

**EASA**  
**TYPE-CERTIFICATE**  
**DATA SHEET**

**B1-PW-5**

Type Certificate Holder:

AVIACOM.PL Sp. z o.o.  
ul. Gen. Gorbatowa 3/19  
07-410 Ostrołęka  
POLAND

EASA TCDS No. A.449

For variants:      B1-PW-5  
                          B1-PW-5D

Issue 01, 28 March 2007

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Issue	Date	Changes
Issue 01	28 March 2007	Transfer from Polish Type Certificate No. BG-214/1 to the EASA Type Design

## **Section A: B1-PW-5**

### **A.I. General**

1. Data Sheet No.: EASA.A.449
2. a) Type: B1-PW-5  
b) Variant: B1-PW-5
3. Airworthiness Category: Sailplane, Utility
4. Type Certificate Holder: AVIACOM.PL Sp. z o.o.  
ul. Gen. Gorbatowa 3/19  
07-410 Ostrołęka  
POLAND
5. Manufacturer: for s/n 05.001.01 ÷ 05.001.06  
PZL BIELSKO 1 Sp. z o.o.  
43-436 Górki Wielkie 101  
  
for s/n 05.001.08 ÷ 05.002.01  
Doświadczalne Warsztaty Lotniczych  
Konstrukcji Kompozytowych Sp. z o.o. (DWLKK)  
ul. Nowowiejska 24  
00-665 Warszawa  
POLAND
6. Polish CAA Certification Date June 12, 2001 (TC No. BG-214)
7. The EASA Type Certificate replaces Polish Type Certificate No. BG-214/1,  
which replaced the BG-214 on March 19, 2007, due to TC transfer from DWLKK.

### **A.II. Certification Basis**

1. Certification Basis: Defined February 8, 2001
2. Airworthiness Requirements: JAR-22, Change 5, issued October 28, 1995
3. Requirements elected to comply: None
4. Special Conditions: None
5. Exemptions: None
6. Equivalent Safety Findings: None

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

1. Type Design Definition: Document No B1-PW-5/WT/II/2001 dated May 5, 2001
2. Description: Single seat, "utility" category glider. All composite glass-epoxy structure. Cantilever mid-wing monoplane with standard tail unit (fixed stabilizer with elevator, fin and rudder). Bipartite tapered wing with plate airbrakes protruding from upper surface. Fixed landing gear with nose wheel and auxiliary tail wheel. Main wheel with drum brake and shock absorber. The B1-PW-5 is a variant of PW-5 "Smyk" (EASA TC No A.087) manufactured under a licence with some construction changes.
3. Equipment: Standard equipment:
  - airspeed indicator (0-250 km/h),
  - altimeter (0-12000 m),
  - compass,
  - rate-of-climb indicator,
  - towing hooks,
  - pilots safety belts (4-point)Optional equipment:
  - turn and bank indicator
  - electric rate-of-climb indicator,
  - GPS,
  - deck computer,
  - oxygen system.The mass of equipped instrument panel must not exceed 5 kg.
4. Dimensions:

Span	13,44 m
Wing area	10,16 m <sup>2</sup>
Aspect Ratio	17,8
Length	6,22 m
Height	1,86 m
5. Launching Hooks: Nose hook TOST E85  
Lower hook TOST G88 Europa
6. Weak links: Maximum Strength: 700 daN
7. Air Speeds (IAS):

Never Exceed Speed	V <sub>NE</sub>	213 km/h
Manoeuvring Speed	V <sub>A</sub>	150 km/h
Maximum permitted speeds		
- in rough air	V <sub>RA</sub>	150 km/h
- in aero-tow	V <sub>T</sub>	150 km/h
- in winch launching	V <sub>W</sub>	120 km/h
8. Operational Capability: VFR Day, Cloud flying
9. Masses:

Max. Mass	300 kg
Empty Mass	180 ÷ 190 kg
10. Centre of Gravity Range: Empty glider with standard equipment:  
Forward and Rearward Limits depend on empty glider mass and are illustrated in Maintenance Manual (fig. 7-2).  
Centre of Gravity operational limits:

Forward Limit	235 mm aft of datum point (20,0% MAC)
Rearward Limit	410 mm aft of datum point (42,0% MAC)

MAC is 798 mm; 0% MAC is 75 mm behind the datum.  
Datum: Leading edge and wing-fuselage division plane intersection.  
Levelling means: Leading and trailing points of root chord (1000 mm) at the same level.

