

MAINTENANCE & REPLACEMENT PARTS

Bulbs (Lamps)



Please call regarding availability of bulbs not listed

ANSI codes and manufacturer's part numbers are cross-referenced (in *italics and parenthesis*) when available.

Tungsten Halogen & Incandescent

* Recommend Bulb Removal/Installation Tool (shown after listing)

2.5V/0.35A Bullet. 252	\$4.00	6V/10W Halogen, G4, Osram. 64225	\$4.50
(634, 8000155)		(ESA/FHD, 76342, 050-550, 050-556, 700-065,	
3.5V/0.72A Bullet, Boehm. 03100	\$10.60	8-C403, 907-090, 624, 655C, 7387, 3369, 1000531)	
(3287, 8000017)		6V/10W Halogen, G4, Philips. 5972	\$7.50
6V/0.2A Bullet (for teaching head). 328	\$1.50	(38-61-08, 91-01-54, 64223, 1000857)	
(79098, 31-31-50, 8000168)		6V/10W Halogen, G4, Philips. 7387	\$5.20
6V/0.2A Bullet w/Lens (for multi-TH), Nikon. MXA20101	\$11.00	(ESA/FHD, 76342, 050-550, 050-556, 700-065,	
(79186)		8-C403, 907-090, 624, 655C, 7387, 3369, 1000531)	
6V/1.2A Horizontal Filament, Hosobuchi. OP2101	\$15.45	6V/10W SC Bayonet, round. 5001	\$1.83
(MA560, 8000369)		(3040-0260, 6814P)	
6V/1.2A Vertical Filament, Hosobuchi. OP2101/U	\$15.45	6V/10W Screw, Hosobuchi. OP2103	\$9.75
(MA561, 8000370)		(8-G102, 8000303)	
6V/2A SC Bayonet, Frosted, Ushio. 8-C201	\$7.10	6V/12W Halogen, G4. GE786	\$8.20
(8000301)		(8000252)	
6V/2A SC Bayonet, Round. OP2106	\$6.00	6V/15W MR11, Philips. 13528	\$22.00
(8-M102, 8000305)		(8-C408, 630)	
6V/3A (6V/18W) Frosted, ½ Silver, Swift. MA737	\$12.00	6V/15W DC Bayonet, Flanged, Oblong. 77903	\$10.00
(8000350)		(OP2130, 8000240)	
6V/4.5A DC Prefocus*, Ushio. 1468	\$5.00	6V/15W DC Bayonet, Flanged, Nikon. 77910	\$13.50
(581, 8000067)		(8000242)	
6.4V/2.63A DC Bayonet. S8.1130	\$2.30	6V/15W DC Bayonet, Oblong, Ushio. 8018	\$7.40
6.5V/2.75A (6.5V/15W) DC Bayonet. 1493	\$2.75	(3800-29-9020, 76906, 166-324, 500-012, 8000269)	
(360, 700-034, 8-B102, MA402, 21138, 8000070)		6V/15W DC Flanged. 177Z	\$9.25
6.5V/2.75A DC Prefocus*, Ushio. 1460X	\$5.50	(3800-18-1740, 38-01-77, OP2131, 8000172)	
(31-31-75, 31-31-76, 31-01-05, 8000066)		6V/15W (6V/3A) DC Bayonet, Round. OP2114	\$6.25
6.5V/2.75A DC Prefocus*. GE1630	\$9.30	(76907, 8000233)	
(8000092)		6V/20W Halogen, G4. GE778	\$8.90
6.5V/2.75A DC Prefocus*. 1631X	\$8.00	(31-31-81-01, 31-31-81-10, 569, 31-31-21, 8000239)	
(31-31-85, 31-31-86, 31-31-79, 8000093)		6V/20W (6V/3.33A) Halogen, G4. GE788	\$7.90
6.5V/2.75A DC Prefocus*. GE1631X	\$13.50	(MA260/05, 1121)	
(31-31-85, 31-31-86, 31-31-79, 8000093)		6V/20W Halogen, G4, Osram. 64250 HLX	\$4.40
6.5V/2.75A DC Prefocus*, Ushio. 1649	\$9.90	(ESB/FHE, 1120, 362-658, 3801-20-1740D, 11143, 500-245,	
(31-31-42, 31-31-43, 8000100)		89500, 79099, 8-C405, MA780, 7388, M420, MA07, 687.95,	
6V/5W Screw, Ushio. 8000302	\$10.00	3256, 12-561-BLB1, MA311, 1000532)	
(8-G101)		6V/20W Halogen with Lead, Narva. 55133	\$33.00
6V/9W MR11, Philips. 13529	\$21.50	6V/20W MR11, Ushio. JCR/M6V20W	\$18.40
6V/10W (6V/1.67A) Halogen, G4. GE787	\$7.50	(83314)	
(31-31-77-01, 31-31-77-10, MA570, 76342, 8000254)		6V/25W Flanged, G4. 39-01-53	\$19.00
6V/10W Halogen, G4, Osram. 64223	\$17.00	(8000174)	
(38-61-08, 91-01-54, 5972, 1000857)		6V/25W Halogen with Lead, Narva. 55147	\$33.00
		(33-01-53)	
		6V/30W (6V/5A) Bayonet, Oblong, Hosobuchi. OP2118	\$6.70
		(MA738, 77904, 8-C101, 8000241)	
		6V/30W Bulb and Socket, Ushio. 8-C102	\$22.50
		(8000299)	
		6V/30W (6V/5A) Candelabra, Osram. 8100	\$18.75
		(500-011, 8000277)	
		6V/30W DC Flanged, Ushio. 8000175	\$20.00
		(39-01-58)	
		6V/30W Halogen, G4, Philips. 5761	\$7.40
		(84246, 8-C410, MA326, 3256-30W, LB-30WH,	
		SE06.0215, MINJ-F-B2, 1000867)	
		6V/30W Halogen, G4, Ushio. 1000867	\$11.90
		(84246, 8-C410, MA326, 3256-30W, LB-30WH,	
		SE06.0215, 5761, MINJ-F-B2)	
		6V/30W Halogen with Lead, Narva. 55168	\$39.00
		6V/35W Halogen, G4, vertical filament, Osram. 64275	\$7.50
		8V/20W MR11, Osram. 64255	\$18.20
		(Y99702)	

