

Technical drawing of a building structure, likely a roof or floor slab, showing dimensions and coordinates. The drawing includes a plan view and a side elevation view.

Plan View Dimensions:

- Overall width: 10000
- Overall length: 142256
- Internal dimensions: 1229, 500, 1678, 1000, 3000, 1000, 5500, 4400, 8700, 10856, 6510, 13172, 5064, 2570, 2204, 12200.
- Angles: 30°, 150°.
- Coordinates: $X = +3096,140 \text{ m}$, $Y = +11098,635 \text{ m}$, $Z = +5,400 \text{ m}$.

Side Elevation View Dimensions:

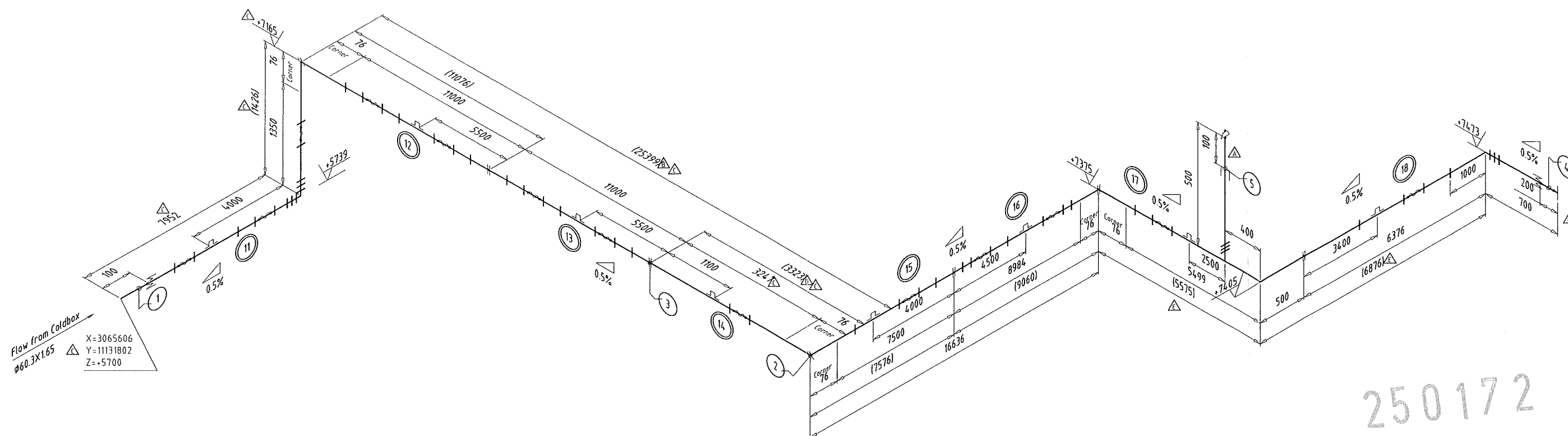
- Overall height: 10000
- Overall length: 142256
- Internal dimensions: 1229, 500, 1678, 1000, 3000, 1000, 5500, 4400, 8700, 10856, 6510, 13172, 5064, 2570, 2204, 12200.
- Angles: 30°, 150°.
- Coordinates: $X = +3096,140 \text{ m}$, $Y = +11098,635 \text{ m}$, $Z = +5,400 \text{ m}$.

Notes:

- For installation: 35x Support 17 - Steel
- Support distance 3000

23992	r	Form	Re
		1	

Rev	Description	Date	Drawn	Checked
D	As built - no changes	21-6-2005	THL	
E	As built after installation	10-1-2006	THL	THL



250172 C

DeMaCo Holland bv
As built

By: *[Signature]*
Date: 20/1/06

Specifications General Spec. DEN-10-ASME

Testing in workshop:
- 100% helium leak test of all longitudinal and circumferential welds.
- 100% Retention test 24h

- Cleaning according DeMaCo Holland BV spec. DEN-20-Cleaning

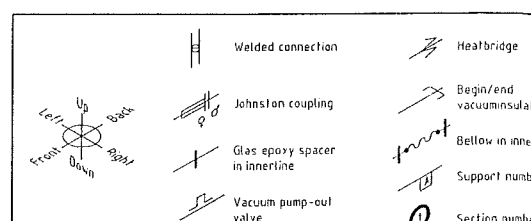
Dimensions / material:
- Inner process pipe: $\phi 60.3 \times 1.65$ / SS 304(L)
- Vacuum jacket: $\phi 114.3 \times 2.11$ / SS 304(L)
- Welded Connection: $\phi 154 \times 2$ / SS 304(L)
- Bellows according Berghöfer EJMA 1000 cycli, 100%

Process data:
- Medium: Liquid Nitrogen
- Design pressure: 16 bar(g)

