

# Safety / Rescue Harnesses

There are numerous types of safety harnesses available these days, all used in various ways and anchorage systems; the two main systems that are commonly used are fall arrest or fall restraint systems.

A full harness consists of straps passed over the shoulders and connected to a safety belt around the waist. This distributes the force of a fall when used, protecting the body against both the dangers of falling and injury from fall protection equipment.

Persons who work in areas where there is a risk of falling and select fall protection PPE as the control measure, must always correctly wear and use a suitable safety harness.

## Harness Selection

Buying a safety or rescue harness to keep your workers safe whilst working from height can be a confusing process. To help you make an informed decision, there are a number of points on the harness you need to be aware of.

Here are some tips from a1-cbiss:

### Rear Attachment

On the rear of the safety harness is the D-ring. It connects your harness to the anchorage point via attachments. Some harnesses have a height adjustment via buckles on shoulder straps. The full body type of harness may be elasticised to encourage correct fitting, and for the users comfort. Back D-rings should be located and tightened in the middle of the back between the shoulder blades for a 'snug' fit.

### Front Attachment

On the front of the safety harness should be a chest strap. Harnesses have a D-ring on the front. This is to provide the user with a way of attaching to an anchor, or safe system of work, for example ladder systems.

The important thing to note with this type of attachment is that unless the harness is worn correctly; there is a risk that the D-ring and buckle can strike the user in the neck and under the chin if you are involved in a fall.

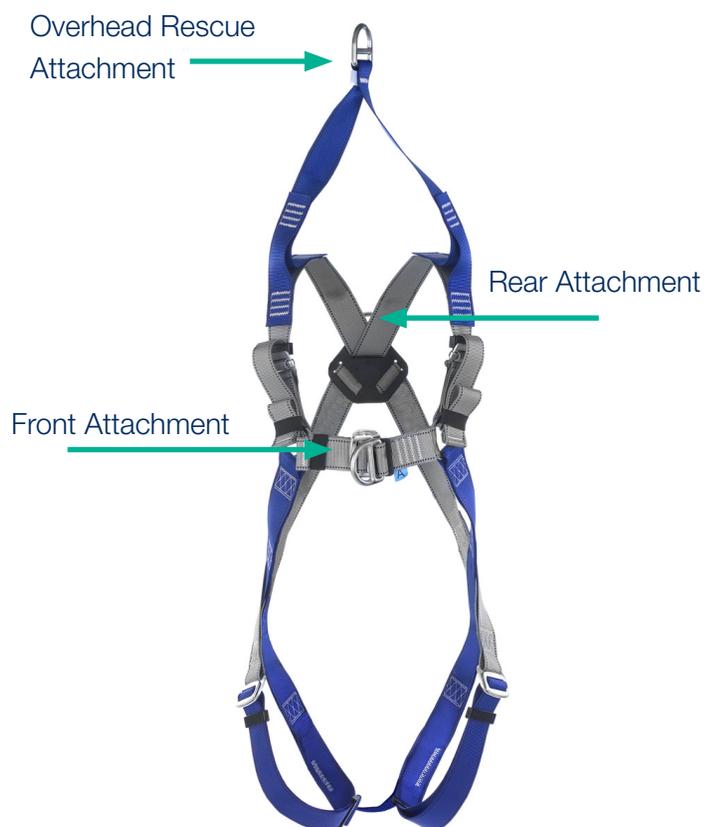
For rear and front attachments, it is important to take care when attaching your safety equipment in relation to the D-ring. If the anchorage point is behind you, then use the rear D ring and if the anchor point is in front of you, use the front D ring.

### Overhead Rescue Attachment

The overhead rescue attachment allows evacuation descent and remote rescue by lowering or raising during rescue. A fall arrest device with recovery mechanism may be attached to the overhead attachment point when used in a vertical application providing the lifeline is attached to a tripod for confined space work.

### Chest straps

Chest straps should be easy to adjust, but must withstand fall forces without tearing or breaking during a fall. If a chest strap is not fastened properly, it can slide up around a worker's neck after a fall. The chest strap is there to stop the shoulder straps from parting, and allowing the user to fall out the front of their harness. Chest straps are to be positioned and tightened in the mid-chest area for a 'snug' fit.



### Correct Harness Use

Before use, you should inspect the harness for signs of wear and tear. It is vital that safety harnesses are fully checked over before each use to ensure there is no damage which could affect the safety rating of the harness.

Check the buckles or fasteners and make sure the equipment is in good working order. Look for signs of wear in the webbing and any deformity in the solid parts of the harness. You also need to make sure that your anchor point is secure and stable. It's no good having a good quality harness if it's not attached to a suitable anchor point.

Any harness that has been through a fall needs to be removed from use and inspected thoroughly before using it again. Check for any deterioration, cuts, nicks or other damage to any part. Stress can damage the harness; even if it has performed its function correctly.

## Harness Features

**Hardware** must be sturdy, but not oversized and awkward. At the same time, the hardware should easily attach to connecting devices. For example, the back D-rings on some harnesses are so small that hooking a lanyard can be a tricky process. Harness hardware must also be smooth because it can pose a hazard if it has sharp edges that cut into harness webbing or dig into the skin in the event of a fall.

