Pozycja króćców tylko na widoku z dołu/góry
Nozzles positions on top / bottom view only

WPS nr.	PQR nr.
WPS 1	15_141/04/10_904 rev.00
WPS 2	15_141/03/10_904 rev.00
WPS 3	141/20/41_904 rev.00
WPS 4	141/20/S035_904 rev.00
WPS 5	141/36/71_904rev.00
WPS 6	141/29/71_904 rev.00
WPS 7	141/29/92_904 rev.00
WPS 8	141/25/82 rev.00
WPS 9	141/26/96 rev.01
WPS 10	141/27/92 rev.01
WPS 11	141/20/S013_904 rev.00
WPS 12	141/20/63_904 rev.00
WPS 13	141/20/74_904 rev.00
WPS 14	141/31/71_904 rev.00
WPS 15	141/31/92_904 rev.00
WPS 16	141/20/96_904 rev.00
WPS 17	141/20/S005_904 rev.00
WPS 18	135/03/S056 rev.00
WPS 19	141/26/S021 rev.00
WPS 20	141/26/12 rev.00
WPS 21	141/26/74 rev.00
WPS 22	141/27/S023 rev.00
WPS 23	141/26/S055 rev.00
WPS 24	141/26/S039 rev.00
WPS 25	141/21/92 rev.00
WPS 26	141/20/S050_904 rev.00
WPS 27	135/02/94 rev.00
WPS 28	141/26/67 rev.00

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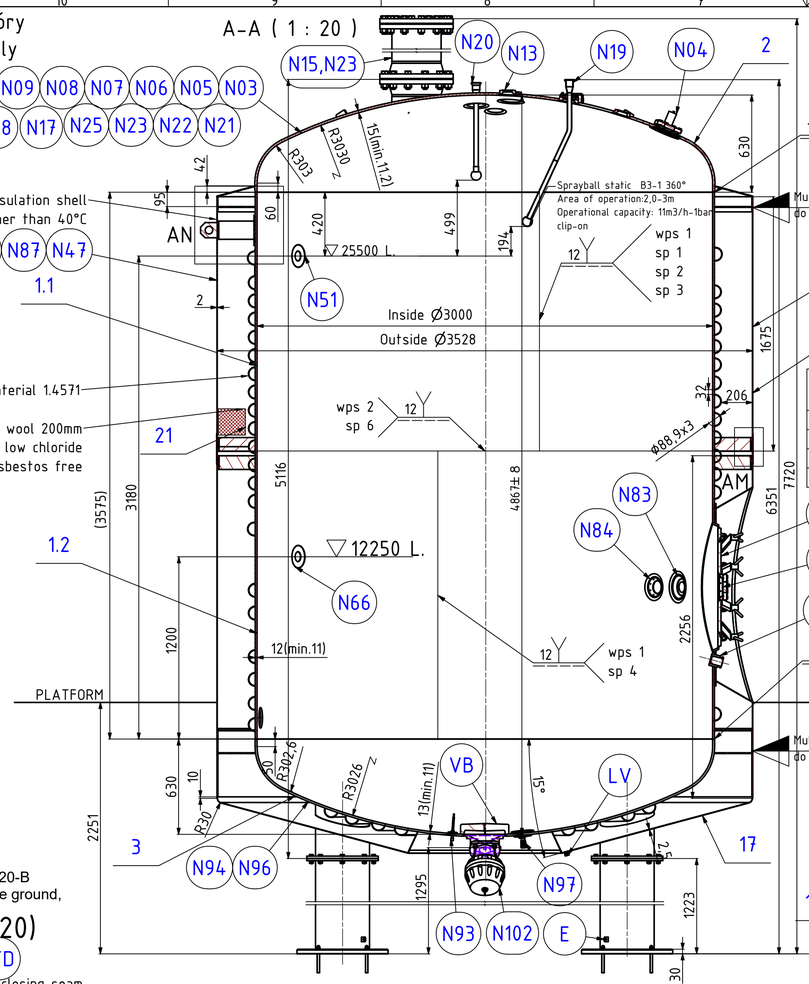
Mixing vessel
Type Plant module: PM200 Manuf. No. E-18-457-04 Year built 2019
Vessel TAG: B222
CE 0045 PED 2014/68/EU

