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LCMS News No. 169
January 29, 2018

Release of the Nexera Mikros, a Micro Flowrate Compatible LCMS System, and Shim-pack MC Series Columns for the Micro Flowrate Compatible LCMS Systems

This is to announce that the LC-Mikros solvent delivery pump and CTO-Mikros column oven for the Nexera Mikros, an LCMS system compatible with micro flowrates, and Micro-ESI 8060, an optional micro flowrate compatible ionization interface for LCMS-8045/8050/8060 and Shim-pack MC series columns for the micro flowrate compatible LCMS systems have been released.

The Nexera Mikros can be used to detect target components with higher sensitivity than with semi-micro flowrate compatible LCMS systems, which perform measurements within a flowrate range of 100 μL/min to 500 μL/min. In addition, it features shorter analysis times and is more durable than nano flowrate compatible LCMS systems, which perform measurements within a flowrate range of several 100 nL/min to 1 μL/min. Furthermore, the Nexera Mikros improves operability, and at the same time, enables high-sensitivity analysis with smaller system capacity. This is due to the UF-Link, which enables one-touch connection and disconnection between the LCMS ionization interface and the analytical columns. In pharmacokinetics analysis of low-concentration components, and analyzes of hormones and other trace components in blood, the Shim-pack MC analytical columns and the Shim-pack MCT trap columns for micro flowrate compatible LCMS systems suppress sample adsorption and peak tailing, enabling high-sensitivity detection.

The Nexera Mikros supports a variety of user needs such as reducing new drug development times and development costs, shortening analysis times, and providing ease of maintenance. At the same time, it improves the sensitivity and operability of analysis with LCMS.

Introduce this primarily to life science research institutions and to pharmaceutical-related companies, where it is sure to play a role in system sales promotion.

Nexera Mikros, a Micro Flowrate Compatible LC System

1. Release Date

January 29, 2018

Order acceptance start time: April 2018

2. Ordering Guide

2.1. Nexera Mikros System Main Unit

P/N	Description	Code	Remarks
228-65025-58	LC-Mikros Solvent Delivery Pump	L2	*1, *2, *3
228-65025-46	LC-Mikros Solvent Delivery Pump	L2	*1, *2, *4
228-65200-58	CTO-Mikros Column Oven	L2	*1, *2, *3
228-65200-46	CTO-Mikros Column Oven	L2	*1, *2, *4
225-34570-58	Micro-ESI 8060 Ionization Interface for Low Flowrates	O1	*1, *5, *6

*1 LC and LCMS installation expenses are required separately from this product.
*2 Not included an AC power cord. Therefore, please include two AC power cords in the quotation.
*3 Common specifications (exclude a few areas)
*4 For China
*5 CE-compliant version (-58)
*6 LabSolutions LCMS is not packaged with the product. If this is a new installation, order it separately as per 2.3 Software. If this is being installed as an addition to an existing system, simply update the LabSolutions LCMS version, as there is no need to order it separately.

● Components Provided with the LC-Mikros

P/N	Description	Qty	Remarks
046-00038-01	Disposable Syringe	1	
228-18216-91	Syringe Needle	1	
070-92025-51	Optical Cable	1	
046-05522-02	Clamp	1	
018-26020-02	Cable Wrap	1	
037-60177-05	Pipe Clip	1	
228-42205	Drain OUT, STD	1	
228-25162-03	Silicon Tube	1	7 mm I.D., 10 mm O.D., 1 m long
228-28163	Straight Joint	1	
228-42204	Drain Adapter	1	
228-42206	Drain OUT, CTO	1	
035-61561-12	L-Type Fitting	1	
228-35047-92	Signal Cable	1	
228-28253-91	Remote Cable	2	

● Components Provided with the CTO-Mikros

P/N	Description	Qty	Remarks
228-54194-41	L-Type Fitting (for Oven)	1	
228-64783-41	Oven Mounting Bracket	1	This is used when mounting the oven on the MS unit fixing base.
228-28253-91	Remote Cable	1	
228-72320-41	Oven Connection Cable	1	This cable is used to connect the oven to the controller.
016-31350-02	Drain Tube (for Oven)	1	6 mm I.D., 8 mm O.D., 1 m long
070-92025-51	Optical Cable	1	
020-37510	Screw, M4 × 5	2	For fastening the oven mounting bracket

