TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.433

for
HB 23/2400

Type Certificate Holder
HB-Flugtechnik

HB-Flugtechnick GmbH
Dr. Adolf Schärfstraße 42
A-4053 Haid
Austria

For variants:

HB 23/2400
HB 23/2400 SP
HB 23/2400 Scanliner

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SECTION 1 HB 23/2400

A.I. General

1. a) Type: HB 23/2400
   b) Variant: ---

2. Airworthiness Category:
   Utility

3. Type Certificate Holder:
   HB-Flugtechnik GmbH
   Dr. Adolf Schärfstraße 42
   A-4053 Haid
   Austria
   www.hb-flugtechnik.at

4. Manufacturer:
   HB Aircraft Industries AG
   Luftfahrzeug Aktiengesellschaft
   A-4053 Haid
   Austria

   HB Brditschka GmbH & CoKG
   A-4053 Haid
   Austria

5. Certification Application Date: ---

6. BAZ/ACG Certification Date : November 1985 see Note 6

7. The EASA Type Certificate replaces the Austrian Type Certificate SF 10/85

8. EASA Certification Date: ---

A.II. Certification Basis

1. Reference Date for determining the applicable requirements: ---

2. (Reserved)

3. (Reserved)

4. Certification Basis: JAR-22, Change -, issued 15-Mar-1982

5. Airworthiness Requirements: JAR-22, Change -, issued 15-Mar-1982

6. Requirements elected to comply: None

7. Special Conditions: None

8.	Exemptions:	None
9.	Equivalent Safety Findings:	BAZ approved 6285-2/31-85 dated 20.12.1985
10.	Environmental Standards:	Zivilluftfahrzeug-Lärmzulässigkeitverordnung BGBl. 700/1986 and 738/1993

A.III. Technical Characteristics and Operational Limitations

1.	Type Design Definition:	Drawing Set and following approved Design Changes (ÄM – System)
2.	Description:	Single engine, two-seated high wing airplane, wooden wing/steel tube fuselage construction, T-tail, side by side seating configuration, fixed tri gear, air brakes on upper wing surface and pusher propeller
3.	Equipment:	Minimum Equipment: 1 airspeed indicator (range up to 250 km/h) 1 altimeter with mbar barometric dial 1 magnetic compass with deviation table 1 RPM indicator 1 running time meter 1 oil pressure gauge 1 oil temperature gauge 1 Voltmeter 1 fuel pressure indicator 2 fuel quantity gauge 1 stall warning indicator 1 at least 4-point harness for each seat 1 Masterwitch 1 Currentprotection (circuit protection) 1 Generator and 1 Battery
4.	Dimensions:	
	Span	*16,4 m*
	Length	*8,0 m*
	Height	*2,45 m*
	Wing Area	*19,067 m²*
5.	Engines:	VW-HB-2400 G or G/2 (see Note 5) Engine Type Certificate Data Sheet: ACG 4/82
	5.1 Engine Limits:	Max take-off rotational speed 4000 r.p.m. Max continuous rotational speed 3600 r.p.m For power-plants limits refer to Flight Manual,
6.	(Reserved)	

7. Propellers:

1 Hoffmann HO 14 C -172 130 LD or
Propeller Type Certificate Data Sheet: LBA 32.110/1
Reduction Gearing Ratio 1:1,55 +- 5%

2 Mühlbauer MT 172 LD 130-SC or
Propeller Type Certificate Data Sheet: EASA P.006
Reduction Gearing Ratio 1:1,55 +- 5%

3 Mühlbauer MT 172 LD 145-2C in front with MT 167 LD 145-2C behind mounted 90° offset
Propeller Type Certificate Data Sheet: LBA 32.110/12
Reduction Gearing Ratio 1:1,94 +- 5% (see Note 3)

7.1 Settings — Low pitch setting/ Static RPM: 3500+/- 200

8. Fluids:

8.1 Fuel: AVGAS 100 LL or
Automotive Gasoline,
Leaded/unleaded min ROZ 98
(see Note 4)

8.2 Oil: quality automotive oils
Castrol GTX2 or any HD SAE 15W40
(see Flight Manual)

9. Fluid capacities:

9.1 Fuel:	Standard Fuel Tank	Total:	76 (2x 38) liters
		Usable:	75 liters
	Optional Fuel tank	Total:	100 (2x 50) liters
		Usable:	99 liters
9.2 Oil:		Maximum:	4,0 liters
		Minimum:	3,0 liters

10. Air Speeds:

Design Manoeuvring Speed v_A: 173 km/h

Maximum rough air speed Vra): 173 km/h.

