



PSS5C

# Portable Gas Conditioning Unit Series PSS®

PSS5C, PSS5C/2 and PSS5C/3

## Special Features

- **Protection class IP42 according to EN 60529**
- **Optional measurement of the gas temperature in the outlet of the heat exchanger, 4-20 mA**
- **Optional control of cooler temperature (inside the cooling block), 4-20 mA**
- **Equipped with high-performance ECP1000C gas cooler as standard**
- **Low maintenance**
- **Gas outlet dew point adjustable from +2 to +15 °C [35.6 to 59 °F]**
- **Dew point stability <math>\pm 0.1\text{ °C}</math> [ $\pm 0.18\text{ °F}</math>]$**
- **Ready for use in less than 3 minutes**
- **Compact construction, light weight**
- **Impact-resistant case with integrated trolley system**
- **Maximum operational safety**
- **Jet-Stream heat exchangers in various materials available**
- **Can be supplied with a wide range of equipment**
- **Optional shoulder strap**

## Application

The gas conditioning system PSS5C is suitable for variable discontinuous use as well as for continuous operation.

The PSS5C complies with protection class IP42 as required by the EN 15267-4:2017 standard and includes standard-compliant gas temperature monitoring and a temperature display visible from the outside.

The entire gas conditioning system is housed in a compact and impact-resistant plastic case equipped with an integrated trolley with pull-out handle. This allows fast, low-maintenance and reliable gas analyses to be carried out at various locations with little effort. A robust shoulder strap for mounting on the case is also available as an option.

## Description

The PSS5C gas conditioning system is equipped with a high-performance Peltier gas cooler of the new series as standard.

The cooler is equipped with a Jet-Stream heat exchanger, which cools the sample gas constantly to +5 °C [41 °F], independent of the ambient temperature. As soon as the operating temperature <math>< +8\text{ °C}</math> [46 °F] is reached after commissioning, the sample gas pump N...KPE is automatically switched on by the gas cooler status contact. The peristaltic pump SR 25.2-W ensures continuous condensate removal. This also allows to easily accomplish long-term measurements with the gas conditioning system. The corresponding particle filtration is carried out by the FP-2T ultrafine filter.

For easy handling of the PSS5C, the display and function of the cooler are visible from the outside. The case needs to be opened only for maintenance.

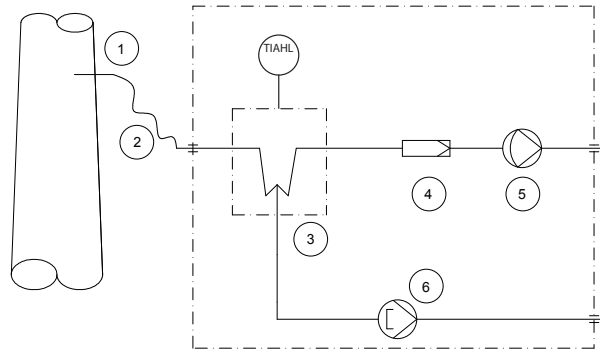
The portable PSS5C gas conditioning system is a complete conditioning system for most gas analysis devices.

The components installed in the PSS5C are intended for "continuous use".

For special measuring tasks, additional or other components from our extensive product range can also be used.

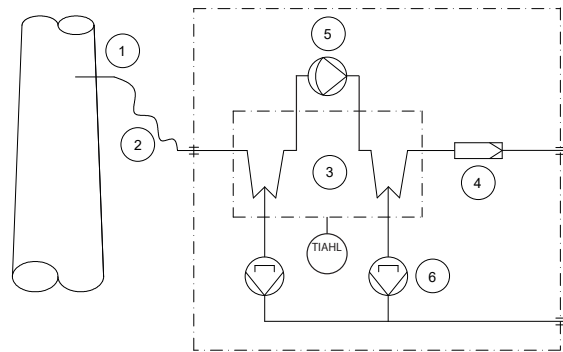
## Gas flow diagram PSS5C

- 1 Gas sample probe
- 2 Sample line, 3 m PVC hose
- 3 Peltier gas cooler with temperature alarm (TIAHL)
- 4 Fine filter FP-2T, filter porosity 2  $\mu\text{m}$
- 5 Sample gas pump
- 6 Peristaltic pump SR25.2-W

