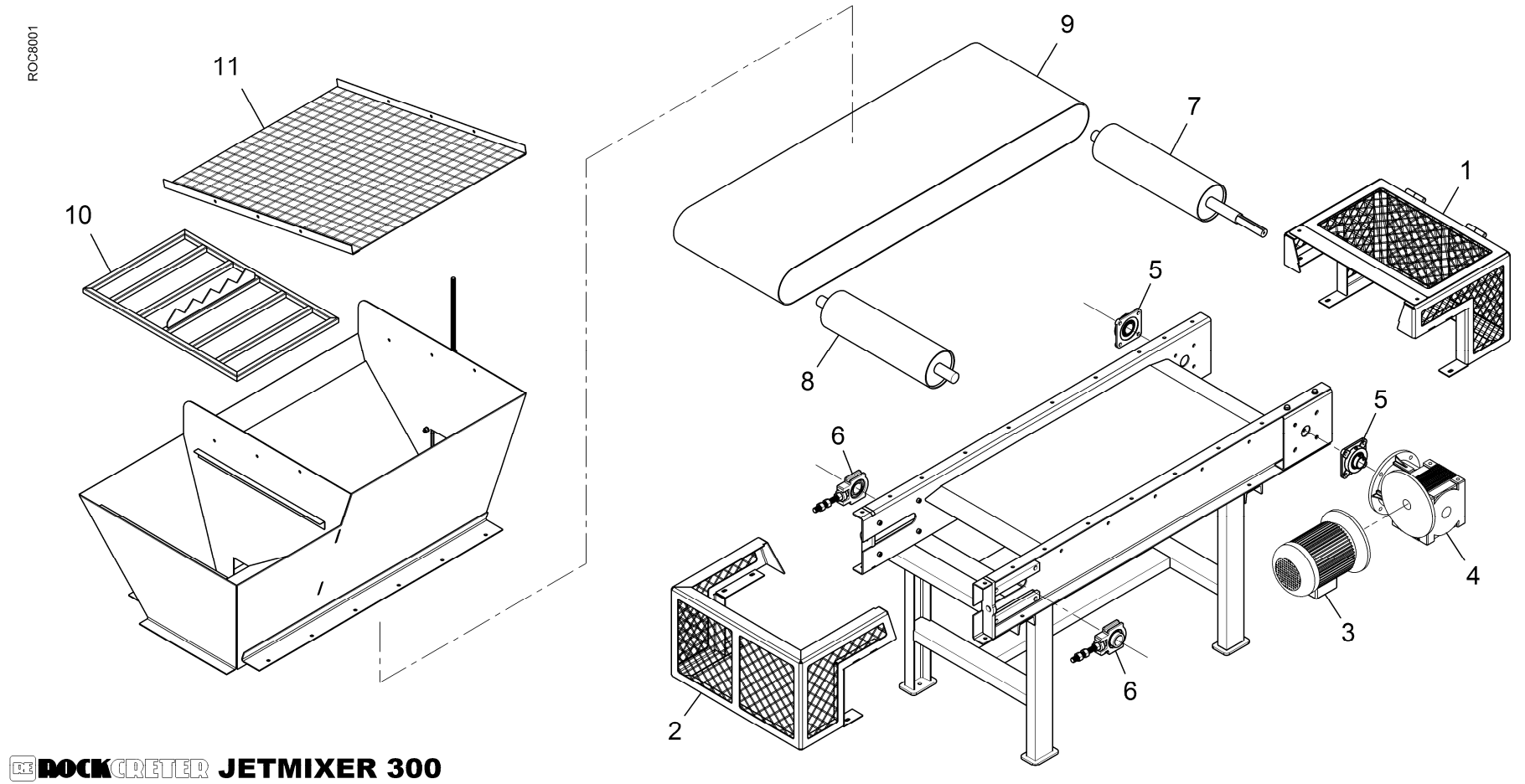
ILLUSTRATED PARTS CATALOGUE

CONTENTS LIST

1. CHUTE ASSEMBLY

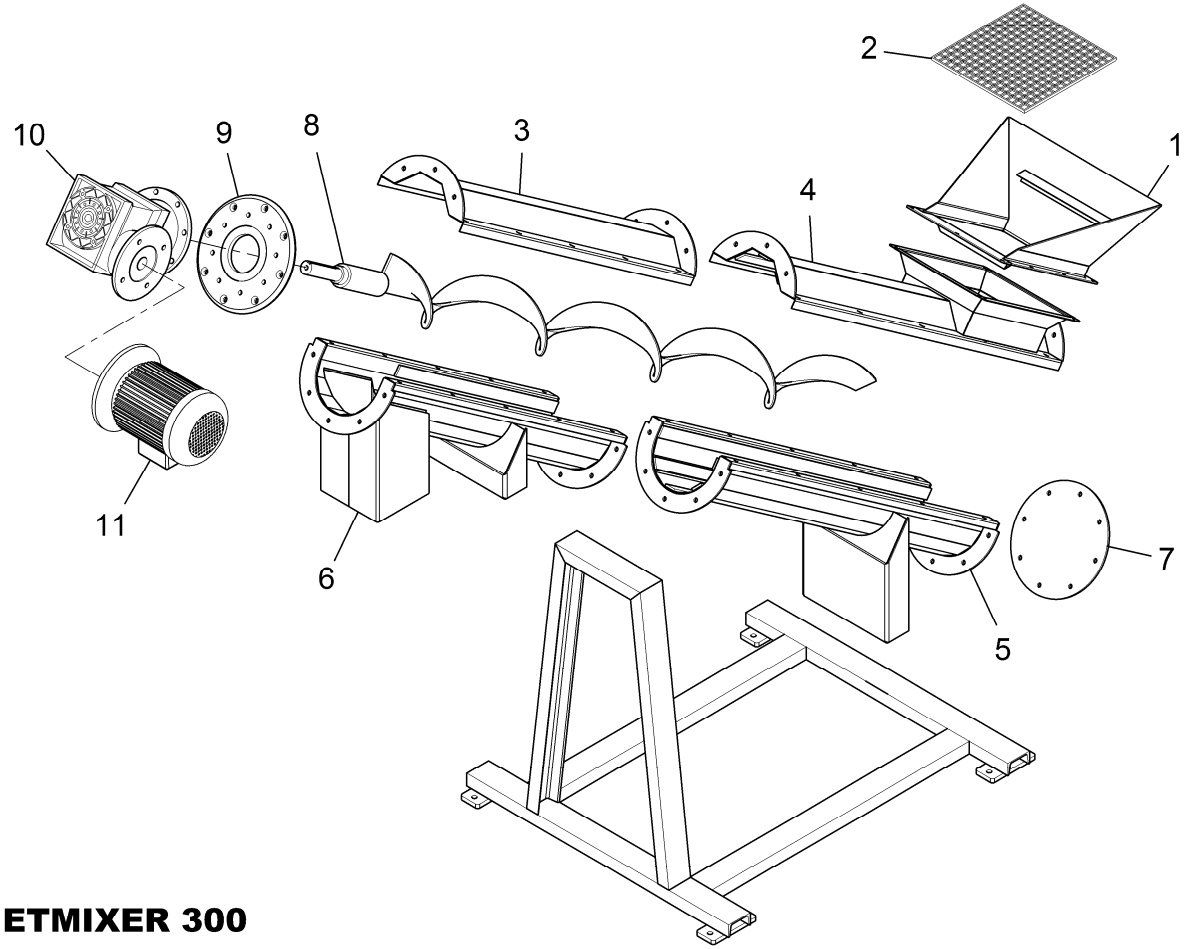


1. CHUTE ASSEMBLY

ITEM NO	DESCRIPTION	PART NO	QTY	COMMENTS
1	FRONT GUARD	EA001J-2	1	
2	REAR GUARD	EA001J-3	1	
3	ELECTRIC MOTOR	EA027B	1	
4	GEARBOX DRIVE	KGPF202	1	
5	DRIVE PULLEY BEARING F209	EA009C	1	
6	TAIL PULLEY BEARING T209	EA009C-1	1	
7	DRIVE PULLEY	EA009E	1	
8	TAIL PULLEY	EA009E-1	1	
9	FEEDER BELT 600	EA009D-1	1	
10	JETMIXER CEMENT GRID	EA001J-1	1	
11	JETMIXER GRID	EA001J	1	

