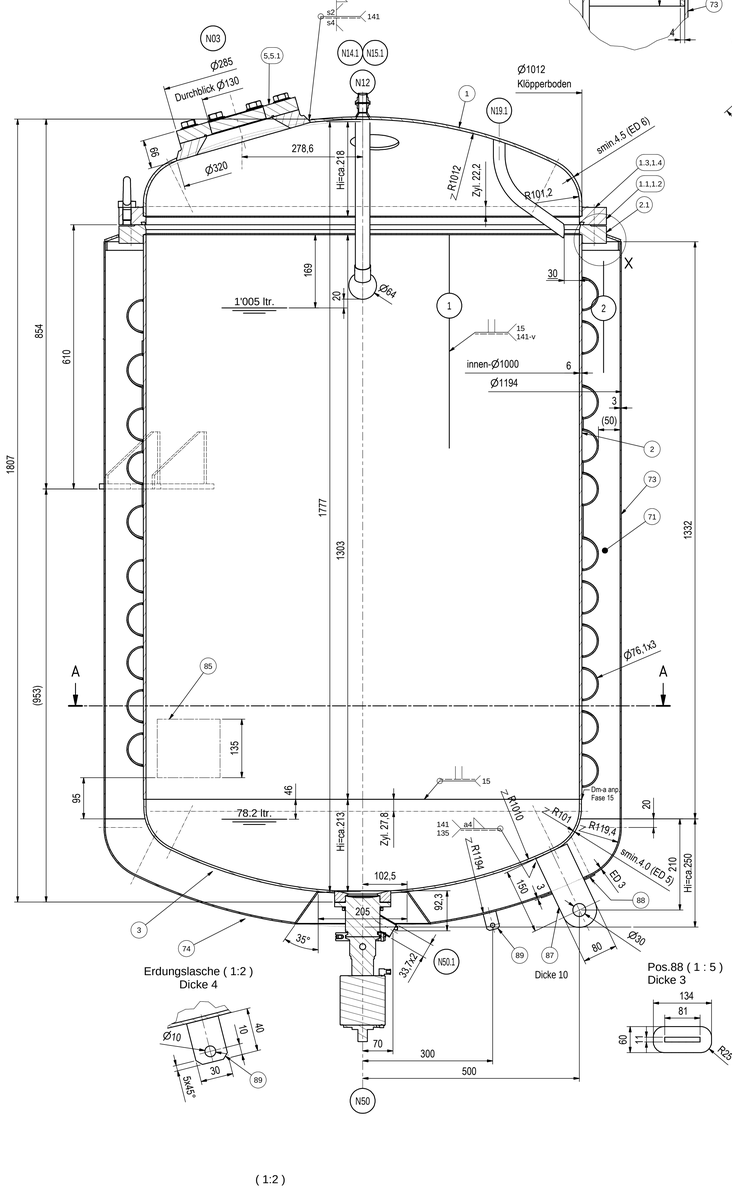
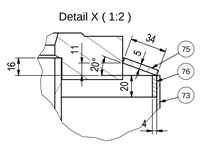
Pratzen- und Stutzenstellung nach Grundriss

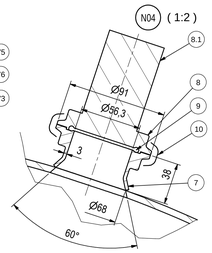
| | |
|---|---|
| Stückliste / Parts list | 027654 |
| Benennung / Name | Nummer / Number |
| Dazugehörige Unterlagen / Additional Documents | |



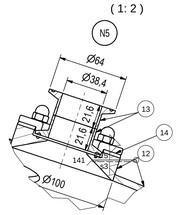

Detail X ( 1:2 )



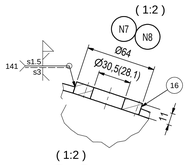

N04 ( 1:2 )



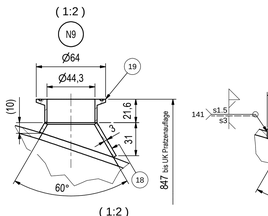

( 1: 2 )



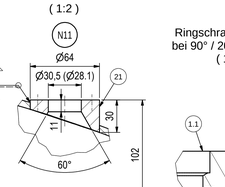

( 1:2 )



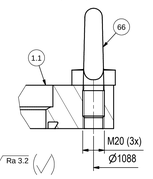

( 1:2 )



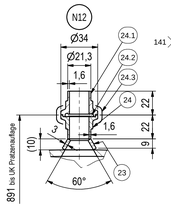

( 1:2 )

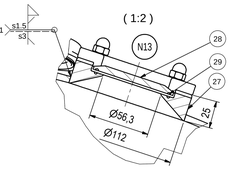



Ringschraube M20 auf bei 90° / 205.7° / 334.3°
( 1:2 )

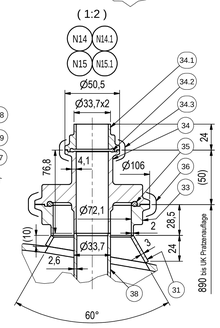



( 1:2 )

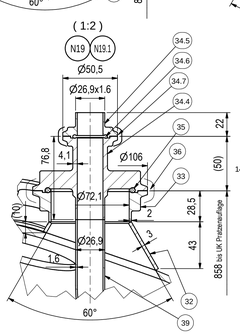


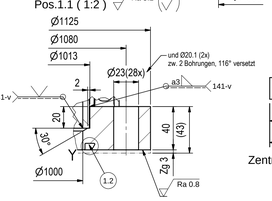

( 1:2 )



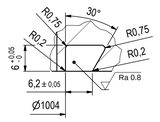

( 1:2 )



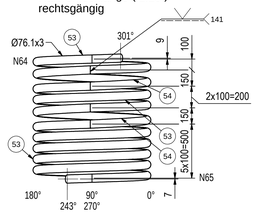

Pos.1.1 ( 1:2 )



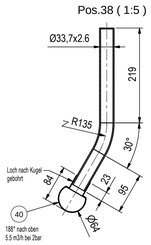

Detail Y ( 2 : 1 )



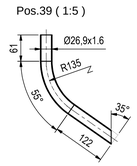

Halbrohrschlange ( 1:20 )
rechtsgängig



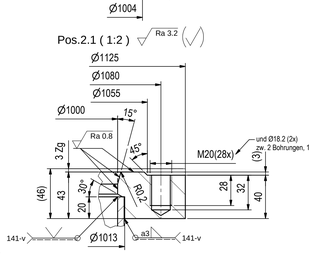

Pos.38 ( 1:5 )



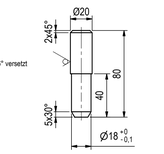

Pos.39 ( 1:5 )



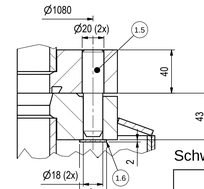

Pos.2.1 ( 1:2 )




Pos.1.5 ( 1:2 )




Zentrierstift auf bei 0° / 116° ( 1:2 )

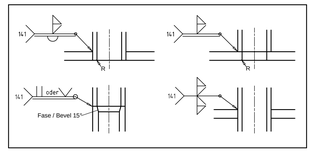



| | y = | z = |
|---|---|---|
| A102663-403 | 1B4500 | |
| A102663-603 | 1B4610 | |

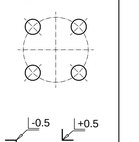
Schweissangaben:
Zusatzwerkstoffe:
- Produktberührt CN 20/25
und am Produkt- Mantel / Kl. Böden angeschw. Teile
- Alle übrigen Thermanit GE316L
- Nicht bezeichnete Schweissnähte 141

Ferritgehalt: produktberührt
- Grundwerkstoff <3%
- Schweissnähte <3%

Schweissnähte Stutzen / Weld seams nozzle




Achsen lochfrei!




Havariegewicht = 1990 kg

| | | innen / inside | aussen / outside |
|---|---|---|---|
| Schweissnähte | Welding seams | geschliffen Ra < 0.6 µm | gemäss Blatt: Oberfläche der Schweissnähte aussen |
| Blech | Sheet | geschliffen Ra < 0.6 µm | geschliffen Ra < 1.2 µm |
| Beizen / Passivieren | Pickling / Passivate | Nein | Nur die Schweissnähte |
| C-Teile | Unalloyed parts | | |

## Oberfläche / Surface

| | | |
|---|---|---|
| Behälter | Vessels | DIN 28005-1 |
| Schweisskonstruktionen | Welded constructions | EN ISO 13920-DH |
| Mechanisch bearbeitete Teile | Machined parts | ISO 2768-mK |
| Längenmasse für Halbzeuge | Linear measurements for semi-finished material | ISO 2768-c |

## Toleranzen / Tolerances

| | | | |
|---|---|---|---|
| Berechnungsvorschrift / Regelwerk | Calculation regulation / code | AD-2000 / SIA 261 Erdbebenzone 1 | |
| Erstwertprüfung | Design test | Swiss TS | |
| Bau- und Druckprüfung | Construction- and pressure test | Swiss TS | |
| Schweissnahtvorbereitung | Preparation of welds | EN 1708-1 | |
| Qualitätsstufe nach EN ISO 5817 | Quality level according EN ISO 5817 | Standard B | |
| Aufstellungsland | Installation country | Schweiz | |
| Raum | Chamber | Innen / In den Rohren / Inside / In the pipes | Aussen / Um die Rohre / Outside / Around the pipes |
| Medium | Medium | Aqueous solution | Pyrogen free water |
| Medumeigenschaft 1=gefährlich 2=andere | Properties of fluid 1=dangerous 2=others | 1 | 2 |
| Medumzustand 1=gasförmig oder flüssig 2=flüssig | Condition of fluid 1=gaseous or liquid 2=liquid | 1 | 1 |
| Volumen brutto | Volume gross | ltr. 1295 | 60 |
| Min./ max. zulässiger Temperatur | Min./ max. permissible temperature | °C -10 / 150 | -10 / 150 |
| Berechnungstemperatur | Design temperature | °C -10 / 150 | -10 / 150 |
| Min./ max. zulässiger Druck | Min./ max. permissible pressure | bar -1 / 6 | -1 / 10 |
| Berechnungsdruck | Design pressure | bar 3 / 6 | -1 / 10 |
| Prüfdruck | Test pressure | bar 8.9 | 16.2 |
| Dichte | Density | kg/m³ 1200 | 1000 |
| Druckgeräterichtlinie 2014/68/EU | Pressure Equipment Directive 2014/68/EU | | |
| Kategorie I II III IV | Category I II III IV | | IV |
| Modul A A2 B+F; B+C2 B+F; G | Modul A A2 B+F; B+C2 B+F; G | | B+F |
| Korrosionszuschlag | Corrosions allowance | mm 0 | |
| Schweissnahtfaktor | Welding seam factor | 0.85 | |
| Nicht bemasste Kehlnähte | Non- dimensioned fillet welds | mm a = 0.7 x s min; a min = 2 mm | |
| Gewicht Druckbehälter (leer) | Weight of pressure-vessel (empty) | kg 720 | |
| Lastspielzahl | Load cycles | ≤ 32'000 (-1 bis 2,1 bar bei 0 bis 135°C) | |
| Werkstoff | Material | | |
| Produktberührte Teile | Product contacted parts | 1.4539 / 2.4602 / EPDM | |
| Doppelmantel | Jacket | 1.4404 / 1.4435 | |
| Übrige Teile | Other parts | 1.4301 / 1.4404 | |
| Isoliermaterial | Insulating material | Mineralwolle (Fabrikat ISOVER) gemäss AGI Q132 | |

