

Machine Glass Thermometers Model 32, V-Form

WIKA Data Sheet TM 32.02



Applications

- Universal application
- Machine building
- Tank construction
- Central heating systems
- Plant construction

Special Features

- Vibration resistant
- Non-toxic thermometer liquid
- Measuring ranges from -30 ... +200 °C



Maschine Glass Thermometer Model 32, 90° angle design

Description

Nominal size in mm
110, 150 and 200

Measuring principle
Liquid expansion

Limit of error
DIN 16195

Approval
Germanischer Lloyd for straight design and 90° angle design

Pressure rating of stem
Max. 6 bar

Stem
Ø 10 mm
Ø 6.5 mm with NS 200 x 36 with union nut M24 x 1.5

Case
Aluminium, brass colour anodised

Lettering
Print with special ink, protected by anodised finish

Thermometer glass insert
Rod shape, prismatic capillaries

Nominal size 110 x 30 mm

Design of connection

Design E, male thread

■ Straight design per DIN 16181

Male thread

- G ½ B, M20 x 1.5 (Form B per DIN)
- G ¾ B, M16 x 1.5 (Form B1 per DIN)

Male thread screwed into case

Stem length $l_1 = 30, 40, 63, 100, 160, 250$ mm

Cu-alloy

■ 90° angle design per DIN 16182

Male thread

- G ½ B, M20 x 1.5 (Form S per DIN)
- G ¾ B, M16 x 1.5 (Form S1 per DIN)

Male thread inserted into case, removable

Stem length $l_1 = 30, 40, 63, 100, 160, 250$ mm

Cu-alloy

■ 135° angle design

Male thread

- G ½ B, M20 x 1.5
- G ¾ B, M16 x 1.5

Male thread screwed into case

Stem length $l_1 = 30, 40, 63, 100, 160, 250$ mm

Cu-alloy

Scale ranges

Scale range in °C	Scale spacing in °C	Limit of error in °C	Thermometric liquid
-30 ... +50	1	2	blue, wetting
0 ... +60	1	1.5	blue, wetting
0 ... +100	2	2	blue, wetting
0 ... +120	2	2	blue, wetting
0 ... +160	4	4	blue, wetting
0 ... +200	5	5	blue, wetting

Models

Model	Location of stem	DIN
G 3200	straight	DIN 16181
W 3201	90° angle	DIN 16182
W 3202	135° angle	-

Nominal size 150 x 36 mm

Design of connection

Design E, male thread

■ Straight design per DIN 16185

Male thread

- G ½ B, M20 x 1.5 (Form B per DIN)
- G ¾ B, M27 x 2

Male thread screwed into case

Stem length $l_1 = 63, 100, 160, 250$ mm

Cu-alloy

■ 90° angle design per DIN 16186

Male thread

- G ½ B, M20 x 1.5 (Form S per DIN)
- G ¾ B, M27 x 2

Male thread inserted into case, removable

Stem length $l_1 = 63, 100, 160, 250$ mm

Cu-alloy

■ 135° angle design

Male thread

- G ½ B, M20 x 1.5
- G ¾ B, M27 x 2

Male thread screwed into case

Stem length $l_1 = 63, 100, 160, 250$ mm

Cu-alloy

Scale ranges

Scale range in °C	Scale spacing in °C	Limit of error in °C	Thermometric liquid
-30 ... +50	1	2	blue, wetting
0 ... +60	1	1.5	blue, wetting
0 ... +100	2	2	blue, wetting
0 ... +120	2	2	blue, wetting
0 ... +160	2	4	blue, wetting
0 ... +200	2	4	blue, wetting

Models

Model	Location of stem	DIN
G 3210	straight	DIN 16185
W 3211	90° angle	DIN 16186
W 3212	135° angle	-

Nominal size 200 x 36 mm

Design of connection

Design E, male thread

■ Straight design per DIN 16189

Male thread

- G ½ B, M20 x 1.5 (Form B1 per DIN)
- G ¾ B, M27 x 2 (Form B per DIN)

Male thread screwed into case

Stem length l_1 = 63, 100, 160, 250 mm

Cu-alloy

■ Bauart 90° winklig nach DIN 16190

Male thread

- G ½ B, M20 x 1.5 (Form S1 per DIN)
- G ¾ B, M27 x 2 (Form S per DIN)

Male thread inserted into case, removable

Stem length l_1 = 63, 100, 160, 250 mm

Cu-alloy

■ Bauart 135° winklig

Male thread

- G ½ B, M20 x 1.5 (Form B1 per DIN)
- G ¾ B, M27 x 2 (Form B per DIN)

Male thread screwed into case

Stem length l_1 = 63, 100, 160, 250 mm

Cu-alloy

Scale ranges

Scale range in °C	Scale spacing in °C	Limit of error in °C	Thermometric liquid
-30 ... +50	1	2	blue, wetting
0 ... +60	1	1.5	blue, wetting
0 ... +100	1	2	blue, wetting
0 ... +120	1	2	blue, wetting
0 ... +160	2	4	blue, wetting
0 ... +200	2	4	blue, wetting

Models

Model	Location of stem	DIN
G 3220	straight	DIN 16189
W 3221	90° angle	DIN 16190
W 3222	135° angle	DIN 16191

Options (for all nominal sizes)

- Dual scale °F/°C
- Other scale ranges
- Male thread made of other materials
- Thermowells per DIN made of Cu-alloy, steel, stainless steel or other materials

