
**Cranes — Information to be
provided —**

**Part 5:
Overhead travelling cranes and portal
bridge cranes**

iTeh STANDARD PREVIEW — *Appareils de levage à charge suspendue — Informations à fournir —*
(standards.iteh.ai) *Partie 5: Ponts roulants et ponts portiques*

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Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Information to be provided by the purchaser with the enquiry or order	1
5 Information to be provided by the manufacturer	1
5.1 Technical information	1
5.2 Dimensions	2
Annex A (informative) Format for information to be provided by the purchaser with the enquiry or order	11
Bibliography	18

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 9, *Bridge and gantry cranes*.

This second edition cancels and replaces the first edition (ISO 9374-5:1991), which has been technically revised.

The main changes compared to the previous edition are as follows:

- new [Clause 3](#) Terms and definitions has been added;
- [Figures 1](#) to [6](#) have been redrawn;
- [Annex A](#) has been rearranged.

A list of all parts in the ISO 9374 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Cranes — Information to be provided —

Part 5:

Overhead travelling cranes and portal bridge cranes

1 Scope

This document specifies information to be provided by:

- a) a purchaser in enquiring about or ordering an overhead travelling crane or portal bridge crane;
- b) a manufacturer in tendering for or supplying an overhead travelling crane or portal bridge crane.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7363, *Cranes and lifting appliances — Technical characteristics and acceptance documents*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Information to be provided by the purchaser with the enquiry or order

The purchaser should provide the information given in [Annex A](#) to enable the crane manufacturer to offer or to supply the most suitable overhead travelling crane or portal bridge crane and equipment to satisfy the duty requirements and service conditions.

5 Information to be provided by the manufacturer

5.1 Technical information

The information provided by the manufacturer shall include:

- a) technical information and test certificates for the crane to facilitate its installation, testing and use in accordance with ISO 7363 and as appropriate for the appliance;
- b) an instruction manual which should include details of routine servicing, inspection and maintenance of the crane;
- c) erection information, when requested.

All loads applied by the crane to its runway should be calculated in accordance with ISO 8686-5 or as agreed between the manufacturer and the purchaser.