Continued

10V/70W Horizontal Filament, Nikon. 71256	\$16.00	21V/150W MR16, 40 hrs, Ushio. EJA	\$11.50
(8000226)		(A08110, 76223, 8-C404, 902-063, N650013, N650012, 1000297)	
10.8V/30W MR16, Ushio. EKZ	\$16.50	21V/150W MR16, 40 hrs. EJV	\$13.20
(1000315)		(1000302)	
12V/10W DC Bayonet. GE1004	\$2.45	21V/150W MR16, 200 Hrs, Ushio. EKE	\$11.00
(800-411)		(902-058, 31-31-52, A08120, FL180/70, FL150/70, FT150/70, FT190/70, 3378, 1000306)	
12V/10W SC Bayonet, round, horizontal filament. 800-421	\$33.30	21V/150W MR16, 1000 Hrs, Osram. EKE/X	\$13.80
(S-5203)		(EKE/L, 1003370)	
12V/10W Halogen, G4. 64415	\$3.40	24V/150W Halogen, High Intensity, Osram. 64640 HLX	\$3.40
12V/10W Halogen, G4. 800-170	\$10.75	(FCS, 71826, 799-892, MA786, 7158, 037-717, 799-892, 58101, 501-109, 1000492)	
12V/10W Tubular. 800-400	\$7.45	24V/150W Halogen, Long Life, Osram. 64642 HLX	\$8.00
12V/15W Halogen, G4. 800-422	\$13.05	(FDV)	
12V/15W MR11C, faceted. JCR12V15W/G4	\$5.90	24V/250W Halogen, G6.35, Osram. 64657	\$5.30
12V/20W Halogen, G4, 2000 hrs, Osram. 64425	\$2.85	(EVC/FGX, 6958)	
(58661, 800-160, 3253, HT-59-1152, SE06.0098)		24V/250W MR16, Osram. 64653 HLX	\$12.50
12V/22W MR11. JCR12V22WA/3 , KLS.....	\$34.85	(ELC, 13163, Y99704, 1000318)	
(8-S110)		82V/250W MR16. EVW	\$12.75
12V/25W SC Bayonet. 93	\$1.25	82V/300W MR13. FHS	\$12.25
12V/30W Halogen, G6.35, Osram. 64261	\$14.50	120V/6W DC Bayonet. 6S6DC120V	\$2.50
(500-317, 115000317)		(10407, 1005, 8000220)	
12V/30W Halogen, PG22, Osram. 64260	\$17.60	120V/15W Candelabra, Ushio. 15S11/13CL	\$5.20
12V/35W Halogen, G4. JC12V35W/G4	\$7.90	(626, 8000079)	
(13596030)		120V/15W DC Bayonet. 15T7DC	\$3.00
12V/35W MR11C, Philips. 14626	\$13.25	(77906, 12610, 12603, 800-101, 8000083)	
(FTE-CG)		120V/15W Medium Screw, Eiko. 15S11/102CL	\$3.00
12V/50W Halogen, G6.35, Osram. 64610 HLX	\$4.50	(31-31-15, 611, 8-B150, 8000077)	
(BRL, 76516, 8-C407, MA784, 500-182, 7027, M650, MA275/05, 1000071)		120V/20W ½ Silver, DC Bayonet, Oblong. 77427	\$13.00
12V/50W Halogen, Special Base, Dr Fischer. 384-643	\$59.00	(MA361/10)	
(4643 HLX, 90-1300, M-01020)		120V/20W ½ Silver, DC Bayonet, Oblong, Ushio. 78595	\$11.80
