

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

Type: **Breezer M400**

(1)	MANUFACTURER	Ascent Industries Ltd (trading as Breezer Aviation) The Hangar, Wanshurstgreen Farm, Battle Lane, Marden, Kent, TN12 9DF.	
(2)	UK IMPORTER	N/A	
(3)	CERTIFICATION	BCAR Section S Issue 6 and CS-VLA Amendment 1 (See AAN BMAA-1084)	
(4)	DEFINITION OF BASIC STANDARD	Breezer Aviation Build Standard 1 (BS-1)	
(5)	COMPLIANCE WITH THE MICROLIGHT DEFINITION		
(a)	MTOW	472.5kg ¹	
(b)	Number of seats	2	
(c)	Maximum Wing Loading	43.2 kg/m ²	
(d)	Stall speed, V _{SO}	35 kt CAS	
(e)	Permitted range of occupant weights	0 - 105 kg (each) (min cockpit load 55 kg)	
(f)	Typical Empty Weight (ZFW)	285 – 291.5kg	
(g)	ZFW + 172kg crew + 1hr fuel (Rotax 912ULS-01 9kg/hr)	466 – 472.5kg	
(h)	ZFW + 86kg pilot + full fuel (76 litres/55kg)	426 – 432.5kg	
(i)	Max ZFW at initial permit issue	Rotax 912ULS-01	291.5kg ¹

¹With approved Airframe Mounted Total Recovery Parachute System (AMTPRS)

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

70 mph/60 kt IAS (stage 3, advisory)

- (i) Permitted manoeuvres Maximum bank angle 60°
Non Aerobatic
Normal acceleration limits, +4g / -2g
- (j) Fuel Contents 76 litres 74 litres (Max Usable)
- (k) Power plant

Engine	Rotax 912ULS-01
Max RPM	5800 (5 min) 5500 (continuous) 4400 (efficiency)
Max Coolant Temp.	120°C
Max EGT	880°C
Fuel spec	95 RON minimum unleaded to EN 228 Super or Super Plus, AVGAS 100LL, UL91. (Unleaded preferred – see engine manual)
Engine oil spec	RON 424, SAE 10 W-40 (See engine manual)
Oil pressure	Normal 2-5 bar above 3500rpm Min 0.8 bar below 3500rpm Max 7 bar
Oil temperature	50 - 130°C
Fuel pressure	0.15 - 0.4bar* *0.5bar with fuel pump S/N 11.0036 or later

(8) INSTRUMENTS REQUIRED

ASI	Altimeter	Slip ball	RPM	Coolant Temp.	Oil Temp.	Oil Pressure	Fuel Contents
0-160mph or 140kt minimum	Required	Required	0-6000 rpm minimum	Required	Required	Required	Required

A compass is recommended.

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

(9) CONTROL DEFLECTIONS

Elevator	UP:	25° ±1°	Elevator trim tab	UP:	21° ±2°
Elevator	DOWN:	20° ±1°	Elevator trim tab	DOWN:	34° ±2°
Ailerons	UP:	19° ±1.5°	Aileron trim tab	UP:	50° ±2°
Ailerons	DOWN:	14° ±1.5°	Aileron trim tab	DOWN:	42° ±2°
Flaps	UP:	0°	Rudder	LEFT:	25° ±1°
Flaps	DOWN:	15° ±1° / 25° ±1° / 45° +0/-2°	Rudder	RIGHT:	25° ±1°

(10) PILOT'S NOTES, MAINTENANCE MANUALS, REFERENCES

10.1 Manuals approved for use with this aircraft

- (a) Breezer Aviation Pilot Operating Handbook – Breezer Issue 1 or later approved revision
- (b) Breezer Aviation/Breezer Microlight Maintenance Manual Issue 1 or later approved revision.
- (c) Engine, propeller, parachute system and other fitted equipment manufacturer's Operating and Maintenance Manuals as appropriate to fitted powerplant and equipment, at their current issues.

10.2 The following placards are to be fitted:

- (a) Operating Limitations Placard (to be visible to the pilot)
Contains airspeed and powerplant limitations. See POH.
- (b) Loading Placard (to be visible to the pilot)
See POH.
- (c) Aerobatic Manoeuvres Placard (to be visible to the pilot)
See POH.
- (d) Occupant Warning Placard (to be visible to both occupants)
See POH.
- (e) Fuel Capacity Placard (to be located adjacent to the fuel gauge)
See POH.
- (f) Fuel Filler Placard (to be located adjacent to the fuel filler cap)
See POH.