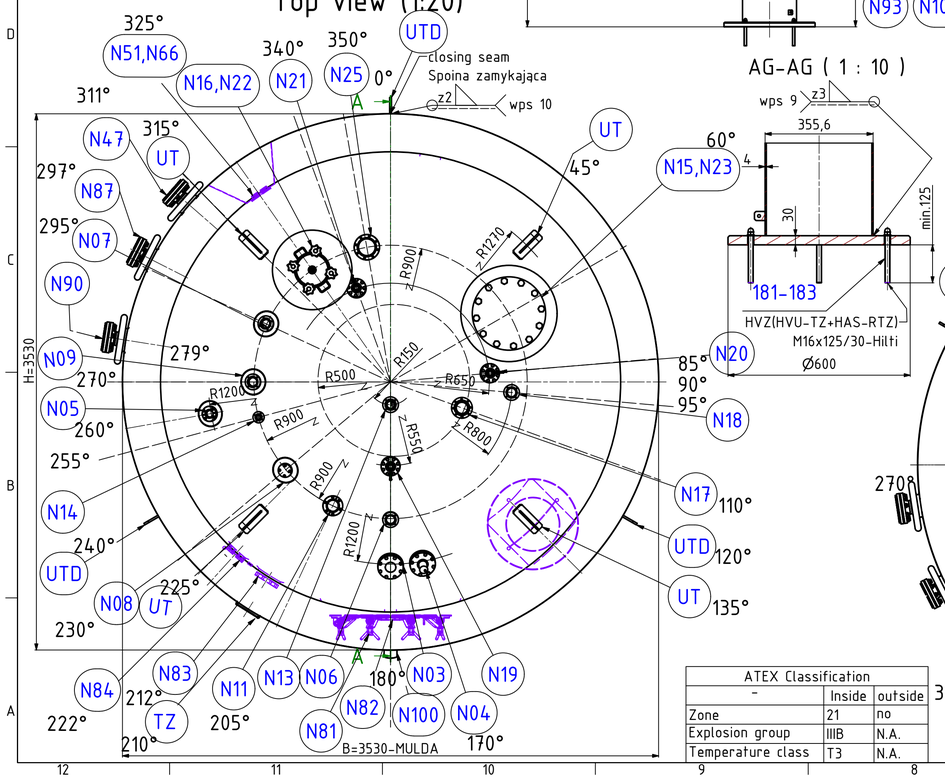
		Working space		Heating space
Nominal/gross capacity	V	25500/31470	l	200 l
Pressure min./max.	PS	-1/4	bar	-1/6 bar
Temperature min./max.	TS	0/150	°C	0/200 °C
Stainless steel material		1.4435/2.4605/1.4571		1.4571
Test pressure	PT	7,3	bar	9 bar
Date of test				

Acceptance Tüv Nord/ Tüv Nord inspection
alternating stress:main zone:20-143°C and 0-3bar
"All internal angles of 135° or less on surfaces shall have the maximum radius possible for ease of cleanability and not less than 3.5mm."
"All sharp edges blunted."
"All internal surfaces shall be sloped or pitched for drainability"
Tolerance for vessels DIN28005-1
Machining DIN ISO 2768-mH T1/T2
General tolerances for welded contstructions DIN EN ISO 13920-B
Earhquake:Seismic Zone II with an acceleration of 0,07g above ground, vessels stay at the ground floor

A-A (1 : 20)



Top view (1:20)



Werkstoff material			
	kontakt z produktem contacting with medium		1.4435/1.4571/2.4602- Ferrit <1%
	Śruby/Screws		A2-70
	pozostałe / others		1.4301
	uszczelki /seals		EPDM/FDA
	mat. combination	additional mat.	
	1.4435-1.4435	1.4519/1.4430	NDT spoin przen. ciś wg. HP 5/3,
	1.4435-1.4301	1.4519/1.4430	poziom jakości B wg. EN ISO 5817
	1.4301-1.4301	1.4519/1.4430	NDT,pressure bearing seams acc.to HP 5/3
			quality level B acc. to EN ISO 5817
wykończenie finish	Powierzchnia wewnętrzna inner surface		mech.polerowana+elektropoler Ra<=0,8µm mech.polished+e-polished Ra<=0,8µm
	powierzchnia zewnętrzna outer surface		Szlif optyczny widocznej powierzchni Optic grind of visible surface
	Spoiny wewnątrz inner welds		Szlifowane na gładko Ra<=0,8µm Ground flush Ra<=0,8µm
	spoiny na zewnątrz outer welds		Szczotkowane, czyszczone Brushed,cleaned
	spoiny pachwinowe wew inner fillet welds		Szlifowane na gładko Ra<=0,8µm Ground flush Ra<=0,8µm
	spoiny pachwinowe zew. outer fillet welds		Szczotkowane, czyszczone Brushed, cleaned