ZFP Stichprobenprüfung / NDT Non-destructive testing

| Prüfungsart | Test type | RT / x-ray | PT | VT | Fermt |
|---|---|---|---|---|---|
| Längsnähte | Longitudinal weld seams | % 100 | 10 | 100 | - |
| Rundnähte | Circumferential weld seams | % 25 | 10 | 100 | - |
| Stossstellen | Butt joint seams | % 100 | | 100 | - |
| Stutzennähte | Nozzle weld seams | % - | 10 | 100 | - |
| Kehlnähte | Fillet weld seams | % - | 10 | 100 | - |
| Grundmaterial | Basic material | % - | - | - | - |

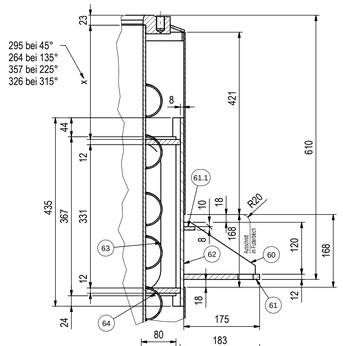
Auslegungs- und Betriebsdaten / Design and operating data

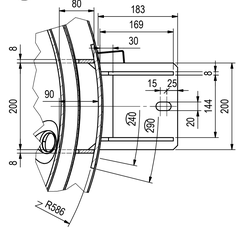
## Technische Daten / Technical data

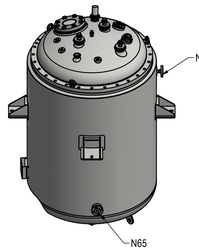
| | Anz. Quant. | DN | PN | Typ Type | Benennung Name | Bemerkung Remarks |
|---|---|---|---|---|---|---|
| N80 | 1 | G 1/4" | - | - | Test socket insulation | S-E-AT 0149 |
| N65 | 1 | 20 (ISO) | 40 | EN 1092-1, 11, B1 | Inlet tempering media | WN-Flange |
| N64 | 1 | 20 (ISO) | 40 | EN 1092-1, 11, B1 | Outlet tempering media | WN-Flange |
| N59 | 1 | B50 | - | BioControl | Spare (Conductivity) | S-E-AT 0142 |
| N58 | 1 | G1 1/4" | - | Ingold Ø25 H7 | Spare (pH) | S-E-AT 0330 |
| N55 | 1 | 40 (ISO) | - | TC-Connect, ISO 2852 | Sampling (9 port) | S-E-AT 0304 |
| N52 | 1 | G 3/8" | - | Thermowell TM411 | Temperature measurement | S-E-AT 0352 |
| N50.1 | 1 | 25 (ISO) | - | DIN 11866-B | Product outlet | S-E-AT 0318 |
| N50 | 1 | 25 | 6 | Südmo SVP A386 D-E 30° | Bottom outlet | S-E-AT 0318 |
| N19.1 | 1 | 20 (ISO) | 40 | DIN 11864-3-A (BKS) | Inlet pipe (J-tube) | S-E-AT 0349 |
| N19 | 1 | 65 (ISO) | 16 | DIN 11864-3-A (BKS) | Inlet pipe (Vessel connection) | S-E-AT 0349 |
| N15.1 | 1 | 25 (ISO) | 40 | DIN 11864-3-A (BKS) | CIP 2 | S-E-AT 0350 |
| N15 | 1 | 65 (ISO) | 16 | DIN 11864-3-A (BKS) | CIP 2 (Vessel connection) | S-E-AT 0350 |
| N14.1 | 1 | 25 (ISO) | 40 | DIN 11864-3-A (BKS) | CIP 1 | S-E-AT 0350 |
| N14 | 1 | 65 (ISO) | 16 | DIN 11864-3-A (BKS) | CIP 1 (Vessel connection) | S-E-AT 0350 |
| N13 | 1 | 50 (ISO) | - | TC-Connect, ISO 2852 | Spare port | - |
| N12 | 1 | 15 (ISO) | 40 | DIN 11864-3-A (BKS) | Ventilation | - |
| N11 | 1 | B25 | - | BioControl | Level switch | S-E-AT 0142 |
| N09 | 1 | 40 (ISO) | 16 | DIN 32676 | Filling level | - |
| N08 | 1 | B25 | - | BioControl | Pressure probe | S-E-AT 0143 |
| N07 | 1 | B25 | - | BioControl | Pressure gauge | S-E-AT 0143 |
| N05 | 1 | 32 (ISO) | - | TC-Connect, ISO 2852 | Rupture disc | S-E-AT 0125 |
| N04 | 1 | 50 (ISO) | 25 | DIN 11864-3-A (BKS) | Sight glass with light | S-E-AT 0348 |
| N03 | 1 | 150 | 16 | Aseptic block flange | Sight glass | S-E-AT 0106 |
| N01 | | | | | | |

## Stutzentabelle / Nozzle table

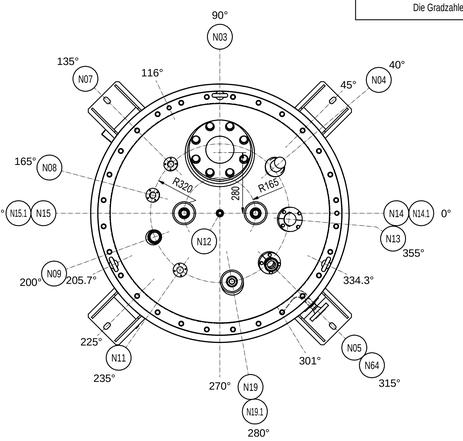
Pratze ( 1:5 ) 4x
Alle Nähte: 135 / 141
a = 0.5 x s min.



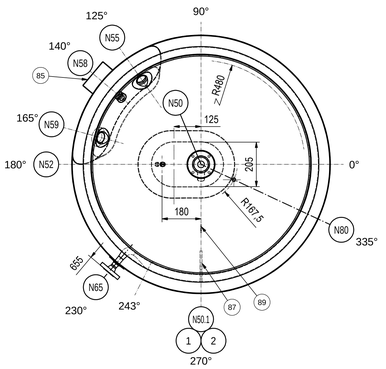



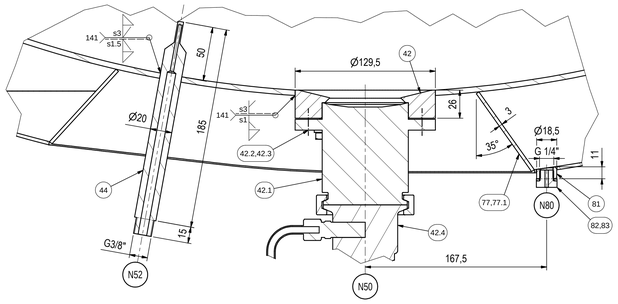

Ansicht von oben ( 1:10 )




Schnitt A-A ( 1:10 )

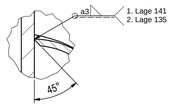



( 1:2 )

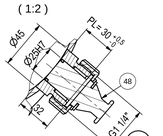



Pos.83 ( 1:1 )

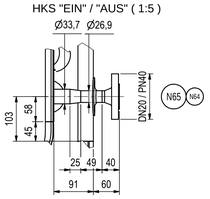

Detail ( 1:1 )
Halbrohrschlange



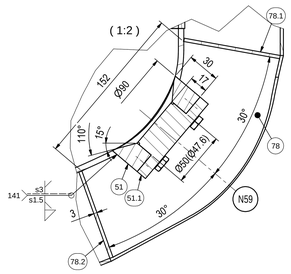

( 1:2 )



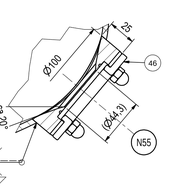

HKS "EIN" / "AUS" ( 1:5 )

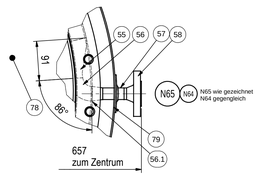



( 1:2 )




( 1:2 )




Achtung:
Die Grundrisse sind zur Leitzeichnung um 90° im UZ gedreht
Die Gradzahlen steigen im GUZ

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | a | Diverse Änderungen gemäss Kunde | | 20.09.2017 | mg | Erstellt/Ersatz | 01.09.2017 |
| | b | | | | | Geprüft/Ersatz | |
| | c | | | | | Freigabe/Ersatz | |
| | d | | | | | Erstellt für | |
| Änderungen | e | | | | | Geprüft für | |
| | f | | | | | Freigabe für | |
| | | | | | | Kopie an | |
| | | | | | | Kopie an | |
| | | | | | | Kopie an | |
| | | | | | | Kopie an | |

Q-Zuffg.

Massstab / Scale: 1:5 | 1:10 | 1:2 / 1:1

Format: A0

| Auftrags-Nr. / Order No. | Kunde / Client |
|---|---|
| A102663 | CSL Lengnau AG, Lengnau |

KASAG Swiss AG
CH-3550 Langnau

| Benennung / Name | Zeichnungs-Nr. / Drawing No. | Index |
|---|---|---|
| Buffer Hold Vessel 1'000 ltr. 1B4500 / 1B4610 | E 11050 | a |

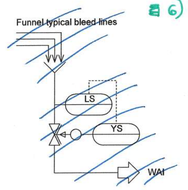
B_1O_2027, class E

## Notes:

1) Double block and bleed principle applied at the interfaces between CIP and product, media / buffer ,clean utilities. Only double block applied for lines which would lose their sterile status by bleeding.

