

DWA Topics

Design of wastewater treatment plants in hot and cold climates

October 2016 · T4/2016, corrected version May 2019

Bemessung von Kläranlagen in warmen und kalten Klimazonen
Oktober 2016 · T4/2016, korrigierte Fassung Mai 2019

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The German Association for Water, Wastewater and Waste (DWA) is deeply committed to the development of reliable and sustainable water management systems. As a politically and economically independent organization of technical experts, it operates in the areas of water management, wastewater, waste and soil protection.

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Foreword

The design of wastewater treatment plants under deviating wastewater and climatic conditions in other countries requires an amendment of existing design rules compliant to the DWA set of rules which have been primarily developed for Central European conditions. To close this gap, the German Federal Ministry of Education and Research (BMBF) sponsored the research project "Technology transfer-oriented research and development in the wastewater sector - validation at industrial-scale plants" (EXPOVAL) for the development of internationally applicable design approaches. Target regions are hot and cold climatic zones, frequently comprising developing, emerging and transition economies.

For this DWA Topic, the results of this research project were compiled by the DWA work group BIZ-11.3 "Design of wastewater treatment plants in hot and cold climatic zones" as design approaches analogous to the applicable DWA set of rules. Additionally, practicable model calculations were compiled for all processes (Appendix B).

Apart from the extension and adaptation of the design specifications to the special conditions in an international context, in this Topic the design algorithms for the treatment target of carbon reduction were all converted to the chemical oxygen demand (COD) which, among others, allows the balancing of sludge formation.

The DWA work group thanks the BMBF for the financial support without which the preparation of this Topic and the preceding investigations would not have been possible.

Prof. Dr.-Ing. Holger Scheer
Spokesman of the DWA work group BIZ-11.3
"Design of wastewater treatment plants in hot
and cold climatic zones"

Essen, September 2016

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Design of wastewater treatment plants in hot and cold climates

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Preparation of this DWA Topic within the EXPOVAL joint project

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English Translation of this DWA Topic

The translation of DWA Topic T4/2016 into English language has been carried out by order of DWA. The responsibility for the translation is with the DWA.

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