



BOSCH

Invented for life

Industrial spark plugs

for stationary gas engines



Industrial spark plugs

Overview

Gas-powered Co-Gen power plants and stationary power generators provide economically generated heat and electricity right at the place where they are needed the most. This can, for instance, be at schools, swimming pools, hotels, hospitals or production facilities. Featuring high quality, Bosch industrial spark plugs ensure reliable operation of gas engines.

Technological competence

Thanks to its close cooperation with engine manufacturers, Bosch has gained outstanding know-how – concerning components such as spark plugs as well as the sophisticated interactions inside the engines. Thanks to this expertise, Bosch is able to provide a comprehensive aftermarket range of spark plugs suiting almost any engine – including older units. Innovative trends and technologies are implemented with the production of spark plugs for stationary gas engines.

Quality by innovation

Following the first Bosch spark plug launched in 1902, several other patents have also been filed. These include, for instance, the continuous-wave (CW) laser-welding method which ensures an extremely robust welded connection on the center electrode. Innovative alloys such as nickel, yttrium and precious-metal help ensure a long service life. Production procedures such as the heat-shrink assembly, nickel-coated spark-plug housings and threads ensure a high reliability and longer service life.

Intelligent service solutions

Bosch developed a professional tool to readjust the electrode of Iridium industrial spark plugs. It allows extending the spark-plug service life and reducing the servicing downtime and costs.



Industrial spark plugs

Technology

The SAE terminal

receives high voltage from the ignition leads and passes it on to the center electrode.

The connector

transmits the high voltage to the resistor.

The resistor

lowers the spark plug's spark current and the electromagnetic radiation.

The center electrode

with heat-conductive copper core reaches the operating temperature quickly. It protects against thermal overloads, corrosion and spark erosion.

The electrode gap

is the spark gap between the center and ground electrodes.

The insulator

isolates the center electrode from the housing thus preventing flashovers.

The spark-plug housing and thread

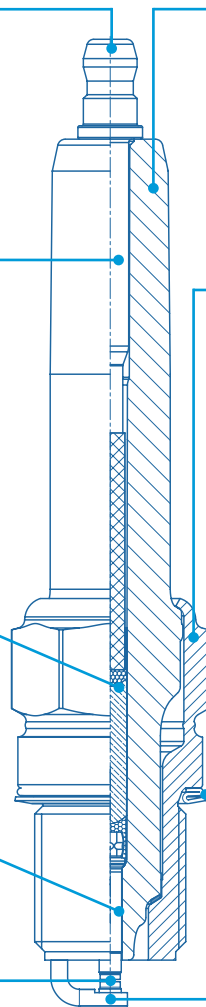
connects the spark plug and cylinder head.

The seal ring

seals the spark-plug housing against the cylinder head, prevents leakages and balances different expansion rates.

The ground electrode

influences the service life and heat dissipation.

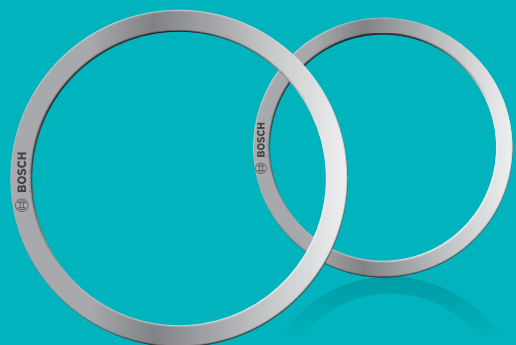


Service tip: Use Bosch seal rings!

Seal rings significantly contribute to safety

The seal rings used by Bosch feature minimal dimensional deformation, but they are highly elastic, thus preventing the spark plug from loosening during operation.

In case a spark plug is removed and reinstalled, the seal ring is to be replaced. For this purpose, Bosch recommends using only Bosch seal rings.



M18 industrial spark plugs

Program & product details



	7305	7306	7308
Type	MR 3 DII 360	MR 3 DPP 330	MR 3 DII 360
Type number	0 242 356 512	0 242 356 504	0 242 356 515
Wrench size	22.2 mm (7/8")	22.2 mm (7/8")	20.8 mm (13/16")
Thread	M 18 x 1.5 mm	M 18 x 1.5 mm	M 18 x 1.5 mm
Thread length	20.6 mm (13/16")	20.6 mm (13/16")	20.6 mm (13/16")
Precious-metal center electrode	Iridium	Platinum / Iridium	Iridium
Precious-metal ground electrode	Iridium	Platinum	Iridium
Electrode gap	0.3 mm (0.011")	0.3 mm (0.011")	0.3 mm (0.011")
Resistance	6 kΩ	3 kΩ	6 kΩ
Adjustable electrode gap	Yes	No	Yes

The use of Bosch industrial spark plugs in engines with fuel-fed prechamber is not intended and not recommended by Bosch!

