

2 sides heated (Type ND, Width X = heated side)





Order-no.	Model	Description	Length X	Width Y	
T005 87 368 43	ND05	Hot air nozzle, 2 sides heated	10,7 mm	10,7 mm	
T005 87 368 42	ND 10	Hot air nozzle, 2 sides heated	14,0 mm	10,0 mm	
T005 87 368 41	ND 15	Hot air nozzle, 2 sides heated	19,0 mm	12,0 mm	
T005 87 368 40	ND 20	Hot air nozzle, 2 sides heated	21,5 mm	14,8 mm	
T005 87 369 32	ND SK535/A	Hot air nozzle, without edge for thin components	8,5 mm	20,0 mm	
T005 87 369 33	ND SK535/B	Hot air nozzle, without edge for thin components	10,5 mm	20,0 mm	
T005 87 507 34	ND SK699	Hot air nozzle, without edge for thin components	12,5 mm	20,0 mm	
T005 87 369 34	ND SK535/C	Hot air nozzle, without edge for thin components	14,0 mm	20,0 mm	

Hot Air Nozzles

Four sides heated (Type NQ)


Order-no.	Model	Description	Length X	Width Y	
T005 87 368 39	NQ05	Hot air nozzle, 4 sides heated	10,7 mm	10,7 mm	
T005 87 368 38	NQ15	Hot air nozzle, 4 sides heated	14,5 mm	10,0 mm	
T005 87 368 18	NQ10	Hot air nozzle, 4 sides heated	14,8 mm	14,8 mm	
T005 87 368 37	NQ20	Hot air nozzle, 4 sides heated	15,5 mm	13,0 mm	
T005 87 368 14	NQ25	Hot air nozzle, 4 sides heated	18,0 mm	18,0 mm	
T005 87 507 21	NQ30	Hot air nozzle, 4 sides heated	17,5 mm	23,5 mm	
T005 87 368 07	NQ35	Hot air nozzle, 4 sides heated	20,5 mm	20,5 mm	
T005 87 368 80	NQ	Hot air nozzle, 4 sides heated	24,0 mm	12,0 mm	
T005 87 368 04	NQ40	Hot air nozzle, 4 sides heated	26,0 mm	26,0 mm	
T005 87 368 33	NQ45	Hot air nozzle, 4 sides heated	31,3 mm	31,3 mm	
T005 87 368 91	NQ50	Hot air nozzle, 4 sides heated	36,0 mm	36,0 mm	
T005 87 368 90	NQ55	Hot air nozzle, 4 sides heated	43,0 mm	43,0 mm	

4 sides heated (Type NQ) continuation

Order-no.	Model	Description	Length X	Width Y	
T005 87 507 41	NQT 10	Hot air nozzle, 4 sides heated, without protruding edge for thin components	14,8 mm	14,8 mm	
T005 87 507 42	NQT25	Hot air nozzle, 4 sides heated, without protruding edge for thin components	18,0 mm	18,0 mm	
T005 87 507 39	NQT	Hot air nozzle, 4 sides heated, without protruding edge for thin components	22,0 mm	22,0 mm	
T005 87 368 75	NA 20	Measuring nozzle for calibration			

Special tips on request

Rubber insert for CSF heads (spare)

Order-no.	Description	
T005 87 137 99	Ø 4,5 mm, 10 pieces	
T005 87 137 98	Ø 10,0 mm, 10 pieces	

Hot Air Nozzles



- The patented hot air nozzles of the WQB rework systems, coupled with digital control of the hot air temperature and its flow rate provide an even convective heating of the component. This in turn ensures reatability of the reflow process.

Hot air nozzle for WQB 4000SOPS

Order-no.	Nozzle housing inside	Nozzle housing outside
T005 87 479 47	7,6 x 7,99 mm	8,6 x 8,9 mm
T005 87 479 43	6,5 x 6,5 mm	7,5 x 7,5 mm
T005 87 479 45	8,5 x 8,5 mm	9,5 x 9,5 mm
T005 87 479 61	8,5 x 10,6 mm	9,5 x 11,6 mm
T005 87 549 67	10,0 x 10,0 mm	11,0 x 11,0 mm
T005 87 478 48	12,0 x 12,0 mm	13,0 x 13,0 mm
T005 87 479 04	13,5 x 13,5 mm	14,3 x 14,3 mm
T005 87 479 35	15,5 x 15,5 mm	16,5 x 16,5 mm
T005 87 478 93	15,0 x 11,0 mm	16,0 x 12,0 mm
T005 87 548 36	18,5 x 10,0 mm	19,5 x 11,0 mm
T005 87 479 77	15,5 x 23,5 mm	16,5 x 24,5 mm
T005 87 478 33	18,0 x 18,0 mm	20,0 x 20,0 mm
T005 87 547 70	21,0 x 21,0 mm	23,0 x 23,0 mm
T005 87 548 20	22,0 x 22,0 mm	24,0 x 24,0 mm
T005 87 477 64	25,0 x 25,0 mm	27,0 x 27,0 mm
T005 87 479 93	27,0 x 23,0 mm	29,0 x 25,0 mm
T005 87 478 50	27,0 x 27,0 mm	29,0 x 29,0 mm
T005 87 479 27	29,0 x 29,0 mm	31,0 x 31,0 mm
T005 87 479 99	28,0 x 32,0 mm	30,0 x 34,0 mm
T005 87 479 06	33,0 x 33,0 mm	35,0 x 35,0 mm
T005 87 548 87	35,0 x 35,0 mm	37,0 x 37,0 mm
T005 87 477 53	37,0 x 37,0 mm	39,0 x 39,0 mm
T005 87 478 71	39,5 x 39,5 mm	41,5 x 41,5 mm
T005 87 478 74	42,0 x 42,0 mm	44,0 x 44,0 mm
T005 87 549 03	45,0 x 11,0 mm	47,0 x 13,0 mm
T005 87 477 63	46,0 x 46,0 mm	48,0 x 48,0 mm
T005 87 479 16	47,0 x 47,0 mm	49,0 x 49,0 mm
T005 87 479 41	49,0 x 49,0 mm	51,0 x 51,0 mm
T005 87 479 85	57,0 x 18,5 mm	59,0 x 20,0 mm

Special sizes on request



Electric Screwdriver

“Power is nothing without control...”



Flexible solutions

- Wide accessory program - analog or digital power units, torque tester, tool connection cables as well as a large bit portfolio



Operational safety and environment pollution

- Noise level as of standard conversations
(below emission level in hospitals during day duty)
- Ergonomic unit
- Light and compact
- ESD safe
- No emission
- No harmful carbon dust due to brushless motor



Low running costs

- Brushless, maintenance free motor
- Compatible units
- Analog and digital power units, clutch systems or electronic screwdrivers - all tools are compatible and for different applications

Electric Srewdriver



WTS A

■ Digital Power Unit



WTS D

■ Digital Power Unit



WBTS12L



WBTS35L



WTBS35ECL



WBTS12P



WBTS35P

Accessories

■ WAH12



■ WCAB5M



■ WAH35



■ WCAB5MS



■ WBAL



■ WTT5



Technical data



WTS A



WTS D

Mains supply voltage	100 - 240 VAC	
Speed control	from 60% to 100% of nominal speed	
Display	no	LED
Operation panel	Simply rotary dial adjustment	Text display
Torque range display	no	yes
Order-No.	T005 39 016 99	T005 39 006 99



WBTS12L

WBTS35L

WBTS35ECL

WBTS12P

WBTS35P

Start	Lever start	Lever start	Lever start	Push to start	Push to start
Torque range	0,05 - 1,2Nm	0,5 - 3,5 Nm	0,5 - 3,5 Nm	0,05 - 1,2Nm	0,5 - 3,5Nm
For use with 1/4" bits	1/4"	1/4"	1/4"	1/4"	1/4"
Brushless, maintenance free motor	yes	yes	yes	yes	yes
Right and left rotation	yes	yes	yes	yes	yes
Low noise	<55dBA	<55dBA	<55dBA	<55dBA	<55dBA

WTS A

- Simply rotary dial adjustment
- Soft start capability
 - ramp from 0 to 2 sec.
- ESD compliant housing



Order-No.	Model	Description
T005 39 016 99	WTS A	Analogue Power Unit

WTS D

- Easy operation with text display and simple programming, multiple languages
- Soft start capability - ramp from 0 to 2 sec.
- Suitable for complex tightening applications
- ESD compliant housing



Order-No.	Model	Description
T005 39 006 99	WTS D	Digital Power Unit, recommended ECL Electric Screwdriver

WBTS12L Electric Screwdriver

- Lever start
- Torque setting via clutch spring compression



Order-No.	Model	Description
T005 39 091 99	WBTS12L	Electric Screwdriver with lever start and 8-pin interface cable, connecting cable 2,5 m

WBTS35L Electric Screwdriver

- Lever start
- Torque setting via clutch spring compression



Order-No.	Model	Description
T005 39 093 99	WBTS35L	Electric Screwdriver with lever start and 8-pin interface cable, connecting cable 2,5 m

WBTS35ECL Electric Screwdriver

- Lever start
- Torque setting via digital controller



Order-No.	Model	Description
T005 39 095 99	WBTS35ECL	Electric Screwdriver with lever start and 8-pin interface cable, connecting cable 2,5 m

WBTS12P Electric Screwdriver

- Push to start
- Torque setting via clutch spring compression



Order-No.	Model	Description
T005 39 092 99	WBTS12P	Electric Screwdriver push to start and 8-pin interface cable, connecting cable 2,5 m

WBTS35P Electric Screwdriver

- Push to start
- Torque setting via clutch spring compression



Order-No.	Model	Description
T005 39 094 99	WBTS35P	Electric Screwdriver push to start and 8-pin interface cable, connecting cable 2,5 m

WAH12 Angle head

- Especially for tight work spaces



Order-No.	Model	Description
T005 87 677 01	WAH12	90° Angle head for WBTS12L

WAH35 Angle head

- Especially for tight work spaces



Order-No.	Model	Description
T005 87 677 02	WAH35	90° Angle head for WBTS35L

WBAL Balancer

- Working load limit from 0,4 to 1,0 kg



Order-No.	Model	Description
T005 87 677 03	WBAL	Balancer



WCAB5M Connecting cable

- Flexible connecting cable

Order-No.	Model	Description
T005 87 677 04	WCAB5M	Connecting cable 5 m, 8-pin



WCAB5MS Connecting cable

- Flexible connecting cable with twist

Order-No.	Model	Description
T005 87 677 05	WCAB5MS	Connecting cable with twist 5 m, 8-pin



WTT5 Torque tester

- Tester for screwdriver calibration
- 3 units of torque measurements
- Automatic shut down
- 2 Display mode selectable
- Battery powered or power supply

Order-No.	Model	Description
T005 87 677 06	WTT5	Torque tester from 0,2 until 5 Nm

Suitable Bits and Drive

Phillips®-Bits

■ 1/4" Hex Insert Bits -
Limited Clearance



Order-No.	Point Size	Overall Length		Turned Length (A)		Turned OD (B)	
		Inch	mm	Inch	mm	Inch	mm
446-0X	0	1	25	7/16	11	0,108	4,06
446-1X	1	1	25	7/16	11	0,108	4,06
446-2X	2	1	25	7/16	11	0,108	4,06

