

As Built Documentation

Chapter 3.1.5 Chill Tower

- Chill Tower W14001 + Parts list Drawing No. 11436-0 Rev. f
- Transport Drawing Chill Tower W14001 Drawing No. B11436-3 Rev. 0
- Storage, Handling and Installation Instructions for Column Internals, Version 12-2004
- Internals General Arrangement dia 2400 Drawing No. K00501221-02 as built
- Liquid redistributor dia 2400 P200B Drawing No. R0501221-01 as built
- Liquid distributor dia 2400 P150 KR Drawing No. V0501221-03 as built
- Vane type mist eliminator dia 2400 P960-V Drawing No. Z0501221-02 as built
- Documentation Chill Tower Pump P14100/P14200



Wolf GmbH & Co.KG

57234 Wilnsdorf

Kom.Nr. 37106

Air Liquide Purchase-no.:
4500023998

Project: ASU Kosice No.9

Dokument No. : 11436-4-PL

Document: Parts list

Description: Chill Tower

Tag No.: W14001

Drawing No.: 11436 - 0

	f	20.04.05	Ring dimension corrected	Strake	TB		
	e	29.03.05	Nameplate changed	Strake	TB		
	d	14.03.05	Changes acc. comments	Strake	TB		
	c	08.02.05	Changes acc. comments	Strake	TB		
	b	02.02.05	Changes acc. comments	Strake	TB		
	a	19.01.05	Changes acc. comments	Strake	TB		
0	first issue	18.11.04		Strake	TB		
Status	Ausgabe	Datum	geänd.Seiten	erstellt	Abtlg.	geprüft	Genehmigt

WOLFGmbH &
Co. KG

BEHÄLTER- UND APPARATEBAU

Dortmunder Straße 2 D-57234 Wilnsdorf

Telefon (02739) 8970-0 Telefax (02739) 8970-10

STÜCKLISTE**11436 -0-f**

parts list

Kom.-Nr. : 37106

com. no

Kunde : Messer AGS GmbH

client

Pos. Nr. :

item no

erstellt prepared

Strake

17.11.04

geändert / changed

Strake

20.04.05

geprüft checked

Anzahl:

1

number

Benennung:
designation**Verdunstungskühler W14001**Blatt
sheet**1**Druckdatum: 20.04.05
date

Pos. item	Anzahl number ges tot	Artikelnummer: Norm stand. Art-Matchcode Wst-Matchcode	Benennung: description	Abmessung: dimension	Werkstoff: material	Abn. cert. 10204	Prüfungs- grundlage: test rule	Status*			
								G	K	A	B L
1	1	DIN-EN 1-1- 2 10029A 12- 2 ISO 10029	Mantel SHELL	ø2420 x 10 x 1700	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X			
2	1	DIN-EN 1-1- 2 10029A 12- 2 ISO 10029	Mantel SHELL	ø2420 x 10 x 3000	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X			
3	1	DIN-EN 1-1- 2 10029A 12- 2 ISO 10029	Mantel SHELL	ø2420 x 10 x 3000	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X			
4	1	DIN-EN 1-1- 2 10029A 12- 2 ISO 10029	Mantel SHELL	ø2420 x 10 x 3000	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X			
5	1	DIN-EN 1-1- 2 10029A 12- 2 ISO 10029	Mantel SHELL	ø2420 x 10 x 3000	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X			
6	1	DIN-EN 1-1- 2 10029A 12- 2 ISO 10029	Mantel SHELL	ø2420 x 10 x 3000	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X			
7	1	DIN-EN 1-1- 5 10029A 12- 2	Ronde ROUND PLATE	ø2540 x 35	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X			
8f	1	DIN-EN 1-1- 8 10029A 1- 9 ISO 10029	Ring	ä-ø2580 / i-ø2424 x 25	S235JRG2 1.0038		EN 10025				
9	1	DIN-EN 1-1- 8 10029A 12- 2 ISO 10029	Ring	ä-ø2396 / i-ø2336 x 6	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X			
10	1	DIN-EN 1-1- 8 10029A 1- 9 ISO 10029	Ring	ä-ø2390 / i-ø2290 x 6	S235JRG2 1.0038		EN 10025	X			
11	1	8-1- 27 1- 30	Drahtgewebe, rund Wire mesh, circular	ø 2390, wire/Draht-ø 3, mesh/Maschenweite: 30	S185 feuerverz. hot dip galvan.			X			
12	12	DIN-EN 6-1- 1 24014 5- 57 ISO 4014	Sechskant- schraube Hexagonal bolt	M16 x 40	5.6 galv.verz.			X			

