16140 Nauticam Digital Cinema System - L
(Size compatible with RED Raptor XL/Raptor, Komodo-X, Komodo, SONY Venice II, ARRI ALEXA Mini/Mini LF/Alexa 35)

Nauticam Digital Cinema System - L

Product Number： ＃16140

What's included

- 16140 Universal Digital Cinema System - L (excl. camera tray)
- N200 180mm Flat Port (#16411), Depth rating 40m
- Top handle, Left and Right handles.
- Vacuum Check & Leak Detection System, Dual Activation Vacuum Valve
- V-mount Battery plate Kit(pre-installed)
- Run/Stop Control Panel(pre-installed)
- Internal Ethernet Breakout Box(pre-installed)
- Housing Skids
- 2x Mounting brackets for dive weights
- A set of small trim weights (2 x 0.25kg, and 2 x 0.5kg)
- Hard Travelling Case
- Tool Kit & O-ring Kit
- Middle Housing O-ring (I.D.=300.0 C.S.=4.0)
- Rear Housing O-ring   (I.D.=250.0 C.S.=4.0)

TECHNICAL SPECIFICATIONS

Depth Rating	80m(housing only)
Weight	14.8kg(housing only)
Weight	25.4kg(incl. 3kg camera,1.5kg battery, prime lens with motors, Ultra5 monitor & Housing and 180mm glass flat port)
Buoyance in water	Positive 7.4kg (incl. 3kg camera,1.5kg battery, prime lens with motors, and 180mm glass flat port)
Dimension	333mm (W) × 256mm (H) × 440mm (D)
Port Mount	N200
Accessory Ports	Front: 2xM10, Middle: 2x M16 (for LCS/LUBS Surface Control), 2x M28 (for Camera Control or SDI out) Rear: 1x Surface Camera Control Port, 1x Hydroflex bulkhead,

Compatible batteries	- V mount Size: 150 (H) x 97 (W) x 76 (D)
	- V mount Dual Voltage Batteries:
	   REDVOLT 156WH/SWX Helix XL 293WH
	- B mount batteries
	   bebob B290CINE/SWIT HB-A290B/FXLION 293WH

16140 Camera and Lens Control Compatibility Reference Chart

		Camera Mounting and Control				Surface Lens Control with #16290 and ARRI WCU-4 / Hi-5 on land				UW Lens Control with Tilta Nucleus-M system
Brand	Camera Model	W x H X D mm (with PL mount)	Camera mounting and Control kit	UW camera control over Ultra5 monitor, #17926 NA-ultra5	Surface Camera Control with 16290	with ARRI LCS system	with Tilta Nucleus-M system	with Preston system	Remarks	
RED	V-Raptor XL	147 x 166 x 217	16281	with 16265R	with 16290R	#16291 Lens Control Cable Bundles with Arri LCS System 2023 for ARRI/RED/Sony to use with 16290 (5pcs)	16294L or 2x Tilta-M motor cables *Surface Run/Stop is NOT supported.	2x Preston Command Cable 6 pin HU4 to MDR3	Support either camera or lens control, can't be both at the same time	16294 Control Panel *a compatible Nucleus-M R/S cable into the EXT port of a motor and R/S port on camera.
RED	V-Raptor	115 x 108 x 184	16281	with 16265R	N/A					
RED	Komodo-X	114 x 95.3 x 162	16281	with 16265R	N/A					
RED	Komodo	114 x 95.3 x 137	16281	with 16265R	N/A					
ARRI	Alexa 35	152.6 x 163 x 190	16282	with 16265A	with 16290A				Support camera and lens control	
Sony	VENICE II	148 x 158 x 237	16283	with 16265S	with 16290S				Support Lens control only	
Sony	Burano	160 x 142.5 x 206	16283+16285	N/A	N/A				Support Lens control only	
ARRI	Alexa Mini	126 x 140 x 180	16284	with 16265A	with 16290A				Support camera and lens control	
ARRI	Alexa Mini LF	143 x 140 x 180	16284	with 16265A	with 16290A					

Standard Housing Features:

Run/Stop
Control Panel

Standard Features:

- **Quick release housing Lock**

- **Quick installation and reliable construction**

- **Remote Camera and/or Lens Control for ARRI/Sony cameras with Surface Camera Control Cable Set (Please refer to page 3 and system chart for details)**

- **Compatible with Housing Extension 100mm(#16423) and N200 Port System**

- **Standard housing is compatible with most of prime and short zoom lenses.**

- **Housing REC Trigger could activate Run/Stop function with compatible RS cable by connecting the RS port on camera to Run/Stop Control Panel.**

- **V-mount Battery Plate Kit for Housing (incl. V-mount battery plate, power cut and voltage monitor, power distribution panel)**

please contact with our sales representative for detail information

*Short press for power on, and hold 5 seconds to power off

Essential item required List

1. Standard housing body (incl. 180mm Flat port)
2. Camera tray and Control kit
3. Underwater monitor for monitoring or camera control
4. Surface camera and/or lens control option
5. Internal power control
6. Surface power control option

Additional Add-on for advanced function control

- **16290 Surface Camera Control Cable Set (with SDI, Ethernet, Power all-in-one)**
- **Camera and Lens Control cable for use with 16290(16290A/R/S/16291/16294L)**
- **V-Lock Mount Voltage Converter for Surface Supplied Power (#16292)**
- **Integrated Control Panels Modified from Tilta Nucleus-M Right and Left Handgrips for Focus/Zoom/Iris lens control (exclude M motors, motor cables and hand units) #16294**
- **Housing Extension ring 100 (#16423)**
- **N200 Extension Rings**
- **250mm optical Wide angle port**

  for further information, please contact with our sales representative .

Essential 2: Camera Tray and mounting accessories - RED
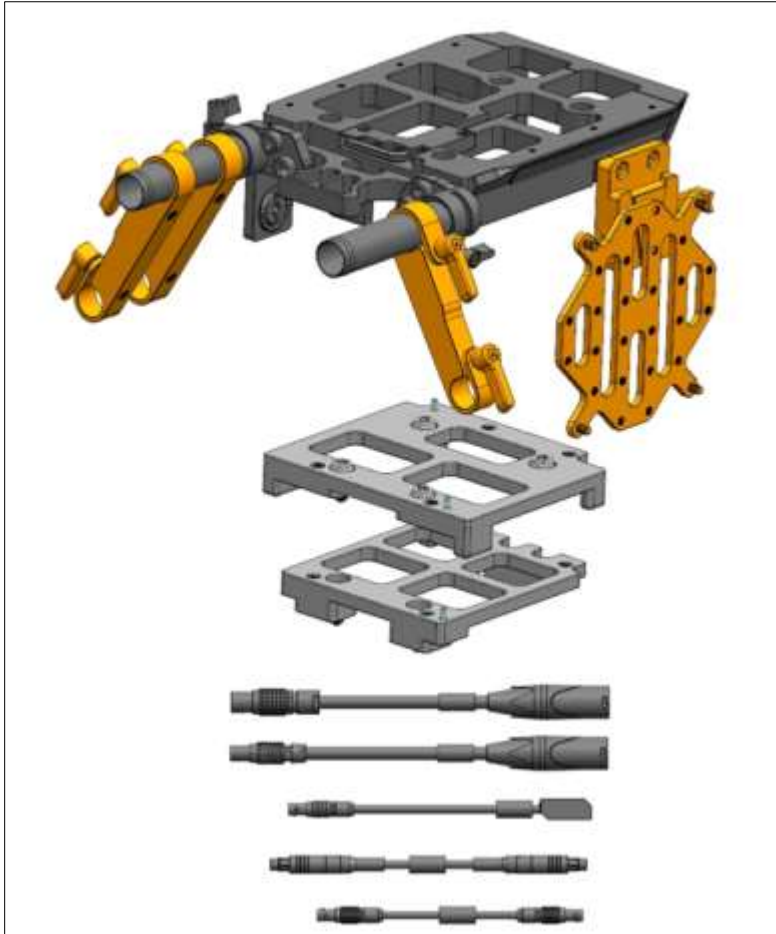
#16281 Camera Mounting and Control Kit for RED V-Raptor XL/V-Raptor /Komodo-X/Komodo

What's in the Box

- **Lens control rods and mounting brackets for ARRI AMC-1 and C-force mini/RF/Plus motors**

- Camera tray for V-Raptor XL 8K VV/ 35

- One adapter plate for use with V-Raptor, another for use with Komodo-X/Komodo

- Two sets of 19mm x L95 rods and Rods Mounting brackets

- a block to mount ARRI AMC-1

- **Internal Power and R/S cable**

- 3PIN XLR to LEMO.2B.4PIN power cable for V-Raptor XL 8K VV/ 35

- 4PIN XLR to LEMO.1B.6PIN power cable for V-Raptor/Komodo-X

- D-TAP to LEMO.0B.2PIN power cable for Komodo

- Fischer 3 PIN to Fischer 3PIN R/S cable for V-Raptor XL 8K VV/ 35

- LEMO 9 Pin to LEMO 9 PIN R/S cable for V-Raptor/Komodo-X/Komodo

Optional Accessory (shown in yellow on the left side)

