

Title: **Scope of works for the Supply and delivery of Unit 6 Dust Handling Plant Pneumatic Control Panels at Kusile Power Station**

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1. INTRODUCTION

Eskom Rotek Industries, a wholly subsidiary of Eskom Holdings is contracted to Eskom Kusile to complete works on Unit 4, 5 and 6 Dust Handling Plant and Silo 4, 5 and 6 as per scope of works **366-369424 & 366-299036**.

The construction of Unit 4 Dust Handling Plant has been completed with the Unit running and commissioning activities underway. The scope has been extended and access has been given to commence with the construction of Unit 6 Dust Handling Plant. The first phase of the installation comprises of the installation of the control panels. This scope depicts the requirements of the supply of the items.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of works includes the Supply and delivery of Unit 6 Dust Handling Plant Pneumatic Control Panels at Kusile Power Station.

2.1.1 Purpose

The purpose of this document is to provide the requirements for the Scope of works for the Supply and delivery of Unit 6 Dust Handling Plant Pneumatic Control Panels at Kusile Power Station.

2.1.2 Applicability

This document shall apply to Kusile Power Station Dust Handling Plant **Unit 6 Dust Handling Plant**.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 Normative

The applicable reference documents are listed below. These documents (latest revision) form part of this specification to the extent as specified in this specification. In the event of a conflict between the text of this specification and the applicable parts of the Eskom documents listed below, the text of this specification takes precedence. However, this specification does not supersede applicable laws and regulations (including the SANS standards), unless a specific exemption has been obtained from the relevant authorities.

- [1] 240-53665024: Engineering Quality Manual.
- [2] ISO 9001: Quality Management Systems.
- [3] Kusile Power Station Quality Specification.
- [4] 240-83539994 Eskom Kusile NDT requirements.
- [5] 240-105658000 Supplier Quality Management Specification.
- [6] SSZ 45-17 Medupi Corrosion Protection Specification.
- [7] IP65.

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2.3 DEFINITIONS

Definition	Description
Pneumatic Conveying	Ash conveying system using process air.
Aeration Air	The heated air used to agitate the ash in the hoppers.
Instrument Air	Compressed air used to drive instruments.

2.3.1 Disclosure Classification

Controlled Disclosure: Controlled Disclosure to external parties (either enforced by law, or discretionary)

2.4 ABBREVIATIONS

Abbreviation	Description
DHP	Dust Handling Plant
U 6	Unit 6
CM	Configuration Management
SANAS	South African National Accreditation System
SANS	South African National Standards
QMS	Quality Management System
C&I	Control and Instrumentation
NDT	Non Destructive Testing

2.5 ROLES AND RESPONSIBILITIES

2.5.1 Eskom Rotek Industries

- As principal contractor, verify that the bill of material submitted by the supplier is accurate.
- As principal contractor, verify that the supplier has capacity to execute the works.
- As principal contractor, to ensure that the supplier is aware of all applicable standards governing the works.
- As principal contractor, ensure that both technical and financial evaluations are done when evaluating bids.

2.5.2 Eskom Rotek Industries – Quality Controller

- Ensure that works are carried out to specifications.
- Ensure that all relevant returnables (Data Books) are reviewed and approved by both ERI and KET.
- Ensure that ERI inspections hold points are honoured.

2.5.3 Supplier

- Ensure that the works data books are submitted for approval prior to works commencement.

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- Ensure that the works data book are kept up to date as the works progresses.
- Ensure that calibration certificates for pressure gauges and switches are produced.
- Ensure that panels are conforming to IP65.
- Ensure that they produce the relevant material certificates.
- Ensure that they conduct Factory Acceptance Tests prior to release of items to site.

2.6 PROCESS FOR MONITORING

- Refer to **240-105658000 Supplier Quality Management Specification**.

2.7 RELATED/SUPPORTING DOCUMENTS

N/A.

3. SPECIFICATION

3.1 GENERAL

3.1.1 Fabrication of Pneumatic Control Panels

Scope of works for the Supply and delivery of Unit 6 Dust Handling Plant Pneumatic Control Panels at Kusile Power Station.

