## ERack 3<sup>®</sup>

# **cp**cases

66666



## **Introducing ERack 3**

For many years, customers have relied on our innovative ERacks for protection, transport and storage of valuable 19" rack-mount electronics. Our engineers are continually striving to further improve these lightweight ruggedised 19" transit cases, and we are now proud to preview ERV3. The worthy successor to our previous ERack design, now over 10 years old – with many thousands in use all around the world.

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The innovative ERV3 design offers the user an extraordinarily lightweight rugged enclosure, with an exceptional strength-to-weight ratio. Lids are press formed to give stiffness and enhanced rigidity as well as dimensional accuracy. CNC formed male/female extrusions which are bonded to the body and lids to ensure a perfect 'mate' – providing the weather proof silicon gasket with a repeatable compression set.

#### **CP Cases Size Numbering System**

RRV3	06	61	-	07	07	
ERack3	U-height	Chassis Depth (cm)		Lid depth Front (cm)	Lid depth Rear (cm)	



The newly designed rotary latch is simple and easy to use – even with gloved hands – and provides a simple functional closure that resists shock and vibration. Optional large external rubber buffers give additional protection as well as a non-slip positive stacking feature – to cope with rough transport conditions. New elastomeric AVM design with improved sway space and greater elastomeric excursion gives enhanced protection against shock and vibration.

ERV3 enclosures incorporate the innovative lightweight CV2 high tensile extruded 19" chassis – designed to give torsional rigidity and stiffness when under severe loads. Resistant to shock, drop, impact, vibration, dust, and water, and certified to MIL-STD- 810G and IP66, the new ERV3 ERacks are the perfect 19" ruggedised enclosures for defence and commercial applications.



## **Size List**

	н	D	W
DDV/2 02/2 0707	2/1	710	580
DDV2 0240-0707	241	210	580
DDV2 0274 0707	241	040	580
DDV2 02274-0707	241	1100	580
DDV2 0249 0707	241	710	580
DDV2 0261 0707	200	210	580
DDV2 0274 0707	200	040	580
RRV3 0374-0707	286	1100	589
BBV3 0448-0707	330	710	589
BBV3 0461-0707	330	840	589
RRV3 0474-0707	330	970	589
BBV3 0487-0707	330	1100	589
RRV3 05/8-0707	375	710	589
DDV2 0561 0707	275	840	580
DDV2 0574 0707	275	040	580
DDV2 0597 0707	275	1100	580
DDV2 0649 0707	410	710	580
	419	210	589
	419	840	509
	419	9/0	589
000/-U/U/	419	710	589
RRV3 0/48-0/0/	464	710	589
RRV3 0/61-0/0/	464	840	589
RRV3 0//4-0/0/	464	970	589
RRV3 0787-0707	464	1100	589
RRV3 0848-0707	508	/10	589
RRV3 0861-0707	508	840	589
RRV3 0874-0707	508	970	589
RRV3 0887-0707	508	1100	589
RRV3 0948-0707	550	710	589
RRV3 0961-0707	550	840	589
RRV3 0974-0707	550	970	589
RRV3 0987-0707	550	1100	589
RRV3 1048-0707	597	710	589
RRV3 1061-0707	597	840	589
RRV3 1074-0707	597	970	589
RRV3 1087-0707	597	1100	589
RRV3 1148-0707	642	710	589
RRV3 1161-0707	642	840	589
RRV3 1174-0707	642	970	589
RRV3 1187-0707	642	1100	589
RRV3 1248-0707	686	710	589
RRV3 1261-0707	686	840	589
RRV3 1274-0707	686	970	589
RRV3 1287-0707	686	1100	589
RRV3 1448-0707	728	710	589
RRV3 1461-0707	728	840	589
RRV3 1474-0707	728	970	589
RRV3 1487-0707	728	1100	589
RRV3 1548-0707	773	710	589
RRV3 1561-0707	773	840	589
RRV3 1574-0707	773	970	589
RRV3 1587-0707	773	1100	589
RRV3 1648-0707	818	710	589
RRV3 1661-0707	818	840	589
RRV3 1674-0707	818	970	589
RRV3 1687-0707	818	1100	589
RRV3 1848-0707	861	710	589
RRV3 1861-0707	861	840	589
RRV3 1874-0707	861	970	589

\* Guideline weight, subject to configuration and accessories A 350mm depth chassis is available as an option, as are half rack sizes.

