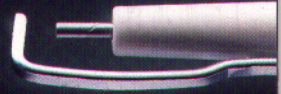
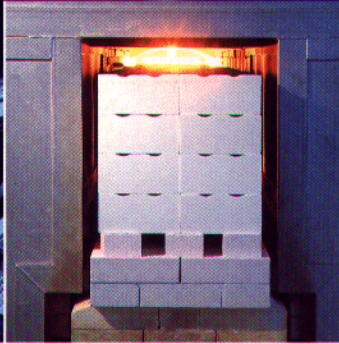
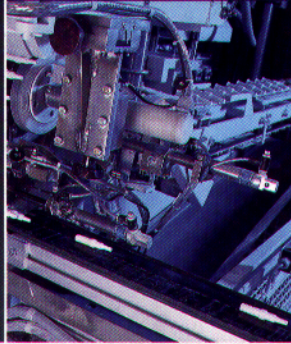
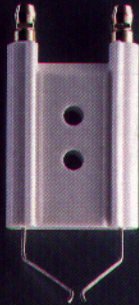




Ignition
Special Spark Plugs



Ignition Electrodes and Special Spark Plugs

Ignition Electrodes
Special Spark Plugs

Perfection
built in



Beru Ignition Electrodes – Quality Under One Roof

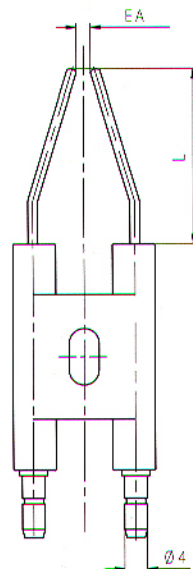
Due to decades of experience in vehicle and heating ignition systems, Beru has become the leader in the industry and is continually improving ignition electrodes. One example of this continuing improvement is the ceramic body, specially developed to provide fracture stability and dielectric strength. Other examples are the gas-sealed electrode and the 2-part center electrode, which is reinforced through glass sealing and has a particularly high mechanical strength. Another improvement is the elongation and distortion resistance of the center electrodes in the ceramic body. The examples could go on and on. We will be happy to give you a presentation of a cross-sectional sample of our development expertise including spark plugs for gas-powered engines. To produce special and small series, we use our sample workshops, which are modernly equipped and flexible. If you are interested in individual ignition electrode components, discuss it with us; we'll make you an attractive offer.

