AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

TYPE CERTIFICATE DATA SHEET Nº EH-1999T01

Type Certificate Holder:

MT-PROPELLER ENTWICKLUNG GMBH
Airport Straubing-Wallmühle
D-94348 Atting
GERMANY

EH-1999T01-01
Sheet 01

MT-PROPELLER
MTV-21-( )

August 2007

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. 1999T01, 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 instructions.

TYPE	Hydraulic constant speed with feathering and reversing feature (see Notes 3 & 4)
ENGINE SHAFT	See Note 1 of this EH
HUB MATERIAL	Aluminum alloy
BLADE MATERIAL	Laminated wood composite structure, epoxy-fiber glass cover, with leading edge and erosion protection.
NUMBER OF BLADES	2 (two)

HUB ELIGIBLE MTV-21-A, MTV-21-D, MTV-21-F (see Note 1)

Blade Eligible (See Notes 2 & 6)	Max.Continuous Power		Takeoff power		Diameter Limits	Blade Twist*	Approx. Max. Weight **, ***
	hp (kW)	rpm	hp (kW)	rpm	m (in)	Min (Max)	kg (lb)
Hub Model MTV-21-( )							
( )-03, ( )-04, ( )-05, ( )-06, ( )-07, ( )-08, ( )-09, ( )-12,	92 (68)	3 000	80 (59)	3 400	1.60 a 1.45 (63 a 57)	5 (50)	10 (22)
( )-16, ( )-23, ( )-28, ( )-31, ( )-49, ( )-51, ( )-106,	92 (68)	3 000	87 (64)	3 200	1.60 a 1.45 (63 a 57)	5 (50)	10 (22)
( )-112, ( )-122, ( )-125, ( )-129, ( )-312	100 (73.6)	2 750	100 (73.6)	2 750	1.75 a 1.45 (69 a 57)	5 (50)	10 (22)
	100 (73.6)	2 265	115 (85)	2 388	1.80 a 1.45 (71 a 57)	5 (50)	10 (22)

* - The limits of the blade twist are defined between 0.20 and 1.00 blade radius.
** - Propellers with the option “Feather” are approx. 2 kg (4.5 lb) heavier.
*** - Propellers with the option “Reverse” are approx. 4 kg (8.8 lb) heavier.

CERTIFICATION BASIS Brazilian Type Certificate No.1999T01 based on the RBHA 35, which endorses the FAR 35 effective 1 February 1965, amendments 35-1 to 35-7, inclusive.

TYPE CERTFICATION

Model	Application	Issued TC
MTV-21-( )	05 Dec.1996	12 January 1999

PRODUCTION BASIS Not applicable

IMPORT REQUIREMENTS Each propeller imported separately and/or spare parts must be accompanied by an Airworthiness Certificate for Export and/or an Airworthiness Approval Tag, respectively, issued by LBA, attesting that the particular propeller and/or parts were submitted to the governmental quality control before delivery and are in conformity with the ANAC approved type design.

NOTES:

NOTE 1 Hub model Designation MT V -21 ( ) A ( ) ( ) ( ) ( ) ( )
MT – MT-Propeller Entwicklung Gmbh

V – Variable pitch propeller
-21 – Number of basic model
( ) – Design configuration number

A – Flange type
A = Limbach, Grob, Sauer, Rotax and other engines for motorgliders.
D = ARP 502.
F = AS-127-D, SAE No. 1 mod., 3/8”-24 UNF bolts.

NOTE 1 (Cont.)

( ) – C = Counterweights for oil pressure to decrease pitch.

( ) – F = Feathering possible Blank no feather possible

( ) – R = Reversing, Blank no reverse possible

( ) – Reversing Method, M = System Mühlbauer

( ) – Small letter: modification which do not affect interchangeability.
Capital letter: modification which restrict or exclude interchangeability.

NOTE 2

Blade Model Designation ( ) ( ) 180 -05 ( )

( ) – Position of pitch change pin:
- Blank: Position for pitch change forces to decrease pitch.
- C: Position for pitch change forces to increase pitch.
- CR: Position for reverse, (pitch change forces to increase pitch).
- CF: Position for feather (pitch change forces in direction to increase pitch)
- CFR: Position for feather and reverse (pitch change forces in direction to increase pitch).

( ) – Sense of rotation (viewed in flight direction)
- Blank: right-hand tractor.
- RD: right-hand pusher.
- L: left-hand tractor.
- LD: left-hand pusher

180 – Propeller diameter in cm.

-05 – Number of blade design, contains construction and aerodynamics data.

( ) – Small letter: modifications which do not affect interchangeability of blade sets.
Capital letter: modifications which restrict or exclude interchangeability of blade sets.

NOTE 3

Pitch control:
Pitch control is accomplished by a standard governor or by the MT-Propeller Hydraulic Propeller Governor Installation, P-480-( ) or P-9( )( )-( ) for the reversing option – R(M).
Applicable standard governors are published in the MT-Propeller Service Bulletin No. 14( ).
The P-480-( ) or P-9( )( )-( ) is a single acting pump governor, but dual pressure system design enables the hydraulically variable pitch MT-Propellers to operate with reverse capability. P-480-( ) or P-9-( )( )-( ) governors also incorporate feathering capability. Time Between Overhauls (TBO) for P-480-( ) or P-9( )( )-( ) governor is published in MT-Propeller Service Bulletin No. 1( ).

NOTE 4

(a) Feathering:
Optional with MTV-21-( )-( )-MF models (mechanically) or optional with MTV-21-( )- ( )-F models (Hydraulically).

(b) Reversing:
Model also incorporates reversing features by P-480-( ) or P-9( )( )-( ) governors.

NOTE 5

Right & left Hand models: A version of the approved model with opposite hand rotation is approved at the same rating and diameter limitations.

NOTE 6 Interchangeability: Not applicable.

NOTE 7 Accessories:

(a) Propeller Spinners: According to list published in MT-Propeller Service Bulletin No. 13.

(b) Propeller Governors: According to list published in MT-Propeller Service Bulletin No. 14.

(c) Deicing Systems: According to list published in MT-Propeller Service Bulletin No. 15.

NOTE 8 Shank Fairing: Not applicable.

NOTE 9 Special limits: Not applicable.

NOTE 10 Special notes:

(a) Aircraft installations must be approved as part of the aircraft type certificate and demonstrate compliance with the applicable aircraft airworthiness requirements.

(b) All MTV-21 propellers are to be operated within the limits of MT-Propeller Operation and installation Manual No. E-124 for non reversible propellers and No. E-504 for reversible propellers, and adhere to the reversible propellers, latest revision.

NOTE 11 Service Information:

Each of the documents listed below must state that it is by European Aviation Safety Agency (EASA) or – for the approvals made before 28 September 2003 – by the LBA. Any such documents are accepted by the ANAC and are considered ANAC approved.

- Service Bulletins,
- Structural Repair Manuals,
- Vendor Manual, and
- Overhauls and Maintenance Manuals.

for CLÁUDIO PASSOS SIMÃO
Gerente Geral, Certificação de Produtos Aeronáuticos
(Manager, Aeronautical Products Certification)