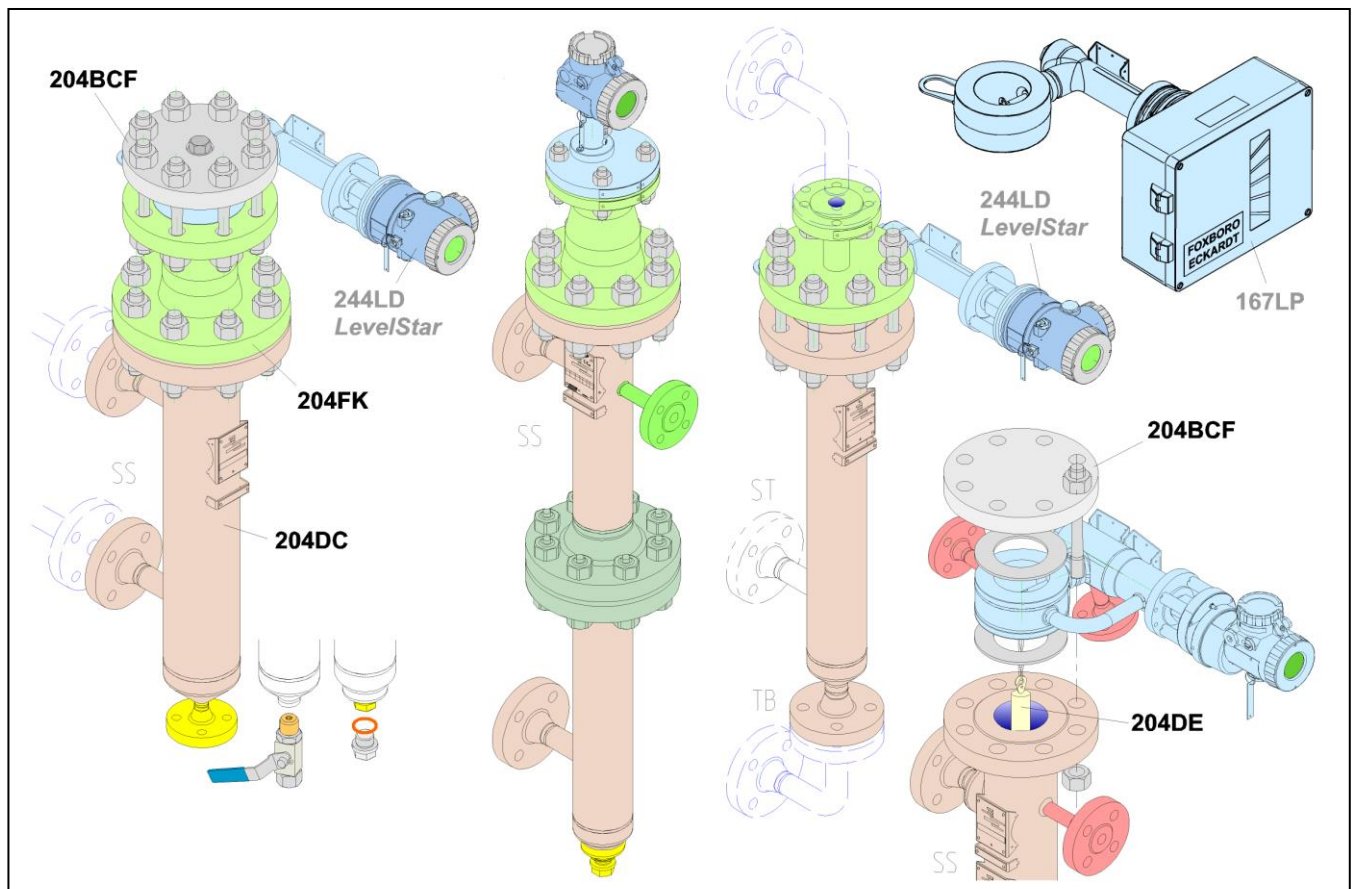


204xx Accessories for Buoyancy Transmitters

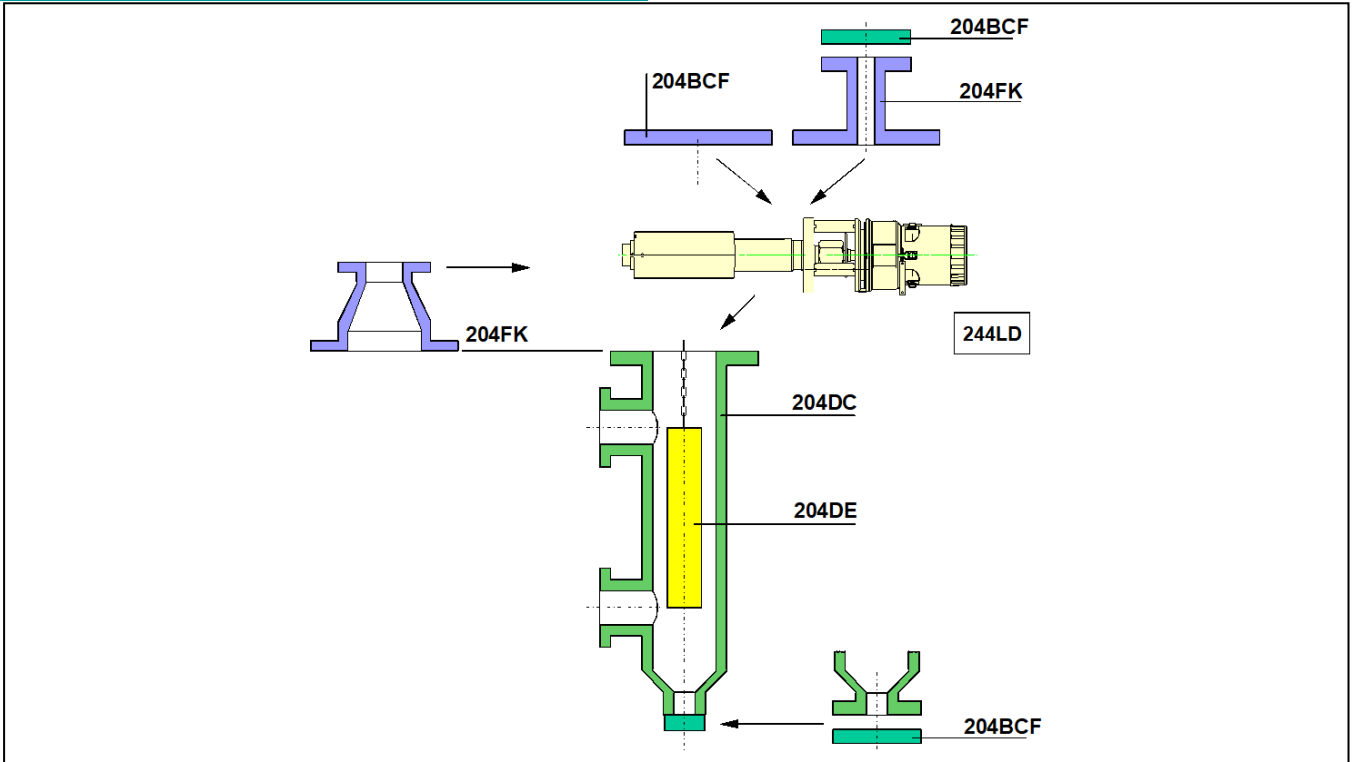


Buoyancy transmitters to measure liquid level, interface and density are used for open or closed vessels or containers. They can be mounted directly on top of the vessel, or if the application requires, on a side mounted cage. Depending on application and vessel design, various installation accessories and the applicable displacer need to be selected.

FEATURES

- Universally applicable for all FOXBORO buoyancy transmitters with displacers
- Various connections, dimensions and materials
- Displacers with custom dimensions and material
- Standards according to DIN and ANSI
- Certification according to "Pressure Equipment Directive" PED
- Certification for use in Zone 0

ACCESSORIES OVERVIEW



Accessories consisting of:

204DE	Displacer element	page	4
204DC	Displacer chamber	page	8
204FK	Flange combination	page	15
204BCF	Flange kit	page	21

Selection criteria

The accessories can be used with following types of transmitters:

Type	max. stat. pressure	Accessories			
244LD	PN 250 /	204	204	204	204
167LP	class 1500	DE	DC	BCF	FK

Safety requirements

The accessories dimensions correspond to the appropriate DIN and ANSI standards.

For the accessories only tough materials are used according to the AD instruction sheet series W or the material selection sheets VdTÜV

Application in Zone 0

If the transmitter and the displacer 204DE are permitted for use in Zone 0, the remaining accessories can be used without any restriction.

Carbon Steel (1.0460): min. thickness of material has to be 3 mm (0.12 inch).

Displacer chambers

Calculation, manufacturing and testing corresponding to requirements of AD instruction sheets series B and HP.

Displacer sizing is according to the "Pressure Vessel Regulation".

Non-standard displacer chambers can be certified by TÜV.

DECLARATION OF CONFORMITY

- Directive 2014/68/EU

We herewith declare in sole responsibility, that the products:

Buoyancy Transmitter
Types: 244LD, 167LP

comply with the Pressure Equipment Directive 2014/68/EU and the AD 2000-Instructions resp. EN 13445

Applied conformity assessment procedures:
Module H / H1

For these products the following EU-Certificate exists:
DGR-0036-OS-1308-19

The notified Body is:

TÜV SÜD Industrie Service GmbH, Westendstr. 199, D-80686 München

- Directive 2014/34/EU

For all below mentioned products of our Transmitter Series, in compliance with EU Certificates of Conformity, issued by the

Physikalisch Technische Bundesanstalt
Bundesallee 100
D-38116 Braunschweig
as Notified Body No. 0102

It is certified herewith that the products comply with the requirements established by the Directives for Alignment of the Legal Requirements of the Member States 2014/34/EU, relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres.

- Directive 2014/30/EU

The requirements for the electromagnetic compliance of 2014/30/EU are being fulfilled for all equipment components, in compliance with the following norms:

EN 55011 date 2009 + A1:2010
EN 61326 date 2013

Application considerations

For all accessories exposed to the process, the following pressure / temperature ranges with references to the selected material are applicable:

Detailed specifications for the materials with respect to chemical composition, temperature, limits of application and kind of certification according to EN 10 204, AD 2000 and EN 13 445.