● Components Provided with the Micro-ESI 8060

P/N	Description	Qty	Remarks
225-34669-41	Micro Connector ASSY	1	Column-MS connecting structure
225-34625-41	PEEK-Stainless Steel Capillary ASSY	1	ESI capillary (stainless steel tip)
225-35207-41	Adjustable Bracket ASSY	1	Oven fastener (bottom)
225-35209-41	Oven Base ASSY	1	Oven fastener (top)
225-35205-41	Accessory Kit	1 set	The following is included.
225-34685-41	Instruction Manual	1	Instruction Manual CD-ROM
225-34627-02	Camera Cable (NU3MBASU3S)	1	Camera USB cable
086-03001	Spanner, 5.5-7	1	Tools for installing the oven fasteners
086-03807	Spanner, hex 6	1	Tools for installing the oven fasteners
228-28253-91	Remote Cable	1	Column oven interlock cable
225-34607-41	Additional Cable	1	IF type recognition cable
225-34636-41	Adapter ASSY	3	Adapter for column-MS connecting structure
225-34695	ZDV UNION U-411	1	Union

2.2. Piping Kit for Micro Flowrate Compatible LCMS Systems

P/N	Description	Code	Remarks
228-71751-41	Micro Kit for SIL-30AC	L9	*1,*2,*3

*1 This can only be used with the SIL-30AC.

*2 This consists of the SIL-30AC IN/OUT piping (with an internal diameter of 0.05 mm) and the sample loop for micro flowrate compatible LC systems.

*3 This can accommodate both a direct injection system and a trap condensing system.

2.3. Software

To control the Micro-ESI 8060, either LabSolutions LCMS Ver. 5.93 or later, LabSolutions DB LCMS Ver. 6.83 or later, or LabSolutions CS Ver. 6.84 or later is required. (Order acceptance start date for these programs is scheduled to be March 2018.) If this is a new installation, the following license, installation DVD, and computer need to be ordered as well. For details on the computer configuration, refer to LCMS News No. 163 Update of LabSolutions LCMS/Insight Software for LCMS-TQ. If this is being installed as an addition to an existing system, simply update the LabSolutions version, as there is no need to order it separately.

• When Ordering LabSolutions LCMS

P/N	Description	Code	Remarks
225-32008-91	LabSolutions LCMS/Insight Install DVD for LCMS-TQ	O1	*1
225-32003-91	LabSolutions LCMS/Insight License for LCMS-TQ	O1	*1

Note 1. For notes for ordering, refer to LCMS News No. 163 Update of LabSolutions LCMS/Insight Software for LCMS-TQ.

• When Ordering LabSolutions DB LCMS

P/N	Description	Code	Remarks
225-32016-91	LabSolutions DB LCMS Install DVD	O1	*1
225-32017-91	LabSolutions DB LCMS License for LCMS-TQ	O1	*1

Note 1. For notes for ordering, refer to LCMS News No. 161 Update of LabSolutions DB LCMS Software for LCMS-TQ.

• When Ordering LabSolutions CS

When ordering LabSolutions CS, order necessary items referring to WS News No. 060 LabSolutions CS Upgrade (Ver. 6.82 SP1). The Micro-ESI can be controlled using the regular license to control LCMS.

2.4. Options

Options used with the LC-Mikros and CTO-Mikros are as follows.

P/N	Description	Code	Remarks
228-70420-41	Tool Kit, LC-Mikros	L9	*1, *3
228-70424-41	Maintenance Kit, LC-Mikros	L9	*1
228-70425-41	Cable, CBM20Alite-40	L9	*1, *4
228-45048-58	FCV-11AL Reservoir Switching Valve	L2	
228-45049-58	FCV-11ALS Reservoir Switching Valve	L2	
228-65054-41	Semi-Micro Column Holder	L9	*2

*1 This option is for the LC-Mikros.
*2 This option is for the CTO-Mikros.
*3 Tools are provided in the same package for the LC-Mikros and the CTO-Mikros. Include one tool kit mentioned above in the estimate for use in maintenance. Note that if multiple systems are being purchased, the tool kit can be shared between them.
*4 This is required for connecting the CBM-20Alite within the LC-Mikros. Include it in the estimate when combining the LC-Mikros and the CBM-20Alite.

2.5. Consumables and Maintenance Parts

The consumables and maintenance parts used in LC-Mikros, CTO-Mikros, and Micro-ESI 8060 are shown as follows.

