

# General Specifications

WG41B1C  
Beta-ray Sensor

**WEBFLEX<sup>TM</sup>3ES**

GS 14M04C10-20E-Z1

[Style: S1]

## ■ Overview

The Beta-ray sensor is a sensor that uses a transmission method and provides highly accurate and stable measurement. The radiation source of this sensor is Kr (krypton).

In order to minimize the influence of the disturbance, the sensor contains temperature compensation, air purging and other unique features based on 30 years field experience.

The following describes the specifications of this sensor. Note that the number of sensors to be installed on a frame is one.

## ■ Specifications

Measurement method: Beta-ray transmission

Measurement range (\*1): 0 to 1,200 g/m<sup>2</sup>

Repeatability (\*2):  $\pm 0.1$  g/m<sup>2</sup> or  $\pm 0.1$  % or less, whichever greater

Repeatability of profile mean value (\*3):  $\pm 0.1$  g/m<sup>2</sup> or  $\pm 0.1$  % or less, whichever greater

Measurement gap (\*4):

Upper: 4 mm or 11.5 mm

Lower: 4 mm or 11.5 mm

Air layer temperature compensation: Provided

Radiation source: <sup>85</sup>Kr

Radiation source quantity: 15.54 GBq or 37 GBq

Number of radiation source: One

Radiation source half-life: 10.7 years

Replacement period: 10 years

Source container: Fail-safe rotary shutter type with the thermal-fuse

Detector: Ionization chamber (standard type)

Sensor case finish: Alumite finish or painted finish (lamp black)

- \*1: If the density of a measured material "p" is "1," then "1  $\mu\text{m}$  = 1 g/m<sup>2</sup>."  
The above-described specifications indicate that standard samples made of polyester film are used. Measurement ranges vary because absorption coefficients are different depending on measured materials. For details on specifications in measuring other materials, contact your local sales representative.
- \*2: Repeatability is indicated by a repeated value during a TESTRUN. A standard sample is used and the averaging time is set to 10 seconds in the TESTRUN. % shows differences with respect to the repeated value.
- \*3: Scan average repeatability with the smoothing factor set to 1 (Yokogawa standard values are used for the number of measurement and display points, and head speed).
- \*4: A measurement gap is a minimum dimension between the upper or lower sensor head and measured objects.

## ■ Model and suffix codes

### ● Beta-ray sensor (non heat-up type) (standard type)

[Style: S1]

Model	Suffix Codes	Optional Codes	Specifications
<b>WG41B1C</b>	-----	-----	Beta Ray Sensor (Non Heat-up Type, Standard Type) (*1)
Installation Spec.	<b>-HS</b>	-----	For WG41F11C Frames
Sensor Base Finish	<b>-A</b>	-----	Alumite Finish (*2)
Radiation Source	<b>-S2</b>	-----	85 Kr (15.54 GBq) (*3)
	<b>-S5</b>	-----	85 Kr (37 GBq) (*3)
Gap Spec.	<b>-08</b>	-----	Measurement Gap: 8 mm (*4)
	<b>-23</b>	-----	Measurement Gap: 23 mm (*4)
		<b>/PT02</b>	Maximum Measurement Range: up to 110 g/m <sup>2</sup> (*5)
		<b>/PT03</b>	Maximum Measurement Range: 111 to 200 g/m <sup>2</sup> (*5)
		<b>/PT04</b>	Maximum Measurement Range: 201 to 360 g/m <sup>2</sup> (*5)
		<b>/PT05</b>	Maximum Measurement Range: 361 to 600 g/m <sup>2</sup> (*5)
		<b>/PT06</b>	Maximum Measurement Range: 601 to 780 g/m <sup>2</sup> (*5)
		<b>/PT07</b>	Maximum Measurement Range: 781 to 1200 g/m <sup>2</sup> (*5)

- \*1: This sensor is Non-heat-up type. Specify “-B1N (Beta-ray Sensor (Non Heat-up Type))” as “Sensor Type” of the frame to be used.  
A calibration curve is made with our standard sample.
- \*2: Match this selection with sensor case finish in frame. Select the optional code “/T (Painted Finish of Sensor Case (Color: Lamp Black))” of the frame when you want the sensor case to be painted lamp black.
- \*3: Kr source is used.  
Select polyester film standard sample according to maximum measurement range.  
Be sure to specify any optional code from “/PT02” to “/PT07,” depending on maximum measurement range.
- \*4: Select a desired measurement gap from the following:  
8 mm: -08  
23 mm: -23
- \*5: Standard samples for Kr source.

### ● Source

Model	Suffix Codes	Specifications
<b>8693</b>	-----	Radiation Source
	<b>-6750</b>	for US: <sup>85</sup> Kr (15.54 GBq), Measurement Gap: 8 mm (*1)
	<b>-6760</b>	for US: <sup>85</sup> Kr (15.54 GBq), Measurement Gap: 23 mm (*1)
	<b>-6770</b>	for US: <sup>85</sup> Kr (37 GBq), Measurement Gap: 8 mm (*1)
	<b>-6780</b>	for US: <sup>85</sup> Kr (37 GBq), Measurement Gap: 23 mm (*1)

Note: If Radiation source can not make a delivery with the mainframe, Radiation source must be ordered separately from the mainframe.  
TOKUCHU Approval is required when Radiation source is separately ordered.

- \*1: Used for non heat-up type sensor and includes shutter.

## ■ Regulatory compliance

Safety standard

[NFPA79] (for 100, 110, 115, and 120 VAC power supply)

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