

**Pipe Class
Specification PN 10**

**Tube parts catalogue
Pipe class: ZC40C1**

- 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** 1.0254 (St 37.0)
- 4 Pipe class** Standard pipe class according to leaflet AD-2000
- 5 Seal form** Form B1 according to DIN EN 1092-1
- 6 Corrosion surcharge** 1,00 mm
- 7 Screws** Hexagon head screw 5.6
Hexagon nut 5-2
- 8 Permitted media** argon, compressed air, rare gases, natural gas, carbon dioxide, oxygen, nitrogen hydrogen, and its mixtures in gaseous form
- 9 Operating pressure** 10 bar
- 10 Operating temperature** from 263 K (-10°C) to 473 K (200°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	2	2,3	2,6	2,6	2,6	2,9	2,9	3,2	3,6	4	4,5	6,3	6,3

ND	300	350	400	500	600								
da/mm	323,9	355,6	406,4	508	610								
s/mm	7,1	8	8,8	10	10								

- 11 Safety notices** The flow rate of conducting gaseous oxygen is not allowed to exceed 25 m/s in tubes of this class with operating pressures > 1 bar.

Vertical impacting gaseous oxygen to the tube wall must be avoided; therefore turns in branches are not allowed to occur in sharp kinks but only in bendings.

To avoid a weakening of the wall thickness at bending tubes, the bending radius must not fall below a value of 5 D.

When using Elbows according to DIN, the bending radius may fall below this value.

Tubes leading oxygen must be free of oil, grease, welding beads and processing shavings and comply with standard 06401.

12 Additional notices

At operating temperatures $50\text{ °C} < TS \leq 200\text{ °C}$ flanges of the next higher pressure level must be used.

When using hydrogen, comb defined seals only must be provided for flange joints.

The application fields (medium, pressure, temperature) defined in the standards 4002 and 4008 must be absolutely adhered to.

Tube part	nom. width		iden- tifica- tion	dimension standard / terms of delivery	certificate
	from	to			
Cut-off valves (with handwheel)	15	200	ASV-MR	DIN 3202-1, Reihe F1, DIN 3230, Blatt 2	Test certificate 2.2 according to DIN EN 10204 concerning pressure and tightness
Flat packings	15	600	FLD	DIN EN 1514-1, Standard 40002	2.1 according to DIN EN 1024 concerning purity in accordance with Standard 06401
Caps	15	600	KAP	DIN 2617, DIN 2609	3.1.B according to DIN EN 10204
Comb defined seals	15	600	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	200	600	RB1,SDG	DIN 2605-1, DIN 2609	3.1.B according to DIN EN 10204
Elbow 90° R=2,5 DA, welded	200	600	RB2,SDG	DIN 2605-1, DIN 2609	3.1.B according to DIN EN 10204
Reducer, eccentric, welded	400	500	RZEG	DIN 2616-1, DIN 2609	3.1.B according to DIN EN 10204
Pipe, welded	200	600	RG	DIN EN 10220, DIN 1626	3.1.B according to DIN EN 10204
Reducer, concentric, welded	400	500	RZKG	DIN 2616-1, DIN 2609	3.1.B according to DIN EN 10204
Pipe, seamless	15	150	RN	DIN EN 10220, DIN 1629	3.1.B according to DIN EN 10204
Tee made of welded pipe	400	600	TG	DIN 2615-1, DIN 2609	3.1.B according to DIN EN 10204
Welding neck flanges	15	600	VF	DIN EN 1092-1, DIN EN 1092-1	3.1.B according to DIN EN 10204
Reducer, eccentric, seamless	20	300	RZEN	DIN 2616-1, DIN 2609	3.1.B according to DIN EN 10204
Reducer, concentric, seamless	20	300	RZKN	DIN 2616-1, DIN 2609	3.1.B according to DIN EN 10204
Tee made of seamless pipe	15	350	TN	DIN 2615-1, DIN 2609	3.1.B according to DIN EN 10204
Elbow 90° R=1,5 DA, seamless	15	150	RB1,SDN	DIN 2605-1, DIN 2609	3.1.B according to DIN EN 10204
Elbow 90° R=2,5 DA, seamless	15	150	RB2,SDN	DIN 2605-1, DIN 2609	3.1.B according to DIN EN 10204
Blanks	15	600	BSS	Uhde-Norm 3902-1, DIN EN 10025	3.1.B according to DIN EN 10204
Blind flanges	15	500	BF	DIN EN 1092-1, DIN EN 1092-1	3.1.B according to DIN EN 10204
Hexagon head screws	12	33	SKS	DIN EN ISO 4014, DIN EN ISO 898-1 / DIN EN ISO 4014	3.1.B according to DIN EN 10204
Hexagon nuts	12	33	SKM	DIN EN ISO 4032, DIN EN ISO 898-2 / DIN EN ISO 4032	3.1.B according to DIN EN 10204

10 Valid and listed documents

Standard 06401
Standard 40002
Standard 40008
AD 2000-leaflet
DGRL 97/23/EG
DIN 1626
DIN 1629
DIN 2605-1
DIN 2609
DIN 2615-1
DIN 2616-1
DIN 2617
DIN 3202-1
DIN 3230
DIN 17440
DIN 17457
DIN EN 1092-1
DIN EN 1514-1
DIN EN 10025
DIN EN 10204
DIN EN 10220
DIN EN ISO 898-1
DIN EN ISO 898-2
DIN EN ISO 4014
DIN EN ISO 4032
Uhde-Norm 3902-1

Pipe Class
Specification PN 10

pipe parts * pipe class: ZC10C1
pipe, seamless

1	Pipe class	ZC10C1
2	Part identification	RN
3	Pipe class part	pipe, seamless
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN EN 10220
6	Terms of delivery	DIN 1629
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	DIN 1629, section 6
9	Ordering addition	<p>Pipes at fixed length of 6 m</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W4, especially section 5, must be met</p>

Ident- No.	nom. diameter	dimensions	weights
	ND	d _a x s	kg
28331	15	21,3 x 1,6	0,95
28332	20	26,9 x 2,3	1,40
28333	25	33,7 x 2,6	1,99
28334	32	42,4 x 2,6	2,55
28335	40	48,3 x 2,6	2,93
28336	50	60,3 x 2,9	4,11
28337	65	76,1 x 2,9	5,24
28338	80	88,9 x 3,2	6,76
28339	100	114,3 x 3,6	9,83
28340	125	139,7 x 4	13,40
28341	150	168,3 x 4,5	18,20

