Eskom	Specification	Kusile Power Station

Title: **Kusile Power Station Pumps Refurbishment Scope of Work**

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1. Introduction

Kusile Power Station intends contracting refurbishment of mechanical and hydraulic pumps to suitable suppliers on an as and when required basis. This specification provides the requirements for the refurbishment of all pumps for Kusile Power Station systems.

2. Supporting Clauses

2.1 Scope

The scope specifies the refurbishment of Kusile pumps including collection, strip and assessment, compilation of failure report, repair of damaged parts, test run and delivery.

2.1.1 Purpose

The purpose of this document is to define the refurbishment requirements for Kusile Power Station pumps. It is therefore imperative that the Supplier aligns his organisation fully to the systems laid down in this document. Once this document has been approved at all relevant levels, it will form a baseline for the refurbishment specifications of all the pumps at Kusile Power Station

2.1.2 Applicability

This document shall apply to all Kusile Power Station pump refurbishments.

2.1.3 Effective date

The effective date of this document is the date of authorisation.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

[1] 237-0016: Integrated Business improvement – Prevention and Improvement Standard

[2] ISO 9001: Quality Management System

[3] 240-86851633: Foreign Material Exclusion

[4] 32 - 726: Mandatory S.H.E. Requirements for the Eskom Procurement and Supply Chain Management Process

- Note: See Annexure C: S.H.E. Requirements for Tender Enquiries
- Annexure D: S.H.E. Tender Evaluation and Scoring Card

- Annexure E: Supplier Suspension Process

[5] Act No 107 of 1998: National Environmental Management Act, 1998

[6] Act No 14 of 2009: The National Environmental Laws Amendment Act, 2009

[7] Act No 73 of 1989: The Environment Conservation Act, 1989

[8] Act No 102 of 1980: National Key Points Act, 1980

[9] Act No 36 of 1998: National Water Act, 1998

[10] Act No 85 of 1993: Occupational Health and Safety Act & Regulations, 1993

[11] 36-681 rev 2: Generation Plant Safety Regulations

[12] 240-114967625 rev 1: Eskom Operating Regulations for High Voltage

[13] NMP47-7: Application of KKS Plant Coding

2.2.2 Informative

[1] Strategic Spares Health Program GGS1495

[2] Material Control, preservation and storage handling 36-1042

2.3 Definitions

Definition	Explanation
Contractor	Service provider contracted for supplying specific service to Eskom, Kusile Power Station
Employer	Eskom Kusile Power Station
Overhaul	To take apart (a piece of machinery or equipment) in order to examine it and repair it if necessary
Refurbish(ment)	To restore a machine to its original working condition. In terms of equipment, refurbishment consists of dissembling, replacing/repair components and reassembling to restore the equipment to its state when originally manufactured

2.4 Abbreviations

Abbreviation	Explanation
ADI	Ash Dump Irrigation system
ADM	Ash Dump dam Make- up system
BAMR	Bottom Ash
CAB	Coarse Ash Conveyor Belt washing System
CDD	Clean and Dirty Dam recovery system
CEDI	Continuous Electro-Deionisation
CIP	Cleaning In progress
CSY	Coal Stock Yard
DE	Drive End
FAC	Fly Ash Conditioning water supply system
GTM	Gas Transfer Membrane
HVAC	Heating Ventilation and air Conditioning
KPI	Key Performance Indicator
LPS	Low Pressure Services
NDT	Non-Destructive Testing
OEM	Original Equipment Manufacture
PQR	Procedure Qualification Record
QCP	Quality Control Plan
RO	Reverse Osmosis
SOW	Scope of Work
STP	Sewage Treatment Plant
UF	Ultra Filtration
WPS	Welding Procedure Specification
WTP	Water Treatment Plant

2.5 Roles and Responsibilities

Activity	Responsible	Accountable	Consult	Inform
Compilation	• Senior Supervisor	• Mechanical Maintenance Manager	• Maintenance Manager	• All
Revision and Template update	• Senior Supervisor • System Engineer	• Mechanical Maintenance Manager	• Maintenance Manager • Documentation Officer	• All

Implementation	• Contractor • Technician • Senior Technician • Mechanical Maintenance Manager	• Contractor • Technician • Senior Technician • Mech. Maintenance Manager	• Maintenance Manager • System Engineer	• All

2.6 Process for Monitoring

In case of any additions, subtractions and/or amendments to the contents of the scope of work or any part of this document, prior the revision date, the Mechanical Maintenance Manager shall appoint a technician or Senior Technician to effect the necessary changes and to use the most current approved template for new revision.

2.7 Supporting Documents

N/A

3. Document Content

3.1 Scope of Work

3.1.1 Pumps to be covered

The scope shall cover the following plants:

i. Auxiliary Cooling pumps
ii. Demin make up pumps
iii. Fire water system pumps
iv. Sewage treatment plant pumps
v. Condensate Polishing Plant Pumps
vi. HVAC System
vii. Bottom Ash Mill Rejects pumps
viii. Mill Hydraulic Pumps
ix. Mill Gearbox Lubrication Pumps
x. Coarse Ash Belt Washing pumps
xi. Clean and dirty dam pumps (permanent and temporary)
xii. Coal Stockyard Pollution Control Dam pumps

xiii. Fly Ash Conditioning Water pumps
xiv. Ash Dump Irrigation pumps
xv. Ash Dump pollution control dam 1 make-up pumps
xvi. Potable water pumps
xvii. Demin Distribution pumps
xviii. Raw water pumps
xix. Feed water pumps
xx. Condensate System pumps
xxi. Boiler systems
xxii. Turbine systems Pump
xxiii. LP injection Pumps

3.1.2 Services to be provided

The services to be provided include:

a) Collection of pumps from site.
b) Cleaning and Stripping of the pumps
c) Scope of repairs report
d) Quality Control Plan
e) The refurbishment of pumps. The provision of this service shall include the supplier sourcing all the required spares, tools and material.
f) Pump Assembly and painting if required.
g) The performance testing after refurbishment and provision of report thereof.
h) Transportation back to site.

3.1.3 Applicable SOW

The Contractor's scope of work includes the following:

a) Transporting of the pump from site within 24 hours by the contractor after the notification from the Power Station representative has been issued.
b) Strip and inspect the pump.
c) Compile preliminary inspection report with recommendations and submit to the Power Station representative within 3 working days after inspection.
d) All parts to be marked with unique job number and small parts to be stored in a suitable container also marked with the unique job number.

e) All stripped parts to be stored in a manner not to incur any accidental damage.

f) Submit scope of work (based on inspection report) and QCP to the Power Station representative.

g) Submit a comprehensive quotation to the Power Station representative for acceptance.

h) Submit a comprehensive time schedule to the Power Station representative for approval.

i) Repair/refurbish/overhaul the pump according to the agreed scope of work.

j) Provide all spare parts required for the refurbishment/repair/overhaul as per agreed quotation.

k) Adhere to all hold points and witness points during refurbishment/repair/overhaul and assembling of the pump.

l) Test the pump in accordance with OEM recommendations and standards as per Appendix B ISO 9906:2012. (system owner to witness the performance testing)

m) Transporting of the pump back to site.

n) Compile full repair/refurbishment/overhaul report after all testing and commissioning and submit to the Power Station representative within 3 days after commissioning.

3.2 Specific Requirements

3.2.1 Equipment required

The Contractor and his sub-Contractor must possess the tools and equipment to fulfil the requirements of refurbishing and or repairing the pumps.

3.2.2 Consumables required

The Contractor must supply the consumables, if applicable, to satisfy the requirements for all the pumps

3.2.3 Workshop

The Contractor and his sub-Contractor are required to have suitable premises with the required tools, cranes and equipment to be able to conduct the scope of work. Eskom reserves the right to inspect the workshop premises at any time during the duration of the contract (with prior notice of at-least 24 hours) to make sure that it is suitable and is kept up to standard. The Contractor shall acknowledge receipt of request and confirm availability.

3.2.4 Planned (KPI)

The KPI's will be used to determine the successful performance of the scope. The Contractor is required to perform in order to meet these targets. The KPI's are to be agreed to between parties and are subject to change on an annual basis, based on the need.

i. Quality of repair or refurbishment. Re-work is unacceptable.

ii. Reliability of the repaired or refurbished component.

iii. First committed delivery date on the Purchase Order receipt is applicable.

iv. Non-compliance to the agreed to Scope of Work, hold points and Quality Control Plans is not acceptable.

3.3 Quality and Documentation Control

The Contractor provides a complete Quality Assurance plan in accordance with the requirements of the Employer for approval. QCP's shall be produced, maintained and implemented per tasks (as agreed by the Employer). These QCP's shall comply with ISO 9001: 2015 standard. Any new or amended QCP's shall be discussed with the employer This plan must ensure an integrated quality service as part of the contract. All quality hold points, and witness point must be done in the presence of an Eskom employee. Quality documents to be handed over to the employer.

