

TECHNICAL DATA

FAQ: Standard Features

The Crane	Designed as per Specifications for Top Running Bridge and Gantry Type Multiple Girder Electric Overhead Traveling Cranes – CMAA Specifications #70, Revised 2004.
Design Stresses	Are in accordance with CMAA Spec 370-1.7
WELDING: (Design, Fabrication, Testing and Welder)	Qualifications are in accordance with AWS D14.1. (See CMAA Spec #70 - 3.2)
Static/Dynamic Load Factors and Load Combinations	Are within the limitations/ guidelines of Section 3.4. (See CMAA Spec #70 3.4)
Calculated Stresses	Are consistent with CMAA Requirements. (See CMAA Spec #70 - 3.3)
Allowable Stress Ranges	based on class of service have been considered (fatigue). (See CMAA Spec #70 - 3.4.7)
Girder Design	Proportional requirements, Factors of Safety on Bulking are consistent with CMAA. (See CMAA Spec #70 - 3.4.8 & 3.5.1)
Bolting	Structural bolted joints are designed in accordance with CMAA Requirements. (See CMAA Spec #70 - 3.13.1)
Hook Safety Factor	Min 5:1 is based on ultimate strength of hook material. (See CMAA Spec #70 - 4.2.2.2)
Wire Rope Safety Factor	Min. is 5:1 (See CMAA Spec #70 - 4.4.1) 6 x 36, 6 x 19, Other (See OSHA 1910.179 (h) (20 (1)))
Hoisting Rope Fleet Angle	Is per CMAA Specification? (See CMAA Spec #70 - 4.4.) ³
Hoist or Hoisting Machinery	Meets or exceeds Guide for Minimum Pitch Diameter of Running Sheaves (See CMAA Spec #70 - 4.5.2) and Diameter of Drums. (See CMAA Spec #70 - 4.6.4)
The Pitch Diameter of Equalizer Sheaves	Will not be less than one-half of the diameter of running sheaves, and also will not be less than 12 times the rope diameter when using 6 x 37 class rope or 15 times the rope diameter for 6 x 19 class rope. (See CMAA Spec #70 - 4.5.3)

Diameter of Running Sheaves (See CMAA Spec #70 - 4.5.2)

CMAA CLASS	6 x 37 CLASS ROPE	6 x 19 CLASS ROPE
A & B	16	20
C	18	24
D	20	24

d = rope diameter

Diameter of Drums (See CMAA Spec #70 - 4.6.4)

CMAA CLASS	6 x 37 CLASS ROPE	6 x 19 CLASS ROPE
A & B	16	20
C	18	24
D	20	24

d = rope diameter

Bearings are consistent with the duty cycle selected.
(See CMAA Spec #70 - 4.8.2)

DUTY CYCLE	HOURS
Class A	1,250
Class B	2,500
Class C	5,000
Class D	10,000

Brakes	Mechanical and thermal ratings are consistent with CMAA requirements and class of service. (See CMAA Spec #70 - 4.9.1) All Norheim type hoists can be equipped with an emergency safety drum brake. See Emergency Brake for Hoist System – Section 36-1 or Hydraulic Drum Brake – Section 36-2.
Shafting Design	In accordance with CMAA requirements. (See CMAA Spec #70 - 4.11)
Allowable Wheel Loads	In compliance with CMAA requirements. (See CMAA Table 4.13.3-3)

Bumpers	Sized according to the CMAA requirements. (See CMAA Spec #70 - 4.14) (OSHA 1910.179 (e)(2)&(3))
All Panels and Interconnecting Wiring	In accordance with NFPA NEC Article 610. (See CMAA Spec #70 - 5.1.4)
Motors	Designed and constructed in accordance with NEMA MG-1. (See CMAA Spec #70 - 5.2.1)

Mechanical Horsepower Requirements	They have been calculated in accordance with CMAA guidelines for the class of service. (See CMAA Spec #70 - 5.2.9)
Controls	Are sized for the class of service. (See CMAA Spec #70 - 5.2.9)
Short Circuit Devices and Overload Devices	In compliance with NFPA NEC Article 610. (See CMAA Spec #70 - 5.6)
Fourth Runway Electrification Ground Bar	Is included. (See CMAA Spec #70 - 5.12.3)
Rail Sweeps	Are provided. (See OSHA 1910.179 (e)(4))

REFERENCE:
1) CMAA Specification #70, Revised 2010, for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Travelling Cranes.
2) CMAA 70 Buyer's Guide #70, Revised 2008, for Top Running & Gantry Type Multiple Girder Electric Overhead Traveling Cranes.

Allowable wheel loads are in compliance with CMAA requirements.
(See CMAA Table 4.13.3-3)

TROLLEY WHEELS		
	5 - 50 Ton	60 - 160 Ton
Fixed Axle	Standard	N/A
Rotating Axle	Option	Standard

HOIST MOTOR:	
NOTE 1	NOTE 2
Flux Vector Duty Hoist Motor	2 Speed Hoist Motor (Available up to 20 HP)
Foot Mounted with NEMA C-Face	Foot Mounted with NEMA C-Face
TENV Enclosure	TENV Enclosure
60 min. Duty	30 min. Duty
Class H Insulation	Class F Insulation
Class B Rise	Class B Rise
Single Straight Shaft Extension	Single Straight Shaft Extension
Thermostats	Thermostats
1024 PPR encoder	460-3-60 Power Supply
460-3-60 Power Supply	
Disc Brake	Disc Brake
460-1-60 Brake Voltage	

PLANETARY HOIST GEARBOX FEATURES:

- High torque density
- High overhung load capacity due to heavy duty taper roller bearings featured by all solid shaft gear units
- High efficiency
- Inner parts are coupled through splined connections rather than keys
- Planetary gears mounted onto self-centering carriers to ensure the most even load distribution among planetary gears
- Housing from ductile cast iron