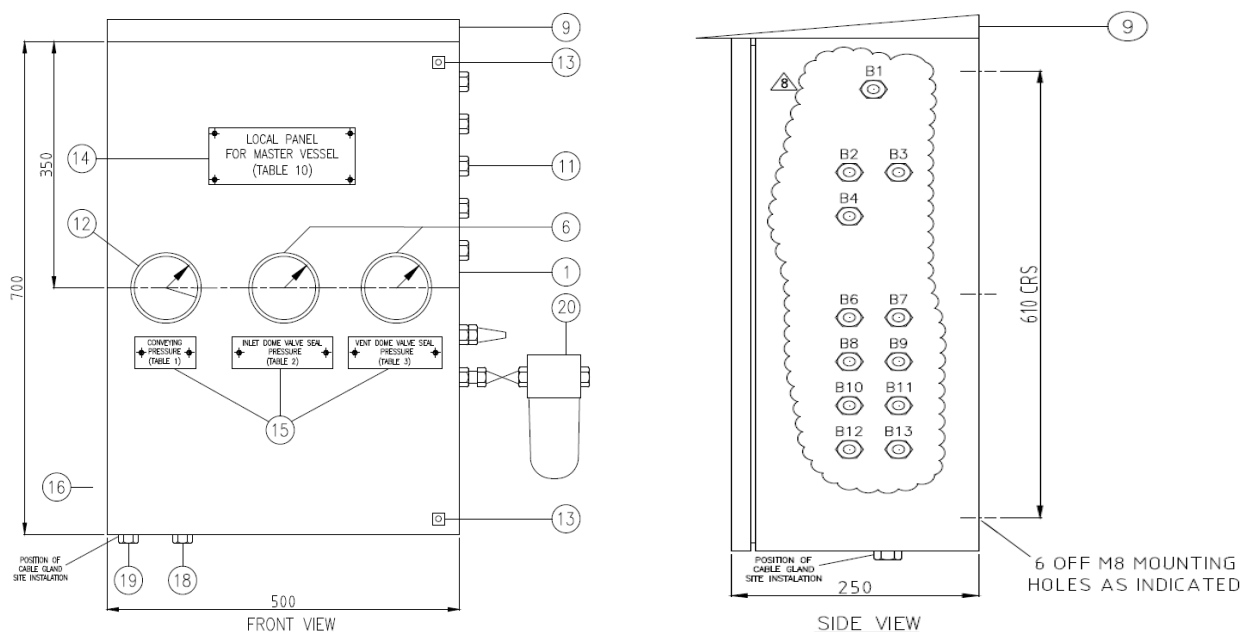
#	DESCRIPTION OF ITEMS	QUANTITY
1.	Bank 1 – 4 Master Panels MP200-000-70-000-001.	20
2.	Bank 1 – 4 Slave Panels MP200-000-70-000-002.	4
3.	Bank 1 & 4 Outlet Panels MP200-000-70-000-003.	2
4.	Bank 2 & 3 Outlet Panels MP200-000-70-000-004.	2
5.	½ Inch Pneumatic Panel Filter	28

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3.1.1.1 Master Panels x 4 Number

ITEM	QTY	DESCRIPTION	SIZE	MATERIAL	CERT.	MASS
1	1	PANEL	700X500X250 IP65	304 SS ; 2mm		
2	-	TRUNKING	40 x 60 x L (IBOCO)	PVC.		
3	2	PRESSURE SWITCH	FESTO. PEV-W-S-LED-GH	-		
4	3	SOLENOID VALVE	5/2 1/4" 24VDE SINGLE SOLENOID, LED IN COIL	-		
5	1	MANIFOLD BASE	FOR 3 OFF SOLENOID VALVES.	-		
6	2	PRESSURE GAUGE	WIKA, 100mm, 0-12 BAR	GLYCERINE FILLED		
7	1	TERMINAL STRIP	50 TERMINALS	-		
8	1	PRESSURE TRANSMITTER	ENDRESS HAUSER CEREBAR M, 4 - 20 mA	STAINLESS STEEL		
9	1	CANOPY	-	-		
10	1	REMOVABLE GLAND PLATE	E-	304 SS ; 2MM		
11	12	FITTINGS	1/2" TO 12mm BULK HEAD FITTINGS	NICKEL PLATED		
12	1	PRESSURE GAUGE	WIKA, 100mm, 0-12 BAR RED LINED AT 9 BAR	GLYCERINE FILLED		
13	2	DOOR LOCKS	LOCKABLE 6mm KEY (WITH KEY)	304 SS		
14	1	LABEL (LARGE)	FONT HEIGHT OF 15mm			
15	3	LABEL (SMALL)	FONT HEIGHT OF 8mm			
16	1	EARTH STUD	M10			
17	1	EARTH BAR	5 TERMINALS	NICKEL / COPPER		
18	1	VENT		BRASS		
19	1	CABLE GLAND	COMPRESSION TYPE	NICKLE PLATED BRASS		
20	1	FILTER	1/2"			

