

Evaluation Report

RAIS A/S Wood-Fired Freestanding Room Heater

Q -TEE II Series Models: Q -TEE II USA, Q-TEE II C USA

Report Number: 0138WS016S









OMNI-Test Laboratories, Inc. Product Testing & Certification

Mailing Post Office Box 301367•97294 Street: 13327 NE Airport Way•97230



Phone: Fax:

(503) 643-3788 (503) 643-3799

Evaluation Report

RAIS A/S

Wood-Fired Freestanding Room Heater

Q -TEE II Series Models: Q -TEE II USA, Q-TEE II C USA

Prepared For:RAIS A/S
Industrivej 20, Vangen
DK-9900 Frederikshavn
DENMARKPrepared By:OMNI-Test Laboratories
13327 NE Airport Way
Portland, OR 97230
(503) 643-3788Test Period:N/AReport Date:May 10, 2017Report Number:0138WS016SProject Number:0138WS016S.REV001

All data and information contained in this report are confidential and proprietary to RAIS A/S. Its significance is subject to the adequacy and representative character of the samples and to the comprehensiveness of the tests, examinations, or surveys made. The contents of this report cannot be copied or quoted, except in full, without specific, written authorization from RAIS A/S and OMNI-Test Laboratories, Inc. No use of the OMNI-Test Laboratories, Inc. name, logo, or registered mark (OT-L) is permitted, except as expressly authorized by OMNI-Test Laboratories, Inc. in writing.

AUTHORIZED SIGNATORIES

This report has been reviewed and approved by the following authorized signatories:

Aaron Kravitz, Technician OMNI-Test Laboratories

Sebastian Button, Evaluator OMNI-Test Laboratories

Alex Tiegs, QA **OMNI-Test Laboratories**

10-May-17

Issue Date

Table of Contents

I.	INTRODUCTION	5
II.	UNIT DESCRIPTION	6
III.	TEST RESULTS AND DISCUSSIONS	7
IV.	COMPONENT LIST	10
V.	ILLUSTRATIONS	11
VI.	DESIGN DRAWINGS	13
VII.	PRODUCT LABELING	76
VIII.	PRODUCT MANUALS	79
IX.	MANUFACTURING AND PRODUCTION-LINE TESTS	82
X.	QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)	83
XI.	REVISION HISTORY	84

Page

I. INTRODUCTION

OMNI-Test Laboratories was retained by RAIS A/S to evaluate the construction and performance of the Q -TEE II Series Wood-Fired Freestanding Room Heater to industry safety standards. The Q -TEE II Series was tested to assess compliance with the following standards:

• UL 1482-2011 (R2015) " Solid-Fuel Type Room Heaters"

• ULC-S627-00 "Space Heaters for Use with Solid Fuels"

All testing on the model Q -TEE II was performed at OMNI's testing facility in Portland, Oregon. The unit was received in good condition and logged in on 9/16/15 and assigned and labeled with OMNI ID No. 2138. Testing was conducted by OMNI representative Aaron Kravitz from 10/9/15 - 10/19/15. The project evaluator was OMNI representative Ken Morgan.

Upon completion of the performance tests, the unit was evaluated to verify construction diagrams. The results in this report are limited to the items submitted.

Under project number 0138WS016S.REV001, another model was added to the listing to create a two-model series. The new model, the Q-TEE II C, features an identical firebox and airflow design, but has curved sides in place of the Q-TEE II's straight sides. The main firebox baffle (used by both units) was also modified; steel reinforcement was added to the sides to improve durability.

This report serves as documentation that the aforementioned models comply with the requirements of the standards listed above.

II. Unit Description

The RAIS A/S Q-TEE II series is a radiant, free-standing solid-fuel room heater for indoor residential use. The Q-TEE II series features a large glass fuel-loading door available in two styles; all-glass and steel-framed. The Q-TEE II series is also offered with an optional pedestal base that bolts to the bottom of the core firebox. In addition to these variations the Q-TEE II C, added to the listing under REV001 utilizes the same overall design with curved sides.



RAIS model Q-Tee II shown with optional pedestal base

Copies of the labels for the Q -TEE II Series are included in Section VII of this report. Design drawings of the individual component parts are shown in Section VI.

III. TEST RESULTS AND DISCUSSIONS

Test Summary - Project No. 0138WS016S				
Testing Location:	OMNI - 13327 NE Airport Way ~ Portland, OR 97230			
Test Period:	10/9/15 - 10/19/15			
Specimen Rec. Date:	9/16/15	Sample Number		2138
Specimen Condition	Prototype, Production Quality	Additional ID Nos		

The following tests were performed:

Description of test	UL 1482 Section	ULC S627 Section	
Brand / Crib Fire Tests	12	7.6	
Flash Fire Tests	13	7.7	
Door Hazard Test	N/A	7.8	
Radiant Fire Test	11	N/A	
Glazing Tests	15	N/A	
Stability Test	16.2	7.10	
Strength Test - Top Loading	-	7.12	
Strength Test - Impact	-	7.13	

The sample(s) submitted and evaluated under this report have been also evaluated to the constructional requirements of the standards cited in this report and have been found to comply.

Tables 1 and 2 present clearance to combustible installation requirements.

Floor requirements differ depending on whether the optional pedestal base (RAIS part number 838040590) is used;

Installation WITHOUT optional pedestal base

When installed WITHOUT optional base, In the U.S., floor protection must be constructed of a non-combustible material with a minimum R of 3.19 Btu*in/Hrs*ft2*°F or greater and installed to extend beneath the heater and 24 inches to the front and 8 inches to the sides of the fuel-loading and ash-removal openings. In Canada, floor protection must be constructed of a non-combustible material with a minimum R of 3.19 Btu*in/Hrs*ft2*°F or greater and installed to extend beneath the heater and 760 mm (30 inches) to any side with a door and 200 m (8 inches) beyond the appliance on the other sides. Complete installation instructions are included in the owner's manual located in section VIII of this report.

Installation WITH optional pedestal base

When installed WITH optional base, In the U.S., floor protection must be constructed of a non-combustible material with a minimum R = 0 (no thermal protection is required), and installed to extend beneath the heater and 16 inches to the front and 8 inches to the sides of the fuel-loading and ash-removal openings. In Canada, floor protection must be constructed of a non-combustible material with a minimum R = 0 (no thermal protection is required), and installed to extend beneath the heater and 200 m (8 inches) beyond the appliance on the other sides. Complete installation instructions are included in the owner's manual located in section VIII of this report.