NICHT-DESTRUKTIVER SCHWEISSTEST NON-DESTRUCTIVE WELDS TEST	AD2000;HP 2/1, HP 5/3 VT Sichtprüfung/ PT Penetrant test/ RT Röntgenprüfung/UT
SCHWEISS ÜBERSCHNEIDUNG/WELD INTERSECTION	100% RT/oder UT
LANGSSSWEIßUNGEN/LONGITUDINAL WELDS	100% RT/oder UT
RUNDNAHTSCHWEIßUNGEN/CIRCUMFERENTIAL WELDS	10% RT/oder UT
PENETRANTEN PRÜFUNG/PENETRANT TESTING	100% Nach dem Elektropolieren/after e-polishing

1. We wszystkich nakładkach gt. zbiornika wykonać otwór wyciekowy Ø8 w najniższym punkcie.
In every compensation plate on the main tank drill hole Ø8 in the lowest place.

Spawać drutem 1.4519
Zawartość ferrytu: <3%
Ferrite content in welding seams: <3%

spoiny pachwinowe: fillet welds: g, s, g<s a=0,7g
spoiny doczołowe: butt welds: 60°, s>5, 2

Charakterystyka techniczna / Technical characteristics

Pos.	Wyszczególnienie / Description		Jedn./Unit	Wartość / Value
1	Cisnienie w zbiorniku Pressure in tank	min./max.	bar	0/3
2		obliczeniowe / calculated		-1/4
3		próbne / test		7,3
4	Temperatura w zb. Temperature in tank	min./max.	°C	20/143
5		obliczeniowa / calculated		0/150
6		próbna / test		20
7	Cisnienie w płaszczu Pressure in jacket	min./max.	bar	
8		obliczeniowe / calculated		-1/6
9		próbne / test		9
10	Temp. w płaszczu Temperature in jacket	min./max.	°C	
11		obliczeniowa / calculated		0/200
12		próbna / test		20
13	Medium w zb. Medium	robocze/arbeits.		WFI+proces solution+solids compressed air
14		próbne/test		Water
15	Medium w płaszczu Medium in jacket	robocze/working		cooling water industrial steam
16		próbne/test		Wasser
17	Liczba cykli	Load cycles for both spaces		<= 5000
18	Kategoria zagrożeń	Danfer cathegory		III modul G
19	Kat. płynu / Fluid group			2
20	Strefa trzęsienia ziemi / Earthquake zone			II Romania,Sanandrei
21	Masa	pustego zb. / empty tank	Kg	8500
22	Weight	pełny/emergency weight		39970
23	Objętość	robocza / working	l	25500
24	Volume of tank	pełny zb. / full		31470
25	Obj. płaszcza/ Volume of jacket		l	200
26	Współczynnik złącz spawanych Weld factor	untere Boden		1
27		Zarge		0.85
28		obere Boden		1
29	Zaprojektowano wg./Design by			AD 2000 PED 2014/68/EU
30	Odbiór przez/Reception by			TÜV Nord
31	Wymagany rozkrój/Welding plan			Yes/Tak

