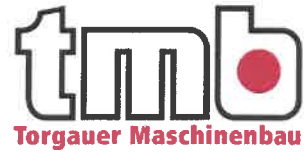


confirmed:.....

		zul. Abw. DIN ISO 2768	Fertigmasse kg	Maßstab 1:75	Position - Menge -
		Datum	Name	<b>Layout HST-Oven 6000/6200x3000</b> Glas 6000/6200x3000	
Bearb. 18.09.20	Peukerp				
Gepr.					
Norm		Auftr.-Nr. 45.240-50.58.00.034.dwg		Version	Blatt
Zust	Änderung	Datum	Name	(Ers.f.)-	(Ers.d.)-

- Flachglas – Maschinen und Anlagen
- Photovoltaik – Maschinen und Anlagen
- Logistik für Flachglas und Photovoltaik
- Entwicklung, Fertigung und Service



Torgauer Maschinenbau GmbH Solarstraße 29 04860 Torgau

**Ravensby Glass Co. Ltd.**

Mr. Hamish Ogilvie

West Pitkerrro Industrial Estate

8 Tom Johnston Road

**DD4 8XD DUNDEE**

GROSSBRITANNIEN

**ORDER CONFIRMATION 210061**

Customer No. : 008174.005  
 Your reference : Mr. Hamish Ogilvie  
 Your phone No. : 0044 1382 4808 42  
 Your fax No. :  
 Our reference : Knöchelmann, Eckhard/PE  
 Telephone : +49 (0) 34 21/72 05-11  
 E-mail : knoechelmann@tmb-torgauer.de  
 Date : 2021-02-17  
 Title : HST-Ofen EK 6000/6200x3000  
 engl. Sonderbeschickung

**your written PO dd 11.02.2021**

**Order No.: 038859TJR**

Dear Mr. Ogilvie,

we thank you for your purchase order which we confirm as the following:

Item	Quantity	Unit	Specification	Unit price	Net price
1	1.00	piece	<b>Heat-Soak-Test-Oven EK 6000/6200 x 3000 mm</b>		
			consisting of:		
1.1	1.00	piece	<b>HST-Oven EK 6000/6200 x 3000</b>		

Features:

- assembly space needed approx.: height: 5200 mm  
length: 8000 mm  
width: 2700 mm
- chamber volume: approx. 36 m<sup>3</sup>
- max. glass capacity: approx. 6,0 t
- inside dimensions of chamber approx.: height: 3500 mm  
length: 6500 mm  
width: 1600 mm
- clear door height: 3500 mm
- clear door width: 1600 mm
- max. glass size: 6000/6200 mm x 3000 mm (perpendicularity)
- The oven consists of a single chamber electrically heated
- The glass sheets to be tested are put on a special stillage (Item 2) in vertical mode separated by spacers; the stillages are transported by means of pallet trucks into the test chamber and out respectively.
- The oven features a steel skeleton construction with optimum heat insulation incl. bottom insulation
- The outside covering consists of steel sheet.
- The inside lining and air conducting devices are made of zinc galvanized steel sheet.
- The hot air is circulated by high-Performance fans in order to achieve a homogeneous distribution of temperature.
- A forced air-flow guarantees an optimal heating of the glass.
- A fan is used for a rapid removal of the resting hot air after finishing the test.
- separate waste air outlet (duct to open air upon request)
- The oven is equipped with a swivel door on front side which is locked mechanically and electrically (standard right hinged).

Torgauer Maschinenbau GmbH  
Solarstraße 29 • 04860 Torgau

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 www.tmb-TorgauerMaschinenbau.de

Commerzbank AG  
 IBAN: DE70 8604 0000 0448 8466 00  
 BIC/Swift-Code: COBADEFFXXX  
 Sparkasse Leipzig  
 IBAN: DE80 8605 5592 2210 0171 84  
 BIC/Swift-Code: WELADE8LXXX

Geschäftsführer:  
Eckhard Knöchelmann  
 Amtsgericht Leipzig, HRB 3887  
 USt-IdNr. DE 141 737 497  
 Steuer-Nr. 239/121/00138



