# Duel in green

**The Class 80 spotting scopes still remain as an ideal compromise between acceptable weight and portability offering clear and bright target viewing. Our review introduces two models.**

We tested the new Meopta Meostar S2 82 HD for checking hits in distance shooting and we compared the results of image shape and color to the well-established ATS 80 HD.
It was immediately apparent that the S2 82 HD ranks the proven ATS 80 HD in terms of image quality. At 82 mm, the Meopta S2 objective is only slightly larger than the 80 mm Swarovski ATS HD objective. The marginal larger size inevitably translates into higher weight of the S2 spotting scope – 185 to 200 g more for the eyepiece. However, the result is a strikingly better and sturdier eyepiece for the S2. The 30-60 Meopta eyepiece allows for greater field of view at 30-fold magnification than the Swarovski ATS 25-50 eyepiece at 25-fold magnification - Meopta allows for up to 60-fold magnification against the Swarovski´s limit of 50. At 20-fold magnification, the 20-70 Meopta exhibits larger field of view and 70-fold magnification in the upper limit, while the Swarovski standard eyepiece is limited to 60-fold in this case.
Interestingly, reducing the eyepiece magnification offers a broader overview without compromising image details. Anyone wanting to check the layout of targets can rely on the new Meopta eyepieces allowing better overview as well as more detail, thanks to the relatively larger magnification. With 30-fold magnification and 44 m field of view, visual locking of distant targets is easier; the same is true for confirming hits with 60-fold magnification than with 50-fold.

The Meopta S2 is, therefore, a convenient alternative to the Swarovski ATX models. Since the eyepiece can be changed, Meopta S2 allows for greater flexibility. 30-fold magnification brings excellent 44 m field of view for the 30-60 Meopta as opposed to only 35 m for the heavy ATX 95 at 30-fold magnification; for the ATX 85, 41 m is achieved using only 25-fold magnification. At 30-fold magnification, the S2 offers greater field of view and thus greater visibility than the ATX 85 with 25-fold magnification, the latter being 100 g lighter (the difference in weight is pursuant to the larger eyepiece opening of the ATX 85).
Left: **Swarovski ATS 80 HD.** This spotting scope is an established model on the market for several years now and enjoys excellent reputation of a premium class product, not only for its brilliant image quality. For this reason, it was used as a reference model for our purposes to compare the latest spotting scope from Meopta, the Meostar S2 82 HD. Right: **Meopta Meostar S2 82 HD.** The Czech manufacturer breaks into the top ranking class thanks to this model and its physical parameters. Combined with its considerably better price, this spotting scope could shake up the current top class. We are curious about the reactions of the current players in the market.

Compared to ATS 80 HD, the S2 also boasts greater luminosity. Total transmission is 89% regardless of the eyepiece used. With the 25-50 eyepiece, the ATS attained 87%, while with the 20-60 eyepiece the transmission is reduced significantly to 82%. The performance in focusing at short distances is unimportant in spotting scopes; nevertheless, the S2 with 4.18 m performs better compared to the 4.70 m of the ATS.
Both spotting scopes are compact enough to be carried as part of the hand luggage for air travel, while the

eyepieces do not need to be removed. It is, therefore, not necessary to disassemble the device, which raises the question whether a modular system as presented by Swarovski ATX is even necessary. Disassembly may increase the risk of contamination and does not reduce transport weight if both pieces have to be packed in the hand luggage. The protective case with two, padded, storage compartments inevitably leads to higher volume and weight. Assembling and disassembling the parts en route is also risky. Many have already had experience in this matter: if any of the expensive parts happens to fall on the ground, it is often the result of disassembling or assembling sensitive parts on the go.