Pozidriv® Bits

■ 1/4" Hex Insert Bits



Order-No.	Point Size	Overall Length		Turned Length (A)		Turned OD (B)	
		Inch	mm	Inch	mm	Inch	mm
440-1-PZDX	1	1	25				
440-2-PZDX	2	1	25				
440-215-PZDX	2	11/2	38				
440-22-PZDX	2	2	51				
440-3-PZDX	3	1	25				
440-4-PZDX	4	11/4	32				
446-1-PZDX *	1	1	25	7/16	11	0,18	4,6
446-2-PZDX *	2	1	25	7/16	11	0,18	4,6

Slotted Bits

- 1/4" Hex Insert Bits - Limited Clearance



Order-No.	Screw Size	Length		Blade Thickness		Blade Width	
		Inch	mm	Inch	mm	Inch	mm
445-000X	1F-2R	1	25	,021	,53	,125	3,2
445-00X	2F-3R	1	25	,025	,64	,140	3,6
445-0X	3F-4R	1	25	,030	,76	,154	3,9
445-10X	4F-5R	1	25	,034	,86	,185	4,7
445-20X	5F-6R	1	25	,036	,91	,216	5,5
445-30X	6F-7R	1	25	,038	,97	,248	6,3

Torx® Bits

- 1/4" Hex Insert Bits



Order-No.	Point Size	Overall Length	
		Inch	mm
440-TX-05X	T-5	1	25
440-TX-06X	T-6	1	25
440-TX-07X	T-7	1	25
440-TX-08X	T-8	1	25
440-TX-09X	T-9	1	25
440-TX-10X	T-10	1	25
440-TX-15X	T-15	1	25
440-TX-20X	T-20	1	25
440-TX-25X	T-25	1	25
440-TX-27X	T-27	1	25
440-TX-30X	T-30	1	25
440-TX-40X	T-40	1	25

Suitable Bits and Drive

Socket Head Bits

■ 1/4" Hex Insert Bits - Metric



Order-No.	Point Size	Overall Length	
		Inch	mm
185-1.5MM	1,5 mm	1	25
185-2MM	2,0 mm	1	25
185-2.5MM	2,5 mm	1	25
185-3MM	3,0 mm	1	25
185-4MM	4,0 mm	1 5/16	33
185-5MM	5,0 mm	1 5/16	33
185-6MM	6,0 mm	1 5/16	33
185-7MM	7,0 mm	1 1/4	32
185-8MM	8,0 mm	1 1/4	32
185-9MM	9,0 mm	1 1/4	32
185-10MM	10,0 mm	1 1/4	32

Bit Holder

■ Hex Drive for 1/4" Hex Inserts



Order-No.	Size	Overall Length mm
M-490-2	2	51 Magnetic
M-490-NR	2 31/32	75 Magnetic; No lock ring
M-490	2 31/32	75 Magnetic
M-497	3 3/32	Magnetic; 3/8" (9,5 mm) reduced dia.

Slotted Drive

■ 1/4" Hex Power Drive



Order-No.	Screw Size	Length		Blade Thickness		Blade Width / Body Ø	
		Inch	mm	Inch	mm	Inch	mm
320-000X	1F-2R	1 15/16	49	,022	,56	,155	3,10
326-000X	1F-2R	2 3/4	70	,022	,56	,155	3,10
320-00X	2F-3R	1 15/16	49	,026	,66	,134	3,40
326-00X	2F-3R	2 3/4	70	,026	,66	,134	3,40
320-0X	3F-4R	1 15/16	49	,030	,76	,151	3,84
326-0X	3F-4R	2 3/4	70	,030	,76	,151	3,84
320-1X	4F-6R	1 15/16	49	,034	,86	,187	4,75
326-1X	4F-5R	2 3/4	70	,034	,86	,187	4,75
320-20X	5F-6R	1 15/16	49	,036	,91	,215	5,46
326-20X	5F-6R	2 3/4	70	,036	,91	,215	5,46
320-2X	5F-6R	1 15/16	49	,036	,91	,250	6,35
326-2X	5F-6R	2 3/4	70	,036	,91	,250	6,35

Suitable Bits and Drive

Socket Head Drive

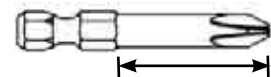
■ 1/4" Hex Power Drive - Metric



Order-No.	Point Size	Overall Length	
		Inch	mm
AM-1.5MM	1,5 mm	1 15/16	49
AM-2MM	2,0 mm	1 15/16	49
AM-2.5MM	2,5 mm	1 15/16	49
AM-3MM	3,0 mm	1 15/16	49
AM-3MM-3	3,0 mm	3	76
AM-3MM-4	3,0 mm	4	102
AM-4MM	4,0 mm	1 15/16	49
AM-5MM	5,0 mm	1 15/16	49
AM-5MM-4	5,0 mm	4	102
AM-6MM	6,0 mm	1 15/16	49
AM-6MM-4	6,0 mm	4	102
AM-7MM	7,0 mm	1 15/16	49
AM-8MM	8,0 mm	1 15/16	49
AM-10MM	10,0 mm	1 15/16	49

Pozidriv®-Klingen

■ 1/4" Hex Power Drive



Order-No.	Size	Overall Length		Body Ø		Turned Length	
		Inch	mm	Inch	mm	Inch	mm
491-PZDX	1	1 15/10	49	3/10	4,6	1 1/4	32
491-A-PZDX	1	2 3/4	70	3/16	48	2	51
492-PZDX	2	1 15/16	49	1/4	6,4	1 1/4	32
492-A-PZDX	2	2 3/4	70	1/4	6,4	2	51
493-PZDX	3	1 15/16	49	5/16	7,9	1	25
493-A-PZDX	3	2 3/4	70	5/16	7,9	1 3/4	44

Torx® Drive

■ 1/4" Hex Power Drive

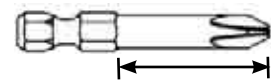


Order-No.	Driver Size	Body Ø mm	Overall Length Inch mm
49-TX-05	T5	3,0	1 15/16 49
49-A-TX-05	T-5	3,0	2 3/4 70
49-TX-06	T-6	3,0	1 15/16 49
49-A-TX-06	T-6	3,0	2 3/4 70
49-TX-07	T-7	3,0	1 15/16 49
49-A-TX-07	T-7	3,0	2 3/4 70
49-A-TX-08	T-8	3,0	2 3/4 70
49-TX-09	T-9	3,0	1 15/16 49
49-A-TX-09	T-9	3,0	2 3/4 70
49-TX-10	T-10	3,8	1 15/16 49
49-A-TX-10	T-10	3,8	2 3/4 70
49-TX-15	T-15	3,8	1 15/16 49
49-A-TX-15	T-15	3,8	2 3/4 70
49-TX-20	T-20	4,3	1 15/16 49
49-A-TX-20	T-20	4,3	2 3/4 70
49-TX-25	T 25	4,0	1 15/16 49
49-B-TX-25	T-25	4,9	3 1/2 89
49-TX-27	T-27	5,5	1 15/16 49
49-B-TX-27	T 27	5,5	3 1/2 89
49-TX-30	T-30	6,0	1 15/16 49
49-B-TX-30	T-30	6,0	3 1/2 89
49-TX-40	T 40	7,8	1 15/16 49
49-B-TX-40	T-40	7,8	3 1/2 89

Suitable Bits and Drive

Phillips® Drive

■ 1/4" Hex Power Drive



Order-No.	Point Size	Overall Length		Body Ø		Turned Length	
		Inch	mm	Inch	mm	Inch	mm
4910X	0	1 15/16	49	1/8	3,2	1 1/4	32
4910-AX	0	2 3/4	70	1/8	3,2	2	51
491X	1	1 15/16	49	3/16	4,8	1 1/4	32
491-AX	1	2 3/4	70	3/16	4,8	2	51
492X	2	1 15/16	49	1/4	6,4	1 1/4	32
492-AX	2	2 3/4	70	1/4	6,4	2	51
493X	3	1 15/16	49	5/16	7,9	1	25
493-AX	3	2 3/4	70	5/16	7,9	1 3/4	44



Dispensers, Syringes Adapters, Needles

Less is more ...





Easy handling

- reduced sources of errors due to manual control
- dispensing time via potentiometer
- protection against pollution
- vacuum technology for drop stop



Easy equipment selection

- the adequate dispenser for every application
- 2 versions of dispenser, 1 or 2 channel
- tremendous economy of consumables
- quick overview and selection of accessories

KDS824A

- Shot time duration adjustable from 0,01 to 99,99 seconds
- Vacuum feature prevents dripping
- Electrically actuated foot pedal
- One channel without time controlled air



Order No.	Model	Description
0053163699	KDS824A	Deluxe Shot Meter 230V/120V

KDS834A

- Hot time duration adjustable from 0,01 to 99,99 seconds
- Vacuum feature prevent dripping
- Electrically actuated foot pedal



Order No.	Model	Description
0053165699	KDS834A	Economy Shot Meter 230V/120V

KDS806V

- Basic ON-OFF function
- Foot actuated for excellent ergonomics
- Works on compressed air input only, no electricity required
- 0-100 PSI regulator and gauge
- Vacuum feature prevents dripping



Order No.	Model	Description
KDS806V	KDS806V	Foot Valve with Vacuum

Wands

KDS301

- Attaches to the air accessory port of the KDS824A
- A finger control on the wand allows an easily pick up of small components
- Comes with three sizes of conductive suction cups KDS260S (3,2 mm), KDS260M (6,3 mm), KDS260L (9,5 mm)



Order No.	Model	Description
KDS301	KDS301	Vacuum Pick-up Wand

Spare Parts Suction Cups KDS301

Order No.	Model	Description
KDS260S	KDS260S	Suction Cup Small 3,2 mm for KDS301
KDS260M	KDS260M	Suction Cup Medium 6,3 mm for KDS301
KDS260L	KDS260L	Suction Cup Large 9,5 mm for KDS301

Syringe Adapters



- Unique design works with all manufacturer's syringes
- 360° swivel on adapter head for ease of motion
- Use with single component, two part, self-leveling and non-self-leveling materials

Syringe Adapters

Metal Adapters Assemblies (universal)

- Metal syringe adapter with 6" (2 m) air line and fitting
- Plugs directly into any shot meters
- Fittes all syringes usual in trade



Order No.	Size	Airline Diameter		Pack quantity
		Inch	mm	
KDS805S6	5CC	3/32"	2,4	1
KDS810S6	10CC	3/32"	2,4	1
KDS830S6	30CC	3/32"	2,4	1

Plastic Adapters Assemblies

- Plastic adapter head with 6" (2 m) air line and fitting
- for Kahnetics syringes only



Order No.	Size	Airline Diameter		Pack quantity
		Inch	mm	
KDS510S6	10CC	3/32"	2,4	1
KDS530S6	30CC	3/32"	2,4	1

