



# GENERAL DESCRIPTION OF U-15 PHOENIX



# CONTENTS:

<b>1</b>	<b>General description of airplane</b> .....	<b>2</b>
<b>2</b>	<b>Airplane determination</b> .....	<b>2</b>
<b>3</b>	<b>Manufacturer</b> .....	<b>2</b>
<b>4</b>	<b>Technical data</b> .....	<b>2-3</b>
4.1	Weights.....	2
4.2	Basic dimensions.....	2
4.3	Wing.....	2
4.4	HTU – horizontal tail unit.....	3
4.5	VTU – vertical tail unit.....	3
4.6	Strength requirements.....	3
4.7	Operating conditions.....	3
4.8	Operations and servicing.....	3
<b>5</b>	<b>Technical description</b> .....	<b>3-5</b>
5.1	General.....	3
5.2	Fuselage.....	4
5.3	Wing.....	4
5.4	Undercarriage.....	4
5.5	Control lines.....	4
5.6	Propulsion system.....	4
	Engine.....	4
	Propeller.....	4
	Fuel tanks.....	4
5.7	Pitot-static system.....	5
5.8	Electric system.....	5
5.9	Instrumentation.....	5
5.10	Radio-navigation equipment.....	5
5.11	Other equipment.....	5
<b>6</b>	<b>Additional requirements</b> .....	<b>5</b>
6.1	Determination of the operation and maintenance system.....	5
<b>7</b>	<b>Price and delivery conditions</b> .....	<b>6</b>
<b>8</b>	<b>Airplane drawing</b> .....	<b>7-10</b>
8.1	Three-view drawing of airplane.....	8
8.2	Photo documentation of exterior.....	9
8.3	Photo documentation of interior.....	10
<b>9</b>	<b>Company information</b> .....	<b>11</b>

## 1 General description of airplane

U-15 PHOENIX airplane is aerodynamically controlled airplane with maximum take-off weight of 600 kg, stall speed not exceeding 75 km/h and two side-by-side seats equipped with full controls.

It is characterized by very good glide-ratio, high standard of processing and very low aerodynamic drag. Thanks to these characteristics Phoenix achieves low fuel consumption and extremely good endurance (flight range) and can be used for soaring as well.

## 2 Airplane determination

U-15 Phoenix airplane is all-composite airplane designed and tested under ELSA category, based on UL-2 regulations (MTOM 600 kg) managed by LAA CR according to Opt-Out EASA UL and ASTM regulation for LSA category. Aircraft could be registered in Czech Republic, France, USA and Slovakia at the present time. Based on special request aircraft could be delivered as a kit also.

## 3 Manufacturer



Vrážská 24  
150 00 Praha 5  
[www.pure-flight.cz](http://www.pure-flight.cz)

## 4 Technical data

### 4.1 Weights

Maximum take-off mass (MTOM)	600	kg
Empty weight from	320	kg
Max. crew weight	220	kg
Min. crew weight	65	kg
Max. luggage weight	20	kg
Center of gravity range of empty airplane	28-32%	bsat

### 4.2 Fuselage dimensions

Length	6,50	m
Height	1,30	m

### 4.3 Wing

Used profile	SM701
Wing span	15,00 m / 10,60 m
Root rib depth	1,100 m
Wing area	12,36 m <sup>2</sup>
Aspect ratio	18,20

#### 4.4 HTU – horizontal tail unit

Used profile	FX-150/30	14%
Span	2,50	m
Area	1,36	m <sup>2</sup>
Elevator area	0,50	m <sup>2</sup>

#### 4.5 VTU – vertical tail unit

Used profile	FX-150/30	12%
Height	0,94	m
Area	0,76	m <sup>2</sup>
Rudder area	0,32	m <sup>2</sup>

#### 4.6 Strength requirements

Strength requirements are designed and tested under ELSA category, based on UL-2 regulations (MTOM 600 kg) managed by LAA CR according to Opt-Out EASA UL and ASTM regulation for LSA category

