

CRUSHING PLANT

PRIMARY CRUSHING PACKAGE

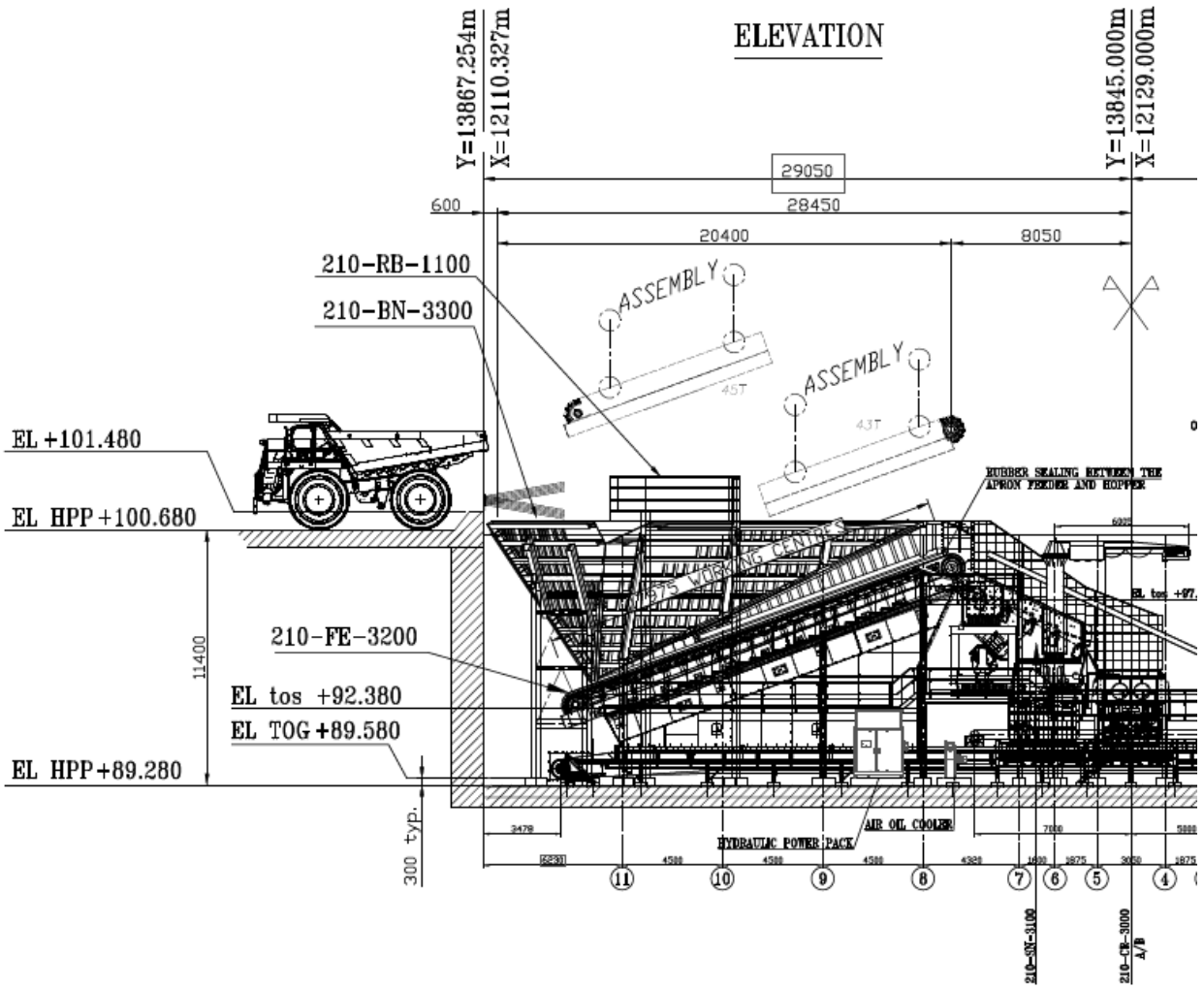
EQUIPMENT LIST :

- 210-RB-1100 Rock Breaker
- 210-BN-3300 Primary Feed Bin
- 210-FE-3200 Primary Apron Feeder
- 210-SN-3100 Primary Grizzly
- 210-CR3000 A/B Primary Sizers A & B
- 210-CN-1030 & 1040 Primary Crushing Cranes
- 220-CV-1000 Belt Conveyor from Crushing Plant to Heap for Storage
- 210-WS-1020 Weigh Scale on Conveyor 220-CV-1000
- 210-MG-1030 Tramp Iron Magnet
- 210-ZM-1040 Metal Detector

Included :

Static Grizzly, Electrics, Chutes, Supporting Structures, Initial & Capital Spare Parts, Consumables for start up, Special Tools for erection, Vendor Data & Drawings, Manuals, Export Packing, Engineering Drawings and Documentation.

ELEVATION



**PROJECT
PRIMARY CRUSHING SIZER
PACKAGE**

MMD Mineral Sizing (Europe) Ltd

Document N
Sec Ref 98C
Date 19 Oct

TECHNICAL DATA PRIMARY FEED BIN

1	Primary Feed Bin	Item	0210-BN-3300
2	General		
3	Form	-	Diamond shaped, inclined intergrated apron feeder extra
4	Dumper configuration	-	Two dumping ramps at 90°
5	Static grizzly	-	Included - grizzly bars 1.2m spacing
6	Supporting structure	-	Included - static grizzly overload taken into account
7	Construction	-	Welded / bolted on-site
8	General assembly drawing	-	A2001
9			
10	Dimensions		
11	Length / height / width	mm	18500 / 7375 / 10850
12	Valley angles	°	60° to horizontal minimum
13	Wall thickness / material	-	15mm / mild steel.
14			
15	Wear Liners		
16	Liner type	-	Railway tracks welded to the hopper where material imp
17		-	Liner plates bolted to the hopper elsewhere
18	Liner material	-	HB360 steel
19	Railway track liner spacing	mm	200
20	Liner thickness	mm	Standard rail or 25mm for plates.
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PROJECTS**PRIMARY CRUSHING SIZER
PACKAGE**

MMD Mineral Sizing (Europe) Ltd

Document No Date 27

February 2012

TECHNICAL DATA PRIMARY PRIMARY APRON FEEDER (Page 1)

