

# Ion chromatograph system

## LICS-A22



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Ion chromatograph system LICS-A22 with cation and anion dual channel design, independently operates and simultaneously detects both channels without disturbing each other. Temperature controlled bipolar conductivity detector, improves the detection performance and stability of the instrument. System is comprised of an auto sampler, anion and cation suppressor.

### Features

- 35 MPa maximum pressure ion chromatographic Pump (PEEK material)
- Auto sampler with (2 ml × 120 samples- Injection unit)
- Temperature-controlled bipolar conductivity detector
- Built-in low pressure degassing technology
- Advanced thermal buffer system for eluent
- Intelligent (PEEK) flow path system with automatic cleaning mode
- One key operation to complete flow path switch
- Highly stable and efficient performance

### Applications

Used to detect small molecules (in the form of anion, cation) in water testing & processing plants, food, chemical and dye industry, mining, metallurgy, and other fields.

## Specifications

Model no.	LICS-A22	
Ion Chromatographic pump	Type	High pressure and low pulse double plunger tandem advection pump
	Maximum pressure	35 MPa (PEEK)
	Display pressure accuracy	$\leq 0.1$ MPa
	Flow stability	(0.2 to 0.5) ml/ min $\leq 3\%$ , (0.5 to 1.0) ml/ min $\leq 2\%$ , > 1.0 ml/ min $\leq 2\%$
	Flow range	0.001 to 9.999 ml/ min
	Pressure pulse	$\leq 0.5\%$
Numerical control and electromagnetic injection	Maximum pressure	35 MPa
	Contact material of the rotor	PEEK
	Control mode	By Stepper motor
	Power supply	DC 24 V
Column heater	Operating temperature range	Room temperature 20 to 60°C ( 68 to 140°F)
	Controlling temperature accuracy	$\pm 0.01^\circ\text{C}$
	Allowable deviation of column heater temperature	$\pm 2^\circ\text{C}$
	Temperature stability	$\leq 1^\circ\text{C/ h}$
Flow system	Plastic flow path	Made up of PEEK material
	Six way valve	PEEK material pressure 5000 psi, independent automatic collection and flow function
Thermal buffer system for Eluent	Temperature range	25 to 40°C ( 77 to 104°F)

Degassing device	Type	Built-in low pressure
	Vacuum degree	-70 kPa
	Maximum flow rate	10 ml/ min
	Internal volume	30 $\mu$ l
	Degassing efficiency	10 ml/ min 90 %
Digital temperature and control detection system	Type	Temperature-control and Bipolar conductivity detector
	Detection mode	Bipolar conductivity detection
	Cell volume	$\leq 0.8 \mu$ l
	Detection range	0 to 50000 $\mu$ S/ cm
	Output voltage	-6000 to +6000 mV (adjustable)
	Operating temperature	Room temperature 5 to 60°C ( 41 to 140°F)
	Controlling temperature accuracy	$\pm 0.01^\circ\text{C}$
	Maximum pressure	10 MPa
	Linear range	$\geq 10^3$
	Instrument linearity	$\geq 0.999$
	Quantitative repeatability	$\leq 1.0 \%$
	Qualitative repeatability	$\leq 1.0 \%$
	Eluent generator	Eluent type
Eluent concentration range		0.1 to 100 mM
Concentration increment		0.1 mM
Flow rate change		0.1 to 3.0 ml/ min
Maximum pressure		20 MPa
Minimum pressure		5 MPa
Power	150 W	
Power supply	DC 220 V, 60 Hz	
External dimension	500 $\times$ 500 $\times$ 760 mm	
Net weight	48 kg	
Gross weight	73 kg	
HS code	9027201200	

## Auto sampler

Display	7 inch touch control, color LCD display
Injection mode	X-Y-Z three axis operational mode
Sampling mode	Full quantitative loop sampling
Number of injection units	2 ml × 120 units
Repeat injection	1 to 5 times (optional)
Injection volume	25 to 500 $\mu$ l
Sample syringe capacity	5 ml maximum
Pipe material	Plastic
Circulation time	$\leq$ 6 minutes
Injection accuracy	$\leq$ 0.5 %
Residual sample	$\leq$ 0.05 %
Control system	ARM STM32 series of 32 bit embedded
Embedded	LQFP100
Communication mode	RS232
Dimension (L*W*H)	400 × 540 × 260 mm

## Standard Accessories

Accessories no.	Name	Qty.
1	Ion chromatographic host	1
2	High pressure advection pump	2
3	Conductivity detector	2
4	Anion column	1
5	Anion guard column	2
6	Cation column	1
7	Suppressor	2
8	Chromatography work station	1
9	Column thermostat system	2
10	Spare parts kits	1
11	Vacuum degassing pump	1
12	Sand core filtration devices	1
13	Pretreatment column	20
14	0.22 µm syringe filter	200