



**Kiwa GmbH**  
Bautest Augsburg  
Finkenweg 7  
86368 Gersthofen

Kiwa GmbH, Finkenweg 7, 86368 Gersthofen

Hauff-Technik GmbH & Co. KG  
Robert-Bosch-Straße 9  
89568 Hermaringen

T: +49 (0) 821 72024 – 0  
F: +49 (0) 821 72024 – 40  
E: [DE.Info.KiwaAugsburg@kiwa.com](mailto:DE.Info.KiwaAugsburg@kiwa.com)

[www.kiwa.com/de](http://www.kiwa.com/de)

Project:	Watertightness test with "MSH Basic FUBO SR4 EBT"
Producer:	Hauff-Technik Hermaringen
Date of order:	3 Feb. 2023
Examination of:	Watertightness test at $\geq 1,0$ bar for 28 days
Description:	Mehrspartenhouseinführung set in watertight concrete test specimen
Number of samples/ specimen:	1
Sampling by:	By client
Sampling receipt:	7 Feb. 2023
Test period:	Feb. – April 2023
Remark:	Translation of Test Report A23420104-01 (dt), 25 April 2023

Gersthofen, 25 April 2023

[	[
i. V. Dr.-Ing. Massimo Sosoro - Teamleader -	i. A. M. Eng. Johannes Thienel - Project leader -
]	]

QMF P\_A 101\_b\_R\_3\_16.12.2020

The test results relate only on the items tested. Without the written approval of the testing laboratory, a duplication in extracts of the test report is not permitted. In case of doubt and disagreements, the original version of the Test Report is valid.

<sup>a)</sup> Information provided by the client <sup>b)</sup> Modification.

Managing director: Prof. Dr. Roland Hüttl, Dr. Gero Schönwaßer  
District court of Hamburg, HRB 130568, St.Nr.: 46/736/03268



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## 1. General

Kiwa GmbH was contracted by Hauff-Technik GmbH & Co. KG to test the water tightness of the MSH Basic FUBO SR4 EBT set in a watertight concrete test specimen.

Therefore Hauff-Technik GmbH & Co. KG delivered the final test setup with concreted MSH to our laboratory in Gersthofen (see Figure 1 and Figure 2).



Figure 1. Test setup – Top.



Figure 2. Test setup – Bottom.

## 2. Reference

- [1] Hauff-Technik GmbH & Co. KG - „Montageanleitung – MSH Basic FUBO SR4 EBT“. Rev.: 00/2022-01-26
- [2] WIKA Polska sp. z o.o. sp. k. - “Abnahmeprüfzeugnis nach EN 10204 - 3.1. Zeugnis-Nr. WC025516. Ausgabedatum: 09.09.2022.

## 3. Watertightness test

The test specimen delivered by Hauff-Technik GmbH & Co. KG is a test setup assembled by the manufacturer (see Figure 3) with a pre-assembled manometer.

A calibration of the assembled manometer (serial no. 54056QA1 [2]) was performed by WIKA Polska sp. z o.o. sp. k. (see Section 6).

After prior consultation with the manufacturer the test of the water tightness with permanently attached water pressure was performed with  $\geq 1,0$  bar for 28 days (see Figure 4).

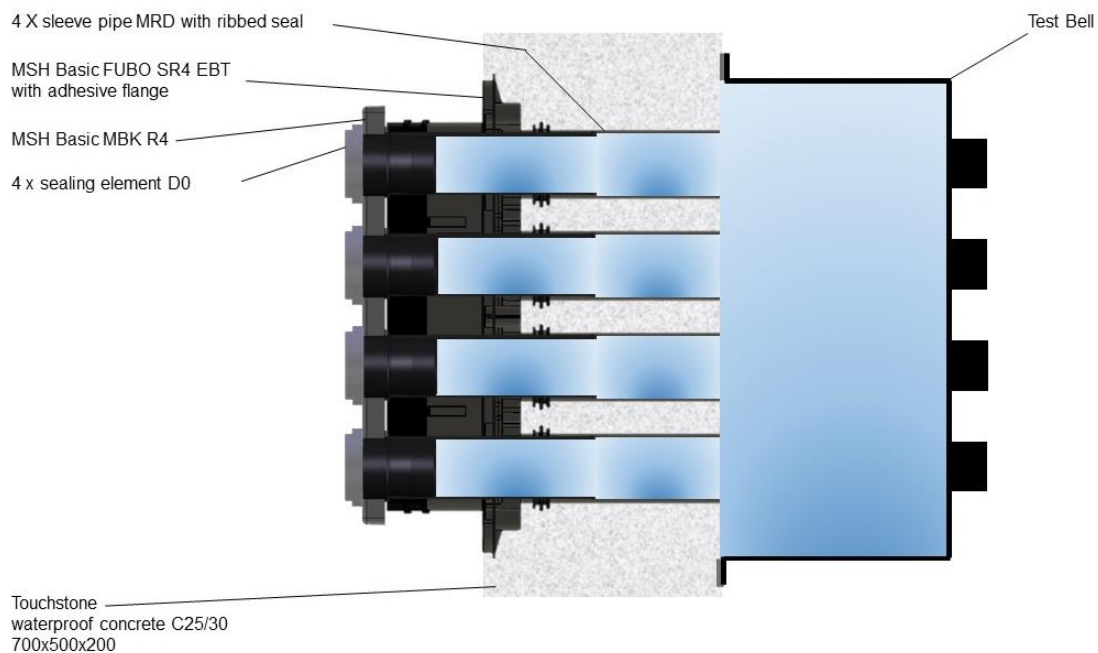


Figure 3. Details of test setup – manufacturer’s drawing



Figure 4. Water pressure  $\geq 1,0$  bar.