◀ The Beru individual ignition electrode range

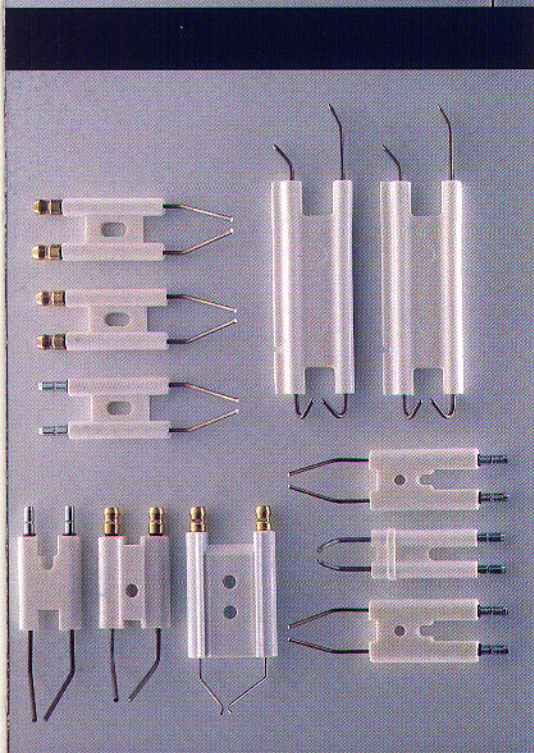
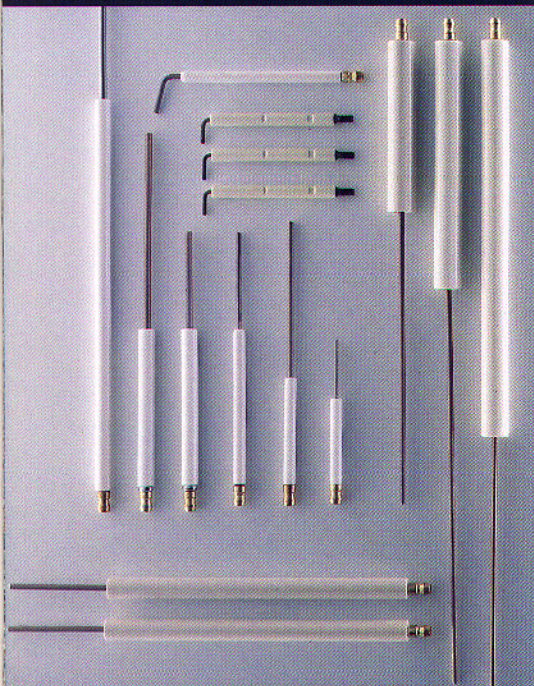
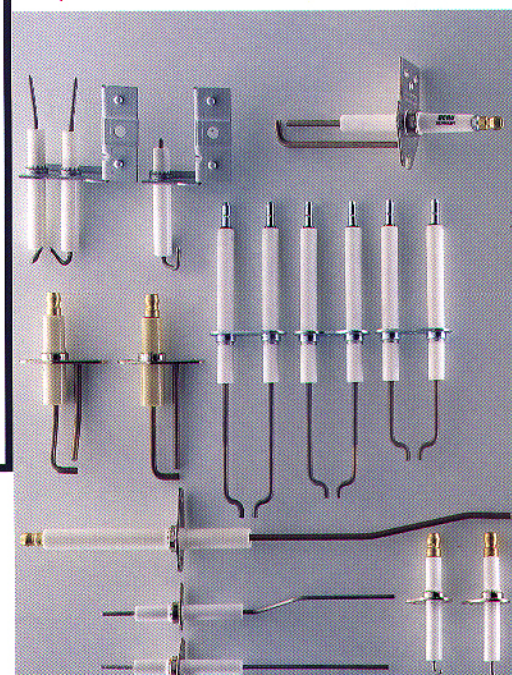
Description	Insulator			Center electrode		Connection	Order No.
	∅ (mm)	Material	Length (mm)	∅ (mm)	Length (mm)		
ZE 6-55-11-30 BKA1	6	C 795	55	3.00	Kanthal A1 11 bent	SAE	0 009 013 042
ZE 6-55-80-30 KA1	6	C 795	55	3.00	Kanthal A1 80 straight	SAE	0 009 013 036
ZE 6-80-50 KA1	6	C 795	80	2.50	Kanthal A1 50 straight	SAE	0 009 014 035
ZE 8-80-0 KA1	8	C 795	80	3.50	Kanthal A1 0	SAE	0 009 014 028
ZE 8-80-100 20	8	C 795	80	2.00	M1 BEN 817 100 straight	M 4	0 009 014 030
ZE 8-80-100-20 K	8	C 795	80	2.00	M1 BEN 817 100 straight	SAE	0 009 014 031
ZE 8-80-300 A1	8	C 795	80	3.50	Kanthal A1 300 straight	SAE	0 009 014 029
ZE 8-120-80-25 KA1	8	C 221	120	2.50	Kanthal A1 80 straight	SAE	0 009 015 001
ZE 8-120-150-30 KA1	8	C 795	120	3.00	Kanthal A1 150 straight	SAE	0 009 015 006
ZE 8-120-150-40 KA1	8	C 795	120	4.00	Kanthal A1 150 straight	SAE	0 009 015 007
ZE 8-200-200-30 A1	8	C 795	200	3.00	Kanthal A1 200 straight	SAE	0 009 016 001
ZE 8-200-200-40 KA1	8	C 795	200	4.00	Kanthal A1 200 straight	SAE	0 009 016 002
ZE 11-100-250-30 SA1	11	C 221	100	3.00	Kanthal A1 250 straight	M 4	0 009 034 013
ZE 11-150-50-30 SKA1	11	C 221	150	3.00	Kanthal A1 50 straight	SAE	0 009 035 002
ZE 14-85-150 SKA1	14	C 221	85	3.00	Kanthal A1 150 straight	SAE	0 009 044 005
ZE 14-125-200 SKA1	14	C 221	125	3.00	Kanthal A1 200 straight	SAE	0 009 045 001
ZE 14-200-220 SKA1	14	C 221	200	3.00	Kanthal A1 220 straight	SAE	0 009 046 009