Packing:
- Spools will be packed in foil

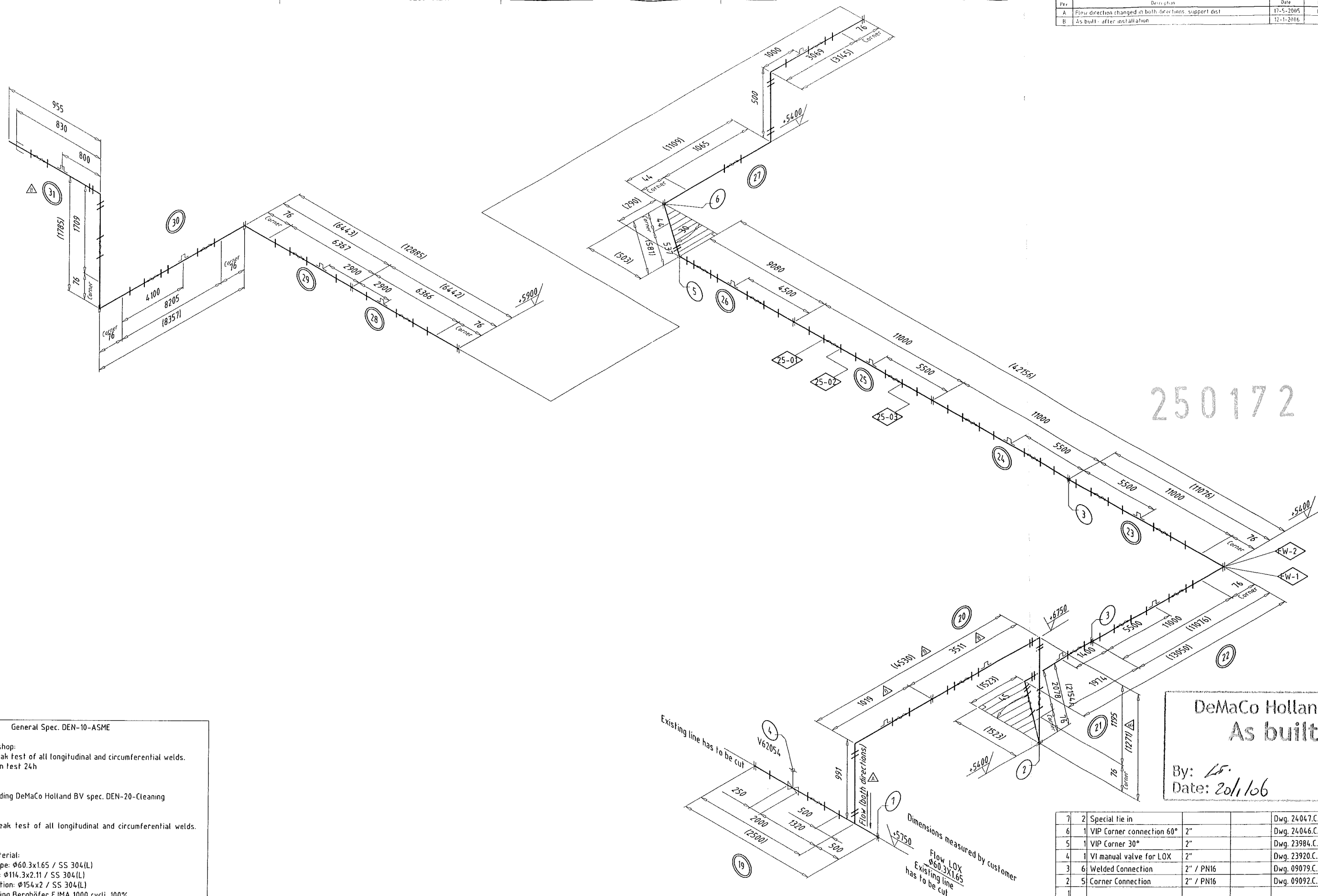
PED cat. SEP art. 3.3

For installation:
35x Support 17 - Steel - Dwg. 09585.C.4 (For VIP 2")
Support distance 3000mm



Item	Qty	Name	Dimensions	Material	Remarks	Charge no
5	1	End connection	2"		Dwg. 24082.C.3	
4	1	VIP End connection	2"		Dwg. 23996.C.3	
3	4	Welded Connection	2" / PN16		Dwg. 09079.C.3	
2	3	Corner Connection	2" / PN16		Dwg. 09092.C.3	
1	1	Endconnection Coldbox	2"		Dwg. 23817.C.2	
Scale	HTS	Date	6-1-2005	Project	250172	Tolerances unless stated otherwise according ISO 2768 - c L
Drawn	EdV					General roughness
Checked	THL					
VIP 2" / PN16 50 NL-23005 - LIN						Finish/heat treat
						This drawing and the copyright thereof is owned by DeMaCo. Without written permission this drawing may neither be copied nor submitted to third parties. If so order follow drawing and procedure will be returned to DeMaCo.
23812 C						Form 1 Rev E