Rev

	Item	0210-FE-3200	Rev
1	Primary Apron Feeder		
2			0
3	General		0
4	Manufacturer and origin Country	- MMD / England	0
5	Type / Model	- Heavy Duty Apron Feeder / D7	0
6	General assembly drawing	- S712-0168	B
7			0
8	Dimensions		0
9	Length (pulley centers)	mm 17,977	0
10	Apron Width (overall / effective)	mm 3435 over drive shaft / 2000 tray	B
11	Inclination	° 20 Degrees	0
12	Vertical Lift	mm 6148 approx	0
13	Horizontal distance - hopper leading edge to discharge pulley center	mm 16893	0
14	Frame - Length / Width / Height	mm 18600 / 2800 / 1479	B
15			0
16	Operating Parameters		0
17	Linear Speed	m/s Nominal 0,285 / max 0,4	0
18	Bed Height	mm 780	0
19			0
20	Flight - Pan		0
21	Type / Manufacturer	- MMD	0
22	Width	mm Overall - 2150mm, effective - 2000mm	0
23	Thickness	mm 68	0
24	Surface Hardness	HB 363	0
25	Material	- Rolled steel (specially manufactured with grousing)	0
26	Connection to chain	- Recess bolted	0
27	Impact rails	- Two removable bull head impact rails bolted to impact beams	0
28			0
29	Chain		0
30	Model / Type / Manufacturer	- D7 / standard tractor type / CAT	0
31	Pitch	mm 216mm	0
32	Breaking strength to Maximum Load Ratio	- 5.35	0
33	Material	- Caterpillar Standard	0
34	Link Shaft Seal and Lubrication	- Lifetime lubricated	0
35			0
36	Frame		0
37	Construction	- Welded / bolted	0
38	Material	- Rolled steel	0
39			0
40	Carrying Rollers		0
41	Type / Manufacturer	- D7 Tractor / Caterpillar	0
42	Diameter and Width	mm 222 x 206	0
43	Spacing	mm 400mm impact, 800mm standard	0
44	Number	- 66	0
45	Material	- High Strength Steel with Deep Hardening (Caterpillar standard)	0
46	Shaft Seal and Lubrication	- "Duo-cone" lifetime seals	0
47			0
48	Return Rollers		0
49	Type / Manufacturer	- D4 Tractor / Caterpillar	0
50	Diameter and Width	mm 133/165	0
51	Spacing	mm 1700mm maximum	0
52	Number	- 22	0
53	Material	- High Strength Steel with Deep Hardening (Caterpillar standard)	0
54	Shaft Seal and Lubrication	- "Duo-cone" lifetime seals	0
55			0
56	Head Shaft		0
57	Shaft diameter / length	mm 260/280 dia / 3435 long	0
58	Material	- Alloy Steel	0
59			0
60	Head Shaft Bearing		0
61	Manufacturer	- SKF	0
62	Bearing type	- Spherical	0
63	Bearing Life Time Calculation	- 100 000h	0
64	Bearing Lubrication	- Grease lubricated with reservoir (0.37kW motor)	B
65			0
66	Drive Sprocket		0
67	Model / Manufacturer	- D7 / Caterpillar	0
68	Number of wear sectors	- 5	0
69	Number Teeth - Pitch Diameter	mm 25 Tooth / 868mm	B
70	Surface Hardness	HB Caterpillar Standard Rc 45	0
71	Material	- Caterpillar Standard	0

**PRIMARY CRUSHING SIZER
PACKAGE**

MMD Mineral Sizing (Europe) Ltd

Document No Date 27
February 2012

TECHNICAL DATA PRIMARY PRIMARY APRON FEEDER (Page 2)

			Rev	
1	Primary Apron Feeder	Item	0210-FE-3200	
2				0
3	Tail Shaft			0
4	Main shaft diameter / length	mm	150/250 dia/2620 long	0
5	Material	-	Alloy steel	0
6				0
7	Tail Shaft Bearing			0
8	Manufacturer	-	SKF	0
9	Bearing type	-	Spherical	0
10	Bearing Life Time Calculation	-	100 000h	0
11	Bearing Lubrication	-	Grease lubricated with reservoir	0
12				0
13	Tail Sprocket			0
14	Model / Manufacturer	-	D7 / Caterpillar	0
15	Number of wear sectors	-	5	0
16	Number Teeth - Pitch Diameter	mm	25 teeth / 868mm	B
17	Tooth Width	mm	87	0
18	Surface Hardness	HB	Caterpillar Standard Rc 45	0
19	Material	-	Caterpillar Standard	0
20				0
21	Tensioning system			0
22	Type	-	Steel framework on which the tail shaft bearings are mounted.	0
23	Power	-	Manual pump hydraulic rams (one per bearing housing),	0
24			packs are fitted to allow pressure release from cylinders.	0
25	Stroke	mm	280mm	0
26				0
27	Main Drive System			0
28	Type	-	Hydraulic 315kW	0
29				0
30	Hydraulic Drive			0
31	Type / Manufacturer	-	CB560 / Hagglunds (x2)	0
32	Hydraulic unit installed power	kW	315kW - 690V - Leroy Somer	0
33	Nominal Torque Rating	kNm	392	0
34	Output Speed	rpm	9.8 maximum	0
35	Oil cooler	-	1x air cooler (11kW motor)	B
36	Oil pump	-	1x circulation pump (3kW motor)	B
37	Oil reservoir	L	600L	0
38	Oil filter	-	On return and drain lines	0
39	Control	-	Oil level / pressure / temp and blocked filters sensors included	B
40	Ancillaries	-	Oil breather, sight glass and drain	0
41				0
42	Safety			0
43	Start horn / Beacon	-	Supplied	0
44	Emergency cable stop (both sides)	-	Supplied	0
45	Drive and Tail Protection Covers	-	CE compliant	0
46	Both Sides Apron Feeder Protection Panels	-	CE compliant	0
47				0
48	Weights			0
49	Heaviest for installation	t	43.30t Including lifting Frames	0
50	Heaviest for maintenance	t	4.250t	0
51	Total Weight	t	79.4t	0
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**PRIMARY CRUSHING SIZER
PACKAGE**

