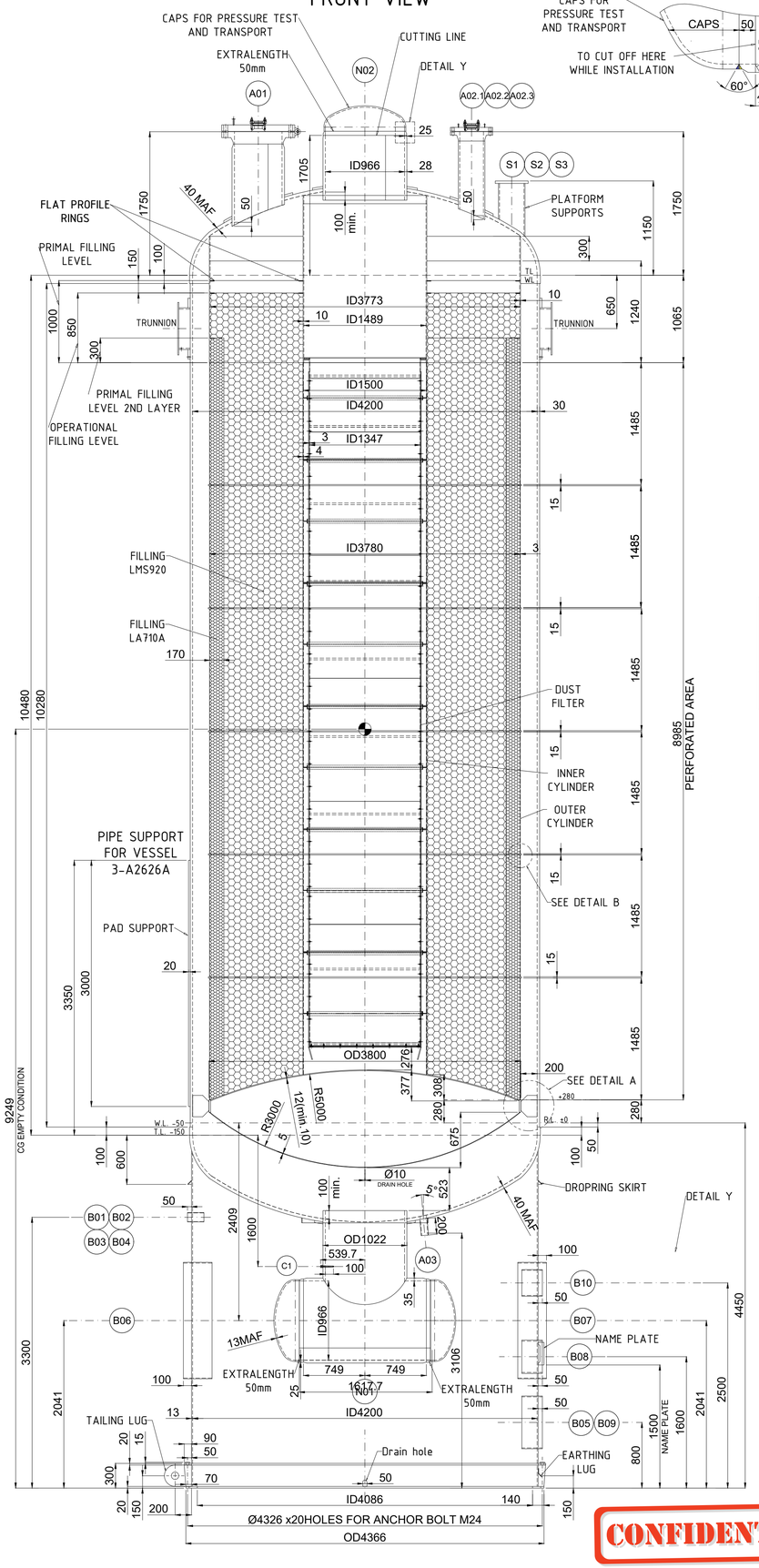
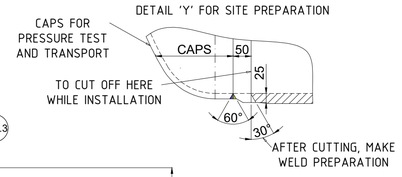
REFERENCE - SAMPLE