2. AUGER ASSEMBLY

ROC8002



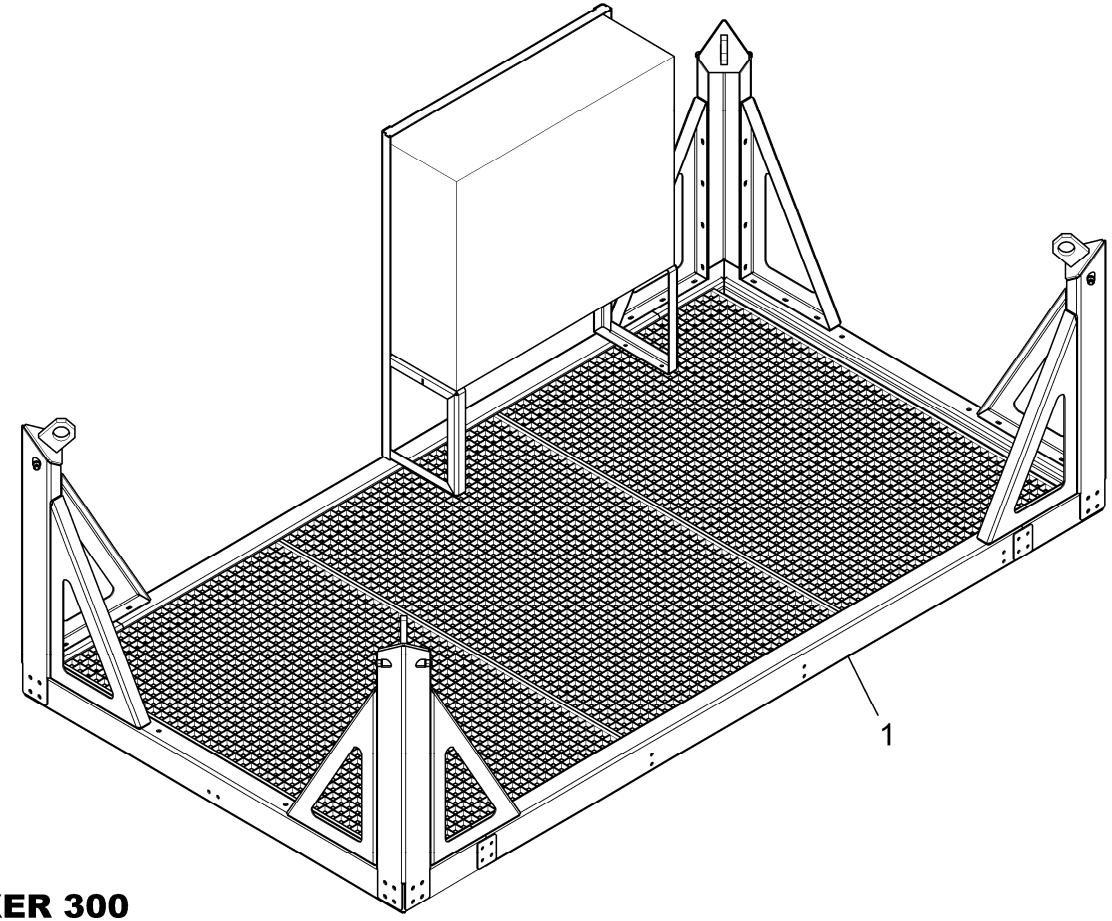
ROCKCRETER JETMIXER 300

2. AUGER ASSEMBLY

ITEM NO	DESCRIPTION	PART NO	QTY	COMMENTS
1	HOPPER	JM301	1	
2	GRID	JM302	1	
3	WEAR LID	JM300A	1	
4	FEEDER LID	JM300B	1	
5	WEAR LID	JM300C	1	
6	SHOOT LID	JM300D	1	
7	CLEANING FLANGE	JM303	1	
8	JETMIXER 300 SPIRAL SHAFT	EA009A-1	1	
9	GEARBOX FLANGE	JM304	1	
10	GEARBOX DRIVE	KGPF204	1	
11	ELECTRIC MOTOR	EA028	1	

