

Temperature conditioning system for water-cooled pressure sensors

Type 2621G...

A sensor specific conditioning system that incorporates temperature control for the sensor cooling circuit. The device possess an electronic flow monitoring system in conjunction with a standardized monitoring/alarm signalling system.

- Increased cooling power compared to previous generation
- Electronic level control with dry-running protection
- User friendly touch screen operation
- Multilingual graphical display (example see Fig. 1)
- Remote control option (VNC viewer/server) via Ethernet or PC or tablet
- USB interface for data logging (quality assurance or service)

Description

The new system Type 2621G... is used for temperature conditioning of water-cooled pressure sensors and ensures constant thermal conditions at the sensor – irrespective of the varying operating conditions of the combustion engine. It ensures stable and reproducible measurements avoiding overheating of the sensor or excessive steam condensation on the sensor diaphragm when the engine is stopped.

The temperature conditioning system consists of a refrigerating set, water hoses for inlet, outlet and manifold. The sensor tubes are connected to the distributor through quick couplings.

The temperature conditioning system has an automatic monitor of temperature, pressure, flow and level. The signal output of the automatic monitor can be used for controlling an electrical alarm device.

The Kistler temperature conditioning system ensures that the sensors are supplied with the optimal water quantity. Note that experience has shown that the heat flow of a cooled engine sensor is about 200...400 W, depending on the application and the engine.



Application

For use with water-cooled piezoelectric and piezoresistive pressure sensors, as well as cooled and cooling/switching adapters from Kistler.

Water-cooled cylinder pressure sensors are used for precision measurements where minimum long-term drift is required. Cooling adapters are mainly used for piezoresistive absolute pressure sensors in intake and exhaust manifolds. The temperature conditioning system should be mounted on the engine test bench and the manifold as close as possible to the engine.



Fig. 1: User interface of Type 2621G...

Technical data

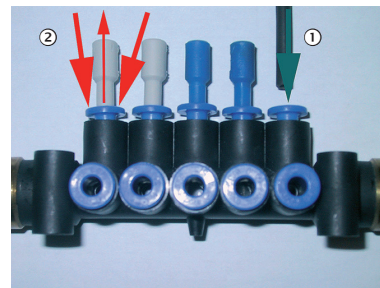
Cooling water / filling volume	l	≈10
Flow rate per sensor	l/min	0.3 ... 0.5
Flow rate control	l/min	<0.1
Coolant pressure	bar	1.5 ±0.2
Operating temperature range	°C	10 ... 40
Thermostat range of control	°C	50 ±3
Heating capacity	W	800
Cooling capacity (@ 20° ambient temperature)	W	2 800
Connecting tube to distributor		
Diameter	mm	10/8
Length	m	≤5
Connecting tube to sensors (Type 1203Csp)		
Diameter	mm	4/3
Length	m	≤2
Sensor connections		10
Power supply		2P+E
Voltage, switchable		
Type 2621	VAC	230
	(%)	±10
Fuse	A	10
Type 2621Y26	VAC	115
	(%)	±10
Fuse	A	10
Interfaces		
Ethernet (for remote control)		RJ45
USB (for data logging)		USB Type A
Power consumption (max.)	VA	<920
Dimensions (LxWxH)	mm	978x353x607
Weight total (without cooling water)	kg	≈52

Alarm

The temperature conditioning system has an output for external monitoring of temperature, pressure, flow and water level. If the cooling liquid level drops below the lower limit, the cooling system shuts off automatically.

Mounting

The two manifolds are to be fixed as close as possible to the engine but not more than 2 m above the temperature conditioning system.



1. Installation of hose or blanking plug
2. Removal of hose or blanking plug

Fig. 2: Manifolds complete

Dimensions

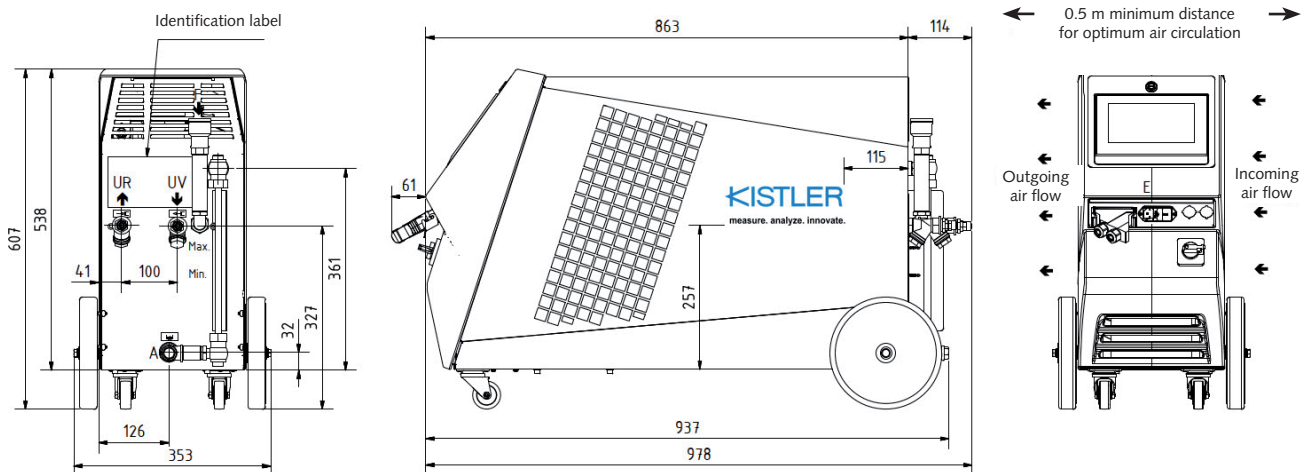


Fig. 3: Dimensions of temperature conditioning system Type 2621G...

