

Bourdon Tube Pressure Gauges

Industrial Stainless Steel Gauge

Type 232.54 - Dry Case

Type 233.54 - Liquid-filled Case

WIKA Datasheet 23X.54

Applications

- Intended for adverse service conditions where pulsating or vibration exists
- Process industry: chemical/petrochemical, power stations, mining, on and offshore, environmental technology, mechanical engineering and plant construction
- Suitable for gaseous or liquid media that will not obstruct the pressure system

Product features

- Vibration and shock resistant (with liquid filling)
- All stainless steel construction
- Pressure ranges up to 15,000 psi
- FlexWindow™ option with integrated pressure compensation and 100% case fill (*)

Specifications

Design

ASME B40.100 & EN 837-1

Sizes

2½" & 4" (63 & 100 mm)

Accuracy class

2½": ± 2/1/2% of span (ASME B40.100 Grade A)

4": ± 1% of span (ASME B40.100 Grade 1A)

Ranges

Vacuum / Compound to 200 psi (16 bar)

Pressure from 15 psi (1 bar) to 15,000 psi (1000 bar)

or other equivalent units of pressure or vacuum

Working pressure

2½": Steady: 3/4 scale value
 Fluctuating: 2/3 full scale value
 Short time: full scale value

4": Steady: full scale value
 Fluctuating: 0.9 x full scale value
 Short time: 1.3 x full scale value

Operating temperature

Ambient: -40°F to +140°F (-40°C to +60°C) - dry

-4°F to +140°F (-20°C to +60°C) - glycerine filled

-40°F to +140°F (-40°C to +60°C) - silicone filled

Medium: +212°F (+100°C) maximum



Bourdon Tube Pressure Gauge Model 232.54

Temperature error

Additional error when temperature changes from reference temperature of 68°F (20°C) ±0.4% of span for every 18°F (10°K) rising or falling.

Ingress protection

IP 65 per EN 60529 / IEC 60259

IP 66 (NEMA 4) with FlexWindow option (2½" only)

Pressure connection

Material: 316 stainless steel

Lower mount (LM) or center back mount (CBM) - 2½"

Lower mount (LM) or lower back mount (LBM) - 4"

1/4" NPT or 1/2" NPT limited to wrench flat area

Bourdon tube

Material: 316L stainless steel

< 1,500 psi (100 bar): C-shape,

≥ 1,500 psi (100 bar): Helical type

Movement

300-series stainless steel

Dial

White aluminum with black lettering; 2½" size with stop pin

Pointer

Black aluminum, friction adjustable

Case

304 stainless steel with vent plug for ranges ≤ 300 psi (FlexWindow option without vent plug) and polished stainless steel bayonet ring. Suitable for liquid filling. Welded case/socket connection.

Window

Laminated safety glass with Buna-N gasket
FlexWindow (clear liquid silicone rubber)

Case fill

Glycerine 99.7% - Type 233.54

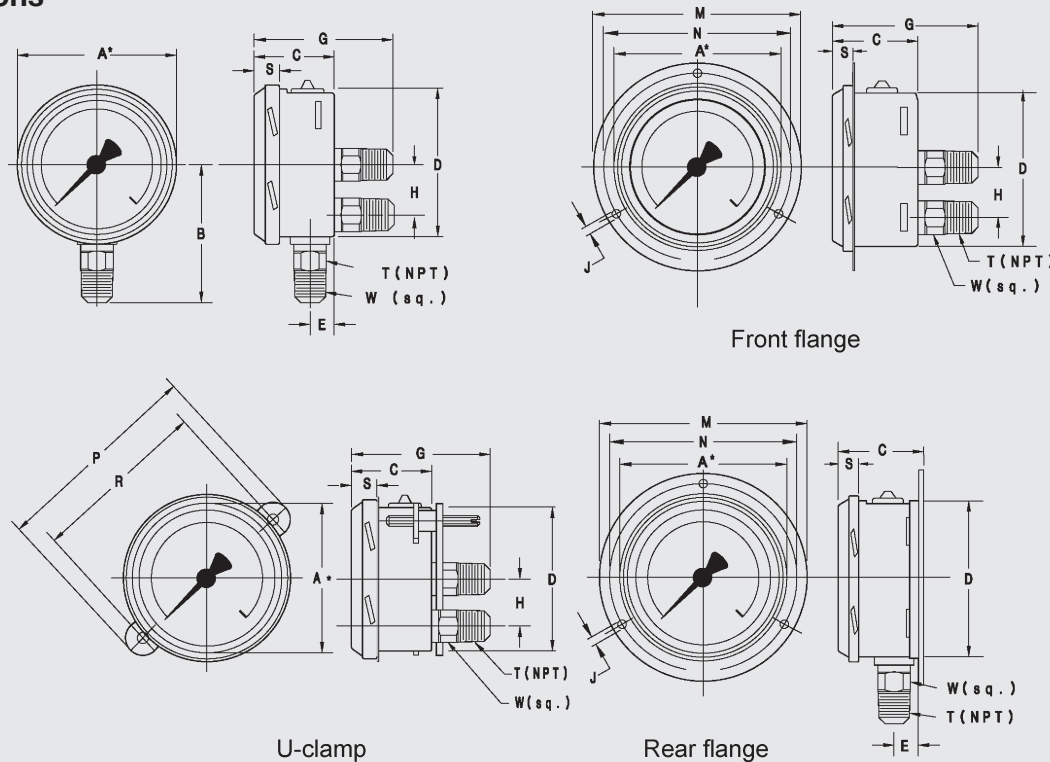
100% Case fill with integrated pressure compensation with FlexWindow option (only available in 2½")