- Any Welding and NDT work should be done according to the applicable ISO standards and Eskom Welding requirements. It is the responsibility of the Contractor to familiarize themselves with the Eskom Welding Requirements and ensure compliance.
- WPS and Procedure Qualification Record (PQR) to be approved by an Eskom Welding Engineer prior to commencing with the work.
- All welding repair works should have their own QCP which is a separate QCP from the overall pump refurbishment/repair QCP.

The pumps shall be returned to site only if it is accompanied with a data pack. Hard and electronic copies are to be handed over to System Engineer and Power Station Service Manager.

3.4 Repairs

All damaged parts listed on the failure report must be replaced or repaired and wear parts must be refurbished. The contractor must submit a repair quotation with damaged parts listed. Any repair should be carried out by skilled personnel. Any new major components supplied by the Contractor to refurbish or repair the pump/s, and their associated equipment must have certification which complies to EN 10204 Type. Pumps to be painted according to applicable specification and standard.

3.5 Transportation

The supplier is responsible to transport the refurbished and or repaired pump or associated equipment, within 24 hours after removal and notification from a Power Station representative, in a suitable transportation cradle. On completion of the repairs, deliver the components and equipment back to the Kusile Power Station.

Pumps shall be transported as per Eskom 240-56361435

3.6 Tender Requirements

a) Equipment brochures and maintenance manuals for all the listed pumps in Appendix C as evidence that they understand what they have quoted for – we will provide the pump details/type including serial numbers and specs.
b) Sample of Appendix B (blank documents will still be acceptable as long as they show evidence that the supplier has read Appendix B).
c) A sworn statement from the contractor that he has acquired and read all the documents as per Appendix A.

4. Acceptance

This document has been seen and accepted by

Name	Designation
Musa Ngwane	Boiler System Engineer
Henk	System Engineer
Khazamula Xivuri	System Engineer
Masande	System Engineer
Lebogang Mabuza	Turbine System Engineer
Fhatuwani Nelufhangani	Maintenance Manager Ancillary Services
Sam Motlugoneng	System Auxillary Engineer
Given Rikhotso	Boiler Maintenance Manager
Vusi Dlamini	Senior Advisor Technical Support
Abel Vuma	Middle Manager Maintenance
Percy Masethe	Senior Advisor Technical Support
Vusi Madinana	Snr Store person Warehouse
Nolwazi Mnisi	Manager Materials Management
Sibusiso Vezi	Manager Maintenance Turbine
Siboniso Dladla	Manager Maintenance BOP
Thami Simelane	Manager Maintenance Coal & Ash

5. Development Team

The following people were involved in the development of this document.

- Silas Mathaile

- Thomas Mpangi
- Lerato Sekhu
- Fani Mahlangu

6. Acknowledgements

Development Team

7. Appendix

7.1 Appendix A Minimum Data Book Requirement

1. Section 1 – Concessions
2. Section 2 – Approved Quality Plan
3. Section 3 – Recondition of Pump
    - Sectional Drawing & Part List
    - Pump
        - Strip and Inspect Report
        - QCP
        - Scope of Work
        - DE/NDE Floating ring assembly
        - Alignment of stator to rotor
        - Rotor adjustment
        - Performance Test
        - Final Inspection Check List
        - Release Note
    - Pull-Out
        - Strip and Inspect Report
        - QCP
        - Scope of Work – Inspection Report
        - Record of shaft run out
        - Run out of assembled rotor
        - Wear ring clearance sheet
        - Rotor Balancing Certificate

  - Material Certificates
  - Impeller NDT certificates
  - Impeller Repairs
- Journal Bearing
  - Bearing Clearances
  - Bearing Certification

4. Section 4 – Material Certificates
   - Sheet 1 Balance Drum Liner
   - Sheet 2 Pump Shaft
   - Sheet 3 Balance Drum
   - Sheet 4 Stuffing Box Housing
   - Sheet 5 Bearing Housing DE
   - Sheet 6 Bearing Housing DE NDE
5. Section 5 – Couplings
   - Pump to Gearbox
     - Balancing Certificate
     - Coupling Drawing
     - Material Certificates
   - Motor to Gearbox
     - Balancing Certificate
     - Coupling Drawing
     - Material Certificates
6. Section 6 – Bearing Housing Oil Seals
   - Drawing
   - Technical Brochure
7. Section 7 – Site Work Commissioning

NB: 3.1 Material certificates are required as a minimum.

7.2 Appendix B Applicable Standards

THE EMPLOYER'S CODES AND STANDARDS APPLICABLE

Note: In each case the latest edition/amendment of the National or International Standard or Code of Practice shall apply. The onus shall be on the Contractor to ensure that the latest edition/amendment of the Standards or Codes of Practice applies.

CLASSIFICATION	STANDARD/ CODE REFERENCE	TITLE	APPLICABILITY
MECHANICAL	ISO 9906	Rotodynamic Pumps -- Hydraulic performance acceptance tests -- Grades 1 and 2	Pump Testing to Grade 1 Complete Pump test, if necessary.
	ISO 21940-1	Mechanical vibration -- Balance quality requirements for rotors in a constant (rigid) state -- Part 1: Specification and verification of balance tolerances	Balancing - The impeller shall be statically balanced before fitting to the shaft. After the entire rotating element has been assembled it shall be statically and dynamically balanced to ISO 21940 quality grade G 2.5.
	ISO 21940-2	Mechanical vibration -- Balance quality requirements of rigid rotors -- Part 2: Balance errors	
	BS ISO 10816-7	Mechanical vibration. Evaluation of machine vibration by measurements on non-rotating parts. Part 7: Rotodynamic Pumps for industrial applications, including measurements on rotating shafts	Table A1 Zone Boundary A/B The vibration behaviour of the pump set shall be deemed satisfactory when each pump set complies with the Standard ISO 10816-7.
NDT	240-83539994	Eskom Approval of personnel performing quality related special processes on Eskom Plant	
	240-83540088	Non-Destructive Testing (NDT)	
	240-87660096	Non-Destructive Testing (NDT) Inspection Qualification Standard	
GENERAL	240-105658000	Supplier Quality Management Specification	

	240-56358854	Refurbishment of Power Station Electric Motors	
	240-86973501	Standard Drawing Practice	

7.3 Appendix C List of Pumps and Specification

Material Numbers	Plant	Description	KKS	Material Item Characteristics (Detail Description with Defining Design Characteristics	Type
0621490	FD & PA Fans	PUMP, ROTARY	1-6 0HLB13/23 AP001KP01. 1-6 0HLB13/23 AP002KP01	Type Gear pump, Inlet 1 1/4" BSP, Outlet 3/4" BSP, Delivery 76 L/Min	Type P17-52 / PGP517A0520
0621676	FD & PA Fans	PUMP, ROTARY	1-6 0HFE01/02 AP001	Type, Alpha series gear pump, inlet 1¼" & outlet 1" BSP, delivery 30 l/Min @ 6 bar,	Type P17-33
0621589	FD & PA Fans	PUMP, ROTARY	1-6 0HFE13/23 AP001KP01; 1-6 0HFE13/23 AP002KP01	Type Alpha series gear pump, flow rate 30 l/Min @ 6 bar, inlet 1" BSP, Outlet ¾" BSP,	Type: P11-23
0621679	FD & PA Fans	PUMP, ROTARY	1-6 0HFE14/24 AP001	Type Alpha series gear pump, Duty 9 litres/min@ 120bar, Connections Inlet and outlet 1/2" BSP,	Type P3-6.2/PGP-503

0623763	Flue gas Cleaning	INJECTOR:WSP-080-00; WATERJET SOLID PUMP	40ETN94AA101	INJECTOR:WSP-080-00; WATERJET SOLID PUMP	
0643227	Flue gas Cleaning	PUMP, CNTFGL:HM75-EHC-S C4		PUMP, CNTFGL:HM75-EHC-S C4	HM75-EHC-S C4
0654876	Milling Plant	Complete pump	1 0-6 0HFC12-52 AP001 KP01	Double Gear Pump; Square flange; Aluminium housing; 1500rpm; P2 = 85bar & Q2 = 31.7 l/min; P1 = 180 bar & Q1 = 15.7 l/min	Type PGE104-2200/1100-RBR1/1N-3900
0653365	Milling Plant	Screw spindle rotary pump	1 0-6 0HFC13-53 AP001 KP01	Screw Spindle Pump; Cast Iron housing; 290 l/min; 1000 1/min; 0,6 Mpa; Internally mounted axial bearings	Type L3MF-70/140-IFOKUI-G
0646956	Milling Plant	End Suction centrifugal pump	1 0-6 0ETN02-03 AP001	Chemical standard pump; Single-stage normal suction volute casing pump; Suction: DN80; Discharge: DN50; PN16; 2960rpm; 253mm impeller; 55m3/h; 83m head, Mill reject box draining.	Type KRC-50/250-308/GN, 55m3/h
0642546	Milling Plant	Rotary pump	1 0-6 0HFC14-54 AP001 -KP01	External Gear Pump; Aluminium housing; Size 1; 3.15 cm3/rev; Clockwise rotation; Square flange centering Ø 25.4 mm; NBR seals, Application mill reject gate.	Type PGE101-315-RBQ1-N-3700, 4.4 l/min
0646063	Fuel Oil & Propane Plant	Screw Pump	0 0EGA13/23/33 AP001	Screw pump V series; DN100; PN16; EN-GJS-400-15 housing; SN: 105527 / 105528 / 105529; 1470rpm; 53.6m^3/h; 11.2bar	V 5.1z - 63/2 / N
0642427	Fuel Oil & Propane Plant	Screw Pump	" "0 0EGC13/23 AP001 0 0EGC53/63 AP001" 0	Screw pump K series; DN200 PN16 suction; DN150 PN16 discharge; EN-GJS-400-15 housing; SN: 254373 / 254376 / 254380 / 254384; 1477rpm; 91.2m^3/h; 6.5 bar	KV-1500.EXB.003936

