Common terms used to describe scopes

Scopes are quite a technical piece of equipment with various terms used to describe their various aspects. Here are a few definitions that will help to understand what you're looking at. As we've said earlier, the quality of the optical components has far more bearing on the image brightness and quality than size to the extent that a tiny little scope from one of the premier brands will outperform in every respect a huge scope from an economy brand so our recommendation is to go for quality over size.

Eye piece
This is the lens at the back of the scope that you look into

Objective
This is the lens at the front of the scope. Generally the larger this is the brighter the image will be making it more suitable for dawn or dusk shooting. This will also decide what height mount you use as the larger the diameter the higher it needs to be mounted to prevent it touching the barrel. 30mm objectives are very small (and likely to be dark), 40-44mm is very common and anything larger will need high mounts which may make the cheek piece on the rifle too low.

Eye piece focus
Most scopes have an element of adjustment on the eye piece to allow for different peoples eyes. Not all of us have 20/20 vision and spectacles can also make the recticle slightly blurred. Intended to make the recticle sharp it can also help with focussing fixed parallax scopes but is not the same as a truly adjustable parallax and the range of adjustment will never make a 100 yard fixed parallax scope focus sharply at 40 yards.

Eye relief
This is the distance that you need between your eye and the scope to be able to see the scope picture. Unlike binoculars you don't place your eye on the scope as any recoil would instantly give you a black eye! The distance varies but is usually over 5 cm. You may hear that some scopes are critical on eye relief which means that the distance you need to be at does not have much leeway for error, perhaps only 1 or 2mm which makes where you mount them on the rifle quite critical.

Recticle
This is the correct term for the cross hair. Hundreds of variations are used, some of which have very specific uses. Milldot recticles are a popular choice for air rifles that have evenly spaced dots on the vertical and horizontal planes of the crosshair which give you aim points for distances different to the rifles zero point. Some scopes have an illuminated recticle that lights up red or green with a dimmer switch. Used for night hunting and occasionally on dark targets where the cross hair is lost they can be useful, but not hugely. A matter of personal preference.

Tube diameter
This is the diameter of the main scope cylinder where the mounts clamp it. Two common sizes are available 25 and 30mm.

Coated lenses
Most lenses have a very thin layer of chemical coating on them which can help to

reduce internal reflections, improve clarity or even to allow more light to pass through the lens and can often be seen as a green or purple sheen. The quality of coatings varies tremendously but usually the more you spend the better they become and on high end lenses the coatings are matched and optimised on all of the internal lenses (can be up to 15) to give a far better image than would normally be achieved.

Parallax
This refers to what distance the scopes focus is set to. For example a scope which has 35 yard parallax will be 100% in focus at 35 yards but anything closer or further will become progressively more blurred. This is an important aspect for air rifles as typically you take most shots between 10 and 45 yards, so a scope set at 100 yards fixed parallax will make the entire range you need so far out of focus that it's unusable. Lowering the magnification will extend the in focus range but avoid scopes with anything over 35 yards for use with an air rifle. Some scopes can have this range adjusted but it's not really a job for a novice and does have an element of risk associated with it.

Adjustable parallax
This is the ability to change the focal distance across a range. Again you need to be careful as some scopes may have a parallax range of 50 yards to infinity which is too far for us. the ability to focus to 10yards or less is very important. There are 2 ways of adjusting the parallax, front Parallax Adjustment (PA) and side wheel PA. Front PA involves rotating the whole front section of the scope which moves the objective lens in and out very slightly on a fine thread to change the focus. Sidewheels are a separate wheel mounted about half way along the scope on the left hand side. By turning it you move internal lenses which have the same effect. Neither is better but sidewheels are usually easier to adjust from a shooting position. Adjustable parallax of 10yards to infinity is essential for FT.

Turrets
These are wheels in the centre of the scope between where the mounts attach, one on the top and one on the right which allow you to move the recticle to zero the rifle. Two main types, standard which are under a protective cap and are only intended for occasional use to get it zeroed and target turrets which are exposed and protrude further allowing for adjustment on a shot by shot basis to allow for changes in distance or wind.