Never exceed speed v_{NE}: 200 km/h

11. Maximum Operating Altitude: ---

12. Allweather Capability: Day/Night-VFR

13. Maximum Masses:

Take-off	760 kg
Maximum mass of non lifting parts	550 kg

14. Centre of Gravity Range:

Forward limit	2,360 m behind Datum
Rear limit:	2,540 m behind Datum

15. Datum:	2,00 m in front of wing leading edge at root rib 2
16. (reserved)	
17. Levelling Means:	top of fuselage aft of propeller horizontal
18. Minimum Flight Crew:	1 (Pilot)
19. Maximum Passenger Seating Capacity:	1
20. (Reserved)	
21. Baggage / Cargo Compartments	
Behind Seats	10 kg
22. Wheels and Tyres Main/Tail Wheel Tyre Size	For approved Types and rating see AMM

A.IV. Operating and Service Instructions

Airplane Flight Manual (AFM)	Airplane Flight Manual HB 23 Serie, Issue Nov. 2018, EASA approved (German Version) see Note 7
Airplane Maintenance Manual (AMM) (incl. Airworthiness Limitations)	Maintenance Manual, Issue January 1986, (German Version) Engine Manual – VW-HB-2400 G/2, Issue September 1085 or later approved Issue Hoffmann, Operation and Maintenance Manual for the HOCO propeller, latest Issue or Mt Propeller, Installation and Operating manual E-112 latest issue

Service Informations and Service Bulletins
All Master Manuals are issued in German Language only

A.V. Notes

1. Only industrial manufacturing is permitted.

2. Glider and Banner towing is approved if the following additional equipment must be installed:
   1 cylinder head temperature gauge
   1 Tow indicator in the instrument panel
   1 coupling type Tost E75/E85
   1 mirror

3. The modification to the four blade propeller assembly and modification of the reduction gearing is approved with TM HB-23/25/96

4. Use of unleaded automotive fuel SUPER PLUS 98 EN 228 (ÖNorm C1100), min. ROZ 98, in accordance with TM/HB/23/23/93, latest issue, with max 5% Ethanol/Methanol is permitted

5. Initial Certification carried out by the Austrian Aviation Authority – Bundesamt für Zivilluftfahrt renamed to Austro Control

6. The certification applies to SNo. 23.005 up to 23.048 inclusive.

7. Flight Manual HB 23/2400 issued January 1986 has been replaced by an HB 23 Series flight manual valid for all variants.

8. Night VFR has been initially approved within the Austrian national type certification. Additional equipment in accordance to flight manual supplement E must be installed.

SECTION 2 HB 23/2400 SP

B.I. General

1.	a) Type:	HB 23/2400
	b) Variant:	HB 23/2400 SP
2.	Airworthiness Category:	Utility
3.	Type Certificate Holder:	HB-Flugtechnik GmbH Dr. Adolf Schärfstraße 42 A-4053 Haid Austria www.hb-flugtechnik.at
4.	Manufacturer:	HB Aircraft Industries AG Luftfahrzeug Aktiengesellschaft A-4053 Haid Austria
5.	Certification Application Date:	---
6.	BAZ/ACG Certification Date :	Nov 1985 see Note 4,5
7.	The EASA Type Certificate replaces the Austrian Type Certificate SF 10/85	
8.	EASA Certification Date:	---

B.II. Certification Basis

1.	Reference Date for determining the applicable requirements:	---
2.	(Reserved)	
3.	(Reserved)	
4.	Certification Basis:	JAR-22, Change 4, 7.Mai 1984
5.	Airworthiness Requirements:	JAR-22, Change 4, 7.Mai 1984
6.	Requirements elected to comply:	None
7.	Special Conditions:	None
8.	Exemptions:	None
9.	Equivalent Safety Findings:	BAZ approved 6285-2/31-85 dated 20.12.1985

