

Sanitisation cycle:

Sanitization will be done by washing recipe "sanitization", the log reduction is calculate by ISO15883-1 (A0=3000)

- **1st Rinse (direct mode) WBE-T Pipes**
 - a) The water WBE-T is heated up to 85 °C by Steam heating system, controlled by TE49.1 probe and checked by TE016 (+/- 2°C).
 - b) The WBE-T water is sprayed into and onto the load for the pre-set time (sugg. 16 min)..
 - c) At the end of this rinsing phase, the washing tank and all pipes are automatically drained: WBE-T water, residues and contaminations are removed from the washer.
- **2nd Rinse (direct mode) WBU Pipes**
 - a) The water WBU is heated up to 85 °C by Steam heating system, controlled by TE49.2 probe and checked by TE016 (+/- 2°C).
 - b) The WBU water is sprayed into and onto the load for the pre-set time (sugg. 16 min)..
 - c) At the end of this rinsing phase, the washing tank and all pipes are automatically drained: WBU water, residues and contaminations are removed from the washer.
- **3rd Rinse (recirculation mode) Chamber Pipes**
 - The chamber is filled by WBU water, after that is heated up to 85 °C by Steam heating system, controlled by TE015 probe and checked by TE016 (+/- 2°C).
 - The WBU water is sprayed into and onto the load for the pre-set time (sugg. 16 min).
 - At the end of this rinsing phase, the washing tank and all pipes are automatically drained: WBU water, residues and contaminations are removed from the washer.
- **Drying phase**
- **Cooling phase**

Cooling is made with HEPA filtered air, at room temperature.

6.4 Technical characteristics

6.4.1 General characteristics

Main cabinet

- double-doors pass-through version
- built onto a sturdy frame placed and sealed on the floor
- double walled and insulated (compliant surface temperature limits indicated in international standards)
- hand polished
- dead leg < 2d
- self-washing ceiling
- gap free
- crevice free with radius corners, $r \approx 10$ mm
- Main electric cabinet IP54 outside the machine.
- External dimensions:

Machine	Width [mm]	Depth [mm]	Height [mm]	Loading height from the floor [mm]	Door passage Width x Height [mm]	Door passage Width x Height [mm] Clear passage
DS2000 PH	2720	972	3240	950	800x800	725x775

Washing tank

- asymmetrical shape for an easier service and piping
- minimized tank volume: see table below.
- crevice free with radius corners, $r \approx 10$ mm
- Surface treated with a scouring pad ($<0.6 \mu\text{m Ra}$ [25μ inch])
 - Steam tank heating
- Washing tank internal dimensions:

Machine	Width [mm]	Depth [mm]	Height [mm]	Tank capacity Litres
DS2000 PH	300	550	400	70

Doors

- with tempered and rimless double layer glass for better heat and noise insulation
 - shock resistant security glass tested with HST procedure (High Shot Test)
 - almost wear-free belt drive
 - interlocking system for doors opening, it is possible to open only one door at time. (no both door open at same time). This containment strategy is also stay existant during powerloss because UPS connection installed.
 - sealed with FDA approved silicone rubber gasket
- Executed as:
- standard: one automatic vertical sliding doors opening upwards and one manual hinged loading door.

Casing

- with ground stainless steel panels
- external finish: Scotch Brite SB
- designed for easy connection with other machine panels or to building's ceiling, walls or floor
- easily demountable, e.g. front sides executed as hinged doors

Service access

- All service and maintenance work can be done from the Loading side, except for the maintenance of the prefilter that is from Cleaning side.
- For easy maintenance, access panelling is executed as doors on
 - Service door.
 - Removable panel under double doors
 - left and right sides, with panels

Self-draining & dead-leg-free design

Optimised design to minimize the presence of residual water inside less than 3‰.

Gas-tight installation through wall

Bioseal in unloading area

6.4.1.1 Mechanical Components

(see the Part List, PID)

Jet systems:

- primarily for external cleaning: executed as rotating spray arm with special wide spray nozzles; it covers the complete area from below and from above the load.
- for internal cleaning: connection to rack with injection jets (see the baskets drawings)

Water valves:

- WBU,WBE-T diaphragm valve Gemü, type 687 forged (like request)

Drain: two with ISO DN65 mm diameter

Door sealing: in silicon rubber (FDA approved)

Piping:

- in stainless steel 1.4401 (316L)
- in accordance with ASME BPE
- inclination $\geq 2^\circ$ for self draining
- with tri-clamp connections
- with flange connections EN1092-1 on steam pipe line.
- with silicone pharmaceutical gaskets
- steam and condensate lines insulated
- piping with temperature $> 50^\circ\text{C}$ insulated (optional)

Washing pump: CSF INOX (Italy) $\text{Ra} < 0.5 \mu\text{m}$

Dosing pumps:

- chemicals are added to the washing tank to create the washing solution (up to two chemical can be dosed for each phase)
- n° 2 dosing pumps (standard)
- additional dosing pump (optional)

Drying unit: GMP-compliant, with the following components:

- pre-filter
- H14 HEPA filter
- blower (2.2 kW, 500 m³/h)
- pressure switch to monitor airflow
- differential pressure switch to check the H14 filter
- steam heating system
- Second and final H14 HEPA high temperature filter, before the chamber connection
- Piping material is in stainless steel AISI 316 L

Exhaust air system consisting in:

- Pneumatic exhaust air valve
- exhaust air fan
- humidity measuring probe with alarm function
- HEPA filter for filtering outgoing air with safety bags. The safety bags prevents the exposure of the contaminants during replacing of the filter.

Drain system composed of:

- drain valve GEMU 687 2-1/2" for sump
- drain valve GEMU 687 1/2" for pump

Steam management system:

- PLC SIMATIC S7-1200 CPU1214 to activate one steam exchanger at time on request by machine P3011.65801-802-803-804 in order to reduce the peak of consumption.

**DICHIARAZIONE CE DI CONFORMITÀ
 DÉCLARATION CE DE CONFORMITÉ**
**EC DECLARATION OF CONFORMITY
 EG KONFORMITÄTS-ERKLÄRUNG**

Il sottoscritto legale rappresentante della azienda sopra indicata, dichiara che l'apparecchiatura :
The undersigned, officer of the above-written company, hereby declares that the machine:
 Je soussigné, représentant légal désigné, déclare que l'appareil:
Der Unterzeichnete als rechtlicher Vertreter der oben genannten Firma, erklärt, dass die Einrichtung :

	
Family - Famiglia - Famille	
PHARMA WASHER	
Code - Codice - Code	Type - Tipo - Modél
9932005	DS 2000 PH
Serial N°-N° di serie-N° de série	
1403210F3032	 2014 - 09 MADE IN ITALY
Supply-Allmentaz.-Allm.	400V 3~+N+PE / 50Hz IP 21
Power-Poten.-Puissance	5 kW 7.5A cosφ 0,95
Steam-Vapore-Vapeur	450 Kg/h 3...6 bar(g)
Compress.air-Aria c.-Air	2 l/min 6...8 bar(g)
Manufactured by: STEELCO S.p.A. VIA BALEGANTE N.27 31039 RIESE PIO X (TV)	
  	



è stata progettata e costruita in conformità alle seguenti direttive e successivi emendamenti, secondo quanto indicato dalle norme armonizzate, in applicazione a quanto previsto dalle direttive citate, è stata dotata di marchiatura CE e sono stati predisposti i fascicoli tecnici presso la nostra sede.

La persona autorizzata a costituire i fascicolo tecnico è il Sig. Ivone Capovilla residente a Loria (TV) via Volon, 33.

is in compliance with the International regulations , according to the following directives and standards and further amendments, and pursuant of the above mentioned directives, the CE mark have been applied. Furthermore, adequate technical materials have been prepared and are available from our offices.

The person authorized to compile the technical file is Mr. Ivone Capovilla resident in Loria (TV) via Volon, 33.

est conforme aux normes internationales, selon les prescriptions et directives suivantes et les amendements successifs, en application des directives citées, ils portent la marque CE et, les dossiers techniques sont déposés dans notre sièges.

La personne autorisée à constituer le dossier technique est M. Ivone Capovilla résident à Loria (TV) via Volon, 33.

unter folgenden internationalen Vorschriften und späteren Änderungen, konform entworfen und gebaut wurde, laut Vorschriften der gemeinschaftlichen Richtlinien und in Übereinstimmung mit den angegebenen Richtlinien mit der CE Kennzeichnung versehen wurde und, dass die technischen Daten in unserer Firma erstellt wurden.

Die autorisierte Person, die die technischen Unterlagen zusammenzustellen hat ist Herr Ivone Capovilla Wohnsitz in Loria (TV) über Volon, 33.