2) Number and location of funnels to be defined in next project phase based on 3D design.

Funnel typical bleed lines




2) spool piece to connect a mobile decreasing skid

Master
07.06.17 NST

1) 12.06.17 NST
2) 11.07.17 THRU
3) 13.07.17 NST
(*) korrigiert 19/07/2017 ok/Boy
4) 12.06.17 NST
(5) 11.07.17 NST
(6) 11.07.17 NST
(7) 11.07.17 NST
(8) 13.07.17 NST
(9) 13.07.17 NST
(10) 3.8.17 NST
(11) 3.8.17 NST
(12) 3.8.17 NST
(13) 12.6.17 NST
(14) 2.8.17 NST
(15) 3.8.17 NST

(X1) 12.06.17 NST

| TAG-No. | | | 1B4610 | | 1F4611 | |
|---|---|---|---|---|---|---|
| Name | | | Buffer Hold Vessel 11 | | Vent Filter | |
| Design Temperature (°C) | | I / O | -10-150 | -10-150 | 150 | |
| Design Pressure (barg) | | I / O | -1/6 | -1/10 | -1/6 | |
| Material of Construction | | | 1.4539 | | 1.4435 | |
| Techn. Data | Volume (l) Vol.- Flow (m³/h) | | 1000 l | | 15 (N)m³/h | |
| | Dimensions (mm) | | D 1000x H 1750 | | | |
| | Special Features | | | | 0.2 µm, 1x5 in | |
| | Producer/Distrib./Year of Constr. | | | | | |
| | | | | | | |
| | | | | | | |
| Remarks | | | | | | |

B_1O_2021, class F

| | | | |
|---|---|---|---|
| Client<br>Project-No.:<br>16004 | CSL Behring<br>Biotherapies for Life | CSL Behring Recombinant Facility AG<br>Wankdorfstrasse 10<br>CH-3000 Bern 22, Switzerland | |
| Architect<br>Project-No.: | ANS | ANS Architekten und Planer SIA AG<br>Hauptstrasse 14<br>3076, Worb, Switzerland | Telefon: +41 31 838-8080<br>Telefax: +41 31 838-8085 |
| General contractor<br>Project-No.:<br>2304998 | M+W GROUP | M+W Central Europe GmbH<br>Business Unit Life Sciences and Process Facilities<br>Lotterbergstrasse, 30<br>70499, Stuttgart, Germany | Telefon: +49 711 8804-1800<br>Telefax: +49 711 8804-1865 |
| Design Partner<br>Project-No.:<br>2304998 | M+W GROUP | M+W Central Europe GmbH<br>Business Unit Life Sciences and Process Facilities<br>Lotterbergstrasse, 30<br>70499, Stuttgart, Germany | Telefon: +49 711 8804-1800<br>Telefax: +49 711 8804-1865 |

RELEASE NAME & DATE:
ARCHIVING FLAG (DRW CL 2 & 3):
DATE OF IMPRESSION:

CSL Behring AG
RCF Project Lengnau

| | | | |
|---|---|---|---|
| Draftsman: | | DRAWING-CODE / DRAWING-NO. | |
| Date: | YYA 20.04.16 | PRI_B_01_0078 | |
| Layout Blatt: | | | |

| | | | | | |
|---|---|---|---|---|---|
| 02 | Update after AFD | 02.06.17 | EXU | DRW CL: | DESCRIPTION: |
| 01 | Update - submission to AFD | 03.05.17 | MTR | - | rVIII-Buffer Hold Vessel 11 |
| 00 | First Issue | 21.06.16 | EXU | SCALE: | 1B4610 |
| INDEX | TITLE OF CHANGE | DATE | NAME | | LAYOUT NAME: |

# Data Sheet Vessel

## 1B4110 Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1

**Version 06**

**Status: As Built**

This datasheet does also apply to: Total number: 8

| | | | |
|---|---|---|---|
| 2B4750 | 2B4700 | 1B4910 | 1B4610 |
| 1B4600 | 1B4500 | 1B4300 | |

History:

| Vers. | Date |
|---|---|
| 06.0 | 22.11.2017 |
| 05.0 | 23.10.2017 |
| 04.0 | 19.12.2016 |
| 03.0 | 08.12.2016 |
| 02.0 | 07.07.2016 |

| Function | Company | Name | Date | Signature |
|---|---|---|---|---|
| Author | M+W | | 22.11.2017 | |
| Review | M+W | | 22.11.2017 | |
| Approval | | | | |
| **CSL Behring** | | | **M+W** | |

CSL Behring
Biotherapies for Life™

CSL Behring Recombinant Facility AG
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M+W GROUP

M+W Central Europe GmbH
Lotterbergstr. 30
D-70499 Stuttgart
Germany

| Project Number CSL Behring | Project Number M+W | |
|---|---|---|
| **16004** | **2304996** | |
| Document Number CSL Behring | Document Number M+W | Version |
| | **D-P-DA-0077** | **06.0** |
| Project | Document Type / Description | Page |
| **RCF Project Lengnau** | **Data Sheet** | **1** |

| Project-No. | 2304996 | **Data Sheet** | M+W GROUP |
|---|---|---|---|
| Code | NRCFF | | |
| Tag-No. | 1B4110 | **Vessel** | |

| | | | | | |
|---|---|---|---|---|---|
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | E11047 | Room-No. | B_1O_2027 | Type | Vessel |

| | | v | General | | | | v | Design Data | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 | 5 | | **Inquiry No. / Date** | NA / | | 0 | | **Pressure Vessel Code** | AD2000; PED | |
| 03 | 5 | | **Bid No. / Date** | 0103705004 / 07.04.2017 | | 3 | v | **Inside Diameter** | 1000 | mm |
| 04 | 5 | | **Order No. / Date** | 4500971482 / 27.04.2017 | | 5 | v | **Length w/o Support** | 1807 | mm |
| 05 | 5 | | **Standard / Regulation** | RS.00042 / RS.00043 / Rs.00044 | | 5 | v | **Bottom Outlet Height** | N/A | mm |
| 06 | 5 | | **Inspection** | RS.00042 / RS.00043 / Rs.00044 | | 0 | | **Nominal volume** | 1000 | l |
| 07 | 5 | | **Manufacturer / Supplier** | KASAG / KASAG | | 5 | v | **Total volume** | 1295 | l |
| 08 | 5 | | **Necessary Certificates** | RS.00042 / RS.00043 / Rs.00044 | | | v | **Design Temperature** | | |
| 09 | 5 | | **Documentation** | RS.00042 / RS.00043 / Rs.00044 | | 4 | v | Inside | -10-150 | °C |
| 10 | 0 | | | | | 4 | v | Jacket (Heating / Cooling) | -10-150 | °C |
| 11 | 0 | | | | | | v | **Design Pressure²** | | |
| 12 | | | **Operating Data** | | | 0 | v | Inside | -1 / 6 | bar |
| 13 | 3 | v | **Medium** | Process Media | | 0 | v | Jacket (Heating / Cooling) | -1 / 10 | bar |
| 14 | 3 | | Characteristics | aqueous solution | | 0 | v | **Type of bottom** | dished end DIN 28011 | |
| 15 | 5 | v | Working Volume min./max. | 78,2 - 1008 | l | 5 | v | **Type of top** | removeable, DIN 28011 | |
| 16 | 5 | v | Operating Temp. Min./max. | 19 - 23 | °C | | | **Wall Thickness** | | |
| 17 | 5 | v | Op. Pressure min./max.² | 0 - 2,1 | bar | 5 | | Top / Bottom / Cylinder | 6 / 6 / 5 | mm |
| 18 | 5 | | Filling Rate min./max. | N/A | m³/h | 5 | | Heating-/ Cooling Jacket | 3 | mm |
| 19 | 5 | | Draining Rate min./max. | N/A | m³/h | 5 | | Inliner | N/A | mm |
| 20 | 3 | v | Density / Bulk Density at [T] | 1200 20 | kg/m³ °C | 5 | | Insulation / Insulation Jacket | 3 | mm |
| 21 | 5 | v | Specific Heat Capacity | ~4.2 | kJ/kg K | 0 | | **Corrosion Allowance** | 0 | mm |
| 22 | 3 | | Dynamic Viscosity at [T] | 0.002 20 | Pa s °C | 5 | | **Welding Factor** | acc. PED | |
| 23 | 0 | v | pH-Value min./max. | 1 - 13,6 | | 0 | v | **Vessel Orientation** | vertical | |
| 24 | 5 | v | Flash Point | N/A | °C | 5 | | **Reinforcing Sheet(s)** | no | |
| 25 | 5 | v | Inertisation ² | N/A | mbar | 5 | | **Test press. in-/outside²** | 8.9 / 16.2 | bar |
| 26 | 0 | v | **Cleaning in Place** | Yes | | 5 | | **Gaskets / Type** | acc. Pipe class | |
| 27 | 0 | | Medium | 0.5M NaOH, 0.1M HNO3 | | 5 | | **Heat Ex. Surface / Content** | N/A | m² / l |
| 28 | 0 | | Temperature | <=80 | °C | | | **Weight of Vessel** | | |
| 29 | 0 | v | **Sterilisation in Place** | Yes | | 5 | | Empty / Disaster | 720 / 2075 | kg |
| 30 | 0 | | Medium | pyrogen free steam | | | | **Construction Details** | | |
| 31 | 0 | | Temperature | <135 | °C | 0 | | **Heating / Cooling** | cylinder | |
| 32 | 0 | v | **Heating-/Cooling Medium** | Tempering Media | | 5 | | Type | coil | |
| 33 | 0 | | Inlet Temperature | 14 | °C | | | **Support** | | |
| 34 | 0 | | Outlet Temperature | 20 | °C | 5 | | Type / No. / Norm | brackets / 4 / | |
| 35 | 0 | | Operating Pressure ² | ~3 | bar | | | **Fixing** | | |
| 36 | 0 | | Density at [T] | 1000 25 | kg/m³ °C | 5 | | Type / No. / Norm | lifting lugs / 3 / | |
| 37 | 0 | | Specific Heat Capacity | 4,182 | kJ/kg K | 5 | | | name plate / 1 / | |
| 38 | 0 | | Dyn. Viscosity at [T] | 0,001 25 | Pa s °C | 0 | | | Earthing Connectio / 1 / | |
| 39 | 5 | | Thermal Output (max) | N/A | kW | 0 | | | / / | |
| 40 | 5 | | Thermal Input (max) | N/A | kW | 0 | | **Accessories** | / / | |
| 41 | 5 | v | Heating-/ Cooling Rate | N/A / N/A | °C/min | 0 | | Type / No. / Norm | / / | |
| 42 | 0 | v | Insulation | yes | | 0 | | | / / | |
| 43 | | | **Materials** | | | 0 | | | / / | |
| 44 | 0 | v | **Product Contacted Parts** | 1.4539 | | 0 | v | **Agitator seal** | | |
| 45 | 3 | | d-Ferrite Content | Fe <3% | | 0 | v | Arrangement | none | |
| 46 | 5 | | Gaskets | EPDM peroxid cured | | 0 | v | **Aseptic Design** | yes | |
| 47 | 0 | | Sight Glasses | DIN 7080 | | 0 | | | | |
| 48 | 0 | | Inliner | N/A | | | | **Surface Treatment** | | |
| 49 | 5 | | **Non Prod. Contacted** | coil:1.4404 / 1.4435 | | | | **Outer surface** | | |
| 50 | | | **Parts / Insulation Jacket** | rest:1.4301 / 1.4404 | | 5 | | Surface finish | grinded | |
| 51 | 5 | | Gaskets | N/A | | 0 | | Surface Roughness | RA <=1.2µm | |
| 52 | 5 | | **Supports** | 1.4301 / 1.4404 | | 5 | | Welding Seam | grinded | |
| 53 | 5 | | **Insulation** | Fabr. ISOVER, AGI Q132 | | | v | **Inner surface** | | |
| 54 | 5 | | **Screws, Nuts, Bolts** | A4-70; A4 | | 4 | v | Surface finish | grinded | |
| 55 | | | **Exterior coating** | | | 0 | v | Surface properties | RA <=0.6µm | |
| 56 | 5 | | Primer | N/A | | 0 | | Welding Seam | grinded | |
| 57 | 5 | | Final Coating | N/A | | 0 | | | | |
| 58 | 0 | | | | | | | | | |