			0EGC13/23 AP001		
0646210	Fuel Oil & Propane Plant	Screw Pump	0 0HJF82/92 AP001	Screw pump K series; DN80; PN16; EN-GJS-400-15 housing; SN: 254795 / 254797; 1426rpm; 9.7m^3/h; 2.3bar	KV-160.EXA.004051
0642430	Fuel Oil & Propane Plant	Screw Pump	0 0EGD13/23/53/63 AP001	Screw pump CG series; DN200 PN16 suction; DN150 PN40 discharge; P235GH housing; SN: 260214 / 260220 / 260231 / 260233; 1489rpm; 134.3m^3/h; 26.5 bar	CGV-2250.ECEZP.50009
0653352	Auxiliary Boiler	Dosing Pump Ammonia, type: AN-DA200-7,0 / C409.2-7,5e		Dosing Pump Ammonia, type: AN-DA200-7,0 / C409.2-7,5e	AN-DA200-7,0/C409.2-7,5e

0653364	Auxiliary Boiler	Dosing Pump Ammonia, type: KDO-200.1 / R409.2-115e	0 0QLF30 AP001 M01	Membrane pump	KDO-200.1 / R409.2-115e
0645474	Auxiliary Boiler	spare part kit -high press. dosing pump	0 0QLF30 AP002	Membrane pump	SP-KUS-F2-22052
0638270	Turbine	Pump	SDR01 AP001	Delivery capacity:230 l/min, pressure: 12.16 bar, motor rating: 8.56 kW, current supply: with 5m cable and 2,8-Amps plug, corrosion-protection: frame, tank, piping hot-dip galvanised pump, motor, gear coated	IN-VB 16-100F
0638273	Turbine	Pump	SDR01 AP002	Delivery capacity: 230 l/min, pressure: 100 bar, motor rating: 43 kW, current supply: with 5m cable and 63-Amps plug, corrosion-protection: frame, tank, piping hot-dip galvanised pump, motor, gear coated	Pratissoli, Type: MW45LP
0636682	Turbine	Pump Centrifugal	00SGA37AP001 00SGA38AP001 00SGA39AP001	Vogel - Multistage, Horizontal split case centrifugal	MPA100.2/2A-SA311A-9002

0634707	Turbine	Belt -water pump	00SGA34AP001-MM05 00SGA36AP001-MM07	Daewoo PU180TI V10 Belt-Water Pump	65968010061
0642126	Turbine	Centrifugal pump	"1 0SGA59 AP001/2/3	KIT, PMP RPR:96501898; PUMP	CR 15-7 A-F-A-E HQQE
574049	Bottom Ash Removal	PUMP, ROTARY: HPV75-02E1; HYDRAULIC	10-60MAX11AP002 KP01"	Gear Pump	HPV75-02-E1
0574035	Bottom Ash Removal	PUMP, ROTARY: HYDRAULIC; 10.8 LPM;230 BAR	10-60MAV92AP001	Gear Pump, Type: ALP2-D-12	PLP10-6.3R086E7

686867	Bottom Ash Removal	PUMP, CNTFGL: LCC-M150-500.3ETDI; 0	10-60 MAN11/12	PUMP, ROTARY: TYPE: HYDRAULIC; PORT SIZE: 1 IN; CAPACITY: 75 CM2; SPEED: VARIABLE; RATING: 420 BAR; DRIVER: ELECTRIC MOTOR; APPLICATION: HYDRAULIC DRIVE; MOUNT: SAE C FLANGE; POWER 98KW AND TORQUE 305NM AT CONTINIOUS SPEED 3100 RPM ON CONTINIOUS PRESSURE 250 BAR; ELECTRO HYDRAULICS CONTROL SOLENOIDS 24V; REVERSIBLE DIRECTION; FORWARD RELIEF VALVE SETTING 300 BAR; REVERSE RELIEF VALVE SETTING 150 BAR; INTERNAL GEAR CHARGE PUMP WITH EXTERNAL SUCTION AND ADDITIONAL GEAR OIL COOLING PUMP; 21 TEETH 16/32 SPLINE; INPUT SHAFT ON MAIN PUMP ANSI B92.1; 39.5 MM USABLE SPLINE LENGTH; OD 34.5 MM; OUTPUT 16/32 18 TEETH SPLINED; CHARGE PUMP 22.5 CC/REV; CHARGE PUMP INPUT 16/32 18 TEETH SPLINE AND OUTPUT 16/32 9 TEETH SPLINE; CHARGE PUMP MOUNTINGS INPUT / OUTPUT SIDE SAE A	
0623974	Bottom Ash Removal	PUMP, CNTFGL: LCC-M150-500.3ETDI; 0	1-6 0HDA10 AP001-KP01	PUMP, ROTARY: TYPE: HYDRAULIC; CAPACITY: 10.8 LPM; SPEED: 600/3500 RPM; RATING: 230 BAR; DRIVER: ELECTRIC MOTOR; APPLICATION: HYDRAULIC CYLINDER; SPECIFICATION: POLARIS SERIES 10; REVERSABLE WITH EXTERNAL DRAIN; EUROPEAN MOUNTING FLANGE 80MM; PILOT 56X73MM BOLT PATTERN; FOR USE ON SSC GRIZZLY HYDRAULIC SYSTEM	
0640027	Coal Plant	Pump	1-6 0HDA10 AP002	PUMP, CENTRIFUGAL: TYPE: SLURRY; SIZE: 200 X 150 MM; STAGE: 1; CAPACITY: 360 M3/HR; TOTAL HEAD: 42 M; NPSH: 0; SPEED: 1024 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: HORIZONTAL; SHAFT DIAMETER: 70	600-26877-2

				MM; AGITATION PUMP EFFICIENCY: 77PCT; SHAFT SEAL: EXPELLER; BEARING LUBRICATION: ROLL/OIL; CASING SUPPORT: PEDESTAL; DRAWING NO: B114109-03-02-GM03-00060-00; PART NO: LCC-M150-500.3ETDI; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0646798	Dust Handling Plant	PJFFP Conveying MD-Pump 80-12-10		PUMP, CENTRIFUGAL: TYPE: SLURRY; SIZE: 200 X 150 MM; STAGE: 1; CAPACITY: 360 M3/HR; TOTAL HEAD: 42 M; NPSH: 0; SPEED: 1024 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: HORIZONTAL; SHAFT DIAMETER: 70 MM; AGITATION PUMP EFFICIENCY: 77PCT; SHAFT SEAL: EXPELLER; BEARING LUBRICATION: ROLL/OIL; CASING SUPPORT: PEDESTAL; DRAWING NO: B114109-03-02-GM03-00060-00; PART NO: LCC-M150-500.3ETDI; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	ST1610
0635452	Mixed Ash Plant	PUMP: D10XKBTH FEHA; HYDRO-CELL;1 X 3/4 IN		PUMP: TYPE: HYDROCELL; SIZE: 1 X 3/4 IN; CAPACITY: 30.6 L/MIN; SPEED: 1450 RPM; RATING: 24 BAR; DRIVER: ELECTRIC MOTOR; SPECIFICATION: D10-X; POTENTIAL: 400 VAC; CASING MATERIAL: PLASTIC; APPLICATION: WATER; MODEL NO: D10XKBTHFEHA; OIL TYPE: 10W30; OIL CAPACITY: 1.05 L; GLAND SEAL FLUSH; BRASS HEAD; BUNA- DIAPHRAGM; MAXIMUM INLET PRESSURE: 17 BAR; BI-DIRECTIONAL TAPERED	