We will be pleased to provide you with an offer for bent electrodes in accordance with your specifications.

◀ The basis of our double ignition electrode program



Some examples of our sheet electrode production program



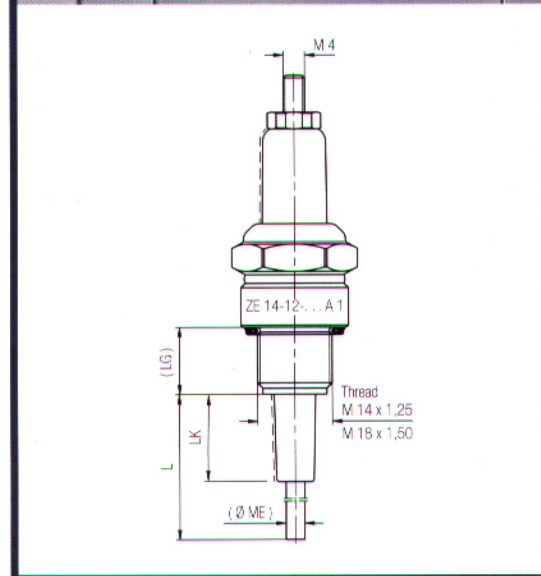
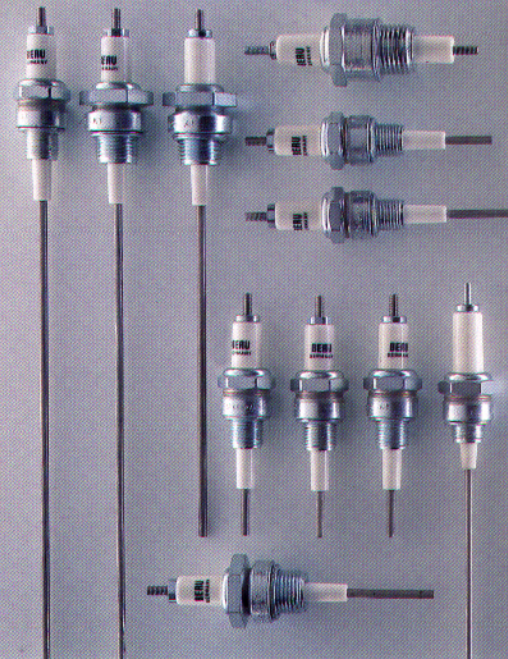
Beru Special Ignition Electrodes –