Management System  
 ISO 9001:2008  
 www.tuv.com  
 ID 010385980



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Item	Quantity	Unit	Specification	Unit price	Net price
			<ul style="list-style-type: none"> <li>- For the floorground a concrete plate is required with a capacity of 1500 kg/m<sup>2</sup>.</li> <li>- Bottom cavity (approx. 70 mm in depth) within the area of the oven place is to be provided in accordance with our instructions. Thus the oven flushes with the floorground.</li> <li>- Evenness of the floorground and the cavity respectively: <math>\pm 4</math> mm, but not more than 3 mm/m.</li> <li>- Instead of a bottom cavity an access ramp can be provided as an alternative (option).</li> </ul> <p>Oven control:</p> <ul style="list-style-type: none"> <li>- PLC-control for the technological regimen and for monitoring</li> <li>- operating the oven via touch panel display</li> <li>- digital input of test temperature and holding time</li> <li>- standard test temperature 290 °C/260 °C <math>\pm 10</math> °C (adjustable)</li> <li>- holding time: 1 - 10 h (adjustable)</li> <li>- digital preselection of heating-up and cooling-down time e.g. for different glass thickness and charging of the oven</li> <li>- automatical temperature guiding during heating-up and cooling down time</li> <li>- automatic loop control of the test temperature</li> <li>- a value limited thermostate observes the maximum oven temperature of 320 °C (adjustable)</li> <li>- digital preselection of starting time</li> <li>- The heat-soak test is exactly recorded for certification of the tested glass by a digital recorder.</li> <li>- After finishing the test the operating mode is automatically set to cooling.</li> <li>- release signal for unloading the glass</li> <li>- switch cabinet with main switch, fuse elements, control unit and recorder</li> </ul> <p>Digital recording:</p> <ul style="list-style-type: none"> <li>- Screen recorder for recording the test curves</li> <li>- graphical display for indicate the curves</li> <li>- Industrial USB-stick (2 GB) for saving the test data</li> <li>- original recordings protected against manipulations</li> <li>- at least one reserve channel for additional recordings</li> <li>- Interface RS232 is existing for exporting of the test data to a separate PC or host computer</li> </ul> <p>Supply features:</p> <ul style="list-style-type: none"> <li>- electrical power supply: 3 x 400 V <math>\pm 10</math> %, 50 Hz, TNC-s, PEN (<i>other supplies upon request</i>)</li> <li>- internal control voltage: 24 V DC</li> <li>- total power rating: approx. 320 kW</li> <li>- compressed air: 6 bar, dry, without oil</li> <li>- weight: approx. 11000 kg</li> <li>- permanent sound level: 78 dB(A)</li> <li>- max. ambient temperature: 35 °C</li> <li>- max. air humidity: 85 %</li> <li>- color: silver grey</li> </ul>		

*The heat-soak-test oven is in accordance with the process-technical requirements of the European standard EN 14179-1 (E):09/2005 respectively new standard EN 14179-1:12/2016 and is designed and manufactured according to the valid European standards (CE). Our warranties comprising a glass surface temperature of 290 °C  $\pm 10$  °C respectively 260° C  $\pm 10$ ° C.*

