



TYPE CERTIFICATE DATA SHEET Nº EH-2024T03

Type Certificate Holder:

MT-Propeller Entwicklung GmbH
 Flugplatzstraße 1
 94348 Atting
 Germany

EH-2024T03-00
 Sheet 01
 MT-PROPELLER
 MTV-47-1
 17 April 2024

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. 2024T03, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Brazilian Aeronautical Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

**TYPE DESIGN
 DEFINITION**

The MTV-47 propeller consists of different design configurations. Each design configuration is by a main assembly drawing and associated parts list as per the following table:

Design Configuration	Assembly Drawing	Parts List
MTV-47-1-E/N-()-() Constant Speed + Feather	P-1640-(x)	S-231-(x)
MTV-47-1-E/N-C-F-R(G) Constant Speed + Feather + Reverse (System Garrett)	P-1641-(x)	S-232-(x)
MTV-47-1-E/N-C-F-R(M) Constant Speed + Feather + Reverse (System Mühlbauer)	P-1642-(x)	S-233-(x)
MTV-47-1-E/N-C-F-R(P) Constant Speed + Feather + Reverse (System Pratt&Whitney)	P-1590-(x)	S-226-(x)
Note: Adaptation to Engine There are two versions of hub flange available: -E: ARP 880 -N: BCD 5.125 inches, twelve 9/16"-18 UNF bolts, 2 index pins.		

**TYPE
 DESCRIPTION**

7-blade variable pitch propeller with a hydraulically operated blade pitch change mechanism providing the operation mode "Constant Speed", "Feather" and "Reverse". Optional equipment includes spinner and ice protection.

HUB MATERIAL

Aluminum Alloy

**BLADE
 MATERIAL**

Laminated wood composite structure coated in with a composite fibre reinforced epoxy. The leading edge of the blade is equipped with an erosion protection device

NUMBER OF BLADES 7 (seven)

DESIGN SERIES MTV-47

HUB ELIGIBLE

MTV-47-1 (See Note 1)

Applicable Blades See Note 1	Maximum Continuous Power		Takeoff Power		Diameter Limits	Approx. Max. Weight Compl. *, **, ***
	kW (HP)	rpm	kW (HP)	rpm	cm (in)	kg (lb)
-02, -11, -14, -15, -18, -20, -21, -22, -25, -26, -27, -29, -33, -34, -35, -37, -42, -43, -45, -46, -50, -52, -55, -58, -61, -62, -63, -65, -66, -67, -102, -103, -104, -109, -111, -116, -120, -121, -133, -134, -135, -136, -142, -150, -151, -360, -361, -362, -363, -364	1268 (1700)	2000	1268 (1700)	2000	160 - 230 (63 to 91)	74 (163)
	1268 (1700)	1700	1268 (1700)	1700	160 – 270 (63 to 106)	74 (163)

* Propellers with the option “Feather” are approx. 11 kg (24 lb) heavier,

* Propellers with the option “Reverse” are approx. 15 kg (33 lb) heavier.

** Propellers with the option “Feather and Reverse” are approx. 24 kg (53 lb) heavier.

PROPELLER PITCH ANGLE From -20° up to +86° measured at 75% radius station

DIMENSIONS Blade diameter: 160 cm to 270 cm

DIRECTION OF ROTATION Direction of rotation (viewed in flight direction) as identified by a letter-code in the propeller designation (see Note 1)

IMPORT REQUIREMENTS

Each propeller imported separately, and/or spare parts must be accompanied by an EASA Export Airworthiness Approval through the EASA Form 1, Authorised Release Certificate, certifying that the propeller conforms to a type design approved by the ANAC TC No. 2024T03, is in condition for safe operation and has undergone a final operational check. The original Export Airworthiness Approval should be sent with the propeller and a copy remains with the issuing organization. For each propeller it is required a list of exceptions (if any) in respect to the ANAC approved Type Design, listed in the EASA Export Airworthiness Approval above mentioned.

CERTIFICATION BASIS Brazilian Type Certificate No. 2024T03 is based on the RBAC 21.29; following paragraph 21.29(a)(1)(ii) this Type Certificate was issued in validation of the following European Union Aviation Safety Agency (EASA) Certification Standards, which was found to provide a level of safety equivalent to that provided by RBAC 35, Amendment 08:

Airworthiness Standards:

- CS-P Amendment 1, dated 16 November 2006.

