

A. TECHNICAL DESIGN

To identify the exact system capacity we recommend conducting a customizing with our mobile COPLAS clean unit. This unit can be installed within a couple of hours directly at your side and will be operated with different system settings. An independent and certified laboratory analyzes the samples in line with to the rules and regulations as shown in part B.

The required system capacity and the expected reduction efficiency are identified based on the results of the sampling campaign and on the process parameters and exhaust compositions (in the following conditions) at the time of customizing and sampling.

If the customer waives the recommended customizing, the system is designed on the basis of already installed systems, similar conditions and comparable odour and VOC concentrations. In this case parts B and C shall not apply. In principle, a reduction efficiency of the COPLAS clean system can only be projected.

B. UNDERLYING REGULATIONS AND TECHNICAL RULES

Samples have to be collected and analyzed by an independent and certified laboratory according to below technical rules and regulations:

B.1 Sample collection according to VDI 3880: 2011-10

B.2 Analysis of the odour concentration according to

- DIN EN 13725:2003-7 and
- VDI 3884 Part 1: 2015-02

B.3 Analysis of the odour intensity according to VDI 3882 Part 1: 1992-10

B.4 Analysis of the hedonic tone and odour characteristic according to VDI 3882 Part 2: 1994-09

For interpreting the results of the odour analysis the prevailing conditions have to be documented by the customer/plant operator.

C. QUALIFICATION CRITERIA AND PROOF OF PERFORMANCE

The expected performance of the COPLAS clean full scale system corresponds to the performance of the customizing unit if the requirements of part B are applied and if the same conditions prevail. If this is proven by the customer/plant operator the following qualification criteria shall be applied:

- C.1 Reduction of the odour concentration or a change in the hedonic tone / odour characteristic similar to the results stated in the measurement report of the laboratory
- C.2 80% of the VOC-Reduction efficiency that is stated in the measurement report of the laboratory
- C.3 Noise emission $L_p \leq 85$ dB(A) measured according to DIN 24166

The performance proof of the system has to be commissioned by the customer/plant operator and is conducted via an odour analysis according to the specification of part B. Various test series are analyzed. Each series

consists of three untreated and three treated samples that are taken in parallel over a period of 30 minutes per sample. After each test series the system will be adjusted by Riedel according the respective results. The system performance is proven if two of the three criteria (C1-C3) are fulfilled.

D. ACCEPTANCE

The acceptance of the full scale COPLAS clean system takes place with the proof of performance as described in part C. If no customizing has been conducted, the final acceptance takes place with commissioning or within three month after delivery the latest.