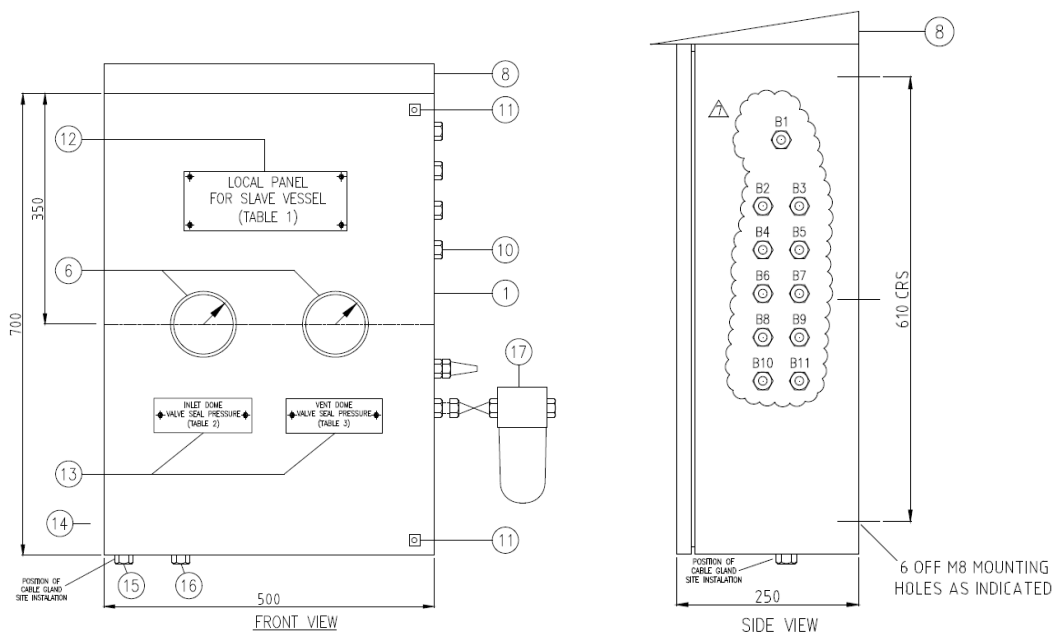


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3.1.1.2 Bank 1 – 4 Slave Panels x 20 Number

ITEM	QTY	DESCRIPTION	SIZE	MATERIAL	CERT.	MASS
1	1	PANEL	700X500X250; IP65	304 SS; 1.6mm		
2	-	TRUNKING	40 x 60 x L (IBOCO)	PVC.		
3	2	PRESSURE SWITCH	FESTO. PEV-W-S-LED-GH	-		
4	3	SOLENOID VALVE	5/2 1/4" 24VDC SINGLE SOLENOID, LED IN COIL	-		
5	1	MANIFOLD BASE	FOR 3 OFF SOLENOID VALVES.	-		
6	2	PRESSURE GAUGE	WIKA, 100mm, 0-12 BAR	GLYCERINE FILLED		
7	1	TERMINAL STRIP	40 TERMINALS	-		
8	1	CANOPY	-	-		
9	1	REMOVABLE GLAND PLATE	500X200	304 SS ; 2MM		
10	11	FITTINGS	1/2" TO 12mm BULK HEAD FITTINGS	NICKEL PLATED		
11	2	DOOR LOCKS	LOCKABLE 6mm KEY (WITH KEY)	304 SS		
12	1	LABEL (LARGE)	FONT HEIGHT OF 15mm			
13	2	LABEL (SMALL)	FONT HEIGHT OF 8mm			
14	1	EARTH STUD	M10	BRASS / COPPER		
15	1	CABLE GLAND	COMPRESSION TYPE	NICKEL PLATED BRASS		
16	1	VENT		BRASS		
17	1	FILTER	1/2"			