Rev	Description	Date	Drawn	Checked
A	Flow direction changed in both directions, support dist	17-5-2005	EDV	
B	As built - after installation	12-1-2006	RG	



Specifications	General Spec. DEN-10-ASME
----------------	---------------------------

- 100% helium leak test of all longitudinal and circumferential welds.
- 100% Retention test 24h
- 5% X-ray

- Cleaning according DeMaCo Holland BV spec. DEN-20-Cleaning

Testing on site:

- 100% helium leak test of all longitudinal and circumferential welds.
- 5% X-ray

Dimensions / material:


- Inner process pipe: $\varnothing 60.3 \times 1.65$ / SS 304(L)
- Vacuum jacket: $\varnothing 114.3 \times 2.11$ / SS 304(L)
- Welded Connection: $\varnothing 154 \times 2$ / SS 304(L)
- Bellows according Berghöfer EJMA 1000 cycli, 100%


Proces data:

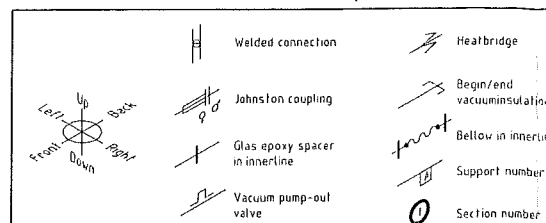
- Medium: Liquid Oxygen
- Design pressure: 10 bar(g)

Packing:
- Spools will be packed in foil

PED cat. I module A




For installation:
35x Support 17 - Steel - Dwg. 09585.C.4 (For VIP 2")
Support distance 3000mm 

 Welding number for x-ray (at production)

