





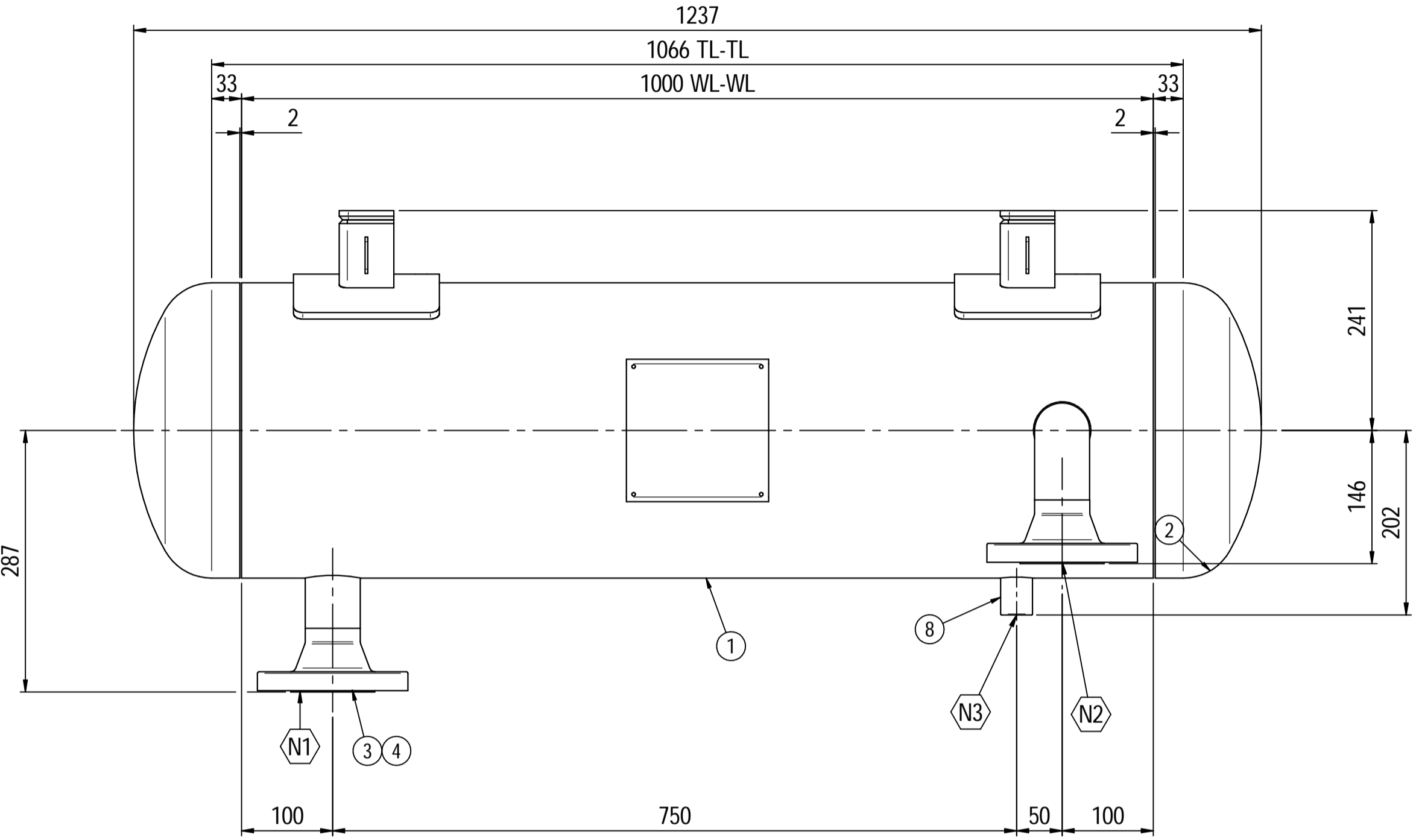
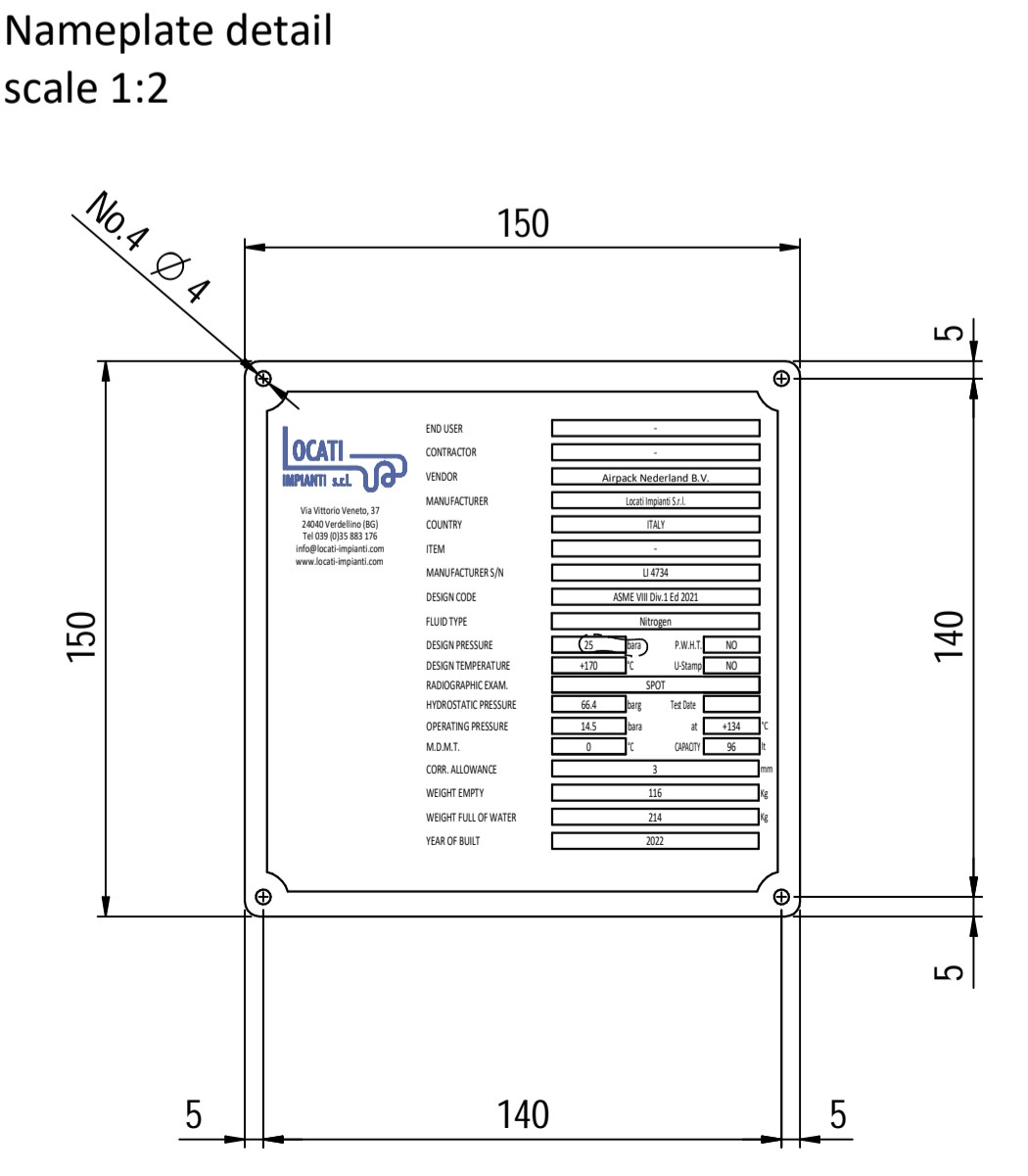
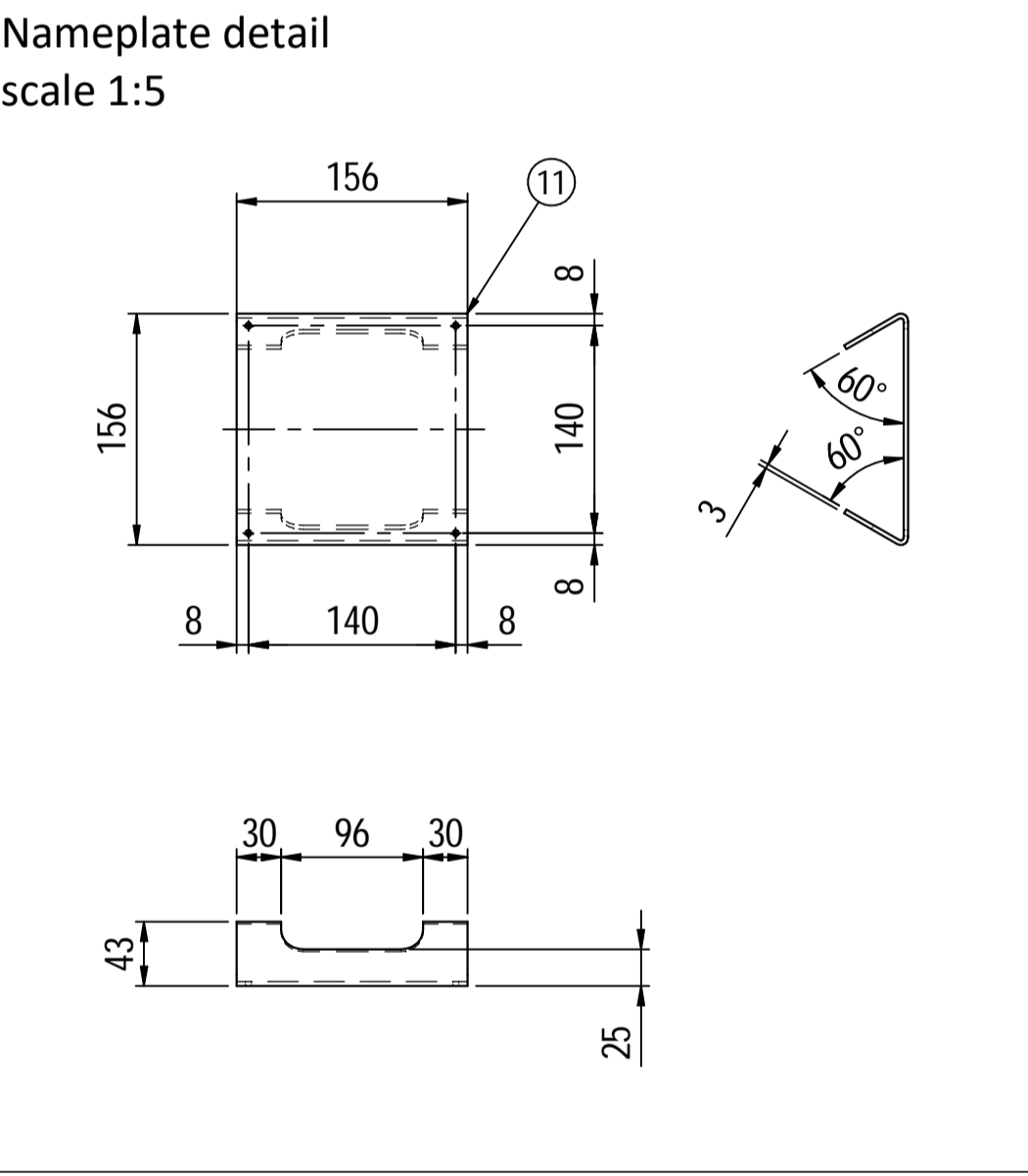
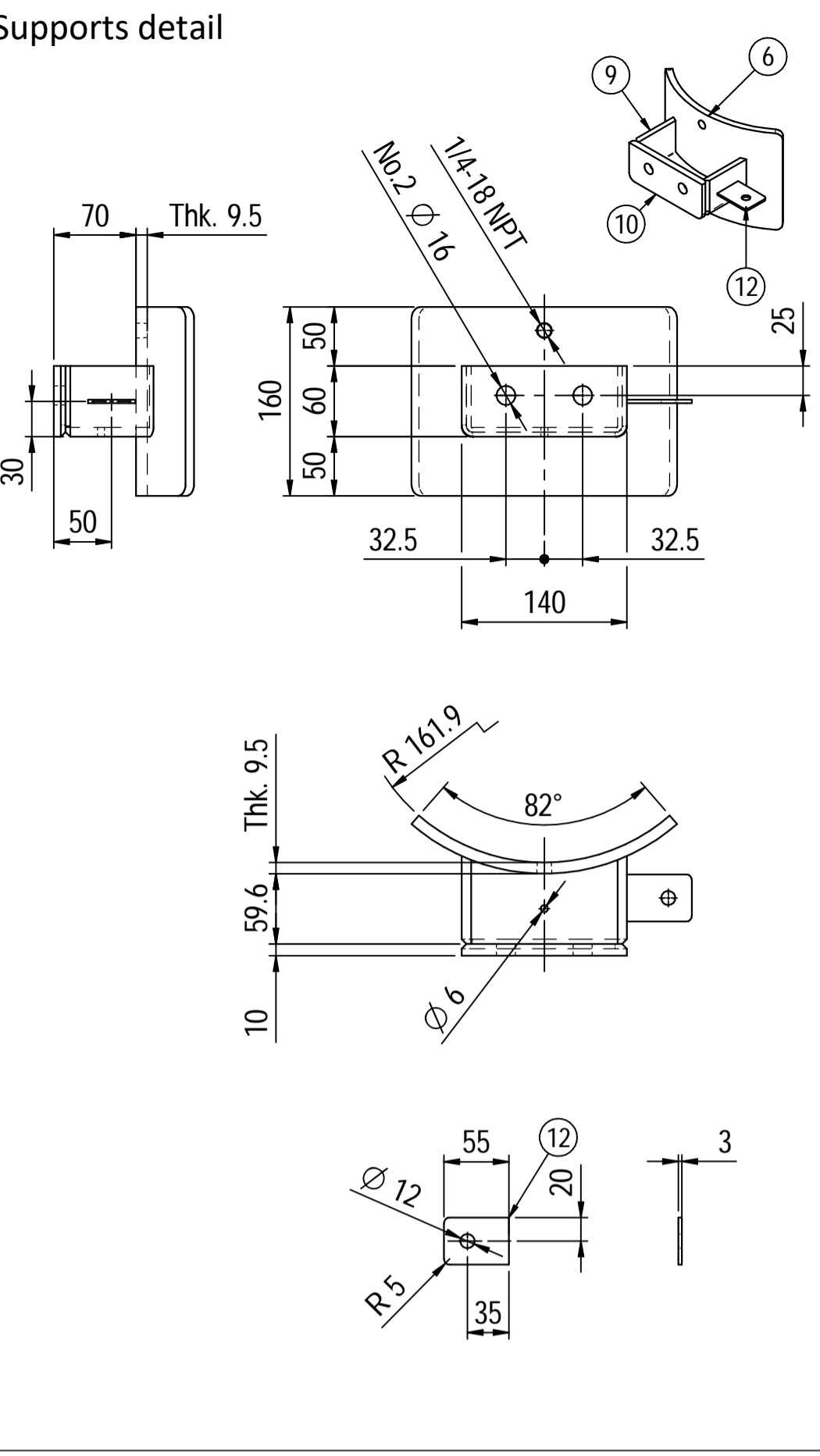
OWNER:  شرکت سست و سویی توهمه ایرانیان (سهامی عامه)	<b>BUSHEHR PETROCHEMICAL COMPANY MEG PLANT</b>							EPC CONTRACTOR:  Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT	
	<b>PULSATION DAMPER DETAIL DRAWING FOR NITROGEN GAS BOOSTER</b>								
MC :  شرکت سست و سویی توهمه ایرانیان (سهامی عامه)	Project	Area	Phase	Unit	Dis.	Doc.	Seq.	Contract No : 52-98/445	
Owner Document Number: 17811-23C	BU	20	VD	303	ME	DWG	0079	Rev.:	Page
								07	1 of 6