| | | |
|---|---|---|
| 59 | | **Remarks** |
| 60 | | 1. Lines marked with "**v**" contain process information |
| 61 | | 2. Overpressure. Vacuum is marked with a negative sign. |
| 62 | | |
| 63 | 5 | |
| 64 | 5 | |
| 65 | 5 | Version 24b |

| Project-No. | 2304996 | **Data Sheet** | | | |
|---|---|---|---|---|---|
| Code | NRCFF | | | | M+W GROUP |
| Tag-No. | 1B4110 | **Vessel** | | | |
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | E11047 | Room-No. | B_1O_2027 | Type | Vessel |

**Table of Nozzles**

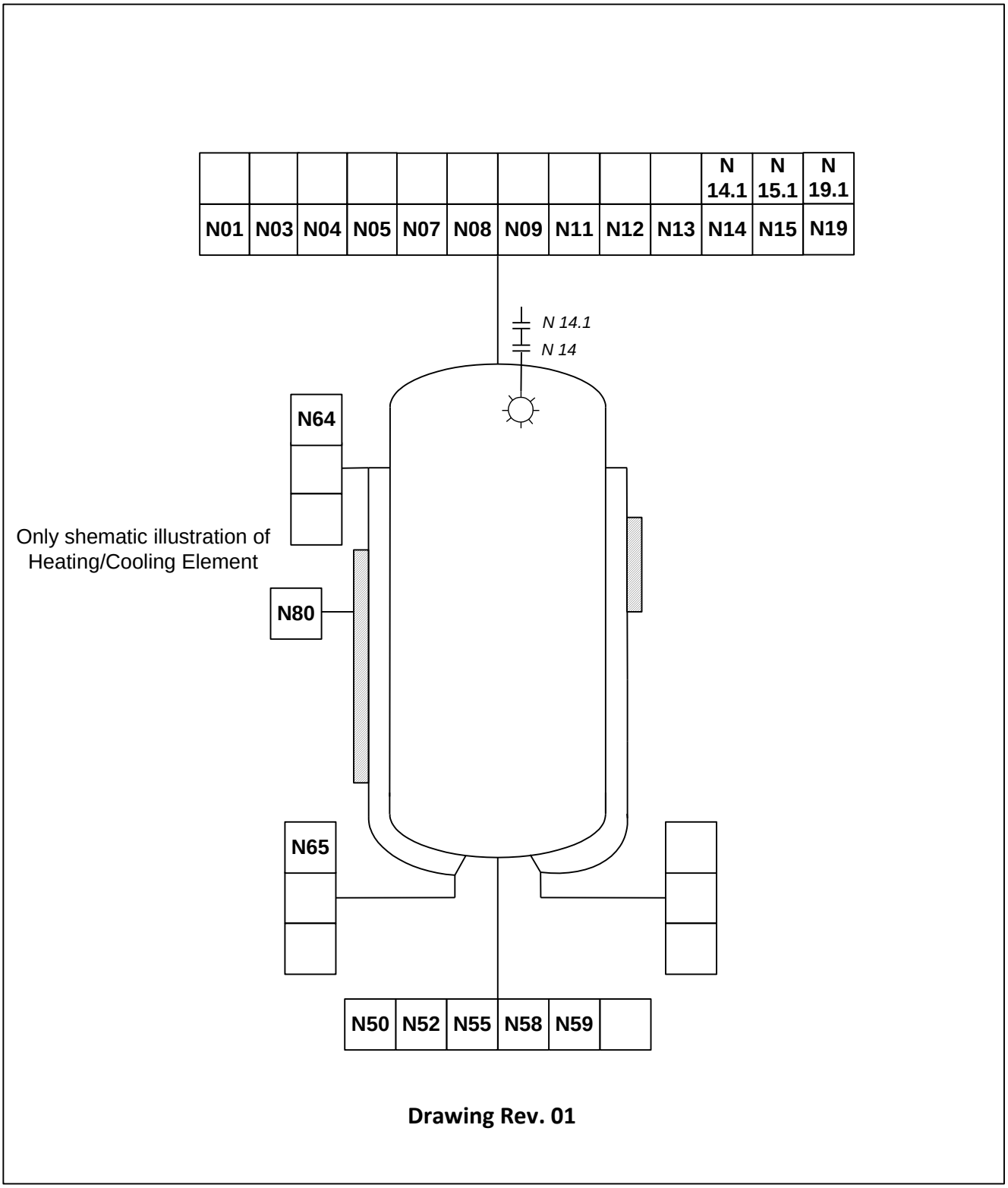
| Rev | | Ident. | No. | DN | PN | Norm | Flange-/Nozzletype | Sealing Face | Service |
|---|---|---|---|---|---|---|---|---|---|
| 5 | | N03 | 1 | 150 | | similar DIN 28117 | aseptic block flange, radial | O-ring | 0106 - Sight glass |
| 5 | | N04 | 1 | 50 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0348 - Sight glass with light |
| 5 | | N05 | 1 | 32 | | Dim. DIN 11866-B | Na-connect | Flat | 0125 - Rupture disc |
| 5 | | N07 | 1 | B25 | | | Neumo BioControl | O-ring | 0142 - Pressure gauge |
| 5 | | N08 | 1 | B25 | | | Neumo BioControl | O-ring | 0142 - Pressure probe |
| 6 | | N09 | 1 | 40 | | DIN 32676 | Dim. DIN 11866-B | Flat | 0344 - Filling level |
| 5 | | N11 | 1 | B25 | | | Neumo BioControl | O-ring | 0142 - Level switch |
| 5 | | N12 | 1 | 15 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0351 - Ventilation |
| 6 | | N13 | 1 | 50 | | Dim. DIN 11866-B | Na-connect | Flat | 0304 - Sampling (Spare port) |
| 5 | | N14 | 1 | 65 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0350 - CIP 1 (vessel-connection) |
| 5 | | N14.1 | 1 | 25 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0350 - CIP inlet 1 |
| 5 | | N15 | 1 | 65 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0350 - CIP 2 (vessel-connection) |
| 5 | | N15.1 | 1 | 25 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0350 - CIP inlet 2 |
| 5 | | N19 | 1 | 65 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0316 - Inlet pipe (J-tube) |
| 5 | | N19.1 | 1 | 20* | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0316 - inlet pipe |
| 1 | | N50 | 1 | 25 | | Südmo block flang | Type Südmo SVP | O-ring | 0318 - Bottom outlet |
| 5 | | N52 | 1 | 3/8" | | | Thermowell | | 0352 - Temperature measurement |
| 5 | | N55 | 1 | 40 | | Dim. DIN 11866-B | Na-connect; Nova Septum | Flat | 0304 - Sampling (5 port) |
| 3 | | N58 | 1 | G 1 1/4" | | Ingold | 25H7 | O-ring | 0330 - Spare (pH) |
| 5 | | N59 | 1 | B50 | | | Neumo Biocontrol | O-ring | 0142 - Spare (conductivity) |
| 5 | | N64 | 1 | 20 | 40 | DIN EN 1092-1 11 | welding neck flange | Form B1 | Outlet Tempering Media |
| 5 | | N65 | 1 | 20 | 40 | DIN EN 1092-1 11 | welding neck flange | Form B1 | Inlet Tempering Media |
| 1 | | N80 | 1 | 1/4" | | supplier standard | socket with thread | | 0149 - testsocket insulation |

**Remarks Nozzles**

| Rev | | |
|---|---|---|
| 0 | | Nozzle typical number: S-E-AT-XXXX(number in Service column) |
| 5 | | *DN25 for factor IX/VII vessels |
| 0 | | |
| 0 | | |
| 0 | | |
| 0 | | |

| Project-No. | 2304996 | Data Sheet | | | |
|---|---|---|---|---|---|
| Code | NRCFF | | | | |
| Tag-No. | 1B4110 | Vessel | | | |
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | E11047 | Room-No. | B_1O_2027 | Type | Vessel |

**Sketch**




**Drawing Rev. 01**

| | | | | | |
|---|---|---|---|---|---|
| Project-No. | 2304996 | **Data Sheet** | | | M+W GROUP |
| Code | NRCFF | | | | |
| Tag-No. | 1B4110 | **Vessel** | | | |
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | E11047 | Room-No. | B_1O_2027 | Type | Vessel |

