

TENNECO



Ignition Electrodes
Special Spark Plugs
Flame Detection Electrodes

Heating and Industrial Applications

Europe

Ignition and Ionization Electrodes

For Heating and Industrial Applications

Tenneco offers ignition and ionization electrodes for heating and other industrial purposes. The company's ignition electrodes for metric applications are mainly produced at its Föritzal facility in Germany. Tenneco employs strategies of vertically integrated manufacturing to provide world-class, high-quality solutions for original equipment manufacturers and the aftermarket.

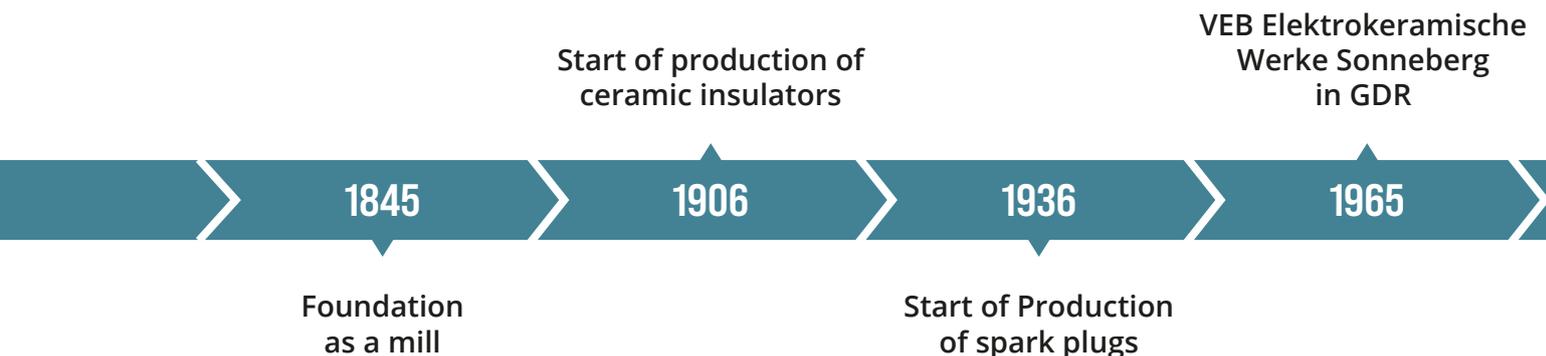
During the production process, including preparation of the ceramic materials, high-grade aluminum oxide is used to manufacture insulators by isostatic pressing based on Tenneco's proprietary specifications. Utilizing glass-melting technology, the electrode assemblies are fully sealed against exhaust gas leakage. Using similar technology, Tenneco also produces electrodes for measuring the ionization current, that can be applied for flame-sensing.

Tenneco electrodes provide outstanding performance across various applications thanks to excellent conductivity, high temperature stability of the specialized electrode materials, high dielectric strength of insulators and precise assembly.

Tenneco's Föritzal site, formerly known as Neuhaus-Schierschnitz, is certified according to ISO 9001, IATF 16949 and to ISO 14001 environmental standards. If required, our products can be qualified by external organizations according to the appropriate specifications.

These certifications strongly demonstrate the company's competence in meeting the highest standards in development, manufacturing, sales and management. In addition to electrodes, Tenneco's ignition portfolio includes leads, connectors and ignitor (transformer) units.