				ROLLER BEARINGS 7/8 IN; SHAFT DIA: 500 MACRONS MAXIMUM SOLID SIZE; VALVE SEAT: SS 17-4	
0647318	Flue Gas Desulphurization	Pump	"X XETG (11-17) X XETG (21-27) "	Vessel MD-Pump 80-12-10	
0647316	Flue Gas Desulphurization	Pump		PUMP: TYPE: HYDRO-CELL; SIZE: 1 X 3/4 IN; CAPACITY: 30.6 LPM; SPEED: 1450 RPM; RATING: 24 BAR; DRIVER: ELECTRIC MOTOR; SPECIFICATION: D10-X; POTENTIAL: 400 VAC; CASING MATERIAL: PLASTIC; APPLICATION: WATER; OIL TYPE: 10W30; OIL CAPACITY: 1.05L; GLAND SEAL FLUSH; BRASS HEAD; BUNA- DIAPHRAGM; MAXIMUM INLET PRESSURE: 17 BAR; BI-DIRECTIONAL TAPERED ROLLER BEARINGS 7/8IN; SHAFT DIA: 500 MACRONS MAXIMUM SOLID SIZE; VALVE SEAT: SS 17-4; MODEL NO: D10XKBTHFEHA; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0647317	Flue Gas Desulphurization	Pump		PUMP, CENTRIFUGAL: NPSH: 4.5 M; CAPACITY: 370 M3/HR; TOTAL HEAD: 77 M; SIZE: 200 X 150 MM; SPEED: 1367 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SLURRY REAGENT FEED; SPECIFICATION: LCC-R 150-500.4	

0620322	Flue Gas Desulphurization	Pump	00HTK61AP001KP01 00HTK62AP001KP01 00HTK63AP001KP01	PUMP, CENTRIFUGAL: NPSH: 2 M; CAPACITY: 120 M3/HR; TOTAL HEAD: 16 M; SIZE: 100 X 25 MM; SPEED: 1950 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR 18.5 KW 180L; TYPE: SLURRY; FIG NO: I00009-01726244750201-MEDES-3007; REFERENCE NO: 14-10195	
0620323	Flue Gas Desulphurization	Pump	00HTN41AP051 00HTN42AP051 00HTN43AP051 00HTN44AP051	PUMP, CENTRIFUGAL: NPSH: 0 M; CAPACITY: 25200 LPH; TOTAL HEAD: 25 M; SIZE: 165 X 25 MM; SPEED: 2684 RPM; STAGE: 1; DRIVER: MOTOR; TYPE: SLURRY; FIG NO: I00009-01726244750202-MEDES-3008; REFERENCE NO: AH400227	
0620324	Flue Gas Desulphurization	Pump	00HTN41AP071 00HTN42AP071 00HTN43AP071 00HTN44AP071	PUMP, CENTRIFUGAL: NPSH: 3.5 M; CAPACITY: 169 M3/HR; TOTAL HEAD: 28 M; SIZE: 100 MM; SPEED: 1475 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SUBMERSIBLE, SLURRY; MOUNT: VERTICAL; MODEL NO: HS-5150.300MT	

0635556	Flue Gas Desulphurization	Pump	10-60HTQ69AP001 10-60HTQ70AP001	PUMP, CENTRIFUGAL: NPSH: 9 M; CAPACITY: 12800 M3/HR; TOTAL HEAD: 22.1 M; SIZE: 900 X 900 MM; SPEED: 440.9 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SLURRY; SPECIFICATION: KWPKC 900-1138	
0644330	Flue Gas Desulphurization	Pump Expansion Joints		PUMP, ASSEMBLY: TYPE: HOPPER FOG; APPLICATION: LIMESTONE DUST SUPPRESSION SYSTEM; IMPELLER BEARINGS; SHAFT; SEALS AND ALL OTHER PARTS; 4KW; 70BAR; 26LPM AT 1440RPM; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0644331	Flue Gas Desulphurization	Pump Expansion Joints		PUMP, ASSEMBLY: TYPE: HOPPER SUMP; APPLICATION: SUBMERSIBLE MOTOR PUMP; SEALS; BEARINGS; SHAFT AND ALL OTHER PARTS; KSB AMAREX N F50-22-/042ULG150; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	

0654458	Flue Gas Desulphurization	PUMP, ROTARY: GREASE ;80 M3/MIN		PUMP, CENTRIFUGAL: SIZE: 125 X 100 MM; STAGE: 1; CAPACITY: 171.7 M3/HR; TOTAL HEAD: 78.5 M; NPSH: 5.62 M; SPEED: 2960 RPM; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 125-100-250; MOUNT: HORIZONTAL; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0654460	Flue Gas Desulphurization	PUMP, ROTARY: SCREW; PORT SZ 70 X 45 MM		PUMP, ASSEMBLY: TYPE: GREASE PUMP UNIT; APPLICATION: FGD BALL MILL MOBILE AND FIXED BEARING GREASING UNIT; ASSEMBLY COMES WITH THE FOLLOWING: PRESSURE GAUGES; BALL VALVE: DN06; PN-500; SAFETY VALVE SVTE; 350BAR R1/4IN 8L; NIVEAU LEVEL SENSOR: LU-SSKL-KG9; PUMP ELEMENT: K7-P203/P205; PUMP ELEMNT: KR-P203/P204; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0654462	Flue Gas Desulphurization	PUMP: PISTOL; SZ 1/2 IN;4 X 2.08 LPM		PUMP, ROTARY: TYPE: SCREW; PORT SIZE: 90 X 45 MM; CAPACITY: 76 LPM; SPEED: 970 RPM; RATING: 1.6 MPA; DRIVER: MOTOR; APPLICATION: FGD BALL MILL BEARING LUBRICATION; PART NO: L3MF45/90-IFOKOSO-W/90, VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0647711	Flue Gas Desulphurization	Pump membrane		PUMP, ROTARY: TYPE: GREASE; PORT SIZE: 1/4 X 1/4 IN; CAPACITY: 80 M3/MIN; SPEED: 2.8 STR/MIN; RATING: 7500 PSI; DRIVER: AIR MOTOR; APPLICATION:	

				FGD BALL MILL GIRTH GREASING SYSTEM; AIR OPERATED CHASSIS PUMP SERIES J-82054; MODEL NO: 082054; SERIAL NO: 007097; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0645956	Flue Gas Desulphurization	Pump		PUMP, ROTARY: TYPE: SCREW; PORT SIZE: 70 X 45 MM; CAPACITY: 90 LPM; SPEED: 1470 RPM; RATING: 1000 KPA; DRIVER: MOTOR; APPLICATION: FGD BALL MILL BEARING LUBRICATION; PART NO: L3MF45/70IFOKSO-W/70, VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0620968	Water Treatment Plant	PUMP, CNTFGL:4.5 M ;66 M ;250 X 200 MM		PUMP: TYPE: PISTOL; SIZE: 1/2 IN; CAPACITY: 4 X 2.08 LPM; SPEED: 1470 RPM; RATING: 300 KPA; APPLICATION: FGD BALL MILL BEARING LUBRICATION SKID; PART NO: R2.08.2.08.2.08.2.08; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	LS 200-500 S2VL1 20004

0620970	Water Treatment Plant	PUMP, CNTFGL:3.4 M ;90 M ;125 X 80 MM		PUMP, CENTRIFUGAL: TYPE: DRAINAGE; SIZE: 250 X 200 MM; STAGE: 1; CAPACITY: 720 M3/HR; TOTAL HEAD: 66 M; NPSH: 4.5 M; SPEED: 1485 RPM; DRIVER: ELECTRIC MOTOR; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; SHAFT DIAMETER: 55 MM; APPLICATION: STATION DIRTY DRAINS RECOVERY PUMPS; SUPPLY DATA SHEET ON DELIVERY; GENERAL ARRANGEMENT DRAWING; OPERATING AND MAINTENANCE MANUAL; FOR DESIGN AND DRAWING REFER TO ESKOM DOCUMENT NUMBER: 203-9631; MODEL NO: LS-200-500-S2VL1-20004; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	LSN 125-80-250 S1VV1 7502
0620322	Water Treatment Plant	PUMP, CNTFGL:3.5 M ;169 M3/HR ;28 M	00GME21AP001 00GME22AP001	PUMP, CENTRIFUGAL: TYPE: MAKE UP; SIZE: 200 X 150 MM; STAGE: 1; CAPACITY: 492 M3/HR; TOTAL HEAD: 67 M; NPSH: 4.3 M; SPEED: 1489 RPM; DRIVER: ELECTRIC MOTOR; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; SHAFT DIAMETER: 55 MM; APPLICATION: FLUE GAS DESULPHURIZATION RECYCLE WATER; SUPPLY DATA SHEET ON DELIVERY; GENERAL ARRANGEMENT DRAWING; OPERATING AND MAINTENANCE MANUAL; DRAWING NO: 0.90/37280; MODEL NO: LS-150-500S1VL1-16004; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	HS5150.300 MT

