Overview of Long Travel Trolley upgrade

Aluminium

Modernization of Pot Tending Machines

CABLE CHAINS
New plastic chains to replace existing steel chain:
— Easier maintenance
— OPEX optimization
— Especially designed for aggressive reduction environment leading to longer life duration

LONG-TRAVEL MOTION
— Upgrade to VFD to control speed and protect mechanical equipment
— Increased speed to meet production requirements
— Enhance braking system for reducing maintenance costs

CONTROL SYSTEM UPGRADE
— Electrical refit for managing equipment obsolescence
— Latest control and PLC systems to upgrade performances, reduce cables and connections, improve flexibility and networking capabilities, and increase reliability

AIR TREATMENT
— Air cooler designed especially to operate in electrolysis environment longer life duration
— ECL water extractor to remove 95% of the liquid water trapped in the incoming air
— ECL air dryer to reduce the air relative humidity to avoid water generation up to a 20°C temperature reduction

EMERGENCY POWER SUPPLY
An emergency solution in case of smelter power outage in order to keep reduction cranes powered to perform critical tasks

AUXILIARY HOISTS
Increased lifting capacity to meet production requirements

ANTI-COLLISION SYSTEM
— Upgrade for compliance to latest standards for enhanced safety

MAINTENANCE REPAIR AND OVERHAUL
Multiple levels of services and overhauls to improve asset utilisation, reduce costs and optimize CAPEX, including:
— PTM tool servicing
— Compressor servicing
— Equipment maintenance on demand

CABLE CHAIN
ECL Dual Air compressor consisting in two small air compressors, interconnected in a master-slave configuration adjusted to reduction crane air consumption:
— Energy savings
— Preventive maintenance plan optimization
— Especially designed for aggressive reduction environment leading to longer life duration

AIR COMPRESSOR

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Enhance the value of your existing assets as an alternative to replacing it

• Optimize your production and costs
• Extend Pot Tending Machine service life
Overview of Tools’ Trolley upgrade

CRUST BREAKER
Different tool geometries depending on the process
— Automatic breaking cycle to ensure repeatability and quality of the operation
— Tool tilting limitation system to limit tool damages

CABIN
VISIO+ an Ergonomic Tending Machine Cabin:
— Advanced air control system
— New cabin structure to improve visibility
— Ergonomic seat for better operator comfort including customised side consoles (for joysticks and controls)
— Terminal operator with simplified functions

EXTRACTING & TIGHTENING DEVICES
— DIANA: a semi-automatic measurement of anode level allowing the overall sequence to be performed from the cabin with repeatability and consistency
— Torque monitoring to meet process requirements and increase clamps’ life expectancy
— Anode transport securing
— New generation clamp anti-fall device
— Laser positioning assistance to optimize cycle time
— Tool tilting limitation system to limit tool damages

WINCHES, HOISTS AND PULLEY TACKLE
— Over-speed system
— Anti-overlapping system
— Balanced lifting beam
— New generation brakes to increase safety and reduce maintenance costs
— Increased lifting capacity to meet production requirements

REMOTE-CONTROLLER
— A wireless communication tool designed to operate any crane from the ground
— Ease of mobility for the operator to increase operation flexibility and safety

AIR CONDITIONING
— New A/C kits for compliance with latest environmental regulations and gas obsolescence
— New semi-hermetic compressor to reduce maintenance costs

HYDRAULIC FUNCTIONS
— New generation secured cylinders to improve safety
— Hydraulic unit upgrade to increase tool speed and optimizing cycle time

CROSS TRAVEL MOTION
— Upgrade to VFD to control speed and protect mechanical equipment
— Increased speed to meet production requirements
— Enhanced braking system to reduce maintenance costs

INTELLIGENT SOLUTIONS

SMARTCRANE
Through remote data monitoring, Fives’ SMARTCrane service allows to monitor the performance of your crane fleet in real time:
— Optimization of operations by analyzing past operational data
— Real-time visibility through remote monitoring
— Predict danger-points on specific functions

SHOVEL
— New cast buckets with better life expectancy and reduced OPEX
— Fully hydraulic scraping shovel to improve process
— Tool tilting limitation system to limit tool damages

BATH PIPE & HOPPER
— New generation Bath Pipe for better covering accuracy
— New generation Hopper filling interface to improve tightness
— Bath deflector to reduce the bath amount in basement
— Dosing (screws, pallets) to improve covering product volume accuracy
— Fluidization system modernization for continuous product flow

TAPPING & TROLLEY
— Tapping regulation system to improve quality and reducing OPEX
— New generation safety brakes to comply with latest lifting regulations while optimizing performance and maintenance
— New Hoist monitoring system to improve safety
— Increased lifting capacity to meet production requirements
— Greater hook rotation accuracy
— Limited rotation angle to reduce damages and failures