## PULSATION DAMPER DETAIL DRAWING FOR NITROGEN GAS BOOSTER

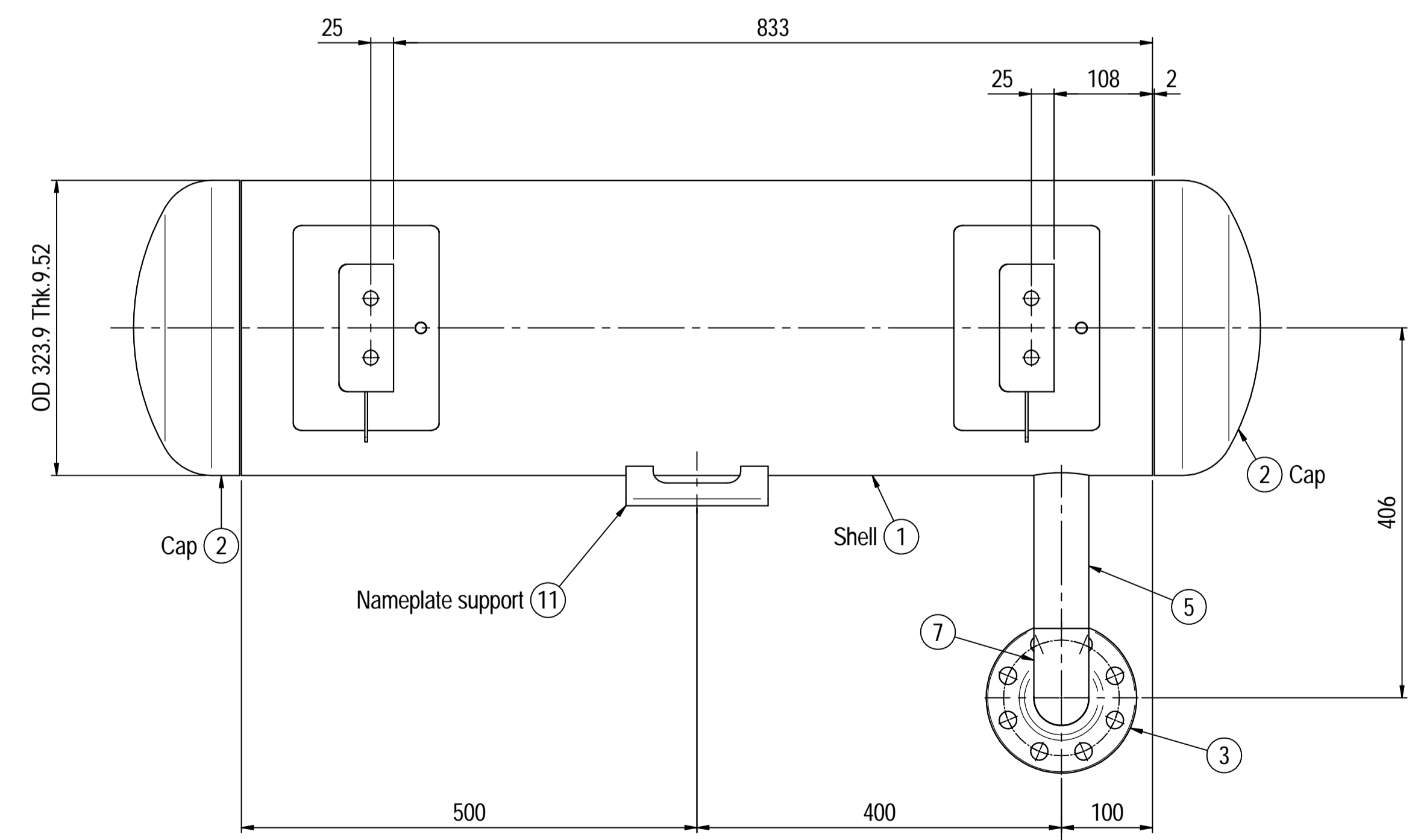
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06	13/07/2022	Approved for Construction	KP	CL	JR	
05	16/06/2022	For approval	KP	CL	JR	
04	03/06/2022	For approval	KP	CL	JR	
03	13/05/2022	For approval	KP	CL	JR	
02	06/05/2022	For approval	KP	CL	JR	
01	26/04/2022	For approval	KP	CL	JR	
00	06/04/2022	For approval	KP	CL	JR	
<b>Rev.</b>	<b>Date</b>	<b>Purpose of Issue</b>	<b>Prepared</b>	<b>Checked</b>	<b>Approved</b>	<b>AC Code</b>
					<b>Class: 1</b>	<b>Phase: P</b>



