

Instrument Series: K2/SC LONG-DISTANCE MICROSCOPES

Suggested List Prices
Effective: January 1, 2011
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MODEL K2/SC LONG-DISTANCE MICROSCOPES

First, a few words on the K2/SC itself...

INTRODUCTION

The K2/SC is the latest model of the K2 Long-Distance Microscope series. It offers the finest imagery of any long-distance microscope ever produced. Its new AVS-2 internal focusing system (patents pending) provides spherical and chromatic correction previously thought impossible to attain. At the same time, the AVS-2 system expands the diffraction-limited field to over 43mm (diagonal) as opposed to competitive instruments which can only claim 12mm. Consequently, the K2/SC is not limited to c.2/3-in. formats. Rather, it can be used with photo and digital SLRs with sensors up to the 35mm format (24x36mm) with exceptional clarity and resolution throughout the field. Its contrast levels are higher than all other competitive instruments, providing usable—rather than merely theoretical—resolution that is artifact-free (no "doughnuts with out-of-focus details that can affect measurements and data). All-in-all, the K2/SC represents the ultimate in long-distance microscopy—and more. A single K2/SC can be equipped to function from infinity to the very limits of optical microscopy.

Note: The K2/SC magnifications are now shown without *any* amplifiers presumed in-system. Actually, the K2/SC can be amplified for magnifications higher than any previous models.

TWO MAIN BODY CONFIGURATIONS

In order to maximize the potentials of the K2/SC, care was taken to design matched amplifiers that account for the characteristics of the new AVS-2 internal focusing system (*twice the lens elements of AVS-1*). Two configurations are now possible which maximize imaging for different purposes.

1) S Lens in-system: The K2/SC maintains the S Lens technology from the previous Model K2/S. This means that when the S Lens is positioned inside, the K2/SC can focus from infinity down to c.675mm when the Standard Objective is used exclusively with it. Amplifiers exclusively suited for use when the S Lens is in-system are the 2x TX Tube (all formats up to 35mm), 2x DL Tube (C-mount only), the 1-2.2x Zoom Module—as well as the UNIPAR/Eyepiece system.

2) WITHOUT S Lens in-system: This is the most versatile K2/SC configuration. The S Lens is taken out (or not introduced) into the Main Body. An additional T36mm is placed after the S58 Tube or Mirror Diverter ports. This balances the image quality in conjunction with the AVS-2 internal focusing system. Then, the T36 can be removed and a CF Tube 1.66x parfocal amplifier put in its place. This 1.66x factor (rather than 2x) still covers the 35mm format and, in conjunction with the AVS-2 system, provides image quality maintained even to the edges of the field. The resolution thus captured is actually able to be enlarged MORE than when a 2x amplifier is used, since the 1.66x factor matches the pixel sizes of large format sensors more properly. Then, when the InFocus™ Microscope Objective Holder is used, it combines to produce the theoretically most-proficient large format magnification factor of 2.5x times the objective's rated power. The full imaging quality is maintained in strict accordance with the most demanding microscopical practices. In this configuration the 2x DL Tube and 1-2.2x Zoom Module are also compatible.

THREE OPERATING RANGES

For two of the three K2/SC operating ranges, a Standard or CF-Series Objective is directly attached to its front dovetail. The third range is obtained by attaching the InFocus™ Microscope Objective Holder with an adapter for any infinity-corrected microscope objective made by Infinity Photo-Optical Achrovid™, Mitutoyo, Olympus, Nikon, Edmund or Edmund REFLX. Depending on the objective, the K2/SC can be used in transmitted or coaxial illumination (by interfacing the Coaxial Illuminator).

1) Standard (S) Infinity Range (infinity to c.675mm)

The Standard Infinity Range is the greatest offered from any long-distance microscope on the market today. For focus from infinity down to c.675mm, the Standard Objective is used in conjunction with the internally-positioned S Lens. The two lens systems work harmoniously as a matched system. This unique approach assures the finest imagery ever offered by any K2 model in the Standard Range of operation.

2) Close-Focus (CF) Range

By not utilizing the S Lens (which does not disturb the mounting of the K2/SC on a fixed stand or positioner), Standard and CF-Series Objectives can be used for progressive focus from 980mm (Standard Objective) down to 55mm (CF-4). Depending on the chosen objective, primary magnification ranges from 0.31x to 5.33x. Additional amplifiers permit these primary magnifications to be further enlarged.