2621C_003-461e-09.19

This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

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System configuration

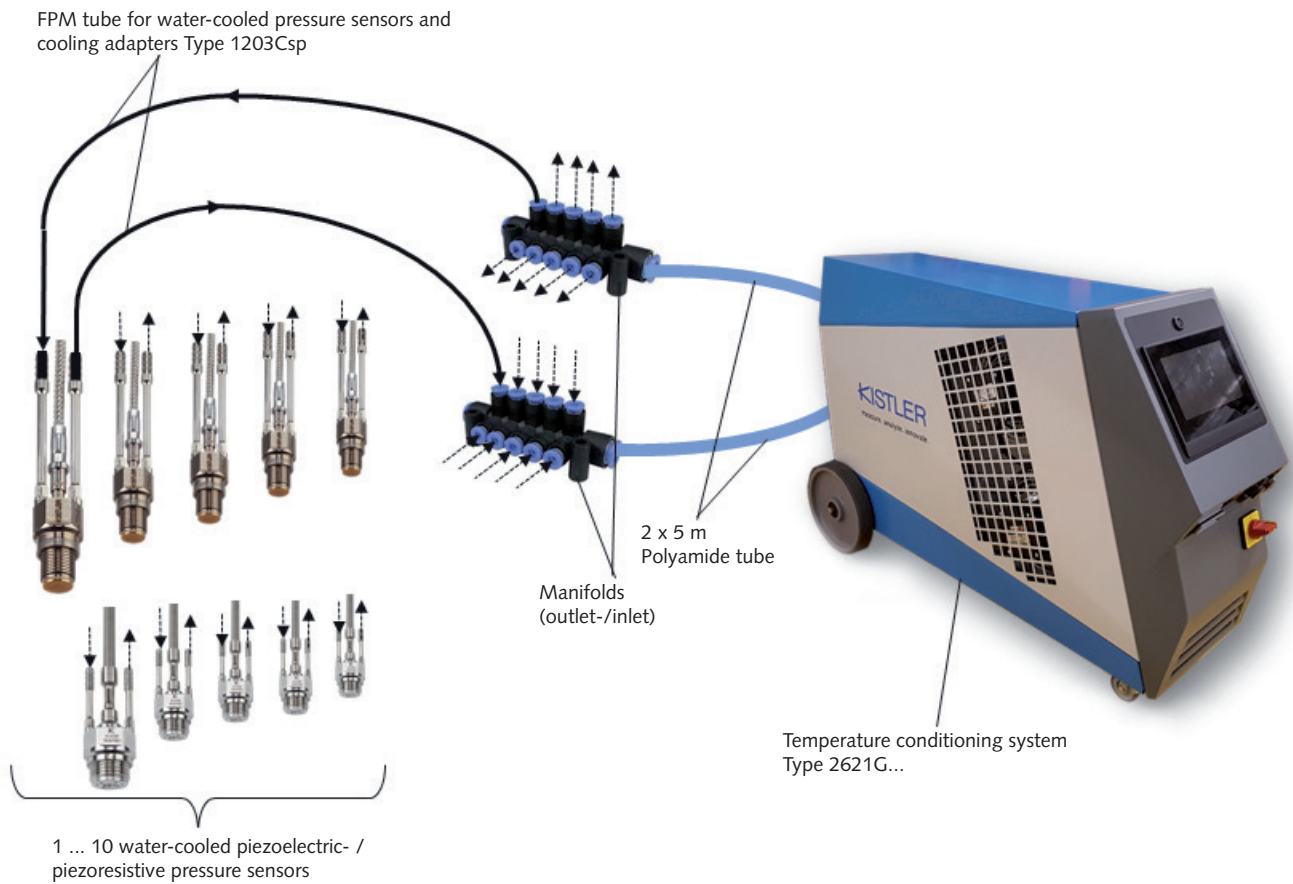


Fig. 4: System configuration of temperature conditioning system Type 2621G... with water-cooled pressure sensors

Included accessories

- 2 x 5 m polyamide tube $\varnothing 10 \times 7$
- 2 x manifolds complete
- 1 x power supply cable (l = 2 m)
- 1 x 25-pin D-Sub connector set for analog interface

Optional accessories

- FPM tube black $\varnothing 4 \times 3$ for water-cooled pressure sensors and cooling adapters

Type no.
1203Csp

Ordering key

Temperature conditioning system for water-cooled pressure sensors

Voltage 230 VAC

Voltage 115 VAC

Type 2621

G

GY26

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