Oppdatert 10.12.2025

BRUKERMANUAL

FT327N MINIGRAVER

Denne brukermanualen er utarbeidet i henhold til maskinforskriften (forskrift om maskiner av 20. mai 2009 nr. 544), vedlegg I pkt. 1.7.4.
Manualen skal følge maskinen og være tilgjengelig for operatør til enhver tid.

INNHOLDSFORTEGNELSE

KAPITTEL 1

Sikkerhetsforholdsregler og sikkerhetsskilt

1.1 Generelle sikkerhetsforholdsregler

Denne minigraveren skal kun brukes, inspiseres og vedlikeholdes i samsvar med gjeldende lover og forskrifter, produsentens anvisninger og denne brukermanualen.
Maskinen skal kun betjenes av personer som har mottatt nødvendig opplæring og som har forstått innholdet i manualen.

Manglende etterlevelse av sikkerhetsinstruksjoner kan føre til alvorlig personskade, materielle skader eller dødsfall.

1.2 Sikkerhetsmerking og informasjonsskilt

Maskinen er utstyrt med sikkerhets- og informasjonsskilt som gir viktige instrukser for trygg bruk.

Operatøren skal:

- gjøre seg kjent med plassering og betydning av alle skilt før bruk
- sørge for at skiltene alltid er rene og leselige
- ikke fjerne, dekke til eller endre merkingen

MERK:
Organiske løsemidler, bensin eller sterke kjemikalier skal ikke benyttes til rengjøring av sikkerhetsskilt.

1.3 Plassering av sikkerhetsskilt

Maskinen er blant annet merket med:

- løftepunkt
- lydeffektnivå
- hovedstrømbryter
- forbud mot opphold under arbeidsutstyr
- maskinens merke og modell
- påbud om bruk av hørselvern

- vedlikeholdsmerking
- tenningsbryter og drivstoffpåfylling

1.4 Navneplate og maskinidentifikasjon

Maskinens navneplate inneholder modellbetegnelse, serienummer, produksjonsår og tekniske data.
Disse opplysningene skal alltid benyttes ved service og reservedelsbestilling.

1.5 Sikkerhetsinstruksjoner

Generelle regler

- Maskinen skal kun brukes av opplært personell.
- Bruk av alkohol eller rusmidler er strengt forbudt.
- Ved unormal støy, lukt eller lekkasje skal maskinen stanses umiddelbart.

Personlig verneutstyr
Operatøren skal bruke egnet verneutstyr, inkludert:

- vernehjelm
- vernesko
- vernebriller
- hansker
- hørselsvern

ADVARSEL:
Varme væsker og trykksatte systemer kan forårsake alvorlige skader. La maskinen kjøle seg ned før service.

KAPITTEL 2

Forberedelser før bruk

2.1 Daglige kontroller

Før oppstart skal følgende kontrolleres:

- drivstoffnivå
- motorolje og hydraulikkolje
- beltespenning
- smørepunkter
- bolter og festepunkter
- varsellamper og nødstopper

2.2 Arbeidsområde

Arbeidsområdet skal inspiseres for hindringer, ustabil grunn, kabler og rør.
Ved arbeid på offentlig område skal området sikres.

KAPITTEL 3

Sikker drift av maskinen

3.1 Oppstart

Maskinen skal startes fra førerplass, med alle betjeningsorganer i nøytral stilling og i samsvar med produsentens anvisninger. Bruk av startgass er forbudt.

3.2 Drift

- Kun én person skal befinne seg i maskinen under drift.
- Ingen personer skal oppholde seg i maskinens arbeidsområde.
- Arbeidsutstyr skal holdes lavt under forflytning.

3.3 Parkering

- Parker på fast og plant underlag.
- Senk arbeidsutstyret helt ned.
- Slå av motor og ta ut nøkkel.

KAPITTEL 4

Grunnleggende tekniske spesifikasjoner

Maskinen er blant annet utstyrt med:

- Kubota D722 dieselmotor
- operasjonsvekt ca. 1 700–1 800 kg
- beltebredde justerbar mellom 903–1203 mm
- hydraulisk driftssystem

Maskinens hovedmål, ytelser og tekniske hoveddata er beskrevet i denne manualen og i tilhørende teknisk dokumentasjon.

KAPITTEL 5

Vanlige feil og løsninger

Typiske feil kan være relatert til:

- hydraulikk
- motor
- elektrisk system
- beltespenning

Feilsøking skal utføres systematisk. Ved alvorlige feil skal autorisert verksted kontaktes.

KAPITTEL 6

Vedlikehold og pleie

Regelmessig vedlikehold er avgjørende for sikker drift og lang levetid.

Vedlikehold omfatter blant annet:

- regelmessig oljeskift
- filterbytte
- smøring
- kontroll av slanger og koblinger

Hydraulikkslanger og sikkerhetskritiske komponenter skal skiftes periodisk, selv uten synlige skader.

VEDLEGG A

Supplerende vedlikeholdsrutiner og driftsanbefalinger

VIKTIG MERKNAD

Dette vedlegget er et **supplement** til hovedmanualen og erstatter ikke produsentens offisielle bruks- og vedlikeholdsanvisninger.
Dokumentet bygger på praktisk driftserfaring.

A.1 Bakgrunn

Maskiner med denne konstruksjonsfilosofien kan kreve tettere oppfølging når det gjelder smøring, ettertrekking og korrosjonsbeskyttelse.

