

AirShip

cpcases 

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Why use AirShip?

AirShip™ containers (Pat. Pend.) are the lightest, most rugged, customised, reusable carrying cases available.



Featherweight construction

Originally designed to meet the demands of Military and Defence customers – the combination of bonded layers of honeycomb PP and rigid closed cell foam provides a featherweight block which is CNC machined to excavate pockets and cavities that exactly match the equipment to be protected.

AirShip provides secure protection at significantly reduced weight (as low as 20kg/m³) and suitable for container sizes from 50 litre to 1000 litre, maintaining rigidity and torsional integrity. This is true whether the design is a typical base/lid container, a lightweight back pack or shoulder bag, or a pull along wheeled container such as a piece of industrial luggage.

Once the pockets and weatherproof seal have been precisely machined, the lightweight block is securely anchored into the hardwearing, abrasion resistant, waterproof, texturised nylon fabric outer. This close fitting outer cover has an inner polyester coating, is very user friendly, easily cleanable, has no hard corners or edges. It is comfortable to handle and it incorporates handles, webbing strap pull downs and weatherproof industrial zips.

Image details below, clockwise from top left:

Male / female weatherproof seal, handles and latches, weatherproof industrial zips, and bonded layers of honeycomb PP and rigid closed cell foam.

Climatic Protection – Accredited to IP66

A unique feature of AirShip is the male/female weatherproof seal between base and lid. This is accomplished by machining a compression fit, mating seal from the substrate closed cell foam, thereby eliminating the need for additional moulded / extruded profiles and rubber gasket. This novel engineered weatherproof seal provides AirShip with a fully accredited climatic seal to IP66, ensuring your equipment is protected against gale force winds and extreme rain, as well as being completely dust proof.

Drop, Shock and Vibration Protection

Hard shell ruggedised cases were formerly the traditional method of protecting valuable / sensitive equipment – where a heavy, hard outer container (such as an injection moulded case or flight case) set the standard with the need for an additional internal sculptured foam pack to protect the equipment.

Now we have AirShip – which turns conventional protective cases design thinking inside out. AirShip patented, featherweight, machined blocks (protecting against shock and vibration) no longer require a heavy, hard outer shell to maintain excellent rigidity, resistance to flex and torsional twist.

AirShip is currently going through MIL STD 810G testing procedures.

Below: AirShip in climatic protection testing, achieving IP66.



Case studies



Actia

Secure communication application for the French Army, which called for rapid deployment in field conditions where the 'all up weight' had to be less than 50kg (to comply with the 25kg man lift regulations).

The equipment included a 1m circular steel dish, ancillary tracking and mounting gear together with copper earthing bars, cabling and steel base plate mounting platform – a collective equipment weight of 31kg.

The design requirement stipulated a ruggedised container that weighed less than 50kg including the equipment, leaving a total weight for the container and all internal supports of only 19kg.

The smallest size the container could be was 122cm x 122cm x 60cm (0.89m³).

No conventional rugged case and foam internals could meet this requirement – other than AirShip.

The customised AirShip was designed to a weight of less than 19kg and approved within four weeks, with samples and production following on a few weeks later. It was rugged enough to withstand continuous military use while protecting the equipment in cushion foam pockets designed for rapid deployment and easy set up.

More details of this application are available at
<https://goo.gl/jpBQYT>

Rohde & Schwarz

An international electronics group providing products for the wireless communications, broadcast and media, cyber security and electronics industries; aerospace and defense; homeland security and other critical infrastructures. The brief called for a completely mobile solution for service engineers to travel by air, rail or road carrying delicate telecoms test equipment. These were to be housed in ruggedised lightweight containers that conformed to IATA baggage regulations in weight and size; be easily carried (or wheeled) through airports and rail terminals; be small enough to be packed into the back of an estate car; be tough enough to withstand baggage handlers and airport carousel systems, all while still looking smart and presentable when attending the clients facilities, wherever they may be.

