

# Thermomanometer

## For remote mounting with capillaries

### Model MFT, NS 40 [1 ½"], NS 42 [1.7"] and NS 52 [2.1"]

WIKA data sheet PM 01.20



For further approvals,  
see page 5

#### Applications

- Heating systems
- Combi-boilers with hot water and heating

#### Special features

- Combined indication of Bourdon tube pressure gauge and expansion thermometer
- Capillaries allow remote mounting
- Scale ranges to 0 ... 4 bar [0 ... 60 psi] and 0 ... 120 °C [32 ... 302 °F]

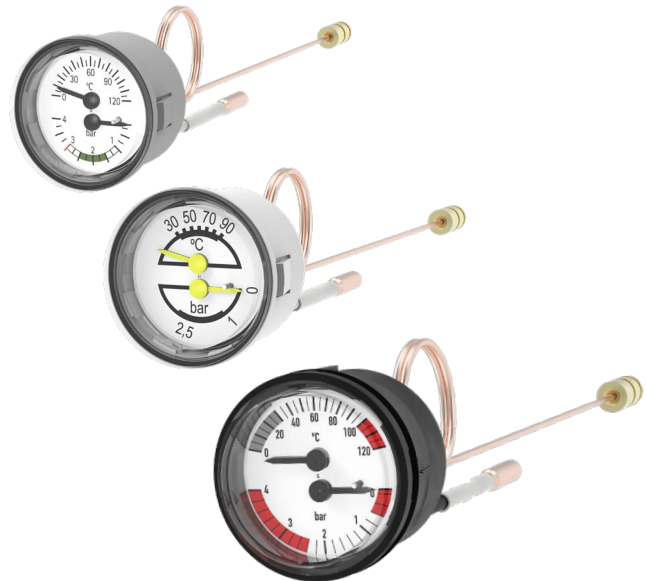


Fig. top: model MFT NS 40 [1 ½"]

Fig. middle: model MFT NS 42 [1.7"]

Fig. bottom: model MFT NS 52 [2.1"]

## Description

Thermomanometers combine the measurement of pressure and temperature in one instrument. This enables the control of both measurands at one single measuring location. With the capillaries the indicator can be mounted remotely from the process connection.

WIKA manufactures and qualifies this instrument in line with the standards EN 837-1 and EN 13190.

## Specifications

Basic information	
<b>Standard</b>	
Pressure	In line with EN 837-1 → For information on the "Selection, installation, handling and operation of pressure gauges", see technical information IN 00.05.
Temperature	In line with EN 13190
<b>Nominal size (NS)</b>	<ul style="list-style-type: none"> <li>■ Ø 40 mm [1 ½"]</li> <li>■ Ø 42 mm [1.7"]</li> <li>■ Ø 52 mm [2.1"]</li> </ul>
<b>Connection location</b>	Back mount
<b>Window</b>	Plastic, crystal-clear, snap-fitted in case
<b>Case</b>	
Material	Plastic
Colour	<ul style="list-style-type: none"> <li>■ Black</li> <li>■ Grey</li> </ul>
<b>Mounting</b>	Locating lugs on the case side
<b>Movement</b>	Copper alloy

Measuring element	
<b>Type of measuring element</b>	
Pressure	Bourdon tube, C-type
Temperature	Bourdon tube, C-type
<b>Material</b>	Copper alloy

Accuracy specifications	
<b>Accuracy class</b>	
Pressure	Class 2.5 per EN 837-1
Temperature	±4 °C [±7.2 °F]
<b>Temperature error, pressure and temperature</b>	On deviation from the reference conditions at the measuring system: ≤ ±0.4 % per 10 °C [≤ ±0.4 % per 18 °F] of full scale value
<b>Reference conditions</b>	
Ambient temperature	+20 °C [+68 °F]

## Scale ranges for pressure

bar	
0 ... 4	0 ... 8
0 ... 6	-

MPa	
0 ... 0.4	0 ... 0.8
0 ... 0.6	-

psi	
0 ... 60	0 ... 150
0 ... 100	0 ... 200

## Scale ranges for temperature

Scale range in °C	Measuring range in °C	Scale interval in °C	Error limit ±°C
0 ... 120	20 ... 60	5	4