Miscellaneous Accessories



Order No.	Description
KDS816	Syringe Holder Stand

Needles



Stainless Steel Plastic Hub Dispensing Needles

Order No.	Description	Gauge	Inside Ø		Outside Ø		Length		Colour	Pack quantity
			Zoll	mm	Zoll	mm	Zoll	mm		
KDS1412P	Threaded Hub Needle	14	0,067	1,70	0,083	2,11	1/2	12,70	dark green	50
KDS141P	Threaded Hub Needle	14	0,067	1,70	0,083	2,11	1	25,40	dark green	50
KDS1512P	Threaded Hub Needle	15	0,060	1,52	0,072	1,83	1/2	12,70	orange	50
KDS1612P	Threaded Hub Needle	16	0,053	1,35	0,064	1,63	1/2	12,70	purple	50
KDS161P	Threaded Hub Needle	16	0,053	1,35	0,064	1,63	1	25,40	purple	50
KDS16112P	Threaded Hub Needle	16	0,053	1,35	0,064	1,63	1 1/2	38,10	purple	50
KDS1712P	Threaded Hub Needle	17	0,045	1,14	0,060	1,52	1/2	12,70	purple	50
KDS1812P	Threaded Hub Needle	18	0,038	0,97	0,050	1,27	1/2	12,70	pink	50
KDS181P	Threaded Hub Needle	18	0,038	0,97	0,050	1,27	1	25,40	pink	50
KDS1912P	Threaded Hub Needle	19	0,032	0,81	0,042	1,07	1/2	12,70	brown	50
KDS191P	Threaded Hub Needle	19	0,032	0,81	0,042	1,07	1	25,40	brown	50
KDS2012P	Threaded Hub Needle	20	0,026	0,66	0,035	0,89	1/2	12,70	yellow	50
KDS201P	Threaded Hub Needle	20	0,026	0,66	0,035	0,89	1	25,40	yellow	50
KDS2112P	Threaded Hub Needle	21	0,023	0,58	0,032	0,89	1/2	12,70	green	50
KDS2212P	Threaded Hub Needle	22	0,019	0,48	0,028	0,71	1/2	12,70	black	50
KDS221P	Threaded Hub Needle	22	0,019	0,48	0,028	0,71	1	25,40	black	50
KDS2312P	Threaded Hub Needle	23	0,017	0,43	0,025	0,64	1/2	12,70	light blue	50
KDS2512P	Threaded Hub Needle	25	0,012	0,30	0,020	0,51	1/2	12,70	lblue	50
KDS3012P	Threaded Hub Needle	30	0,006	0,15	0,012	0,30	1/2	12,70	lavender	50
KDS660	Pieces Needle Kit									500
KDSSAMPLEPACK	Needle Sample Pack									5

Packages 1.000 pcs. on request



Tapered Tip Needles

Order No.	Description	Gauge	Inside Ø Zoll mm		Colour	Pack quantity
KDS14TNP	Taper Tip Needle	14	0,063	1,60	salmon	50
KDS16TNP	Taper Tip Needle	16	0,048	1,22	grey	50
KDS18TNP	Taper Tip Needle	18	0,034	0,86	green	50
KDS20TNP	Taper Tip Needle	20	0,024	0,61	pink	50
KDS22TNP	Taper Tip Needle	22	0,017	0,43	blue	50

Miscellaneous Accessories

Order No.	Description	Pack quantity
KDS825	Panel Mount Coupler	1
KDS900	Male Connector large Barb	5
KDS901	Female Connector for KDS301	1
TAL332CH	Air-line for syring adapter	1
APC5132CM	Air-line for KDS301	1



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Tweezers

Precision Made in Switzerland

The quality and performance of our Erem precision tools are the product of more than 40 years of development and know-how. Made in Switzerland, Erem tools are the result of constant product development and innovation to meet customer demands and the requirements of modern manufacturing techniques.

Constantly changing market developments encourage Erem to design and manufacture forward looking tools for applications in the fields of electronics, aviation / aero-space, biology, medical accessories, the watch industry and telecommunications.

Erem tools enjoy the deserved high reputation of Swiss precision manufacture and our expertise, combined with ease of use and operator comfort make them an ideal partner in global manufacturing processes.

Erem is a branch of Cooper Hand Tools whose European headquarters are located in Besigheim, Germany.

Cooper Hand Tools is a subsidiary of Cooper Industries, headquartered in Houston Texas, has a global workforce of 35,000 and achieved sales of \$5 billion US.

Since
1963

Erem®



The genuine Swiss
pliers & tweezers





Tweezers

Erem manufacture a wide range of tweezers.

The combination of expert manufacture, symmetry and balance give Erem tweezers their renowned reputation for precision and the highest quality.

- Pointed tips for precision work
- Ergonomically shaped handles prevent hand fatigue
- Large selection of matching SMD tweezers and cutting tweezers for individual applications





Erem impresses

Erem manufactures a wide range of precision tweezers. The range covers tweezers made from hardened steel, stainless steel, non-magnetic acid resistant stainless steel, titanium, brass, nickel silver and nickel-plated tweezers. Tweezer tips can be serrated or smooth metal, or made from synthetic ESD safe material to prevent damage to fragile surfaces.

In addition to SMD and stripping tweezers, the range includes special gripping tweezers, which enable particularly fine wires or insulated optical fibres to be held and manipulated.

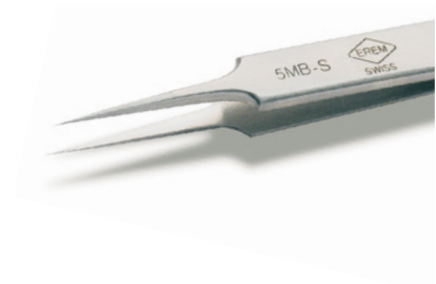
Erem can make to order tweezers for specialised applications. The combination of precision-manufactured, symmetrical tips and perfect balance make Erem tweezers outstanding high-precision tools of the highest quality.

Material

The choice of which tweezers to use will depend as much on the material it is made from as the function it carries out:

Hardened steel

Tweezers made from hardened steel are typified by their particularly hard tips, which ensure great durability. The tweezers are magnetic and the material is not non-rusting.



Stainless steel

Tweezers made from stainless steel have robust tips and are non-rusting. The material is less hard than hardened steel.

Stainless-steel tweezers have the identification letter „S“ in their order numbers.

Erem special stainless steel

This alloy is non-magnetic. The tweezers are non-rusting, acid-proof and heat-resistant up to 300°C (512°F).

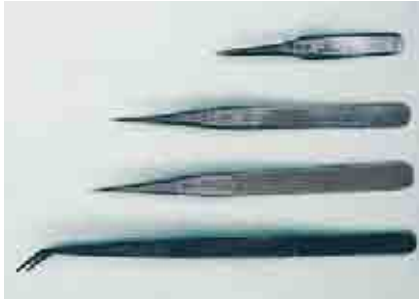
Tweezers made from special stainless steel have the identification letter „SA“ in their order numbers.

Titanium

Titanium tweezers are light weight and resistant to high temperatures.

Coating

Only Erem offers tweezers with a special Pyroplast coating.



Advantages:

- Heat-resistant up to 500°C (932°F), almost twice as high as Teflon® or Cralon
- No capillary effect on tips, e.g. while soldering (non-stick property)
- No contamination caused by positive or negative charge
- Water-resistant
- Radiation-resistant
- Thickness of coating 60-80 µ

The Pyroplast coating is not available on all Erem tweezers.

It is made to order and requires a minimum order quantity.

Please contact your nearest sales office for more information.

Ergonomic

Erem has developed a series of tweezers with ergonomic handles to reduce the risk of Repetitive Strain Injuries (RSI) to the hands.

The identification letter in the order number is „E“.



Erem also offers two further innovative tweezers with ergonomically shaped handles:

- E15AGW cutting tweezers with hardened cutting edges for increased service life
- EOODSA precision tweezers with straight strong tips which are inside-serrated for secure handling



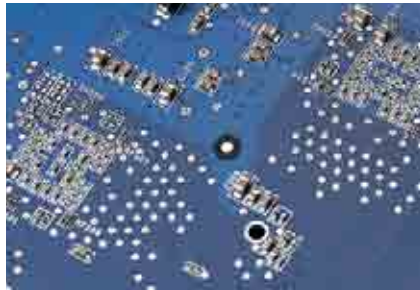
Advantages:

- Ergonomically shaped handles reduce Carpal Tunnel Syndrome (CTS) and early hand fatigue
- Two-color, thermally insulated soft-grip handles made from soft foam material ensure high user comfort
- Manufactured from non-magnetic, acid-proof and stainless steel alloy
- ESD-safe

Special applications

The quality and performance of Erem precision tweezers are the result of more than 40 years of development and know-how.

Erem is one of the leaders in the development of high-precision tools for a wide variety of applications in electronics, aeronautical engineering, light engineering, telecommunications, laboratory technology, medicine and the jewelry, watchmaking and goldsmith industries.



Tweezers for biology and laboratory applications



Erem micro-tweezers are suitable for use in biology (e.g. model 5MBS, 5FSA or M5S).

These tweezers with very pointed tips enable confined spaces to be accessed and offer excellent visibility when performing precision work and when working under a microscope.

High precision tweezers are particularly suitable for analysis applications and the handling of tissues, fine threads and other very small objects.

Tweezers for use in the jewelry industry

These stainless steel tweezers with Teflon® coated tips (e.g. type 2ASASLT) are particularly suited for use in the jewelry industry. They are robust and the Teflon® coated tips are non stick.

Titanium tweezers type like 3CTA are also ideal for this application. Their lightweight maintains fingertip control over extended working periods and their resistance to high temperatures allows them to be used where gas flames might be encountered.



Tweezers for use in light engineering and dental applications



Erem offers special gripping pliers for applications in light engineering. The lockable gripping tweezers type 940AS can withstand a tensile force of 5 kg and can securely hold small wires.

The stainless steel construction allows the tweezers to be sterilised in an autoclave.

Tweezers

Precision tweezers: Pointed tips straight




- For applications in microelectronics, jewelry-making, watchmaking, medicine and laboratory technology
- Suitable for delicate standard applications and precision work on small components or wires
- For all models with the suffix SA or SASL in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant
- For all models with the suffix S in the order number: Stainless steel, robust tips, non-rusting, non-reflecting surface




 **80 mm/3.150 Inch**



Model		Description
M5S	6 g 0.21 oz.	Micro-tweezers, very pointed tips, e.g. for precision work under a microscope.

 **108 mm/4.252 Inch**




Model		Description
ACSA	16 g 0.56 oz.	Precision tweezers with serrated finger grips for secure handling. For precise bending and holding of components or wires.
20AS	12 g 0.42 oz.	Precision tweezers with serrated finger grips and inside-serrated tips for secure handling. Guide pin to avoid overlapping of tips. For precise bending and holding of components or wires.



Precision tweezers: Pointed tips straight


 110 mm/4.331 Inch



Model		Description
3CS	11 g 0.39 oz.	Precision tweezers with long tips for precision work on printed-circuit boards.
3CSA	11 g 0.39 oz.	Precision tweezers, standard model for delicate work.
3CSASL	11 g 0.39 oz.	Same as 3CSA, but economy model.
3CTA	8 g 0.28 oz.	Model same as 3CSA, but made from titanium: non-magnetic, very heat-resistant and very light.
53CSA	11 g 0.39 oz.	Precision tweezers with anti-crush feature. Prevents damage to sensitive components. Tweezers relieved at front for secure handling.

 120 mm/4.724 Inch



Model		Description
3SA	14 g 0.49 oz.	Precision tweezers with pointed tips for work in microelectronics.
3SASL	14 g 0.49 oz.	Same as 3SA, but economy model.
1SA	14 g 0.49 oz.	Precision tweezers with pointed tips for standard applications..
1SASL	14 g 0.49 oz.	Same as 1SA, but economy model.
00SA	20 g 0.71 oz.	Precision tweezers with pointed tips. Very robust. Suitable for standard applications, e.g. for assembly in electronics.

Tweezers

Precision tweezers: Pointed tips straight


 120 mm/4.724 Inch



Model		Description
00SASL*	20 g 0.71 oz.	Same as OOSA, but economy model.
00CSA	18 g 0.64 oz.	Model same as OOSA, but with shorter tips.
00BSA	20 g 0.71 oz.	Model same as OOSA, but with serrated finger grips for secure handling.
00DSA	20 g 0.71 oz.	Model same as OOSA, but with serrated finger grips and inside-serrated tips for secure handling.
64SA	17 g 0.60 oz.	Precision tweezers with pointed tips and serrated finger grips for secure handling.
11N	17 g 0.60 oz.	Precision tweezers with medium-pointed tips for use on soft components. Nickel-silver, non-magnetic.
AAZ*	16 g 0.56 oz.	Precision tweezers with medium-pointed tips, nickel-plated. Suitable for electronic assembly tasks.

