

Helios Mistral WP6 8x42 Binoculars

Review

Awards: Best Low Cost Binocular 2016

About Helios Optics

Whilst in the US, I think it is true to say that the Helios brand fairly unknown and is actually quite hard to get hold of their products, but in the UK they have been around for over 50 years now and have a sizable and loyal following. If you are new to the brand, you can read more about [Helios binoculars and their products here](#).

Helios Mistral WP6 Binoculars

The Helios Mistral WP6 series is a low costing range that currently consists of 10 models, with sizes starting at mid-sized 32mm bins, right up to large 50mm bins and all available in a selection of magnifications.

Aimed at birders and general use, all Helios Mistral WP6 binoculars come equipped with BaK-4 roof prisms, fully multi-coated optics, with water and fog proof bodies and there are a few premium models that also incorporate an ED element into their lenses.

I was sent the standard 8x42 version to test and below you can read my full Helios Mistral WP6 8x42 binocular review that I wrote after thoroughly researching and testing it:

Main Features

- Low Cost Bins (approx £110)
- Polycarbonate Chassis
 - Sealed & Nitrogen filled for water & fog proofing
 - Tripod Adaptable
- Fully Multi-Coated Optics
- BaK-4 Silver Coated Roof Prisms
- Field of View: 387ft @ 1000yds
- Close Focus: 2m (6.6ft)
- Twist-Up Eyecups
 - Eye Relief: 17.5mm



Winner
Best Low Cost Binocular
www.bestbinocularreviews.com

Price Range: (2/6) Low Cost Binoculars

Ideal Uses:

General Use	
Birdwatching	
Outdoor	
Sports	
Safari & Travel	
General	
Wildlife	
Hunting	
Marine Use	



The Body

Body Shape

At first glance these look to have your very typical and standard modern roof prism shape, however on closer inspection you will notice that there is a slight twist in that the bridge that connects the two barrels is positioned closer to the eye-pieces than the objectives and not at the center as is most typical.

This top hinge design has become more and more popular of late. The main reasoning behind this is that it positions the focus wheel at a more accessible distance and more importantly frees up more of the ends of the barrels to clasp hold of for a more dependable grip. Be that whilst you are glassing or when you are simply carrying them about.



Rubber Armouring

Most of the exterior body surface is covered in a dark rubber cover (apart from a few details and the central bridge). This cover is fitted to very tightly to the chassis which is good as I sometimes find that they can come away and even move about a bit, especially on cheaper binoculars.

The rubber is very hard: The good side to this is that it most likely has less chance of falling apart or perishing than the softer rubber covers that you also sometimes get. On the down side, this hardness and the fact that it is almost completely smooth makes it far from the grippiest exterior that I have held onto.

Set at a distance of approximately 11mm in from the ends of the barrels, the objective lenses are very well protected on the Helios Mistral WP6 8x42 binoculars.

Chassis

Whilst Magnesium is currently considered to be the best chassis material, it is also expensive to produce and so is usually only the reserve are higher end instruments.

As with all models within the WP6 series, these have a Polycarbonate chassis under the rubber exterior. This is nothing to worry about, as at this price range this is the most commonly used material as it provides a good combination between weight, strength and price.

Tripod Adaptable

By unscrewing the cap on the central pivot, you expose a thread that will accept almost all standard tripod adapters with ease and which is why these are described as being tripod adaptable.

Weatherproofing

Advertised as being waterproof, Helios Optics do not go on to quantify it in their marketing. However I have found out from the distributors that they are rated as being completely watertight for 3 minutes at a depth of 1.5m of water.

Helios also mention that their Mistral WP6 binoculars are filled with nitrogen gas to inhibit fog from forming on the interior glass surfaces, it means that the chassis is obviously air (gas) tight and thus also be water tight to at least shallow depths. So I wouldn't take them scuba diving, but they will be more than fine in most normal wet weather conditions!

Eye-cups

The twist-up eye-cups work really well, which is nice to see as in my experience are better than most at this price point. When I say work really well, I mean that the actual action of twisting them up and down was nice and smooth and there was no free play or movement on the sample that I was testing.

Like the chassis, the housing has a rubber covering which is very typical and adds a level of comfort that you normally expect to find on most bins, but which is not quite on a par with the very best high end models. However this



really is nothing to be overly concerned with and is more of an observation as to the small differences between normal and high end products.



Focusing

As with the eye-cups, I thought that the focus wheel was better than what you typically find at this price range and for similar reasons as well: My sample had a perfectly smooth action from one end of the focusing range to the other and there was zero free play or unwanted movement.



