

Bourdon Tube Pressure Gauge Stainless Steel Case Type 212.53 - Dry Case Type 213.53 - Liquid-filled Case

WIKA Datasheet 21X.53

Applications

- Intended for adverse service conditions where pulsating or vibration exists (with liquid filling)
- Hydraulics & compressors
- Suitable for gaseous or liquid media that will not obstruct the pressure system

Product Features

- Vibration and shock resistant (with liquid filling)
- Stainless steel case
- Pressure ranges up to 15,000 psi (1000 bar)
- FlexWindow™ option with integrated pressure compensation and 100% case fill (*)

Specifications

Design

ASME B40.100 & EN 837-1

Sizes

2", 2½" & 4" (50, 63 & 100 mm)

Accuracy class

2" & 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)

Pressure from 15 psi (1 bar) to 10,000 psi (690 bar) - 2" size or other equivalent units of pressure or vacuum

Working pressure

2 & 2½": Steady: ¾ full-scale value

Fluctuating: ⅔ 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: +140°F (+60°C) maximum

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

IP65 per EN 60529 / IEC 60259

IP66 (NEMA 4) with FlexWindow™ option (2-1/2" only)

Pressure connection

Material: copper alloy

Lower mount (LM) or center back mount (CBM) - 2" & 2½"

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

⅛" NPT, ¼" NPT or ½" NPT limited to wrench flat area ABS (2" & 2½") and white aluminum (4")



Bourdon Tube Pressure Gauge Model 21X.53

Bourdon tube

2" (50 mm) ≤ 870 psi (60 bar): C-shape copper alloy
2" (50 mm) > 870 psi (60 bar): Helical copper alloy
2½" (63 mm) ≤ 870 psi (60 bar): C-shape copper alloy
2½" (63 mm) > 870 psi (60 bar): Helical copper alloy
2½" (63 mm) > 6000 psi (400 bar): Helical stainless steel
4" (100 mm) ≤ 1000 psi (70 bar): C-shape copper alloy
4" (100 mm) > 1000 psi (70 bar): Helical stainless steel

Movement

Copper alloy

Dial

White ABS (2" & 2½") and white aluminum (4")

Pointer

Black aluminum

Case

304 stainless steel with vent plug for ranges ≤ 300 psi (FlexWindow™ option without vent plug) and stainless steel crimp ring.

Case connection sealed with O-ring, (O-ring material dependent on the case fill):

- 2½": EPDM O-ring for Glycerine case fill; Viton O-ring for Silicone fill
- 4": EPDM O-ring for Glycerine or Silicone case fill; Viton O-ring for Halocarbon or Fluorolube fill

Window

Polycarbonate with Buna-N gasket (standard)
Laminated Safety Glass with Buna-N gasket
FlexWindow™ (Clear liquid silicone rubber) with integrated gasket