Direttive: / Directives: / Directives: / Richtlinien:

- 2006/42/EC (Machinery Directive)
- 2006/95/EC (Low Voltage Directive)
- 2004/108/EC (EMC Directive)

Norme: / Standards: / Normes: / Normen:

- EN 61010-1:2010
- EN 61010-2-040:2005
- EN 61326-1:2013
- EN ISO 12100:2010
- ASME BPE 2009
- ISO 11201:2010

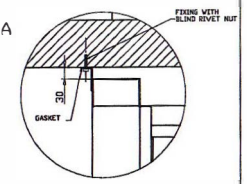
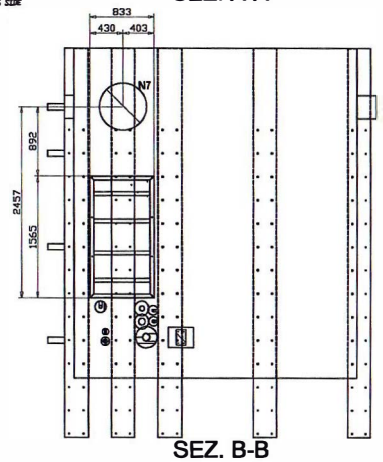
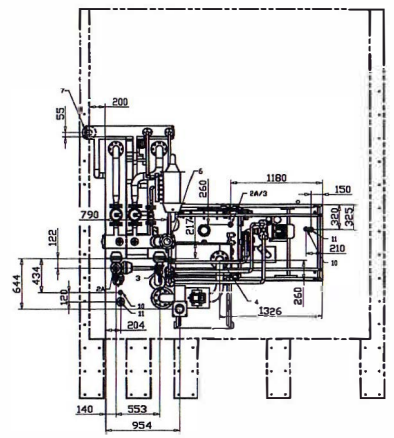
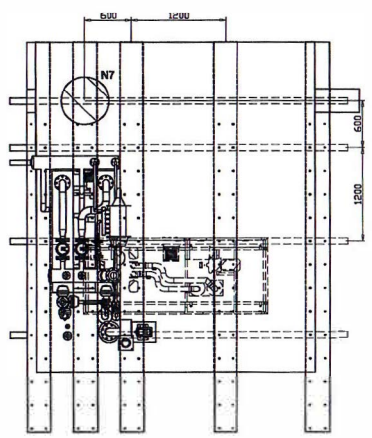
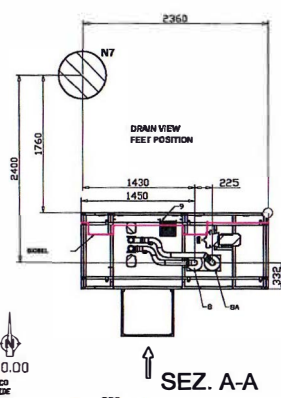
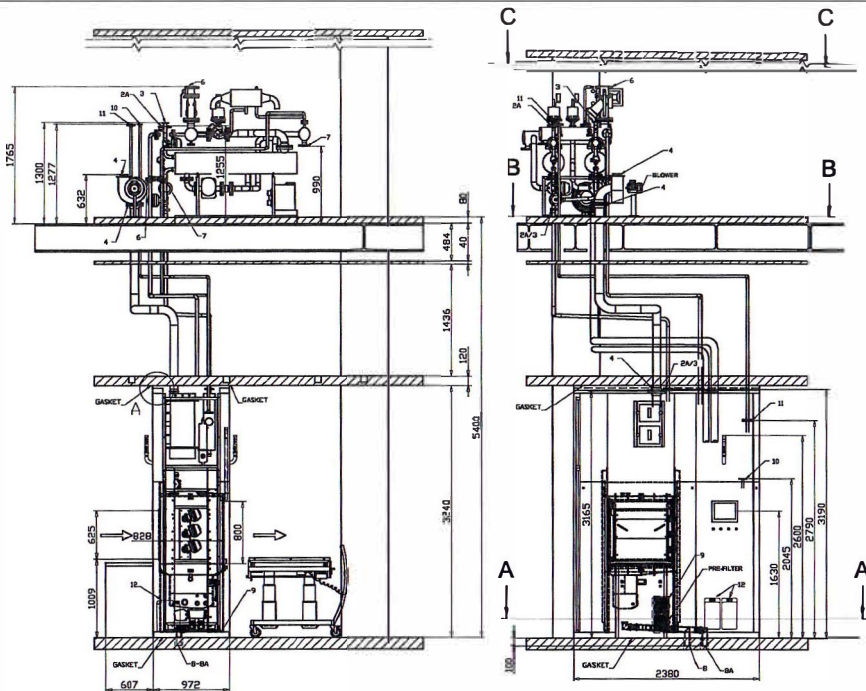
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RIESE PIO X,19/09/2014.....