MATERIAL: 1.4404									
NOMINAL PRESSURE		Max. permissible operating pressure in bar for temperatures in °C							
DIN PN	ANSI class	-196 -10	-10 +50	+100	+200	+300	+400	+500	°C
16		16	16	15	13	11	10	10	
40		40	40	37	33	29	26	25	
64		64	64	59	53	46	42	40	
100		100	100	92	83	72	67	63	
160		160	160	147	132	115	107	102	
250		250	250	229	207	179	167	159	
400		400	400	366	331	286	267	254	
500		500	500	458	414	358	334	318	
	150	20	20	18	16	14	13	12	
	300	50	50	45	41	36	33	31	
	600	110	110	100	90	78	73	70	
	900	155	155	141	128	110	102	99	
	1500	260	260	238	214	186	173	166	
	2500	420	420	384	345	300	279	268	

MATERIAL: 1.4462 (DUPLEX)									
NOMINAL PRESSURE		Max. permissible operating pressure in bar for temperatures in °C							
DIN PN	ANSI class	-40 +50	+100	+150	+200	+250	+280	°C	
16		16	14	13	12	12	11		
40		40	36	33	31	29	28		
64		64	57	54	49	47	45		
100		100	90	84	77	74	71		
160		160	144	134	124	118	114		
250		250	225	209	194	184	178		
400		400	360	334	310	294	284		
500		500	450	418	388	368	356		
	150	20	18	17	15	14	14		
	300	50	45	42	39	37	35		
	600	110	99	92	85	81	78		
	900	155	139	130	120	114	110		
	1500	260	234	218	201	191	185		
	2500	420	378	352	324	308	298		

Flanges 1.0460 (P250GH) // -Tubes 1.0345 (P235GH)									
NOM. PRESS.		Max. permissible operating pressure in bar							
DIN PN	ANSI class	-60 -10	-10 +50	+120	+200	+250	+300	+350	°C
16		12	16	14	12	10	9	8	
40		30	40	34	29	26	23	20	
64		48	64	54	46	41	36	33	
100		75	100	85	72	64	56	51	
160		120	160	135	116	102	90	82	
250		187	250	211	181	160	140	128	
400		299	400	337	289	256	224	204	
500		374	500	422	362	320	280	256	
	150	15	20	17	15	13	11	10	
	300	38	50	42	36	32	28	26	
	600	82	110	93	80	70	62	56	
	900	116	155	131	112	99	87	79	
	1500	195	260	219	188	166	146	133	
	2500	315	420	353	303	268	235	214	

MATERIAL: 2.4856 (Inconel 625)									
NOM. PRESS.		Max. permissible operating pressure in bar							
DIN PN	ANSI class	-196 +50	+100	+200	+300	+400	+450	°C	
16		16	14	13	12	11	11		
40		40	36	33	31	29	28		
64		64	58	53	50	47	45		
100		100	92	84	78	73	71		
160		160	147	134	126	117	113		
250		250	230	210	197	184	177		
	150	20	18	16	15	14	14		
	300	51	47	42	40	37	36		
	600	102	93	85	80	75	72		
	900	153	140	128	120	112	108		
	1500	255	234	214	201	187	181		

MATERIAL: 2.4819									
NOM. PRESS.		Max. permissible operating pressure in bar							
DIN PN	ANSI class	-196 -10	-10 +50	+100	+200	+300	+400	°C	
16		16	16	15	13	13	12		
40		40	40	37	33	32	29		
64		64	64	60	53	51	47		
100		100	100	93	83	80	73		
160		160	160	149	133	128	118		
250		250	250	233	209	200	184		
400		400	400	372	334	320	294		
500		500	500	466	418	400	368		
	150	20	20	18	16	16	15		
	300	50	50	46	42	40	37		
	600	110	110	103	92	88	81		
	900	155	155	145	129	124	114		
	1500	260	260	243	217	209	192		
	2500	420	420	392	350	337	310		

Displacer 204DE

Transmitter	Displacer	
	204DE-S	204DE-T
	typical density ranges [kg/m ³]	
244LD	250 to 2000	300 to 600
167LP	550 to 1500	125 to 500

Check for use in a displacer chamber

Between the displacer chamber and the displacer there must be a gap of 5 to 10 mm.

Pressure Rating

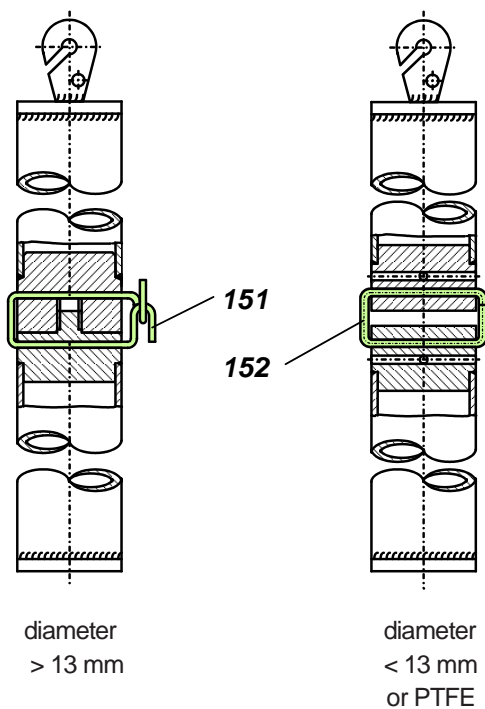
The displacer must be designed for the pressure rating of the vessel – however, at least to the operating pressure – and ordered accordingly. Here the maximum possible temperature must be taken into consideration.

Displacers made of PTFE are made from solid material, and are, therefore, suitable for all pressures (Note the temperature).

Divided displacers

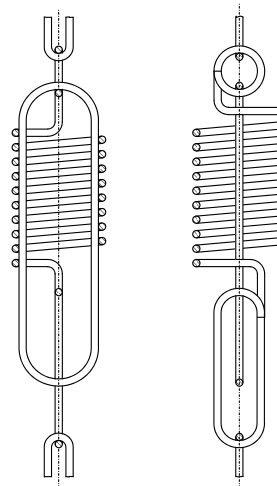
Displacers with a length of more than 3 m (1 m with PTFE) are divided. The displacer elements are screwed together and secured with the wire clip **151** to avoid bending or damage during insertion into the vessel. The elements of displacers with $\varnothing < 13$ mm are not screwed together; they are secured with hook and eyelet **152**. Additional securing is not necessary ¹⁾.

Lengths < 350 mm or > 3000 mm, and density ranges < 300 kg/m³ or > 2000 kg/m³ on request.



Mechanical vibrations

If the transmitter is exposed to external vibrations by means of the installation, it is recommended to order the displacer with a damping spring (Model Code Option -C or -D) which is attached to the suspension chain.



It is hooked onto the suspension chain of the displacer in place of 7 chain links (105 mm). This spring is specially matched to the resonance frequency of the displacer and is made of stainless steel 1.4310 (max. operating temperature 250 °C), or HC (max. 350 °C).

Use in Zone 0

When used in Zone 0, displacers must be secured against oscillating when

- displacer made of metal, explosion group IIC
- displacer made of metal, explosion group IIB/A, length > 3 m
- displacer made of PTFE + 25% carbon, IIC/B/A, length > 3 m

The displacer is to be attached in such a way that it is not in the main filling jet stream.

Guidance devices over 3 m long must also be secured against bending.

Potential equalization

When used in Zone 0, only displacers of metal or PTFE +25 % carbon may be used.

A potential equalization line must be mounted as an electrical bypass of the displacer suspension(s) if the residual displacer weight is < 10 N, or if more than 6 contact points are present.

To avoid the danger of electrostatic ignition, a connection to the transmitter with good conductivity must be ensured. The volume resistance between the lower end of the displacer and ground may not exceed 1 M Ω .

MATERIALS, PRESSURE RATINGS, SUITABLE SIZES

see Model Codes on the following pages.

1) When used in Zone 0, the eyelets must also be welded.

Standard Dimensions and Weights for Density Ranges $\Delta\rho$ ⁴⁾

Material	1.4404 / 1.4435 (316L) ⁵⁾													PTFE / PTFE with 25 % C				Hastelloy C ⁵⁾				
	-S (PN 100)				-T ⁶⁾ (PN 40 / 63)					-S (PN 250)				-S (PN 500)				-S (PN 100 / 160)				
	Density Range $\Delta\rho$																					
	250 to 1500 kg/m ³					300 to 600 kg/m ³					400 to 2000 kg/m ³				200 to 1500 kg/m ³				300 to 1500 kg/m ³			
Len. L	\varnothing mm	Vol. cm ³	Wei. N	PN bar	\varnothing mm	Vol. cm ³	Wei. N	PN bar	ρ_{min} kg/m ³	\varnothing mm	Vol. cm ³	Wei. N	PN bar	\varnothing mm	Vol. cm ³	Wei. N	PN bar	\varnothing mm	Vol. cm ³	Wei. N	PN bar	
mm																						
350	60.3	1000	19	100	101.6	2840	38	40	460	42.4	500	18	250	62	1056	23	500	60.3	1000	18	100	
500	48.3	920	17	100	88.9	3100	43	63	580	42.4	710	24	250	51	1021	23	500	48.3	920	19	100	
750	42.4	1060	21	100	76.1	3410	44	63	545	33.7	670	21	250	42	1039	24	500	48.3	1370	27	100	
1000	33.7	890	17	100	60.3	2855	41	63	545	26.9	570	18	250	35	961	21	500	33.7	890	19	100	
1200	33.7	1070	20	100	60.3	3425	48	63	675	26.9	680	22	250	35	1153	25	500	33.7	1070	22	100	
1500	26.9	850	16	100	51	3065	39	63	460	21.3	540	17	250	30	1060	24	500	26.9	850	18	160	
1800	26.9	1020	19	100	42.4	2540	38	63	495	21.3	640	20	250	28	1107	25	500	26.9	1020	21	160	
2000	26.9	1140	21	100	42.4	2825	41	63	565	21.3	710	22	250	25	981	22	500	26.9	1140	23	160	
2500	21.3	890	20	100	38	2840	37	63	425	17.2	580	16	250	22.5	993	23	500	21.3	890	23	160	
3000	21.3	1070	24	100	38	3400	45	63	575	17.2	700	23	250	20	942	22	500	21.3	1070	27	160	
inch																						
14	60.3	1020	20	100	101.6	2885	38	40	455	42.4	510	18	250	62	1074	23	500	60.3	1020	18	100	
32	42.4	1150	23	100	76.1	3700	47	63	595	33.7	730	23	250	42	1126	26	500	33.7	720	16	100	
48	33.7	1090	20	100	60.3	3480	49	63	680	26.9	690	22	250	35	1171	26	500	33.7	1090	23	100	
60	26.9	870	16	100	51	3115	40	63	465	21.3	540	18	250	30	1076	24	500	26.9	870	18	100	
72	26.9	1040	19	100	42.4	2580	38	63	505	21.3	650	21	250	28	1124	26	500	26.9	1040	21	160	
84	26.9	1210	22	100	42.4	3000	44	63	635	21.3	760	23	250	25	1046	24	500	26.9	1210	25	160	
96	21.3	870	20	100	38	2765	37	63	420	17.2	570	16	250	22.5	968	22	500	21.3	870	23	160	
120	21.3	1090	25	100	38	3455	46	63	595	17.2	710	24	250	20	957	22	500	21.3	1090	25	160	

- 4) $\Delta\rho = \rho_1 - \rho_2$ with ρ_1 = density of lower medium, ρ_2 = density of upper medium
- 5) Displacers made of metal can cause small deviations in diameter, volume and weight
- 6) For measurement of interface or density, the max. density of the lower medium is 1350 kg/m³

Dimensions

b is the length of the suspension and L is the length of the displacer = Measuring length (Fig. A).

