

Virginia Port Authority

Post Panamax Ship to Shore Container Crane

Location:	Portsmouth, Virginia USA
Serial Number:	J141A00-5
Asset Number:	PMT000615
Equipment Designation:	DSC5025
Manufacturer:	ZPMC
In Service Date:	2005
Maximum Load- Heavy Lift:	50 LT
Maximum Load- Spreader:	40 LT
Maximum Outreach (from seaside rail):	157 ft (48 m)
Maximum Backreach (from landside rail):	50 ft (15 m)
Height Under Portal:	44 ft (13 m)
Rail Gauge:	50 ft (15 m)
Lift Height Above Gantry Rail:	98 ft (30 m)
Total Lift:	148 ft (45 m)
Overall Length:	92 ft (28 m)



Crane Operational Control System

Hoist / Gantry AC Inverter Manufacturer:	Fuji
Hoist / Gantry AC Inverter Type:	VG7S
Hoist / Gantry AC Inverter Model:	FRN355VG7S-4LC
Hoist / Gantry AC Inverter Rating:	355kW, 380/480 Volt, 3-phase
Total Number of Hoist/Gantry Inverters:	2
Trolley / Boom AC Inverter Manufacturer:	Fuji
Trolley / Boom AC Inverter Type:	VG7S
Trolley / Boom AC Inverter Model:	FRN220VG7S-4ALC
Trolley / Boom AC Inverter Rating:	355kW, 380/480 Volt, 3-phase
Total Number of Trolley / Boom Inverters:	1
Dynamic Braking Unit Manufacturer:	Fuji
Dynamic Braking Unit Type:	BU220-4c
Nominal Applied Power:	220kW
Total Number of DB Units-Hoist/Gantry:	8
Total Number of DB Units-Trolley/Boom:	5
PLC Manufacturer:	Fuji
PLC Model:	SPH

Electronics Enclosure



Main Hoist System

Hoist System Hours as of March 2010:	8981 hours
Hoist Speed –Rated Load:	164 ft/min (50 m/min)
Hoist Speed –Empty Spreader:	394 ft/min (120 m/min)
Lower Speed-Rated Load:	164 ft/min (50 m/min)
Lower Speed-Empty Spreader:	394 ft/min (120 m/min)
Hoist Motor Manufacturer:	Siemens
Total Number of Hoist Motors:	2
Capacity:	335 hp (250kW)
Model Number:	1LL8-355-6PC50
Motor Speed:	700/1680 rpm
Voltage:	500 VAC
Cooling:	Self-ventilation fan cooling
Overload:	200%
Reduction Gear Manufacturer:	ZPMC
Total Number of Reduction Gears:	1
Reduction Gear Model:	FH1425.27.CIA-00
Ratio:	26.87:1
High Speed Hoist Brake:	Electro-Hydraulic Thruster/Disc
Brake Manufacturer:	ZPMC
Low Speed Hoist Brake:	Electro-Hydraulic Caliper Disc



Trolley System

Trolley System Hours as of March 2010:	7675 hours
Trolley Type:	Wire Rope Towed
Trolley Travel Speed:	590 ft/min (180 m/min)
Trolley Motor Manufacturer:	Siemens
Total Number of Trolley Motors:	1
Capacity:	215 hp (160kW)
Model Number:	1LG4316-4AA90-Z
Speed:	1750 rpm
Voltage:	460 VAC
Cooling:	Self-ventilation fan cooling
Overload:	220%
Reduction Gear Manufacturer:	ZPMC
Total Number of Reduction Gears:	1
Reduction Gear Model:	FH.1060.27.A2B-00
Ratio:	27.326:1
Trolley Brake Type:	Electro-Hydraulic Thruster/Disc
Brake Manufacturer:	ZPMC



Boom Hoist System

Boom System Hours as of March 2010:	490 hours
Boom Up Elapsed Time:	4 minutes
Boom Hoist Motor Manufacturer:	Siemens
Total Number of Motors:	1
Capacity:	215 hp (160kW)
Model Number:	1LG4 316-4AA90-Z
Speed:	1750 rpm
Voltage:	460 VAC
Cooling:	Self-ventilated fan cooling
Overload:	220%
Reduction Gear Manufacturer:	ZPMC
Total Number of Reduction Gears:	1
Reduction Gear Model:	FH.1500.135B.B3A-00
Ratio:	135.352:1
High Speed Brake Type:	Electro-Hydraulic Thruster/Disc
Brake Manufacturer:	ZPMC
Low Speed Brake Type:	Electro-Hydraulic Caliper Disc



Gantry Traveling System

Gantry System Hours as of March 2010:	816 hours
Gantry Travel Speed:	148 ft/min (45 m/min)
Gantry Motor Manufacturer:	Siemens
Total Number of Motors:	16
Capacity:	20 hp (15kW)
Model Number:	1LA6166-4AA94-Z
Speed:	1750 rpm
Voltage:	460 VAC
Cooling:	Self-ventilated fan cooling
Overload:	230%
Reduction Gear Manufacturer:	ZPMC
Total Number of Reduction Gears:	16
Reduction Gear Model:	TB.490.96.D2A-00
Ratio:	96.734:1
Motor Brake Type:	Electro-Hydraulic Thruster/Drum-Shoe
Motor Brake Manufacturer:	ZPMC
Wheel Brake Model:	YLZ63-180
Wheel Brake Manufacturer:	ZPMC



Power Generation System

System Hours as of March 2010: 16329 hours
Manufacturer: Caterpillar
Engine Model Number: 3516B
Generator Model Number: SR4-B
Generator Output: 1600ekW, 2500KVA, 60-Hz, 3-phase
Fuel Capacity: 1500 gallons (5678L)



Trim-List-Skew System



Headblock and Spreader



Trolley Rope Tensioner System



Personnel Elevator



Machinery House Service Crane



Generator House Service Crane

