

9 Appendices

9.1 P2.2 ATEX/P2.4 ATEX technical data

Nominal voltage:	see ordering information
Marking:	II 2 G Ex h IIB+H2 T3...T4 Gb X
IECEX certificate no.:	IECEX IBE 24.0022X
IP rating:	electric IP65 mechanical IP20
Dead volume:	8.5 ml
Weight:	approx. 7.5 kg (P2.2 ATEX) approx. 8.5 kg (P2.4 ATEX)
Materials in contact with media vary by configuration:	PTFE, PVDF (standard pump with 100 °C valves) + PEEK (standard pump with 140 °C valves) + FKM (standard pump with 100 °C valves and bypass valve) + PCTFE, FKM (standard pump with 140 °C valves and bypass valve) + 1.4571 (VA pump body) + 1.4401, FKM (VA pipe fittings) + FKM (VA pump body with bypass valve)

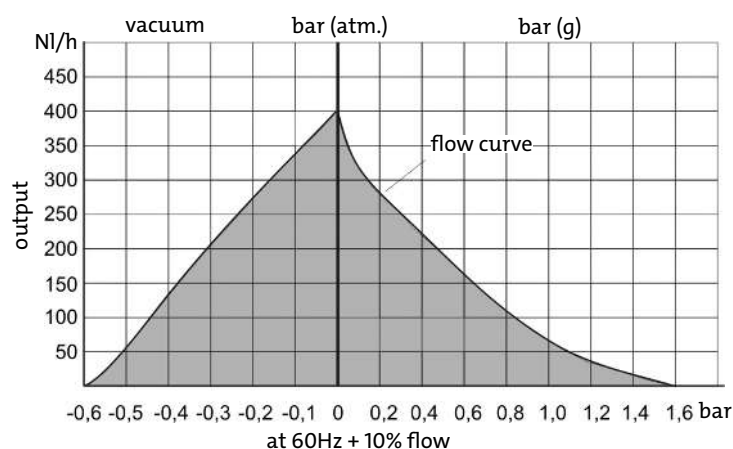
The following table describes the temperature characteristics and the resulting limits for the permissible operation of the sample gas pumps. The temperature classes apply both to the gas in the installation area (zone) and to the explosive pumped medium in the gas path:

Temperature class	Motor ambient temperature	P2.2 ATEX			P2.4 ATEX	
		Pump head ambient temperature	Media temperature ¹⁾		Pump head ambient temperature ¹⁾	Media temperature ¹⁾
			without bypass valve	with bypass valve		
T3	-20 °C...50 °C	max. 50 °C	max. 140 °C	max. 135 °C ²⁾	max. 100 °C	max. 140 °C
T4			max. 90 °C	max. 85 °C	max. 90 °C	max. 90 °C

¹⁾ Due to the maximum continuous operating temperature of the factory-installed plastic screw-in fittings, the maximum permitted media and ambient temperature for these versions is limited to ≤ 80 °C for pumps without a bypass valve and ≤ 75 °C for pumps with a bypass valve.

²⁾ At a media temperature of > 85 °C, operation with a bypass valve is only permitted in the stainless steel version.

Feed curve 400 l/h



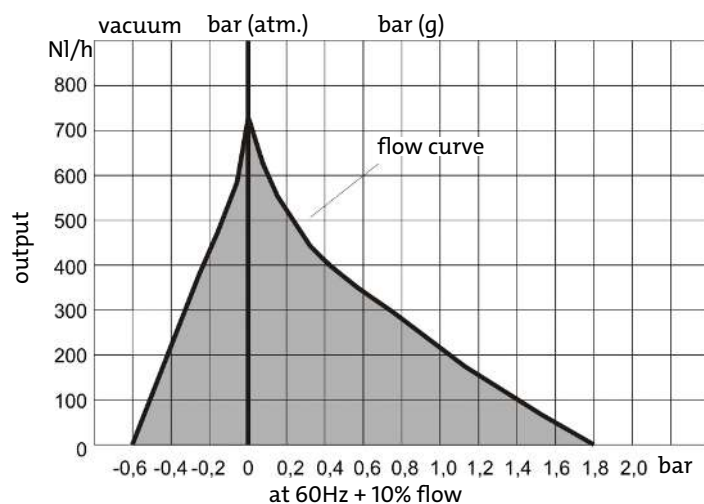
9.2 P2.72 ATEX/P2.74 ATEX technical data