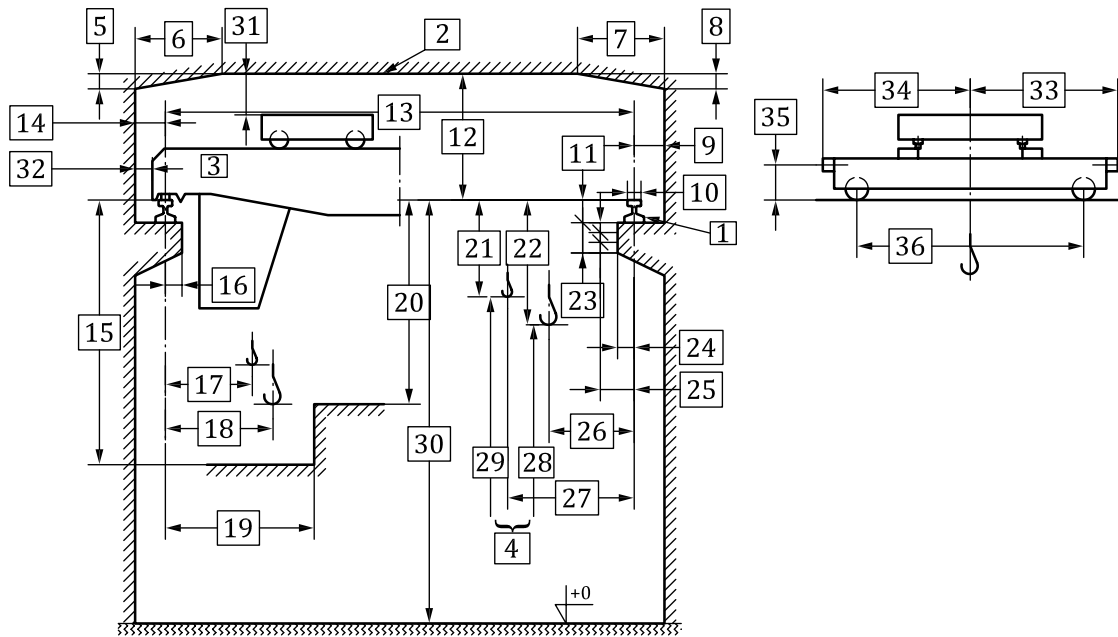
5.2 Dimensions

The manufacturer should provide general arrangement drawings, with dimensions, showing that the purchaser's requirements, including the restrictions stated in [Figures 1](#) to [6](#), are met.

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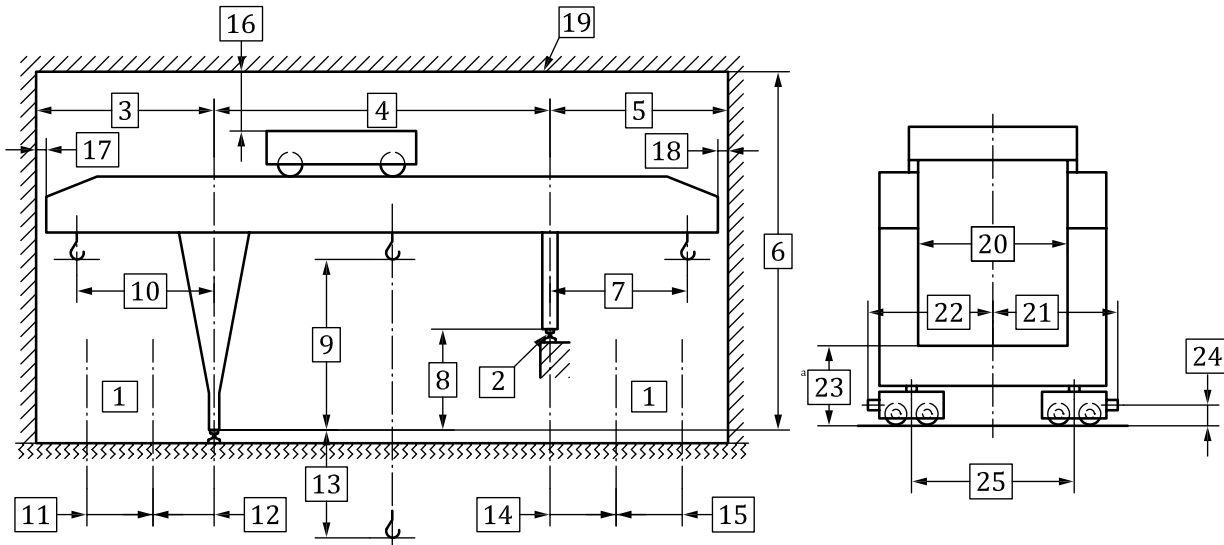
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Key

- | | |
|---|--|
| 1 type of rail | 19 distance between centre of rail and obstruction 2 |
| 2 clearance line | 20 distance between the top of rail and the top of obstruction 2 |
| 3 crane | 21 distance between the top of rail and the highest working position of auxiliary hook |
| 4 lifting range | 22 distance between the top of rail and the highest working position of main hook |
| 5 inclination of the clearance line on left side | 23 rail support beam outline |
| 6 inclination of the clearance line on left side | 24 distance between centre of rail and edge of rail support beam on right side |
| 7 inclination of the clearance line on right side | 25 distance between centre of rail and conductor |
| 8 inclination of the clearance line on right side | 26 main hook approach on right side |
| 9 dimension from right side rail to clearance line | 27 auxiliary hook approach on right side |
| 10 rail width | 28 main hook lifting range |
| 11 rail height | 29 auxiliary hook lifting range |
| 12 distance between the top of rail and the clearance line | 30 crane track height |
| 13 span | 31 clearance between highest point of crane and clearance line |
| 14 dimension from left side rail to clearance line | 32 clearance between outermost point of crane and clearance line |
| 15 distance between the top of rail and the top of obstruction 1 | 33 width on right side |
| 16 distance between centre of rail and edge of rail support beam on left side | 34 width on left side |
| 17 auxiliary hook approach on left side | 35 buffer height |
| 18 main hook approach on left side | 36 crane wheel base |