**Additional Information for Equivalent Equipment**

| Tag-No. | Description | Process | PFD-No./PID-No./ Drawing-No. | Building-No./ Level/Room-No. |
|---|---|---|---|---|
| 1B4300 | Buffer Hold Vessel 6 (Filter Eq+Displacem.+C2 El.) | 1 (rVIII-SC) / 1UB43 Buffer Hold BDI Pooling | PVF_B_01_0063<br>PRI_B_01_0075<br>E11048 | B<br>1O<br>B_1O_2027 |
| 1B4500 | Buffer Hold Vessel 7 (C2 Equilibration) | 1 (rVIII-SC) / 1UB45 Buffer Hold Chroma 2 | PVF_B_01_0064<br>PRI_B_01_0076<br>E11050 | B<br>1O<br>B_1O_2027 |
| 1B4600 | Buffer Hold Vessel 10 (C3/C4 Flush + HETP 1) | 1 (rVIII-SC) / 1UB46 Buffer Hold Chroma 3 | PVF_B_01_0066<br>PRI_B_01_0077<br>E11048 | B<br>1O<br>B_1O_2027 |
| 1B4610 | Buffer Hold Vessel 11 (C3/C4 Eq+Post Load Wash) | 1 (rVIII-SC) / 1UB46 Buffer Hold Chroma 3 | PVF_B_01_0066<br>PRI_B_01_0078<br>E11050 | B<br>1O<br>B_1O_2027 |
| 1B4910 | Buffer Hold Vessel 13 (C5 Equilibration + Elution) | 1 (rVIII-SC) / 1UB49 Buffer Hold Chroma 5 | PVF_B_01_0067<br>PRI_B_01_0080<br>E11048 | B<br>1O<br>B_1O_2027 |
| 2B4700 | Buffer Hold Vessel 19 (C3 Eluate 2. Dilution) | 2 (rIX-FP) / 2UB47 Buffer Hold Chroma 4 | PVF_B_02_0066<br>PRI_B_02_0087<br>E11049 | B<br>1O<br>B_1O_2020 |
| 2B4750 | Buffer Hold Vessel 24 (C4 Sanitization) | 2 (rIX-FP) / 2UB47 Buffer Hold Chroma 4 | PVF_B_02_0068<br>PRI_B_02_0092<br>E11049 | B<br>1O<br>B_1O_2020 |

# Data Sheet Vessel

## 1B4110 Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1

**Version 04**

**Status: RFQ**

This datasheet does also apply to: Total number: 8

| | | | |
|---|---|---|---|
| 2B4750 | 2B4700 | 1B4910 | 1B4610 |
| 1B4600 | 1B4500 | 1B4300 | |

History:

| Vers. | Date |
|---|---|
| 04.0 | 12/19/2016 |
| 03.0 | 12/8/2016 |
| 02.0 | 7/7/2016 |
| 01.0 | 6/22/2016 |
| | |

| Function | Company | Name | Date | Signature |
|---|---|---|---|---|
| Author | M+W | | 12/19/2016 | |
| Review | | | | |
| Approval | | | | |

| CSL Behring | M+W |
|---|---|
| CSL Behring Recombinant Facility AG<br>Wankdorfstrasse 10<br>CH-3000 Bern 22<br>Switzerland | M+W Central Europe GmbH<br>Lotterbergstr. 30<br>D-70499 Stuttgart<br>Germany |
| Project Number CSL Behring<br>**16004** | Project Number M+W<br>**2304996** |
| Document Number CSL Behring | Document Number M+W<br>**D-P-DA-0077** |
| | Version<br>**04.0** |
| Project<br>**RCF Project Lengnau** | Document Type / Description<br>**Data Sheet** |
| | Page<br>**1** |

| Project-No. | 2304996 | **Data Sheet** | M+W GROUP |
|---|---|---|---|
| Code | NRCFF | | |
| Tag-No. | 1B4110 | **Vessel** | |

| | | | | | |
|---|---|---|---|---|---|
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | | Room-No. | B_1O_2027 | Type | Vessel |

| | | v | General | | | | | v | Design Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 02 | 0 | | **Inquiry No. / Date** | / | | | 0 | | **Pressure Vessel Code** | AD2000; PED | |
| 03 | 0 | | **Bid No. / Date** | / | | | 3 | v | **Inside Diameter** | 1000 | mm |
| 04 | 0 | | **Order No. / Date** | / | | | 3 | v | **Length w/o Support** | 1750 | mm |
| 05 | 0 | | **Standard / Regulation** | compliant to technical specification | | | 0 | v | **Bottom Outlet Height** | | mm |
| 06 | 0 | | **Inspection** | compliant to technical specification | | | 0 | | **Nominal volume** | 1000 | l |
| 07 | 0 | | **Manufacturer / Supplier** | / | | | 3 | v | **Total volume** | 1196 | l |
| 08 | 0 | | **Necessary Certificates** | compliant to technical specification | | | | v | **Design Temperature** | | |
| 09 | 0 | | **Documentation** | compliant to docu requirements | | | 4 | v | Inside | -10-150 | °C |
| 10 | 0 | | | | | | 4 | v | Jacket (Heating / Cooling) | -10-150 | °C |
| 11 | 0 | | | | | | | v | **Design Pressure²** | | |
| 12 | | | **Operating Data** | | | | 0 | v | Inside | -1 / 6 | bar |
| 13 | 3 | v | **Medium** | Process Media | | | 0 | v | Jacket (Heating / Cooling) | -1 / 10 | bar |
| 14 | 3 | | Characteristics | aqueous solution | | | 0 | v | **Type of bottom** | dished end DIN 28011 | |
| 15 | 3 | v | Working Volume min./max. | 82.8 1000 | | l | 0 | v | **Type of top** | dished end DIN 28011 | |
| 16 | 2 | v | Operating Temp. Min./max. | | | °C | | | **Wall Thickness** | | |
| 17 | 2 | v | Op. Pressure min./max.² | | | bar | 0 | | Top / Bottom / Cylinder | / / | mm |
| 18 | 0 | | Filling Rate min./max. | | | m³/h | 0 | | Heating-/ Cooling Jacket | | mm |
| 19 | 0 | | Draining Rate min./max. | | | m³/h | 0 | | Inliner | | mm |
| 20 | 3 | v | Density / Bulk Density at [T] | 1200 20 | | kg/m³ °C | 0 | | Insulation / Insulation Jacket | | mm |
| 21 | 2 | v | Specific Heat Capacity | | | kJ/kg K | 0 | | **Corrosion Allowance** | 0 | mm |
| 22 | 3 | | Dynamic Viscosity at [T] | 0.002 20 | | Pa s °C | 0 | | **Welding Factor** | | |
| 23 | 0 | v | pH-Value min./max. | 1 - 13.6 | | | 0 | v | **Vessel Orientation** | vertical | |
| 24 | 0 | v | Flash Point | | | °C | 0 | | **Reinforcing Sheet(s)** | | |
| 25 | 0 | v | Inertisation ² | | | mbar | 0 | | **Test press. in-/outside²** | | bar |
| 26 | 0 | v | **Cleaning in Place** | Yes | | | 0 | | **Gaskets / Type** | | |
| 27 | 0 | | Medium | 0.5M NaOH, 0.1M HNO3 | | | 0 | | **Heat Ex. Surface / Content** | | m² / l |
| 28 | 0 | | Temperature | <=80 | | °C | | | **Weight of Vessel** | | |
| 29 | 0 | v | **Sterilisation in Place** | Yes | | | 0 | | Empty / Disaster | / | kg |
| 30 | 0 | | Medium | pyrogen free steam | | | | | **Construction Details** | | |
| 31 | 0 | | Temperature | <135 | | °C | 0 | | **Heating / Cooling** | cylinder | |
| 32 | 0 | v | **Heating-/Cooling Medium** | Tempering Media | | | 4 | | Type | coil or jacket*³ | |
| 33 | 0 | | Inlet Temperature | 14 | | °C | | | **Support** | | |
| 34 | 0 | | Outlet Temperature | 20 | | °C | 2 | | Type / No. / Norm | brackets / 4 / acc. Typical | |
| 35 | 0 | | Operating Pressure ² | ~3 | | bar | | | **Fixing** | | |
| 36 | 0 | | Density at [T] | 1000 25 | | kg/m³ °C | 0 | | Type / No. / Norm | lifting lugs / / | |
| 37 | 0 | | Specific Heat Capacity | 4,182 | | kJ/kg K | 0 | | | name plate / 1 / acc. Typical | |
| 38 | 0 | | Dyn. Viscosity at [T] | 0,001 25 | | Pa s °C | 0 | | | Earthing Connectio / 1 / | |
| 39 | 0 | | Thermal Output (max) | cf Spec | | kW | 0 | | | / / | |
| 40 | 0 | | Thermal Input (max) | cf Spec | | kW | 0 | | **Accessories** | / / | |
| 41 | 0 | v | Heating-/ Cooling Rate | / cf Spec | | °C/min | 0 | | Type / No. / Norm | / / | |
| 42 | 0 | v | Insulation | yes | | | 0 | | | / / | |
| 43 | | | **Materials** | | | | 0 | | | / / | |
| 44 | 0 | v | **Product Contacted Parts** | 1.4539 | | | 0 | v | **Agitator seal** | | |
| 45 | 3 | | d-Ferrite Content | Fe <3% | | | 0 | v | Arrangement | none | |
| 46 | 3 | | Gaskets | EPDM / MVQ-silicone | | | 0 | v | **Aseptic Design** | yes | |
| 47 | 0 | | Sight Glasses | DIN 7080 | | | 0 | | | | |
| 48 | 0 | | Inliner | N/A | | | | | **Surface Treatment** | | |
| 49 | 2 | | **Non Prod. Contacted** | ds/coil:1.4404/1.4435/1.4571 | | | | | **Outer surface** | | |
| 50 | | | **Parts / Insulation Jacket** | rest:1.4301 or equi.*5) | | | 0 | | Surface finish | uniform grinding | |
| 51 | 0 | | Gaskets | Gylon | | | 0 | | Surface Roughness | RA <=1.2µm | |
| 52 | 0 | | **Supports** | V4A | | | 4 | | Welding Seam | polished eg. Scotch bride | |
| 53 | 0 | | **Insulation** | mineral wool, AS quality | | | | v | **Inner surface** | | |
| 54 | 0 | | **Screws, Nuts, Bolts** | A2-70; A4 | | | 4 | v | Surface finish | grinded | |
| 55 | | | **Exterior coating** | | | | 0 | v | Surface properties | RA <=0.6µm | |
| 56 | 0 | | Primer | | | | 0 | | Welding Seam | grinded | |
| 57 | 0 | | Final Coating | | | | 0 | | | | |
| 58 | 0 | | | | | | | | | | |

| | | |
|---|---|---|
| 59 | | **Remarks** |
| 60 | | 1. Lines marked with "**v**" contain process information |
| 61 | | 2. Overpressure. Vacuum is marked with a negative sign. |
| 62 | | |
| 63 | 2 | 4. dynamic loads need to be considered acc to regulations |
| 64 | 2 | 5. Cladding optionial in offer: 1.4301 and 1.4404/1.4435 |
| 65 | 2 | 6. operation data: see document "scope of order" |

