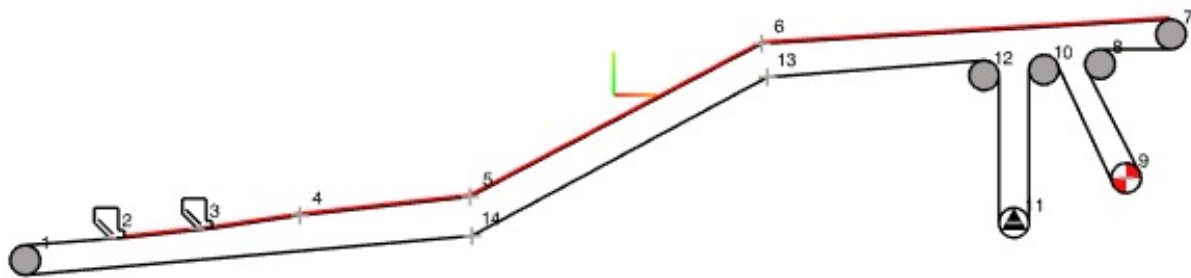


**Helix Technologies Pty Ltd**

Project	Demo 02 Conveyor High Lift	Client	ABC Iron
Project No.	P9823	Prepared By	Peter Burrow
Conveyor No.	C223_Copy	Design Date	01 Oct 2019



C223\_Copy



Drive Number	1	Drive	Pulley Number	9
Drive Description		<b>Head</b>	Pulley Condition	<b>Moist</b>
Load Share on Drive Pulley		<b>100 %</b>	Pulley Lagging Type	<b>Ceramic</b>
Starting Torque Factor Fully Loaded		<b>122 %</b>	Belt Wrap Angle	<b>180 °</b>
Starting Torque Factor Empty		<b>122 %</b>	Coefficient of Friction Running	<b>0.35</b>
Number of Motors on Drive Pulley		<b>2</b>	Drive Factor Cw Running	<b>0.50</b>
Motor Description		<b>Toshiba Wound Rotor TIM</b>	Coefficient of friction Starting	<b>0.45</b>
Motor Power Rating		<b>630 kW</b>	Drive Factor Cw Starting	<b>0.32</b>
Motor Voltage		<b>6600 V</b>	<b>Pulley and Shaft Dimensions</b>	
Gearbox Description		<b>Falk M505AB2</b>	Pulley Shell Diameter	<b>1000 mm</b>
Drive Efficiency		<b>95 %</b>	Pulley Lagging Thickness	<b>12 mm</b>
<b>Fluid Coupling</b>			Pulley Outside Diameter	<b>1024 mm</b>
Fluid Coupling		<b>No Selection - Direct Drive</b>	Pulley Shaft Diameter at Hub	<b>320 mm</b>
Fluid Coupling Size			Pulley Shaft Diameter at Bearing	<b>240 mm</b>
<b>High Speed Coupling</b>			<b>Pulley and Belt Speed</b>	
HS Coupling Make		<b>Falk</b>	Motor Full Load Speed	<b>985 rpm</b>
HS Coupling Model		<b>1120T35</b>	Required Gearbox Ratio	<b>12.282 :1</b>
<b>Low Speed Coupling</b>			Selected Gearbox Ratio	<b>12.21 :1</b>
LS Coupling Make		<b>Falk</b>	Required Pulley Speed	<b>80.2 rpm</b>
LS Coupling Model		<b>1080 / 505 MCFAS</b>	Calculated Pulley Speed for Reducer	<b>80.67 rpm</b>
<b>Brake</b>			Required Belt Speed	<b>4.3 m/s</b>
Brake Location		<b>High Speed</b>	Calculated Belt Speed	<b>4.33 m/s</b>
Low Speed Brake Torque Input		<b>26.5 kNm</b>	<b>Drive Inertia</b>	
Equivalent HS Brake Torque		<b>2271 kN</b>	Motor Inertia	<b>74.1 kg-m2</b>
<b>HoldBack</b>			High Speed Coupling Inertia	<b>0.514 kg-m2</b>
Static Analysis RunBack Force Fv		<b>199,153 N</b>	High Speed Brake Disc Inertia	<b>8.8 kg-m2</b>
Static Analysis Horizontal Force Fh		<b>97,607 N</b>	FlyWheel Inertia	<b>0 kg-m2</b>
Calculated HoldBack Torque		<b>76,979 Nm</b>	Gearbox Inertia HSS	<b>1.8 kg-m2</b>
HoldBack Required (Yes/No) Fv>Fh/2		<b>Yes</b>	Total Drive Inertia	<b>170.428 kg-m2</b>
HoldBack Req Torque 3x Motor FLT		<b>450,117 Nm</b>	Total Drive Equivalent Mass	<b>98,069 kg</b>
HoldBack Make		<b>Ringspann®</b>		
HoldBack Model		<b>FXRT 290-70UX</b>		
HoldBack Rated Torque		<b>42500 Nm</b>		