P/N	Description	Code	Remarks
228-64673	Protective Dust Filter	L9	*1
228-70428-41	Plunger ASSY	L9	*1
228-70308-41	Cartridge ASSY	L9	*1
228-70374-41	CV 2nd ASSY	L9	*1
228-52711-93	Plunger Seal, Backup Ring UHP	L9	*1
228-45707-91	Stainless Steel Filter Element ASSY	L9	*1
228-70394-42	Line Filter	L9	*1
228-64445-41	Pump Head 1st DLC	L9	*1
228-64445-42	Pump Head 2nd DLC	L9	*1
228-70323-41	Rinse Seal	L9	*1
228-55674-05	Protective Dust Filter for the Light Panel	L9	*2
225-34625-41	PEEK-Stainless Steel Capillary ASSY	O9	*3

*1 These are consumables and maintenance parts for the LC-Mikros.
*2 These are consumables and maintenance parts for the CTO-Mikros.
*3 These are consumables for the Micro-ESI 8060.

2.6. Other Notes for the Product

(1) Installing on an Existing System

The Micro-ESI 8060 is an optional ionization interface for the LCMS-8045/8050/8060 systems. It can be installed on existing LCMS-8045/8050/8060 systems.

(2) Control Computer

The computer used to control the Micro-ESI 8060 needs to have at least one USB3.0 port to connect an ionization observation camera. When ordering a computer or installing an additional computer on an existing system, confirm that the computer has a USB3.0 port.

(3) Operation with other vendor’s products

Operation with other vendor’s LC or LCMS is not supported.

2.7. Analytical Columns and Trap Columns

Due to its inert column body, the Shim-pack MC C18 can be used to obtain favorable peak shapes for a wide range of biological components including peptides, steroid hormones, and low-molecular pharmaceuticals. Our lineup features columns with different internal diameters and lengths. In addition, trap columns are available that use two packing types, C18 and C8, for high-sensitivity analysis application via trap condensation. Select a column to suit the retention characteristics of the target compounds.

P/N	Description	Code	Remarks
228-59937-91	Shim-pack MC C18, 1.9u, 0.3 × 50	L9	
228-59937-93	Shim-pack MC C18, 1.9u, 0.175 × 50	L9	
228-59937-95	Shim-pack MC C18, 1.9u, 0.15 × 50	L9	
228-59938-91	Shim-pack MCT C18, 3u, 0.3 × 35	L9	
228-59938-92	Shim-pack MCT C18, 3u, 0.5 × 35	L9	
228-59939-91	Shim-pack MCT C8, 3u, 0.3 × 35	L9	
228-59939-92	Shim-pack MCT C8, 3u, 0.5 × 35	L9	

3. Features

1) High Sensitivity

This product provides several to several ten times higher sensitivity compared to semi-micro systems by optimizing the ESI probe position relative to the sample injection part (desolvation line, DL) for low flowrates and utilizing the improved efficiency to ionize and take in ions achieved by low flowrate to the maximum.

The CTO-Mikros was designed so it can be installed on the MS main unit and the column and ESI capillary are directly connected to minimize the dead volume and the sensitivity loss caused by dispersion of the sample.

2) High Durability and Stability

Optimized probe angle to the DL improves the efficiency to take in ions and removes excessive solvents. This minimizes the influence of contamination and enables stable analyses.

3) Ultimate Operability

The product is based on the existing ionization unit that has been well-received by users for ease of replacement, attachment/detachment, and maintenance.

We also have developed the UF-Link that enables single-touch connection of the column and ESI capillary with no dead volume. In micro flowrates, sample dispersion is significant in dead volume such as piping joint as compared to regular semi-micro flowrates. For this reason, connection with no dead volume is necessary to stably provide high sensitivity. Using the UF-Link, users can connect the column and ESI capillary simply by tilting the lever with no dead volume. The UF-Link can be used on a wide range of columns made by Shimadzu and other companies.

Spray status and position can also be easily checked from the computer via a high-resolution camera and can be optimized by a simple procedure when necessary.

4) Wide Flowrate Setting Range

Pulsating flow values are significantly reduced, due to precision pressure feedback control, a built-in dynamic inlet valve, and automatic switching control of the solvent delivery line. As a result, solvent can be delivered across a wide range of flowrates, from 1 μL/min to 500 μL/min.

5) High Throughput Analysis in the Micro Flowrate Region

The system has a function to quickly recover from pressure drops during sample injection, so analysis throughput in the micro flowrate region is improved.