		Depth			
U-Heigh	Chassis	Volume	Weight	Handles	catches

0		III	ĸy	NU.	NO.
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2	480	0.11	11.9	4	8
2	610	0.13	13.0	4	8
2	740	0.15	14.1	4	8
2	870	0.16	15.2	4	8
3	480	0.12	12.7	4	8
3	610	0.14	13.9	4	8
3	740	0.16	15.0	4	8
3	870	0.19	16.1	4	8
4	480	0.14	13.5	4	8
4	610	0.16	14.6	4	8
4	740	0.19	15.8	4	8
4	870	0.22	17.0	4	8
5	480	0.16	14.2	4	8
5	610	0.19	15.4	4	8
5	740	0.22	16.6	4	8
5	870	0.24	17.8	4	8
6	480	0.18	14.9	4	8
6	610	0.21	16.1	4	8
6	740	0.24	17.4	4	8
6	870	0.27	18.6	4	8
7	480	0.19	15.7	4	8
7	610	0.23	17.0	4	8
7	740	0.26	18.3	4	8
7	870	0.30	19.6	4	8
8	480	0.21	16.6	4	12
8	610	0.25	18.0	4	12
8	740	0.29	19.3	4	12
8	870	0.33	20.7	4	12
9	480	0.23	17.4	4	12
9	610	0.28	18.8	4	12
9	740	0.32	20.1	4	12
9	870	0.36	21.5	4	12
10	480	0.25	18.1	4	12
10	610	0.30	19.5	4	12
10	740	0.34	20.9	4	12
10	870	0.39	22.4	4	12
11	480	0.26	18.8	4	12
11	610	0.31	20.2	4	12
11	740	0.36	21.6	4	12
11	870	0.41	23.1	4	12
12	480	0.29	19.5	8	12
12	610	0.34	21.0	8	12
12	/40	0.40	22.6	8	12
12	8/0	0.45	24.1	8	10
14	400	0.31	21.1	8	12
14	740	0.30	22.0	0	12
14	740	0.42	24.2	0	12
14	670	0.48	25.7	0	12
15	400	0.33	21.9	8	12
15	740	0.39	23.4	ð	12
15	070	0.45	25.0	8	12
10	490	0.52	20.7	ð	12
10	400	0.35	22.7	ð	10
10	740	0.41	24.2	8	12
10	070	0.47	20.0	ð	10
10	490	0.00	21.0	ð	12
10	400	0.37	24.3	0	12
10	740	0.43	20.0	0	12
10	070	0.50	27.4	8	10
10	0/0	10.0	29.3	8	12

### **Key New Features**



#### Stowage pouches with zippers secured in the lid

**CP** Cases proprietary EMC & IP65 vented membrane system allowing 16ltr/min of airflow (inflow/outflow)

AI	<b>Aluminium</b> Rugged, 1.5mm high tensile aluminium alloy construction
1	<b>Chassis Depth</b> Standard chassis depths: 480mm, 610mm, 740mm and 870mm
U	<b>Sizing</b> Available in 2U to 18U sizes
HR	Half Rack designs also available
Ø	<b>Lightweight</b> The 6U 480mm deep version weighs less than 14.7kg including lids
Pat.	Patented Unique patented design
6	Secure Closure Quick release latches (surface mounted or recessed rotary type) ensure mating lid/body give water and dust tight seal
	Lids Precision manufactured and interchangeable
Ð	<b>Stackable</b> with inter-locating ribs on container top and bottom surfaces
	<b>Temperature</b> Stable in temperatures from -40°C to +70°C <b>4</b>

### **Bonding**

ERV3 employs aerospace high performance, twopart acrylic adhesives that offer excellent shear, peel, and impact performance. These toughened products provide improved adhesion to plastics and metals, and feature a fast cure rate, providing structural strength in minutes.

Tested for surface flammability, smoke, toxic gas generation, and caloric content. Conforms to ASTM E162, ASTM E662, ASTM E1354, Bombardier SMP 800-C, and Boeing BSS 7239 test methods. DP8405NS.