It is questionable to what extent is it beneficial to replace the 95 objective with a 65 objective. Those who are used to a large and luminous spotting scope of the 80 class, or even 90, will not want to give compromise on the image luminosity, more so if the device is to be used at an important international shooting competition. The most reasonable solution, therefore, is an amicable compromise; which is why the author recommends the class 80 spotting scope. The 90 class with more than 2 kg of weight becomes too heavy for many users and some manufacturers seem to have placed all their bets on weight reduction. Compromise can also be seen in the area of optics. The ATS 80 HD, which I tested, showed a transverse color defect that is slightly less apparent than in the ATX 95; this status also favours the ATS 80 HD. 70-fold magnification offered by the ATX can be achieved with this spotting scope using the ATS adjusted eyepiece; magnification can be even exceeded substantially. This is achieved using short-focus astronomical eyepieces of excellent quality, which cannot be attached to the ATX without an adaptor, the latter at a favorable price. When set to infinity, it might also be necessary to shorten the eyepiece sleeve. Although Zeiss offers the most advanced solution for eyepiece adjustment with Diascope 85 combined with an adaptor made by Baader (Baader Planetarium), an acceptable solution for the ATS is an astro-adaptor that is available for € 75 from Jülich Optik Bonn. Using the TeleVue Nagler 5 mm for only € 270, we can achieve 92-fold magnification at excellent image quality with an extremely wide field of view, which puts the lighter ATS 80 HD in a better position than the heavier counterpart ATX 95, which lags behind with its maximum 70-fold magnification. In the case of the equally expensive ATX 85, the 60-fold margin cannot be exceeded, because the eyepiece adjustment mentioned above is not possible. Those who want to observe targets at large distances with good visibility will succeed with the eyepiece-adjustable ATS 80 HD, at the same time saving both on weight and money. It is also worth considering that the ATX 95 with the auxiliary 65 eyepiece costs a whopping € 4,560, a price that can buy you two complete and quality spotting scopes including the eyepiece. If, for example, the ATX 65 gets stolen or broken on the go, we are not left with a useless partially usable component as it can be replaced immediately. However, because you are forced into an immediate purchase of another expensive eyepiece module for € 2,000, there is very little room for negotiation on price. Consider the facts before you permanently subscribe to a certain approach: for approximately € 2,000, you can buy an ATS 65 HD with a wide-angle 25-50 eyepiece or a 65 FL diascope including 15-56 eyepiece. The Swarovski ATS 80 HD and the Meopta S2 are excellent globetrotters. Since these devices usually do not have to be constantly moved there and back for the purpose of observing targets, the low weight of ATS is of minor importance. Overall, the Meopta S2 offers greater flexibility due to its well-designed eyepiece concept offering larger field of view and magnification, generating a brighter image through greater light transmission. At a price tag of € 2,194, the Meopta S2 HD is € 436 cheaper than the Swarovski ATS 80 HD and is a great competitor.

## Optional eyepiece adjustment

| | Meopta S 2 82 HD | | | Swarovski ATS 80 HD | | |
|---|---|---|---|---|---|---|
| **Image quality** | Very good | | | Very good | | |
| **Field of view** | with eyepiece | 30-60 | 44.2 m - 20.8 m | with eyepiece | 25-50 | 41m - 27 m |
| | with eyepiece | 20-70 | 41.3 m - 16.3 m | with eyepiece | 20-60 | 36m - 20 m |
| **Transmission** | with eyepiece | 30-60 | 89% | with eyepiece | 25-50 | 87% |
| | with eyepiece | 20-70 | 89% | with eyepiece | 20-60 | 82% |
| **Close focus** | | | 4.18 m | | | 4.7 m |
| **Weight** | Basic body | | 1,456 g | Basic body | | 1,354 g |
| | Eyepiece | 30-60 | 1,829 g | Eyepiece | 25-50 | 1,644 g |
| | Eyepiece | 20-70 | 1,821g | Eyepiece | 20-60 | 1,620 g |
| | Eyepiece | 30-60 | 373 g | Eyepiece | 25-50 | 290 g |
| | Eyepiece | 20-70 | 365 g | Eyepiece | 20-60 | 266 g |
| **Price** | Basic body | | € 1,699 | | | € 2,030 |
| | Eyepiece | 30-60 | € 495 | Eyepiece | 25-50 | € 600 |
| | Eyepiece | 20-70 | € 495 | Eyepiece | 20-60 | € 490 |
| | Total price | 30-60 | € 2,194 | Total price | 25-50 | € 2,630 |