Föritzal Production Site Milestones

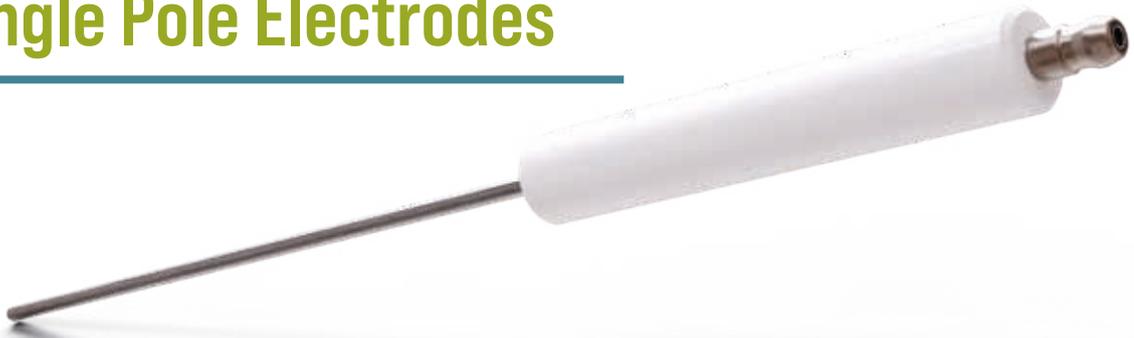


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1 Single Pole Electrodes



DESCRIPTION	PART #	D1	L1	INSULATOR MATERIAL	L2	D2	DETAIL
ZE 6-80-50 KA1	0009.014.035	6	80	Al ₂ O ₃ ¹	50	2.5	1
ZE 8-80-300 KA1	0009.014.029	8	80	Al ₂ O ₃ ¹	300	3.5	1
ZE 11-85-71 SKA1	0009.034.028	11	85	Al ₂ O ₃ ¹	70.5	3	2
ZE 11-150-50 SKA1	0009.035.002	11	147	Steatite	50	3	2
ZE 14-85-150 SKA1	0009.044.005	14	85	Steatite	150	3	2
ZE 14-85-200 SKA1	0009.044.006	14	85	Steatite	200	3	2
ZE 14-125-200 SKA1	0009.045.001	14	125	Steatite	200	3	2
ZE 14-150-200 KA1	0009.046.017	14	150	Steatite	200	3	1
ZE 14-200-220 SKA1	0009.046.009	14	200	Steatite	220	3	2

¹ min. 93% Al₂O₃

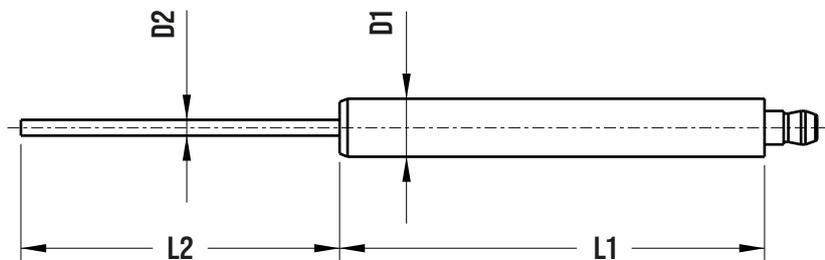
All dimensions in mm

All single pole electrodes come with a ¼" / 6.35 mm SAE terminal and use material 1.4765 (e.g. Kanthal A1) as electrode material.

Special designs are available up on request.

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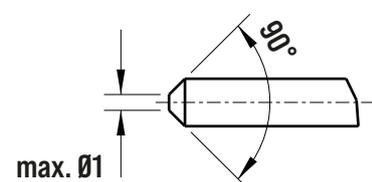
Single Pole Electrodes



Detail 1



Detail 2



2 Single Pole Electrodes with Thread



DESCRIPTION	PART #	THREAD	SW	L	LG	LK	D	MATERIAL	TERMINAL
ZE 14-8-18 A1	0009.350.030	M14x1.25	21	18	8.5	11	3	1.4765	M4
ZE 14-12-35 A1	0009.340.040	M14x1.25	21	35	12.7	16.3	3.5	1.4765	M4
ZE 14-12-50 A1	0009.340.106	M14x1.25	21	50	12.7	16.3	3.5	1.4765	M4
ZE 14-12-50	0009.340.001	M14x1.25	21	50	12.7	16.3	3.5	1.4772	M4
ZE 14-12-58 A1E ¹	0009.340.107	M14x1.25	21	58	12.7	32	3.5	1.4765	SAE
ZE 14-12-60 A1 ²	0009.340.108	M14x1.25	21	60	12.7	32	3.5	1.4765	SAE
ZE 14-12-66	0009.340.021	M14x1.25	21	66	12.7	16.3	3.5	1.4772	M4
ZE 14-12-66 A1	0009.340.094	M14x1.25	21	66	12.7	16.3	3.5	1.4765	M4
ZE 14-12-110	0009.340.047	M14x1.25	21	110	12.7	16.3	3.5	1.4772	M4
ZE 14-12-125 X	0009.340.088	M14x1.25	21	125	12.7	16.3	3.5	1.4828	SAE
ZE 14-12-150 A1	0009.340.045	M14x1.25	21	150	12.7	16.3	3.5	1.4765	M4
ZE 14-12-200 A1	0009.340.028	M14x1.25	21	200	12.7	16.3	3.5	1.4765	M4
ZE 14-12-300 A1	0009.340.038	M14x1.25	21	300	12.7	16.3	3.5	1.4765	M4
ZE 14-12-500 A1	0009.340.043	M14x1.25	21	500	12.7	16.3	3.5	1.4765	M4
ZE 14-12-600 A1	0009.340.024	M14x1.25	21	600	12.7	16.3	3.5	1.4765	M4
ZE 18-12-50 A1	0009.380.032	M18x1.5	26	50	12.7	16.3	3.5	1.4765	M4
ZE 18-12-300 A1	0009.380.016	M18x1.5	26	300	12.7	16.3	3.5	1.4765	M4
ZE 18-12-1200 A1	0009.380.045	M18x1.5	26	1200	12.7	16.3	3.5	1.4765	M4