A.2 Daglig kontroll

- Kontroller motorolje og kjølevæske
- Inspiser hydraulikkslanger og koblinger
- Ettertrekk bolter og pinner ved behov
- Smør alle smørepunkter
- Test sikkerhetsutstyr
- Hold maskinen ren

A.3 Ukentlig kontroll

- Ettertrekk kritiske festepunkter
- Kontroller elektriske kabler
- Rengjør eller bytt luftfilter
- Kontroller batteri
- Kontroller hydraulikkolje

A.4 Anbefalte serviceintervaller

- 50 timer: olje- og filterbytte (ny maskin)
- 200 timer: standard service

- 300–500 timer: hydraulikkfilter
- 600–1000 timer / årlig: full gjennomgang

A.5 Rust og korrosjonsbeskyttelse

Vask maskinen regelmessig og reparer lakkskader umiddelbart.
Spesielt utsatte områder skal kontrolleres jevnlig.

A.6 Hydraulikksylindre

- Kort lagring: smør stempelstenger
- Lang lagring: trekk sylindrene helt inn
- Unngå høytrykk direkte mot tetninger

A.7 Smørefrekvens

- Smør alle punkter hver 4.–8. driftstime
- Øk frekvens ved vått eller støvete arbeid
- Anbefalt fett: litiumbasert EP2

A.8 Lagring

- Smør alle bevegelige deler
- Dekk maskinen til med ventilasjon
- Koble fra batteriet
- Start maskinen periodisk ved langtidslagring

A.9 Drift i kaldt og kystnært klima

- Bruk tilpasset hydraulikkolje
- Benytt vinterdiesel ved lave temperaturer
- Vær ekstra oppmerksom på korrosjon i kystnære områder

A.10 Kort oppsummering

Hyppig smøring, ettertrekking og rustbeskyttelse gir:

- lengre levetid
- færre feil
- bedre driftssikkerhet

VEDLEGG B

EC DECLARATION OF CONFORMITY

CE

Original Declaration

MANUFACTURER: Name	SHANDONG RIPPA MACHINERY GROUP CO., LTD.
Address:	No. 6 Industrial Park, No. 2166 Chongwen Avenue, High tech Zone, Jining City, Shandong Province, P. R. China

CLIENT / BUYER OF GOODS:

Buyer:FODIT IMPORT AS.
Org number 981928423
Address:POSTBOX 563, N-5501 HAUGESUND
Tell: +47 93433500
Email:geir@fodit.no

AUTHORIZED TO HOLD TECHNICAL FILE ON BEHALF OF MANUFACTURER ABOVE

HEREBY DECLARES THAT THE BELOW MENTIONED MACHINE:

DESCRIPTION OF MACHINERY	
PRODUCT NAME:	HYDRAULIC EXCAVATOR
MODEL/TYPE:	R327
SERIAL NO. :	SLP
PRODUCTION YEAR:	2025

IN ACCORDANCE WITH:

MACHINERY DIRECTIVE	2006/42/EC EN 474-1:2022 ;EN 474-5:2022
EMC DIRECTIVE	2014/30/EU EN ISO 13766-1:2018;EN ISO 13766-2:2018

AS WELL AS TO THE FOLLOWING OTHER DIRECTIVES AND THE CORRESPONDING NATIONAL

REGULATIONS:

NOISE DIRECTIVE 2000/14/EC &2005/88/EC, DLGS 262/02

EQUIPMENT ACCORDING TO THE DEFINITION GIVEN BY ANNEX I,ITEM 20 OF NOISE DIRECTIVE.
CONFORMITY ASSESSMENT PROCEDURE FOLLOWED:ANNEX VII OF 2000/14/EC
NOTIFIED BODY:EUROPEAN CERTIFYING ORGANIZATION S.P.A.NB 0714,VIA MENGOLINA 33, FAENZA(RA),ITALY

HOLDER OF THE TECHNICAL DOCUMENTATION:MANUFACTURER
MEASURED SOUND POWER LEVEL:92 dB(A)
GUARANTEED SOUND POWER LEVEL:93 dB(A)

SIGNED ON BEHALF OF SHANDONG RIPPA MACHINERY GROUP CO.,LTD

STAMP&SIGNATURE: Jacky Yan
NAME: Jacky Yan
POSITION: GENERAL MANAGER
PLACE: JINING,CHINA
DATE: 2025

VEDLEGG C

CERTIFICATE

for EC-Type Examination
EC Directive 2000/14/EC incl. latest amendments
Assessment of technical documentation and periodic inspections
according to Annex VI

Certificate No.: JO 60183815 0001

Report No.: CN25DUQT 001

License Holder:
SHANDONG RIPPA MACHINERY
GROUP CO. , LTD.
The north of Guang'an Road and east of
Gaoxin Avenue (Liaohe Road), High tech
Zone,
Jining City,
272000 Shandong
P.R. China

Factory:
SHANDONG RIPPA MACHINERY
GROUP CO. , LTD.
The north of Guang'an Road and east of
Gaoxin Avenue (Liaohe Road), High tech
Zone,
Jining City,
272000 Shandong
P.R. China

Product: Excavator
Hydraulic Excavator

Type designation listed on the next page

This EC-type Examination Certificate refers to an evaluation of the above mentioned model. This is to certify that the specimen is in accordance with the requirements of the Directive. Periodic inspections of that product are carried out at regular intervals. The certificate does not permit the use of a mark of conformity of TUV Rheinland. The holder is authorized to use this EC-Type Examination Certificate in connection with the EC-declaration of conformity.

Notified Body

TÜV Rheinland LGA Products GmbH
TÜV Rheinland
Zertifizierungsstelle

Valid Until: 2030-08-12

Issue Date: 2025-08-13

G. Stupp

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

Notified under No. **0197** to the EC Commission.