6) Pursuing Analysis Stability

The compressibility of the solvent is measured automatically via automatic compressibility measurements, and a correction function is provided to optimize the flowrate during pressure fluctuations. In addition, the LC-Mikros plunger operation is synchronized at the start of the analysis, so analysis always starts at the same plunger position, which improves analysis stability.

4. System Installation Guidelines and Specifications

4.1 System Main Unit (LC-Mikros, CTO-Mikros, Micro-ESI 8060)

Specifications	LC-Mikros: Recommended flowrate setting range: 1 to 500 μL/min (1.0 to 80 MPa) Mixing accuracy: 0.05 min SD (specified conditions) CTO-Mikros: Temperature control range: (Room temperature +10 °C) to (85 °C) Temperature control accuracy: ±0.05 °C (when room temperature is 25 °C) Micro-ESI 8060: Flowrate range: 1 to 50 μL/min Positive/negative switching time: 100 msec Max. interface temperature: 250 °C
Size	LC-Mikros: W260 mm × D500 mm × H210 mm (Note that the depth is the installation space on the desk.) CTO-Mikros: (Oven) W300 mm × D115 mm × H90 mm (Controller) W260 mm × D455 mm × H60 mm (Note that the depth is the installation space on the desk.) Micro-ESI 8060: W200 mm × D300 mm × H300 mm
Weight	The weight of this product is noted below. When installing this product, consider the total weight including other units, the computer, the monitor, and the printer. • LC-Mikros: 25 kg • CTO-Mikros: 3 kg (oven), 5 kg (controller) • Micro-ESI: 5 kg
Peripheral Environment	• A room with a temperature between 18 °C and 28 °C and minimal daily temperature fluctuations • A site at which the system is not directly exposed to the draft from an air conditioner • A site not exposed to direct sunlight • Site with no vibrations • Site where the relative humidity is maintained between 20 % and 70 % • Site with no condensation

<table>
<tr><td></td><td>• Site satisfying the installation environment conditions (IEC) (installation category II, pollution degree 2, altitude of 2000 m or less, indoors)</td></tr>
<tr><td>Required Power Supply</td><td>• LC-Mikros: 100 V AC (50/60 Hz), 150 VA
• CTO-Mikros: 100 V AC (50/60 Hz), 150 VA
• Micro-ESI 8060 (LCMS-8060): 200 V AC (50/60 Hz), 2 kVA, 100 Ω max. ground resistance
Install it at a site where the power supply is easy to control.
Confirm that there is no electrical potential difference between the mass spectrometer and peripheral equipment.
To ensure the specified performance, limit voltage fluctuations to ±5 % max.</td></tr>
<tr><td>Gas</td><td>Nitrogen gas: Max. consumption: 23 L/min, purity: 97 % min., 690 to 800 kPa
As nebulizer gas, 3 L/min max.
As drying gas, 20 L/min max.
Dry air: Max. consumption: 20 L/min, oil/water free, 690 to 800 kPa
As heating gas, 20 L/min max. (*)
Argon gas: Max. consumption: 10 mL/min, purity: 99.99 % min., 600 kPa min.

(*) For the ESI and DUIS, under the default settings, the total amount of drying gas and heating gas is limited to 20 L/min max. The following nitrogen gas/dry air generator can be used.
<table>
<tr><td></td><td>Nitrogen</td><td>Dry air</td></tr>
<tr><td>(1)</td><td colspan="2">Model T24FD, manufactured by SIC</td></tr>
<tr><td>(2)</td><td colspan="2">AT-10NP-5NCS-B, manufactured by AIRTEC</td></tr>
<tr><td>(3)</td><td colspan="2">GENIUS 1061, manufactured by PEAK</td></tr>
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*1 Ensure that the desk or stand on which this product is installed is capable of withstanding the total weight of the equipment. Make sure that it is flat, stable, and has a depth of at least 600 mm.
*2 Keep the back of the system at least 300 mm from the wall for maintenance work.
*3 Ensure that the indoor space is well ventilated. The solvents used by the high-performance liquid chromatograph are flammable and toxic. A lack of ventilation may lead to poisoning or a fire.
*4 Install this product near a wash stand or other water supply facilities. If solvent gets in the eyes, or someone touches a toxic solvent, flush it away immediately with water.
*5 Never use open flames near this product. Do NOT install other units that generate sparks within the same room. The high-performance liquid chromatograph uses large amounts of organic solvents, and a spark could cause a fire. To be safe, install a fire extinguisher.
*6 In order to maintain system operating life and performance, do NOT install it at a site exposed to corrosive gases, organic solvents, halogenated substances, gases containing polysiloxanes, oil mist, or large amounts of dirt or dust.
*7 Do NOT install it near equipment that generates strong magnetic fields. In addition, if there is a lot of noise on the power line, take measures for noise blocking (such as adding a noise filter).
*8 When moving the system, do NOT grip it by the opening/closing part on the front. If the system is inadvertently lifted up while gripping the opening/closing part on the front, there is a risk that it could be damaged, or come loose.

