

**Pipe Class  
Specification PN 63**

**Tube parts catalogue  
Pipe class: ZB63C1**

- 1 Aim** Aim of this guideline is the specification of tube parts under defined operating conditions under consideration of the requirements of guideline 97/23/EC (Pressure equipment guideline)
- 2 Scope** Air Liquide Deutschland GmbH
- 3 Material** 1.4541 ( X 6 CrNiTi 18 10 )
- 4 Pipe class** Standard pipe class according to leaflet AD-2000
- 5 Seal form** Form B2 according to DIN EN 1092-1
- 6 Corrosion surcharge**
- 7 Screws** Hexagon head screw A2-70  
Hexagon nut A2-70
- 8 Permitted media** Argon, ethylene, dinitrogenoxide, compressed air, noble gases, natural gas, carbon dioxide, methane, oxygen, nitrogen, hydrogen and its mixtures in gaseous and liquid form
- 9 Operating pressure** 63 bar
- 10 Operating temperature** from 3 K (-270°C) to 393 K (120°C)

ND	15	20	25	32	40	50	65	80	100	125	150	200	250
da/mm	21,3	26,9	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1	273
s/mm	1,6	1,6	2	2	2	2	2,3	3,2	3,6	4	4,5	6,3	8,8

ND	300												
da/mm	323,9												
s/mm	10												

- 11 Safety notices** Oxygen leading pipes must be cleaned of oil, grease, welding beads, processing shaving etc. inside and comply with the standard 06401 before putting into operation.

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**12 Additional notices**

At operating temperatures of  $-200\text{ °C} \leq TS < -10\text{ °C}$  the requirements to be met must be according to account 2000 leaflet W10 ad.

Additionally, when using LH2, the special requirements to the examination of the notched bar impact work have to be met according to notice 2000 leaflet W10, panel 1. This is caused by the lowest application temperature of  $-253\text{ °C}$ .

At operating temperatures of  $50\text{ °C} < TS \leq 120\text{ °C}$  flanges of the next higher pressure level must be used.

Only comb defined seals must be provided for flange joints.

Screws from A2 -are allowed to be used according to AD 2000 leaflet W10 only to  $TS = -200\text{ °C}$ .

Tube part	nom. width		iden- tifica- tion	dimension standard / terms of delivery	certificate
	from	to			
Caps	15	300	KAP	DIN 2617, DIN 2609	3.1.B according to DIN EN 10204
Comb defined seals	15	300	KAD	DIN 2617, Standard 40008	2.1 according to DIN EN 1024 concerning purity in accordance with Standard 06401
Elbow 90° R=1,5 DA, welded	15	200	RB1,SDG	DIN 2805-1, DIN 2609	3.1.C or 3.2 according to DIN EN 10204
Elbow 90° R=2,5 DA, welded	15	300	RB2,SDG	DIN 2805-1, DIN 2609	3.1.C or 3.2 according to DIN EN 10204
Reducer, eccentric, welded	20	250	RZEG	DIN 2616-1, DIN 2609	3.1.C or 3.2 according to DIN EN 10204
Pipe, welded	15	300	RG	DIN EN ISO 1127, DIN 17457	3.1.C or 3.2 according to DIN EN 10204
Reducer, concentric, welded	20	250	RZKG	DIN 2616-1, DIN 2609	3.1.C or 3.2 according to DIN EN 10204
Tee made of welded pipe	15	200	TG	DIN 2615-1, DIN 2609	3.1.C or 3.2 according to DIN EN 10204
Welding neck flanges	15	300	VF	DIN EN 1092-1, DIN EN 1092-1	3.1.C or 3.2 according to DIN EN 10204
Blanks	15	300	BSS	Uhde-Norm 3902-1, DIN 17440	3.1.C or 3.2 according to DIN EN 10204
Blind flanges	15	300	BF	DIN EN 1092-1, DIN EN 1092-1	3.1.C or 3.2 according to DIN EN 10204
Hexagon head screws	12	33	SB	DIN 2510, DIN EN ISO 3506	3.1.B according to DIN EN 10204
Hexagon nuts	12	33	SKM	DIN 2510, DIN EN ISO 3506	3.1.B according to DIN EN 10204

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**10 Valid and listed documents**

Standard 06401  
Standard 40008  
Standard 50016 Att. 1 - 13  
AD 2000-leaflet W10  
DGRL 97/23/EG  
DIN 2605-1  
DIN 2609  
DIN 2615-1  
DIN 2616-1  
DIN 2617  
DIN 17440  
DIN 17457  
DIN EN 1092-1  
DIN EN 10204  
DIN EN ISO 1127  
DIN EN ISO 3506  
Uhde-Norm 3902-1

**Pipe Class  
Specification PN 63**

**pipe parts \* pipe class: ZB63C1  
pipe, welded**

1	Pipe class	ZB63C1
2	Part identification	RG
3	Pipe class part	pipe, welded
4	Material	1.4541 ( X 6 CrNiTi 18 10 )
5	Dimension standard	DIN EN ISO 1127
6	Terms of delivery	DIN 17457
7	Certificate	3.1.C or 3.2 according to DIN EN 10204
8	Identification	DIN 17457, section 7, across whole length
9	Ordering addition	<p>Pipes at fixed lengths of 6 m</p> <p>Tolerance class D2, T3 according to DIN EN ISO 1127</p> <p>Testing class 2 according to DIN 17457, AD 2000-leaflet W2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W2 and W10, table 1, must be met</p> <p>At wall thicknesses ≤ 10 mm, an inspection certificate 3.1.B is sufficient, if the requirements according to AD 2000-leaf W2, section 6.2.1, are met.</p>