MMD Mineral Sizing (Europe) Ltd

Document No
Date 26 June 2013

TECHNICAL DATA PRIMARY GRIZZLY

Rev

Item No	Description	Item	0210-SN-3100	Rev
1	Primary Grizzly			
2				
3	General			0
4	Manufacturer and origin Country	-	METSO / Germany	0
5	Type (fixed / vibrating) / Model	-	Vibrating / M4824	0
6	General assembly drawing	-	7400271	C
7				0
8	Dimensions			0
9	Overall Length / Width / Height	mm	6410 / 6755 / 5527 includes isolation frame and drive	D
10	Number of Decks	-	1	0
11	Total weight / weight per deck panel	kg	36500	B
12				
13	Frame			
14	Plate thickness / wearing plate thickness / material	mm	12mm / 12mm thick side liners / Steel	0
15				0
16	Screening Deck			0
17	Screen material type / thickness	-	Four sections in stepped configuration	0
18	Deck slope / surface area	° / m2	20° / 11 m2	0
19	Opening profile / opening size	- / mm / mm	Slots / 170mm tapered	0
20	Screen efficiency	%	> 80%	0
21	Screening media % aperture of total surface area	%	44%	C
22	Material layer thickness at feed / material speed on deck	mm / m/s	225 / 170 mm (nominal value based on design capacity) / approx 0.7 m/s	C
23				
24	Vibrating Mechanism			
25	Exciter type (linear exciter, unbalanced shaft, vibrating motors) / N	-	Linear unbalanced mechanism / Two exciters (75 kW Motor)	0
26	Vibration movement (linear / circular / elliptic)	-	Linear	0
27	Vibration amplitude / screen acceleration / vibration speed	-	4.5 mm / 4g / 878RPM	D
28	Unbalanced mass speed / critical speed	rpm/rpm	830	D
29	Lifetime	hours	>30000	C
30	Vibration Stroke	mm	9	D
31				
32	Absorber Mechanism			
33	Absorber Type (spring / rubber absorber) / Number	-	Frame absorber on coil steel springs	0
34	Absorber Size - Diameter / Height / Weight	-	coil spring 257 / 470 / 60	C
35				
36	Dynamic and Static Loads on Base Support			
37	Vertical Static Load Rear Supports	N	120000	B
38	Vertical Static Load Front Supports	N	70000	B
39	Dynamic Horizontal / vertical at Rear support base	N	1000/2600	B
40	Dynamic Horizontal / vertical at Front support base	N	500/1400	B
41	Moment at support base	Nm	N/A	D
42	Load frequency	Hz	12.5 - 15.5	
43				
44	Weights			
45	Total weight	t	36.5 including isolation frame	0
46	Heaviest for installation	t	24.5	0
47	Heaviest for maintenance	t	1.8	C
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PRIMARY GYRATORY CRUSHER

MMD Mineral Sizing (Europe) Ltd

Document No Date 03
September 2012

TECHNICAL DATA PRIMARY SIZER

Rev

Item	Item	0210-CR-3000-A and 0210-CR-3000-B	Rev
1	Primary Sizers A and B		B
2			
3	General		0
4	Manufacturer and origin country	- MMD / England	0
5	Type / Equipment model	- Double roller sizer / MMD 1000	0
6	Tramp release	- Reverse rotation of rolls	0
7	General assembly drawing	- S100-0049	C
8			0
9	Dimensions		0
10	Internal crushing chamber dimensions (length / width / height)	mm 2030 x 2350 x 1185	0
11	External dimensions (length / width / height)	mm 7921 x 3798 x 1988	C
12			0
13	Main Shafts		0
14	Speed	rpm 25rpm	0
15	Roll tip speed	m/s 1.49 approx	0
16	Length / Diameter	mm 2030 x 1200	0
17	Bearing type / designation	- SKF self aligning double row spherical roller bearings	0
18	Bearing seals	- Labyrinth type	0
19	Nominal center distance	mm 1000	0
20	Main Shaft Teeth		0
21	Arrangement on shaft	- Rings	0
22	Number per ring / number of rings / total number	- 3 / 6 / 18	0
23	Attachment configuration	- Each tip is welded on a cap (bolted onto the ring)	0
24	Replacable	- Yes	0
25	Breaker Bar		0
26	Arrangement	- Below the crushing rolls, middle of the casing, full width	0
27	Liner	- Breaking caps bolted onto a beam	0
28	Replacable	- Yes	0
29			0
30	Drive System		0
31	Type	- Electrical via fluid couplings	0
32	Power / Voltage	- 400kw / 6.6kV	0
33	Reducer		0
34	Type - Manufacturer	- Spur, parallel shaft - R400 / MMD	0
35	Number of stages	- 3	0
36	Input / Output Speed / Ratio	rpm 60 / 1	0
37	Nominal Torque Rating	Nm 156kN	0
38	Service factor	- 6	0
39	Life Time Calculation	- 100,000 for gearbox	0
40	Lubrication	- Splash lubrication	0
41	Thermal capacity	kW 550	0
42	Gearbox Cooler Pump	kW 2.2	B
43	Gearbox Cooler Fan	kW 3	B
44	Coupling		0
45	Type / Manufacturer	- Fluid / Voith 650 TVSC	0
46	Maximum admissible Power	kW 450	0
47	Service Factor	- 3	0
48			0
49	Lubrication System		0
50	Duty	- Grease supply for crusher bearings	0
51	External / automatic system	- Automatic	0
52	Pump Power	kW 0.37kW	0
53	Lubrication flow	L/s 2.8169 x 10-5	0
54	System Capacity	L 30	0
55			0
56	Translation System		0
57	Electrical / manual	- Electrical (2 x 1.1 kW)	0
58	Rails	- Yes	0
59			0
60	Materials		0
61	Frame	- Steel	0
62	Main shafts	- High strength alloy steel - heat treated	0
63	Teeth	- Hardened tempered steel	0
64	Internal wear liners	- Steel HB>360	0
65			0
66	Weights		0
67	Heaviest for installation (specify)	t 60t TBC (for casing with shafts)	B
68	Heaviest for maintenance (specify)	t 11t Shaft assemblies	0
69	Total Weight	t 76.2t	0
70			