Nominal voltage:	see ordering information
Marking:	II 2 G Ex h IIB+H2 T3 Gb X
IECEX certificate no.:	IECEX IBE 24.0022X
IP rating:	electric IP65 mechanical IP20
Dead volume:	8.5 ml
Weight:	approx. 7.5 kg (P2.72 ATEX) approx. 8.5 kg (P2.74 ATEX)
Materials in contact with media:	PTFE, PEEK, 1.4571 (part of all models) + FKM (bypass valve) + 1.4401, FKM (VA pipe fitting)

The following table describes the temperature characteristics and the resulting limits for the permissible operation of the sample gas pumps. The temperature class applies both to the gas in the installation area (zone) and to the explosive pumped medium in the gas path:

Temperature class	Motor ambient temperature	Pump head ambient temperature	P2.72 ATEX		Pump head ambient temperature	Media temperature
			without bypass valve	with bypass valve		
T3	-20 °C...50 °C	max. 50 °C	max. 115 °C	max. 105 °C	max. 100 °C	max. 115 °C

Flow curve 700 l/h



9.3 Technical Data P2.x ATEX-H2/-O2

Nominal voltage:	see ordering information
Marking:	P2.2 ATEX-H2/-O2, P2.4 ATEX-H2/-O2 II 2 G Ex h IIB+H2 T3...T4 Gb X
	P2.72 ATEX-H2/-O2, P2.74 ATEX-H2/-O2 II 2 G Ex h IIB+H2 T3 Gb X
IECEX certificate no.:	IECEX IBE 24.0022X
IP rating:	electric IP65 mechanical IP20
Dead volume:	8.5 ml
Weight:	approx. 7.5 kg (P2.2 ATEX-H2/-O2, P2.72 ATEX-H2/-O2) approx. 8.5 kg (P2.4 ATEX-H2/-O2, P2.74 ATEX-H2/-O2)
Materials in contact with media vary by configuration:	PTFE, PEEK, 1.4571 (contained in all models) + FKM (bypass valve) + 1.4401, FKM (VA pipe fittings for H ₂ version) + 1.4401 (VA RT pipe fittings for O ₂ version, BAM-tested PTFE sealing tape required [see accessories])

The following tables describe the temperature characteristics and the resulting limits for the permissible operation of the sample gas pumps. The temperature classes apply to the gas in the installation area (zone) as well as to the explosive medium in the gas path:

Temperature characteristics P2.x ATEX-H2 variants

		P2.2 ATEX-H2			P2.4 ATEX-H2	
Temperature class	Ambient temperature motor	Ambient temperature pump head	Media temperature		Ambient temperature pump head	Media temperature
			without bypass valve	with bypass valve		
T3	-20 °C...50 °C	max. 50 °C	max. 140 °C	max. 135 °C	max. 100 °C	max. 140 °C
T4			max. 90 °C	max. 85 °C	max. 90 °C	max. 90 °C

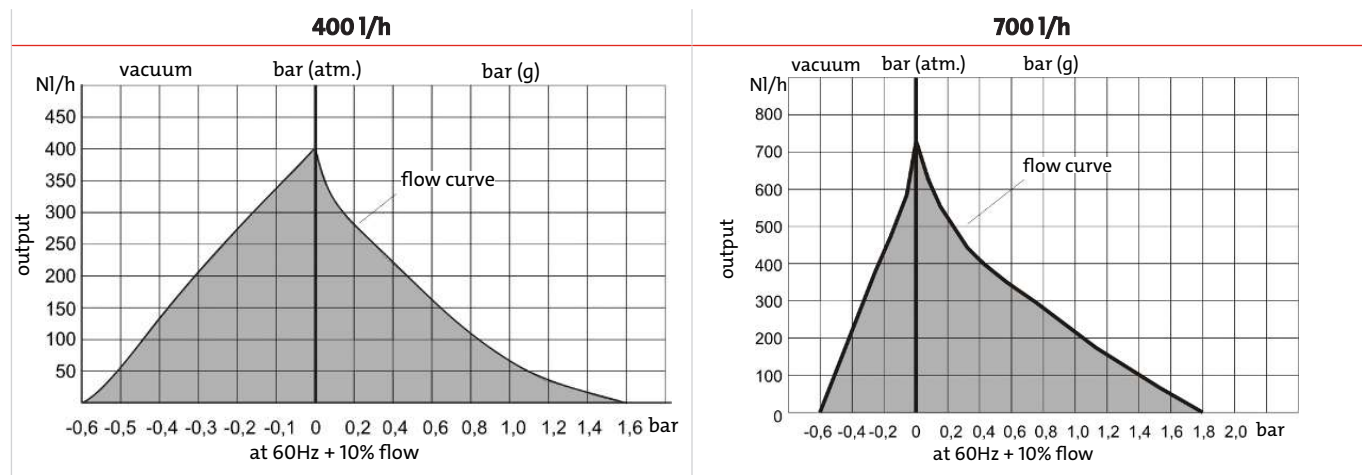
		P2.72 ATEX-H2			P2.74 ATEX-H2	
Temperature class	Ambient temperature motor	Ambient temperature pump head	Media temperature		Ambient temperature pump head	Media temperature
			without bypass valve	with bypass valve		
T3	-20 °C...50 °C	max. 50 °C	max. 115 °C	max. 105 °C	max. 100 °C	max. 115 °C

