

Factory-Verified Replacement

MERYDOM 091.20.1146.991.21.1503

Certified for interchange with Rothe Erde 091.20.1146.991.21.1503. This document consolidates the public product record, complete published specifications, technical media, source traceability and engineering confirmation notes.

**LEVEL 3 - MERYDOM ENGINEERING VERIFIED**

Reviewed by MERYDOM Engineering Department. Final application approval must confirm loads, duty cycle, mounting rigidity, bolt capacity, lubrication and operating conditions.

MERYDOM MODEL

091.20.1146.991.21.1503

REFERENCE

Rothe Erde 091.20.1146.991.21.1503

SERIES

09 Series

STRUCTURE

Esferas de contato de quatro pontos de duas carreiras

OVERALL OD

1,308 mm

OVERALL ID

1,033 mm

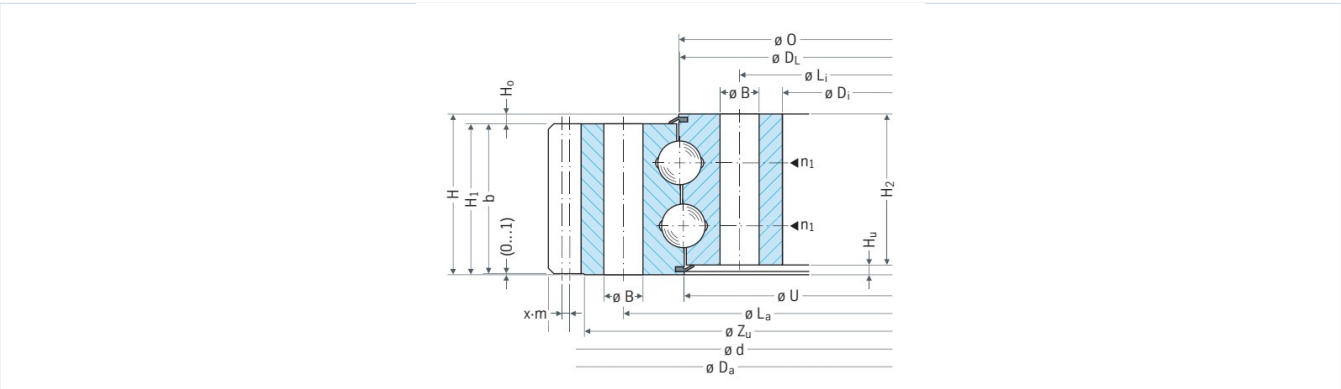
OVERALL HEIGHT

92 mm

GEAR

Engrenagem externa

Published Technical Drawing



page-085-outline.png

## Complete Product Data

All values below are generated from the current public verified replacement record. Source values are retained and metric references are shown where available.

| MERYDOM CERTIFIED PRODUCT            |                                                       |
|--------------------------------------|-------------------------------------------------------|
| Product brand                        | MERYDOM                                               |
| MERYDOM model                        | 091.20.1146.991.21.1503                               |
| Certified interchangeable with       | Rothe Erde 091.20.1146.991.21.1503                    |
| Verification status                  | Level 3 - MERYDOM Engineering Verified                |
| Reviewed by                          | MERYDOM Engineering Department                        |
| Public record UID                    | AK5QFKU4TIXSXX3K723UNVRHO3                            |
| MATERIALS                            |                                                       |
| Configurable ring material options   | 42CrMo / 50Mn                                         |
| Seal material                        | NBR - Nitrile rubber                                  |
| Configurable spacer material options | Engineering nylon / Brass                             |
| IDENTIFICATION                       |                                                       |
| Reference brand                      | Rothe Erde                                            |
| Reference series                     | 09 Series                                             |
| Reference model                      | 091.20.1146.991.21.1503                               |
| Bearing structure                    | Esferas de contato de quatro pontos de duas carreiras |
| Gear arrangement                     | Engrenagem externa                                    |
| DIMENSION                            |                                                       |
| Raceway diameter (DL)                | 1.146 mm                                              |
| Overall outside diameter (Da)        | 1.308 mm                                              |
| Overall inside diameter (Di)         | 1.033 mm                                              |

## Complete Product Data

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| DIMENSION (CONTINUED)                     |          |
|-------------------------------------------|----------|
| Overall height (H)                        | 92 mm    |
| Catalog diameter O (O)                    | 1.152 mm |
| Catalog diameter U (U)                    | 1.145 mm |
| Ring height H1 (H1)                       | 83 mm    |
| Ring height H2 (H2)                       | 83 mm    |
| Lower ring offset Hu (Hu)                 | 9 mm     |
| Upper ring offset Ho (Ho)                 | 9 mm     |
| Assembly weight (Weight)                  | 270 kg   |
| MOUNTING                                  |          |
| Outer ring bolt circle (La)               | 1.215 mm |
| Inner ring bolt circle (Li)               | 1.082 mm |
| Common mounting-hole count (n)            | 56       |
| Common mounting-hole diameter (B)         | 22 mm    |
| Metric bolt nominal size (M)              | 20 mm    |
| GEAR                                      |          |
| Gear pitch diameter (d)                   | 1.280 mm |
| Gear module (m)                           | 10 mm    |
| Gear tooth count (z)                      | 128      |
| Profile shift product x m (x*m)           | 5 mm     |
| Tip-height modification product k m (k*m) | -1 mm    |