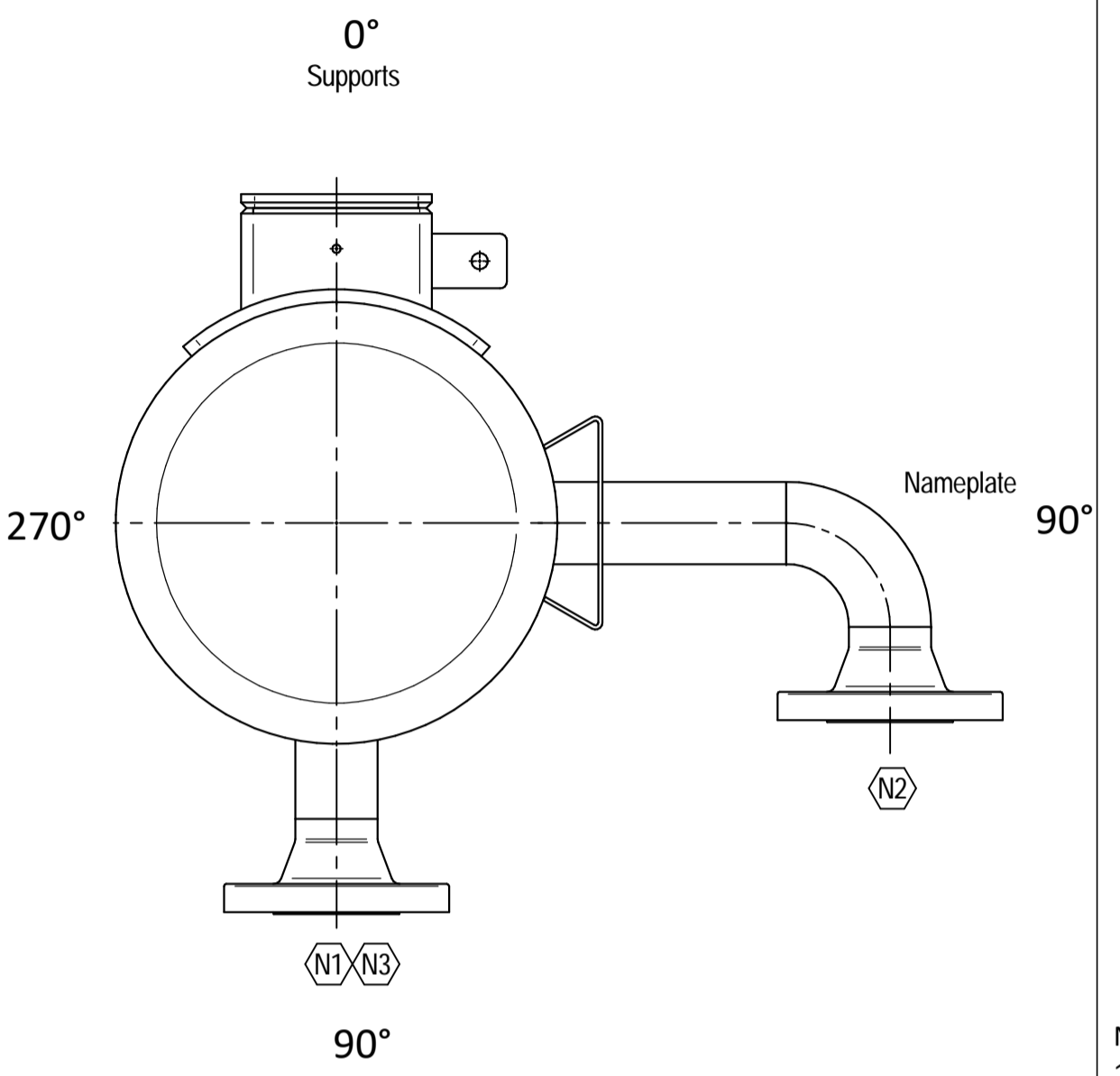




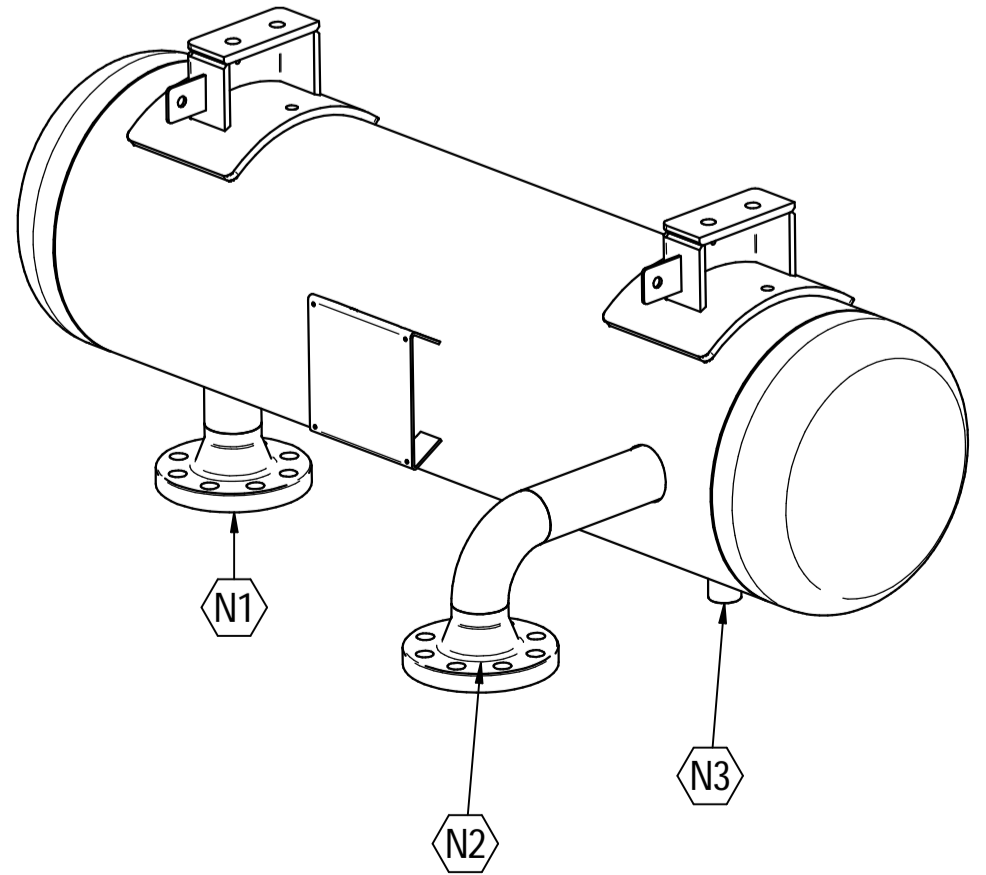
ELEVATION VIEW



PLAN VIEW



ORIENTATION VIEW



ISOMETRIC VIEW scale 1:8

Material List				
Pos.	Q.ty	Description	Mat.	Cert.
1	1	Shell by pipe 12" Sch.STD L=1000	SA106 Gr.B	3.1
2	2	Reduced cap 12" Sch.STD	SA234 WPB	3.1
3	2	Flange 2" WN #300 RF Sch.160	A105	3.1
4	1	Seamless pipe 2" Sch.160	A106 GrB	3.1
5	1	Seamless pipe 2" Sch.160	A106 GrB	3.1
6	2	Pad by pipe 12" Sch.STD	A106 Gr.B	3.1
7	1	Seamless elbow 2" 90° LR Sch.160	A234 WPB	3.1
8	1	Coupling 1/2" NPT #6000	A105	3.1
9	2	Plate 74.5x231 Thk.8	A516 70	3.1
10	2	Plate 16x65 Thk.10	A516 70	3.1
11	1	Nameplate support 156x241 Thk.3mm	A516 70	3.1
12	2	Earthing Plate 55 x 40 Thk.3	A240 TP316L	