Table 1 - Q -TE			
Models: Q -TEE II USA, Q-TEE II C USA Parallel Wall using Single Wall Co			
Clearance Description	Inches	Millimeter (mm)	
Side Wall to Appliance	14.0	356	
Side Wall to Connector Pipe	22.5	572	
Back Wall to Appliance	12.0	305	
Back Wall to Connector Pipe	15.0	381	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required		quired $(R = 0)$	
Parallel Wall using Single Wall Conr			
Clearance Description	Inches	Millimeter (mm)	
Side Wall to Appliance	15.0	381	
Side Wall to Connector Pipe	23.5	597	
Back Wall to Appliance	15.0	381	
Back Wall to Connector Pipe	18.0	457	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required	R = 3.19 or greater		
Corner Installation using Single Wall		-	
Clearance Description	Inches	Millimeter (mm)	
Side Walls to Appliance	11.0	279	
Side Walls to Connector Pipe	20.0	508	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required	None Required $(R = 0)$		
Corner Installation using Single Wall Co			
Clearance Description	Inches	Millimeter (mm)	
Side Walls to Appliance	13.0	330	
Side Walls to Connector Pipe	22.0	559	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required		9 or greater	
		8	
Rear Vent WITH	pedestal only		
Rear Vent WITH	Inches	Millimeter (mm)	
Rear Vent WITH	. ,	Millimeter (mm) 356	
Rear Vent WITH Clearance Description	Inches		
Rear Vent WITH Clearance Description Side Walls to Appliance Side Walls to Connector Pipe	Inches 14.0	356	
Rear Vent WITH Clearance Description Side Walls to Appliance Side Walls to Connector Pipe Back Wall to Appliance	Inches 14.0 22.5	356 572	
Rear Vent WITH	Inches 14.0 22.5 12.0	356 572 305	

Table 2 - Model : Q-TEE II C Minimu			
Parallel Wall using Single Wall Cor			
Clearance Description	Inches	Millimeter (mm)	
Side Wall to Appliance	14.0	356	
Side Wall to Connector Pipe	24.0	610	
Back Wall to Appliance	12.0	305	
Back Wall to Connector Pipe	17.0	432	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required		quired $(R = 0)$	
Parallel Wall using Single Wall Conne			
Clearance Description	Inches	Millimeter (mm)	
Side Wall to Appliance	15.0	381	
Side Wall to Connector Pipe	25.0	635	
Back Wall to Appliance	15.0	381	
Back Wall to Connector Pipe	20.0	508	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required	R = 3.19 or greater		
Corner Installation using Single Wall Corner Installation using Single Wall	Connector Pipe WITH pedes	stal	
Clearance Description	Inches	Millimeter (mm)	
Side Walls to Appliance	13.5	343	
Side Walls to Connector Pipe	22.5	572	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required	None Required $(R = 0)$		
Corner Installation using Single Wall Con	1		
Clearance Description	Inches	Millimeter (mm)	
Side Walls to Appliance	15.5	394	
Side Walls to Connector Pipe	24.5	622	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required		19 or greater	
Rear Vent WITH p		6	
Clearance Description	Inches	Millimeter (mm)	
Side Walls to Appliance	14.0	356	
Side Walls to Connector Pipe	24.0	610	
Back Wall to Appliance	12.0	305	
Ceiling - From Floor	84.0	2134	
Ceiling - From top of Appliance	45.0	1143	
Thermal Floor Protection Required	None Required $(R = 0)$		

During thermal testing, all wall, ceiling, and floor temperatures remained within standard safety limits at the clearances specified. Follow-up measurements of production line parts will be conducted during QA on-site visits.

IV - COMPONENT LIST

	List of Components							
Illus.#	Item #	Description	Component Part No.	Manufacturer / Model No.	Ratings/ Specifications	Marks of Conformity		
1	1	Door Glass	8385001, 8345002	Robax	4 mm Ceramic	NR (1)		
1	2	Door Glass Gasket	8385003	Robax	10x2 mm Fiberglass Braid	NR (1)		
1	3	Door Frame Seal Gasket	005501	Various	10x2 mm Fiberglass Braid	NR (1)		
1	4	Firebox Refractory Lining	8392201, 8392202, 8392203, 8392204, 8392205, 8392206, 8392207	Skamol	Compressed Vermiculite	NR (1)		
1	5	Flame Baffle Assembly	8392209mon, 8392210, 8392211	Skamol	Compressed Vermiculite	NR (1)		
2	6	Separable Door Handle	8391016	RAIS A/S	Separable, Steel	NR (1)		

"NR (1)" - Denotes a component that is not recognized and is not required to be.

"Various" denotes that any type or manufacturer of the component may be used that meets the Ratings and Recognition noted in this component list.

V - ILLUSTRATIONS

Illustration 1 - Front 3/4 view of RAIS model Q-Tee II Shown with optional pedestal base installed

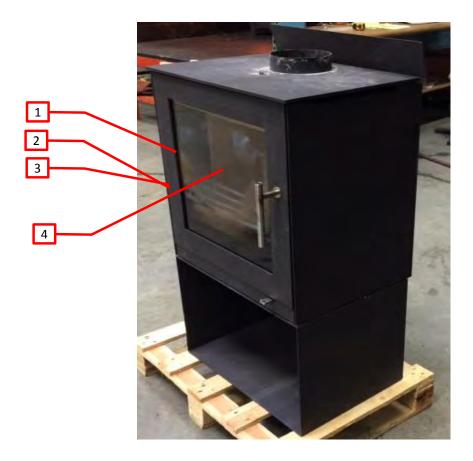
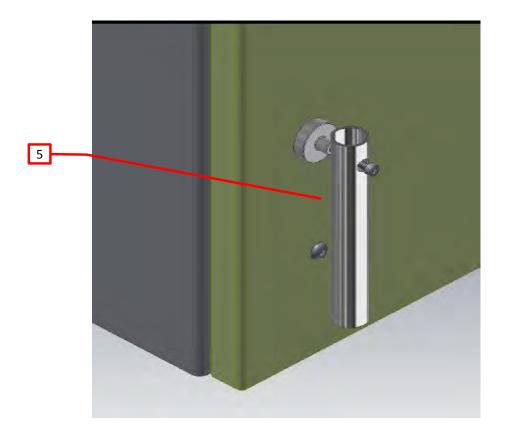