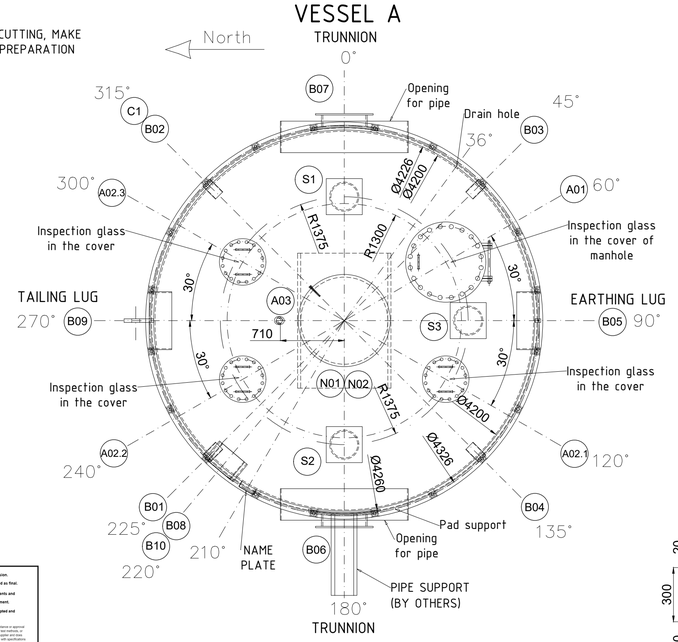
FRONT VIEW



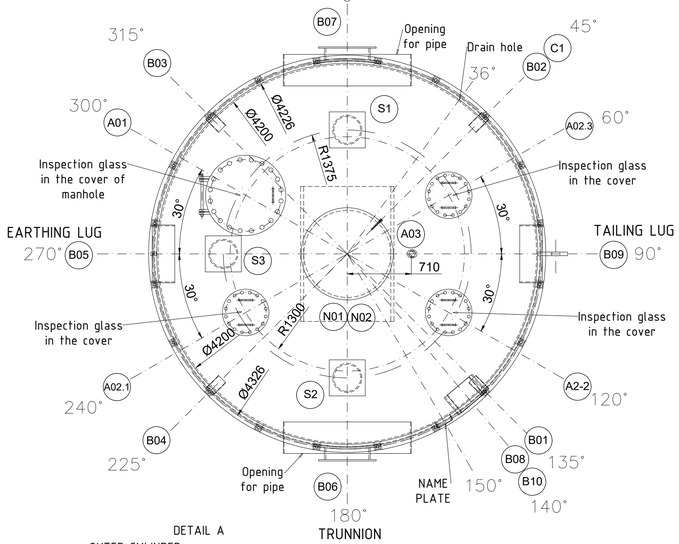
DETAIL 'Y' FOR SITE PREPARATION



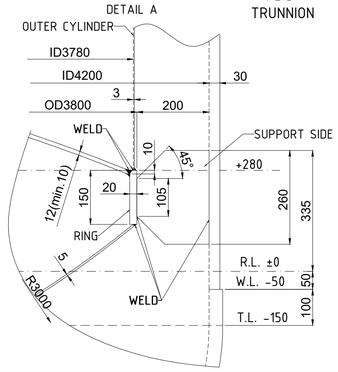
REAL ORIENTATION VESSEL A



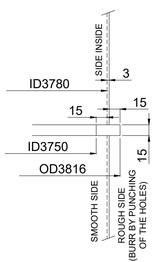
REAL ORIENTATION VESSEL B



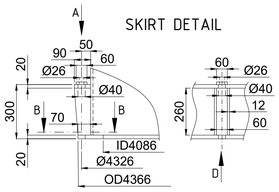
DETAIL A



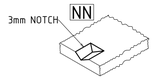
DETAIL B OUTER CYLINDER PERFORATED PLATES



