


**GERSTEL**


## Cooled Injection System

**CIS 4**

### Specifications

#### CIS 4

##### Inlet type

- programmable temperature vaporizing inlet PTV
- compatible with Agilent® Technologies GC 6850, 6890 and 7890

##### Cooling options

- LN<sub>2</sub> cooling
- LCO<sub>2</sub> cooling
- cryostatic cooling
- peltier cooling, patented

##### Minimum temperatures

(at max. 70 °C oven temperature)

- -150 °C (with LN<sub>2</sub> cooling)
- -180 °C (optional, with LN<sub>2</sub> cooling)
- -70 °C (with LCO<sub>2</sub> cooling)
- -40 °C (with GERSTEL cryostatic cooling)
- +10 °C (with peltier cooling UPC)

##### Temperature program

- 2 temperature ramps
- heating rate    0.5 ... 12 °C/s (-150 ... 450 °C)  
16 °C/s up to 150 °C in fast heating mode  
in increments of 0.1 °C/s
- initial temperature -150 ... 400 °C
- 1. hold temperature -150 ... 450 °C
- 2. hold temperature 0 ... 450 °C
- hold time max. 60 min

##### Pneumatics

- Agilent EPC control
- pressure 0 ... 100 psi
- gas flow    0 ... 1000 mL/min He or H<sub>2</sub>  
0 ... 200 mL/min N<sub>2</sub>  
(typically 10 ... 200 mL/min)
- 1/16" split line, stainless steel

##### Injection modes

- split/splitless
- solvent venting
- on-column (optional)
- large volume
- basic cryo-trapping module for all GERSTEL sample introduction techniques

##### Automation

- compatible with GERSTEL MPS 2 and all standard autosamplers for Agilent® Technologies GC 6850/6890/7890
- automated liner exchange with ALEX option in combination with GERSTEL MPS 2

##### Column connection

- for standard columns ID 0.1 ... 0.53 mm
- maximum outer diameter 0.8 mm
- based on GRAPHPACK-2M sealing technique



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### Dimensions

- standard dimensions for AT 6850/6890/7890 inlet body
- fits into front and back injector position

### Control

- based on the Controller C506
- in combination with the GERSTEL MAESTRO software, integrated in the Agilent® Technologies ChemStation software or operated in stand-alone mode
- simple set-up of temperature program
- graphical display of temperature program
- only one method for the complete system including GC/MS when integrated in ChemStation software

### Septumless sampling head SLH

- sealing nut with Kalrez® sealing
- no septum bleeding
- 1/16" gas connection, stainless steel
- optional septum head

### Glass Inlet Liners

- 3 × 2 × 71 mm (OD × ID × L)
- 3 × 1 × 71 mm (OD × ID × L)
- straight or baffled
- empty or packed
- made of quartz or borosilicate glass
- standard or deactivated
- separate liner flyer provides more detailed information

### Controller C506

#### Operating Voltage

- 230 VAC, 50/60 Hz or
- 115 VAC, 50/60 Hz or
- 100 VAC, 50/60 Hz

#### Power consumption

- 500 Watt max.

### Fuse

- T3.15 A 230 V or
- T6.3 A 100/115 V

### Protective Class

- Class I according to IEC 536 (protective ground)

### Surge Category

- Category II

### Regulatory Certifications and Standards

- DIN EN 61010-1/A2:1996
- DIN EN 61326:2004-05
- IEC 61010-1:1990/A1:1992/A2:1995
- IEC 61326:2002
- UL STD 3101-1;93
- CAN/CSA C22.2 NO.1010.1-92

### Interfaces

- 1 × 9 pin sub-D for cryo valves
- 1 × 9 pin sub-D for pneumatic valves
- 2 × 9 pin sub-D, remote control
- 1 × Ethernet/LAN
- 1 × RS 232
- prepared for 1 × USB
- 4 slots to control GERSTEL modules

### Operating conditions

- 15 ... 35 °C
- relative humidity max. 50-60%, non-condensing
- max. 4615 m above sea level

### Storage conditions

- -20 ... 50 °C
- relative humidity max. 90%, non-condensing
- max. 4615 m above sea level

### Dimensions (W × H × D)

- 39 × 13.5 × 31 cm

### Weight

- approx. 15 kg