**PRIMARY CRUSHING SIZER
PACKAGE**

MMD Mineral Sizing (Europe) Ltd

Document No
Date 06 March 2014

TECHNICAL DATA PRIMARY CRUSHING LIFTING EQUIPMENT

Rev

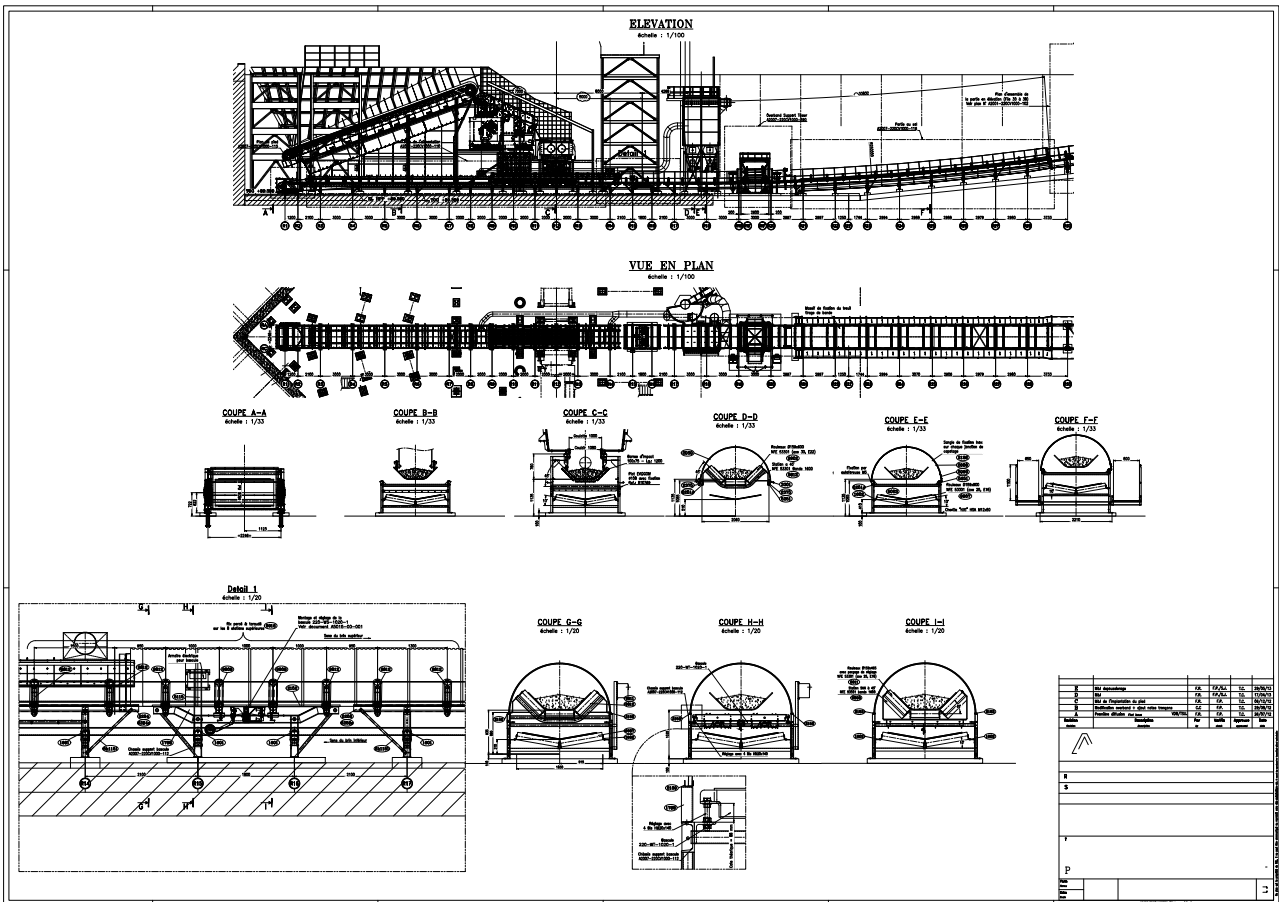
1	Primary Crushing Crane	Item	0210-CN-1030 and 0210-CN-1040	B
2				
3	General			
4	Manufacturer and origin Country	-	HoistQuip Ltd / UK	C
5	Type / Model	-	3t SWL Davit crane	B
6				
7	Crane			
8	Number of cranes	-	2	B
9	Crane capacity:	t	3t SWL - Suitable for lifting caps onto the Sizer maintenance spot	0
10	Bridge Span / Runway Length:	mm	6000mm radius / 270° manual slewing	0
11	Runway elevation / Max lifting height:	mm	10332 above ground level	D
12	Hook lift	mm	9825 from ground	D
13	Operating floor elevation:	mm	3100 above ground level	D
14	Design code :	-	Q3/A4	C
15	Design class:	-	BS 7333 1990	C
16				
17	Hoist			
18	Hoisting speed (high / low speed)	m/min	5.0/0.8m/min	C
19	Installed power	kW	2.5kW	E
20	Hook type (single / double / w/safety latch)	-	Single with safety latch	C
21	Drum type (grooved / V-grooved)	-	Grooved	C
22	Rope drum diameter	mm	126mm	C
23				
24	Rope			
25	Rope type	-	8x19 wire cored	C
26	Rope length / diameter	mm	41.5m long, 7mm dia.	C
27	Rope breaking load	kN	47.7	C
28	Rope safety factor	-	05:01	C
29				
30	Translation trolley			
31	Translation speed (high / low speed)	m/min	20/5 m/min	C
32	Power	kW	2 x 0.24kW	E
33				
34	Slew System			
35	Speed	rpm	0.7 rpm	C
36	Power	kW	0.75kW	E
37				
38	Control Equipment			
39	Remote control	-	Pendant Control	0
40	Max/min lifting height limit switch	-	TBC	0
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TECHNICAL DATA PRIMARY ROCK BREAKER

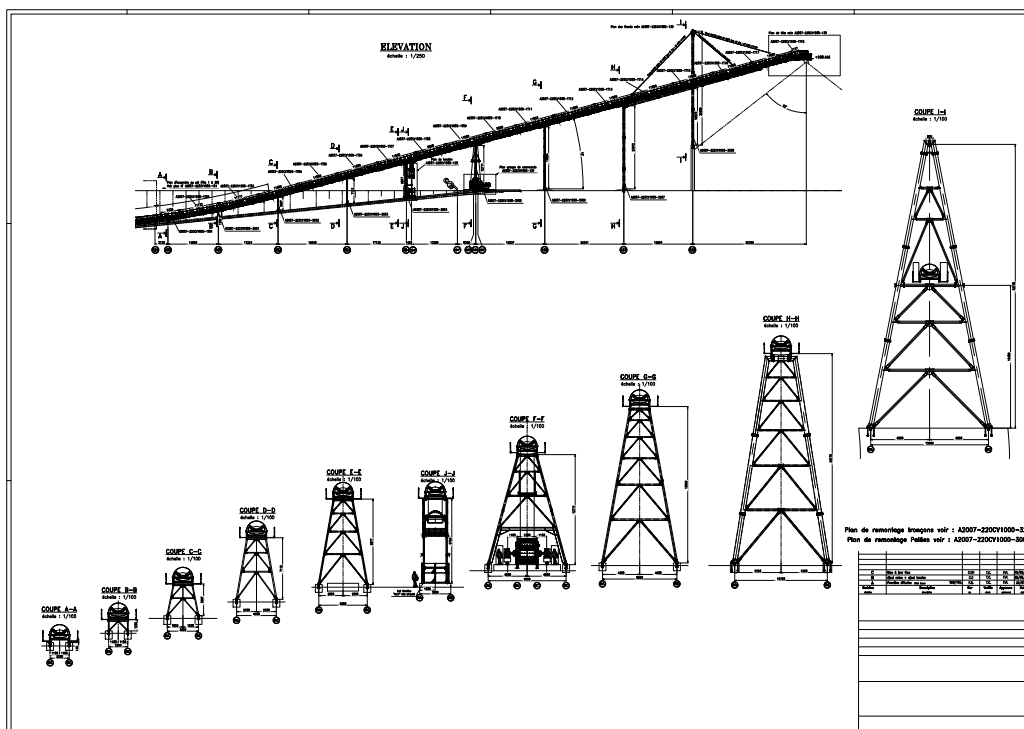
1	Rock Breaker	Item	0210-RB-1100
2	Manufacturer and origin country	-	Sandvik / Finland
3	Type / Model	-	Hydraulic / BB 7850 (XM850)
4			
5	Installation		
6	Location	-	Primary Feed Bin
7	Fixation Type	-	Pedestal mounted
8			
9	Boom		
10	Overall length	mm	8500
11	Main Boom - Length / Material / Weight	mm	4500/High Tensile Steel/ 1610
12	Stick Boom - Length / Material / Weight	Material	4000/High Tensile Steel/ 1340
13	Traversing speed	mm/min	12000(approx)
14	Horizontal coverage	m	9 With Vertical Hammer/11 maximum
15	Vertical coverage	m	Plus 4m/Minus 7.5m
16	Hydraulic cylinder type / manufacturer	-	Double Acting / Sandvik
17	Hydraulic cylinders diameter / length	-	160/90 -1100 long Hoist/Dipper/Hammer Tilt - 160/90-600 long Swing
18			
19	Slewing System		
20	Driver type	Detail	Hydraulic
21	Pedestal base - external diameter	mm	1524/1220
22	Anchor bolt diameter / number	mm / Nb	36/15
23	Rotation speed	rpm	1
24	Working angle	°	170/140 Working
25			
26	Hammer		
27	Hammer Type / model	-	BR 2577
28	Dimensions - Length / width / depth	mm	2299/640/573
29	Breaker Class	J	Heavy Duty
30	Operating pressure	bar/ bar	135/145
31	Impact frequency	bpm / bpm	450/750
32	Impact energy	J / J	Maximum Input Powe 135kW
33	Grease system	-	Ramlube 2
34	Lubrication system	-	Internal
35	Type of Tool / Reference	-	Blunt/774
36	Tool diameter / length / shape / hardness		135/920/Blunt/n/a
37	Tool material		n/a
38			
39	Hydraulic Skid		
40	Type / Manufacturer	Detail	HA 45/ Sandvik
41	Power Installed	kW	55
42	System capacity	L	400
43	Pump type / Flow rate		Constant Displacement, Gear Type/180 l/min
44	Pressure		25 Mpa
45	Hydraulic oil Filter : Number / Type / Capacity	-	2 Filters / replacable cartridge /10 microns
46	Weight	Kg	850
47			
48	Control and Instrumentation		
49	Control	-	Local and remote
50	Functions	-	Proportional for all boom movement (4), on/off for "hammer fire"
51	Hydraulic oil : Instrumentation Pressure	-	Yes
52	Hydraulic oil : Instrumentation Temperature	-	Thermometer
53	Hydraulic oil : Instrumentation Flow rate	-	n/a
54	Others - To be detailed	-	Oil back pressure at Return Filter
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*** Items to be completed / confirmed bt the VENDOR.