Optional extras

- 316SS restrictor
- Accuracy $\pm 1.0\%$ of full scale (2½" size)
- Stainless steel front or rear flange
- Zinc-plated steel or SS u-clamp bracket (field installable)
- Red drag pointer or mark pointer (*)
- Silicone or Halocarbon oil case filling (*)
- Special connections limited to wrench flat area
- Cleaned for O2 service (*)
- Custom dial layout
- Other pressure scales available
bar, kPa, MPa, kg/cm² and dual scales

(*) Not available with FlexWindow

Dimensions



Size		A	B	C	D	E	G	H	J	M	N	P	R	S	T	W	Weight
2.5"	mm	70	54	33.5	62	13	55.5	-	3.6	85	75	87	72	12		14	0.36 lb. dry
	in	2.75	2.13	1.32	2.44	0.51	2.19	-	0.14	3.35	2.95	3.43	2.83	0.47	1/4"	0.55	0.44 lb. filled
4"	mm	110	87	49.5	100	15.5	81	30	4.8	132	116	125	110	15		22	1.10 lb. dry
	in	4.30	3.43	1.95	3.94	0.61	3.19	1.18	0.19	5.20	4.57	4.92	4.33	0.59	1/2"	0.87	1.76 lb. filled

Recommended panel cutout is dimension D + 3 mm

Quick Order Guide/Standard Items - 23X.54 2½"

Specifications according to data sheet
Nominal size

23X.53 and 23X.54
2.5"

Standard features

Measuring System
Process Connection
Case material

Stainless Steel
1/4 NPT
Stainless steel 1.4301 (standard)

Ordering information

Case		Removable bayonet ring					
Case filling		without				with	
Connector location							
Unit of outer Scale		psi / -inHg		psi / -inHg		psi / -inHg	
Scale range	2nd Scale / Special Scale	without	2nd scale bar	without	2nd scale bar	without	without
0/15 psi		9744894	9735114	9745130	9735254	9831856	9832101
0/30 psi		9744908	9735122	9745149	9735262	9831865	9832119
0/60 psi		9744916	9735130	9745157	9735270	9831873	9832127
0/100 psi		9744924	9735148	9745165	9735288	9831881	9832135
0/160 psi		9744932	9735156	9745173	9735296	9831899	9832144
0/200 psi		9744940	9837642	9745181	4310489	9831903	9832152
0/300 psi		9744959	9735165	9745190	9735300	9831911	9832160
0/400 psi		9744967	9744967-0006	9745203	50092481	9831929	9832178
0/600 psi		9744975	9735173	9745211	9735318	9831937	9832186
0/800 psi		9744983	52912480	9745220	52912486	9831945	9832195
0/1000 psi		9744991	9735181	9745238	9735326	9831954	9832208
0/1500 psi		9745009	9735199	9745246	9735335	9831962	9832216
0/2000 psi		9745017	9745017-0012	9745254	50507176	9831970	9832225
0/3000 psi		9745025	9735203	9745262	9735343	9831988	9832233
0/5000 psi		9745033	9735211	9745270	9735351	9831996	9832241
0/10000 psi		9745041	9735229	9745289	9735369	9832004	9832259
0/15000 psi		9745050	9735237	9745297	9735377	9832012	9832267
-30 inHg/0 psi		9744827	9735245	9745068	9735385	9831784	9832020
-30 inHg/15 psi		9744835	52857154	9745076	50092430	9831792	9832046
-30 inHg/30 psi		9744843	50092391	9745084	52698301	9831805	9832055
-30 inHg/60 psi		9744851	50422481	9745092	50946609	9831814	9832063
-30 inHg/100 psi		9744860	52912481	9745106	55813481	9831822	9832071
-30 inHg/160 psi		9744878	52802429	9745114	52912485	9831830	9832089
-30 inHg/200 psi		9744886	52912482	9745122	52912484	9831848	9832097