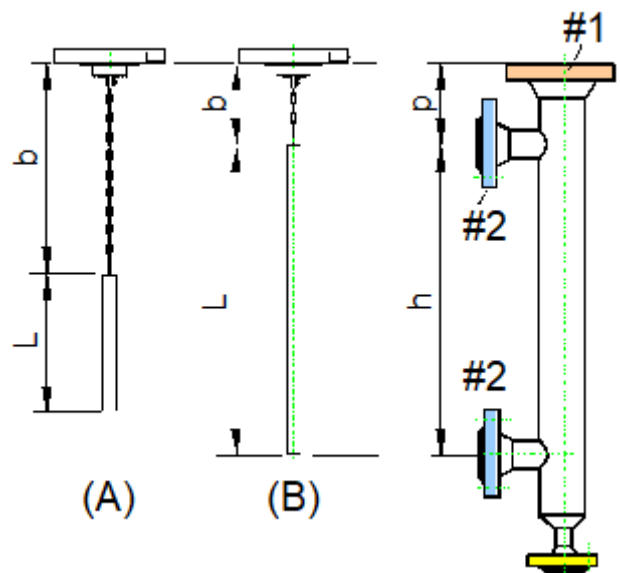
p is the distance between the upper edge of flange #1 to the center of flange #2,

h is the distance between the two flanges #2 / #2.

In a typical application, b = p and L = h (Fig. B).

When ordering, specify the dimensions L and b as well as the physical data such as pressure, nominal size, etc.

When ordered including displacer chamber, dimension b must not be specified when the displacer length L is equal to the flange distance h.



MODEL CODES 204DE

250119

Displacer for Buoyancy Transmitters from 2 N buoyancy up to 20 N 204DE

RANGE OF APPLICATION: (a)

Liquid Level - Media: Liquid / Gas or Air (Density difference = 250 kg/m ³ to 2000 kg/m ³) (= 9x10 ⁻³ lbm/in ³ to 72.2x10 ⁻³ lbm/in ³)	-S
Interface Level / Density - Media: Liquid 1 / Liquid 2 (Density difference = 300 kg/m ³ to 600 kg/m ³) (= 10.8x10 ⁻³ lbm/in ³ to 22.7x10 ⁻³ lbm/in ³)	(f) -T

DISPLACER MATERIAL:

1.4404 (316L)	S
1.4541 (321)	H
PTFE (not for applications in Zone 0)	P
PTFE with 25% Carbon, for Zone0	O
Hastelloy C276	X
2.4856 (Inconel 625)..... (e).....	R
2.4360 (Monel 400)	(e)..... M
3.7035 (Titan)	(e)..... T

PRESSURE RATING:

Up to PN 100 / Class 600	D
Up to PN 160 / Class 900	E
Up to PN 250 / Class 1500	F
Up to PN 500 / Class 2500	G

SUITABLE FOR FLANGE SIZE: (at top of vessel / chamber)

DN 50	0
DN 70	1
DN 80	2
DN 100	3
DN 150	4
2 inch	5
3 inch	6
4 inch	7
6 inch	8

DISPLACER LENGTH "L": (inches are approx.)

for Displacer Material codes P, and O:	
300 mm (12 inch) to 2000 mm (79 inch), with partition > 1000 mm	A
2001 mm (79 inch) to 4000 mm (157 inch), with partition points	B
4001 mm (157 inch) to 6000 mm (236 inch), with partition points	C
6001 mm (236 inch) to 8000 mm (315 inch), with partition points	D
8001 mm (315 inch) to 10000 mm (394 inch), with partition points	E
10001 mm (394 in) to 12000 mm (472 in), with partition points	F
for Displacer Material codes S, H, C, R, M, and T:	
300 mm (12 in) to 3000 mm (118 in) without partitioning	K
3001 mm (118 in) to 6000 mm (236 in) One partition point	L
6001 mm (236 in) to 9000 mm (354 in) Two partition points	M
9001 mm (354 in) to 12000 mm (472 in) Three partition points	N
12001 mm (472 in) to 15000 mm (591 in) Four partition points	O

MATERIAL AND LENGTH OF THE SUSPENSION: (Length "b") (d)

1.4404 (316L) Standard length of Suspension	(b).....	S1
1.4404 (316L) Customized Suspension Length	(c).....	S2
1.4541 (321) Standard length of Suspension	(b).....	H1
1.4541 (321) Customized Suspension Length	(c).....	H2
Hastelloy C / Standard length of Suspension	(b).....	C1
Hastelloy C / Customized Suspension Length	(c).....	C2
2.4856 (Inconel 625) / Standard length of Suspension	(b).....	I1
2.4856 (Inconel 625) / Customized Suspension Length	(c).....	I2
2.4360 (Monel 400) / Standard length of Suspension	(b).....	M1
2.4360 (Monel 400) / Customized Suspension Length	(c).....	M2
3.7035 (Titan) / Standard length of Suspension	(b).....	T1
3.7035 (Titan) / Customized Suspension Length	(c).....	T2

(continued on next page)

244LD MODEL CODES 204DE

MODEL CODES 204DE (continued)

OPTIONS:

For application in Zone 0 (Additional grounding rope) (not available with Displacer Material: P)	-E
Damping Spring (Mat. 1.4310, max. 250 °C (482 °F)).....	-D
Damping Spring (Mat. HC, max 350 °C (662 °F)	-C
Tag No. Labeling – Stainless Steel Label Fixed with Wire (Text required)	-L
Density difference > 200 kg/m ³ ; < 300 kg/m ³	(a) -Y
Density difference < 200 kg/m ³	(a) -Z

Certificates

EN 10204-2.1 Certificate of Compliance	-1
EN 10204-3.1 Inspection Certificate of Process Wetted Metallic Material (not available with Displacer Material: P and O)	-3
PMI - Test (not available with Displacer Material: P and O).....	-5

- (a) Upper and Lower Medium Density required (at operating temperature)
- (b) Only in connection with Model code 204DC
- (c) Exact length required (Contact face of flange to upper end of displacer)
- (d) +/- 8 mm (+/- 0.3 inch)
- (e) On ECEP request
- (f) Consult factory if pressure rating is F or G

DISPLACER CHAMBER 204DC

A displacer chamber is mounted on the side of the vessel, and the transmitter at its top flange.

Displacer chambers are offered in four vessel mounting arrangements (see illustration right: "Side-Side").

All mounting arrangements are also available with **heating jacket**.

The valves, etc. are to procure on site.

Materials,
Pressure Ratings,

Flange Sizes,
Contact Faces,

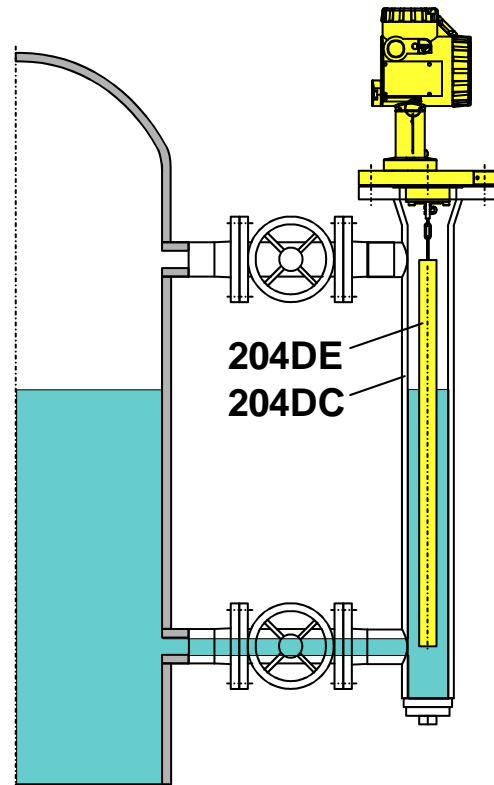
Pipe Sizes,

Drain Types: Flange, Screw, Pipe piece for welding

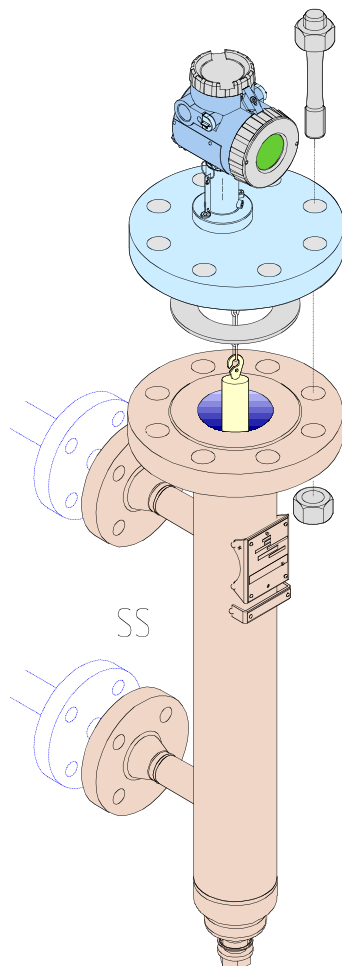
Heating Jacket

see the Model Codes on following pages.