Two AirShip containers were designed to accomplish all the requirements, which could securely nest together on a small wheeled trolley. These were easily manageable by a service engineer, and with Rohde & Schwarz branding to promote the company, the products and the service.

More details of this application are available at
<https://goo.gl/R2z5cZ>



Vislink

When Vislink launched the world's lightest battlefield communications satellite terminal, CP Cases developed an AirShip enclosure which provided portability with speed and ease of use. This back-packable system required a carrying method to facilitate easy deployment and stowage. Considering that they might have other vital equipment to carry, it needed to be light enough to not add significantly to the system's weight and therefore the user's payload.

Designed for one man operation in the most hostile environments, this AirShip case can be unpacked and the equipment made operational within five minutes, delivering the high bandwidth voice and data communications as well as high definition video intelligence that today's requirements demand.

The military-grade performance characteristics of the Cordura backpack fabric and the impact-absorbing foam cushion supports – in combination with load-spreading HPP plates – ensures that the AirShip backpack solution provides performance unparalleled with any rigid shell moulded containers.



Nokia

When the technical team from Nokia first saw CP Cases' latest innovations in equipment protection on display at the International Broadcast Convention (IBC) 2016, they quickly chose AirShip for their new Nokia OZO virtual reality camera system.

The OZO allows creative professionals to deliver highly engaging content that draws viewers into the action using its eight synchronised cameras and microphones to capture fully spherical footage.

Because of Nokia's uncompromising quality, this lightweight and compact system can be used for handheld shots, either on a Steadicam rig or beneath a drone capturing aerial footage.

The AirShip carry case, weighing just 2.75kg, ensures this 360 degree Virtual Reality (VR) system arrives safely on-location and ready for action, enabling VR creators to spend more time creating and less time worrying about the safety of their equipment.

See the Nokia OZO system here:
<https://goo.gl/XADFvG>



Dynamic Perspective

During the International Broadcast Convention (IBC) 2016, CP Cases were approached by the technical team from Dynamic Perspective who were looking for a lightweight packaging solution for their new DynaX5 5-axes gyro-stabilised camera gimbal.

Optimised for Film and TV productions, the DynaX5 camera gimbal is a unique ultra-light stabilisation platform that opens up applications on light aircraft, drones, light cable systems and cranes, in addition to conventional helicopter uses.

Originally the DynaX5 camera gimbal was supplied inside a traditional 'injection moulded' case and although the case offered the required protection during transportation, the overall weight of the case (including the gimbal) meant that the weight exceeded the 32kg airline check-in baggage allowance weight limit.

Working together with Dynamic Perspective, the technical team at CP designed and manufactured an AirShip carry case solution which protects the DynaX5 camera gimbal during storage and transportation and easily meets the required weight target of 32kg total package weight.

See the DynaX5 system here:
<https://goo.gl/TFySNE>

Drones, UAVs and AirShip

The market for commercial and military drones is growing rapidly. Drones range in size and payload carrying capacity enormously – from small, four propeller, 'backpack' size to larger industrial airframes catering for more specialist payloads and extended endurance.

Common throughout all types is they are designed to be as light as possible – which makes them susceptible to damage. Applications demand that drones are moved from location to location whilst retaining rapid deployment – where their fragility puts them at risk if not well protected. AirShip is the perfect 'protective partner' for the safe transportation of all types of drones, with internals designed to carry not only the drone, but other accessories as well – such as spare batteries, gimbals, controllers etc.

Sealed tubes can be provided to ensure spare propeller blades are protected separately in transit, as well as tight-sealing small plastic containers for tools and other small parts. AirShip models are available for many popular types of drone. Our ability to rapidly customise AirShip products to exactly suit the drone application provides the professional user with a lightweight, secure, 'rugged package' that can be handled and shipped with peace of mind.

AirShip weight comparison with injection moulded cases. Weights assume 33% foam excavation.