- **Mounting Brackets for 16281 use with Preston MDR-3 and motors (TBD)**

- 3x Swing arms for use with Preston DM1X/DM2X/DM5 motors

- V-Lock mounting system for MDR-3 Controller

Essential 2: Camera Tray and mounting accessories - RED

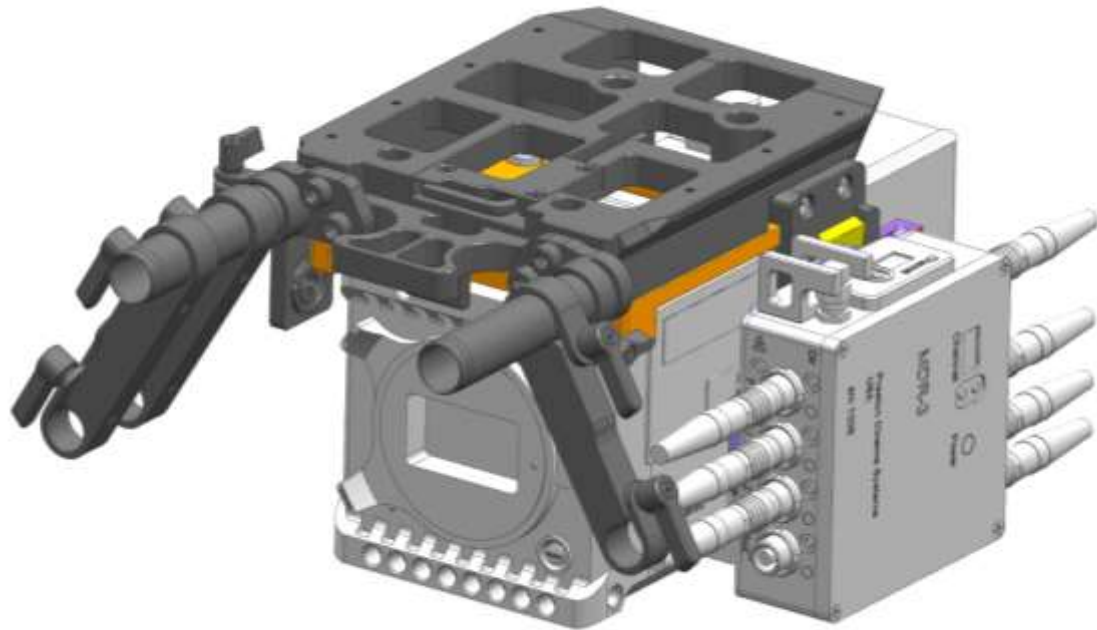#16281 with V-Raptor XL and ARRI C-force mini/RF/Plus motors
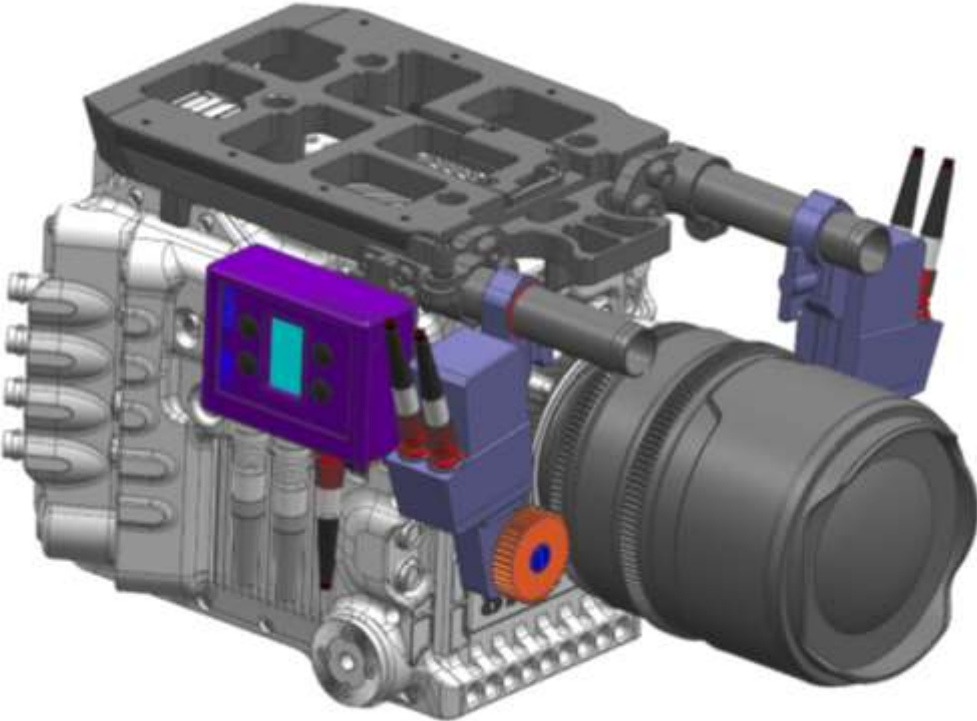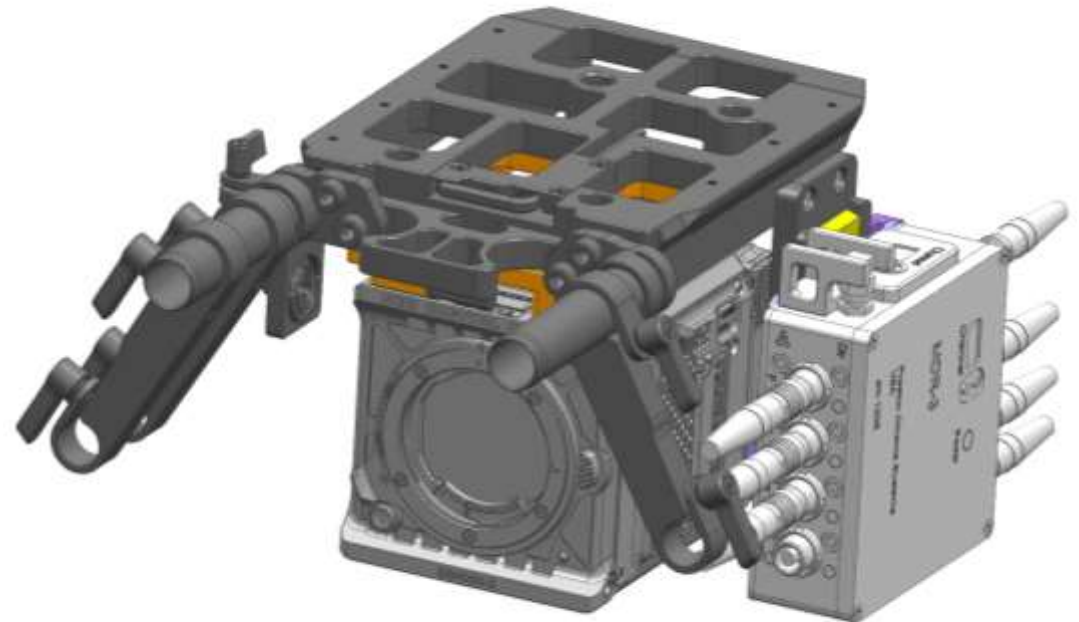
#TBD with V-Raptor XL and Preston DM1X/DM2X/DM5 Motors
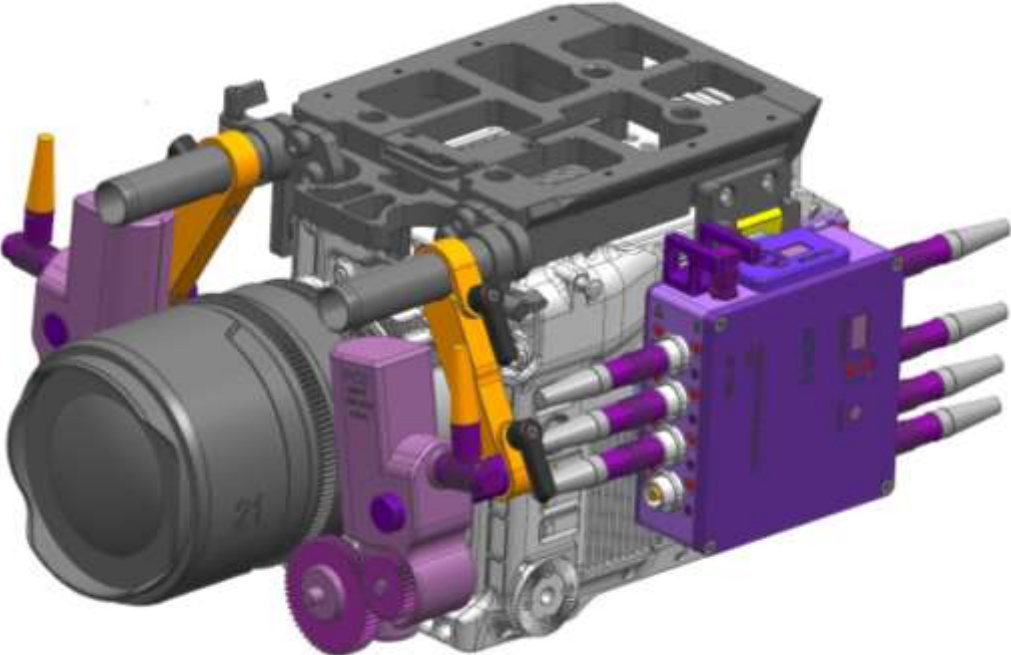
Essential 2: Camera Tray and mounting accessories - RED