 125 mm/4.921 Inch




Model		Description
AAS	16 g 0.56 oz.	Precision tweezers with fine but robust tips.
AASA	16 g 0.56 oz.	Precision tweezers with fine but robust tips for standard applications.
AASASL*	16 g 0.56 oz.	Same as AASA, but economy model.

*Not available in North America

Precision tweezers: Pointed tips straight


 125 mm/4.921 Inch



Model		Description
AM	17 g 0.60 oz.	Precision tweezers made from brass. The soft metal protects sensitive components against damage. No sparks.


 130 mm/5.118 Inch



Model		Description
249SA	20 g 0.71 oz.	Precision tweezers with pointed synthetic tips (PPS) and serrated finger grips for secure handling. Volume resistance 16 Ω/cm. Heat-resistant up to 250°C (480°F). Resistant to acids and molten soldering tin. Water-repellent.
249CER*	24 g 0.84 oz.	Same as 249SA, but with ceramic tips. Heat-resistant up to 900°C (1500°F).


 140 mm/5.512 Inch



Model		Description
RRS	30 g 1.05 oz.	Precision tweezers with strong tips for heavy-duty applications.
SSSA	11 g 0.39 oz.	Precision tweezers with long, narrow grips and low tension, responds to minimal pressure. The long grips allow precision work close to heat sources.


 150 mm/5.906 Inch



Model		Description
29SA	26 g 0.92 oz.	Reverse-action tweezers with wide, rounded tips. For holding parts by reverse clamping action. Insulated handles, e.g. for protecting against heat.

 160 mm/6.299 Inch

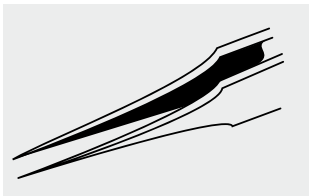


Model		Description
21SA	23 g 0.81 oz.	Precision tweezers with medium-pointed tips and serrated finger grips and inside-serrated tips for secure handling. Very robust. The long grips allow precision work close to heat sources.

*Not available in North America

Tweezers

Precision tweezers: Pointed tips straight relieved




- For precision work e.g. under a microscope
- Relieved shape facilitates excellent access to the most confined spaces
- For all models with the suffix SA or SASL in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant
- For all models with the suffix S in the order number: Stainless steel, robust tips, non-rusting, non-reflecting surface




 **90 mm/3.543 Inch**



Model		Description
M4AS*	9 g 0.32 oz.	Micro-tweezers, very pointed tips, e.g. for working under a microscope.

 **110 mm/4.331 Inch**



Model		Description
4SA	13 g 0.46 oz.	Precision tweezers with very pointed tips.
4ASL	13 g 0.46 oz.	Same as 4SA, but economy model.

*Not available in North America

Precision tweezers: Pointed tips straight relieved

115 mm/4.528 Inch



Model		Description
5MBS*	12 g 0.42 oz.	Precision tweezers with extremely pointed tips (~ 0.03 x 0.07 mm/.002 Inch) for use in dissection procedures and working under a microscope. For use on soft materials only.
5FSA*	12 g 0.42 oz.	Precision tweezers with extremely pointed tips (~ 0.05 x 0.1 mm/.003 Inch) for use in dissection procedures and working under a microscope. For use on soft materials only.
5SA	12 g 0.42 oz.	Precision tweezers with very pointed tips, suitable for very fine wires.
5SASL	12 g 0.42 oz.	Same as 5SA, but economy model.
2SA	16 g 0.56 oz.	Precision tweezers with medium-pointed tips.
2SASL	16 g 0.56 oz.	Same as 2SA, but economy model.

120 mm/4.724 Inch

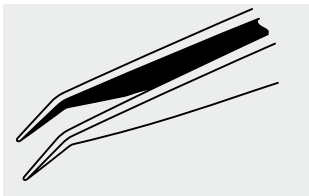


Model		Description
258SA	15 g 0.53 oz.	Precision tweezers with pointed synthetic tips (PPS) and serrated finger grips for secure handling. Volume resistance 16 Ω/cm. Heat-resistant up to 250°C (480°F). Resistant to acids and molten soldering tin. Water-repellent.

*Not available in North America

Tweezers

Precision tweezers: Pointed tips bent




- For applications in biology, medicine, laboratory technology and microelectronics
- Bent shape facilitates access to confined spaces
- For all models with the suffix SA or SASL in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant
- For all models with the suffix S in the order number: Stainless steel, robust tips, non-rusting, non-reflecting surface




 **110 mm/4.331 Inch**



Model		Description
3CBS	15 g 0.53 oz.	Precision tweezers, curved 40°, with pointed tips, for precision work such as assembly on printed-circuit boards.

 **115 mm/4.528 Inch**




Model		Description
5CSA	12 g 0.42 oz.	Precision tweezers, curved 30°, relieved. Pointed tips. Relieved shape at front of handle provides excellent visibility of the area to be worked on.
5BSA	12 g 0.42 oz.	Precision tweezers, curved 30°, relieved. Pointed tips. Relieved shape at front of handle provides excellent visibility of the area to be worked on.
51SA	12 g 0.42 oz.	Precision tweezers, curved 30°, relieved. Very pointed tips. Relieved shape at front of handle provides excellent visibility of the area to be worked on.

Precision tweezers: Pointed tips bent


 115 mm/4.528 Inch



Model		Description
51SASL	12 g 0.42 oz.	Same as 51SA, but economy model.
5ASA	12 g 0.42 oz.	Precision tweezers, lightly curved 15°, relieved. Very pointed tips, e.g. for installing small components.
5ASASL	12 g 0.42 oz.	Same as 5ASA, but economy model.


 120 mm/4.724 Inch



Model		Description
7SA	15 g 0.53 oz.	Precision tweezers, curved, relieved, with pointed tips. Excellent handling in confined spaces.
7SASL	15 g 0.53 oz.	Same as 7SA, but economy model.


 140 mm/5.512 Inch



Model		Description
65ASA	11 g 0.39 oz.	Precision tweezers, curved 50°. Very pointed tips. For working with extra-small chips and other miniature components.

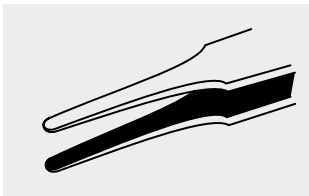
 150 mm/5.906 Inch



Model		Description
24SA	22 g 0.78 oz.	Precision tweezers, curved 40°, with robust pointed tips. Serrated finger grips and inside-serrated tips for secure handling. Guide pin to avoid overlapping of tips. Ideally suitable for soldering and assembly jobs.
30SA	26 g 0.92 oz.	Reverse-action tweezers, curved 30°, with robust pointed tips. Fibreglass handles for protection against heat. Reverse clamping action for comfortably holding parts. Particularly suitable for soldering and assembly jobs.

Tweezers

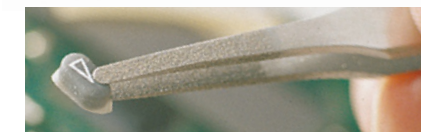
Precision tweezers: Flat round tips straight



- Suitable for all standard gripping applications and assembly jobs on printed-circuit boards, e.g. in the goldsmith and jewelry industries
- For all models with the suffix SA or SASL in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant



 120 mm/4.724 Inch



Model		Description
2ASA	15 g 0.53 oz.	Precision tweezers with flat rounded tips for gripping small components. Tip width 2 mm/.078 Inch.
2ASASL	15 g 0.53 oz.	Same as 2ASA, but economy model.
2ASASLT*	16 g 0.56 oz.	Same as 2ASA, but with Teflon®-coated tips for non-stick holding of self-adhesive parts.
2ASARU	16 g 0.56 oz.	Same as 2ASA, but with coated tips for non-stick holding of self-adhesive parts.
25SA	15 g 0.53 oz.	Precision tweezers with flat, round tips slightly wider than the 2ASARU model. Serrated finger grips for secure handling. For standard gripping jobs.
52ASA	15 g 0.53 oz.	Precision tweezers with pointed, rounded and flexibly movable tips. Prevents damage to sensitive components.

*Not available in North America


Precision tweezers with ergonomic handles

- This series offers models with thin shaped tips to suit every application
- Ergonomically shaped handles reduce hand fatigue and facilitates comfortable working
- Thermally insulated, soft foam handles, ESD-safe
- For all models with the suffix SA in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant



 120 mm/4.724 Inch



Model		Description
E5SA	25 g 0.88 oz.	Ergonomic precision tweezers with straight, very pointed tips for gripping fine wires.
E3CSA	25 g 0.88 oz.	Ergonomic precision tweezers with long, straight and pointed tips, e.g. for assembly jobs on printed-circuit boards.
E00SA	30 g 1.05 oz.	Ergonomic precision tweezers with straight, strong tips for standard applications. Very robust.
E00DSA	30 g 1.05 oz.	Model same as E00SA, but with inside-serrated tips.
E7SA	28 g 0.99 oz.	Ergonomic precision tweezers with curved strong tips, e.g. for working in confined spaces.
E2ASA	28 g 0.99 oz.	Ergonomic precision tweezers with straight, flat and rounded tips for simple gripping jobs. Tip width 2 mm/.078 Inch.
E15AWG	30 g 1.05 oz.	Cutting tweezers, carbon-steel tips.

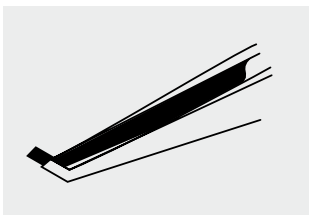
Tweezers

SMD tweezers

- High-quality precision tweezers for SMD jobs with different designs (chip, MELFs, mini MELFs)
- Blunted edges prevent damage to printed-circuit boards




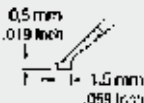
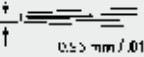
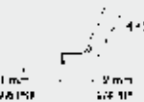
SMD tweezers – Angled tips



- Suitable for perfect handling of chips and miniature components
- Suitable for assembling SMD printed-circuit boards or ceramic substrates
- Bent shape facilitates optimum access to confined spaces and provides excellent visibility of the area to be worked on
- For all models with the suffix CA in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant

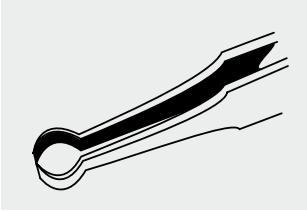
 115 mm/4.528 Inch



Model		Description
102ACA	15 g 0.53 oz.	SMD tweezers, angled 45°, with pointed tips for vertical application.
		
102ACAX	14 g 0.49 oz.	Model same as 102ACA, but reverse clamping action for easy holding.
		
103ACA	15 g 0.53 oz.	SMD tweezers, angled 45°, with slightly wider tips for vertical application.
		



SMD tweezers – Round tips straight



- Suitable for gripping and holding round components and wires
- Blunted edges prevent damage to printed-circuit boards
- For all models with the suffix SA in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant

110 mm/4.331 Inch



Model		Description
39SA	15 g 0.53 oz.	SMD tweezers with round tips, dia. 0.3 mm/.011 Inch. Serrated finger grips for secure handling. For gripping small wires and cylindrical components.
40SA	15 g 0.53 oz.	SMD tweezers with round tips, dia. 0.4 mm/.015 Inch. Serrated finger grips for secure handling. For gripping small wires and cylindrical components.