0620323	Water Treatment Plant	PUMP, CNTFGL:3.5 M ;169 M3/HR ;34 M	00HTQ41AP001 00HTQ42AP001 00HTQ43AP001	PUMP, CENTRIFUGAL: SIZE: 125 X 80 MM; STAGE: 1; CAPACITY: 135 M3/HR; TOTAL HEAD: 90 M; NPSH: 3.4 M; SPEED: 2970 RPM; DRIVER: ELECTRIC MOTOR; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; APPLICATION: FLY ASH CONDITIONING WATER SUPPLY; SUPPLY DATA SHEET ON DELIVERY; GENERAL ARRANGEMENT DRAWING; OPERATING AND MAINTENANCE MANUAL; DESIGN AND DRAWINGS REFER TO ESKOM DOCUMENT NUMBER: 203-9618; DRAWING NO: 0.90/37310; MODEL NO: LSN-125-80-S1VV1-7502; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	HS5150.300 MT
0620314	Water Treatment Plant	PUMP, CNTFGL:3.6 M ;169 M3/HR ;39 M	"00ETN51AP001	PUMP, CENTRIFUGAL: SIZE: 50 X 32 MM; STAGE: 1; CAPACITY: 15 M3/HR; TOTAL HEAD: 70 M; NPSH: 1.1 M; SPEED: 2935 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: VERTICAL; SHAFT DIAMETER: 42 MM; APPLICATION: COARSE CONVEYOR ASH WATER SUPPLY; MODEL NO: LSN50-32-250-S1VL11102; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	HS5150.350 MT
0620324	Water Treatment Plant	PUMP, CNTFGL:3.6 M ;169 M3/HR ;44 M	00ETN52AP001	PUMP, CENTRIFUGAL: TYPE: SUBMERSIBLE SLURRY; SIZE: 100 MM; STAGE: 1; CAPACITY: 169 M3/HR; TOTAL HEAD: 28 M; NPSH: 3.5 M; SPEED: 1475 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: VERTICAL; MODEL NO: HS-5150.300MT; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST	HS5150.350 MT

				THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	
0620120	Water Treatment Plant	PUMP, DIAPHRAGM: FERRIC CHLORIDE DOSING	00ETN11AP001 00ETN12AP001	PUMP, CENTRIFUGAL: TYPE: SUBMERSIBLE SLURRY; SIZE: 150 MM; STAGE: 1; CAPACITY: 169 M3/HR; TOTAL HEAD: 39 M; NPSH: 3.6 M; SPEED: 1457 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: VERTICAL; MODEL NO: HS-5150.350MT; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	-
0620430	Water Treatment Plant	PUMP, CNTFGL:1.62 M ;32 LPS ;12.2 M	30GME11AP001 30GME12AP001	PUMP, DIAPHRAGM: TYPE: FERRIC CHLORIDE DOSING; SIZE: 20 X 20 MM; CAPACITY: 115 LPH; SPEED: 120 RPM; RATING: 3 BAR; MOUNT: HORIZONTAL; DIRECTLY COUPLED TO A 90W; 1 PHASE; IP65/F; ELECTRIC MOTOR AND A MECHANICAL DIAPHRAGM CONTROL; SUPPLIED WITH OEM MANUAL; DATA SHEET; GENERAL ARRANGEMENT DRAWINGS AND SPARE PARTS LIST; SERIAL NO: 10/035574; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	T6A3S-B/FM
0623402	Water Treatment Plant	PUMP, CNTRFGL	00GCK51/52/53 AP001	PUMP, CENTRIFUGAL: NPSH: 3.8 M; CAPACITY: 560.5 M3/HR; TOTAL HEAD: 83.7 M; SIZE: 200 X 250 MM; SPEED: 1485 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: CPK200-500; MOUNT: HORIZONTAL; REFERENCE NO: 506385/7	CPK200-500

0623426	Water Treatment Plant	PUMP, CNTRFGL	00GCK91/92 AP001	PUMP, CENTRIFUGAL: NPSH: 5.3 M; CAPACITY: 1120 M3/HR; TOTAL HEAD: 18.4 M; SIZE: 350 MM; SPEED: 985 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MEGA-NORM 350-400; MOUNT: HORIZONTAL; REFERENCE NO: C03764/5;	MEGA-NORM 350-400;
0673825	Water Treatment Plant	PUMP, CNTRFGL	00GDK52/53 AP001	PUMP, CENTRIFUGAL: NPSH: 2 M; CAPACITY: 300 M3/HR; TOTAL HEAD: 20.4 M; SIZE: 200 X 150 MM; SPEED: 1465 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MEGACHEM 150-315; MOUNT: HORIZONTAL; REFERENCE NO: 396.111/2	MEGACHEM 150-315
0623409	Water Treatment Plant	PUMP, CNTRFGL	00GBP21/22 AP001	PUMP, CENTRIFUGAL: NPSH: 7 M; CAPACITY: 160 M3/HR; TOTAL HEAD: 10.2 M; SIZE: 125 X 100 MM; SPEED: 1440 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 100-200; MOUNT: HORIZONTAL; REFERENCE NO: 369.092/3	MEGACHEM 100-200
0623402	Water Treatment Plant	PUMP, CNTRFGL	00GCK51/52/53 AP001	PUMP, CENTRIFUGAL: NPSH: 3.8 M; CAPACITY: 560.5 M3/HR; TOTAL HEAD: 83.7 M; SIZE: 200 X 250 MM; SPEED: 1485 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: CPK200-500; MOUNT: HORIZONTAL; REFERENCE NO: 506385/7;	CPK200-500
0659840	Water Treatment Plant	PUMP, CNTRFGL	00GBN51/52AP001	PUMP, CENTRIFUGAL: NPSH: 0; CAPACITY: 45 M3/HR; TOTAL HEAD: 9 M; SIZE: 80 X 65 MM; SPEED: 1468 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HORIZONTAL; SPECIFICATION: NKG80-65-160/177; REFERENCE NO: B99071359-P116130002;	NKG80-65-160/177

0659390	Water Treatment Plant	PUMP, CNTRFGL	00GBN11/12AP001	PUMP, CENTRIFUGAL: NPSH: 2.6 M; CAPACITY: 30 M3/HR; TOTAL HEAD: 9.9 M; SIZE: 3 X 2 IN; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HORIZONTAL; SPECIFICATION: NEPO-80-50-200; DRAWING NO: 68249 REV	NEPO-80-50-200
0659397	Water Treatment Plant	PUMP, CNTRFGL	00GBN21/22AP001	PUMP, CENTRIFUGAL: NPSH: 2.6 M; CAPACITY: 30 M3/HR; TOTAL HEAD: 7.3 M; SIZE: 3 X 2 IN; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HORIZONTAL; SPECIFICATION: NEPO-80-50-200; DRAWING NO: 68250 REV 0	NEPO-80-50-200
0659841	Water Treatment Plant	PUMP, CNTRFGL	00GBN20 AP001	PUMP, CENTRIFUGAL: NPSH: 0.24 M; CAPACITY: 40 M3/HR; TOTAL HEAD: 1 M; SIZE: 2 X 2 IN; SPEED: 2900 RPM; STAGE: 1; TYPE: HORIZONTAL; SPECIFICATION: DB22; MODEL NO: DB22P-E-FF-5-25; REFERENCE NO: 131741-I14;	DB22; MODEL NO: DB22P-E-FF-5-25
0691843	Water Treatment Plant	PUMP, RTRY	00GBB11/12/13 AP001	PUMP, ROTARY: TYPE: REVERSIBLE LOBE; PORT SIZE: 10 IN; CAPACITY: 391/440 M3/HR; SPEED: 490/540 RPM; RATING: 330 KPA; DRIVER: ELECTRIC MOTOR WITH GEAR; TOTAL HEAD: 25/07 M; SPECIFICATION: VX186-368QD; MOUNT: HORIZONTAL;	VX186-368QD
0623403	Water Treatment Plant	PUMP, CNTRFGL	00GME31/32 AP001	PUMP, CENTRIFUGAL: NPSH: 2.17 M; CAPACITY: 230.06 M3/HR; TOTAL HEAD: 26.3 M; SIZE: 200 X 150 MM; SPEED: 1482 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MCP200-150 315VD; MOUNT: HORIZONTAL; REFERENCE NO: 9972457229/200	MCP200-150 315VD