3. TRANSPORT FRAME ASSEMBLY

ROC8003



ROCKCRETER JETMIXER 300

3. TRANSPORT FRAME ASSEMBLY

ITEM NO	DESCRIPTION	PART NO	QTY	COMMENTS
1	TRANSPORT FRAME ASSEMBLY	ARCTFA	1	Optional

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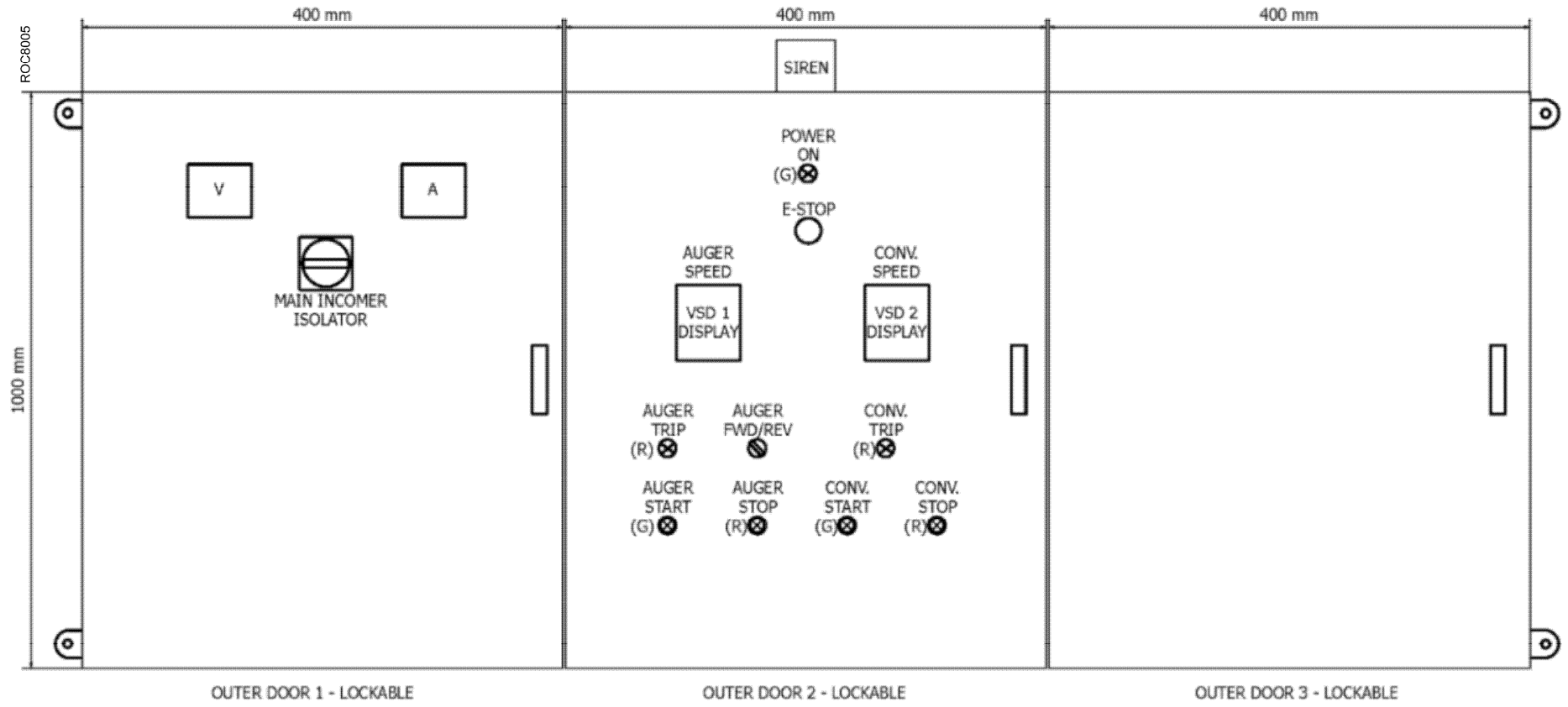
APPENDIX A: - CONTROL BOX