3) High-Power Micro Mode

The K2/SC can also operate in the high-powered micro mode by simply attaching the InFocus™ Microscope Objective Holder and the appropriate adapter for infinity-corrected objectives: Achrovid™, Mitutoyo, Olympus, Nikon, Edmund, Edmund REFLX™, etc. Whether in coaxial/epi- or transmitted illumination, these K2/SC accessories permit it to achieve high magnifications—literally to the potential *limits of optical microscopy*—focused either manually or by motor-control.

CENTRITEL®

Now, the K2/SC is a supplemental CentriTel optic! Simply by adding the CentriTel Focuser, it can be used to focus without essential magnification change. The CentriTel Focuser replaces the S58 spacer common to all K2/SC Main Bodies.

AMPLIFIERS

The K2/SC Main Bodies are supplied *without* amplifying optics. All amplifiers are MATCHED MULTIPLIERS, specific to either of the K2/SC's two configurations.

Amplifiers for S Lens in-system include 2x TX Tube (all formats; camera mount required); 2x DL Tube (C-mount) and the 1-2.2x Zoom Module (Adjustable C-mount required). In addition, the UNIPAR may be used with eyepieces (requires M62 Eyepiece Holder and suitable camera mount).

Amplifiers used WITHOUT S Lens in-system include 1.66x CF Tube (all formats; camera mount required); 2x DL Tube (C-mount) and the 1-2.2x Zoom Module (Adjustable C-mount required). In addition, the UNIPAR may be used with eyepieces (requires M62 Eyepiece Holder and suitable camera mount).

Two different amplifiers can be combined for even greater magnifications. For example, a 2x DL Tube can supplement the Zoom Module (Adjustable C-Mount required to reset parfocality of zoom; the Zoom Module then functions 2x-4.4x). The 2 DL Tube and its lockable LDL version (however mixed) are the only amplifiers designed to be ganged with others of their own kind.

Main Bodies

990375 Infinity Model K2/SC Single-Port Main Body (1x factor), consisting of K2/SC Focuser and all standard tubes and Mounting Clamp. Includes S Lens for use with Standard Objective to infinity focus.	\$ 5,450.00
990395 Infinity Model K2/SC Dual-Port Main Body (1x factor), consisting of K2/SC Focuser, Mirror Diverter, dual set of standard tubes and with Delrin Spacer for ¼-in. – 20 mounting screw. Includes S Lens for use with Standard Objective to infinity focus.	6,780.00
990377 Infinity Model K2/SC Single-Port Main Body (1x factor), consisting of K2/SC Focuser and all standard tubes and Mounting Clamp. Does not include S Lens. This model is primarily for use at CF operating range. The S Lens can subsequently be ordered at a later date.	5,055.00
990397 Infinity Model K2/SC Dual-Port Main Body (1x factor), consisting of K2/S Focuser, Mirror Diverter, dual set of standard tubes and with Delrin Spacer for ¼-in. – 20 mounting screw. Does not include S Lens. This model is primarily for use at CF operating range. The S Lens can subsequently be ordered at a later date.	6,385.00
9902-- Motorized Focus/Zoom Bodies, consisting of up to two motor drives operated by a single control module. Motor focus can be combined with all amplifiers; a second motor is required to drive the Zoom Module. All K2/SC models can be equipped with motor options. Motor functions require factory installation at time of purchase or upon return for modification. Please let us know your requirements	prices on request

CentriTel® Focuser

990500 CentriTel Focuser	\$ 1,495.00
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S Lens

The S Lens is a matched component for use only with the Standard Objective. When the Standard Objective is used with the S Lens in-system, the K2/SC is capable of focusing from infinity down to c.675mm. If your K2/SC is not equipped with an S Lens at time of purchase, please order as noted below.

