TOA DKK

ISO9001·ISO14001

# SU-300

## Sugar Analyzer

From monosaccharide, disaccharide to polysaccharide

Easy Measurement




DKK-TOA CORPORATION

# SU-300 can simultaneously measure concentrations of various sugar with simple pretreatment!

Ion chromatography is one of the general sugar analysis methods and a reliable method as adopted for official testing method for specific health food. SU-300 enables everyone to measure sugar with easy operation, taking advantage of the features of ion chromatography. As "electrochemical detection method" is adopted for the sugar detector, specific sugar can selectively be detected. As this measuring method is hardly affected by foreign substance co-existing in sample, only simple pretreatment such as elimination of solid substance and fat, and dilution, is needed before injecting samples to the analyzer.

## Features

### Simultaneous measurement of 5 kinds of sugar and ethanol or 7 kinds of sugar alcohol

As ion chromatography is adopted, several kinds of sugars can be simultaneously measured.
Ethanol can be measured in addition to monosaccharide and disaccharide at "Sugar Mode" of the analyzer.
As alcohol and sugar are separately detectable, alcohol in liquor and sugar can be simultaneously analyzed.
7 kinds of sugar alcohol are simultaneously detectable at "Sugar alcohol mode" of the analyzer.

| Measuring mode | Measuring objects |
|---|---|
| Sugar Mode | Monosaccharide : Glucose, Fructose<br>Disaccharide : Lactose, Saccharose, Maltose<br>Alcohol : Ethanol |
| Sugar Alcohol Mode | Inositol, Erythritol, Xylitol, Arabitol, Sorbitol, Mannitol, Multitol |

### Simple & easy pretreatment

As "Pulsed amperometory" being adopted, sugar can be selectively detected. Because it is hardly affected by foreign substance in the sample, only simple pretreatment such as dilution, is required before injecting the sample.

### Simple flow composition

As the columns and detector that allow direct flow of alkali solution, are employed, separation and detection is easy. And as the solution is non-organic solvent, only pH treatment of neutralization with acid is required for waste solution treatment.

### No need of PC : Analyzer automatically analyzes & calculates

The measurement is easy, just injecting the sample to the analyzer. As automatic data processing function is integrated in the analyzer, the analyzer automatically analyzes, calculates, then indicates and prints out the measurement results. It eliminates what was required before - manual operation of PC for data processing.

### Easy maintenance

All of maintenance work such as exchanging columns and connecting tubes can be done from the front side. "Maintenance mode" facilitates easy-to-understand maintenance and trouble shooting with visual support on the display.
Maintenance is easy. Special tools are not required in release of working electrode and reference electrode from the detector cell.

### Manpower saving system

Auto-sampler (option), if added to the analyzer, enables multi-sample automated measurement.

## Examples of Measur

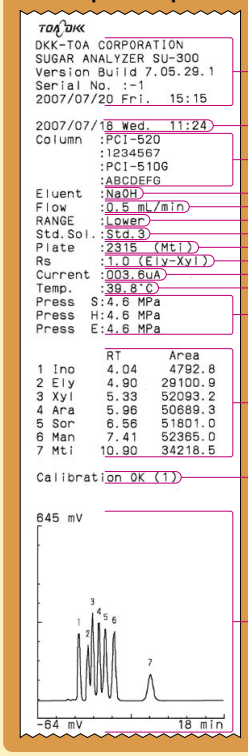
### Calibration data

The result of calibration is displayed and printed out after calibration

Example of the calibration results on the displayN:

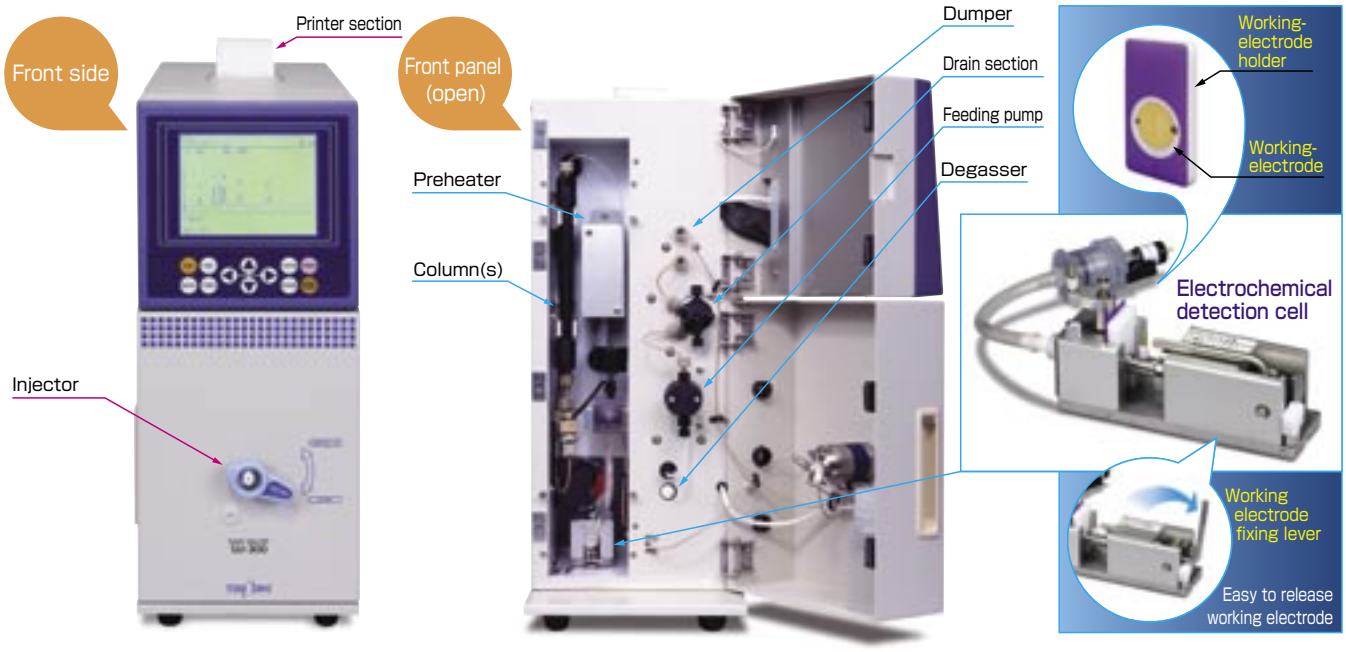


Example of printout



# Composition of analyzer

Ion chromatography function (feeding pump section, sample injection section, detector, data processing section, printer section and etc.) is put into one package for SU-300. Just one injection of sample to the analyzer gets the concentration of the object sugar.




# ement Data

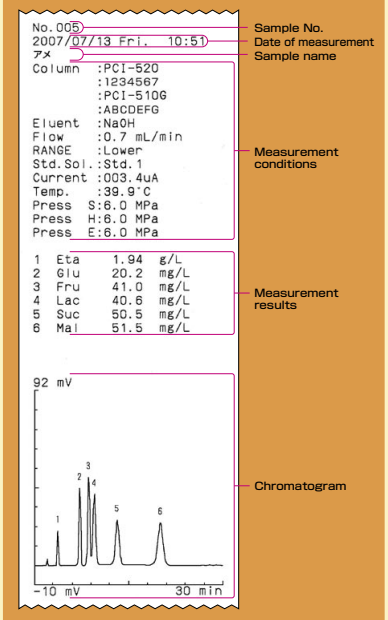
## Measurement data

Sugar calibration solution

Example of the measurement results on the display :

