

# Diaphragm-Type Sanitary Gauge Assembly Type M93X.3A

WIKA Data Sheet M93X.3A

## Applications

- Food & Beverage
- Pharmaceutical Industry
- Biotechnology

## Description

### Design

All-welded construction in full compliance with '3A' third party standards and meets the most rigorous biopharmaceutical industry specifications. This assembly has all the advantages of the 23X.50 series mechanical gauge (ASME B40.100 & EN 837-1) and WIKA combines it with a superior designed sanitary diaphragm seal. All external stainless steel surfaces are electropolished and the wetted components have full material identification and traceability. The diaphragm and its body have matching convolution patterns to greatly reduce potential diaphragm damage due to mishandling and to minimize temperature effects.

### Gauge Nominal Size

2-1/2" or 4" – Lower and Back Mount

### Process Connection

1-1/2" to 4" Tri-Clamp® ('3A' third party compliant)

### Pressure Range

Vacuum and 0 to 15 psi up to 0 to 1000 psi, includes compound ranges (maximum working pressure is limited by installation clamp rating). Clamp provided by others

### Operating Temperature

Ambient: +25°F to +140°F (-4°C to +60°C) – dry or glycerine filled case  
 Process: +25°F to +300°F (-4°C to +149°C)  
 Autoclave: 300°F for one hour  
 (polysulfone window and dry case w/weep holes)

### Dial

White aluminum with black lettering

### Accuracy

(Ref. @ 73° F)  
 2-1/2": ±2/1/2% of span  
 4": ±1.0% of span

### Temperature Effects

0.06 psi maximum per every 10°F process and ambient temperature change

### System Fill (FDA Approved)

Glycerine, KN 7 - Non-vacuum application  
 Mineral Oil, KN 92 - Vacuum application

### Wetted Material

316L stainless steel electropolished



M93X.3A Sanitary Gauge

### Case Material

304 stainless steel electropolished case with vent plug and stainless steel electropolished twist lock removable bayonet ring.

### Window

Polycarbonate or Polysulfone

### Pointer

Black aluminum, micro-adjustable, designed for zero adjustment in field

### Bourdon Tube & Movement

316L stainless steel bourdon tube and stainless steel movement

### Weather Protection

Weather tight to NEMA 4X / IP65 (without optional autoclave weep holes)

### Serial Number and Part Number Engraved in case of gauge

**Material Identification and Heat Numbers**  
 Engraved in seal body or gauge case

### Documentation

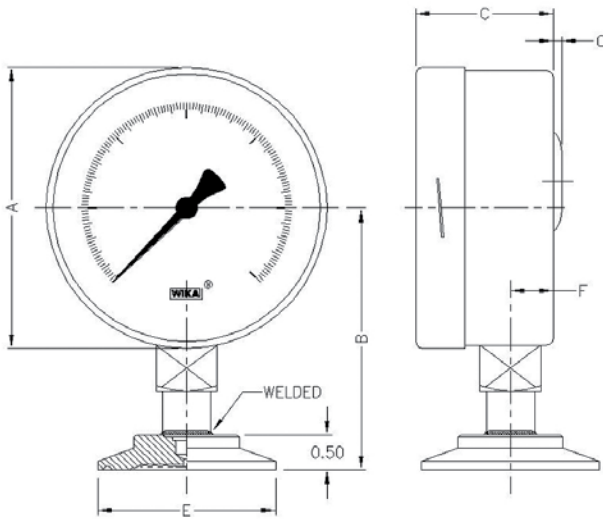
Calibration Conformance Report supplied with each assembly (not a direct substitute for NIST certificate).  
 Material Conformance documents supplied with each assembly (not a substitute for 3.1b material certificate)

### Available Options

See Selection Guide (over)

### Additional pressure ranges available upon request.

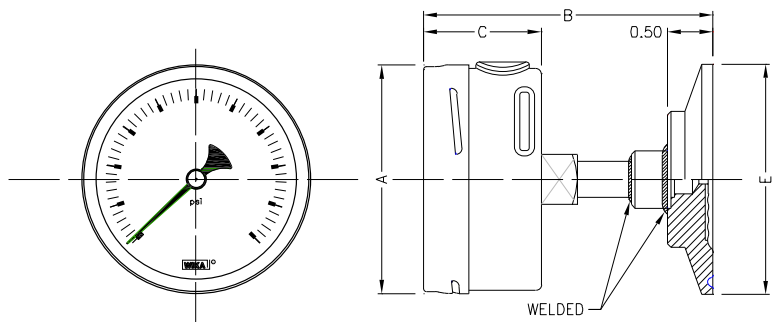
To determine the effects of temperature and response time in a specific application, contact the factory for an **Application Questionnaire**. The information provided will allow WIKA Technical Support to accurately model your application parameters using state-of-the-art computer simulation techniques.