#TBD with V-Raptor and Preston DM1X/DM2X/DM5 Motors

#TBD Komodo-X/Komodo and Preston MD1X/DM2X/DM5 Motors

Essential 2: Camera Tray and mounting accessories - ALEXA 35

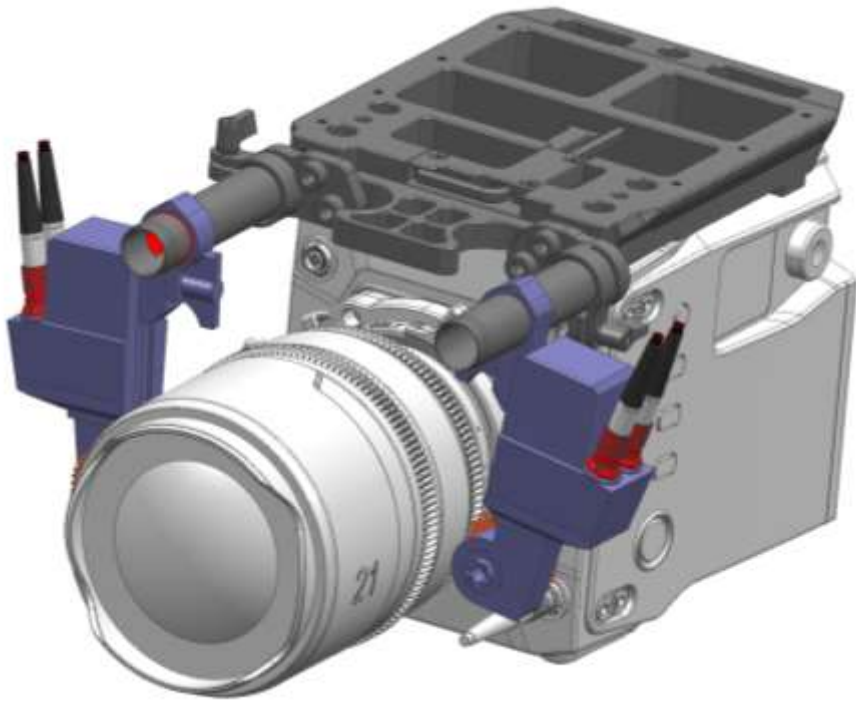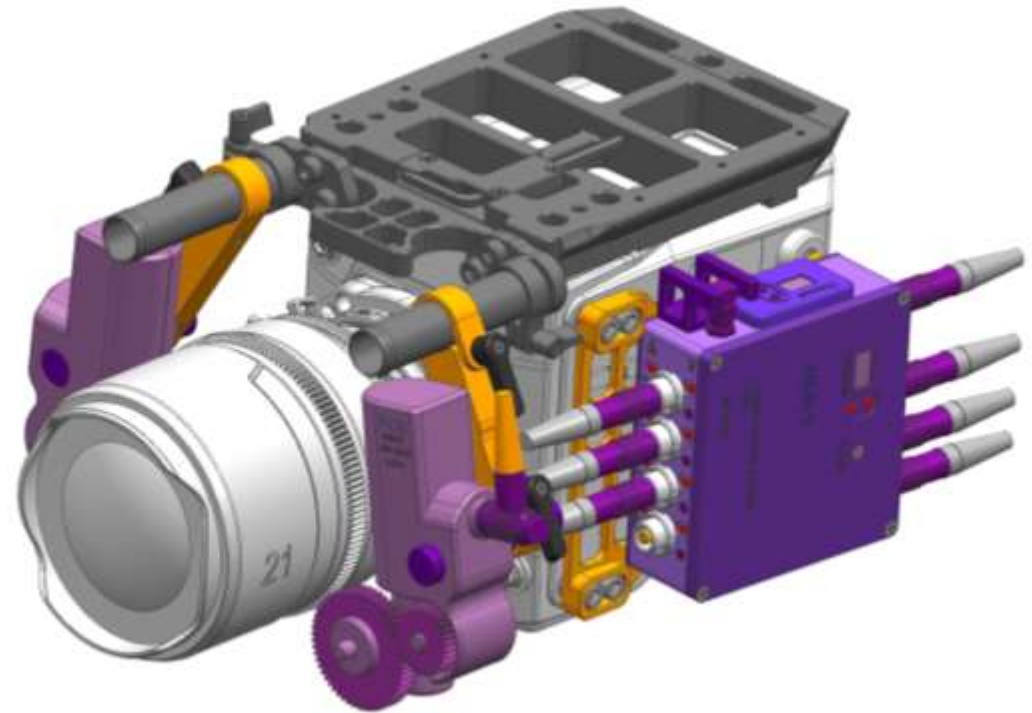
#16282 Camera Mounting and Control Kit for ARRI Alexa 35

What's in the Box

- **Lens control rods and mounting brackets for ARRI C-force mini/RF/Plus motors**

  - Camera tray for Alexa 35

  - Two sets of 19mm x L95 rods

  - 2x 19mm Rods Mounting brackets

- **Internal Power and R/S cable**

  - 3PIN XLR to LEMO.2B.8PIN power cable

  - Fischer 3 PIN to Fischer 3PIN R/S cable

Optional Accessory(shown in yellow on the left side)

- **Mounting Brackets for 16282 to use with Preston MDR-3 and motors (TBD)**

- 3x Swing arms for use with Preston DM1X/DM2X/DM5 motors

- a mounting plate for MDR-3 controller.

Essential 2: **Camera Tray** and mounting accessories - ALEXA 35

#16282 Camera Mounting with Alexa 35 and ARRI C-force mini/RF/Plus motors

TBD Camera Mounting with Alexa 35 and Preston MD1X/DM2X/DM5 Motors

For Reference Only

Essential 2: Camera Tray and mounting accessories - ALEXA 35

#16282 Camera tray with Alexa 35, Preston MDR-3 and Heden-M21VE-L Motors

*motors mounting directly to 19mm rods, swing arms/offset adaptor is not required.

Essential 2: Camera Tray and mounting accessories - SONY

 # 16283 Camera Mounting and Control Kit for Sony Venice II
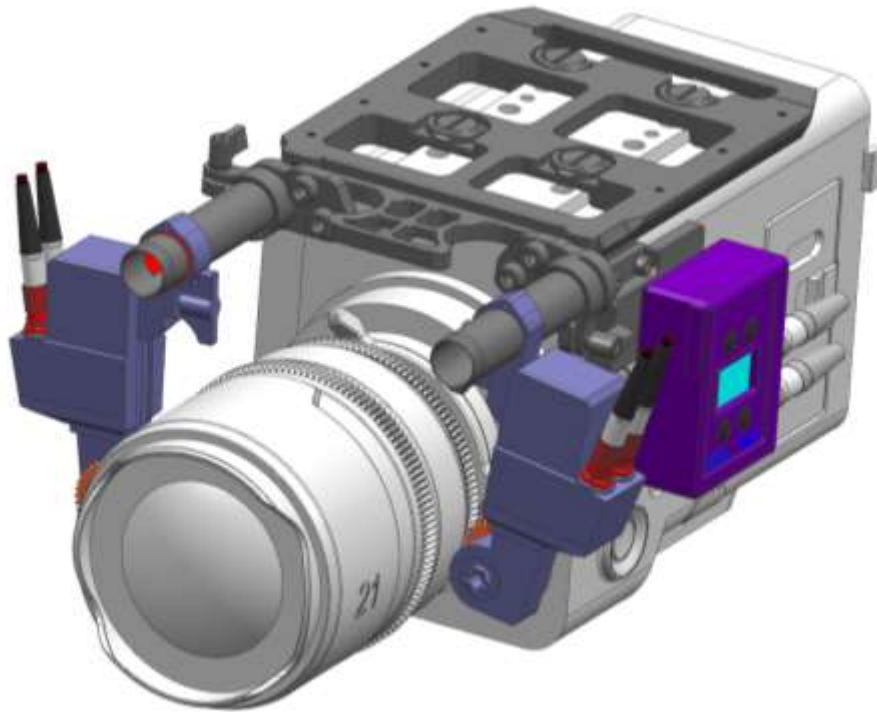
What's in the box

- **Lens control rods and mounting brackets for ARRI C-force mini/RF/Plus motors**

  - Camera tray for Sony Venice II

  - Two sets of 19mm x L95 rods

  - 2x 19mm Rods Mounting brackets

  - A block to mounting ARRI AMC-1 Controller.

