

Presents

In Pit Crushing & Conveying (IPCC) System



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IPCC System

- The IPCC System is designed to crush and convey excavated overburden at a nominal mass flow rate of 10,000 tph.
- The mobile and relocatable system consists of:
 - Mobile Sizing Rig (MSR)
 - Overland Face Conveyor
 - Overland Ramp Conveyor
 - Overland Dump Conveyor
 - Mobile Transport Crawler (MTC)
 - Mobile Tripper and Spreader (MTS)

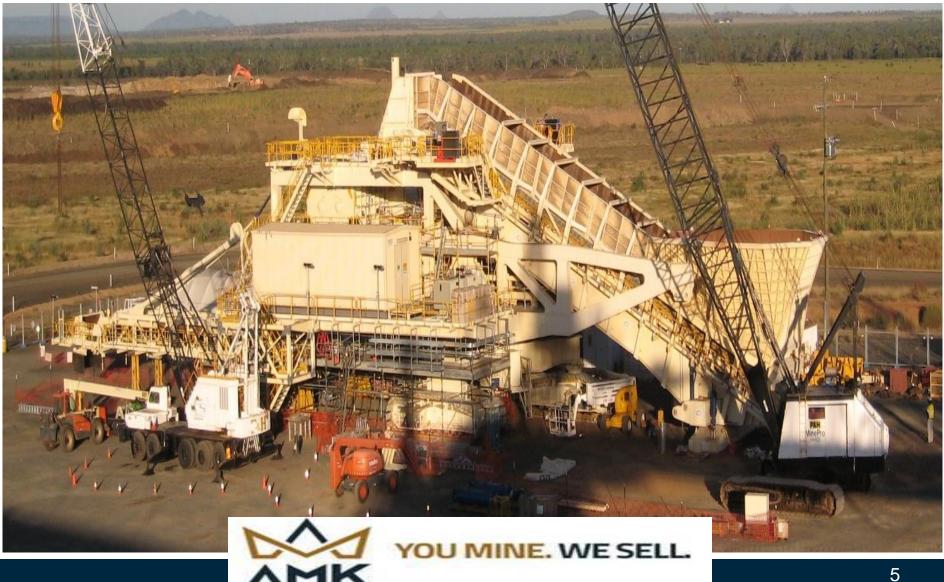


IPCC Layout





Mobile Sizing Rig (MSR)

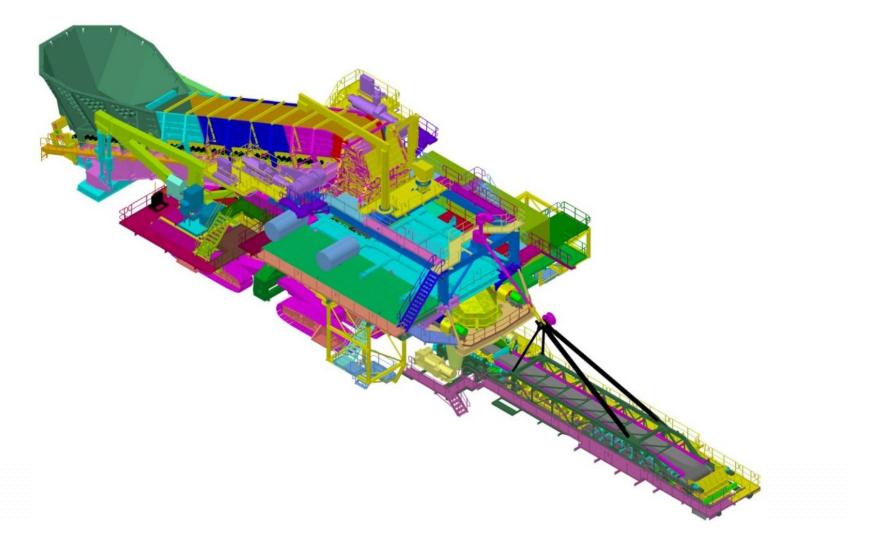


Takraf Mobile Sizing Rig (MSR) Technical Data

 Material to be conveyed 	Overburden
 Theoretical Conveying Volume 	10,000 t/h
 Bulk Density 	1.6 t/m³
 Max. Lump Size 	450 x 350 x 350 m
Belt Width	2200 and 2800 mm
Apron Feeder	3000 mm wide
 Machine Weight (dry) 	1560 t
 Installed Power 	3985 kW
 Max operating slope 	10 %
 Travel speed 	10 m/min