#### 4.7 Operating conditions (valid for 15m wingspan)

Never exceed speed	VNE 220 km/h IAS
Stall speed	VSO 73 km/h CAS
L/D	1:30
Temperature range	-25°C to +40°C
Humidity range	0 to 100%
Operating pressure altitude	0 to 5700 m ISA
Flight endurance	8 hours + 30 min. reserve
Flight range at 180 km/h cruise speed	over 1 500 km
Takeoff and landing distance at MTOM	200 m
Min. recommended RWY length	300 m

#### 4.8 Operations and servicing

The operating hours and maintenance system are specified in the Airplane Operation and Maintenance Manual.

### 5 Technical description

#### 5.1 General

U-15 Phoenix is a two-seat low-wing classic concept airplane a fixed tail wheel type landing gear (taildragger). The whole aircraft is built from composite materials.

## 5.2 Fuselage

Fuselage is created as a pure composite shell with bulkheads. A sandwich is used only in the HTU area. In the fuselage is a two-seat cockpit with seats next to each other. There is a double control in the cockpit. Luggage compartment is behind the seats.

## 5.3 Wing

Wing is fully-composite designed as a sandwich shell. The attachment to the fuselage is made in a typical way for gliders – it means by two pins in the root rib and the interconnection of the beams of both wings. The wing is equipped with a flaperon over the entire span and aerodynamic brakes. The wing has removable wing extensions.

## 5.4 Undercarriage

Undercarriage is fixed (non-retractable), taildragger type, with the main wheels sprung by a composite spring. Main wheels dimensions are 350x100, tail wheel has dimension of 200x100. Both main wheels are equipped with hydraulic disc brakes.

## 5.5 Control lines

Control lines are combination of cables and pushrods. The control of flaperons and aerodynamic brakes is done by pushrod, the control of the rudder is done by cable and the control of the elevator is done by pushrod. Trim is adjusted by a spring. The main wheel brakes are controlled by a single break lever on the pilot control stick.

## 5.6 Propulsion system

### Engine

Engine producer:	Bombardier-Rotax GMBH
Engine type:	912 ULS / 912 UL
Engine weight:	75 kg
Max. power:	100 HP / 80 HP
Max. RPM:	5800 rev./min.
Fuel:	MOGAS

### Propeller

Propeller type:	2-blades,feathering, in flight adjustable
Diameter:	1600 mm
Weight:	5,5 kg

### Fuel tanks

Position:	in the wings
Volume:	2x 50 l

## 5.7 Pitot-static system

The pitot static system has a pitot tube located at the leading edge of the left wing. Conduction of static and total (or compensated) pressure is ensured by PE pipes. Altimeter, air speed indicator, vertical speed indicator or EFIS are connected to the pitot-static system.

## 5.8 Electric system

The electrical system uses a voltage of 12V DC. Electrical system ensures the function of on-board instruments, radio, transponder, GPS, EMS, EFIS etc. The source is a 12 V / 14 Ah battery. The system is well design for flights with and without engine running and starts during flight.

## 5.9 Instrumentation

The airplane is equipped with the following instruments:

- Compass
- Air speed indicator
- Fuel Indicator L/R
- Altimeter
- Variometer
- Slip indicator
- Complete EMS (Engine Monitoring System)

On request:

- high performance navigation system for gliders
- compensated variometer
- flight recorders

## 5.10 Radio-navigation equipment

The aircraft is equipped by 8,33 radio. S-mode transponder, navigation GPS system , ADS-B, Flarm on request

## 5.11 Other equipment

The aircraft is equipped with a ballistic rescue system.

Based on GPS system aircraft could be equipped by autopilot.

## 6 Additional requirements

### 6.1 Determination of the operation and maintenance system

A maintenance system and a test program to increase the service life have been developed for the aircraft.

The scope of work during individual inspections is specified in the Operation and Maintenance Manual.

