

# Technical Specification

<b>Camera</b>	Module	2M IP Camera (2MP Pixel)
	Imager	Sony 1/2.8 " CMOS 2MPSensor
	Resolution	1920x1080 pixels (Full HD)
	Focus	Manual Focus control Color - 0.5 Lux, BW(IR ON) - 0 Lux
	Min. Illumination	Auto White Balance / Auto Aperture
	Network Protocol	RTSP
	Video Compression	H.264
	Lens	2.8mm, Angle of view - 120 degrees
	Pressure Rating	1bar
	P/T	240 degree tilt, infinite pan
	Size (mm) / Weight (kg)	75(D)*192(L) / 1.42
Operating Temperature	-10 ~ 50 Degrees Celsius	

<b>Illumination</b>	Illumination	5 LED Light Intensity Level
	2 Types of Power LED Lamp - CREE	320lm / Samsung : 270lm
	Camera Head PAN Lamp	Samsung 270lm*4ea
	Camera Head Tilting Lamp	Samsung 270lm*4ea
	Additional Crown Lamp kit	CREE 320lm*4ea, Brightness 320lm
	Additional Body Forward Lamp	6ea (Samsung 270lm*4ea / CREE 320lm*2ea) on each SKID

<b>Tractor</b>	Motor	Manufacturer	MAXON Motor (Switzerland)
		Model	DCX26L GB KL 36V
		Type	High power
		Brush Type	Graphite brush
		Output power(Max)	75W X 2
		Efficiency	75%
	Speed	8,750 rpm	
	Gear	Model	GPX26 A 3.9:1
		Type	Standard Version Transmittable
		Power	48W
		Ambient Temperature	-40 ~ 100 Degrees Celsius
Basic Specification	Wheels	6ea	
	Applicable Pipe Range	200mm Dia ~ 2000mm Dia	
	Size (mm)	Minimum Lift Height : 183(W)*615(L)*133(H) Maximum Lift Height : 183(W)*615(L)*336(H)	
	Weight (kg)	12	
	Materials	Brass&Aluminum&SUS	
	Pressure rating	1bar	
	Surface Treatment	Anodizing / Induction Heat Treatment	
	Operating Temperature	-10 ~ 50 Degrees Celsius	
	Driving Function	Four Directional / Brake	
	Speed	0~30m/min	
Driving Tilt Angle	50 Degrees		
Wheel Frame Unit	Easy to assemble & disassemble of the crawler Provides vacancy on the bottom of the crawler which makes it easier to overcome sludge and obstacles in the pipe.		

<b>Lift</b>	Motor	Manufacturer	MAXON Motor (Switzerland)
		Model	DCX16L GB KL 12V
		Brush Type	Graphite Brush
		Power	12V
		Output Power (MAX)	2W
	Gear	Model	GPX16HP 83:1
Type		High Power (Planetary gear)	
Transmittable Power		4W	
Ambient Temperature		-40 ~ 100 Degrees Celsius	
Sensor	Type	ENX16 Easy 1024IMP	

<b>Cable &amp; Reel</b>	Cable	Cable diameter	7mm
		cable length	200m (Optional 400m)
		Cable Strength	395 kg/cm2
Cable Reel	Cable Type	5c PU	
	Cable Reel Size	679(h)*789(l)*507(w) – with controller table / 472(h)*789(l)*428.6(w) – without controller table	
Specification	Reel Weight	49.9kg – Without Cable / 57.6kg – with 300m cable	
		Conductor	T/A) 0.12/40c*4c
		Insulator	PES 3372
		Color	Black, Red, Brown
		Image line	T/A) 0.08 / 19c*1c Black
		Kevlar	1000 D/N*24
Density/Pitch	30mm or lower		

<b>Controller</b>	Controls	Joysticks, Push Button	
		Number of pixels	1366*768
		Active Area	409.8*230.4/18.5 inch
		Pixel arrangement	RGB Vertical stripe
	Display (Monitor)	Display colors	16.7M
		Display mode	Normally White
		Back-light	Right edge side, 1-LED Light bar
		Video Capture	MPEG-4 AVC H.264
		Image Capture	PNG
		Internal Storage	120GB
Connectivity	Connectivity	RTSP	
	Size (mm) / Weight (kg)	503(W)*390(L)*500mm(H) when opened / 503(W)*390(L)*200mm(H) when closed / 20 kg	
	Material	Iron / Aluminum / Protective from external shock	
	PC	i5 7th intel / SATA SSD-128GB, DDR 32GB, 2400MHz	
Power	AC110 VAC/50Hz (Option AC220 VAC/60Hz) 500W		
Operating Temperature	-10C ~ +50C		

<b>Expansion Kit (Cube Cell Block)</b>	Standard Block	Size (mm)	50(W)*50(L)*50(H)
		Weight (g)	290
		Color	White, Gold, Gray
	Standard Cover Block	Size (mm)	In : 50(W)*50(L)*8(H) / Out : 50(W)*50(L)*13(H)
		Weight (g)	In : 30 / Out : 68
		Color	White, Gold, Gray
Double size Cover Block	Size (mm)	In : 50(W)*100(L)*8(H) / Out : 50(W)*100(L)*13(H)	
	Weight (g)	In : 61g / Out : 138g	
	Color	White, Gold, Gray	

## Sensor Technical Data

<b>Inclination</b>	9 DoF Sensor	<b>Pressure / Temperature / Humidity Sensors</b>	Main Supply Voltage : 1.71 ~ 3.6V Interface Voltage : 1.2 ~ 3.6V Pressure Range : 300 ~ 1100hPa Temperature : -40 ~ 80 Degrees Celsius Humidity : 0 ~ 100% RH Function : Prevents critical damage to the crawler by detecting water inflow in the crawler
	Gyroscope operating Current : 3.2mA		
Function : Measures the inclination of the pipe and prevents crawler from rolling over by alerting the user with alarm.			
<b>IR Sensor</b>	Distance Measuring Range : 20 ~ 160cm		
	Supply Voltage : 4.5 ~ 5.5V		
	Consumption Current : 30mA		
	Function : Measures a diameter of the pipe and automatically locates the camera in the center of pipe.		