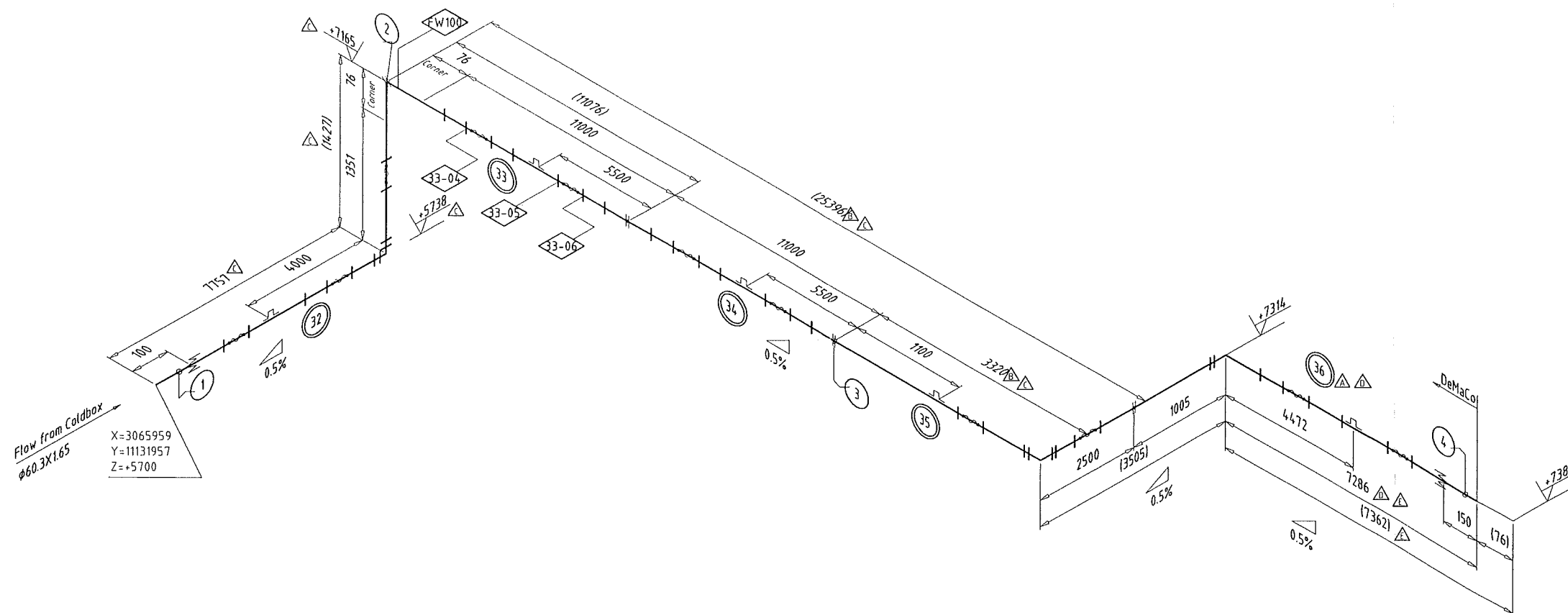


DeMaCo Holland bv
As built

By: LS
Date: 20/1/06

7	1	Special tie in		Dwg. 24.046.C.3			
6	1	VIP Corner connection 60°	2"	Dwg. 24.046.C.3			
5	1	VIP Corner 30°	2"	Dwg. 23.984.C.4			
4	1	VI manual valve for LOX	2"	Dwg. 23.920.C.2			
3	2	Welded Connection	2" / PN16	Dwg. 09.079.C.3			
2	5	Corner Connection	2" / PN16	Dwg. 09.092.C.3			
1							
Item Qty		Name		Dimensions	Material	Remarks	Change no
Scale HTS		Date 19-4-2005		Project		Tolerances unless stated otherwise according ISO 2768 - c L	General roughness
Drawn EDV				250172		Finish/hot treat	
Checked LMK							
VIP 2" / PN10 50 QL-61106 - LOX							
 DeMaCo				On the drawing and the copyright interest is reserved by us. Without our written permission this drawing may neither be reproduced, distributed nor be put into circulation under different drawing and/or picture will be withdrawn from us.			
				23971 C Fern Rev B			

Rev	Description	Date	Drawn	Checked
0	Spool nr. 36 changed	29-6-2005	EDV	
1	As built after installation	10-1-2006	FMK	FMK



250172 C

DeMaCo Holland bv
As built

By: *EDV*
Date: 20/1/06

Specifications General Spec. DEN-10-ASME

Testing in workshop:
- 100% helium leak test of all longitudinal and circumferential welds.
- 100% Retention test 24h
- 5% X-ray

- Cleaning according DeMaCo Holland BV spec. DEN-20-Cleaning

Testing on site:
- 100% helium leak test of all longitudinal and circumferential welds.
- 5% X-ray

Dimensions / material:
- Inner process pipe: Ø60.3x1.65 / SS 304(L)
- Vacuum jacket: Ø114.3x2.11 / SS 304(L)
- Welded Connection: Ø154x2 / SS 304(L)
- Bellows according Berghöfer EJMA 1000 cycli, 100%

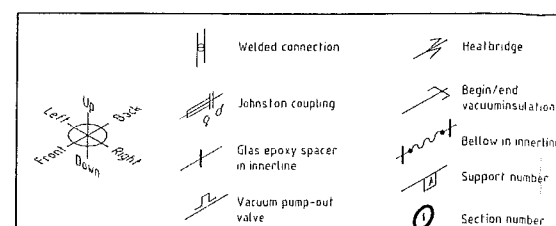
Process data:
- Medium: Liquid Oxygen
- Design pressure: 10 bar(g)