The wheel is nicely placed and easy to reach and unlike the perfectly smooth body, the exterior of the focus wheel has a good etched surface that increases grip. This small detail is good, but is actually very important if you ever get to use your bins in the winter with gloves on, making it far painless to accurately and quickly change the focus.

Focusing from one end of the place to the other takes two entire turns of the wheel. This is more than most bins, but not an excessive amount. On the plus side it makes it easier to make small adjustments, but on the negative it takes more turning and thus time to make big changes.

Diopter

As with the vast majority of bins, you turn the diopter ring which is placed just under the right eyepiece in order to calibrate your binoculars to your personal vision.

This diopter ring is not lockable as some of the best are, but there is a good level of resistance so that unwanted movement should not occur that often.

IPD (Inter-Pupillary Distance)

The main reason for the central hinge is enable you to position the eye-cups at the same distance apart as your eyes.

On the Helios Mistral 8x42 binoculars, this IPD setting goes from a minimum of 5.5cm right up to 7.5cm, which is pretty typical for a full sized bin.



Body Quality Score: 7/10

Weight

Measuring in at 24.1oz / 683g you can see from the table below their weight is about average for a 42mm binocular:

8x42 Binoculars - Weights & Dimensions:

	Weight	Length	Width	Height
<u>Celestron Nature 8x42 DX</u>	22.2oz (629g)	5.3in (13.5cm)	4.9in (12.4cm)	2in (5.2cm)
<u>Vanguard Spirit ED 8x42</u>	22.6oz (641g)	5.7in (14.5cm)	4.9in (12.4cm)	?
<u>Hawke Nature-Trek 8x42</u>	23.5oz (665g)	5.6in (14.1cm)	5in (12.7cm)	2.2in (5.5cm)
<u>Celestron 8x42 Granite</u>	24oz (680g)	5.8in (14.7cm)	4.0in (10.3cm)	2.1in (5.3cm)
Helios Mistral WP6 8x42	24.1oz (683g)	5.7in (14.5cm)	5.12in (13cm)	2.17in (5.5cm)
<u>Vortex 8x42 Viper HD</u>	24.2oz (686g)	5.8in (14.7cm)	5.3in (13.5cm)	?
<u>Meade Rainforest Pro 8x42</u>	25.6oz (726g)	5.8in (14.7cm)	5.0in (12.7cm)	2.05 (5.2cm)
<u>Hawke 8x42 Sapphire ED</u>	25.7oz (730g)	5.5in (14cm)	5.1in (13cm)	2in (5.1cm)
<u>Kowa 8x42 BD</u>	25.7oz (729g)	5.7in (14.5cm)	5.0in (12.7cm)	2.0in (5.1cm)
<u>Snypex Knight ED 8x42</u>	26.8ozs (760g)	5.5in (14cm)	5.2in (13.2cm)	2in (5.1cm)
<u>Celestron Nature 8x42</u>	27 oz (765 g)	5.7in (14.4cm)	4.3in (11cm)	2.1in (5.3cm)
<u>Eagle Optics ED 8x42 Ranger</u>	27.4oz (777g)	6.7in (17cm)	5.0in (12.7cm)	?

Dimensions

As with their weight, their outer dimensions with the central hinge fully opened are easily within what I would call normal for a 42mm bin.

Body Stats Score: 7/10



Optical Components

Lenses

Obviously the objectives are 42mm in diameter and I measured the oculars to 21mm. However other than that I cannot really expand as no other details are supplied.

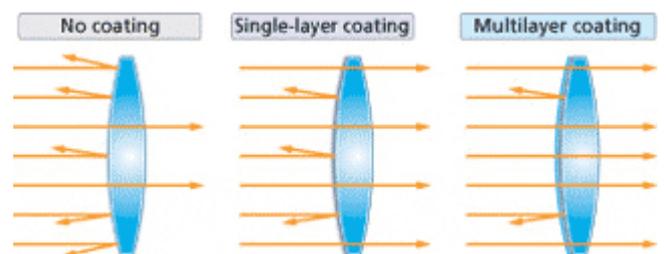
Prisms

What I can say is that the roof prisms within the Mistral WP6 are made from BaK-4 glass, which at this price is not always a given and so is nice to see.