Mobile Sizing Rig





Mobile Sizing Rig Apron Feeder



Abon Sizer





Summary of the IPCC system conveyors

Conveyor Description	Conveyor ID	Length m	Width m	Belt Speed m/s	Drive Qty	Drive kw	Lift m
Apron Feeder	Feeder	24	2.2	0.26	2	710	
Sizer Discharge	BC 121 Conv	19	2.8	1.4	2	76	
Sizer Boom	BC122 Conv	24	2.2	4	2	200	5
Relocatable (Face)	BC101Conv	480	1.8	5.71	4	1350	64
Relocatable (Ramp)	BC102Conv	700	1.8	5.71	4	1350	95
Relocatable (Dump)	BC103Conv	2123	1.8	5.71	4	1350	66
Tripper Bridge	BC107Conv	73.6	2.2	4	2	400	11
Spreader Discharge	BC172Conv	58	2.2	4	2	400	11



System Conveyors

• BC103 Overland Dump Conveyor (Tripper Conveyor)



 Shifting heads (overland conveyor shifting and aligning mechanisms) attach to the blade arm of a Dozer to relocate the conveyor as required



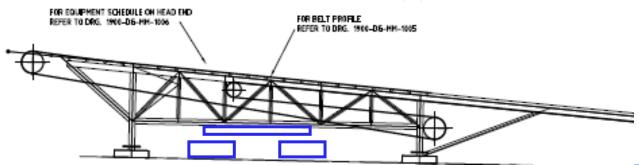
Mobile Transport Crawler (MTC) 420t capacity

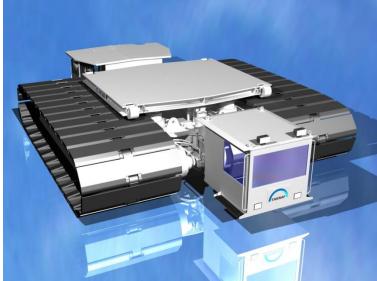
• The Mobile transporter is used for transporting the conveyor drive head, placing counterweight beams and transporting general items





Mobile Transport Crawler (MTC) 420t capacity





MTC (Mobile Transport Crawler)



Mobile Tripper Spreader (MTS)





Takraf Mobile Tripper Spreader (MTS) Technical Data

Overburden Material to be conveyed Theoretical conveying volume 10,000 t/h Bulk density 1.6 t/m^3 • Max. Lump size 450 x 350 x 350 mm Dump conveyor centre distance 2041m initially, then 2480 m • Lift -3 m Belt width 1800 mm 5.75 m/s Belt speed



Mobile Tripper Spreader (MTS) (on construction pad)





MTS (in operation at dump conveyor head-end)



System Operator Controls

- The entire system can be started, monitored and stopped by one operator from the operators cabin situated at the conveyor bridge of the MTS
- 6 Display Screens in Cabin
 - 1 x Scada for MTS
 - 1 x Scada for overall plant
 - 4 x CCTV screens
- Swivel Operators Chair with Joy Stick Controls



IPCC Safe, Environmental Friendly and Efficient

- IPCC is a safer system as it reduces truck numbers, haul road congestion and Improved safety due to fewer mobile vehicle usage
- Less fossil fuel dependent using clean electrical power.
- Reduced manning requirements of between 40 60% due to higher automation.
- Reduced spare part requirements.
- Reduced greenhouse gas emissions of up to 25%
- Noise level reduction of up to 35%
- Dust emission reduction of up to 40%
- Reduced bad weather downtimes





IPCC in Action - YouTube Video

- IPPC in Action Fully Mobile Configuration
 - <u>https://youtu.be/doNcVs-APvY</u>
- IPPC in Action Semi Mobile Configuration
 - <u>https://youtu.be/1eqA8d3OuCo</u>

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