Version 24b

| Project-No. | 2304996 | **Data Sheet** | M+W GROUP |
|---|---|---|---|
| Code | NRCFF | | |
| Tag-No. | 1B4110 | **Vessel** | |

| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
|---|---|---|---|---|---|
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | | Room-No. | B_1O_2027 | Type | Vessel |

**Table of Nozzles**

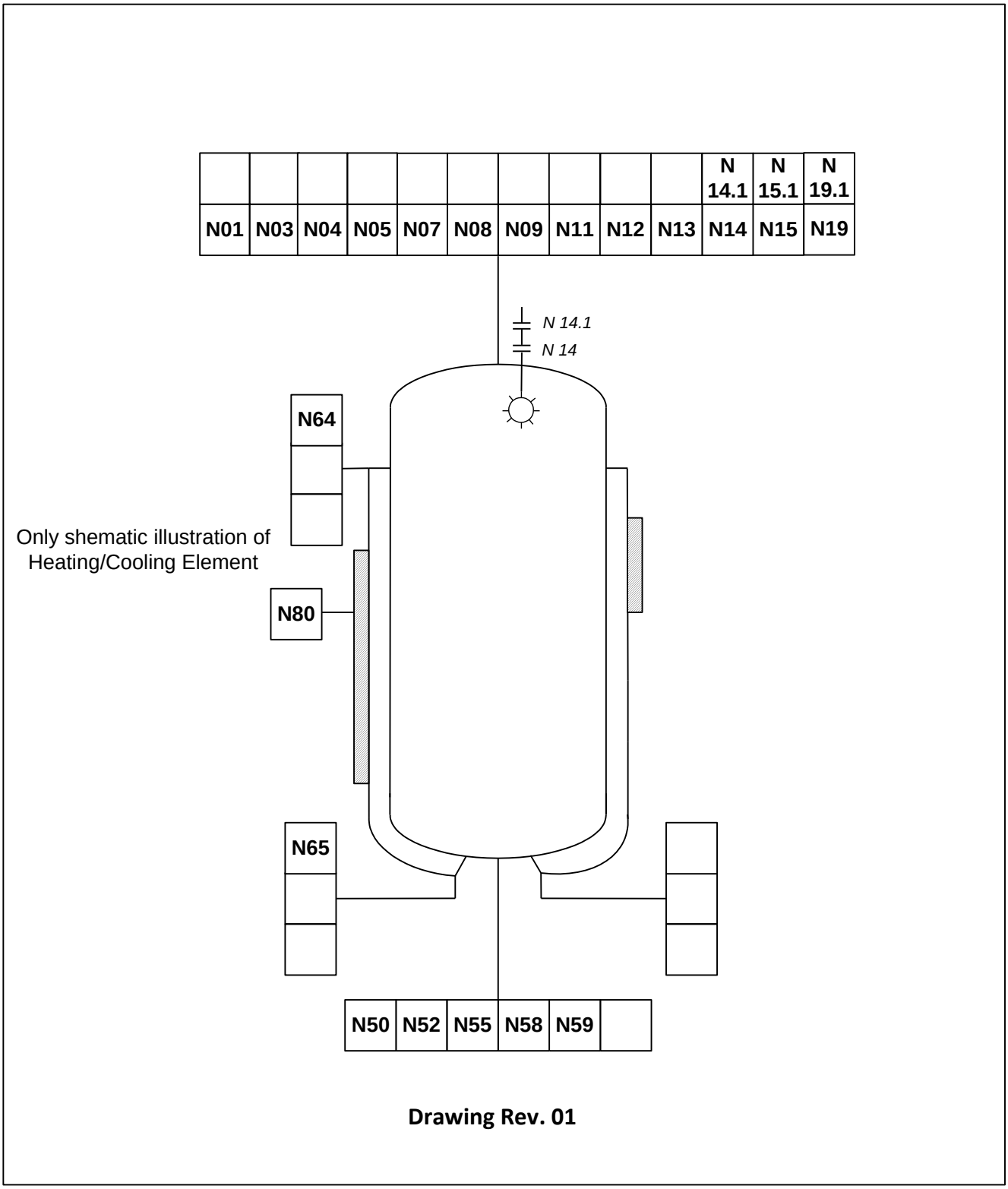
| Rev | | Ident. | No. | DN | PN | Norm | Flange-/Nozzletype | Sealing Face | Service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | N01 | 1 | 600 | | | Zimmerlin lid | O-ring | 0315 - Manhole with safety switch / indicator |
| 1 | | N03 | 1 | 80 | | similar DIN 28117 | aseptic block flange, radial | O-ring | 0106 - Sight glass |
| 1 | | N04 | 1 | 50 | | similar DIN 28117 | aseptic block flange, radial | O-ring | 0317 - Sight glass with light |
| 1 | | N05 | 1 | 2" | | ASTM | Na-connect, radial | Flat, ISO 2852 | 0125 - Rupture disc |
| 1 | | N07 | 1 | B50 | | | Neumo BioControl, radial | O-ring | 0143 - Pressure gauge |
| 1 | | N08 | 1 | B50 | | | Neumo BioControl, radial | O-ring | 0143 - Pressure probe |
| 1 | | N09 | 1 | B50 | | | Neumo BioControl, vertical | O-ring | 0142 - filling level |
| 1 | | N11 | 1 | B50 | | | Neumo BioControl, vertical | O-ring | 0142 - Level switch |
| 3 | | N12 | 1 | 15 | | weld in | Gemü B600 | N/A | 0337 - Ventilation |
| 1 | | N13 | 1 | 2" | | ASTM | Na-connect, radial | Flat, ISO 2852 | spare port |
| 1 | | N14 | 1 | B50 | | | Neumo Biocontrol, radial | O-ring | 0303 - CIP 1 (vessel-connection) |
| 3 | | N14.1 | 1 | 25 | 25 | DIN 11864-2 BF | Dim. DIN 11866-B | O-ring; Form A | 0303 - CIP inlet 1 |
| 1 | | N15 | 1 | B50 | | | Neumo Biocontrol, radial | O-ring | 0303 - CIP 2 (vessel-connection) |
| 3 | | N15.1 | 1 | 25 | 25 | DIN 11864-2 BF | Dim. DIN 11866-B | O-ring; Form A | 0303 - CIP inlet 2 |
| 1 | | N19 | 1 | B25 | | | Neumo Biocontrol, radial | O-ring | 0316 - Inlet pipe (J-tube) |
| 3 | | N19.1 | 1 | 15 | 25 | DIN 11864-2 BF | Dim. DIN 11866-B | O-ring; Form A | 0316 - inlet pipe |
| 1 | | N50 | 1 | 25 | | Südmo block flang | Type Südmo SVP | O-ring | 0318 - Bottom outlet |
| 3 | | N52 | 1 | N/A | | | Thermowell | | 0332 - Temperature measurement |
| 3 | | N55 | 1 | 1 1/2" | | ASTM | Na-connect; Nova Septum | Flat, ISO 2852 | 0304 - Sampling (5 port) |
| 3 | | N58 | 1 | G 1 1/4" | | Ingold | 25H7 | O-ring | 0330 - Spare (pH) |
| 3 | | N59 | 1 | B50 | | | Neumo Biocontrol, radial | O-ring | 0143 - Spare (conductivity) |
| 1 | | N64 | 1 | 25 | 40 | DIN EN 1092-1 11 | welding neck flange | Form B1 | Outlet Tempering Media |
| 1 | | N65 | 1 | 25 | 40 | DIN EN 1092-1 11 | welding neck flange | Form B1 | Inlet Tempering Media |
| 1 | | N80 | 1 | 1/4" | | supplier standard | socket with thread | | 0149 - testsocket insulation |



| Rev | | Remarks Nozzles |
|---|---|---|
| 0 | | Nozzle typical number: S-E-AT-XXXX(number in Service column) |
| 0 | | |
| 0 | | |
| 0 | | |
| 0 | | |
| 0 | | |

| Project-No. | 2304996 | Data Sheet | | | M+W GROUP |
|---|---|---|---|---|---|
| Code | NRCFF | | | | |
| Tag-No. | 1B4110 | Vessel | | | |
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | | Room-No. | B_1O_2027 | Type | Vessel |

**Sketch**




**Drawing Rev. 01**

| | | | | | |
|---|---|---|---|---|---|
| Project-No. | 2304996 | **Data Sheet** | | | M+W GROUP |
| Code | NRCFF | | | | |
| Tag-No. | 1B4110 | **Vessel** | | | |
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | | Room-No. | B_1O_2027 | Type | Vessel |

