
# Vortex V-180-FR survey boom arms

The vortex 180-FR (Full Reset) survey boom arms are designed to avoid the shoulder function damage typically seen with survey boom arms that are ridged in design.

The 180-FR achieves this through a ceramic friction clutch design using a friction material that does not swell in water or at depth. The ceramic clutch allows ‘slippage’ of the arms around a central rotational fulcrum when the arms hit a rock on the seabed for example. In the event  slippage occurs, simply rotate the arms back into position and continue operations. No down time.

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## TECHNICAL SPECIFICATIONS

- Length of boom arm 1625mm
- Length of overall tool = 1550mm
- Height 270mm
- Width 320mm
- Weight in air 35Kg each arm
- Weight in water 25Kg each arm
- **Movement Range:**
- Option 1 without knuckle = Up / Down 45-0-45º (90º)
- Option 2 with knuckle = 90-0-90º (Full 180º)
- Stowage fore and aft, Left / Right 90-0-90º (Full 180º)
- Pan and Tilt: Fit P+T unit from which ever manufacturer you prefer. Hydraulic hoses provided ready to connect camera at end of boom arms.
- Hydraulic connections to ROV. Use load holding valves. Hydraulic hoses are all -4 jic female swivel with field serviceable fittings

  **Slew left, Slew right.**

  **Boom up, Boom down.**

  **Knuckle up, Knuckle down.**

  **Pan left, Pan right.**

  **Tilt up, Tilt down.**

  **Case drain to tank.**
- Hydraulic supply:

  1000psi (68 bar) minimum 3000psi (206 bar) maximum

  4.2 gpm (16 lpm) minimum
- Construction 316 SS and HE 30 Hard Anodised Aluminium
- Shipping box dimensions and weight = 407 lb (185kg)
- L 1160mm x W 850mm x H 550mm.
- Depth rating = 3000 mtr. 9842 foot seawater

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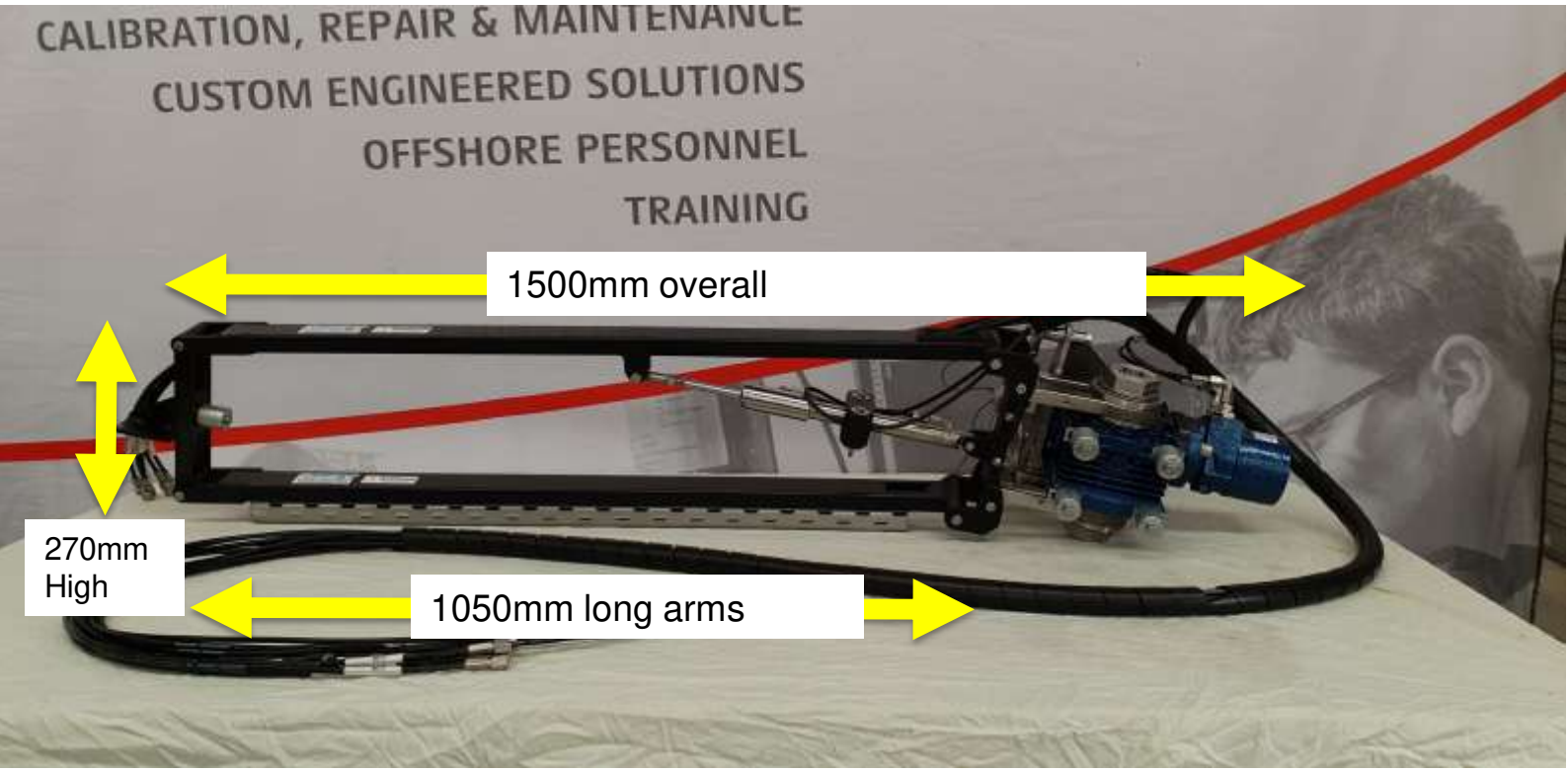