Packing:
- Spools will be packed in foil

PED cat. I module A

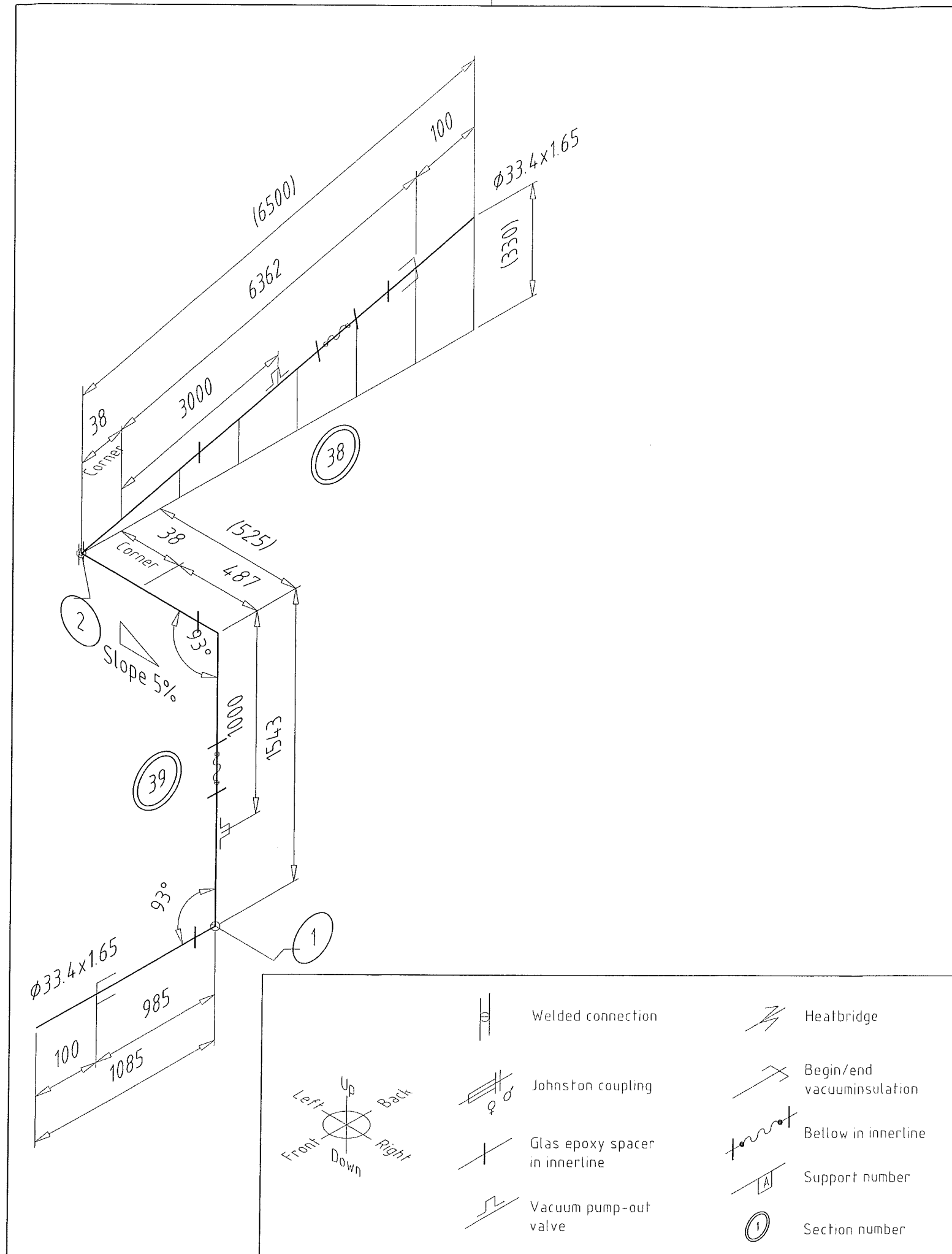
For installation:
27x Support 17 - Steel - Dwg. 09585.C.4 (For VIP 2")
Support distance 3000mm

X-X Welding number for x-ray (at production)



4	1	Endconnection	2"		Dwg. 23996.C.3	
3	3	Welded Connection	2" / PN16		Dwg. 09079.C.3	
2	1	Corner Connection	2" / PN16		Dwg. 09092.C.3	
1	1	Endconnection Coldbox	2"		Dwg. 23817.C.2	
Item	Qty	Name	Dimensions	Material	Remarks	Charge no
Scale	NTS	Date	6-4-2005	Project	Tolerances unless stated otherwise according ISO 2768 - c L	General roughness
Drawn	EDV		250172			<input checked="" type="checkbox"/>
Checked	FMK					
VIP 2" / PN10 50 OL-61102 - LOX				Finish/heat/treat		
 DeMaCo				<p>Order by Pavina & H. Theissen Schwanau e: H110226@schwanau.de f: 0170226 33 33 e: wip@DeMaCo.de www.DeMaCo.de</p> <p>This drawing is the copyright thereof as issued by us. Without our written permission this drawing may neither be copied nor submitted to third parties. If in order for such drawing and permission will be returned to us.</p>		
				23821	C	1
				Fern	1	Rev

Rev.	Description	Date	Drawn	Checked
0				



Specifications General Spec. DEN-10-ASME

Testing in workshop:

- 100% helium leak test of all longitudinal and circumferential welds.
- 100% Retention test 24h

- Cleaning according DeMaCo Holland BV spec. DEN-20-Cleaning

Dimensions / material:

- Inner proces pipe: $\varnothing 33.4 \times 1.65$ / SS 304(L)
- Vacuum jacket: $\varnothing 76.1 \times 1.5$ / SS 304(L)
- Welded Connection: $\varnothing 114.3 \times 2.11$ / SS 304(L)
- Bellows according Berghöfer EJMA 1000 cycli, 100%

Proces data:

- Medium: Liquid Argon
- Design pressure: 16 bar(g)

Packing:

- Spools will be packed in foil

PED cat. SEP art. 3.3

250172 C

DeMaCo Holland bv
As built

By: *LF*
Date: 20/1/06

2	1	Welded connection	1"		Dwg. 09088.C.3	
1	2	Corner 93°	1"		Dwg. 25406.C.4	
Item	Qty.	Name	Dimensions	Material	Remarks	Charge no.
Scale	NTS	Date 24-10-2005	Project	Tolerances unless stated otherwise according ISO 2768 - c L		
Drawn	MKL		250172			
Checked	ASM					
VIP 1" / PN16 - LAR				Finish/heat treat		
25 RL 43001 ZB16C1CV						
				Dester 2 Postbus 4 NL 1723 ZG Noord Scharwoude T +31 (0)226 33 21 00 F +31 (0)226 33 21 11 E info@DeMaCo.nl www.DeMaCo.nl		
				This drawing and the copyright thereof is owned by us. Without our written permission this drawing may neither be copied nor submitted to third parties. If no order follows drawing and enclosure will be returned to us.		
				25405 C	Form 3	Rev. 0