10. Environmental Standards:	Zivilluftfahrzeug-Lärmzulässigkeitverordnung BGBl. 700/1986 and 738/1993

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition:	Drawing Set and following approved Design Changes (ÄM – System)
2. Description:	Single engine, two-seated high wing airplane, wooden wing/steel tube fuselage construction, T-tail, side by side seating configuration, fixed tri gear, air brakes on upper wing surface, pusher propeller cowl flaps and wheel fairings (see Note 10)
3. Equipment:	Minimum Equipment: 1 airspeed indicator (range up to 250 km/h) 1 altimeter with mbar barometric dial 1 magnetic compass with deviation table 1 RPM indicator 1 running time meter 1 oil pressure gauge 1 oil temperature gauge 1 Voltmeter 1 fuel pressure indicator 2 fuel quantity gauge 1 stall warning indicator 1 at least 4-point harness for each seat 1 Masterwitch 1 Currentprotection (circuit protection) 1 Generator and 1 Battery 1 optical and acoustical warning for closed cowl flaps
4. Dimensions:	
Span	*16,40 m*
Length	*8,00 m*
Height	*2,45 m*
Wing Area	*19,067 m²*
5. Engines:	VW-HB-2400 G/2 Engine Type Certificate Data Sheet: ACG TW 4/82
5.1 Engine Limits:	Max take-off rotational speed 4000 r.p.m. Max continuous rotational speed 3600 r.p.m For power-plants limits refer to Flight Manual,
6. (Reserved)	
7. Propellers: (see Note 10)	1 Hoffmann HO 14 C -172 130 LD or Propeller Type Certificate Data Sheet: LBA 32.110/1 Reduction Gearing Ratio 1:1,55 +- 5%

2 Mühlbauer MT 172 LD 130-SC or
Propeller Type Certificate Data Sheet: EASA.P.006
Reduction Gearing Ratio 1:1,55 +- 5%

3 Mühlbauer MT 172 LD 145-2C in front with MT 167 LD 145-2C behind mounted 90° offset
Propeller Type Certificate Data Sheet: LBA 32.110/12
Reduction Gearing Ratio 1:1,94 +- 5% (see Note 3)

7.2 Settings — Low pitch setting/ Static RPM: 3500+/- 200

8. Fluids:
   8.1 Fuel: AVGAS 100 LL or
   Automotive Gasoline,
   Leaded/unleaded min ROZ 98
   (see Note 4)

   8.2 Oil: quality automotive oils
   Castrol GTX 2 or any HD SAE 15W40
   (see Flight Manual)

9. Fluid capacities:
   9.1 Fuel: Standard Fuel Tank — Total: 76 (2x 38) liters; Usable: 75 liters

   Optional Fuel tank — Total: 100 (2x 50) liters; Usable: 99 liters

   9.2 Oil: Maximum: 4,0 liters; Minimum: 3,0 liters

10. Air Speeds:
   Design Manoeuvring Speed v_A: 173 km/h

   Maximum rough air speed Vra): 173 km/h.

   Never exceed speed v_{NE}: 200 km/h

11. Maximum Operating Altitude: ---

12. Allweather Capability: Day/Night VFR

13. Maximum Masses:
   Take-off 760 kg
   Maximum mass of non lifting parts 550 kg

14. Centre of Gravity Range:
   Forward limit 2,360 m behind Datum
   Rear limit: 2,540 m behind Datum

15. Datum: 2,00 m in front of wing leading edge at root rib 2
16. (reserved)

17. Levelling Means:	top of fuselage aft of propeller horizontal
18. Minimum Flight Crew:	1 (Pilot)
19. Maximum Passenger Seating Capacity:	1
20. (Reserved)	
21. Baggage / Cargo Compartments	
Behind Seats	10 kg
22. Wheels and Tyres Main/Tail Wheel Tyre Size	For approved Types and rating, see AMM

B.IV. Operating and Service Instructions

Airplane Flight Manual (AFM)	Airplane Flight Manual HB 23 Serie, Issue Nov. 2018, EASA approved (German Version) see Note 8
Airplane Maintenance Manual (AMM) (incl. Airworthiness Limitations)	Maintenance Manual HB 23/2400-SP, Issued Nov. 1988, (German Version) Engine Manual – VW-HB-2400 G/2, Issue September 1985 or later approved Issue Hoffmann, Operation and Maintenance Manual for the HOCO propeller, latest Issue or Mt Propeller, Installation and Operating manual E-112 latest issue

Service Informations and Service Bulletins
All Master Manuals are issued in German Language only

B.V. Notes

1. Only industrial manufacturing is permitted.

2. Glider and Banner towing is approved if, the following additional equipment must be installed:
   1 cylinder head temperature gauge
   1 Tow indicator in the instrument panel
   1 coupling type Tost E75/E85
   1 mirror