Ident-Nr.	nom. diameter	dimensions	weights
	ND	d <sub>a</sub> x s	kg
20096	15	21,3 x 1,6	0,79
20097	20	26,9 x 1,6	1,01
20098	25	33,7 x 2	1,58
20099	32	42,4 x 2	2,02
2100	40	48,3 x 2	2,31
2101	50	60,3 x 2	2,92

Ident-Nr.	nom. diameter	dimensions	weights
	ND	d <sub>a</sub> x s	kg
20102	65	76,1 x 2,3	4,25
20103	80	88,9 x 3,2	6,86
20104	100	114,3 x 3,6	9,98
20105	125	139,7 x 4	13,60
20106	150	168,3 x 4,5	18,50
20107	200	219,1 x 6,3	33,60
20108	150	273 x 8,8	58,20
20109	300	323,9 x 10	78,60

#### 10 Valid and listed documents

AD 2000-leaflet W2  
AD 2000-leaflet W10  
DIN 17457  
DIN EN 10204  
DIN EN ISO 1127

**Pipe Class  
Specification PN 63**
**pipe parts \* pipe class: ZB63C1  
Elbow 90° R=1,5 DA, welded**

<b>1</b>	<b>Pipe class</b>	ZB63C1
<b>2</b>	<b>Part identification</b>	RB1,5DG
<b>3</b>	<b>Pipe class part</b>	Elbow 90° R=1,5 DA, welded
<b>4</b>	<b>Material</b>	1.4541 ( X 6 CrNiTi 18 10 )
<b>5</b>	<b>Dimension standard</b>	DIN 2605-1
<b>6</b>	<b>Terms of delivery</b>	DIN 2609
<b>7</b>	<b>Certificate</b>	3.1.C or 3.2 according to DIN EN 10204
<b>8</b>	<b>Identification</b>	DIN 2609, section 6
<b>9</b>	<b>Ordering addition</b>	<p>Elbow 90°, type 3, with decreased utilization factor, made of welded pipe according to DIN 17457</p> <p>Type d2 / k2 according to DIN 17457, table 6</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-3</p> <p>Testing class 2 according to DIN 17457, AD 2000-leaflet W2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W2 and W10, table 1, must be met</p> <p>At wall thicknesses ≤ 10 mm, an inspection certificate 3.1.B is sufficient, if the requirements according to AD 2000-sheet W2, section 6.2.1, are met.</p>

Ident- No.	nom. diameter	dimensions	weights	pipe connection wall thickness
	ND	d <sub>a</sub> x s	kg	S <sub>R</sub>
20110	15	21,3 x 1,6	0,03	1,60
20111	20	26,9 x 1,6	0,05	1,60
20112	25	33,7 x 2	0,09	2,00
20113	32	42,4 x 2	0,15	2,00

Ident-No.	nom. diameter	dimensions	weights	pipe connection wall thickness
	ND	d <sub>a</sub> x s	kg	s <sub>R</sub>
20114	40	48,3 x 2	0,21	2,00
20115	50	60,3 x 2,9	0,50	2,00
20116	65	76,1 x 2,9	0,63	2,30
20117	80	88,9 x 3,2	1,23	3,20
20118	100	114,3 x 6,3	4,08	3,60
20119	125	139,7 x 6,3	6,26	4,00
20120	150	168,3 x 7,1	10,29	4,50
20121	200	219,1 x 8	20,22	6,30

## 10 Valid and listed documents

AD 2000-leaflet W2  
 AD 2000-leaflet W10  
 DIN 2559-1  
 DIN 2559-3  
 DIN 2605-1  
 DIN 2609  
 DIN 17457  
 DIN EN 10204



**Pipe Class  
Specification PN 63**

**pipe parts \* pipe class: ZB63C1  
Elbow 90° R=2,5 DA, welded**

1	Pipe class	ZB63C1
2	Part identification	RB2,5DG
3	Pipe class part	Elbow 90° R=2,5 DA, welded
4	Material	1.4541 ( X 6 CrNiTi 18 10 )
5	Dimension standard	DIN 2605-1
6	Terms of delivery	DIN 2609
7	Certificate	3.1.C or 3.2 according to DIN EN 10204
8	Identification	DIN 2609, section 6
9	Ordering addition	<p>Elbow 90°, type 5, with decreased utilization factor, made of welded pipe according to DIN 17457</p> <p>Type d2 / k2 according to DIN 17457, table 6</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-3</p> <p>Testing class 2 according to DIN 17457, AD 2000-leaflet W2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W2 and W10, table 1, must be met</p> <p>At wall thicknesses ≤ 10 mm, an inspection certificate 3.1.B is sufficient, if the requirements according to AD 2000-sheet W2, section 6.2.1, are met.</p>

Ident-No.	nom. diameter	dimensions	weights	pipe connection wall thickness
	ND	d <sub>a</sub> x s	kg	SR
20122	15	21,3 x 1,6	0,05	1,60
20123	20	26,9 x 1,6	0,09	1,60
20124	25	33, 7 x 2	0,18	2, 00
20125	32	42,4 x 2	0,29	2,00