SKIRT DETAIL



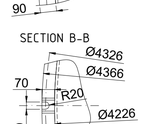
MARK ON BASE PLATE ON SUPPORT SKIRT



NOTCH IN NORTH DIRECTION

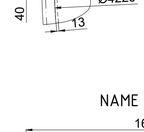
MARK NORTH DIRECTION CLEARLY WITH ARROW AND LETTER "N" IN BLACK PAINT

VIEW A

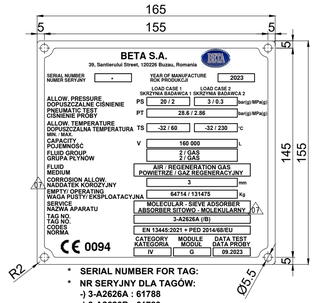


VIEW D

SECTION B-B



NAME PLATE



* **SERIAL NUMBER FOR TAG:**
* **NR SERYJNY DLA TAGÓW:**
-) **3-A2626A : 61788**
-) **3-A2626B : 61789**

TECHNICAL CHARACTERISTICS AND OPERATING DATA

NAME		MEAS. UNIT	VALUE
DESIGN CONDITION	CASE 1 ADSORPTION	bar(g)/MPa(g)/°C	20 / 2 / 60
	CASE 2 REGENERATION	bar(g)/MPa(g)/°C	3 / 0.3 / 230
	CASE 3 EXCEPTIONAL CASE ACC. EN13445-3, 5.3.2.2	bar(g)/MPa(g)/°C	20 / 2 / 230
	M.A.W.P. AT DESIGN TEMP. - Ps	bar(g)/MPa(g)	20 / 2
	M.D.M.T. AT DESIGN PRESURE	°C	-32
OPERATING CONDITION	ADSORPTION	bar(g)/MPa(g)/°C	16.45 / 1.645 / 32
	REGENERATION	bar(g)/MPa(g)/°C	0.1 / 0.01 / 200
	PRESSURE (TOP)	bar(g)/MPa(g)	16.45 / 1.645
	TEMPERATURE (TOP) max.	°C	200
	TOTAL NUMBER OF LOAD CYCLES	-	31 500 IN 25 YEARS*
FLUID	FLUID GROUP	-	2
	STATE OF FLUID	-	GAS
	MEDIUM	-	AIR / REGENERATION GAS
CORROSION ALLOWANCE	SHELL, HEADS & NOZZLES	mm	3
WIND, EARTHQUAKE, SNOW CONDITIONS	WIND ACC. TO PN EN 1991-1-4	m/s	22 (SEE NOTE 2)
	EARTHQUAKE	-	N.A.
	SNOW ACC. TO PN EN 1991-1-3	kN/m²	0.9 (SEE NOTE 3)
LIFETIME		years	25
CAPACITY		Liters/m³	160 000 / 160

* Checked by Linde, acc. to doc. Dimensioning of Molecular Sieve Adsorbers according to EN 13445-3 &ASU-(3-2626)-B-CE 1001 (EN)

REFERENCE DOCUMENTS

DOCUMENT NAME	LINDE DOCUMENT NUMBER	BETA DOCUMENT NUMBER
GENERAL ARRANGEMENT DRAWING	&VD_(3-2626)_B-ZA_1001 (EN)	U804-679.00
DETAILS DRAWING & BILL OF MATERIAL	&VD_(3-2626)_B-ZE_1002 (EN)	U804-679.01
INTERNALS DRAWING & BILL OF MATERIAL	&VD_(3-2626)_B-ZE_1001 (EN)	U804-679.02 (SH.1&2)
TEMPLATE DRAWING	&VD_(3-2626)_B-ZE_1004 (EN)	U804-679.TD
SHIPPING DRAWING	&VD_(3-2626)_B-ZT_1001 (EN)	U804-679.SD
STRENGTH CALCULATION	&ASU_(3-2626)_B-CE_1003 (EN)	U804-679.MC
WELDING BOOK	&VD_(3-2626)_T-SV_1001 (EN)	WB-1498