CE **The CE marking may be used if all relevant and effective EC Directives/Regulations are complied with.** CE

www.tuv.com

DAkkS Deutsche Akkreditierungsstelle D-ZE-14109-01-00

TÜVRheinland® Precisely Right.

Page 1 of 2

C E R T I F I C A T E

for EC-Type Examination
EC Directive 2000/14/EC incl. latest amendments
Assessment of technical documentation and periodic inspections according to Annex VI

Certificate No.: JO 60183815 0001

Product: Excavator
Hydraulic Excavator

Identification: Type Designation(s):

1) R327
   Hydraulic Excavator
   Category: Article 12, Annex III item 20

   Engine : Kubota – D722-EF18
   Ratings: 10.2kW, 2500rpm

   Measured Sound Power Level according to 2000/14/EC
   - amended by 2005/88/EC: 91.6 dB(A)
   - amended by EU 2024/1208: 91.6 dB(A)

2) R13, R15
   Hydraulic Excavator
   Category: Article 12, Annex III item 20

   Engine : Kubota – D722-EF18
   Ratings: 10.2kW, 2500rpm

   Measured Sound Power Level according to 2000/14/EC
   - amended by 2005/88/EC: 91.4 dB(A)
   - amended by EU 2024/1208: 91.4 dB(A)

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

Notified under No. **0197** to the EC Commission.

CE **The CE marking may be used if all relevant and effective EC Directives/Regulations are complied with.** CE

www.tuv.com

DAkkS Deutsche Akkreditierungsstelle D-ZE-14169-01-00

TÜVRheinland® Precisely Right.

VEDLEGG D

Test conclusion TOPS SERTIFICATE FOR FT327

Product Designation	Protection device for agricultural excavator	Type	26
Design Organization	Shandong Rippa Machinery Group Co., Ltd.	Trademark	——
Name of Manufacturer	Shandong Rippa Machinery Group Co., Ltd.	Date of Manufactu re	September 18, 2021
		Factory Number	26.06.10
Entrustment Company	Shandong Rippa Machinery Group Co., Ltd.	Sample Number	1
Type of test	Performance Test	Date of test	October 18, 2021
Reference Standards	（See Annex B）	Testing Items	1、 TOPS lateral load energy test; 2、 Low temperature performance test of materials
Test Conclusion	According to GB/T 19930-2005 standard, the prototype of model 26 tumble protective device (TOPS) with the maximum mass of 1400kg Agricultural excavator was tested, the test object has reached the GB/T 19930-2005 requirements. Date of Issued：2021-10-30		
Note	Type 26 roll protection device is suitable for R325 agricultural excavators.		

Approver : ：Verifier ：Manager

Summary of test results

No.	Test Item	Unit	Criteria	Test Result	Conclusion
1	TOPS lateral load energy test	J	1113	When the lateral loading force is 22.0kN, the energy 1132J, the TOPS component or the simulated ground plane are not invaded by DLV.	Passed
2	Low temperature performance test of materials	J	5.5	25	Passed

※The specimen size is 10mm×2.5mm,the temperature of specimen is -30℃.

Annex A Test sample

A1 Sample Appearance

Figure A1 sample appearance

A2 Specification of sample

The TOPS is produced and designed by Shandong Rippa Machinery Group Co., Ltd.. It is suitable for the Shandong Rippa Machinery Group Co., Ltd. R325 Agricultural excavator. The sample is in a normal state before test.

A3 List of main identification

machine	Type	Agricultural excavator
	Manufacturer	Shandong Rippa Machinery Group Co., Ltd.
	Model number	R325
	Serial number	____
	Machine frame part number	____
	machine of maximum weight	1400 kg
TOPS	Manufacturer	Shandong Rippa Machinery Group Co., Ltd.
	Model	26
	Number	26.06.10
	Protective device number	____

Annex B Test standards

——	Technology Agreement
	Earth-moving machinery- Tip-Over Protection Structure(TOPS)

GB/T 19930-2005	for com pact Hydraulic Excavators- Laboratory tests and performance requirements

Annex C Test condition

C1 Ambient temperature during performance test

Test date	**Temperature**，℃	**Humidity**，%
October 18, 2021	15	36

C2 Main test equipment

No.	**Test equipment**	**Type**	**Serial No.**	**Accuracy**	**Next calibration date**
1	General strength testing system for construction machinery	RTF1000-117	ZJ6-041	±1%	April 2, 2021

C3 Test site

Test items	**Test site**
TOPS lateral load energy test	Vehicle Testing Engineering Research Institute of China
Low temperature performance test of materials	

Annex D Test results

D1 Check results of sample before test

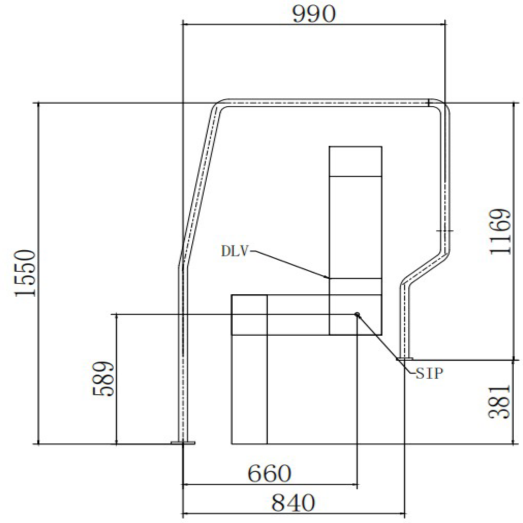
Table D1

Check items		Check results
Machine	Type	Agricultural excavator
	Manufacturer	Shandong Rippa Machinery Group Co., Ltd.
	Model number	R325
	Serial number	——
	Machine frame part number	——
TOPS	Manufacturer	Shandong Rippa Machinery Group Co., Ltd.
	Model	26
	Number	26.06.10
	Protective device number	——

D2 Description of Deflection-limiting Volume (DLV)

According to ISO 3164:2013,we have fixed DLV, see figure D1. The location of DLV in the TOPS, see figure D2.

