



MID-RANGE FOCUS OPTIMIZER 1 (MFO-1)
FOCUS RANGE TO 12.5CM-114CM WITH FULL FRAME NIKON 105MM

	CAMERA LENS	GEAR	PORT ADAPTOR / EXTENSION RING	EXTENSION RING / PORT CONVERTER	PORT	MOUNT CONVERTER	WET LENS	OPTICAL PERFORMANCE
N120 CINEMA SYSTEM EF & RF-MOUNT (RED, CANON, PANASONIC, Z-CAM, BLACKMAGIC)	MACRO FULL FRAME							
	Canon EF 100mm f/2.8L Macro IS USM	19523 C100IS-F			18703 Macro Port 94	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	On both APS-C & Full Frame Sensor Max. Magnification 1.2X Working Distance 103-1072mm
N120 CINEMA SYSTEM Z-MOUNT (RED KOMODO, X/RAPTOR (X))	MACRO FULL FRAME							
	Canon RF 100mm f/2.8L Macro IS USM	19575 CRF100-F * please contact us if SA control is needed			18703 Macro Port 94	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	On both APS-C & Full Frame Sensor Max. Magnification 1.6X Working Distance 56-1072mm
N120 CINEMA SYSTEM Z-MOUNT (RED KOMODO, X/RAPTOR (X))	MACRO FULL FRAME							
	Nikon AF-S Micro NIKKOR 60mm f/2.8G ED with Nikon FTZII mount adaptor	TBD Gear set			18701 Macro Port 60	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	On both APS-C & Full Frame Sensor Max. Magnification 1.1X Working Distance 12-1120mm
N120 CINEMA SYSTEM Z-MOUNT (RED KOMODO, X/RAPTOR (X))	MACRO FULL FRAME							
	Nikkor Z MC 105mm f/2.8 VR S Macro	TBD Gear set			18708 Macro Port 80	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	On both APS-C & Full Frame Sensor Max. Magnification 1.1X Working Distance 108-1005mm
N120 CINEMA SYSTEM Z-MOUNT (RED KOMODO, X/RAPTOR (X))	MACRO FULL FRAME							
			22120 N120 Extension Ring 20 II		18701 Macro port 60			
N120 NIKON F-MOUNT	MACRO FX							
	Nikon AF-S Micro NIKKOR 60mm f/2.8G ED	19121 N60S-F			18701 Macro Port 60	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.1X Working Distance 12-1120mm
N120 NIKON F-MOUNT	MACRO FX							
	Nikon AF-S VR Micro-NIKKOR 105mm f/2.8G IF-ED	19122 N105VR-F			18702 Macro Port 87	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.2X Working Distance 125-1080mm
N120 NIKON Z-MOUNT (Z7II / Z8 / Z9)	MACRO FX							
	Nikkor Z MC 105mm f/2.8 VR S Macro	19161 (V1) / 19200 (V2) N2105VR-F (V1) / Z105VR-F (V2)			18708 Macro Port 80	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.1X Working Distance 108-1005mm
N120 NIKON Z-MOUNT (Z7II / Z8 / Z9)	MACRO FX							
			22125 N120 Extension Ring 25 II		18701 Macro port 60			
N120 NIKON Z-MOUNT (Z7II / Z8 / Z9)	MACRO FX							
	Nikkor Z MC 105mm f/2.8 VR S Macro	19231 (V3) Z105-F (V3)			18708 Macro Port 80	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.1X Working Distance 108-1005mm
N120 NIKON Z-MOUNT (Z6III / Z5II)	MACRO FX							
	Nikkor Z MC 105mm f/2.8 VR S Macro	19200 (V2) / 19231 (V3) Z105-F (V2) / Z105-FH (V3)			18708 Macro Port 80	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.1X Working Distance 108-1005mm
N120 CANON EF-MOUNT	MACRO FULL FRAME							
	Canon EF 100mm f/2.8L Macro IS USM	19523 C100IS-F			18703 Macro Port 94	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.2X Working Distance 103-1072mm
N120 CANON RF-MOUNT	MACRO FULL FRAME							
	Canon RF 85mm f/2 Macro IS STM				18701 Macro Port 60	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 0.7X Working Distance 168-982mm * slight vignetting appearing at 80mm
N120 CANON RF-MOUNT	MACRO FULL FRAME							
	Canon RF 100mm f/2.8L Macro IS USM	19575 + 19576 CRF100-F + SA Control Ring			18703 Macro Port 94	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.6X Working Distance 56-1072mm
N120 PANASONIC L-MOUNT	MACRO FULL FRAME							
	Sigma 105mm F2.8 DG DN Macro Art				18708 Macro Port 80	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.2X Working Distance 123-975mm * slight vignetting appearing at 80mm
N120 PANASONIC L-MOUNT	MACRO FULL FRAME							
	Panasonic Lumix S 100mm f2.8 Macro Lens	19732 PL100-F			18709 Macro Port 27	83214 Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.2X Working Distance 76-990mm
N120 FUJIFILM G-MOUNT	MACRO MEDIUM FORMAT							
	Fujifilm GF 120mm f/4 Macro R LM OIS WR	19823 GF120-F		22160 N120 Extension Ring 60 II	18701 Macro Port 60	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 0.7X Working Distance 214-1050mm