Anzahl: number			1			Benennung: Verdunstungskühler W14001 designation Kom.-Nr.: 37106 com. no			Zeichng. Nr.: 11436 -0-f drawing no			Blatt sheet 2 Druckdatum: 20.04.05 date			
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											G	K	A	B	L
13	12			DIN-EN 6-1- 3 24032 5- 58 ISO 4032		Sechskantmutter Hexagonal nut	M16	5-2 galv. verz.			X				
14	12			DIN 6-7- 4 125 1- 69		U-Scheibe Washer	A 17	S185 electrolyt. galv. 1.0035			X				
15	1			DIN 7-5- 1 1024 1- 9		T-Stahl T-bar	T 60 x 60 x 2400	S235JRG2 1.0038		EN 10025	X				
16	2			DIN 7-5- 1 1024 1- 9		T-Stahl T-bar	T 60 x 60 x 1170	S235JRG2 1.0038		EN 10025	X				
17c	2			DIN-EN 1-1- 5 10029A 1- 9		Ronde ROUND PLATE	ø 100 x 6,	S235JRG2 1.0038		EN 10025	X				
18c	2			DIN 3-1- 2 2448 3- 3		Nahtloses Rohr SEAMLESS PIPE	ø88,9 x 6,3 x 180 ; anpassen	St 35.8 I 1.0305	3.1 B	DIN 17175 AD-W4	X				
19a	3			DIN 4-2- 5 2631 4- 22		V-Flansch WELDING NECK FLANGE	C 600 / ø610; s= 7,1; h=70	S235JRG2 1.0038	3.1 B	EN 10025 AD-W9					
20a	3			4-2- 16 12- 2		Blindflansch Blind Flange	Form B; ø 755 x 25, RM = 760 x 30	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1					

von Fa. Wolf gedreht

21a	3		DIN-EN 3-1-9 10029A 12-2		Rohr aus Blech gerollt Pipe made from plate	ø 610 x 10 x 180 ;anpassen	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	
22a	60		DIN-EN 6-1-1 24014 5-22 ISO 4014		Sechskant- schraube Hexagonal bolt	M24 x 80	5.6 galv. verz. galvanized	gest.	DIN EN20898/DIN 267 AD-W7	
23a	60		DIN-EN 6-1-3 24032 5-16 ISO 4032		Sechskantmutter Hexagonal nut	M24	5-2 gal.verz galvanized	gest.	DIN EN20898/DIN 267 AD-W7	
24a	60		DIN 6-7-4 125 1-69		U-Scheibe Washer	A 25	S185 electrolyt. galv. 1.0035			
25a	3		DIN 5-1-11 2690 6-13		Flachdichtung gasket	ä-ø680/i-ø620x3; Form A	KlingerSil C4400			
26	3		7-1-1 1-9		Rundstahl ROUND BAR	ø40 x 1000	S235JRG2 1.0038		EN 10025	
27	3		DIN-EN 1-1-1 10029A 1-9		Blech Plate	15 x 70 x 550; anpassen	S235JRG2 1.0038		EN 10025	

Anzahl: number			1			Benennung: designation			Verdunstungskühler W14001			Blatt sheet			3		
						Kom.-Nr.: com. no			37106			Zeichng. Nr.: drawing no			11436 -0-f		
												Druckdatum: 20.04.05 date					
Pos. item	Anzahl number	Artikelnummer:		Benennung: description	Abmessung: dimension	Werkstoff: material	Abn. cert.	Prüfungs- grundlage: test rule	Status*								
		Norm stand.	Art-Matchcode Wst-Matchcode						G	K	A	B	L				
28	3	DIN-EN 1-1- 5 10029A 1- 9		Ronde ROUND PLATE	ø65 x 15,	S235JRG2 1.0038		EN 10025									
29	3	DIN-EN 1-1- 5 10029A 7- 31		Ronde ROUND PLATE	ø65 x 2,	Ms brass											
30	9	DIN 6-3- 3 94 1- 69		Splint Splitt pin	ø6 x 85	S185 electrolyt. galv. 1.0035											
31	3	DIN 6-3- 2 444 1- 69		Augenschraube EYE BOLT	AM20 x 160	S185 electrolyt. galv. 1.0035											
32	3	DIN 6-3- 1 28129 5- 57		Bügelmutter CLAMP NUT	M20	5.6 galv.verz.											
33	6	DIN-EN 1-1- 1 10029A 1- 9		Blech Plate	12 x 50 x 65	S235JRG2 1.0038		EN 10025									
34	3	7-7- 4 1- 69		Bolzen Bolt	ø18 x 70	S185 electrolyt. galv. 1.0035											
35	6	DIN 6-7- 4 125 1- 69		U-Scheibe Washer	A 19	S185 electrolyt. galv. 1.0035											
36	6	7-1- 2 1- 9		Handgriff HANDLE	ø16 x 296	S235JRG2 1.0038		EN 10025									
37	1	DIN 3-1- 1 2458 3- 41		Geschweißtes Rohr Welded Pipe	ø 168,3 x 8.8 x 185 ;anpassen	St 37.0	3.1 B	DIN 1629 AD-W4 VdTÜV 1252									
38	2	DIN-EN 1-1- 17 10029A 1- 12		Verstärkungs- scheibe REINFORCEMENT- PAD	ä-ø 270/ li-ø 170x 5	S235JRG2 1.0038	3.1 B	EN 10025 AD-W1									
39	2	DIN-EN 1-1- 5 10029A 12- 2		Ronde ROUND PLATE	ø168 x 6	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1									