Firma - Signature - Unterschrift

Fabio Zardini

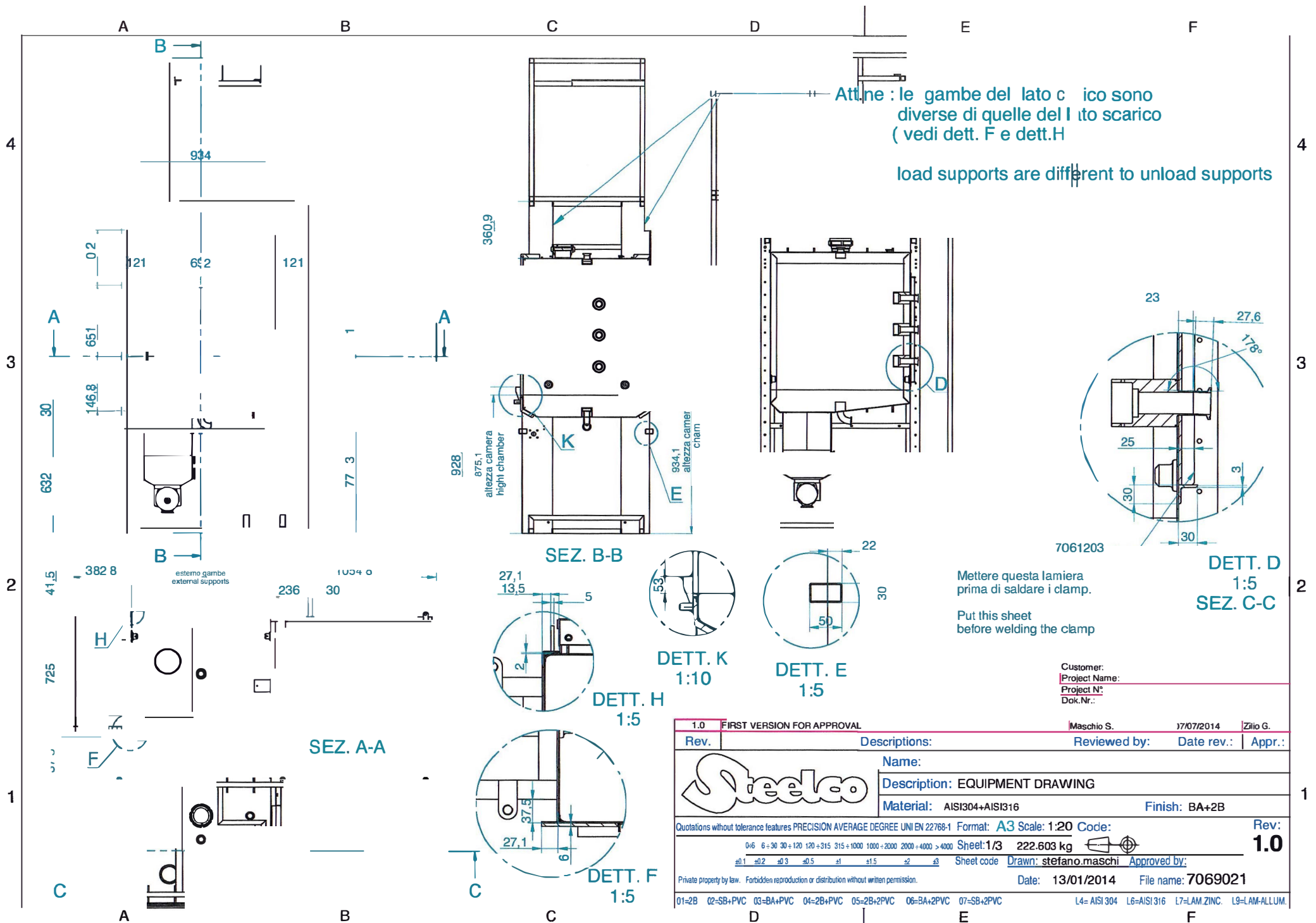