**Additional Information for Equivalent Equipment**

| Tag-No. | Description | Process | PFD-No./PID-No./ Drawing-No. | Building-No./ Level/Room-No. |
|---|---|---|---|---|
| 1B4300 | Buffer Hold Vessel 6 (Filter Eq+Displacem.+C2 El.) | 1 (rVIII-SC) / 1UB43 Buffer Hold BDI Pooling | PVF_B_01_0063<br>PRI_B_01_0075 | B<br>1O<br>B_1O_2027 |
| 1B4500 | Buffer Hold Vessel 7 (C2 Equilibration) | 1 (rVIII-SC) / 1UB45 Buffer Hold Chroma 2 | PVF_B_01_0064<br>PRI_B_01_0076 | B<br>1O<br>B_1O_2027 |
| 1B4600 | Buffer Hold Vessel 10 (C3/C4 Flush + HETP 1) | 1 (rVIII-SC) / 1UB46 Buffer Hold Chroma 3 | PVF_B_01_0066<br>PRI_B_01_0077 | B<br>1O<br>B_1O_2027 |
| 1B4610 | Buffer Hold Vessel 11 (C3/C4 Eq+Post Load Wash) | 1 (rVIII-SC) / 1UB46 Buffer Hold Chroma 3 | PVF_B_01_0066<br>PRI_B_01_0078 | B<br>1O<br>B_1O_2027 |
| 1B4910 | Buffer Hold Vessel 13 (C5 Equilibration + Elution) | 1 (rVIII-SC) / 1UB49 Buffer Hold Chroma 5 | PVF_B_01_0067<br>PRI_B_01_0080 | B<br>1O<br>B_1O_2027 |
| 2B4700 | Buffer Hold Vessel 19 (C3 Eluate 2. Dilution) | 2 (rIX-FP) / 2UB47 Buffer Hold Chroma 4 | PVF_B_02_0066<br>PRI_B_02_0087 | B<br>1O<br>B_1O_2020 |
| 2B4750 | Buffer Hold Vessel 24 (C4 Sanitization) | 2 (rIX-FP) / 2UB47 Buffer Hold Chroma 4 | PVF_B_02_0068<br>PRI_B_02_0092 | B<br>1O<br>B_1O_2020 |

# Data Sheet Vessel

## 1B4110 Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1

**Version 06**

**Status: As Built**

This datasheet does also apply to: Total number: 8

| | | | |
|---|---|---|---|
| 2B4750 | 2B4700 | 1B4910 | 1B4610 |
| 1B4600 | 1B4500 | 1B4300 | |

History:

| Vers. | Date |
|---|---|
| 06.0 | 22.11.2017 |
| 05.0 | 23.10.2017 |
| 04.0 | 19.12.2016 |
| 03.0 | 08.12.2016 |
| 02.0 | 07.07.2016 |

| Function | Company | Name | Date | Signature |
|---|---|---|---|---|
| Author | M+W | [illegible] | 22.11.2017 | [signature] |
| Review | M+W | [illegible] | 22.11.2017 | [signature] |
| Approval | CSL | [illegible] | 14.12.17 | [signature] |
| | **CSL Behring** | | | **M+W** |

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| Project Number CSL Behring | Project Number M+W | |
|---|---|---|
| **16004** | **2304996** | |
| Document Number CSL Behring | Document Number M+W | Version |
| | **D-P-DA-0077** | **06.0** |
| Project | Document Type / Description | Page |
| **RCF Project Lengnau** | **Data Sheet** | **1** |

| Project-No. | 2304996 | **Data Sheet** | M+W GROUP |
|---|---|---|---|
| Code | NRCFF | | |
| Tag-No. | 1B4110 | **Vessel** | |

| | | | | | |
|---|---|---|---|---|---|
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 10 | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | E11047 | Room-No. | B_10_2027 | Type | Vessel |

| 01 | | v | General | | | | | Design Data | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 | 5 | | **Inquiry No. / Date** | NA / | | 0 | | **Pressure Vessel Code** | AD2000; PED | |
| 03 | 5 | | **Bid No. / Date** | 0103705004 / 07.04.2017 | | 3 | v | **Inside Diameter** | 1000 | mm |
| 04 | 5 | | **Order No. / Date** | 4500971482 / 27.04.2017 | | 5 | v | **Length w/o Support** | 1807 | mm |
| 05 | 5 | | **Standard / Regulation** | RS.00042 / RS.00043 / Rs.00044 | | 5 | v | **Bottom Outlet Height** | N/A | mm |
| 06 | 5 | | **Inspection** | RS.00042 / RS.00043 / Rs.00044 | | 0 | | **Nominal volume** | 1000 | l |
| 07 | 5 | | **Manufacturer / Supplier** | KASAG / KASAG | | 5 | v | **Total volume** | 1295 | l |
| 08 | 5 | | **Necessary Certificates** | RS.00042 / RS.00043 / Rs.00044 | | | v | **Design Temperature** | | |
| 09 | 5 | | **Documentation** | RS.00042 / RS.00043 / Rs.00044 | | 4 | v | Inside | -10-150 | °C |
| 10 | 0 | | | | | 4 | v | Jacket (Heating / Cooling) | -10-150 | °C |
| 11 | 0 | | | | | | v | **Design Pressure²** | | |
| 12 | | | **Operating Data** | | | 0 | v | Inside | -1 / 6 | bar |
| 13 | 3 | v | **Medium** | Process Media | | 0 | v | Jacket (Heating / Cooling) | -1 / 10 | bar |
| 14 | 3 | | Characteristics | aqueous solution | | 0 | v | **Type of bottom** | dished end DIN 28011 | |
| 15 | 5 | v | Working Volume min./max. | 78,2 - 1008 | l | 5 | v | **Type of top** | removeable, DIN 28011 | |
| 16 | 5 | v | Operating Temp. Min./max. | 19 - 23 | °C | | | **Wall Thickness** | | |
| 17 | 5 | v | Op. Pressure min./max.² | 0 - 2,1 | bar | 5 | | Top / Bottom / Cylinder | 6 / 6 / 5 | mm |
| 18 | 5 | | Filling Rate min./max. | N/A | m³/h | 5 | | Heating-/ Cooling Jacket | 3 | mm |
| 19 | 5 | | Draining Rate min./max. | N/A | m³/h | 5 | | Inliner | N/A | mm |
| 20 | 3 | v | Density / Bulk Density at [T] | 1200 20 | kg/m³ °C | 5 | | Insulation / Insulation Jacket | 3 | mm |
| 21 | 5 | v | Specific Heat Capacity | ~4.2 | kJ/kg K | 0 | | **Corrosion Allowance** | 0 | mm |
| 22 | 3 | | Dynamic Viscosity at [T] | 0.002 20 | Pa s °C | 5 | | **Welding Factor** | acc. PED | |
| 23 | 0 | v | pH-Value min./max. | 1 - 13,6 | | 0 | v | **Vessel Orientation** | vertical | |
| 24 | 5 | v | Flash Point | N/A | °C | 5 | | **Reinforcing Sheet(s)** | no | |
| 25 | 5 | v | Inertisation ² | N/A | mbar | 5 | | **Test press. in-/outside²** | 8.9 / 16.2 | bar |
| 26 | 0 | v | **Cleaning in Place** | Yes | | 5 | | **Gaskets / Type** | acc. Pipe class | |
| 27 | 0 | | Medium | 0.5M NaOH, 0.1M HNO3 | | 5 | | **Heat Ex. Surface / Content** | N/A | m² / l |
| 28 | 0 | | Temperature | <=80 | °C | | | **Weight of Vessel** | | |
| 29 | 0 | v | **Sterilisation in Place** | Yes | | 5 | | Empty / Disaster | 720 / 2075 | kg |
| 30 | 0 | | Medium | pyrogen free steam | | | | **Construction Details** | | |
| 31 | 0 | | Temperature | <135 | °C | 0 | | **Heating / Cooling** | cylinder | |
| 32 | 0 | v | **Heating-/Cooling Medium** | Tempering Media | | 5 | | Type | coil | |
| 33 | 0 | | Inlet Temperature | 14 | °C | | | **Support** | | |
| 34 | 0 | | Outlet Temperature | 20 | °C | 5 | | Type / No. / Norm | brackets / 4 / | |
| 35 | 0 | | Operating Pressure ² | ~3 | bar | | | **Fixing** | | |
| 36 | 0 | | Density at [T] | 1000 25 | kg/m³ °C | 5 | | Type / No. / Norm | lifting lugs / 3 / | |
| 37 | 0 | | Specific Heat Capacity | 4,182 | kJ/kg K | 5 | | | name plate / 1 / | |
| 38 | 0 | | Dyn. Viscosity at [T] | 0,001 25 | Pa s °C | 0 | | | Earthing Connection / 1 / | |
| 39 | 5 | | Thermal Output (max) | N/A | kW | 0 | | | / / | |
| 40 | 5 | | Thermal Input (max) | N/A | kW | 0 | | **Accessories** | / / | |
| 41 | 5 | v | Heating-/ Cooling Rate | N/A / N/A | °C/min | 0 | | Type / No. / Norm | / / | |
| 42 | 0 | v | Insulation | yes | | 0 | | | / / | |
| 43 | | | **Materials** | | | 0 | | | / / | |
| 44 | 0 | v | **Product Contacted Parts** | 1.4539 | | 0 | v | **Agitator seal** | | |
| 45 | 3 | | d-Ferrite Content | Fe <3% | | 0 | v | Arrangement | none | |
| 46 | 5 | | Gaskets | EPDM peroxid cured | | 0 | v | **Aseptic Design** | yes | |
| 47 | 0 | | Sight Glasses | DIN 7080 | | 0 | | | | |
| 48 | 0 | | Inliner | N/A | | | | **Surface Treatment** | | |
| 49 | 5 | | **Non Prod. Contacted** | coil: 1.4404 / 1.4435 | | | | **Outer surface** | | |
| 50 | | | **Parts / Insulation Jacket** | rest: 1.4301 / 1.4404 | | 5 | | Surface finish | grinded | |
| 51 | 5 | | Gaskets | N/A | | 0 | | Surface Roughness | RA <=1.2µm | |
| 52 | 5 | | **Supports** | 1.4301 / 1.4404 | | 5 | | Welding Seam | grinded | |
| 53 | 5 | | **Insulation** | Fabr. ISOVER, AGI Q132 | | | v | **Inner surface** | | |
| 54 | 5 | | **Screws, Nuts, Bolts** | A4-70; A4 | | 4 | v | Surface finish | grinded | |
| 55 | | | **Exterior coating** | | | 0 | v | Surface properties | RA <=0.6µm | |
| 56 | 5 | | Primer | N/A | | 0 | | Welding Seam | grinded | |
| 57 | 5 | | Final Coating | N/A | | 0 | | | | |
| 58 | 0 | | | | | | | | | |
| 59 | | | **Remarks** | | | | | | | |
| 60 | | | 1. Lines marked with "v" contain process information | | | | | | | |
| 61 | | | 2. Overpressure, Vacuum is marked with a negative sign. | | | | | | | |
| 62 | | | | | | | | | | |
| 63 | 5 | | | | | | | | | |
| 64 | 5 | | | | | | | | | |
| 65 | 5 | | | | | | | | | Version 24b |

| Project-No. | 2304996 | **Data Sheet** | | | M+W GROUP |
|---|---|---|---|---|---|
| Code | NRCFF | | | | |
| Tag-No. | 1B4110 | **Vessel** | | | |
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 10 | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | E11047 | Room-No. | B_10_2027 | Type | Vessel |