Ident-No.	nom. diameter	dimensions	weights	pipe connection wall thickness
	ND	d <sub>a</sub> x s	kg	SR
20126	40	48,3 x 2	0,39	2,00
20127	50	60,3 x 2	0,62	2,00
20128	65	76,1 x 2, 3	1,17	2, 30
20129	80	88,9 x 3,2	2,21	3,20
20130	100	114,3 x 3,6	4,23	3,60
20131	125	139,7 x 6,3	10,89	4,00
20132	150	168,3 x 7,1	17,52	4,50
20133	200	219,1 x 8	33,81	6,30
20134	250	273 x 8,8	59,42	8,80
20135	300	323,9 x 10	95,69	10,00

#### 10 Valid and listed documents

AD 2000-leaflet W2  
 AD 2000-leaflet W10  
 DIN 2559-1  
 DIN 2559-3  
 DIN 2605-1  
 DIN 2609  
 DIN 17457  
 DIN EN 10204

**Pipe Class  
Specification PN 63**

**pipe parts \* pipe class: ZB63C1  
Tee made of welded pipe**

1	Pipe class	ZB63C1
2	Part identification	TG
3	Pipe class part	Tee made of welded pipe
4	Material	1.4541 ( X 6 CrNiTi 18 10 )
5	Dimension standard	DIN 2615-1
6	Terms of delivery	DIN 2609
7	Certificate	3.1.C or 3.2 according to DIN EN 10204
8	Identification	DIN 2609, section 6
9	Ordering addition	<p>Tee with decreased utilization factor, made of welded pipe according to DIN 17457</p> <p>Type d2 / k2 according to DIN 2559-1 and DIN 2559-3</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-3</p> <p>Testing class 2 according to DIN 17457, AD 2000-sheet W2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-sheet W2 and W10, table 1, must be met</p> <p>At wall thicknesses <math>\leq 10</math> mm, an inspection certificate 3.1.B is sufficient, if the requirements according to AD 2000-sheet W2, section 6.2.1, are met.</p>

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Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND <sub>1</sub>	ND <sub>2</sub>	d <sub>1</sub> x s <sub>1</sub>	d <sub>2</sub> x s <sub>2</sub>	kg	S <sub>R1</sub>	S <sub>R2</sub>
20231	15	15	21,3 x 1,6	21,3 x 1,6	0,05	1,60	1,60
20232	20	15	26,9 x 1,6	21,3 x 1,6	0,07	1,60	1,60
20233	20	20	26,9 x 1,6	26,9 x 1,6	0,07	1,60	1,60

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND <sub>1</sub>	ND <sub>2</sub>	d <sub>1</sub> x s <sub>1</sub>	d <sub>2</sub> x s <sub>2</sub>	kg	S <sub>R1</sub>	S <sub>R2</sub>
20234	25	15	33,7 x 2	21,3 x 1,6	0,14	2,00	1,60
20235	25	20	33,7 x 2	26,9 x 1,6	0,15	2,00	1,60
20236	25	25	33,7 x 2	33,7 x 2	0,15	2,00	2,00
20237	32	15	42,4 x 2,6	21,3 x 2	0,28	2,00	1,60
20238	32	20	42,4 x 2,6	26,9 x 2,3	0,29	2,00	1,60
20239	32	25	42,4 x 2,6	33,7 x 2,6	0,31	2,00	2,00
20240	32	32	42,4 x 2,6	42,4 x 2,6	0,31	2,00	2,00
20241	40	20	48,3 x 2,6	26,9 x 2,3	0,40	2,00	1,60
20242	40	25	48,3 x 2,6	33,7 x 2,6	0,42	2,00	2,00
20243	40	32	48,3 x 2,6	42,4 x 2,6	0,43	2,00	2,00
20244	40	40	48,3 x 4	48,3 x 4	0,64	2,00	2,00
20245	50	20	60,3 x 2,9	26,9 x 2,3	0,58	2,00	1,60
20246	50	25	60,3 x 2,9	33,7 x 2,6	0,60	2,00	2,00
20247	50	32	60,3 x 4,5	42,4 x 3,6	0,93	2,00	2,00
20248	50	40	60,3 x 4,5	48,3 x 4	0,96	2,00	2,00
20249	50	50	60,3 x 4,5	60,3 x 4,5	1,02	2,00	2,00
20250	65	25	76,1 x 5	33,7 x 3,2	1,45	2,30	2,00
20251	65	32	76,1 x 5	42,4 x 3,6	1,50	2,30	2,00
20252	65	40	76,1 x 5	48,3 x 4	1,54	2,30	2,00
20253	65	50	76,1 x 5	60,3 x 4,5	1,60	2,30	2,00
20254	65	65	76,1 x 5	76,1 x 5	1,69	2,30	2,30
20255	80	32	88,9 x 5,6	42,4 x 3,6	2,18	3,20	2,00
20256	80	40	88,9 x 5,6	48,3 x 4	2,23	3,20	2,00
20257	80	50	88,9 x 5,6	60,3 x 4,5	2,30	3,20	2,00
20258	80	65	88,9 x 5,6	76,1 x 5	2,41	3,20	2,30
20259	80	80	88,9 x 5,6	88,9 x 5,6	2,50	3,20	3,20