N100 CANON RF-MOUNT	MACRO MEDIUM FORMAT							
	Canon RF-S 18-45mm f4.5-6.3 IS STM	19596 CR1845-Z			37181 N100 Flat Port 50	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 0.28X Working Distance 167-1110mm
N100 SONY E-MOUNT	MACRO FULL FRAME							
	Sony SEL90M28G FE 90mm f/2.8 Macro G OSS	37147 SE90-F			37126 N100 Macro Port 105	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.2X Working Distance 106-1082mm
N100 SONY E-MOUNT	MACRO FULL FRAME							
	Sony FE 100mm F2.8 Macro GM	37182 SE100-F			37180 N100 Macro Port 125	81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.5X Working Distance 69-1010mm
N100 SONY E-MOUNT	MACRO FULL FRAME							
	Sigma 105mm F2.8 DG DN Macro Art	37166 SGE105-F			37125 N100 Macro Port 110	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.3X Working Distance 123-1002mm * slight vignetting appearing at 60mm
N100 SONY E-MOUNT	MACRO FULL FRAME							
			37305 N100 to N120 35.5mm Port Adaptor II * This setup is only compatible with 37305 SN-A544975 onwards, older version 37305 can be upgraded using lock mechanism 93851	22120 N120 Extension Ring 20 II	18701 Macro Port 60	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.2X Working Distance 123-975mm * slight vignetting appearing at 80mm
N85 MICRO FOUR THIRDS SYSTEM	MACRO FOUR THIRDS							
	Olympus M.Zuiko Digital ED 60mm f2.8 Macro	36149 O60-F			36163 N85 Macro Port 65	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.1X Working Distance 58-1120mm
N85 MICRO FOUR THIRDS SYSTEM	MACRO FOUR THIRDS							
	Panasonic LEICA DG MACRO-ELMARIT 45mm F2.8 ASPH. MEGA O.I.S.	36145 P45-F			36135 N85 Macro Port 45	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.1X Working Distance 37-1120mm
TELEPHOTO MACRO FOUR THIRDS	MACRO FOUR THIRDS							
	OM System M.Zuiko Digital ED 90mm f/3.5 Macro IS PRO	36072 O90-F * Focus Knob is included in packaging			36169 N85 Macro Port 120 with Focus Limit Switch Selector * optical performance at Normal Macro mode	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.2X Working Distance 66-1105mm
TELEPHOTO MACRO FOUR THIRDS	MACRO FOUR THIRDS							
	OM System M.Zuiko Digital ED 90mm f/3.5 Macro IS PRO	36072 O90-F * Focus Knob is included in packaging			36169 N85 Macro Port 120 with Focus Limit Switch Selector * optical performance at S-Macro mode	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 2.1X Working Distance 39-300mm
NBSOONY E-MOUNT	MACRO FULL FRAME							
	Sony FE 90mm f/2.8 Macro G OSS				18701 Macro Port 60	SMC/CMC Option 1 - M67 Thread 81228 M67 Spacer Ring for SMC/CMC (included in all SMC/CMC packaging) SMC/CMC Option 2 - Bayonet Mount 83250 + 83214 M67 to Bayonet Mount Converter II + Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 1.1X Working Distance 107-1082mm
NBSOONY E-MOUNT	MACRO FULL FRAME							
		36175 SFE90-F	36205 N85 to N100 65mm Port Adaptor		37123 N100 Macro Port 55 * This setup is only compatible with 37123 SNA175724 onwards			
N50 & COMPACT SYSTEM	CANON							
	Canon PowerShot V1 Digital Camera (17343 NA-CV1) * 16-50mm (35mm equivalent) * Port is exchangeable for this housing				38703 N50 Short Port 25 with Bayonet Mount * change port from housing	83214 Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 0.89 x 59.3mm Working Distance 116-1150mm
N50 & COMPACT SYSTEM	CANON							
	Canon EOS R50 with RF-S 18-45 F4.5-6.3 IS STM Lens (17340 / 17340P NA-R50 / Pro Package) * Port is exchangeable for this housing					83214 Bayonet Mount Adaptor for SMC/CMC	81501 MFO-1	Max. Magnification 0.28X Working Distance 167-1110mm

81501

Mid-range Focus Optimizer 1

Specifications

Dimension (mm)	:	OD 70mm x 26mm
Weight in Air	:	218g
Buoyancy in Water	:	Negative 150g
Body Construction	:	Hard-anodized aluminum alloy
Lens Construction	:	3 elements in 2 groups
Lens Coating	:	Anti-reflection Coating
Working Distance	:	12.5-114cm
Magnification	:	2.4x
Mount Thread Diameter	:	M67
Depth Rating	:	100m

Package Includes

- MFO-1
- Front hard lens cap
- Rear lens caps
- Neoprene Bag
- Cleaning Cloth
- M67 Spacer ring

Last Updated : 2025-10-24

* This port chart is subject to updating as new information becomes available