Figure D1 Deflection-limiting Volume



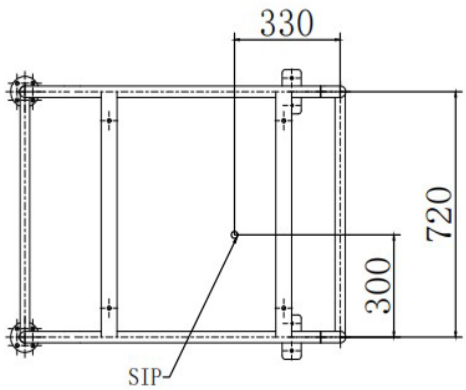


Figure D2 The location of DLV

D3 Detection index

TOPS lateral load energy $U=13000\left(\frac{M}{10000}\right)^{1.25}=1113$ J

Note: manufacturer recommended maximum weight of M=1400kg

D4 TOPS lateral load energy test

The state of Lateral load see appendix Figure F1, the end of Lateral load see appendix Figure F2, Load force ,displacement and energy data and the curves are shown in Table D2 and the curves of Force-displacement and Force-energy are shown in Figure.D3, Figure.D4.

Table D2 lateral load test data of Tip-over protection structure

Number	Force, kN	displacement, mm	Energy, J
1	0.0	0	0
2	1.9	4	3
3	3.2	7	11
4	4.5	11	22
5	5.7	14	34
6	7.3	17	60
7	9.0	21	89
8	10.5	24	113
9	12.2	28	162
10	13.8	31	201
11	15.3	35	245
12	16.6	38	313
13	17.6	42	370
14	18.5	45	434
15	19.2	49	505
16	19.8	53	587
17	20.3	57	648
18	20.7	60	719
19	21.1	64	815
20	21.4	68	884
21	21.7	72	976
22	22.0	76	1057
23	22.0	79	1132

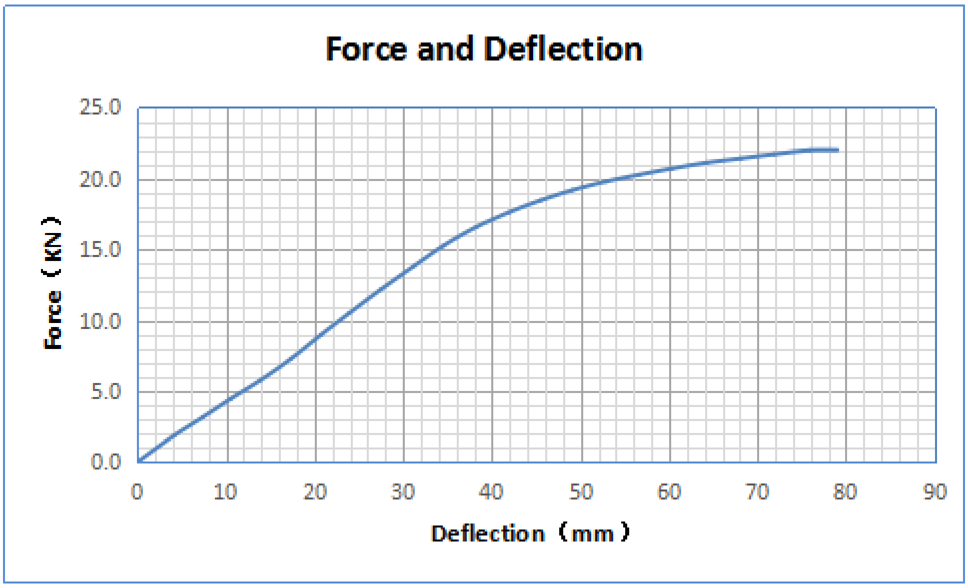


Figure D3 Force-Deflection curve of lateral load test

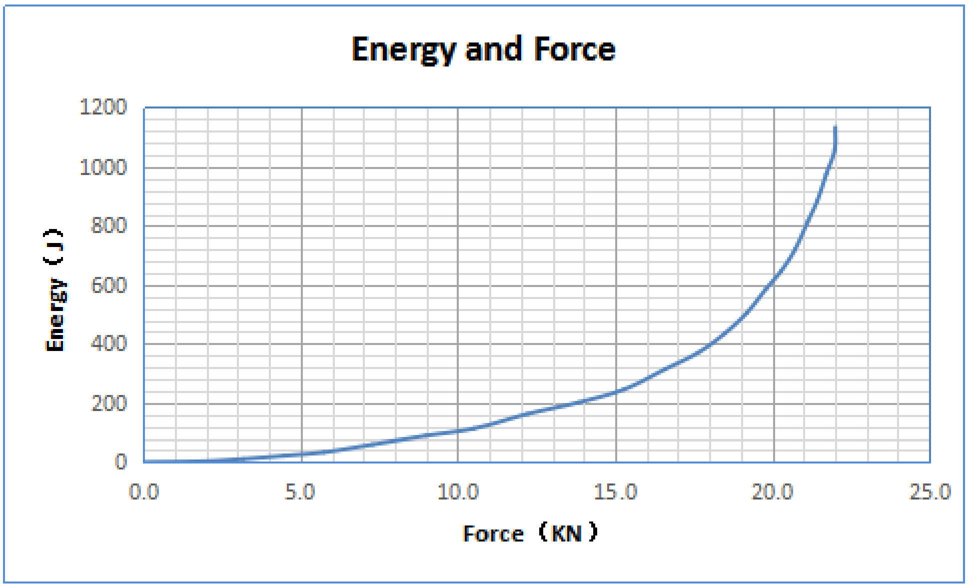


Figure D4 Force-energy curve of lateral load test

The maximum lateral load force is 22.0kN and maximum lateral load energy is 1132J. After testing, the lateral displacement of Tip-over protection structure's components is 79mm. The deformation of any part of TOPS or the simulated ground plane did not invade the DLV.