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND <sub>1</sub>	ND <sub>2</sub>	d <sub>1</sub> x s <sub>1</sub>	d <sub>2</sub> x s <sub>2</sub>	kg	S <sub>R1</sub>	S <sub>R2</sub>
20260	100	40	114,3 x 6,3	48,3 x 4	3,87	3,60	2,00
20261	100	50	114,3 x 6,3	60,3 x 4,5	3,96	3,60	2,00
20262	100	65	114,3 x 6,3	76,1 x 5	4,10	3,60	2,30
20263	100	80	114,3 x 6,3	88,9 x 5,6	4,22	3,60	3,20
20264	100	100	114,3 x 6,3	114,3 x 6,3	4,41	3,60	3,60
20265	125	50	139,7 x 6,3	60,3 x 4,5	5,68	4,00	2,00
20266	125	65	139,7 x 10	76,1 x 7,1	8,91	4,00	2,30
20267	125	80	139,7 x 10	88,9 x 8	9,13	4,00	3,20
20268	125	100	139,7 x 10	114,3 x 8,8	9,43	4,00	3,60
20269	125	125	139,7 x 10	139,7 x 10	9,82	4,00	4,00
20270	150	65	168,3 x 11	76,1 x 7,1	13,39	4,50	2,30
20271	150	80	168,3 x 11	88,9 x 8	13,66	4,50	3,20
20272	150	100	168,3 x 11	114,3 x 8,8	14,10	4,50	3,60
20273	150	125	168,3 x 11	139,7 x 10	14,57	4,50	4,00
20274	150	150	168,3 x 11	168,3 x 11	14,94	4,50	4,50
20275	200	80	219,1 x 12,5	88,9 x 8	24,78	6,30	3,20
20276	200	100	219,1 x 12,5	114,3 x 8,8	25,33	6,30	3,60
20277	200	125	219,1 x 12,5	139,7 x 10	26,10	6,30	4,00
20278	200	150	219,1 x 12,5	168,3 x 11	26,67	6,30	4,50
20279	200	200	219,1 x 12,5	219,1 x 12,5	27,46	6,30	6,30
20280	250	100	273 x 14,2	114,3 x 8,8	42,69	8,80	3,60
20281	250	125	273 x 14,2	139,7 x 10	43,68	8,80	4,00
20282	250	150	273 x 14,2	168,3 x 11	44,50	8,80	4,50
20284	300	125	323,9 x 16	139,7 x 10	67,41	10,00	4,00
20285	300	150	323,9 x 16	168,3 x 11	68,50	10,00	4,50

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**10 Valid and listed documents**

AD 2000-leaflet W2  
AD 2000-leaflet W10  
DIN 2559-1  
DIN 2559-3  
DIN 2615-1  
DIN 2609  
DIN 17457  
DIN EN 10204

**Pipe Class**  
**Specification PN 63**

**pipe parts \* pipe class: ZB63C1**  
**Reducer, concentric, welded**

1	Pipe class	ZB63C1
2	Part identification	RZKG
3	Pipe class part	Reducer, concentric, welded
4	Material	1.4541 ( X 6 CrNiTi 18 10 )
5	Dimension standard	DIN 2616-1
6	Terms of delivery	DIN 2609
7	Certificate	3.1.C or 3.2 according to DIN EN 10204
8	Identification	DIN 2609, section 6
9	Ordering addition	<p>Reducer, concentric, with decreased utilization factor, made of welded pipe according to DIN 17457</p> <p>Type d2 /k2 according to DIN 17457, table 6</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-3</p> <p>Testing class 2 according to DIN 17457, AD 2000-leaflet W2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-sheet W2 and W10, must be met</p> <p>At wall thicknesses ≤ 10 mm, an inspection certificate 3.1.B is sufficient, if the requirements according to AD 2000-sheet W2, section 6.2.1, are met.</p>

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Ident-Nr.	Nom. width		dimensions		weights	Pipe connection wall thickness	
	DN <sub>1</sub>	DN <sub>2</sub>	d <sub>1</sub> x s <sub>1</sub>	d <sub>2</sub> x s <sub>2</sub>	kg	*R <sub>1</sub>	*R <sub>2</sub>
20051	20	15	26,9 x 1,6	21,3 x 1,6	0,03	1,60	1,60
20052	25	15	33,7 x 2	21,3 x 1,6	0,06	2,00	1,60
20053	25	20	33,7 x 2	26,9 x 1,6	0,07	2,00	1,60

Ident-Nr.	Nom. width		dimensions		weights	Pipe connection wall thickness	
	DN1	DN2	d1 x s1	d2 x s2	kg	*R1	*R2
20054	32	15	42,4 x 2	21,3 x 1,6	0,08	2,00	1,60
20055	32	20	42,4 x 2	26,9 x 1,6	0,08	2,00	1,60
20056	32	25	42,4 x 2	33,7 x 2	0,09	2,00	2,00
20057	40	20	48,3 x 2	26,9 x 1,6	0,12	2,00	1,60
20058	40	25	48,3 x 2	33,7 x 2	0,13	2,00	2,00
20059	40	32	48,3 x 2	42,4 x 2	0,14	2,00	2,00
20060	50	20	60,3 x 2	26,9 x 1,6	0,16	2,00	1,60
20061	50	25	60,3 x 2	33,7 x 2	0,17	2,00	2,00
20062	50	32	60,3 x 2	42,4 x 2	0,19	2,00	2,00
20063	50	40	60,3 x 2	48,3 x 2	0,20	2,00	2,00
20064	65	25	76,1 x 2,3	33,7 x 2	0,27	2,30	2,00
20065	65	32	76,1 x 2,3	42,4 x 2	0,30	2,30	2,00
20066	65	40	76,1 x 2,3	48,3 x 2	0,31	2,30	2,00
20067	65	50	76,1 x 2,3	60,3 x 2	0,34	2,30	2,00
20068	80	32	88,9 x 3,2	42,4 x 2,6	0,45	3,20	2,00
20069	80	40	88,9 x 3,2	48,3 x 2,6	0,47	3,20	2,00
20070	80	50	88,9 x 3,2	60,3 x 2,9	0,52	3,20	2,00
20071	80	65	88,9 x 3,2	76,1 x 2,9	0,57	3,20	2,30
20072	100	40	114,3 x 6,3	48,3 x 4	1,20	3,60	2,00
20073	100	50	114,3 x 6,3	60,3 x 4,5	1,29	3,60	2,00
20074	100	65	114,3 x 3,6	76,1 x 2,9	0,83	3,60	2,30
20075	100	80	114,3 x 3,6	88,9 x 3,2	0,89	3,60	3,20
20076	125	50	139,7 x 6,3	60,3 x 4,5	1,90	4,00	2,00
20077	125	65	139,7 x 6,3	76,1 x 5	2,05	4,00	2,30
20078	125	80	139,7 x 6,3	88,9 x 5,6	2,17	4,00	3,20
20079	125	100	139,7 x 4	114,3 x 3,6	1,57	4,00	3,60