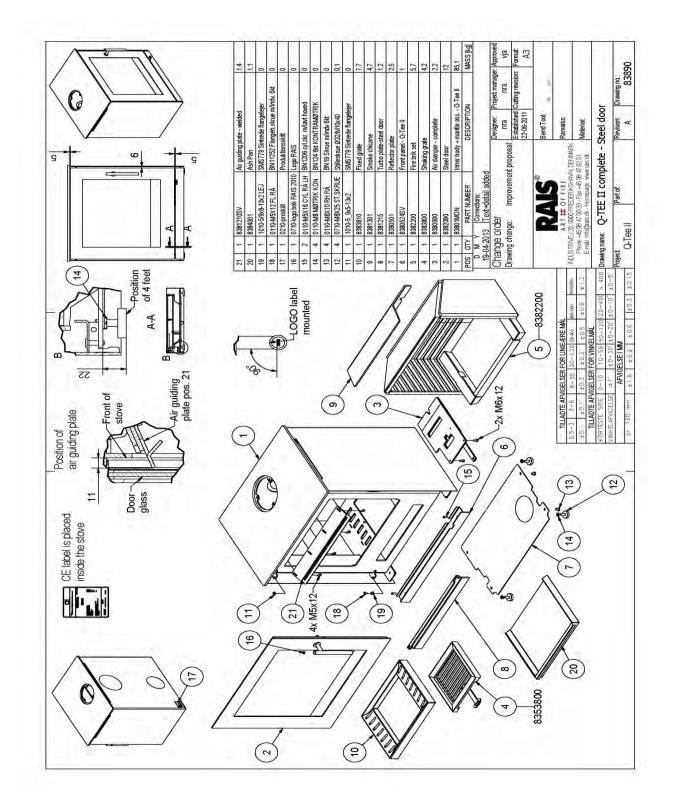
Illustration 2 - Design representation of Separable Handle Front 3/4 view of RAIS model Q-Tee II

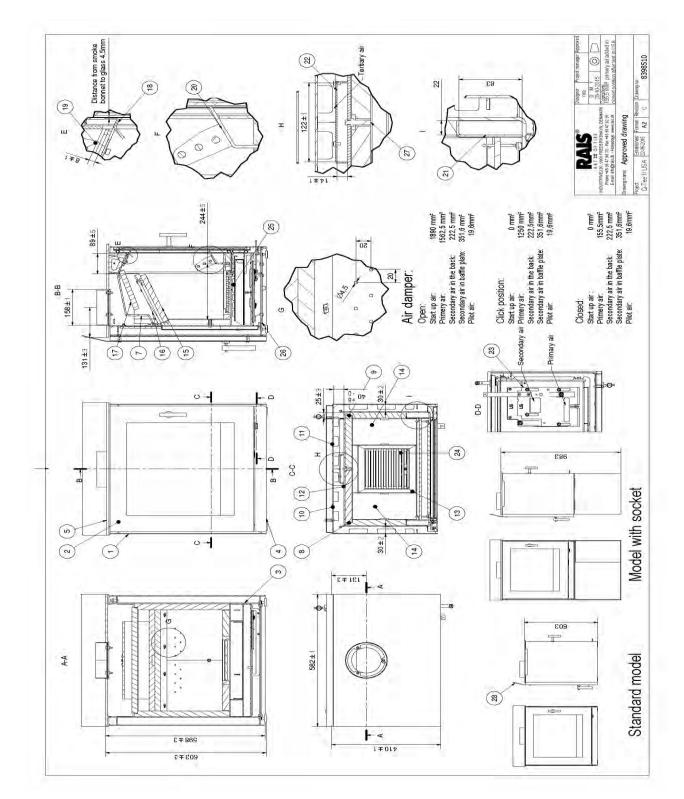
NOTE: Door handle in illustration 1 above was a permanent door handle present at the time of testing. This illustration is a rendering of the design to be used for a Separable handle.



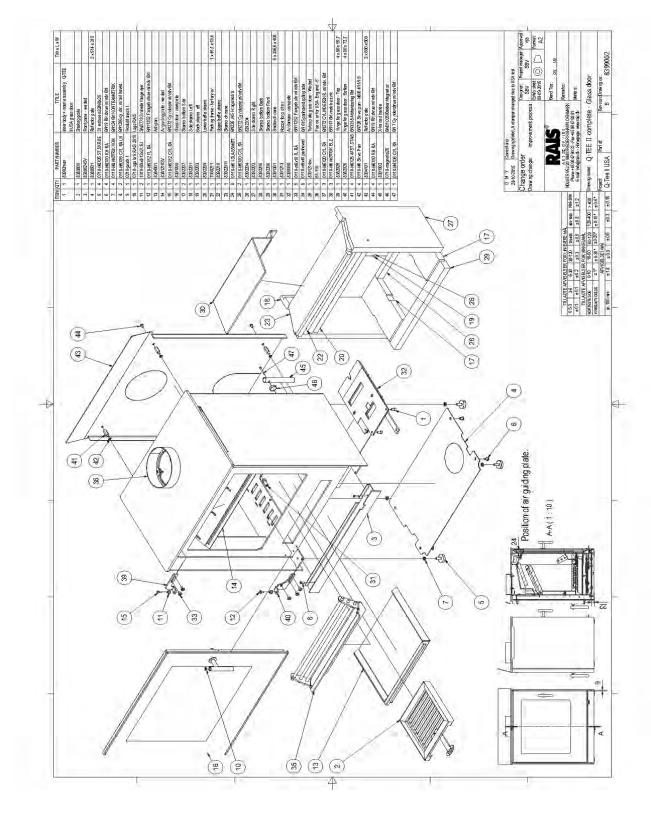
VI. - DRAWINGS

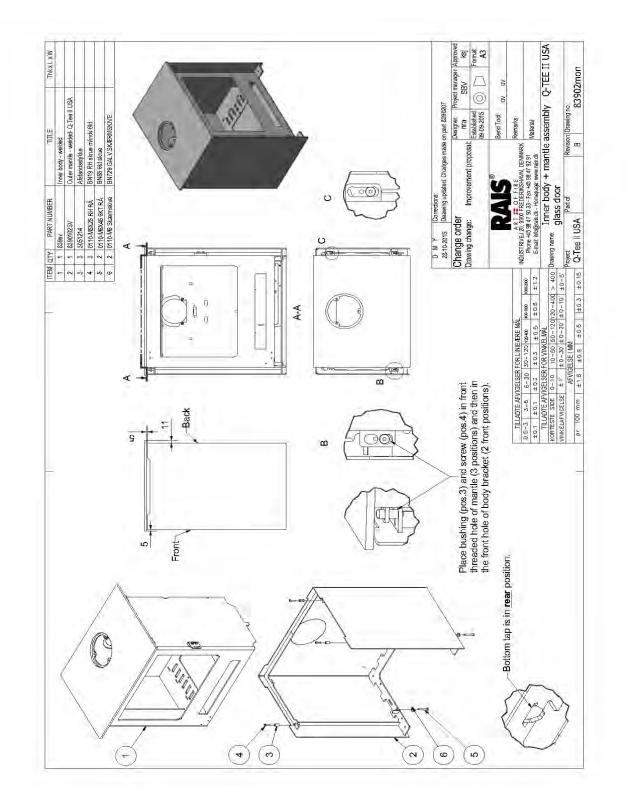
This section contains design drawings for the RAIS A/SQ -TEE II Series Wood-Fired Freestanding Room Heater. The drawings contained in this report are intended to be used as the basis of comparison by OMNI inspection staff to compare critical design elements of production units against those documented at the time of testing. The drawings contained in this report do not necassarily represent the full set of design drawings for this product. A full set of design drawings are kept on file at OMNI.