12V/60W DC Bayonet. 3800-18-2520	\$20.50	(MA361/10, MXA20163, 8000385)	
(38-02-16, 500-010, 8000173)		120V/20W ½ Silver, DC Bayonet, Round. MA886	\$12.20
12V/75W MR16, Ushio. EFN	\$14.00	120V/20W DC Bayonet, Oblong. 800-102	\$10.80
(3800-79-9030, 64615 HLX, 6853, 1000270)		120V/20W DC Bayonet, Round, Eiko. MA2201	\$7.00
12V/100W Halogen, High Intensity, Osram. 64625 HLX	\$4.75	(MA2251B, 8000344)	
(FCR, 76513, 500-974, 8-C401, 193-049, 3800-59-1660, MA782, 7023, 9-8600-15, M32-05-45, 2052, 1000490)		120V/20W Frosted/Silver, Round. MA736	\$14.00
12V/100W Halogen, Long Life, Osram. 64623 HLX	\$5.70	120V/30W DC Bayonet, Round. MA722A	\$7.00
(EVA, 84125, 8-C406, 043-144, 7724, 3800-79-9540, 1000381)		120V/30W DC Bayonet, S11. BLC	\$4.80
12V/100W Halogen, 2-pin prefocus, Osram. 64628	\$11.40	(31-31-71-03, 31-31-71-05, 8-B152, 1000060)	
(FDT, 31-31-58, 5973, 1000504)		120V/30W Miniature Flood. MA263/05	\$20.00
12V/100W MR16, Osram. EFP	\$9.70	120V/30W ½ Silver, DC Bayonet, Ushio. 8000165	\$18.00
(64627, 098-145, 6834, 3800-79-9040, 1000271)		(78508, MXA20450, SM-31-74-28)	
13.8V/85W MR16, Osram. 64618	\$12.00	120V/150W Medium Screw, Higuchi. 150P25/2SB	\$20.00
(DED, 13288, 13194)		120V/150W MR16, faceted, 12 hrs, Ushio. ESD	\$26.55
14.5V/90W MR16, Ushio. EPV	\$13.75	(906117, 1000356)	
15V/150W Halogen, G6.35, EVB/BRJ	\$5.25	120V/250W MR16, faceted, Ushio. ENH	\$17.75
(64633 HLX, 6550, 100069)		(54986, 1006926, 1000333)	
15V/150W MR16, Osram. 64635 HLX	\$42.00	120V/300W GY9.5, Ushio. JCD120V300WC	\$14.50
15V/150W MR16, Ushio. EFR	\$15.50	(1000896)	
(997-053, 8-S401, 31-01-98, 64634 HLX, 6423, 58102, 10001-111, Y99701, 1000272)		120V/300W MR16, stippled, oval 2-pin, Osram. ELH	\$11.75
20V/1A DC Prefocus*. 1634	\$9.00	(64660, 1000321)	
(31-31-37, 050-540, 506-014, 8000095)		125V/300W MR16, Long Life, faceted, Eiko. ELH-5	\$17.00
20V/150W MR16, faceted, 500 hrs, Ushio. DDL	\$11.00	(1003020)	
(A08130, 82931, 3378, 23500-014, 1000173)		130V/50W Halogen, G8, Hiraki. JCD130V50W/G8	\$5.50
21V/150W MR16, 2-pin vented, Ushio. DNF	\$20.00	(25088A)	
(61351, 001160, 243054, SY0023, 4000-0996-0019, 6000-150, 52118, 5212-11, 5212-51, 5212-81, 1000207)			