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Item	Quantity	Unit	Specification	Unit price	Net price
1.2	1.00	piece	<b>Special feeding system</b> - integrated rail system inside the oven - rails are raised arranged - rail joints are beveled - docking aid for the carrier trolley		
1.3	1.00	piece	<b>Additional door on the rear side</b> - incl. mechanical and electrical locking of the door during the operation - incl. extensions of the electric control system		
2	1.00	piece	<b>Carrier trolley 6000 mm</b> consisting of:		
2.1	1.00	piece	<b>Carrier trolley 6000 mm</b> <u>Function:</u> • Reception of HST-A-trolleys 6000 mm length  <u>Technical parameters:</u> - capacity: 6800 kg - length: 6300 mm - width: approx. 1400 mm - 2 pcs integrated rails for reception of the A-trolleys with 6000 mm length - mechanical fixing of the A-trolleys during moving the carrier trolley - carrier trolley equipped with ball beared, plastic covered fixed wheels on one side and 2 pcs supporting feets and one ball reception on the opposite side - docking fixture for the rails on the oven rails - rail joints are beveled - color: silver grey		
2.2	1.00	set	<b>2 pcs Swivel wheels instead of feets on the opposite side</b>		
3	1.00	piece	<b>HST-A-trolley 6000 mm length (6 wheels, dismantable)</b> <u>Technical Parameters:</u> - capacity: 6,0 t - length: 6000 mm - width: 1400 mm - total height: approx. 3400 mm - back bearer height: 3100 mm - base bearer length: approx. 490 mm each side - number of back bearers: 14 pcs each side - number of base bearers: 14 pcs each side - distance between the bearers: approx. 460 mm - back bearer angle: approx. 3° - Angle between back and base bearers: 93° - back bearers: Spacer bars (see separate item) - upholstery of base bearers: Teflon strips - 13 pcs double-row perforated strips above and below per side - Hole pitch: approx. 30/15 mm, staggered - 6 pcs heat resistant wheels for placing the A-trolley on the carrier trolley		

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Item	Quantity	Unit	Specification	Unit price	Net price
			<ul style="list-style-type: none"> <li>- no craning possible in loaded condition</li> <li>- surface treatment: untreated</li> <li>- delivered: dismantled</li> </ul>		
4	250.00	piece	<p><b>Spacer bars for bar-stillages</b></p> <ul style="list-style-type: none"> <li>- Ø 20 mm</li> <li>- Length: approx. 3100 mm</li> <li>- core material: steel tube</li> <li>- Tubes covered with heat-resistant material</li> </ul>		
5	1.00	piece	<p><b>Packing and Transport DAP Dundee/Scotland</b></p> <ul style="list-style-type: none"> <li>- with 1 special flat bed truck and</li> <li>- 1 Standard truck</li> </ul> <p><b><i>For unloading you need a mobile crane with at least 20 tons load capacity and 7,5 m hook clearance.</i></b></p>		
6	1.00	piece	<p><b>Installation, commissioning and training with 1 supervisor from TMB in Dundee/Scotland</b></p> <ul style="list-style-type: none"> <li>- qualified fitters from customer side free of charge for the whole time of installation</li> <li>- incl. travelling expenses and international flight costs</li> <li>- excluding travelling costs in customers country only</li> <li>- Costs caused of Corona pandemic measures are not included.</li> </ul>		

Not included in this order:

- provision of free space for construction
- possibly necessary construction works (roof and wall openings and their sealing)
- media supply to interface oven
- supply of hoisting machinery, crane, forklift etc.
- pavement work
- helpers free of charge
- costs for certification

*For possible tests the glass is to provide by customer.*

- Documentation: 1 set in English ( on paper, or usual data storage medium)

Training and Acceptance test

The Customer has to provide the necessary and suitable material and personnel for Training and Acceptance test. Training and Acceptance test take place without interruption directly after installation and commissioning.

***The Heat-Soak-Test-Oven is designed and manufactured in accordance with valid European standards. It receives a CE-mark and a declaration of conformity. A certification according local law is not included in the price.***

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Delivery Period: calendar week 26th/2021

Pricing Conditions: DAP Dundee/Scotland  
incl. packing and transport  
incl. installation, commissioning and training with 1 supervisor  
Duty unpaid

Payment Terms:

- 30 % down payment on ordering
- 60 % against documents
- 10 % after acceptance, but latest 6 weeks after delivery

Grace Period: 30 days after rendering account, down payment immediately

Warranty: 12 months (excluding wear parts), Precondition for warranty are properly executed care and maintenance procedure.

Reservation: The goods remain property of TMB until the invoice has been settled completely.

If not otherwise agreed the "General terms and conditions of the TMB" are to apply. You can find this at our website [www.tmb-TorgauerMaschinenbau.de](http://www.tmb-TorgauerMaschinenbau.de) or request it by phone under +49 (0) 3421 72 05 25.

Yours faithfully



Eckhard Knöchelmann  
General Manager



Lutz Lehmann  
Sales Dept.