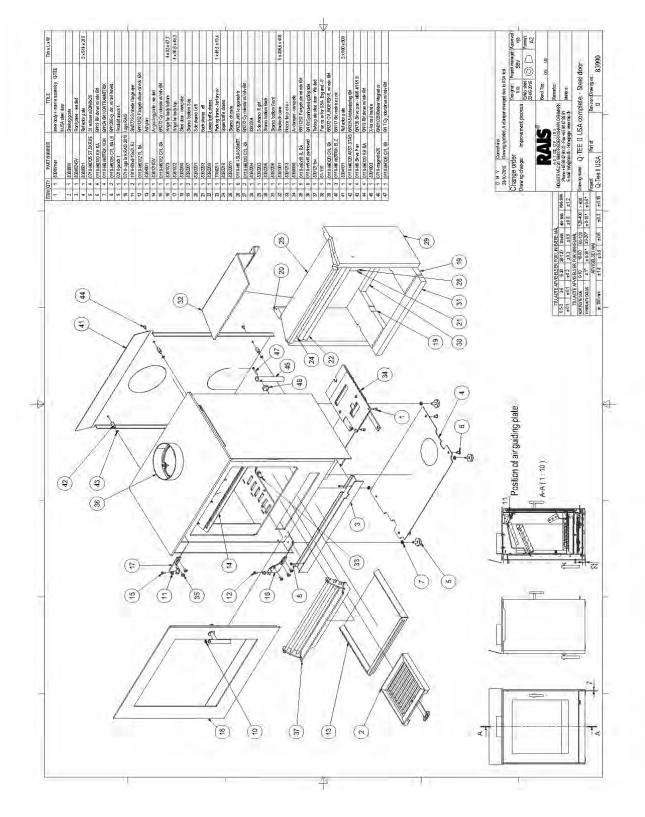


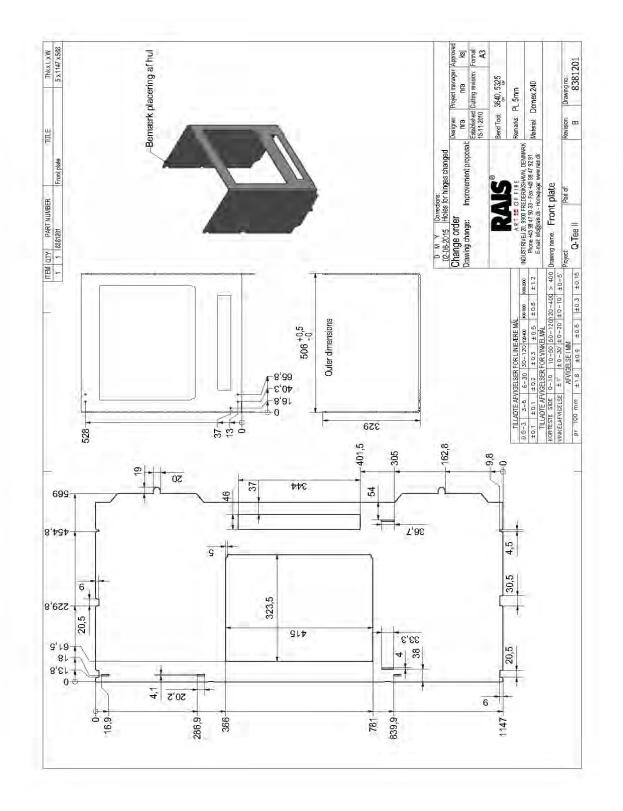


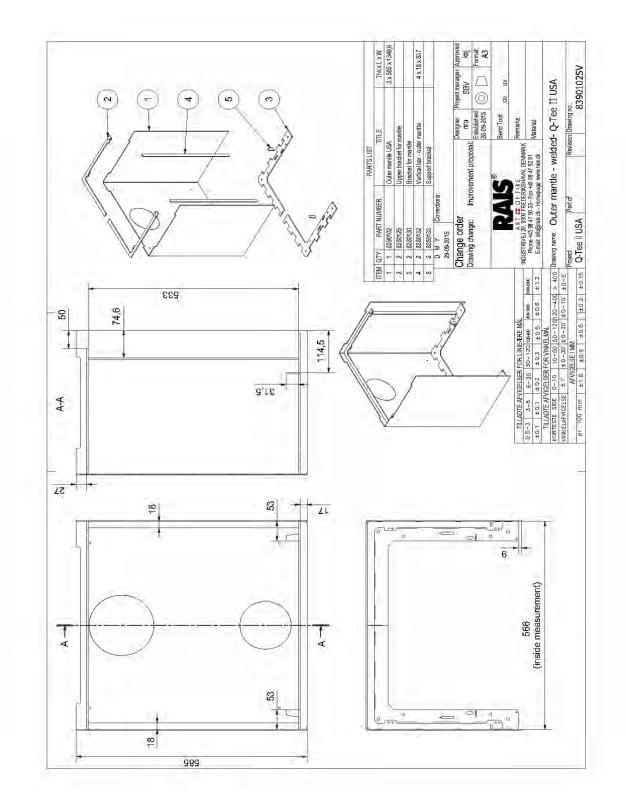


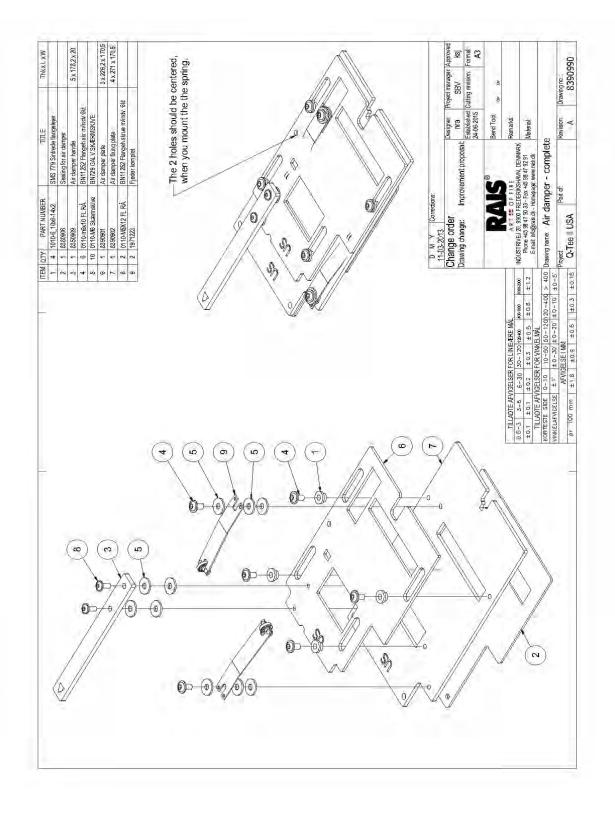