11. Seating Capacity: 1
12. Lifetime limitations: Refer to Maintenance Manual
13. Other limitations: Night flying is forbidden.  
Flights in icing conditions are forbidden.  
Permissible altitude is 11000 m.  
Aerobatics in rough air is forbidden.  
No winch-launching using nose hook.  
No aero-towing using lower hook.  
Manoeuvring load factor limits: +5,3/-2,65 at  $V_A$   
+4,0/-1,5 at  $V_{NE}$
14. Deflection of control surfaces:
- |           |         |     |      |
|-----------|---------|-----|------|
| Aileron:  | - up    | 26° | ± 2° |
|           | - down  | 13° | ± 1° |
| Elevator: | - up    | 28° | ± 2° |
|           | - down  | 19° | ± 1° |
| Rudder:   | - left  | 35° | ± 2° |
|           | - right | 35° | ± 2° |

#### **A.IV. Operating and Service Instructions**

1. Flight Manuals:

- Polish: Instrukcja Użytkowania w Locie Szybowca B1-PW-5 dokument nr B1-PW-5/IWL/I/2001, wydanie z dnia 6 czerwca 2001 r., ze zmianą 1 z dnia 20 lutego 2004 r.
- English: B1-PW-5 Sailplane Flight Manual Document No B1-PW-5/IWL/I/2001, Issued on June 6, 2001, Revision 1 dated February 20, 2004

2. Supplements for Flight Manual:

- Polish: Użytkowanie Aparatury Tlenowej Fluid Power A14, Uzupełnienie do Instrukcji Użytkowania w Locie Szybowca B1-PW-5, dokument nr B1-PW-5/IWLU-1/I/2004, wydanie z dnia 20 lutego 2004 r.
- English: Fluid Power A14 Oxygen System Use, Supplement to the Sailplane Flight Manual Document No B1-PW-5/IWLU-1/I/2004, Issued on February 20, 2004

3. Maintenance Manuals:

- Polish: Instrukcja Obsługi Technicznej i Napraw Szybowca B1-PW-5 dokument nr B1-PW-5/IOT/I/2001, wydanie z dnia 8 czerwca 2001 r., ze zmianą 1 z dnia 20 lutego 2004 r.
- English: B1-PW-5 Sailplane Maintenance Manual Document No B1-PW-5/IOT/I/2001, Issued on June 8, 2001, Revision 1 dated February 20, 2004

4. Supplements for Maintenance Manual:

Polish:       Obsługa Aparatury Tlenowej Fluid Power A14,  
                  Uzupełnienie do Instrukcji Obsługi Technicznej i Napraw  
                  Szybowca B1-PW-5, dokument nr B1-PW-5/IOTU-IT//2004,  
                  wydanie z dnia 20 lutego 2004 r.

English:       Fluid Power A14 Oxygen System Maintenance,  
                  Supplement to the Sailplane Maintenance Manual  
                  Document No B1-PW-5/IOTU-IT//2004,  
                  Issued on February 20, 2004

**A.V. Notes**

1. Serial Numbers:

05.001.01,  
05.001.03 ÷ 05.001.06,  
05.001.08 ÷ 05.001.12,  
05.002.01

2. All glider outside surfaces must be white painted.  
No registration number or any colour marks on the wings and stabilizer upper surfaces are allowed.  
Any additional painting on control surfaces is forbidden. Mass balance of control surfaces must  
comply with requirements of Maintenance Manual.

## **Section B: B1-PW-5D**

### **B.I. General**

1. Data Sheet No.: EASA.A.449
2. a) Type: B1-PW-5  
b) Variant: B1-PW-5D
3. Airworthiness Category: Sailplane, Utility
4. Type Certificate Holder: AVIACOM.PL Sp. z o.o.  
ul. Gen. Gorbatowa 3/19  
07-410 Ostrołęka  
POLAND
5. Manufacturer: Doświadczalne Warsztaty Lotniczych  
Konstrukcji Kompozytowych Sp. z o.o. (DWLKK)  
ul. Nowowiejska 24  
00-665 Warszawa  
POLAND
6. Polish CAA Certification Date August 21, 2002
7. The EASA Type Certificate replaces Polish Type Certificate No. BG-214/1,  
which replaced the BG-214 on March 19, 2007, due to TC transfer from DWLKK.

### **B.II. Certification Basis**

1. Certification Basis: Defined February 8, 2001
2. Airworthiness Requirements: JAR-22, Change 5, issued October 28, 1995
3. Requirements elected to comply: None
4. Special Conditions: None
5. Exemptions: None
6. Equivalent Safety Findings: None

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

1. Type Design Definition: Doc. No B1-PW-5/WT//2001, Change No 1 dated June 10, 2002
2. Description: Single seat, "utility" category glider. All composite glass-epoxy structure. Cantilever mid-wing monoplane with standard tail unit (fixed stabilizer with elevator, fin and rudder). Bipartite tapered wing with plate airbrakes protruding from upper surface. Fixed landing gear with nose wheel and auxiliary tail wheel. Main wheel with drum brake and shock absorber. The B1-PW-5D differs from B1-PW-5 in lower launching hook type and position.
3. Equipment: Standard equipment:
  - airspeed indicator (0-250 km/h),
  - altimeter (0-12000 m),
  - compass,
  - rate-of-climb indicator,
  - towing hooks,
  - pilots safety belts (4-point)Optional equipment:
  - turn and bank indicator
  - electric rate-of-climb indicator,
  - GPS,
  - deck computer,
  - oxygen system.The mass of equipped instrument panel must not exceed 5 kg.
4. Dimensions:

Span	13,44 m
Wing area	10,16 m <sup>2</sup>
Aspect Ratio	17,8
Length	6,22 m
Height	1,86 m
5. Launching Hook: Nose hook TOST E85  
Lower hook TOST G88/1-83
6. Weak links: Maximum Strength: 700 daN
7. Air Speeds (IAS):

Never Exceed Speed	$V_{NE}$	213 km/h
Manoeuvring Speed	$V_A$	150 km/h
Maximum permitted speeds		
- in rough air	$V_{RA}$	150 km/h
- in aero-tow	$V_T$	150 km/h
- in winch launching	$V_W$	120 km/h
8. Operational Capability: VFR Day, Cloud flying
9. Masses:

Max. Mass	300 kg
Empty Mass	180 ÷ 190 kg
10. Centre of Gravity Range: Empty glider with standard equipment:  
Forward and Rearward Limits depend on empty glider mass and are illustrated in Maintenance Manual (fig. 7-2).  
Centre of Gravity operational limits:

Forward Limit	235 mm aft of datum point (20,0% MAC)
Rearward Limit	410 mm aft of datum point (42,0% MAC)

MAC is 798 mm; 0% MAC is 75 mm behind the datum.  
Datum: Leading edge and wing-fuselage division plane intersection.  
Levelling means: Leading and trailing points of root chord (1000 mm) at the same level.



11. Seating Capacity: 1
12. Lifetime limitations: Refer to Maintenance Manual
13. Other limitations: Night flying is forbidden.  
Flights in icing conditions are forbidden.  
Permissible altitude is 11000 m.  
Aerobatics in rough air is forbidden.  
No winch-launching using nose hook.  
No aero-towing using lower hook.  
Manoeuvring load factor limits: +5,3/-2,65 at  $V_A$   
+4,0/-1,5 at  $V_{NE}$
14. Deflection of control surfaces:
- |           |         |     |      |
|-----------|---------|-----|------|
| Aileron:  | - up    | 26° | ± 2° |
|           | - down  | 13° | ± 1° |
| Elevator: | - up    | 28° | ± 2° |
|           | - down  | 19° | ± 1° |
| Rudder:   | - left  | 35° | ± 2° |
|           | - right | 35° | ± 2° |

#### **B.IV. Operating and Service Instructions**

1. Flight Manuals:

- Polish: Instrukcja Użytkowania w Locie Szybowca B1-PW-5D  
dokument nr B1-PW-5D/IUWL/I/2002,  
wydanie z dnia 29 lipca 2002 r.,  
ze zmianą 1 z dnia 20 lutego 2004 r.
- English: B1-PW-5D Sailplane Flight Manual  
Document No B1-PW-5D/IUWL/I/2002, Issued on July 29, 2002,  
Revision 1 dated February 20, 2004

2. Supplements for Flight Manual:

- Polish: Użytkowanie Aparatury Tlenowej Fluid Power A14,  
Uzupełnienie do Instrukcji Użytkowania w Locie Szybowca  
B1-PW-5D, dokument nr B1-PW-5D/IWLU-1/I/2004,  
wydanie z dnia 20 lutego 2004 r.
- English: Fluid Power A14 Oxygen System Use,  
Supplement to the Sailplane Flight Manual  
Document No B1-PW-5D/IWLU-1/I/2004,  
Issued on February 20, 2004

3. Maintenance Manuals:

- Polish: Instrukcja Obsługi Technicznej i Napraw Szybowca B1-PW-5D  
dokument nr B1-PW-5D/IOT/I/2002,  
wydanie z dnia 2 lipca 2002 r.,  
ze zmianą 1 z dnia 20 lutego 2004 r.
- English: B1-PW-5D Sailplane Maintenance Manual  
Document No B1-PW-5D/IOT/I/2002, Issued on July 2, 2002,  
Revision 1 dated February 20, 2004

4. Supplements for Maintenance Manual:

Polish:        Obsługa Aparatury Tlenowej Fluid Power A14,  
                  Uzupełnienie do Instrukcji Obsługi Technicznej i Napraw  
                  Szybowca B1-PW-5D, dokument nr B1-PW-5D/IOTU-IT/I/2004,  
                  wydanie z dnia 20 lutego 2004 r.

English:       Fluid Power A14 Oxygen System Maintenance,  
                  Supplement to the Sailplane Maintenance Manual  
                  Document No B1-PW-5D/IOTU-IT/I/2004,  
                  Issued on February 20, 2004

**B.V. Notes**

1. Serial Numbers:  
    05.001.07,  
    05.002.02
2. All glider outside surfaces must be white painted.  
    No registration number or any colour marks on the wings and stabilizer upper surfaces are allowed.  
    Any additional painting on control surfaces is forbidden. Mass balance of control surfaces must  
    comply with requirements of Maintenance Manual.