
**Ships and marine technology —
Deck machinery — Multifunctional
manipulator**



This document is a preview generated by EKO



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Classification	2
4.1 Structural types	2
4.2 Product designation	3
4.3 Appearance	3
4.4 Basic parameters	3
5 Requirements	4
5.1 Design and structure	4
5.2 Material	8
5.3 Performance	8
5.4 Appearance quality	9
6 Test method	10
6.1 No-load test	10
6.2 Rated load test	10
6.3 Over-load test	10
6.4 Safety protection inspection	10
6.5 Power supply fluctuation	11
6.6 Insulation resistance	11
6.7 Inspection of degrees of protection provided by enclosure (only for electrical cabinet)	11
6.8 Appearance quality	11
7 Marking, packaging, shipping and storage	11
7.1 Nameplate	11
7.2 Warning sign	12
7.3 Packaging	12
7.4 Transportation	12
7.5 Storage	12

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 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

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.

Ships and marine technology — Deck machinery — Multifunctional manipulator

1 Scope

This document specifies the classification, requirements, test methods and inspection rules, as well as marking, packaging, shipping and storage requirements for multifunctional manipulators for deck operations (hereinafter referred to as “multifunctional manipulators”).

It is applicable to the design, manufacture and acceptance of double folding multifunctional manipulators for clamping and tidying the anchor chain and ropes in deck operations.

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 780, *Packaging — Distribution packaging — Graphical symbols for handling and storage of packages*

ISO 3828, *Shipbuilding and marine structures — Deck machinery — Vocabulary and symbols*

ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

IEC 60529, *Degrees of Protection Provided By Enclosure (IP Code)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3828 and the following apply.

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

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

3.1

jib

second movable arm of the multifunctional manipulator used to lift and hook tension free ropes

3.2

multifunctional head

operating device of the multifunctional manipulator used to grasp, clamp and tidy the anchor chain and ropes

3.3

multifunctional boom

second movable arm of the multifunctional manipulator used to connect the *multifunctional head* (3.2)

3.4

main boom

first movable arm of multifunctional manipulator used to connect the slewing tower body and the second movable arm of the double folding boom