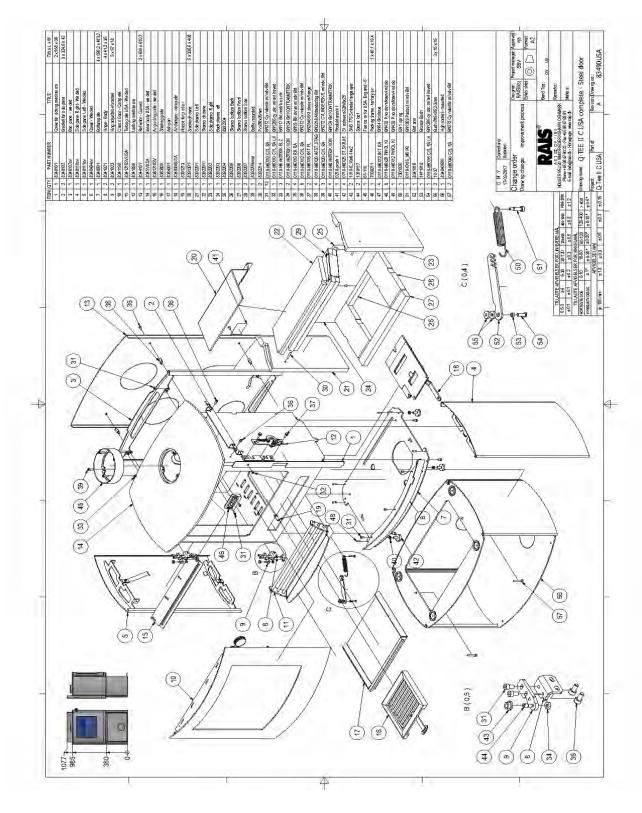


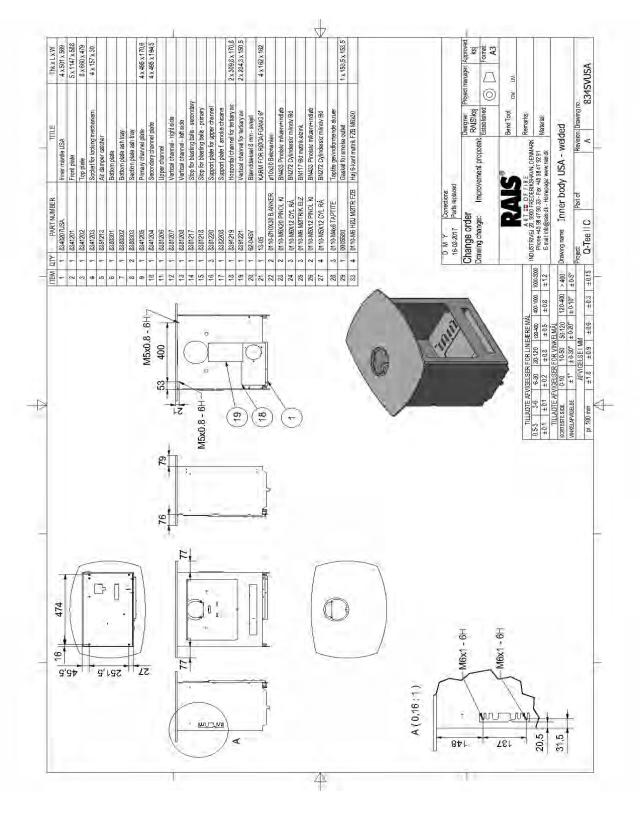


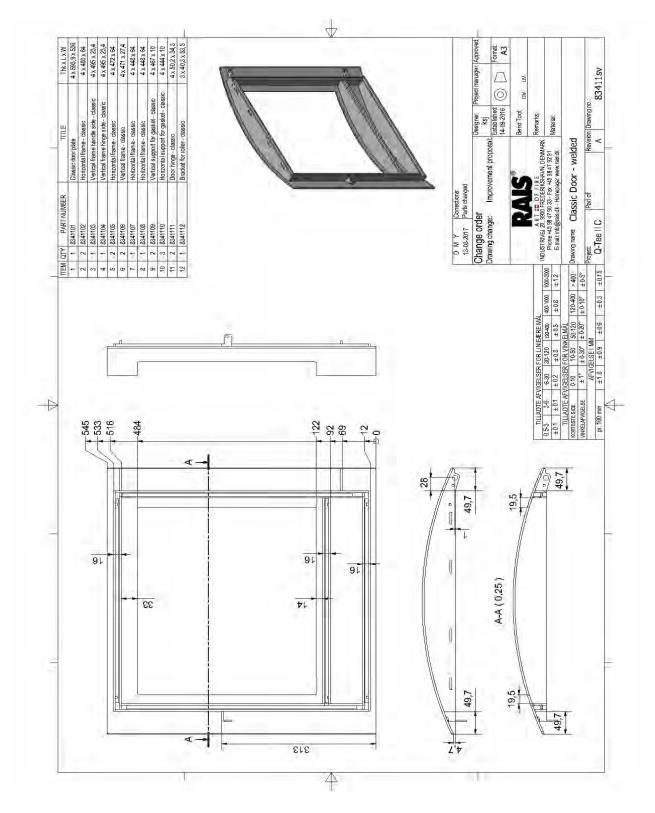


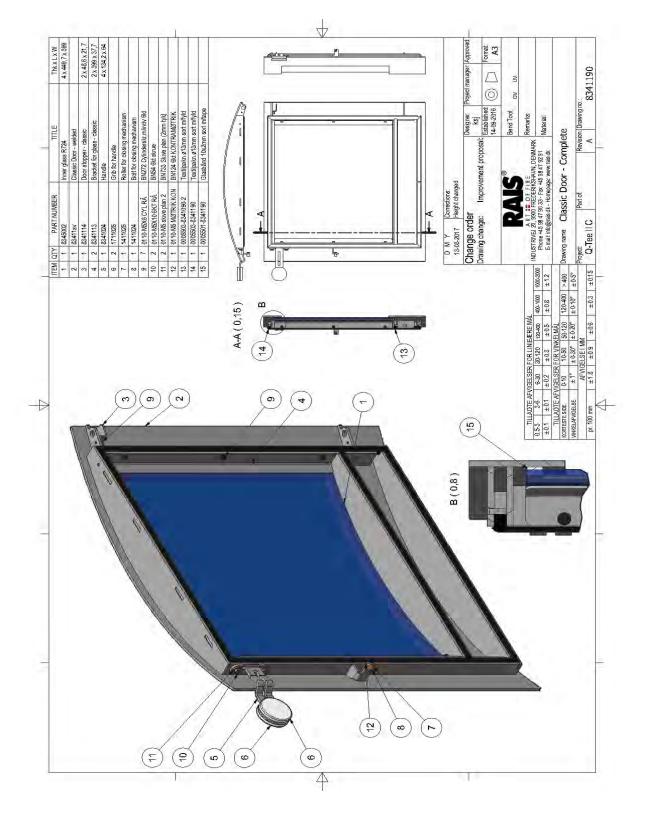


