

Unity® Via OfficePro with PostureFit

Technical White Paper



Summary

Unity Via OfficePro Lenses with PostureFit are triple designed to achieve enhanced viewing and comfort in typical workplace environments. Wearers enjoy excellent close and intermediate range vision with extended range; dispensers may choose to provide farthest vision out to five feet or ten feet depending on each patient's needs. Unlike other occupational lenses, Unity Via OfficePro provides a specific and stable comfortable viewing distance at the fitting cross no matter what addition power is prescribed. This means that eye care professionals can expect more consistent results for different patients, and patients will experience consistent vision as their eyes age, without having to adopt new habits.

Background

Nearly thirty years ago, the first occupational progressives were introduced to satisfy demand for no-line multifocals providing enhanced intermediate viewing distance capabilities. Some of the very first designs simply "stretched" a progressive lens, putting the far vision prescription at the top and the reading prescription at the bottom, thereby making the lens mainly a correction for intermediate viewing with a little bit extra. Other lenses were derived from single vision reading glasses but extending vision toward mid-range distances without any far viewing capability. Eye care professionals may now choose from a wide selection of lenses designed for office or occupational use that have evolved from these approaches. Two main approaches are apparent: We call these the "fixed endpoints" type and "fixed degression" type.

A fixed endpoint design uses a progressive lens design to establish the reading prescription (defined as the far prescription plus the prescribed addition) at a lower point on the lens, and a farthest viewing power at an upper point on the lens. The farthest viewing power is simply the distance prescription "bumped" with an incremental amount of addition power. Typically, a value between 0.25 and 0.75 diopters is chosen for this increment. A smaller increment results in a larger total range of

viewing distances but a narrower clear field of view at intermediate distances. A larger increment gives the wearer wider intermediate zones but vision does not extend as far away. The advantage of fixed endpoint designs is that the eye care professional knows exactly how close and how far the patient will be able to see clearly. A disadvantage is that intermediate viewing range is inconsistent between prescribed addition powers.

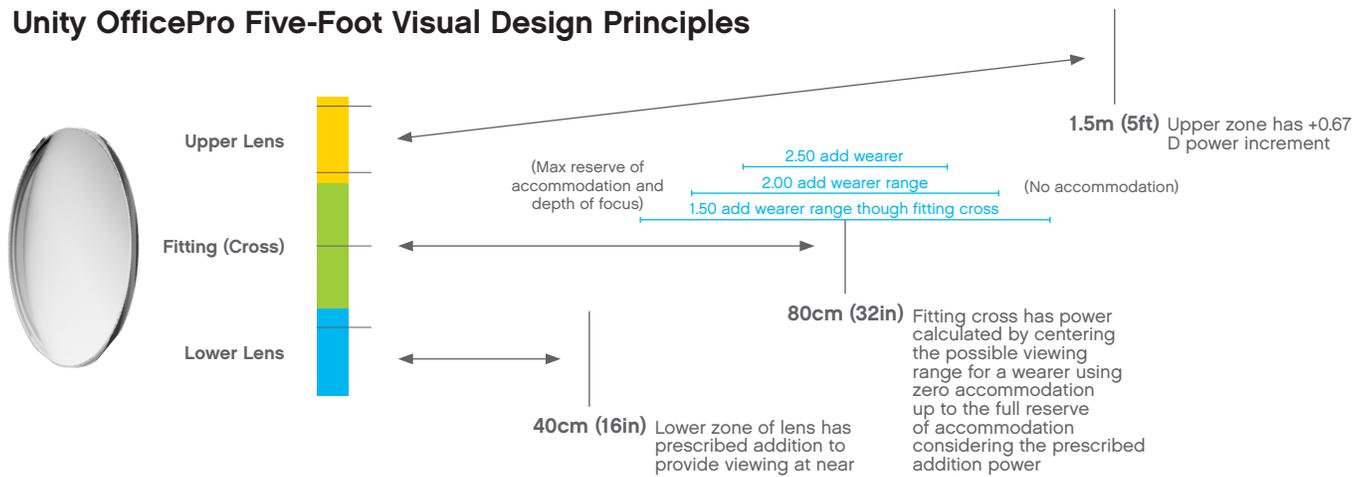
A fixed degression design turns the fixed endpoints approach around, subtracting a constant diopter value from the total reading prescription to define the upper lens power. This results in the widest viewing zones at intermediate viewing distances, but very inconsistent viewing ranges: the farthest viewing distance and the most comfortable intermediate viewing distance are different for every prescribed addition.

Each of the two approaches is the result of a dual specification: the reading prescription is used with either a fixed degression power or the reading prescription is paired with a fixed far power increment. In contrast, Unity Via OfficePro Lenses with PostureFit are triply specified to provide complete and consistent viewing performance for any add power.

What is PostureFit?