#### 4. Test results

During the watertightness tests no leakages were detected.

Table 1. Results of the watertightness test.

Test specimen	Water pressure at the beginning of testing [bar]	Water pressure at the end of testing [bar]	Testing period [d]	Remark
MSH Basic FUBO SR4 EBT	$\geq 1,0$ bar	$\geq 1,0$ bar	28	no leakages were detected

#### 5. Summary

*During the watertightness test with the Mehrspartenhauseinführung „MSH Basic FUBO SR4 EBT“, no leaks in the systems were found at a water pressure of  $\geq 1.0$  bar over a period of 28 days.*

## 6. Calibration certificate

**Wika Polska sp. z o.o. sp. k.**

Inspection certificate according to EN 10204 – 3.1  
*Abnahmeprüfzeugnis nach EN 10204 – 3.1*



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Customer:  
Kunde: **Haufl-Technik GmbH & Co. KG**  
 Robert-Bosch-Straße 9  
 Hermingen  
 89568  
 DE

Certificate No.  
Zeugnis-Nr. **WC025516**

Date  
Datum **09.09.2022**

Customer Order No. Kundenbestellnummer	<b>MC11004024041</b>	Customer Part. No. Kunden Artikel-Nr.	Order Date Bestelldatum	<b>20.09.2022</b>
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Order No. / Item Auftrags-Nr. / Pos.	<b>24241562/3</b> 33378739	Part No. Artikel-Nr.	<b>14225186</b>
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Model Typ	<b>111.10.063</b>	Serial number Seriennummer	<b>54056QA1</b>	Scale range Anzeigebereich	<b>0 ... 2,5 bar rel.</b>
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Class Klasse	<b>2,50 %</b>	Tag No. Messstellen-Nr.	
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Reference Referenzgerät	<b>CPG2500 0,01% -1 ... 2,7 bar rel.</b>	Calibration No. Kalibrierungsnummer	<b>SW-23-22 WPL 23-03</b>
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Article text  
Artikeltext **Bourdon tube pressure gauges,model 111**

QMF P.A. 101\_b\_R-3\_16.12.2020

Wika Polska sp. z o.o. sp. k.  
 ul. Legsna 29/35  
 87-800 Włocławek  
 Polska

Tel. +48 54 23 01 100  
 Fax +48 54 23 01 101  
 info@wikapolska.pl  
 www.wikapolska.pl

<sup>a)</sup> Information provided by the client <sup>b)</sup> Modification.

**Wika Polska sp. z o.o. sp. k.**  
 Inspection certificate according to EN 10204 – 3.1  
 Abnahmeprüfzeugnis nach EN 10204 – 3.1



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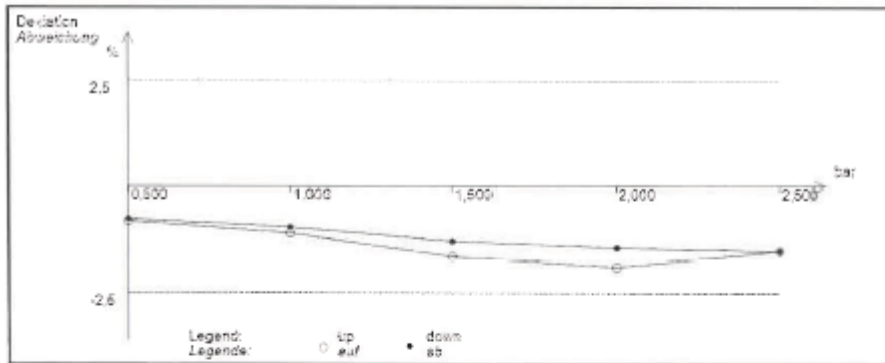
Customer:  
Kunde: **Hauff-Technik GmbH & Co. KG**  
 Robert-Bosch-Straße 9  
 Hemmingen  
 89568  
 DE

Certificate No.  
Zeugnis-Nr. **WC025516**

Date  
Datum **09.09.2022**

Result  
Ergebnis Temperature  
Temperatur **20°C +/- 5 K**

Test Item Prüfung bar	Standard Referenz bar	Minimum Mittelwert bar	rel. Deviation rel. Abweichung bar	Deviation Abweichung %	Hysteresis Hysterese %
0.500	0.520	0.519	0.520	-0.020	-0.79
1.000	1.027	1.024	1.026	-0.020	-1.03
1.500	1.541	1.532	1.537	-0.007	-1.47
2.000	2.047	2.036	2.042	-0.042	-1.67
2.500	2.539	2.538	2.538	-0.038	-1.52
					0.00



Object keeps the specification.  
 Der Kalibriergegenstand hält die Fehlergrenzen nach Herstellerangaben ein.

Calibration was carried out according to the following norm:  
 Die Kalibrierung erfolgte auf der Grundlage der folgenden Norm: **DIN EN 837-1**

Remarks / Bemerkung:

Inspection Representative (GA) Examinier  
 Abnahmebeauftragter **Pawel Golasinski** Prüfer **S.Piekarski**

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WKA Polska sp. z o.o. sp. k.  
 ul. Legska 29/35  
 87-800 Wodzislaw  
 Polska

Tel.: +48 54 23-01-100  
 Fax: +48 54 23-01-101  
 info@wikapolska.pl  
 www.wikapolska.pl

Gersthofen, 25 April 2023

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