- **Internal Power and R/S cable**

  - 4PIN XLR to 4PIN XLR power cable

  - Fischer 3 PIN to Fischer 3PIN R/S cable

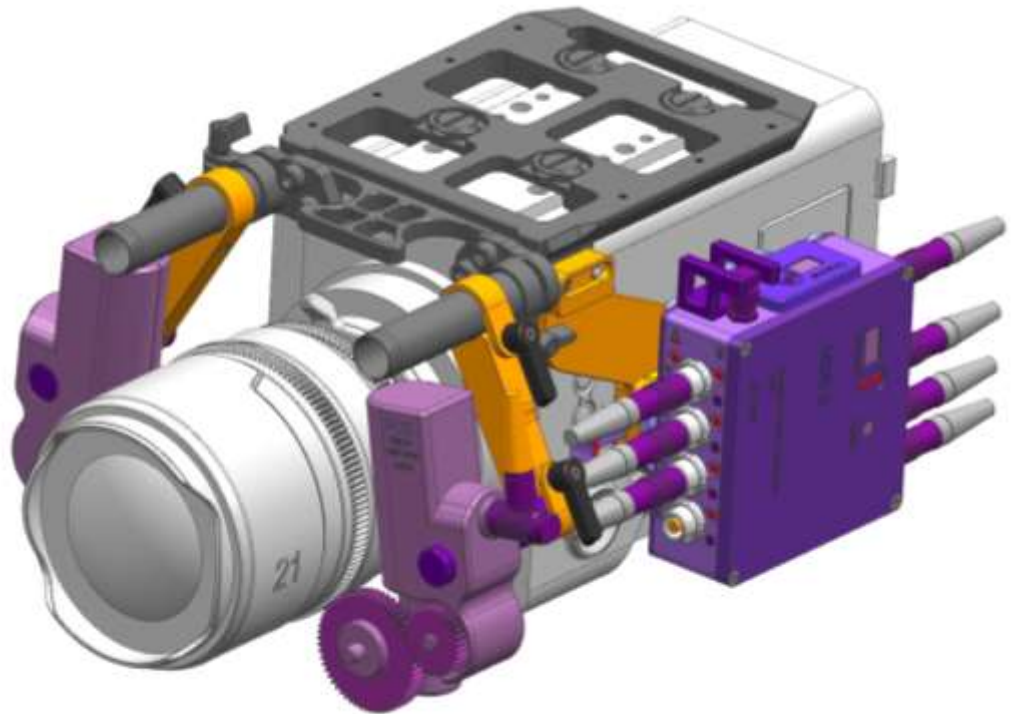**Optional Accessory(shown in yellow on the left side)**

- **Mounting Brackets for 16283 to use with Preston Motors and MDR-3 Controller (TBD)**

  - 3x Swing arms for use with Preston DM1X/DM2X/DM5 motors

  - a V-Lock plate to mount MDR-3 controller.

Essential 2: Camera Tray and mounting accessories - SONY
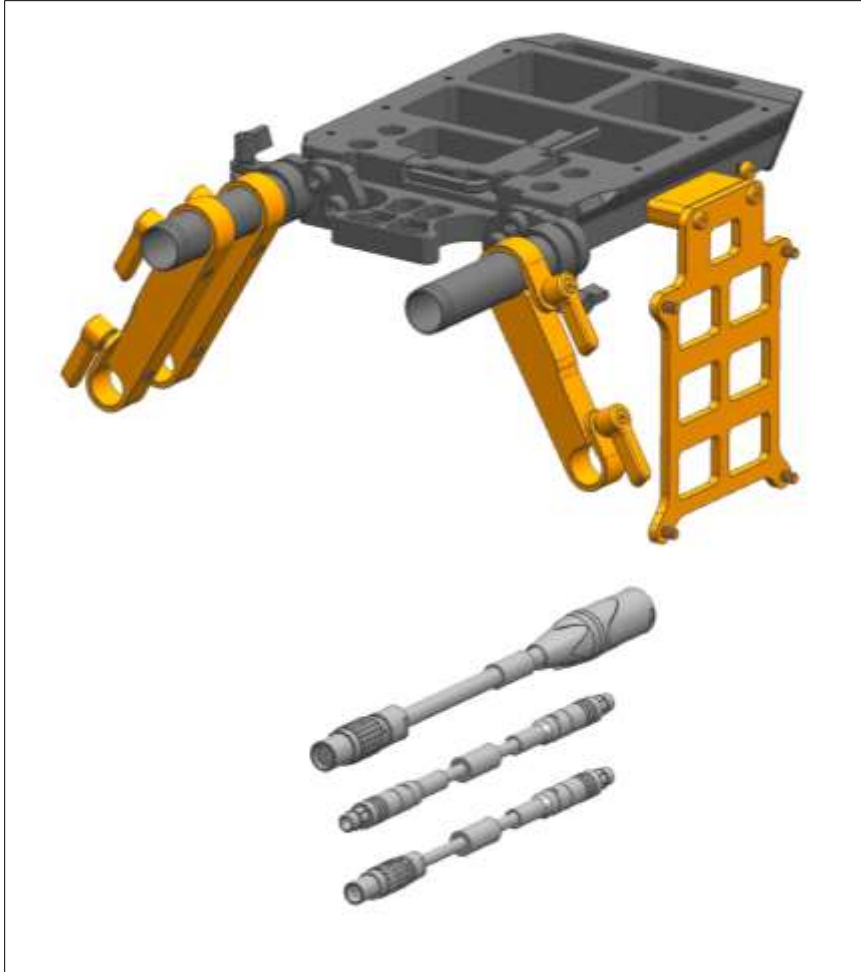
16283 Camera Mounting with Sony Venice II
and ARRI C-force mini/RF/Plus motors

TBD Camera Mounting with Sony Venice II and
Preston DM1X/DM2X/DM5 motors

Essential 2: Camera Tray and mounting accessories – Mini/LF

#16284 Camera Mounting and Control Kit for ARRI Alexa Mini LF/Mini

● **lens control rods and mounting brackets for ARRI C-force mini/RF/Plus motors**

• Camera tray for Alexa mini LF/ mini

• Two sets of 19mm x L95 rods

• 2x 19mm Rods Mounting brackets

● **Internal Power and R/S cable**

• 3PIN XLR to LEMO.2B.8PIN power cable

• Fischer 3 PIN to Fischer 3PIN R/S cable   *for Alexa mini LF

• EXT 7PIN to Fischer 3 PIN R/S cable   *for Alexa mini

• **Optional Accessory(shown in yellow on the left side) - TBD**

• **Mounting Brackets for 16284 to use with Preston Motors and MDR-3 Controller**

• 3x Swing arms for use with for use with Preston DM1X/DM2X/DM5 motors

• a mounting plate for MDR-3 controller.