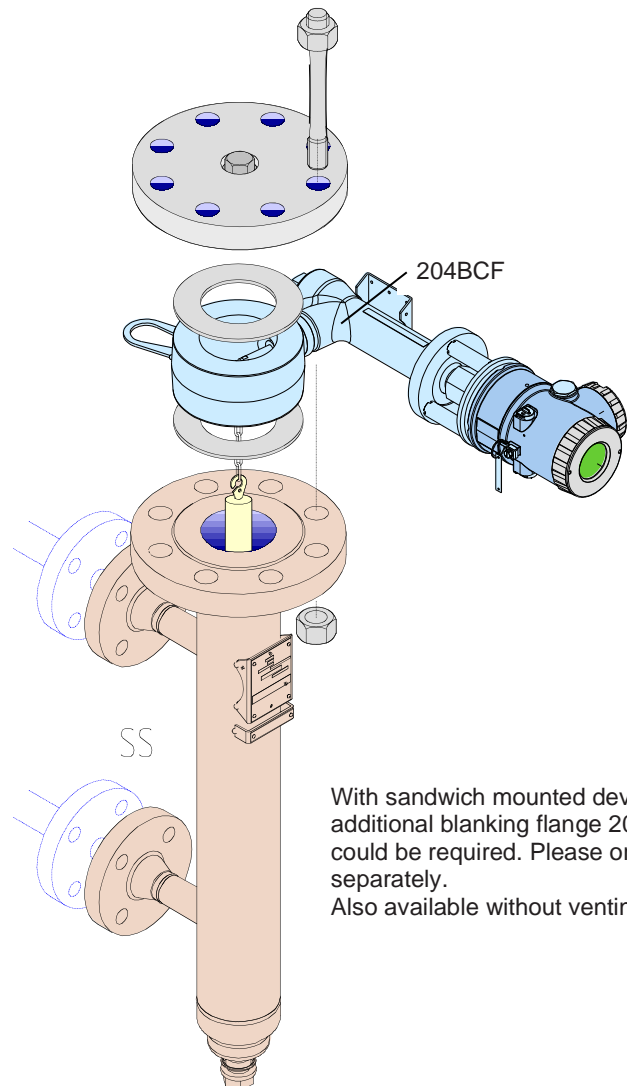
Overview: Types of Transmitters



Flange mounted devices

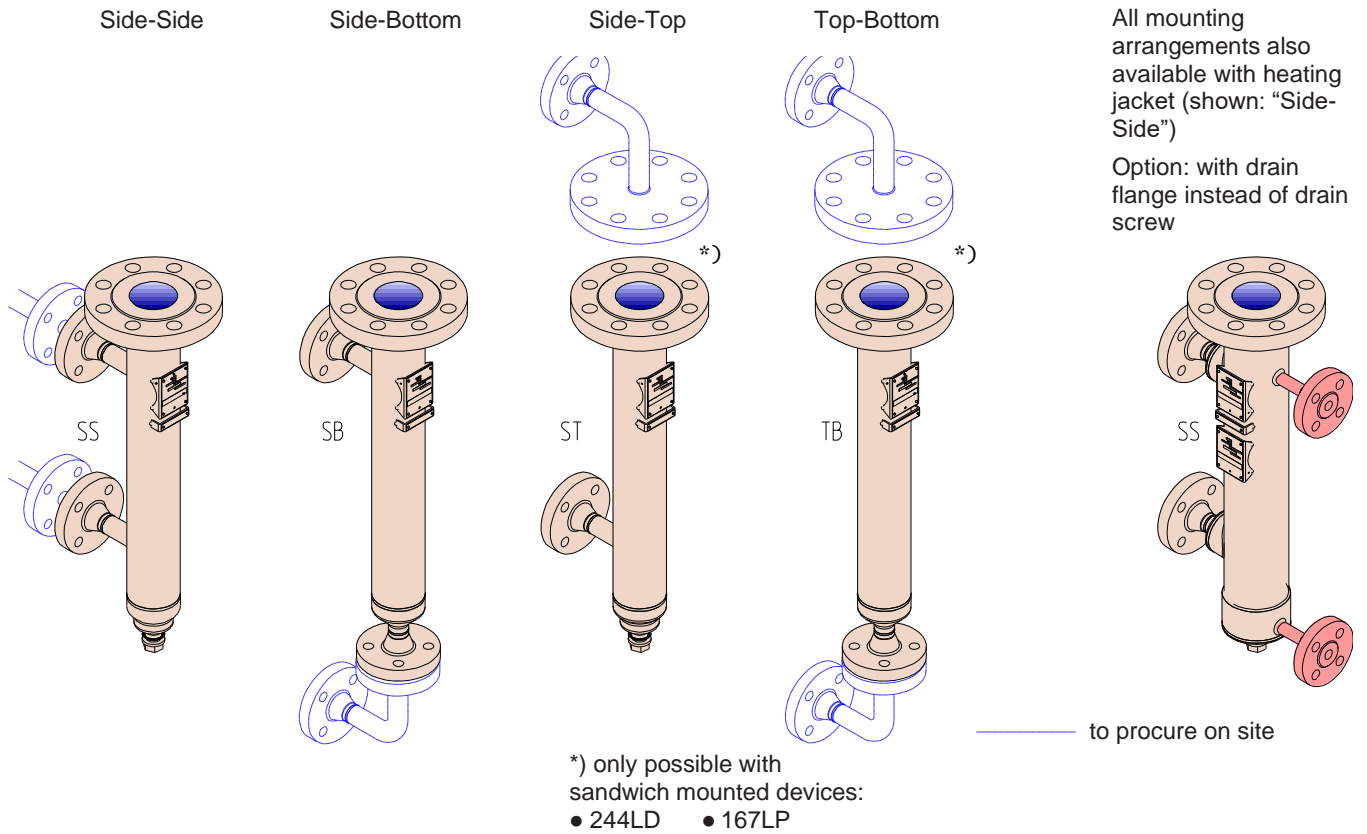


Sandwich mounted devices

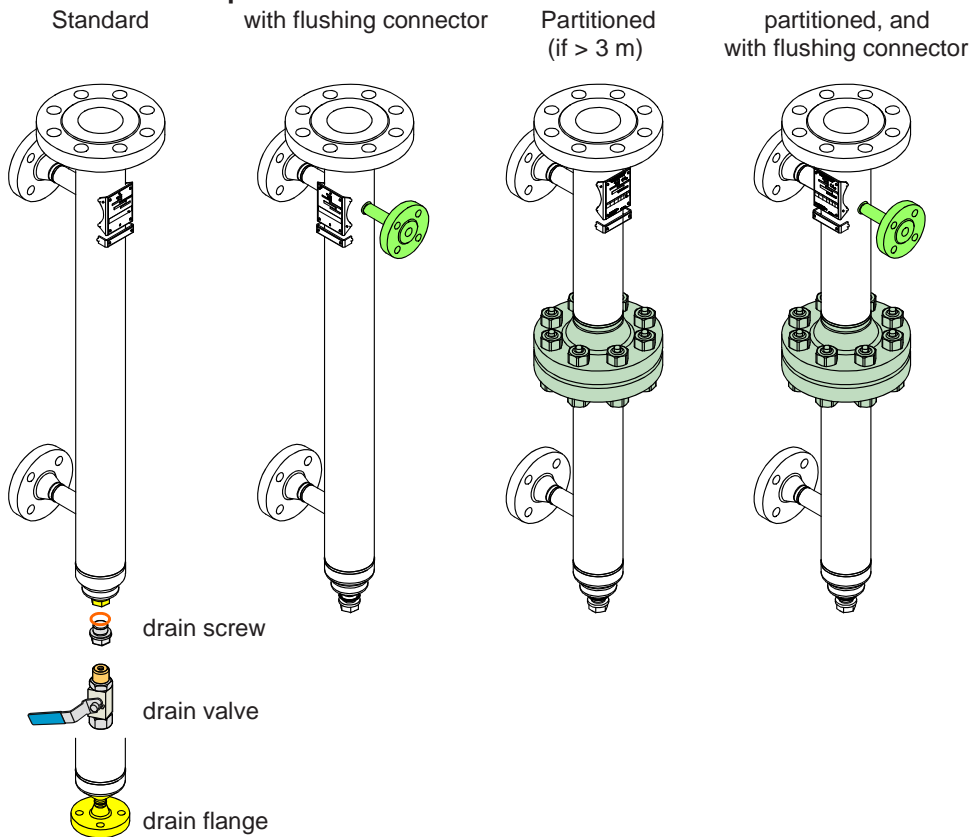


With sandwich mounted devices, an additional blanking flange 204BCF could be required. Please order separately.
Also available without venting plug.

Overview: Mounting arrangements



Overview: Versions / Options



Displacer chamber connections

Example: Displacer chamber "Connection Side-Side"

- #1 Connection flange (to transmitter)
- #2 Chamber connection flange
- #3 Drain flange
- #4 Drain plug or Drain valve

Type label

Schneider Electric Made in France by KROHNE S.A.S. 26103 Romans Cedex, France for Foxboro Eckardt						
CE 0036	Volume L <input type="text"/>					
!	NAMUR <input type="text"/>					
S/N <input type="text"/>	Manuf date <input type="text"/>					
TAG NB <input type="text"/>	Material <input type="text"/>					
Model code <input type="text"/>						
Construction code <input type="text"/>	Type <input type="text"/>					
PERMISSIBLE PRESSURE-TEMPERATURE RATING / Ps [bar] :						
°C	<input type="text"/> +50	<input type="text"/> +100	<input type="text"/> +200	<input type="text"/> +300	<input type="text"/> +400	<input type="text"/> +500
-1 to	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
TEST PRESSURE Pt at 20 °C		<input type="text"/>				

DIMENSIONS Displacer chamber 204DC: Mounting arrangements (Mounting Types)

When ordering, specify the dimension h and physical data such as pressure, nominal size, etc. Therefrom, the dimensions p, e, f and g will be derived. Other dimensions of p, e, f, g, as a special version.

Without heating jacket				Displacer Chambers with heating jacket on request
Side – Side	Side – Bottom	Side – Top	Top – Bottom	shown: Side - Side
<p>1 Connecting flange #1 to transmitter (See model code: Flange size & pressure rating)</p> <p>2 Process connection flange #2 (See model code: Flanges to vessel)</p> <p>3 Drain flange #3</p> <p>4 Drain plug #4</p> <p>5 Flange combination 204 FK</p>				<p>7 Connection flange for heating jacket</p> <p>8 Flushing connector</p>

For 204DC dimensions and drawings, please contact

Schneider Electric

<https://pasupport.schneider-electric.com/>

210307

MODEL CODES 204DC

Displacer Chamber	204DC
MOUNTING TYPE: (Flanges to Vessel)	
Side – Side	-SS
Side – Bottom	-SB
Side – Top (not for LVP)	-ST
Top – Bottom (not for LVP)	-TB
MATERIAL	
- Flanges: 1.0460 (Carbon Steel);	
- Pipes: 1.0345 application from –10 °C to 350°C	K
1.4404 (316 L) application from –60 °C to 400 °C	S
1.4404 (316 L) application from –196 °C to 400 °C	U
1.4404 (316 L) application from –60 °C to 500 °C (only with Option -4)	T
1.4462 (Duplex), application from –10 °C to 280 °C (ae)	N
2.4856 (Inconel 625), application from –196 °C to 450 °C (ae) (only with Option -4)	R
Hastelloy C 276, application from –196 °C to 400 °C (ae) (only with Option -4)	X
PRESSURE RATING:	
PN 16	A
PN 40 (PN 25)	B
PN 100	D
PN 160	E
PN 250	F
PN 250	(aa)
Class 150	I
Class 300	J
Class 600	K
Class 900	L
Class 1500	(aa)
Class 1500	M
FLANGE SIZE (to Transmitter)	
DN 80	(d)
DN 100	(d)
DN 150	(c)(e)(af)
3 inch	(f)
4 inch	(f)
6 inch	(c)(g)(af)

MODEL CODES 204DC (continued)

CONTACT FACE: (Transmitter Mounting Flange)

Type B1 acc. to DIN EN 1092-1	(h)	M
Type B2 acc. to DIN EN 1092-1	(i)	O
Type C acc. to DIN EN 1092-1	(d)	P
Type D acc. to DIN EN 1092-1	(d)	Q
Type RF/SF (RA = 125 µinch) Raised Face acc. to ANSI B16.5	(f)	R
Type RJF Ring Joint Face acc. to ANSI B16.5	(f)	J
Type E Spigot acc. to DIN EN 1092-1	(d)	X
Type F Recess acc. to DIN EN 1092-1	(d)	Y
Type LT Large Tongue acc. to ANSI B16.5	(f)	A