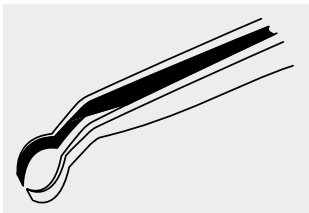
120 mm/4.724 Inch



Model		Description
150SAMF	13 g 0.46 oz.	SMD tweezers with round, very narrow tips, dia. 1.2 – 2.5 mm/.047 – .098 Inch. Serrated finger grips for secure handling. For gripping cylindrical components, mini MELFs, etc.
150SAD	13 g 0.46 oz.	SMD tweezers with round tips, dia. 1.5 – 3 mm/.059 – .118 Inch. Serrated finger grips for secure handling. For gripping cylindrical components, mini MELFs, etc.
150SA	13 g 0.46 oz.	SMD tweezers with round tips, dia. 1.5 – 3 mm/.059 – .118 Inch. Serrated finger grips for secure handling. For gripping cylindrical components.
151SA	13 g 0.46 oz.	SMD tweezers with round tips, dia. 3 – 6 mm/.118 – .236 Inch. Serrated finger grips for secure handling. For gripping cylindrical components.

Tweezers


SMD tweezers – Round tips bent



- Suitable for gripping fine wires and cylindrical components
- Blunted edges prevent damage to printed-circuit boards
- For all models with the suffix SA in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant

 115 mm/4.528 Inch



Model		Description
32BSA	17 g 0.60 oz.	SMD tweezers, angled 45°, with round tips, dia. 5 mm/.197 Inch.
32BSA20*	17 g 0.60 oz.	SMD tweezers, angled 45°, with round tips, dia. 2 mm/.078
32BSA25	17 g 0.60 oz.	MD tweezers, angled 45°, with round tips, dia. 2.5 mm/.098 Inch.
150SAMB	13 g 0.46 oz.	MD tweezers, angled 40°, with round tips, dia. 1.2 – 2.5 mm/ .047 – .098 Inch. Serrated finger grips for secure handling.

*Not available in North America




Locking Gripping Tweezers

- Gripping tweezers enable the user to hold and manipulate particularly fine wires with a diameter from 0.3 mm/.011 Inch or insulated optical fibres with a diameter of between 1.5 mm/.059 Inch and 5 mm/.197 Inch
- Suitable as a ligature clamp in dentistry
- Can be disinfected and sterilized



 120 mm/4.724 Inch

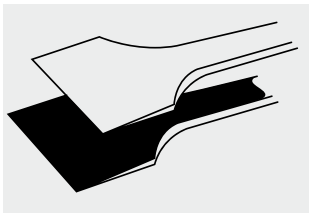


Model		Description
940AS*	17 g 0.60 oz.	Gripping tweezers with locking mechanism. The ring-shaped tip provides for secure handling up to a tensile force of 5 kg.

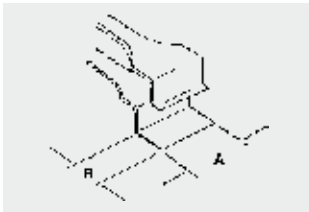
*Not available in North America

Tweezers

Wafer tweezers




- Suitable for 3" to 6" wafers
- Serrated finger grips for secure handling
- Wafer tweezers are available to order in various sizes and coatings
- For all models with the suffix SA in the order number: Special stainless steel, non-magnetic, non-rusting, acid-proof, heat-resistant



A = Paddle width
B = Paddle depth


 125 mm/4.921 Inch



Dimensions in mm/Inch				
Model		A	B	Description
91SA	15 g 0.53 oz.	12 .472	7 .276	Standard wafer tweezers for 3" and 4" wafers.

 130 mm/5.118 Inch



Dimensions in mm/Inch				
Model		A	B	Description
600ASA	23 g 0.81 oz.	19,5 .768	8 .315	Wafer tweezers with flat lower paddle and 6 upper fingers for protecting wafers against damage. For 6" wafers.
608ASA	23 g 0.81 oz.	30 1.181	8,5 .276	Model same as 600ASA, but 30 mm/1.181 Inch wide.
600JSA	24 g 0.84 oz.	20 .787	8 .315	Wafer tweezers with free-floating Teflon® upper paddle for secure, damage-free gripping. For 4" – 6" wafers.



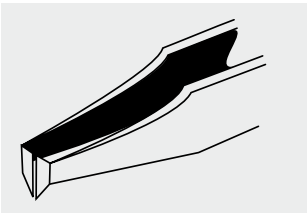
Wafer tweezers

150 mm/5.906 Inch

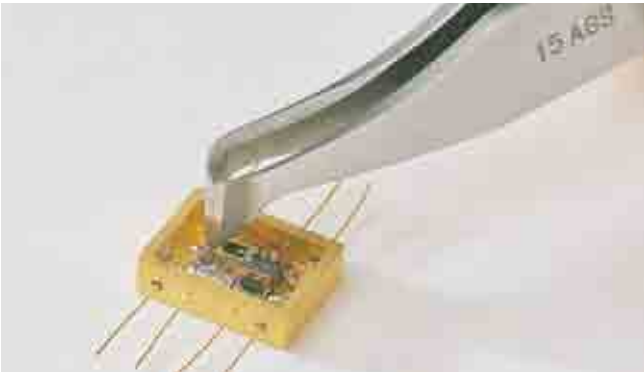


Model		Dimensions in mm/Inch		Description
		A	B	
141SAP	30 g 1.05 oz.	30 1.181	8 .315	Wafer tweezers with polyester tips for protecting Si, GaAs or Ti wafers against damage. For 4" – 6" wafers.

Cutting tweezers





- Suitable for cutting fine, soft wires and small components
- Delivers high-precision cuts
- Hardened cutting edges for long service life
- For all models with the suffix S in the order number: Stainless steel, robust tips, non-rusting, non-reflecting surface



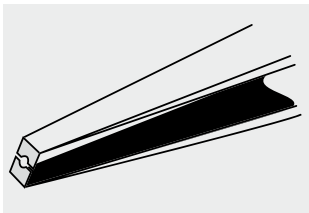
115 mm/4.528 Inch



Model		Description
15AGS	21 g 0.74 oz. 	Cutting tweezers with narrow oblique head. For soft wires up to dia. 0.25 mm/.010 Inch.
15AGW	26 g 0.92 oz. 	SCutting tweezers with narrow oblique head. For soft wires up to dia. 0.25 mm/.010 Inch.

Tweezers

Stripping tweezers



- Suitable for stripping fine wires with PVC or Teflon® insulation
- Non-reflecting surface
- Please send a wire sample when ordering




 120 mm/4.724 Inch



Model		Description
29Y30*	22 g 0.78 oz.	Miniature stripping tweezers, dia. 0.25 mm/.010 Inch (AWG 30). Stainless steel. Serrated finger grips for secure handling.
29Y32*	22 g 0.78 oz.	Miniature stripping tweezers, dia. 0.2 mm/.007 Inch (AWG 32). Stainless steel. Serrated finger grips for secure handling.
29Y34*	22 g 0.78 oz.	Miniature stripping tweezers, dia. 0.16 mm/.006 Inch (AWG 34). Stainless steel. Serrated finger grips for secure handling.
29Y36*	22 g 0.78 oz.	Miniature stripping tweezers, dia. 0.13 mm/.005 Inch (AWG 36). Stainless steel. Serrated finger grips for secure handling.
29Y40*	22 g 0.78 oz.	Miniature stripping tweezers, dia. 0.08 mm/.003 Inch (AWG 40). Stainless steel. Serrated finger grips for secure handling.

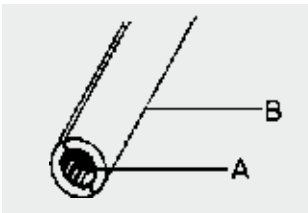
 120 mm/4.724 Inch



Model		Description
29W30	28 g 0.99 oz.	Stripping tweezers with synthetic fibre handle. For wires of dia. 0.25 – 0.3 mm/.010 – .011 Inch (AWG 30 – 28). For standard and Teflon® insulation.
XB29W301		Spare blade for 29W30

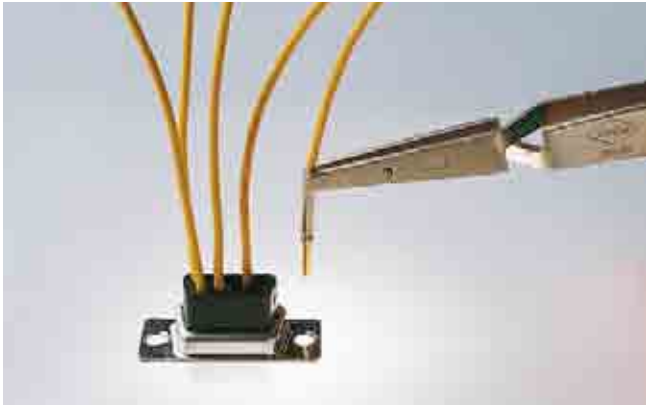
*Not available in North America

Extraction tweezers




A = Outside diameter of pin
B = Inside diameter of pin

- Suitable for extracting contacts from the rear of a plug connector



 120 mm/4.724 Inch



Dimensions in mm/Inch				
Model		Ø A	Ø B	Description
024C	15 g 0.53 oz.	12 .472	7 .276	Extraction tweezers for Sub-D connectors. Stainless steel.

Side Cutters and Tip Cutters

Erem offers a wide range of precision side and tip cutters for almost every application

- Special tool steel is hardened with an unique Swiss technology
- This particular hardening process guarantees high durability



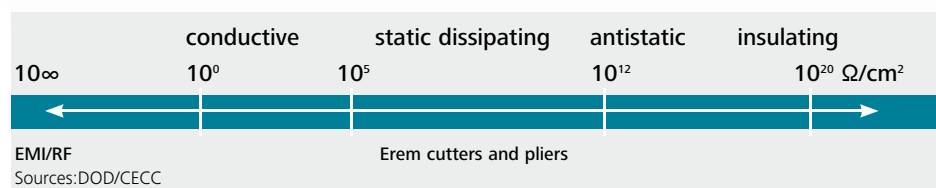


Side Cutters and Tip Cutters



ESD-safe

The interchangeable foam-cushion handles are ESD-safe and are fitted as standard on all Erem cutters and pliers.