also suitable for special applications such as level and temperature monitoring

The ZE special spark plugs with single electrodes ▶

Description (mm)	Thread (mm)	Thread length LG (mm)	Length L (mm)	Material center electrode	∅ Center electrode (mm)	Order No.
ZE 14-8-70 A1	M 14x1.25	8	70	Kanthal A1	2.5	0 009 350 028
ZE 14-8-250 A1	"	8	250	"	2.5	0 009 350 025
ZE 14-8-400 A1	"	8	400	"	2.5	0 009 350 026
ZE 14-12-35 A1	"	12	35	"	3.5	0 009 340 040
ZE 14-12-66 A1	"	12	66	"	"	0 009 340 094
ZE 14-12-100 A1	"	12	100	"	"	0 009 340 041
ZE 14-12-150 A1	"	12	150	"	"	0 009 340 045
ZE 14-12-200 A1	"	12	200	"	"	0 009 340 028
ZE 14-12-300 A1	"	12	300	"	"	0 009 340 038
ZE 14-12-400 A1	"	12	400	"	"	0 009 340 042
ZE 14-12-600 A1	"	12	600	"	"	0 009 340 024
ZE 14-12-1000 A1	"	12	1000	"	"	0 009 340 083
ZE 14-12-1200 A1	"	12	1200	"	"	0 009 340 035
ZE 14-12-66	"	12	66	NiCr 8020	"	0 009 340 021
ZE 14-12-200	"	12	200	"	"	0 009 340 012
ZE 18-12-50 A1	M 18x1.5	12	50	Kanthal A1	"	0 009 380 032
ZE 18-12-150 A1	"	12	150	"	"	0 009 380 047
ZE 18-12-300 A1	"	12	300	"	"	0 009 380 016
ZE 18-12-400 A1	"	12	400	"	"	0 009 380 017
ZE 18-12-600 A1	"	12	600	"	"	0 009 380 019
ZE 18-12-1200 A1	"	12	1200	"	"	0 009 380 045
ZE 18-12-1550 A1	"	12	1550	"	"	0 009 380 055
FLE G1/2-12-10	G1/2*	15	10	X12CrNi 188	M4	0 009 390 001

Connection: M4 thread
* DIN ISO 228 T1

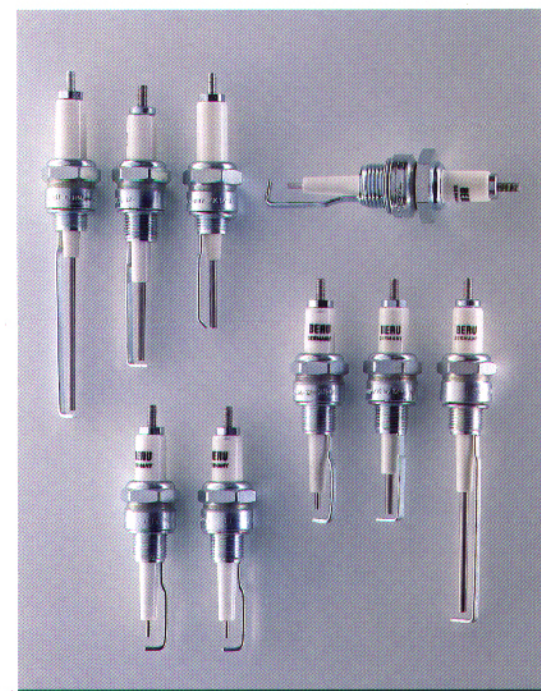


Beru Special Spark Plugs

The ZK special spark plugs with earth electrodes ▶

Description	Thread (mm)	Thread LG (mm)	Length L (mm)	Ceramic length LK (mm)	Order No.
ZK 14-8-15	M14	8	15	11	0 004 500 401
ZK 14-8-22	M14	8	22	11	0 004 500 419
ZK 14-8-37	M14	8	37	11	0 004 500 601
ZK 14-8-75	M14	8	75	11	0 004 500 421
ZK 14-12-28A1	M14	12	28	16.3	0 004 400 404
ZK 14-12-35A1	M14	12	35	16.3	0 004 400 405
ZK 14-12-35 2L	M14	12	35	23.3	0 004 400 400
ZK 14-12-50 A1	M14	12	50	16.3	0 004 400 406
ZK 14-12-75 2L	M14	12	75	23.3	0 004 400 402
ZK 14-12-100 LA1	M14	12	100	23.3	0 004 400 401
ZK 18-12-38 2L	M18	12	38	23.3	0 004 800 400