FLANGE SIZE / PIPE SIZE (to Vessel)

DN 15	(d)	A1
DN 15 Connection pipe 60 mm extended	(d)	A2
DN 25	(d)	C1
DN 25 Connection pipe 60 mm extended	(d)	C2
DN 40	(d)	D1
DN 40 Connection pipe 60 mm extended	(d)	D2
DN 50	(d)(v)	E1
DN 50 Connection pipe 60 mm extended	(d)(v)	E2
1/2 inch	(f)	G1
1/2 inch Connection pipe 60 mm extended	(f)	G2
1 inch	(f)	H1
1 inch Connection pipe 60 mm extended	(f)	H2
1 1/2 inch	(f)	I1
1 1/2 inch Connection pipe 60 mm extended	(f)	I2
2 inch	(f)(v)	J1
2 inch Connection pipe 60 mm extended	(f)(v)	J2

CONTACT FACE: (Flanges to Vessel)

Type B1 acc. to DIN EN 1092-1	(h)	M
Type B2 acc. to DIN EN 1092-1	(i)	O
Type C acc. to DIN EN 1092-1	(i)	P
Type D acc. to DIN EN 1092-1	(i)	Q
Type RF/SF (RA = 125 µinch) Raised Face acc. to ANSI B16.5	(f)	R
Type RJF Ring Joint Face acc. to ANSI B16.5	(f)	J
Type E Spigot acc. to DIN EN 1092-1	(i)	X
Type F Recess acc. to DIN EN 1092-1	(i)	Y
Type LM Large Male acc. to ANSI B16.5	(f)	W
Type LF Large Female acc. to ANSI B16.5	(f)	Z
Type LT Large Tongue acc. to ANSI B16.5	(f)	A
Type LG Large Groove acc. to ANSI B16.5	(f)	B
Type ST Small Tongue acc. to ANSI B16.5	(f)	G
Type SG Small Groove acc. to ANSI B16.5	(f)	H
Pipe piece for welding		S

DRAIN: Flange, Screw, Pipe piece for welding

DN 15	(d)(u)	A
DN 20	(u)(e)	B
DN 25	(d)(u)	C
DN 40	(d)(u)	D
DN 50	(d)(u)	E
1/2 inch	(f)(u)	F
3/4 inch	(f)(u)	G

MODEL CODES 204DC (continued)

1 inch	(f)(u)	H						
1 1/2 inch.....	(f)(u)	I						
2 inch.....	(f)(u)	J						
G 3/4 female thread.....	(u)	K						
3/4-14 NPT female thread	(u).....	L						
without.....	(t).....	U						
DRAIN CONTACT FACE:								
Type B1 acc. to DIN EN 1092-1	(h)(s)(u).....	M						
Type B2 acc. to DIN EN 1092-1	(i)(s)(u).....	O						
Type C acc. to DIN EN 1092-1	(i)(s)(u).....	P						
Type D acc. to DIN EN 1092-1	(i)(s)(u).....	Q						
Type RF/SF (RA = 125 µinch) Raised Face according ANSI B16.5..(f)(s)(u)		R						
Type RJF Ring Joint Face acc. to ANSI B16.5.....	(f)(s)(u).....	J						
Type E Spigot acc. to DIN EN 1092-1	(i)(s)(u).....	X						
Type F Recess acc. to DIN EN 1092-1.....	(i)(s)(u).....	Y						
Type LM Large Male acc. to ANSI B16.5	(f)(s)(u).....	W						
Type LF Large Female acc. to ANSI B16.5.....	(f)(s)(u).....	Z						
Type LT Large Tongue acc. to ANSI B16.5.....	(f)(s)(u).....	A						
Type LG Large Groove acc. to ANSI B16.5.....	(f)(s)(u).....	B						
Type ST Small Tongue acc. to ANSI B16.5	(f)(s)(u).....	G						
Type SG Small Groove acc. to ANSI B16.5	(f)(s)(u).....	H						
Pipe piece for welding	(m)(u).....	S						
With female thread and drain plug	(n)(u).....	T						
Without	(t).....	U						
TYPE OF ARRANGEMENT								
Standard						X		
Additional partition point with Bolts and Nuts, Spiral gasket Steel / Graphite								
Flange Face (acc. to Transmitter Mounting Flange):								
Flanges acc. to DIN EN - Form B1 resp. B2								
Flanges acc. to ANSI - Form RF/SF							(ab).....	A
Additional partition point with Bolts and Nuts, Spiral gasket 1.4571 / Graphite								
Flange Face (acc. to Transmitter Mounting Flange):								
Flanges acc. to DIN EN - Form B1 resp. B2								
Flanges acc. to ANSI - Form RF/SF.....							(ab).....	C
Additional partition point with Bolts and Nuts, Spiral gasket Hastelloy C / Graphite								
Flange Face (acc Transmitter Mounting Flange):								
Flanges acc. to DIN EN - Form B1 resp. B2								
Flanges acc. to ANSI - Form RF							(ab).....	D

MODEL CODES 204DC (continued)

CHAMBER FOR Length of DISPLACER "L": (Indicate exact measure of "L" when ordering)

For Code -SS - "L" = Distance between center of flanges to Vessel

For length range

"L" > 300 mm to 1000 mm (>12 inch to 40 inch).....	A
"L" >1000 mm to 2000 mm (>40 inch to 79 inch)	B
"L" >2000 mm to 3000 mm (>79 inch to 118,5 inch).....	C
"L" >3000 mm to 4000 mm (>118.5 inch to 157.5 inch)	(w) D
"L" >4000 mm to 5000 mm (>157.5 inch to 197 inch).....	(w) E
"L" >5000 mm to 6000 mm (>197 inch to 236 inch).....	(w) F

OPTIONS:

Additional flushing connector on top DN 15 or 1/2" (same design as selected drain).....	-X
Additional flushing connector on top DN 25 or 1" (same design as selected drain).....	-Y
Tag No. Labeling	
Stainless Steel Label fixed with wire	-L
Certificates	
EN 10204-2.1 Certificate of Compliance	-1
EN 10204-3.1 Inspection Certificate of process welded material	-3
PED 97/23/EC additional unit verification, acc. to Module F/G	(q) -4
Comply with NACE Standard MR 0175 (requires Option -3).....	(x) -6
Material Tests	
X-Ray or Isotope test for weldings.....	-7
Dye penetrate test	-8
PMI-Test.....	-5

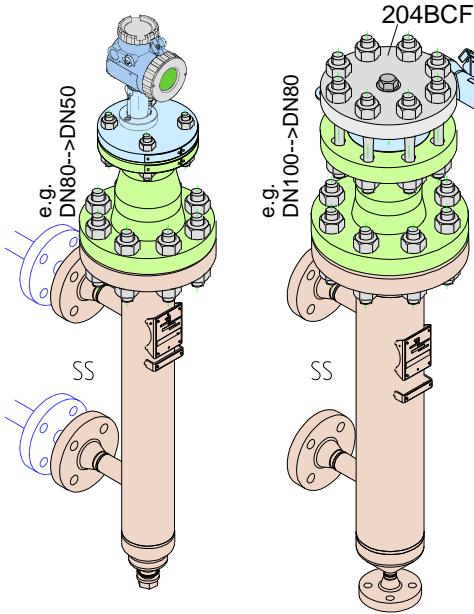
- (a) Pending
- (b) Pending
- (c) Not with TYPE OF ARRANGEMENT: 6, 7, 8, 9, S, T, U, V
- (d) Not with PRESSURE RATING CODE: I, J, K, L, M
- (e) Not with PRESSURE RATING CODE: D, E, F, I, J, K, L, M
- (f) Not with PRESSURE RATING CODE: A, B, C, D, E, F
- (g) Not with PRESSURE RATING CODE: A, B, C, D, E, F, K, L, M
- (h) Not with PRESSURE RATING CODE: C, D, E, F, I, J, K, L, M
- (i) Not with PRESSURE RATING CODE: A, B, I, J, K, L, M
- (k) Not with PRESSURE RATING CODE: A, B, C, D, I, J, K, L, M
- (m) Available with DRAIN: A, B, C, F, G, H
- (n) Available with DRAIN: K & L
- (o) Not available with MATERIAL CODE E, F, G, S, U, T, H, Q, J, N, I, R, C
- (p) Available with DRAIN CONTACT FACE S
- (q) Restrictions concerning the limit of application for the used materials are considering (NACE Standard MR 0175, or ISO 15156)
- (r) Available with Mounting Type Code SS, ST and Drain Code B, C, G, H
- (s) Not available with DRAIN; K & L
- (t) Not with MOUNTING TYPE: -SS, -ST
- (u) Not with MOUNTING TYPE: -SB, -TB
- (v) Not with FLANGE SIZE (to Transmitter) 0 or 4
- (w) With TYPE OF ARRANGEMENT A, C or D
- (x) Not with MATERIAL K
- (y) With MATERIAL K or L
- (z) Price for carbon steel is for amount of one chamber. For more amounts contact factory
- (aa) With Material test -7
- (ab) With MATERIAL: K, E, F, G, S, U, T, H, Q, J and CONTACT FACE (Transmitter mounting flange): M, O, R
- (ac) Only with FLANGE SIZE DN80 and PN63 or PN100 or PN160 or with FLANGE SIZE DN100 and PN16 or PN40 or PN63 or PN100 or PN160
- (ad) Only with FLANGE SIZE 3" and class 300 or class 600 or class 900
or with FLANGE SIZE 4" and class 150 or class 300 or class 600
- (ae) Delivery time on request
- (af) On request

FLANGE COMBINATION 204FK

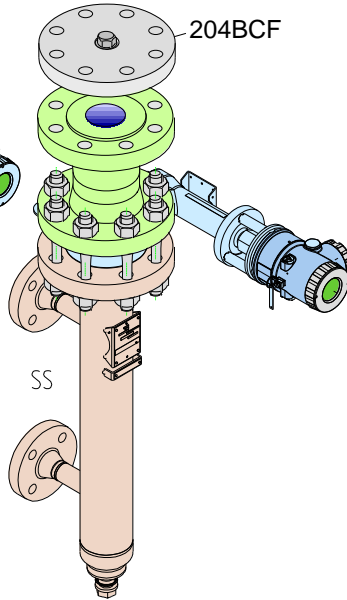
The flange combination consists of a piece of pipe welded between two flanges.

204FK Flange combination...

