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# Technical Rule – Standard **DVGW W 128** July 2008

**Design and Construction of Horizontal Filter Wells**

**WATER**

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ISSN 0176-3490

Price group: 1

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## Contents

<b>Preamble</b>	<b>5</b>
<b>1 Scope</b>	<b>6</b>
<b>2 Normative References</b>	<b>6</b>
<b>3 Terms, Symbols, Units and Abbreviations</b>	<b>6</b>
3.1 Horizontal Filtering Wells	6
<b>4 Engineering</b>	<b>6</b>
<b>5 Water Management and Hydrogeological Requirements</b>	<b>7</b>
<b>6 Technical Requirements</b>	<b>7</b>
6.1 General	7
6.2 Dimensioning Parameters	7
6.3 Drilling Methods	10
6.3.1 General	10
6.3.2 Pipe Jacking Methods (HFB)	10
6.3.2.1 General	10
6.3.2.2 Ranney Collector Well	11
6.3.2.3 Fehlmann Collector Well	11
6.3.2.4 Preussag Well	11
6.3.3 Steerable Horizontal Directional Drilling	12
6.4 Design and Construction	13

6.4.1	Well Shaft .....	13
6.4.2	Solid-wall Pipes and Well Screen Pipes .....	16
6.4.3	Filter Sands and Filter Gravels .....	17
6.4.4	Development .....	17
6.4.5	Well Testing .....	18
6.5	Regeneration of Horizontal Filtering Wells .....	18
<b>7</b>	<b>Quality Assurance.....</b>	<b>18</b>
7.1	Inspections and Acceptances.....	18
7.2	Documentation .....	18
<b>8</b>	<b>Contract Awarding Procedure .....</b>	<b>19</b>

## Preamble

This Code of Practice has been prepared by a project group of the DVGW Technical Committee on “Water Abstraction”. It provides a basis for the drilling and dimensioning of horizontal boreholes and the construction of horizontal filter wells. This Code of Practice does not discuss cut-and-cover methods - protected by e.g. pit lining - that are sometimes used in the field.

Requirements on how to build technically mature horizontal filter wells at reasonable cost had so far been missing from DVGW Set of Rules.

In terms of hydraulics and hydrochemistry, horizontal filter wells offer the following advantages, among others, over vertical filter wells:

- Little space required
- Inexpensive physical protection
- Utilisation of thin and highly productive aquifers
- Avoidance of excessive oxygen input
- Comparatively long service life thanks to a large well casing surface and/or low critical filter inflow velocity and
- Expansion options by adding more well screen sections or replacements in the same well

Aimed primarily at contract awarding parties and planners, this Code of Practice intends to offer help in evaluating horizontal catchment systems from both a technical and economic point of view, determining the type of construction that best corresponds to the geological conditions of the site and finding the optimal design for a horizontal filter well. Answering the question of whether a horizontal filter well or a series of vertical filter wells would provide the best solution requires taking into account, among other factors, the site-specific hydrogeology as well as investment costs and overhead.