

Ultra High Performance Liquid Chromatograph

# Nexera XR Specifications



# Specifications

## System Controllers CBM-20A / 20Alite



	CBM-20A (228-45012-XX)	CBM-20Alite (228-45011-XX)
Connectable units	Solvent delivery units: 4 max, Autosampler: 1, Column oven: 1, Detectors: 2 max, Fraction collector: 1 Sub-controllers: 2 max	Solvent delivery units: 4 max, Autosampler: 1 (excluding SIL-10AF/10AP/10Ai), Column oven: 1, Detectors: 2 max
Number of connectable units	8 (expansion possible up to 12)	5 (including the unit incorporating the system controller)
Data buffering	Approx. 24 hours for an analysis (at 500 ms sampling rate; available only with LabSolutions/LCsolution)	
Event I/O	4 inputs, 4 outputs	2 inputs, 2 outputs
Analog board	Up to 2 boards can be mounted.	Mounting not supported.
Operating temperature range	4 to 35°C	
Dimensions, weight	W260 × D420 × H140 mm, 6.0 kg	W120 × D100 × H20 mm, 0.5 kg
Power requirements	AC 110 V, 230 V, 100 VA, 50/60 Hz	Supplied from the unit

## Solvent Delivery Unit LC-20ADxR



	LC-20ADxR (228-45137-XX)
Solvent delivery method	Parallel-type double plunger
Plunger capacity	10 µL
Flow rate setting range	0.0001 to 3 mL/min (1.0 to 66 MPa) 3.0001 to 5 mL/min (1.0 to 44 MPa)
Flow rate accuracy	No more than 1% or ± 2 µL/min, whichever is greater (0.01 to 3 mL/min: 1.0 to 40 MPa) No more than ±2% or ± 2 µL/min, whichever is greater (0.01 to 3 mL/min: 40 to 60 MPa)
Flow rate precision	No more than 0.06% RSD or 0.02 min SD, whichever is greater
Gradient type	High-pressure / low-pressure mixing gradient
Gradient-concentration precision	± 0.5% (specified conditions)
Constant-pressure solvent delivery	Supported
Plunger rinsing mechanism	Equipped with an automatic rinsing kit
Safety measures	Liquid-leakage sensor, high-pressure/low-pressure limits
Operating temperature range	4 to 35°C
Dimensions, weight	W260 × D420 × H140 mm, 10 kg
Power requirements	AC 110 V, 230 V, 150 VA, 50/60 Hz

## Degassing Units DGU-20A5R / 20A3R



	DGU-20A3R (228-45018-XX)	DGU-20A5R (228-45019-XX)
Number of degassed solvents	3	5
Degassed flow-line capacity	400 µL/1 flow-line	
Operating temperature range	4 to 35°C	
Dimensions, weight	W260 × D420 × H70 mm, 3.9 kg	W260 × D420 × H70 mm, 4.0 kg
Power requirements	Supplied from LC-20ADxR	

## Autosamplers SIL-20AxR / 20ACxR



	SIL-20AxR (228-45135-XX)	SIL-20ACxR (228-45136-XX)
Injection method	Total-volume sample injection, variable injection volume	
Maximum operating pressure	66 MPa	
Injection-volume setting range	0.1 to 50 µL (standard), 0.1 to 100 µL (option)	
Number of processed samples	175 (1 mL vials), 105 (1.5 mL vials), 50 (4 mL vials), 192 (two 96-well MTP/DWP), 768 (two 384-well MTP/DWP) Also, ten 1.5 mL vials in addition to each of the above.	
Injection-volume accuracy	1% max. (specified conditions)	
Injection-volume precision	RSD: 0.3% max.	
Cross-contamination	0.005% max. (specified conditions)	
Number of repeated injections	30 max. per sample	
Needle rinsing	Set freely before and after sample injection.	
Sample cooler	Block cooling/heating, used together with defumidifying function, 4 to 40°C	
Operating temperature range	4 to 35°C	
Dimensions, weight	W260 × D500 × H415 mm, 27 kg	W260 × D500 × H415 mm, 30 kg
Power requirements	AC 110 V, 230 V, 100 VA, 50/60 Hz	AC 110 V, 230 V, 300 VA, 50/60 Hz

## Rack Changer II



Rack Changer II (228-45164-XX)	
Compatible plates	96-well MTP, 96-well DWP, 384-well MTP, 384-well DWP, 1.5 mL vial plate (54 vials)
Number of processed plates	12
Sample cooler	Block cooling/heating, used together with dehumidifying function, 4 to 40°C
Operating temperature range	4 to 35°C
Dimensions, weight	W425 × D500 × H415 mm, 32 kg
Power requirements	AC 110 V, 230 V, 350 VA, 50/60 Hz

## Column Ovens CTO-20A / 20AC



	CTO-20A (228-45009-XX)	CTO-20AC (228-45010-XX)
Temperature-control method	Forced-air circulation	
Cooling method	None	Electronic cooling
Temperature-setting range	4 to 85°C	
Temperature-control precision	0.1°C max.	
Temperature-control range	10°C above room temperature to 85°C	10°C below room temperature to 85°C
Storage capacity	W220 × D95 × H365 mm	
Time program	Linear temperature programs supported.	
Safety measures	Solvent sensor, temperature fuse, temperature upper limit	
Operating temperature range	4 to 35°C	
Dimensions, weight	W260 × D420 × H415 mm, 20 kg	W260 × D420 × H415 mm, 23 kg
Power requirements	AC 110 V, 230 V, 600 VA, 50/60 Hz	