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40	1	DIN 3-1-1 2458 3-41		Geschweißtes Rohr Welded Pipe	ø 168,3 x 8.8 x 250	St 37.0	3.1 B	DIN 1629 AD-W4 VdTÜV 1252	X				
41	1	DIN 4-1-4 2605 3-55		Rohrbogen, Bauart 3 ELBOW, type 3	168,3 x 5.6 x 90°	St 37.0	3.1 B	DIN 1626 AD-W4	X				
42	1	DIN 3-1-1 2458 3-55		Geschweißtes Rohr Welded Pipe	ø 168,3 x 5.6 x 622	St 37.0	3.1 B	DIN 1626 AD-W4	X				

Anzahl: number			Benennung: designation			Verdunstungskühler W14001			Blatt sheet					
1			Kom.-Nr.: com. no			37106			Zeichng. Nr.: drawing no					
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									G	K	A	B	L	
43a	1	DIN-EN 3- 1- 9 10029A 12- 2		Rohr aus Blech gerollt Pipe made from plate	ø 610 x 10 x 2365	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	X					
44a	1	DIN-EN 1- 1- 5 10029A 1- 9		Ronde ROUND PLATE	ø610 x 10	S235JRG2 1.0038		EN 10025	X					

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45a	1	DIN-EN 1-1-5 10029A 1-9	Ronde ROUND PLATE	ø590 x 10	S235JRG2 1.0038		EN 10025	X			
46a	3	DIN-EN 1-1-1 10029A 1-9	Blech Plate	10 x 140 x 180	S235JRG2 1.0038		EN 10025	X			
47	1	DIN-EN 1-1-1 10029A 1-9	Blech Plate	10 x 150 x 500	S235JRG2 1.0038		EN 10025	X			
48a	3	DIN-EN 1-1-1 10029A 1-9	Blech Plate	10 x 170 x 200	S235JRG2 1.0038		EN 10025	X			
49	1	DIN-EN 1-1-1 10029A 1-9	Blech Plate	10 x 180 x 500	S235JRG2 1.0038		EN 10025	X			
50b	2	DIN 7-6-4 1017 1-9	Ringsegment	a-ø2396/li-ø2196 x 10 x Zentriwinkel 112,6°	S235JRG2 1.0038		EN 10025	X			

to be adapt see drawing
anpassen siehe Zeichnung

51	4	DIN 7-6-3 1017 1-9	Ring Ring	FM: a-ø 2396 x li-ø 2196 x 10	S235JRG2 1.0038		EN 10025	X			
52b	2	DIN-EN 1-1-1 10029A 1-9	Blech Plate	10 x 225 x 1399; anpassen	S235JRG2 1.0038		EN 10025	X			
53b	2	DIN 7-5-1 1024 1-9	T-Stahl T-bar	T 60 x 60 x 2314	S235JRG2 1.0038		EN 10025	X			

to be adapt
anpassen

54b	1	DIN 7-5-1 1024 1-9	T-Stahl T-bar	T 60 x 60 x 1553	S235JRG2 1.0038		EN 10025	X			
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to be adapt
anpassen

55	6	DIN-EN 1-1-1 10029A 1-9	Blech Plate	10 x 100 x 100	S235JRG2 1.0038		EN 10025	X			
56	2	DIN 7-9-1 1025T2 1-9	I-Stahl I-steel	Form: HE-B100 x 2399; anpassen	S235JRG2 1.0038		EN 10025	X			
57	4	DIN 7-9-1 1025T2 1-9	I-Stahl I-steel	Form: HE-B100 x 1924; anpassen	S235JRG2 1.0038		EN 10025				

