

# **TYPE-CERTIFICATE**

# **DATA SHEET**

NO. EASA.A.512

for **EB28** 

Type Certificate Holder Binder Motorenbau GmbH

Alter Frickenhäuser Weg 15 D-97645 Ostheim/Rhön Germany

For models:

EB28 EB28 edition

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Sec	tion A:	<u>EB28</u>	
A.I	<u>General</u>		
1.	Type/ Mode	el/ Variant	
	1.1	Туре:	EB28
	1.2	Model:	EB28
2.	Airworthine	ess Category	utility
3.	Manufactur	er	Binder Motorenbau GmbH Alter Frickenhäuser Weg 15 D-97645 Ostheim/Rhön
4.	EASA Type (	Certification Application Date	02 December 2005
5.	EASA Type (	Certification Date	10 June 2008
A.II	<u>EASA Certi</u>	ification Basis	
1.	Reference D	Date for determining the applicable req	uirements
			01.05.2008
2.	Airworthine	ess Requirements	Certification Specifications for Sailplanes
			and Powered Sailplanes, issued 14 November 2003 (CS-22, Issue 14.11.2003)
3.	Special Con	ditions	None
4.	Exemptions		None
5.	Equivalent S	Safety Findings	22.335(f)
6.	Requiremer	nts elected to comply	Standards for Structural Substantiation of Sailplane and Powered Sailplane Components consisting of Glass or Carbon Fibre Reinforced Plastics, issued July 1991

7. Environmental Protection

issued 15. September 1992 ICAO Annex 16 for details see TCDSN EASA.A.512

Guideline for the analysis of the electrical system for powered sailplanes, I334-MS 92,



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#### A.III Technical Characteristics and Operational Limitations

1.	Type Design	Definition	Drawing list EB28, dated 12. March 2008		
2.	Description		Double seater, self supporting shoulder- winged, conventional T-type tail-plane, constructed from GFRP, CFRP and AFRP, spring mounted retractable central landi gear, fixed or optionally steerable tail wheel, wing flaps, Schempp-Hirth airbrai on upper wing surface, retractable powerplant, water ballast tanks in wing vertical tail.		
3.	Equipment		Min. Equipmen 1 Air speed indi 1 Altimeter 1 Magnetic com 1 Dataplate and Placards, Flight 1 VHF Transmit protecting Head 1 Engine contro - RPM indicator - Fuel quantity i - Coolant tempe - Engine hour m 1 Rear view mir 1 Engine fire wa 2 4-Point harne 1 Parachute or	t: cator (up to 300 km/h) npass d Trimsheet, Cockpit Manual ter/Receiver incl. ear dphones of unit (ILEC) featuring:  indicator erature indicator neter tror arning ss (Symmetrical) back cushion (per occupant)	
4.	Dimensions		Span: Wing area Length Height	28,0 m 16,8 m² 9,10 m 1,70 m	
5.	Engine				
	5.1	Model	Solo Type 2625	02	
	5.2	Type Certificate	EASA TCDS No.	E.218	

- 5.3 Maximum Continuous Power
- 5.4 Max. Revs

47,0 kW at 6500 RPM 6700 RPM



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6.	Propeller						
6.1	Propeller	Type 1					
6.1.1 Model		1.1	Model	Bin	nder Type BM	-G1-16	0-R-120
	6.2	1.2	Type Certificate	EA	SA TCDS No. F	P.500	
	6.2	1.3	Number of blades	2			
	6.2	1.4	Diameter	160	0 cm (+/- 0,5 d	cm)	
6.2	Propeller	Тур	e 2			•	
	. 6.2	2.1	Model	Тес	chnoflug Type	KS-1G	-160-R-120
	6.2	2.2	Type Certificate	EA	SA TCDS No. F	P.115	
	6.2	2.3	Number of blades	2			
	6.2	2.4	Diameter	-	0 cm (+/- 0,5 d	cm)	
7	<b>Eluido</b>						
7.	Fiulds:	1 F	uel·				
		T	Tank in the fuselage	19,	,5 I		
		Т	ank in right wing	18,	,0 I		
		Т	ank in left wing	18,	,0 I		
		Ν	Non-usable fuel	1,2	25 I		
		Ν	None-usable fuel (with left wing tank)	2,2	25 I		
		Γ	Note: Wingtanks removeable, flexible t	ank	S		
8.	Launching	Но	oks	Saf	fety hook "Eu	ropa G	88", LBA Datasheet
				No	. 60.230/2 in	the nose for aero-tow and	
				optionally in front of landing gear for winch			
				tov	N		
9.	Weak Link	S		Ult	timate Strengt	th:	
				-	for aero-tow	1	max 935 daN
				-	for winch-to	W	max 1100 daN
10.	Load Facto	ors		+5,	,3 / -2,65 (up	to V <sub>A</sub> )	
				+4,	,0 / -1,5 (up to	o V <sub>NE</sub> )	
11.	Air Speeds	5					
	11	.1 N	Manoeuvring speed	$V_{A}$		180	km/h
	11	.2 N	Never exceed speed	VNE	E	275	km/h
	11	.3 N	Maximum permitted speeds				
		-	in strong turbulence	VRA	A	180	km/h
		-	in aero-tow	VT		180	km/h
		-	in winch-launch	Vw	1	140	km/h
		-	for overacting (retracting anging	V <sub>LO</sub>	)	140	KIII/ N km /b
		-	with extended engine	V <sub>PC</sub>	D,max	150	KIII/II km/b
		-	with wing flaps at pos 2, 1,0	V PE			km/h
		-	with wing flans at pos. $-2, -1, 0$ with wing flans at pos. $+1, +2$	V FE	: -2-1,0	12/01	km/h
		_	with wing flaps at pos. I	VFE	: +1,+2 : I	140	km/h
						!	

