



Munsch Chemie-Pumpen GmbH  
Im Staudchen  
D-56235 Ransbach-Baumbach  
Tel.: +49 (0) 26 23-8 98-90  
Fax.: +49 (0) 26 23-8 98-95  
<http://www.munsch.de>

## Data Sheet

### Munsch Chemical-Pump



Serial-No's: **W57947-01 - 09**

01	Customer: <b>SOVIMAR METAL, S.L.</b>	Designation: <b>Standardized Chemical Pump</b>	Quotation-No.: <b>P078236-01</b>
02	Customer-No.: <b>14515</b>	Type/ Size: <b>NPC 300-250-315</b>	Contact: <b>Christian Steinbrecher</b>
03	Order-No.: <b>S-22721</b>	Main Material: <b>PE - UHMW</b>	MUNSCH-Order-No.: <b>P653677</b> Pos.: <b>10</b>
04	Date: <b>31.05.2021</b>	Delivery: <b>Bare shaft pump</b>	Quantity: <b>9</b>
05	Reference: <b>Ref.: AZSA electrolysis plant E</b>		Revision: <b>00</b> of <b>2021.06.02</b>
06	Name:		
07	Customer-Item-No.:		

#### Site / Environment

08	Installation: <b>Indoor</b>	Altitude: m	Site condition: -
09	Details:	Ex-zone:-	Ambient temperature min/max.: <b>1.0 / 40.0 °C</b>

#### Liquid

10	Liquid: <b>Description</b>	Description: <b>Pump for acid (electrolyte) recirculation</b>	
11	Components:	Solids: -	Operating temperature: <b>38.0 °C</b>
12	1 <b>H2SO4</b> % <b>186 g/l</b>	Solid content: % g/l	Operat. temp. min/max.: / °C
13	2 % g/l	Solid size: mm	Density: <b>1.28 kg/dm³</b>
14	3 % g/l		Vapour pressure: bar
15	pH-value at top: min: max		Dynamic viscosity: mPas

#### Operating conditions

16	Flow rated: <b>711.0 m³/h</b>	Total head rated: <b>41.6 m</b>	Design speed: <b>1100 1/min</b>
17	Flow min./max.: / m³/h	Total head min./max.: m m	Rotation (1): <b>cw</b>
18	Flow min.required: m³/h	Inlet gauge pressure: bar	Power consumption P: <b>138.24 kW</b>
19	NPSH available: m	Outlet gauge pressure: bar	Efficiency: <b>74.63 %</b>
20	NPSH required: <b>3.9 m</b>	Differential pressure: bar	P <sub>max</sub> at rated Impeller-φ: kW
21	Frequency inverter operation: <b>with</b>		P <sub>max</sub> at max. Impeller-φ: kW

#### Construction features

22	Flange connection: <b>EN 1092-2, PN 10</b>	Impeller design: <b>closed B1</b>	Bearing bracket: <b>L 22</b>
23	Inlet flange: <b>DN 300</b>	Impeller-φ min./max.: <b>440.0 / 500.0 mm</b>	Bearing lubrication: <b>Grease</b>
24	Outlet flange: <b>DN 250</b>	Impeller-φ rated: <b>500.0</b> actual: <b>500.0 mm</b>	Radial bearing: <b>NU 2220 ECP</b>
25	Pump Casing (seal): <b>O-ring</b>	Balancing hole(s): <b>with</b>	Axial bearing: <b>7222 BECBP (2 Units)</b>
26	Drain connection: <b>DN 25</b>	Back vanes: <b>with</b>	<b>For magnetically coupled pumps only:</b>
27	Mechanical Seal: <b>Double mechanical seal</b>	Flushing holes (casing cover): -	Magnetic coupling:
28	Seal type: <b>MUNSCH-REA III/D-V</b>	Flushing Rate Pressure	
29	buffer fluid in closed-circuit thermosiphon system	Buffer fluid: <b>0.0 l/min</b> <b>4.0 bar</b>	Ext. flushing of plain bearing (1):
30	Pump interior: -	Pump interior: l/min bar	Connection:

#### Accessories

31	Coupling: -	Coupling guard: -	Foundation fixing: -
32	Type: -	Base plate: - -	Anchor bolts: -
33	Size: - Spacer length: mm	Earthing lugs: -	Foundation bolts: -
34		Levelling bolts: -	Priming pot: -
35		Drip pan: -	Add. name plate: <b>Plastic</b>

#### Materials

36	Volute casing: <b>PE - UHMW</b>	Secondary seals: <b>FPM</b>	Connecting bolts: <b>Stainless steel</b>
37	Casing cover: <b>PE - UHMW</b>	Casing seal (O-Ring): <b>FPM</b>	Studs: <b>Stainless steel</b>
38	Impeller: <b>PE - UHMW</b>	Impeller screw: <b>FPM</b>	Mechanical Seal
39	Pump shaft: <b>C-Steel</b>	O-Rings Mechanical Seal	Stationary / rotating seal ring Product: <b>SSIC / SSIC</b>
40	Intermediate lantern: <b>Cast iron</b>	dynamic (412.2): <b>FPM</b>	Stationary / rotating seal ring Atm.: <b>Carbon / SSIC</b>
41	Material compl. with FDA: -	static (412.3): <b>FPM</b>	Shaft sleeve Product side: <b>red brass / E-CTFE</b>
42	Coupling guard: -		Shaft sleeve Atmos. side: <b>Stainless steel</b>

#### Driver

43	Delivery: <b>without motor</b>	Nominal power: <b>200 kW</b>	Nominal current at 400 V: A
44	- supplied by: -	Nominal speed: <b>950 1/min</b>	Start-up current: A
45	- mounted by: <b>Customer</b>	Frequency: <b>50 Hz</b>	cos φ:
46	Manufacturer: -	Voltage: <b>400 V</b>	Enclosure: <b>IP 55</b>
47	Standard: <b>IEC</b>	Thermistors: <b>3 Thermistors</b>	Insulation class: <b>F</b>
48	Hazard designation: -	VIK-design: -	Anticondensation heaters: -
49	Design: <b>IM B3</b>	Efficiency class: <b>IE3</b>	Located bearing: -
50	Frame size: <b>355M</b>	Location terminal box(2): <b>top</b>	Sound pressure level: db(A)

#### Painting specification

51	Painting on 2-component epoxy basis, 2-3 layers	Pump: <b>RAL 2003</b>	Coupling guard: -
52	Total dry-film thickness: <b>130 - 150 μm</b>	Motor: -	Base plate: -

Special painting, special documentation and additional tests are possible upon request

Remarks:



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## Dimension Drawing Munsch Chemical-Pump



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53	Customer: <b>SOVIMAR METAL, S.L.</b>	Designation: <b>Standardized Chemical Pump</b>	MUNSCH-Order-No.: <b>P653677</b> Pos.: <b>10</b>
54	Order-No.: <b>S-22721</b>	Type / Size: <b>NPC 300-250-315</b>	Contact: <b>Christian Steinbrecher</b>
55	Reference: <b>Ref.: AZSA electrolysis plant E</b>	Main Material: <b>PE - UHMW</b>	Quantity: <b>9</b>
56	Name:		Revision: <b>00</b> of <b>2021.06.02</b>
57	Customer-Item-No.:		Nominal power: <b>200 kW</b> Speed: <b>9501/min</b>