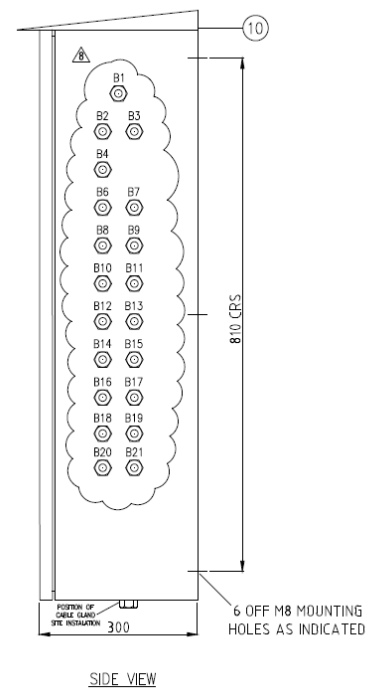
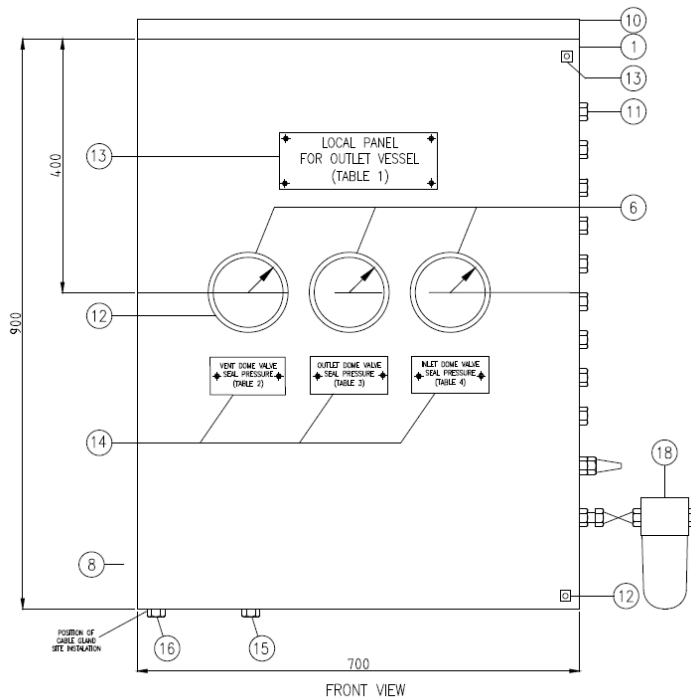


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3.1.1.3 Bank 1 & 4 Outlet Panel Type 1 x 2 Number

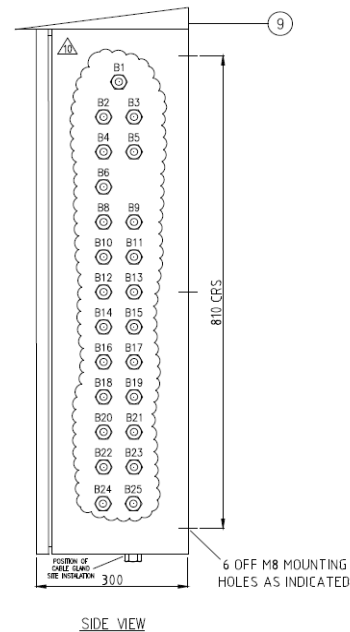
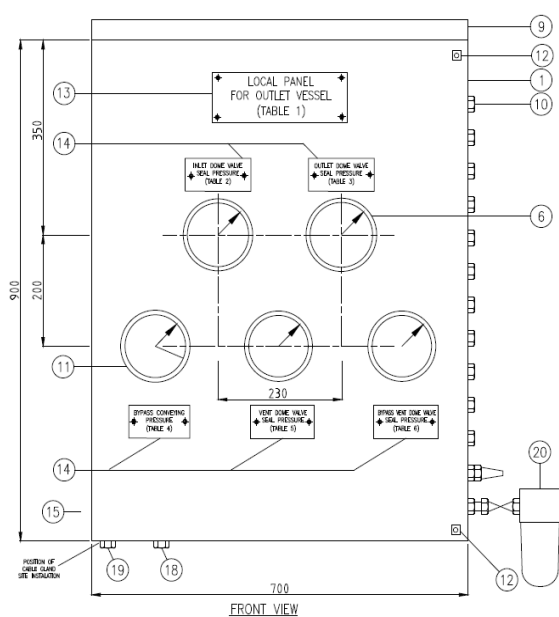
ITEM	QTY	DESCRIPTION	SIZE	MATERIAL	CERT.	MASS
1	1	PANEL	700X500X250 IP65	304 SS ; 2MM		
2	-	TRUNKING	40 x 80 x L (IBOCO)	PVC.		
3	3	PRESSURE SWITCH	FESTO. PEV-W-S-LED-GH	-		
4	7	SOLENOID VALVE	5/2 1/4" 24VDC SINGLE SOLENOID, LED IN COIL	-		
5	1	MANIFOLD BASE	FOR 7 OFF SOLENOID VALVES.	-		
6	3	PRESSURE GAUGE	WIKA, 100mm, 0-12 BAR	GLYCERINE FILLED		
7	1	TERMINAL STRIP	80 TERMINALS	-		
8	1	EARTH STUD		COPPER/BRASS		
9	1	REMOVABLE GLAND PLATE	590X180	304 SS ; 2MM		
10	1	CANDPY	-	-		
11	20	FITTINGS	1/2" TO 12 mm FESTO BULK HEAD FITTINGS	NICKEL PLATED		
12	2	DOOR LOCKS	LOCKABLE 6mm KEY (WITH KEY)	304 SS		
13	1	LABEL (LARGE)	FONT HEIGHT OF 15mm			
14	3	LABEL (SMALL)	FONT HEIGHT OF 8mm			
15	1	VENT		BRASS		
16	1	CABLE GLAND	COMPRESSION TYPE	NICKEL PLATED BRASS		
17	1	EARTH BAR	5 TERMINALS	NICKEL / COPPER		
18	1	FILTER	1/2 "			
19	1	SOLENOID VALVE	5/2 1/4" 24VDC DOUBLE SOLENOID, LED IN COIL	-		
20	2	TRUNKING	80 x 80 x L (IBOCO)	PVC		