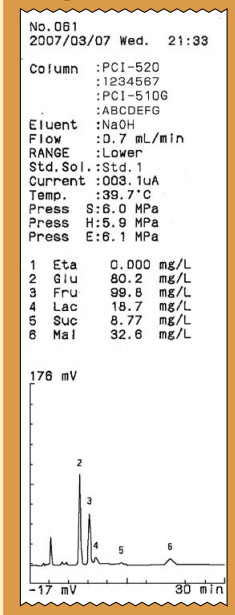


### Example of printout

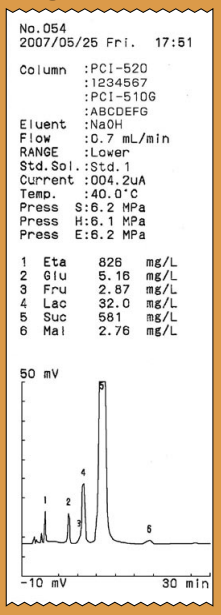



## Examples of actual sample

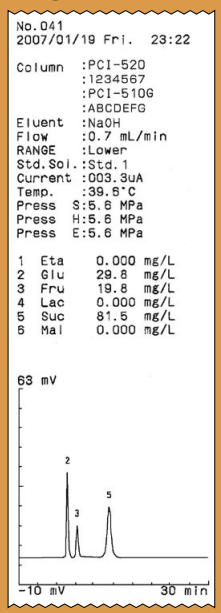
■Raw material for food : Sugar mode



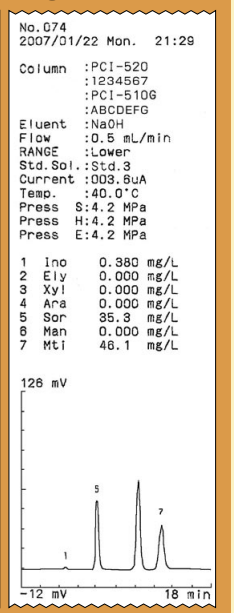

■Alcohol beverage : Sugar mode




■Soft drink : Sugar mode




■Nutritious drink : Sugar alcohol mode



## Specifications

| | | | | |
|---|---|---|---|---|
| Model | SU-300 | | | |
| Measuring method | Ion chromatography electrochemical detection method | | | |
| Measuring mode | 2 kinds (Sugar mode, sugar alcohol mode) | | | |
| Measuring item/range | Sugar mode | Measurement parameters | Low concentration range | High concentration range |
| | | Ethanol | 0.2 - 4 g/L | 4 - 30g/L |
| | | Glucose | 10.0 - 100mg/L | 100 - 300mg/L |
| | | Fructose, Lactose | 10.0 - 100mg/L | 100 - 750mg/L |
| | | Saccharose, Maltose | 20.0 - 100mg/L | 100 - 750mg/L |
| | Sugar Alcohol 'mode | Inositol, Erythritol | 10.0 - 100mg/L | |
| | | Xylitol, Arabitol Sorbitol, Mannitol Multitol | 10.0 - 200mg/L | |
| Repeatability | Within C.V. 3% at the concentration of calibration solution | | | |
| Sample injection | Manual sample injection and manual change-over valve | | | |
| Sample volume measurement | Loop cut method Loop capacity 10μL | | | |
| Measurement time | Sugar mode: 30 min./ batch, Sugar Alcohol mode: 18 min./ batch | | | |
| Calibration | One point calibration by specified concentration of calibration solution | | | |
| Column temperature bath | Room temperature | | | |
| Column | Anion exchange column PCI-520 | | | |
| Data processing | Integrated | | | |
| Detector section | Method : Pulsed amperometory method (gold electrode)<br>Cell Part : Room temperature, a preheater is arranged at previous step to cell (40℃) | | | |
| Indication | Graphic LCD | | | |
| Printer | Thermal printer is integrated | | | |
| Ambient temperature | 10 - 32℃ subject to no sudden temperature change | | | |
| Output | Analog : 0 - 1V<br>Digital : RS-232 | | | |
| Terminal to Auto-sampler | Provided as standard | | | |
| Power Source | AC line 50/60Hz | | | |
| Power Consumption | Max. 130VA | | | |
| Dimensions, Weight | Approx. 190 (W) x 469 (H) X 530 (D)mm, Approx. 17 Kgs | | | |

## Standard Accessories

- 1mL disposable syringe
- Injection needle
- Sample loop (10μL)
- Air removing syringe set
- Spanner (6x8,8x10: each 1)
- Hexagonal wrench (1.5mm, 2.5mm, 3mm : each 1)
- Cell spacer (5 pieces)
- Plunger seal replacement jig
- Tank introduction tube
- Printer paper (2 rolls)
- Saturated KCl solution (100mL)
- Reference electrode
- Gold electrode
- Electrode polishing kit
- Power cord
- 2P converter adapter
- Ground cable
- Instruction manual

## Essential Accessories (Separate order)

| Description | P/ No. |
|---|---|
| Sugar analysis column | PCI-520 |
| Guard column for sugar analysis column | PCI-510G |

## Other Accessories

| Description | P/ No. | Remarks |
|---|---|---|
| Replacement disc for PCI-510G | PCI-510GD | Replacement disc for PCI-510G (5 pieces of disc) |
| Printer chart paper (5 rolls) | PAP-HCS | Thermal chart paper |
| Connection cable to ICA-200AS Auto-Sampler | 118B412 | Connection cable for 1 unit of SU-300 |
| Connection cable to ICA-200AS Auto-Sampler | 118B413 | Connection cable for 2 units of SU-300 |



## Peripheral Equipment

### Auto-Sampler ICA-200AS

- Automated measurement for max. 80 samples
- Cooler function (factory option)

**DKK-TOA** CORPORATION

**⚠ CAUTION** Do not operate producuts before consulting instruction manual.

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Information and specifications are for a typical system and are subject to change without notice.

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