Essential 2: **Camera Tray** and mounting accessories – Mini/LF

#16284 Camera mounting with ARRI Mini LF/Mini
and C-force mini/RF/Plus motors
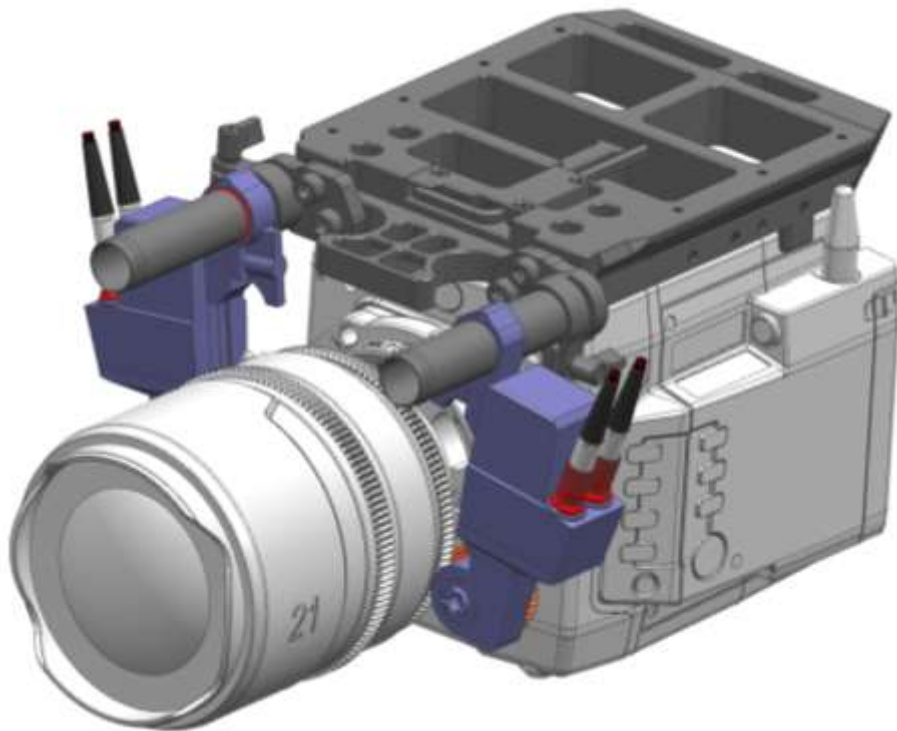
#TBD Camera mounting with ARRI Mini LF/Mini and
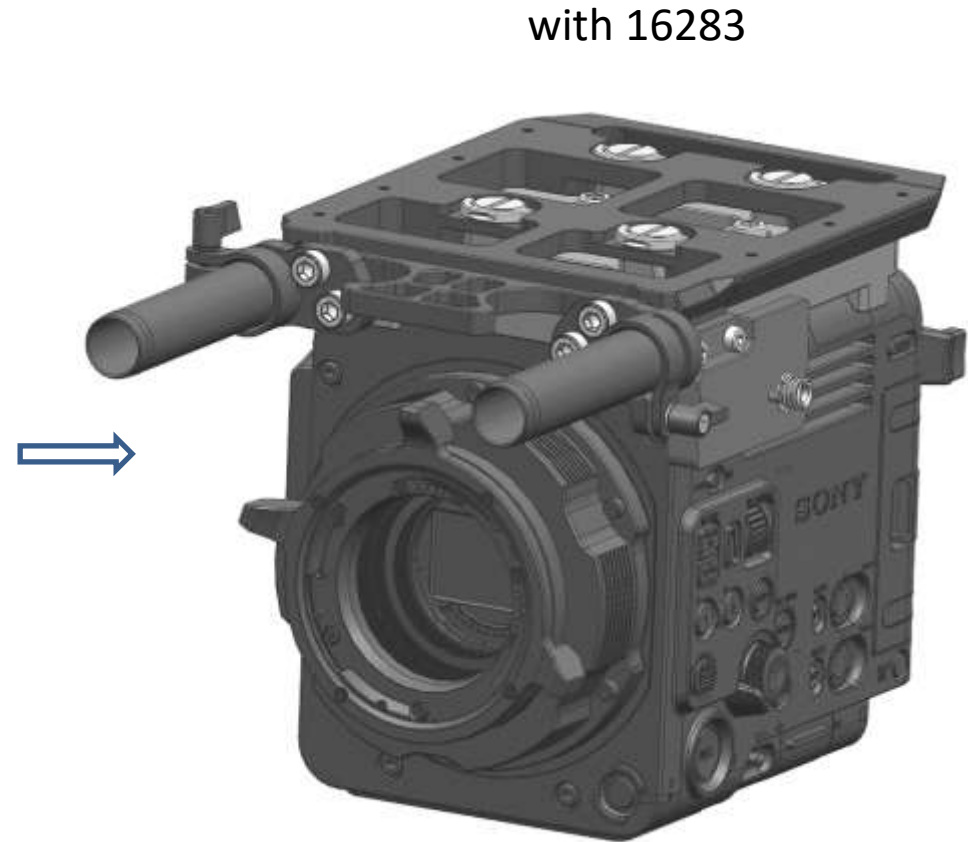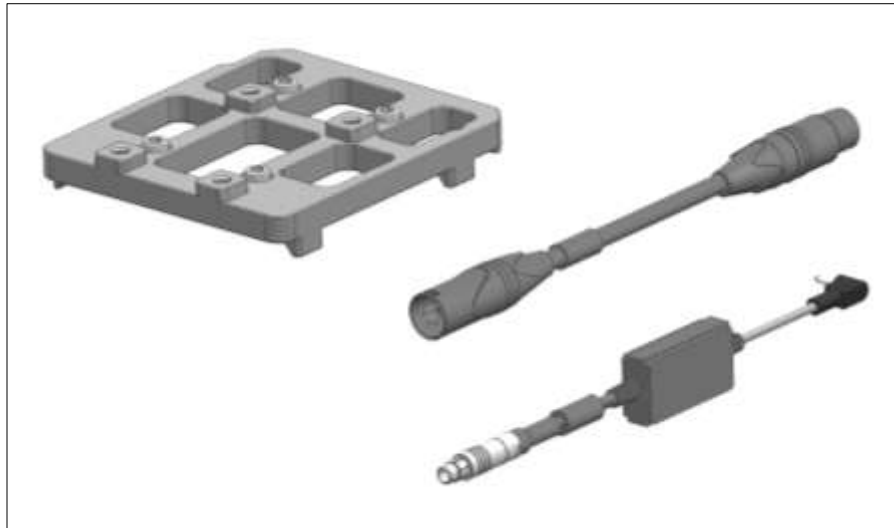Preston MD1X/DM2X/DM5 motors
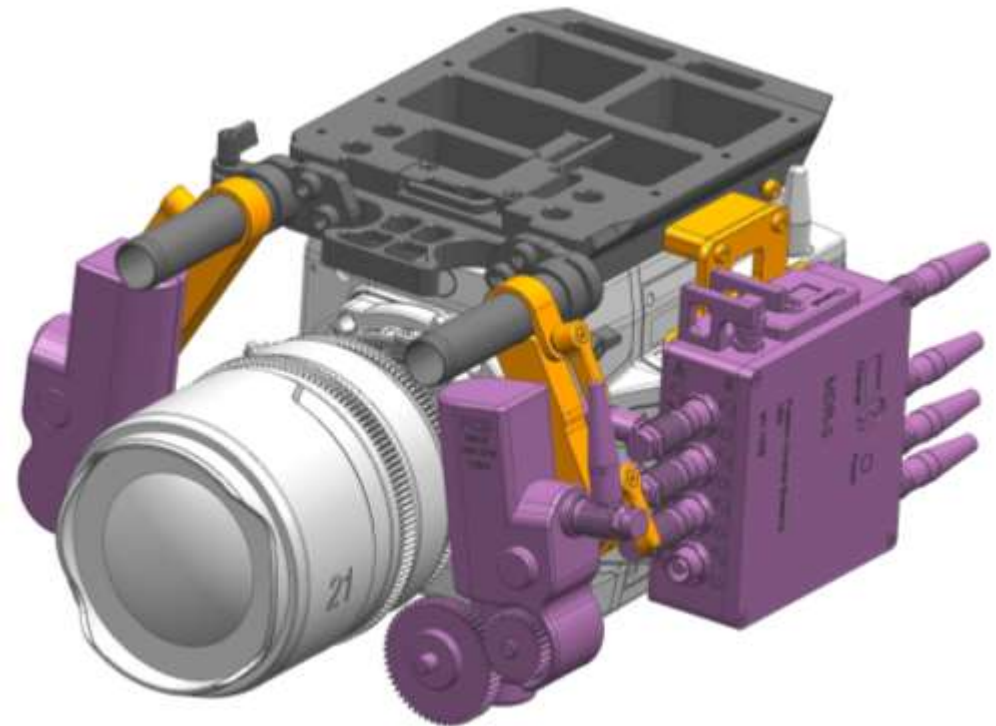
Essential 2: Camera Tray and mounting accessories – Mini/LF

## **16285 adapter plate for Sony Burano to use with 16283**

Includes

- Camera tray
- XLR 4pin male to female power cable
- LANC to 3 PIN RS Run/Stop cable

with 16283

Essential 3: Underwater Monitor Camera Control

17926 NA-Ultra5 Housing for SmallHD Ultra 5 Camera Monitor

- 16265A UW Camera Control Cable Bundle for NA-Ultra5 (with SDI, Ethernet, Power Cables in one for ARRI mini LF/Alexa 35)
  *LEMO 2pin 0.5m power extension cable is required for use with Alexa mini.

- 16265R UW Camera Control Cable Bundle for NA-Ultra5 (with SDI, Ethernet, Power Cables in one for RED Raptor/XL, incl. LEMO 4-pin to 9-pin adaptor cable for Raptor/Komodo X and LEMO 2P 0.5m power extension cable)