¹ Shell is stainless steel 1.4305 / AISI 303

² Blue insulator

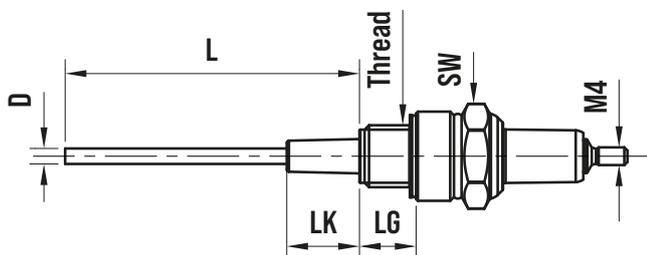
Tightening torque M14: 30 - 40 Nm

Tightening torque M18: 50 - 60 Nm

All dimensions in mm



Single Pole Electrodes with Thread



All single pole electrodes with thread come with high-grade Aluminum-Oxide insulator (min. 95% Al₂O₃) material. The shells are plated with zinc or nickel. Special designs are available up on request.

Electrode material 1.4765 e.g. Kanthal A1

Electrode material 1.4772 e.g. M1

Electrode material 1.4828 / AISI 309 / X15CrNiSi20-012

3 Special Spark Plugs



DESCRIPTION	PART #	L	LG	LK	D	GAP	MAT. CENTER ELECTRODE	MAT. GROUND ELECTRODE	DETAIL	TERMINAL
ZK 14-8-15	0004.500.401	15	8.5	11	3	1	1.4772	1.4772	2	M4
ZK 14-8-22	0004.500.419	21.5	8.5	11	3	1.5	1.4772	1.4772	2	M4
ZK 14-8-25	0004.500.416	25	8.5	11	3	1.5	1.4772	1.4772	2	M4
ZK 14-8-37	0004.500.600	37.5	8.5	11	3	1	1.4772	1.4772	1	SAE
ZK 14-8-37	0004.500.601	37.5	8.5	11	3	1	1.4772	1.4772	1	M4
ZK 14-8-75	0004.500.421	75	8.5	11	3	1.5	1.4772	1.4772	2	M4
ZK 14-12-23 L ¹	0004.400.602	23	12	18	2	2	1.4765	2.4851	1	M4
ZK 14-12-28 A1	0004.400.404	28	12.7	16.3	3.5	1.5	1.4765	1.4765	2	M4
ZK 14-12-35 A1	0004.400.405	35	12.7	16.3	3.5	1.5	1.4765	1.4765	2	M4
ZK 14-12-35-2 L	0004.400.400	35	12.7	23.3	2	4	1.4772	NiCr ₂ MnSi	2	M4
ZK 14-12-50 A1	0004.400.406	50	12.7	16.3	3.5	1.5	1.4765	1.4765	2	M4
ZK 14-12-75 A1	0004.400.407	75	12.7	16.3	3.5	1.5	1.4765	1.4765	2	M4
ZK 14-12-75 L	0004.400.402	75	12.7	23.3	3.5	3	1.4772	1.4772	2	M4
ZK 14-12-100 L A1	0004.400.401	100	12.7	23.3	3.5	3	1.4765	1.4765	2	M4

¹ ventilated

Tightening torque M14: 30 - 40 Nm

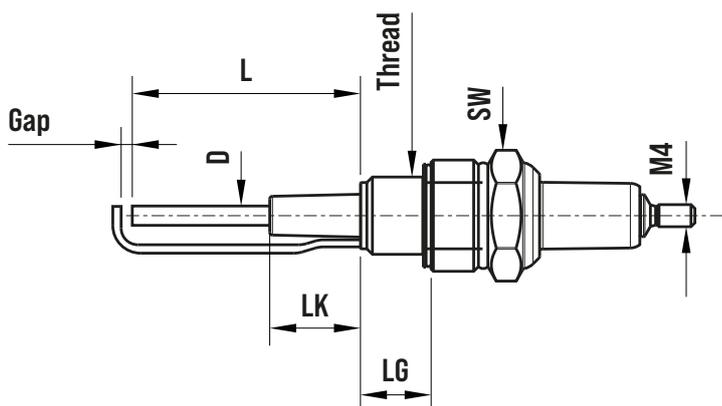
All dimensions in mm

Electrode material 1.4765 e.g. Kanthal A1
 Electrode material 1.4772 e.g. M1
 Electrode material 2.4851 / Inconel® 601

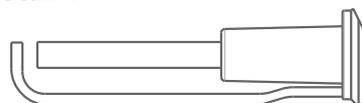
All special spark plugs come with a 21 mm hexagon, high-grade Aluminum-Oxide insulator material (min. 95% Al₂O₃) and M14x1.25 thread. The shells are plated with zinc or nickel. Special designs are available up on request.