## 7 Price and delivery conditions

The aircraft is delivered in ready-to-fly condition, equipped in accordance with confirmed order.

The price may be different according to specific requirements of the customer.

The final price depends on the exact specifications, equipment and customer requirements.

Terms of delivery:

- EXW production plant (Czech Republic)
- Delivery date s approx. 10 months from the paid proforma invoice. Exact delivery time is confirmed at time of order.

Payment Terms:

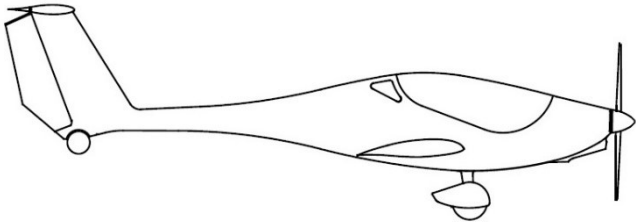
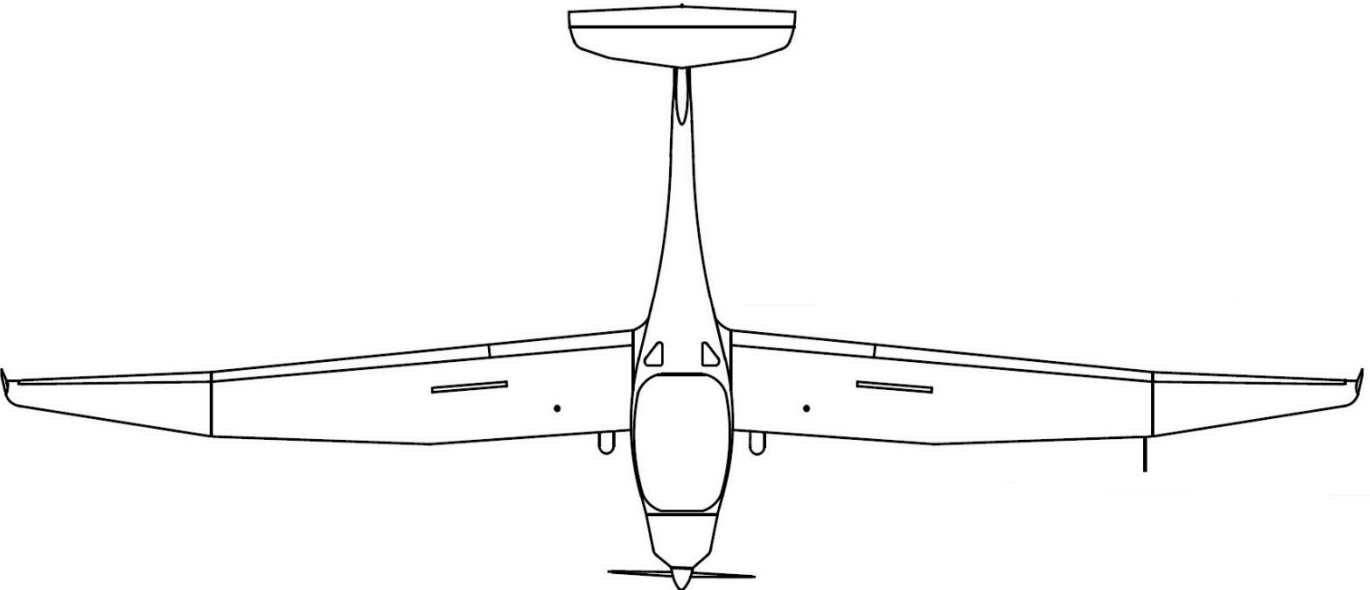
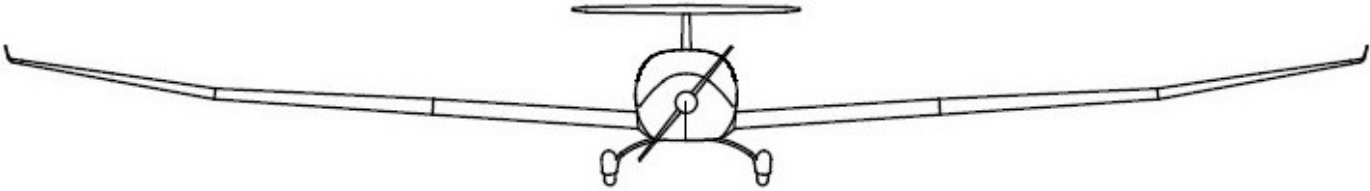
- Price without VAT
- Advance payment 30% to order the plane
- Advance payment 35% 5 months before completion
- Final payment of 25% 3 months before completion
- Balance before shipment