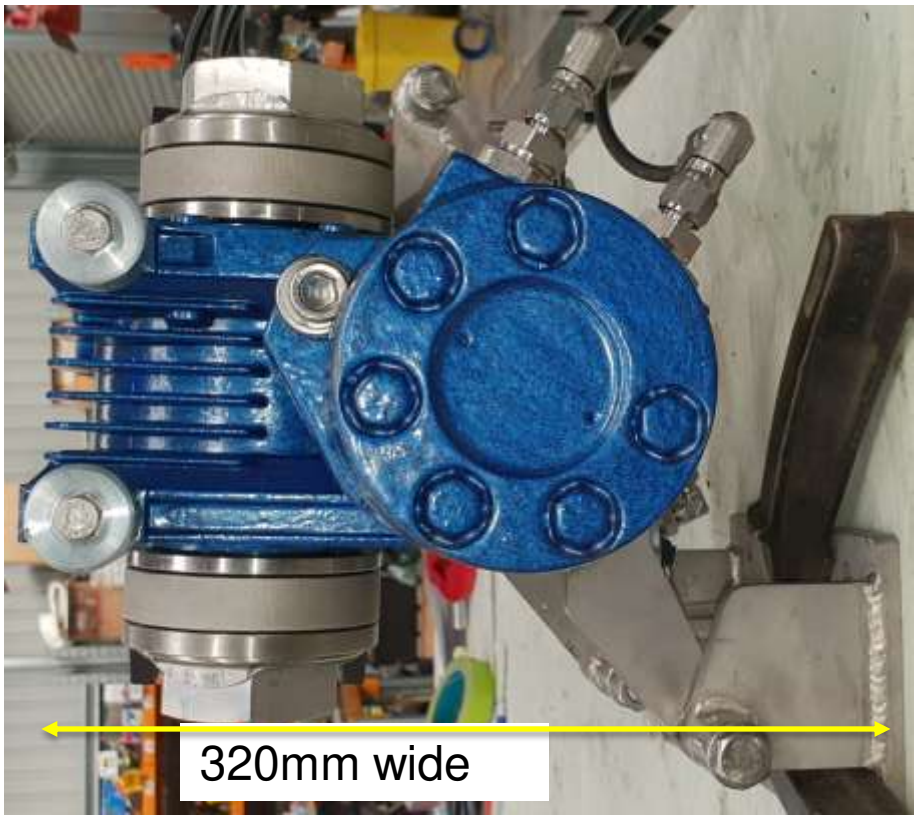


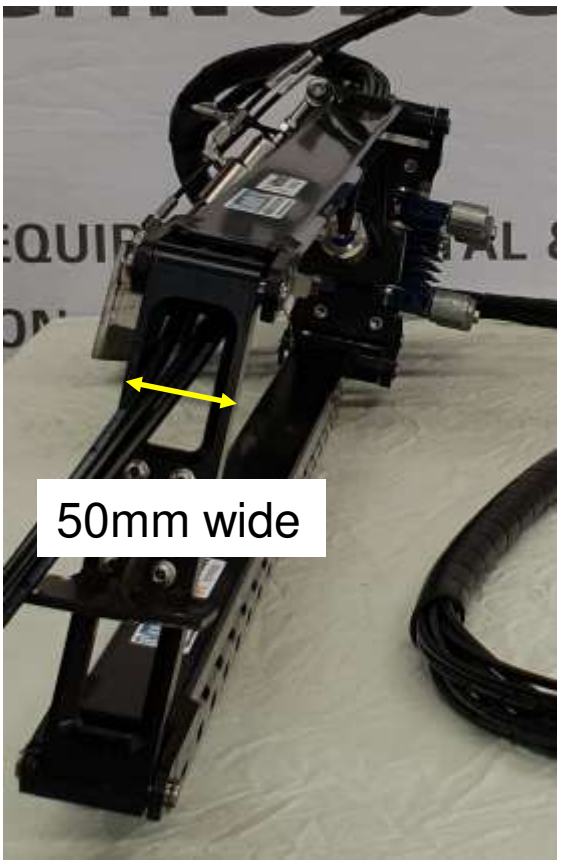


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