Special Spark Plugs

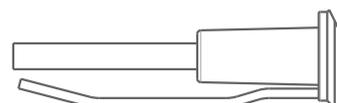
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Detail 1



Detail 2



4 Special Spark Plugs with Extended Shell



DESCRIPTION	PART #	L	DETAIL	MATERIAL GROUND ELECTRODE
ZK 18-12-145 URA1	0004.800.614	145	1	2.4816
ZK 18-12-236 ZRA1	0004.800.607	236	2	1.4765
ZK 18-12-236 URA1	0004.800.615	236	1	2.4816
ZK 18-12-245 URA1	0004.800.612	245	1	2.4816
ZK 18-12-386 ZRA1	0004.800.618	386	2	1.4765
ZK 18-12-411 ZRA1	0004.800.620	411	2	1.4765
ZK 18-12-750 URA 1	0004.800.601	750	1	2.4816
ZK 18-12-900 URA 1	0004.800.604	900	1	2.4816
ZK 18-12-1050 URA1	0004.800.613	1050	1	2.4816

Tightening torque M18: 50 - 60 Nm

All dimensions in mm

Electrode material 2.4816 e.g. NiCr15Fe
Electrode material 1.4765 e.g. Kanthal A1

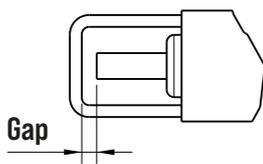
All Special spark plugs with extended shell come with M4 terminal, high-grade Aluminum-Oxide insulator (min. 95% Al₂O₃) and 26 mm hexagon. The center electrodes are made from material 1.4765 (e.g. Kanthal A1) and have a diameter of 3.5 mm with a gap of 2 mm. On all types the thread is M18x1.5 at a length of 12.7 mm. The extension is made from 1.4861 (X10NiCr32-20). The shells are plated with zinc or nickel.

Special designs are available up on request.

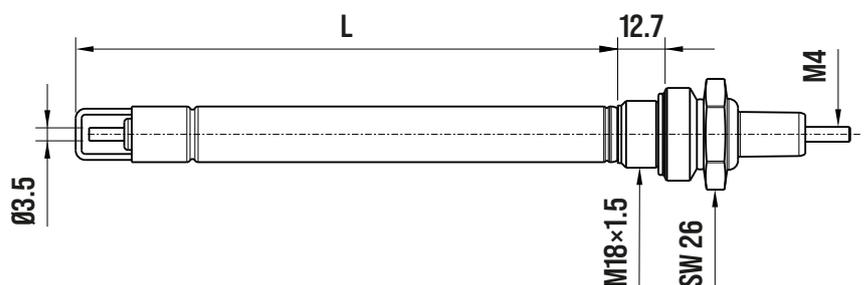
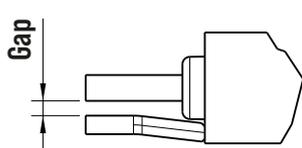
Special Spark Plugs with Extended Shell

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Detail 1



Detail 2



5 Customized Electrodes

- Customized brackets
- Stainless steel brackets
- Gas tight in-bracket sealing
- Internal sealing using high-temperature glass melting technology
- Sight glass solutions
- Different high temperature alloys and dimensions
- Different electric terminals

- Welded wire solutions
- Ceramic technology development and production in house

For special applications Tenneco will be able to find a customized solution. Please do not hesitate to contact us!