Anzahl: number		1		Benennung: Verdunstungskühler W14001 Kom.-Nr.: 37106 Zeichng. Nr.: 11436 -0-f com. no drawing no				Blatt sheet 5 Druckdatum: 20.04.05 date					
Pos. item	Anzahl number ges. ers. tot spr	Artikelnummer:		Benennung: description	Abmessung: dimension	Werkstoff: material	Abn. cert. 10204	Prüfungs- grundlage: test rule	Status*				
		Norm stand.	Art-Matchcode Wst-Matchcode						G	K	A	B	L
58	4	DIN 7- 9- 1 1025T2 1- 9		I-Stahl I-steel	Form: HE-B100 x 2353; anpassen	S235JRG2 1.0038		EN 10025					
59	80		8- 1- 43 1- 30	Gitterrost-Befestig ungen	Ausführung: Standard, Hersteller: Lichtgitter, Type: 133T	S185 feuerverz. hot dip galvan.							
60	2		8- 1- 42 1- 87	Gitterrost, rund, meherteilig Grating, circular, parted	ø2370; Höhe= 30; 10-teilig; Ausführung: siehe Zeichnung	S235JR - feuerverz. hot dip galvanized							
61	1		1- 1- 48 1- 9	Nachführöse Tailing lug	15 x 240 x 240	S235JRG2 1.0038		EN 10025	X				
62	2		1- 1- 15 1- 9	Erdungslasche Earthing lug	5 x 50 x 100	S235JRG2 1.0038		EN 10025	X				
63	8		8- 1- 6 1- 9	Sicherheitstritt Safety step	b=350; aus Rd.ø 25 x 860	S235JRG2 1.0038		EN 10025	X				
64	1		7- 1- 3 1- 9	Haltegriff Hand grip	ø25 x 710	S235JRG2 1.0038		EN 10025	X				
65	2	DIN-EN 1- 1- 1 10029A 12- 2		Blech Plate	15 x 440 x 440	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1					
66	2	DIN 3- 1- 1 2458 3- 8		Geschweißtes Rohr Welded Pipe	ø 219.1 x 11 x 90 ;anpassen	St 37.0		DIN 1626 AD-W4					
67	2	DIN-EN 1- 1- 5 10029A 1- 9		Ronde ROUND PLATE	ø400 x 30,	S235JRG2 1.0038		EN 10025					
68b	1	DIN 3- 1- 1 2458 3- 41		Geschweißtes Rohr Welded Pipe	ø 114,3 x 8,8 x 270 ;anpassen	St 37.0	3.1 B	DIN 1629 AD-W4 VdTÜV 1252					
69c	1		4- 4- 3 1- 9	Glatte Flansch PLAIN FACE FLANGE	Form B; FM: ä-ø285/li-ø116 x 20; L-kr.ø240 x 8 x ø23	S235JRG2 1.0038		EN 10025					
70	1	DIN-EN 1- 1- 17 10029A 12- 2		Verstärkungs- scheibe REINFORCEMENT- PAD	ä-ø 215/ li-ø 115x 5	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1					
71	1	DIN-EN 1- 1- 5 10029A 1- 9		Ronde ROUND PLATE	ø115 x 6	S235JRG2 1.0038		EN 10025					

only for pressure test
nur für Druckprobe

72	1	DIN-EN 1- 1- 5 10029A 1- 9		Ronde ROUND PLATE	ø2380 x 30	S235JRG2 1.0038		EN 10025	X				
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only used for pressure test
nur für Druckprobe verwenden