Advantages at a glance

- ▶ First-class ignitability for high performance due to specifically developed precious-metal alloys at the center and ground electrode
- ▶ Outstanding engine protection due to nickel-plated housing and thread
- ▶ Hassle-free spark plug replacement due to factory-set electrode gap
- ▶ High wear resistance due to a highly heat-conductive center electrode
- ▶ Reliable thermal characteristics due to heat-shrink assembly



Service tip

Replace the whole set at once

Experience has shown that replacing the whole set of spark plugs is cheaper than having to replace them one by one.

The operating conditions of an engine's individual spark plugs are very similar – as it becomes apparent by their similar wear behavior.

Fast and correct fitting

1. Select the matching industrial spark plug from the range of products.
2. Screw in the industrial spark plug by hand until it is seated tight at the cylinder head.
3. Then, use a torque wrench to tighten the industrial spark plug applying the torque specified.

Thread: M14 **Torque:** 20 – 40 Nm

Thread: M18 **Torque:** 50 – 70 Nm

M14 industrial spark plugs

Program & product details



	7322	7339	7334
Type	FR 3 CII 360	WR 3 CII 360	WR 3 DII 33
Type number	0 242 255 518	0 242 255 533	0 242 255 529
Wrench size	16 mm (5/8")	20.8 mm (13/16")	20.8 mm (13/16")
Thread	M 14 x 1.25 mm	M 14 x 1.25 mm	M 14 x 1.25 mm
Thread length	19 mm (3/4")	19 mm (3/4")	19 mm (3/4")
Precious-metal center electrode	Iridium	Iridium	Iridium
Precious-metal ground electrode	Iridium	Iridium	Platinum
Electrode gap	0.3 mm (0.011")	0.3 mm (0.011")	0.5 mm (0.019")
Resistance	6 kΩ	6 kΩ	6 kΩ
Adjustable electrode gap	Yes	Yes	No

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Need-oriented package sizes

Practical for service and retail

Bosch industrial spark plugs are available as **single plug** or in **packs of ten**.



Re-gapping tool

Product details

The **Bosch re-gapping tool** is a professional tool for accurate readjustment of the electrode gap of Bosch M18 Iridium industrial spark plugs.



Advantages at a glance:

- ▶ **Increase in service life of industrial spark plugs** due to accurate readjustment of the original electrode gap
- ▶ **Reduced service times and costs** thanks to its easy operation
- ▶ **Safe application thanks to integrated force limitation:** Prevents overbending of the ground electrode or pushing out the center electrode

Right tool for the job!

Readjusting the electrode gap without proper tools bears some risks:

There are risks of bending the ground electrode too much or to break it off.

The electrode can also be set incorrectly or the spark plug can be damaged.

Bosch thus developed the re-gapping tool adopting the electrode gapping method used at the production and transferring it to a handy service tool.

Re-gapping tool

Application

During their operation, industrial spark plugs wear off as the electrode gap increases. This results in misfires. Bosch Iridium M18 industrial spark plugs were developed in such a manner as to allow electrode regapping by means of the Bosch re-gapping tool.



Simply readjust industrial spark plugs using the Bosch re-gapping tool:

- 1. Place the cleaned M18 industrial spark plug into the socket.** Make sure, the spark plug housing is properly positioned at the pattern inlay while the back of the ground electrode faces out.
- 2. Push the lever all the way to the stop** and keep up the pressure for a period of time.
- 3. Release the pressure from the lever** and carefully remove the regapped spark plug from the socket.

Check spark plugs!

Spark plugs are wearing parts. Their functionality should be checked regularly. The following failures might point at a defective spark plug:

- ▶ Loud combustion noises before reaching the operating temperature
- ▶ Unevenly running warm engine
- ▶ Loss of power
- ▶ High spark-plug resistance
- ▶ Need for increased ignition voltage
- ▶ Increased fuel consumption

Driven by efficiency

Bosch technologies are used worldwide in almost all vehicles and in a broad range of industrial applications. People, and assuring their mobility, is what we are focused on.

Therefore, we have dedicated the last 125 years of pioneering spirit and expertise in research and manufacturing to achieving this.

We continue to work on our unique combination of solutions for spare parts, diagnostic devices, workshop equipment and services:

- ▶ Solutions for efficient vehicle repairs
- ▶ Solutions for industrial applications
- ▶ Innovative workshop equipment and software
- ▶ The world's most comprehensive range of new and replacement parts
- ▶ Large network of wholesale customers, for quick and reliable parts supply
- ▶ Competent hotline support
- ▶ Comprehensive educational and training offers
- ▶ Targeted sales and marketing support

Additional information on Bosch industrial spark plugs upon request:

boschaftermarket.com

**What drives you,
drives us**

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