Connection Dimensions				Forces and Moments						
58	Connection: <b>EN 1092-2, PN 10</b>		Priming pot			DN	F <sub>x</sub> [N]	F <sub>y</sub> [N]	F <sub>z</sub> [N]	ΣF [N]
59	DNs: <b>DN 300</b>	DNd: <b>DN 250</b>	DNs2: <b>-</b>	<b>DN 300</b>		<b>4000</b>	<b>3580</b>	<b>3220</b>	<b>6260</b>	
60	z1: <b>12</b>	z2: <b>12</b>	z3: <b>4</b>	<b>DN 250</b>		<b>2980</b>	<b>2700</b>	<b>3340</b>	<b>5225</b>	
61	p1: <b>M 20</b>	p2: <b>M 20</b>	p3: <b>M 12</b>			M <sub>x</sub> [Nm]	M <sub>y</sub> [Nm]	M <sub>z</sub> [Nm]	ΣM [Nm]	
62	ks: <b>400.0 mm</b>	kd: <b>350.0 mm</b>	ks2: <b>85.0 mm</b>	<b>DN 300</b>		<b>2420</b>	<b>1720</b>	<b>1980</b>	<b>3570</b>	
63	ss: <b>4.0 mm</b>	sd: <b>3.0 mm</b>	Ds: <b>40.0 mm</b>	<b>DN 250</b>		<b>1780</b>	<b>1260</b>	<b>1460</b>	<b>2625</b>	
64	sl: <b>110.0 mm</b>	dl: <b>110.0 mm</b>	h4: <b>2.0 mm</b>							
65	Studs are dimensioned for backing rings and stub ends acc. to DIN 16 962 / 16 963 part 4									

<p><b>Ansicht/View X</b></p>				<p><b>h1p: 475.0 mm</b> <b>h1m: 355.0 mm</b></p>			
<p><b>Ansicht/View A</b></p>				<p>Picture: <b>2901200000</b></p>			

Main Dimensions (Tolerances of connection dimensions of the pump according to EN 735)									
66	a: <b>250.0 mm</b>	n1: <b>755.0 mm</b>	Close-coupled Pump		Motor		Bareshaft pump		
67	f: <b>800.0 mm</b>	n2: <b>640.0 mm</b>	v1: mm	Q: mm	w: <b>600.0 mm</b>	b4: <b>85.0 mm</b>			
68	D: <b>900.0 mm</b>	m1: <b>260.0 mm</b>	v2: mm	R: mm	φ d: <b>60.0 mm</b>	h6: <b>8.0 mm</b>			
69	h1: <b>475.0 mm</b>	m2: <b>200.0 mm</b>	vb: mm	X: mm	l: <b>110.0 mm</b>	n3: <b>200.0 mm</b>			
70	h2: <b>530.0 mm</b>	S1: <b>24.0 mm</b>	vd: mm	φ F: mm	pb: <b>18.0 mm</b>	S2: <b>22.0 mm</b>			
71	ts: mm	h7: <b>30.0 mm</b>	v: mm	Motor dimensions similar to european standard		u: <b>64.0 mm</b>	sf1: mm		
72	td: mm	Re: mm					sf2: mm		
73		y: <b>330.0 mm</b>							

Accessories									
74	Base plate		Coupling		Priming pot		Installation		Anchor bolts
75	l1: mm	b1: mm	sp: mm	a1: mm					- / -
76	l2: mm	b2: mm	s: mm	a2: mm					Foundation bolts
77	l3: mm	b3: mm	φ dp: <b>60.0 mm</b>	d4: mm					-
78	l4: mm	h3: mm	φ dm: mm	H: mm					Leveling elements
79	φ d1: mm	h5: mm		h8: mm					d2: mm
80	F1: mm	F2: mm		av: mm					hn: - mm
81	A: mm	bn: mm		h1.v: mm					hNmax: mm

Flushing connection				Special Measures, Remarks	
82	(1)			-	
83					
84					
85					
86					
87					
88					

Weights			Dimensions	
89	Pump: <b>1500.00 kg</b>	Coupling: kg	Length: <b>1156.0 mm</b>	P2Plus 4.2
90	Motor: kg	Priming pot: kg	Width: <b>900.0 mm</b>	Technical and dimensional details may be subject to changes.
91	Baseplate: kg	Total weight: <b>1500.00 kg</b>	Height: <b>1112.0 mm</b>	

(1) viewed from driver to pump

(2) viewed from pump to driver

Munsch Chemie-Pumpen GmbH 04.11.2021