Hardware construction is an important feature specifically in friction buckles. If friction buckles are not spring-loaded, they can easily begin to loosen once the harness has been adjusted to fit properly. Also, be aware of hardware with exposed springs, especially on friction buckles. These can easily be disabled or dislocated.

**Webbing** varies drastically from brand to brand. Look for sturdy webbing with tightly-woven yarn that slides through hardware without snagging.

When choosing webbing, keep in mind that it should meet the ANSI standard of 5,000 lbs. tensile strength. Stitching should have enough strength that it does not rip away during a fall, and the webbing should endure traditional abrasion tests without fraying and puckering. Once webbing is cut, burned, frayed, etc., the harness must be taken out of service.

Since webbing will be used in sun, heat and moisture over extended periods of time, it should resist natural weather effects. Similarly, in an electrical environment, webbing must resist conductivity, and in a harsh chemical environment, webbing must resist toxic chemical fumes and splashes.

**Padding** should be flexible and easy to adjust to ensure a comfortable fit. Like webbing, padding must withstand harsh weather and maintain its shape. Some padding can become brittle in cold weather, so look for padding with breathable fabric and durable construction.

## Harness Comfort

Remember, people are more likely to wear a harness and wear it properly if it is comfortable and if it easily adapts to lanyards and other connecting devices. The better the

harness, the better chances of employee conformance. Conformance increases safety and reduces liability risks. Most importantly, conformance saves lives.

Comfort and fit affect the safety and use of a harness – influencing compliance. If fall protection equipment is difficult to don and hard to adjust, it won't be used. With comfort in mind, workers use several different types of harnesses but the majority prefer full-body harnesses with stretchable webbing that allows them to flex and bend.



Some harnesses are available with waistbelts or waistcoats to add comfort for the wearer

**Quick Connect Fastenings** make the harness easy to fit and remove



**Quick Release Buckles** make the harness easy to fit and remove which increase employee's motivation to put on the harness.



### Appropriate Harness Sizing

Harnesses offer simple adjustment on shoulder straps, chest strap and leg loops to ensure maximum adjustment to fit an extensive size range.

## Why Buy an IKAR Harness

Surprisingly, some brands of harnesses do not meet basic safety standards. Before purchasing fall protection products, ask the following questions:

**Are the products manufactured in an ISO 9001 facility?**

A: ISO 9001 certification proves a facility meets strict international standards and represents consistency in the manufacturing process. Since 2006, IKAR has manufactured quality products in accordance to ISO9001:2008.

**Do the products meet international standards?**

A: IKAR provide a range of personal fall protection equipment tested to European, ANSI and CSA standards. Where possible, IKAR works to the most up to date standards.

IKAR safety harnesses with overhead rescue attachments comply to EN1497:2007. The attachment point has been tested additionally to the requirements of EN361:2002.

**Does the manufacturer utilise independent, third-party testing?**

Reputable manufacturers are often members of the Safety Equipment Institute (SEI) or utilize the services of other independent test labs that provide written test results/certification. Ask for written proof of certification.

A government safety organisation of the DGUV CE 0299 in Haan, Germany, an independent inspection authority supervises IKAR throughout the manufacturing process.



**IKAR GB Limited**

Choosing from the vast range of safety and rescue harnesses can be a difficult job, so we've put together an easy overview of single and two point harnesses.

## Single Point Harnesses

	Harness Type	D Rings	Fastening / Buckle Type	Weight	Certification	Application	Area of Use
	<b>Single Point Harness</b> Rear dorsal fall arrest	<b>IKG1A</b>	Quick connect	1.10Kg	EN361:2002	Fall restraint Fall arrest	Industrial Construction Utilities
		<b>IKG1B</b>	Quick release	1.35Kg			
	<b>Single Point Harness</b> Rear dorsal fall arrest Overhead rescue	<b>IKG1AR</b>	Quick connect	1.10Kg	EN361:2002	Fall restraint Fall arrest - confined space	Industrial Construction Utilities
		<b>IKG1BR</b>	Quick release	1.65Kg	EN1497:2007		

## Two Point Harnesses

	Harness Type	D Rings	Fastening / Buckle Type	Weight	Certification	Application	Area of Use
	<b>Two Point Harness</b> Rear dorsal fall arrest Front dorsal fall arrest	<b>IKG2A</b>	Quick connect	1.35Kg	EN361:2002	Fall restraint Fall arrest	Industrial Construction Utilities
		<b>IKG2B</b>	Quick release	1.60Kg			
	<b>Two Point Harness</b> Rear dorsal fall arrest Front dorsal fall arrest Overhead rescue	<b>IKG2AR</b>	Quick connect	1.50Kg	EN361:2002	Fall restraint Fall arrest - confined space	Industrial Construction Utilities
		<b>IKG2BR</b>	Quick release	1.60Kg	EN1497:2007		
	<b>Two Point Harness</b> Rear dorsal fall arrest Front dorsal fall arrest	<b>IKG2AW</b>	Quick connect	1.90Kg	EN361:2002	Fall restraint Fall arrest Work positioning	Industrial Construction Utilities
		<b>IKG2BW</b>	Quick release	2.10Kg	EN358:2000		

While every effort has been made to ensure that the information contained within this guide is comprehensive and accurate, a1-cbiss Limited will not accept any liability for errors

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