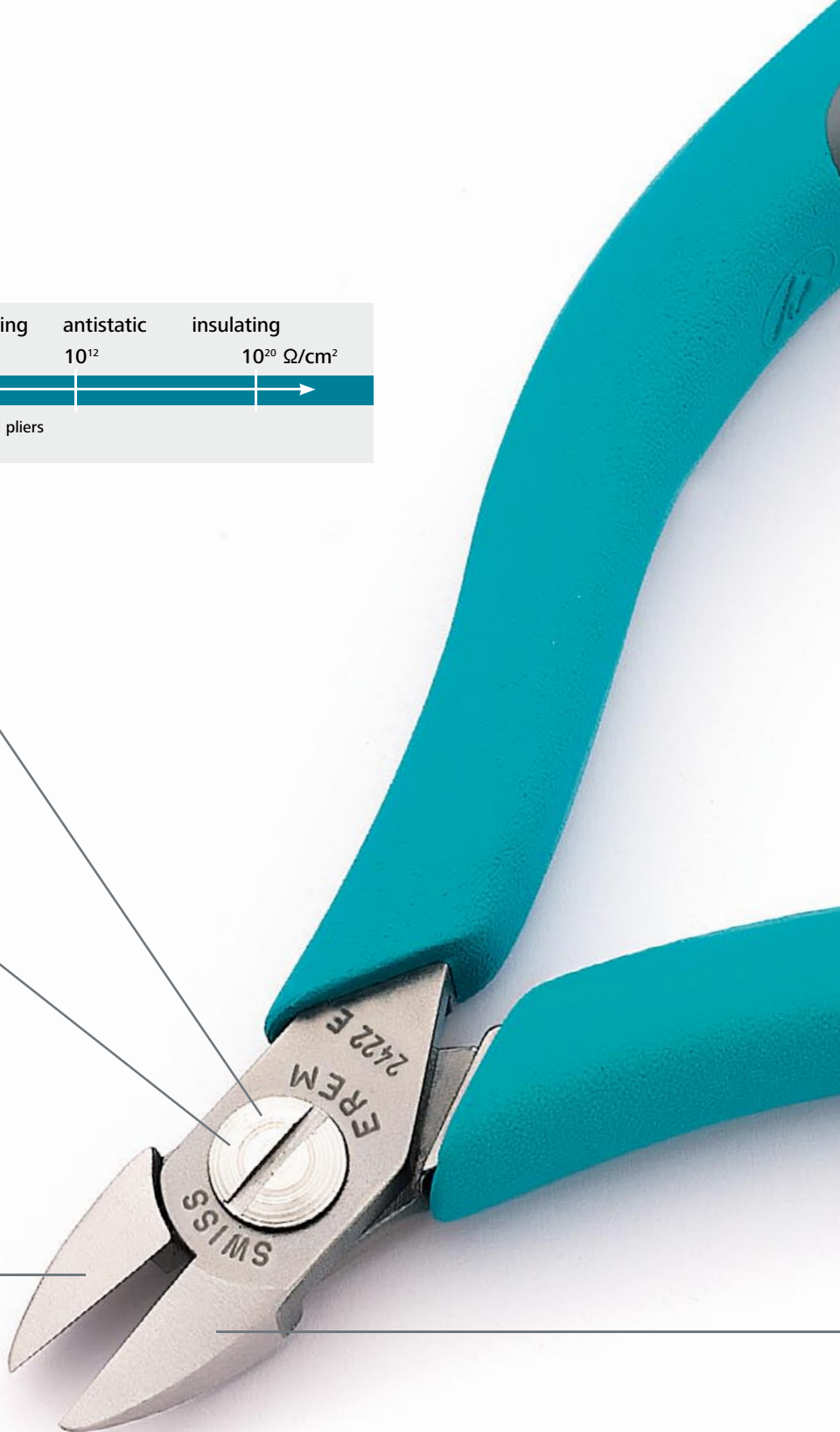
Internal patented Erem Magic Spring

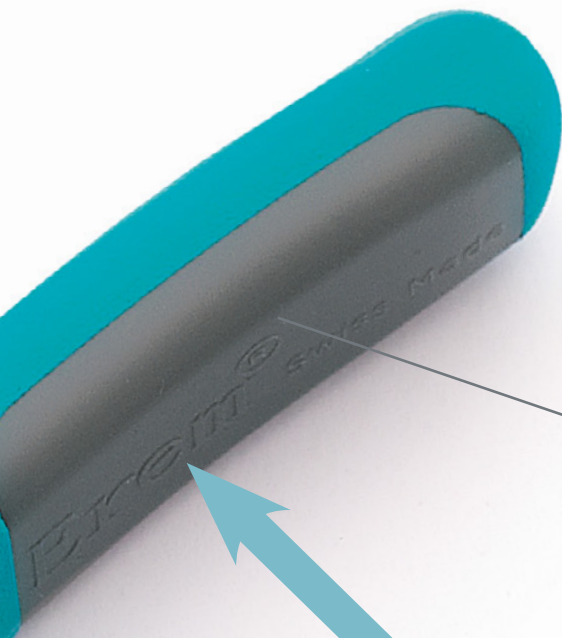
- Reduce costs by long life
- Constant spring force
- Guarantees more than 1 million operations

High precision screw joint

- Smooth jaw action with no play
- Smooth cutting operation with no jaw overlapping

Erem Cut: Options for semi flush, full flush or super flush cuts



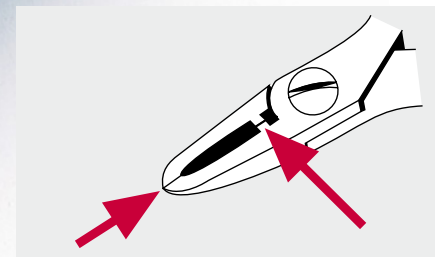
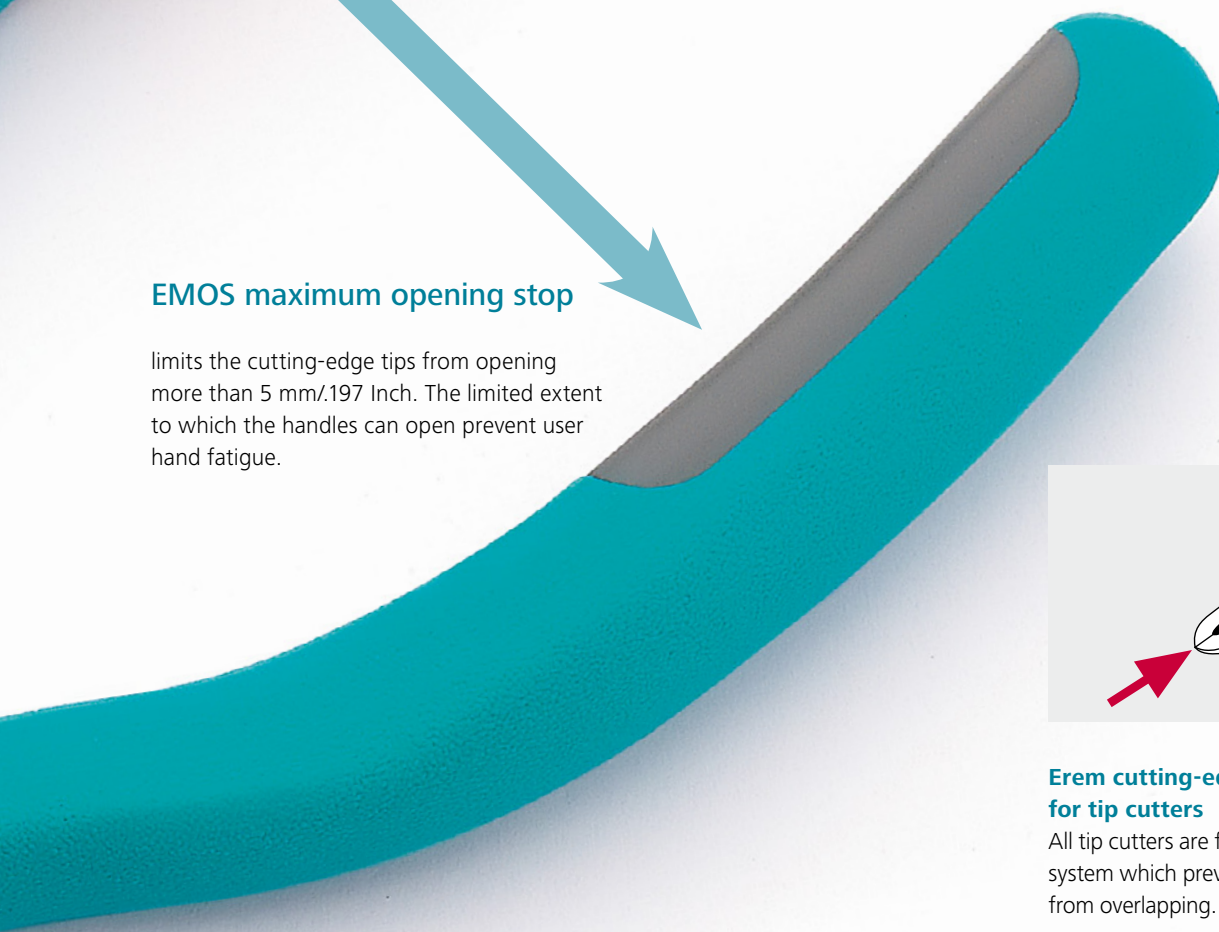


Ergonomically shaped handles

for high comfort,
better grip and added safety

EMOS maximum opening stop

limits the cutting-edge tips from opening more than 5 mm/.197 Inch. The limited extent to which the handles can open prevent user hand fatigue.



Erem cutting-edge protection for tip cutters

All tip cutters are fitted with a special stop system which prevents the cutting edges from overlapping.



Safety device for holding wire scraps

This safety device for side cutters holds wire scraps securely after cutting. Available on most Series 500, 600 and 2400 cutters (oval head). Order suffix „W“, e.g. 595EW.

Induction-hardened cutting edges in Rockwell hardness 63 – 65 HR

for exceptionally long life

Erem Technology

Special tool steel

Erem electronics tools are made from bright steel. They are not drop forged. The special tool steel is made using an unique Swiss processing technique.

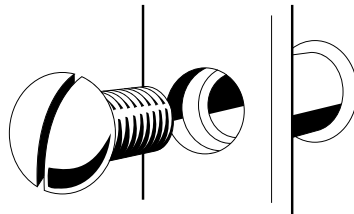
- + The bright tool steel gives additional strength and toughness to the tools pro-moting a long service life.



The internal patented Erem Magic Spring

The Magic Spring system used in Erem precision tools is unique. It is integral to the cutting head and provides a constant closing and re-opening force. It is guaranteed for 1 million operations.

- + The Magic Spring system is highly reliable, makes the tools easy to use and reduces operator fatigue.



High precision screw joint

This self locking screw joint system gives a smooth cutting and opening action and ensures that there is no blade overlap or play.

- + Precision cutting and reduced shock to components.

EMOS maximum opening stop

The unique EMOS (**E**rem **M**aximum **O**pening **S**top) system prevents the tips from opening more than 5 mm/.197 Inch. It reduces user fatigue by preventing excessive hand spread.

- + Comfortable and fatigue free working.

Handle

Erem cutters and pliers with ergonomic handles

Work **R**elated **U**pper **L**imb **D**isorder (WRULD) can be caused by positional fatigue or nerve damage brought about by the repeated use of non-ergonomic hand tools, otherwise known as **R**epeti-tive **S**train **I**njuries (RSI).

WRULDS is a direct consequence of insufficient ergonomics in manufacturing processes and working practices. To reduce the factors which cause WRULDS, Erem has developed a range of tools with ergonomic handles (Series 2400 Magic-Sense).

The handle shape and special materials ensure a soft feel, operating comfort and safety. The specially shaped handles ensure that the gripping pressure is evenly spread over the entire palm of the hand. The thumb and fingers automatically find their best position. The effort that has to be exerted by the user is reduced, thereby reducing hand fatigue.

The anti-slip surface provides excellent grip. The material is highly resistant to perspiration, water, oil and chemicals. The handles are ESD-safe and are easily interchangeable.



Erem Cut

Cut shape

There are three blade options, which determine the shape left on a lead after cutting. (see also P. 35)



1. Semi-flush



2. Flush



3. Super full flush

Cutting edge

Erem cutters are noted for their ease of use, one of the reasons for this is the ability of the blade to cut equally well over its full length. This promotes operator comfort and reduces fatigue.

Semi-flush cutters offer the best performance and the longest service life. Super full flush cutters leave a flat wire end with minimal effort and prevent components from being subjected to load.



High level of user comfort thanks to special cutting edge.