Specifications

Testing in workshop:

- 100% Helium leak test of all longitudinal and circumferential welds.
- 5% X-ray
- 100% Hydro pressure test

Cleaning:

- Cleaning according DeMaCo Holland BV spec. EN-20-Cleaning

Dimensions / material:

- Inner process pipe 4": $\phi 114.3 \times 2.11$ / AISI 304(L) welded
- Vacuum jacket 6": $\phi 168.3 \times 2.77$ / AISI 304(L) welded
- Bellows according EJMA, 1000 cycli, 100% / AISI 321

Proces data:

- Medium: Liquid Oxygen
- Design pressure: 10 bar(g)
- Test pressure: $10 \times 1.5 = 15$ bar(g)

Packing:

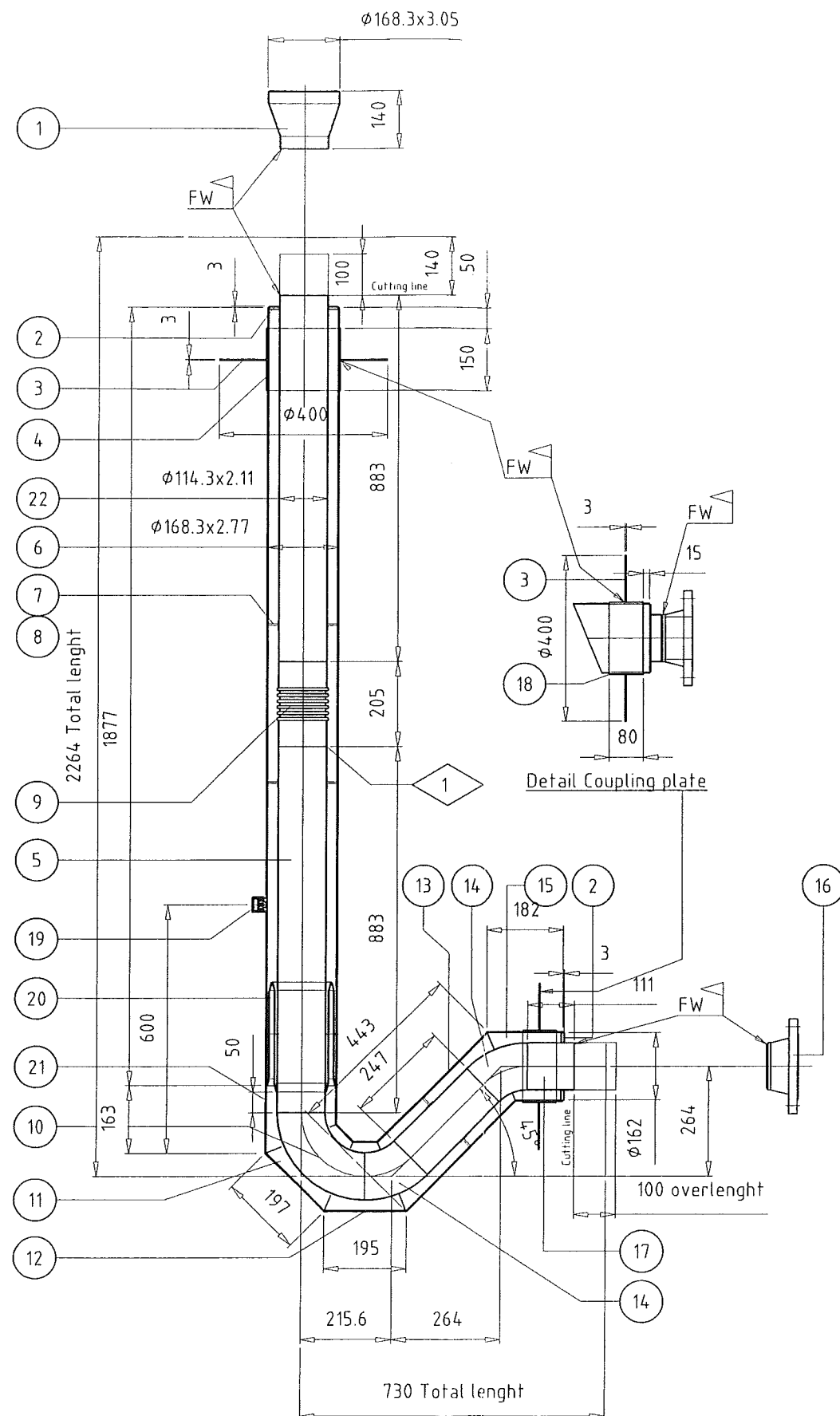
- Pipeline-ends will be protected with plastic protection caps

PED classification:

Cat. 1 - Module A (CE)

Testing on-site:

- Fieldweld 100% X-Ray
- 100% Helium leak test of all longitudinal and circumferential welds.