Ident-Nr.	Nom. width		dimensions		weights	Pipe connection wall thickness	
	DN1	DN2	d1 x s1	d2 x s2	kg	*R1	*R2
20080	150	65	168,3 x 7,1	76,1 x 5	2,90	4,50	2,30
20081	150	80	168,3 x 7,1	88,9 x 5,6	3,04	4,50	3,20
20082	150	100	168,3 x 7,1	114,3 x 6,3	3,35	4,50	3,60
20083	150	125	168,3 x 7,1	139,7 x 6,3	3,67	4,50	4,00
20084	200	80	219,1 x 12,5	88,9 x 8	6,84	6,30	3,20
20085	200	100	219,1 x 12,5	114,3 x 8,8	7,43	6,30	3,60
20086	200	125	219,1 x 8	139,7 x 6,3	5,25	6,30	4,00
20087	200	150	219,1 x 6,3	168,3 x 4,5	4,52	6,30	4,50
20088	250	100	273 x 14,2	114,3 x 8,8	11,53	8,80	3,60
20089	250	125	273 x 14,2	139,7 x 10	12,30	8,80	4,00
20090	250	150	273 x 14,2	168,3 x 11	13,17	8,80	4,50
20091	250	200	273 x 8,8	219,1 x 8	9,32	8,80	6,30
20092	300	125	323,9 x 16	139,7 x 10	17,80	10,00	4,00
20093	300	150	323,9 x 16	168,3 x 11	19,00	10,00	4,50
20094	300	200	323,9 x 16	219,1 x 12,5	21,00	10,00	6,30
20095	300	250	323,9 x 10	273 x 8,8	14,70	10,00	8,80

# 10 Valid and listed documents

AD 2000-leaflet W2  
AD 2000-leaflet W10  
DIN 2559-1  
DIN 2559-3  
DIN 2616-1  
DIN 2609  
DIN 17457  
DIN EN 10204

**Pipe Class**  
**Specification PN 63**

**pipe parts \* pipe class: ZB63C1**  
**Reducer, eccentric, welded**

1	Pipe class	ZB40C1
2	Part identification	RZEG
3	Pipe class part	Reducer, eccentric, welded
4	Material	1.4541 ( X 6 CrNiTi 18 10 )
5	Dimension standard	DIN 2616-1
6	Terms of delivery	DIN 2609
7	Certificate	3.1.C or 3.2 according to DIN EN 10204
8	Identification	DIN 2609, section 6
9	Ordering addition	<p>Reducer, eccentric, with decreased utilization factor, made of welded pipe according to DIN 17457</p> <p>Type d2 / k2 according to DIN 17457, table 6</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-3</p> <p>Testing class 2 according to DIN 17457, AD 2000-leaflet W2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-sheet W2 and W10, table 1, must be met</p> <p>At wall thicknesses <math>\leq 10</math> mm, an inspection certificate 3.1.B is sufficient, if the requirements according to AD 2000-sheet W2, section 6.2.1, are met.</p>

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Ident-Nr.	Nom. width		dimensions		weights	Pipe connection wall thickness	
	DN <sub>1</sub>	DN <sub>2</sub>	d <sub>1</sub> x s <sub>1</sub>	d <sub>2</sub> x s <sub>2</sub>	kg	*R <sub>1</sub>	*R <sub>2</sub>
20007	20	15	26,9 x 1,6	21,3 x 1,6	0,03	1,60	1,60
20008	25	15	33,7 x 2	21,3 x 1,6	0,06	2,00	1,60
20009	25	20	33,7 x 2	26,9 x 1,6	0,07	2,00	1,60