10	Valid an listed documents	<p>AD 2000-leaflet W2</p> <p>DIN 1629</p> <p>DIN EN 10204</p>
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**Pipe Class
Specification PN 10**

**pipe parts * pipe class: ZC10C1
pipe, welded**

1	Pipe class	ZC10C1
2	Part identification	RG
3	Pipe class part	pipe, welded
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN EN 10220
6	Terms of delivery	DIN 1626
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	DIN 1626, section 6
9	Ordering addition	Pipes at fixed length of 6 m

Calculation stress: 100%

Inner surfaces free of oil, grease and slip additive
(max.: 300 mg/m²)

Ends closed with caps

Requirements AD 2000-leaflet W4, especially section 5,
must be met

An inspection certificate 3.1.C is required as proof, if the
manufacturer does not meet the requirements
according to AD 2000-leaflet W4, section 2.2

Ident- No.	nom. diameter	dimensions	weights
	ND	d _a x s	kg
28316	200	219,1 x 6,3	33,10
28317	250	273 x 6,3	41,40
28318	300	323,9 x 7,1	55,50
28319	350	355,6 x 8	68,60
28320	400	406,4 x 8,8	86,30
28321	500	508 x 10	123,00
28322	600	610 x 10	148,00

10 Valid and listed documents

AD 2000-leaflet W2
DIN 1626
DIN EN 10204
DIN EN 10220

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**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
Elbow 90° R=1,5 DA, seamless**

1	Pipe class	ZC10C1
2	Part identification	RB1,5DN
3	Pipe class part	Elbow 90° R=1,5 DA, seamless
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2605-1
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>Elbow 90°, type 3, with decreased utilization factor, made of seamless pipe according to DIN 1629</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 200 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W4, especially section 5, must be met</p>

Ident- No.	nom. diameter	dimensions	weights kg	Pipe connection wall thickness
	ND	d _a x s		s _R
28356	15	21,3 x 2	0,04	2,00
28357	20	26,9 x 2,3	0,06	2,30
28358	25	33,7 x 2,6	0,12	2,60
28359	32	42,4 x 2,6	0,19	2,60
28360	40	48,3 x 2,6	0,26	2,60
28361	50	60,3 x 2,9	0,49	2,90
28362	65	76,1 x 2,9	0,78	2,90
28363	80	88,9 x 3,2	1,21	3,20

Ident-No.	nom. diameter	dimensions	weights	Pipe connection wall thickness
	ND	d _a x s	kg	s _R
28364	100	114,3 x 3,6	2,35	3,60
28365	125	139,7 x 4	4,00	4,00
28366	150	168,3 x 4,5	6,55	4,50

10 Valid and listed documents

AD 2000-leaflet W4
DIN 2559-1
DIN 2559-2
DIN 2605-1
DIN 2609
DIN EN 10204

**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
Elbow 90° R=1,5 DA, welded**

1	Pipe class	ZC10C1
2	Part identification	RB1,5DG
3	Pipe class part	Elbow 90° R=1,5 DA, welded
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2605-1
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>Elbow 90°, type 3, with decreased utilization factor, made of welded pipe according to DIN 1626</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.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>requirements AD 2000-leaflet W4, especially section 5, must be met</p>

An inspection certificate 3.1.C is required as proof, if the
manufacturer does not meet the requirements
according to AD 2000-leaflet W4, section 2.2

Ident-Nr.	Nom. diameter	dimensions	Weights	Pipe wall connection thickness
	DN	d _a x s	kg	s _R
28342	200	219,1 x 6,3	15,86	6,30
28343	250	273 x 6,3	24,78	6,30
28344	300	323,9 x 7,1	39,84	7,10
28345	350	355,6 x 8	57,43	8,00
28346	400	406,4 x 8,8	82,69	8,80
28347	500	508 x 11	161,59	10,00
28348	600	610 x 12,5	264,17	10,00

10 Valid and listed documents

AD 2000-leaflet W4

DIN 2559-1

DIN 2559-3

DIN 2605-1

DIN 2609

DIN EN 10204

**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
Elbow 90° R=2,5 DA, seamless**

1	Pipe class	ZC10C1
2	Part identification	RB2,5DN
3	Pipe class part	Elbow 90° R=2,5 DA, seamless
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2605-1
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>Elbow 90°, type 5, with decreased utilization factor, made of seamless pipe according to DIN 1629</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W4, especially section 5, must be met</p>

Ident- No.	nom. diameter	dimensions	weights	Pipe connection wall thickness
	ND	d _a x s	kg	s _R
28381	15	21,3 x 2	0,06	2,00
28382	20	26,9 x 2,3	0,13	2,30
28383	25	33,7 x 2,6	0,23	2,60
28384	32	42,4 x 2,6	0,37	2,60
28385	40	48,3 x 2,6	0,49	2,60
28386	50	60,3 x 2,9	0,87	2,90
28387	65	76,1 x 2,9	1,44	2,90
28388	80	88,9 x 3,2	2,18	3,20

Ident-No.	nom. diameter	dimensions	weights	Pipe connection wall thickness
	DN	d _a x s	kg	SR
28389	100	114,3 x 3,6	4,17	3,60
28390	125	139,7 x 4	6,95	4,00
28391	150	168,3 x 4,5	11,15	4,50

10 Valid and listed documents

AD 2000-leaflet W4
DIN 2559-1
DIN 2559-2
DIN 2605-1
DIN 2609
DIN EN 10204

**Pipe Class
Specification PN 10**

**pipe parts * pipe class: ZC10C1
Elbow 90° R=2,5 DA, welded**

1	Pipe class	ZC10C1
2	Part identification	RB2,5DG
3	Pipe class part	Elbow 90° R=2,5 DA, welded
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2605-1
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>Elbow 90°, type 5, with decreased utilization factor, made of welded pipe according to DIN 1626</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.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W4, especially section 5, must be met</p>

An inspection certificate 3.1.C is required as proof, if the manufacturer does not meet the requirements according to AD 2000-leaflet W4, section 2.2

Ident- No.	nom. diameter	dimensions	weights	pipe connection wall thickness
	ND	d _a x s	kg	s _R
28367	200	219,1 x 6,3	26,52	6,30
28368	250	273 x 6,3	42,27	6,30
28369	300	323,9 x 7,1	67,56	7,10
28370	350	355,6 x 8	91,59	8,00
28371	400	406,4 x 8,8	131,49	8,80
28372	500	508 x 11	264,00	10,00
28373	600	610 x 12,5	440,77	10,00