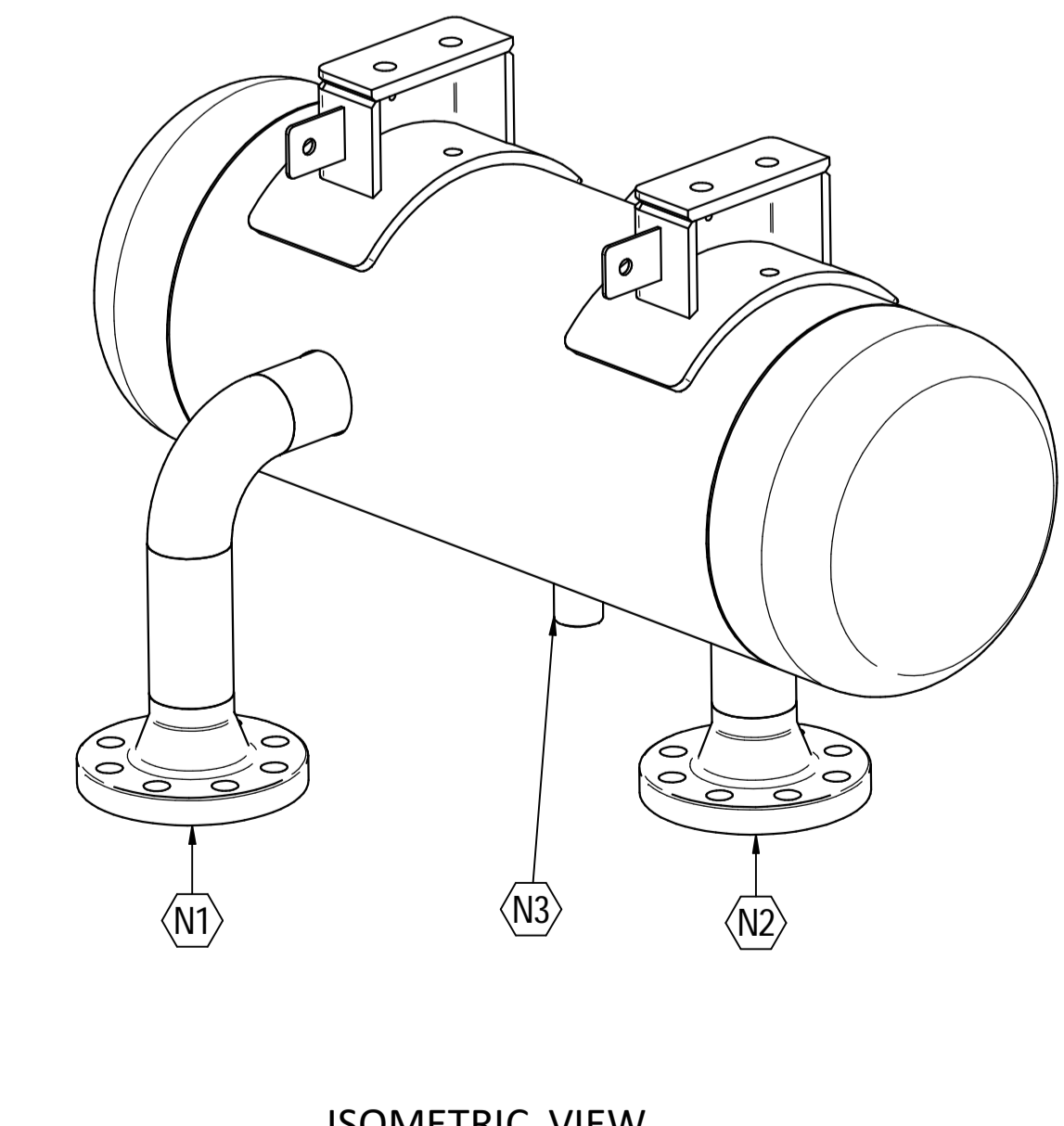
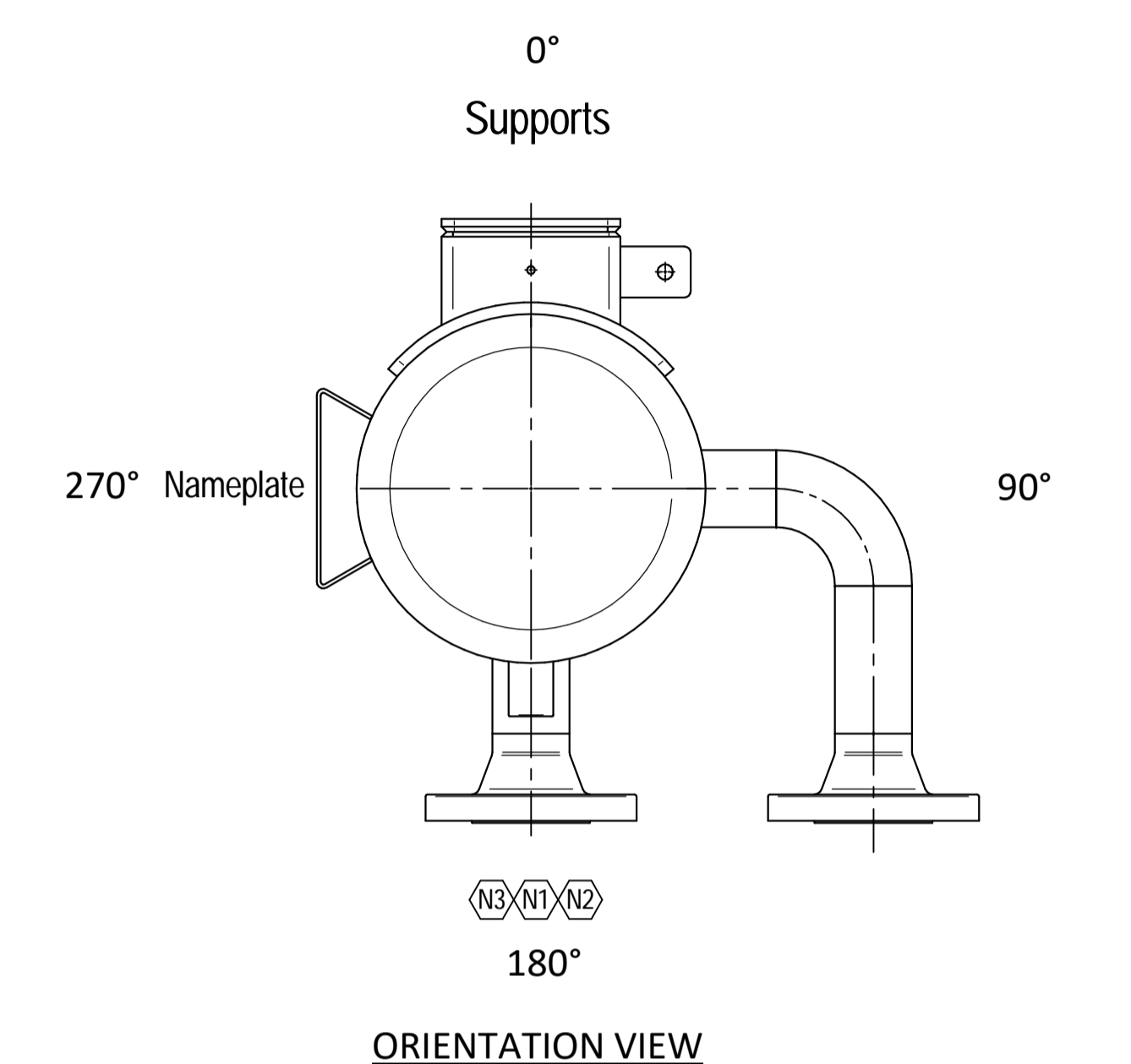
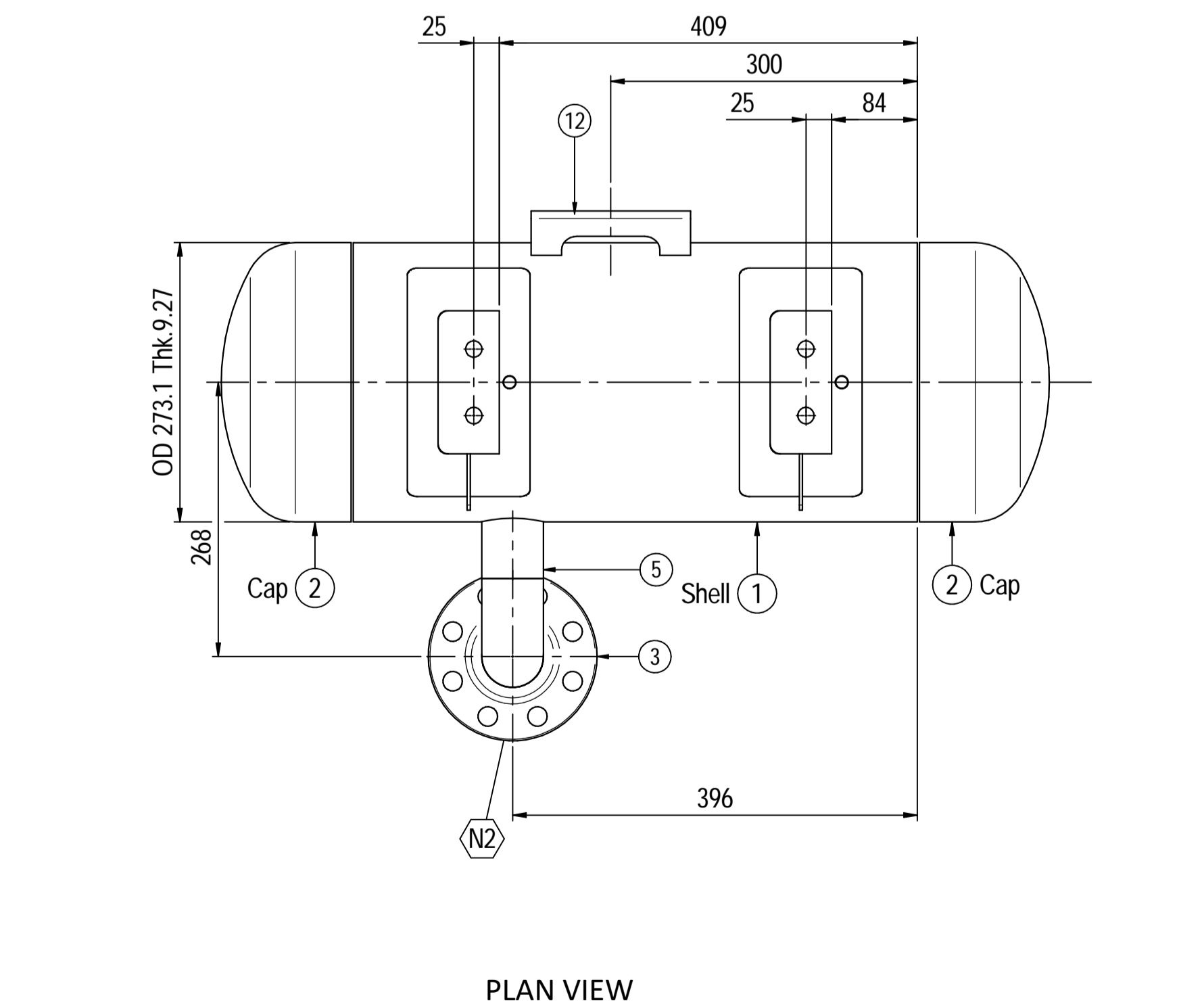
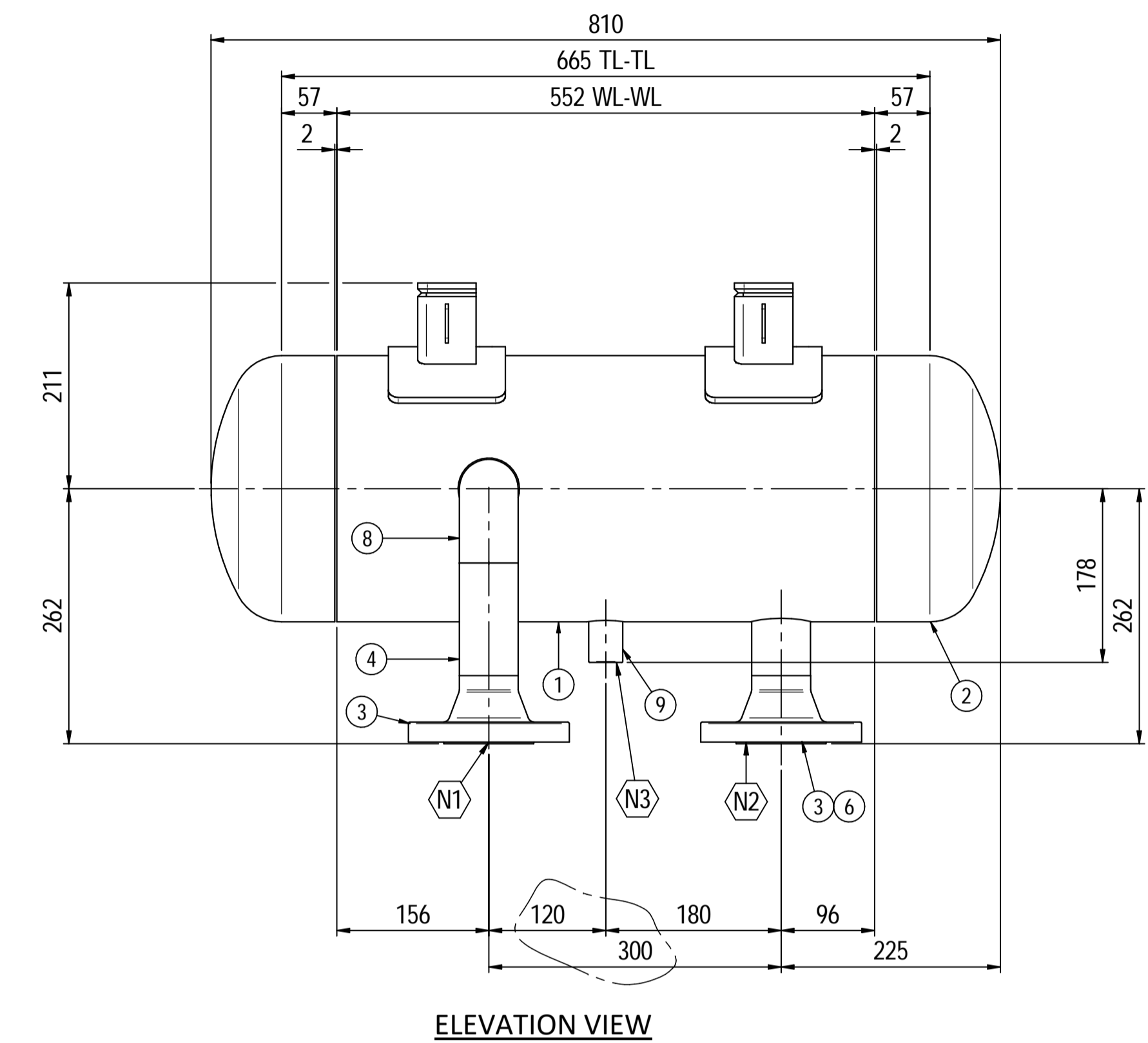
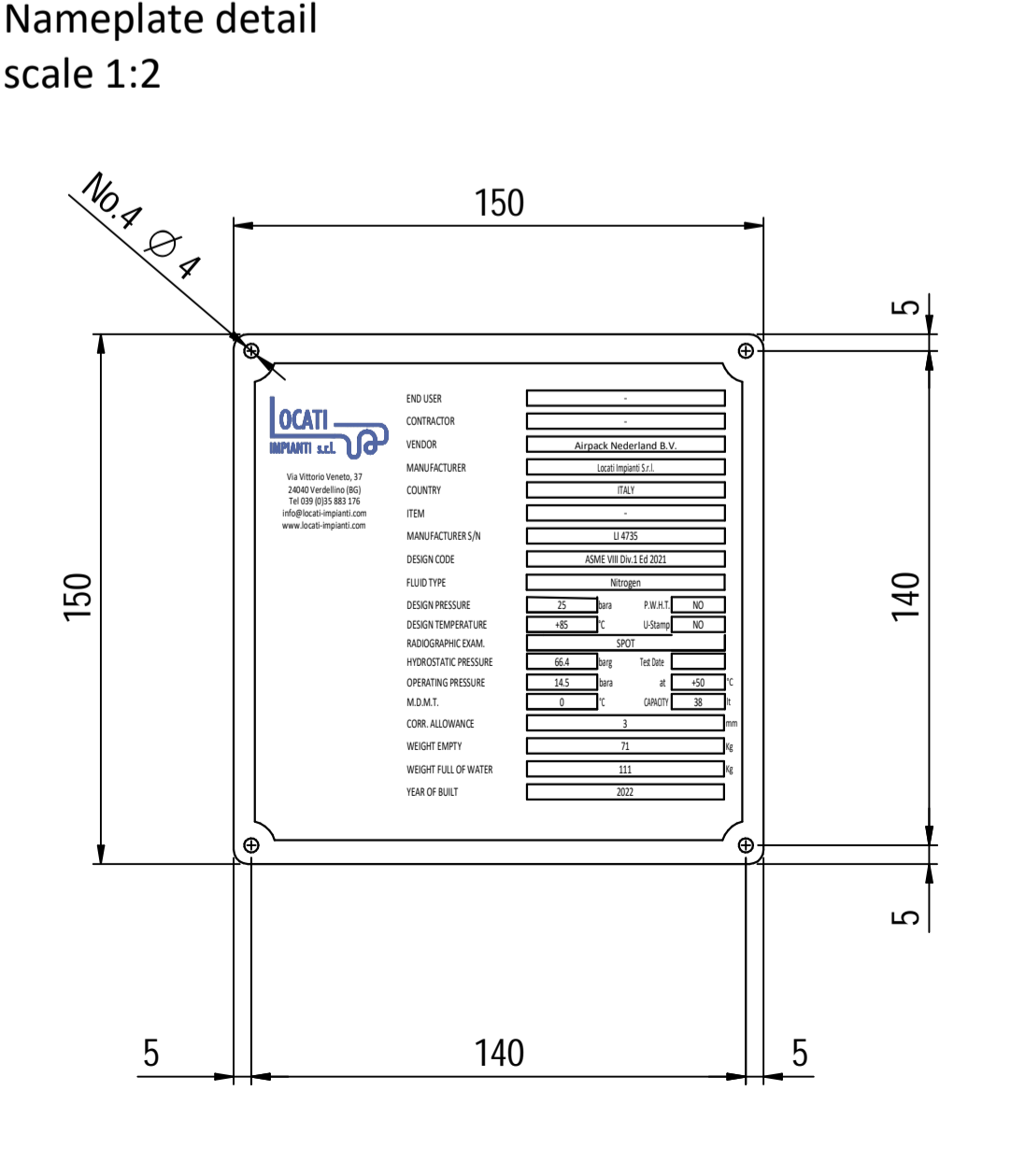
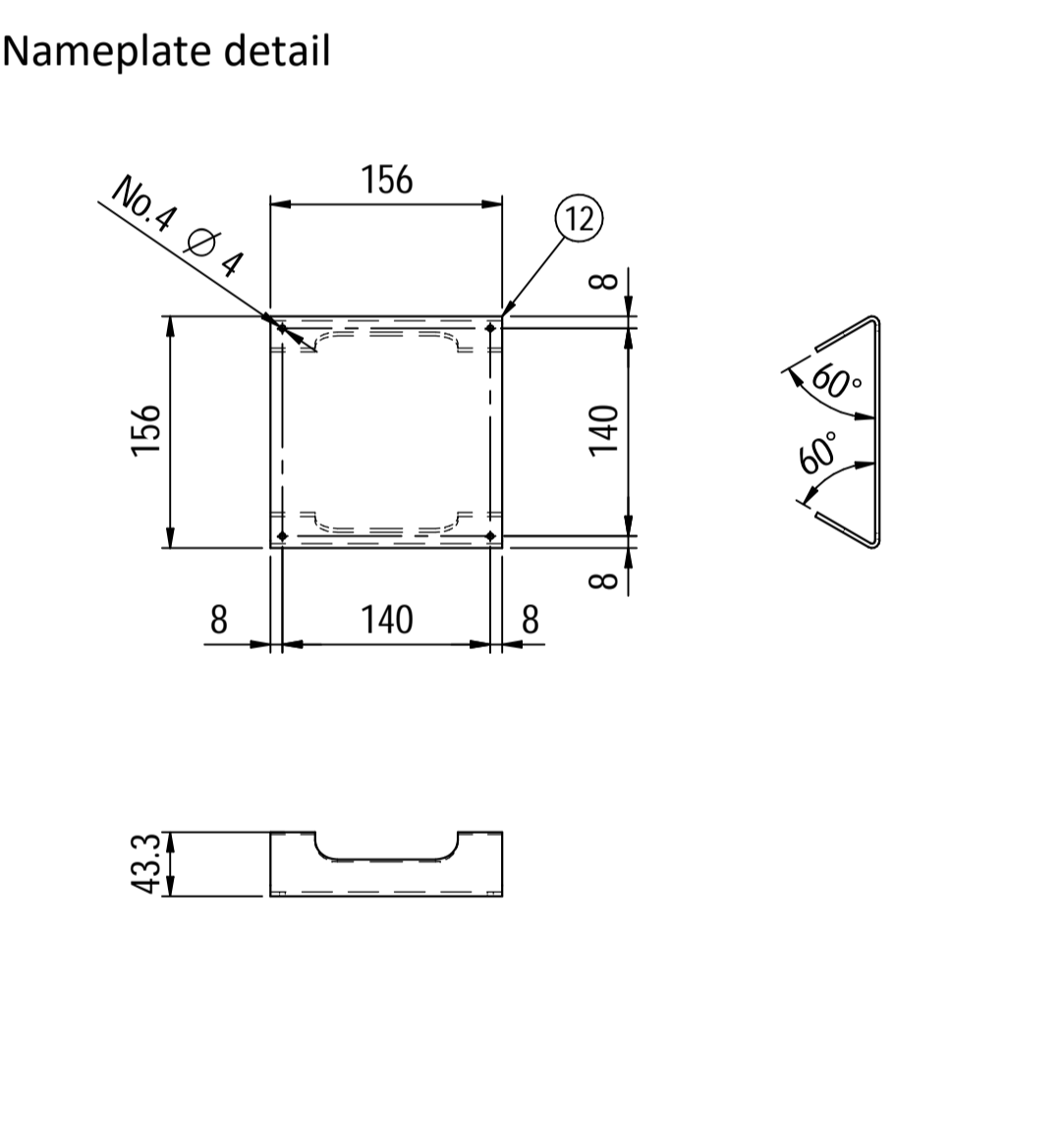
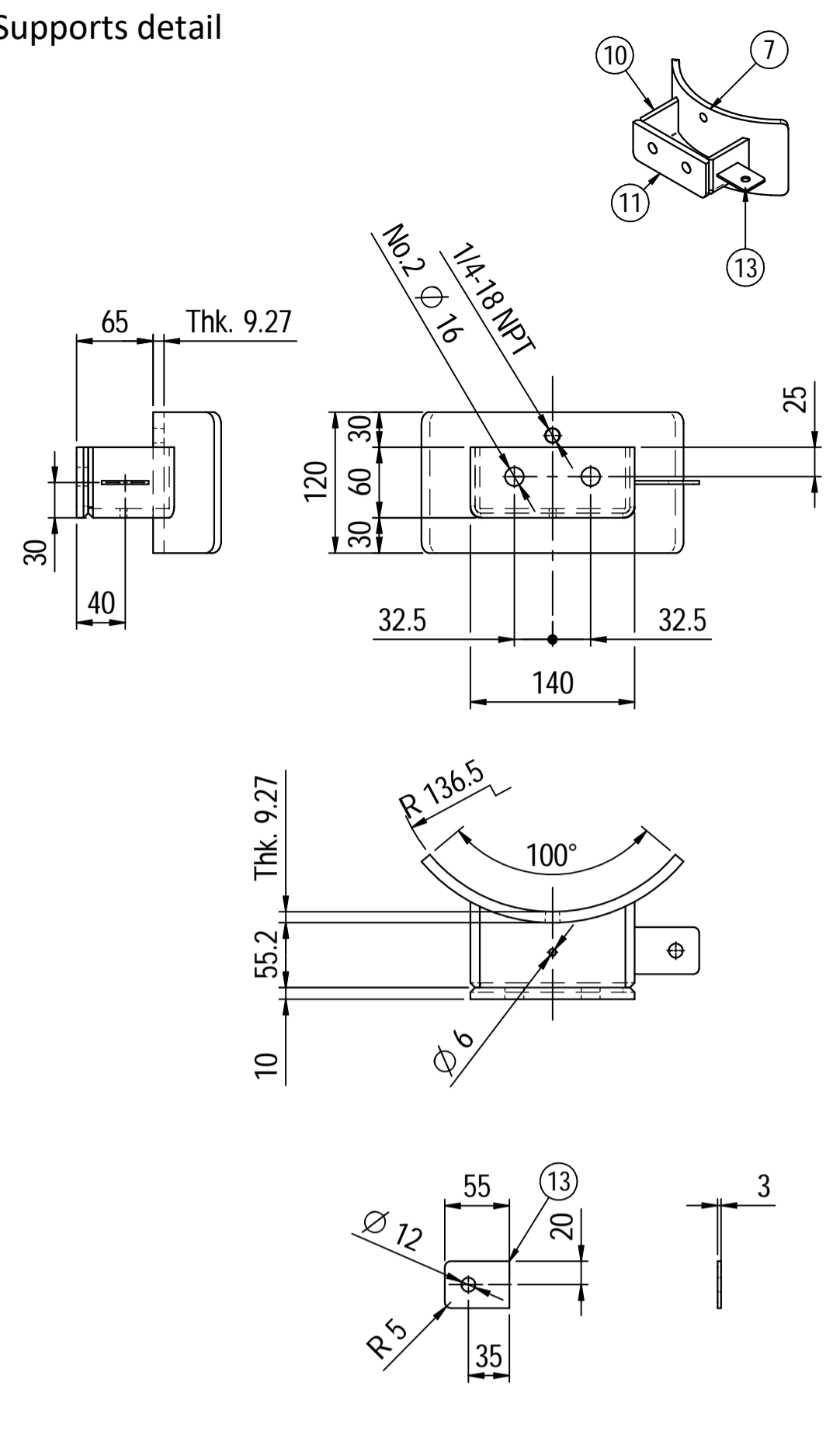
- Note:
- 1) Governing measurement S.I. unless otherwise specified;
  - 2) Flange bolt holes have to be straddled from main vessel center line in plan & vertical & horizontal centreline in elevation;
  - 3) Material: certification 3.1 EN 10204;
  - 4) All internal edge shall be rounded off;
  - 5) Nozzle flanges in accordance with ASME B16.5: 2013;
  - 6) Flange fittings in accordance with ASME B16.9: 2012;
  - 7) The flange dimensions are in accordance to ASME B16.5: 2013;
  - 8) All fillet welds not detailed on "WELDING MAP" or drawing shall have the weld; throated equal to 0,7 times the minimum thickness to be welded;
  - 9) All welds are continuous except where indicate;
  - 10) See document C220006CLC010 for vessel calculation.