Coatings

Almost all modern bins have some sort of 'anti-reflection coatings' applied to at least some of the glass surfaces within the optical system to prevent unwanted reflections that can affect the view. These coatings also ensure that more light gets through the surfaces that they are added to as less is reflected away - the result is a higher transmittance level and thus hopefully a brighter image.



To reduce production costs and keep prices down, cheap binoculars and even low costing ones within this class often have fewer of these coatings applied to each surface or even have only a few of the surfaces treated.

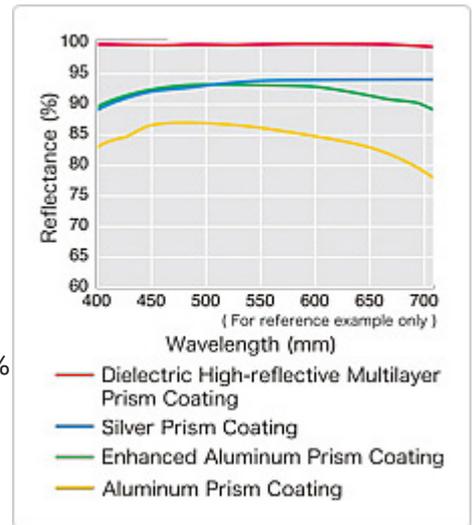
This is not the case with the Helios Mistral WP6 binoculars as their optics are marketed as being Fully Multicoated which implies that every surface has had multiple coatings of this material - good stuff.

Mirror Coatings

To get as much light to reflect off the roof prisms as possible and thus increase the amount that gets to your eyes, manufacturers will add a highly reflective material to the prism. There are a number of commonly used mirror coatings, the best are Dielectric that can reflect over 99% of the light, however this process is very expensive and thus is usually only found on high end optics.

The cheapest option is an aluminium coating (between 87% and 93% reflectivity), which is fairly commonly used amongst cheap binoculars.

However these Helios Mistrals have Silver coatings which usually can reflect between 95% and 98% of the light that hits them.



Phase Coated

Whilst the ED version of the Mistral WP6 is confirmed as using phase correction coatings, this non ED version does not which whilst is not unusual at this price level (see comparison table below), it is a bit of a shame.

Optical Comparisons

	Prism Glass	ED Glass	Anti-Reflection Coatings	Prism Coatings	Phase Corrected
Orion 8x42 ShoreView	BAK-4	No	Multi-Coated	?	No
<u>Braun WP 8x42 Binoculars</u>	BAK-4	No	Fully Multi-Coated	?	No
<u>Celestron Nature 8x42</u>	BAK-4	No	Fully Multi-Coated	?	Yes
<u>Tom Lock Series 2 8x42</u>	BAK-4	No	Fully Multi-Coated	Silver	Yes
Helios Mistral WP6 8x42	BAK-4	No	Fully Multi-Coated	Silver	No
<u>Meade Rainforest Pro 8x42</u>	BAK-4	No	Fully Multi-Coated	Silver	Yes
<u>Hawke 8x42 Nature-Trek</u>	BAK-4	No	Fully Multi-Coated	Silver	Yes
<u>Bushnell 8x42 NatureView</u>	BAK-4	No	Multi-Coated	?	No
<u>Celestron 8x42 Nature DX</u>	BAK-4	No	Fully Multi-Coated	?	Yes
<u>Hawke Sapphire 8x42 ED</u>	BAK-4	Yes	Fully Multi-Coated	Dielectric	Yes

Optical Features Score: 6/10

Optics - Stats

The Field Of View (FOV)

Measured at 387ft wide at a distance of 1000 yards away, the field of view on the Mistral WP6 8x42, whilst a little off the very widest, it is perfectly acceptable for a pair of 8x42 binoculars:

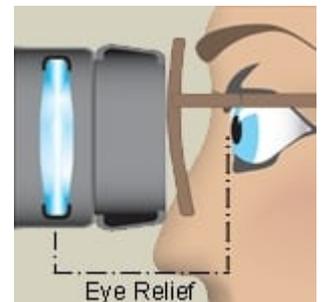
	FOV at 1000yds	Near Focus	Eye-Relief
Celestron 8x42 Granite	426ft	6.5ft	17mm
Hawke 8x42 Sapphire ED	426ft	6.6ft	18mm
Swarovski 8.5x42 EL	399ft	8.0ft	18mm
Meade Rainforest Pro 8x42	395ft	6.6ft	17mm
Tom Lock Series 2 8x42	388ft	6.6ft	?
Hawke 8x42 Nature-Trek	388ft	6.6ft	18mm
Celestron 8x42 Nature DX	388ft	6.5ft	17.5mm
Levenhuk Monaco 8x42	387ft	4ft	18mm
Helios Mistral WP6 8x42	387ft	6.6ft	17.5mm
Celestron 8x42 Nature	369ft	9.2ft	18mm
Vortex 8x42 Viper HD	347ft	5.1ft	20mm
Kowa 8x42 BD	330ft	6.5ft	18.3mm
Vanguard Spirit 8x42 ED	330ft	8.2ft	19mm

Eye-Relief:

The 17.5mm of eye-relief along with more than decent twist-up eyecups means that these Helios binoculars should be fine for those who need or want to use their bins whilst wearing glasses.