10	Valid and listed documents	AD 2000-leaflet W4 DIN 2559-1 DIN 2559-3 DIN 2605-1 DIN 2609 DIN 2616 DIN EN 10204
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Pipe Class
Specification PN 10

pipe parts * pipe class: ZC10C1
Tee made of seamless pipe

1	Pipe class	ZC10C1
2	Part identification	TN
3	Pipe class part	Tee made of seamless pipe
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2615-1
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>Tee with decreased utilization factor, made of seamless pipe according to DIN 1629</p> <p>type A according to DIN 2615-1</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W4, especially section 5, must be met</p>

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Ident-No.	nom. width		dimensions		weights	Pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	s ₁	s ₂
28494	15	15	21,3 x 2	21,3 x 2	0,61	2,00	2,00
28495	20	15	26,9 x 2,3	21,3 x 2	0,10	2,30	2,00
28496	20	20	26,9 x 2,3	26,9 x 2,3	0,10	2,30	2,30
28497	25	15	33,7 x 2,6	21,3 x 2	0,18	2,60	2,00
28498	25	20	33,7 x 2,6	26,9 x 2,3	0,19	2,60	2,30
28499	25	25	33,7 x 2,6	33,7 x 2,6	0,19	2,60	2,60

Ident-No.	nom. width		dimensions		weights	Pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	s ₁	s ₂
28500	32	15	42,4 x 2,6	21,3 x 2	0,28	2,60	2,00
28501	32	20	42,4 x 2,6	26,9 x 2,3	0,29	2,60	2,30
28502	32	25	42,4 x 2,6	33,7 x 2,6	0,31	2,60	2,60
28503	32	32	42,4 x 2,6	42,4 x 2,6	0,31	2,60	2,60
28504	40	20	48,3 x 2,6	26,9 x 2,3	0,40	2,60	2,30
28505	40	25	48,3 x 2,6	33,7 x 2,6	0,41	2,60	2,60
28506	40	32	48,3 x 2,6	42,4 x 2,6	0,43	2,60	2,60
28507	40	40	48,3 x 2,6	48,3 x 2,6	0,43	2,60	2,60
28508	50	20	60,3 x 2,9	26,9 x 2,6	0,57	2,90	2,30
28509	50	25	60,3 x 2,9	33,7 x 2,6	0,59	2,90	2,60
28510	50	32	60,3 x 2,9	42,4 x 2,6	0,62	2,90	2,60
28511	50	40	60,3 x 2,9	48,3 x 2,6	0,63	2,90	2,60
28512	50	50	60,3 x 2,9	60,3 x 2,9	0,67	2,90	2,90
28513	65	25	76,1 x 2,9	33,7 x 2,6	0,88	2,90	2,60
28514	65	32	76,1 x 2,9	42,4 x 2,6	0,91	2,90	2,60
28515	65	40	76,1 x 2,9	48,3 x 2,6	0,92	2,90	2,60
28516	65	50	76,1 x 2,9	60,3 x 2,9	0,96	2,90	2,90
28517	65	65	76,1 x 2,9	76,1 x 2,9	1,00	2,90	2,90
28518	80	32	88,9 x 3,2	42,4 x 2,6	1,29	3,20	2,60
28519	80	40	88,9 x 3,2	48,3 x 2,6	1,31	3,20	2,60
28520	80	50	88,9 x 3,2	60,3 x 2,9	1,35	3,20	2,90
28521	80	65	88,9 x 3,2	76,1 x 2,9	1,40	3,20	2,90
28522	80	80	88,9 x 3,2	88,9 x 3,2	1,44	3,20	3,20

Ident-No.	nom. width		dimensions		weights	Pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	s ₁	s ₂
28523	100	40	114,3 x 3,6	48,3 x 2,6	2,25	3,60	2,60
28524	100	50	114,3 x 3,6	60,3 x 2,9	2,31	3,60	2,90
28525	100	65	114,3 x 3,6	76,1 x 2,9	2,36	3,60	2,90
28526	100	80	114,3 x 3,6	88,9 x 3,2	2,43	3,60	3,20
28527	100	100	114,3 x 3,6	114,3 x 3,6	2,54	3,60	3,60
28528	125	50	139,7 x 4	60,3 x 2,9	3,63	4,00	2,90
28529	125	65	139,7 x 4	76,1 x 2,9	3,69	4,00	2,90
28530	125	80	139,7 x 4	88,9 x 3,2	3,77	4,00	3,20
28531	125	100	139,7 x 4	114,3 x 3,6	3,91	4,00	3,60
28532	125	125	139,7 x 4	139,7 x 4	4,05	4,00	4,00
28533	150	65	168,3 x 4,5	76,1 x 2,9	5,64	4,50	2,90
28534	150	80	168,3 x 4,5	88,9 x 3,2	5,74	4,50	3,20
28535	150	100	168,3 x 4,5	114,3 x 3,6	5,92	4,50	3,60
28536	150	125	168,3 x 4,5	139,7 x 4	6,11	4,50	4,00
28537	150	150	168,3 x 4,5	168,3 x 4,5	6,28	4,50	4,50
28637	200	80	219,1 x 6,3	88,9 x 3,2	12,51	6,30	3,20
28638	200	100	219,1 x 6,3	114,3 x 3,6	12,76	6,30	3,60
28639	200	125	219,1 x 6,3	139,7 x 4	13,02	6,30	4,00
28640	200	150	219,1 x 6,3	168,3 x 4,5	13,31	6,30	4,50
28641	200	200	219,1 x 6,3	219,1 x 6,3	14,05	6,30	6,30
28642	250	100	273 x 6,3	114,3 x 3,6	19,13	6,30	3,60
28643	250	125	273 x 6,3	139,7 x 4	19,51	6,30	4,00
28644	250	150	273 x 6,3	168,3 x 4,5	19,88	6,30	4,50
28345	250	200	273 x 6,3	219,1 x 6,3	20,98	6,30	6,30
28646	250	250	273 x 6,3	273 x 6,3	21,18	6,30	6,30

Ident-No.	nom. width		dimensions		weights	Pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	s ₁	s ₂
28647	300	125	323, 9 x 7,1	139, 7 x 4	30,15	7,10	4, 00
28648	300	150	323,9 x 7,1	168,3 x 4,5	30,65	7,10	4,50
28649	300	200	323, 9 x 7,1	219,1 x 6, 3	32,15	7,10	6, 30
28650	300	250	323,9 x 7,1	273 x 6,3	32,52	7,10	6,30
28651	300	300	323, 9 x 7,1	323, 9 x 7,1	33, 30	7,10	7,10
28652	350	150	355,6 x 8	168,3 x 4,5	41,08	8,00	4,50
28653	350	200	355,6 x 8	219,1 x 6,3	42,86	8,00	6,30
28654	350	250	355,6 x 8	273 x 6,3	43,27	8,00	6,30
28655	350	300	355,6 x 8	323,9 x 7,1	44,28	8,00	7,10
28656	350	350	355,6 x 8	355,6 x 8	45,22	8,00	8,00