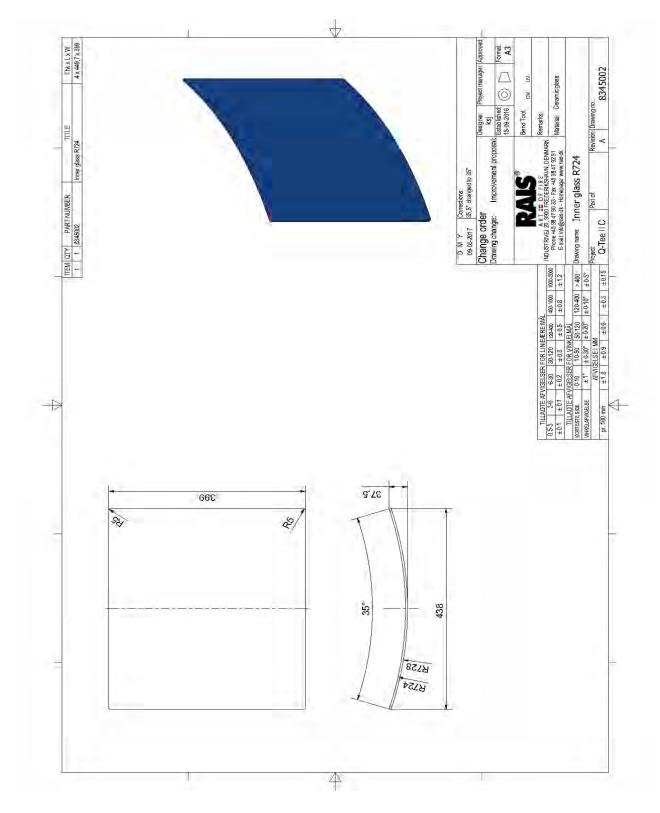


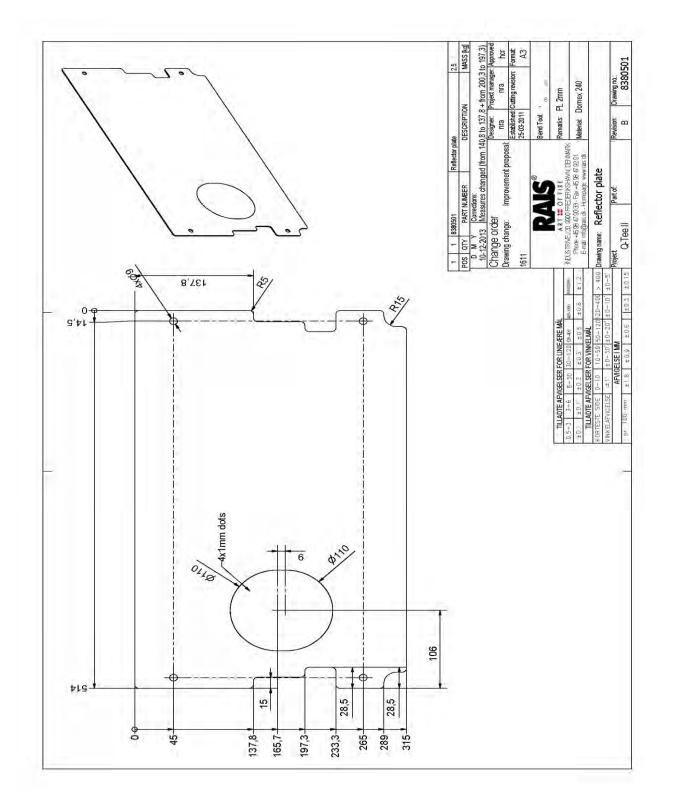


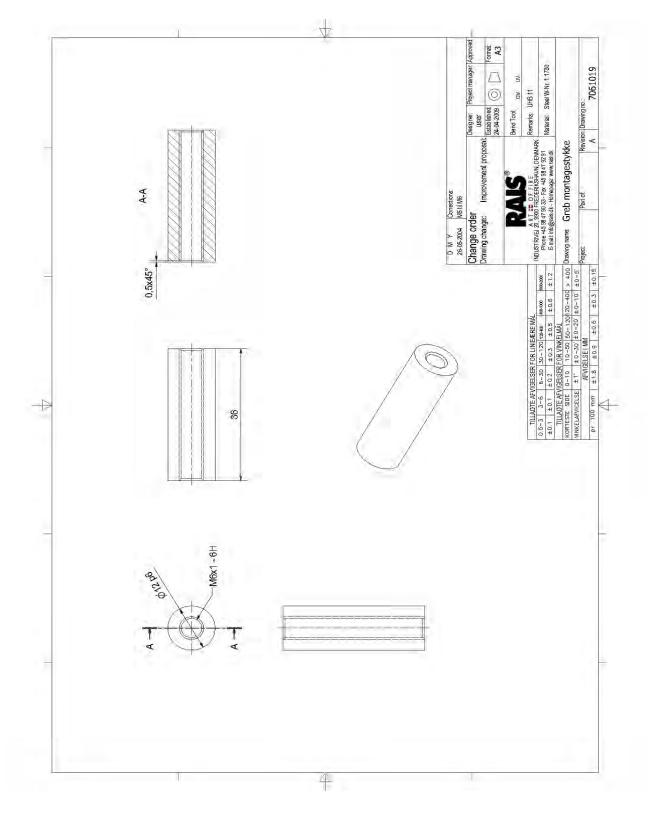




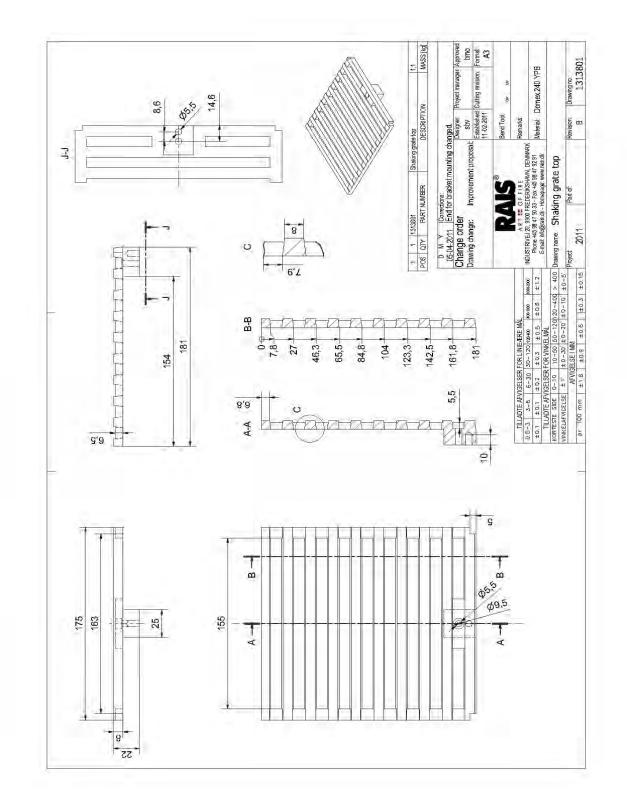