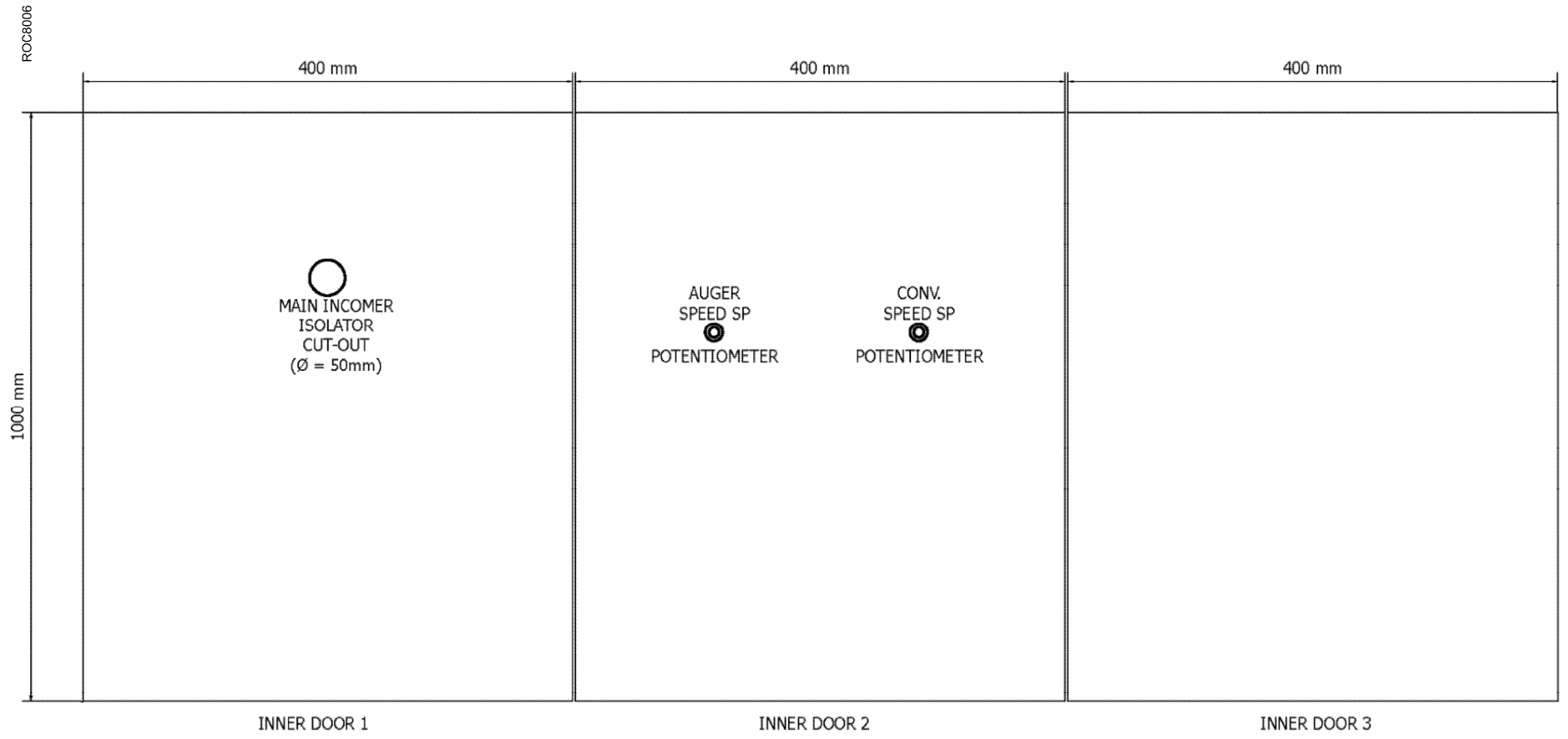
CONTENTS LIST

1. CONTROL PANEL OUTER DOOR GENERAL ARRANGEMENT



ROCKCRETER JETMIXER 300

2. CONTROL PANEL CHASSIS GENERAL ARRANGEMENT



ROCKCRETER JETMIXER 300

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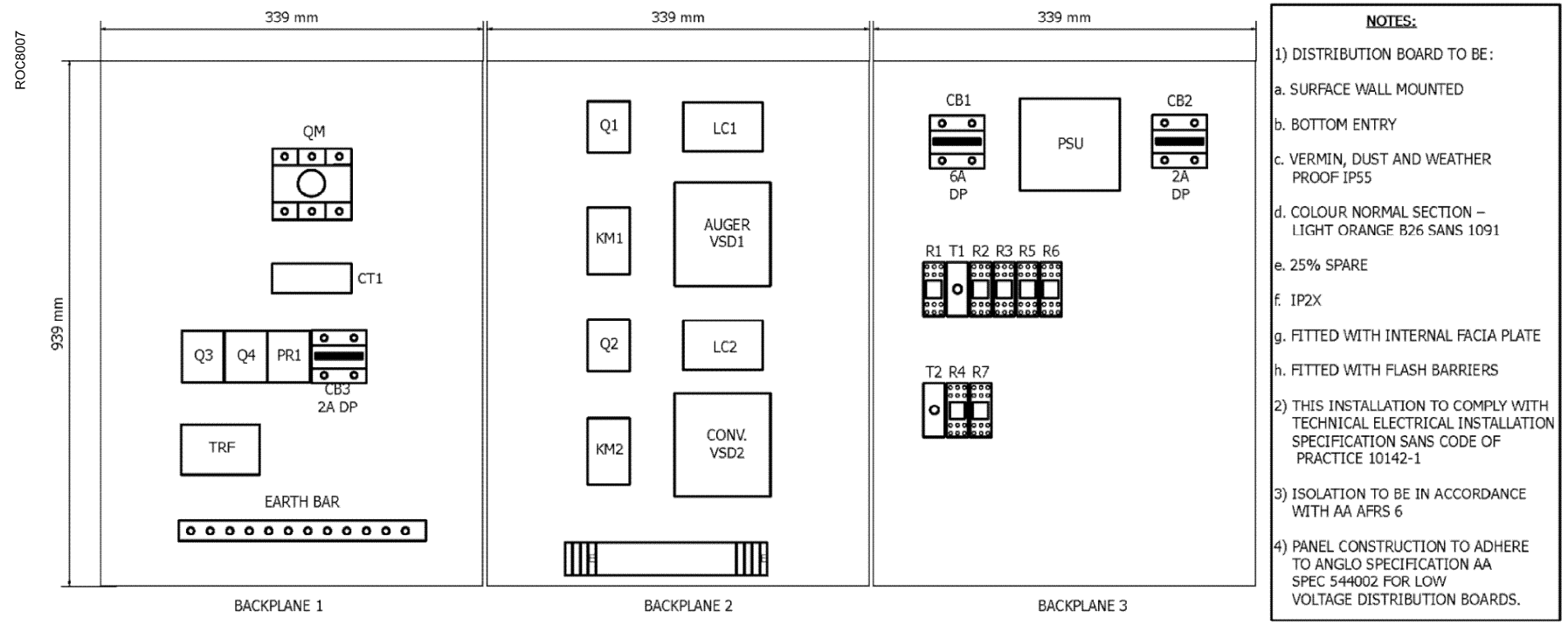