10 Valid and listed documents

AD 2000-leaflet W2

DIN 2559-1

DIN 2559-2

DIN 2615-1

DIN 2609

DIN 17457

DIN EN 10204

**Pipe Class
Specification PN 10**

**pipe parts * pipe class: ZC10C1
Tee made of welded pipe**

1	Pipe class	ZC10C1
2	Part identification	TG
3	Pipe class part	Tee made of welded pipe
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2615-1
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>Tee with decreased utilization factor, made of welded pipe according to DIN 1626</p> <p>Type A according to DIN 2615-1</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.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W4, especially section 5, must be met</p> <p>An inspection certificate 3.1.C is required as proof, if the manufacturer does not meet the requirements according to AD 2000-leaflet W4, section 2.2</p>

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	S _{R1}	S _{R2}
28454	400	150	406,4 x 8,8	168,3 x 4,5	55,92	8,80	4,50
28455	400	200	406,4 x 8,8	219,1 x 6,3	58,05	8,80	6,30
28456	400	250	406,4 x 8,8	273 x 6,3	58,71	8,80	6,30
28457	400	300	406,4 x 8,8	323,9 x 7,1	60,03	8,80	7,10
28458	400	350	406,4 x 8,8	355,6 x 8	61,37	8,80	8,00
28459	400	400	406,4 x 8,8	406,4 x 8,8	61,43	8,80	8,80

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	s _{R1}	s _{R2}
28460	500	200	508 x 11	219,1 x 6,3	109,97	10,00	6,30
28461	500	250	508 x 11	273 x 6,3	111,01	10,00	6,30
28462	500	300	508 x 11	323,9 x 7,1	113,09	10,00	7,10
28463	500	350	508 x 11	355,6 x 8	115,10	10,00	8,00
28464	500	400	508 x 11	406,4 x 8,8	116,06	10,00	8,80
28465	500	500	508 x 11	508 x 11	120,02	10,00	10,00
28466	600	250	610 x 12,5	273 x 6,3	169,22	10,00	6,30
28467	600	300	610 x 12,5	323,9 x 7,1	172,02	10,00	7,10
28468	600	350	610 x 12,5	355,6 x 8	174,63	10,00	8,00
28469	600	400	610 x 12,5	406,4 x 8,8	176,48	10,00	8,80
28470	600	500	610 x 12,5	508 x 11	183,01	10,00	10,00
28471	600	600	610 x 12,5	610 x 12,5	182,34	10,00	10,00

10 Valid and listed documents

AD 2000-leaflet W4
 AD 2000-leaflet W10
 DIN 2559-1
 DIN 2559-3
 DIN 2615-1
 DIN 2609
 DIN 1626
 DIN EN 10204

**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
Reducer, concentric, seamless**

1	Pipe class	ZC10C1
2	Part identification	RZKN
3	Pipe class part	Reducer, concentric, seamless
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2616-1
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>Reducer, concentric, with decreased utilization factor, made of seamless pipe according to DIN 1629</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W4, especially section 5, must be met</p>

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	S _{R1}	S _{R2}
28267	20	15	26,9 x 2,3	21,3 x 2	0,05	2,30	2,00
28268	25	15	33,7 x 2,6	21,3 x 2	0,08	2,60	2,00
28269	25	20	33,7 x 2,6	26,9 x 2,3	0,09	2,60	2,30
28270	32	15	42,4 x 2,6	21,3 x 2	0,10	2,60	2,00
28271	32	20	42,4 x 2,6	26,9 x 2,3	0,10	2,60	2,30
28272	32	25	42,4 x 2,6	33,7 x 2,6	0,11	2,60	2,60

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND1	ND2	d1 x s1	d2 x s2	kg	s _{R1}	s _{R2}
28273	40	20	48,3 x 2,6	26,9 x 2,3	0,14	2,60	2,30
28274	40	25	48,3 x 2,6	33,7 x 2,6	0,16	2,60	2,60
28275	40	32	48,3 x 2,6	42,4 x 2,6	0,18	2,60	2,60
28276	50	20	60,3 x 2,9	26,9 x 2,3	0,22	2,90	2,30
28277	50	25	60,3 x 2,9	33,7 x 2,6	0,24	2,90	2,60
28278	50	32	60,3 x 2,9	42,4 x 2,6	0,26	2,90	2,60
28279	50	40	60,3 x 2,9	48,3 x 2,6	0,28	2,90	2,60
28280	65	25	76,1 x 2,9	33,7 x 2,6	0,34	2,90	2,60
28281	65	32	76,1 x 2,9	42,4 x 2,6	0,36	2,90	2,60
28282	65	40	76,1 x 2,9	48,3 x 2,6	0,38	2,90	2,60
28283	65	50	76,1 x 2,9	60,3 x 2,9	0,42	2,90	2,90
28284	80	32	88,9 x 3,2	42,4 x 2,6	0,45	3,20	2,60
28285	80	40	88,9 x 3,2	48,3 x 2,6	0,47	3,20	2,60
28286	80	50	88,9 x 3,2	60,3 x 2,9	0,51	3,20	2,90
28287	80	65	88,9 x 3,2	76,1 x 2,9	0,56	3,20	2,90
28288	100	40	114,3 x 3,6	48,3 x 2,6	0,69	3,60	2,60
28289	100	50	114,3 x 3,6	60,3 x 2,9	0,75	3,60	2,90
28290	100	65	114,3 x 3,6	76,1 x 2,9	0,82	3,60	2,90
28291	100	80	114,3 x 3,6	88,9 x 3,2	0,87	3,60	3,20
28292	125	50	139,7 x 4	60,3 x 2,9	1,21	4,00	2,90
28293	125	65	139,7 x 4	76,1 x 2,9	1,31	4,00	2,90
28294	125	80	139,7 x 4	88,9 x 3,2	1,39	4,00	3,20
28295	125	100	139,7 x 4	114,3 x 3,6	1,54	4,00	3,60