TECHNICAL REQUIREMENTS

APPLICABLE CODES, STANDARDS AND SPECIFICATIONS		EN 13445:2021 CE MARKING ACC. TO PED 2014/68/EU DIRECTIVE
CATEGORY CONFORMITY MODULE		IV G
INSPECTION		CLIENT / NOBO: LRQA
DESIGN CALCULATION		U804-679.MC &ASU_(3-2626)_B-CE_1003 (EN)
BUTT WELDS	JOINT EFFICIENCY	1
	NON-DESTRUCTIV EXAM.	U804-679.NDE
	RADIOGRAPHYC EXAM.	100%
PNEUMATIC TEST	VALUE	28.6 bar(g) / 2.86 MPa(g)
	DURATION (min.)	30'
POST WELD HEAT TREATMENT		YES*
INSULATION THICKNESS / TYPE		N.A.
SURFACE PREPARATION / PAINTING		SANDBLASTING & COATING SYSTEM C5 ACC. STD. LS 148-06

*POST WELD HEAT TREATMENT APPLICABLE ONLY FOR HEADS

MATERIALS

PART NAME		MAT.SPEC & GRADE
SHELL & DISHED HEAD		P355NL1 EN 10028-3
FORGING		P355QH1 EN 10222-4
FLANGES		P355QH1 EN 10222-4
NOZZLES NECK (PIPE)		P355NL1 EN 10216-3
SKIRT SUPPORT		P355NL1 EN 10028-3
EXT.&INT. WELDED ATTACHTS.		P355NL1 EN 10028-3
INTERNAL PERFORATED PLATES	OUTER CYLINDER	STAINLESS STEEL
	INNER CYLINDER	P355NL1 EN 10028-3
NAME PLATE		SS
EARTHING LUG		SS
BOLTS & NUTS		25CrMo4 GALVANIZED
SPIRAL WOUND GASKETS		SS/GRAPHITE
ANCHOR BOLTS		25CrMo4 HDG M24 BY OTHERS

WEIGHTS - ESTIMATED / 1 PIECE OF VESSEL

EMPTY WEIGHT WITHOUT REMOV. INTERNALS	55 790 Kg
INTERNALS	8 924 Kg
WEIGHT OF FILLING	66 761 Kg
OPERATING WEIGHT	131 475 Kg
SHOP TEST WEIGHT-PNEUMATIC FABRICATED WT.+ INTERNALS+AIR	64 714 Kg

NOZZLES TABLE

NOZZLE MARK.	QTY (PCS.)	SERVICE	SIZE	FLANGE RATING	FLANGE TYPE	FLANGE FACING	FLANGE STANDARD	NOZZLE NECK O.D.xTHK.	REINF. PAD (ODxTHK.)	L.TH.	REM.
N01	1	AIR INLET/REG. GAS OUTLET	DN1000	BUTT WELD END			-	Ø1022x28	Ø1226x25	1660	-
N02	1	AIR OUTLET/REG. GAS INLET	DN1000	BUTT WELD END			-	Ø1022x28	Ø1282x25	1705	-
A01	1	MANHOLE WITH SIGHT GLASS	DN600	PN40	11	B1	EN 1092-1	Ø640x30	Ø842x25	1750	BLIND
A02.1, A02.2, A02.3	3	FILLING WITH SIGHT GLASS	DN300	PN40	11	B1	EN 1092-1	Ø323.9x17.5	Ø525x25	1750	BLIND
A03	1	DRAIN	DN80	BUTT WELD END			-	Ø88.9x6.3	-	-	-
C1	1	TE2601 / TE2602	G1/2"	THREADED END			-	SEE DWG.	-	-	-
SKIRT OPENING											
B01, B02, B03, B04	4	SKIRT VENT	DN100	-	-	-	-	Ø114.3x5	-	-	-
B05, B09	2	SKIRT ACCESS	DN600	-	-	-	-	Ø642x10	-	-	-
B06, B07	2	OPENING FOR PIPE	DN1400	-	-	-	-	Ø1420x10	-	-	-
B08	1	OPENING FOR DRAIN	DN400	-	-	-	-	Ø406.4x12.5	-	-	-
B10	1	OPENING FOR DRAIN	DN300	-	-	-	-	Ø323.9x8	-	-	-
PLATFORM SUPPORTS											
S1, S2, S3	3	PLATFORM SUPPORTS	DN300	-	-	-	-	Ø323.9x12.5	-	-	-