NOTES:

1) DISTRIBUTION BOARD TO BE:

a. SURFACE WALL MOUNTED

b. BOTTOM ENTRY

c. VERMIN, DUST AND WEATHER PROOF IP55

d. COLOUR NORMAL SECTION – LIGHT ORANGE B26 SANS 1091

e. 25% SPARE

f. IP2X

g. FITTED WITH INTERNAL FACIA PLATE

h. FITTED WITH FLASH BARRIERS

2) THIS INSTALLATION TO COMPLY WITH TECHNICAL ELECTRICAL INSTALLATION SPECIFICATION SANS CODE OF PRACTICE 10142-1

3) ISOLATION TO BE IN ACCORDANCE WITH AA AFRS 6

4) PANEL CONSTRUCTION TO ADHERE TO ANGLO SPECIFICATION AA SPEC 544002 FOR LOW VOLTAGE DISTRIBUTION BOARDS.

LEGEND:

Q1 = MOTOR CIRCUIT BREAKER AUGER VSD
Q2 = MOTOR CIRCUIT BREAKER RCONVEY VSD
Q3 = CIRCUIT BREAKER TRANSFORMER 525-220VAC
QM = MAIN INCOMER
Q4 = CIRCUIT BREAKER PHASE ROTATION METER

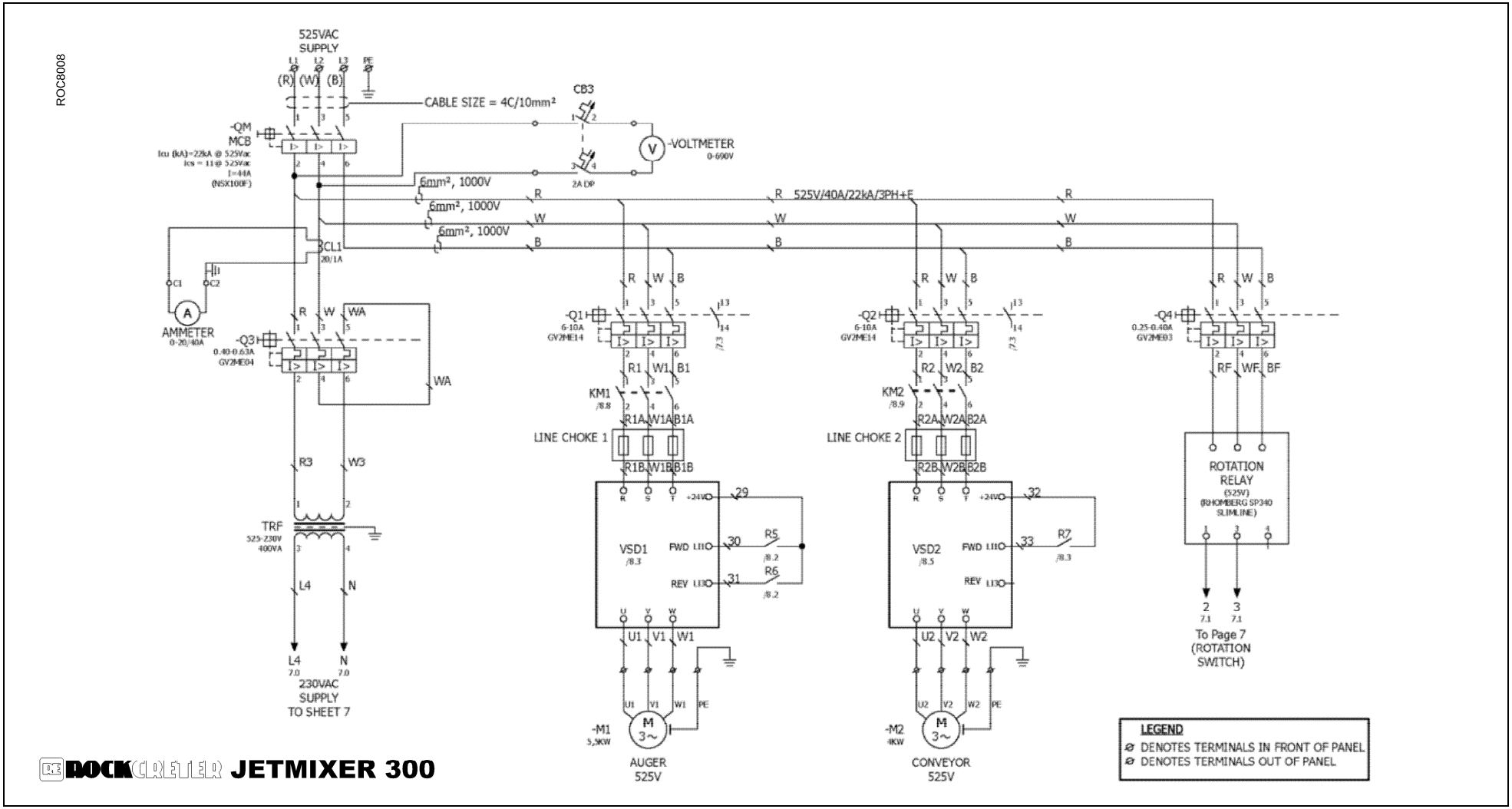
KM1 = CONTACTOR AUGER
KM2 = CONTACTOR CONVEYOR
LC1 = LINE CHOKE AUGER
LC2 = LINE CHOKE CONVEYOR
TRF = TRANSFORMER 525-220VAC
PR1 = PHASE ROTATION RELAY 1