	available on stock
	available after production
-	not available

Standard Order Code - 23X.54 2½"

		Measuring System
1	3	Stainless Steel
		Case filling
	2	without
2	3	with
		Case
3	54	Removable bayonet ring
		Unit of outer Scale
	B	bar
	P	psi / -inHg
	L	kPa
	E	MPa
4	K	kg/cm2
		Measuring range
	G	gauge pressure range
5	V	vacuum- or compound-range
		Scale range
	310	0/15 psi (-30"Hg/0)
	321	0/30 psi (-30"Hg/15 psi)
	341	0/60 psi
	369	0/100 psi
	411	0/160 psi
	414	0/200 psi
	421	0/300 psi
	428	0/400 psi
	441	0/600 psi
	455	0/800 psi
	469	0/1000 psi
	510	0/1500 psi
	514	0/2000 psi
	521	0/3000 psi
	528	0/4000 psi
	534	0/5000 psi
	541	0/6000 psi
	552	0/7500 psi
	569	0/10000 psi
	610	0/15000 psi
	331	-30 inHg/30 psi
	352	-30 inHg/60 psi
	379	-30 inHg/100 psi
	412	-30 inHg/160 psi
	415	-30 inHg/200 psi
6	422	-30 inHg/300 psi

		2nd Scale / Special Scale
	Z	without
	B	2nd scale bar
	P	2nd scale psi
	L	2nd scale kPa
	E	2nd scale MPa
7	K	2nd scale kg/cm2
		Process Connection
	NB	1/4 NPT
	GB	G 1/4 B
8	NH	1/8 NPT
		Connector location
	U	lower mount
	B	center back mount
	E	3 o'clock
	G	9 o'clock
9	D	12 o'clock
		Mounting Flange/Bracket
	Z	Without (Standard)
	F	front flange, polished SS
	C	Rear Flange, Stainless Steel
10	K	Panel mount with Stainless steel U-clamp
		Restrictor
	Z	Without (Standard)
	Q	stainless steel, D 0.6
11	R	Stainless Steel, Orifice 0.3mm(0.012 inches)
		Special design features
	Z	without (Standard)
	G	for Oxygen, Cleanliness ASME B40.1 Level IV
	D	Cleanliness ASME B40.1 Level IV
12	N	NACE Sour Gas Service
		Certificates
	Z	without (Standard)
13	1	quality certificates
		Approvals
14	Z	without (Standard)
		Additional ordering information
	Z	Without (Standard)
15	T	Additional text

Modelcode: 2 3 . 54 .063 - - - - - Z

Additional Text:

Additional scale ranges and options are available. Please contact the factory or access the product configurator for model 23X.54 on the WIKA US website.

Quick Order Guide/Standard Items - 23X.54 4"

Specifications according to data sheet
Nominal size

23X.53 and 23X.54
100 mm

Standard features

Measuring System
2nd Scale / Special Scale
Accuracy Class
Material pressure element