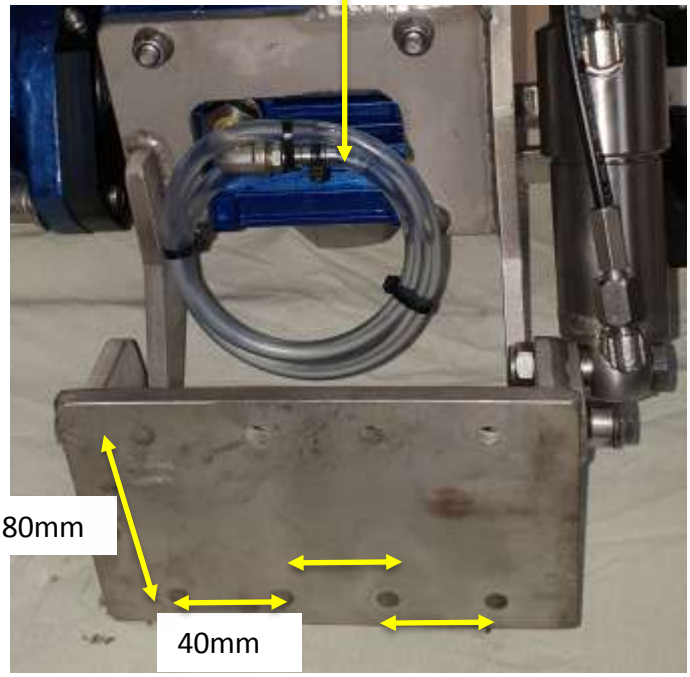
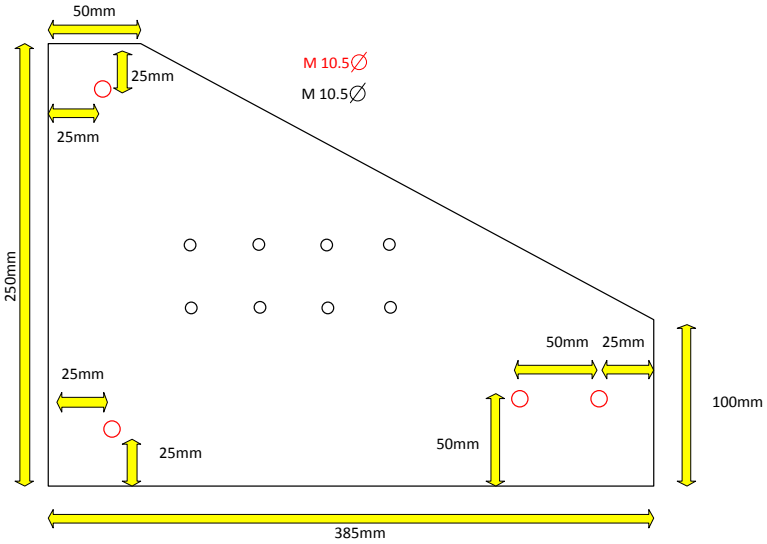
# 6. OPERATION