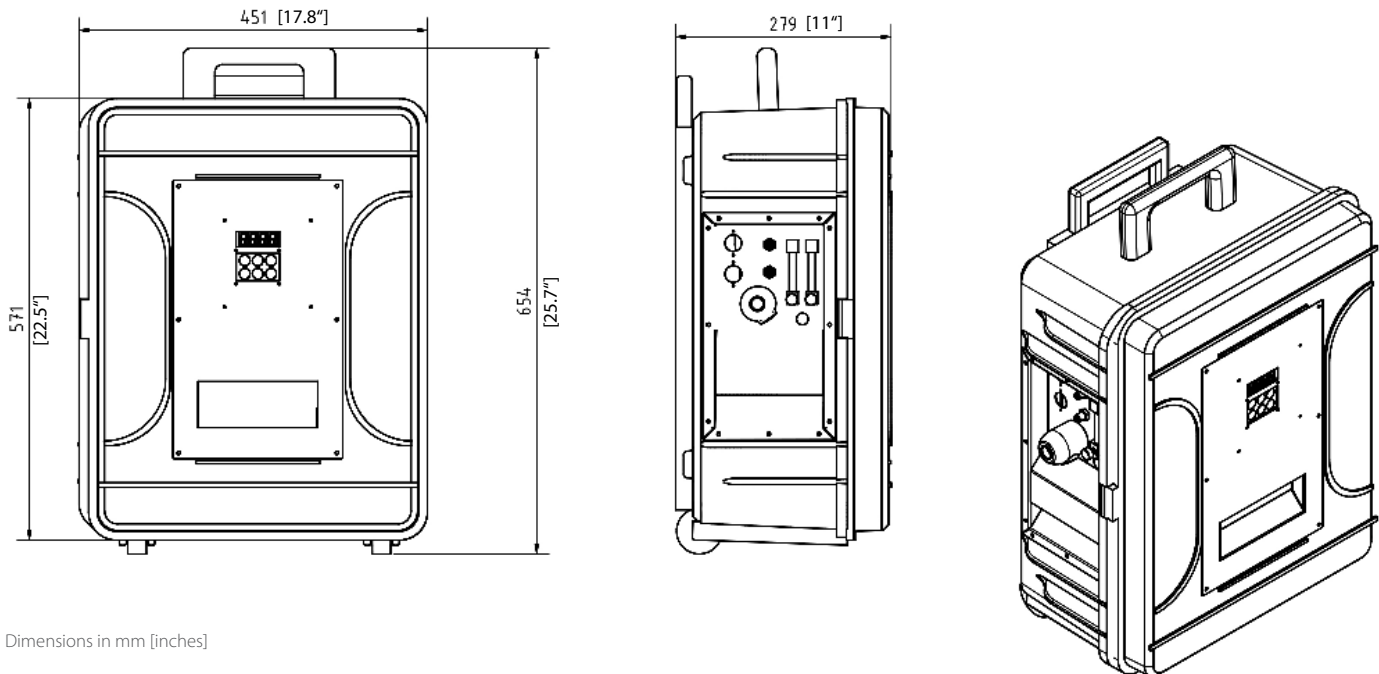


## Gas flow diagram PSS5C/2

- 1 Gas sample probe
- 2 Sample line, 3 m PVC hose
- 3 Peltier gas cooler with temperature alarm (TIAHL)
- 4 Fine filter FP-2T, filter porosity 2  $\mu\text{m}$
- 5 Sample gas pump
- 6 Peristaltic pumps 2 x SR25.2-W



## Dimensions



Dimensions in mm [inches]

## Technical Data

Gas Conditioning Unit Series PSS*	Version PSS5C	Version PSS5C/2	Version PSS5C/3
Part No.	<b>01G4000(a)**</b>	<b>01G4250</b>	<b>01G4500(a)**</b>
Sample outlet dew point	Range of adjustment: +2 to +15 °C [35 to 59 °F], factory setting: +5 °C [41 °F]		
Dew point stability sample outlet	At constant conditions < ±0.1 °C [±0.18 °F]		
Sample inlet temperature	*Max. 80 °C [176 °F] optional: *max.180 °C [356 °F] with stainless steel bulkhead union		
Sample inlet water vapour saturation	*Max. 80 °C [176 °F]		
Gas flow rate heat exchanger	*Max. 150 NI/h	*Max. 150 NI/h per heat exchanger	*Max. 350 NI/h
Ambient temperature	*+5 to +40 °C [41 to 104 °F]		
Storage temperature	-25 to +65 °C [-13 to 149 °F]		
Pressure	0.7 bar up to 1.4 bar abs.		
Total cooling capacity	*Max. 80 kJ/h		
Number of gas inlets	1		
Number of gas outlets	1, optional: max. 2		
Medium connections	Tube connections 4/6 mm, material: PVDF		
Material of sample contacting parts	SS316Ti, glass, PVDF, PTFE, Novoprene		
Ready for operation	Approx. 3 min.		
Power supply	230 V AC ±10 %, 50/60 Hz or Part No. with (a)**: 115 V AC ±10 %, 60 Hz		
Power consumption	Max. 240 VA; with option temperature controller and heated sample line 230 V: max. 1620 VA, 115 V: max. 920 VA		
Fuse protection	4 A t, 5 x 20 mm, with option temperature controller: 10 A t		
Electrical connection	2 m [≈ 6.6 ft] long cable		
Case protection	IP42 EN 60529		
Housing	Impact-resistant case with integrated trolley system and pull-out handle		
Housing color	Black		
Housing dimensions (W x H x D)	451 x 654 x 279 mm [≈ 17.8" x 25.7" x 11"] with casters and handle		
Electrical equipment standard	EN 61010		
Weight w/o options	Approx. 18.5 kg [≈ 40.8 lbs]	Approx. 19.2 kg [≈ 42.3 lbs]	Approx. 18.9 kg [≈ 41.7 lbs]

\* Maximum values in technical data must be rated in consideration of total cooling capacity at 25 °C [77 °F] ambient temperature and 5 °C [41 °F] outlet dew point.