(1)=NOMINAL SIZE  
 ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED  
 SURFACE ROUGHNESS IS 32RMS UNLESS OTHERWISE NOTED

GAUGE	SEAL	A(1)	B	C	E	F
2-1/2"	1.5" TRI-CLAMP	2.5	2.5	1.34	1.98	.37
	2.0" TRI-CLAMP				2.52	
4"	1.5" TRI-CLAMP	4.0	3.9	1.95	1.98	0.61
	2.0" TRI-CLAMP				2.52	

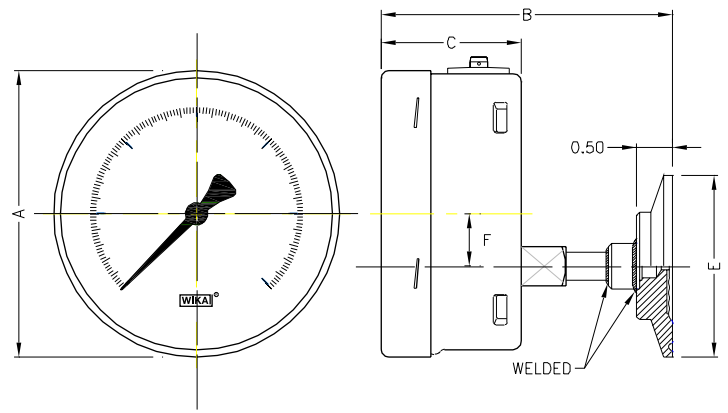
**2 1/2" & 4" Lower Mount**



(1)=NOMINAL SIZE  
 ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED

GAUGE	SEAL	A(1)	B	C	E
2.5"	1.5" TRI-CLAMP	2.5	3.1	1.30	1.98
	2.0" TRI-CLAMP				2.52

**2 1/2" Center Back Mount**



(1)=NOMINAL SIZE  
 ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED

GAUGE	SEAL	A(1)	B	C	E	F
4"	1.5" TRI-CLAMP	4.0	4.05	1.95	1.98	0.73
	2.0" TRI-CLAMP				2.52	

**4" Lower Back Mount**

## Order Code for Sanitary Gauge Assembly Type M93X.3A

Field No.	Code		
1	<b>Case Filling Fluid</b>		
	2	Without	
	3	Glycerine (Standard)	
2	<b>Nominal Size</b>		
	C	2.5"	
	E	4.0"	
3	<b>Unit</b>		
	P	psi	
	S	Special Pressure Range	
4	<b>Range</b>		
	V310	-30 inHg...0	
	V321	-30 inHg...15 psi	
	V331	-30 inHg...30 psi	
	V352	-30 inHg...60 psi	
	V379	-30 inHg...100 psi	
	V412	-30 inHg...160 psi	
	V415	-30 inHg...200 psi	
	G310	0 psi...15 psi	
	G321	0 psi...30 psi	
	G341	0 psi...60 psi	
	G369	0 psi...100 psi	
	G411	0 psi...160 psi	
	G414	0 psi...200 psi	
	G421	0 psi...300 psi	
	G428	0 psi...400 psi	
	G441	0 psi...600 psi	
	G455	0 psi...800 psi	
	5	<b>2nd Scale / Special Scale</b>	
		K	2nd Scale kg/cm <sup>2</sup>
B		2nd Scale bar	
L		2nd Scale kPa	
Z		Without	
6	<b>Connector Position</b>		
	U	Lower Mount	
	3	Lower Back Mount (available only with 4" case size)	
	B	Center Back Mount (available only with 2.5" case size)	
	?	Other - Please Specify	

## Order Code for Sanitary Gauge Assembly Type M93X.3A cont'd

Field No.	Code	
	<b>Window</b>	
<b>7</b>	E	Polycarbonate
	8	Polysulfone
	<b>Process Connection</b>	
<b>8</b>	A83	1 1/2" Tri-Clamp®
	A84	2" Tri-Clamp®
	A91	2 1/2" Tri-Clamp®
	A85	3" Tri-Clamp®
	A86	4" Tri-Clamp®
	???	Other - Please Specify
	<b>Material of Wetted Parts</b>	
<b>9</b>	B2	Stainless Steel 316L (1.4435) Electropolished
	A7	Hastelloy C276 (2.4819)
	??	Other - Please Specify
	<b>Fill Fluid</b>	
<b>10</b>	F1	KN 7 Glycerine (not available for vacuum or compound ranges)
	K5	KN 59 - NEOBEE® 20
	K3	KN 93 - Food Grade Silicone (350 CST)
	J1	KN 92 - Mineral Oil
	??	Other - Please Specify
	<b>Gasket (Process Seal)</b>	
<b>11</b>	Z	Without
	<b>Quality Certificates</b>	
<b>12</b>	Z	Without
	2	Certification 2.2 EN 10204
	3	Certification 3.1 EN 10204
	<b>Additional Order Details</b>	
<b>13</b>	Z	Without
	T	Additional Order Details

Order Code:

1
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**M93**  **.3A** -  -    -   -     -

\*Additional order details \_\_\_\_\_

Specifications given in this price list represent the state of engineering at the time of printing. Modifications may take place and the specified materials may change without prior notice



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