• Belt Conveyor from Crushing Plant to Heap for Storage 1/2



• Belt Conveyor from Crushing Plant to Heap for Storage 2/2



SECONDARY & TERTIARY CRUSHING PLANT

EQUIPMENT LIST :

- 222-FE-1100 / 1200 / 1300 Stockpile Belt Feeders
- 222-CV-1000 Stockpile Reclaiming Conveyor
- 222-MG-1030 Stockpile Tramp Iron Magnet
- 222-WS-1010 Stockpile Reclaiming Weight Scale
- 222-ZM-1040 Stockpile Metal Detector
- 510-SN-1010 & 1110 Secondary Screens
- 510-SN-2010 / 2110 / 2210 & 2310 Tertiary Screens
- 510-CR-1000 /1100 Secondary Crushers
- 510-CR-2000 / 2100 / 2200 / 2300 Tertiary Crushers
- 510-FE-1020 / 1120 Secondary Crushing Belt Feeders
- 510-BN-1030 / 1130 Secondary Crushing Bins
- 510-FE-2020 / 2120 / 2220 / 2320 Tertiary Crushing Belt Feeders
- 510-BN-2030 / 2130 / 2230 / 2330 Tertiary Crushing Bins
- 510-CV-4000 / 4100 Secondary & Tertiary Crushing Recirculation Conveyors
- 510-WS- 4010 Secondary & Tertiary Crushing Recirculation Weight Scale
- 510-MG-4050 Secondary & Tertiary Crushing Recirculation Tramp Iron Magnet
- 510-ZM-4060 Secondary & Tertiary Crushing Recirculation Metal Detector
- 510-CV-4200 Secondary & Tertiary Crushing Recirculation Tripper Conveyors
- 510-WS-4410 Secondary & Tertiary Crushing Transfer Weight Scale
- 510-CN-1070 Secondary & Tertiary Crushing Crane
- 510-CV-4400 Secondary & Tertiary Crushing Transfer Conveyor
- 510-MG-4050 Secondary & Tertiary Crushing Recirculation Tramp Iron Magnet
- 510-WS-4410 Secondary & Tertiary Crushing Transfer Weight Scale
- 510-ZM-4060 Secondary & Tertiary Crushing Recirculation Metal Detector
- 515-CV-2000 Fine Ore Transfer Conveyor
- 515-CV-2200 Fine Ore Bypass Conveyor

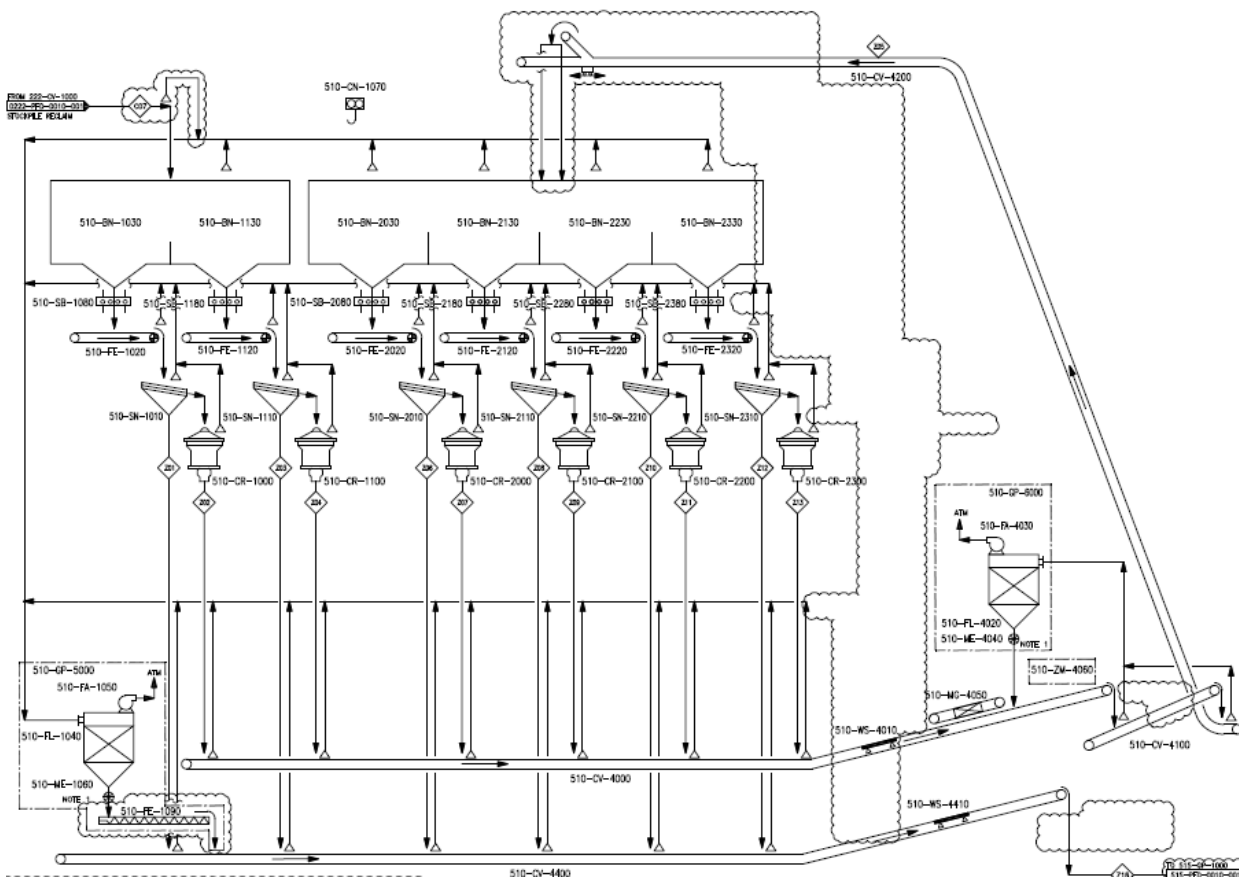
- 515-CV-2300 Return Fine Ore Conveyor
- 515-WS-2310 Return Fine Ore Weight Scale
- 515-ZM-2320 Return Fine Ore Metal Detector
- 515-SA-1100 / 1200 Primary & Secondary Sampler Package