Complete Product Data

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|                                               |                                                                |
|-----------------------------------------------|----------------------------------------------------------------|
| GEAR (CONTINUED)                              |                                                                |
| Minimum gear face width (bmin)                | 82 mm                                                          |
| Root-neck diameter Zu (Zu)                    | 1.259 mm                                                       |
| PERFORMANCE                                   |                                                                |
| Permitted circumferential force, normal (X1)  | 79,23 kN                                                       |
| Permitted circumferential force, maximum (X2) | 158,45 kN                                                      |
| MISCELLANEOUS                                 |                                                                |
| Grease nipple count (n1)                      | 4                                                              |
| PERFORMANCE RATINGS                           |                                                                |
| Catalog Reference X1                          | 79,23 kN   Not simultaneous with other listed dynamic ratings  |
| Catalog Reference X2                          | 158,45 kN   Not simultaneous with other listed dynamic ratings |
| MOUNTING INTERFACES                           |                                                                |
| Outer ring mounting                           | 56 holes - M 20                                                |
| Inner ring mounting                           | 56 holes - B 22                                                |
| GEAR INTERFACE                                |                                                                |
| Pitch system                                  | module                                                         |
| Module reference                              | 10 mm                                                          |
| Number of teeth                               | 128                                                            |
| SOURCE TRACEABILITY                           |                                                                |
| Source document code                          | ROTHE_ERDE_CATALOG_2023                                        |
| Source file                                   | Rothe Erde.pdf                                                 |
| PDF page                                      | 85                                                             |

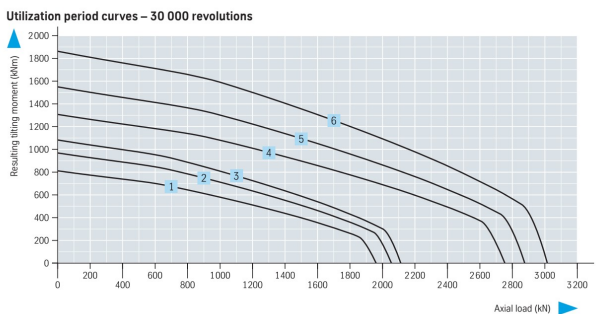
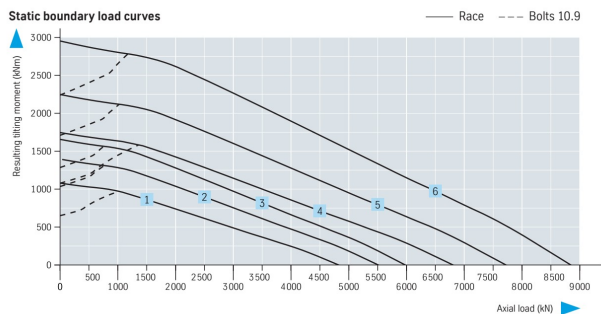
Complete Product Data

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| SOURCE TRACEABILITY (CONTINUED) |                                                                                                         |
|---------------------------------|---------------------------------------------------------------------------------------------------------|
| Printed page                    | 164-165                                                                                                 |
| Source language                 | EN                                                                                                      |
| Original unit system            | Metric                                                                                                  |
| PUBLISHED TECHNICAL MEDIA       |                                                                                                         |
| Load Curve Chart                | page-085-load-curves.png   SHA-256:<br>2b1b0d8ae4078a22b2a5ff76e80a7122f25582a8b88aa2cd304dba3871de1a42 |
| Outline Drawing                 | page-085-outline.png   SHA-256:<br>eea1f2eaa62033b789c37ca7859ed6fe94a01141be3360d250c15dfec38bd1c0     |

Published Load / Performance Chart

Use the published chart as a preliminary selection aid only. The model legend, curve family and source document must be reviewed together with the operating load case.



page-085-load-curves.png | SHA-256: 2b1b0d8ae4078a22b2a5ff76e80a7122f25582a8b88aa2cd304dba3871de1a42

Engineering note: final approval must also consider mounting rigidity, bolt capacity, duty cycle, lubrication, temperature, environment and installation conditions.

## Source and Verification Traceability

**PUBLIC RECORD UID****AK5QFKU4TIXSXX3K723UNVRHO3****SOURCE DOCUMENT****ROTHE\_ERDE\_CATALOG\_2023****SOURCE FILE****Rothe Erde.pdf****SOURCE LOCATION****PDF page 85 | Printed page 164-165****VERIFICATION****Level 3 - MERYDOM Engineering  
Verified****REVIEWED BY****MERYDOM Engineering Department**

## Engineering Confirmation Boundary

- 1 Confirm the exact model designation and all installation-envelope dimensions.
- 2 Confirm mounting-hole quantity, bolt circle, hole specification, bolt grade and preload.
- 3 Confirm gear arrangement, pitch system, tooth count, backlash and mating-pinion data.
- 4 Confirm axial, radial and moment loads, load combinations, duty cycle and required life.
- 5 Confirm support flatness and stiffness, lubrication, sealing, temperature and environment.
- 6 Final drawing revision, manufacturing tolerances and documentation package are confirmed with the quotation.

### Request Price, Delivery and Final Engineering Confirmation

Email: [jovi@merydom.com](mailto:jovi@merydom.com) | Email: [andi@merydom.com](mailto:andi@merydom.com) | WhatsApp: +86 17705201170

Product page:

<https://rotnex.com/pt/produtos/rolamentos-de-giro-de-substituicao/rothe-erde/091-20-1146-991-21-1503/>

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