- 16265S UW Camera Control Cable Bundle for NA-Ultra5 (with SDI, Ethernet, Power Cables in one for Sony Venice II)
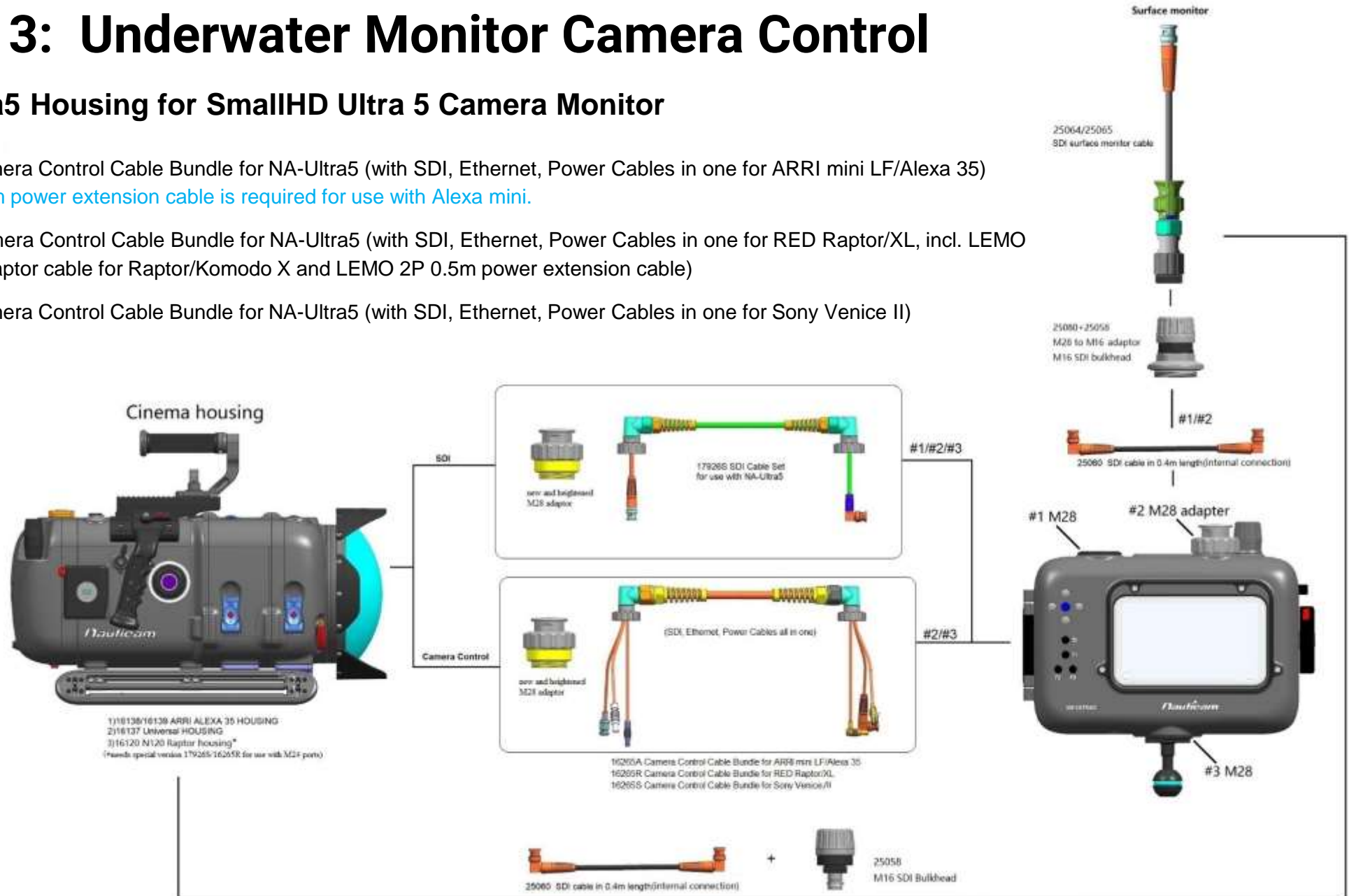
Essential 4: Surface Camera and Lens Control

16290 Surface Camera Control Cable Set (with SDI, Ethernet, Power all-in-one)   Depth rating:45m
Incl. external waterproof cable in 45 meters, Housing bulkhead with integrated cables, Surface Ethernet breakout box)
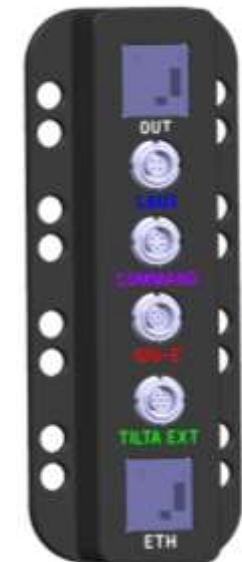*Essential accessories listed in next page.

Housing bulkhead with integrated cable

Surface Ethernet breakout box

Essential 4: Surface Camera and Lens Control

16290R Camera Control Cables for Raptor XL to use with 16290 (2pcs)
* 1 x GIG-E 9-PIN to 9-PIN Ethernet cable (0.6m)   *housing side for V-Raptor XL
* 1 x GIG-E 9-PIN to RJ45 Ethernet cable (1.5m),   *top side or connect 16290 RJ45 to computer directly.
Caution: 16290 doesn't support both camera and lens control in this case, The primary methods of surface control on RED will be a dedicated Ethernet cable if use 16290 as LCS, or use Ultra5 as on housing control.

16290A Camera Control Cables for ARRI Mini/LF/35 to use with 16290 (2pcs)
* 1 x ETH 10-PIN to RJ45 Ethernet cable (0.6m)   *housing inside
* 1 x RJ45 o RJ45 Ethernet cable (1.5m)   *top side

16290S Camera Control Cable for Sony Venice II to use with 16290 (2pcs)
* 1 x RJ45 to RJ45 Ethernet cable (0.6m)   *housing inside
* 1 x RJ45 to RJ45 Ethernet cable (1.5m)   *top side

16291 Lens Control Cable Bundles with ARRI LCS System 2023 for ARRI/RED/Sony to use with 16290 (5pcs)
a. Housing inside(connection from camera/motor/motor controller to LBUS on Ethernet breakout box)
* 1 x EXT 7-PIN to LBUS 4-PIN/Fisher 3-PIN RS cable (0.6m) for Alexa mini/mini LF
* 1 x LBUS 4-PIN to LBUS 4-PIN cable (0.6m) for Alexa 35/mini LF, RED/Sony to use with ARRI mini RF Motors*.
* 1 x LCS 5-PIN to LBUS 4-PIN cable (0.6m) for RED/Sony to use with ARRI Active Motor Controller(AMC-1)*

b. Top side (connection from LBUS on surface Ethernet breakout box to Hand Unit)
1 x LBUS 4-PIN to LCS 5-PIN cable (1.5m) for use with WCU-4
1 x LBUS 4-PIN to LBUS 4-PIN cable (1.5m) for use with HI-5 Hand Unit
*Motor cables and CAM/Power cable for use with mini RF motor or AMC-1 are not included.

16294L Replacement Surface Lens Control Cable for 16294 to use with 16290 (2pcs)
1x EXT 7-PIN to EXT 7-PIN motor cable (0.6m)   *Housing inside
1x EXT 7-PIN to EXT 7-PIN motor cable (1.5m)   *Top side for use with Tilta-M Hand Unit

Essential 4: Surface Camera and Lens Control

16290 Cable Routing

16290 cable outside includes Ethernet(RJ45), SDI(BNC) and Power(3-PIN XLR) plugs.

Camera and Lens Control Internal cables	ARRI Alexa 35 ARRI Mini LF ARRI Mini	Sony Venice II Sony Venice Sony Burano	RED Raptor XL
From Camera ETH or GIG-E to Ethernet Breakout box	**ETH 10-PIN to RJ45 Ethernet cable (0.6m)**	RJ45 to RJ 45 Ethernet cable(0.6m)	**GIG-E 9-PIN to 9-PIN Ethernet cable (0.6m)**
Camera side Socket view from the front			
From Ethernet breakout to ARRI LBUS or AMC-1 LCS port to	LBUS 4-PIN to 4-PIN cable(0.6m)	**LBUS 4-PIN to LCS 5-PIN cable (0.6m) for use with ARRI AMC-1**	
Socket view from the front			
From Ethernet box to Preston MDR-3 Command port	**Command 6-PIN to Command 6-PIN cable in 0.6m**		
Socket view from the front			

For Reference Only

Essential 4: Surface Camera and Lens Control

Other Accessories for Ethernet and Lens Control separately.

PART NO	Description	renderings	Surface side connector	Camera side connector	Compatible Accessories
16223	LCS Surface Cable for WCU-4 to use with Alexa Mini/LF Housing (30m)		5 PIN Fischer (LCS)	7 PIN LEMO (ARRI EXT)	16246 Replacement of Internal LCS Cable (from the Camera to housing bulkhead)
16244	LCS Surface Cable for WCU-4 to use with AMC1 (30m)		5 PIN Fischer (LCS)	5 PIN Fischer (LCS)	16248 Converting Cable for 16223/4 to use with Hi-5 Hand Unit
16249	LBUS Surface Cable for Hi-5 Hand Unit to use with Alexa 35/C-force RF motor (30m)		4 PIN LEMO (LBUS)	4 PIN LEMO (LBUS)	16247 Replacement of Internal LBUS Cable (from the Camera to housing bulkhead)
16253	Surface Command Cable for Preston HU-4 to use with MDR-3 Controller (45m)		6 PIN LEMO (COMMMAND)	6 PIN LEMO (COMMMAND)	
16225	Nauticam Ethernet Cable for Surface Control o Alexa Mini Housing (45m)		RJ45 (ETHERNET)	10 PIN LEMO (ETH)	
16261	Ethernet Surface Cable Set in 45 meter length(Incl. housing lemo bulkhead with integrated internal cable and external Duracell cables)		RJ45 (ETHERNET)	RJ45 (ETHERNET)	16262 Replacement of housing Lemo bulkhead with integrated ethernet Cable

Essential 5: Internal power control

Includes V-mount Battery Plate Kit for Housing
(incl. V-mount battery plate, power cut and voltage monitor, power distribution panel)

Compatible with:
- **REDVOLT 156Wh 14/24V dual voltage battery**
- **SWX Helix XL 293wh 14/24V dual voltage battery**
- **Bebob V-micro 150wh/200wh 14.8V batteries**
- **2 x PAG PL150e 14.8V batteries.**
- **Max. Battery Size: 150 (H) x 97 (W) x 76 (D)**
- **16292 V-Lock Mount Voltage Converter for Surface Supplied Power**