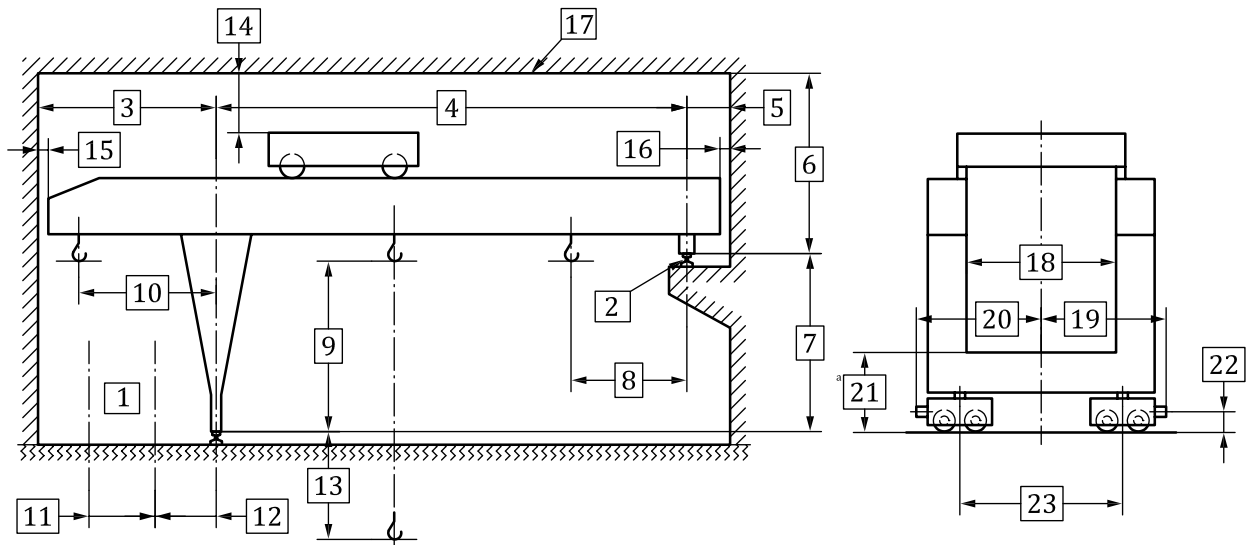
Figure 1 — Overhead travelling crane



Key

- | | | | |
|----|--|----|--|
| 1 | axis of railways | 14 | distance between centre of rail and railway on right side |
| 2 | type of rail | 15 | width of railway on right side |
| 3 | dimension from left side rail to clearance line | 16 | clearance between highest point of crane and clearance line |
| 4 | span | 17 | clearance between outermost point on left of crane and clearance line |
| 5 | dimension from right side rail to clearance line | 18 | clearance between outermost point on right of crane and clearance line |
| 6 | distance between the top of rail and the clearance line | 19 | clearance line |
| 7 | outreach from right side rail | 20 | clearance between the legs |
| 8 | rail height difference | 21 | width on right side |
| 9 | load-lifting height | 22 | width on left side |
| 10 | outreach from left side rail | 23 | height of the sill beam |
| 11 | width of railway on left side | 24 | buffer height |
| 12 | distance between centre of rail and railway on left side | 25 | crane wheel base |
| 13 | load-lowering height | a | Maximum, if restricted. |