## 6.1 Mounting to ROV or work skid.

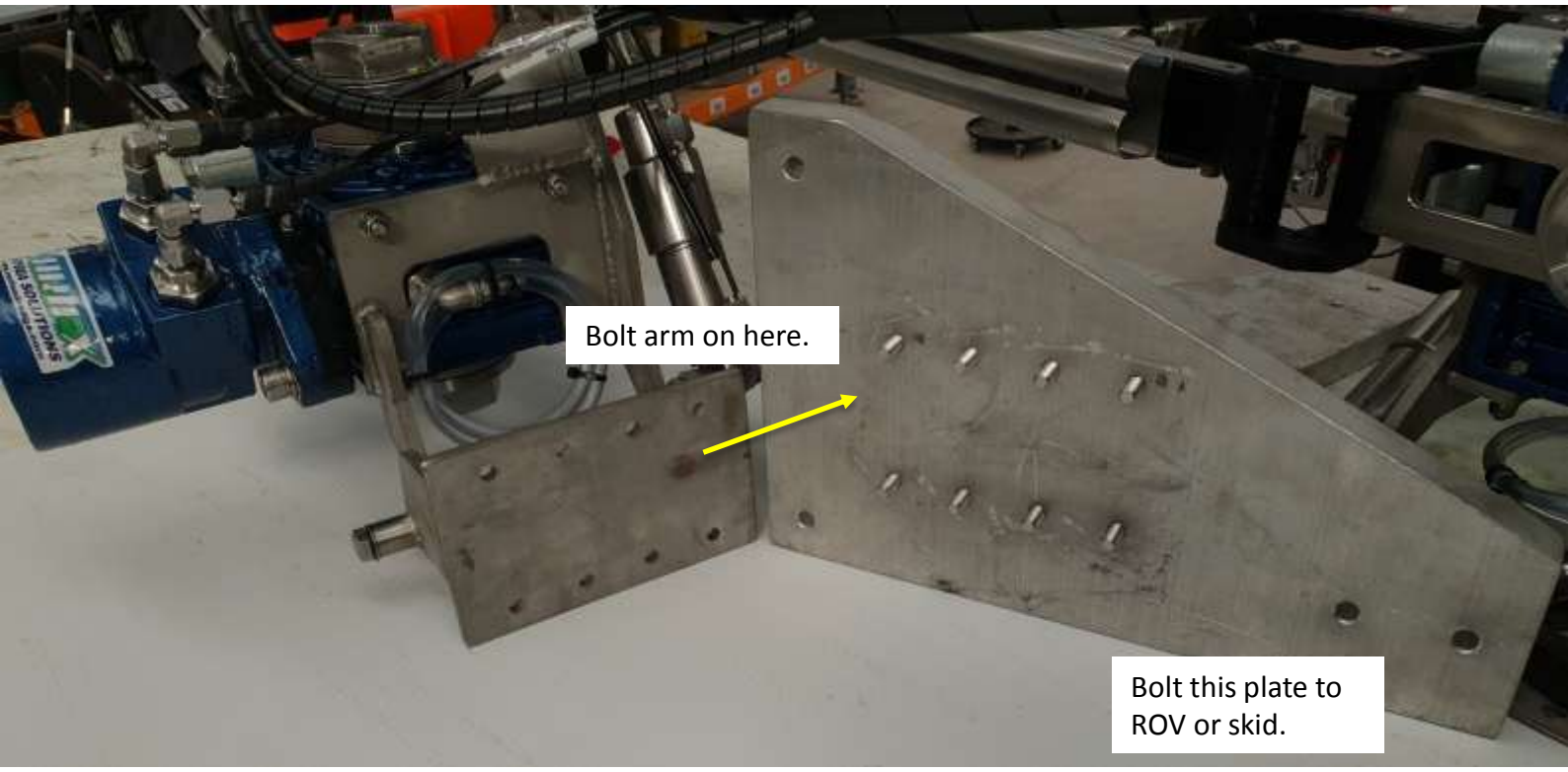
**Both arms are identical so can be fitted to either PORT or STBD side.**