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3.1.1.4 Bank 2 and 3 Outlet Panel Type 2 x 2 Number

ITEM	QTY	DESCRIPTION	SIZE	MATERIAL	CERT.	MASS
1	1	PANEL	700X500X250 IP65	304 SS ; 2MM		
2	-	TRUNKING	40 x 80 x L (IBOCO)	PVC.		
3	3	PRESSURE SWITCH	FESTO. PEV-W-S-LED-GH	-		
4	7	SOLENOID VALVE	5/2 1/4" 24VDC SINGLE SOLENOID, LED IN COIL	-		
5	1	MANIFOLD BASE	FOR 7 OFF SOLENOID VALVES.	-		
6	3	PRESSURE GAUGE	WIKA, 100mm, 0-12 BAR	GLYCERINE FILLED		
7	1	TERMINAL STRIP	80 TERMINALS	-		
8	1	EARTH STUD		COPPER/BRASS		
9	1	REMOVABLE GLAND PLATE	590X180	304 SS ; 2MM		
10	1	CANOPY	-	-		
11	20	FITTINGS	1/2" TO 12 mm FESTO BULK HEAD FITTINGS	NICKEL PLATED		
12	2	DOOR LOCKS	LOCKABLE 6mm KEY (WITH KEY)	304 SS		
13	1	LABEL (LARGE)	FONT HEIGHT OF 15mm			
14	3	LABEL (SMALL)	FONT HEIGHT OF 8mm			
15	1	VENT		BRASS		
16	1	CABLE GLAND	COMPRESSION TYPE	NICKEL PLATED BRASS		
17	1	EARTH BAR	5 TERMINALS	NICKEL / COPPER		
18	1	FILTER	1/2 "			
19	1	SOLENOID VALVE	5/2 1/4" 24VDC DOUBLE SOLENOID, LED IN COIL	-		
20	2	TRUNKING	80 x 80 x L (IBOCO)	PVC		



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3.1.2 ELECTRICAL WORKS

Wiring Diagrams on PO placement.

3.1.3 MECHANICAL WORKS

See drawings.

3.2 REQUIRED INFORMATION

- Eskom Rotek Industries to ensure that the supplier has the relevant Eskom Specification governing NDT Testing.

3.3 TESTING AND CONFORMANCE

- All applicable National and Eskom Standards.

4. AUTHORIZATION

This document has been seen and accepted by:

- Khomotso Mothata.
- Tshidiso Lekalakala
- Dewald Denton.

5. REVISIONS

Date	Rev.	Compiler	Remarks
17 May 2022	0	Tshidiso Lekalakala	First Draft

6. ACKNOWLEDGEMENTS

- K Mothata
- T Lekalakala.
- Dewald Denton.

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