Included :

Chutes, Initial & Capital Spare Parts, Consumables for start up, Special Tools for erection, Vendor Data & Drawings, Manuels, Export Packing, Engineering Drawings and Documentation.

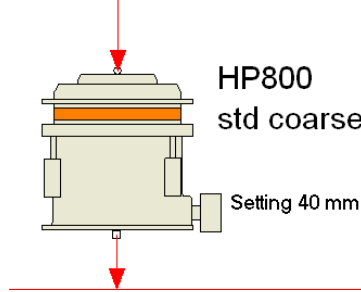
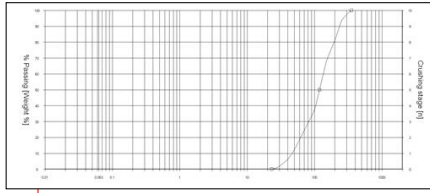
Supporting Structures ARE NOT INCLUDED

PROCESS FLOW

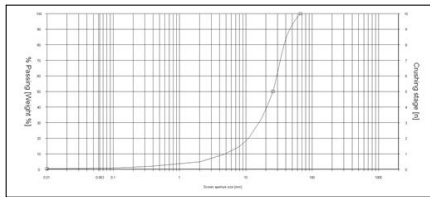


SECONDARY CRUSHER

Material input
25 - 350 mm



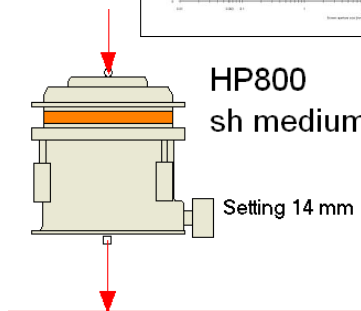
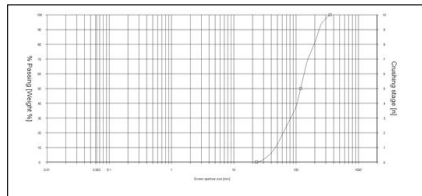
Material output
0 - 65 mm



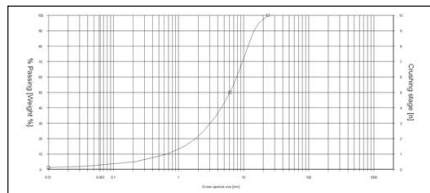
Project Name: **PROJECT**

TERTIARY CRUSHER

Material input
15 - 65 mm



Material output
0 - 23 mm



SECONDARY AND TERTIARY VIBRATING SCREENS

TECHNICAL DATA SECONDARY SCREENS

Rev

1	SECONDARY VIBRATING SCREEN	Item	510-SN-1010 / 1110
2	Manufacturer and origin Country	-	Metso / France
3	Type / Model	-	Multi Flo (Banana) / MF 2473-2
4			
5	Sizes - General Assembly Drawing	Vendor n°	N11485879
6	Overall Length / Width / Height	mm	7800 / 3366 / 4970
7	Number of Decks	-	2
8			
9	DECKS AND SCREENS		
10	Screening Media - General Assembly Drawing	Vendor n°	
11	1st Deck - Deck slope / surface area / material type	° / m2 / -	25° feed, 15° discharge / 2.4x7.3 (17.5m²) / Rubber
12	Panel type		PCO Rubber T60
13	1st Deck - Opening profile / opening size / thickness	- / mm / mm	square opening, chamfered / 50x50 / 55 + roll over bars
14	1st Deck - Screen efficiency	%	90%
15	1st Deck - Screening media % aperture of total surface area	%	29
16	1st Deck - Bolting type (bolts / hooks)	-	bolted M16
17	panel supports		610 MP Rubber T60 centre hold down, 55x610x100x45mm, 6,6 Kg, 36 units
18	1st Deck - Material layer thickness at feed / material speed on deck	mm / m/s	Approx. 52mm / Feed: 1.2m/s and discharge: 0.5m/s
19	1st Deck - Total weight / weight per panel	kg	1750kg / 27kg per panel 610x610 mm (estimated data incl. side liners)
20	Number of panels	unit	48 units
21			
22	2nd Deck - Deck slope / surface area / material type	° / m2 / -	25° feed, 15° discharge / 2.4x7.3 (17.5m²) / Rubber
23	Panel type		LS 305 - Rubber T60
24	2nd Deck - Opening profile / opening size / thickness	- / mm / mm	slots, chamfered / 12,5x27,5 (alternative 15x15) / 40 mm
25	2nd Deck - Screen efficiency	%	90%
26	2nd Deck - Screening media % aperture of total surface area	%	34%
27	2nd Deck - Bolting type (bolts / hooks)	-	clamped
28	panel supports		Upgrade strip, LS-UGS-PS-610-F-HD-6PIN-CAP
29			(10 pcs + 60 pins) L=610/6PIN + CAP , 6,6 Kg box, 10 units per deck
30	2nd Deck - Material layer thickness at feed / material speed on deck	mm / m/s	Approx. 20mm / Feed: 1.2m/s and discharge: 0.5m/s
31	2nd Deck - Total weight / weight per panel	kg	400kg / 4kg per panel 305x610 mm (estimated data incl. side liners)
32	Number of panels	unit	96 units
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42	Vibrating Mechanism - General Assembly Drawing	Vendor n°	MM0614192
43	Exciter type (linear exciter, unbalanced shaft, vibrating motors) / N°	-	Box Linear exciter / 2
44	Drive motor Type / installed power / number / speed	kW	Squirrel Cage / 55kW / 1 / 1500 rpm (4 poles)
45	Vibration movement (linear / circular / elliptic)	-	Linear
46	Total vibration amplitude / acceleration / speed / pulley diameter	-	12,5 mm / 4,4 G / 790 rpm / 250 mm
47	Unbalanced mass speed / critical speed	rpm/rpm	790 / to be tested by bump test after screen assembly
48	Lifetime	hours	65 000
49			
50	Absorber Mechanism - General Assembly Drawing	Vendor n°	N11486388
51	Absorber Type (spring / rubber absorber) / Number	-	Isolation frame with spring + dampers / 1
52	Absorber Size / Diameter / Height / Weight	-	257mm / 470mm / 60 kg - Spring
53	Absorber coating	-	Painted
54			
55	Dynamic and Static Loads on Base Support - all Operation Phases : Start - Running - Stoppage		
56	Horizontal / vertical at support base	N	According to document A2001 - General Arrangement Drawing
57	Moment at support base	Nm	According to document A2001 - General Arrangement Drawing
58	Load frequency	Hz	According to document A2001 - General Arrangement Drawing
59			
60	Dust Cover		
61	Dust Cover - design / inspection doors / seal type	-	Metallic fixed cover (alternative not quoted : Trellax rubber cover According to drawing 53190741400)
62	Dust Cover - material / thickness	- / mm	Metallic fixed cover (alternative not quoted : Trellax rubber cover According to drawing 53190741400)
63	De-dusting flange diameter	DN or mm	Depending of dust handling contractor
64			
65	Instrumentation		
66	Proximity switch	-	Inductive sensor PNP NO 10 mm flush - 30 x 30 x 1 mm
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77	Notes:		
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SECONDARY AND TERTIARY VIBRATING SCREENS

