

# PAN & TILT UNIT

Powerful unit for WROVs down to 6000m water depth

## Key features

- Single or dual axis units
- Rugged construction and mounting holes
- High torque – heavy payloads can be added
- 90 or 120 Nm units (and new compact 20 Nm units)
- RS-232, RS-485 (2 wire) or 100 Mbps Ethernet
- Absolute position sensor
- $\pm 0.1$  deg accuracy;  $\pm 0.01$  deg on request
- 24 to 48 VDC input voltage range
- No rotating connector at unit
- External or internal compensator
- 6,000 Meter (20,000 ft)



**KPT-45**  
Dual axis - External compensator



**KPT-45 TITANIUM**  
Dual axis - External compensator



**OUR NEW KPA-20**  
20 Nm

# KPT- 45 SPECIFICATIONS

## ELECTRICAL:

<b>Input Voltage</b>	24 - 48 VDC
<b>Drive Current</b>	Up to 2.5 A each axis
<b>Communication</b>	RS-232, RS-485 (2 wire) or 100 Mbps Ethernet (down to 1000m, 3000 ft)
<b>Connector</b>	Customer selectable (Seacon 5 pin standard)

## MECHANICAL:

<b>Angular Limits</b>	Pan range: $\pm 175^\circ$ Tilt range: $\pm 175^\circ$ (depending on yoke)
<b>Angular Speed</b>	Up to 30 deg/sec (Pan and Tilt simultaneously)
<b>Torque @24VDC, performance at 48VDC even better</b>	90 Nm holding torque *) - 75 Nm (55 lb/ft) < 8 deg/sec - 60 Nm (44 lb/ft) < 15 deg/sec - 45 Nm (33 lb/ft) up to 20 deg/sec
<b>Max Payload</b>	100 kg (220 lbs)
<b>Position Feedback</b>	12 bit accuracy absolute, approx. $\pm 0.1^\circ$ 15 bit $\pm 0.01^\circ$ on request
<b>Gears</b>	Precision strain wave
<b>Backlash</b>	< 3 arc minutes (< 0.05°)
<b>Compensator</b>	External or Internal oil filled diaphragm

## ENVIRONMENTAL:

<b>Operating Depth</b>	Down to 6,000 m (20,000 ft)
<b>Temperature Range</b>	-20°C to +50°C (-4°F to +122°F) operating -30°C to +60°C (-22°F to +140°F) storage

## OTHERS:

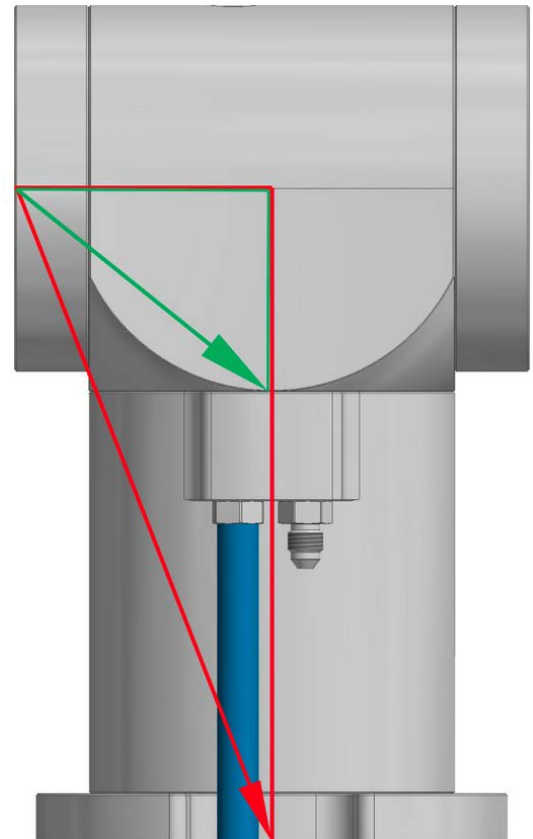
<b>Size (H/W/D)</b>	260 x 160 x 114 mm (Flange Ø147 mm) 10.24 x 6.3 x 4.49 inch (Flange Ø5.79 inch)
<b>Materials</b>	Hard anodized Aluminum Titanium
<b>Weight in Air</b>	8.8 kg (19.46 lbs) (Aluminum unit)
<b>Weight in Water</b>	5.4 kg (11.9 lbs) (Aluminum unit)

\*) 120 Nm unit available with different gear ratio

## Our customers:

- DeepOcean
- Swire Seabed
- Ocean Infinity
- University of Bergen, Norway
- Reach Subsea
- REV Ocean
- Oceaneering
- Norbit Subsea
- Abyss Aqua
- Kongsberg Maritime
- OceanPact

Our unique design is more robust compared to traditional units. Shorter lever arm is important.



## Available compensator interfaces:



Flared JIC 37°  
Fitting

1/8" BSPP Tread

PB4 hose

## KYSTDESIGN AS

Eikeskogvegen 80 - 5570 Akdsal, Norway  
post@kystdesign.no - Phone: +47 52 70 62 50

www.kystdesign.no