Figure 2 — Portal bridge crane



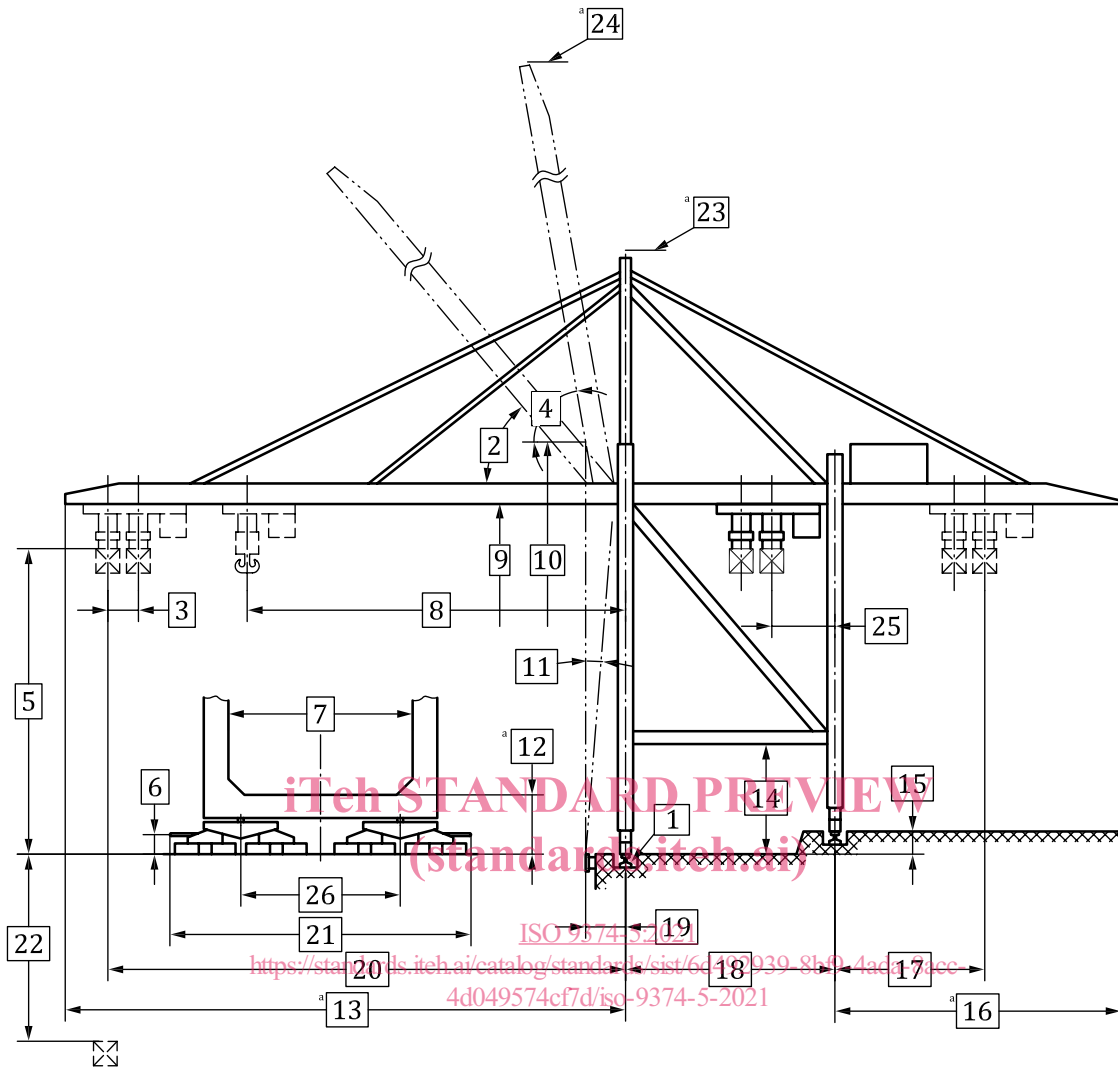
Key

- | | |
|---|---|
| 1 axis of railways | 13 load-lowering height |
| 2 type of rail | 14 clearance between highest point of crane and clearance line |
| 3 dimension from left side rail to clearance line | 15 clearance between outermost point on left of crane and clearance line |
| 4 span | 16 clearance between outermost point on right of crane and clearance line |
| 5 dimension from right side rail to clearance line | 17 clearance line |
| 6 distance between the top of rail and the clearance line | 18 clearance between the legs |
| 7 rail height difference | 19 width on right side |
| 8 hook approach on right side | 20 width on left side |
| 9 load-lifting height | 21 height of the sill beam |
| 10 outreach from left side rail | 22 buffer height |
| 11 width of railway on left side | 23 crane wheel base |
| 12 distance between centre of rail and railway on left side | a Maximum, if restricted. |