CIVIL AVIATION AUTHORITY – SAFETY AND AIRSPACE REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

- (g) Oil Filler Placard (to be located inside the oil inspection cowling flap)
See POH.
 - (h) Parachute Release Placard (to be located adjacent to the release handle)
See POH.
 - (i) Parachute Warning Placards (to be located on the exterior of the aircraft)
One placard identifying the rocket exit area, and general warning placards on either side of the fuselage. See POH.
 - (j) Secondary Control Markings
Brake, choke, cabin heat, trim, flaps, fuel shut-off: see POH. Other secondary controls are to be placarded as per the associated POH supplement or normal aviation practice (if no associated POH supplement).
 - (k) Fuel/Cockpit Load Trade-off Placard (to be visible to the pilot)
See Annex D.
 - (l) ASI Markings
See Annex D.
 - (m) Powerplant Instrument Markings
Each maximum and, if applicable, minimum safe operating limit must be marked with a red radial line.
 - (n) Switches
All switches are to be marked with function and sense (up=on, down=off).
 - (o) Fuses and Circuit Breakers
All fuses and circuit breakers are to be marked with function and rating.
 - (p) Fireproof Metal Plate
Showing the aircraft nationality and registration marks (e.g. G-ABCD) to be mounted in a prominent position on the fuselage.
- (11) MANDATORY MODIFICATIONS / SERVICE BULLETINS / AIRWORTHINESS DIRECTIVES ETC.
See Annex A.
- (12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT
- Rate of Climb: Rotax 912ULS-01 – 1000 fpm at 75 mph/65 kt IAS
- Stall or Minimum Flying Speed: 30 mph/26 kt IAS at MTOW/idle/landing configuration.
35 mph/30 kt IAS at MTOW/idle/cruise configuration.

CIVIL AVIATION AUTHORITY – SAFETY AND AIRSPACE REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

Issue History

<u>Issue</u>	<u>Reason and Signatory</u>
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1	12/01/2018 Initial issue.
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A D Goudie