Case fill

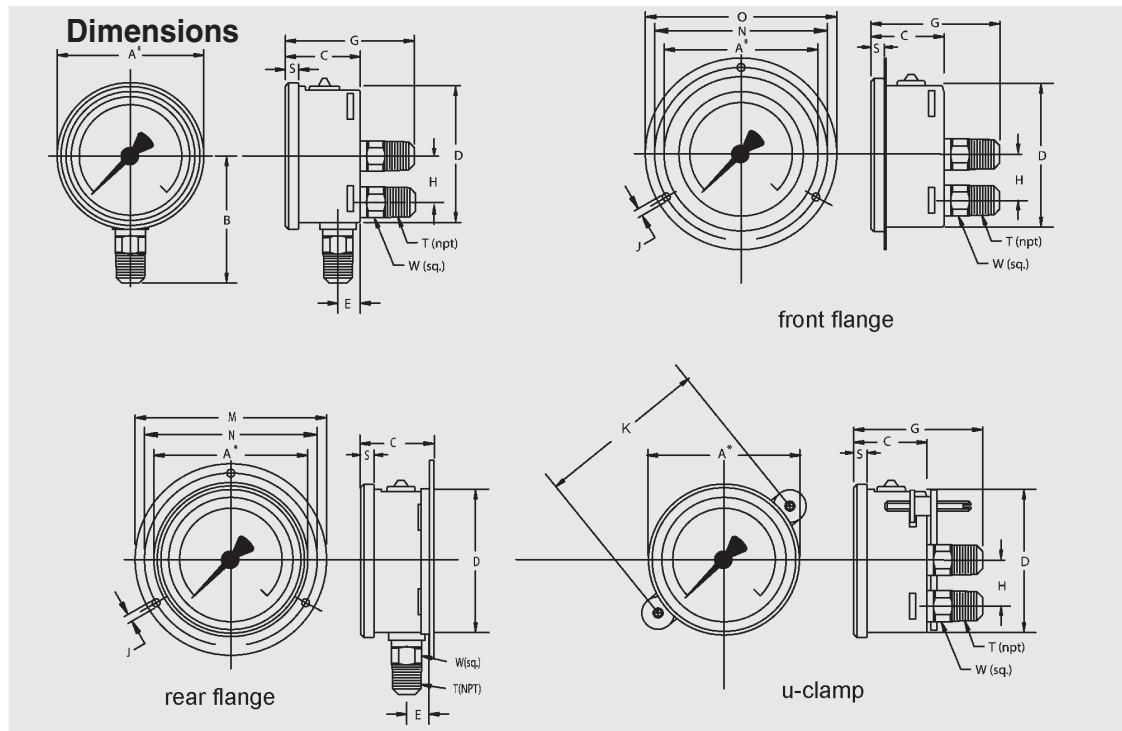
Type 213.53 - Glycerin

Glycerin/Water

100% Case fill with integrated pressure compensation with FlexWindow™ option (only available in 2-1/2" and only with Glycerin and Glycerin/Water case fill)

Optional extras

- Brass restrictor
- Stainless steel front or rear flange - 2½" & 4"
- Zinc-plated steel or SS U-clamp bracket (field installable)
- External zero adjustment (2½" only, not available with FlexWindow™)
- Red drag pointer or mark pointer option: (2-1/2" & 4" only, not available with FlexWindow™)
- Silicone or Halocarbon oil case filling (not available with FlexWindow™)
- Special connections limited to wrench flat area
- Custom dial layout
- Other pressure scales available
bar, kPa, MPa, kg/cm² and dual scales



Size		A	B	C	D	E	G	H	J	K	M	N	O	S	T	W	Weight	
2"	mm	55	48	30	50	12	53	-	3.6	72	71	60	17	5.5		14	0.27 lb.	dry
	in	2.17	1.89	1.18	1.97	0.47	2.09	-	0.14	2.83	2.80	2.36	2.80	0.22	¼"	0.55	0.33 lb.	filled
2½"	mm	69	54	32	62	13	54	-	3.6	72	88.1	75	85	6.5		14	0.36 lb.	dry
	in	2.69	2.13	1.26	2.45	0.51	2.13	-	0.14	2.83	3.47	2.95	3.35	0.26	¼"	0.55	0.44 lb.	filled
4"	mm	107	87	48	100	15.5	79.5	30	4.8	109	132	116	132	8		22	1.10 lb.	dry
	in	4.21	3.43	1.89	3.91	0.61	3.13	1.18	0.19	4.29	5.20	4.57	5.20	0.31	½"	0.87	1.76 lb.	filled

Note: For ¼" NPT connections on 4" gauges, reduce B dimension by 5mm/0.2"

Recommended panel cut-out:

2"- U-clamp: 51mm
front flange: n/a

2½"- U-clamp: 63mm
front flange: 65mm

4"- U-clamp: 101mm
front flange: 104mm

4½"- panel mount adapter 104mm minimum
(not shown)

Quick Order Guide/Standard Items - 21X.53 2"