Figure 3 — Semi-portal bridge crane

The main differences between the various ship-to-shore cranes are as follows.

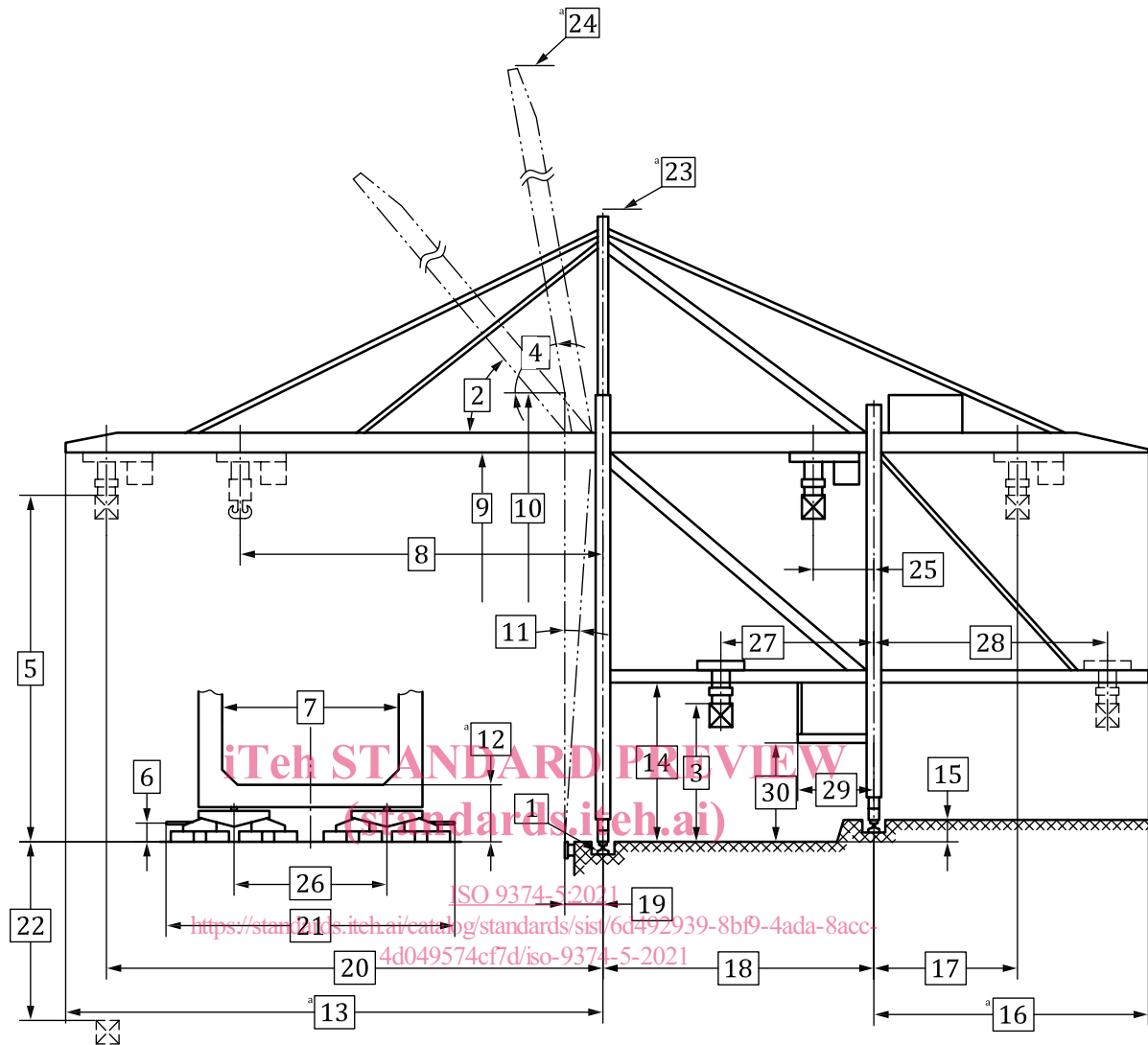
- a) **Figure 4:** the dual (single) hoist ship-to-shore container crane should be capable of handling containers for loading onto or discharging from a container vessel. Two 40-ft (45-ft) or four 20-ft containers can be lifted together by the dual hoist crane. One 40-ft (45-ft) or two 20-ft containers can be lifted by the single hoist crane. On **Figure 4** the dual hoist crane is drawn. There is no key 3 for the single hoist crane.
- b) **Figure 5:** the double trolley ship-to-shore container crane should be capable of handling containers for loading onto or discharging from a container vessel. There are main trolley operating on the upper girder and auxiliary trolley operating on the portal beam.
- c) **Figure 6:** the bridge type grab ship unloader should be capable of handling bulk material for discharging from a bulk cargo vessel.