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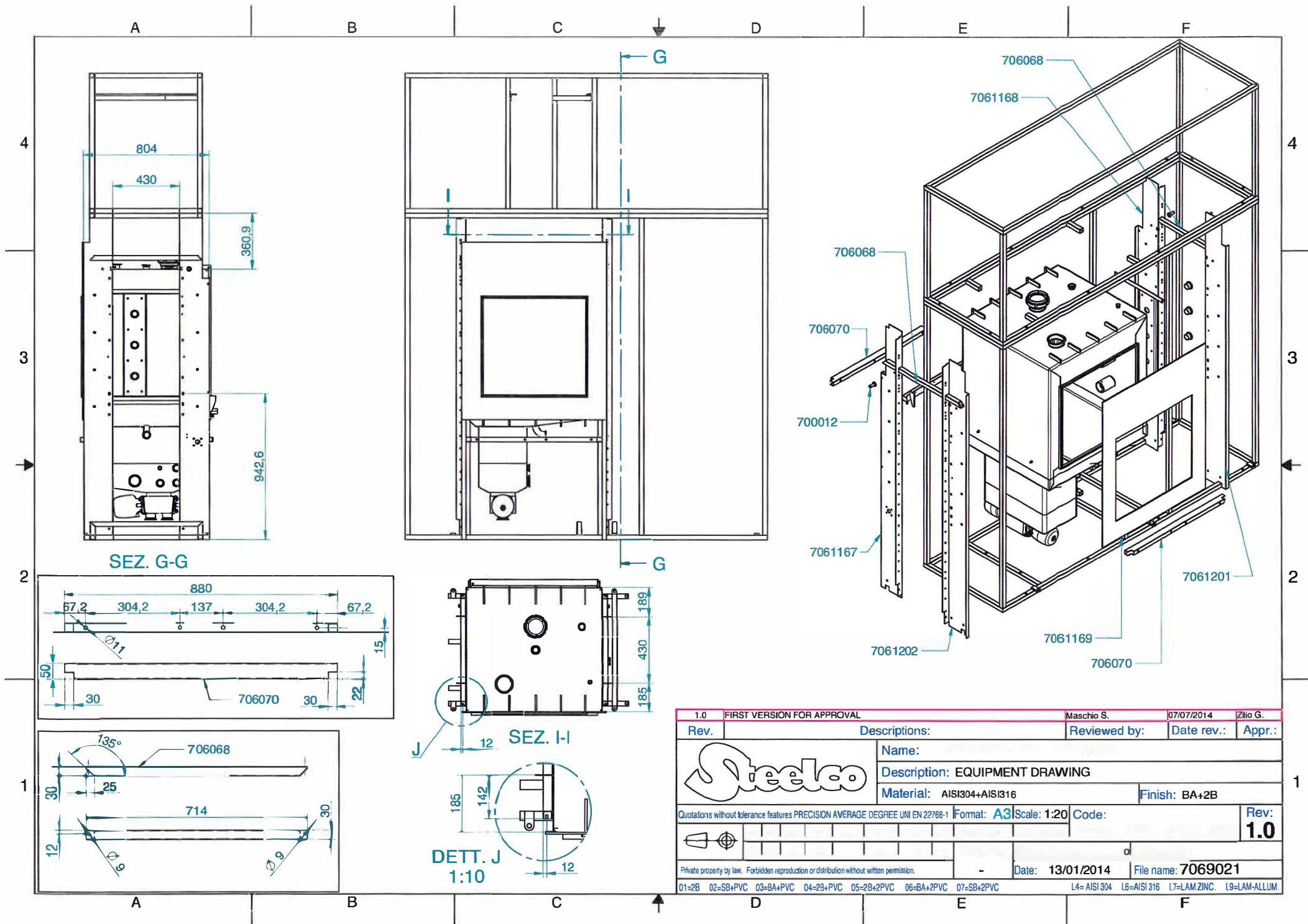