Near Focus

At about 2 meters (6.6ft), the minimum close focusing distance is pretty standard for a full sized 8x bin and thus fine for occasionally viewing objects at closer ranges. However if you often do this often, say for example you have a particular interest in butterflies, you may decide to opt for a closer focussing instrument.



Optical Stats Score: 8/10

Image Quality

The overall image quality was one area where I was very impressed with the Helios Mistral WP6 8x42 binoculars. I will go as far as to say I may have (only very rarely) used bins in this class that are as good as these, but never any better. Indeed in my experience the image quality on this bin is every bit as good the better mid-range instruments out there.

Considering that they don't have features like ED glass and are not phase corrected, this is very impressive and it goes to show that a well designed optical system can sometimes outperform an average one with all the bells and whistles.

To get to this conclusion, I put the Helios 8x42 Mistral binoculars through my usual tests and compared them as usual to my benchmark binoculars, which have to be say are way more expensive than this pair.

Image Brightness

I could not observe any major difference is in the brightness between these and my high end 8x42 benchmarks in normal light during the day. In poor light they were perhaps a fraction less bright in my eyes, but the difference was miniscule.

Contrast & Colors

Both the level of contrast and just how vivid the colors were looked to be normal to me. No issues at all.

Color Fringing

Features like **ED (Extra low dispersion glass)** can help reduce the amount of color fringing that you see by reducing the relevant distortions.

These don't have ED glass, but even so I would say that the level of color fringing was more than acceptable and only really notably more than high quality bins if you really look for it.



Image Softening & Flatness

Softening around the edges is extremely minimal and at this level as little as I have ever seen.

I also was never aware of any distortions that can make the image look like it is not flat.

Score for Image Quality: 8/10



Included Accessories:

Carry Case

The black, rather generic and unbranded soft carry case is fairly typical at this price level. Made from what looks to me like a woven nylon material, it is reasonably weather protected, tough, long lasting and looks to have good quality stitching along the edges.

The lid folds over the top of the case and is held closed using a small strip of Velcro. This works reasonably well and is quick to access, however it is not as secure as a Zip for example and in certain circumstances, you have to be careful not to make too much noise when opening it that could either give your position away or startle whatever it is you want to observe.

The case comes with its own permanently fixed carry strap, which is un-padded, but its length can be adjusted. On the rear of the case there is also a large belt loop.

Inside there is a separate pocket and a reasonable amount of padding to protect your optics.

The bins fit easily into the case and can be stored with their eye-cups extended and the lens covers in place - something that is not always the case!



Neck Strap

The included black neck strap is very basic. Completely un-padded, it is mostly made from woven nylon and attaches to the instrument in the standard way using a couple of sliders so that you can change the length to suit your preferences.

So whilst it is not uncommon for binos at this price range to have equally simple straps, there some which are much better.

Objective Lens Covers

The tethered objective lens covers are very typical. They have a good fit over the ends of the barrels and are also connected to them with a separate rubber loop, so that the cover can hang down below the instrument when you are glassing.



Ocular Lens Cover

As with the objective lens covers, the rain-guard (ocular lens cover) is very typical and also has a good fit making it easy to take on/off, but will not come away too easily by accident.

Lens Cloth

Whilst it is good to see that there is an included cleaning cloth, like most at this price range, it is fairly basic and I would only suggest that you use it to clean the body with or perhaps very lightly on your lenses when out in the field.

For properly cleaning the lenses I highly recommend that you get a decent [lens cleaning kit](#).

Instructions & Warranty

The included instruction sheet is extremely basic and very generic.

As with all other Helios Mistral WP6 binoculars, this 8x42 version comes with the Helios 5 Year Limited Warranty.