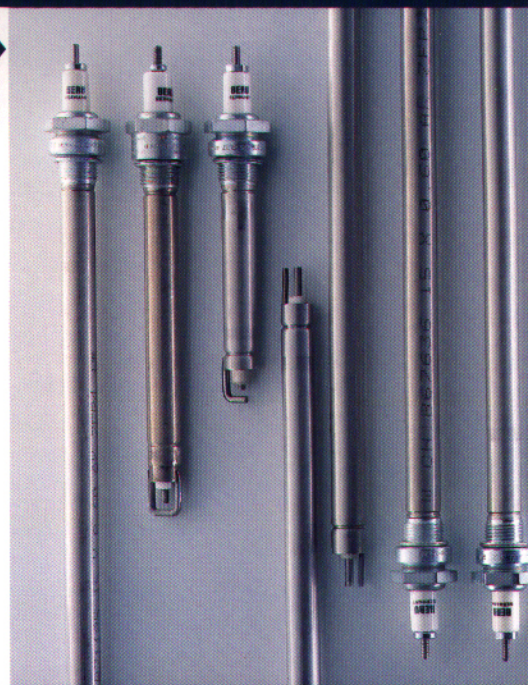
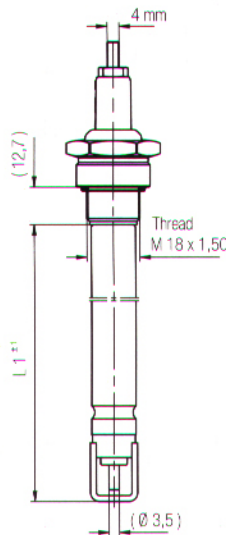
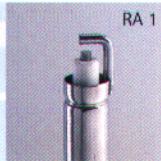
Center electrode Kanthal A1
Connection: M4 thread



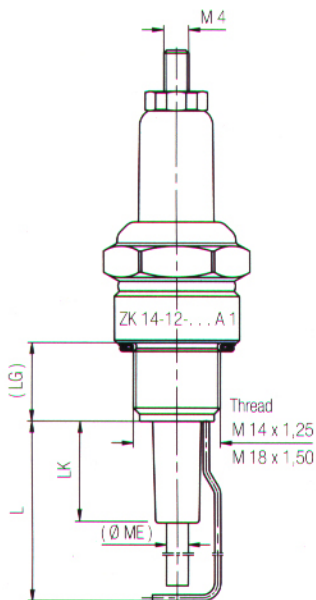
The ZK 18-12 special spark plugs with safety tubes ▶

Description	Length L (mm)	Order No.
ZK 18-12-145 URA 1	145	0 004 800 614
ZK 18-12-236 URA 1	236	0 004 800 615
ZK 18-12-245 URA 1	245	0 004 800 612
ZK 18-12-750 URA 1	750	0 004 800 601
ZK 18-12-900 URA 1	900	0 004 800 604
ZK 18-12-1050 URA 1	1050	0 004 800 613
ZK 18-12-1104 URA 1	1104	0 004 800 610
ZK 18-12-236 ZRA 1	236	0 004 800 607
ZK 18-12-386 ZRA 1	386	0 004 800 618
ZK 18-12-245 RA 1	245	0 004 800 401
ZK 18-12-450 RA 1	450	0 004 800 409
ZK 18-12-900 RA 1	900	0 004 800 403

Connection M4 thread
 Length of thread LG 12 mm
 Inconel safety tube Ø 15 mm
 Center and ground electrode made of Kanthal A1



Beru spark plugs are specially manufactured to customer specifications: in any length desired - and, if planned for periodic use, also with the corresponding humidity insulation. We will be happy to provide you with a detailed offer.



Other things you should know ...

- Insulators made of aluminium oxide AL₂O₃ > 95%
- Accessories:
 - SAE cable connecting nut 6.3 mm Order no. 2 004 652 001
Capable of being screwed on M4 thread.
100 units per pack
 - M14 x 1.25 flat-ended nut Order no. 2 903 021 011
BEN 204
- Please note our minimum order requirements:
 - ZE 14-8 / 14-12 10 pieces
 - ZK 14-8 / 14-12 10 pieces
 - ZE 18-12 10 pieces
 - ZK 18-12 5 pieces



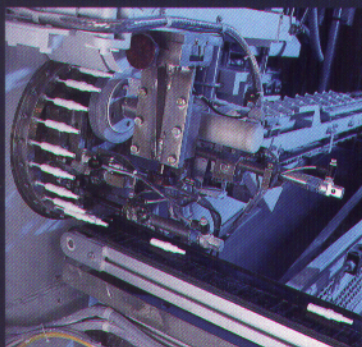
Distinguishing factors between a Beru ignition electrode and other ignition electrodes.