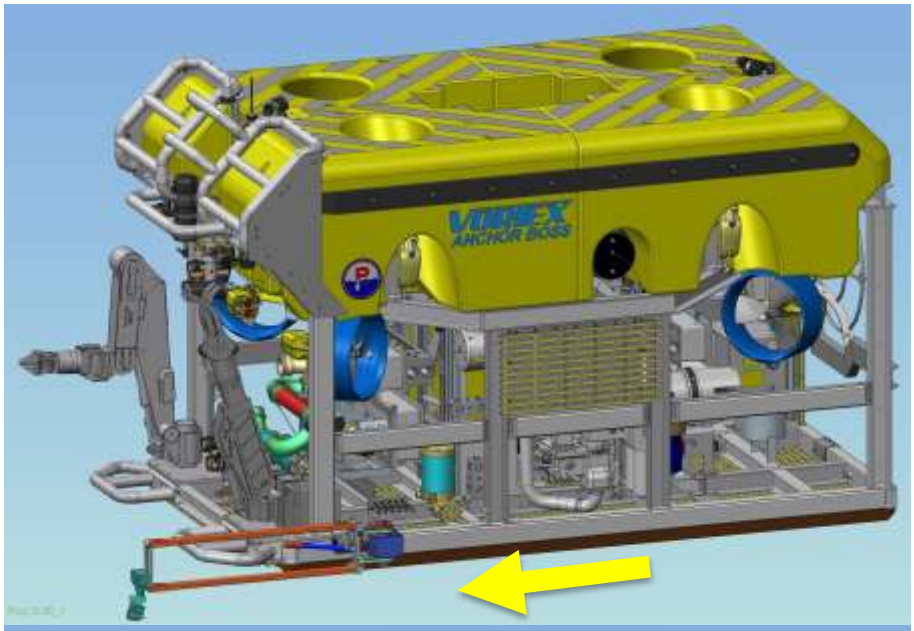
Ensure this compensator tube is filled with oil and has a small air bubble to allow for compression at depth.