ANAC TYPE	<u>Model</u>	<u>Application</u>	<u>TC Issued</u>
CERTIFICATION DATE	MTV-47-1	23 February 2024	17 April 2024

STATE OF DESIGN AUTHORITY EASA TCDS No. P.045, Issue 02, 15 May 2020
REFERENCE DOCUMENT

PRODUCTION BASIS EASA Production Organization Approval: DE.21G.0008

NOTES:**NOTE 1** Propeller designation system:

Hub								/	Blade					
MT	V	-	47-1	-	()	()	()	()	()	()	270	-	65	()
1	2	3	4	5	6	7	8	9	/	1	2	3	4	5

where:

Hub

- 1 MT-Propeller Entwicklung GmbH
- 2 Variable pitch propeller
- 3 Identification of propeller type
- 4 Letter code for flange type:
 - E = ARP 880
 - N = BCD 5.125 inches, twelve 9/16"-18 UNF bolts, 2 index pins
- 5 Letter code for counterweights:
 - blank = no or small counterweights for pitch change forces to decrease pitch
 - C = counterweights for pitch change forces to increase pitch
- 6 Letter code for feather provision:
 - blank = no feather position possible
 - F = feather position allowed
- 7 Letter code for reverse provision:
 - blank = no reverse position possible
 - R = reverse position allowed
- 8 Letter code for reversing system:
 - M = System Mühlbauer
 - G = System Garrett
 - P = System Pratt & Whitney
- 9 Letter code for hub design changes:
 - small letter for changes which do not affect interchangeability
 - capital letter for changes which affect interchangeability

Blade

- 1 Letter code for position of pitch change pin:
 - blank = pin position for pitch change forces to decrease pitch
 - C = pin position for pitch change forces to increase pitch
 - CF = pin position to allow feather; pitch change forces to increase pitch
 - CR = pin position to allow reverse; pitch change forces to increase pitch
 - CFR = pin position to feather and reverse; pitch change forces to increase pitch
- 2 Letter code for direction of rotation and installation:
 - blank = right-hand tractor
 - RD = right-hand pusher
 - L = left-hand tractor
 - LD = left-hand pusher
- 3 Propeller diameter in cm
- 4 Identification of blade design
- 5 Letter code for blade design changes:
 - small letter for changes which do not affect interchangeability of blade set
 - capital letter for changes which affect interchangeability of blade set.

NOTE 2 The EASA approved Airworthiness Limitations Section (ALS) of the Instructions for Continued Airworthiness is published in the applicable "Operation, Installation and Maintenance Manual" document, chapter 10.0 "Airworthiness Limitations Section". This ALS section is empty because no life limit is necessary for these models.

NOTE 3 Some models of this propeller can incorporate a start pitch lock which may prevent propeller feathering below a given propeller speed.

NOTE 4 The overhaul intervals recommended by the manufacturer are listed in MT-Propeller Service Bulletin No. 1.

NOTE 5 Operating and Service Instruction

Manuals, latest revision of:	
Operation and Installation Manual for hydraulically controlled variable pitch propeller MTV-47-1-E/N-()-()	No. E-124
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-47-1-E/N-C-F-R(M)	No. E-504
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (G), (P) MTV-47-1-E/N-C-F-R(G/P)	No. E-610

Instructions for Continued Airworthiness (ICA), latest revision of:	
Operation and Installation Manual for hydraulically controlled variable pitch propeller MTV-47-1-E/N-()-()	No. E-124
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-47-1-E/N-C-F-R(M)	No. E-504
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (G), (P) MTV-47-1-E/N-C-F-R(G/P)	No. E-610
Overhaul Manual and Parts List for hydraulically controlled variable pitch propeller MTV-47-1-E/N-()-()	No. E-220
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-47-1-E/N-C-F-R(M)	No. E-519
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (G), (P) MTV-47-1-E/N-C-F-R(G/P)	No. E-680
Overhaul Manual for Composite Blades (also applicable to wooden blades)	No. E-1290
Standard Practice Manual	No. E-808
Service Bulletins, Service Letters, Service Instructions – As published by MT-Propeller	

NOTE 6 Approved Installations
The suitability of a propeller for a given aircraft/engine combination must be demonstrated within the scope of the type certification of the aircraft.

Change Record

Revision	Application Date	Changes	TC Issue/ Reissued
Rev. 00	22 Feb. 2024	Original Issue	17 April 2024

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This TCDS is available at ANAC website:

<https://sistemas.anac.gov.br/certificacao/Produtos/EspecificacaoOrgE.asp>