Unlike other manufacturers, we not only assemble products, we also manufacture them completely ourselves. Each individual component of a Beru ignition electrode is manufactured at the Beru factory – starting with the preparation of the ceramic material. The advanced ceramic production process at our Neuhaus-Schierschnitz plant enables us to manufacture our own insulators using high-quality aluminium oxide (> 95%). The production process is geared towards the design and application requirements of the ignition electrode. The product is either molded isostatically and then sanded or the ceramic is molded by injection. This technology, which is still very new and only offered by a few manufacturers, enables geometrically extremely sophisticated and complex components to be manufactured to ultimate precision.

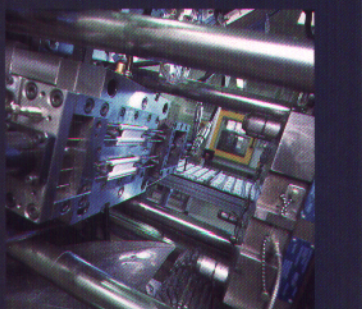
The Beru plant at Neuhaus-Schierschnitz – like all Beru's German plants – meets the internationally recognized requirements of QS 9000 and DIN ISO 9001. These certificates are only awarded following an extensive testing process and testify to the company's competence to meet the highest standard of quality in development, manufacture, sales and management.



The Beru plant at Neuhaus-Schierschnitz: the industrial ceramic production factory belongs to Beru since 1991 and has been continually expanding ever since then. The most recent major investment was a new production hall which began operation in 1995. Today the plant produces approximately 250 different kinds of spark plugs, ignition electrodes and ceramic components.



Rotation-symmetrical insulators are isostatically molded and then sanded exactly to comply with the strict production tolerance levels.



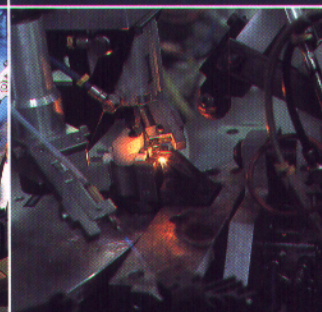
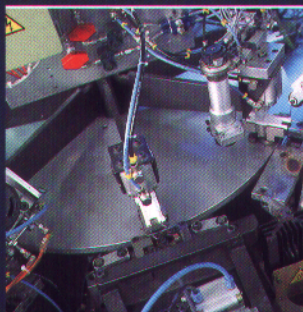
Latest technology at work: the injection molding plant at Beru's Neuhaus-Schierschnitz factory also enables complex ceramic body geometries to be created. Undercuts can also be produced.



Production of sheet electrodes: the insulators are pressed into the mounting plate.

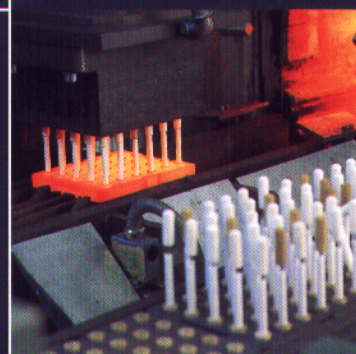


The baking of the ceramic components takes place 24 hours a day at a temperature of 1,650°C.



Maximum precision also in electrode bending: the computerized automatic hot bending unit with built-in dimension controls. The bending points are annealed in order to prevent spring-back.

The glass seal connects the electrode wires with the ceramic housing.



IGNITION ELECTRODES AND SPECIAL SPARK PLUGS



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