Rev	Description	Date	Drawn	Checked
0				

DeMaCo Holland bv
As built

By: *LS*
Date: 20/1/06

Supports:

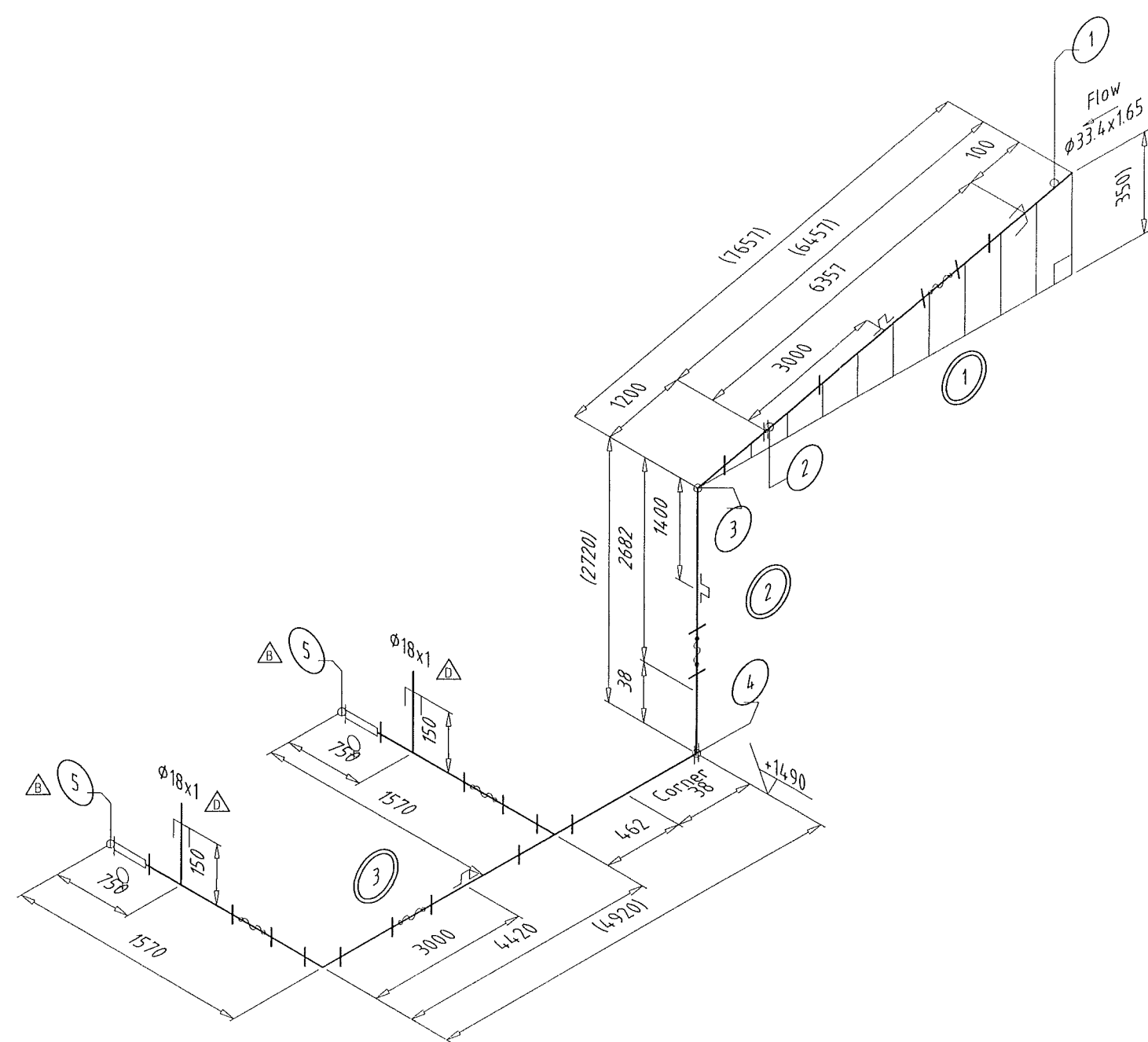
2x support 17 acc. dwg.09585.C.4 (4")