CB1 = DOUBLE POLE CIRCUIT BREAKER PSU SUPPLY
CB2 = DOUBLE POLE CIRCUIT BREAKER PSU 24VDC
CB3 = DOUBLE POLE CIRCUIT BREAKER VOLTAGE INDICATION
PSU = POWER SUPPLY UNIT 220VAC/24VDC
T1 = TIME DELAY AUGER
T2 = TIME DELAY CONVEYOR
R1 = AUGER PRE-SIREN START
R2 = SIREN

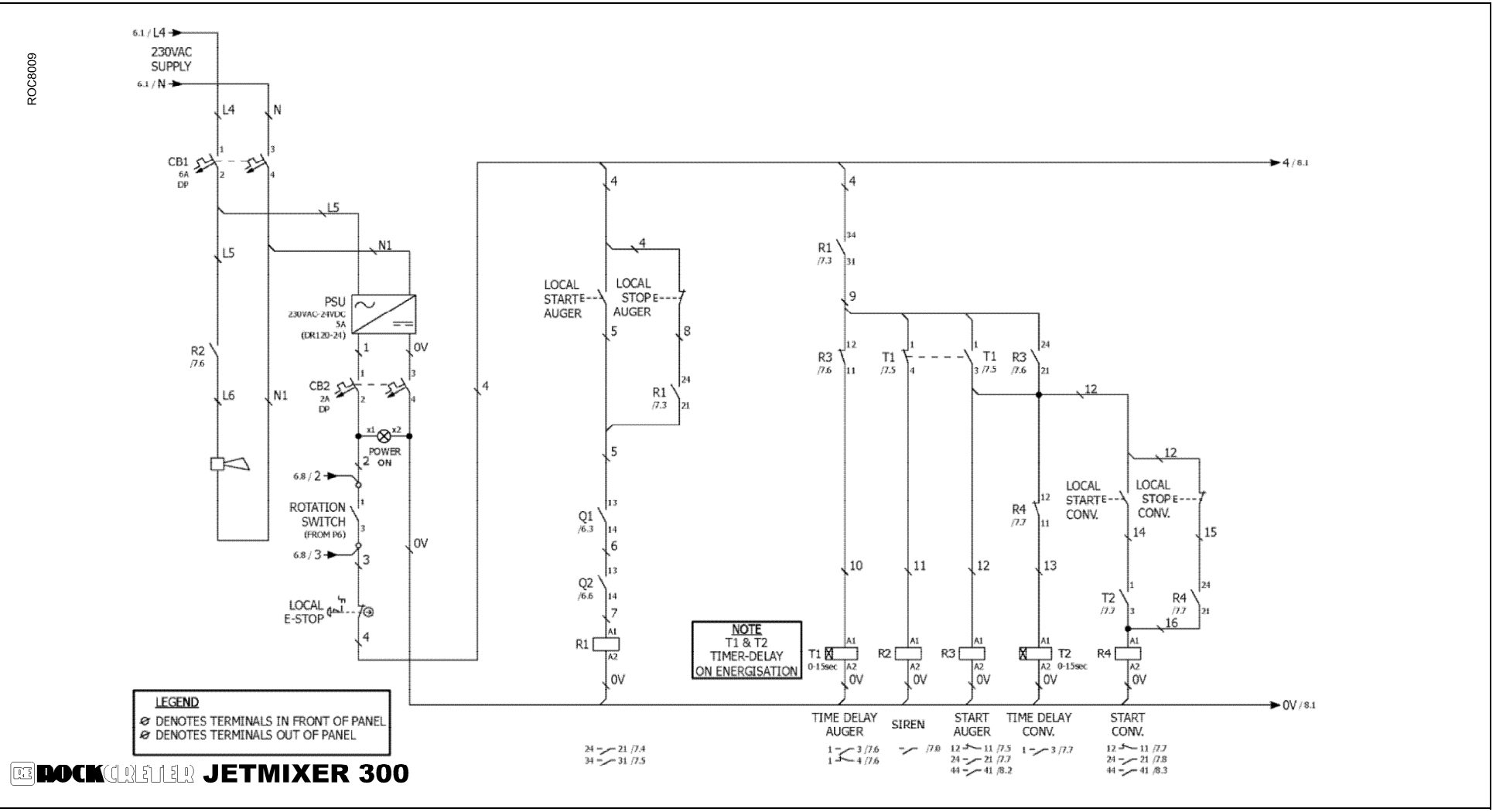
R3 = AUGER POST-SIREN START
R4 = CONVEYOR START SIGNAL
R5 = AUGER FWD
R6 = AUGER REV
R7 = CONVEYOR START
CT1 = CURRENT TRANSFORMER