Rockwell hardness

The cutting blades of Erem cutters are hardened to Rockwell 63-65 HRC by an induction heating process. Continuous process control ensures that the blades achieve the correct level of hardening and are not embrittled.



This level of hardening plus the high-grade tool steel used in the manufacture of the tools and continuous process control promote an exceptionally long service life.

Erem Service

Re-sharpening

Erem is your service partner. All Erem side and tip cutters except those with carbide insert blades can be re-sharpened up to three times. Carriage charges will apply.



The re-sharpened tool is as good as new, its life is extended and costs are reduced.

Replacement parts

Erem cutters and pliers and their component parts are warranted against manufacturing defects. Magic springs, precision joint components are available as spare parts.



The warranty and availability of spares guarantee long service life.



Erem cut Super full flush: perfect flush cut

Standard cut „Super full flush“



ESD-safe

The ergonomic, interchangeable molded handles are ESD-safe and are fitted as standard on all Erem cutters and pliers.

Choosing the right tool

Selection criteria

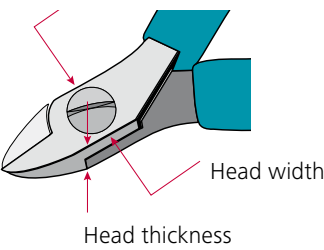
Erem offers a wide selection of precision side and tip cutters for virtually any application.

When choosing the right cutter, it is important to take

- Size
- Cut
- Head shape
- Cutting capacity

into consideration.

Size



Erem offers the right head size to suit every application. There are three main sizes: **Micro, Medium and Maxi.**

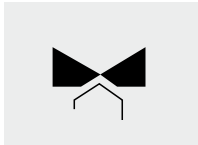
Each head size is available in different head shapes.

Classification of cutter heads

Micro	Medium	Maxi	
Series 600	Series 2400 MagicSense	Series 500	Series 800
Size Head width 9.0 mm/.354 Inch Head thickness 6.0 mm/.236 Inch Miniature cutter for applications in microelectronics and for fine wires. Offers a large variety of head shapes for very good access even to hard-to-reach areas.	Head width 11.0 mm/.433 Inch Head thickness 6.0 mm/.236 Inch Medium-size cutter. Combines robustness, visibility and accessibility. Large variety of head shapes for precision working in hard-to-reach areas. The Series 2400 MagicSense offers an optimised ergonomic shape and an improved grade of hardness.	Head width 11.0 mm/.433 Inch Head thickness 6.5 mm/.256 Inch	Head width 13.5 mm/.531 Inch Head thickness 7.5 mm/.295 Inch The strongest and most robust head size for general cutting applications in electronics, cuts large wire diameters.

Cut

There are three blade options, which determine the shape left on a lead after cutting.



Semi-flush

This cut leaves a pyramidal tip at the end of the wire. It is particularly suitable for standard jobs where the final shape does not play a significant role. Cutters with this cut are suitable for both soft copper wires and very hard wires such as stainless steel.



Flush

This cut leaves a much smaller tip at the end of the wire than the semi-flush cut – without reducing the cutting capacity. The cutting edges are finer than on semi-flush cutters. The effort exerted when cutting is less and the load on the component is reduced. Flush wire ends reduce the effort needed to fit components on printed-circuit boards. Erem guarantees precise cutting even after frequent use.



Super full flush

Only Erem offers you a super full flush cut. This cut provides absolutely flush wire ends. No rework is needed. Cutters with this cut are absolutely precision-ground and sharpened. The effort exerted when cutting is low, as is the load on the component caused by the cut. Soldering tags in soldering-bath procedures are prevented. Cutters of this type are used in microelectronics, space travel or medical technology. These cutters are suitable for soft wires.



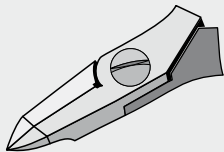
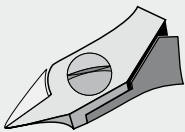
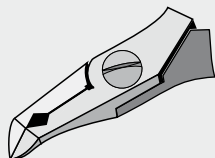

Erem cut Super
full flush: perfect
flush cut

Standard cut
„Super full flush“

Choosing the right tool

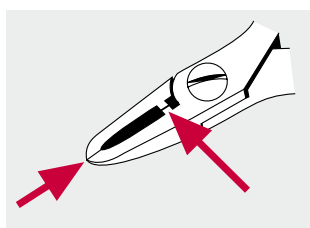
Head shape

Erem offers the right head shape to suit your application. The head shapes differ in terms of shape and design. There are six basic shapes:

Shape	Tip cutter Straight relieved head	Tip cutter Pointed relieved head	Tip cutter Angled narrow head
			
Visibility and accessibility Cutting at the outermost tip of the cutter			
	This head is suitable for horizontal and vertical cuts. The long tips facilitate cutting in hard-to-reach areas.	This is the narrowest head shape. The underside is relieved and facilitates optimum access even to extremely hard-to-reach areas.	The angled head provides for precise cuts at different working angles.
Series 600 Micro	670E*, 670EP*, 670EPF* (P. 265)	622NB, 632NCF, 676E, 776E (P. 264)	
Series 2400 MagicSense	2470E (P. 269)		2475E, 2482E (P. 269)
Series 500 Medium	570E, 573E** (P. 275)	592E, 792E (P. 274)	555E, 572E, 582E (P. 53) 575E, 593AE (P. 273)
Series 800 Maxi		884E (P. 278)	

* Very short head

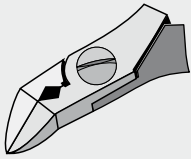
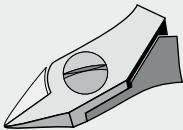
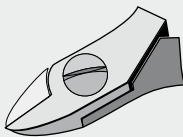
** Straight head for vertical working



Erem cutting-edge protection for tip cutters

Erem tip cutters are equipped with cutting-edge protection. A special stop system prevents the cutting edges from overlapping.

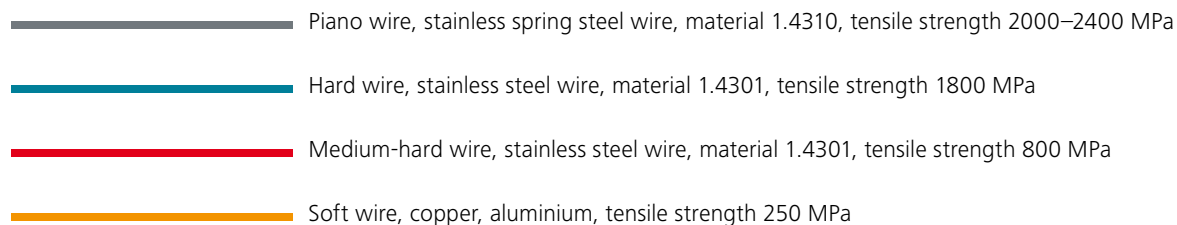









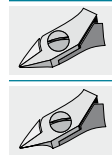






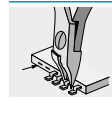














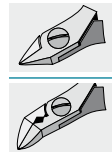











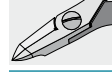


Tip cutter Angled wide head	Side cutter Tapered head	Side cutter Oval head	
			
<p>The angled head provides for precise cuts at different working angles.</p>	<p>The jaws of the cutter have straight edges and taper to a point. This head shape allows access to difficult to reach areas but reduces the cutting capacity in comparison to the same size oval head cutter.</p>	<p>This is the most widely used head shape, it is robust and size for size offers the highest cutting capacity.</p>	<p>High cutting capacity Cutting over the full length of the cutter</p>
622NA (P. 264)	612N, 622N, 632N (P. 263)		
2403E, 2404E (P. 48)	2477E (P. 268)	2412E, 2422E, 2432E (P. 267)	
503E, 504E (P. 52)	577E, 595E (P. 272)	512E, 512N, 522N, 532N, 599E (P. 271)	
	886E (P. 278)	812N, 822N, 896E (P. 277)	

















































Erem offers carbide cutters (see P. 39) for cutting high-hardness wire (piano wire).

Choosing the right tool

Wire quality



Model		Cut	Cutting capability	
			mm	Inch
Series 600 Micro			0,03 0,1 0,2 0,3 0,4 0,5 0,6 0,7 0,8 0,9 1,0 1,1 1,2 1,3 1,4 1,5 1,6 1,7 1,8 1,9 2,0	.0001 .003 .007 .011 .015 .019 .023 .027 .031 .035 .039 .043 .047 .051 .055 .059 .062 .066 .070 .074 .078
	612N	 Semi-flush		
	622N	 Flush		
	632N	 Super full flush		
	622NA	 Flush		
	622NB	 Flush		
	676E	 Flush		
	776E	 Super full flush		
	632NCF	 Super full flush	Only for soft materials: silicone, rubber, etc.	
	670E	 Flush		
	670EP	 Flush	For micro-package contacts	
	670EPF	 Flush	Only for micro pitches under 0.5 mm / .019 Inch	
Series 2400 MagicSense			mm	Inch
			0,03 0,1 0,2 0,3 0,4 0,5 0,6 0,7 0,8 0,9 1,0 1,1 1,2 1,3 1,4 1,5 1,6 1,7 1,8 1,9 2,0	.0001 .003 .007 .011 .015 .019 .023 .027 .031 .035 .039 .043 .047 .051 .055 .059 .062 .066 .070 .074 .078
	2412E	 Semi-flush		
	2422E	 Flush		
	2432E	 Super full flush		
	2477E	 Flush		
	2403E 30°	 Flush		
	2404E 30°	 Flush		
	2482E 45°	 Flush		
	2475E 45°	 Flush		
	2470E	 Flush		

Model		Cut	Cutting capability																										
			mm	0,03	0,1	0,2	0,3	0,4	0,5	0,6	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0					
			Inch	.0001	.003	.007	.011	.015	.019	.023	.027	.031	.035	.039	.043	.047	.051	.055	.059	.062	.066	.070	.074	.078					
Series 500 Medium																													
	512N		Semi-flush																										
	512E		Semi-flush																										
	522N		Flush																										
	599E		Flush																										
	532N		Super full flush																										
	595E		Flush																										
	577E		Flush																										
	503E		Flush																										
	504AE		Flush																										
	555E	35° 	Flush																										
	572E	40° 	Flush																										
	582E	45° 	Flush																										
	582EW		Flush																										
	593AE	30° 	Flush																										
	575E	45° 	Flush																										
	592E		Flush																										
	792E		Super full flush																										
	570E		Flush																										
	573E		Flush																										
				For vertical cutting																									
Series 800 Maxi																													
	812N		Semi-flush																										
	896E		Semi-flush																										
	822N		Flush																										
	886E		Flush																										
	884E		Flush																										
Tungsten-carbide cutters																													
	622TX		Flush																										
	599T		Semi-flush																										
	599TF		Flush																										
	595T		Semi-flush																										
	595TF		Flush																										
	2476TX1		Flush																										
	576TX1		Flush																										
	2476 TX		Flush																										
	576TX		Flush																										
	503ET	30° 	Semi-flush																										
	503ETF	30° 	Semi-flush																										

Side cutters for use in medical device manufacturing



The 632NCF miniature side cutter is ideally suitable for soft material such as silicone tubes in medical device applications, precision connector seals or miniature rubber seals.

The miniature cutter is also the ideal tool for cutting soft synthetic parts, e.g. in the manufacture of hearing aids.

