TAIYO NIPPON SANSO
The Gas Professionals

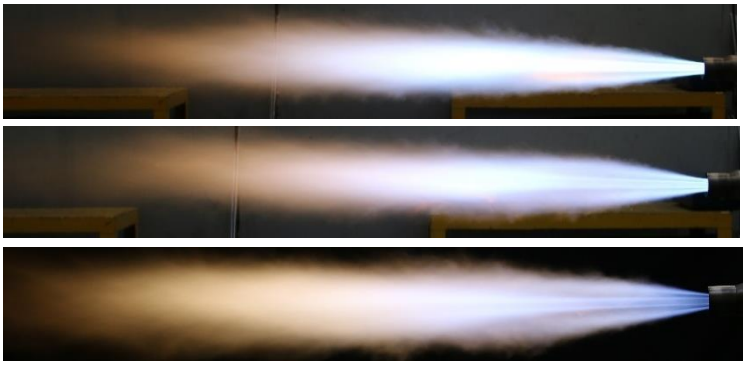
July 29, 2022

Notice Regarding Development of Hydrogen-Oxygen Burners for Induction Furnace to Add Heat Energy for Melting

Taiyo Nippon Sanso Corporation ("TNSC", President: Kenji Nagata) hereby announces that, together with one of major automobile casting manufacturers, it has jointly developed a hydrogen-oxygen burner that successfully reduces the electricity consumed by induction furnaces which melts steel scrap using electricity.

TNSC had previously worked with the major automobile casting manufacturer to install burners that use oxygen as oxidant to combust hydrocarbon fuel such as natural gas in order to improve the melting performance of induction furnaces which melts steel scrap to manufacture automobile parts, and had succeeded at reducing electricity usage and improving quality. Now, together with the major automobile casting manufacturer, it has developed hydrogen-oxygen burners that use hydrogen as fuel, and confirmed in an offline test (a steel plate melting test) that it can obtain melting performance equal to or greater than using natural gas. It is expected that this burner will further reduce CO_2 emissions in addition to reducing electricity.

TNSC is working to reduce customers' GHG emissions through our products that contribute to the environment, and is proposing the reduction of CO_2 emissions in industrial furnaces through oxygen combustion technologies toward realizing carbon neutrality. Oxygen combustion is more energy efficient than air combustion and can significantly reduce fuel consumption, enabling a reduction in CO_2 emissions when using fossil fuels such as heavy oil and natural gas.
Hydrogen-oxygen combustion technology is expected to contribute to achieving carbon neutrality more efficiently through combination with our experiences and know-hows cultivated until now. TNSC will continue moving forward on technological development to apply oxyfuel combustion technologies in various industrial furnaces.



(a)Natural gas 100%

(b)Natural gas 50%, Hydrogen 50%

(c)Hydrogen 100%

Flame of hydrogen-oxygen burner

Taiyo Nippon Sanso Corporation
Tnsc.Info@tn-sanso.co.jp