1. WARMWASSERANSCHLUSS - WARM WATER CONNECTION	Anschluss - Connection: -
Ausgabeleistung - Flow: -	
Fließdruck - Pressure: -	
Temperatur - Temperature: -	
Wasserhärte - Hardness: -	
Leitfähigkeit - Conductibility: -	
Ausgabeleistung - Consumption: -	
PfL: -	
2. KALTWASSERANSCHLUSS - MK - COLD WATER CONNECTION	Anschluss - Connection: -
Ausgabeleistung - Flow: -	
Fließdruck - Pressure: -	
Temperatur - Temperature: -	
Wasserhärte - Hardness: -	
Leitfähigkeit - Conductibility: -	
Ausgabeleistung - Consumption: -	
PfL: -	
2A. WASSERANSCHLUSS - WBW - WATER CONNECTION	Anschluss - Connection: 3"-2" Flange DIN EN 1092-1
Ausgabeleistung - Flow: -	Max. 50 l/min (13 gpm)
Fließdruck - Pressure: -	Min. 2 Bar (30 psig) max. 5 Bar (75 psig)
Temperatur - Temperature: -	Min. 5°C (41 °F) max. 80°C (194 °F)
Wasserhärte - Hardness: -	Max 8°H
Leitfähigkeit - Conductibility: -	Max 8°H
Ausgabeleistung - Consumption: -	65 l/Phase (17 gal/phase)
PfL: -	min. 7 max. 8
3. WASSERANSCHLUSS - WBW - WATER CONNECTION	Anschluss - Connection: 1.5" Flange DIN 1092-2
Ausgabeleistung - Flow: -	Min. 50 l/min (25 gpm)
Fließdruck - Pressure: -	Min. 2 Bar (30 psig) max. 5 Bar (75 psig)
Temperatur - Temperature: -	Min. 5°C (41 °F) max. 80°C (194 °F)
Wasserhärte - Hardness: -	NA
Leitfähigkeit - Conductibility: -	Max 13µS/cm
Ausgabeleistung - Consumption: -	65 l/Phase
PfL: -	min. 7 max. 8
4. ABLUFT - I.A.-Q. - BREATHER PIPE CHAMBER	Anschluss - Connection: 4" Flange DIN EN 1092-1
Ausgabeleistung - Flow: -	250m³/h (150 cfm)
5. ELEKTRISSCHER ANSCHLUSS - ELECTRICAL CONNECTION	Spannung - Volt: 400V 3N
Frequenz - Hz: 50Hz	
Leistungsaufnahme - Power: 5 KW	
Power factor: cosφ=0.95	
6. SCHWARTZDAMPF - DS - STEAM SUPPLY	Anschluss - Connection: 1.5" 2" Flange DIN EN 1092-1
Ausgabeleistung - consumption: -	423 kg/h
Fließdruck - Pressure: -	Min. 8 Bar (45 psig) max. 8 Bar (75 psig)
Temperatur - Temperature: -	min. 120°C (250 °F) max 120°C (302 °F)
7. DAMFKONDENSAT - DK - STEAM DRAIN	Anschluss - Connection: 1/2" Flange DIN EN 1092-1
8-BA. WAI INDUSTRIE ABWASSER - WAI-K KONTAMINIERTES ABWASSER	Anschluss - Connection: PIPE DIN EN 85
Ausgabeleistung - Flow: -	30 l/min (13 gpm)
Wassertemperatur - Drain water temperature: 85°C (199 °F)	
Korrosionsfest und hitzebeständig bis 85°C	
Corrosion proofing pipe and 85°C (199 °F) resistant	
9. ANSAHLUNG HEISSLUFTTROCKNUNG - ZUL. - DRYER AIR INLET	Anschluss - Connection: 4" top technical room
Ausgabeleistung - Flow: -	250 m³/h (1100 gpm)
Filter: -	8"2x4" U15
10. DRUCKLUFTANSCHLUSS - LS - COMPRESSED AIR CONNECTION	Anschluss - Connection: 1/2" DIN 1092-1
Ausgabeleistung - Flow: -	2 l/min (0.6 gpm)
Fließdruck - Pressure: -	6 - 8 bar
11. DRUCKLUFTANSCHLUSS - LF - PROCESS COMPRESSED AIR	Anschluss - Connection: 1" DIN 1092-1
Ausgabeleistung - Flow: -	10 l/min (2.6 gpm)
Fließdruck - Pressure: -	1 - 2 bar
12. CHEMICALANSCHLUSS - CWIP - CHEMICAL CONNECTIONS	Anschluss - Connection: 0.2" 28 mm
Ausgabeleistung - Flow: -	3 Liter/min (0.6 gpm)