Temperature characteristics P2.x ATEX-O2 variants

		P2.2 ATEX-O2		P2.4 ATEX-O2	
Temperature class	Ambient temperature motor	Ambient temperature pump head	Media temperature	Ambient temperature pump head	Media temperature
T3	-20 °C...50 °C	max. 50 °C	max. 75 °C	max. 75 °C	max. 75 °C
T4					

		P2.72 ATEX-O2 / P2.74 ATEX-O2			
Temperature class	Ambient temperature motor	Ambient temperature pump head		Media temperature	
T3	-20 °C...45 °C	max. 45 °C		max. 45 °C	

Flow curves



9.4 Important motor notices

Motors used in EX areas require a protection device!

Protective motor switches may have specific environmental requirements that deviate from the specifications of the base unit. Take into account ambient temperatures, zone classifications, explosion groups and temperature classes. Always include all technical information from the operating instructions and data sheets of all components in the safety assessment.

Installing the protective motor switch outside the EX area

Motor voltage	Current setting range (overload release)	Item no.
7 = 230 V 50/60 Hz	0.7 – 1 A	9132020041
8 = 115 V 50/60 Hz	1.4 – 2 A	9132020057
9 = 380-420 V 50 Hz	0.45–0.63 A	9132020055
0 = 500 V 50 Hz	0.35 - 0.5 A	9132020071

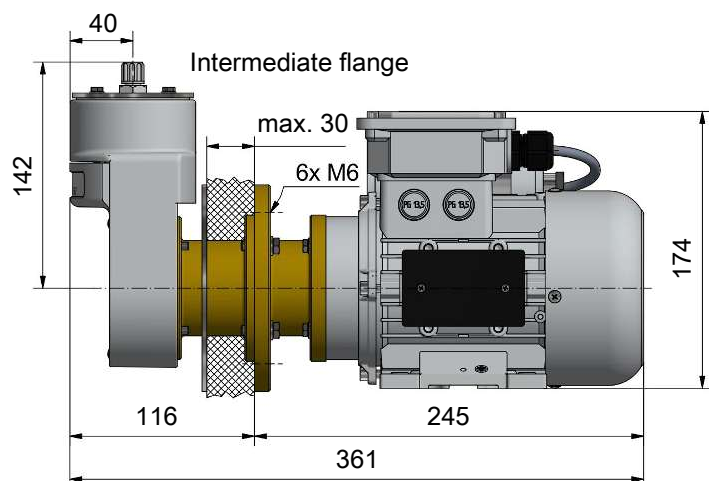
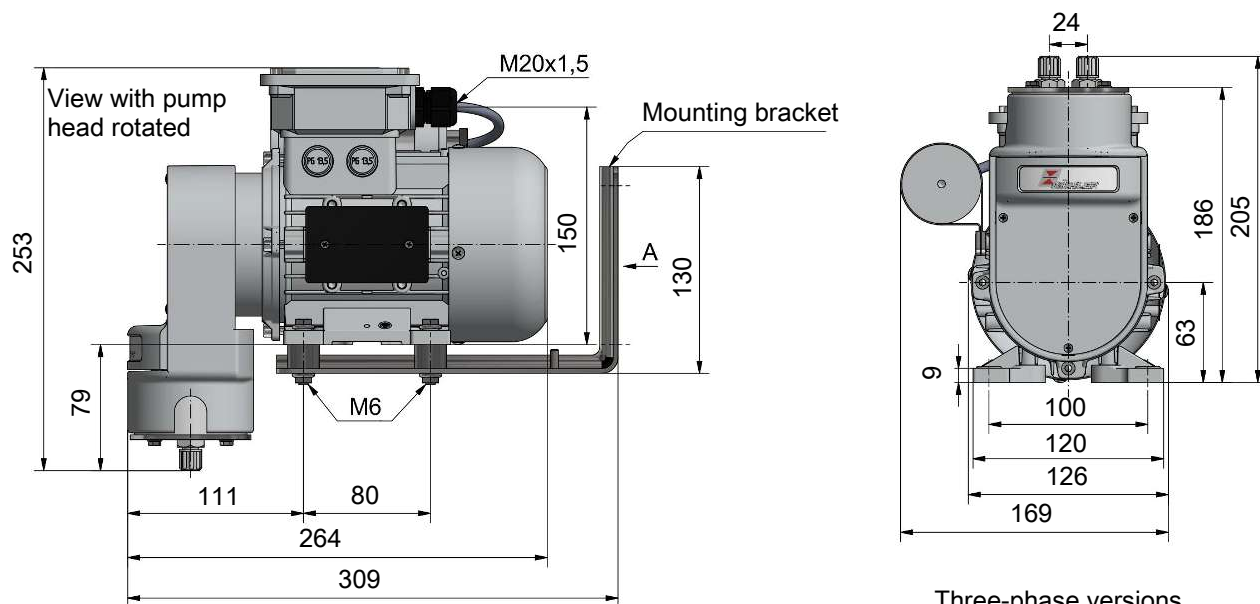
Installing the protective motor switch in EX area Zone 1 or 2 (ATEX only)