Specifications according to data sheet
Measuring System
Case

APM 21X.53 (APM 02.12)
Copper Alloy
304 Stainless Steel

Standard features

Case Non-removable crimp ring
Window Plastic, clear

Ordering information

Nominal size		2"					
Process Connection		1/4 NPT					
Case filling		with		without			
Connector location							
Scale range	2nd Scale / Special Scale	without	without	without	2nd scale bar	without	2nd scale bar
0/15 psi		50623265	52143244	52891266	4311906	50668242	4315014
0/30 psi		4234590	50055887	52097030	4311914	50013271	4315022
0/60 psi		50542231	4201666	50338030	4311922	50177478	4315031
0/100 psi		4229791	50784218	50530542	4311931	50057162	4315049
0/160 psi		50271814	50784226	50338021	4311949	50541706	4315057
0/200 psi		50832590	50989873	50278568	4311957	52718763	4315065
0/300 psi		50009443	50408216	52014827	4311965	52400891	4315073
0/400 psi		52732765	52734884	52925681	4311973	52906725	52829791
0/600 psi		50623192	50697552	52828315	4311981	50697595	4315090
0/1000 psi		50165666	50650670	52829278	4312007	52829717	4315111
0/1500 psi		52535011	52873248	52926647	4312015	52926654	4315120
0/2000 psi		50070380	50674471	52829793	4312023	50056824	4315138
0/3000 psi		50161831	52186164	52739097	4312031	55797875	4315146
0/5000 psi		50069624	50674170	52729916	4312040	52891725	4315154
0/10000 psi		52894505	50663674	52621502	4312066	52925028	4315171
0/15000 psi		50348591	52863894	52833608	52923985	52926657	52176681
-30 inHg/0 psi		52270688	4312074-0001	4311833	52849060	4312074	52923986
-30 inHg/15 psi		52926608	52926612	52891681	4311841	52926904	52923987
-30 inHg/30 psi		50040341	52916709	52918311	52923983	52926905	52923988
-30 inHg/60 psi		52926609	52864807	52926899	4311868	52926906	52923989
-30 inHg/100 psi		52823801	52926613	52926900	52923984	52926908	52923990
-30 inHg/160 psi		52924201	52926614	52926902	52926599	52926909	52923991
-30 inHg/200 psi		52926610	52926615	52926903	50987161	52926910	52926601

	available on stock
	available after production
	not available

Quick Order Guide/Standard Items - 21X.53 2½"

Nominal size		2.5"					
Process Connection		1/4 NPT					7/16-20 UNF SAE #4 J1926 male
Case filling		with		without			with
Connector location							
Scale range	2nd Scale / Special Scale	without	2nd scale bar	without	2nd scale bar	2nd scale kg/cm2	2nd scale bar
0/15 psi		9767037	9691982	4270045	4270304	52910906	52857013
0/30 psi		9767045	9691990	4270053	4270312	4270577	52857014
0/60 psi		9767053	9692007	4270061	4270321	4270585	52017141
0/100 psi		9767061	9692015	4270070	4270339	4270593	9795664
0/160 psi		9767070	9692024	4270088	4270347	4270606	9795672
0/200 psi		9767088	9692032	4270096	52907150	4270614	9795680
0/300 psi		9767096	9692040	4270100	4270363	4270622	4259916
0/400 psi		9767100	9692058	4270118	4270371	4270631	50083571
0/600 psi		9767118	9692066	4270126	4270381	4270640	50244515
0/1000 psi		9767126	9692075	4270142	4270401	4270666	50041282
0/1500 psi		9767134	9692083	4270151	4270410	4270674	50244531
0/2000 psi		9767142	9692091	4270169	4270428	4270682	9795698
0/3000 psi		9767150	9692105	4270177	4270436	4270691	9795702
0/5000 psi		9767169	9692113	4270185	4270444	4270703	9795710
0/10000 psi		9767177	9692121	4270215	4270470	4270739	4225384
0/15000 psi		4270821	4259304	50228820	52833311	50771191	52857015
-30 inHg/0 psi		9767002	9691957	4269978	4270231	52910854	52857007
-30 inHg/15 psi		4334397	50416278	4269986	52325768	52856988	52857008
-30 inHg/30 psi		9767010	9691965	4269994	4270258	4270517	52857009
-30 inHg/60 psi		9767029	9691974	4270002	4270266	4270525	52857010
-30 inHg/100 psi		4258596	50416260	4270011	52737477	52830238	52857011
-30 inHg/160 psi		4273634	50076418	4270029	52856835	52856989	52749624
-30 inHg/200 psi		4267401	50864335	4270037	52834254	52856990	52857012