0623397	Water Treatment Plant	PUMP, CNTRFGL	00GCN41/42 AP001	PUMP, CENTRIFUGAL: NPSH: 1.2 M; CAPACITY: 35 M3/HR; TOTAL HEAD: 41.3 M; SIZE: 65 X 40 MM; SPEED: 2930 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MEGA-CHEM 40-160; MOUNT: HORIZONTAL; REFERENCE NO: 396.060/1;	MEGA-CHEM 40-160
0687431	Water Treatment Plant	PUMP, CNTRFGL	00GCK11/12/13 AP001	PUMP, CENTRIFUGAL: NPSH: 1.2 M; CAPACITY: 171 M3/HR; TOTAL HEAD: 75.6 M; SIZE: 200 X 150 MM; SPEED: 1480 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: CPK150-500; MOUNT: HORIZONTAL; REFERENCE NO: 506388/90	CPK150-500
0762675	Water Treatment Plant	PUMP, CNTRFGL	00GHC11/12/13/14 AP001	PUMP, CENTRIFUGAL: NPSH: 2.6 M; CAPACITY: 330 M3/HR; TOTAL HEAD: 56 M; SIZE: 200 X 150 MM; SPEED: 1480 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HORIZONTAL; SPECIFICATION: LS150-500 S1VV1; MOUNT: HORIZONTAL; REFERENCE NO: 60353805	LS150-500 S1VV1
0662122	Water Treatment Plant	PUMP, CNTRFGL	00GHC15/16 AP001	PUMP, CENTRIFUGAL: NPSH: 5.79 M; CAPACITY: 165.2 CM/HR; TOTAL HEAD: 58.3 M; SIZE: 125 X 100 MM; SPEED: 2960 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 125-100-250; MOUNT: HORIZONTAL; SHAFT DIAMETER: 32 MM	LSN125-100-250
0673826	Water Treatment Plant	PUMP, CNTRFGL	00GCP31/32 AP001	PUMP, CENTRIFUGAL: NPSH: 4.8 M; CAPACITY: 120 M3/HR; TOTAL HEAD: 40.8 M; SIZE: 100 X 125 MM; SPEED: 2940 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 80-160; MOUNT: HORIZONTAL; REFERENCE NO: 396.109/10	MEGACHEM 80-160

0721951	Water Treatment Plant	PUMP, CNTRFGL	00GAF31/32/33 AP001	PUMP, CENTRIFUGAL: NPSH: 2.3 M; CAPACITY: 385 M3/HR; TOTAL HEAD: 10.02 M; SIZE: 200 X 250 MM; SPEED: 960 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 200-315; MOUNT: HORIZONTAL; REFERENCE NO: C03627/9	MEGANORM 200-315
0761800	Water Treatment Plant	PUMP, CNTRFGL	00GKC42/43/44 AP001	PUMP, CENTRIFUGAL: NPSH: 4.3 M; CAPACITY: 180 M3/HR; TOTAL HEAD: 67 M; SIZE: 125 X 80 MM; SPEED: 2965 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: LSN125-80 250 S1VL1; MOUNT: HORIZONTAL; SUPPL P/N: 61220402	LSN125-80 250 S1VL1
0762659	Water Treatment Plant	PUMP, CNTRFGL	00GCK21/22/23 AP001	PUMP, CENTRIFUGAL: NPSH: 1.9 M; CAPACITY: 171 M3/HR; TOTAL HEAD: 40.87 M; SIZE: 125 X 100 MM; SPEED: 1475 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 100-400; MOUNT: HORIZONTAL; REFERENCE NO: 396.100/2	MEGACHEM 100-400
0757041	Water Treatment Plant	PUMP, CNTRFGL	00GCH71/72/73 AP001	PUMP: TYPE: LIQUID RING VACUUM; SIZE: 5 X 5 IN; CAPACITY: 900 M3/HR; SPEED: 970 RPM; RATING: 33 MBAR ABS; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MVT 410-260	MVT 410-260
0644961	Water Treatment Plant	PUMP, CNTRFGL	00GCH81/82/83 AP001	PUMP: TYPE: LIQUID RING VACUUM; SIZE: 4 X 4 IN; CAPACITY: 561 M3/HR; SPEED: 970 RPM; RATING: 33 MBAR ABS; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MVT 274-300; REFERENCE NO: 1302-003	MVT 274-300
0761799	Water Treatment Plant	PUMP, CNTRFGL	00LDP40/50/60 AP001	PUMP, CENTRIFUGAL: NPSH: 5.52 M; CAPACITY: 120.03 M3/HR; TOTAL HEAD: 107.8 M; SIZE: 100 X 65 MM; SPEED: 2985 RPM; STAGE: 1; DRIVER: ELECTRIC	MCP100-065 315VD

				MOTOR; SPECIFICATION: MCP100-065 315VD; MOUNT: HORIZONTAL; SUPPL P/N: 2135903615	
0623392	Water Treatment Plant	PUMP, CNTRFGL	00LDN21/22/41/42 AP001	PUMP, CENTRIFUGAL: NPSH: 2 M; CAPACITY: 25 M3/HR; TOTAL HEAD: 30 M; SIZE: 50 X 32 MM; SPEED: 2880 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MEGACHEM 32-160; MOUNT: HORIZONTAL; SUPPL P/N: 2125900X0X; REFERENCE NO: 396.096/7; 396.098/9	MEGACHEM 32-160
0623393	Water Treatment Plant	PUMP, CNTRFGL	10LDK11/12/13 AP001 20LDK11/12/13 AP001 30LDK11/12/13 AP001 40LDK11/12/13 AP001 50LDK11/12/13 AP001 60LDK11/12/13 AP001	PUMP, CENTRIFUGAL: NPSH: 3.8 M; CAPACITY: 1100 M3/HR; TOTAL HEAD: 64.4 M; SIZE: 300 X 250 MM; SPEED: 1473 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: CPK250-500; MOUNT: HORIZONTAL; REFERENCE NO: 506367/9	CPK250-500
0620431	Water Treatment Plant	PUMP, CNTRFGL	00GTA60AP001/002	PUMP, CENTRIFUGAL: NPSH: 2.4 M; CAPACITY: 130 M3/HR; TOTAL HEAD: 12 M; SIZE: 125 X 100 MM; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: FILTER SUPPLY; MOUNT: HORIZONTAL; SHAFT DIAMETER: 38.1 MM; REFERENCE NO: 9372521-547	
0620430	Water Treatment Plant	PUMP, CNTRFGL	00GQB10AP001/002	PUMP, CENTRIFUGAL: NPSH: 2.4 M; CAPACITY: 130 M3/HR; TOTAL HEAD: 12 M; SIZE: 125 X 100 MM; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: FILTER SUPPLY; MOUNT:	

				HORIZONTAL; SHAFT DIAMETER: 38.1 MM; REFERENCE NO: 9372521-547	
0693239	Water Treatment Plant	PUMP, CNTRFGL	00GME11/12/13 AP001	PUMP, CENTRIFUGAL: NPSH: 4.28 M; CAPACITY: 98.59 M3/HR; TOTAL HEAD: 58.32 M; SIZE: 100 MM; SPEED: 2948 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SUBMERSIBLE; SPECIFICATION: KRTD 80-315/372 UG1-S; MODEL NO: UGI449273	KRTD 80-315/372 UG1-S; MODEL NO: UGI449273
0623394	Water Treatment Plant	PUMP, CNTRFGL	00LDN61/62 AP001	PUMP, CENTRIFUGAL: NPSH: 1.5 M; CAPACITY: 40 M3/HR; TOTAL HEAD: 30 M; SIZE: 65 X 40 MM; SPEED: 2890 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MEGA-CHEM 40-160; MOUNT: HORIZONTAL; REFERENCE NO: 396.094/5;	MEGA-CHEM 40-160
	Water Treatment Plant	PUMP, CNTRFGL	00GRK10AP001/002	PUMP, CENTRIFUGAL; CAPACITY: 3.1 M3/HR; RATING: 10 BAR; TOTAL HEAD: 55.94 M; SIZE: 1 INCH X 1 INCH; SPEED: 2900 RPM; STAGES: 8; PUMP HOUSING MATERIAL: ASTM A48-25A; IMPELLER MATERIAL: AISI 304; DRIVER: ELECTRIC MOTOR: 1.1 KW;	CM3-8A-R-A-E-AQQEF-A-A-N
0655099	Water Treatment Plant	PUMP, RCPRTG	00GBN31/32 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 5/8 X 5/8 IN; STYLE: ONE; CAPACITY: 1150 L/HR; SPEED: 146 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 1.1 KW; SPECIFICATION: DMH 257; SUPPL P/N: 957-126-58; REFERENCE NO: 1000-0000-1/1; PUMP BODY MATERIAL: AL; HEAD: PVC; DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PE;	DMH 257