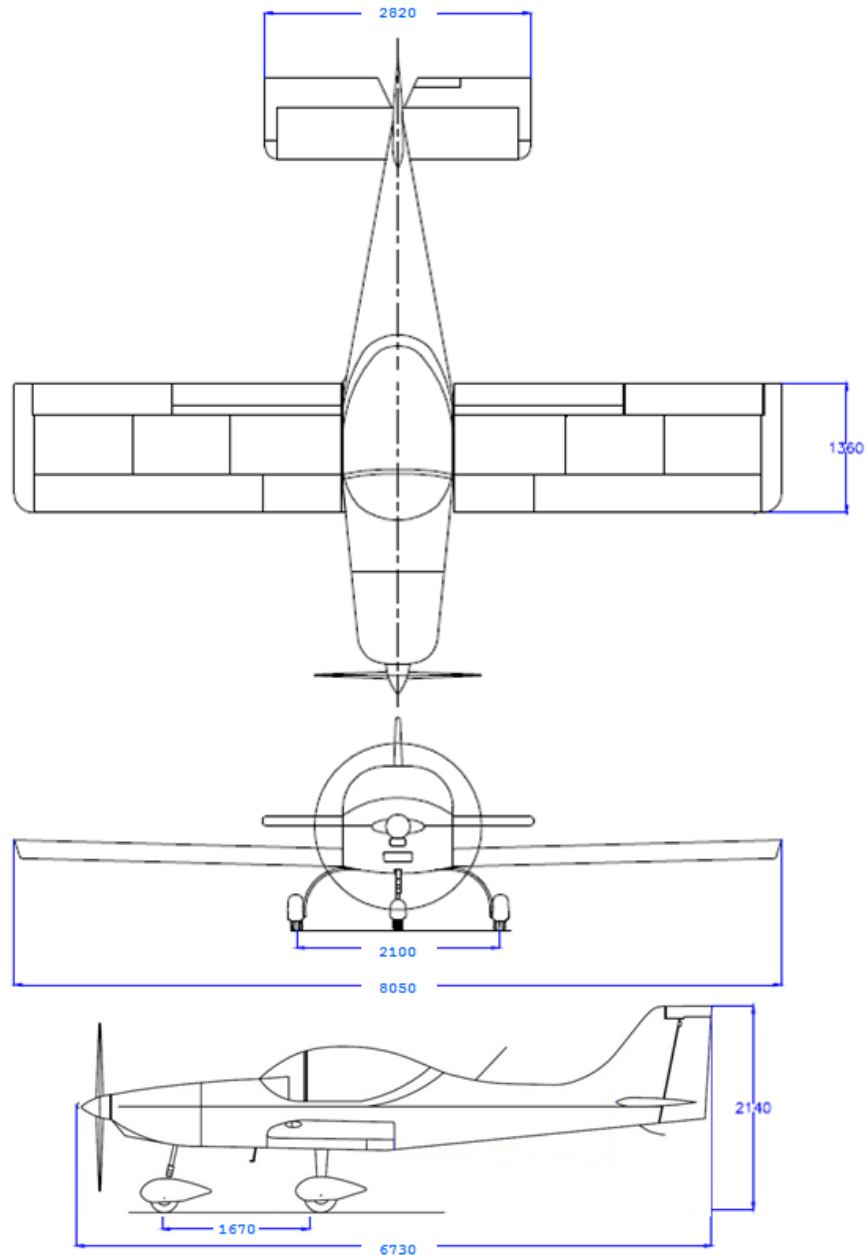
12 January 2018

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

Illustration Of Aircraft – 3 View

3-side-view Breezer B400 UK



CIVIL AVIATION AUTHORITY – SAFETY AND AIRSPACE REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

ANNEX A - MANDATORY MODIFICATIONS / SERVICE BULLETINS / AIRWORTHINESS DIRECTIVES ETC.

None at this issue.

ANNEX B - APPROVED OPTIONAL MODIFICATIONS (additional to BS-1 and standard options)

The installation of all optional modifications is to be inspected by an inspector from an Organisation approved by the CAA for the purpose and an entry made in the appropriate logbook(s). Note that other approved modifications may exist which are not mentioned here.

<u>Modification No.</u>	<u>Description:</u>
1	Kanardia Electronic flight instruments with digital and analogue display (Breezer installation)
2	Breezer cabin heater (CO monitor required)
3	Breezer wheel spats x 3
4	Whelan LED strobes with integrated position lights (Breezer installation)
5	Breezer carb' heat
6	Breezer landing lights
7	Breezer canopy 'open' lock
8	[RESERVED]
9	[RESERVED]
10	Facet back up fuel pump (Breezer installation)
11	Breezer adjustable rudder pedals
12	Breezer overhead sunblind
13	[Ground handling steering bar with axle spacers - unapproved equipment / not fitted during flight]
14	[Canopy and cowling cover (in hangar or touring) - unapproved equipment / not fitted during flight]

CIVIL AVIATION AUTHORITY – SAFETY AND AIRSPACE REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

15	Breezer tail protection skid
16	Breezer oil and coolant radiator covers

ANNEX C - WEIGHING INFORMATION

CG Datum:	Wing leading edge at root
Weighing attitude:	Canopy guiding rail (measured level with spirit level)
Main wheel moment arm:	570 mm aft of datum
Nose wheel moment arm:	-1100 mm forward of datum
Fuel moment arm:	-215 mm forward of datum (76 litres 55 kg)
Crew moment arm:	687 mm aft of datum
Baggage moment arm:	1620 mm aft of datum
Crew weights:	0 - 105 kg (each) (min cockpit load 55 kg)
Max baggage weight:	15 kg max (Each aircraft will have an individual, lower, baggage limit to remain within aft CG limit.)
Aft CG Limit:	448mm aft of datum
Forward CG Limit:	258 mm aft of datum

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-88 ISSUE: 1

ANNEX D - EXAMPLE PLACARDS

- (a) Fuel Limitations Placard (to be located near to fuel gauge)

Example; number of rows and precise numbers depend upon aircraft actual empty weight.

FUEL	
Capacity 76 litres 4-stroke, add no oil	
Cockpit Weight (kg)	Max Fuel Load (litres)
<i>180</i>	<i>3</i>
<i>170</i>	<i>17</i>
<i>160</i>	<i>31</i>
<i>150</i>	<i>45</i>
<i>140</i>	<i>59</i>
<i>130</i>	<i>72</i>
<i>127 or below</i>	<i>76 (full)</i>
MOGAS 95 RON minimum unleaded to EN228, UL 91 or AVGAS 100 LL	

- (b) ASI Markings

The ASI must* be marked with the main IAS limiting speeds as follows:

	mph ASI	knot ASI
White arc	30 - 78	26 - 68
Green arc	35 - 119	30 - 103
Yellow arc	119 - 150	103 - 130
Red arc	150 +	130 +

* Unless an alternative method is approved (for an EFIS installation, for example)