Ident-Nr.	Nom. width		dimensions		weights	Pipe connection wall thickness	
	DN <sub>1</sub>	DN <sub>2</sub>	d <sub>1</sub> x s <sub>1</sub>	d <sub>2</sub> x s <sub>2</sub>	kg	*R <sub>1</sub>	*R <sub>2</sub>
20010	32	15	42,4 x 2	21,3 x 1,6	0,08	2,00	1,60
20011	32	20	42,4 x 2	26,9 x 1,6	0,08	2,00	1,60
20012	32	25	42,4 x 2	33,7 x 2	0,09	2,00	2,00
20013	40	20	48,3 x 2	26,9 x 1,6	0,12	2,00	1,60
20014	40	25	48,3 x 2	33,7 x 2	0,13	2,00	2,00
20015	40	32	48,3 x 2	42,4 x 2	0,14	2,00	2,00
20016	50	20	60,3 x 2	26,9 x 1,6	0,16	2,00	1,60
20017	50	25	60,3 x 2	33,7 x 2	0,17	2,00	2,00
20018	50	32	60,3 x 2	42,4 x 2	0,19	2,00	2,00
20019	50	40	60,3 x 2	48,3 x 2	0,20	2,00	2,00
20020	65	25	76,1 x 2,3	33,7 x 2	0,27	2,30	2,00
20021	65	32	76,1 x 2,3	42,4 x 2	0,30	2,30	2,00
20022	65	40	76,1 x 2,3	48,3 x 2	0,31	2,30	2,00
20023	65	50	76,1 x 2,3	60,3 x 2	0,34	2,30	2,00
20024	80	32	88,9 x 3,2	42,4 x 2,6	0,45	3,20	2,00
20025	80	40	88,9 x 3,2	48,3 x 2,6	0,47	3,20	2,00
20026	80	50	88,9 x 3,2	60,3 x 2,9	0,52	3,20	2,00
20027	80	65	88,9 x 3,2	76,1 x 2,9	0,57	3,20	2,30
20028	100	40	114,3 x 6,3	48,3 x 4	1,20	3,60	2,00
20029	100	50	114,3 x 6,3	60,3 x 4,5	1,29	3,60	2,00
20030	100	65	114,3 x 3,6	76,1 x 2,9	0,83	3,60	2,30
20031	100	80	114,3 x 3,6	88,9 x 3,2	0,89	3,60	3,20
20032	125	50	139,7 x 6,3	60,3 x 4,5	1,90	4,00	2,00
20033	125	65	139,7 x 6,3	76,1 x 5	2,05	4,00	2,30
20034	125	80	139,7 x 6,3	88,9 x 5,6	2,17	4,00	3,20
20035	125	100	139,7 x 4	114,3 x 3,6	1,57	4,00	3,60

Ident-Nr.	Nom. width		dimensions		weights	Pipe connection wall thickness	
	DN <sub>1</sub>	DN <sub>2</sub>	d <sub>1</sub> x s <sub>1</sub>	d <sub>2</sub> x s <sub>2</sub>	kg	*R <sub>1</sub>	*R <sub>2</sub>
20036	150	65	168,3 x 7,1	76,1 x 5	2,90	4,50	2,30
20037	150	80	168,3 x 7,1	88,9 x 5,6	3,04	4,50	3,20
20038	150	100	168,3 x 7,1	114,3 x 6,3	3,35	4,50	3,60
20039	150	125	168,3 x 7,1	139,7 x 6,3	3,67	4,50	4,00
20040	200	80	219,1 x 12,5	88,9 x 8	6,84	6,30	3,20
20041	200	100	219,1 x 12,5	114,3 x 8,8	7,43	6,30	3,60
20042	200	125	219,1 x 8	139,7 x 6,3	5,25	6,30	4,00
20043	200	150	219,1 x 6,3	168,3 x 4,5	4,52	6,30	4,50
24827	250	100	273 x 14,2	114,3 x 8,8	11,53	8,80	3,60
24826	250	125	273 x 14,2	139,7 x 10	12,30	8,80	4,00
20045	250	150	273 x 14,2	168,3 x 11	13,17	8,80	4,50
20046	250	200	273 x 8,8	219,1 x 8	9,32	8,80	6,30
20047	300	125	323,9 x 16	139,7 x 10	17,80	10,00	4,00
20048	300	150	323,9 x 16	168,3 x 11	19,00	10,00	4,50
20049	300	200	323,9 x 16	219,1 x 12,5	21,00	10,00	6,30
20050	300	250	323,9 x 10	273 x 8,8	14,70	10,00	8,80

#### 10 Valid and listed documents

AD 2000-leaflet W2  
 AD 2000-leaflet W10  
 DIN 2559-1  
 DIN 2559-3  
 DIN 2616-1  
 DIN 2609  
 DIN 17457  
 DIN EN 10204

**Pipe Class  
Specification PN 63**

**pipe parts \* pipe class: ZB63C1  
Caps**

1	Pipe class	ZB63C1
2	Part identification	KAP
3	Pipe class part	Caps
4	Material	1.4541 ( X 6 CrNiTi 18 10 )
5	Dimension standard	DIN 2617
6	Terms of delivery	DIN 2609
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	DIN 2609, section 6
9	Ordering addition	<p>Cap to weld in, made of sheet steel, forging or bar stock</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-3</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-sheet W2 and W10, table 1, must be met</p>

IdentNr.	Nom. Diameter	dimensions	weights	Pipe connection wall thickness
	DN	d <sub>a</sub> x s	kg	SR
19993	15	21,3 x 1,6	0,02	1,60
19994	20	26,9 x 1,6	0,03	1,60
19995	25	33,7 x 2	0,06	2,00
19996	32	42,4 x 2	0,08	2,00
19997	40	48,3 x 2	0,10	2,00
19998	50	60,3 x 2	0,12	2,00
19999	65	76,1 x 2,3	0,18	2,30
20000	80	88,9 x 3,2	0,39	3,20

IdentNr.	Nom. Diameter	dimensions	weights	Pipe connection wall thickness
	DN	d <sub>a</sub> x s	kg	SR
20001	100	114,3 x 3,6	0,72	3,60
20002	125	139,7 x 4	1,16	4,00
20003	150	168,3 x 4,5	1,86	4,50
20004	200	219,1 x 6,3	3,93	6,30
20005	250	273 x 8,8	8,45	8,80
20006	300	323,9 x 10	13,66	10,00

