



V2-S2.1.1:
Equipment Data Sheet — Set A Package-A

DATA SHEET – A

Sl. No.	ITEM	UNITS	VALUE
1	Belt Conveyors		
1.1	Capacity (rated) Design capacity		1200TPH 1,440 TPH (120% of rated)
1.2	Type of belt		Belt shall be of EP including belt feeder - The cover grade shall be Fire retardant anti-static as per BS-490 PART II. FR property shall conform to Canadian standard specification CAN/CSA-M422-M87 GRADE 'C'.
1.3	Belt width & belt speed	mm	1,800 mm, ≤1.5 m/s (KEY REQUIREMENT for effective stone removal)
1.4	Minimum thickness of cover	mm	Top – 5 Bottom – 3
1.5	Minimum no. plies		4, Moulded Edge, FR grade
1.6	Ratio of working tension to allowable tension		90 % (maximum)
2	Pulley		
2.1	Type		As per write up. Heavy duty type (Shell shall be fabricated with center diaphragm). Minimum shell thickness 16 mm for non-drive and 20 mm for drive pulleys, or higher based on actual calculation. However, exact thickness shall be selected based on



			design calculation.
2.2	Bearing and its life	Hrs.	Self-aligning double row spherical bearing with life of 50,000 hrs.
2.3	Pulley width	mm	Belt width + 200 mm
2.4	Details of lagging		Hot vulcanizing & Edge Capping: 12 mm thick Diamond Groove type for drive pulleys and 10 mm plain type for non-drive pulleys. ISO 284 (Anti-static) and ISO 340 (Flame retardant) standards to match belt
2.5	Material of Plummer Block		Cast Iron FG 260
2.6	Hub		Cast Steel, Gr-II, IS: 1030 or fabricated from forged steel, IS: 1875
2.7	Shaft		Above 150mm dia, 42Cr4Mo2/EN 8 as per IS:1570; Below and including 150mm dia, class IV, IS:1875
3	Idlers		
3.1	Style		(i) <u>Carrying & carrying training idlers</u> – Shall be of 3 rollers with 35 ° troughing angle. (ii) <u>Return and return training</u> – v - Type 15 deg 2 roll type for horizontal portion of conveyors 500m long & above. For horizontal portion of conveyors less than 500m, single roll return and return training idlers. (iii) <u>Impact idlers</u> –

			Shall be of 3 rollers with 35 ° troughing angle. Impact Cradle or Heavy-Duty Impact Idlers with thick rubber rings consider specifically at feeder breaker discharge
3.2	Pipe Diameter and shell thickness		Roller dia. and thickness shall be minimum 178 mm & minimum 6 mm for carrying side idlers except impact idlers. Roller dia. and thickness shall be minimum 139.7 & 5.4 mm for return side idlers. Minimum thickness of bearing housings shall be 3.15 mm Impact Idlers shall be of 159.0 mm pipe dia. and 6-8.0 mm (Steel core thickness before the rubber rings are added) and shall confirm to IS:9295/IS:3601/BS:1775
3.3	Side brackets for Idlers		Shall be of 'C' Type
3.4	Transition idlers		Construction shall be same as carrying idlers. Transition idlers shall be provided on both the ends (tail end and head end side)
3.5	TIR		As per IS:8598
3.6	Bearing type, size & life		Seize resistant deep groove ball bearing with min. 30mm dia. for all carrying & return side idlers and 35mm dia. for impact idler. Bearing shall be with double labyrinth seals, life of bearings shall be min 30,000 Hrs.



3.7	Lubrication		Life lubricated
3.8	Spacing	M	Carrying - 1.0 Return - 3.0. However, the spacing of the first return idler from the head and tail pulleys shall be 2500 mm. Impact - 500mm (min 6 sets shall be provided at loading point)
3.9	Maximum friction of each idler unit		Shall not exceed 0.015
4	Carrying Training (SA Carrying) & Return Training Idlers (SA Return) Data.		
4.1	Style		Similar to carrying and return idlers shall be provided on thrust bearing for swiveling. Side guide rollers shall be provided. Heavy duty pivot arrangement should be provided.
4.2	Spacing		15 m from each terminal or bend pulley and 24 m apart thereafter
5	Technological structures		
5.1	Stringers/Short supports		Min. stringer size - ISMC-150 and minimum short support size shall be ISMC 125 for LHS conveyors.
5.2	Deck plate		Min. 3.15 mm for full length of conveyors including trunk conveyor
5.3	Tensioning arrangement		vertical / horizontal gravity type take-up for conveyor.

