

Machine Glass Thermometer Model 32, V - Form

WIKA Data Sheet TM 32.02

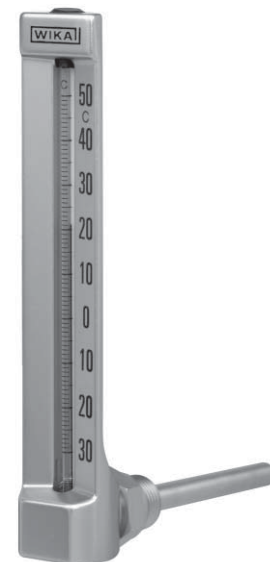


Applications

- Universal application
- Mechanical engineering
- Tank construction
- Central heating systems

Special Features

- Vibration resistant
- Non-toxic thermometer liquid
- Measuring ranges up to -60 ... 200 °C



Machine Glass Thermometer, Model 32
90° angle design

Description

Measuring principle

Liquid expansion

Limit of error

DIN 16 195

Approval

German Lloyd for straight design and 90° angle design

Pressure rating of stem

Max. 6 bar (without thermowell)

Stem

ø 10 mm

ø 6,5 mm with NS 200 x 36 with union nut M 24 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, 150 and 200 mm

Nominal size 110 x 30 mm

Design of connection

Connection E, male thread

Straight design (DIN 16 181)

Male thread

G ½ B, M 20 x 1.5 (Form B to DIN)

G ¾ B, M 16 x 1.5 (Form B1 to DIN)

Male thread screwed into case

Length of stem l_1 = 30, 40, 63, 100, 160, 250, 400 mm

Cu-alloy

90° angle design (DIN 16 182)

Male thread

G ½ B, M 20 x 1.5 (Form S to DIN)

G ¾ B, M 16 x 1.5 (Form S1 to DIN)

Male thread inserted into case, removeable

Length of stem l_1 = 30, 40, 63, 100, 160, 250, 400 mm

Cu-alloy

135° angle design

Male thread

G ½ B, M 20 x 1.5

G ¾ B, M 16 x 1.5

Male thread screwed into case

Length of stem l_1 = 30, 40, 63, 100, 160, 250, 400 mm

Cu-alloy

Scale ranges

Scale range °C	Scale spacing °C	Limit of error °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 16 181
W 3201	90° angle	DIN 16 182
W 3202	135° angle	-

Nominal size 150 x 36 mm

Design of connection

Connection E, male thread

Straight design (DIN 16 185)

Male thread

G ½ B, M 20 x 1.5 (Form B to DIN)

G ¾ B, M 27 x 2

Male thread screwed into case

Length of stem l_1 = 63, 100, 160, 250, 400 mm

Cu-alloy

90° angle design (DIN 16 186)

Male thread

G ½ B, M 20 x 1.5 (Form S to DIN)

G ¾ B, M 27 x 2

Male thread inserted into case, removeable

Length of stem l_1 = 63, 100, 160, 250, 400 mm

Cu-alloy

135° angle design

Male thread

G ½ B, M 20 x 1.5

G ¾ B, M 27 x 2

Male thread screwed into case

Length of stem l_1 = 63, 100, 160, 250, 400 mm

Cu-alloy

Scale ranges

Scale range °C	Scale spacing °C	Limit of error °C	Thermometric liquid
-60 ... + 40	2	2	red, wetting
-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 16 185
W 3211	90° angle	DIN 16 186
W 3212	135° angle	-

Nominal size 200 x 36 mm

Design of connection

Connection E, male thread

Straight connection (DIN 16 189)

Male thread

G ½ B, M 20 x 1.5 (Form B1 to DIN)

G ¾ B, M 27 x 2 (Form B to DIN)

Male thread screwed into case

Length of stem $l_1 = 63, 100, 160, 250, 400$ mm

Cu-alloy

90° angle design (DIN 16 190)

Male thread

G ½ B, M 20 x 1.5 (Form S1 to DIN)

G ¾ B, M 27 x 2 (Form S to DIN)

Male thread inserted into case, removable

Length of stem $l_1 = 63, 100, 160, 250, 400$ mm

Cu-alloy

135° angle design

Male thread

G ½ B, M 20 x 1.5 (Form B1 to DIN)