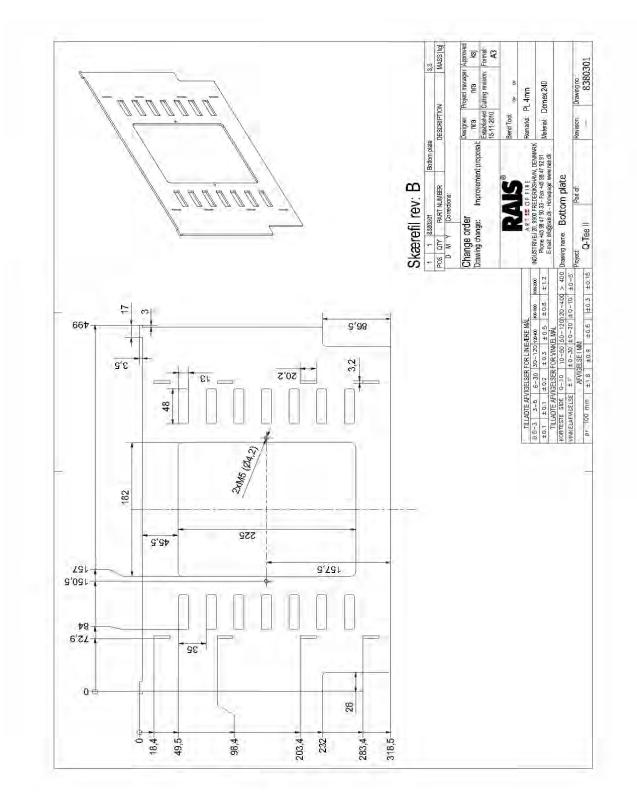


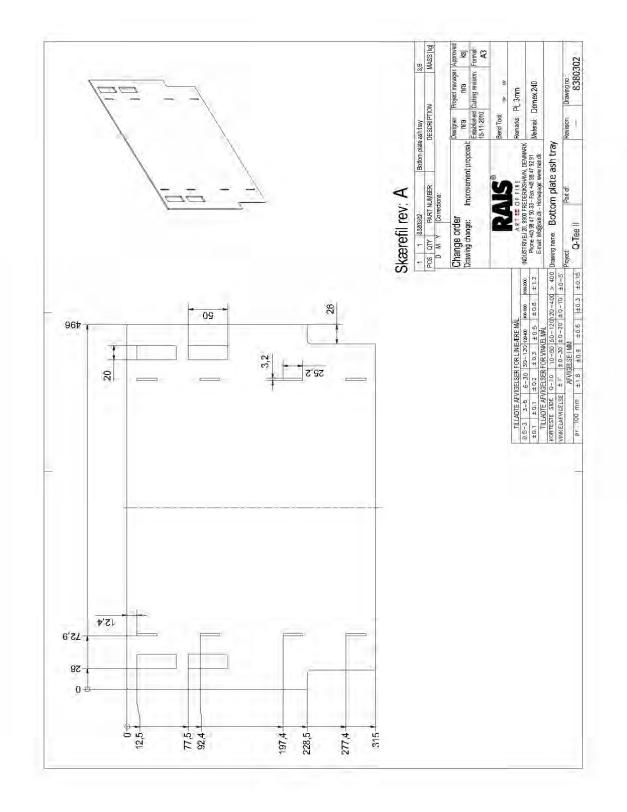


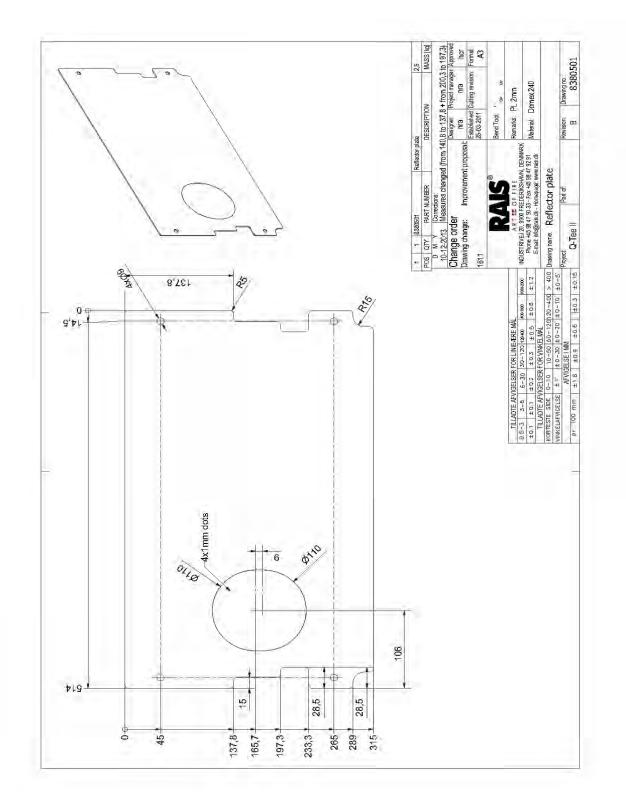
Drawing 16

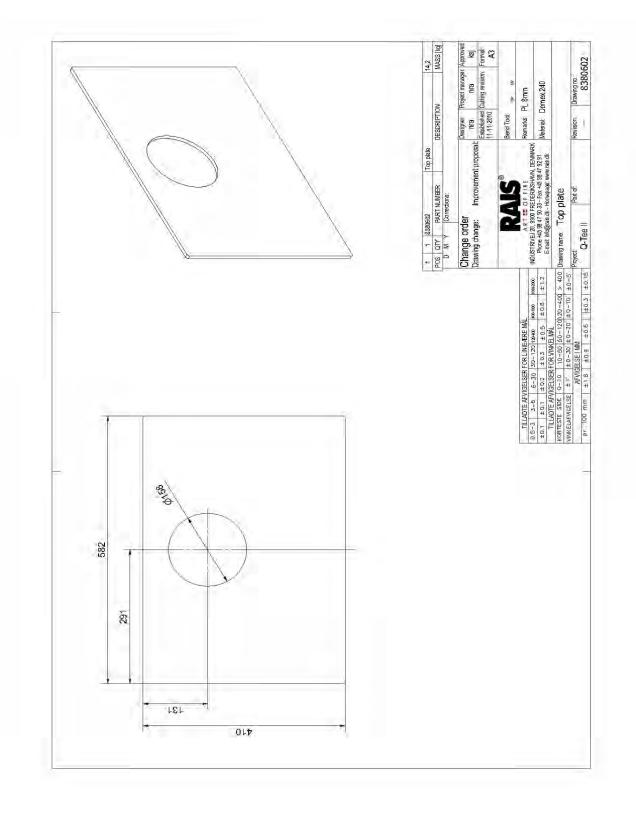