Tabela króćców/Nozzles schedule

No.	Name/Function	DN/Size	Nozzle type	Nozzle norm	Pipe norm (dimensions)	Remarks
N03	Sight glass top	100	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø114,3)	Metaglas Type 84.BF
N04	Light glass top	100	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø114,3)	Metaglas 84 BF. ESL 25-Ex
N05	Safety valve	40	NA-Connect	32676-B	DIN 11866 (Series B) (Ø48,3)	instr.in ZETA scope
N06	Pressure indicator	50	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø60,3)	instr.in ZETA scope
N07	Pressure control	50	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø60,3)	instr.in ZETA scope
N08	Spare (delta P)	B50	Blockflange	Neumo BioControl	N/A	
N09	Level switch high	50	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø60,3)	instr.in ZETA scope
N11	Level measurement	3"	NA-Connect	32676-C (ASME BPE)	DIN 11866 (Series C) (Ø76,1)	instr.in ZETA scope
N13	Vent	50	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø60,3)	
N14	Recirculation line	25	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø33,7)	
N15	Product input (vacuum)	12"	Flange	ASME B16.5 class 150	DIN 11866 (Series C) (Ø323,9)	
N16	Product input (manual)	200	Flange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø219,1)	
N17	WFI Input	80	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø88,9)	
N18	Compressed air input	50	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø60,3)	
N19	Spray ball 1	65/40	Blockflange NF /Clamp NKS	DIN 11864-2/DIN 11864-3 form A	DIN 11866 (Series B) (Ø76,1/Ø)48,3	Korpax static B3-1
N20	Spray ball 2	65/40	Blockflange NF /Clamp NKS	DIN 11864-2/DIN 11864-3 form A	DIN 11866 (Series B) (Ø76,1/Ø)48,3	Korpax static B3-1
N21	Spray ball 3	65/40	Blockflange NF /Clamp NKS	DIN 11864-2/DIN 11864-3 form A	DIN 11866 (Series B) (Ø76,1/Ø)48,3	Korpax static B3-1
N22	Spray ball for manual transport	25	Clamp NKS	DIN 11864-3 form A	DIN 11866 (Series B) (Ø33,7)	Korpax static X1-1
N23	Spare for CIP valve	N/A	IS/ROH	GEA in-line Type IS	N/A	with blindcap
N25	Spare	100	Flange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø114,3)	
N47	Jacket supply top	80	Flange	EN1092-1 PN16 type 11B	DIN 11866 (Series B) (Ø88,9)	
N51	Spare (top sampling)	N50	Blockflange Varinline type P	GEA tuchenhagen	N/A	
N66	Spare (mid.sampling)	N50	Blockflange Varinline type P	GEA tuchenhagen	N/A	
N81	Manhole bottom	600	Manhole	N/A	N.A.	Art. Nr.26042010-ASL
N82	Sight glass bottom	100	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø114,3)	Metaglas Type 84.BF
N83	Light glass bottom	100	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø114,3)	Metaglas 84 BF. ESL 25-Ex
N84	Reserve	80	Blockflange NF	DIN 11864-2 form A	DIN 11866 (Series B) (Ø88,9)	
N87	Jakcet return top	80	Flange	EN1092-1 PN16 type 11B	DIN 11866 (Series B) (Ø88,9)	
N90	Jacket supply-bottom	80	Flange	EN1092-1 PN16 type 11B	DIN 11866 (Series B) (Ø88,9)	
N93	Temperature sensor	G3/8"	Thermowell L=175	acc.Endress+Hauser	N/A	isntr. in ZETA scope
N94	Level switch low	B50	Blockflange	Neumo BioControl	N/A	
N96	Spare (delta P)	B50	Blockflange	Neumo BioControl	N/A	
N97	Spare (low sampling)	N50	Blockflange Varinline type P	GEA tuchenhagen	N/A	
N98	Jacket return-bottom	80	Flange	EN1092-1 PN16 type 11B	DIN 11866 (Series B) (Ø88,9)	
N100	Spare for CIP valve	N/A	IS/T	acc. GEA in-line Sprayer	N/A	with blindcap
N101	Agitator	N/A	weld-in flange Ø200	acc. ZETA	N/A	Type: BMRT 17000 WS
N102	Outlet	65	weld-in body Ø250	acc. Gemü B600	DIN11866 (Series B)(Ø76,1)	type B600,diaphragm MG80

ATEX Classification		
-	Inside	outside
Zone	21	no
Explosion group	IIIB	N.A.
Temperature class	T3	N.A.

Elementy/element

Nr	Qty.	Nazwa / Name	Norm
VB	1	Vortex breaker	PN EN 10028-7
UT	4	Kranöse / Lifting lug	PN EN 10028-7
E	1	Erdungslasche/ Grounding	PN EN 10028-7
TZ	1	Fabrikschild / Name plate	PN EN 10028-7
LV	1	Low insulation vent G1/2"	DIN 2986
UTD	3	Kranöse / Lifting lug shell	PN EN 10028-7

General tolerances acc To: ISO 13920-B/ DIN 2768-mk

	Date	Name	Sign
drawn	02.10.2019	T.Fedejko	
check			
appr.		A.Radtke	

Rev.	Date	Name
2	03.10.2018	
1	05.09.2018	Fedejko
0	20.08.2018	Fedejko

SCHWARTE PROCESSING
PM- 180457

Sheet No 1 Sheets: 4 Format A1 EGZ:
Name: Mixing vessel 25,5m3
B222 As Built
Drawing No. 18-16-2531.10
Detail drawings:
Rev. 4.0