#### 10 Valid and listed documents

AD 2000-leaflet W2  
 AD 2000-leaflet W10  
 DIN 2559-1  
 DIN 2559-2  
 DIN 2609  
 DIN 2617  
 DIN EN 10204

**Pipe Class  
Specification PN 63**
**pipe parts \* pipe class: ZB63C1  
Blanks**

1	Pipe class	ZB63C1
2	Part identification	BSS
3	Pipe class part	Blanks
4	Material	1.4541 ( X 6 CrNiTi 18 10 )
5	Dimension standard	Uhde- Norm 3902-1
6	Terms of delivery	DIN 17440
7	Certificate	3.1.C or 3.2 according to DIN EN 10204
8	Identification	
9	Ordering addition	<p>Two-part figure-eight blank for DIN-flange with flat seal, made of hot-rolled flat steel according to DIN EN 10029, class A</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Packed in PE-bags, diameter 200 and above shrink-wrapped in PE-foll</p> <p>Requirements AD 2000-sheet W2 and W10, table 1, must be met</p> <p>At wall thicknesses &lt;= 30 mm, an inspection certificate 3.1.B is sufficient</p>

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Ident-Nr.	Nom. width	diameter	diameter	thickness	weights
	DN	d <sub>1</sub>	d <sub>2</sub>	s <sub>1</sub>	kg
19969	15	60,00	20,00	10	0,00
19970	25	81,00	30,00	10	0,00
19971	40	102,00	45,00	15	0,00
19972	50	112,00	57,00	10	0,00
19973	65	137,00	73,00	11	0,00
19974	80	147,00	85,00	13	0,00
19975	100	173,00	110,00	15	0,00

Ident-Nr.	Nom. width	diameter	diameter	thickness	weights
	DN	d <sub>1</sub>	d <sub>2</sub>	s <sub>1</sub>	kg
19976	125	209,00	135,00	20	0,00
19977	150	246,00	160,00	25	0,00
19978	200	308,00	210,00	30	0,00
19979	250	363,00	260,00	40	0,00
19980	300	423,00	312,00	40	0,00

- 10    **Valid and listed documents**
- AD 2000-leaflet W2
  - AD 2000-leaflet W10
  - DIN 17440
  - DIN EN 10029-A
  - DIN EN 10204
  - Uhde-Norm 3902-1



**Pipe Class  
Specification PN 63**

**pipe parts \* pipe class: ZB63C1  
Welding neck flanges**

1	Pipe class	ZB63C1
2	Part identification	VF
3	Pipe class part	Welding neck flanges
4	Material	1.4541 ( X 6 CrNiTi 18 10 )
5	Dimension standard	DIN EN 1092-1
6	Terms of delivery	DIN EN 1092-1
7	Certificate	3.1.C or 3.2 according to DIN EN 10204
8	Identification	AD 2000-leaflet W9, section 5
9	Ordering addition	Forged welding neck flanges with flat seal (shape B2)

free of oil, grease and slip additive  
(max.: 200 mg/m<sup>2</sup>)

Ends closed with caps

Requirements AD 2000-Merkblatt W2, W9 and W10,  
table 1, must be met

At forged pieces with wall thicknesses  $\leq 250$  mm as  
input stock, an inspection certificate 3.1.B is sufficient  
according to AD 2000-leaf W2, table 6.2

Ident-Nr.	Nom. diameter	dimensions	Weights
	DN	DN x ØA	kg
20287	15	15 x 21,3	1,00
20288	25	25 x 33,7	2,50
20289	40	40 x 48,3	4,00
20290	50	50 x 60,3	4,50
20291	65	65 x 76,1	5,50
20292	80	80 x 88,9	6,50

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Ident-Nr.	Nom. diameter	dimensions	Weights
	DN	DN x ØA	kg
20293	100	100 x 114,3	9,50
20294	125	125 x 139,7	14,50
20295	150	150 x 168, 3	21, 50
20296	200	200 x 219,1	34,00
20297	250	250 x 273	48,00
20298	300	300 x 323,9	67,50

#### 10 Valid and listed documents

AD 2000-leaflet W2  
AD 2000-leaflet W9  
AD 2000- leaflet W10  
DIN EN 1092-1  
DIN EN 10204

**Pipe Class  
Specification PN 63**
**pipe parts \* pipe class: ZB63C1  
blind flanges**

<b>1</b>	<b>Pipe class</b>	ZB63C1
<b>2</b>	<b>Part identification</b>	BF
<b>3</b>	<b>Pipe class part</b>	Blind flanges
<b>4</b>	<b>Material</b>	1.4541 ( X 6 CrNiTi 18 10 )
<b>5</b>	<b>Dimension standard</b>	DIN EN 1092-1
<b>6</b>	<b>Terms of delivery</b>	DIN EN 1092-1
<b>7</b>	<b>Certificate</b>	3.1.C or 3.2 according to DIN EN 10204
<b>8</b>	<b>Identification</b>	AD 2000-sheet W9, section 5
<b>9</b>	<b>Ordering addition</b>	<p>blind flanges with flat seal (shape B2)</p> <p>free of oil, grease and slip additive (max.: 200 mg/m<sup>2</sup>)</p> <p>Packed in PE-bags, diameter 200 and above shrink- wrapped in PE-foil</p> <p>Requirements AD 2000-Merkblatt W2, W9 and W10, must be met</p> <p>At forged pieces with wall thicknesses ≤ 250 mm as input stock, an inspection certificate 3.1.B is sufficient according to AD 2000-leaf W2, table 6.2</p>