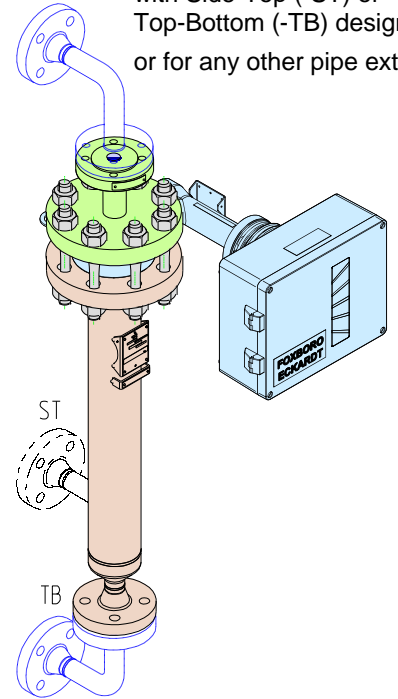
... for adapting different flange sizes



... simplified service inspection without removing the transmitter screws



... Reduction of flange size with displacer chamber with Side-Top (-ST) or Top-Bottom (-TB) design or for any other pipe extension



Materials,

Flange size #1,

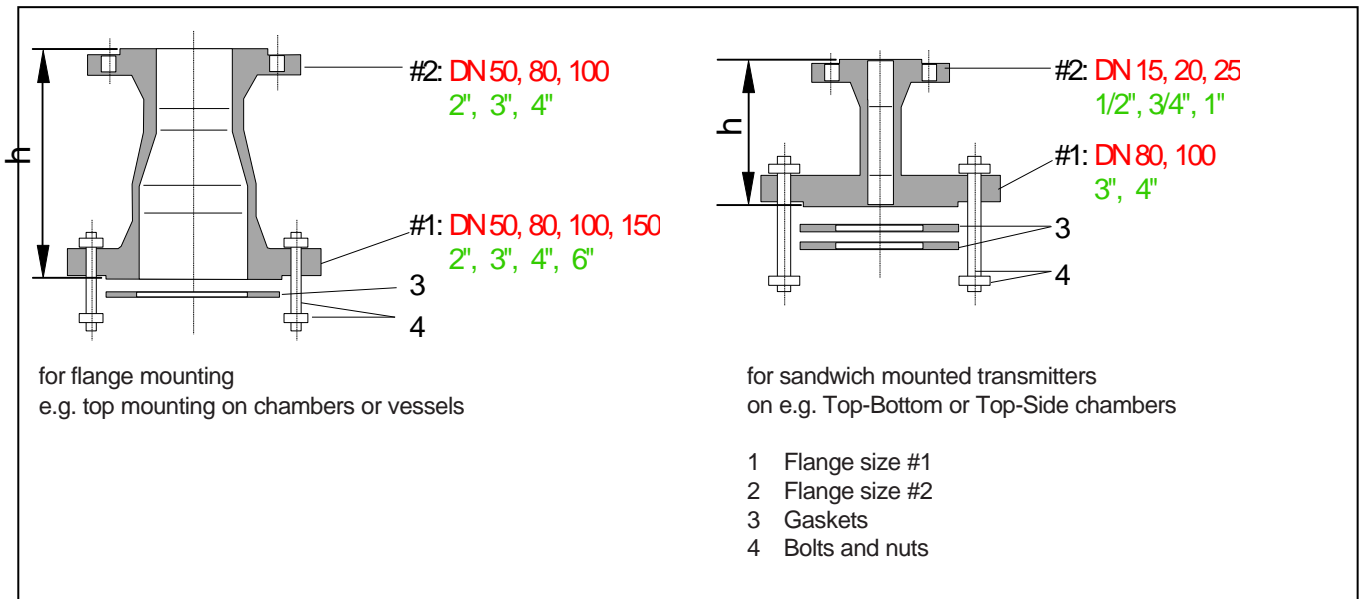
Flange size #2,

Static pressure rating,

Contact face

see Model Codes on following pages

The flange combination will be supplied with gasket(s), bolts and nuts for connection to the transmitter.



204FK Table of Dimensions and weights, acc. to DIN

SANDWICH MOUNTING		DN 80		DN 100	
Flange size # 2		Flange size # 1		Flange size # 1	
DN	PN	"h"	Weight	"h"	Weight
	bar	mm	Kg	mm	Kg
15	16	125	7,5	125	9,0
	40	129	9,5	129	13,0
	63	140	12,0	142	17,0
	100	144	16,0	148	23,0
	160	148	17,0	152	24,0
	250	173	27,0	181	40,0
20	16	127	8,0	127	9,0
	40	131	9,0	131	12,5
	63	143	13,0	145	18,0
	100	147	17,0	151	24,0
					0
25	16	127	8,0	127	9,5
	40	131	9,0	131	13,0
	63	153	13,5	155	19,0
	100	157	17,5	161	24,5
	160	161	19,0	165	26,0
	250	178	28,0	186	41,0

FLANGE MOUNTING		DN 50		DN 80		DN 100		DN 150	
Flange size # 2		Flange size # 1		Flange size # 1		Flange size # 1		Flange size # 1	
DN	PN	"h"	Weight	"h"	Weight	"h"	Weight	"h"	Weight
	bar	mm	Kg	mm	Kg	mm	Kg	mm	Kg
50	16	92	6,5	186	9,0	198	10,0	241	15,5
	40	98	6,5	197	10,0	214	13,0	264	21,0
	63	126	10,5	225	15,0	241	25,0	298	38,0
	100	138	14,0	237	20,0	259	27,5	324	50,5
	160	152	15,0	252	22,5	276	30,5	344	60,5
	250	172	23,0	278	31,5	306	45,5	386	89,0
80	16	186	8,0	102	9,5	203	11,0	246	16,5
	40	197	9,0	118	11,5	224	15,0	274	23,0
	63	225	13,5	146	16,5	251	27,5	308	40,5
	100	237	18,0	158	22,5	269	30,0	334	53,5
	160	248	20,0	170	25,0	283	34,5	351	61,5
	250	274	31,5	202	40,0	319	54,0	399	97,0
100	16	198	9,0	203	11,0	106	11,0	111	17,5
	40	214	11,0	224	14,0	132	16,0	144	25,0
	63	241	16,5	251	20,5	158	28,5	177	43,0
	100	259	23,0	269	28,0	182	33,0	209	58,0
	160	276	26,0	287	32,0	202	37,5	232	70,0
	250	306	42,0	323	50,5	242	64,5	284	108,0

204 FK Table of Dimensions and weights, acc. to ANSI

SANDWICH MOUNTING		3"		4"	
Flange size # 2		Flange size # 1		Flange size # 1	
DN	PN	"h"	Weight	"h"	Weight
	class	mm	Kg	mm	Kg
1/2"	150	139	6,5	139	9,8
	300	149	11,5	152	16,3
	600	165	13,5	171	24,6
	900	179	21,5	186	40,7
	1500	167	33,0	173	47,8
3/4"	150	144	7,0	144	10,1
	300	154	12,0	157	16,8
	600	170	14,0	176	25,2
	900	189	22,5	196	41,4
	1500	199	34,0	205	48,5
1"	150	147	7,5	147	10,4
	300	158	12,5	161	17,1
	600	175	14,5	181	25,6
	900	192	23,5	199	42,7
	1500	202	35,0	208	49,7

FLANGE MOUNTING		2"		3"		4"		6"	
Flange size # 2		Flange size # 1		Flange size # 1		Flange size # 1		Flange size # 1	
DN	PN	"h"	Weight	"h"	Weight	"h"	Weight	"h"	Weight
	class	mm	Kg	mm	Kg	mm	Kg	mm	Kg
2"	150	130	6,0	227	9,5	247	12,0	304	20,0
	300	156	11,5	250	15,0	269	21,0	327	32,5
	600	162	9,5	263	17,5	295	29,0	348	55,0
	900	220	24,0	311	31,5	336	46,0	400	90,0
	1500	220	24,0	326	43,0	346	58,0	431	123,5
3"	150	227	9,5	142	11,0	253	14,5	310	22,5
	300	250	14,0	162	16,0	272	23,0	330	34,5
	600	263	15,0	182	20,5	305	33,5	358	58,0
	900	311	29,0	220	32,5	336	48,5	400	90,0
	1500	326	35,5	250	50,0	361	67,0	446	132,5
4"	150	247	12,0	253	14,0	156	16,0	317	24,5
	300	269	19,0	272	21,5	174	28,5	336	39,0
	600	295	24,5	305	31,5	220	44,5	377	69,0
	900	336	38,5	336	43,5	244	62,0	412	101,0
	1500	346	47,0	361	63,5	264	80,5	453	142,5

MODEL CODES 204FK

Flange Combination Kit		204FK		210317
incl. Gaskets, Nuts and Bolts				
MATERIAL:				
Flanges: 1.0460 (Carbon Steel);				
Pipes: 1.0345 application from	-10 °C to 350 °C	.....	-K	
1.4404 (316 L) application from	-60 °C to 400 °C	.....	-S	
1.4404 (316 L) application from	-196 °C to 400 °C	.....	-U	
1.4404 (316 L) application from	-60 °C to 500 °C	.....	-T	
(only with Option -4)		.....	-T	
1.4462 (Duplex) application from	-10 °C to 280 °C	.....(ae)	-N	
2.4856 (Inconel 625) application from	-196 °C to 450 °C	.....	-R	
(only with Option -4)		.....(ae)	-R	
Hastelloy C 276 application from	-196 °C to 400 °C	.....	-X	
(only with Option -4)		.....(ae)	-X	
PRESSURE RATING:				
PN 16		.....	A	
PN 25 / PN 40		.....	B	
PN 100		.....	D	
PN 250	(f)	.....	F	
Class 150		.....	I	
Class 300		.....	J	
Class 600		.....	K	
Class 900		.....	L	
Class 1500	(f)	.....	M	
FLANGE SIZE #1				
DN 50 (with Pressure Rating: A, B, C, D, E, F)		.....	0	
DN 80 (with Pressure Rating: A, B, C, D, E, F)		.....	1	
DN 100 (with Pressure Rating: A, B, C, D, E, F)		.....	2	
DN 150 (with Pressure Rating: A, B, C, D, E, F)		.....	3	
(only with Option -4)	(af)	.....	3	
2 inch (with Pressure Rating: I, J, K, L, M)		.....	4	
3 inch (with Pressure Rating: I, J, K, L, M)		.....	5	
4 inch (with Pressure Rating: I, J, K, L, M)		.....	6	
6 inch (with Pressure Rating: I, J, K, L, M)		.....	7	
(only with Option -4)	(af)	.....	7	
CONTACT FACE #1				
Type B1 acc. to DIN EN 1092-1 (only with Pressure Rating: A, B)		.....	M	
Type B2 acc. to DIN EN 1092-1 (only w. Pressure Rating: A, B, C, D, E, F)		.....	O	
Type C acc. to DIN EN 1092-1 (only w. Pressure Rating: A, B, C, D, E, F)		.....	P	
Type D acc. to DIN EN 1092-1 (only w. Pressure Rating: A, B, C, D, E, F)		.....	Q	
Type E Spigot acc. DIN EN 1092-1 (only w. Pressure Rating: A, B, C, D, E, F)		.....	X	
Type F Recess acc. DIN EN 1092-1 (only w. Pressure Rating: A, B, C, D, E, F)		.....	Y	
Type L Lens acc. to DIN 2696 (only with Pressure Rating: D, E, F)		.....	L	
Type RF/SF (RA=125 µinch) acc. ANSI B 16.5 (only w. Pressure Rating: I, J, K, L, M)		.....	R	
Type RJF acc. to ANSI B 16.5 (only with Pressure Rating: I, J, K, L, M)		.....	J	
Type ...				