3. The modification to the four blade propeller assembly and modification of the reduction gearing is approved with TM HB-23/23/93

4. Use of unleaded automotive fuel SUPER PLUS 98 EN 228 (ÖNorm C1100), min. ROZ 98, in accordance with TM/HB/23/23/93, latest issue, with max 5% Ethanol/Methanol is permitted

5. Initial Certification carried out by the Austrian Aviation Authority – Bundesamt für Zivilluftfahrt renamed to Austro Control

6. The certification applies to S/N 23.040 up to 23.048 inclusive.

   The conversion from model HB 23/2400 into variant HB 23/2400 SP is approved with TM 23/12/88, converted aircraft are identified with “U” after the Serial Number on the data plate.

7. The variant HB 23/2400 SP includes several modifications to improve the sailplane performance, the initial approval of the automatic feathering propeller HB-SVP-3E 170-160 LD is withdrawn, the Propeller Type certificate has bee revoked. The model HB 23/2400 SP conforms to BAZ approved equivalent level of safety finding 6285-2/31-85 dated 20.12.1985

8. Flight Manual HB 23/2400 SP issued Nov 1988 has been replaced by an HB 23 Series flight manual valid for all variants.

9. Night VFR has been initially approved within the Austrian national type certification. Additional equipment in accordance to flight manual supplement E must be installed.

SECTION 3 HB 23/2400 Scanliner

C.I. General

1. a) Type: HB 23/2400
   b) Variant: HB 23/2400 Scanliner

2. Airworthiness Category: Utility

3. Type Certificate Holder:
   HB-Flugtechnik GmbH
   Dr. Adolf Schärfstraße 42
   A-4053 Haid
   Austria
   www.hb-flugtechnik.at

4. Manufacturer:
   HB Brditschka GmbH & Co KG
   Fluhzeugbau
   A-4053 Haid
   Austria

5. Certification Application Date : ---

6. BAZ/ACG Certification Date : Nov 1985 see Note 6

7. The EASA Type Certificate replaces the Austrian Type Certificate SF 11/86

8. EASA Certification Date: ---

C.II. Certification Basis

1. Reference Date for determining the applicable requirements: ---

2. (Reserved)

3. (Reserved)

4. Certification Basis: JAR-22, Change -, issued 15-Mar-1982

5. Airworthiness Requirements: JAR-22, Change -, issued 15-Mar-1982

6. Requirements elected to comply: None

7. Special Conditions: None

8. Exemptions: None

9. Equivalent Safety Findings: BAZ approved 6285-2/31-85 dated 20.12.1985

10. Environmental Standards: Zivilluftfahrzeug-Lärmzulässigkeitverordnung BGBl. 700/1986 and 738/1993

C.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing Set and following approved Design Changes (ÄM – System)

2. Description: Single engine, two-seated high wing airplane, wooden wing/steel tube fuselage construction, T-tail, side by side seating configuration, fixed tri gear, air brakes on upper wing surface, pusher propeller and full view bubble canopy

3. Equipment: Minimum Equipment:
1 airspeed indicator (range up to 250 km/h)
1 altimeter with mbar barometric dial
1 magnetic compass with deviation table
1 RPM indicator
1 running time meter
1 oil pressure gauge
1 oil temperature gauge
1 Voltmeter
1 fuel pressure indicator
2 fuel quantity gauge
1 stall warning indicator
1 at least 4-point harness for each seat
1 Masterwitch
1 Currentprotection (circuit protection)
1 Generator and 1 Battery

4. Dimensions:

Span	*16,40 m*
Length	*7,35 m*
Height	*2,45 m*
Wing Area	*19,067 m²*

5. Engines: VW-HB-2400 G/2
Engine Type Certificate Data Sheet: ACG TW 4/82

5.1 Engine Limits:

Max take-off rotational speed	4000 r.p.m.
Max continuous rotational speed	3600 r.p.m

For power-plants limits refer to Flight Manual,

6. (Reserved)

7. Propellers: 1 Hoffmann HO 14 C -172 130 LD or
Propeller Type Certificate Data Sheet: LBA 32.110/1

Reduction Gearing Ratio 1:1,55 +- 5%

2 Mühlbauer MT 172 LD 130-SC or
Propeller Type Certificate Data Sheet: EASA P.006
Reduction Gearing Ratio 1:1,55 +- 5%

3 Mühlbauer MT 172 LD 145-2C in front with MT 167 LD 145-2C behind mounted 90° offset
Propeller Type Certificate Data Sheet: LBA 32.110/12
Reduction Gearing Ratio 1:1,94 +- 5% (see Note 3)