D5 Low temperature performance test of materials

TOPS metal structures specimens temperature is -30 ℃. The materials, specimen sizes and the low temperature performance test of materials' results shown in Table D3

Table D3 Results of materials' low temperature performance test

Material	Specimen size	Criteria (J)	Impacting Energy(J)
20#	10mm×2.5mm	≥11	25

Bolt property class：M8×1.0 ；M10×1.0 8.8 Class

Nut property class：M8 ；M10 8 Class

Annex E Tester and participants

Vehicle Testing Engineering Research Institute of China：

Wang Haofeng Yang Mingkai

Annex F Test pictures

Figure. F1 Before the lateral loading test

Figure. F2 After the lateral loading test

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170008220971

(2017)国认监认字(020)号

中国认可
国际互认
检测
TESTING
CNAS L0138

No.: GGJ06.2021.MY34.02.5965

Test Report

Product Name：Protection device for agricultural excavator

Product Type ：26

Entrusted unit：Shandong Rippa Machinery Group Co., Ltd.

Type of Test ：Performance Test

Vehicle Testing Engineering Research Institute of China

China National Construction Machinery Quality Supervising Test Centre

Oct. 2021

VEDLEGG E

KUBOTA ENGINE

Attention

1. Without the stamp on this report it would be invalid.
2. Without any signature of manager, verifier or approver, the report would be invalid.
3. No copying without Lab. Permission. The copy of this report must be stamped again, otherwise it would be invalid.
4. The report would be invalid if it is altered.
5. The inspection results are responsible for the sample only.

.

Test lab：Vehicle Testing Engineering Research Institute of China
Address：No.55, Dongwai Street, Yanqing, Beijing, China
Postcode：102100
Tel.：86-10-69185175
Complaint Tel.: 86-10-69145748 Fax：86-10-51051705

Name of Manufacturer：Shandong Rippa Machinery Group Co., Ltd.
Address:Area A,6th Industrial Park,High-tech Zone,Jining City
Tel.：15563713795
Fax：0537-2339712
Legal representative：Huaiguo Yan

Entrustment Company: Shandong Rippa Machinery Group Co., Ltd.
Address: Area A,6th Industrial Park,High-tech Zone,Jining City
Tel.：15563713795

Fax：0537-2339712

Legal representative：Huaiguo Yan

Content

EU-TYPGENEHMIGUNGSBOGEN FÜR NICHT FÜR DEN STRASSENVERKEHR BESTIMMTE MOBILE MASCHINEN UND GERÄTE GEMÄSS DER VERORDNUNG (EU) 2016/1628

EU TYPE-APPROVAL CERTIFICATE FOR AN ENGINE TYPE OR AN ENGINE FAMILY

FOR NON-ROAD MOBILE MACHINERY IN ACCORDANCE WITH REGULATION (EU) 2016/1628

Benachrichtigung über die Korrektur der Typgenehmigung für **eine Motorenfamilie** hinsichtlich gasförmiger Schadstoffe und luftverunreinigender Partikel gemäß der Verordnung (EU) 2016/1628, zuletzt geändert durch die **Verordnung (EU) 2016/1628** des Europäischen Parlaments und des Rates

Communication concerning the correction of type-approval of an **engine family** with regard to gaseous and particulate pollutant emission pursuant to Regulation (EU) 2016/1628, as last amended by **Regulation (EU) 2016/1628** of the European Parliament and of the Council

EU-Typgenehmigungsnummer: **e1*2016/1628*2021/1068EV2/D*0008*08, Korr. 01** EU type-approval number:

Grund für die Erweiterung
Reason for extension: siehe Liste der Änderungen - see list of modifications

Abschnitt I - Section I

1.1. Marke (Handelsmarke(n) des Herstellers):

Make (trade name(s) of manufacturer):

KUBOTA

1.2. Handelsname(n) (sofern vorhanden):
Commercial name(s) (if applicable):

entfällt - not applicable

1.3. Firmenname und Anschrift des Herstellers:

Company name and address of manufacturer:

Kubota Corporation Osaka 556-8601 / Japan

Nummer der Genehmigung: e1*2016/1628*2021/1068EV2/D*0008*08, Korr. 01
Approval No.:

1.4. Gegebenenfalls Name und Anschrift des bevollmächtigten Vertreters des Herstellers:

Name and address of manufacturer's authorised representative (if any):
Kubota (Deutschland) GmbH

DE-63110 Rodgau/Nieder-Roden

1.5. Name(n) und Anschrift(en) der Fertigungsstätte(n):

Name(s) and address(es) of assembly/manufacture plant(s):

Sakai Plant 64 Ishizu-kitamachi Sakai-ku Sakai City, Osaka 590-0823, Japan

Rinkai Plant 3-8 Chikko-shinmachi Nishi-ku Sakai-City, Osaka 592-8331, Japan

Tsukuba Plant 10 Sakano-shinden Tsukubamirai-City 300-2402, Japan

KUBOTA Engine (Thailand) Co., Ltd.
A. Phanomsarakarm, Chachoengsao 24120 Thailand