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	S _{R1}	S _{R2}
28296	150	65	168,3 x 4,5	76,1 x 2,9	1,84	4,50	2,90
28297	150	80	168,3 x 4,5	88,9 x 3,2	1,94	4,50	3,20
28298	150	100	168,3 x 4,5	114,3 x 3,6	2,13	4,50	3,60
28604	150	125	168,3 x 4,5	139,7 x 4	2,33	4,50	4,00
28657	200	80	219,1 x 6,3	88,9 x 3,2	3,52	6,30	3,20
28658	200	100	219,1 x 6,3	114,3 x 3,6	3,82	6,30	3,60
28659	200	125	219,1 x 6,3	139,7 x 4	4,12	6,30	4,00
28660	200	150	219,1 x 6,3	168,3 x 4,5	4,45	6,30	4,50
28661	250	100	273 x 6,3	114,3 x 3,6	5,22	6,30	3,60
28662	250	125	273 x 6,3	139,7 x 4	5,56	6,30	4,00
28663	250	150	273 x 6,3	168,3 x 4,5	5,95	6,30	4,50
28664	250	200	273 x 6,3	219,1 x 6,3	6,66	6,30	6,30
28665	300	125	323,9 x 7,1	139,7 x 4	8,04	7,10	4,00
28666	300	150	323,9 x 7,1	168,3 x 4,5	8,54	7,10	4,50
28667	300	200	323,9 x 7,1	219,1 x 6,3	9,44	7,10	6,30
28668	300	250	323,9 x 7,1	273 x 6,3	10,39	7,10	6,30
28669	350	150	355,6 x 8	168,3 x 4,5	16,65	8,00	4,50
28670	350	200	355,6 x 8	219,1 x 6,3	18,30	8,00	6,30
28671	350	250	355,6 x 8	273 x 6,3	20,04	8,00	6,30
28672	350	300	355,6 x 8	323,9 x 7,1	21,68	8,00	7,10

10 Valid and listed documents

AD 2000-leaflet W4
DIN 2559-1
DIN 2559-2
DIN 2616-1
DIN 2609
DIN 1629
DIN EN 10204

**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
Reducer, concentric, welded**

1	Pipe class	ZC10C1
2	Part identification	RZKG
3	Pipe class part	Reducer, concentric, welded
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2616-1
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>Reducer, concentric, with decreased utilization factor, made of welded pipe according to DIN 1626</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.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-sheet W4, especially section 5, must be met</p> <p>An inspection certificate 3.1.C is required as proof, if the manufacturer does not meet the requirements according to AD 2000-leaflet W4, section 2.2</p>

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Ident-Nr.	Nom. width		dimensions		weights	Pipe connection wall thickness	
	DN ₁	DN ₂	d ₁ x s ₁	d ₂ x s ₂	kg	*R ₁	*R ₂
28227	400	150	406,4 x 8,8	168,3 x 4,5	21,65	8,80	4,50
28228	400	200	406,4 x 8,8	219,1 x 6,3	23,58	8,80	6,30
28229	400	250	406,4 x 8,8	273 x 6,3	25,64	8,80	6,30
28230	400	300	406,4 x 8,8	323,9 x 7,1	27,58	8,80	7,10
28231	400	350	406,4 x 8,8	355,6 x 8	28,80	8,80	8,00

Ident-Nr.	Nom. width		dimensions		weights	Pipe connection wall thickness	
	DN ₁	DN ₂	d ₁ x s ₁	d ₂ x s ₂	kg	*R ₁	*R ₂
28232	500	200	508 x 11	219,1 x 6,3	49,03	10,00	6,30
28233	500	250	508 x 11	273 x 6,3	52,71	10,00	6,30
28234	500	300	508 x 11	323, 9 x 7,1	56,18	10, 00	7,10
28235	500	350	508 x 11	355,6 x 8	58,36	10,00	8,00
28236	500	400	508 x 11	406,4 x 8,8	61,81	10,00	8,80
28237	600	250	610 x 12,5	273 x 6,3	67,77	10,00	6,30
28238	600	300	610 x 12, 5	323, 9 x 7,1	71, 71	10, 00	7,10
28239	600	350	610 x 12,5	355,6 x 8	74,19	10,00	8,00
28240	600	400	610 x 12,5	406,4 x 8,8	78,11	10,00	8,80
28241	600	500	610 x 12,5	508 x 11	86,08	10,00	10,00

10 Valid and listed documents

AD 2000-Merkblatt W4
DIN 2559-1
DIN 2559-3
DIN 2616-1
DIN 2609
DIN 1626
DIN EN 10204

Pipe Class
Specification PN 10

pipe parts * pipe class: ZC10C1
Reducer, eccentric, seamless

1	Pipe class	ZC10C1
2	Part identification	RZEN
3	Pipe class part	Reducer, eccentric, seamless
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2616-1
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>Reducer, eccentric, with decreased utilization factor, made of seamless pipe according to DIN 1626</p> <p>Weld preparation according to DIN 2559-1 and DIN 2559-2</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-sheet W4, especially section 5, must be met</p>

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Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	S _{R1}	S _{R2}
28178	20	15	26,9 x 2,3	21,3 x 2	0,05	2,30	2,00
28179	25	15	33,7 x 2,6	21,3 x 2	0,08	2,60	2,00
28180	25	20	33,7 x 2,6	26,9 x 2,3	0,09	2,60	2,30
28181	32	15	42,4 x 2,6	21,3 x 2	0,10	2,60	2,00
28182	32	20	42,4 x 2,6	26,9 x 2,3	0,10	2,60	2,30
28183	32	25	42,4 x 2,6	33,7 x 2,6	0,11	2,60	2,60

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	S _{R1}	S _{R2}
28184	40	20	48,3 x 2,6	26,9 x 2,3	0,14	2,60	2,30
28185	40	25	48,3 x 2,6	33,7 x 2,6	0,16	2,60	2,60
28186	40	32	48,3 x 2,6	42,4 x 2,6	0,18	2,60	2,60
28187	50	20	60,3 x 2,9	26,9 x 2,3	0,22	2,90	2,30
28188	50	25	60,3 x 2,9	33,7 x 2,6	0,24	2,90	2,60
28189	50	32	60,3 x 2,9	42,4 x 2,6	0,26	2,90	2,60
28190	50	40	60,3 x 2,9	48,3 x 2,6	0,28	2,90	2,60
28191	65	25	76,1 x 2,9	33,7 x 2,6	0,34	2,90	2,60
28192	65	32	76,1 x 2,9	42,4 x 2,6	0,36	2,90	2,60
28193	65	40	76,1 x 2,9	48,3 x 2,6	0,38	2,90	2,60
28194	65	50	76,1 x 2,9	60,3 x 2,9	0,42	2,90	2,90
28195	80	32	88,9 x 3,2	42,4 x 2,6	0,45	3,20	2,60
28196	80	40	88,9 x 3,2	48,3 x 2,6	0,47	3,20	2,60
28197	80	50	88,9 x 3,2	60,3 x 2,9	0,51	3,20	2,90
28198	80	65	88,9 x 3,2	76,1 x 2,9	0,56	3,20	2,90
28199	100	40	114,3 x 3,6	48,3 x 2,6	0,69	3,60	2,60
28200	100	50	114,3 x 3,6	60,3 x 2,9	0,75	3,60	2,90
28201	100	65	114,3 x 3,6	76,1 x 2,9	0,82	3,60	2,90
28202	100	80	114,3 x 3,6	88,9 x 3,2	0,87	3,60	3,20
28203	125	50	139,7 x 4	60,3 x 2,9	1,21	4,00	2,90
28204	125	65	139,7 x 4	76,1 x 2,9	1,31	4,00	2,90
28205	125	80	139,7 x 4	88,9 x 3,2	1,39	4,00	3,20
28206	125	100	139,7 x 4	114,3 x 3,6	1,54	4,00	3,60