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LED

- 3.4V/0.06W LED, Wedge. **800-001** \$11.70
(MA2215)
- 3.4V/3W LED Assembly. **800-500** \$32.40
- LED Assembly. **800-425** \$32.40
- LED Assembly. **800-426** \$34.20

Metal Halide

- 60V/24W MR11, 300 hrs, Welch Allyn. **09500-U** \$270.00
(AL-1824, 8-61257)

Mercury Short Arc

- 50W Mercury Arc, 100 Hrs, Osram. **HBO50W/AC/L1** \$115.00
(78564, 78588, 8-B199, 38-16-19, 414140, 2055, 3040-0090, 500-137, SHL-50AC1, BA-001, 5000487)
- 50W Mercury Arc, 100 Hrs, Osram. **HBO50W/AC/L2** \$115.00
(31-31-65, SHL-50AC2, BA-002, 5000857)
- 50W Mercury Arc, 200 Hrs, Osram. **HBO50W/3** \$140.00
(BA-003)
- 100W Mercury Arc, 200 Hrs, Ushio. **USH-102D** \$109.00
(78589, 8-B192U, 500-138, 3800-18-4060/D, 2087-001, 3040-0380, BA-005A, HBO100W/2, M/5000/133, 5000274)
- 100W Mercury Arc, 300 Hrs, Ushio. **USH-103D** \$123.00
(78590, 8-B1920, 380301-9350, USH-103OL, 5001329)
- 100W Mercury Arc, 200 Hrs, Osram. **HBO100W/2** \$109.00
(78589, 8-B192U, 500-138, 3800-18-4060/D, M/5000/133 2087-001, 3040-0380, BA-005, 3254, USH-102D)
- 100W Mercury Arc, 300 Hrs, Osram. **HBO103W/2** \$123.00
(Not compatible with all Hg power supplies)
(78590, 8-B1920, 380301-9350, 500-321)
- 200W Mercury Arc, 1000 hrs, Ushio. **USH-200DP** \$135.80
(HBO200W/2, 31-01-01, 649, 860014, 78580, 8-B190, 3800-18-4070, 38-16-15, 050-320, MA885, 91-00-50, 505-620, 78590, 5000276)

Xenon Short Arc

- 75W Xenon Arc, 400 hrs, Ushio. **UXL-75XE** \$195.00
(XBO75W/2, 8-B198, 910881-2013, 38-16-02, 500-139, 91-01-42, 3800-79-9190, 78682, 620-125, 903-050, BA-013, 5000371)
- 75W Xenon Arc, 400 hrs, Osram. **XBO75W/2** \$184.00
(UXL-75XE, 8-B198, 910881-2013, 38-16-02, 500-139, 91-01-42, 3800-79-9190, 78682, 620-125, 903-050, BA-013, 5000371)
- 150W Xenon Arc, Short Gap. **XBO150W/CROFR** \$260.00
(8-B195, BA-018, UXL-150S-0, 3801-22-2450, 500-008, 5000326)
- 180W Xenon Arc, Osram. **XBOR180W45COFR** \$450.00
(69183, 407.309)

