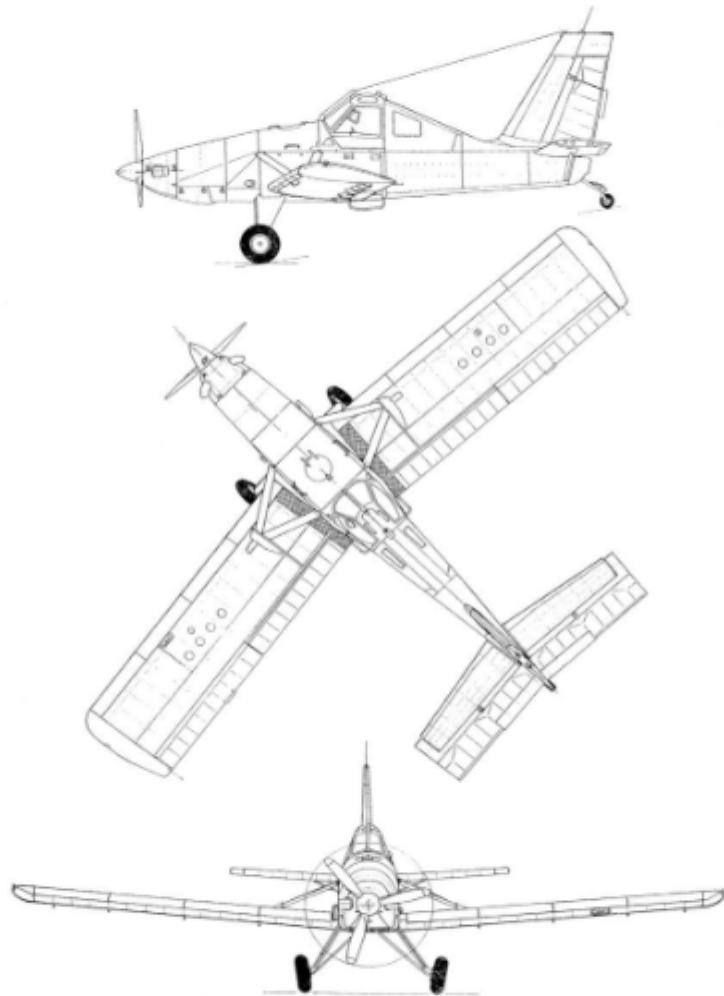


# New PZL-106 KRUK – Basic information



## Weights

MTOW	3500kg (es per EASA TC basis)
Empty weight	1700 kg
Useful load	1800 kg

## Dimensions

Span	15.00 m / 49.21 ft
Wing area	31.69 m <sup>2</sup> / 340.88 ft <sup>2</sup>
Main wheel size	29.00 x 11
Wheel track (static)	3.10 m / 10.17 ft

# New PZL-106 KRUK – Main features

- Pratt & Whitney PT6A-34AG 750 SHP with 3 blade Hartzell propeller and heavy duty oil cooler. Optional Full life Air filter
- 1650 l/435 US Gal composite hopper with structural rocker arms
- Selection of Spray systems with streamlined lowered booms with 38/50 nozzles/Atomizers
- Landing gear for unprepared runways including oleo-pneumatic absorbers, 29"x11 high flotation tires and wheels with dual 3-piston brakes, brake pump and parking brake
- Mechanical Flight control system in 3 axis, including slotted flaps and trimming system including electrical trimmers for rudder and aileron.
- Instrumentation including airspeed indicator, altimeter, magnetic compass, OAT indicator, Integrated Engine Monitoring Display, Stall warning system and fuel flow meter. Optional NAV/COM
- 300 Amp Starter Generator including generator control
- 1000 l/264 US Gal Fuel tank
- Air Conditioning system
- Adjustable pilot seat with 4 points safety belt and harnesses



# Kruk design features – Productivity, Cost-efficiency and Safety benefits

## Productive and Reliable

- Robust and Reliable westernized Systems – + 80% of aggregates from US suppliers
- 435 Gal/1650 l Composite Hopper with weight and quantity control system
- Different options for Agro equipment

## Safety and Comfort

- Spacious 40G resistant cockpit module with adjustable pilot seat
- Easy accessible instrumentation with integrated engine display and customizable NAV/COM
- Carbon activated filter for avoidance of chemicals entry



- 272 sales and deliveries
- +50 aircraft currently operating in Ecuador, Brazil and Argentina

## The “wing” Aerodynamics and Structure

- Slotted wing structure for safer and faster U-turns
- High tolerance to off-optimum conditions and easy access to clean and maintain
- 1000 liters Fuel Capacity

## Prepared for austere locations

- Robust LG with Oleo pneumatic absorbers and tail LG vibration damper for unprepared runways
- 29”x11 high flotation tires and wheels with dual 3-piston brakes, brake pump and parking brake

## Powerplant Efficiency

- Lower fuel burn and maintenance costs
- Higher endurance and better aerial application in working speeds
- Optional Full life Air Filter

# Aircraft Related Services





## Operational information

# Kruk Operational features – Maintainability and Operational benefits

## PT6-34AG advantage

+6,500 operators in +170 countries, +36,000 PT6A engines since the 1960s, +300 million flying hours.  
Easy accessible logistics support.