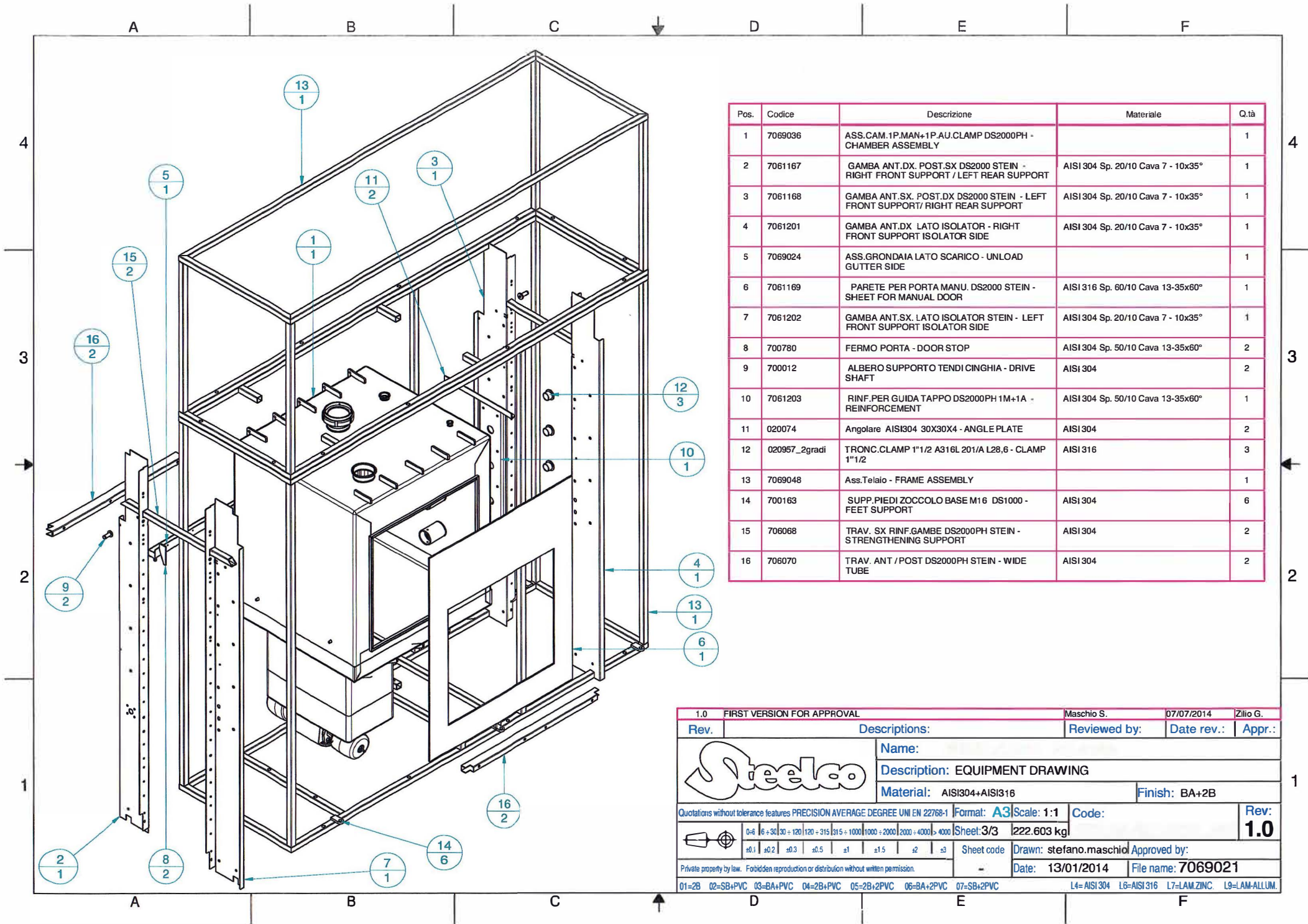
TECHNISCHE DATEN - TECHNICAL DATA	LOADING SIDE 0.48 KW
- WÄRMEEINGABE - HEAT LOSS:	UNLOADING SIDE 0.48 KW
	SIDE LEFT 0.22 KW
	SIDE RIGHT 0.22 KW
	EXCHANGE GROUP 2.88 KW
- GERÄUSCHNIVEAU - NOISE:	56.2 dBA
- GEMICHT NETTO - NET WEIGHT:	800 kg MACHINE
	400 kg TOP STEAM EXCHANGE