B mount battery is supported through SWIT KA-S21B
B-Mount to V-Mount Conversion Plate

Essential 6: Surface Power Control

16292 V-Lock Mount Voltage Converter for Surface Supplied Power(for use with 16290)

Input: 10-36v, Output :24V15A

Additional Advanced Function Support

 # 16294 Integrated Control Panel Modified from Tilta Nucleus-M Right and Left Handgrips (exclude M motors, motor cables and hand units)

- **Integrated modified Tilta Nucleus-M right handgrip (equipped with 2x EXT ports to control 2 motors)**
- **Integrated modified Tilta Nucleus-M left handgrip (equipped with 3x EXT ports to control the 3rd motor)**
- **Support Run/Stop with Tilta Nucleus-M Run/Stop cable (excluded) for underwater use only**
- **Support surface lens control with 16290 and 2x Tilta Nucleus-M 7-Pin motor to motor cables(excluded)**

Additional Advanced Function Support

 # 16294 Integrated Control Panel Modified from Tilta Nucleus-M Right and Left Handgrips (exclude M motors, motor cables and hand units)

Cable Connection Sequence

1. Underwater Manual Control

14V Power (D-tap to 7-Pin) to Motor 1 -> Left Control Grip Panel -> Motor 2 -> Right Control Grip Panel -> Motor 3 -> 3 Pin R/S port for Triggering (either directly to camera, or to Run/Stop Control Panel to combine with housing thumb lever activation).

*1. each "->" stands for a Tilta Nucleus-M motor cable (7-pin to 7-Pin)
*2. Only two motors would work for use both Manual and Surface remote control in this sequence.

2. Surface Remote and Underwater manual Control

a. 14V Power(D-tap to 7-Pin) to Left Control Grip Panel -> Right Control Grip Panel -> Motor 1 -> Motor 2 -> Motor 3 -> Ethernet breakout box (TILTA EXT) and 16290 to Surface breakout box (TILTA EXT) -> Hand Unit

b. Left Control Grip Panel(the 3rd EXT) -> 3 Pin R/S port for Triggering (either directly to camera, or to Run/Stop Control Panel to combine with housing thumb lever activation).

*1. 3x motors are workable for use both Manual and Surface remote control in this sequence.
*2. Zoom A-B Range and Focus/Iris A-B Range work fine, but LEDs in one Control Grip Panel would not light on.

Additional N200 Housing and Port Accessories

16423 Housing Extension 100mm for 16140 (Depth Rating 40m)

16405 N200 250mm optical glass wide angle port (Depth rating 45m)

16407 N200 180mm Glass Flat Port (Depth rating 40m).

16402/3/4   N200 Extension Ring 30/40/50

16421 N200 0.57x Wide Angle Conversion Port - 2 (WACP-2) 140 Deg. FOV with Compatible 14mm Lenes (incl. float collar),   Depth Rating 80m

Compatible Cable Accessories

16223 LCS Surface Cable for WCU-4 to use with Alexa Mini/LF Housing (30m)

16225 Nauticam Ethernet Cable for Surface Control of Alexa Mini Housing (45m)

16249 LBUS Surface Cable for Hi-5 Hand Unit to use with Nauticam Alexa 35 Housing (30m)

16246 Replacement of Internal LCS Cable (from the Camera to housing bulkhead)

16247 Replacement of Internal LBUS Cable (from the Camera to housing bulkhead)

16248 Converting Cable for 16223 to use with Hi-5 Hand Unit

SDI Cable and Accessories

25058 M16 SDI Bulkhead

25059 SDI Coupler

25060 SDI Cable in 0.4m Length

25061 SDI Cable in 0.75m

25064 SDI surface monitor cable in 15m length (for connection from SDI Bulkhead to Surface Monitor)

25065 SDI surface monitor cable in 45m length (for connection from SDI Bulkhead to Surface Monitor)

25066 SDI **Bulkhead** Cap

25067 SDI **Cap**

For Reference Only

Mounting Options

 # 72501 Standard Clamp
 # 72503 Long Clamp

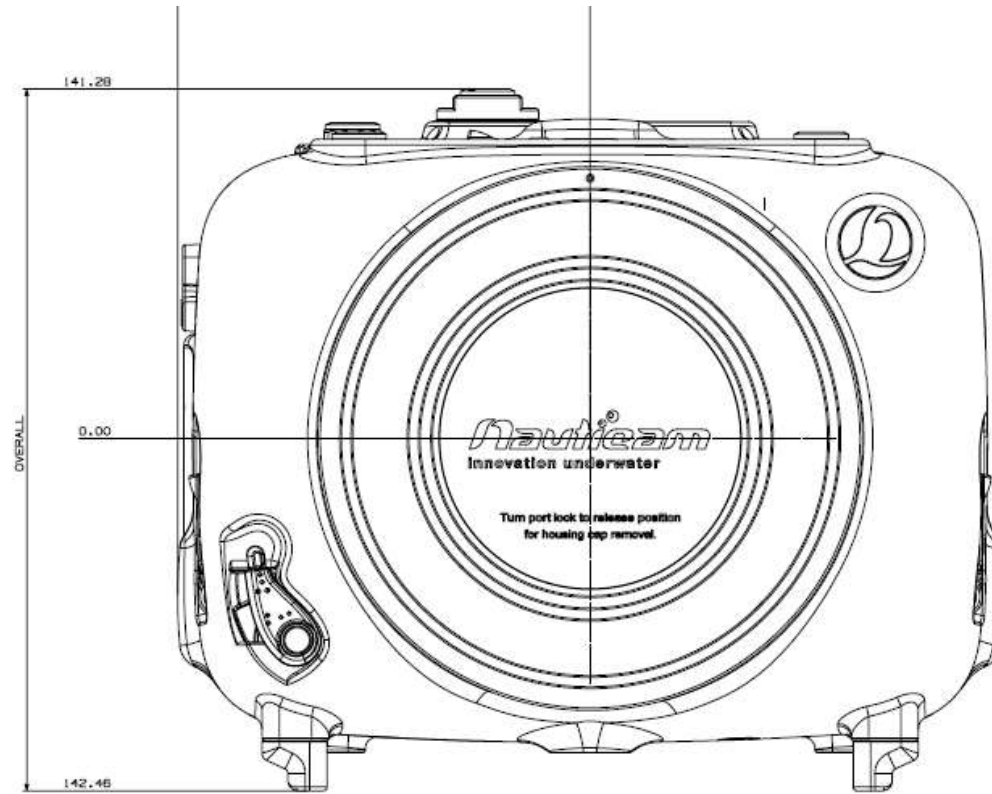**# 25221 M10 Mounting ball**
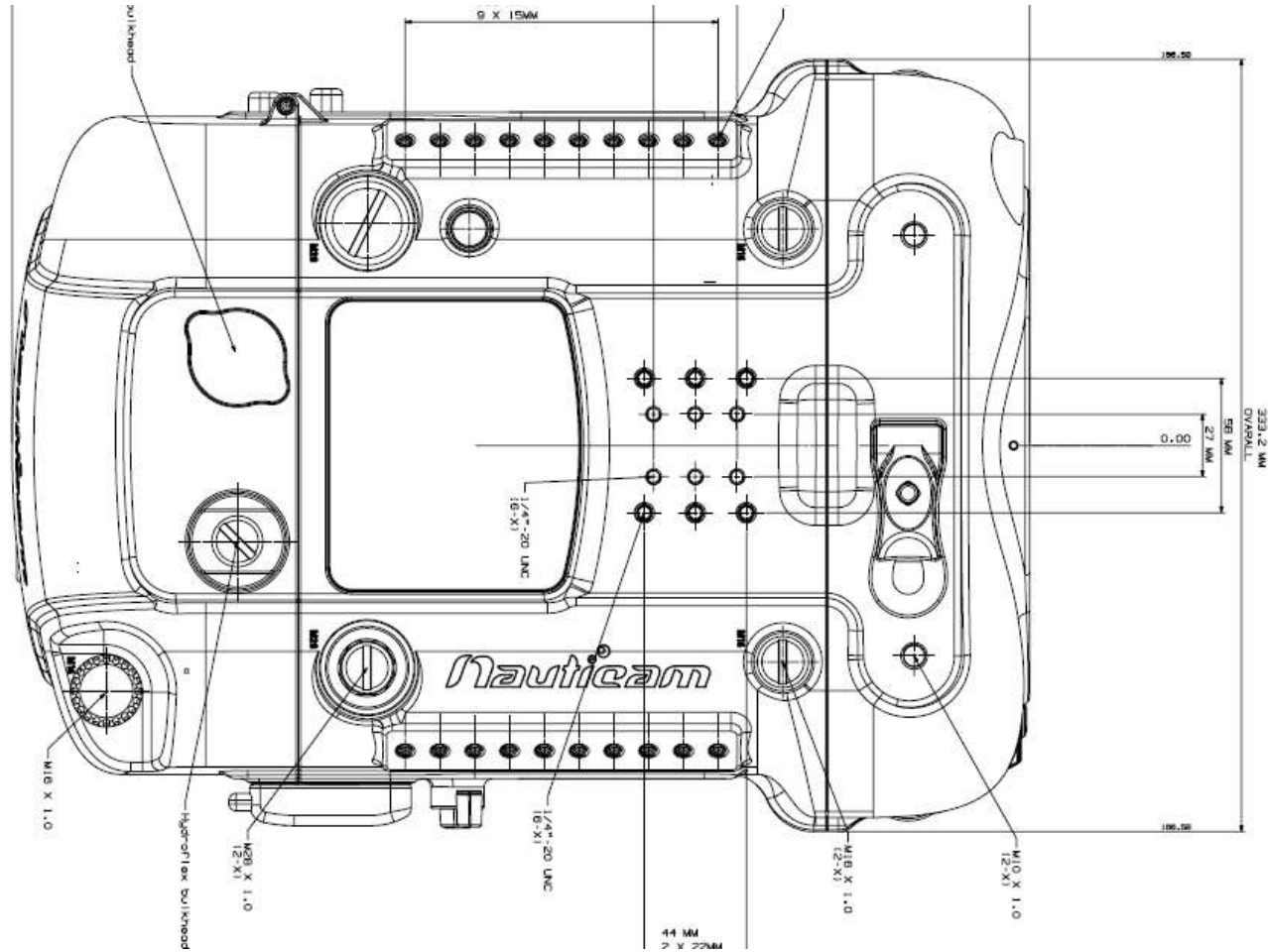