KUBOTA Engine (WUXI) Co., Ltd.
Wuxi, Jiangsu Pro. 214028, China

P.T. Kubota Indonesia Kel. Jatibarang - Kec. Mijen, Semarang, Indonesia

1.6. Motorenfamilienbezeichnung
engine family designation

HKBXL.778KCB

1.7. Klasse und Unterklasse **der Motorenfamilie**:

Category and sub-category of the **engine family**:

NRE-v-2

1.8. Klasse der Emissionsdauerhaltbarkeitsperiode:

Emissions durability period category:

entfällt not applicable

1.9. Emissionsstufe:

Emissions stage:

V

Nummer der Genehmigung: e1*2016/1628*2021/1068EV2/D*0008*08, Korr. 01
Approval No.:

1.10. Motor für Schneeschleudern:

Engine for snow throwers:

nein no

Teil II - Section II

1. Technischer Dienst, der für die Durchführung der Prüfungen zuständig ist:

Technical service responsible for carrying out the test(s):

Technischer Dienst der TÜV Rheinland Kraftfahrt GmbH DE-51105 Köln

2. Datum der Prüfberichte:

Date(s) of the test report(s):

22.08.2022

3. Nummern der Prüfberichte:

Number(s) of the test report(s):

82-2016/1628-63986/22

Abschnitt III - Section III

Der/die Unterzeichnete bestätigt hiermit die Richtigkeit der Herstellerangaben in dem beigefügten Beschreibungsbogen **der oben genannten Motorenfamilie** sowie die Gültigkeit der beigefügten Prüfergebnisse in Bezug auf **die Motorenfamilie**. Die Genehmigungsbehörde hat ein (mehrere) Exemplar (e) zur Besichtigung ausgewählt, das (die) vom Hersteller als Baumuster des Fahrzeugtyps vorgestellt wurde(n).

The undersigned hereby certifies the accuracy of the manufacturer's description in the attached information document of the **engine family** described above, for which one or more representative samples, selected by the approval authority, have been submitted as prototypes and that the attached test results apply to the **engine family**.

1. **Die Motorenfamilie erfüllt** die Anforderungen der der Verordnung (EU) 2016/1628. **The engine family meets** the requirements laid down in Regulation (EU) 2016/1628.

e1*2016/1628*2021/1068EV2/D*0008*08, Korr. 01

2. Die Genehmigung e1*2016/1628*2021/1068EV2/D*0008*08 genehmigt am

06.10.2022 wird berichtigt.
The approval e1*2016/1628*2021/1068EV2/D*0008*08 granted on 06.10.2022 is corrected.

Nummer der Genehmigung: e1*2016/1628*2021/1068EV2/D*0008*08, Korr. 01
Approval No.:

3. Die Typgenehmigung wird gemäß Artikel 35 der Verordnung (EU) 2016/1628 erteilt und ihre
Gültigkeit ist daher bis zum TT/MM/JJJJ befristet

The approval is granted in accordance with Article 35 of Regulation (EU) 2016/1628 and the validity of the approval is thus limited to dd/mm/yyyy
entfällt - not applicable

4. Beschränkungen der Gültigkeit
Restrictions to validity

entfällt - not applicable

5. Gewährte Ausnahmeregelungen:

Exemptions applied:

entfällt - not applicable

Ort - Place: DE-24932 Flensburg

Datum - Date: **19.10.2022**

Unterschrift: **Im Auftrag**

Signature:

Lars Munnecke

KRAFTFAHRT-BUNDESAMT
574

Anlagen - enclosures:

1. Inhaltsverzeichnis zu den Beschreibungsunterlagen Index to the information package

2. Beschreibungsunterlagen

Information package

Beiblatt
Addendum

EU-Typgenehmigungsnummer: **e1*2016/1628*2021/1068EV2/D*0008*08, Korr. 01** EU type-approval number:

TEIL A — MERKMALE **DER MOTORENFAMILIE**
PART A — CHARACTERISTICS OF THE **ENGINE FAMILY**

2. Gemeinsame Konstruktionskenngrößen der Motorenfamilie Common design parameters of the engine family

2.1. Arbeitsweise:

Combustion Cycle:

*)

2.2. Art der Zündung: Ignition Type:

*)

2.3.1. Lage der Zylinder im Block:

Position of the cylinders in the block:

*)

2.6. Hauptkühlmittel:

Main Cooling medium:

*)

2.7. Luftansaugverfahren:

Method of air aspiration:

*)

2.8.1. Kraftstofftypen:

Fuel Type(s):

*)

2.8.1.1. Kraftstoff-Untertyp (nur Biomethan/Flüssiggas)
Sub Fuel type (Natural gas/Biomethane only):

*)

2.8.2. Verwendbare Kraftstoffe: Fuelling arrangement:

*)

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Approval No.:

2.8.3. Liste der zusätzlichen Kraftstoffe, die mit dem Motor verwendbar sind, laut Erklärung des Herstellers gemäß Anhang I Nummer 1 der Delegierten Verordnung (EU) 2017/654 (mit Hinweis auf anerkannte Norm oder Spezifikation):

List of additional fuels compatible with use by the engine declared by the manufacturer in accordance with point 1 of Annex I to Delegated Regulation (EU) 2017/654 (provide reference to recognised standard or specification):

*)

2.8.4. Kraftstoff mit Schmiermittelzusatz
Lubricant added to fuel:

*)

2.8.5. Kraftstoffsystem:

Fuel supply type:

*)

2.9. Motorsteuergeräte:

Engine management systems:

*)

2.10. **Weitere Einrichtungen: Miscellaneous devices:**

*)

2.10.1. Abgasrückführung (AGR):

Exhaust gas recirculation (EGR):

*)

2.10.2. Wassereinspritzung

Water injection:

*)

2.10.3. Lufteinblasung:

Air injection:

*)

2.10.4. Sonstige (angeben):
Others (specify):

*)

2.11. **Abgasnachbehandlungssystem:**
Exhaust after-treatment system:

*)

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2.11.1. Oxidationskatalysator:
Oxidation catalyst:

*)

2.11.2. $DeNO_x$-System mit selektiver NOx-Reduktion (Zusatz eines Reduktionsmittels): $DeNO_x$ system with selective reduction of NOx (addition of reducing agent):

*)

2.11.3. Andere $DeNO_x$-Systeme:
Other $DeNO_x$ systems:

*)

2.11.4. Dreiwegekatalysator mit gleichzeitiger Oxidation und NO_x-Reduktion:

Three-way catalyst combining oxidation and NO_x reduction:

*)

2.11.5. Partikelnachbehandlungssystem mit passiver Regenerierung:

Particulate after-treatment system with passive regeneration:

*)

2.11.6. Partikelnachbehandlungssystem mit aktiver Regenerierung:

Particulate after-treatment system with active regeneration:

*)

2.11.7. Sonstige Partikelnachbehandlungssysteme:

Other particulate after-treatment systems:

*)

2.11.8. Dreiwegekatalysator mit gleichzeitiger Oxidation und NO_x-Reduktion:

Three-way catalyst combining oxidation and NO_x reduction:

*)

2.11.9. Andere Nachbehandlungseinrichtungen:

Other after-treatment devices:

*)

2.11.10. Andere Vorrichtungen oder Merkmale mit starkem Einfluss auf Emissionen: Other devices or features that have a strong influence on emissions:

*)

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3. **Hauptmerkmale der Motortypen:**

Essential characteristics of the engine type(s)

Positionsnummer Item Number	Positionsbezeichnung Item Description	Stammmotor/ Motortyp: Parent Engine / Engine type	Motortypen in der Motorenfamilie (falls zutreffend) Engine types within the family (if applicable)

3.1.1.	Motortypbezeichnung: Engine Type Designation	*)	*)	*)	*)
3.1.2.	Motortyp-bezeichnung laut Motorenkennzeichnung: Engine type designation shown on engine mark	*)	*)	*)	*)
3.1.3	Lage der gesetzlich vorgeschriebenen Kennzeichnung durch den Hersteller: Location of the manufacturer's statutory marking	*)	*)	*)	*)
3.2.1	Angegebene Nenndrehzahl Declared rated speed (rpm):	*)	*)	*)	*)
3.2.1.2.	Angegebener Nennwert der Nutzleistung Declared rated net Power (kW):	*)	*)	*)	*)
3.2.2.	Motordrehzahl bei Höchstleistung Maximum power speed (rpm)	*)	*)	*)	*)
3.2.2.2.	Maximale Nutzleistung Maximum net power (kW)	*)	*)	*)	*)

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3.2.3.	Angegebene Höchstdrehzahl Declared maximum torque speed (rpm)	*)	*)	*)	*)
3.2.3.2.	Angegebenes maximales Drehmoment Declared maximum torque (Nm)	*)	*)	*)	*)

3.6.3.	Zylinderanzahl Number of Cylinders	*)	*)	*)	*)
3.6.4.	Hubraum Engine Displacement (cm^3)	*)	*)	*)	*)
3.8.5.	Einrichtung zur Rückführung der Kurbelgehäusegase Device for recycling crankcase gases	*)	*)	*)	*)
3.11.3.12.	Selbstverbrauchendes Reagenz Consumable reagent	*)	*)	*)	
3.11.3.12.1	Art und Konzentration des für die katalytische Reaktion erforderlichen Reagenzes: Type and concentration of reagent needed for catalytic action	*)	*)	*)	*)
3.11.3.13	NO_x-Sonde(n) NO_x sensor(s)	*)	*)	*)	*)
3.11.3.14	Sauerstoffsonde Oxygen sensor	*)	*)	*)	*)
3.11.4.7.	Katalysator als Kraftstoffadditiv Fuel borne catalyst (FBC)	*)	*)	*)	*)

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Approval No.:

	Besondere Bedingungen, die beim Einbau des Motors in nicht für den Straßenverkehr bestimmte mobile Maschinen und Geräte zu beachten sind Particular conditions to be respected in the installation of the engine on non-road mobile machinery

3.8.1.1.	Höchstzulässiger Ansaugunterdruck bei Motornenndrehzahl und bei Volllast (kPa) mit sauberem Luftfilter Maximum allowable intake depression at 100 % engine speed and at 100 % load (kPa) with clean air cleaner	***)**	***)**	***)**	***)**
3.8.3.2.	Höchsttemperatur am Ladeluftkühlerauslass bei Nenndrehzahl und Volllast Maximum charge air cooler outlet temperature at 100 % speed and 100 % load (°C)	***)**	***)**	***)**	***)**
3.8.3.3.	Höchstzulässiger Druckabfall über den Ladeluftkühler bei Motornenndrehzahl und Volllast (kPa) (falls zutreffend) Maximum allowable pressure drop across charge cooler at 100 % engine speed and at 100 % load (kPa) (if applicable	***)**	***)**	***)**	***)**
3.9.3.	Maximal zulässiger Abgasgegendruck bei Nenndrehzahl und Volllast Maximum permissible exhaust gas back- pressure at 100 % engine speed and at 100 % load (kPa)	***)**	***)**	***)**	***)**