7.3 Settings — Low pitch setting/ Static RPM: 3500+/- 200

8. Fluids:
8.1 Fuel: AVGAS 100 LL or
Automotive Gasoline,
Leaded/unleaded min ROZ 98
(see Note 4)

8.2 Oil: quality automotive oils
Castrol GTX2 or any HD SAE 15W40
(see Flight Manual)

9. Fluid capacities:
9.1 Fuel: Standard Fuel Tank — Total: 76 (2x 38) liters; Usable: 75 liters

Optional Fuel tank — Total: 100 (2x 50) liters; Usable: 99 liters

9.2 Oil: Maximum: 4,0 liters; Minimum: 3,0 liters

10. Air Speeds:
Design Manoeuvring Speed v_A: 173 km/h

Maximum rough air speed Vra): 173 km/h.

Never exceed speed v_{NE}: 200 km/h

11. Maximum Operating Altitude: ---

12. Allweather Capability: Day/Night-VFR

13. Maximum Masses:
Take-off 760 kg
Maximum mass of non lifting parts 550 kg

14. Centre of Gravity Range:
Forward limit 2,360 m behind Datum
Rear limit: 2,540 m behind Datum

15. Datum: 2,00 m in front of wing leading edge at root rib 2
16. (reserved)

17. Levelling Means:	top of fuselage aft of propeller horizontal
18. Minimum Flight Crew:	1 (Pilot)
19. Maximum Passenger Seating Capacity:	1
20. (Reserved)	
21. Baggage / Cargo Compartments	
Behind Seats	10 kg
22. Wheels and Tyres Main/Tail Wheel Tyre Size	For approved Types and rating see AMM

C.IV. Operating and Service Instructions

Airplane Flight Manual (AFM)	Airplane Flight Manual HB 23 Serie, Issue Nov. 2018, EASA approved (German Version) see Note 8
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C.V. Notes

1. Only industrial manufacturing is permitted.

2. Glider and Banner towing is approved if, the following additional equipment must be installed:
   1 cylinder head temperature gauge
   1 Tow indicator in the instrument panel
   1 coupling type Tost E75/E85
   1 mirror

3. The modification to the four blade propeller assembly and modification of the reduction gearing is approved with TM HB-23/25/96

4. Use of unleaded automotive fuel SUPER PLUS 98 EN 228 (Önorm C1100), min. ROZ 98, in accordance with TM/HB/23/23/93, latest issue, with max 5% Ethanol/Methanol is permitted

5. Initial Certification carried out by the Austrian Aviation Authority – Bundesamt für Zivilluftfahrt renamed to Austro Control

6. The certification applies to Sno. 23.011-S-1 up to S-10. The “S” indicates the variant Scanliner with the running Sno.

7. The conversion from variant HB 23/2400 to HB 23/2400 Scanliner is approved with TM-HB-23/30/15. The original HB 23/2400 Sno. Remains unchanged. A supplemental data plate is installed.

8. Flight Manual HB 23/2400 SP issued Nov 1985 has been replaced by an HB 23 Series flight manual valid for all variants.

9. Night VFR has been initially approved within the Austrian national type certification. Additional equipment in accordance to flight manual supplement E must be installed.

Change Record

Issue	Date	Changes
Issue 1	07.Jan.2010	Transfer from ACG TCDS SF 10/85 issue 6, SF11/86 issue 3 and SF 14/87 issue 2 to the EASA Type Design
Issue 2	09.Jun 2017	Note for conversion from variant HB 23/2400 to HB 23/2400 Scanliner with TM-HB-23/30/15 added (EASA project no 0010041403-001), removed Variant HB 23/2400 V2 as the only eligible Sno. 23002 was destroyed, editorial changes
Issue 3	4.Dec 2018	EASA Project 0060061527 Flight Manual update and issuance of a HB 23 Series manual including revised runup procedure and caution for engine rough running, Night VFR Supplement and fuel specification, editorial changes A.III.12, A.IV, A Note 4,7,8 B.III.12, B.IV, A Note 4,8,9 C.III.12, C.IV, C Note 4,8,9
Issue 4	3. March 2021	Administrative correction to include Night VFR for the HB-23/2400 SP