DIN 1988-300:2012-05 (E)

Codes of practice for drinking water installations - Part 300: Pipe sizing; DVGW code of practice

Contents

Page

Foreword 3

1 Scope 5

2 Normative references 5

3 Terms, symbols and units 6

4 Sizing principles 11
4.1 General 11
4.2 Pipe friction 11
4.3 Individual head losses 13

5 Sizing of cold and hot water pipes 14
5.1 General 14
5.2 Design and total flow rates 14
5.2.1 Design flow rate 14
5.2.2 Determining the total flow rate 17
5.3 Determining the peak flow rate 18
5.4 Determining the available friction loss 20
5.4.1 General 20
5.4.2 Percentage head loss due to individual head losses a 20
5.4.3 Total pipe length lges 21
5.4.4 Minimum supply pressure 21
5.4.5 Head loss due to difference in elevation pgeo 21
5.4.6 Sum of head losses in appliances 21
5.5 Pipe sizing for the hydraulically most unfavourable flow path 23
5.6 Flow balancing to obtain the hydraulically more favourable flow path 24
5.7 Special considerations concerning circulation main branch pipe of usage units 24

6 Design of circulation systems 24
6.1 General 24
6.2 Downfeed systems 25
6.2.1 Heat losses and flow rates 25
6.2.2 Diameter of circulation pipes and pump pressure 27
6.3 Upfeed systems 28
6.4 Smart loop systems 29
6.5 Balancing the system 29

7 Documentation 29
7.1 General 29
7.2 Hot and cold water pipes 29
7.3 Circulation systems 30

Annex A (informative) Comparable pipe nominal sizes and resistance coefficients for fittings and valves of dissimilar materials 32

Annex B (informative) Presentation of design assumptions 43

Bibliography 44