ITEM	QTY	SERVICE	SIZE	PIPE O.D.	THK	RATING	FLANGE TYPE	FACE	PAD O.D.	THK.	Tc
N3	1	DRAIN	1/2"	38.1	8.38	#6000	-	NPT-F	-	-	8.5 ± 10
N2	1	AIR OUTLET	2"	60.3	8.74	#300	WN	RF	-	-	8.5 ± 10
N1	1	AIR INLET	2"	60.3	8.74	#300	WN	RF	-	-	8.5 ± 10

DATI DI PROGETTO / Design data			
FLUIDO	Nitrogen	COLLAUDO	Test
STATO FISICO DEL FLUIDO	Gas	NATIONAL BOARD REGISTRATION	NO
Physical state of fluid	Gas	NATIONAL BOARD REGISTRATION	NO
CODICE DI CALCOLO	ASME VIII Div. 1 Ed.2021	CANADIAN REGISTER NUMBER	NO
Construction code	ASME VIII Div. 1 Ed.2021	CANADIAN REGISTER NUMBER	NO
PRESSIONE DI ESERCIZIO	14.5 bara	SERVIZIO LETALE	NO
Operating pressure	14.5 bara	Letal service	NO
PRESSIONE DI PROGETTO	25 bara (24 barg)	R-RAY	RT examination
Design pressure	25 bara (24 barg)	R-RAY	RT examination
PRESSIONE ESTERNA	NO	LICUIDI PENE TRANTI	NO
External pressure	NO	Dye penetrant extension	NO
PRESSIONE DI PROVA IDRAULICA	66.4 barg	ULTRASUONI	NO
Hydraulic test pressure	66.4 barg	Ultrasonic extension	NO
TEMPERATURA DI ESERCIZIO	+134 °C	CONTROLLO MAGNETOSCOPICO	NO
Operating temperature	+134 °C	Magnetic particle examination	NO
TEMPERATURA DI PROGETTO	+170 °C	TALONE DI SALDATURA	NO
Design temperature	+170 °C	Weld tehs coupon	NO
SOVRAME TALLO DI CORROSIONE	3 mm	PROCEDIMENTO DI SALDATURA	See doc:C220006WBK013
Corrosion allowance	3 mm	Welding procedure	See doc:C220006WBK013
CAPACITA'	96 l	TIPO DI FONDO	CAP
Capacity	96 l	Head type	CAP
EFFICIENZA GIUNTI	0.85	FORMAZIONE FONDO	HOT
Joint efficiency	0.85	Head formed	HOT
MAWP @ Design Temperature	33.46 barg @ +170 °C	PESO A VUOTO	116 kg
MAWP(EXT)	NO	PESO IN ESERCIZIO	116 kg
MDMT @ MAWP	0 °C @ 33.46 barg	PESO PIENO D'ACQUA	214 kg
TRATTAMENTO TERMICO	NO	DATI DEL VENTO	-
P.W.H.T.	NO	Wind datas	-
IMPACT TEST	NO	DATI SISMICI	-
Exemption	NO	Seismological datas	-