- with wing flaps at pos. L



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12.	Approved Operations Capability	VFR Day only Cloud flying not permitted Aerobatic manoeuvres not permitted		
13.	Launch methods	Aero tow Winch launch if equipped with launching hook in front of landing gear Self-launch		
14.	Maximum Masses			
	14.1 Maximum Take-off Mass	850 kg		
	14.2 Max. Mass of non-lifting parts	440 kg		
15.	Centre of Gravity Range	Forward Limit Rearward Limit	230 mm aft of datum 400 mm aft of datum	
16.	Datum	wing leading edge at w	ving root rib	
17.	Levelling Means	upper side of rear fuse	lage boom horizontal	
18.	Control Surface Deflections	Refer to Maintenance	Manual	
19.	Minimum Flight Crew	1		
20.	Maximum Passenger Seating Capacity	1		
21.	Baggage/ Cargo Compartments	Refer to Flight Manual		
22.	Lifetime limitations	Refer to Maintenance	Manual	



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### **A.IV Operating and Service Instructions** 1. Flight Manual Flight Manual for the Motorglider EB28, issue 17 March 2008, EASA approved or Flughandbuch für den Motorsegler EB28, Ausgabe 17 März 2008, EASA-anerkannt 2. Maintenance Manual Maintenance Manual for the Motorglider EB28, issue 17 March 2008 or Wartungshandbuch für den Motorsegler EB28, Ausgabe 17 März 2008 3. Operating Manual and Maintenance Manual for Propeller Type 1 Operation and Maintenance Manual for Binder propeller Type BM-G1-160-R-120, latest approved version or Betriebs- und Wartungshandbuch für Binder Propeller BM-G1-160-R-120 in der jeweils gültigen Fassung 4. Operating Manual and Maintenance Manual for Propeller Type 2 Operation and Maintenance Manual for Technoflug propeller Type KS-1G-160-R-120, latest approved version or Betriebs- und Wartungshandbuch für Technoflug Propeller KS-1G-160-R-120 in der jeweils gültigen Fassung 5. Operating Manual for the Launching Hooks Operation and Maintenance Manual for Tost tow hook Type Europa G 88, latest approved version or Betriebs- und Wartungshandbuch für Tost Schleppkupplung Europa G 88 in der jeweils gültigen Fassung



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### A.V Notes

- 1. Manufacturing is confined to industrial production.
- 2. All parts of the airframe, exposed to sun radiation except the areas for markings and registration as specified by the manufacturer must have a white colour surface
- 3. Installation of optional steerable tail wheel permitted according to technical note TM AB-01
- 4. Installation of optional winch tow hook permitted according to technical note TM EB28-B2



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Section B:		EB28 EDITION	
B.I	<u>General</u>		
1.	Type/ Model/	Variant	
	1.1 Ty	ype:	EB28
	1.2 N	1odel:	EB28 edition
2.	Airworthiness	Category	utility
3.	Manufacturer		Binder Motorenbau GmbH Alter Frickenhäuser Weg 15 D-97645 Ostheim/Röhn Germany
4.	EASA Type Cer	rtification Application Date	15 January 2009
5.	EASA Type Cer	rtification Date	09 February 2011
B.II	EASA Certific	cation Basis	
1.	Reference Dat	e for determining the applicable req	uirements 01.05.2008
2.	Airworthiness	Requirements	Certification Specifications for Sailplanes and Powered Sailplanes, issued 14 November 2003 (CS-22, Issue 14. 11.2003)
3.	Special Condit	ions	None
4.	Exemptions		None
5.	Deviations		None
6.	Equivalent Saf	ety Findings	22.335(f)
7.	Requirements	elected to comply	Standards for Structural Substantiation of Sailplane and Powered Sailplane Components consisting of Glass or Carbon Fibre Reinforced Plastics, issued July 1991
			Guideline for the analysis of the electrical system for powered sailplanes, I334-MS 92, issued 15. September 1992