990280 S Lens for use with Standard Objective	\$ 395.00
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Amplifiers

990240 CF Tube (1.66x)	\$ 425.00
990220 TR Tube (2x))	425.00
990221 TX Tube (2x) (for use with S Lens only)	425.00
990225 Zoom Module (1x-2.2x Factor)	1,450.00
990227 Zoom Module (1x-2.2x Factor for Dual-Port K2/SC Models).	1,575.00
690568 DL Tube (2x) (video only)	195.00
220568 LDL 2x Lockable Power Module Amplifier	275.00

K2/SC Front Objectives

990210 Standard Objective (0.31x-0.95x; 980 - 360mm W.D.)	\$	665.00
990212 CF-1 Objective (0.52x-2.13x; 580-265mm W.D.)		590.00
990213 CF-1/B Objective (0.71 x-1.49x; 418-222mm W.D)		590.00
990214 CF-2 Objective (1.36x-2.29x; 205-138mm W.D.)		795.00
990216 CF-3 Objective (2.06x-3.05x; 125-92mm W.D.)		795.00
990218 CF-4 Objective (4.27x-5.33x; 63-55mm W.D.)		695.00

InFocus™ Microscope Objective Holder and Options

990230 Model K2/SC InFocus™ Microscope Objective Holder (requires Objective Adapter for specific brand).	\$	495.00
991125 RMS Objective Adapter		140.00
991130 Achromid Objective Adapter (M26 thread—also suitable for Mitutoyo)		140.00
991131 Nikon CFI60 Objective Adapter (M25 thread)		155.00

NOTE: When the #990230 and #991130 are used without any K2/SC Amplifier in-system, the objective magnification is multiplied by a factor of 1.5x. For example: 10x objective *times* 1.5x factor = 15x. The result is equivalent to a 15x objective used directly. Accordingly, when the CF Tube is used, the K2/SC factor is 2.5x—the ideal magnification to fill the 35mm format. The result would then be equivalent to a 25x objective.

Achromid™ Nelsonian™ Objectives (infinity-corrected/f=200mm)

210301 Achromid 2x/Nelsonian 0.054/ W.D. 37mm	\$	410.00
210302 Achromid 2.5x/Nelsonian 0.064/ W.D. 37mm		410.00
210303 Achromid 3.3x/Nelsonian 0.077/ W.D. 37mm		410.00
210304 Achromid 4x/Nelsonian 0.09/ W.D. 37mm		410.00
210305 Achromid 5x/Nelsonian 0.12/ W.D. 37mm		410.00
210306 Achromid 10x/Nelsonian 0.21/ W.D. 17.30mm		485.00

Coaxial Illuminator

991158 Coaxial Illuminator w/ Collector I (for use with low power objectives).	\$	895.00
991159 Coaxial Illuminator w/ Collector II (for use with objectives 10x and higher).		895.00
991170 Collector I (for use with low power objectives).		235.00
991172 Collector II (for use with objectives 10x and higher).		235.00

Accessory Components and Tubes

991165 66mm Fiber Optic Ring Light Adapter For K2/SC	\$	85.00
770524 T24 Tube (24mm spacer)		50.00
770662 M62 Eyepiece Holder Tube		85.00
496062 Tele-Tube (0.5x Video Coupler)		495.00
770170 Large Mounting Clamp (extra)		85.00
890177 Mirror Diverter Package. Converts single-port K2/S into a dual-port.		1,330.00
691616 Adapter for Olympus Stereomicroscope Stands		135.00
691618 Adapter for Nikon Stereomicroscope Stands		135.00
691620 Adapter for Unitron Stereomicroscope Stands		135.00
691622 Adapter for Meiji Stereomicroscope Stands		135.00
312517 5x Eyepiece (multi-coated)		60.00
312518 10x Widefield Eyepiece with High Eyepoint		195.00

Photo/Video Adapters

Our tubes are calculated so that it is possible to unscrew a T2 adapter and screw on a C-mount video adapter (and vice versa) with no change in parfocality.

770558 T58 Tube	\$ 50.00
771055 UNIPAR/T30 Adapter with 0.3x optical system (must be used with eyepiece)	495.00
770505 Adjustable C-mount for Zoom Module	250.00
770507 C-mount Video Adapter (for single-port models)	50.00
770509 Orientable C-Mount Video Adapter (required for dual-port models)	195.00
770511 Standard Rotatable C-mount	125.00
770513 Beam-splitter C-mount (50/50) for two cameras	895.00
770565 T2 Adapter – Canon EOS	12.00
770566 T2 Adapter - Olympus	12.00
770568 T2 Adapter – Nikon F mount	12.00

Prices and specifications are FOB Boulder, CO and are subject to change without notice.

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Reflex is a trademark of Edmund Optics.

U.S. Patent 4,988,173. Other U.S. and foreign patents may also apply. Additional U.S. and foreign patents pending.