→ Other scale ranges on request

Further details on: scale ranges		
<b>Special scale ranges</b>	Other scale ranges on request	
<b>Unit</b>		
Pressure	<input type="checkbox"/> bar <input type="checkbox"/> MPa <input type="checkbox"/> psi	
Temperature	<input type="checkbox"/> °C <input type="checkbox"/> °F	
<b>Dial</b>		
Scale colour	Black	
Scale position	Pressure	Bottom
	Temperature	Top
Material	Plastic, white	
Special scale	Customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request	
<b>Pointer</b>		
Instrument pointer	Pressure	Black
	Temperature	Black
Material	Plastic, black	
<b>Pointer stop pin</b>	At zero point (only for pressure scale)	

Process connection		
<b>Size, pressure</b>		
DIN EN ISO 228-1	G ¼ B, male thread, rotatable	
ISO 7	R ¼, male thread, rotatable	
ANSI/B1.20.1	¼ NPT, male thread, rotatable	
<b>Size, temperature</b>		
EN 13190, connection design 1	Ø 6 mm [0.23 in]	
<b>Capillary, pressure</b>		
Material	<ul style="list-style-type: none"> <li>■ Copper</li> <li>■ Copper, PE-coated</li> </ul>	
Length	Copper capillary	86 ... 2,000 mm [3.4 ... 78.7 in]
	Copper capillary, PE-coated	195 ... 2,000 mm [7.7 ... 78.7 in]
<b>Capillary, temperature</b>		
Copper, PE-coated, ≤ 2,000 mm [≤ 78.7 in]		
<b>Material (wetted)</b>		
Process connection	Copper alloy	
Bourdon tube	Copper alloy	
Temperature sensor	Copper alloy	
Capillary	Copper alloy	



→ Other process connections on request

Operating conditions	
<b>Medium temperature</b>	-20 ... +120 °C [-4 ... +248 °F]
<b>Pressure limitation</b>	
Steady	¾ x full scale value
Fluctuating	⅔ x full scale value
Short time	Full scale value

## Approvals

Logo	Description	Region
-	<b>CRN</b> Safety (e.g. electr. safety, overpressure, ...) For full scale value $\leq 1,000$ bar	Canada

### Optional approvals

Logo	Description	Region
	<b>PAC Kazakhstan</b> Metrology, measurement technology	Kazakhstan
-	<b>PAC Ukraine</b> Metrology, measurement technology	Ukraine
	<b>PAC Uzbekistan</b> Metrology, measurement technology	Uzbekistan

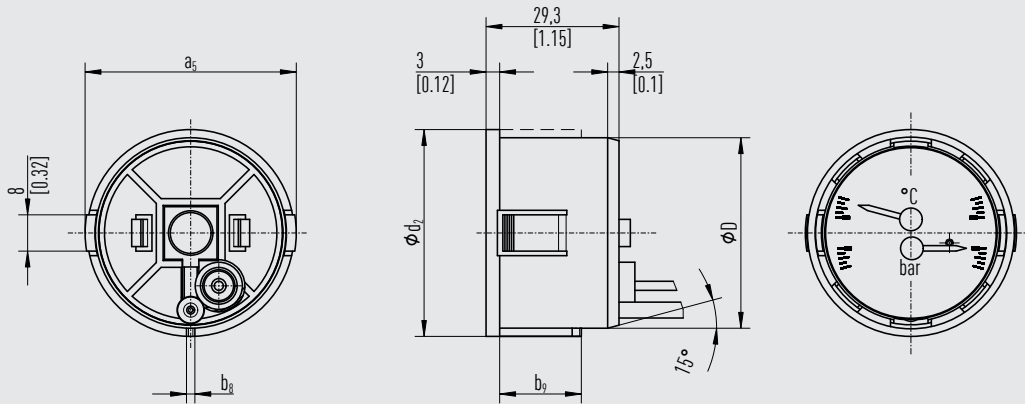
## Certificates (option)

Certificates	
<b>Certificates</b>	2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, indication accuracy)
<b>Recommended calibration interval</b>	1 year (dependent on conditions of use)