industrialignition@tenneco.com



6 Accessories

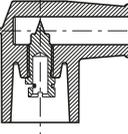
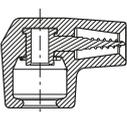
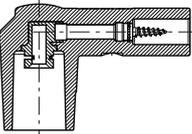
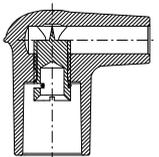
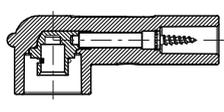
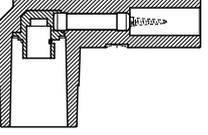
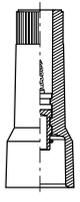
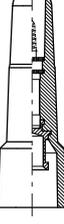
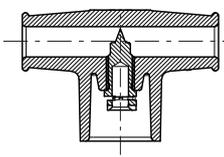
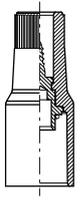
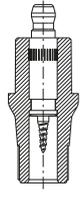
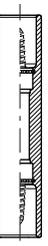
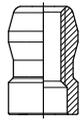
DESCRIPTION	PART #	SIDE A	SIDE B	RESISTANCE	WIRE Ø	INSULATOR Ø
① Connector 90° - O4	0300.201.002	M4/4 mm	Wood screw	0 kOhm	7	max. 14
② Connector 90° - O4S	0300.204.103	M4/4 mm	Wood screw	0 kOhm	5/7	7 - 11
③ Connector 90° - OE4/1	0300.211.001	M4/4 mm	Wood screw	1 kOhm	5/7	max. 14
④ Connector 90° - O6	0300.301.001	SAE	Wood screw	0 kOhm	7	max. 16
⑤ Connector 90° - OE6/1 Short	0300.313.003	SAE	Wood screw	1 kOhm	5/7	max. 14
⑥ Connector 90° - OE6/1	0300.311.002	SAE	Wood screw	1 kOhm	5/7	max. 14
⑦ Connector Straight - C4	0300.001.003	M4/4 mm	Wood screw	0 kOhm	5/7	max. 14
⑧ Connector Straight - BE6/1	0300.111.001	SAE	Wood screw	1 kOhm	5/7	max. 14
⑨ T-Connector T4	0300.201.008	M4/4 mm	-	0 kOhm	7	-
⑩ Coupling Female Straight C6	0300.102.001	SAE	Wood screw	0 kOhm	5/7	max. 14
⑪ Coupling Male Straight C6A	0300.102.002	SAE	Wood screw	0 kOhm	5/7	-
⑫ Suppressor HE1	0300.611.001	Wood screw	Wood screw	1 kOhm	5/7	-
⑬ Reducing bushing for 5 mm lead	2902.090.002	-	-	-	5	-
⑭ Brass connector nut	2004.650.013	M4	SAE	-	-	-

Special designs are available up on request.

All dimensions in mm

Accessories



0300.201.002  ①	0300.204.103  ②	0300.211.001  ③	0300.301.001  ④	0300.313.003  ⑤	0300.311.002  ⑥
0300.001.003  ⑦	0300.111.001  ⑧	0300.201.008  ⑨	0300.102.001  ⑩	0300.102.002  ⑪	0300.611.001  ⑫
					2902.090.002  ⑬
					2004.650.013  ⑭

Quality Brands, Quality Products

Tenneco is one of the world's leading designers, manufacturers and marketers of automotive products for original equipment and aftermarket customers. Through our four business groups, DRiV Motorparts, Performance Solutions, Clean Air and Powertrain, Tenneco is driving advancements in global mobility by delivering technology solutions for diversified global markets, including light vehicle, commercial truck, off-highway, industrial, motorsport and the aftermarket.

The ignition unit of Tenneco's Powertrain business group is an innovative and diversified global supplier of ignition products, trusted brands and creative solutions to manufacturers of automotive, light commercial, heavy-duty and off-highway vehicles. Tenneco's ignition business also supplies the power generation, marine, heating and industrial sectors.



Auburn Industrial® is one of the leading suppliers of industrial products and equipment since 1910. Auburn products perform reliably for extended periods even in the most demanding environments and sold to original equipment manufacturers and aftermarket distributors worldwide.



Formed in 1907, the Champion® spark plug brand has long been associated with reliability and performance. As a world leader in the manufacture of spark plugs for every kind of combustion engine, the Champion® brand is known and trusted by end-users worldwide.



A brand long known in the industrial market, Tenneco has launched a range of new GOETZE® branded industrial spark plugs, designed for industrial gas engines. With proven durability for these challenging industrial applications, GOETZE® spark plugs are designed and manufactured for robust, reliable service.



Glossary

A1	- Electrode wire material 1.4765	LK	- Length of ceramic
Al ₂ O ₃	- Aluminium Oxide	M4	- Terminal with M4 thread
D	- Diameter	S	- Electrode with tip
E	- Stainless steel shell	SAE	- ¼" / 6.35 mm terminal
Gap	- Distance from ground to center electrode	SW	- Hex size
K	- SAE terminal	URA1	- U-Shape of ground electrode
L	- Length	X	- Electrode wire material 1.4828
LG	- Length of thread	ZRA1	- Z-Shape of ground electrode

Disclaimer

This catalog provides a description of our products. Information contained herein does not imply any guarantee of performance or recommendation of suitability for a specific application.

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