Motor voltage	Current setting range (overload release)	Item no.
7 = 230 V 50/60 Hz	0.63 – 1 A	9132020036
8 = 115 V 50/60 Hz	1.6 – 2.5 A	9132020033
9 = 380-420 V 50 Hz	0.4 - 0.63 A	9132020073
0 = 500 V 50 Hz	0.25 - 0.4 A	9132020074

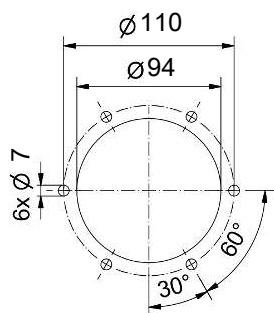
9.5 P2.x ATEX dimensions

P2.2 ATEX, P2.72 ATEX – standard versions

P2.4 ATEX, P2.74 ATEX – versions with intermediate flange



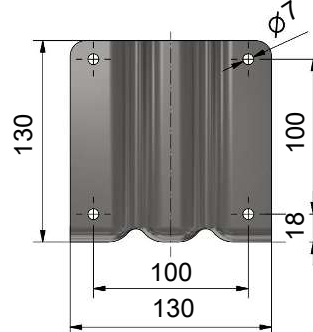
Cabinet cut-out for pumps with intermediate flange



Adjustable bypass valve (optional)