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	S _{R1}	S _{R2}
28207	150	65	168,3 x 4,5	76,1 x 2,9	1,84	4,50	2,90
28208	150	80	168,3 x 4,5	88,9 x 3,2	1,94	4,50	3,20
28209	150	100	168,3 x 4,5	114,3 x 3,6	2,13	4,50	3,60
28610	150	125	168,3 x 4,5	139,7 x 4	2,33	4,50	4,00
28673	200	80	219,1 x 6,3	88,9 x 3,2	3,52	6,30	3,20
28674	200	100	219,1 x 6,3	114,3 x 3,6	3,82	6,30	3,60
28675	200	125	219,1 x 6,3	139,7 x 4	4,12	6,30	4,00
28676	200	150	219,1 x 6,3	168,3 x 4,5	4,45	6,30	4,50
28677	250	100	273 x 6,3	114,3 x 3,6	5,22	6,30	3,60
28678	250	125	273 x 6,3	139,7 x 4	5,56	6,30	4,00
28679	250	150	273 x 6,3	168,3 x 4,5	5,95	6,30	4,50
28680	250	200	273 x 6,3	219,1 x 6,3	6,66	6,30	6,30
28681	300	125	323,9 x 7,1	139,7 x 4	8,04	7,10	4,00
28682	300	150	323,9 x 7,1	168,3 x 4,5	8,54	7,10	4,50
28683	300	200	323,9 x 7,1	219,1 x 6,3	9,44	7,10	6,30
28684	300	250	323,9 x 7,1	273 x 6,3	10,39	7,10	6,30
28685	350	150	355,6 x 8	168,3 x 4,5	16,65	8,00	4,50
28686	350	200	355,6 x 8	219,1 x 6,3	18,30	8,00	6,30
28687	350	250	355,6 x 8	273 x 6,3	20,04	8,00	6,30
28688	350	300	355,6 x 8	323,9 x 7,1	21,68	8,00	7,10

10 Valid and listed documents

AD 2000-leaflet W4

DIN 2559-1

DIN 2559-2

DIN 2616-1

DIN 2609

DIN 1629

DIN EN 10204

**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
Reducer, eccentric, welded**

1	Pipe class	ZC10C1
2	Part identification	RZEG
3	Pipe class part	Reducer, concentric, welded
4	Material	1.0254 (St 37.0)
5	Dimension standard	DIN 2616-1
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>Reducer, concentric, with decreased utilization factor, made of welded pipe according to DIN 1626</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.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-sheet W4, especially section 5, must be met</p> <p>An inspection certificate 3.1.C is required as proof, if the manufacturer does not meet the requirements according to AD 2000-leaflet W4, section 2.2</p>

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Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	S _{R1}	S _{R2}
28138	400	150	406,4 x 8,8	168,3 x 4,5	21,65	8,80	4,50
28139	400	200	406,4 x 8,8	219,1 x 6,3	23,58	8,80	6,30
28140	400	250	406,4 x 8,8	273 x 6,3	25,64	8,80	6,30
28141	400	300	406,4 x 8,8	323,9 x 7,1	27,58	8,80	7,10
28142	400	350	406,4 x 8,8	355,6 x 8	28,80	8,80	8,00

Ident-Nr.	nom. width		dimensions		weights	pipe connection wall thickness	
	ND ₁	ND ₂	d ₁ x s ₁	d ₂ x s ₂	kg	S _{R1}	S _{R2}
28143	500	200	508 x 11	219,1 x 6,3	49,03	10,00	6,30
28144	500	250	508 x 11	273 x 6,3	52,71	10,00	6,30
28145	500	300	508 x 11	323, 9 x 7,1	56,18	10, 00	7,10
28146	500	350	508 x 11	355,6 x 8	58,36	10,00	8,00
28147	500	400	508 x 11	406,4 x 8,8	61,81	10,00	8,80
28148	600	250	610 x 12,5	273 x 6,3	67,77	10,00	6,30
28149	600	300	610 x 12, 5	323, 9 x 7,1	71, 71	10, 00	7,10
28150	600	350	610 x 12,5	355,6 x 8	74,19	10,00	8,00
28151	600	400	610 x 12,5	406,4 x 8,8	78,11	10,00	8,80
28152	600	500	610 x 12,5	508 x 11	86,08	10,00	10,00

10 Valid and listed documents

AD 2000-leaflet W4
DIN 2559-1
DIN 2559-3
DIN 2616-1
DIN 2609
DIN 1626
DIN EN 10204

**Pipe Class
Specification PN 10**

**pipe parts * pipe class: ZC10C1
caps**

1	Pipe class	ZC10C1
2	Part identification	KAP
3	Pipe class part	Caps
4	Material	1.0254 (St 37.0)
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 seamless or welded pipe, made of seamless or welded pipe according to DIN 1629 resp. 1626</p> <p>Weld preparation according to DIN 2559</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Ends closed</p> <p>Requirements AD 2000-leaflet W4 must be met</p>

Ident-No.	nom. diameter	dimensions	weights	pipe connection wall thickness
	ND	d _a x s	kg	SR
28115	15	21,3 x 2	0,02	2,00
28116	20	26,9 x 2,3	0,04	2,30
28117	25	33,7 x 2,6	0,08	2,60
28118	32	42,4 x 2,6	0,10	2,60
28119	40	48,3 x 2,6	0,12	2,60
28120	50	60,3 x 2,9	0,17	2,90
28121	65	76,1 x 2,9	0,22	2,90
28122	80	88,9 x 3,2	0,38	3,20