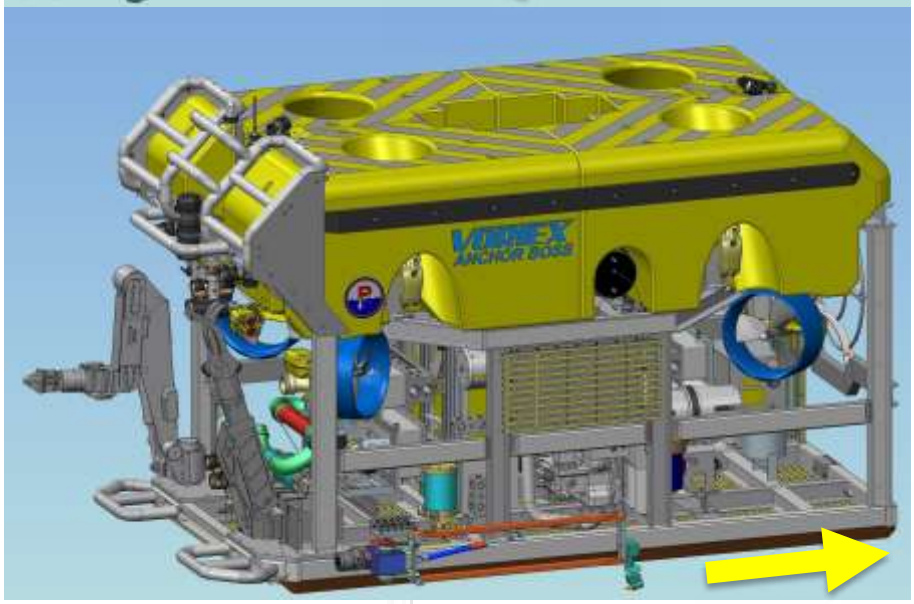


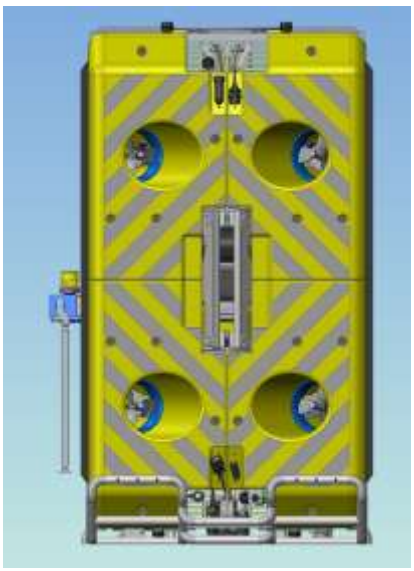

Drill your arm mount location for use with M8 bolts or use the supplied 25mm thick aluminum mounting plate to act as an intermediate mount between the ROV and the arms.