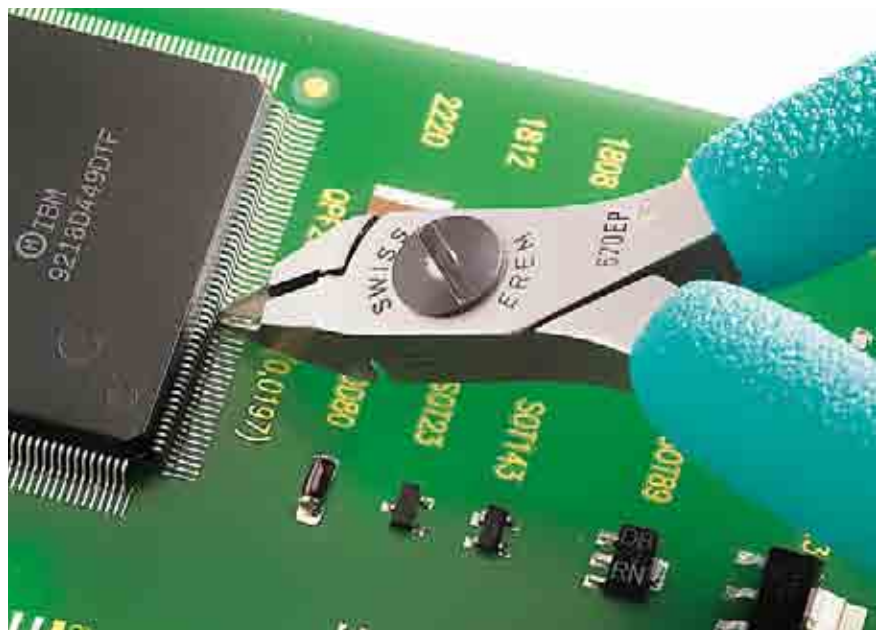
The cutting edges of the 632NCF side cutter are precision-ground to an extremely high level. This enables the cutter to deliver a razor-like full-flush cut.

Tip cutters to remove fine pitch SMD ICs

A simple method to remove SMD ICs is to cut each of the individual leads to remove the device and then reflow the joint with a soldering iron and remove the component lead from the board.

The solder left on the board can then be removed with a desoldering tool or desolder braid and a new component fitted.

The 670EP and 670EPF have fine pointed tapered and relieved heads that are able to fit between individual leads and cut them without causing damage to the printed circuit.



Tungsten-carbide cutter for the preparation of cardio-vascular stents

A stent is a vascular-wall prop. It is a lattice-shaped tube made of stainless steel or nickel-titanium. It serves to hold open constricted coronary blood vessels and improves the flow of blood through the vessels.

It is important in stent manufacture that the cut end of any wire in the lattice is as flat as possible, otherwise it will be necessary to rework the stents.

These side cutters have fine polished carbide cutting blades to accurately cut the lattice and reduce the need for rework.



High precision side cutter for cutting stainless wires



The 599TFO has wear resistant tungsten carbide cutting edges and all round capability. It is able to cut Vectran™ braided wires, fibre optics, Kevlar® and small stainless steel braids and wires.

A further application lies in telecommunications, i.e. working on fibre-optic cables, Kevlar® silks and piano wires.

Side Cutters and Tip Cutters

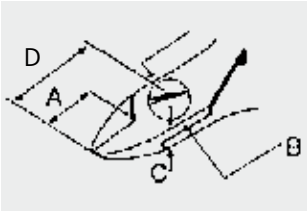
Series 600 Micro

- Miniature cutters
- Offers a wide variety of head shapes for access in difficult to reach areas
- Suitable for SMD and leads (670EP, 670EPF)
- Made from high grade tool steel with cutting edges hardened to 63-65HRC
- Non reflecting surface, ESD safe, resharpenable





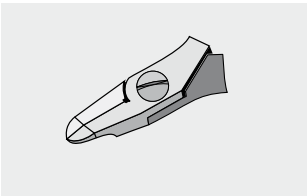
Series 600 Micro



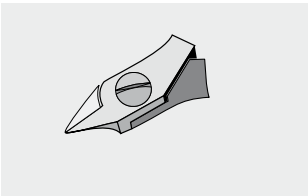
A = length of cutting edges
B = head width
C = head thickness
D = head length



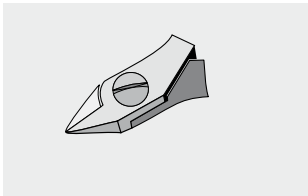
Tip cutter
Straight short
relieved head



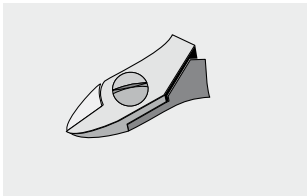
Tip cutter
Pointed
relieved head



Side cutter
Tapered head



Side cutter
Oval head



Visibility and accessibility

Robustness, high cutting capacity

Side cutter – oval head



110 mm/4.331 Inch
 48 g/1.69 oz.

- This is the most widely used head shape.
- Fits for all cutting applications where easy access is given
- It is robust and size for size offers the highest cutting capacity.

Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter		
		A	B	C	D	Hard wire	Medium hardness	Copper wire
612N	 Semi-flush	9 .354	9 .354	6 .236	15 .590	0.5 .019	0.8 .031	1.3 .051
622N	 Flush	9 .354	9 .354	6 .236	15 .590	—	0.8 .031	1.3 .051
632N	 Super full flush	9 .354	9 .354	6 .236	15 .590	—	0.7 .027	1.3 .051

Side Cutters and Tip Cutters


Series 600 Micro

Side cutter – tapered head





 **110 mm/4.331 Inch**
 **48 g/1.69 oz**

- The jaws of the cutter have straight edges and taper to a point.
- This head shape allows access to difficult to reach areas but reduces the cutting capacity in comparison to the same size oval head cutter.





Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter	
		A	B	C	D	Medium hardness	Copper wire
622NA	 Flush	9	9	6	15	0.7	1.0
		.354	.354	.236	.590	.027	.039

Tip cutter – pointed relieved head



 **110 mm/4.331 Inch**
 **48 g/1.69 oz.**

- This is the narrowest head shape.
- The underside is relieved and facilitates optimum access even to extremely hard-to-reach areas.

Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter	
		A	B	C	D	Medium hardness	Copper wire
622NB	 Flush	9	9	6	15	0.6	0.8
		.354	.354	.236	.590	.023	.031
676E	 Flush	9	9	6	15	Model same as 622NB, but with short, robust head	
		.354	.354	.236	.590		
776E	 Super full flush	9	9	6	15	0.6	0.8
		.354	.354	.236	.590	.023	.031
632NCF	 Super full flush	9	9	6	15	For soft material such as small silicone tubes, miniature rubber seals or for cutting soft synthetic parts	
		.354	.354	.236	.590		



Series 600 Micro






Tip cutter – straight short relieved head



 **110 mm/4.331 Inch**
 **48 g/1.69 oz.**

■ Suitable for cutting SMD and micro-package contacts.

Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter	
		A	B	C	D	Medium hardness	Copper wire
670E	 Flush	9 .354	9 .354	6 .236	18 .709	0.5 .019	0.8 .031
670EP	 Flush	9 .354	9 .354	6 .236	18 .709	0.4 .015 High-precision working on SMD and micro-package contacts up to 0.25 mm/.010 Inch	0.6 .023
670EPF*	 Flush	9 .354	9 .354	6 .236	18 .709	Model same as 670EP, but smaller version only for micro pitches under 0.5 mm/.019 Inch (see also P. 40)	

*Not available in North America

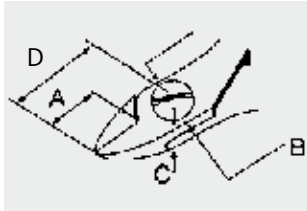
Side Cutters and Tip Cutters

Series 2400 MagicSense

- Medium-size cutter
- Combines robustness, visibility and accessibility.
- Large variety of head shapes for precision working in hard-to-reach areas.
- The optimised ergonomic shape of the Series 2400 MagicSense prevents hand fatigue
- Improved induction-hardened cutting edges up to 64 – 65 HRC for an extremely long service life
- Cutting edges made from special tool steel
- Non-reflecting surface, ESD-safe and resharpenable



Series 2400 MagicSense



A = length of cutting edges
B = head width
C = head thickness
D = head length



Tip cutter Straight long relieved head	Tip cutter Angled narrow head	Tip cutter Angled wide head	Side cutter Tapered head	Side cutter Oval head
← Visibility and accessibility			Robustness, high cutting capacity →	

Side cutter – oval head



130 mm/5.118 Inch
 70 g/2.47 oz.

- This is the most widely used head shape.
- Fits for all cutting applications where easy access is given
- It is robust and size for size offers the highest cutting capacity.

Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter		
		A	B	C	D	Hard wire	Medium hardness	Copper wire
2412E	 Semi-flush	12 .472	11 .433	6 .236	19 .748	0.5 .019	1.0 .039	1.6 .062
2422E	 Flush	12 .472	11 .433	6 .236	19 .748	—	1.0 .039	1.6 .062
2432E	 Super full flush.	12 .472	11 .433	6 .236	19 .748	—	0.8 .039	1.6 .062

Wire quality, see P. 38

Optional: Safety device for wire scraps. Order suffix „W“, e.g. 2412W.

Side Cutters and Tip Cutters


Series 2400 MagicSense

Side cutter – tapered head






 **127 mm/5.999 Inch**
 **70 g/2.47 oz.**

- The jaws of the cutter have straight edges and taper to a point.
- This head shape allows access to difficult to reach areas but reduces the cutting capacity in comparison to the same size oval head cutter.


Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter	
		A	B	C	D	Medium hardness	Copper wire
2477E	 Flush	12	11	6	19	1.0	1.3
		.472	.472	.433	.236	.039	.051

Tip cutter – angled wide head



 **127 mm/5.118 Inch**
 **70 g/2.47 oz.**
 **30°**

- The angled head provides for precise cuts at different working angles.

Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter	
		A	B	C	D	Medium hardness	Copper wire
2403E		9	11	6	19	1.0	1.6
	Flush	.354	.433	.236	.748	.039	.062
						Wide, robust head, fine cut	
2404E		9	11	6	20	0.8	1.3
	Flush	.354	.433	.236	.787	.031	.051
						Model same as 2403E, but with pointed rounded head	

Series 2400 MagicSense

Tip cutter – angled narrow head



135 mm/5.315 Inch
72 g/2.54 oz.
45°

- The angled head provides for precise cuts at different working angles.

Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter	
		A	B	C	D	Medium hardness	Copper wire
2482E	 Flush	6 .236	11 .433	6 .236	26 1.024	0.6 .023	1.2 .047
Suitable for working on printed-circuit boards, component connections, can be used in both 90° and 180° applications							
2475E	 Flush	4 .157	11 .433	6 .236	22 .866	0.4 .015	0.6 .023
Suitable for fine cutting work on hybrid circuits of miniature components							

Tip cutter – straight long relieved head



140 mm/5.512 Inch
72 g/2.54 oz.

- This head is suitable for horizontal and vertical cuts.
- The long tips facilitate cutting in hard-to-reach areas.

Model	Cut	Dimensions in mm/Inch				Max. cutting capability in mm/Inch Diameter	
		A	B	C	D	Medium hardness	Copper wire
2470E	 Flush	4 .157	11 .433	6 .236	29 1.142	0.4 .015	0.6 .023



Safety device for wire scraps **only** possible on 2412EW, 2422EW, 2432EW, 2477EW, 2482EW models.

Side Cutters and Tip Cutters

Series 500 Medium

- Medium size, robust, precision cutters
- Wide range of head shapes
- Manufactured from high grade tool steel
- Cutting edges hardened to Rockwell 63-65 HRC
- Non reflecting surface, ESD safe and resharpenable