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3.9.3.1.	Ort der Messung Location of measurement	*)	*)	*)	*)
3.11.1.2.	Höchsttemperaturabfall vom Auspuffkrümmerflansch oder vom Turboladerauslass (°C) bis zur ersten Nachbehandlungs-einrichtung, falls angegeben Maximum temperature drop from exhaust system or turbine outlet to first exhaust aftertreatment system (°C) if stated	*)	*)	*)	*)
3.11.1.2.1.	Prüfbedingungen für Messung Test conditions for measurement	*)	*)	*)	*)

TEIL B — PRÜFERGEBNISSE

PART B — TEST RESULTS

3.8. Hersteller beabsichtigt Verwendung des Drehmomentsignals des elektronischen Steuergeräts (ECU) für Betriebsüberwachung

Manufacturer intends to use ECU torque signal for in-service monitoring

*)

3.8.1. Drehmoment auf Leistungsprüfstand ist größer oder gleich 0,93 × ECU-Drehmoment

Dynamometer torque greater than or equal to 0,93 × ECU torque

*)

3.8.2. Berichtigungsfaktor für ECU-Drehmoment, wenn Drehmoment auf

Leistungsprüfstand kleiner als 0,93 × ECU- Drehmoment ist

ECU torque correction factor in case that dynamometer torque less than 0,93 ×

ECU torque

*)

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11.1. Ergebnis für Emissionen je Zyklus

Cycle emissions results

Emissionen Emissions	CO (g/ kWh)	HC (g/ kWh)	NO_x (g/ kWh)	HC+NO_x (g/kWh)	PM (g/ kWh)	PN #/kWh	Prüfung Zyklus Test Cycle
Endergebnis für NRSC mit DF NRSC final result with DF	1.47	0.19	4.44	4.64	0.29	***)**	**G2**
Endergebnis der Prüfung für NRTC mit DF NRTC Final test result with DF	***)**	***)**	***)**	***)**	***)**	***)**	***)**

11.2. CO_2-Ergebnis

CO_2 result 1019.8 g/kWh

*) gegebenenfalls eingetretene Änderungen siehe Anlage -
for possible modifications see enclosure

Anlage 3

Enclosure 3

Zum EG-Typgenehmigungsbogen Nr.: **e1*2016/1628*2021/1068EV2/D*0008*08, Korr. 01** To EC approval certificate No.

Inhaltsverzeichnis zu den Beschreibungsunterlagen
Index to the information package

Ausgabedatum: **27.10.2017** letztes Änderungsdatum: **19.10.2022**

Date of issue last date of amendment

1. Nebenbestimmungen und Rechtsbehelfsbelehrung
   Collateral clauses and instruction on right to appeal

2. Beschreibungsbogen Nr.: Datum - Date: Information document No.
   HKBXL.778KCB-2016/1628-00 **14.07.2017**

HKBXL.778KCB-2016/1628-08 letztes Änderungsdatum: 04.08.2022

last date of amendment

3. Prüfbericht (e) Nr. / Test report (s) No. Datum - Date:

82-2016/1628-88576/17 22.09.2017 82-2016/1628-93437/17 10.01.2018
82-2016/1628-00660/18 20.06.2018 82-2016/1628-04261/18 09.10.2018
82-2016/1628-06171/18 26.12.2018 82-2016/1628-16531/19 09.10.2019
82-2016/1628-29081/20 19.10.2020 82-2016/1628-49575/21 06.12.2021
82-2016/1628-63986/22 22.08.2022

4. Prüfergebnisse: (test results) Datum - Date:

Seiten - pages 7-8 06.10.2022

5. Liste der Änderungen Datum - Date:

(List of the modifications)

HKBXL.778KCB-2016/1628-08 04.08.2022

6. Liste der Korrekturen Datum - Date:

(List of the corrections)

siehe Korrekturverzeichnis – see correction index 14.10.2022

Nummer der Genehmigung: e1*2016/1628*2021/1068EV2/D*0008*08, Korr. 01
Number of the type approval:

- Anlage -

Nebenbestimmungen und Rechtsbehelfsbelehrung

Nebenbestimmungen

Die in der bisherigen Genehmigung enthaltenen Auflagen gelten auch für diese Erweiterung.

Rechtsbehelfsbelehrung

Gegen diese Genehmigung kann innerhalb eines Monats nach Bekanntgabe Widerspruch erhoben werden. Der Widerspruch ist beim **Kraftfahrt-Bundesamt, Fördestraße 16, DE-24944 Flensburg,** schriftlich oder zur Niederschrift einzulegen.

- Attachment -

Collateral clauses and instruction on right to appeal

Collateral clauses

The requirements contained in the previous approval are also valid for this amendment.

Instruction on right to appeal

This approval can be appealed within one month after notification. The appeal is to be filed in

writing or as a transcript at the **Kraftfahrt-Bundesamt, Fördestraße 16, DE-24944 Flensburg.**

VEDLEGG F


柴油机标签
GB 20891-2014，HJ1014-2020
第Ⅳ阶段
柴油机型号：D722-EF18_CN4
生产日期：2024/09
信息公开编号：CNFCG4000973000283000001
柴油机系族：G40973L0077KCB
核准功率段：0kW-19kW
额定转速　：2500 rpm
额定净功率：10. 2kW
后处理装置：N/A
Kubota
株式会社 久保田
1H339-1


Excavator
CE
Model: FT327N
Power:
Engine code: 4RS7106
Chassis No: SLP24102827
Dry Mass: 1.8T
Date: 2025/01
WWW.FODIT.NO

Kontaktinformasjon – Leverandør i Norge

For spørsmål knyttet til bruk, vedlikehold og reservedeler kan leverandør kontaktes:

FODIT Import AS

Nettside: www.fodit.no

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Produsentens tekniske spesifikasjoner og CE-samsvar er dokumentert i vedlagte sertifikater.