Comments:	Dpt.:	Date:
000	ENCS	21. Sep 2023
Name:	Paul Schuster	

NOTES:
1) ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE NOTED;
2) POLISH NATIONAL ANNEXURE PN EN 1991-1-4 FOR WIND LOADS & PN EN 1991-1-3 FOR SNOW LOADS.
3) ALL BOLT HOLES TO STRADDLE THE NATURAL CENTER LINES;
4) FLANGES SHALL BE AS PER EN1092-1, FLANGE FACE B1 RA 3.2÷12.5 MICRONS;
5) CLEANING: LINDE CLEANLINESS CLASS S3 BASED ON THE TECHNICAL SPECIFICATION;
PRESERVATION ACC. TO LS 148-05 REV.03 AND TECHNICAL SPECIFICATION;
6) TRANSPORT SADDLES/SUPPORTS TO BE USED DURING TRANSPORT;
7) DUE TO PROCESS REASONS, A WATER PRESSURE TEST IN THE FIELD IS NOT ALLOWED. ANY PRESSURE TEST OF THE VESSEL IN THE FIELD MUST BE PNEUMATIC;
8) GENERAL TOLERANCES ACC. TO LS201-02;
9) REQUIREMENTS FOR PRESSURE VESSELS UNDER CYCLIC PRESSURE SERVICE ACC. TO LS 201-05;
10) ALL REINFORCING PLATES SHOULD GET HOLES, THE VENT SHOULD BE CLOSED WITH HEXAGONAL HEAD PLUG 1/4"NPT;
11) OUTER AND INNER SIEVE MUST BE PRESTRESSED, VALUE FOR PRESTRESSING 12 MM ACC. TO &ASU (3-2626) B-SD 4200 (EN), ALL WELDING SEAMS SHALL BE WELDED WITH FULL PENETRATION AND SHALL BE FREE OF NOTCHES;
12) MAXIMUM ALLOWABLE OUT-OF-ROUNDNESS: 0.5%, MAXIMUM ALLOWABLE ROOF TOPPING (PEAKING): 3MM, MAXIMUM ALLOWABLE FLAT SPOTTING (BANDING): 3MM.
13) ALL WELDING SEAMS SHALL BE FULL PENETRATION WELDS AND MUST BE FREE OF NOTCHES (UNLESS SPECIFIED OTHERWISE).
14) ALL WELDING SEAMS OF STAINLESS STEEL INTERNALS SHALL BE FREE OF DISCOLORATION AND SHALL BE PICKLED/ GLASS BEAD BLASTED.
15) ALL LONGITUDINAL WELDS ON INNER SURFACE OF VESSEL MUST BE GROUND FLAT +40MM AT T-JOINTS. FOR MEASUREMENT OF ZERO POINT CHECK CIRCUMFERENTIAL WELDS INCLUDED.
LONGITUDINAL WELDS AND 40 MM EACH OF THE ADJACENT CIRCUMFERENTIAL WELDS (JOINTS SHALL BE GROUND FLUSHED TO THE BASE MATERIAL ON THE INSIDE SURFACE ACC. TO LS 201-05.

Title:	MOLECULAR-SIEVE ADSORBER ID= 4200 mm TAG no.: 3-A2626A/B		Scale
Linde Drawing No.	&VD_(3-2626)_B-ZA_1001 (EN)	Sheet 1/1	Size A1

A	No further submission. Document accepted as final.	
P	Incorporate comments and resubmit the document.	
X	Document not accepted and rejected.	

The review does not constitute of acceptance or approval of design, calculations, detail drawings or any part of material developed or selected by the supplier and does not relieve supplier from full compliance with specifications and contractual obligations.

Linde Engineering
Date: 21. Sep 2023 Dept: ENGW
Name: Mario Patel

CONFIDENTIAL