Key

- | | | | |
|----|---|----|--|
| 1 | type of rail | 15 | rail height difference |
| 2 | luffing angle from operating position to stowed or vessel avoiding position | 16 | distance from the end of the girder to landside rail |
| 3 | distance between two spreaders | 17 | backreach |
| 4 | luffing angle from operating position to stowed or maintenance position | 18 | span |
| 5 | load-lifting height above waterside rail top | 19 | distance from the fender to waterside rail |
| 6 | buffer height | 20 | outreach for spreader |
| 7 | clearance between the legs | 21 | buffer to buffer (buffer uncompressed) |
| 8 | outreach for cargo beam | 22 | load-lowering height below waterside rail top |
| 9 | clearance under boom down position | 23 | maximum height to the top of pylon |
| 10 | clearance under boom up position | 24 | maximum height to the top of the boom (boom up) |
| 11 | maximum vessel inclination angle | 25 | trolley parking position |
| 12 | height of the sill beam | 26 | crane wheel base |
| 13 | distance from the top of the boom to waterside rail centre | a | Maximum, if restricted. |
| 14 | clearance under portal | | |

Figure 4 — Dual (single) hoist ship-to-shore container crane



Key

- | | | | |
|----|---|----|--|
| 1 | type of rail | 17 | backreach of main trolley |
| 2 | luffing angle from operating position to stowed or vessel avoiding position | 18 | span |
| 3 | auxiliary trolley load-lifting height above waterside rail top | 19 | distance from the fender to waterside rail |
| 4 | luffing angle from operating position to stowed or maintenance position | 20 | outreach for spreader of main trolley |
| 5 | main trolley load-lifting height above waterside rail top | 21 | buffer to buffer (buffer uncompressed) |
| 6 | buffer height | 22 | main trolley load-lowering height below waterside rail top |
| 7 | clearance between the legs | 23 | maximum height to the top of pylon |
| 8 | outreach for cargo beam | 24 | maximum height to the top of the boom (boom up) |
| 9 | clearance under boom down position | 25 | trolley parking position |
| 10 | clearance under boom up position | 26 | crane wheel base |
| 11 | maximum vessel inclination angle | 27 | outreach of auxiliary trolley |
| 12 | height of the sill beam | 28 | backreach of auxiliary trolley |
| 13 | distance from the top of the boom to waterside rail centre | 29 | lashing platform width |