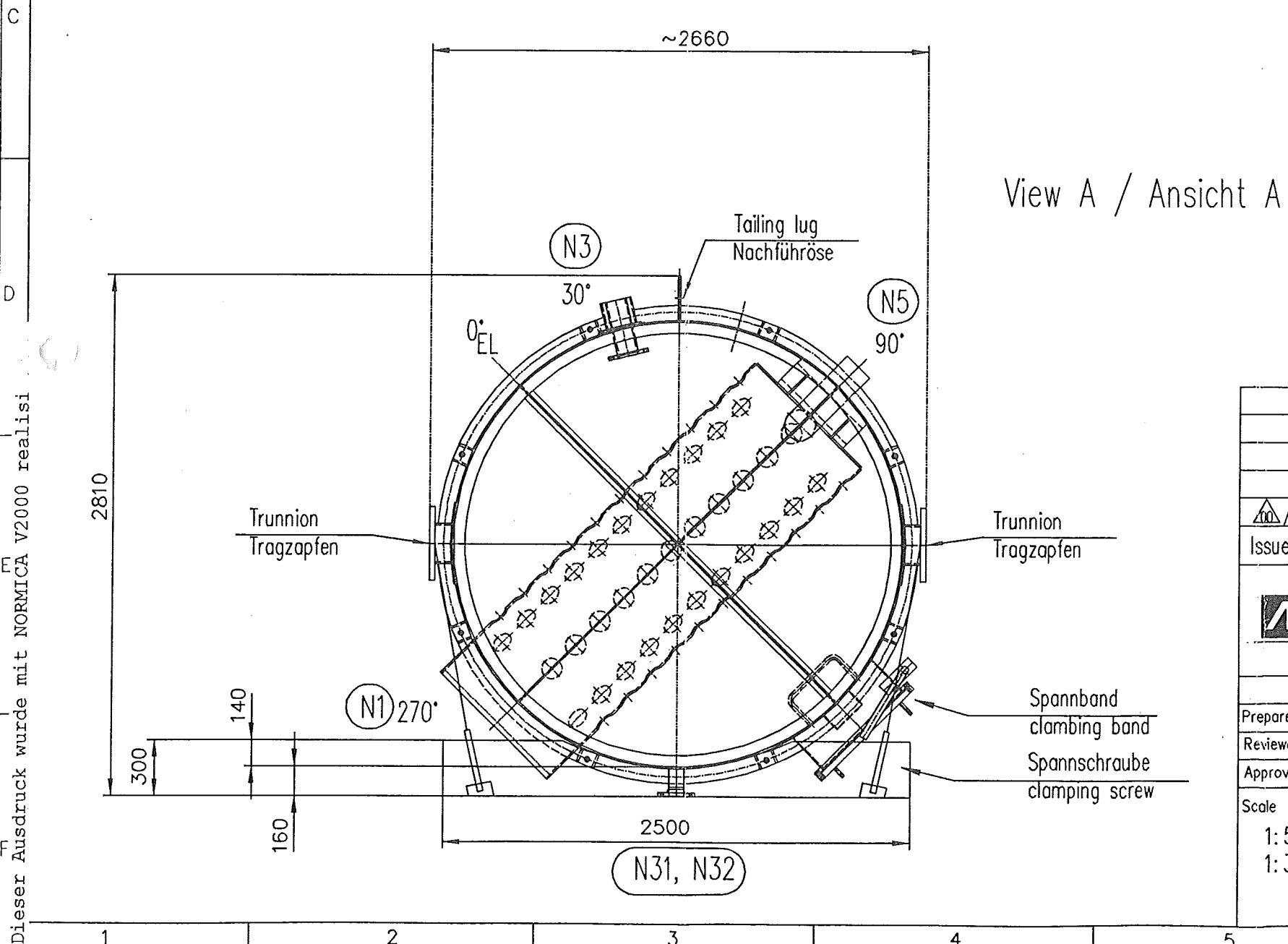
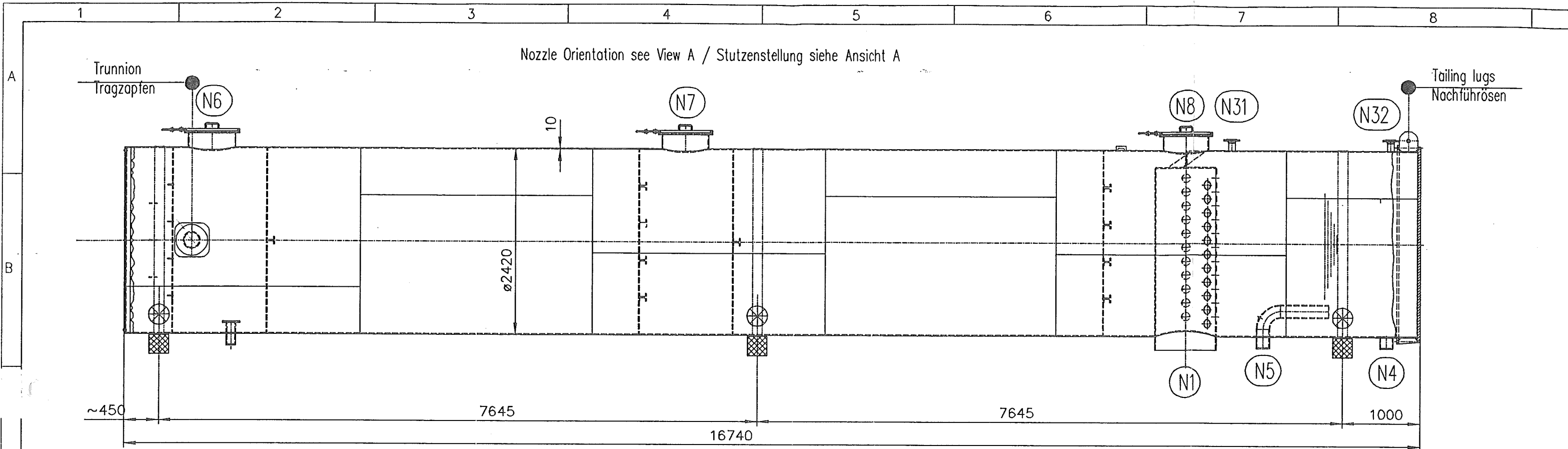
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Pos. item	Anzahl number ges tot ers spr	Artikelnummer: Norm stand. Art-Matchcode Wst-Matchcode	Benennung: description	Abmessung: dimension	Werkstoff: material	Abn. cert. 10204	Prüfungs- grundlage: test rule	Status* G K A B L
73	1	DIN 5- 1- 20 28040 6- 13	Flachdichtung	A-ø2326/li-ø2300 x 3	KlingerSil C4400			X

