RIEGL VPX-1
with *RIEGL* VUX-Series Laser Sensors fully integrated

The *RIEGL* VPX-1 is a lightweight and streamlined pod that carries a complete airborne laser scanning platform for easy and quick mounting on suitable support arms of helicopters.

Being perfectly suited for corridor mapping applications, the platform consists of a *RIEGL* laser scanner (VUX-120[23], VUX-160[23], VUX-180[24], VUX-240[24]), three Phase One iXM high resolution digital cameras and an appropriate IMU/GNSS system.

The airborne laser scanner's high effective repetition rate on the ground and the olique orientation of the cameras (forward / nadir / backward) especially account for the specifics of power line mapping applications, but also make it a perfect tool for high-density city mapping at altitudes of up to 1200 m.

Source KADRAN/HELIFIRST ©

RIEGL VPX-1
Helicopter Pod for Airborne Laser Scanning (ALS)

Typical Applications

• Corridor Mapping • Archeology and Cultural Heritage Documentation • Terrain and Canyon Mapping • Flood Zone Mapping • Surveying of Urban Environments • Topography in Open-Cast Mining • Construction-Site Monitoring • Power Line, Railway Track, and Pipeline Inspection • Accident Investigation • Emergency Management Planning

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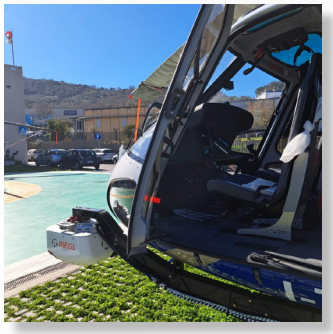
RIEGL Sensor System

System Components	1x *RIEGL* LiDAR sensor 1x IMU/GNSS unit with GNSS antenna 1x control unit 1x laptop or *RIEGL* VQ-IU interface unit 3x digital cameras (optional) 1x flight management system (optional)				
Main Dimensions	570 mm x 372 mm x 340 mm				
Total Weight	approx. 20 kg (depending on IMU/GNSS unit and camera configuration)				
IMU/GNSS Unit	AP+30	AP+50	AP+60[1)]	*RIEGL* RiLOC-E[25]	*RIEGL* RiLOC-F
accuracy Roll, Pitch / Heading IMU sampling rate position accuracy (typ.)	0.010° / 0.025° 200 Hz 0.02 m - 0.05 m	0.005° / 0.010° 200 Hz 0.02 m - 0.05 m	0.0025° / 0.005° 200 Hz 0.05 m - 0.1 m	0.010° / 0.025° 700 Hz 0.02 m - 0.04 m	0.005° / 0.020° 700 Hz 0.02 m - 0.03 m
Camera Type	**Lens**				
Phase One:					
option 1:	Cam1: +45° forward, 35 mm	Cam2: 0° nadir, 35 mm	Cam3: -45° backward, 35 mm	or	0° nadir
option 2:	Cam1: +45° forward, 80 mm	Cam2: 0° nadir, 35 mm	Cam3: -45° backward, 80 mm	or	0° nadir
option 3:	Cam1: +45° forward, 80 mm	Cam2: 0° nadir, 50 mm	Cam3: -45° backward, 80 mm	or	0° nadir
option 4:	Cam1: +30° forward, 35 mm	Cam2: 0° nadir, 35 mm	Cam3: -30° backward, 35 mm	or	0° nadir
option 5:	Cam1: +30° forward, 110 mm	Cam2: 0° nadir, 110 mm	Cam3: -30° backward, 110 mm	or	0° nadir
Sony ILX-LR1:					
option 1:	Cam1: +45° forward, 24 mm	Cam2: 0° nadir, 24 mm	Cam3: -45° backward, 24 mm	or	0° nadir
option 2:	Cam1: +30° forward, 24 mm	Cam2: 0° nadir, 24 mm	Cam3: -30° backward, 24 mm	or	0° nadir
Additional Information	quick installation & removal using the existing mounts (e.g. Meeker Aviation camera system); mounting and operation at enduser's responsibility; area exposed to wind 0.114m²				

1) Only for *RIEGL* VUX-240[24] laser scanner.

RIEGL LiDAR Sensors

RIEGL **LiDAR Sensor**	***RIEGL*** **VUX-120[23]**	***RIEGL*** **VUX-160[23]**	***RIEGL*** **VUX-180[24]**	***RIEGL*** **VUX-240[24]**
PRR / **eff. meas. rate**	2.4 MHz / 2,000,000 pts/sec	2.4 MHz / 2,000,000 pts/sec	2.4 MHz / 2,000,000 pts/sec	2.4 MHz / 2,000,000 pts/sec
accuracy / precision	10 mm / 5 mm	10 mm / 5 mm	10 mm / 5 mm	20 mm / 15 mm
FOV (scan pattern)	100° (NFB)	100° (NFB)	75°	75°
lines per sec.	400 lps	400 lps	800 lps	600 lps
max. measuring range natural targets ρ ≥ 20 % natural targets ρ ≥ 80 %	 760 m 1430 m	 980 m 1800 m	 810 m 1520 m	 1200 m 2180 m
laser class	class 1	class 1	class 3R	class 3R
weight	2.3 kg	2.65 kg	2.7 kg	4.2 kg



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