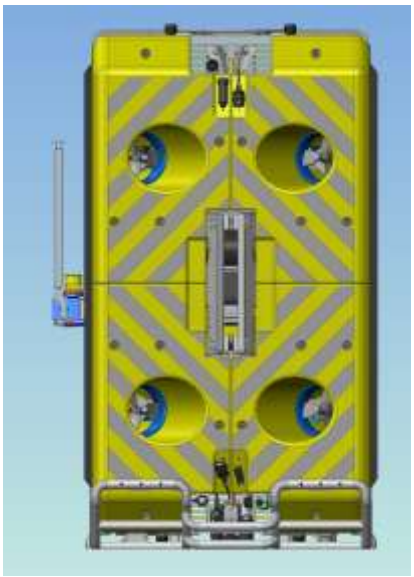


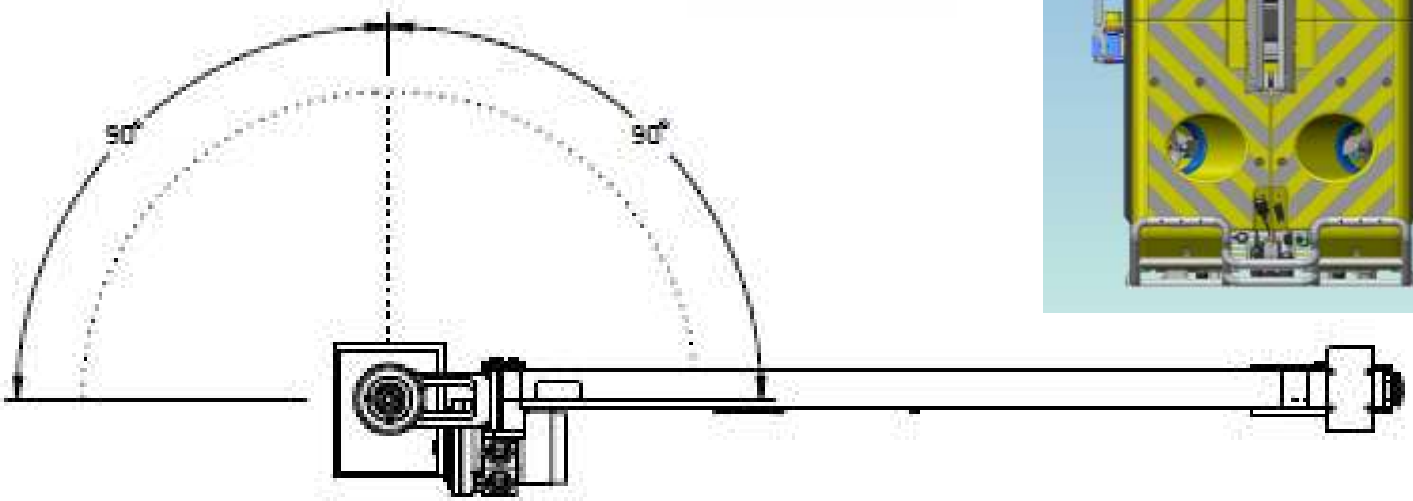



Vortex Boom arms have full 180 degree swing fore and aft along side of ROV for easy stowage and maximum LARS clearance