\*\* (a) is an addition to the Part No. for 115 V versions.

PTFE = Polytetrafluoroethylene (Teflon®), PVDF = Polyvinylidenfluoride  
Teflon® is a registered trademark used by DuPont Performance Elastomers, USA.

Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.

Other versions on request.

### Option: Shoulder strap for mounting on the PSS5C case



Options	Type	Part No.
Sample gas pump N5KPE, replacement	Extra charge for replacing the standard N3KPE by the N5KPE	01G9090
Sample gas pump N9KPE, replacement	Extra charge for replacing the standard N3KPE by the N9KPE	01G9095
Flow meter including sample gas outlet, max. 2 pieces	FM40 7-70 NI/h air	01G9072
	FM40 15-150 NI/h air	01G9077
	FM40 25-250 NI/h air	01G9082
	FM40 50-500 NI/h air	01G9087
Further sample gas outlet w/o flow meter	Parallel sample gas outlet, tubing via T-piece on lateral PVDF bulkhead fitting, DN 4/6, max. 1 piece	01G9065
Sample tube	Sample tube out of Kanthal® ø 6 mm, length: 1 m, sampling temperature: max. 1300 °C [2372 °F]	01G9030
3-way ball valve	3L/PV-1 for switching over from test gas to sample gas in the inlet of the sample gas conditioning unit, mounted with mounting brackets, fitting PVDF	01G9046
5-way ball valve	5L/PV-1 for switching over from test gas to sample gas in the inlet of the sample gas conditioning unit, mounted with mounting brackets, fitting PVDF	01G9045
Needle valve	Needle valve in the bypass of the sample gas pump type N3/N5/N9 for pressureless control, with PVDF screw connections, angle bracket and assembly	01G9050
Electronic temperature controller for max. 12 m [≈ 39.4 ft] (230 V) or max. 6 m [≈ 19.7 ft] (115 V) heated sample line 100 W/m for PT100	701 control range: 0 to 200 °C [32 to 392 °F], input PT100, power: 230 V 50/60 Hz (Part No. 01G9055) or 115 V 50/60 Hz (Part No. 01G9055a), contact capacity: 250 V AC max. 10 A, completely mounted incl. 7-pin plug 10 A	01G9055(a)
Electronic temperature controller for max. 12 m [≈ 39.4 ft] (230 V) or max. 6 m [≈ 19.7 ft] (115 V) heated sample line 100 W/m for thermocouple Ni-CrNi	701 control range: 0 to 200 °C [32 to 392 °F], input thermocouple Ni-CrNi, power: 230 V 50/60 Hz (Part No. 01B8245) or 115 V 50/60 Hz (Part No. 01B8245a), contact capacity: 250 V AC max. 10 A, completely mounted incl. 7-pin plug 10 A	01B8245(a)
Connecting adapter DN 4/6 for heated sample line	PSS5C connecting adapter with anti-kink protection for rigid mounting of heated sample line with replaceable PTFE tube DN 4/6, consisting of special Swagelok fitting with 4 mm cartridge, material: SS316Ti	01G9060
Connecting adapter DN 6/8 for heated sample line	PSS5C connecting adapter with anti-kink protection for rigid mounting of heated sample line with replaceable PTFE tube DN 6/8, consisting of special Swagelok fitting with 6 mm support sleeve, material: SS316Ti	01G9061
Analog output	Analog output of the sample gas cooler temperature at the PSS5C case with connection socket, mA output for PSS5C 0/4 to 20 mA, galvanically isolated, load: 500 Ohm	01G9010
mA output	Thermocouple type K for temperature measurement in the heat exchanger with 4-20 mA output for -10 to 50 °C [14 to 122 °F], load 180 Ohm	01K9250
Liquid alarm detection	Liquid alarm detection inside the PSS5C case incl. switch-off function for the sample gas pump, liquid alarm sensor type LA1S, for conductive media, completely wired, evaluation via front display	01G9015
Sample gas inlet made of stainless steel	Extra charge for gas conditioning unit series PSS® with stainless steel fittings in the sample gas inlet for 6 mm tube, material: SS316Ti	C40002
Built-in aerosol filter CLF-5	Extra charge for gas conditioning unit series PSS® with built-in aerosol filter CLF-5, fittings and mounting included	C40003
Sample gas outlet made of stainless steel	Extra charge for gas conditioning unit series PSS® with stainless steel fittings in the sample gas outlet for 6 mm tube, material: SS316Ti	C40005
Shoulder strap for mounting on the PSS5C case	Padded and adjustable shoulder strap made of robust polyester material for mounting on the PSS5C case.	90G0270