G ¾ B, M 27 x 2 (Form B to DIN)

Male thread screwed into case

Length of stem $l_1 = 63, 100, 160, 250, 400$ mm

Cu-alloy

Scale ranges

Scale range	Scale spacing	Limit of error	Thermometric liquid
°C	°C	°C	
-60 ... + 40	1	2	red, wetting
-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 16 181
W 3221	90° angle	DIN 16 182
W 3222	135° angle	DIN 16 191

Optional extras (for all nominal sizes)

- Dual scale °F/°C
- Other scale ranges
- Male thread made of other materials
- Thermowells per DIN (data sheet TM 90.01)
made of Cu-alloy, steel, stainless steel or other materials

Design of connection (of choice)

Connection no. 3, union nut

Straight design (DIN 16 189)

Union nut

G ½, M 20 x 1.5 (Form C1 to DIN)

G ¾, M 27 x 2 (Form C to DIN)

M 24 x 1.5 (Form F to DIN)

Connection piece screwed into case, removable

Length of stem 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 design (DIN 16 190)

Union nut

G ½, M 20 x 1.5 (Form C1 to DIN)

G ¾, M 27 x 2 (Form C to DIN)

M 24 x 1.5 (Form F to DIN)

Connection piece inserted into case, removable

Length of stem 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 design (DIN 16 191)

Union nut

G ½, M 20 x 1.5 (Form C1 to DIN)

G ¾, M 27 x 2 (Form C to DIN)

M 24 x 1.5 (Form F to DIN)

Connection piece screwed into case, removable

Length of stem l_1

Form C1: $l_1 = 89, 126, 186, 276, 426$ mm

Form C: $l_1 = 93, 130, 190, 280, 430$ mm

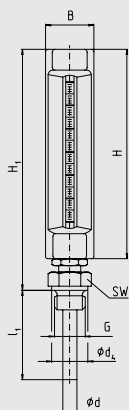
Form F: $l_1 = 155, 215, 275, 295, 355, 415$ mm

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

Dimensions

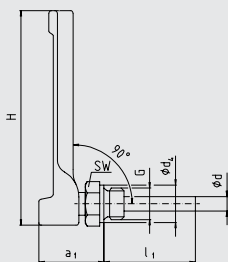
Design of connection E, male thread

Straight



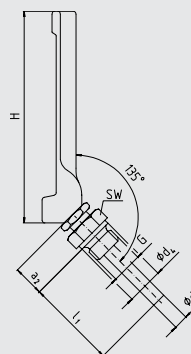
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90° angle



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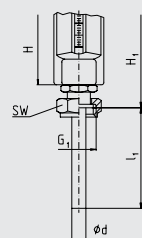
135° angle



3073 114

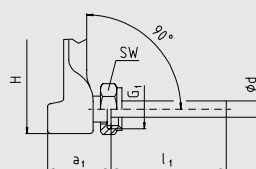
Design of connection no. 3, union nut (only with nominal size 200)

Straight



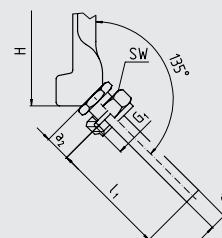
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90° angle



3073 130

135° angle



3073 181

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 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 ½ B	-	110	130	27	0.25
110	44	20	30	10	25	M 20 x 1.5	-	110	130	27	0.25
150	46	21	36	10	26	G ½ B	-	150	170	27	0.30
150	46	21	36	10	25	M 20 x 1.5	-	150	170	27	0.30
150	46	21	36	10	32	G ¾ B	-	150	170	32	0.30
150	46	21	36	10	32	M 27x 2	-	150	170	32	0.30
200	46	21	36	10	26	G ½ B	G ½	200	220	27	0.35
200	46	21	36	10	25	M 20 x 1.5	M 20 x 1.5	200	220	27	0.35
200	46	21	36	10	32	G ¾ B	G ¾	200	220	32	0.35
200	46	21	36	10	32	M 27 x 2	M 27 x 2	200	220	32	0.35
200	46	21	36	6.5	-	-	M 24 x 1.5	200	220	32	0.35

Ordering information

Model / Nominal size / Scale range / Design and size of connection / Optional extras required / Optional extras required

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

