

1 Introduction

1.1 Intended use

Sample gas pumps are intended for installation in gas analysis systems for industrial applications.

DANGER



Danger of explosion if used in a potentially explosive atmosphere

Sample gas pumps of types P2.3C and P2.4C are not suitable for use in potentially explosive atmospheres and must not be placed in them.

The complete designation of the P2.3C and P2.4C sample gas pumps is:



II 3G/- Ex h IIB T4 Gc

The P2.3 C and P2.4C sample gas pumps may only be used to convey explosion class IIA and IIB flammable gaseous media which are not explosive during normal operation, as well as non-flammable gaseous media.

The maximum surface temperature varies by the medium and ambient temperatures. Please refer to the data sheets for the correlation between media temperature, ambient temperature and the pump's temperature class. Flammable mediums must not be heated beyond these values. Please note, flammable gas must only be heated up to 80 % of its ignition temperature. The lower of the two values is the maximum medium temperature.

Gas sampling is generally **prohibited** if the gas flow results in a dangerous electrostatic charge in the bellow/pump body (also see chapter "Operation and Control").

The sample gas pumps are only intended to convey gaseous media. They are not suitable for liquids.

Please note the additional information in chapter "Product Description" and "Operation and Control" along with the information on specific intended use, existing material combinations, as well as pressure and temperature limits in the data sheets.

When installed outdoors, ensure adequate protection from the weather, see chapter Requirements for the set-up location

1.2 Item number structure

The device is delivered with different configurations. The part number given on the type plate informs you about the specific configuration of your device.

On the type plate you will find the order number as well as the 13-digit product key. This number is a code where each digit (x) describes a certain feature:

42	xx	x	x	x	x	x	9	0	00	Product characteristic	
										Base model	
	52									P2.3C 400 l/h (II 3G/- Ex h IIB T4 Gc) (direct operation without intermediate flange)	
	53									P2.4C 400 l/h (II 3G/- Ex h IIB T4 Gc) (with intermediate flange)	
										Motor voltage	
	1									230 V 50/60 Hz; 0,78/0,86 A	
	2									115 V 50/60 Hz; 1,56/1,72 A	
	5									400 V 50 Hz; 0,52 A	
										Pump head position	
	1									Normal position vertical	
	2									turned by 180° *	
										Pump head material	
	1									PTFE	
	2									Stainless steel 1.4571	
	3									PTFE with bypass valve *	
	4									Stainless steel 1.4571 with bypass valve *	
										Valve material	
	1									up to 100 °C; PTFE / PVDF *	
	2									up to 160 °C; PTFE / PEEK	
										Screw-in connections (for 230 V and 400 V voltage)	
										PTFE Pump body	Stainless steel pump body
	9									DN 4/6 (Standard)	6 mm (Standard)
	1									DN 6/8	8 mm
	2									3/8"-1/4"	3/8"
	3									1/4"-1/8"	
	4									1/4"-1/6"	1/4"
										Screw-in connections (for 115 V voltage)	
									PTFE Pump body	Stainless steel pump body	
9									1/4"-1/6" (Standard)	1/4" (Standard)	
1									DN 6/8	8 mm	
2									3/8"-1/4"	3/8"	
3									1/4"-1/8"		
5									DN 4/6	6 mm	
									Mounting accessories		
9										incl. mounting bracket and bumper *	

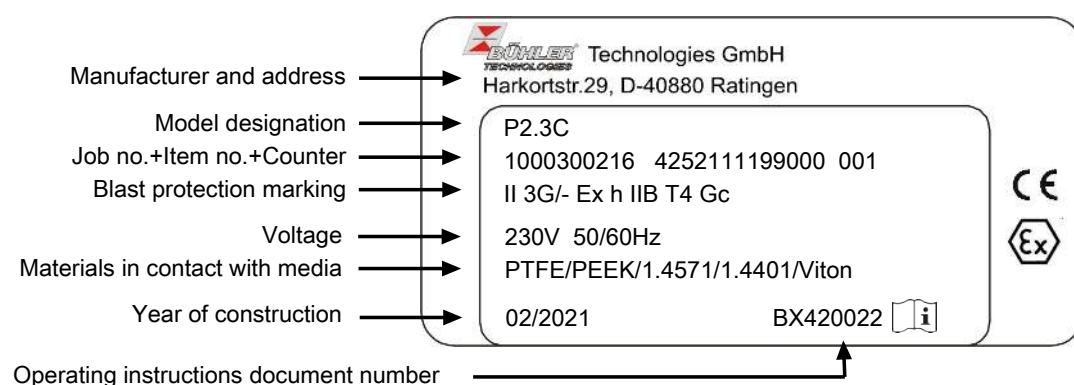
*not applicable to 2.4C

If there are special instructions for a pump type, they are marked in the manual.

Take care of the limits of the pump. When ordering spare parts chose for the type matching part numbers (e.g. valves).

1.3 Type plate

Example:



1.4 Scope of delivery

P2.3C	P2.4C
1 x Sample gas pump with motor	1 x Pump body with intermediate flange
4 x Rubber-metal bumpers	1 x Motor
1 x Mounting bracket	1 x Coupling flange
Product documentation	1 x Coupling
	1 x Mounting ring
	Product Documentation

1.5 Product description

The sample gas pumps are intended exclusively for the pumping of gaseous media. They are not suitable for liquids.

Please observe the information at the end of these instructions in relation to specific intended use, available material combinations, and pressure and temperature limits. In addition, please observe the information and labelling on the identification plates.

The maximum surface temperature depends on the ambient temperature and the temperature of the medium. The connection between the temperature of the medium, the ambient temperature and the temperature class of the pump is specified in the technical data.

NOTICE

Restriction



The **P2.xC** pumps can pump non-flammable gaseous media and flammable gaseous media that are probably not explosive in normal operation (sampling from zone 2). Sampling gas from zone 2 is generally **forbidden** if the gas flow leads to a dangerous electro-static charge in the bellows / pump body (also see the "Operation" section). The **P2.xC** pumps must not be operated in dusty areas. The operating material is not suitable for use in a potentially explosive atmosphere!

The pump head and the drive motor on the P2.4C sample gas pump are isolated for use in hot applications. The sample gas pump has a split adapter which can be mounted with one half inside a heated cabinet while the other half mounted on the outside supports the drive motor. In doing so, wall thicknesses of up to 30 mm can be bridged without additional modifications.

Applications where sample gas is still moist, can result in condensation in the lines and the pump body. In these cases the pump head must be suspended (see item Alteration of hanging pump bodies).