5.4	Take up Travel length		Contractor shall consider the following for take-up length: A) B) EP belt - shall be 2.5% + 600mm of conveyor horizontal C/C length
5.5	Type and number of belt cleaners		1. Head end scrapper shall be made of flat rubber strip considering suitable scrapper ability. 2. Metallic/spring-based scrapper is not envisaged at head end. 3. Tail end scrapper shall be required i.e. V-plough type internal scraper at tail end.
5.6	Skirt boards		Skirt boards shall be provided for a minimum of 3 m from leading edge of chute. Skirt floor shall be made from 5mm SS liner (SS409) with 12 mm thick MS mother plate. All hood plate shall be from 5mm ss plate
5.7	Discharge chutes		5mm SS liner (SS409) with 12 mm thick MS mother plate. The side plate angle of the chutes shall be min. 70 deg for lignite.
6	Belt Protection Switches		Non-Flame Proof type for over ground conveyors
6.1	Pull-chord type emergency switches		Pairs of addressable switches at 30m interval (Min. 2 pairs per conveyor (with LED indication))



6.2	Belt sway switch		Pairs of addressable switches at 50m interval (min. 2 pairs per conveyor)
6.3	Zero speed switch		Electronic non-contact type; 1 No. at tail pulley
6.4	Emergency push buttons		One (1) each at head end & tail end.
7	CONVEYOR GALLERIES		
7.1	Type of gallery		Refer write-up , wider canopy type gallery + Fully enclosed galleries
7.2	Width of walkway		For single conveyor gallery 1000mm both side minimum.
7.3	Crossovers inside the conveyor		Shall be provided at suitable location
7.4	Walkway Grating		Electroforged Hot dip GI grating Size 30mm flat: Loading member Size 8mm: twisted bar Opening : 100mm x 30mm
8	<u>FEEDER BREAKERS</u>		
8.1	Designation		Feeder Breaker: FB-1
8.2	Feeder		
8.2.1	Type		Chain & flight bar type
8.2.2	Capacity (Rated/Design)	TPH	Max. Capacity: 1200 TPH (Rated) / 1,440 TPH (120% of rated)



			Operating Range: 5%-100% (60TPH to 1200TPH)
8.2.3	Number required	Nos	1
8.2.4	Material handled and Maximum Lump size of input material		Lignite / imported coal; ROM Lump size 1000 mm to 1200 mm (nominal) with stones size upto 1000 mm
8.2.5	Hopper capacity		90M ³ (Minimum)
8.2.6	Feed to feeder breaker through		Truck/ dumper
8.3	<u>Material of Construction</u>		
8.3.1	Chain		As per approved vendor list / as per OEM
8.3.2	Pans		Mn steel as per IS-276/ as per OEM
8.3.3	Sprocket		Forged Steel
8.3.4	Type of Drive		Electro-mechanical with VFD
8.4	Breaker		
8.4.1	Type		
8.4.2	Capacity (Rated/Design)	TPH	1200/1440
8.4.3	Number required		One
8.4.4	Material Lignite		As above



8.4.5	Material Properties		Refer write-up section
8.4.6	Output size		(-) 250 mm
8.4.7	Type of drive		Electro-mechanical type
8.5	<u>Material of construction</u>		
8.5.1	Rolls		Mn Steel as Per IS – 276 Grade III
8.5.2	Breaker plate		Mn Steel as Per IS – 276 Grade III
8.5.3	Liner Plate for Frame		Sail hard/SS (Finalized during detailing)
8.5.4	Minimum rating of drive motor	KW	Bidder to Indicate
9	INLINE BELT CONVEYOR SCALES (<u>Indicative details given, refer C&I section for details</u>)		
9.1	Type		Electronic/MICROPROCESSOR BASED LOAD CELL & multi idler TYPE.
9.2	Number Required		One
9.3	Designation		As per flow diagram
9.4	Location		Refer flow diagram or decided during detailing
9.5	Belt width	MM	As above
9.6	Belt speed	M/Sec.	As above

Gujarat Industries Power Company Limited (GIPCL)

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9.7	Troughing angle	DEGREE	35
9.8	Rated Capacity	TPH	As above
9.9	Material handled		Lignite
9.10	Material Properties		As above
9.11	Accuracy for individual weighment		Refer C&I section
9.12	Range		5% to 120% of rated capacity requirement with 100% overload protection/ as per C&I section
9.13	Type of load cell		Temperature compensated hermetically sealed and protected against shock and vibration
9.14	Measurement provisions		Flow rate indicator & Totalizer
9.15	Type of totaliser		Digital, Eight Digits
9.16	Local rate indicator		Required
9.17	Remote rate indicator		Required
9.18	Location of totalizer and remote rate indicator		LHS Control Room
9.19	Test weight for calibration		Required
9.20	No. of weigh idlers set		Minimum-4



10	PLAIN WATER SUPPRESSION SYSTEM		
10.1	Nozzle		Solid cone spray nozzle 1/2" MOC : Housing CI , Nozzle tip SS304, flow 6.5m ³ /Hr,
11	FIRE WATER FOR NEW LIGNITE SYSTEM		
11.1	Tapping from nearest point and laying of the fire line. Providing of the hydrant at suitable location		Yes (Bidder's to provide the detailed arrangement as per write-up)
11.2	Location		a) As per write-up b) Locations of tapping shall be decided during detailing
11.3	Fire Hydrant / riser landing point (at every 15-meter distance) – IS5290		As per existing system (Bidder has to assess during site visit)
	Hose reel (Assembly)		3 no's
11.4	Fire Monitor		1750 ltr/Minute, 100NB i/l size. Minimum three no's. May change during detailing
11.5	Fire sprinkler nozzle type		Medium Velocity Water Spray Nozzle MODEL MV-A, MAKE - HD FIRE, THREAD SIZE - 1/2" BSPT, SPRAY ANGLE - 120 DEGREE, K-FACTOR 22,; MOC:-Forged Brass to IS 219,Gr1 Working Pressure:- 1.4 to 7 kgf/sq.cm, Finish:- Nickel Chrome plated
12	DUMP HOPPERS		
12.1	Numbers Required	Nos.	One (1) NOS. Hopper receive/unloading the material from 2 dumpers at time.