TECHNICAL DATA SECONDARY SCREENS

Rev

1	SECONDARY VIBRATING SCREEN	Item	510-SN-1010 / 1110
2	Manufacturer and origin Country	-	Metso / France
3	Type / Model	-	Multi Flo (Banana) / MF 2473-2
4			
5	Sizes - General Assembly Drawing	Vendor n°	N11485879
6	Overall Length / Width / Height	mm	7800 / 3366 / 4970
7	Number of Decks	-	2
8			
9	DECKS AND SCREENS		
10	Screening Media - General Assembly Drawing	Vendor n°	
11	1st Deck - Deck slope / surface area / material type	° / m2 / -	25° feed, 15° discharge / 2.4x7.3 (17.5m²) / Rubber
12	Panel type		PCO Rubber T60
13	1st Deck - Opening profile / opening size / thickness	- / mm / mm	square opening, chamfered / 50x50 / 55 + roll over bars
14	1st Deck - Screen efficiency	%	90%
15	1st Deck - Screening media % aperture of total surface area	%	29
16	1st Deck - Bolting type (bolts / hooks)	-	bolted M16
17	panel supports		610 MP Rubber T60 centre hold down, 55x610x100x45mm, 6.6 Kg, 36 units
18	1st Deck - Material layer thickness at feed / material speed on deck	mm / m/s	Approx. 52mm / Feed: 1.2m/s and discharge: 0.5m/s
19	1st Deck - Total weight / weight per panel	kg	1750kg / 27kg per panel 610x610 mm (estimated data incl. side liners)
20	Number of panels	unit	48 units
21			
22	2nd Deck - Deck slope / surface area / material type	° / m2 / -	25° feed, 15° discharge / 2.4x7.3 (17.5m²) / Rubber
23	Panel type		LS 305 - Rubber T60
24	2nd Deck - Opening profile / opening size / thickness	- / mm / mm	slots, chamfered / 12,5x27,5 (alternative 15x15) / 40 mm
25	2nd Deck - Screen efficiency	%	90%
26	2nd Deck - Screening media % aperture of total surface area	%	34%
27	2nd Deck - Bolting type (bolts / hooks)	-	clamped
28	panel supports		Upgrade strip, LS-UGS-PS-610-F-HD-6PIN-CAP
29			(10 pcs + 60 pins) L=610/6PIN + CAP , 6,6 Kg box, 10 units per deck
30	2nd Deck - Material layer thickness at feed / material speed on deck	mm / m/s	Approx. 20mm / Feed: 1.2m/s and discharge: 0.5m/s
31	2nd Deck - Total weight / weight per panel	kg	400kg / 4kg per panel 305x610 mm (estimated data incl. side liners)
32	Number of panels	unit	96 units
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42	Vibrating Mechanism - General Assembly Drawing	Vendor n°	MM0614192
43	Exciter type (linear exciter, unbalanced shaft, vibrating motors) / N°	-	Box Linear exciter / 2
44	Drive motor Type / installed power / number / speed	kW	Squirrel Cage / 55kW / 1 / 1500 rpm (4 poles)
45	Vibration movement (linear / circular / elliptic)	-	Linear
46	Total vibration amplitude / acceleration / speed / pulley diameter	-	12.5 mm / 4,4 G / 790 rpm / 250 mm
47	Unbalanced mass speed / critical speed	rpm/rpm	790 / to be tested by bump test after screen assembly
48	Lifetime	hours	65 000
49			
50	Absorber Mechanism - General Assembly Drawing	Vendor n°	N11486388
51	Absorber Type (spring / rubber absorber) / Number	-	Isolation frame with spring + dampers / 1
52	Absorber Size / Diameter / Height / Weight	-	257mm / 470mm / 60 kg - Spring
53	Absorber coating	-	Painted
54			
55	Dynamic and Static Loads on Base Support - all Operation Phases : Start - Running - Stoppage		
56	Horizontal / vertical at support base	N	According to document A2001 - General Arrangement Drawing
57	Moment at support base	Nm	According to document A2001 - General Arrangement Drawing
58	Load frequency	Hz	According to document A2001 - General Arrangement Drawing
59			
60	Dust Cover		
61	Dust Cover - design / inspection doors / seal type	-	Metallic fixed cover (alternative not quoted : Trellex rubber cover According to drawing 53190741400)
62	Dust Cover - material / thickness	- / mm	Metallic fixed cover (alternative not quoted : Trellex rubber cover According to drawing 53190741400)
63	De-dusting flange diameter	DN or mm	Depending of dust handling contractor
64			
65	Instrumentation		
66	Proximity switch	-	Inductive sensor PNP NO 10 mm flush - 30 x 30 x 1 mm
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77	Notes:		
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SECONDARY AND TERTIARY VIBRATING SCREENS