## High-Pressure Flow-Line Selection Valve FCV-32AH



FCV-32AH (228-45166-91)	
Valve flow line type	2-position, 6-port high rotary valve
Maximum pressure	130 MPa max.
Flow line diameter	Approximately 0.2 mm
Liquid-contacting part materials	PEEK SUS316L
Operating temperature range	Room temperature 4 to 35°C
Dimensions, weight	W110 × D250 × H110 mm, 4.0 kg

## Absorbance Detector SPD-20A



SPD-20A (228-45130-XX)	
Light source	Deuterium (D <sub>2</sub> ) lamp
Wavelength range	190 to 700 nm
Bandwidth, slit width	8 nm
Wavelength accuracy	± 1 nm max.
Wavelength precision	± 0.1 nm max.
Noise	1.2 × 10 <sup>-5</sup> AU max. (Standard semi-micro cell, specified conditions) 0.5 × 10 <sup>-5</sup> AU max. (Conventional cell, specified conditions)
Drift	2 × 10 <sup>-4</sup> AU/h max. (Standard semi-micro cell, specified conditions) 1 × 10 <sup>-4</sup> AU/h max. (Conventional cell, specified conditions)
Linearity	2.5 AU (ASTM standard)
Functions	Dual-wavelength detection in the range 190 to 370 nm and upwards of 371 nm, ratio-chromatogram output, wavelength scanning
Cell	Standard semi-micro cell: Optical path length: 5 mm, Capacity: 2.5 µL, Pressure: 12 MPa Optional conventional cell: Optical path length: 10 mm, Capacity: 12 µL, Pressure: 12 MPa Optional cell for high-sensitivity / high-speed analysis: Optical path length: 10 mm, Capacity: 8 µL, Pressure: 12 MPa
Cell temperature-control range	5°C above room temperature to 50°C
Operating temperature range	4 to 35°C
Dimensions, weight	W260 × D420 × H140 mm, 13 kg
Power requirements	AC 110 V, 230 V, 160 VA, 50/60 Hz

## Photodiode Array Detector SPD-M30A



	SPD-M30A (228-45196-XX)
Light source	Deuterium (D <sub>2</sub> ) lamp
Number of diode elements	1024
Wavelength range	190 to 700 nm
Slit width	1 nm, 8 nm
Wavelength accuracy	± 1 nm max.
Noise	0.4 × 10 <sup>-5</sup> AU (specified conditions)
Drift	0.5 × 10 <sup>-3</sup> AU/h max. (specified conditions)
Linearity	2.0 AU (ASTM standard)
Cell	Standard cell: Optical path length: 10 mm, Capacity: 1 µL, Pressure: 8 MPa Optional high-sensitivity cell: Optical path length: 85 mm, Capacity: 9 µL, Pressure: 8 MPa
Functions	Contour output, spectrum library, MAX plotting
Safety measures	Liquid-leakage sensor
Operating temperature range	4 to 35°C
Dimensions, weight	W260 × D500 × H140 mm, 12 kg
Power requirements	AC 110 V, 230 V, 150 VA, 50/60 Hz

## Photodiode Array Detector SPD-M20A



	SPD-M20A (228-45005-XX)
Light source	Deuterium (D <sub>2</sub> ) lamp, tungsten (W) lamp
Number of diode elements	512
Wavelength range	190 to 800 nm
Slit width	1.2 nm, 8 nm
Wavelength accuracy	± 1 nm max.
Noise	0.6 × 10 <sup>-5</sup> AU (specified conditions)
Drift	5 × 10 <sup>-4</sup> AU/h max. (specified conditions)
Linearity	2.0 AU (ASTM standard)
Cell temperature setting range	9 to 50°C in 1°C step
Cell temperature range	5°C above room temperature to 50°C
Cell	Standard conventional cell: Optical path length: 10 mm, Capacity: 10 µL, Withstand pressure: 12 MPa Optional semi-micro cell: Optical path length: 5 mm, Capacity: 2.5 µL, Withstand pressure: 12 MPa Optional cell for high-sensitivity/high-speed analysis: Optical path length: 10 mm, Capacity: 8 µL, Withstand pressure: 12 MPa
Functions	Contour output, spectrum library, MAX plotting
Safety measures	Liquid-leakage sensor
Operating temperature range	4 to 35°C
Dimensions, weight	W260 × D420 × H140 mm, 12 kg
Power requirements	AC 110 V, 230 V, 150 VA, 50/60 Hz

## Fluorescence Detectors RF-20A / 20Axs



	RF-20A (228-45147-XX)	RF-20Axs (228-45148-XX)
Light source	Xenon lamp	Xenon lamp, low-pressure mercury lamp (to check wavelength accuracy)
Wavelength range	200 to 650 nm	200 to 750 nm
Spectral bandwidth	20 nm	
Wavelength accuracy	± 2 nm	
Wavelength reproducibility	± 0.2 nm	
S/N	Water Raman peak S/N >1200	Water Raman peak S/N >2000
Cell temperature setting range	—	4 to 40°C in 1°C step
Cell temperature control range	—	10°C below room temperature to 40°C
Cell	Standard conventional cell: Capacity: 12 µL, Pressure: 2 MPa Optional semi-micro cell: Capacity: 3 µL, Pressure: 2 MPa	
Functions	Four-wavelength detection, wavelength scanning	
Safety measures	Liquid-leakage sensor	
Operating temperature range	4 to 35°C	
Dimensions, weight	W260 × D420 × H210 mm, 16 kg	W260 × D420 × H210 mm, 18 kg
Power requirements	AC 110 V, 230 V, 400 VA, 50/60 Hz	



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