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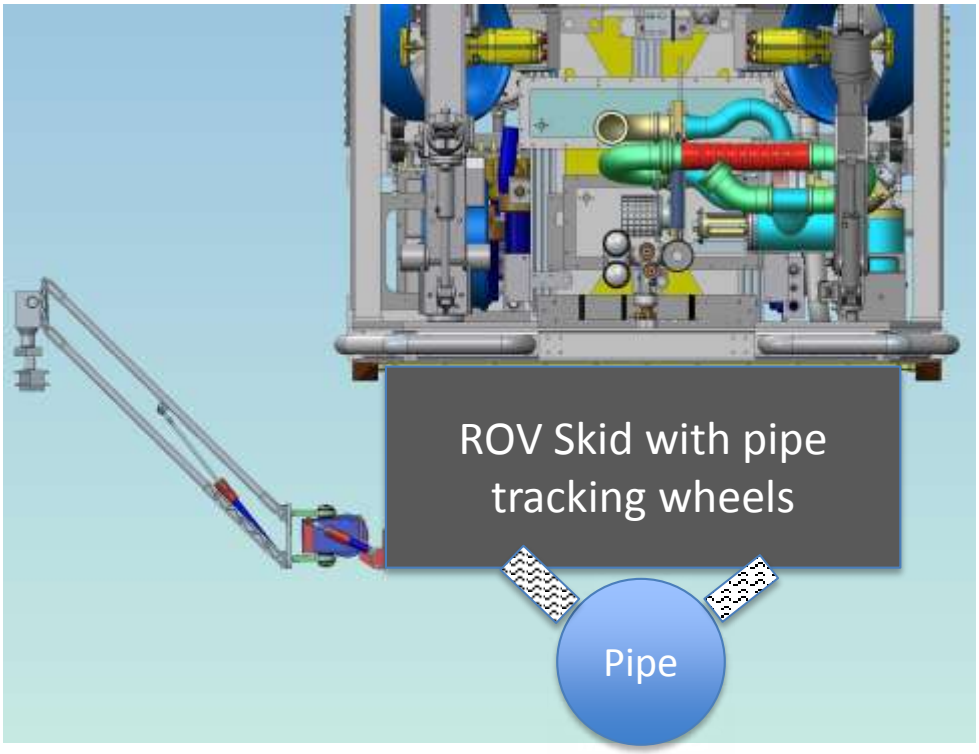
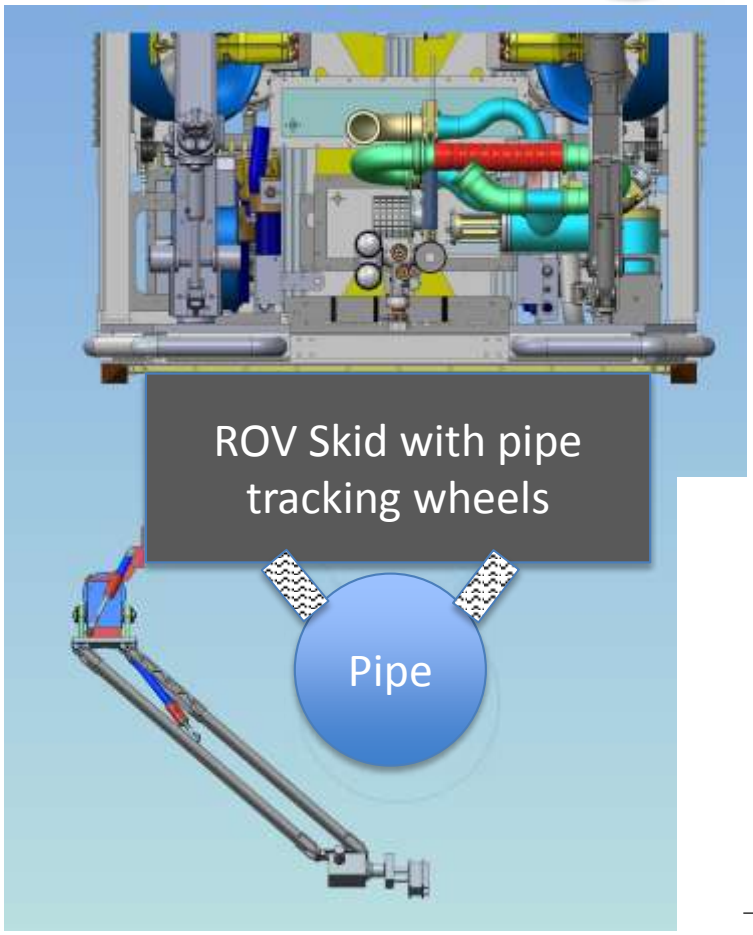
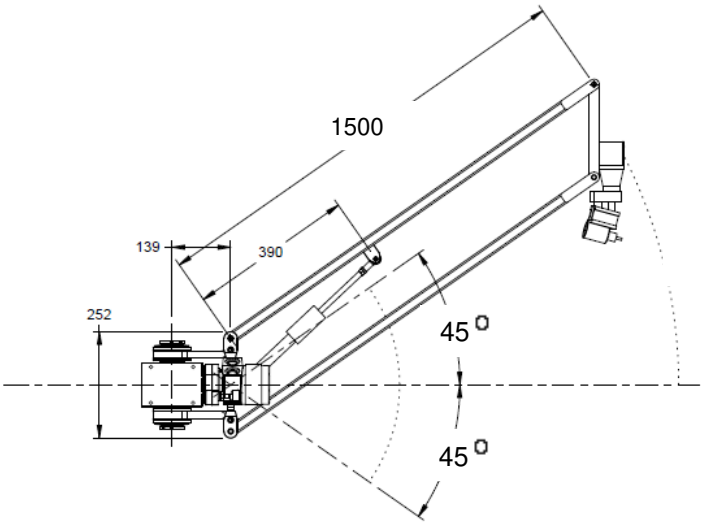
**Second stage “knuckle” gives full 180 degree movement.**




Arm shown here in full 180 degree down position when second stage “knuckle” is functioned allowing exclusive access to underneath asset or fee span.




First stage boom movement is 90 degrees.