- Exploded view showing CNC formed extrusions bonded (green) to rack body / lids incorporating silicon gasket (red) giving water and dust tight seal
- Bonding techniques as used in other high performance engineering such as aerospace and F1 applications



## **EMC** Shielding

With the growing requirement for secure communications and protection from cyberattack, electromagnetic screening is often required.

Specialist conductive gaskets, use of wire mesh braid, embedded wire and Faraday cage features are incorporated into the ERV3 designs to offer customers various levels of EMC solutions.





Top Left: Panel ring with EMC oriented wires gasket in silicone

Top right: EMC compliant elastomer gaskets loaded with conductive particles

Left: Perforated SS cage around the 19" chassis

## **Rotary Latch**

- New design rotary latch lever offers better grip with gloved hands
- Simple 'push and turn' effects easy closure – every time

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- Rotary latch will not open under extreme vibration, drop or shock
- Stainless steel spindle and interlocking nylon tapered guides ensure lid and body align and mate every time
- Twin hollow sections of male and female extrusions offering resistance against torsional twisting and providing beam strength





### Venting, Vacuum, Pressure & Humidity



Always a consideration in sealed containers is the requirement to equalise any pressure differences between the inside and ambient outside of the enclosure. Whether it's natural venting, breathing membranes, special pressure relief valves (PRVs) or manual activated systems - the issue has to be addressed.

- Maintaining an hermetically sealed enclosure with an air and water tight seal, when there is a difference in temperature (and therefore pressure) between the enclosure internal and the ambient external poses significant problems.
- Allowing a build up differential of pressure causes the internal air to become either positively pressurised or conversely, to become a negative partial vacuum. This differential in pressure most often comes about through transporting the enclosure – where either local climate temperature changes, and/or altitude changes bring variances in external ambient. In either event, the pressure difference must be managed to maintain the enclosure seal.

• This is accomplished by utilising either specialised natural open venting systems or regulated pressure relief valves incorporated into the enclosure design to ensure the dust and watertight seal, whilst allowing the enclosure to 'breathe' - whatever the situation or environment.

 Managing this becomes even more of a challenge when the enclosure is EMC shielded – where venting has to also incorporate an EMC screen to prevent the emission or intrusion of electromagnetic waves. This is accomplished by adopting the Faraday Cage principles of introducing a mesh or metallic gauze within the venting or pressure relief system.

Fan mounting plate EMC gasket

Fan mounting plate with thumb screws

Fan cover gasket neoprene sponge Fan cover





 Managing humidity in an hermetically sealed enclosure requires understanding the moisture content at any given time. This can be accomplished by incorporating an Humidity Indicator into the build specification, pre-set and colour coded to various Rh levels. When it is apparent that the humidity levels exceed permitted levels, then 'drying out' the enclosure can be achieved by the introduction of a desiccant cartridge. CP Cases offers various designs of these - some being replaceable from the outside of the enclosure - especially useful when the enclosure / container is being used for long term storage.



#### **Customisation Options**



Snap in stowage pouches with zipped openings for both 70mm and 125mm deep lids.

Fully customised connector panels manufactured to client specification - including connector cut outs, earth studs, iriditing, painting (all specs) and silk screen printing.

New design rotary latch lever offers better grip and simple 'push and turn' closure - will not open under vibration or shock.



**Other CP** 

**Products** 



#### Foam Engineering

Knee implant in sculptured high density closed cell foam.

**Foam Engineering** CNC routed foam housing part of a 'human dummy' - used by the security services.

**Climate Control** Portable A/C and climate control for 19" enclosures.



Abrasive resistant, padded rugged textile slip over covers to protect against knocks and scrapes. Both ends are openable to allow easy access and operational with covers in place.

Earthing wire braid to ground chassis to ERV3 body with thumb screw to facilitate quick release EZ Glide chassis removal.



Options on enclosure doors include side hinge and fan cooling.





Customised Interiors

Rapid deployable Military UAV fuselage on a scissor jack platform - all inside an Amazon Container.

#### **Outside Broadcast Camera Covers**

Huge range of OB Camera rain covers - suitable for 'all weathers, any event'.

#### **Custom Solutions**

Design and manufacturing service providing cost effective rotomoulding solutions for small quantity specialist design requirements.



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