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nur für Druckprobe

74e	1	DIN-EN 1- 1- 16 10029A 1- 9	Behälterschild-brü cke NAME PLATE BRACKET	5 x 110 x 395	S235JRG2 1.0038		EN 10025	
75	1	8- 1- 10 2- 1	Behälterschild Wolf Nameplate Wolf	x 120 x 180	1.4301 X 5 CrNi 1810			
76	3	8- 3- 1 7- 28	Niet RIVET	ø5 x 15	Cu			
77	1	8- 3- 3 7- 28	Stempel Niet RIVET	ø5 x 15	Cu			
78	8	DIN 6- 5- 7 7992 5- 98	Hammerkopf- schraube Tee-head bolt	M24 x 900	4.6 galv. verz.			
79	8	DIN-EN 6- 1- 3 24032 5- 95 ISO 4032	Sechskantmutter Hexagonal nut	M24	5			
80	8	DIN 6- 1- 4 126 1- 31 ISO 7091	U-Scheibe Washer	ø27	S185 gal.verz 1.0035			
81c	1	DIN 3- 1- 1 2458 3- 65	Geschweißtes Rohr Welded Pipe	ø 88,9 x 6,3 x 275 ;anpassen	St 37.0	3.1 B	DIN 1629 AD-W4	
82c	1	DIN 4- 1- 4 2605 3- 55	Rohrbogen, Bauart 3 ELBOW, type 3	88,9 x 5.6 x 90°	St 37.0	3.1 B	DIN 1626 AD-W4	
83c	1	DIN-EN 1- 1- 5 10029A 1- 9	Ronde ROUND PLATE	ø 100 x 6,	S235JRG2 1.0038		EN 10025	
84a	16	DIN-EN 1- 1- 1 10029A 1- 9	Blech Plate	10 x 80 x 240; anpassen	S235JRG2 1.0038		EN 10025	X
85d	5	DIN-EN 1- 1- 1 10029A 12- 2	Blech Plate	10 x 220 x 300; anpassen	S235JRG2 1.0038	3.1 B	EN 10025 AD 2000-W1	
86d	5	DIN-EN 1- 1- 1 10029A 1- 9	Blech Plate	10 x 200 x 150; anpassen	S235JRG2 1.0038		EN 10025	
87d	5	DIN-EN 1- 1- 1 10029A 1- 9	Blech Plate	10 x 150 x 150; anpassen	S235JRG2 1.0038		EN 10025	

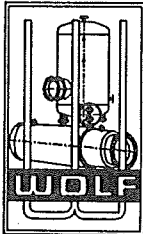
* G:"Gesperrt/Blocked", K:"Kundenbeistellung/Customer delivery", A:"Angefragt/Quoted", B:"Bestellt/Ordered", L:"Lager/Stock"

Dieser Ausdruck wurde mit NORMICA V2000 realisiert



⊗ = Anschlagpunkte für Spannbänder
= fastening point for clamping band

Transportgewicht/shipping weight: ~15600 kg

 /-	18.11.04	first issue				Strake			
Issue	Date	Description				Prepared	Reviewed	Approved	
 AIR LIQUIDE Air Liquide AGS GmbH			Chill Tower Transport Drawing Projekt: ASU Kosice No.9			TAG - No.: W14001 Project - No.: K70101 sheet: 1 of 1			
	Date	Name	Com. No. 37106			 GmbH & Co. KG Behälter- und Apparatebau Dortmunder Strasse 2 D-57234 Wilsdorf, GERMANY Tel.(02739)8970-0 Fax.(02739)8970-10			
Prepared	18.11.2004	Strake							
Reviewed	18.11.2004								
Approved	18.11.2004								
Scale 1: 50 1: 30		Chill Tower W14001 Transport Drawing			Drwg. No. B11436-3		Issue 0		