Ident-No.	nom. diameter	dimensions	weights	pipe connection wall thickness
	ND	d _a x s	kg	SR
28123	100	114,3 x 3,6	0,70	3,60
28124	125	139, 7 x 4	1,15	4, 00
28125	150	168,3 x 4,5	1,83	4,50
28126	200	219,1 x 6,3	3,87	6,30
28127	250	273 x 6,3	6,08	6,30
28128	300	332,9 x 7,1	7,95	7,10
28129	350	355,6 x 8	13,08	8,00
28130	400	406,4 x 8,8	17,94	8,80
28131	500	508 x 11	35,93	10,00
28132	600	610 x 12,5	57,52	10,00

- 10 **Valid and listed documents**
- AD 2000-leaflet W4
 - DIN 1626
 - DIN 1629
 - DIN 2559
 - DIN 2609
 - DIN 2617
 - DIN EN 10204

**Pipe Class
Specification PN 10**

**pipe parts * pipe class: ZC10C1
Blanks**

1	Pipe class	ZC10C1
2	Part identification	BSS
3	Pipe class part	Blanks
4	Material	1.0038 (S235JRG2)
5	Dimension standard	Uhde- Norm 3902-1
6	Terms of delivery	DIN EN 10025
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	AD 2000-leaflet W1, section 4
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>free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Packed in PE-bags, diameter 200 and above shrink-wrapped in PE-foil</p> <p>Requirements AD 2000-leaflet W1 must be met</p>

Ident-No.	nom. width	diameter	diameter	thickness	weights
	ND	d1	d2	s1	kg
28014	15	40,00	20,00	10	0,00
28015	20	60,00	25,00	10	0,00
28016	25	70,00	30,00	10	0,00
28017	32	81,00	40,00	10	0,00
28018	40	91,00	45,00	10	0,00
28019	50	106,00	57,00	10	0,00
28020	65	126,00	73,00	10	0,00

Ident-No.	nom. width	diameter	diameter	thickness	weights
	ND	d1	d2	s1	kg
28021	80	141,00	85,00	10	0,00
28022	100	161,00	110,00	10	0,00
28023	125	191,00	135,00	10	0,00
28024	150	217,00	160,00	12	0,00
28025	200	272,00	210,00	12	0,00
28026	250	327,00	262,00	15	0,00
28027	300	377,00	312,00	20	0,00
28028	350	437,00	342,00	20	0,00
28029	400	488,00	390,00	20	0,00
28030	500	593,00	498,00	25	0,00
28031	600	694,00	600,00	30	0,00

- 10 Valid and listed documents
- AD 2000-leaflet W1
 - DIN EN 10025
 - DIN EN 10029-A
 - DIN EN 10204
 - Uhde-Norm 3902-1

**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
Welding neck flanges**

1	Pipe class	ZC10C1
2	Part identification	VF
3	Pipe class part	Welding neck flanges
4	Material	1.0038 (S235JRG2)
5	Dimension standard	DIN EN 1092-1
6	Terms of delivery	DIN EN 1092-1
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	AD 2000-leaflet W9, section 5
9	Ordering addition	<p>Forged or seamless rolled welding neck flange with flat seal (shape B1)</p> <p>Surfaces free of rust and scale</p> <p>Inner surfaces free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Ends closed with caps</p> <p>Requirements AD 2000-leaflet W9 must be met</p>

Ident-No.	nom. diameter	dimensions	weights
	ND	ND x ØA	kg
28558	15	15 x 21,3	1,00
28559	20	20 x 26,9	1,00
28560	25	25 x 33,7	1,00
28561	32	32 x 42,4	2,00
28562	40	40 x 48,3	2,00
28563	50	50 x 60,3	3,00
28564	65	65 x 76,1	3,50
28565	80	80 x 88,9	4,00
28566	100	100 x 114,3	4,50

Ident-No.	nom. diameter	dimensions	weights
	ND	ND x ØA	kg
28567	125	125 x 139,7	6,50
28568	150	150 x 168,3	7,50
28569	200	200 x 219,1	11,00
28570	250	250 x 273	16,50
28571	300	300 x 323,9	22,00
28572	350	350 x 355,6	32,00
28573	400	400 x 406,4	40,00
28574	500	500 x 508	74,00
28575	600	600 x 610	116,50

10 Valid and listed documents

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

**Pipe Class
Specification PN 10**

**pipe parts * pipe class: ZC10C1
blind flanges**

1	Pipe class	ZC10C1
2	Part identification	BF
3	Pipe class part	Blind flanges
4	Material	1.0038 (S235JRG2)
5	Dimension standard	DIN EN 1092-1
6	Terms of delivery	DIN EN 1092-1
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	AD 2000-leaflet W9, section 5
9	Ordering addition	<p>Forged, seamlessly rolled or blanked out of sheets blind flanges made by metal-cutting processing with flat seals (shape A)</p> <p>free of oil, grease and slip additive (max.: 300 mg/m²)</p> <p>Packed in PE-bags, diameter 200 and above shrink-wrapped in PE-foil</p> <p>Requirements AD 2000-Merkblatt W1 and W9, must be met</p>

Ident-No.	nom. diameter	weights
	DN	kg
27997	15	1,00
27998	20	1,00
27999	25	1,50
28000	32	2,00
28001	40	2,50
28002	50	3,00
28003	65	3,50
28004	80	4,50
28005	100	5,50

Ident-No.	nom. diameter	weights
	DN	kg
28006	125	8,00
28007	150	10,50
28008	200	16,50
28009	250	25,00
28010	300	35,00
28011	350	48,00
28012	400	63,50
28013	500	96,50

10 Valid and listed documents

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

**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
hexagon head screws**

1	Pipe class	ZC10C1
2	Part identification	SKS
3	Pipe class part	Hexagon head screws
4	Material	5.6
5	Dimension standard	DIN EN ISO 4014
6	Terms of delivery	DIN EN ISO 898-1 / DIN EN ISO 4014
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	AD 2000-leaflet W7, section 5
9	Ordering addition	<p>Product class A (minimum value from thread \leq M24 and nominal length \leq 10d or 150 mm)</p> <p>Product class B (minimum value from thread $>$ M24 or nominal length $>$ 10d or 150 mm)</p> <p>Surface galvanized according to DIN EN ISO 4042</p> <p>Requirements AD 2000-leaflet W7 must be met</p>

Ident-No.	thread x length	weights
		kg
28428	M 12 x 55	0,06
28429	M 12 x 70	0,07
28430	M 16 x 55	0,12
28431	M 16 x 60	0,12
28432	M 16 x 65	0,13
28433	M 16 x 70	0,14
28434	M 16 x 80	0,16
28435	M 16 x 90	0,17
28436	M 20 x 80	0,26