Fluorescent

- 4W Fluorescent, Tubular, Eiko. **F4T5/D** \$7.00
(31-31-03, MA309/05, 3000108)
- 5W Fluorescent, G23, Sylvania. **CF5DS/841** \$5.00
(21278, 800-138, MA68, 48920-81, 20303)
- 9W Fluorescent, G23, Sylvania. **CF9DS/841** \$4.95
(20305)
- 22W Fluorescent, 8" OD Circle, Sylvania. **FC8T9/D/RS** \$19.00
(29980)
- 32W Fluorescent, 12" OD Circle, Sylvania. **FC12T9/D/RS** \$15.90
(20030)

Germicidal

- 4W Germicidal (UV-C), G5, Osram. **G4T5/OF** \$10.35
(23397)
- 15W Germicidal (UV-C), G13, Sylvania. **G15T8** \$17.00
(21612, 3000007)
- 25W Germicidal (UV-C), G13, Ushio. **G25T8** \$19.80
(3000008)
- 30W Germicidal (UV-C), G13, Sylvania. **G30T8** \$20.00
(23112, 00204, 11080, 3000009)
- 39W Germicidal, single-pin, Ushio. **G36T5L** \$35.80
(23443, 00206, 3000312)
- 65W Germicidal, single-pin, 155.4 cm, Higuchi. **G64T5L** \$83.00

Heat (Infrared)

- 250W, R40, shatter resistant, GE. **250BR40/HI/TC** \$14.00

* Recommend Bulb Removal/Installation Tool (shown below)



Remove and install prefocused/flanged bulbs safely with this simple tool. Push rubber-lined tube directly onto top of bulb and turn clockwise to install, or counterclockwise to remove.

- Bulb Removal/Installation Tool. 3283** \$16.00

- Compressed Air, 10 oz Can. 77001** \$12.00
Ultra pure duster is nonflammable.



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Fuses

¼ x 1¼"

Fast-Acting, AGC

0.1A/250V. 312-100	\$2.00
0.2A/250V. 312-200	\$2.00
1A/250V. 312-001	\$2.00
2A/250V. 312-002	\$2.00
3A/250V. 312-003	\$2.00
4A/250V. 312-004	\$2.00

Time-Delay (Slow-Blow), MDL

0.7A/250V. 313-700	\$2.00
1A/250V. 313-001	\$2.00
2.5A/250V	\$2.00

5 x 20 mm

Fast-Acting, GMA

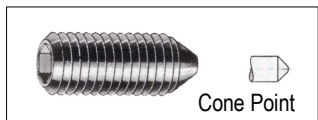
0.5A/250V. 235-500	\$2.00
1A/250V. 235-001	\$2.00
3A/250V. 235-003	\$2.00
5A/125V. 235-005	\$2.00

Time-Delay (Slow-Blow), Glass tube

0.5A/250V. 239-500	\$2.00
1A/250V. 239-001	\$2.00
2A/250V. 239-002	\$2.00
3A/250V. 239-003	\$2.00
5A/250V. 239-005	\$2.00

Time-Delay (Slow-Blow), Ceramic

1A/250V. 215-001	\$2.00
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Cone Point



Cup Point

Set Screws, steel

Cone Point, DIN 914

M4 x 0.7 x 5 mm length, 2 mm hex key size. 77702	\$0.50
M4 x 0.7 x 10 mm length, 2 mm hex key size. 77704	\$0.50
M4 x 0.7 x 12 mm length, 2.5 mm hex key size. 77706	\$0.50
M5 x 0.7 x 10 mm length, 2.5 mm hex key size. 77708	\$0.50

Cup Point, DIN 916

M3 x 0.5 x 3 mm length, 1.5 mm hex key size. 77722	\$0.50
M3 x 0.5 x 5 mm length, 1.5 mm hex key size. 77724	\$0.50

Tools



Cutter, diagonal, 5". PLR-766.00 \$10.95



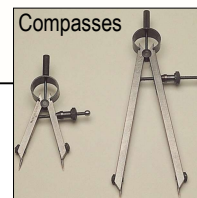
Demagnetize or magnetize parts and tools.

Demagnetizer/Magnetizer, 1½ x 3" opening. DEM-345.00 \$80.95

Gauges



Vernier Caliper



Compasses

Vernier Caliper, digital, 3-button. 600VCD001 \$28.95
Measures in millimeters (0-150 mm with 0.01 mm precision) and inches (0-6"). Provided with a plastic case.