Storage, Handling and Installation Instructions for Column Internals

Version 12-2004

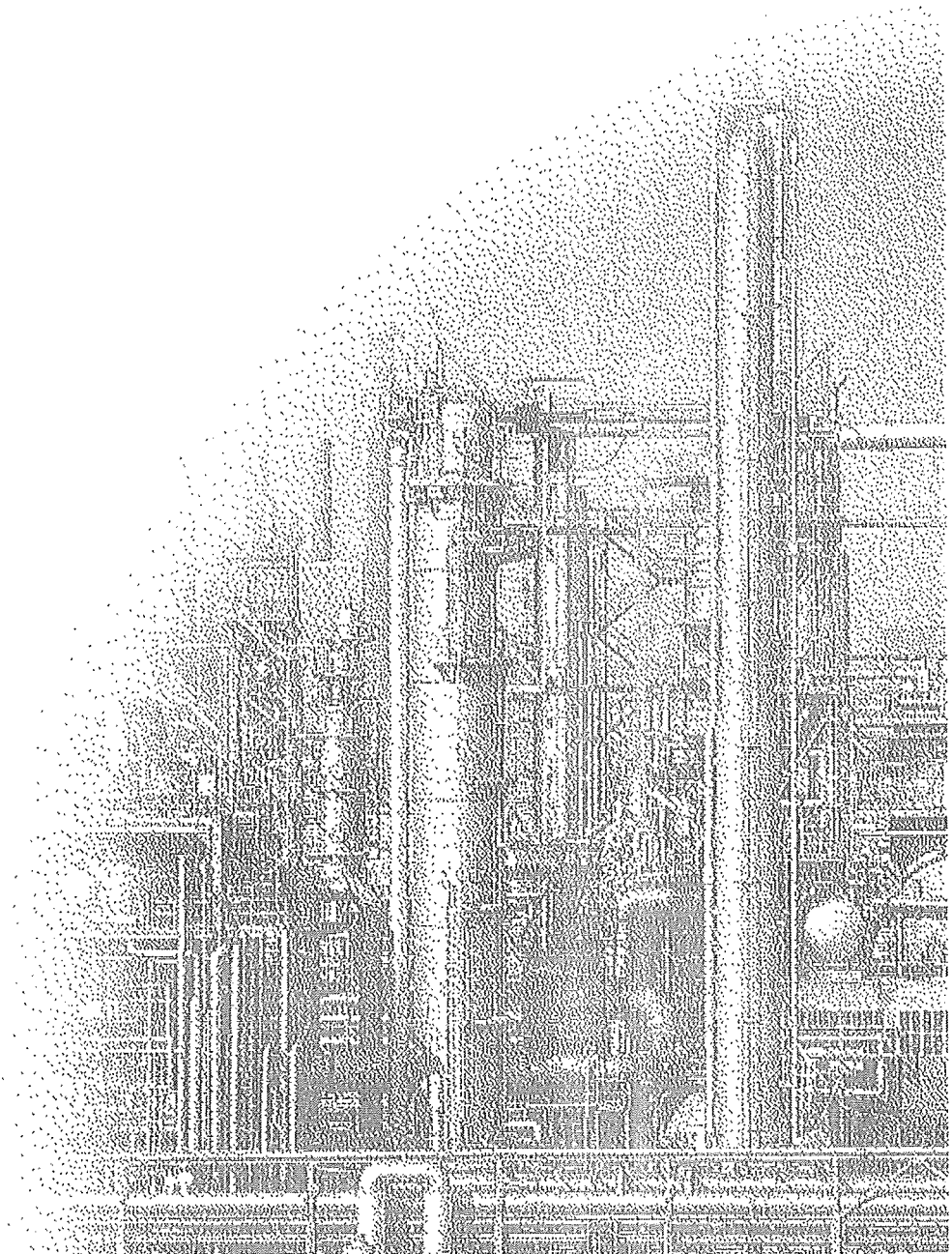


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3. Storage of Crates and Boxes	2
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1. Intension

This instruction was developed to prevent damage during storage period and to assist field crews with the installation of column internals. This instruction intends to give general guidelines. Specific information are included in the drawings from Rauschert Verfahrenstechnik GmbH and take precedence over this instructions. In case of any unforeseen difficulties please contact Rauschert Verfahrenstechnik GmbH immediately:

Rauschert Verfahrenstechnik GmbH
P.O. Box 20
96347 Steinwiesen
Germany
Phone: +49-(0)9262-77-0
Fax: +49-(0)9262-97-150

2. General Considerations

Installation of column internals has to be performed by people specialized on tray installation only. Any modification made on any part or hardware without authorization from Rauschert Verfahrenstechnik GmbH invalidates any responsibility as far as the mechanical characteristics of the items are concerned. It may furthermore restrict Rauschert Verfahrenstechnik GmbH's guarantee.

3. Storage of Crates and Boxes

Column internals are shipped in crates or boxes which are not designed for outside storage. Care should be taken when handling boxes to prevent damage. Check crates and boxes frequently for damage. In case of damage of packing check content regarding completeness and damage. Refurbish packing and report damage to Rauschert Verfahrenstechnik GmbH.

- Crates and boxes have to be stored dry and under cover.
- Do not stack crates and boxes on top of each other.
- Do not put any load on top of crates and boxes.
- Do not store any other equipment on top crates and boxes.
- Never climb or step on top of crates and boxes.
- Store crates and boxes on level floor so that there is no danger of water or condensation.

4. Handling of Parts

- Internals and packing made of plastic are embrittling at low temperatures. To prevent fracture of the packing installation and transport at temperatures below 5°C is forbidden.
- After unpacking properly store all material to avoid loss and damage. Special care is needed for liquid distributors.
- Do not step on parts or put any other equipment on top of parts.
- Temporarily lay plywood or planks across single segments or perpendicular to the beams during installation to reinforce tray decks.
- All parts are clearly marked as indicated in the drawing.
- Modifications should be made always with prior authorization by Rauschert Verfahrenstechnik GmbH.