Rev.	Descrizione / Description	Disegnato/Draw	Controllato/Checked	Approvato/Approved	Data/Date
06	as built	CM	MV	GL	25/04/2022
04	Modified as per Client comments	CM	MV	GL	16/06/2022
03	Modified as per Customer comments	CM	MV	GL	11/05/2022
02	Aligned design pressure with datum	CM	MV	GL	15/04/2022
01	Modified strength lenght on cap	CM	MV	GL	30/03/2022
00	FIRST ISSUE	CM	MV	GL	16/03/2022

Oggetto/Object			
N2 PULSATION DAMPER 1st STAGE DISCHARGE			
Scala/Scale	1 : 5	Formato/Size	A1
Comm. N°/Job No.	C220006	Foglio/Sheet	1 - 1
Cliente/Customer	Airpack Nederland B.V.		
Ord. No.	18498-VV-0901		
Dis. N°/Dwg No.	C220006DWG004	Rev.	06



Material List					
Pos.	Q.ty	Description	Mat.	Cert.	
1	1	Shell by seamless pipe 10" Sch.STD L=552	SA106 Gr.B	3.1	
2	2	Cap 10" Sch40	A234 WPB	3.1	
3	2	Flange 2" WN #300 RF Sch.160	A105	3.1	
4	1	Seamless pipe 2" Sch160 L=115.5	A106 GrB	3.1	
5	1	Seamless pipe 2" Sch160 L=69	A106 GrB	3.1	
6	1	Seamless pipe 2" Sch160 L=68	A106 GrB	3.1	
7	2	Pad by pipe 10" Sch.STD	A106 Gr.B	3.1	
8	1	Seamless elbow 2" 90° LR Sch160	A234 WPB	3.1	
9	1	Coupling 1/2" NPT #6000	A105	3.1	
10	2	Plate 74.5x231 Thk.8	A516 70	3.1	
11	2	Plate 16x65 Thk.10	A516 70	3.1	
12	1	Nameplate support 156x241 Thk.3mm	A516 70	3.1	
13	2	Earthing Plate 55 x 40 Thk.3	A240 TP316L	3.1	

ITEM	QTY	SERVICE	SIZE	O.D.	THK	RATING	TYPE	FACE	O.D.	THK.	Tc
N3	1	DRAIN	1/2"	38.1	8.38	#6000	-	NPT-F	-	-	8.5 ± 10
N2	1	AIR OUTLET	2"	60.3	8.74	#300	WN	RF	-	-	8.5 ± 10
N1	1	AIR INLET	2"	60.3	8.74	#300	WN	RF	-	-	8.5 ± 10

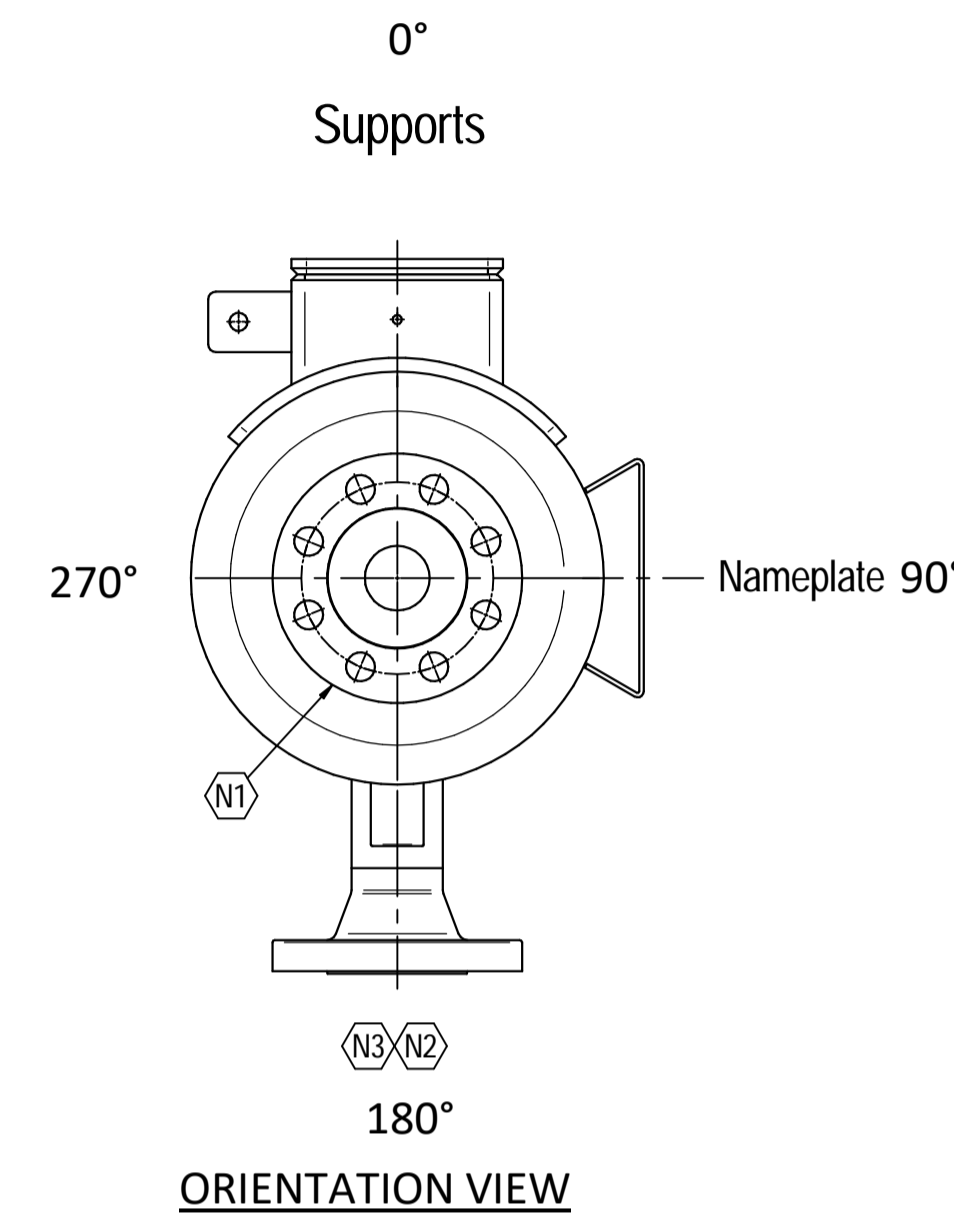
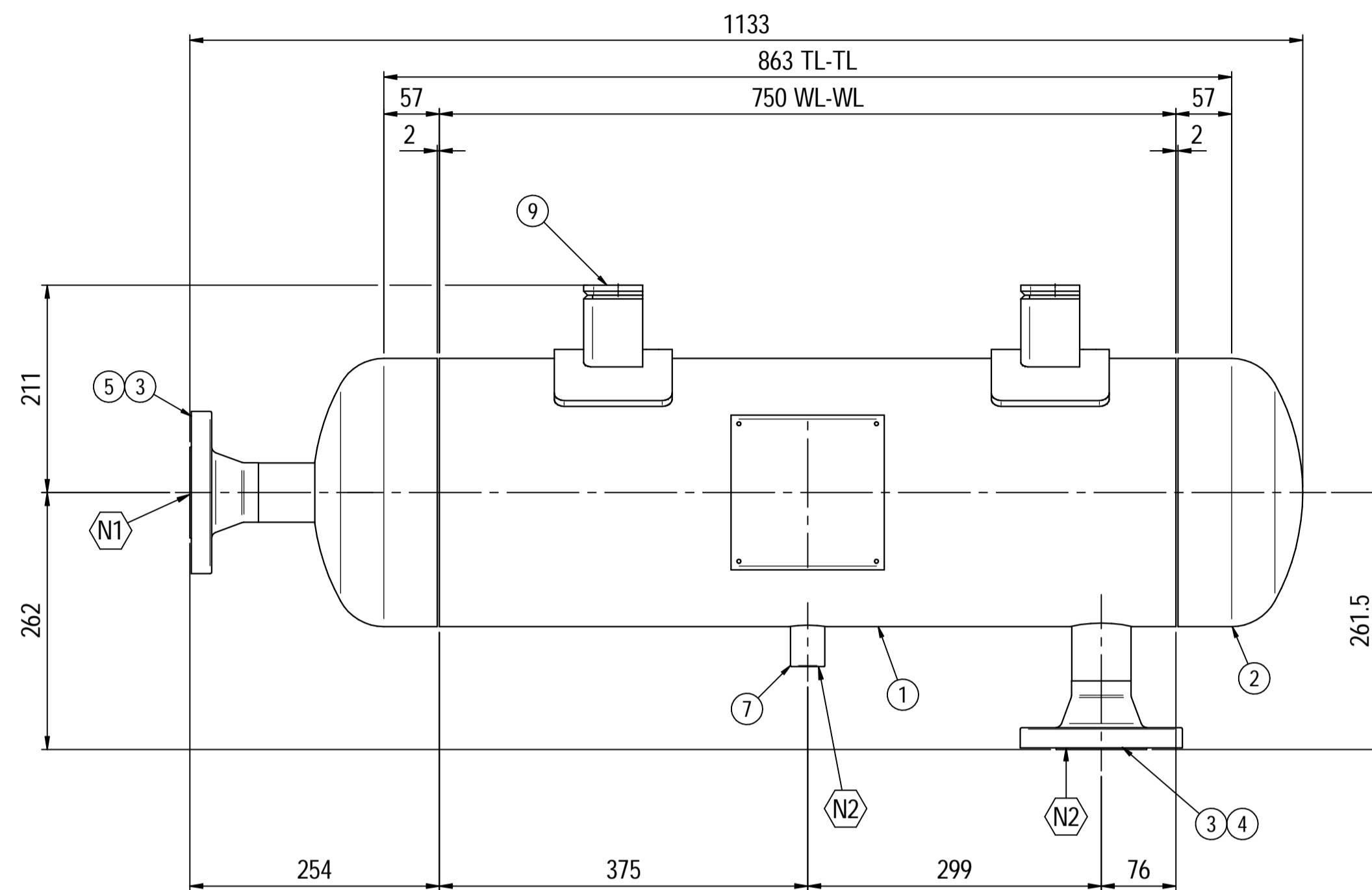
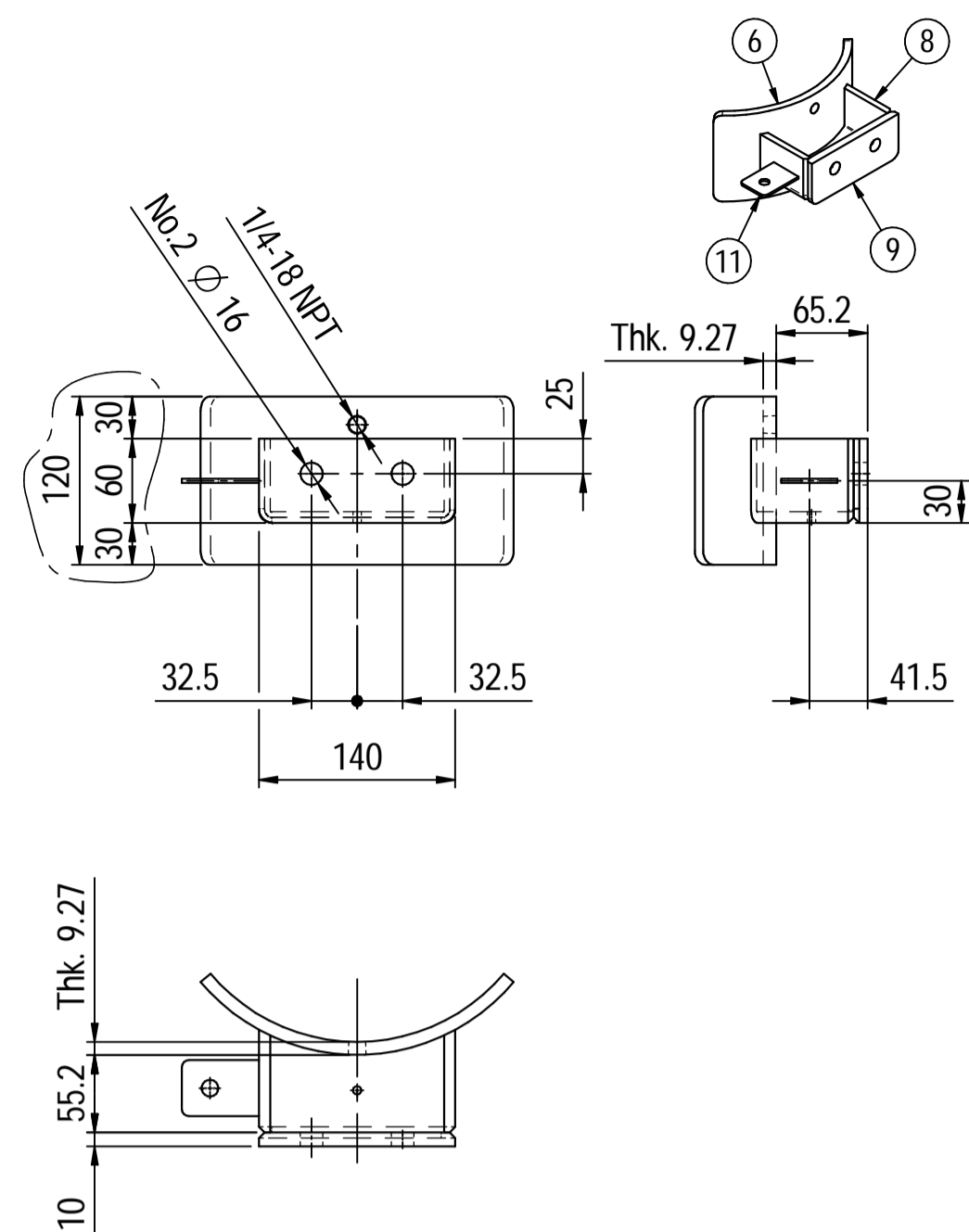
Note:  
 1) Governing measurement S.I. unless otherwise specified;  
 2) Flange bolt holes have to be straddled from main vessel center line in plan & vertical & horizontal centreline in elevation;  
 3) Material: certification 3.1 EN 10204;  
 4) All internal edge shall be rounded off;  
 5) Nozzle flanges in accordance with ASME B16.5: 2013;  
 6) Flange fittings in accordance with ASME B16.9: 2012;  
 7) The flange dimensions are in accordance to ASME B16.5: 2013;  
 8) All fillet welds not detailed on "WELDING MAP" or drawing shall have the weld; throated equal to 0,7 times the minimum thickness to be welded;  
 9) All welds are continuous except where indicate;  
 10) See document C220006CLC011 for vessel calculation.