→ For approvals and certificates, see website

## Dimensions in mm [in]

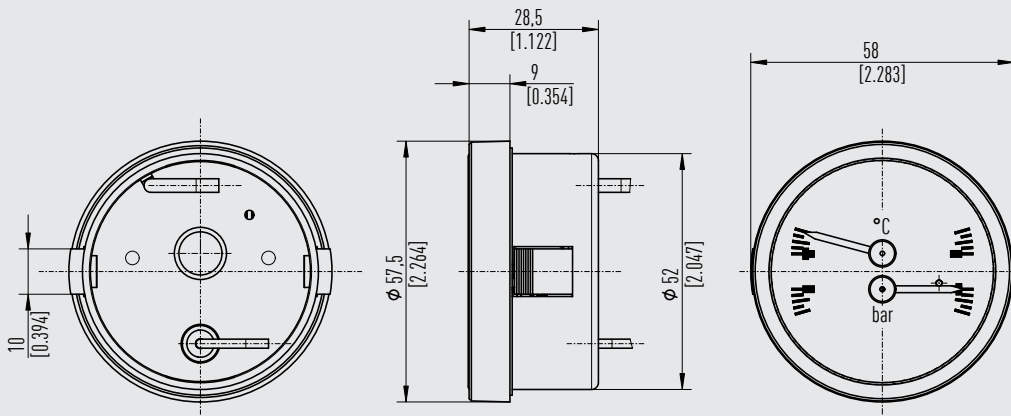
### Model MFT, NS 40 [1 ½"] and NS 42 [1.7"]



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NS	Dimensions in mm [in]					Weight in g [oz]
	D	d <sub>2</sub>	a <sub>5</sub>	b <sub>8</sub>	b <sub>9</sub>	
40 [1 ½"]	40 [1.58]	43 [1.7]	43.5 [1.71]	3 [0.12]	18 [0.71]	Approx. 70 [2.5]
42 [1.7"]	42 [1.65]	45 [1.77]	45.9 [1.81]	1.8 [0.07]	18 [0.71]	Approx. 80 [2.8]

### Model MFT, NS 52 [2.1"]

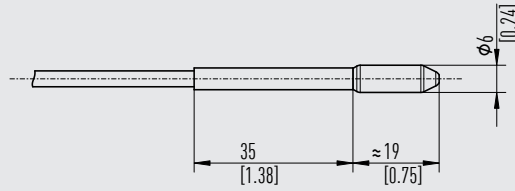


Weight: approx. 100 g [3.5 oz]

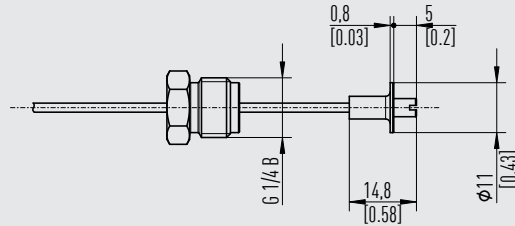
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## Process connection

### Temperature

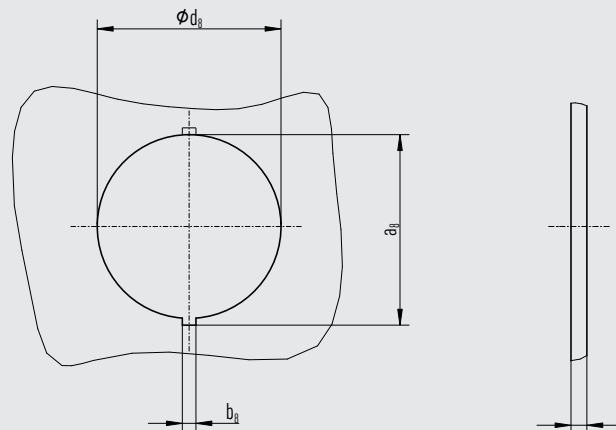


### Pressure



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## Panel cutout



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NS	Dimensions in mm [in]			
	$d_8 + 0.3$ [0.01]	$a_8$	$b_8 + 0.1$ [0.004]	t
40 [1 1/2"]	40.5 [1.59]	43 [1.7]	3.1 [0.122]	0.8 ... 3.5 [0.03 ... 0.14]
42 [1.7"]	42.5 [1.67]	45 [1.77]	2 [0.08]	0.8 ... 3.5 [0.03 ... 0.14]
52 [2.1"]	52.5 [2.07]	-	-	0.8 ... 3.5 [0.03 ... 0.14]

## Accessories and spare parts

Model	Description	Order number
	910.17 Seals → See data sheet AC 09.08	-

### Ordering information

Model / Nominal size / Scale range / Process connection / Connection location / Options

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