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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14406-2011

Replacing GB/T 14406-1993

General purpose gantry cranes

通用门式起重机

Issued on: May 12, 2011 **Implemented on: December 1, 2011**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;
Standardization Administration of the PRC

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 14406-1993 "common gantry crane." This standard and GB/T 14406-1993 compared to the main changes are as follows:

--- Modify the definition of nominal weight, and will expand the scope of the rated capacity to 320t;

--- Modify the tolerance requirements wheels, carts and trolley tracks;

--- Adjust the crane speed parameter;

--- Adjust the main beam in the vertical position of the boom and the effective cross-static deflection indicators;

--- Adjust the minimum temperature of the crane when working outdoors;

--- Adjust the degree of bend in the main beam span and the camber on the cantilever end requirements;

--- Increase the data "more car" crane;

--- Added "About" and "Terms and Definitions";

--- Increased use of high strength steel bolts to connect large hexagonal head and disc brake rotor runout requirements;

--- Increases the surface quality of the weld requirements;

--- Added "manipulate terrestrial wired, wireless remote control manipulation and multi-point manipulation" security requirements;

--- Added "shock-prone, pummeling, bump, pinch and other unsafe set at the appropriate safety warning signs" and so on;

--- Information about the content and level of anti-single girder roller;

1 Scope

China's national standard for general purpose gantry cranes - the portal cranes that carry their own legs and run on rails at ground level, used in stockyards, precast concrete works, shipyards, container and freight terminals and anywhere the load has to be moved outdoors or where a building structure cannot carry an overhead crane. It specifies the classification, the types and basic parameters, the technical requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage of general purpose

gantry cranes of rated capacity from 3.2 to 320 tonnes. A gantry crane is a bridge crane that has to carry its own supports, and everything different about it follows from that. It stands outdoors, so wind is a design case rather than a nuisance: the crane must operate up to a stated wind speed, survive a much higher one out of service, and be secured against being blown along its rails - which is what the rail clamps, the anchors and the storm pins are for, and why a gantry crane blown down a yard is one of the classic failures in this equipment. Its legs are slender and its span is large, so the structure is governed by buckling and by the skew forces that arise when the two legs do not travel at exactly the same speed - a load case that does not exist on an overhead crane. And its wheel loads go into a rail and a foundation rather than into a building frame. The requirements cover the structure and the legs, the hoisting, trolley and travel mechanisms with their brakes, the ropes and hook, the electrical supply which usually comes by trailing cable or festoon, the cab and controls, and the safety devices, with the test clause setting the no-load, rated load and overload tests. Issued on 12 May 2011 and in force since 1 December 2011, it replaces GB/T 14406-1993.

This standard specifies the nominal weight of 3.2t ~ 320t gantry crane general classification of the type and basic parameters, technical requirements, test Test methods, inspection rules, marking, packaging, transportation and storage. This standard applies to open-air operations common gantry cranes (hereinafter referred to as cranes), which means to extract the hook, grab or electromagnetic lifting Iron (magnetic chuck), or both made of two or three. For the same part of the common gantry crane gantry crane or other weight is greater than the rated capacity of 320t, also with reference to use. This standard does not apply to the crane under the following conditions.

--- Explosive, flammable gas, dust, and corrosive gas environment;

--- Nuclear radiation environment, toxic gas environment.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 191 Packaging - Pictorial signs

GB 755-2008 rotating motor fixed and performance

GB/T 1228 high strength steel with large hexagon head bolts

GB/T 1229 steel with high strength large hexagon nuts

GB/T 1230 high-strength steel washers

GB/T 1231 Steel hexagon head bolts, hexagon nuts, plain washers for high-strength GB

2893 Safety colors

GB/T 3323 metal fusion welded joints radiography

GB/T 3632 Steel with torsional shear bolts connecting deputy

GB/T 3811-2008 crane design specifications

GB 4208 housing protection (IP Code)

GB 5226.1 mechanical and electrical safety of machinery - Electrical equipment - Part 1. General requirements

GB 5226.2 Safety of machinery - Electrical equipment - Part 32. Requirements for hoisting machines

GB/T 5905 Cranes - Test code and procedures