Extras Score: 5/10

Helios Mistral WP6 8x42 Comparisons



	Helios Mistral WP6 8x42	Celestron Nature DX 8x42	Celestron Trailseeker 8x42	Hawke Nature-Trek 8x42	Levenhuk Monaco 8x42	Meade Rainforest Pro 8x42
Weight:	24.1ozs (683g)	22.2oz / 629g	23.1oz (655g)	23.5oz / 666g	23.1oz (655g)	25.6oz / 726g
Length:	5.7in / 14.5cm	5.3in / 13.5cm	5.5in (14.1cm)	5.6in / 14.2cm	5.5in (14.1cm)	5.75in / 14.6cm
Width:	5.12in / 13cm	4.9in / 12.4cm	5.1in (13cm)	5in / 12.7cm	5.1in (13cm)	5.12in / 13cm
Eye Relief:	17.5mm	17.5mm	17mm	18mm	18mm	17mm
Min Focusing Dist:	6.6ft	6.5ft	6.5ft	6.6ft	4ft	6.6ft
FOV at 1000yds:	387ft	388ft	426ft	388ft	387ft	395ft
Chassis	Polycarbonate	Magnesium	Magnesium	Polycarbonate	Polycarbonate	Polycarbonate
ED Glass	No	No	No	No	No	No
Phase Correction	No	Yes	Yes	No	Not Sure	Yes
Prism Glass	BaK-4	BaK-4	BaK-4	BaK-4	BaK-4	BaK-4
High Reflective Prism Coatings	Silver	?	Dielectric	Silver	Dielectric	Silver
Lens Coatings	Fully Multi-Coated	Fully Multi-Coated	Fully Multi-Coated	Fully Multi-Coated	Fully Multi-Coated	Fully Multi-Coated
Waterproof	Yes	Yes	Yes	Yes	Yes	Yes
Fogproof	Yes	Yes	Yes	Yes	Yes	Yes
Tripod Adaptable	Yes	Yes	Yes	Yes	Yes	Yes

Review Conclusions:

Strong Points: The image quality is impressive for a bin at this price and I thought that the overall look and build quality of the exterior is excellent. Indeed it is as good as many far more expensive optics and for me is about as good as it gets within this price range.

I really like the etched metal focus wheel that turns nice and smoothly and has a great feel and action. Similarly the twist-up eyecups are also very good, which combined with their 17.5mm of eye-relief

makes them an ideal choice for most eyeglass wearers.

Whilst not chart topping, both the field of view and close focus are also good.

Weak points? Compared to the best binoculars in this price class, it has to be said the level of the extras, especially the neck strap is a little low. This is a shame, but to be fair they all work, but are just not as luxurious and lack a little in terms of the finer details as the better ones.

The lack of phase correction coatings on the roof prisms is a little bit of a shame as most of the best roof prism bins within this price class will have been treated.

Overall

When you combine their field of view and close focus specifications with their higher than usual specification body (at this price) and the more than acceptable image quality, the Helios Mistral makes for very competitive low costing 8x42 binocular and one which you won't go far wrong with in a range of normal uses.



Reviewed by [Jason Whitehead](#)

Best Binocular Reviews Ratings:

Body Construction Quality:	7/10	68% Very Good
Body Stats:	7/10	
Optical Components Quality:	6/10	
Optical Stats:	8/10	
Image Quality	8/10	
Extras & Attention to Detail:	5/10	

Awards:

Best Low Cost Binocular 2016

Main Specifications & Features:

- Size: Full Size Binoculars
- Prism Type: Roof Prism Binoculars
- Magnification: 8x
- Objective Lens Diameter: 42mm
- Waterproof: Yes
- Fogproof: Yes

- Exit Pupil: 5.3
- Twilight Factor: 18.33
- Eye Relief: 17.5mm
- Close Focus Distance: 6.6ft

- Weight: 24.1ozs (683g)
- Length: 5.7in (14.5cm)
- Height: 2.17in (5.5cm)
- Width: 5.12in (13cm)
- Ocular Lens Diameter: 21mm
- Focus from Near to Far, focus wheel rotates: 720°

- Real field of view: 7.4°
- Apparent field of view: 59.2°
- Field of View: 129m at 1,000 meters
- Field of View: 387ft at 1,000 yards

- Chassis Material: Polycarbonate
- Image Stabilization: No
- Lens Coatings: Fully Multi-Coated
- Phase Correction Coatings: No
- High Reflective Prism Coatings: Silver
- Extra Low Dispersion Glass: No
- Locking Diopter: No
- Tripod Adaptable: Yes
- Auto Focus: No