8. Environmental Protection

ICAO Anex 16 for details see TCDSN EASA.A.512



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### B.III Technical Characteristics and Operational Limitations

1.	Type Design	Definition	Drawing list EB28, dated 12 March 2008 and Drawing list EB28 edition, dated 20 August 2010			
2.	Description		2010 Double seater, self supporting shoulder- winged, conventional T-type tail-plane, constructed from GFRP, CFRP and AFRP, spring mounted retractable central landing gear, optional mechanical or electrical landing gear retraction, fixed or optionally steerable tail wheel, wing flaps, Schempp- Hirth airbrakes on upper wing surface, retractable powerplant, water ballast tanks			
3.	Equipment		<ul> <li>Min. Equipment:</li> <li>1 Air speed indicator (up to 300 km/h)</li> <li>1 Altimeter</li> <li>1 Magnetic compass</li> <li>1 Dataplate and Trimsheet, Cockpit</li> <li>Placards, Flight Manual</li> <li>1 VHF Transmitter/Receiver incl. ear</li> <li>protecting Headphones</li> <li>1 Engine control unit (ILEC) featuring:</li> <li>RPM indicator</li> <li>Fuel quantity indicator</li> <li>Coolant temperature indicator</li> <li>Engine hour meter</li> <li>1 Rear view mirror</li> <li>1 Engine fire warning</li> <li>2 4-Point harness (Symmetrical)</li> </ul>			
4.	Dimensions		Span Wing area Length Height *) Remark: Op technical note B.V	28,3 m 16,5 m <sup>2</sup> 9,10 m 1,70 m otional wing tip e TM EB28-B1, s	25,3 m *) 15,4 m <sup>2</sup> *) s according to see Note 4 in	
5.	Engine					
	5.1	Model	Solo Type 262	25 02		
	5.2	Type Certificate	EASA TCDS No	o. E.218		
	5.3	Maximum Continuous Power	47,0 kW at 65	00 RPM		
	5.4	Max. Revs	6700 RPM			



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6.	Propeller				
6.1	Propeller Type 1				
	6.1.1	Model	Binder Type BM-0	G1-160-R-120	
	6.1.2	Type Certificate	EASA TCDS No. P.	500	
	6.1.3	Number of blades	2		
	6.1.4	Diameter	160 cm (+/- 0.5 cr	m)	
6.2	Propeller Typ	e 2			
0.1	621	Model	Technoflug Type	KS-1G-160-R-120	
	622	Type Certificate		115	
	6.2.2	Number of blades	2	115	
	6.2.3	Diameter	2 160 cm (1 / 0 E cr	~ )	
	0.2.4	Diameter	160 cm (+/- 0,5 cr	n)	
7	Fluids				
/.	7 1 F				
	7.1 T	ank in the fuselage	19,5 l		
	Т	ank in right wing	18,0 I		
	Т	ank in left wing	18,0		
	٩	Ion-usable fuel	1,25 l		
	٩	None-usable fuel (with left wing tank)	2,25		
	١	Note: Wingtanks removeable, flexible t	anks		
8.	Launching Ho	oks	Safety hook "Euro	opa G 88", LBA Datasheet	
			No. 60.230/2 in the nose for aero-tow and		
			optionally in from	t of landing gear for winch	
			tow		
9.	Weak Links		Ultimate Strength	1:	
			- for aero-tow	max 935 daN	
			- for winch-tow		
10.	Load Factors		+5,3 / -2,65 (up to	D V <sub>A</sub> )	
4.4	Alia Crana ala		+4,0 / -1,5 (up to	V <sub>NE</sub> /	
11.	Air Speeds	Announcing anod		100 km /h	
	11.1 ľ	vanoeuvring speed	V <sub>A</sub>	180 Km/n	
	11.2 ľ	Accession and a second speed	VNE	275 Km/n	
	11.3 1	in strong turbulence		180 km/h	
	-	in aero-tow	V RA V⊤	180 km/h	
	-	in winch-launch	Vw	140 km/h	
	-	for gear operation	V <sub>LO</sub>	180 km/h	
	-	for extracting/retracting engine	V <sub>PO,max</sub>	115 km/h	
	-	with extended engine	V <sub>PE</sub>	160 km/h	
	-	with wing flaps at pos2,-1,0	V <sub>FE -2-1,0</sub>	270 km/h	
	-	with wing flaps at pos. +1,+2	V <sub>FE +1,+2</sub>	180 km/h	
				4 4 0 1 /1	