0648366	Water Treatment Plant	PUMP, RCPRTG	00GCN35/36 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32; STYLE: ONE; CAPACITY: 440 L/HR; SPEED: 56 N/M; RATING: 4 BAR; DRIVER: ELECTRIC MOTOR 1.1 KW; SPECIFICATION: DMH 257; SUPPL P/N: 967-249-72/957-386-57; REFERENCE NO: 1000.000.0-1/P2/5; PUMP BODY MATERIAL: AL; HEAD: PVC; DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PE;	DMH 257
0648365	Water Treatment Plant	PUMP, RCPRTG	00GCN51/52 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32; STYLE: ONE; CAPACITY: 750 L/HR; SPEED: 73 N/M; RATING: 4 BAR; DRIVER: ELECTRIC MOTOR 1.1 KW; SPECIFICATION: DMH 257; SUPPL P/N: 957-386-55; REFERENCE NO: 1000.000.0-1/P3; PUMP BODY MATERIAL: AL; HEAD: PVC; DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PP;	DMH 257
0648334	Water Treatment Plant	PUMP, RCPRTG	00GCN31/32 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 5/8 X 5/8 IN; STYLE: ONE; CAPACITY: 5 L/HR; SPEED: 29 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.09 KW; SPECIFICATION: DMH 251; SUPPL P/N: 957-386-56; REFERENCE NO: 1000.000.0-1/P4; PUMP BODY MATERIAL: AL; HEAD: PVC; DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PE	DMH 251
0655102	Water Treatment Plant	PUMP, RCPRTG	00GBN34/35 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32 MM; STYLE: ONE; CAPACITY: 143 L/HR; SPEED: 75 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.55 KW; SPECIFICATION: DMH 254; SUPPL P/N: 957-250-65/957-263-95; REFERENCE NO: 1000-0000-1/6-27; PUMP BODY MATERIAL: AL; HEAD: PVC;	DMH 254

				DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PE;	
0648354	Water Treatment Plant	PUMP, RCPRTG	00GBN14/15 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 5/8 X 5/8 IN; STYLE: ONE; CAPACITY: 38 L/HR; SPEED: 96 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.09 KW; SPECIFICATION: DMH 252; SUPPL P/N: 957-386-58; REFERENCE NO: 1000.000.0-1/P7; PUMP BODY MATERIAL: AL; HEAD; PVDF; DIAPHRAGM: PTFE; VALVE BODY: PVDF; VALVE BALL: PTFE; VALVE SEAT: PTFE	DMH 252
0648352	Water Treatment Plant	PUMP, RCPRTG	00GBN41/42 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 5/8 X 5/8 IN; STYLE: ONE; CAPACITY: 46 L/HR; SPEED: 120 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.09 KW; SPECIFICATION: DMH 252; SUPPL P/N: 957-386-59; REFERENCE NO: 1000.000.0-1/P8; PUMP BODY MATERIAL: AL; HEAD: PVC; DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PE;	DMH 252
0648364	Water Treatment Plant	PUMP, RCPRTG	00GDN11/12 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32; STYLE: ONE; CAPACITY: 440 L/HR; SPEED: 56 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 1.1 KW; SPECIFICATION: DMH 257; SUPPL P/N: 957-382-17; REFERENCE NO: 1000.000.0-1/P9; PUMP BODY MATERIAL: AL; HEAD; PVDF; DIAPHRAGM: PTFE; VALVE BODY: PVDF; VALVE BALL: PTFE; VALVE SEAT: PTFE;	DMH 257

0655100	Water Treatment Plant	PUMP, RCPRTG	00GDN21/22 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 5/8 X 5/8 IN; STYLE: ONE; CAPACITY: 1151 L/HR; SPEED: 146 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 1.1 KW; SPECIFICATION: DMH 257; SUPPL P/N: 957-386-60; REFERENCE NO: 1000-0000-1/10; PUMP BODY MATERIAL: AL; HEAD: SS; DIAPHRAGM: PTFE; VALVE BODY: 316 L; VALVE BALL: 316 L; VALVE SEAT: 316 L	DMH 257
0648351	Water Treatment Plant	PUMP, RCPRTG	00GBN24/25 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 5/8 X 5/8 IN; STYLE: ONE; CAPACITY: 24 L/HR; SPEED: 120 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.09 KW; SPECIFICATION: DMH 251; SUPPL P/N: 957-386-61; REFERENCE NO: 1000.000.0-1/P14; PUMP BODY MATERIAL: AL; HEAD: SS; DIAPHRAGM: PTFE; VALVE BODY: 316L; VALVE BALL: 316L; VALVE SEAT: 316L	DMH 251
0648353	Water Treatment Plant	PUMP, RCPRTG	00GBN37/38 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 5/8 X 5/8 IN; STYLE: ONE; CAPACITY: 37 L/HR; SPEED: 96 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.09 KW; SPECIFICATION: DMH 252; SUPPL P/N: 957-386-62; REFERENCE NO: 1000.000.0-1/P12; PUMP BODY MATERIAL: AL; HEAD: PVC; DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PE;	DMH 252
0655101	Water Treatment Plant	PUMP, RCPRTG	00GBN86/87/96/97 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 11/4 X 11/4 IN; STYLE: ONE; CAPACITY: 66.5 L/HR; SPEED: 96 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.18 KW; SPECIFICATION: DMH 253; SUPPL P/N: 957-316-63; REFERENCE NO: 1000-0000-2-3/13-14;	DMH 253

				PUMP BODY MATERIAL: AL; HEAD: PVC; DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PE;	
0648355	Water Treatment Plant	PUMP, RCPRTG	00GBN81/82/91/92 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: 11/4 X 11/4 IN; STYLE: ONE; CAPACITY: 67 L/HR; SPEED: 96 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.18 KW; SPECIFICATION: DMH 253; SUPPL P/N: 957-386-63; REFERENCE NO: 1000.000.2-3/P15/16; PUMP BODY MATERIAL: AL; HEAD; PVDF; DIAPHRAGM: PTFE; VALVE BODY: PVDF; VALVE BALL: PTFE; VALVE SEAT: PTFE;	DMH 253
0648357	Water Treatment Plant	PUMP, RCPRTG	00LDN11/12 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32; STYLE: ONE; CAPACITY: 1500 L/HR; SPEED: 146 N/M; RATING: 4 BAR; DRIVER: ELECTRIC MOTOR 1.1 KW; SPECIFICATION: DMH 257; SUPPL P/N: 957-370-96; REFERENCE NO: 1000.000.0-1/P17; PUMP BODY MATERIAL: AL; HEAD; PVDF; DIAPHRAGM: PTFE; VALVE BODY: PVDF; VALVE BALL: PTFE; VALVE SEAT: PTFE;	DMH 257
0648359	Water Treatment Plant	PUMP, RCPRTG	00LDN31/32 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32; STYLE: ONE; CAPACITY: 1150/2 L/HR; SPEED: 146 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 1.5 KW; SPECIFICATION: DMH 257; SUPPL P/N: 957-370-97; REFERENCE NO: 1000.000.0-1/P18+25; PUMP BODY MATERIAL: AL; HEAD: SS; DIAPHRAGM: PTFE; VALVE BODY: 316 L; VALVE BALL: 316 L; VALVE SEAT: 316 L	DMH 257

0659839	Water Treatment Plant	PUMP, RCPRTG	10LFN31/32 AP001 20LFN31/32 AP001 30LFN31/32 AP001 40LFN31/32 AP001 50LFN31/32 AP001 60LFN31/32 AP001	PUMP, RECIPROCATING: TYPE: DOSING; SIZE: 1 IN; STYLE: ONE; CAPACITY: 310 L/HR; SPEED: 97 RPM; RATING: 20 BAR; SPECIFICATION: RF410.2-310KM; SUPPL P/N: WP353636	RF410.2-310KM
0648358	Water Treatment Plant	PUMP, RCPRTG	00GCN11/12 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32; STYLE: ONE; CAPACITY: 1150 L/HR; SPEED: 146 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 1.1 KW; SPECIFICATION: DMH 257; SUPPL P/N: 957-364-14; REFERENCE NO: 1000.000.0-1/P26; PUMP BODY MATERIAL: AL; HEAD; PVDF; DIAPHRAGM: PTFE; VALVE BODY: PVDF; VALVE BALL: PTFE; VALVE SEAT: PTFE;	DMH 257
0648356	Water Treatment Plant	PUMP, RCPRTG	00LFN41/42 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32; STYLE: ONE; CAPACITY: 143 L/HR; SPEED: 75 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.55 KW; SPECIFICATION: DMH 254; SUPPL P/N: 957-335-12; REFERENCE NO: 1000.000.0-1/P28	DMH 254
0648359	Water Treatment Plant	PUMP, RCPRTG	00GCN21/22 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32; STYLE: ONE; CAPACITY: 1150/2 L/HR; SPEED: 146 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 1.5 KW; SPECIFICATION: DMH 257; SUPPL P/N: 957-370-97; REFERENCE NO: 1000.000.0-1/P18+25; PUMP BODY MATERIAL: AL; HEAD: SS; DIAPHRAGM:	DMH 257