Injection Moulded Cases						AirShip							Weight Reduction	
Size ext (mm)			Vol (Ltr)		Weight	Part number	Size ext (mm)			Vol (Ltr)		Weight		
L	W	H	Ext	Int	Case + foam (kg)		L	W	H	Ext	Int	Case + foam (kg)	%	
530	440	215	50	35	5.82	AS5344-1606/BK	530	440	220	51	29	2.95	49%	
565	460	270	70	46	9.65	AS5646-2106/BK	560	460	270	70	41	3.41	65%	
625	495	225	70	49	6.99	AS6250-1706/BK	620	500	230	71	44	3.83	45%	
635	505	305	98	65	9.58	AS6350-2406/BK	630	500	300	95	59	4.21	56%	
630	500	355	112	77	12.13	AS6350-3006/BK	630	500	360	113	72	4.49	63%	
800	620	445	221	159	18.21	AS8062-3906/BK	800	620	450	223	157	7.40	59%	
695	700	415	202	145	18.95	AS6970-3606/BK	690	700	420	203	142	7.02	63%	
805	525	320	135	88	13.76	AS8052-2606/BK	800	520	320	133	88	5.54	60%	
805	585	500	236	172	21.18	AS8059-4406/BK	800	590	500	236	165	7.41	65%	
790	495	285	112	70	11.14	AS8049-2306/BK	800	490	290	114	74	5.07	54%	
850	725	450	277	204	21.96	AS8572-3906/BK	850	720	450	275	200	9.02	59%	
955	690	370	244	172	19.27	AS9669-3106/BK	960	690	370	245	178	8.98	53%	
1125	410	370	171	110	13.53	AS1141-3106/BK	1120	410	370	170	111	6.43	52%	
1460	470	290	199	119	14.64	AS1447-2306/BK	1450	470	290	198	135	8.50	42%	
1145	645	420	311	227	20.14	AS1165-3606/BK	1140	650	420	311	229	10.48	48%	
525	525	490	135	95	14.64	AS5252-4306/BK	520	520	490	132	83	4.46	70%	
575	575	545	180	129	16.05	AS5757-4806/BK	570	570	540	175	115	5.49	66%	
675	675	645	294	225	21.31	AS6868-5806/BK	680	680	640	296	209	8.20	62%	
1300	700	580	528	331	39.90	AS1370-5206/BK	1300	700	580	528	403	14.69	63%	
*	560	360	195	40	26	3.51	AS5636-1306/BK	560	360	190	38	20	2.51	28%
*	560	360	230	47	27	4.82	AS5636-1706/BK	560	360	230	46	25	2.64	45%
*	630	395	210	53	36	4.53	AS6340-1506/BK	630	400	210	53	30	3.12	31%
*	735	430	235	75	50	4.80	AS7443-1706/BK	740	430	230	73	44	3.81	21%
*	830	470	285	111	70	8.95	AS8347-2206/BK	830	470	280	109	70	5.00	44%

*Lightest versions of injection moulded cases on the market

AirShip is a 21st-century design, bringing reduced transport costs and weight savings over traditional ruggedised reusable cases:

- IP66 – completely weatherproof – torrential rain, sand and dust storms
- More than 50% weight saving over traditional plastic injection moulded cases and flight cases
- Easily customisable, economically with short lead times
- Minimises external dimensions (no need to conform to existing pre-determined sizes of outer case)
- Ergonomic positioning of carrying handles – to suit exactly the weight and layout of the contents
- Colour options for both the closed cell foam and the external lightweight textile cocoon (black is standard)
- External branding, labelling and identification options

- Opportunity to use the rigid lid space also to house customised equipment pockets
- 100% non metallic (excluding protected zip)
- Non-spark materials
- Resistant to extremes of tropical heat and arctic cold

The customised internal layout is designed to:

- Provide a layout to the customer's preference
- Minimise the external size
- Keep the centre of gravity centralised
- Ensure sufficient cushioning around each item of equipment
- Allow the user to easily load and unload the contents – to a specified schedule
- Ensure each item is securely stowed in its own pocket
- Offer multi layer / lift out tray options to maximise volumetric space



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