Design of connection (of choice)

Design 3, union nut

■ Straight design per DIN 16189

Union nut

- G ½, M20 x 1.5 (Form C1 per DIN)
- G ¾, M27 x 2 (Form C per DIN)
- M24 x 1.5 (Form F per DIN)

Connection piece screwed into case, removable

Stem length l_1 :

- Form C1: l_1 = 89, 126, 186, 276, 426 mm
- Form C: l_1 = 93, 130, 190, 280, 430 mm
- Form F: l_1 = 155, 215, 275, 295, 355, 415 mm

Union nut and connection piece in Cu-alloy, tube in St. 35 steel

■ 90° angle per DIN 16190

Union nut

- G ½, M20 x 1.5 (Form C1 per DIN)
- G ¾, M27 x 2 (Form C per DIN)
- M24 x 1.5 (Form F per DIN)

Connection piece inserted into case, removable

Stem length l_1 :

- Form C1: l_1 = 89, 126, 186, 276, 426 mm
- Form C: l_1 = 93, 130, 190, 280, 430 mm
- Form F: l_1 = 155, 215, 275, 295, 355, 415 mm

Union nut and connection piece in Cu-alloy, tube in St. 35 steel

■ 135° angle per DIN 16191

Union nut

- G ½, M20 x 1.5 (Form C1 per DIN)
- G ¾, M27 x 2 (Form C per DIN)
- M24 x 1.5 (Form F per DIN)

Connection piece inserted into case, removable

Stem length l_1 :

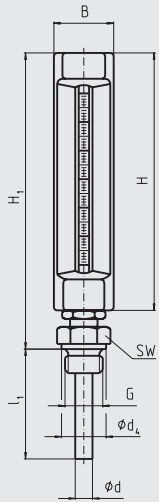
- Form C1: l_1 = 89, 126, 186, 276, 426 mm
- Form C: l_1 = 93, 130, 190, 280, 430 mm
- Form F: l_1 = 155, 215, 275, 295, 355, 415 mm

Union nut and connection piece in Cu-alloy, tube in St. 35 steel

Dimensions in mm

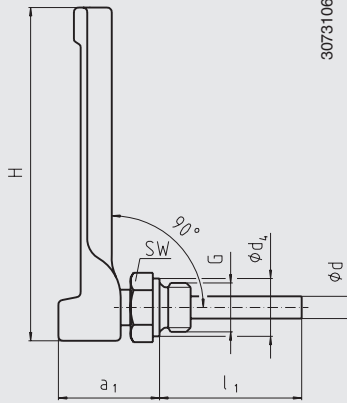
Design of connection E, male thread

straight



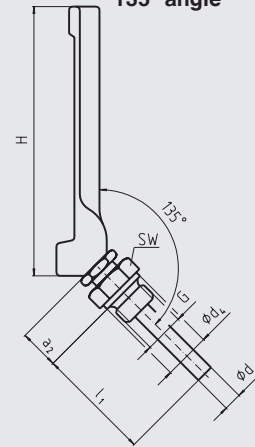
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90° angle



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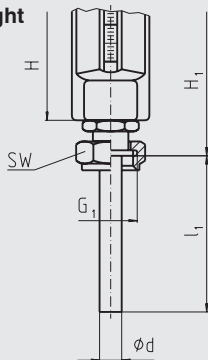
135° angle



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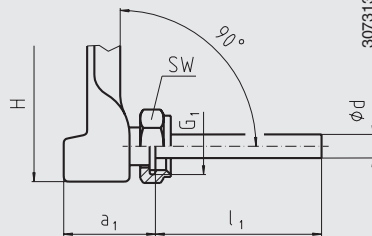
Design of connection 3, union nut (only with NS 200)

straight



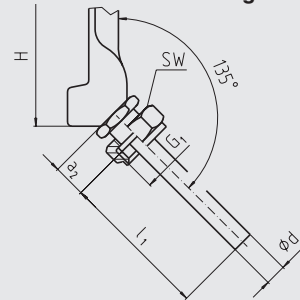
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90° angle



3073130.01

135° angle



3073181.01

NS	Dimensions in mm										Weight in kg
	a ₁	a ₂	B	Ø d	Ø d ₁	G	G ₁	H	H ₁	SW	
110	44	20	30	10	22	G 3/8 B	-	110	130	22	0.25
110	44	20	30	10	21	M16 x 1.5	-	110	130	22	0.25
110	44	20	30	10	26	G 1/2 B	-	110	130	27	0.25
110	44	20	30	10	25	M20 x 1.5	-	110	130	27	0.25
150	46	21	36	10	26	G 1/2 B	-	150	170	27	0.30
150	46	21	36	10	25	M20 x 1.5	-	150	170	27	0.30
150	46	21	36	10	32	G 3/4 B	-	150	170	32	0.30
150	46	21	36	10	32	M27 x 2	-	150	170	32	0.30
200	46	21	36	10	26	G 1/2 B	G 1/2	200	220	27	0.35
200	46	21	36	10	25	M20 x 1.5	M20 x 1.5	200	220	27	0.35
200	46	21	36	10	32	G 3/4 B	G 3/4	200	220	32	0.35
200	46	21	36	10	32	M27 x 2	M27 x 2	200	220	32	0.35
200	46	21	36	6.5	-	-	M24 x 1.5	200	220	32	0.35

Ordering information

Model / Nominal size / Scale range / Design of connection / Length l₁ / Options

The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