Nominal size		2.5"					
Process Connection		1/4 NPT					
Case filling		with		without			
Connector location							
Scale range	2nd Scale / Special Scale	without	2nd scale bar	without	2nd scale bar	2nd scale kg/cm2	
0/15 psi		9797314	50340727	4270828	4271084	4271343	
0/30 psi		9767193	9692147	4270836	78001856	4271351	
0/60 psi		9767202	9692155	4270844	4271106	4271361	
0/100 psi		9767215	9692164	4270852	4271114	4271379	
0/160 psi		9767223	9692172	4270861	4271122	4271387	
0/200 psi		9767231	9692180	4270879	4271131	4271395	
0/300 psi		9767240	9692198	4270887	4271149	4271408	
0/400 psi		8999109	4244461	4270895	52907147	4271416	
0/600 psi		9768947	9692202	4270909	7338091	4271424	
0/1000 psi		9767258	9692210	4270925	4271181	4271441	
0/1500 psi		9768165	9692228	4270933	4271191	4271450	
0/2000 psi		9768939	9692236	4270941	4271203	4271468	
0/3000 psi		9767266	9692245	4270950	4271211	4271476	
0/5000 psi		9767274	9692253	4270968	4271220	4271484	
0/10000 psi		9767282	9692261	4270992	4271254	4271513	
0/15000 psi		4256403	50715160	52923994	52923995	52923996	
-30 inHg/0 psi		9767185	9692139	4270755	4271017	52910909	
-30 inHg/15 psi		50158945	52822166	4270763	52856993	52856996	
-30 inHg/30 psi		4236557	50343459	4270771	4271033	4271298	
-30 inHg/60 psi		9748967	4264600	4270780	52864759	4271301	
-30 inHg/100 psi		9797097	52857016	4270798	52856994	52830237	
-30 inHg/160 psi		50144928	52822176	4270801	4271068	52856997	
-30 inHg/200 psi		50343211	52857017	4270810	52856995	52856998	

	available on stock
	available after production
	not available

Standard Order Code - 21X.53 2" & 2½"

Case filling		
1	3	with
	2	without
Case		
2	53	Non-removable crimp ring
Nominal size		
3	B	2"
	C	2.5"
Unit of outer Scale		
4	B	bar
	P	psi / -inHg
	L	kPa
	E	MPa
	K	kg/cm2
Measuring range		
5	G	gauge pressure range
	V	vacuum- or compound-range
Scale range		
6	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
	422	-30 inHg/300 psi

2nd Scale / Special Scale		
7	Z	without
	B	2nd scale bar
	P	2nd scale psi
	L	2nd scale kPa
	E	2nd scale MPa
	K	2nd scale kg/cm2
Process Connection		
8	GB	G 1/4 B
	NB	1/4 NPT
	GA	G 1/8 B
	NH	1/8 NPT
	UA	7/16-20 UNF SAE #4 J1926 male
Connector location		
9	U	lower mount
	A	back mount
	E	3 o'clock
	G	9 o'clock
	D	12 o'clock
Mounting Flange/Bracket		
10	Z	Without (standard)
	C	Rear Flange, Stainless Steel
	F	front flange, polished SS (Standard)
	3	U-clamp bracket, zinc-plated steel
Restrictor		
11	Z	Without (standard)
	M	Brass, Orifice 0.5mm(0.02 inches)
	L	Orifice 0.3mm(0.012 inches)
Special design features		
12	Z	without (standard)
	G	for Oxygen, Cleanliness ASME B40.1 Level IV
Certificates		
13	Z	without (standard)
	2	Certificate 2.2 EN 10204
	3	Certificate 3.1 EN 10204
	A	2.2 and 3.1 certificates acc. EN 10204
Approvals		
14	Z	without (standard)
Additional ordering information		
15	Z	Without (standard)
	T	Additional text

Modelcode: 21 . 53 - - - - - - - - - - Z

Additional Text:

Additional scale ranges and options are available. Please contact the factory or access the product configurator for model 21X.53 on the WIKA US website.