TECHNICAL DATA TERTIARY VIBRATING SCREENS

Rev

1	TERTIARY VIBRATING SCREEN	Item	510-SN 2010 / 2110 / 2210 / 2310
2	Manufacturer and origin Country	-	Metso / France
3	Type / Model	-	Multi Flo (Banana) / MF 2473-2
4			
5	Sizes - General Assembly Drawing	Vendor n°	N11485879
6	Overall Length / Width / Height	mm	7800 / 3366 / 4970
7	Number of Decks	-	2
8			
9	DECKS AND SCREENS		
10	Screening Media - General Assembly Drawing	Vendor n°	***
11	1st Deck - Deck slope / surface area / material type	° / m2 / -	25° feed, 15° discharge / 2.4x7.3 (17.5m²) / rubber
12	Panel type		LS 305 Rubber T60
13	1st Deck - Opening profile / opening size / thickness	- / mm / mm	square opening, chamfered / 25x25 / 40 mm
14	1st Deck - Screen efficiency	%	90%
15	1st Deck - Screening media % aperture of total surface area	%	35
16	1st Deck - Bolting type (bolts / hooks)	-	clamped
17	panel supports		Upgrade strip, LS-UGS-PS-610-F-HD-6PIN-CAP
18			(10 pcs + 60 pins) L=610/6PIN + CAP , 6.6 Kg box, 10 units per deck
19	1st Deck - Material layer thickness at feed / material speed on deck	mm / m/s	Approx. 35mm / Feed: 1.2m/s and discharge: 0.5m/s
20	1st Deck - Total weight / weight per panel	kg	420kg / 4,2kg per panel 305x610mm
21	Number of panels	unit	96 units
22			
23	2nd Deck - Deck slope / surface area / material type	° / m2 / -	25° feed, 15° discharge / 2.4x7.3 (17.5m²) / Rubber
24	Panel type		LS 305 Rubber T60
25	2nd Deck - Opening profile / opening size / thickness	- / mm / mm	slots, chamfered / 12,5x27,5 (alternative 15x15) / 40 mm
26	2nd Deck - Screen efficiency	%	90%
27	2nd Deck - Screening media % aperture of total surface area	%	34%
28	2nd Deck - Bolting type (bolts / hooks)	-	clamped
29	panel supports		Upgrade strip, LS-UGS-PS-610-F-HD-6PIN-CAP
30			(10 pcs + 60 pins) L=610/6PIN + CAP , 6.6 Kg box, 10 units per deck
31	2nd Deck - Material layer thickness at feed / material speed on deck	mm / m/s	Approx. 25mm / Feed: 1.2m/s and discharge: 0.5m/s
32	2nd Deck - Total weight / weight per panel	kg	400kg / 4kg per panel 305x610mm
33	Number of panels	unit	96 units
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43	Vibrating Mechanism - General Assembly Drawing	Vendor n°	MM0614192
44	Exciter type (linear exciter, unbalanced shaft, vibrating motors) / N°	-	Box Linear exciter / 2
45	Drive motor Type / installed power / number / speed	kW	Squirrel Cage / 55kW / 1 / 1500 rpm (4 poles)
46	Vibration movement (linear / circular / elliptic)	-	Linear
47	Total vibration amplitude / acceleration / speed / pulley diameter	-	10,5 mm / 4,6 G / 880 rpm / 280 mm
48	Unbalanced mass speed / critical speed	rpm/rpm	880 / to be tested by bump test after screen assembly
49	Lifetime	hours	65 000
50			
51	Absorber Mechanism - General Assembly Drawing	Vendor n°	N11486388
52	Absorber Type (spring / rubber absorber) / Number	-	Isolation frame with spring + dampers / 1
53	Absorber Size / Diameter / Height / Weight	-	257mm / 470mm / 60 kg - Spring
54	Absorber coating	-	Painted
55			
56	Dynamic and Static Loads on Base Support - all Operation Phases : Start - Running - Stoppage		
57	Horizontal / vertical at support base	N	According to document A2001 - General Arrangement Drawing
58	Moment at support base	Nm	According to document A2001 - General Arrangement Drawing
59	Load frequency	Hz	According to document A2001 - General Arrangement Drawing
60			
61	Dust Cover		
62	Dust Cover - design / inspection doors / seal type	-	Metallic fixed cover (alternative not quoted : Trellex rubber cover According to drawing 53190741400)
63	Dust Cover - material / thickness	- / mm	Metallic fixed cover (alternative not quoted : Trellex rubber cover According to drawing 53190741400)
64	De-dusting flange diameter	DN or mm	Depending of dust handling contractor
65			
66	Instrumentation		
67	Proximity switch	-	Inductive sensor PNP NO 10 mm flush - 30 x 30 x 1 mm
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78	Notes:		
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SECONDARY AND TERTIARY VIBRATING SCREENS

TECHNICAL DATA TERTIARY VIBRATING SCREENS

			Rev	
1	TERTIARY VIBRATING SCREEN	Item	510-SN 2010 / 2110 / 2210 / 2310	A
2				
3	SCREEN STRUCTURE - General Arrangement Drawing	Vendor n°	7400369-01	A
4				
5	Frame			
6	Side plate thickness / wearing plate thickness / material	mm	12mm / 50mm / side plate S235JRG2 - Liners Rubber 60 Shore A	
7	Frame profile beams / thickness / wearing plate thickness / material	mm	RHS 200x200mm / 10mm / Vulcanized Rubber 10mm / S235JRG2	
8			Feed plate with bolted rubber T=40 mm	
9	Protection of internal frame under screen			
10	Shape type / thickness / material	mm	Cross beams with vulcanised rubber T=10 r Mandatory	
11				
12	Support Frame			
13	Shape type / thickness / material	mm	individual cross beams RHS 200x200x10 + bolted stringers L100x50x6	
14				
15	Absorber structural frame			
16	Shape type / Thickness / Material	mm	Welded frame / 8-10mm / S235JRG2	
17	Absorber Type (spring / rubber absorber) / Number	-	Spring and dampers / 26 springs and 8 dampers	A
18				
19	WEIGHTS			
20	Frames + frame beams + wearing plates	kg	13684 kg	
21	Screen panel + fixation accessories - 1° Deck	kg	420	
22	Screen panel + fixation accessories - 2° Deck	kg	400	
23	Screen panel + fixation accessories - 3° Deck	kg	n.a.	
24	Protection plates (feeding + discharge)	kg	1528	
25	Vibration unit + power unit + transmission system	kg	4950	
26	Springs	kg	838 (only screen springs)	
27	Support frame	kg	10000 (isolation frame)	A
28	Absorber structural frame	kg	10000 (isolation frame)	A
29	Absorbers	kg	860 (spring + dampers of isolation frame)	
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31				
32	Dust cover	kg	3000	A
33	Others	kg	***	
34	Total weight	kg	39000 kg estimated	A
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