MODEL CODES 204FK (continued)

Type LM Large Male acc. to ANSI B 16.5 (only w. Pressure Rating: I, J, K, L, M)	W
Type LF Large Female acc. ANSI B 16.5 (only w. Pressure Rating: I, J, K, L, M).....	Z
Type LT Large Tongue acc. ANSI B 16.5 (only w. Pressure Rating: I, J, K, L, M)	A
Type LG Large Groove acc. ANSI B 16.5 (only w. Pressure Rating: I, J, K, L, M).....	B
Type ST Small Tongue acc. ANSI B 16.5 (only w. Pressure Rating: I, J, K, L, M).....	G
Type SG Small Groove acc. ANSI B 16.5 (only w. Pressure Rating: I, J, K, L, M).....	U

FLANGE SIZE #2:

DN 15 (with Flange Size #1: 1, 2).....	A
DN 20 (with Flange Size #1: 1, 2) not with (Pressure Rating: E, F).....	B
DN 25 (with Flange Size #1: 1, 2).....	C
DN 50 (with Flange Size #1: 0, 1, 2, 3).....	D
DN 80 (with Flange Size #1: 0, 1, 2, 3).....	F
1/2 inch (with Flange Size #1: 5, 6) not with (Press. Rating: I And Cont. Face #1: J).....	H
3/4 inch (with Flange Size #1: 5, 6) not with (Press. Rating: I And Cont. Face #1: J).....	I
1 inch (with Flange Size #1: 5, 6)	J
2 inch (with Flange Size #1: 4, 5, 6, 7)	K
3 inch (with Flange Size #1: 4, 5, 6, 7)	L
4 inch (with Flange Size #1: 4, 5, 6, 7)	M

CONTACT FACE #2:

Type B1 acc. DIN EN 1092-1 (with Pressure Rating: A, B)	M
Type B2 acc. DIN EN 1092-1 (with Pressure Rating: A, B, C, D, E, F).....	O
Type C acc. DIN EN 1092-1 (with Pressure Rating: A, B, C, D, E, F).....	P
Type D acc. DIN EN 1092-1 (with Pressure Rating: A, B, C, D, E, F).....	Q
Type E Spigot acc. DIN EN 1092-1 (with Pressure Rating: A, B, C, D, E, F).....	X
Type F Recess acc. DIN EN 1092-1 (with Pressure Rating: A, B, C, D, E, F)	Y
Type L Lens acc. DIN 2695 (with Pressure Rating: D, E, F).....	L
Type RF/SF (RA=125 µinch) acc. ANSI B16.5 (with Pressure Rating: I, J, K, L, M).....	R
Type RJF acc. ANSI B16.5 (with Pressure Rating: I, J, K, L, M).....	J
Type LM Large Male acc. ANSI B16.5 (with Pressure Rating: I, J, K, L, M)	W
Type LF Large Female acc. ANSI B16.5 (with Pressure Rating: I, J, K, L, M).....	Z
Type LT Large Tongue acc. ANSI B16.5 (with Pressure Rating: I, J, K, L, M).....	A
Type LG Large Groove acc. ANSI B16.5 (with Pressure Rating: I, J, K, L, M).....	B
Type ST Small Tongue acc. ANSI B16.5 (with Pressure Rating: I, J, K, L, M).....	G
Type SG Small Groove acc. ANSI B16.5 (with Pressure Rating: I, J, K, L, M).....	U

GASKETS: (for FLANGE SIZE #1)

Graphit (with CONTACT FACE #1 P, Q, A, B, G, U).....	G
Carbon Steel (with MATERIAL K) (not with CONTACT FACE #1 P, Q, A, B, G, U)..... (b).....	K
1.4571 (316 Ti) (with MATERIAL E) (not with CONTACT FACE #1 P, Q, A, B, G, U)..... (b)	E
1.4404 (316 L) (with MATERIAL S) (not with CONTACT FACE #1 P, Q, A, B, G, U)..... (b).....	S
1.4541 (321) (with MATERIAL H) (not with CONTACT FACE #1 P, Q, A, B, G, U)..... (b).....	H
1.4462 (DUPLEX) (with MATERIAL N) (not with CONTACT FACE #1 P, Q, A, B, G, U)	N
2.4856 (INCONEL 625) (with MATERIAL R) (not with CONTACT FACE #1 P, Q, A, B, G, U)..... (b).....	R
2.4858 (INCONEL 825) (with MATERIAL I) (not with CONTACT FACE #1 P, Q, A, B, G, U)	I
Hastelloy C (with MATERIAL C) (not with CONTACT FACE #1 P, Q, A, B, G, U)	C

BOLTS:

Steel Bolts (long) with reduced shank for sandwich mounting, nuts and 2 gaskets Product temperature > -10 °C WITH ((Flange Size #1: 1, 2, 5, 6) And (Flange Size 2: A, B, C, H, I, J))	1
1.4541 Bolts (long) with reduced shank for sandwich mounting, nuts and 2 gaskets Product temperature > -196 °C WITH ((Flange Size #1: 1, 2, 5, 6) And (Flange Size 2: A, B, C, H, I, J))	2
Steel Bolts (short) with reduced shank for flange mounting, nuts and 1 gasket Product temperature > -10 °C WITH (Flange Size #2: D, E, F, K, L, M)	3
1.4541 Bolts (short) with reduced shank for flange mounting, nuts and 1 gasket Product temperature > -196 °C WITH (Flange Size #2: D, E, F, K, L, M)	4

MODEL CODES 204FK (continued)

OPTIONS:

Tag No. Labeling - Stainless Steel Label Fixed With Wire	-L
Certificates	
EN 10204-2.1 Certificate of Compliance	-1
EN 10204-3.1 Inspection Certificate of Process Wetted Metallic Material	-3
PED 97/23/EC Additional Unit Verification, acc. to Module F/G	-4
Comply with NACE Standard MR 0175; not with Material K (Carbon steel)	-6
Material Test	
PMI - Test	-5
X-Ray or Isotope test for weldings	-7
Dye Penetrate Test	-8

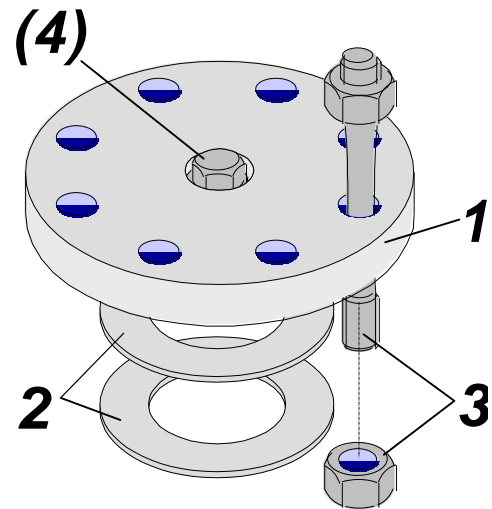
- (a) Restrictions concerning the limit of application for the used materials are considering (NACE Standard MR 0175, ISO 15156)
- (b) Spiral gaskets including Graphite
- (d) For PRESSURE RATING I, J, K, D, L, M
- (e) Not released
- (f) With Material Test -7
- (ae) Delivery time on request
- (ac) Pending
- (af) On request

FLANGE KIT 204BCF

Cover flange kit

The cover flange kit is necessary for the sandwich type torque tube transmitters 244LD and 167LP.

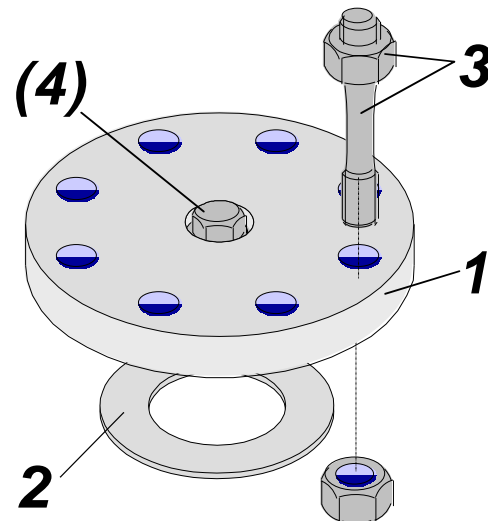
Two seals, studs and nuts are included. Vent plug is optional.



Blind Flange Set

The Blind Flange Kit is required to close both the drain flange and the top mounted flange combination, if no other additionally equipment is connected.

One seal, studs and nuts are included. Vent plug is optional.



**MATERIAL,
FLANGE SIZE,
PRESSURE RATING,
CONTACT FACE,
GASKETS,
BOLTS and NUTS**

see the Model Codes on the following pages.

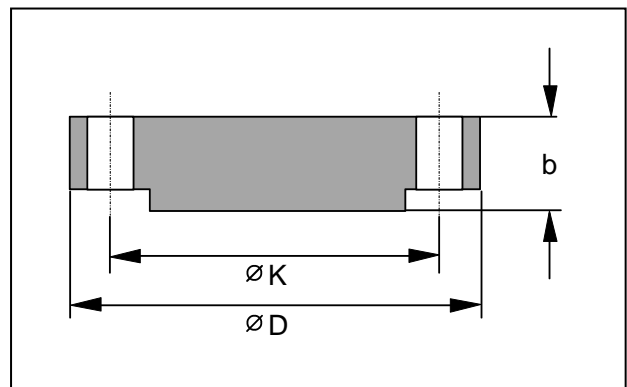
- 1 Flange
- 2 Gaskets
- 3 Bolts and nuts
- (4) Venting plug with
G 3/4 A (DIN ISO 228) or 3/4 NPT