250172 C

24	1	Mol.sieves (in glass sleeve)	120ml		Art.#.507.840
23	1	MLI	25 layers		
22	1	Pipe $\phi 114.3 \times 2.11$	L= 983	Wnr.1.4301	Art.#.110.713
21	1	Pipe $\phi 168.3 \times 2.77$	L= 163	Wnr.1.4301	Art.#.110.791
		$\nabla 1 \times 45^\circ$			
20	1	Heatbridge PN10 - Special	4"		Dwg. 09474.C.3
19	1	Pump valve			Dwg. 09100.C.4
18	1	Dubbling plate 3mm	537x80	Wnr.1.4301	Art.#.111.020
17	1	Pipe $\phi 114.3 \times 2.11$	L=211	Wnr.1.4301	Art.#.110.713
16	1	WN-Flange RF-150#	4"-10S	SS 304(L)	ANSI B 16.5
15	1	Pipe $\phi 168.3 \times 2.77$	L= 182	Wnr.1.4301	Art.#.110.791
		$\nabla 1 \times 45^\circ$			
14	2	Elbow $45^\circ \phi 114.3$	R=152.5	Wnr.1.4301	Art.#.210.046
13	1	Pipe $\phi 168.3 \times 2.77$	L= 443	Wnr.1.4301	Art.#.110.791
		$\nabla 2 \times 22.5^\circ$			
12	1	Pipe $\phi 168.3 \times 2.77$	L= 195	Wnr.1.4301	Art.#.110.791
		$\nabla 2 \times 22.5^\circ$			
11	1	Pipe $\phi 168.3 \times 2.77$	L= 197	Wnr.1.4301	Art.#.110.791
		$\nabla 2 \times 22.5^\circ$			
10	1	Elbow $90^\circ \phi 114.3 \times 2$	R=152.5	Wnr.1.4301	Art.#.210.046
9	1	Compensator	4"-PN16		Dwg. 09149.C.4
8	6	Spacer ring	4"		Art.#.504.082
7	3	Spacer	4"		Art.#.504.040
6	1	Pipe $\phi 168.3 \times 2.77$	L= 1877	Wnr.1.4301	Art.#.110.791
5	1	Pipe $\phi 114.3 \times 2.11$	L= 883	Wnr.1.4301	Art.#.110.713
4	1	Dubbling plate 3mm	537x150	Wnr.1.4301	Art.#.111.020
3	2	Coupling plate 3mm	$\phi 400 \times \phi 175$	Wnr.1.4301	Art.#.111.020
2	2	End plate 8mm	$\phi 162 \times \phi 115$	Wnr.1.4301	
1	1	Concentric reducer	6"-4"-10S	SS 304(L)	





Item	Qty.	Name	Dimensions	Material	Remarks	Charge no.
Scale:	1:10	Date:	22-6-2005	Project:	250172	Tolerances unless stated otherwise according ISO 2768 - m K
Drawn:	PK	Checked:	ASM	Form:	Rev:	
LO2 VIP 4" - PN10 LO-62001-100						Finish/heal treat:
<p>DeMaCo Postbus 4 NL 1723 ZG Noord Scharwoude T +31 (0)226 33 21 00 F +31 (0)226 33 21 11 E info@DeMaCo.nl www.DemaCo.nl</p>						This drawing and the copyright thereof is owned by us. Without our written permission this drawing may neither be copied nor submitted to third parties. If no order follows drawing and enclosure will be returned to us.
24659 C						2 0

Rev	Description	Date	Drawn	Checked
C	As built	7-12-2005	MKL	
D	As built after installation	10-1-2006	MKL	MKL



250172 C

DeMaCo Holland bv
As built
By: *[Signature]*
Date: 20/1/06

	5	2	MG Female	1"		Dwg. 17391.C.3	
	4	1	Welded corner connection	1"		Dwg. 09088.C.3	
	3	1	Corner 93°	1"		Dwg. 25406.C.4	
	2	1	Welded connection	1"		Dwg. 09075.C.3	
	1	1	End connection	1"		Dwg. 25575.C.3	
	Item	Qty	Name	Dimensions	Material	Remarks	Charge no.
	Scale: NTS		Date: 16-11-2005	Project: 250172		Tolerances unless stated otherwise according ISO 2768 - c L	General roughness. 
	Drawn: MKL						
	Checked: ASM						
	VIP 1" / PN16 - LAR 25RL43003 ZB16CKV					Finish/heat treat	
	 DeMaCo				Dester 2 Postbus 4 NL 1723 ZG Noord Scharwoude T +31 (0)226 33 21 00 F +31 (0)226 33 21 11 E info@DeltaCo.nl www.DeltaCo.nl		
					This drawing and the copyright thereof is owned by us. Without our written permission this drawing may neither be copied nor submitted to third parties. If no order follows drawing and enclosure will be returned to us		
						25574 C	Form. 2 Rev. D

Welded connection
 Heatbridge

Johnston coupling
 Begin/end vacuum insulation

Glas epoxy spacer in innerline
 Bellow in innerline

Vacuum pump-out valve
 Support number

Section number