#72505 Triple Clamp

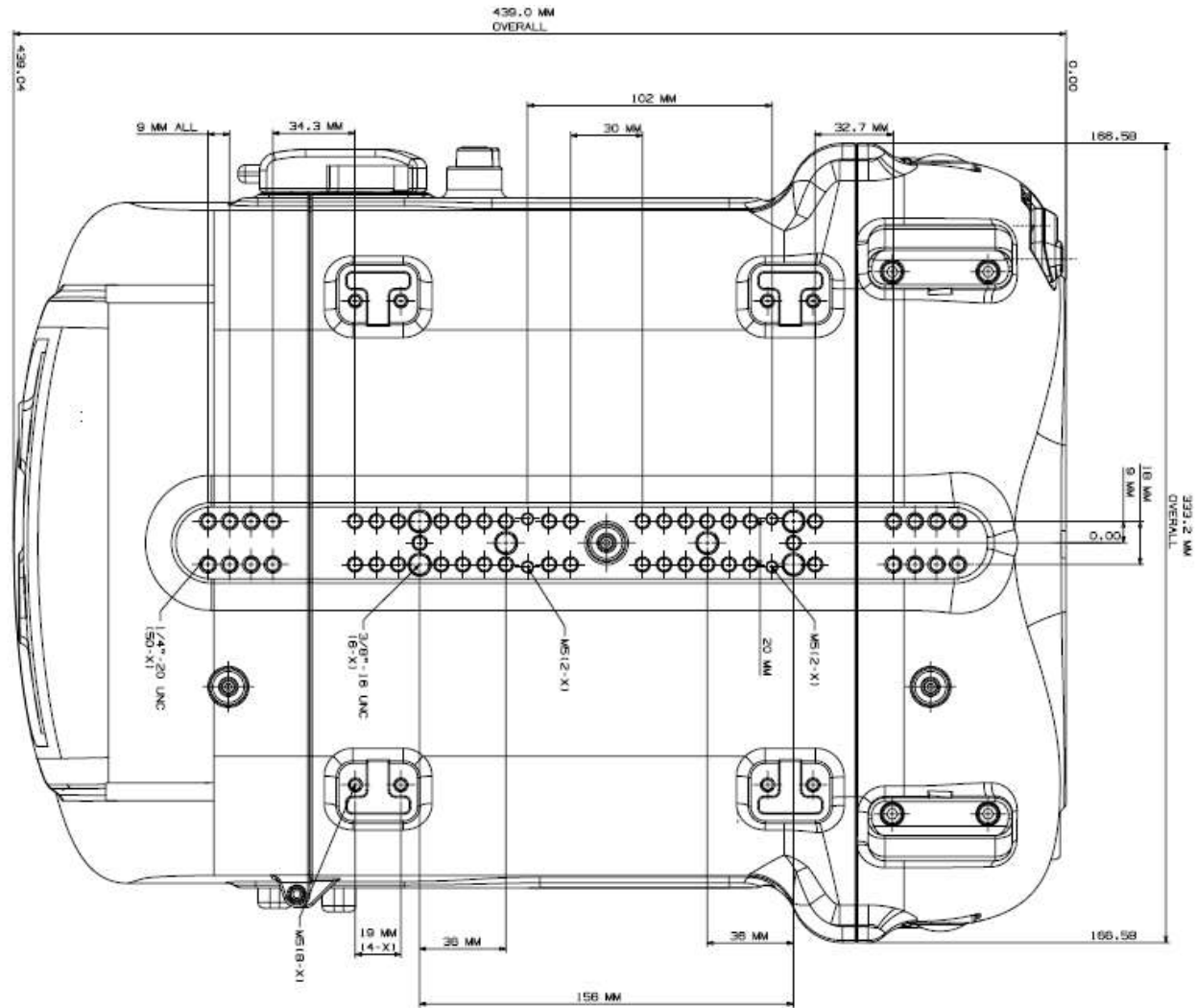**# 16295 Mounting bracket for Dive Weights**

16140 Housing dimensions

16140 Housing dimensions

16140 Housing dimensions

To do list - 1

#1628X   Adaptor plate and Control kit for RED DSMC2 to use with 16281

Includes:

- Camera mounting adapter plate

- 4PIN XLR to LEMO.1B.6-Pin power cable

- 4PIN CTRL to 3PIN Fischer RS cable(Compatible with V-Lock Expander and Jetpack Expander)

*for use with DSMC2 Base-Expander, Wooden camera 3pin Fischer Trigger Cable (RED® DSMC1™, DSMC2™) is required for Housing Trigger.

with 16281
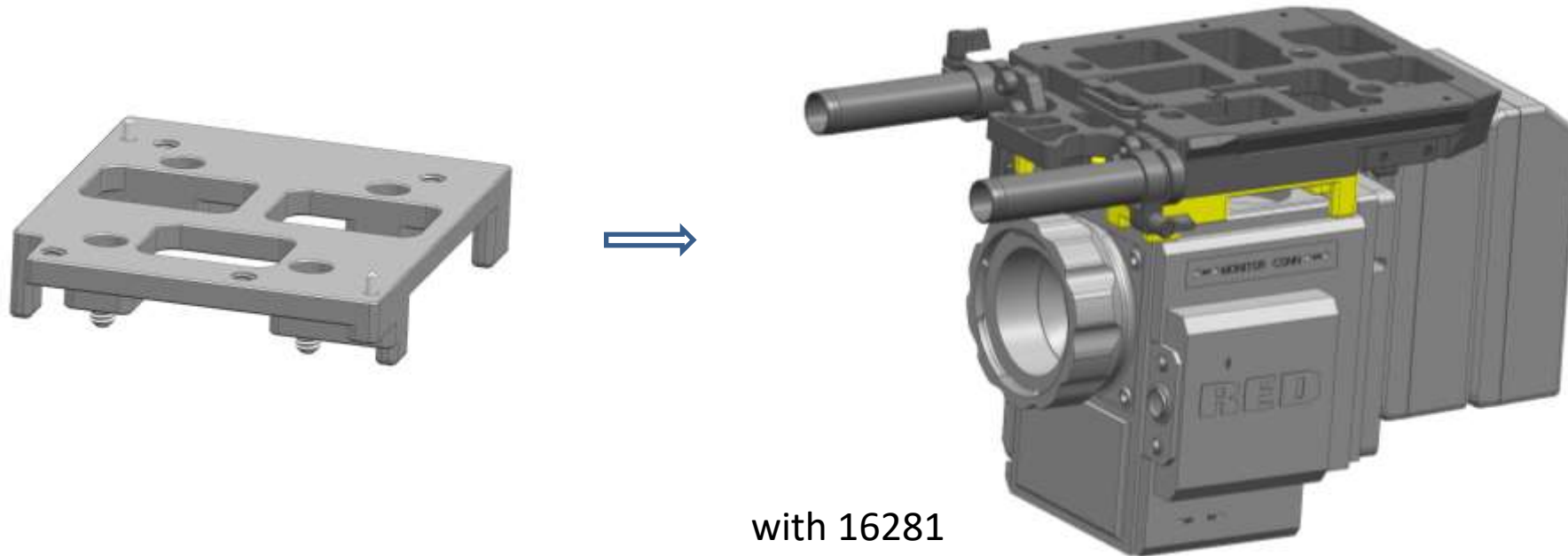
To do list - 2

#16293 RCP2 Expansion Panel with Cable for RED V-Raptor/XL, Komodo-X/Komodo
Under development 开发中

To do list – 3   Mounting Options

17961 Swivel and Tilt Adjustable Monitor Mount System with mounting adaptor(in yellow)