- with wing flaps at pos. L



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12.	Approved Operations Capability	VFR Day only Cloud flying not permitted Aerobatic manoeuvres not permitted		
13.	Launch methods	Aero tow Winch launch if equipped with launching hook in front of landing gear Self-launch		
14.	Maximum Masses			
	14.1 Maximum Take-off Mass	850 kg		
	14.2 Max. Mass of non-lifting parts	440 kg		
15.	Centre of Gravity Range	Forward Limit Rearward Limit	230 mm aft of datum 400 mm aft of datum	
16.	Datum	wing leading edge at w	ving root rib	
17.	Levelling Means	upper side of rear fuse	elage boom horizontal	
18.	Control Surface Deflections	Refer to Maintenance	Manual	
19.	Minimum Flight Crew	1		
20.	Maximum Passenger Seating Capacity	1		
21.	Baggage/ Cargo Compartments	Refer to Flight Manual		
22.	Lifetime limitations	Refer to Maintenance Manual		



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#### B.IV Operating and Service Instructions

1.	Flight Manual	Flight Manual for the Motorglider EB28 edtion, issue 20. August 2010, EASA approved or Flughandbuch für den Motorsegler EB28 edition, Ausgabe 20. August 2010,
		EASA-anerkannt
2.	Maintenance Manual	Maintenance Manual for the Motorglider EB28 edition, issue 20. August 2010
		or Wartungshandbuch für den Motorsegler EB28 edition, Ausgabe 20. August 2010
3.	Operating Manual and Maintenance Manual for Pr	opeller Type 1
		Operation and Maintenance Manual for Binder propeller Type BM-G1-160-R-120, latest approved version or
		Betriebs- und Wartungshandbuch für Binder Propeller BM-G1-160-R-120 in der jeweils gültigen Fassung
4.	Operating Manual and Maintenance Manual for Pr	opeller Type 2
		Operation and Maintenance Manual for Technoflug propeller Type KS-1G-160-R- 120, latest approved version or
		Betriebs- und Wartungshandbuch für Technoflug Propeller KS-1G-160-R-120 in der jeweils gültigen Fassung
5.	Operating Manual for the Launching Hooks	Operation and Maintenance Manual for Tost tow hook Type Europa G 88, latest approved version or
		Betriebs- und Wartungshandbuch für Tost Schleppkupplung Europa G 88 in der jeweils gültigen Fassung

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#### B.V <u>Notes</u>

- 1. Manufacturing is confined to industrial production.
- 2. All parts of the airframe, exposed to sun radiation except the areas for markings and registration as specified by the manufacturer must have a white colour surface
- 3. A conversion by Binder Motorenbau GmbH of the powered glider EB28 into model EB28 edition is possible using work plan "Modification EB28 edition".
- 4. Installation of optional wing tips permitted according to technical note TM EB28-B1.
- 5. Installation of optional steerable tail wheel permitted according to technical note TM AB-01
- 6. Installation of optional winch tow hook permitted according to technical note TM EB28-B2
- 7. Serial no. 901 of EB28 edition carries the designation "EB28 edition XB" and has following described TCDS amendments:

#### B.III Technical Characteristics and Operational Limitations

- 1. Type Design Definition Drawing list EB28 edition XB, dated 10 April 2025
- 7.1 Fuel: Tank in the fuselage 19,5 l
  Tank in vertical tail 15,0 l
  Non-usable fuel 0,25 l
  Note: Vertical tail tank feeds into fuselage tank
- Launching Hooks no certification for winch or aero-tow (affects also 9. Weak Links, 11.3 Maximum speeds for aero-tow & winch-launch and 13. Launch methods)

#### B.IV Operating and Service Instructions

- 1. Flight Manual: Flughandbuch für den Motorsegler EB28 edition XB, Ausgabe Februar 2024, EASA-anerkannt
- 2. Maintenance Manual: Wartungshandbuch für den Motorsegler EB28 edition XB, Ausgabe Februar 2024
- 5. Operating Manual for the launching hooks: not applicable, no launching hooks



C.I

**Administrative Section** 

#### Section C:

# Acronyms & Abbreviations

## C.II Type Certificate Holder Record

Binder Motorenbau GmbH Alter Frickenhäuser Weg 15 D-97645 Ostheim/Rhön, Germany

#### C.III Change Record

Issue	Date	Changes	TC Issue No. & Date
01	10 June 2008	Initial Issue	10 June 2008
02	09 February 2011	Introduction of new model EB28 edition; Transfer into new TCDS format	09 February 2011
03	01 August 2012	Introduction of optional wing tip extensions to model EB28 edition	
04	23 May 2025	Introduction of optional steerable tail wheel and winch tow hook to models EB 28 and EB28 edition, New remark describing EB28 edition s/n 901 Transfer into new TCDS format	

-END-

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