12.2	Material Handled		Lignite
12.3	Bulk density of material to be handled	kg/m3	As above
12.4	Capacity	Tones	Minimum 90M3 (Effective subject to change during detailing) to be confirm by bidder considering required discharge feed rate
12.5	Grizzly size Whether Covering required on top of hopper		Yes. Grizzly 300 x 300 size. Grizzly shall be designed in such a way that it will take the load of truck/Dumper movement in case of overrun. Grill plate thickness of 20mm
12.6	Type of construction of hoppers		Mother Plate thickness of 16mm Minimum MS confirming to IS 2062 Gr. B
12.7	Minimum Hopper size at top	mm	Bidder to indicate considering the truck/dumper specification & machine specification
12.8	Hopper side plate angle with horizontal	Deg	70 Deg Min.
12.9	Shed over hopper required		Required
12.10	Liner		5mm thick SS liners Conforming To AISI 409M (Size 250 MM X 250 MM)
12.11	Minimum size at top	Mm	by the bidder
12.12	Hopper side plate angle with horizontal	Deg	65 (MIN)



13	BRU/SURFACE FEEDER		
13.1	Capacity (rated / design)		1000 / 1100 TPH for Lignite
13.2	Make		AS PER SPECIFICATION
13.3	Material to be handled		Lignite,
13.4	Bulk density (T / CUM)		Refer Package-A
13.5	Lump Size		Refer Package-A
13.6	Type of feed		To be suitable for Through payloaders and Dozers and Hyd. Trucks.
13.7	Overall length (MM)		BY BIDDER
13.8	Inclined length & angle (MM & degree)		BY BIDDER
13.9	Height of outlet (MM)		BY BIDDER
13.10	Horizontal length (MM)		Shall be selected based on feeding system to feeder
13.11	Motor Rating (KW) / VFD		BY BIDDER
13.12	Type of take up		BY BIDDER
13.13	Dust control system		BY BIDDER
13.14	Material of construction shall be selected considering Lignite properties		BY BIDDER



13.15	HANDRAIL		YES (To be provided as per O&M requirements and safety provisions)
13.16	CHAIN SIZE		As per manufactures standard
13.17	Sprocket		Surface hardened tooth sprocket
13.18	QUANTITY		1 No.
14	Belt vulcanizer		
14.1	Quantity		LHS: One no. (Hot vulcanizing machine set) suitable for 1800mm belt width conveyor & respective thickness
14.2	Type of Belt to be vulcanised		Synthetic / NN/ / EP / Steel Cord
14.3	Type of Press		Hydro-Mechanical Press
14.4	Belt Width		As above
14.5	Purpose of use		a) General diamond tooth, rectangular or saw-tooth type of transverse splice and hot jointing. b) Longitudinal slit repair along belt. c) Spot repairing of belt. d) EDGE repairing of belt.
14.6	Whether portable type		Yes - Electrically heated.
14.7	Temperature control		Thermostat temp. control box
14.8	Pressure built up		By hydraulic hand pump, distributors, hoses and



			hydraulic cylinders.
14.9	Power supply		415V +10%, 50 Hz + 5%, 3 Ph. Supply combined voltage & frequency variation + 10% (Absolute), 50 KA fault level (Sym.), design ambient temp. of 50 deg.C.
14.10	Cable		Cable size shall be based on load requirement and subject to approval of Purchaser
14.11	1. Vulcanising Pressure 2. Working pressure		1. Actual to tally with belt manufacturer's requirement. 2. Minimum 500Bar or shall be as per OEM recommendation
14.12	Vulcanising Temperature		150 deg.C + 5 deg.C.
14.13	Platen size		As per Belt manufacturer's recommendation
14.14	Vulcanizing Tools & Accessories:		a. Tool Kit - 1Set b. Measuring tool Shore durometer - 1Set c. Belt clamping device - 1 Pair d. Roughing machine - 1no. e. Edge Bars - 1 Pair
	Notes:		
	The entire belt length can be vulcanized in a single setting.		
	Face plate shall be of Al. Alloy with 3mm thick SS-304 sheet to achieve smooth surface finish of the vulcanized joints and transmit heat to the belt at uniform rate.		
	The cable length of minimum 50m shall be supplied with the belt vulcanizer. The machine shall be suitable for vulcanizing of entire splice in single setting.		