204BCF Dimensions for flanges acc. to DIN / ANSI

Dimensions for Blind flange set (Excerpt) acc. to DIN EN 1092 (> PN100 similar to DIN EN 1092)							Dimensions for Cover flange set (Excerpt) acc. to DIN EN 1092 (> PN100 similar to DIN EN 1092)						
DN mm	PN bar	D mm	K mm	b mm	Dm x l mm	Number	DN mm	PN bar	D mm	K mm	b mm	Dm x l mm	Number
100	16	220	180	20	M16 x 80	8	100	16	220	180	20	M16 x 150	8
	40	235	190	24	M20 x 95	8		40	235	190	24	M20 x 170	8
	63	250	200	30	M24 x 105	8		63	250	200	30	M24 x 185	8
	100	265	210	36	M27 x 110	8		100	265	210	36	M27 x 200	8
	160	265	210	40	M27 x 140	8		160	265	210	40	M27 x 210	8
	250	300	235	54	M30 x 180	8		250	300	235	54	M30 x 240	8
	400	370	295	80	M36 x 235	8		400	370	295	80	M36 x 305	8
80	16	200	160	20	M16 x 80	8	80	16	200	160	20	M16 x 150	8
	40	200	160	24	M16 x 90	8		40	200	160	24	M16 x 160	8
	63	215	170	28	M20 x 105	8		63	215	170	28	M20 x 170	8
	100	230	180	32	M24 x 120	8		100	230	180	32	M24 x 190	8
	160	230	180	36	M24 x 130	8		160	230	180	36	M24 x 200	8
	250	255	200	46	M27 x 150	8		250	255	200	46	M27 x 220	8
	400	305	240	68	M30 x 200	8		400	305	240	68	M30 x 270	8
50	16/40	165	125	20	M16 x 80	4							
	63	180	135	26	M20 x 105	4							
	100	195	145	28	M24 x 110	4							
	160	195	145	28	M24 x 115	4							
	250	200	150	38	M24 x 120	8							
	400	235	180	52	M27 x 170	8							
25	16/40	115	85	18	M12 x 75	4							
	63/100	140	100	24	M16 x 90	4							
	160	140	100	24	M16 x 90	4							
	250	150	105	28	M20 x 105	4							
	400	180	130	38	M24 x 130	4							
20	16/40	105	75	18	M12 x 70	4							
15	16/40	95	65	16	M12 x 65	4							
	63/100	105	75	20	M12 x 70	4							
	160	105	75	20	M12 x 70	4							
	250	130	90	26	M16 x 90	4							
	400	145	100	30	M20 x 105	4							

Dimensions for Blind flange set (Excerpt) acc. to ANSI B16.5							Dimensions for Cover flange set (Excerpt) acc. to ANSI B16.5						
DN inch	PN class	D mm	K mm	b mm	Dm x l mm	Number	DN inch	PN class	D mm	K mm	b mm	Dm x l mm	Number
4	150	229	190	24	M16 x 90	8	4	150	229	190	24	M16 x 160	8
	300	254	200	32	M20 x 110	8		300	254	200	32	M20 x 180	8
	600	273	216	44	M24 x 150	8		600	273	216	44	M24 x 215	8
	900	292	235	51	M30 x 170	8		900	292	235	51	M30 x 240	8
	1500	312	241	60	M33 x 200	8		1500	312	241	60	M33 x 270	8
3	150	190	152	24	M16 x 90	4	3	150	190	152	24	M16 x 160	4
	300	210	168	28	M20 x 105	8		300	210	168	28	M20 x 180	8
	600	210	168	38	M20 x 130	8		600	210	168	38	M20 x 195	8
	900	241	190	44	M24 x 150	8		900	241	190	44	M24 x 215	8
	1500	267	203	54	M30 x 180	8		1500	267	203	54	M30 x 245	8
2	150	152	121	19	M16 x 80	4							
	300	165	127	22	M16 x 85	8							
	600	165	127	32	M16 x 105	8							
	900/1500	216	165	44	M24 x 150	8							
1	150	108	79	14	M12 x 65	4							
	300	124	89	18	M16 x 75	4							
	600	124	89	24	M16 x 90	4							
	900/1500	149	102	35	M24 x 130	4							
3/4	150	99	70	13	M12 x 65	4							
	300	117	83	16	M16 x 75	4							
	600	117	83	22	M16 x 85	4							
	900/1500	130	89	31	M20 x 110	4							
1/2	150	89	60	11	M12 x 55	4							
	300	95	67	14	M12 x 65	4							
	600	95	67	21	M12 x 75	4							
	900/1500	121	83	29	M20 x 105	4							

Flanges; dimensions



MODEL CODES 204BCF

Blanking flange kit (flange, gasket, nuts and bolts)	204BCF	120318
MATERIAL		
1.0460 (Carbon Steel) application from -10 °C to 350 °C	(d).....	-K
1.4404 (316 L) (1.4435 with FLANGE SIZE: 15, 16 and CONTACT FACE: H) application from -196 °C to 500 °C		-S
1.4462 (Duplex)	application from -10 °C to 280 °C	(d)..... -N
2.4856 (Inconel 625).....	application from -196 °C to 450 °C	(d) -R
Hastelloy C 276	application from -196 °C to 400 °C	(d)..... -X
FLANGE SIZE		
DN 15	(b).....	11
DN 20 (PN 10 to PN 100)	(b).....	12
DN 25		13
DN 50		14
DN 70 (PN 500, Lens, 1.4435)		15
DN 80		16
Dn 100		17
1/2 inch.....	(b).....	18
3/4 inch.....	(b).....	19
1 inch.....		20
2 inch.....		21
3 inch.....		22
4 inch.....		23
PRESSURE RATING		
PN 16 (with flange size -11, -12, -13, -14, -16, -17).....		A
PN 25 / PN 40 (with flange size -11, -12, -13, -14, -16, -17).....		B
PN 100 (with flange size -11, -13, -14, -16, -17).....		D
PN 250 (with flange size -11, -13, -14, -16, -17).....		F
PN 400 (with flange size -16).....	(b)	G
PN 500 (with flange size -15).....	(b)(l)	H
Class 150 (with flange size -18 to -23).....		I
Class 300 (with flange size -18 to -23).....		J
Class 600 (with flange size -18 to -23).....		K
Class 900 (with flange size -18 to -23).....		L
Class 1500 (with flange size -18 to -23).....		M
CONTACT FACE		
Type B1 acc. to DIN EN 1092-1 (available with pressure rating A, B)		M
Type B2 acc. to DIN EN 1092-1 (available with pressure rating A to G).....		O
Type C acc. to DIN EN 1092-1 (available with pressure rating A to G).....		P
Type D acc. to DIN EN 1092-1 (available with pressure rating A to G)		Q
Type E Spigot acc. to DIN EN 1092-1 (available with pressure rating A to G).....		X
Type F Recess acc. to DIN EN 1092-1 (available with pressure rating A to G)		Y
Type L (available with pressure rating D, E, F, G)		L
Type L Lens High pressure (available with IG- Standard for Pressure Rating H and Lens acc. to DIN 2596 with pressure rating G).....	(l).....	H
Type RF/SF (available with pressure rating I to M) -- RF Raised Face per ANSI B16.5		R
Type RJF (available with pressure rating I to M) -- RJF Ring Joint Face per ANSI B16.5 (with flange size -18, -19 and pressure rating "I" not with contact face "J").....		J
Type LM Large Male acc. to ANSI B16.5 (with PRESSURE RATING I, J, K, L, M)		W
Type LF Large Female acc. to ANSI B16.5 (with PRESSURE RATING I, J, K, L, M).....		Z
Type LT Large Tongue acc. to ANSI B16.5 (with PRESSURE RATING I, J, K, L, M)....(k)		A
Type LG Large Groove acc. to ANSI B16.5 (with PRESSURE RATING I, J, K, L, M) ... (k)		B
Type ST Small Tongue acc. to ANSI B16.5 (with PRESSURE RATING I, J, K, L, M) ... (k)		G
Type SG Small Groove acc. to ANSI B16.5 (with PRESSURE RATING I, J, K, L, M) ... (k)		U

MODEL CODES 204BCF (continued)

GASKETS

Graphit	(with CONTACT FACE Q, P, A, B, G, U)	(d)	G
Carbon Steel (with MATERIAL K) . (not with CONTACT FACE P, Q, A, B, G, U)	(c)(d)		K
1.4571 (316 Ti) (with MATERIAL E) . (not with CONTACT FACE P, Q, A, B, G, U)	(c)(d)		E
1.4404 (316 L) (with MATERIAL S) .. (not with CONTACT FACE P, Q, A, B, G, U)	(c)(d)(l).....		S
1.4541 (321) (with MATERIAL H) .. (not with CONTACT FACE P, Q, A, B, G, U)	(c)(d)(l).....		H
1.4462 (Duplex) (with MATERIAL N) (not with CONTACT FACE P, Q, A, B, G, U).....	(c)(d)(l).....		N
2.4856 (Inconel 625) (with MATERIAL R) (not with CONTACT FACE P, Q, A, B, G, U) .	(c)(d)(l).....		R
2.4858 (Inconel 825) (with MATERIAL I) (not with CONTACT FACE P, Q, A, B, G, U)...	(c)(d)(l).....		I
Hastelloy C 276 (with MATERIAL X) . (not with CONTACT FACE P, Q, A, B, G, U).....	(c)(d)(l).....		C
Without gasket, with CONTACT FACE H.....	(l).....		X

BOLTS and NUTS

Steel bolts with reduced shank (long) + nuts for transm. sandwich mounting, a. product temp. > -10 °C	(f)	1
1.4541 bolts w. reduced shank (long) + nuts for transm. sandwich mounting, a. product temp. > -196 °C	(f)	2
Steel bolts with reduced shank (short) and nuts for flange connection, and product temp. > -10 °C	(h).....	3
1.4541 bolts w. reduced shank (short) and nuts for flange connection, and product temp. > -196 °C.....	(h).....	4

OPTIONS

Vent Plug G 3/4.....		-A
Vent Plug NPT 3/4		-B
Tag No. Labeling		
Stainless steel label fixed with wire		-L
Certificates		
EN 10204-2.1 Certificate of Compliance		-1
EN 10204-3.1 Inspection Certificate of Process Wetted Material.....		-3
Comply with NACE; not Material K (Carbon steel) . (requires Option -3).....	(a).....	-6

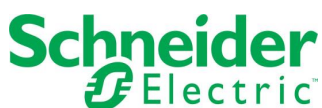
- (a) Restrictions concerning the limit of application for the used materials are considering (NACE Standard MR 0175, resp. ISO 15156)
- (b) Not with OPTION: -A, -B
- (c) Spiral gaskets including Graphite
- (d) Not CONTACT FACE: H
- (f) Only for Flange size -15, -16, -17, -22, -23
- (h) Not FLANGE SIZE: 15
- (k) Only GASKET: G
- (l) FLANGE SIZE: 15 (DN 70) only with PRESSURE RATING: H (PN 500) AND MATERIAL: S (1.4435)
 PRESSURE RATING: H (PN 500) only with FLANGE SIZE: 15 (DN 70) AND GASKETS: X (without Gasket)
 GASKETS: X only with FLANGE SIZE: 15 (DN 70)
 CONTACT FACE: H only with PRESSURE RATING: G OR H
- (m) Pending

Accessories are matching for following Transmitters:

244LD Intelligent Buoyancy Transmitter for Liquid Level, Interface and Density with Displacer and Torque Tube

167LP Pneumatic Buoyancy Transmitter for Liquid Level, Interface and Density with Displacer and Torque Tube

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