

Liquid  
chromatographs  
series

LC-20  
Prominence



## LC-20 Prominence Series - Design Your Own Chromatograph That's Optimal for Your Needs

- Chromatographic systems configured from LC-20 Prominence series units allow operation in various modes, from traditional analytical chromatography, ultra-fast high-performance liquid chromatography (UFLC) to highly sensitive nano-HPLC/MS analysis. We also offer ready-made solutions, for example, the Co-Sense sample preparation system for the analysis of biological fluids.
- Distinctive features of the series LC-20 Prominence are high sensitivity, productivity and reliability; the chromatographs were developed for long-term operation in autonomous mode (without operator intervention). Hence the high degree of automation, durability of consumable components, the ability to control the system from a remote computer (via the Internet).
- Pumps of the series LC-20 Prominence allows to create stable mobile phase flows with high accuracy, starting from 0.0001 ml/min. The use of new materials allowed to increase their service life several times. Today they are the most reliable in the world.
- Spectrophotometric detectors series LC-20 Prominence: SPD-20A spectrophotometric and diode

The SPD-M20A matrix provides the world's lowest noise level and highest sensitivity, thanks to thermostatted measuring cells and new signal processing technology.

- Special materials used in manufacturing The SIL-20A autosampler virtually eliminates the memory effect even when analyzing samples that are actively sorbed by the surface of common materials. The design of the autosampler ensures that the sample is mixed with a maximum of 3 reagents, which allows for the automatic introduction of an internal standard, as well as pre-column reactions. If necessary, the SIL-20A autosampler and the Rack Changer device for replacing plates in the autosampler can be equipped with a sample cooling option.
- The CTO-20A column thermostat ensures high reproducibility of maintaining the temperature regime. It is possible to conduct analysis when programming the column temperature. Equipping the thermostat with a cooling option allows for analysis at temperatures below room temperature. A dosing tap and taps for switching columns can be installed in the thermostat.

## Technical specifications

|   |  |                 |  |  |  |  |
|---|--|-----------------|--|--|--|--|
| Feeding system solvents                     | <b>LC-20AD</b>   |                 | <b>LC-20AT</b>   |  | <b>LC-20AB</b>                             |  |
| Pump type                                   | Parallel double plunger  |                 | Consistent double plunger  |  | Double parallel plunger                    |  |
| Eluent flow rate range                      | 0.0001–10 ml/min   |                 | 0.001–10 ml/min  |  | 0.0001–10 ml/min                           |  |
| Gradient system                             | LC-20AD/LC-20AT (with high/low pressure gradient system installed)   |                 | LC-20AD/LC-20AT (with high/low pressure gradient system installed) |  | LC-20AB                                    |  |
| Gradient type                               | High/low pressure  |                 | High/low pressure  |  | High pressure                              |  |
| Mixing quantity solvents                    | 2  |                 | 2 or 3   |  | 4  |  |
| <b>Degasser</b>                             | <b>DGU-20A3R</b>   |                 |  | <b>DGU-20A5R</b>                                       |  |  |
| Number of lines degassing                   | 3  |                 |  | 5  |  |  |
| <b>Autodispenser</b>                        | <b>SIL-20A</b>   |                 |  | <b>SIL-20AC (with cooling function)</b>                |  |  |
| Sample volume                               | from 0.1 µl to 100 µl (optionally from 1 µl to 2000 µl)  |                 |  |  |  |  |
| Cooling of samples                          | No   |                 |  | from 4°C to 40°C                                       |  |  |
| <b>Column thermostat</b>                    | <b>CTO-20A</b>   |                 |  | <b>CTO-20AC (with cooling function)</b>                |  |  |
| Range of control temperatures               | from (room temperature +10°C) to 85°C  |                 |  | from (room temperature -10°C) to 85°C                  |  |  |
| Capacity                                    | up to 6 columns (< 12.7 mm; 30 cm length), up to 2 manual injectors, gradient mixer, up to 2 taps for switching mobile phase flows |                 |  |  |  |  |
| <b>Detectors *)</b>                         | <b>SPD-20A</b>   | <b>SPD-20AV</b> | <b>SPD-M20A</b>  | <b>RF-20A</b>  | <b>RF-20Axs</b>                            | <b>RID-20A**)</b>  |
| Detector type                               | Spectrophotometric   |                 | Diode matrix   | Spectrofluorimetric                                    |  | Refractometric   |
| Wavelength range                            | 190–700 nm   | 190–900 nm      | 190–800 nm   | 200–650 nm   | 200–750 nm                                 |  |
| Spectral slit                               | 8 nm   | 8 nm            | 1.2 nm; 8 nm   | 20 nm  | 20 nm                                      |  |
| Raman signal/noise who is the peak of water |  |                 |  | > 1200 min   | > 2000 min                                 |  |
| Functions                                   | Dual-wavelength detection, wavelength scanning   |                 | Library spectra  | Dual-wavelength detection, wavelength programming      |  | Deviation indicator refractions                          |
| Cell  | Path length: 10 mm<br>Volume: 12 µl<br>Pressure: 12 MPa  |                 | Path length: 10 mm<br>Volume: 10 µl<br>Pressure: 12 MPa            | Path length: 10 mm<br>Volume: 12 µl<br>Pressure: 2 MPa |  | Volume: 9 µl Cell<br>Input: 64 µl Cell<br>Output: 356 µl |
| Temperature range thermostating cells       | from (room temperature +5°C) to 50°C   |                 |  | —  | from (room temperature -10 °C) up to 40 °C | from 30°C to 60°C (step 0.1°C)                           |

\* ) The LC-20 Prominence chromatograph can be equipped with the proven CDD-10Avp conductivity detector, as well as the ELSD-LTII light scattering detector.

\* \* ) Additional characteristics of the RID-20A refractometric detector:

Measurement range: Mode A: 0.01–500×10<sup>-6</sup> RIU;

P/L mode: 1–5000×10<sup>-6</sup> RIU

Refractive Index Range: 1–1.75 RIU

Noise level: max 0.0025×10<sup>-6</sup> RIU

Drift: max 0.1×10<sup>-6</sup> RIU/h



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