1.1	16 Oct 2014	CHANGED MOUNTING SYSTEM CEILING	L.Dornetto	G.Zilio
1.0	28 Mar 2014	FIRST VERSION FOR APPROVAL	L.Dornetto	G.Zilio
Rev.	Date / Date	UPDATE PIPE ROUTE	Gezeichnet von / Drawn by:	Geprüft von / Approved by:
		Verfasser		
		Verfasser / Designer:		
		Modell / Model:		
		DS 2000H PH - ELECTRICAL HEATER		
		Proj. / Project:		
		1-38335		
		NSLF Mesa Botola Launch Facility		
		1-38335		
		1.1		
		18.10.2014		
		1:60		
		1332		





1.0	FIRST VERSION FOR APPROVAL	Maschio S.	07/07/2014	Zilio G.
Rev.	Descriptions:	Reviewed by:	Date rev.:	Appr.:
		Name:		
		Description: EQUIPMENT DRAWING		
		Material: AISI304+AISI316		Finish: BA+2B
<small>Quotations without tolerance features PRECISION AVERAGE DEGREE UNI EN 22768-1</small>				Format: A3 Scale: 1:20 Code:
				Rev: 1.0
<small>Private property by law. Forbidden reproduction or distribution without written permission.</small>				Date: 13/01/2014 File name: 7069021
01=2B	02=SB+PVC	03=BA+PVC	04=2B+PVC	05=2B+2PVC
06=BA+2PVC	07=SB+2PVC	L4= AISI 304	L6= AISI 316	L7=LAM.ZINC. L9=LAM.ALLUM.



Pos.	Codice	Descrizione	Materiale	Q.tà
1	7069036	ASS.CAM.1P.MAN+1P.AU.CLAMP DS2000PH - CHAMBER ASSEMBLY		1
2	7061167	GAMBA ANT.DX. POST.SX DS2000 STEIN - RIGHT FRONT SUPPORT / LEFT REAR SUPPORT	AISI 304 Sp. 20/10 Cava 7 - 10x35°	1
3	7061168	GAMBA ANT.SX. POST.DX DS2000 STEIN - LEFT FRONT SUPPORT/ RIGHT REAR SUPPORT	AISI 304 Sp. 20/10 Cava 7 - 10x35°	1
4	7061201	GAMBA ANT.DX. LATO ISOLATOR - RIGHT FRONT SUPPORT ISOLATOR SIDE	AISI 304 Sp. 20/10 Cava 7 - 10x35°	1
5	7069024	ASS.GRONDAIA LATO SCARICO - UNLOAD GUTTER SIDE		1
6	7061169	PARETE PER PORTA MANU. DS2000 STEIN - SHEET FOR MANUAL DOOR	AISI 316 Sp. 60/10 Cava 13-35x60°	1
7	7061202	GAMBA ANT.SX. LATO ISOLATOR STEIN - LEFT FRONT SUPPORT ISOLATOR SIDE	AISI 304 Sp. 20/10 Cava 7 - 10x35°	1
8	700780	FERMO PORTA - DOOR STOP	AISI 304 Sp. 50/10 Cava 13-35x60°	2
9	700012	ALBERO SUPPORTO TENDI CINGHIA - DRIVE SHAFT	AISI 304	2
10	7061203	RINF.PER GUIDA TAPPO DS2000PH 1M+1A - REINFORCEMENT	AISI 304 Sp. 50/10 Cava 13-35x60°	1
11	020074	Angolare AISI304 30X30X4 - ANGLE PLATE	AISI 304	2
12	020957_2gradi	TRONC.CLAMP 1"1/2 A316L 201/A L28,6 - CLAMP 1"1/2	AISI 316	3
13	7069048	Ass.Telaio - FRAME ASSEMBLY		1
14	700163	SUPP.PIEDI ZOCCOLO BASE M16 DS1000 - FEET SUPPORT	AISI 304	6
15	706068	TRAV. SX RINF.GAMBE DS2000PH STEIN - STRENGTHENING SUPPORT	AISI 304	2
16	706070	TRAV. ANT / POST DS2000PH STEIN - WIDE TUBE	AISI 304	2

1.0 FIRST VERSION FOR APPROVAL Maschio S. 07/07/2014 Zilio G.

Rev.	Descriptions:	Reviewed by:	Date rev.:	Appr.:
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Steelco Name: Description: EQUIPMENT DRAWING

Material: AISI304+AISI316 Finish: BA+2B

Quotations without tolerance features PRECISION AVERAGE DEGREE UNI EN 22768-1 Format: A3 Scale: 1:1 Code: Rev: 1.0

0=6 16=30 30=120 120=315 315=1000 1000=2000 2000=4000 >4000 Sheet:3/3 222.603 kg

Sheet code Drawn: stefano.maschio Approved by: Date: 13/01/2014 File name: 7069021

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01=2B 02=SB+PVC 03=BA+PVC 04=2B+PVC 05=2B+2PVC 06=BA+2PVC 07=SB+2PVC L4=AISI 304 L6=AISI 316 L7=LAM.ZINC. L9=LAM.ALLUM.