The logo for PURE FLIGHT features a light blue circular background on the left containing a white stylized aircraft silhouette. To the right of the circle, the words "PURE" and "FLIGHT" are written in a large, white, sans-serif font, with "PURE" positioned above "FLIGHT".

PURE FLIGHT

# 8 Airplane drawing

## 8.1 Three-view drawing of airplane



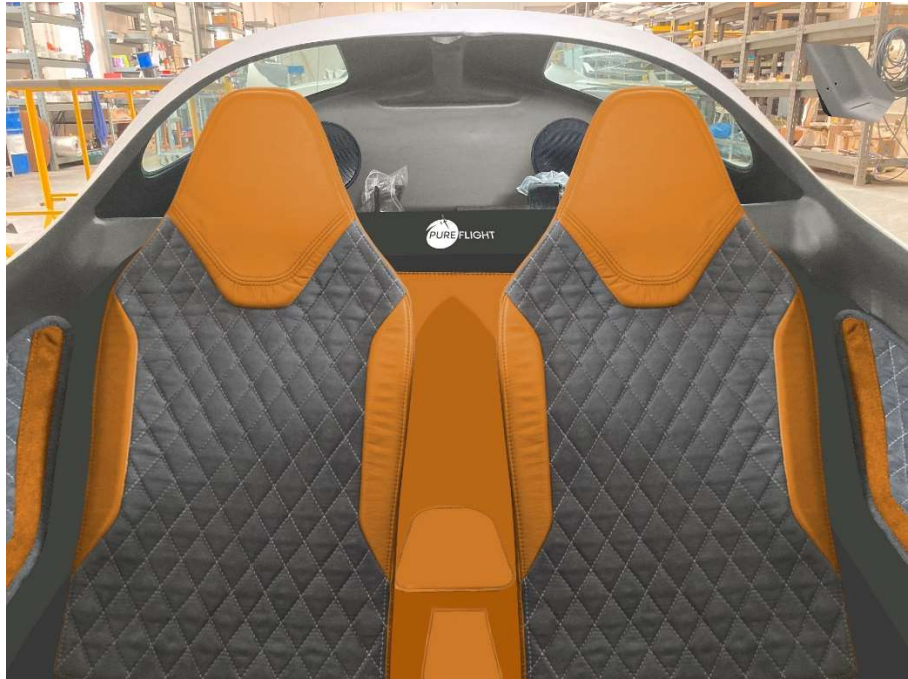


## 8.2 Photo documentation of exterior



The photos correspond to a specific aircraft with a customized specification

**8.3 Photo documentation of interior**



The photos correspond to a specific aircraft with a customized specification

## 8.4 Photo documentation of dashboard



## 9 Company information

**PURE FLIGHT s.r.o.**

Na vrcholu 2480/14  
110 00 Praha 3  
Czech Republic

ID: 49680676  
VAI ID: CZ49680676

Contacts:

[info@pure-flight.cz](mailto:info@pure-flight.cz)  
[petr.marecek@pure-flight.cz](mailto:petr.marecek@pure-flight.cz)  
[zdenek.nemec@pure-flight.cz](mailto:zdenek.nemec@pure-flight.cz)

Web:  
[www.pure-flight.cz](http://www.pure-flight.cz)



**We fulfill your aviation dreams**