

The most powerful manipulator

**HYDRA-UW**(HYDraulic Robot Arm – UnderWater) is a 7DOF(degree of freedom) robot manipulator with gripper for underwater manipulation.



- 7(6+1)DOF including the gripper
- Depth : 2500msw test in progress
- Lifting at full extension: 120kgf
- Maximum reach: 2,170mm
- Available flow: 19LPM

- 5(4+1)DOF including the gripper
- Depth : 2500msw test in progress
- Lifting at full extension: 180kgf
- Maximum reach: 1,565mm
- Available flow: 19LPM

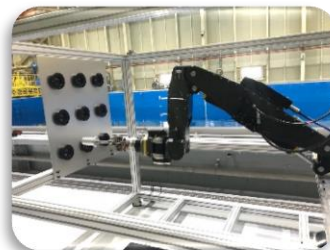
## KNR Systems Inc.

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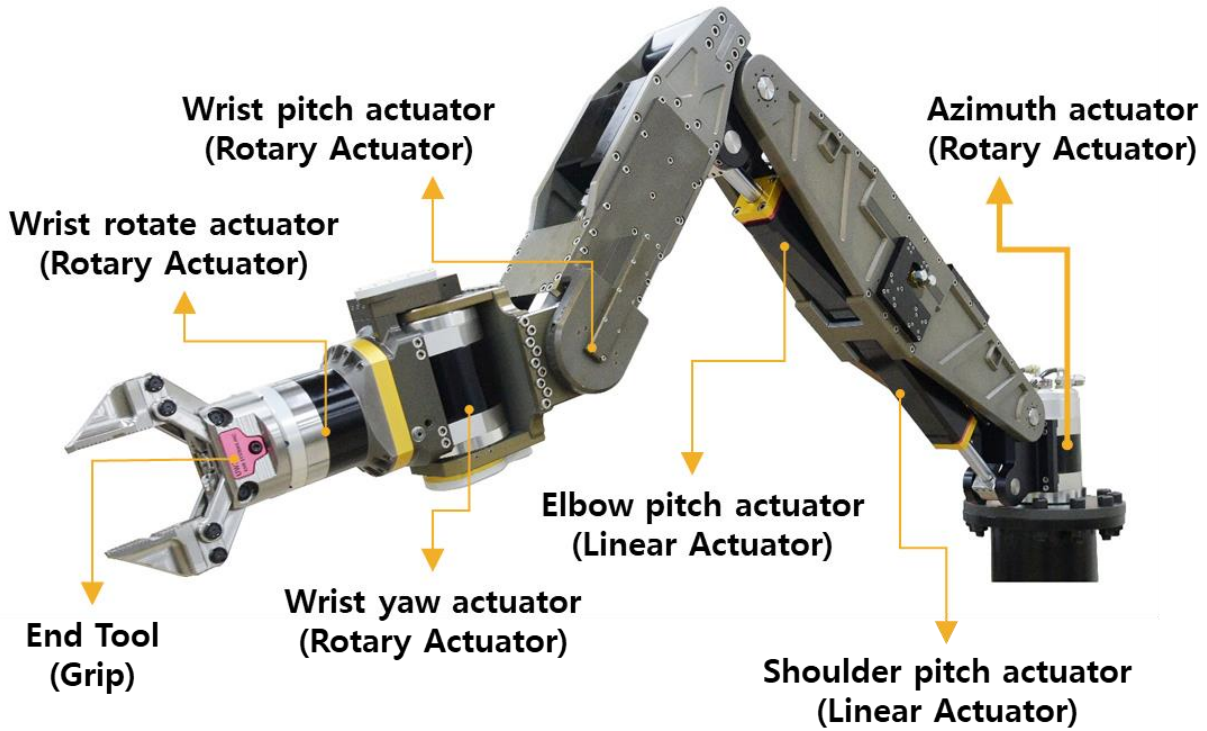
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## Details and Workspace of each Axis of the Manipulator



	<b>J1</b>	<b>J2</b>	<b>J3</b>	<b>J4</b>	<b>J5</b>	<b>J6</b>	<b>J7</b>
Function	Azimuth	Shoulder pitch	Elbow pitch	Wrist pitch	Wrist yaw	Wrist rotate	End tool
Actuator	Rotary	Linear	Linear	Rotary	Rotary	Rotary	Grip
Range	120°	110°	134°	180°	180°	180°	-

DOF 7 (Robot Arm 6DOF + Grip 1DOF)

Payload (Lifting at full extension) 120 kg (@ 210 bar)

Maximum lifting 300kg (@ 210 bar)

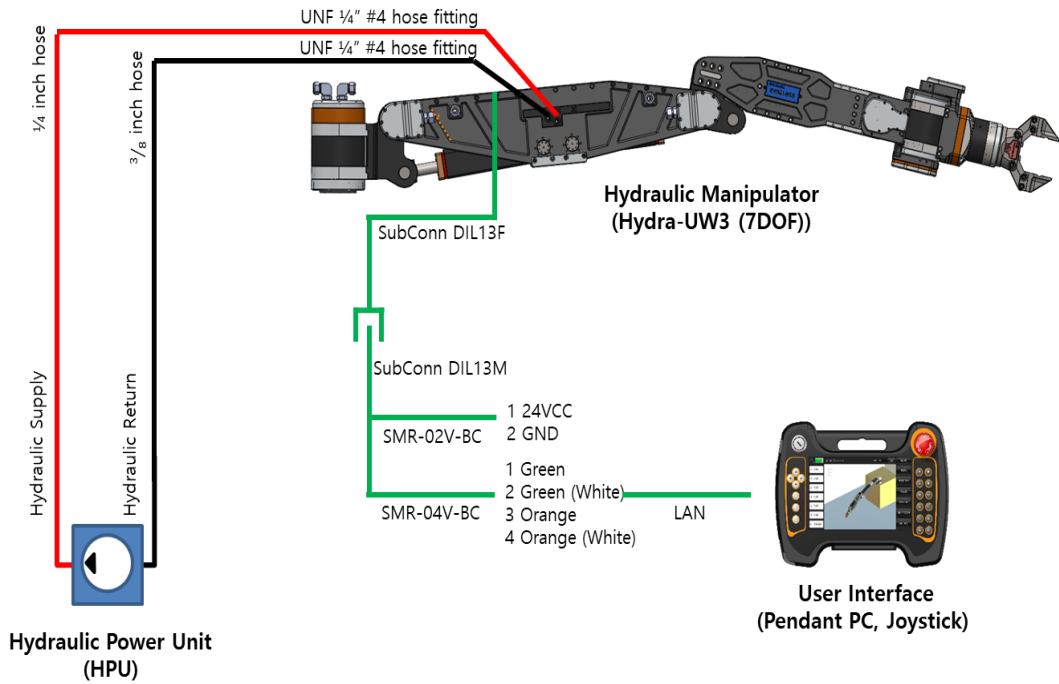
Actuator Rotary + Linear actuator

Joint Sensor 19bit absolute encoder

Servo Valve 210(bar), 7(LPM)

## System Connection Configuration

Hydra-UW3 connects to HPU and user interface device to comprise a system as shown in the figure below.



## Manipulator Workspace