5. Preparing for Installation

- Check available documents for completeness (General Arrangement Drawings, Detail Drawings, Packing List)
- Verify that all necessary parts and hardware were received.
- All parts leave our workshop in clean condition. However if the parts arrive dirty they have to be cleaned. Grease and oil must be removed
- Check parts and hardware for damage.
- Get familiar with Rauschert Verfahrenstechnik GmbH drawings.
- Make an actual mock-up outside the column according to its applicable drawing.
- Check that welded-in supports are clean and in conformance with Rauschert Verfahrenstechnik GmbH drawings.
- Cover drains and pipes at the bottom of the vessel to prevent fouling and plugging.

6. Installation of Internals

- Internals should be installed from bottom to top of column.
- Manways should be left open until successful final inspection.
- Respect the recommended torque for hardware installation shown on the drawings. If no torque is indicated on the drawing the recommended torque is 15 N/m (11 foot-pounds). torque values should be reduced where appropriate to avoid deformation of parts.
- Correctly apply gaskets, as shown in the drawings.
- All hardware should be verified to ensure it was installed properly before installing the next item.
- Ensure that no loose parts, hardware, tools, debris, dirt and such remain on the internals or at the bottom of the vessel.

7. Installation Sequence

7.1 Liquid distributor (plastic type KR)

The distributor consists of several distribution troughs (Pos. 1.x), spacers to keep the troughs on distance (alternatively the troughs can be bolted to the support ring). A feed pipe system with special designed orifices is feeding each distribution trough separately.

The several segments must be installed through a manhole from above.

Installation

Set the single distribution troughs (Pos. 1.x) into their designated position and adjust them with the spacers (alternatively the troughs can be bolted to the support ring).

After that flange the feed pipe to feed nozzle and place the distribution pipes onto the supports and flange them together.

Finally all the bolting have to be checked if they are tight.

Operation

At test run all the holes have to be checked if they are free from dirt and all the flanges have to be checked if they are tight.

No further action is applicable.

Maintenance

It is recommendable to check during a revision if the holes are still clean.

All bolting have to be checked and tightened if required.

7.2 Liquid redistributor (plastic)

The redistributor consists of several segments flanged together and clamped to the circulating support grid. The several segments must be installed through a manhole from above.

Installation

Starting at one side, the single segments are to be clamped to the support ring and bolted to the segment besides. The orientation of the support beams has to be according drawing.

After assembling of all segments the position has to be checked. The gap between the edge of the gas risers and column-wall must be steady for the whole circumference.

Operation and Maintenance

not applicable

7.3 Vane type mist eliminator

The mist eliminator consists of single demister segments and the matching clamping elements of stainless-steel.

Installation:

The demister segments(Pos. 1.x) are to be placed in between the support bars and plugged together according to drawing.

Then bolt the fastening brackets to the lugs at the column wall to press down the mist eliminator segments.

Finally all bolting have to be checked and tightened if required.

Operation

not applicable

Maintenance

During a revision or if the pressure drop of the gas increases strongly, it must be checked if the wire mist eliminator is blocked. In this case the mist eliminator must be removed and cleaned by using a steam jet for example.

7.4 Mist Eliminator (wire mesh type)

The mist eliminator consists of several demister segments.

This single wire mesh packages are clamped to the circulating support ring with the matching clamping elements.

Installation:

The demister segments(Pos. 1.x) are to be placed onto the support ring (and support beams) according to drawing.

Clamp the single packages to the support ring using the provided clamping brackets and (or) hook bolts.

Finally all bolting have to be checked and tightened.

Operation

not applicable

Maintenance

During a revision or if the pressure drop of the gas increases strongly, it must be checked if the wire mist eliminator is blocked. In this case the mist eliminator must be removed and cleaned by using a steam jet for example.

8. Final Inspection

A final check is necessary. Following points should be carefully observed:

- Ensure that seal plates close off apertures at joints.
- Spot Check tightening of all bolting.
- Ensure minimum of 15mm (5/8 in.) overlap between tray panels.
- Check orientation of tray clamps with 15mm (5/8 in.) minimum overlap on support ring.
- Ensure that no loose matter (parts, hardware, tools, debris, dirt and such) remain on the internals or at the bottom of the vessel.
- After assembling of all the internals the position has to be checked. The gap between grid and column-wall must be steady for the whole circumference.

9. Dimensional Control

Dimensional control has to be performed with qualified measuring instruments.

Check following dimensions regarding compliance with drawing:

Dimension	Permitted Tolerance
All main dimensions	according to tolerance
Levelness of liquid distributors	+/- 1,0 mm/m (1/1000 length)
Clearance between feed pipe and bottom of distribution troughs/parting box	+/- 4,0 mm (1/8 in.)

Deviations of the dimensions from the drawing considering the admissible tolerances have to be recorded. Immediately contact Rauschert Verfahrenstechnik GmbH.