## Advantage over half shell fuselage

Easy to disassemble truss covers enables to clean the fuselage from the chemicals and dust

Sealed truss is pressurized, and checking of the pressure provides easy detection of cracks on joints.

Airframe Service Life: up to 24 000 FHs

## Advantage over chemicals control

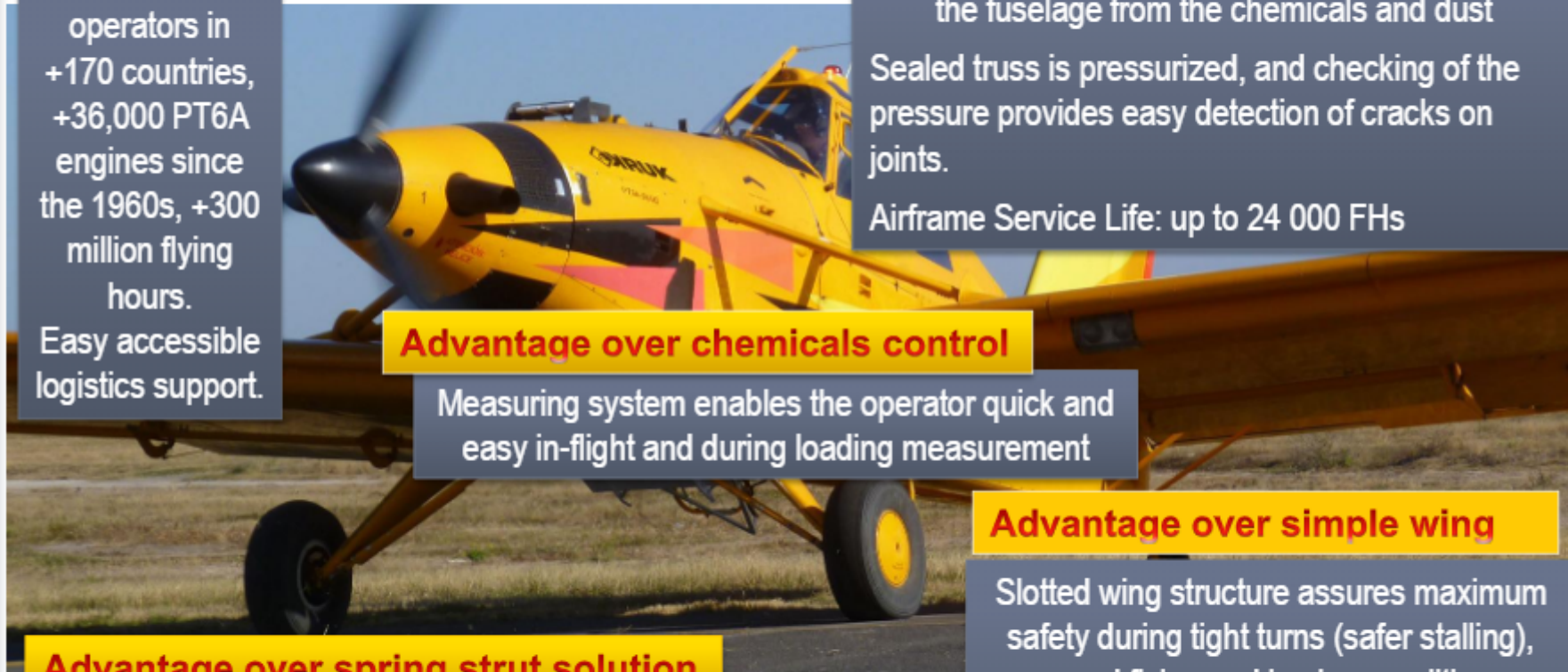
Measuring system enables the operator quick and easy in-flight and during loading measurement

## Advantage over spring strut solution

built to handle 30 to 100 take-offs and landings every day from rough and unprepared strips

## Advantage over simple wing

Slotted wing structure assures maximum safety during tight turns (safer stalling), good flying and laminar qualities especially during manoeuvring and aerial application operations