ROCKCRETER JETMIXER 300

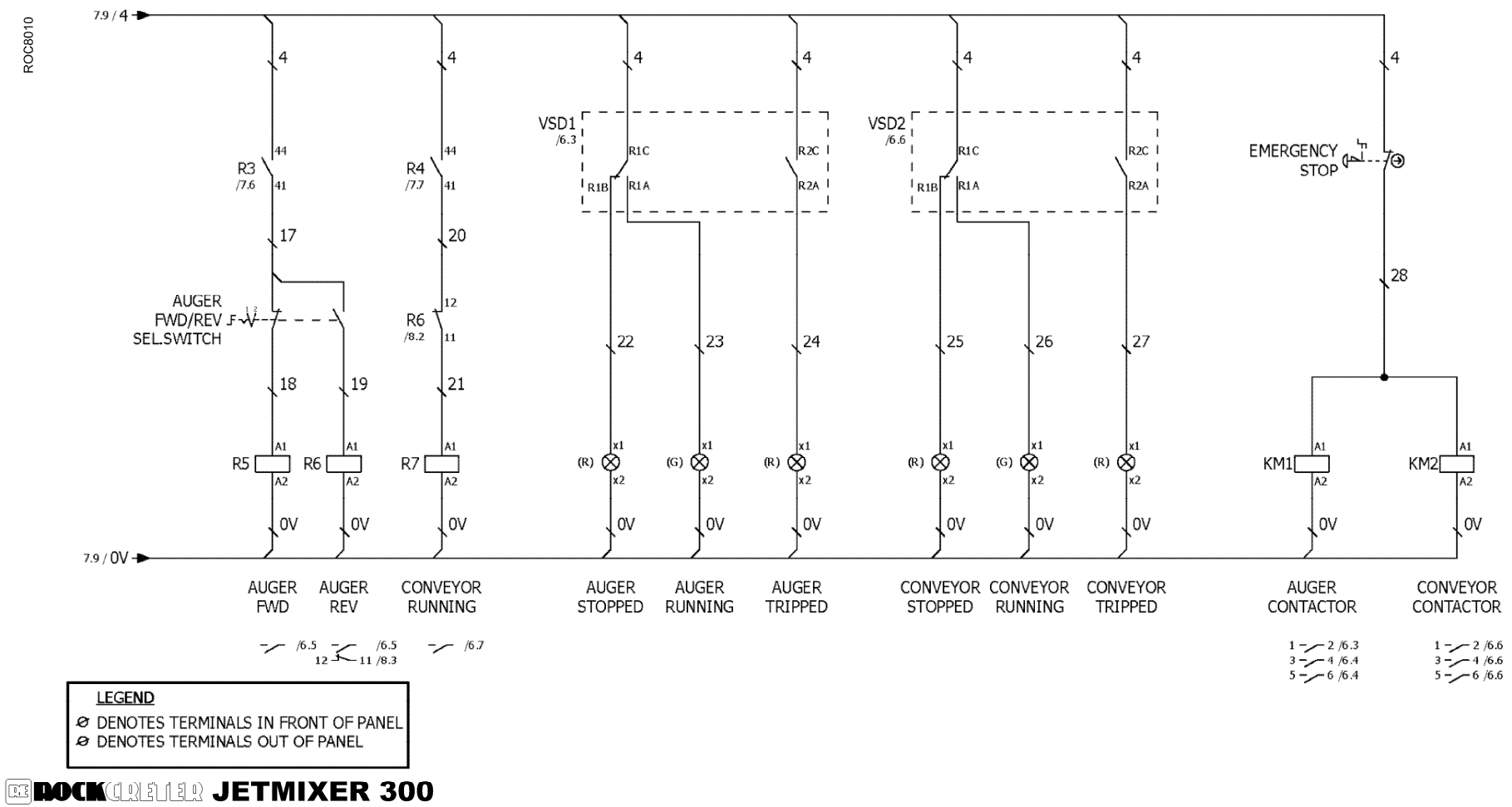
4. ELECTRICAL DIAGRAM



5. ELECTRICAL DIAGRAM



6. ELECTRICAL DIAGRAM



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