Stainless Steel
without
+/- 1% (ASME B40.100 Grade 1A)
Measuring System 316L

Ordering information

Case		Removable bayonet ring					
Case filling		without			with		
Connector location							
Unit of outer Scale		psi / -inHg		psi / -inHg	psi / -inHg		psi / -inHg
Scale range	Process Connection	1/2 NPT	1/4 NPT	1/2 NPT	1/2 NPT	1/4 NPT	1/2 NPT
0/15 psi		9745610	9745378	9745858	9832585	9832348	9832828
0/30 psi		9745629	9745386	9745866	9832594	9832356	9832836
0/60 psi		9745637	9745394	9745874	9832607	9832365	9832845
0/100 psi		9745645	9745408	9745882	9832615	9832373	9832853
0/160 psi		9745653	9745416	9745890	9832624	9832381	9832861
0/200 psi		9745661	9745424	9745904	9832632	9832399	9832879
0/300 psi		9745670	9745432	9745912	9832640	9832403	9832887
0/400 psi		9745688	9745440	9745920	9832658	9832411	9832895
0/600 psi		9745696	9745459	9745939	9832666	9832429	9832909
0/1000 psi		9745718	9745475	9745955	9832683	9832445	9832925
0/1500 psi		9745726	9745483	9745963	9832691	9832454	9832934
0/2000 psi		9745734	9745491	9745971	9832705	9832462	9832942
0/3000 psi		9745742	9745505	9745980	9832713	9832470	9832950
0/5000 psi		9745750	9745513	9745998	9832721	9832488	9832968
0/10000 psi		9745769	9745521	9746005	9832739	9832496	9832976
0/15000 psi		9745777	9745530	9746013	9832747	9832500	9832985
-30 inHg/0 psi		9745548	9745300	9745785	9832518	9832275	9832755
-30 inHg/15 psi		9745556	9745319	9745793	9832526	9832284	9832764
-30 inHg/30 psi		9745564	9745327	9745807	9832535	9832292	9832772
-30 inHg/60 psi		9745572	9745335	52874492	9832543	9832305	52874627
-30 inHg/100 psi		9745580	9745343	9745823	9832551	9832314	9832798
-30 inHg/160 psi		9745599	9745351	9745831	9832569	9832322	9832802
-30 inHg/200 psi		9745602	9745360	52823635	9832577	9832330	52912554

	available on stock
	available after production
	not available

Standard Order Code - 23X.54 2½"

Measuring System		
1		3 Stainless Steel
Case filling		
		2 without
2		3 with
Case		
3		54 Removable bayonet ring
Unit of outer Scale		
		B bar
		P psi / -inHg
		L kPa
		E MPa
4		K kg/cm2
Measuring range		
		G gauge pressure range
5		V vacuum- or compound-range
Scale range		
		310 0/15 psi (-30"Hg/0)
		321 0/30 psi (-30"Hg/15 psi)
		341 0/60 psi
		369 0/100 psi
		411 0/160 psi
		414 0/200 psi
		421 0/300 psi
		428 0/400 psi
		441 0/600 psi
		455 0/800 psi
		469 0/1000 psi
		510 0/1500 psi
		514 0/2000 psi
		521 0/3000 psi
		528 0/4000 psi
		534 0/5000 psi
		541 0/6000 psi
		552 0/7500 psi
		569 0/10000 psi
		610 0/15000 psi
		331 -30 inHg/30 psi
		352 -30 inHg/60 psi
		379 -30 inHg/100 psi
		412 -30 inHg/160 psi
		415 -30 inHg/200 psi
6		422 -30 inHg/300 psi

		2nd Scale / Special Scale
	Z	without
	B	2nd scale bar
	P	2nd scale psi
	L	2nd scale kPa
	E	2nd scale MPa
7		K 2nd scale kg/cm2
Process Connection		
	ND	1/2 NPT
	NB	1/4 NPT
	GD	G 1/2 B
	GB	G 1/4 B
8		
Connector location		
	U	lower mount
	3	lower back mount
	E	3 o'clock
	G	9 o'clock
	D	12 o'clock
9		
Mounting Flange/Bracket		
	Z	Without (Standard)
	F	front flange, polished SS
	C	Rear Flange, Stainless Steel
	K	Panel mount with Stainless steel U-clamp
10		
Restrictor		
	Z	Without (Standard)
	Q	stainless steel, D 0.6
	R	Stainless Steel, Orifice 0.3mm(0.012 inches)
11		
Special design features		
	Z	without (Standard)
	G	for Oxygen, Cleanliness ASME B40.1 Level IV
	D	Cleanliness ASME B40.1 Level IV
	N	NACE Sour Gas Service
12		
Certificates		
	Z	without (Standard)
	1	quality certificates
13		
Approvals		
	Z	without (Standard)
14		
Additional ordering information		
	Z	Without (Standard)
	T	Additional text
15		

Modelcode: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 2 3 . 54 .100 - - - - - Z

Additional Text:

Additional scale ranges and options are available. Please contact the factory or access the product configurator for model 23X.54 on the WIKA US website.