TYPE-CERTIFICATE DATA SHEET

No. P.177

for
KW-3(x) series propellers

Type Certificate Holder
Aleš Křemen
Vodolská 4, Dolínek
250 70 Odolena Voda
Czech Republic

For Models:
KW-30
KW-31

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I. General

1. Type/ Model
KW-3(x) / KW-30, KW-31

2. Manufacturer
Aleš KŘEMEN
Vodolská 4, Dolínek
250 70 Odolena Voda
Czech Republic

3. Date of Application

KW-30	KW-31
01 March 2013	01 March 2013

4. EASA Type Certification Date

KW-30	KW-31
18 February 2014	18 February 2014

II. Certification Basis

1. State of Design Authority Certification Basis
Czech Republic

2. Reference Date for determining the applicable airworthiness requirements
01 March 2013

3. EASA Certification Basis

3.1. Airworthiness Standards
CS-P Amendment 2 as published with ED Decision 2020/006/R dated 24 June 2020

3.2. Special Conditions
None

3.3. Equivalent Safety Findings
None

3.4. Deviations
None

III. Technical Characteristics

1. Type Design Definition

Each design configuration is defined by a main assembly drawing and an appropriate parts list

The KW-30 propeller model covers the following design configurations.
Design Configuration “Constant Speed”
Drawing No. 30-000-000 dated 21 January 2014 (*1)
Above mentioned drawing contains Parts List

The KW-31 propeller model covers the following design configurations.
Design Configuration “Constant Speed”
Drawing No. 31-000-000 dated 21 January 2014 (*1)
Above mentioned drawing contains Parts List

(*1) effective is the declared issue or a later approved revision.

2. Description

The KW-30, resp. KW-31, propeller models are 3-blade hydraulically, resp. electrically controlled variable pitch propellers. Provided that the power unit is equipped by hydraulic, resp. electric governor the propellers could work as a constant speed propeller.
The hub is milled out of aluminium alloy and the blades are made of wood with glass or carbon composite covering layer. The leading edge of the blade is protected by the metal stamping or polyurethane cast.

3. Equipment

Spinner: according to Aleš KŘEMEN Service Bulletin No. 2

Governor: according to Aleš KŘEMEN Service Bulletin No. 3

4. Dimensions

Propeller diameter: max. 195 cm (77“)

5. Weight

KW-30: approx. 12,5 kg (27,6 lb)
KW-31: approx. 14,0 kg (30,9 lb)

6. Hub/ Blade- Combinations

Hub	Blade - Type
KW-30	-031, -033, -034, -037, -038, -041
KW-31	-031, -033, -034, -037, -038, -041

7. Control System

Propeller governors as listed in Aleš KŘEMEN Service Bulletin No. 3.

8. Adaptation to Engine

Adaptation to engine as listed in Aleš KŘEMEN Service Bulletin No. 4.

9. Direction of Rotation

Direction of rotation (viewed in flight direction) as identified by a letter-code in the propeller designation. (see chapter VI.3.). The left-hand version of an approved propeller model is approved at the same rating and diameter as listed for the right-hand model.

IV. Operating Limitations

1. Maximum Take Off Power and Speed

73.5 kW

all blades except Type -037, -038	max. 2552 min-1
blades Type -037, -038	max. 2283 min-1

104 kW

blades Type -031, -033, -034	max. 2552 min^{-1}
blades Type -037, -038	max. 2283 min^{-1}

117 kW

blades Type -031,-033,-034	max. 2283 min^{-1}
blades Type - 038	max. 2323 min^{-1} max. 3min
	max. 2441 min-1 max. 1min

2. Maximum Continuous Power and Speed

73.5 kW

all blades except Type -037, -038	max. 2552 min-1
blades Type -037, -038	max. 2283 min-1

104 kW

all blades except Type -037, -038	max. 2552 min^{-1}
blades Type -037, -038	max. 2283 min^{-1}

117 kW

blades Type -031, -034, -037, -038	max. 2283 min-1

3. Propeller Pitch Angle

Maximum pitch change range +5° to +50° - measured at 75% radius station

V. Operating and Service Instructions

User´s Manual	KW-30	UM-06, Rev.0, dated 21 January 2014 [*]
	KW-30	UM-09, Rev.0, dated 30 March 2022 [*] Only for P/N C-4014-00
	KW-31	UM-05, Rev.0, dated 21 January 2014 [*]
Overhaul Manual	KW-30	TN-21, Rev. 0, dated 21 January 2014 [*]
	KW-31	TN-22, Rev. 0, dated 21 January 2014 [*]
Illustrated Parts Catalogue	KW-30	IPC KW-30, Rev. 0, dated 12 September 2014 [*]
	KW-31	IPC KW-31, Rev. 0, dated 24 November 2014 [*]
Service Bulletins	KW-3(x)	as noted in the current List of Service Bulletins

[*] or later approved revision

VI. Notes

1. The EASA approved Airworthiness Limitations Section (ALS) of the Instructions for Continued Airworthiness is published in the applicable "User Manual" document, chapter 17 "Airworthiness Limitations Section". This ALS section is empty because no life limit is necessary for these models.

2. The overhaul intervals recommended by the manufacturer are listed in Aleš KŘEMEN Service Bulletin No. 1.

3. Propeller designation system:

HUB:

1 KW Aleš KŘEMEN, Vodolská 4, Dolínek, 250 70 Odolena Voda, Czech Republic

2 No. of propeller model

3 Code letter for propeller category:
A - Automatic Propeller
F - Fixed Pitch Propeller
G - Ground Adjustable Propeller
V - Variable Pitch Propeller

4 Code letter for blade pitch change system:
H – Hydraulic
E – Electric
M – Mechanical

5 Number of blades installed

6 Code letter for feathering system: F – Feather position installed
0 – No feather position possible

7 Code letter for reverse provision: R – Reverse position installed
0 – No reverse position possible

8 Code letter for flange type listed in Aleš KŘEMEN Service Bulletin No. 4

BLADE :

9 Code letter for blade design and installation:
R: - Right-hand tractor
RP: - Right-hand pusher
L: - Left-hand tractor
LP: - Left-hand pusher

10 Propeller diameter in cm

11 No. of blade type (contains design configuration and aerodynamic data) according to the certified hub/blade-combinations.

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

n/a

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	18 February 2014	Initial Issue	Initial Issue, 18 February 2014
Issued 02	26 June 2018	Increase of maximum take-off power and max. continuous power (Major Change Approval 10065886)	
Issued 03	06 May 2022	Increase of maximum take-off power and max. continuous power (Major Change Approval 10079112). Certification Basis changed from CS-P Amendment 1 to CS-P amendment 2	TC reissued to correct the address of the applicant 06 May 2022
Issued 04	16 January 2024	Increase of maximum take –off power and max. continuos power of blades Type -031, -034 (Major Change Approval 10083584)	
Issue 05	17 December 2024	New blade type -041; Changes and modifications in maintenance procedures; New materials and technologies. (Major Change Approval 10086035)	

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