Ident-No.	thread x length	weights
		kg
28437	M 20 x 90	0,28
28438	M 20 x 100	0,30
28439	M 24 x 90	0,43
28440	M 24 x 120	0,54
28441	M 27 x 90	0,56
28442	M 27 x 100	0,60
28443	M 27 x 130	0, 72
28444	M 27 x 140	0, 79
28689	M 30 x 110	0,83
28690	M 30 x 150	1,03
28691	M 30 x 160	1,09
28692	M 33 x 110	1,02
28693	M 33 x 170	1,41

10 Valid and listed documents

AD 2000-leaflet W7
DIN EN ISO 898-1
DIN EN ISO 4014
DIN EN ISO 4042
DIN EN 10204

**Pipe Class
Specification PN 10**

**pipe parts * pipe class: ZC10C1
hexagon nuts**

1	Pipe class	ZC10C1
2	Part identification	SKM
3	Pipe class part	Hexagon nuts
4	Material	5-2
5	Dimension standard	DIN EN ISO 4032
6	Terms of delivery	DIN EN ISO 898-2 / DIN EN ISO 4032
7	Certificate	3.1.B according to DIN EN 10204
8	Identification	AD 2000-leaflet W7. section 5
9	Ordering addition	Product class A (≤ M16) Product class B (> M16) Surface galvanized according to DIN EN ISO 4042 Requirements AD 2000-leaflet W7 must be met

Ident-No.	thread	weights
		kg
28418	M 12	0,02
28419	M 16	0,03
28420	M 20	0,06
28421	M 24	0,11
28422	M 27	0,17
28694	M 30	0,22
28695	M 33	0,29

10	Valid and listed documents	AD 2000-leaflet W2 DIN EN ISO 898-2 DIN EN ISO 4032 DIN EN ISO 4042 DIN EN 10204
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**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
Comb defined seals**

1	Pipe class	ZC10C1
2	Part identification	KAD
3	Pipe class part	Comb defined seals
4	Material	1.4541 (X 6 CrNiTi 18 10 - Graphite)
5	Dimension standard	
6	Terms of delivery	Standard 40008
7	Certificate	2.1 according to DIN EN 10204 concerning purity in accordance with Standard 06401
8	Identification	According to Standard 40008
9	Ordering addition	Qualification certificate according to standard 40008

Ident-No.	nom. width	diameter	diameter	thickness	weights
	ND	d ₁	d ₂	s ₁	kg
28089	15	51,00	42,00	26,00	5,00
28090	20	61,00	47,00	31,00	5,00
28091	25	71,00	52,00	36,00	5,00
28092	32	82,00	62,00	46,00	5,00
28093	40	92,00	69,00	53,00	5,00
28094	50	107,00	81,00	65,00	5,00
28095	65	127,00	100,00	81,00	5,00
28096	80	142,00	115,00	95,00	5,00
28097	100	162,00	138,00	118,00	5,00
28098	125	192,00	162,00	142,00	5,00
28099	150	217,00	190,00	170,00	5,00
28100	200	272,00	240,00	220,00	5,00
28101	250	327,00	290,00	270,00	5,00

Ident-No.	nom. width	diameter	diameter	thickness	weights
	ND	d ₁	d ₂	s ₁	kg
28102	300	377,00	340,00	320,00	5,00
28103	350	437,00	395,00	375,00	5,00
28104	400	489,00	450,00	426,00	5,00
28105	500	594,00	560,00	530,00	5,00
28106	600	695,00	664,00	630,00	5,00

10 **Valid and listed documents** Standard 06401
 Standard 40008
 DIN EN 10204

**Pipe Class
Specification PN 10**

**pipe parts * pipe class: ZC10C1
flat packings**

1	Pipe class	ZC10C1
2	Part identification	FLD
3	Pipe class part	Flat packings
4	Material	Graphite with CrNi-insert
5	Dimension standard	DIN EN 1514-1
6	Terms of delivery	Standard 40002
7	Certificate	2.1 according to DIN EN 10204 concerning purity in accordance with standard 06401
8	Identification	According to standard 40002
9	Ordering addition	Type according to standard 40002

Ident-No.	nom. diameter	diameter	diameter	thickness
	ND	d ₂	d ₁	s
28063	15	51,00	22,00	2,00
28064	20	61,00	27,00	2,00
28065	25	71,00	34,00	2,00
28066	32	82,00	43,00	2,00
28067	40	92,00	49,00	2,00
28068	50	107,00	61,00	2,00
28069	65	127,00	77,00	2,00
28070	80	142,00	89,00	2,00
28071	100	162,00	115,00	2,00
28072	125	192,00	141,00	2,00
28073	150	218,00	169,00	2,00
28074	200	273,00	220,00	2,00
28075	250	329,00	273,00	2,00

Ident-No.	nom. diameter	diameter	diameter	thickness
	ND	d ₂	d ₁	s
28076	300	384,00	324,00	2,00
28077	350	444,00	356,00	2,00
28078	400	495,00	407,00	2,00
28079	500	617,00	508,00	2,00
28080	600	734,00	610,00	2,00

10 Valid and listed documents

Standard 06401
Standard 40002
DIN EN 1514-1
DIN EN 10204

**Pipe Class
Specification PN 10**
**pipe parts * pipe class: ZC10C1
cut-off valves with handwheel and regulating cone**

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| 1 | Pipe class | ZC10C1 |
| 2 | Part identification | ASV-MR |
| 3 | Pipe class part | cut-off valves with handwheel and regulating cone |
| 4 | Material | 2.1096.01 (CuSnZn (housing material)) |
| 5 | Dimension standard | DIN 3202-1, row F1 |
| 6 | Terms of delivery | 3230, leaflet 2 |
| 7 | Certificate | 3.1.B according to DIN EN 10204 for the material

test certificate in accordance with standard 10204 concerning pressure and tightness |
| 8 | Identification | TRB 801, Nr. 45 |
| 9 | Ordering addition | Tightness according to DIN 3230-B0, leak rate 1 |

Ident-No.	nom. width	length	weights
	ND ₁	L	kg
27973	15	130,00	0,00
27974	20	150,00	0,00
27975	25	160,00	0,00
27976	32	180,00	0,00
27977	40	200,00	0,00
27978	50	230,00	0,00
27979	65	290,00	0,00
27980	80	310,00	0,00
27981	100	350,00	0,00
27982	125	400,00	0,00
27983	150	480,00	0,00
27984	200	600,00	0,00

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| 10 | Valid and listed documents | DIN 3202-1
DIN 3230
DIN EN 10204
TRB 801 |
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