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Ident-Nr.	Nom. diameter	Weights
	DN	kg
19957	15	1,00
19958	25	2,50
19959	40	4,50
19960	50	5,00
19961	65	6,00
19962	80	7,00
19963	100	10,50

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Ident-Nr.	Nom. diameter	Weights
	DN	kg
19964	125	16,50
19965	150	24,50
19966	200	40,50
19967	250	58,00
19968	300	83,50

**Valid and listed documents**

AD 2000-leaflet W2  
AD 2000-leaflet W9  
AD 2000-leaflet W10  
DIN EN 1092-1  
DIN EN 10204

**Pipe Class  
Specification PN 63**

**pipe parts \* pipe class: ZB63C1  
Screw bolts**

1	Pipe class	ZB63C1
2	Part identification	SB
3	Pipe class part	screw bolts
4	Material	A2-70
5	Dimension standard	DIN 2510
6	Terms of delivery	DIN EN ISO 3506
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	DIN EN ISO 3506-1, section 3
9	Ordering addition	<p>Screw bolts, shape L according to DIN 2510</p> <p>Product class T2</p> <p>Requirements AD 2000-leaflet W2 and W10, table 1, must be met</p> <p>At diameters &gt; M24 an inspection certificate 3.1.C or 3.2 is required as quality proof.</p>

Ident-Nr.	Thread x length	Weights
		kg
20190	M 12 x 75	0,08
20191	M 12 x 90	0,09
20192	M 16 x 90	0,17
20193	M 16 x 110	0,20
20194	M 20 x 100	0,30
20195	M 20 x 110	0,33
20196	M 20 x 120	0,36
20197	M 20 x 130	0,37
20198	M 24 x 120	0,53
20199	M 24 x 140	0,60

Ident-Nr.	Thread x length	Weights
		kg
20200	M 27 x 130	0, 72
20201	M 27 x 160	0,86
20202	M 30 x 150	1,03
20203	M 30 x 180	1,20
20204	M 33 x 160	1,35
20205	M 33 x 170	1,41
20206	M 33 x 180	1,48
20207	M 33 x 200	1,61
20208	M 33 x 220	1, 75
20209	M 33 x 240	1,88

**Valid and listed documents**

AD 2000-leaflet W2  
AD 2000-leaflet W10  
DIN 2510  
DIN EN ISO 3506  
DIN EN ISO 3506-1  
DIN EN 10204

**Pipe Class  
Specification PN 63**
**pipe parts \* pipe class: ZB63C1  
Hexagon head nuts**

1	Pipe class	ZB63C1
2	Part identification	SKM
3	Pipe class part	Hexagon head nuts
4	Material	A2-70
5	Dimension standard	DIN 2510
6	Terms of delivery	DIN EN ISO 3506
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	DIN EN ISO 3506-2, section 3
9	Ordering addition	Hexagon head nuts, shape NF according to DIN 2510  Product class T2 Requirements AD 2000-leaflet W2 and W10, table 1, must be met  At diameters > M24 an inspection certificate 3.1.C or 3.2 is required as quality proof.

Ident-Nr.	Nom. diameter	Weights
	DN	kg
20210	M 12	0,02
20211	M 16	0,03
20212	M 20	0,06
20213	M 24	0,11
20214	M 27	0,17
20215	M 30	0,22
20216	M 33	0,29

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**Valid and listed documents**

AD 2000-leaflet W2  
AD 2000-leaflet W10  
DIN 2510  
DIN EN ISO 3506  
DIN EN ISO 3506-2  
DIN EN 10204

**Pipe Class  
Specification PN 63**

**pipe parts \* pipe class: ZB63C1  
Comb defined seals**

- |          |                            |   |
|----------|----------------------------|---|
| <b>1</b> | <b>Pipe class</b>          | ZB63C1  |
| <b>2</b> | <b>Part identification</b> | KAD   |
| <b>3</b> | <b>Pipe class part</b>     | Comb defined seals  |
| <b>4</b> | <b>Material</b>            | 1.4541 ( X 6 CrNiTi 18 10 - Graphite )  |
| <b>5</b> | <b>Dimension standard</b>  |   |
| <b>6</b> | <b>Terms of delivery</b>   | Standard 40008  |
| <b>7</b> | <b>Certificate</b>         | 2.1 according to DIN EN 10204 concerning purity in accordance with Standard 06401 |
| <b>8</b> | <b>Identification</b>      | According to Standard 40008   |
| <b>9</b> | <b>Ordering addition</b>   | Qualification certificate according to standard 40008                             |

Ident-Nr.	Nom. width	diameter	diameter	thickness	weights
	DN	d <sub>3</sub>	d <sub>2</sub>	d <sub>1</sub>	s
19981	15	61,00	42,00	26,00	5,00
19982	25	82,00	52,00	36,00	5,00
19983	40	103,00	69,00	53,00	5,00
19984	50	113,00	81,00	65,00	5,00
19985	65	137,00	100,00	81,00	5,00
19986	80	148,00	115,00	95,00	5,00
19987	100	174,00	138,00	118,00	5,00
19988	125	210,00	162,00	142,00	5,00
19989	150	247,00	190,00	170,00	5,00
19990	200	309,00	240,00	220,00	5,00
19991	250	364,00	290,00	270,00	5,00
19992	300	424,00	340,00	320,00	5,00

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|-----------|-----------------------------------|--|
| <b>10</b> | <b>Valid and listed documents</b> | Standard 06401<br>Standard 40008<br>DIN EN 10204 |
|-----------|-----------------------------------|--|