Quick Order Guide/Standard Items - 21X.53 4"

Specifications according to data sheet
Measuring System
Case

APM 21X.53 (APM 02.12)
Copper Alloy
304 Stainless Steel

Standard features

Case
Unit of outer Scale
Accuracy Class
Window

Non-removable crimp ring
psi / -inHg
+/- 1% (ASME B40.100 Grade 1A)
Polycarbonate

Liquid filled gauges with ranges <= 30 psi come with Glycerin/Water filling.

Ordering information

Nominal size		100 mm				
Case filling		with			without	
Process Connection		1/4 NPT	1/2 NPT		1/4 NPT	1/2 NPT
Scale range	Connector location					
0/15 psi		9699095	50032241	52910977	4271602	52857018
0/30 psi		52823069	50989023	52802330	4271611	50402137
0/60 psi		9699117	50989031	52827884	4271620	50561430
0/100 psi		9699125	50983637	50793373	4271638	50372190
0/160 psi		9699257	50989155	52086224	4271646	4272145
0/200 psi		9699134	4276770	50765621	4271654	4272153
0/300 psi		9699142	50069608	50884506	4271662	4272161
0/400 psi		9699150	50050869	50591592	4271671	50821920
0/600 psi		9699168	4388696	50840568	4271689	4272189
0/1000 psi		9699185	4228732	52281019	4271701	4272200
0/1500 psi		9699193	9766885	52910981	4271719	4272218
0/2000 psi		52910078	9766876	52826297	4271727	4272226
0/3000 psi		9699215	9766893	50695657	4271735	4272234
0/5000 psi		9699223	9766906	50045148	4271743	4272242
0/10000 psi		9699231	9766915	50575180	4271760	4272260
0/15000 psi		9699249	50476734	52389898	4271778	50463993
-30 inHg/0 psi		9699028	50085956	52805286	4271531	50778471
-30 inHg/15 psi		9699036	50085964	52910982	4271549	52821050
-30 inHg/30 psi		9699045	50984510	52910983	4271557	50225928
-30 inHg/60 psi		9699053	4363987	52855781	4271565	50816004
-30 inHg/100 psi		9699061	50044923	52859672	4271573	52910993
-30 inHg/160 psi		9699079	52910990	52882844	4271581	50788027
-30 inHg/200 psi		9699087	50085999	52910985	4271590	52720300

	available on stock
	available after production
-	not available

Standard Order Code - 21X.53 4"

		Case filling			
1		3	with		
		2	without		
		Nominal size			
2		E	100 mm		
		Unit of outer Scale			
3		B	bar		
		P	psi / -inHg		
		L	kPa		
		E	MPa		
		K	kg/cm2		
		Measuring range			
4		G	gauge pressure range		
		V	vacuum- or compound-range		
		Scale range			
		269	0/10 psi		
		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		
		5		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
6		K	2nd scale kg/cm2
		Process Connection	
		GB	G 1/4 B
		NB	1/4 NPT
		GD	G 1/2 B
		ND	1/2 NPT
		VA	7/16-20 UNF SAE Flare Connection
7		Connector location	
		U	lower mount
		3	lower back mount
		E	3 o'clock
		G	9 o'clock
		D	12 o'clock
8		Mounting Flange/Bracket	
		Z	Without (standard)
		C	Rear Flange, Stainless Steel
		F	front flange, polished SS
		K	Panel mount with Stainless steel U-clamp
		Restrictor	
		Z	Without (standard)
		M	Brass, Orifice 0.5mm(0.02 inches)
		L	Orifice 0.3mm(0.012 inches)
10		Special design features	
		Z	without (standard)
		G	for Oxygen, Cleanliness ASME B40.1 Level IV
11		Certificates	
		Z	without (standard)
		2	Certificate 2.2 EN 10204
		3	Certificate 3.1 EN 10204
		A	2.2 and 3.1 certificates acc. EN 10204
12		Approvals	
		Z	without (standard)
		Additional ordering information	
		Z	Without (standard)
		T	Additional text
14			

Modelcode: 21 . 53 - E - - - - - Z

Additional Text:

Additional scale ranges and options are available. Please contact the factory or access the product configurator for model 21X.53 on the WIKA US website.