DATI DI PROGETTO / Design data											
FLUIDO	Nitrogen	COLLAUDO	Test	Lloyd Register							
STATO FISICO DEL FLUIDO	Gas	NATIONAL BOARD REGISTRATION	NO								
CODICE DI CALCOLO	ASME VIII Div. 1 Ed.2021	CANADIAN REGISTER NUMBER	NO								
PRESSIONE DI ESERCIZIO	14.5 bara	SERVIZIO LETALE	NO								
PRESSIONE DI PROGETTO	25 bara (24 barg)	X-RAY	RT examination	Spot (RT3)							
PRESSIONE ESTERNA	NO	LIQUIDI PENETRANTI	NO								
PRESSIONE DI PROVA IDRAULICA	66.4 barg	ULTRASUONI	Ultrasonic extension	NO							
TEMPERATURA DI ESERCIZIO	+50 °C	CONTROLLO MAGNETOSCOPICO	Magnetic particle examination	NO							
TEMPERATURA DI PROGETTO	+85 °C	TALONE DI SALDATURA	Weld test coupon	NO							
SOVRAME TALLO DI CORROSIONE	3 mm	PROCEDIMENTO DI SALDATURA	Welding procedure	See doc: C220006WBK013							
CAPACITA'	38 l	TIPO DI FONDO	Head type	CAP							
EFFICIENZA GIUNTI	0.85	FORMAZIONE FONDO	Head forms	HOT							
MAWP @ Design Temperature	38.12 bar @ +85 °C	PESO A VUOTO	Empty weight	71 kg							
MAWP(EXT)	NO	PESO IN ESERCIZIO	Operating weight	71 kg							
MDMT @ MAWP	0 °C @ 38.12 bar	PESO PIENO D'ACQUA	Full water weight	111 kg							
TRATTAMENTO TERMICO	NO	DATI DEL VENTO	Wind datas								
IMPACT TEST	NO	DATI SISMICI	Seismological datas								

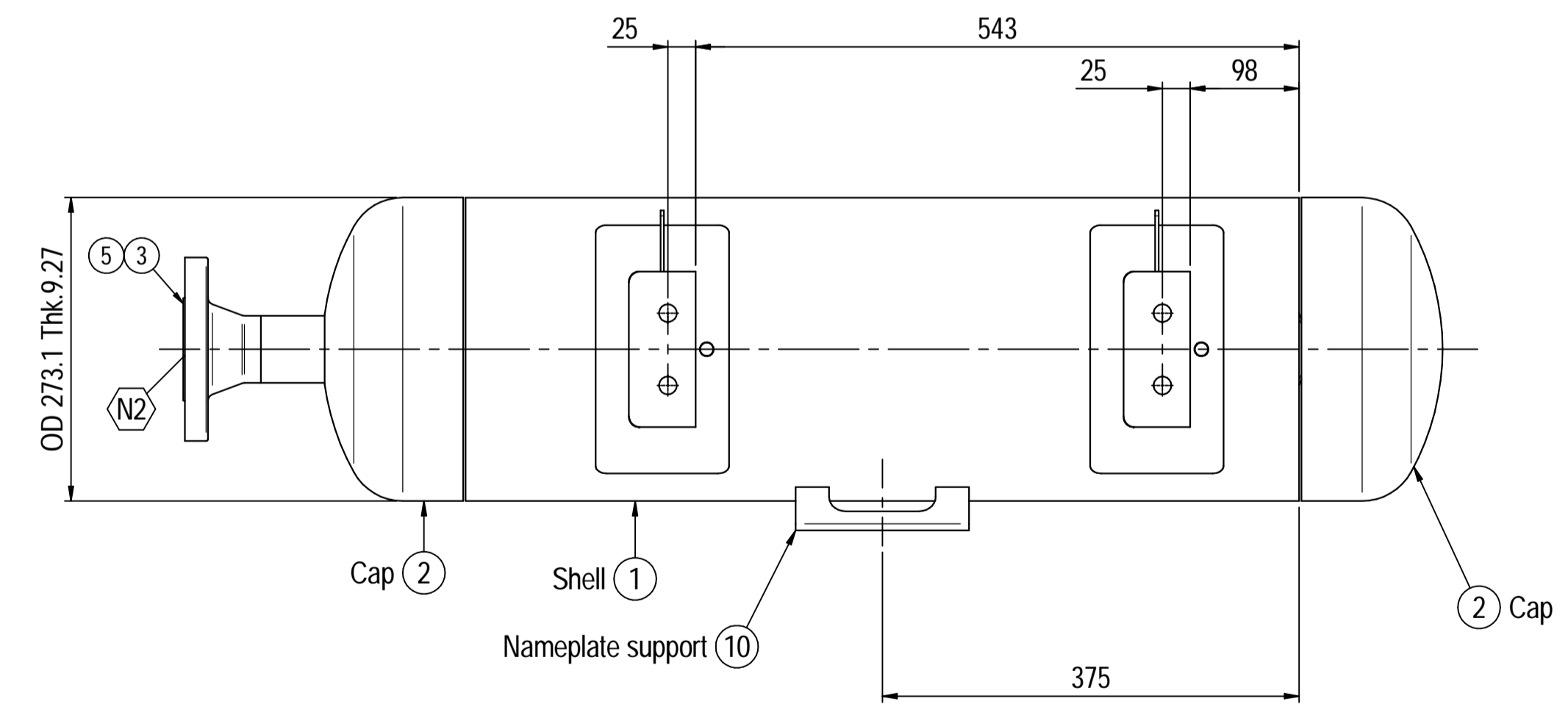
Rev.	Descrizione / Description	Disegnato/Draw	Controllato/Checked	Approvato/Approved	Data/Date
06	as built	CM	MV	GL	25/04/2022
04	Modified as per Client commnets	CM	MV	GL	11/05/2022
03	Modified as per Client commnets	CM	MV	GL	15/04/2022
02	Modified as per Customer commnets	CM	MV	GL	02/04/2022
01	Modified shell length	CM	MV	GL	30/03/2022
00	FIRST ISSUE	CM	MV	GL	16/03/2022

Oggetto/Object: N2 PULSATION DAMPER 2nd STAGE SUCTION  
 Scala/Scale: 1 : 5  
 Comm. N°/Job No.: C220006  
 Cliente/Customer: Airpack Nederland B.V.  
 Ord. No.: 18498-VV-0901  
 Dis. N°/Dwg No.: C220006DWG005  
 Rev.: 06