				PTFE; VALVE BODY: 316 L; VALVE BALL: 316 L; VALVE SEAT: 316 L	
0655102	Water Treatment Plant	PUMP, RCPRTG	00LFN51/52 AP001	PUMP, RECIPROCATING: TYPE: DIAPHRAGM DOSING; SIZE: DN32 MM; STYLE: ONE; CAPACITY: 143 L/HR; SPEED: 75 N/M; RATING: 10 BAR; DRIVER: ELECTRIC MOTOR 0.55 KW; SPECIFICATION: DMH 254; SUPPL P/N: 957-250-65/957-263-95; REFERENCE NO: 1000-0000-1/6-27; PUMP BODY MATERIAL: AL; HEAD: PVC; DIAPHRAGM: PTFE; VALVE BODY: PVC; VALVE BALL: GLASS; VALVE SEAT: PE;	DMH 254
0636709	Auxiliary cooling common closed cycle pumps	PUMP, CENTRIFUGAL	01PGC21/22/23/24 AP001 02PGC21/22/23/24 AP001	PUMP, CENTRIFUGAL: NPSH: 25 M; CAPACITY: 565 M3/HR; TOTAL HEAD: 50 M; SIZE: 200 X 250 MM; SPEED: 1485 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: END SUCTION; MODEL NO: LS200-500 SL113204	LS200-500 SL113204
0636710	Auxiliary cooling common open cycle pump	PUMP, CENTRIFUGAL	01PCC 11/12/13/14 AP001 02PCC 11/12/13/14 AP001	PUMP, CENTRIFUGAL: NPSH: 10 M; CAPACITY: 248.4 M3/HR; TOTAL HEAD: 31 M; SIZE: 200 X 250 MM; SPEED: 1475 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: END SUCTION; MOUNT: VERTICAL; MODEL NO: LS200-350 S1VL1; WORKING PRESSURE: 3.2 BAR; IMPELLER TYPE: RADIAL; IMPELLER DIA: MAX 330 MM; DESIGNED 313.6 MM; IMPELLER SHAFT: 270 MM; POWER: 55.9 KW	LS200-350 S1VL1
0636711	Auxiliary cooling	PUMP, CENTRIFUGAL	10PCC11/12/13/14 AP001 20PCC11/12/13/14	PUMP, CENTRIFUGAL: NPSH: 13 M; CAPACITY: 1720 M3/HR; TOTAL HEAD: 50 M; SIZE: 16 X 14 IN; SPEED: 1485 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR;	ITT3409

	Unitized Closed cycle		AP001 30PCC11/12/13/14 AP001 40PCC11/12/13/14 AP001 50PCC11/12/13/14 AP001 60PCC11/12/13/14 AP001	TYPE: DOUBLE SUCTION SPLIT CASE; MOUNT: HORIZONTAL	
0636712	Auxiliary cooling Unitized Open Cycle Pumps	PUMP, CENTRIFUGAL	10PGC21/22/23 AP001 20PGC21/22/23 AP001 30PGC21/22/23 AP001 40PGC21/22/23/AP001 50PGC21/22/23 AP001 60PGC21/22/23 AP001	PUMP, CENTRIFUGAL: NPSH: 25 M; CAPACITY: 1711 M3/HR; TOTAL HEAD: 50 M; SIZE: 20 X 18 IN; SPEED: 990 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: DOUBLE SUCTION SPLIT CASE; MOUNT: HORIZONTAL	ITT3420
0721507	Plant Drains Recovery System	PUMP, CNTRFGL	00GME21/22AP001	PUMP, CENTRIFUGAL: NPSH: 4.5 M; CAPACITY: 720 M3/HR; TOTAL HEAD: 66 M; SIZE: 200 X 250 MM; SPEED: 1485 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: DRAINAGE; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; SHAFT DIAMETER: 55 MM; MODEL NO: LS-200-500-S2VL1-20004	LS-200-500-S2VL1-20004

0620969	Plant Drains Recovery System	PUMP, CNTRFGL	00ETA11/12/13/14/15AP001	PUMP, CENTRIFUGAL: TYPE: SUPPLY; SIZE: 150 X 125 MM; STAGE: 1; CAPACITY: 280 M3/HR; TOTAL HEAD: 84 M; NPSH: 6.1 M; SPEED: 2950 RPM; DRIVER: ELECTRIC MOTOR; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; SHAFT DIAMETER: 55 MM; APPLICATION: MILL REJECT AND SUBMERGED SCRAPER CONVEYOR MAKE UP WATER SUPPLY; SUPPLY DATA SHEET ON DELIVERY; GENERAL ARRANGEMENT DRAWING; OPERATING AND MAINTENANCE MANUAL; DESIGN AND DRAWINGS REFER TO ESKOM DOCUMENT NUMBER: 203-9624; DRAWING NO: 0.90/37330; MODEL NO: LSN-125-330-S1VL1-13202;	LSN 125-330 S1VL1 13202
0620967	Plant Drains Recovery System	PUMP, CNTRFGL	00HTQ41/42/43AP001	PUMP, CENTRIFUGAL: TYPE: MAKE UP; SIZE: 200 X 150 MM; STAGE: 1; CAPACITY: 492 M3/HR; TOTAL HEAD: 67 M; NPSH: 4.3 M; SPEED: 1489 RPM; DRIVER: ELECTRIC MOTOR; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; SHAFT DIAMETER: 55 MM; APPLICATION: FLUE GAS DESULPHURIZATION RECYCLE WATER; SUPPLY DATA SHEET ON DELIVERY; GENERAL ARRANGEMENT DRAWING; OPERATING AND MAINTENANCE MANUAL; DRAWING NO: 0.90/37280; MODEL NO: LS-150-500S1VL1-16004;	LS 150-500S1VL1 16004
0620970	Plant Drains Recovery System	PUMP, CNTRFGL	00ETN51/52/53AP001	PUMP, CENTRIFUGAL: SIZE: 125 X 80 MM; STAGE: 1; CAPACITY: 135 M3/HR; TOTAL HEAD: 90 M; NPSH: 3.4 M; SPEED: 2970 RPM; DRIVER: ELECTRIC MOTOR; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; APPLICATION: FLY ASH CONDITIONING WATER SUPPLY; SUPPLY DATA SHEET ON DELIVERY; GENERAL ARRANGEMENT DRAWING; OPERATING	LSN 125-80-250 S1VV1 7502

				AND MAINTENANCE MANUAL; DESIGN AND DRAWINGS REFER TO ESKOM DOCUMENT NUMBER: 203-9618; DRAWING NO: 0.90/37310; MODEL NO: LSN-125-80-S1VV1-7502;	
0620325	Plant Drains Recovery System	PUMP, CNTRFGL	00ETN11/12AP001	PUMP, CENTRIFUGAL: SIZE: 50 X 32 MM; STAGE: 1; CAPACITY: 15 M3/HR; TOTAL HEAD: 70 M; NPSH: 1.1 M; SPEED: 2935 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: VERTICAL; SHAFT DIAMETER: 42 MM; APPLICATION: COARSE CONVEYOR ASH WATER SUPPLY; MODEL NO: LSN50-32-250-S1VL11102;	LSN 50-32-250 S1VL1 1102
0620322	Plant Drains Recovery System	PUMP, CNTRFGL	10GME11/12AP001	PUMP, CENTRIFUGAL: TYPE: SUBMERSIBLE SLURRY; SIZE: 100 MM; STAGE: 1; CAPACITY: 169 M3/HR; TOTAL HEAD: 28 M; NPSH: 3.5 M; SPEED: 1475 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: VERTICAL; MODEL NO: HS-5150.300MT;	HS5150.300 MT
0620323	Plant Drains Recovery System	PUMP, CNTRFGL	20GME11/12AP001	PUMP, CENTRIFUGAL: TYPE: SUBMERSIBLE SLURRY; SIZE: 100 MM; STAGE: 1; CAPACITY: 169 M3/HR; TOTAL HEAD: 34 M; NPSH: 3.5 M; SPEED: 1480 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: VERTICAL;	HS5150.300 MT
0620314	Plant Drains Recovery System	PUMP, CNTRFGL	30GME11/12AP001	PUMP, CENTRIFUGAL: TYPE: SUBMERSIBLE SLURRY; SIZE: 150 MM; STAGE: 1; CAPACITY: 169 M3/HR; TOTAL HEAD: 39 M; NPSH: 3.6 M; SPEED: 1457 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: VERTICAL; MODEL NO: HS-5150.350MT;	HS5150.350 MT
0620324	Plant Drains Recovery System	PUMP, CNTRFGL	50GME11/12AP001	PUMP, CENTRIFUGAL: TYPE: SUBMERSIBLE SLURRY; SIZE: 150 MM; STAGE: 1; CAPACITY: 169 M3/HR; TOTAL	HS5150.350 MT

				HEAD: 44 M; NPSH: 3.6 M; SPEED: 1475 RPM; DRIVER: ELECTRIC MOTOR; MOUNT: VERTICAL;	
0679658	Plant Drains Recovery System	PUMP, CNTRFGL	0 0ETN84/85AP001	PUMP, CENTRIFUGAL: NPSH: 5.52 M; CAPACITY: 125 M3/HR; TOTAL HEAD: 98 M; SIZE: 80 X 50 MM; SPEED: 2622 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: ANSI B73.1; MOUNT: HORIZONTAL; SUPPL P/N: ETN84-85; REFERENCE NO: 3196 LTI; DENSITY RANGE 1000-1200 KG/M3; PH: 5–8; SITE ALTITUDE: 1504 MASL	3196 LTI