



NAKAYAMA
Co., Ltd.

The final melt after spheroidization is poured into a Mg-Cup[®] and nodularity is determined within only three minutes!



SGR-Win

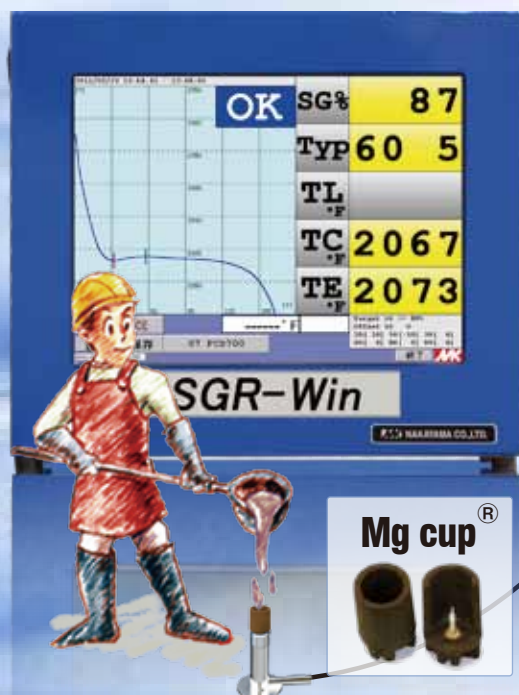
— A new type instrument for nodularity determination —

The same melt is poured into Mg-TP as well as Mg-Cup. Correlation with TP image analysis is obtained and the data is input. SG% in the basic program is automatically calibrated.

An instrument of single window display of cooling curve, SG%, and image analysis. (Parallel display of Mg-Cup and Mg-TP)

**SG Logger One
(option)**

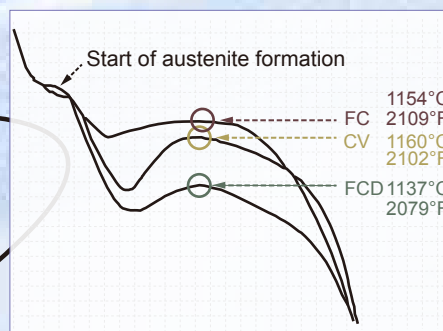
Alarm for pour stop by a fading timer can be given by a patrol lamp or alarm sound (option).



Calibration curve is automatically corrected by inputting data.

Nodularity of FCD and CV is measured (SG%)

Touch panel type (15 inch).



precision $\pm 5\%$

**Data saved
for three years**

**Past record can
be referred.**

Experimental results suggest the following factors to be important for nodularity improvement.

- 1 Properties of the original melt before Mg treatment.
- 2 Performance of Mg treatment and inoculation. If eutectic solidification is above 1150° C (2102° F), improper Mg treatment and hence, insufficient nodularity may be suggested. If eutectic solidification is between 1130 and 1135° C (2066 and 2075° F), well-grown nodular graphite may generally be expected.
- 3 Chemical composition of the melt, including carbon equivalent and minor residual elements.
- 4 Casting section thickness.
- 5 Pouring temperature, time before pouring, and other process variables.

Features of the new SGR-WIN for nodularity SG% determination

melting
floor

nodularity measurement
of the melt

SGR-Win



melting
floor

automatic polisher

NAP-01



Mg-TP



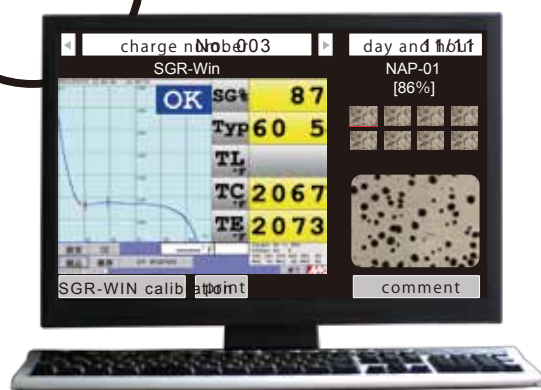
data collection

Control by feed back.
The setting can be changed.

If NAP-01 is not available to the user, Nakayama can supply TP and perform image analysis by exchanging data. depending on contract. supplied.

laboratory

SG Logger One: a data collecting and controlling system



(SG Logger One)

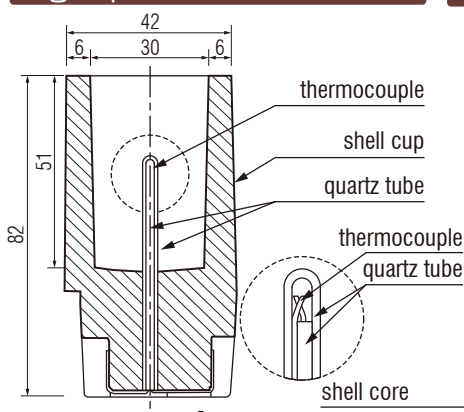
SG% value by SGR-Win and image by NAP-01
are displayed in a single window (or reported).

Example of variables to be displayed

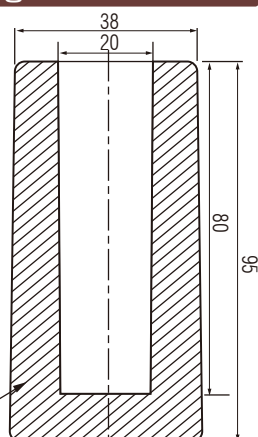
1. Nodularity SG%+graphite image
2. Product name and number
3. date and hour
4. Cooling curve and analysis
5. C%, Si%, and CE value
6. Comment

Section

Mg-Cup



Mg-TP



SGR-WIN Specification

dimension	W410 × H360 × D130(mm)
monitor	15 inch touch panel (supersonic type)
memory	4 GB (for three years)
temperature spec.	JIS-K temperature range 0 to 1370°C
precision	SG% ±5
weight	11kg
power source	(AC)100-240V
accessories	a set of cup stand (5 m) a touch pen a USB memory for data handling

※ SGR-Win is a product based on the technology described in Patent No.2885983.



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