View A



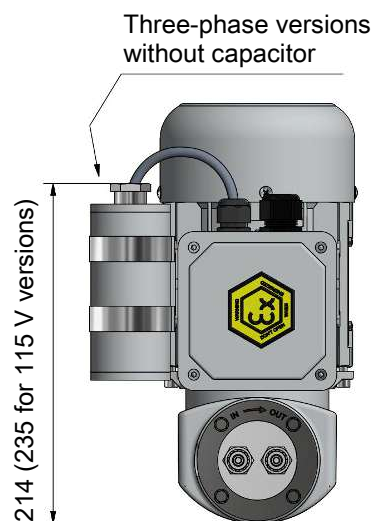
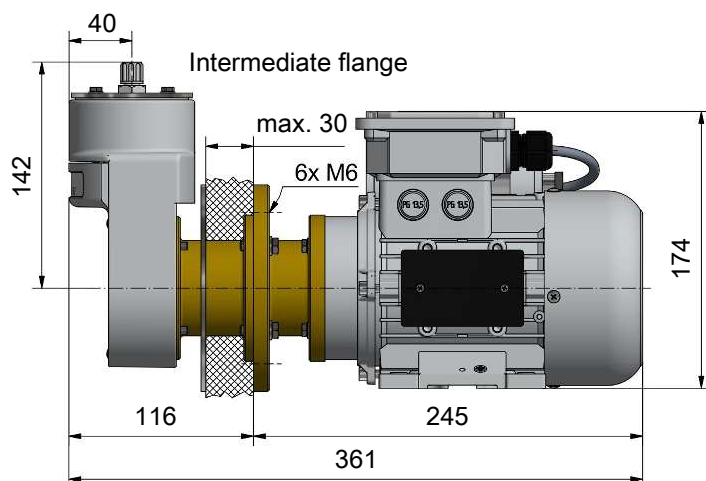
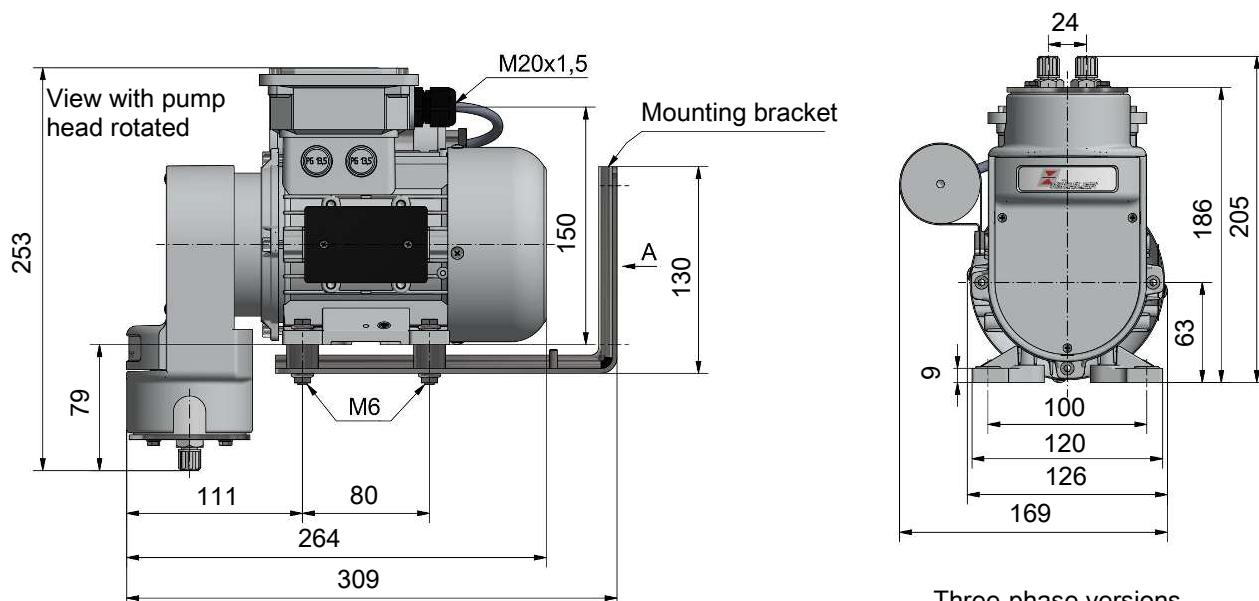
Installation notices:

- 1) This pump should be installed horizontally
- 2) If necessary, rotate the pump head during installation. When conveying gasses with condensate content it must be installed valves down.

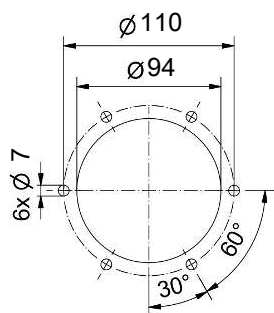
9.6 P2.x ATEX-H2/-O2 dimensions

P2.2 ATEX-H2/-O2, P2.72 ATEX-H2/-O2 - standard versions

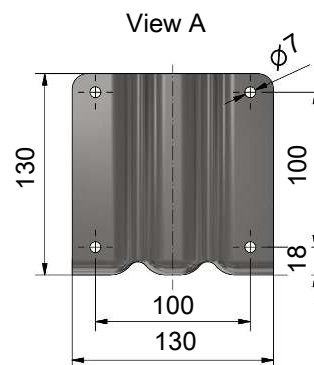
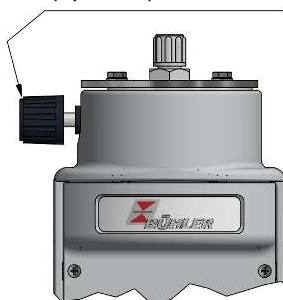
P2.4 ATEX-H2/-O2, P2.74 ATEX-H2/-O2 - versions with intermediate flange



Cabinet cut-out for pumps with intermediate flange



Adjustable bypass valve (optional)



Installation notices:

- 1) This pump should be installed horizontally
- 2) If necessary, rotate the pump head during installation. When conveying gasses with condensate content it must be installed valves down.

9.7 User book (Please make copies)

Maintained on	Unit no.	Operating hours	Remarks	Signature