# New KRUK – Specification

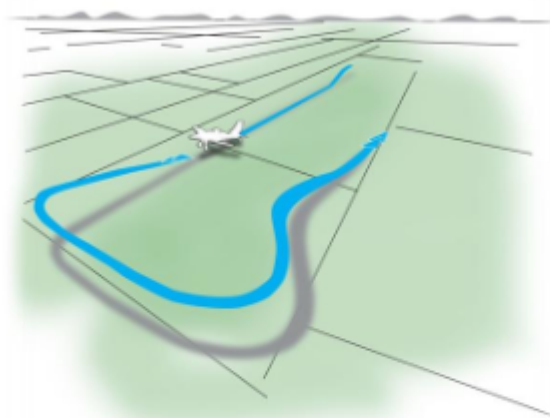
Engine Type	P&W PT6A-34AG	Engine SHP	750	Propeller	Hartzell HC-B3TN-3D
MTOW	3500 kg (as per EASA TC basis)	Empty weight	1700 kg	Useful load	1800 kg
Span	15.00 m / 49.21 ft	Hopper capacity	1650 L / 435 US gal.	Fuel capacity	1000 L / 264 US gal.

Aircraft	New Kruk BTU-34
Certified MTOW (kgs) according to EASA TC basis	3500
Max Hopper Capacity	435 USGal
Max Fuel Capacity (Certified) (kgs) – assuming 0.8 kg/l	800 kgs
OEW (Assuming same OEW/MTOW ratio)	1650 kgs
Max PL with 514 kgs of fuel (170 USGal)	1340 kgs
Max FW with 1050 Kgs of PL	800 kgs

**With the same configuration, the new Kruk as per Type Certificate is carrying more payload than larger competitors with MFW. Whenever the needs of load are minor, the Turbokruk can fly over 25% more time, thus reaching further areas and not landing so many times..**

# New KRUK – Performance

<b>Cruise speed</b>	134 mph	215 km/h
<b>Working speed</b>	100-124 mph	161-200 km/h
<b>Stall speed (without flaps)</b>	65 mph	105 km/h
<b>Stall speed (with flaps)</b>	63 mph	102 km/h
<b>Stall speed at landing</b>	50 mph	80 km/h
<b>Range</b>	621 miles	1 000 km
<b>Take-off run</b>	920 ft	280 m
<b>Climb rate</b>	1102 fpm (with certification basis MTOW)	336 mpm



Assumptions: chemicals constant volume application, 1,85 Gal/acr, 30 m swath width, working speed and ferry speed acc to commercial data, turning time (35 secs for Kruk), Treated size: 115 Ac, dist. to airport 10 mi

	Larger competitor	New Kruk	Smaller competitor
Treated Ac		115	
Productivity (Ac/hr)	229	286	231
Efficiency (Ac/hr)	186	229	198
Flight time (hrs)		0,5	

Project efficiency take into account time not spraying, or more simply put – the area treated divided by the time from takeoff to takeoff. Efficiency is a reflection of ground support personnel and equipment.

Productivity is calculated using the total treatment area and total flight time. Since the time needed to service the aircraft is not used in the calculations, productivity is always greater than efficiency. It can be viewed as area treated from takeoff to landing.





Forecasting the future



# Aerial Application Aircraft Market Trends

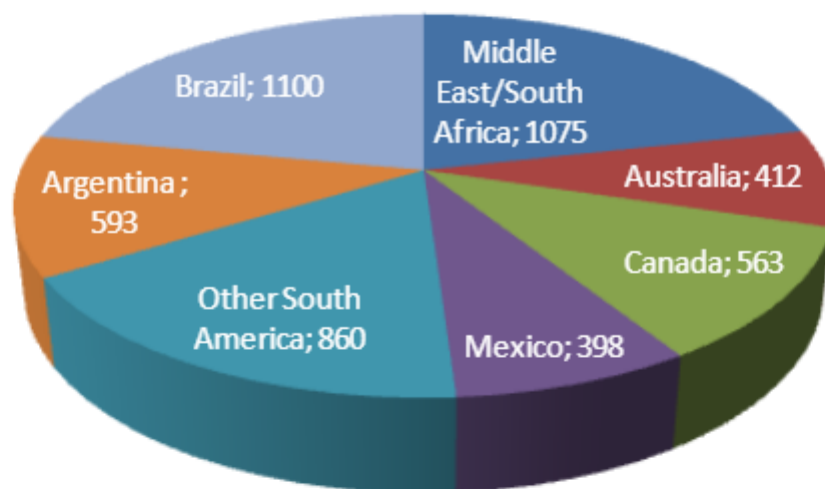
## Aerial Application

US

6000 a/c (52.4% Ag Aircraft)

RoW

5000 a/c (35.5% Ag Aircraft)



CAGR – 4.27%

Attrition/Replacement – 1.67%

Av. Age > 15 years

Aerial App Market covers i.e.  
Agricultural, Natural Protection,  
Plague Erradication or Firefighting.