4.2 Software

Program	Operating System (OS) on Which Operation Has Been Checked
LabSolutions LCMS Ver. 5.93 (English version)	Windows 10 Pro, English, 64-bit Windows 7 Professional, English, 32-bit/64-bit

LabSolutions DB LCMS Ver. 6.83 (English version)	Windows 10 Pro, English, 64-bit Windows 7 Professional, English, 32-bit/64-bit
LabSolutions CS Ver. 6.84 (English version)	Windows 10 Pro, English, 64-bit Windows 7 Professional, English, 32-bit/64-bit

4.3 Analytical Columns

Base Material	Porous silica gel
Functional Group	Octadecyl group
Particle Size	1.9 μm
Pore Size	20 nm
Carbon Content	9.0 %
Withstanding Pressure	70 MPa
pH Used	pH 1 to 7.5
Upper Temperature Limit	60 °C

4.4 Trap Columns

Base Material	Porous silica gel
Functional Group	Octadecyl group (C18), octyl group (C8)
Particle Size	3 μm
Pore Size	20 nm
Carbon Content	9 % (C18), 6 % (C8)
Withstanding Pressure	70 MPa
pH Used	pH 1 to 7.5
Upper Temperature Limit	60 °C

5. Equipment and Material Required to Install Micro-ESI 8060

For the equipment and materials required to install the LCMS-8045/8050/8060 system, refer to the respective LCMS News. This section describes the items required when adding the Micro-ESI 8060 on an existing LCMS system.

5.1 Standard Sample for Installation

Note: The expiration date of each sample is printed on the label on the packaging box.

(1) Sample for Checking Sensitivity

The sample for checking the sensitivity during installation of the Micro-ESI 8060 is the same as the sample for standard ESI.

Since the samples contain a deleterious substance for non-medicinal purposes (acetonitrile), be sure to follow the guidance and regulations of each local authority when handling them.

The sample for checking sensitivity is common for all of the LCMS-8045/8050/8060 systems.

P/N	Description	Code	Remarks
225-06613-14	ESI/APCI Installation Sample	O9	

Dilute the sample above to use it to check the sensitivity. Be sure to have it ready when adding the Micro-ESI 8060 to an existing LCMS system. When installing a new LCMS system that includes the Micro-ESI 8060, the sample ordered for standard installation of the LCMS-8045/8050/8060 can be used to check the sensitivity during installation of the Micro-ESI 8060.

(2) Sample for Autotuning

P/N	Description	Code	Remarks
225-14122-01	TQ Standard Sample 0.2 L	O9	

(Components)

Sample for autotuning, 200 mL
Polyethylene glycol (PEG)
Polypropylene glycol (PPG)
Raffinose

Be sure to order a computer if this is installed as an addition to an existing system. If this is being newly installed in an LCMS system including the Micro-ESI 8060, there is no need to prepare another computer for this installation. The autotuning sample is the same as for the LCMS-8045/8050/8060.

6. Estimate Examples

Typical configuration examples are shown below.