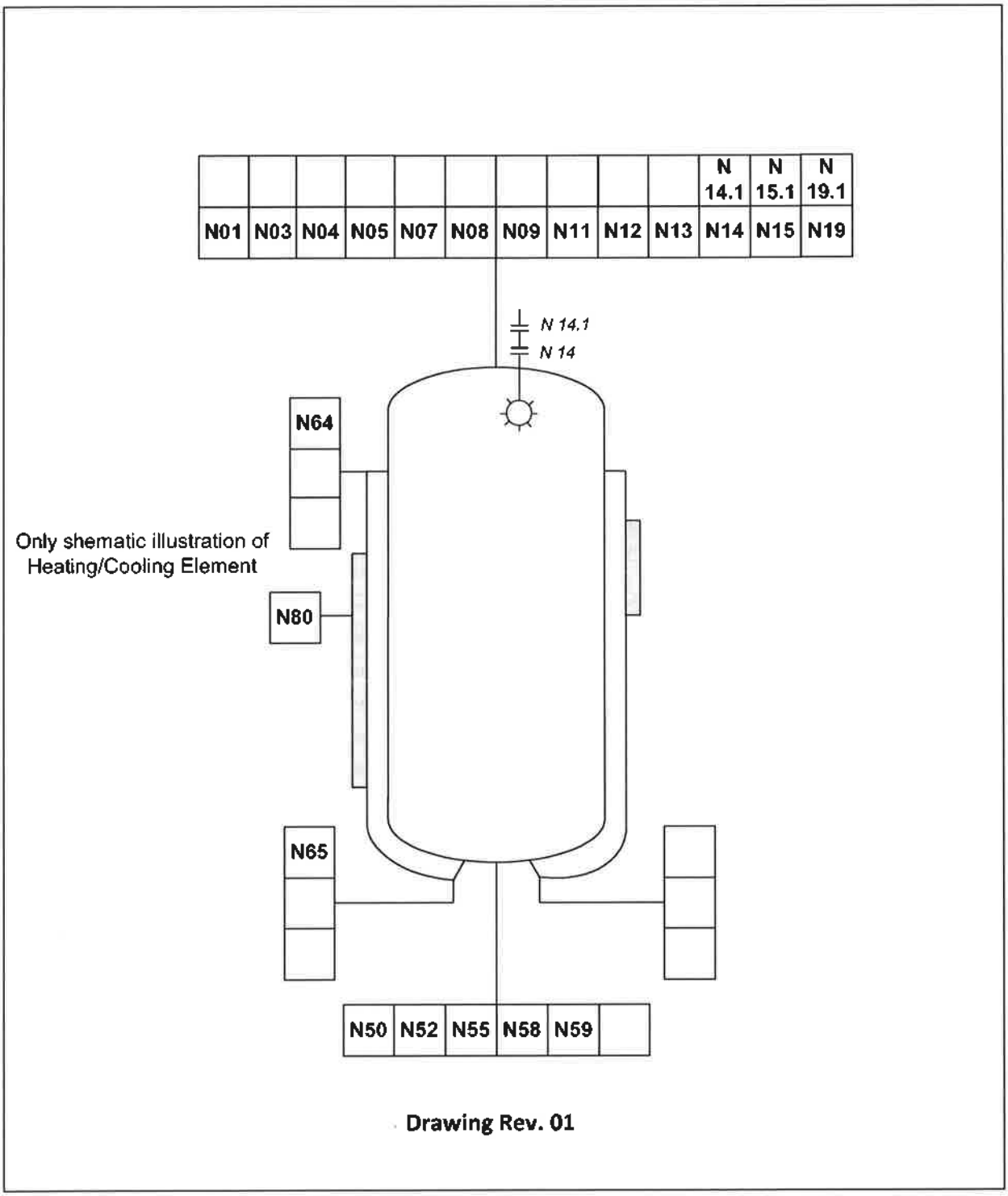
**Table of Nozzles**

| Rev | | Ident. | No. | DN | PN | Norm | Flange-/Nozzletype | Sealing Face | Service |
|---|---|---|---|---|---|---|---|---|---|
| 5 | | N03 | 1 | 150 | | similar DIN 28117 | aseptic block flange, radial | O-ring | 0106 - Sight glass |
| 5 | | N04 | 1 | 50 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0348 - Sight glass with light |
| 5 | | N05 | 1 | 32 | | Dim. DIN 11866-B | Na-connect | Flat | 0125 - Rupture disc |
| 5 | | N07 | 1 | B25 | | | Neumo BioControl | O-ring | 0142 - Pressure gauge |
| 5 | | N08 | 1 | B25 | | | Neumo BioControl | O-ring | 0142 - Pressure probe |
| 6 | | N09 | 1 | 40 | | DIN 32676 | Dim. DIN 11866-B | Flat | 0344 - Filling level |
| 5 | | N11 | 1 | B25 | | | Neumo BioControl | O-ring | 0142 - Level switch |
| 5 | | N12 | 1 | 15 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0351 - Ventilation |
| 6 | | N13 | 1 | 50 | | Dim. DIN 11866-B | Na-connect | Flat | 0304 - Sampling (Spare port) |
| 5 | | N14 | 1 | 65 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0350 - CIP 1 (vessel-connection) |
| 5 | | N14.1 | 1 | 25 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0350 - CIP inlet 1 |
| 5 | | N15 | 1 | 65 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0350 - CIP 2 (vessel-connection) |
| 5 | | N15.1 | 1 | 25 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0350 - CIP inlet 2 |
| 5 | | N19 | 1 | 65 | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0316 - Inlet pipe (J-tube) |
| 5 | | N19.1 | 1 | 20* | | DIN 11864-3 BKS | Dim. DIN 11866-B | O-ring; Form A | 0316 - inlet pipe |
| 1 | | N50 | 1 | 25 | | Südmo block flang | Type Südmo SVP | O-ring | 0318 - Bottom outlet |
| 5 | | N52 | 1 | 3/8" | | | Thermowell | | 0352 - Temperature measurement |
| 5 | | N55 | 1 | 40 | | Dim. DIN 11866-B | Na-connect; Nova Septum | Flat | 0304 - Sampling (5 port) |
| 3 | | N58 | 1 | G 1 1/4" | | Ingold | 25H7 | O-ring | 0330 - Spare (pH) |
| 5 | | N59 | 1 | B50 | | | Neumo Biocontrol | O-ring | 0142 - Spare (conductivity) |
| 5 | | N64 | 1 | 20 | 40 | DIN EN 1092-1 11 | welding neck flange | Form B1 | Outlet Tempering Media |
| 5 | | N65 | 1 | 20 | 40 | DIN EN 1092-1 11 | welding neck flange | Form B1 | Inlet Tempering Media |
| 1 | | N80 | 1 | 1/4" | | supplier standard | socket with thread | | 0149 - testsocket insulation |

| Rev | | **Remarks Nozzles** |
|---|---|---|
| 0 | | Nozzle typical number: S-E-AT-XXXX(number in Service column) |
| 5 | | *DN25 for factor IX/VII vessels |
| 0 | | |
| 0 | | |
| 0 | | |
| 0 | | |

| Project-No. | 2304996 | Data Sheet | | | M+W GROUP |
|---|---|---|---|---|---|
| Code | NRCFF | | | | |
| Tag-No. | 1B4110 | Vessel | | | |
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 10 | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | E11047 | Room-No. | B_10_2027 | Type | Vessel |

**Sketch**



| Project-No. | 2304996 | **Data Sheet** | | | M+W GROUP |
|---|---|---|---|---|---|
| Code | NRCFF | | | | |
| Tag-No. | 1B4110 | **Vessel** | | | |
| PFD-No. | PVF_B_01_0060 | Building-No. | B | Process | 1 (rVIII-SC) / 1UB41 Buffer Hold Chroma 1 |
| P&ID -No. | PRI_B_01_0071 | Level | 1O | Name | Buffer Hold Vessel 2 (C1 Eq. + Pre/Post Load Wash) |
| Drawing-No. | E11047 | Room-No. | B_1O_2027 | Type | Vessel |

**Additional Information for Equivalent Equipment**

| Tag-No. | Description | Process | PFD-No./PID-No./ Drawing-No. | Building-No./ Level/Room-No. |
|---|---|---|---|---|
| 1B4300 | Buffer Hold Vessel 6 (Filter Eq+Displacem.+C2 El.) | 1 (rVIII-SC) / 1UB43 Buffer Hold BDI Pooling | PVF_B_01_0063<br>PRI_B_01_0075<br>E11048 | B<br>1O<br>B_1O_2027 |
| 1B4500 | Buffer Hold Vessel 7 (C2 Equilibration) | 1 (rVIII-SC) / 1UB45 Buffer Hold Chroma 2 | PVF_B_01_0064<br>PRI_B_01_0076<br>E11050 | B<br>1O<br>B_1O_2027 |
| 1B4600 | Buffer Hold Vessel 10 (C3/C4 Flush + HETP 1) | 1 (rVIII-SC) / 1UB46 Buffer Hold Chroma 3 | PVF_B_01_0066<br>PRI_B_01_0077<br>E11048 | B<br>1O<br>B_1O_2027 |
| 1B4610 | Buffer Hold Vessel 11 (C3/C4 Eq+Post Load Wash) | 1 (rVIII-SC) / 1UB46 Buffer Hold Chroma 3 | PVF_B_01_0066<br>PRI_B_01_0078<br>E11050 | B<br>1O<br>B_1O_2027 |
| 1B4910 | Buffer Hold Vessel 13 (C5 Equilibration + Elution) | 1 (rVIII-SC) / 1UB49 Buffer Hold Chroma 5 | PVF_B_01_0067<br>PRI_B_01_0080<br>E11048 | B<br>1O<br>B_1O_2027 |
| 2B4700 | Buffer Hold Vessel 19 (C3 Eluate 2. Dilution) | 2 (rIX-FP) / 2UB47 Buffer Hold Chroma 4 | PVF_B_02_0066<br>PRI_B_02_0087<br>E11049 | B<br>1O<br>B_1O_2020 |
| 2B4750 | Buffer Hold Vessel 24 (C4 Sanitization) | 2 (rIX-FP) / 2UB47 Buffer Hold Chroma 4 | PVF_B_02_0068<br>PRI_B_02_0092<br>E11049 | B<br>1O<br>B_1O_2020 |