Let's start with the basic facts. Unity Via OfficePro can be ordered for one of two desired far viewing distances in the upper zone: five feet or ten feet. These values correspond to a dioptric power increment of 2/3 diopter or 1/3 diopter respectively. Every Unity Via OfficePro lens reaches the full prescribed addition power at the same distance below the fitting cross.* If these were the only design features, we would call Unity Via OfficePro a fixed endpoints design. But PostureFit technology is triply defined: the amount of dioptric power located at the fitting cross is calculated to center the range of vision on a third distance. In the five-foot design that distance is 80cm (31.5"); in the ten-foot design it is 110cm (43.5").

Unity OfficePro Five-Foot Visual Design Principles

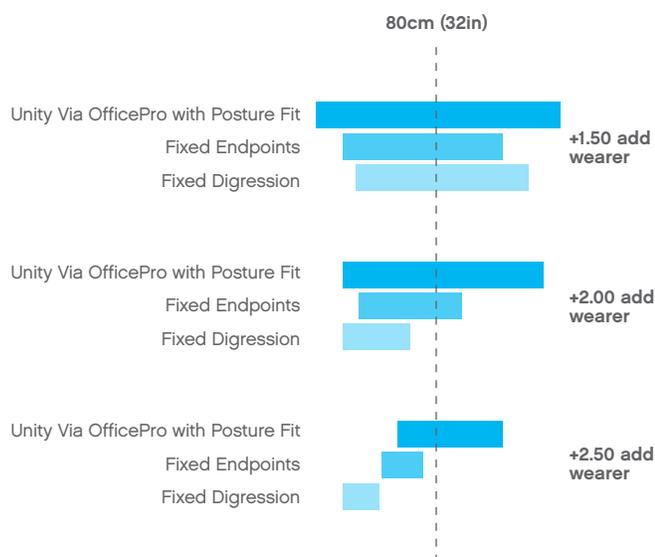


It is this third control point that separates PostureFit from other technologies: every patient will get consistent close vision, far vision, and intermediate vision. This is true even as the patient ages and receives a new prescription having a higher addition power. Until now, dispensers have been measuring and ordering the fitting heights of office lenses, not knowing what vision through the fitting cross would achieve. PostureFit solves that problem.

How does PostureFit work?

PostureFit establishes an expected performance at the fitting cross by taking into account the accommodative reserve implied by the addition power. The accommodative reserve is typically not something considered by dispensers fitting eyeglasses; it is something for the doctor writing the prescription to know. However, all eye care professionals should be aware of its effects.

Viewing Range Through Fitting Cross



When patients get their first multifocal prescription, typically they get a relatively low add power, with the lens providing some of the close focus and the patient's eyes providing the rest. It is this reserve that allows patients with low addition powers to view intermediate range objects even through the upper part of a progressive lens, where there is no addition. Thus, a low add wearer typically has enhanced viewing range capabilities through every point of a progressive lens. At the other extreme, aged patients have lost almost all accommodation and their lenses must do almost all the work. Only the inherent depth of focus of the patients' eyes provide a bit of viewing range through each point on the lens.

Unity Via OfficePro is based on a proprietary model of the accommodative reserve of wearers indicated by the prescribed add power. For any addition power, the farthest clear viewing distance through the fitting cross happens when the patient does not accommodate. That viewing distance is known from the amount of power provided at the fitting cross. The closest clear viewing distance is achieved when the patient uses the accommodative reserve and is known from the power at the fitting cross combined the accommodative reserve. The designers of Unity Via OfficePro adjusted the power at the fitting cross so that the midpoint of the total viewing range through the fitting cross is centered at the same distance, no matter which prescribed addition power is ordered. As mentioned earlier in this paper, that distance is 80cm for the five-foot design and 110cm for the ten-foot design.

The advantage of PostureFit will be especially appreciated by wearers with prescribed adds of +1.75 and greater: with fixed degression or fixed endpoints designs the viewing range through the fitting cross is often too strong, too close, and too restricted. This in turn may force patients to adopt

uncomfortable postures to adapt to their lenses. Patients who get Unity Via OfficePro with PostureFit can expect enhanced, comfortable vision at every viewing distance without having to learn new habits as presbyopia advances.

Designed for their working lives

Unity Via OfficePro is meant to provide a simple and effective choice depending on the patient's work style. The five- and ten-foot designs will provide a similar area for close reading; they differ according to the maximum viewing distance and centered intermediate viewing distance.

Wearers who spend much of the workday in an enclosed workspace such as a cubicle will like the five-foot design. The upper part of the lens allows the wearer to see clearly out to five feet and the 80cm center of the viewing range at the fitting cross will be ideal for a wide range of computer screen positions.

In contrast, wearers whose jobs demand a more varied work style will prefer the ten-foot design. It works well for all but the largest meeting rooms and centers the comfortable intermediate viewing range on the shared meeting table, on machinery being operated or on customers being served.

Eye care professionals should always bear in mind that office lenses from any manufacturer are not meant for activities that require sharp vision at longer viewing distances. In particular, Unity Via OfficePro Lenses are not meant for driving any kind of vehicle, whether an automobile or a workplace conveyance.

*For a given minimum fitting height design. Usually this value is based on the patient's actual fitting height and frame dimensions so that Unity Via OfficePro will always provide a consistent amount of reading area, regardless of frame style.