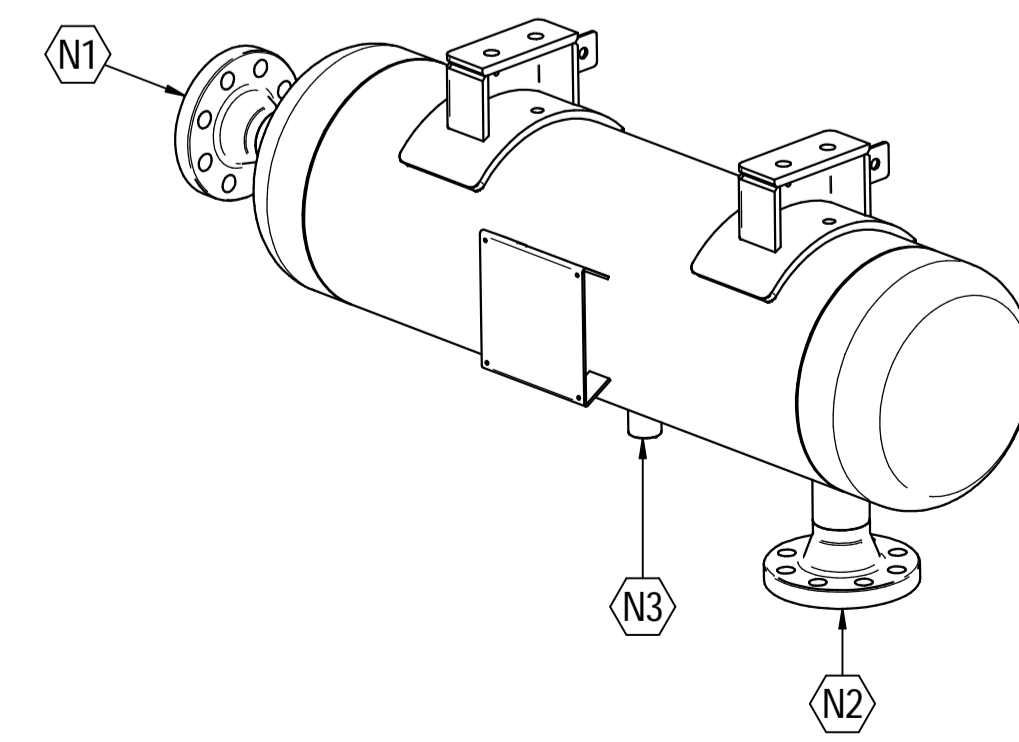
Supports detail



ELEVATION VIEW

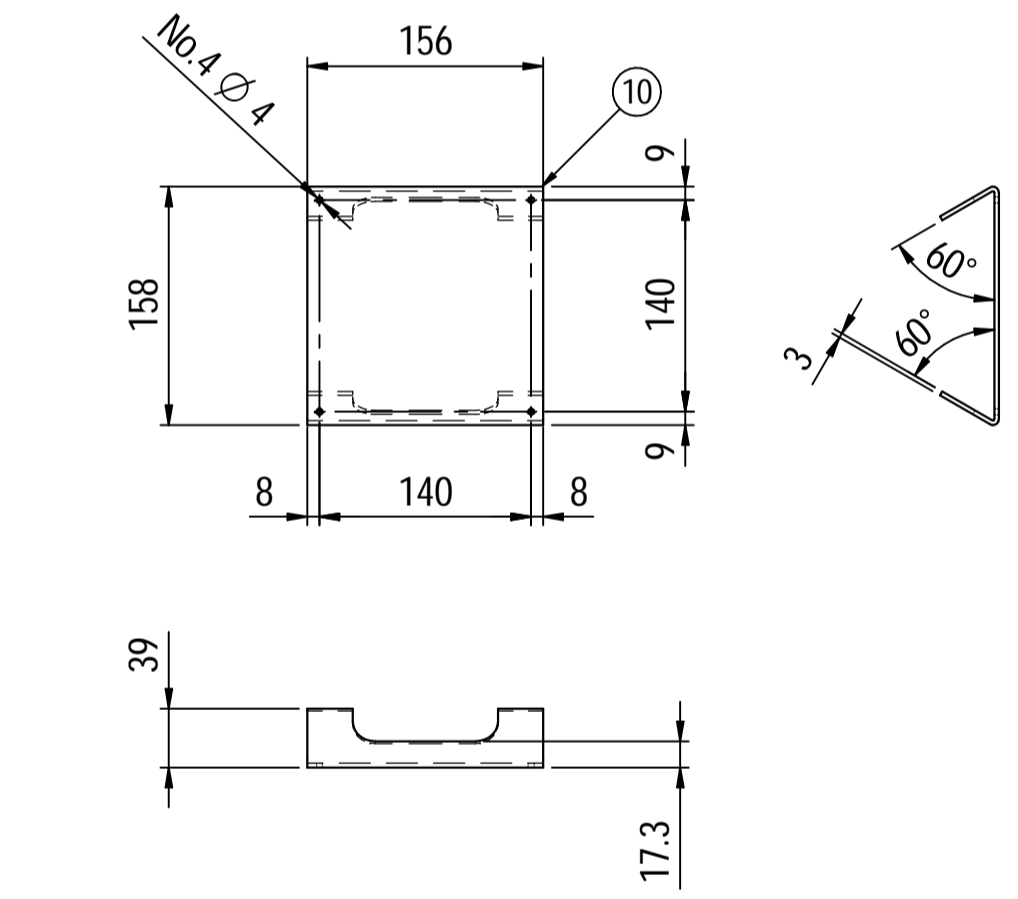


PLAN VIEW

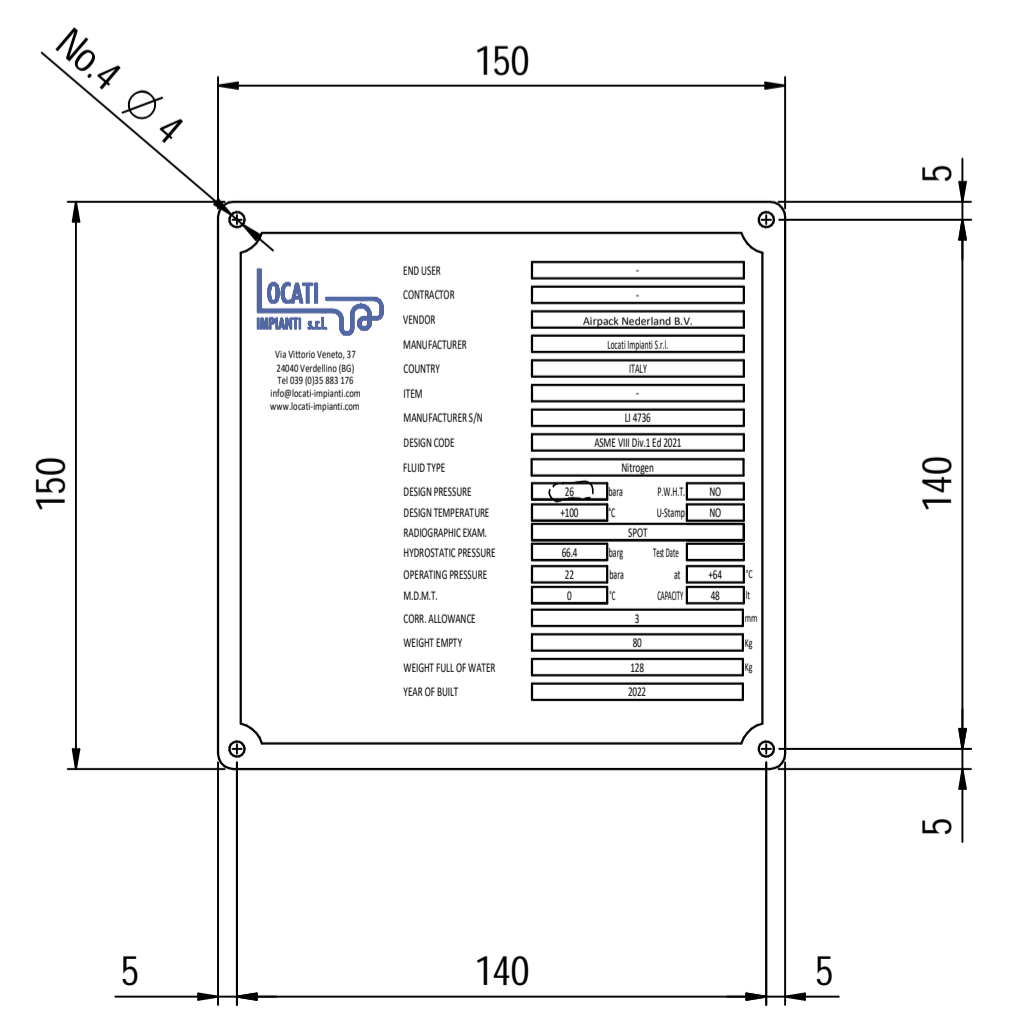


ISOMETRIC VIEW scale 1:8

Nameplate detail



Nameplate detail scale 1:2



Material List				
Pos.	Q.ty	Description	Mat.	Cert.
1	1	Shell by seamless pipe 10" Sch.STD L=750	SA106 Gr.B	3.1
2	2	Cap 10" Sch40	A234 WPB	3.1
3	2	Flange 2" WN #300 RF Sch.160	A105	3.1
4	1	Seamless pipe 2" Sch160 L=68	A106 GrB	3.1
5	1	Seamless pipe 2" Sch160 L=65	A106 GrB	3.1
6	2	Pad by pipe 10" Sch.STD	A106 Gr.B	3.1
7	1	Coupling 1/2" NPT #6000	A105	3.1
8	2	Plate 74.5x231 Thk.8	A516 70	3.1
9	2	Plate 16x65 Thk.10	A516 70	3.1
10	1	Nameplate support 234 x 156 thk3mm	S275 JR	3.1
11	2	Earthing Plate 55 x 40 Thk.3	A240 TP316L	

Note:  
 1) Governing measurement S.I. unless otherwise specified;  
 2) Flange bolt holes have to be straddled from main vessel center line in plan & vertical & horizontal centreline in elevation;  
 3) Material: certification 3.1 EN 10204;  
 4) All internal edge shall be rounded off;  
 5) Nozzle flanges in accordance with ASME B16.5: 2013;  
 6) Flange fittings in accordance with ASME B16.5: 2012;  
 7) The flange dimensions are in accordance to ASME B16.5: 2013;  
 8) All fillet welds not detailed on "WELDING MAP" or drawing shall have the weld; throated equal to 0,7 times the minimum thickness to be welded;  
 9) All welds are continuous except where indicate;  
 10) See document C220006CLC012 for vessel calculation.

ITEM	QTY	SERVICE	SIZE	O.D.	THK	RATING	TYPE	FACE	O.D.	THK.	Tc
N3	1	DRAIN	1/2"	38.1	8.38	#6000	-	NPT-F	-	-	8.5 + 10
N2	1	AIR OUTLET	2"	60.3	8.74	#300	WN	RF	-	-	8.5 + 10
N1	1	AIR INLET	2"	60.3	8.74	#300	WN	RF	-	-	8.5 + 10

DATI DI PROGETTO / Design data			
FLUIDO	Nitrogen	COLLAUDO	Test
STATO FISICO DEL FLUIDO	Gas	NATIONAL BOARD REGISTRATION	NO
CODICE DI CALCOLO	ASME VIII Div. 1 Ed.2021	CANADIAN REGISTER NUMBER	NO
PRESSIONE DI ESERCIZIO	23 bara	SERVIZIO LETALE	NO
PRESSIONE DI PROGETTO	(26bara (25 barg))	X-RAY	RT examination
PRESSIONE ESTERNA	NO	LICUIDI PENETRANTI	NO
PRESSIONE DI PROVA IDRAULICA	66.4 barg	Dye penetrant extension	NO
TEMPERATURA DI ESERCIZIO	+83 °C	ULTRASUONI	NO
TEMPERATURA DI PROGETTO	+100 °C	ULTRASONIC extension	NO
SOVRAMETALLO DI CORROSIONE	3 mm	CONTROLLO MAGNETOSCOPICO	NO
CAPACITA'	48 l	Magnetic particle examination	NO
EFFICIENZA GIUNTI	0.85	WELD TESTS	NO
WAWP @ Design Temperature	38.12 barg @ +100 °C	PROCEDIMENTO DI SALDATURA	See doc: C220006WBK013
WAWP(EXT)	NO	Welding procedure	
MDMT @ WAWP	0 °C @ 38.12 barg	TIPO DI FONDO	CAP
TRATTAMENTO TERMICO	NO	Head type	
IMPACT TEST	NO	FORMAZIONE FONDO	HOT
		Head form	
		PESO A VUOTO	80 kg
		PESO IN ESERCIZIO	80 kg
		PESO PIENO D'ACQUA	128 kg
		Wind data	
		Seismological data	

Rev.	Descrizione / Description	Disegnato/Draw	Controllato/Checked	Approvato/Approved	Data/Date
06	as built	CM	MV	GL	25/04/2022
04	Modified design pressure	CM	MV	GL	03/06/2022
03	Modified as per Client comments	CM	MV	GL	11/05/2022
02	Modified as per Client comments	CM	MV	GL	15/04/2022
01	Modified shell length	CM	MV	GL	30/03/2022
00	FIRST ISSUE	CM	MV	GL	16/03/2022