6.1 Direct Injection System

P/N	Description	Qty
225-27800-41	LCMS-8060 200V	1
225-34570-58	Micro-ESI 8060	1
225-32071-92	D586/M Computer for LCMS (mode with Office)	1
225-32003-91	LabSolutions LCMS/Insight License for LCMS-TQ[*1, *2]	1
225-32008-91	LabSolutions LCMS/Insight Install DVD for LCMS-TQ	1
088-52093-04	EPSON LP-S280DN Monochrome Laser Printer	1
088-52088-31	Printer USB Cable, USBCB2	1
228-45012-41	CBM-20A System Controller[*2]	1
228-65025-41	LC-Mikros Solvent Delivery Pump[*2]	1
228-45018-41	DGU-20A3R Degassing Unit	1
228-65200-41	CTO-Mikros Column Oven[*2]	1
228-45157-41	SIL-30AC Autosampler	1
228-45041-91	Reservoir Tray	1
225-13915-46	Startup Kit, LCMS-8060	1
SOT-AK0568	Model T24FD Nitrogen Gas Generator	1
225-06613-14	ESI/APCI Installation Sample	1
225-14122-01	TQ Standard Sample 0.2 L	1
221-35999-01	PPR-N2 Pressure Regulator for High-Purity Gas, for N2, Ar	1
201-48067-05	Carrier Gas Pipe, 5 m	1
225-27850-05	RP Caster Set	1
228-71751-41	Micro Kit for SIL-30AC	1
228-70420-41	Tool Kit, LC-Mikros	1
228-59937-93	Shim-pack MC C18 Micro Column, 0.175 × 50	1
Installation and Adjustment Expenses *3		

*1 Either LabSolutions LCMS Ver. 5.93 or later, LabSolutions DB LCMS Ver. 6.83 or later, or LabSolutions CS Ver. 6.84 or later is required. (Order acceptance start date for these programs is scheduled to be March 2018.)

*2 For the LC-Mikros, use the system configuration settings (connection in compatibility mode) for the LC-20AB. For the CTO-Mikros, use system the configuration settings (connection in compatibility mode) for the CTO-20A.

*3 If data measurement using the customer's samples or other work is requested for the installation and adjustments, be sure to append the details of the request before proposing estimate to the customer, ensuring that the estimate includes the additional procedural expenses.

6.2 Trap & Elute System

P/N	Description	Qty
225-27800-41	LCMS-8060 200V	1
225-34570-58	Micro-ESI 8060	1
225-32071-92	D586/M Computer for LCMS (mode with Office)	1
225-32003-91	LabSolutions LCMS/Insight License for LCMS-TQ[*1, *2]	1
225-32008-91	LabSolutions LCMS/Insight Install DVD for LCMS-TQ	1
088-52093-04	EPSON LP-S280DN Monochrome Laser Printer	1
088-52088-31	Printer USB Cable, USBCB2	1
228-45012-41	CBM-20A System Controller[*2]	1
228-65025-41	LC-Mikros Solvent Delivery Pump[*2]	1
228-45162-41	LC-30AD Solvent Delivery Pump	2
228-45018-41	DGU-20A3R Degassing Unit	1
228-65200-41	CTO-Mikros Column Oven[*2]	1
228-45157-41	SIL-30AC Autosampler	1
228-45041-91	Reservoir Tray	1
228-45166-41	FCV-32AH High-Pressure Flow Path Switching Valve	1
228-34708-91	Option Box vp	1
225-13915-46	Startup Kit, LCMS-8060	1
SSOT-AK0568	Model T24FD Nitrogen Gas Generator	1
225-06613-14	ESI/APCI Installation Sample	1
225-14122-01	TQ Standard Sample 0.2 L	1
221-35999-01	PPR-N2 Pressure Regulator for High-Purity Gas, for N2, Ar	1
201-48067-05	Carrier Gas Pipe, 5 m	1
225-27850-05	RP Caster Set	1
228-71751-41	SIL-30AC Modification Kit for Micro Flowrates	1
228-70420-41	Tool Kit, LC-Mikros	1
228-59937-93	Shim-pack MC C18 Micro Column, 0.175 × 50	1
228-59938-91	Shim-pack MCT C18 Micro Trap Column, 0.3 × 35	1
Installation and Adjustment Expenses *3		

*1 Either LabSolutions LCMS Ver. 5.93 or later, LabSolutions DB LCMS Ver. 6.83 or later, or LabSolutions CS Ver. 6.84 or later is required. (Order acceptance start date for these programs is scheduled to be March 2018.)

*2 For the LC-Mikros, use the system configuration settings (connection in compatibility mode) for the LC-20AB. For the CTO-Mikros, use system the configuration settings (connection in compatibility mode) for the CTO-20A.

*3 If data measurement using the customer's samples or other work is requested for the installation and adjustments, be sure to append the details of the request before proposing estimate to the customer, ensuring that the estimate includes the additional procedural expenses.

7. Sales Materials

Nexera Mikros catalog (C146-E350) Shim-pack MC series flyer (C190-E218)

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