

Information regarding VACUUBRAND devices with ATEX approval

Since 2003, the Directive 94/9/EC (new version: 2014/34/EC) – better known as ATEX Directive – regulates the European requirements concerning equipment intended for use in areas with potentially explosive atmospheres.

Already in 2003 VACUUBRAND introduced special vacuum pumps with ATEX approval. The pumps have the approval to be installed in, and to pump out of, areas which contain “occasionally” a potentially explosive atmosphere (typical 1 to 1000 hours per year, Ex zone 1). The pumps are identifiable by the addition “EX” in the product name e.g. „MZ 2C EX“.

Maximum safety for laboratory use has always been one of the key targets for the development of all VACUUBRAND devices. This is reflected in our extensive long-term qualification and testing efforts. VACUUBRAND has verified following a very intensive and comprehensive series of testing – according to ATEX directive – that *during normal operation* most of the standard VACUUBRAND diaphragm pumps and pumping units (including capacitive vacuum sensors, measuring devices and solenoid operated valves), *have no ignition source in the inner, wetted parts area* and that the maximum surface and gas temperatures remain below 200°C. Please note that this applies to the inner, wetted parts area only, not the electronics nor the motors.

Thereby, also for these standard devices an approval according to ATEX is possible, however this is essentially different from the approval of the special EX pumps (see above):

	VAC devices with Ex category 3, for “standard“ laboratory application e. g. MZ 2C NT	VAC devices with Ex category 2, for special Ex application e. g. MZ 2C EX
Ex designation (rating plate)	⚠ II 3/- G IIC T3 X Internal Atm. only or: ⚠ II 3/- G IIC T4 X Internal Atm. only	Int.: ⚠ II 2G IIC T3 X Ext.: ⚠ II 2G 3G IIB T4 X
Pumping of Ex mixtures “infrequently“ or “for a short period“	Applicable	Applicable
Pumping of Ex mixtures “occasionally“ (typically 1 – 1000h p.a.)	Not approved!	Applicable
Ex mixtures in the ambience (location of the device)	Not approved!	Applicable
Ignition temperature of pumped Ex mixtures < 200° (T4, T5 or T6)	Not approved!	Not approved!
Permitted gas temperature	max. 40°C	max. 40°C
Technical differences to earlier (not EX) series devices	None, standard equipment, always had high operating safety	Numerous (safety diaphragm, antistatic parts, pressure-capsulated Ex motor etc.)

Please do not hesitate to contact us in case of questions.