Compasses, replaceable tips, Germany

3" Long. DIV-320.00	\$11.95
6" Long. DIV-326.00	\$16.95
Tips (replacement), Pair. DIV-320.05	\$1.95



Reproducibility enhanced by rapid stop. Provided with padded, plastic case.

Micrometer, 0-25 mm in 0.01 mm div, Germany. 601A \$39.00



Measure inside and outside diameters of glass and plastic tubing, connecting pieces, rods, test tubes, etc. between 1.5 and 16 mm.

Tubing Sizer, metric diameter gauge, PP. 133900000 \$35.10

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Hex L-Wrenches (Allen), metric

- 0.71 mm, short-arm, each. **78001** \$0.75
- 0.89 mm, short-arm, each. **78002** \$0.75
- 1.27 mm, short-arm, each. **78003** \$0.75
- 1.5 mm, short-arm, each. **78004** \$0.75
- 2 mm, short-arm or long-arm (*specify*), each. **78005** \$0.75
- 2.5 mm, short-arm, each. **78006** \$0.75
- 3 mm, short-arm or long-arm (*specify*), each. **78007** \$0.75

Hex L-Wrench Sets

- 7-Pc, short-arm. **78000** \$5.00
0.71, 0.89, 1.27, 1.5, 2, 2.5 and 3 mm. Includes case.



Ball end can be inserted up to 20° off-axis and not bind. Includes storage case.

13-Pc, ball end, long-arm, chrome vanadium

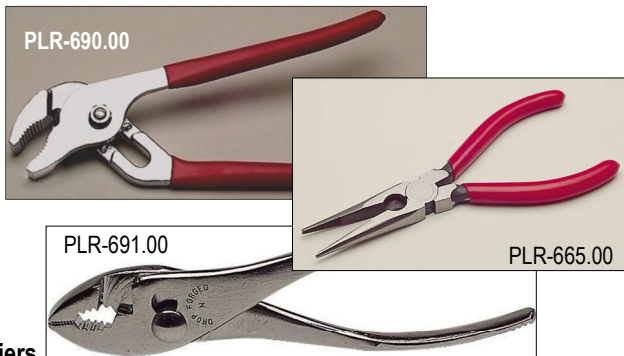
- Metric. **96416** \$15.90
1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 8, and 10 mm
- SAE. **94680** \$15.90
0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, and 3/8"



- Inspection Mirror, 9", stainless steel. M31** \$2.50



- Needle File Set, 12-pc, 10 cm long. FIL-990.00** \$11.45
Needle File Handle, anodized aluminum. **HAN-739.00** \$8.95



- Pliers**
- Groove Joint, 7½". **PLR-690.00** \$6.40
Multi-grooved handles adjust for various jobs.
 - Long Nose with Side Cutter, 6½". **PLR-665.00** \$5.80
Features serrated jaws and vinyl grip handles.
 - Slip Joint with Wire Cutter, 6½". **PLR-691.00** \$4.30
Made from drop-forged steel with a nickel plating.
 - Plier Set, 4-pc, canvas pouch. **20006** \$32.45
Pouch holds three pliers outlined above plus one diagonal cutter (PLR-766.00).



Miniature



Japanese Style Phillips

Screwdrivers

- Miniature Combo, 6-pc, swivel head. **SCR-905.00** \$2.95
Slotted tips: 1.0, 1.2, 1.8, 2.4 mm; Phillips tips: #0, #1.
- Japanese-Style Phillips (JIS)
#1, 3" long blade, 7¼" overall length. **53325A32** \$13.70
#2, 4" long blade, 8¼" overall length. **53325A33** \$16.50



Straight Blade
¼" Offset
Pencil Point

Includes handle plus all 3 pairs of tips.

- Spanner Wrench Kit. T-132-346** \$94.00
Tips (replacement), each Pair \$24.00



Wrenches

- 9-Way. **SOL-289.00** \$12.80
Sizes: 7/16, 1/2, 9/16, 5/8, 11/16, 7/8, 1, and 1 1/8".
Useful for lab equipment and gas cylinders. Length: 8½".



- Strap. **78801** \$10.00
Powerful gripper loosens and tightens without damaging delicate surfaces. Quickly adjusts from 6 to 100 mm. Works in confined areas. Ideal for objectives.