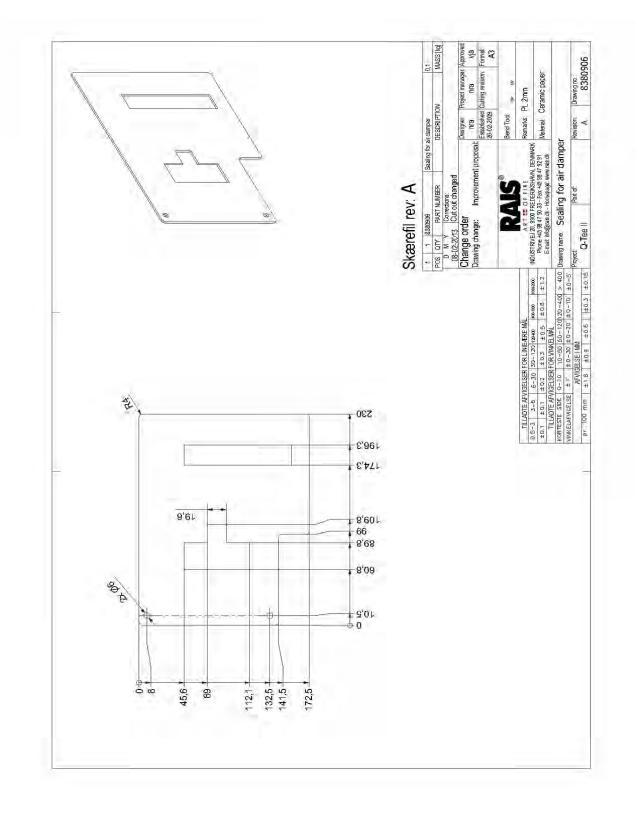
OMNI-Test Laboratories, Inc.

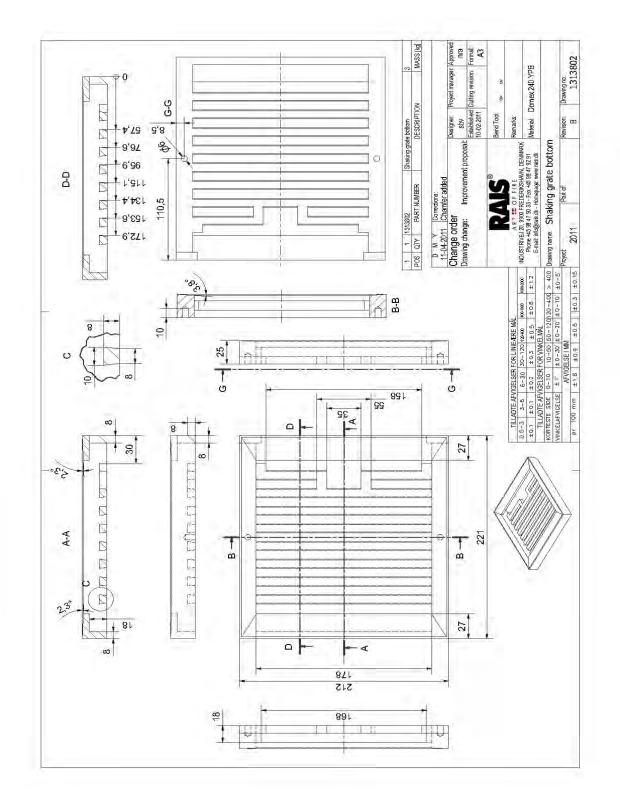


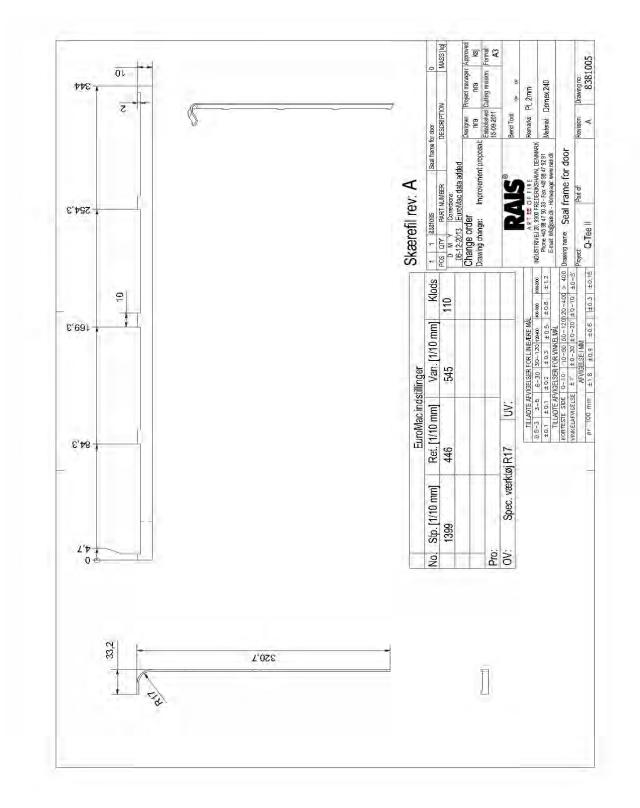


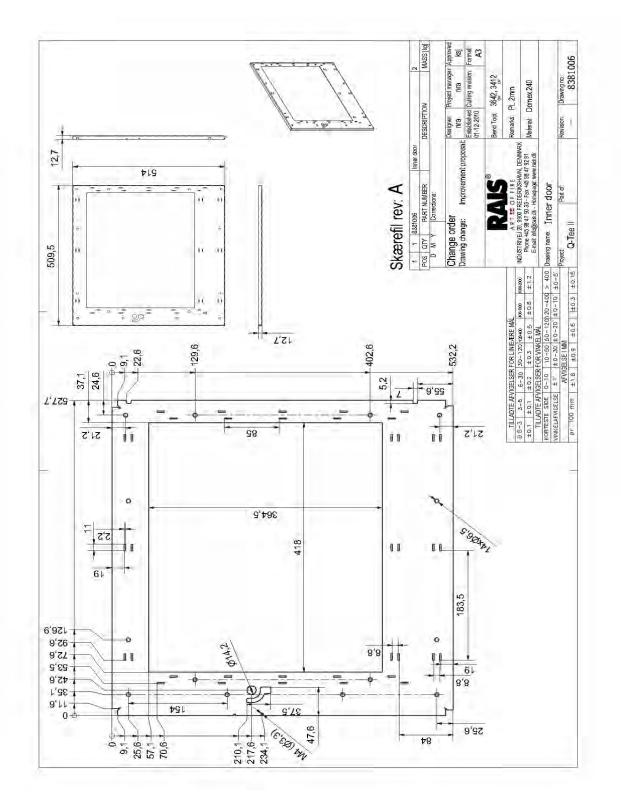


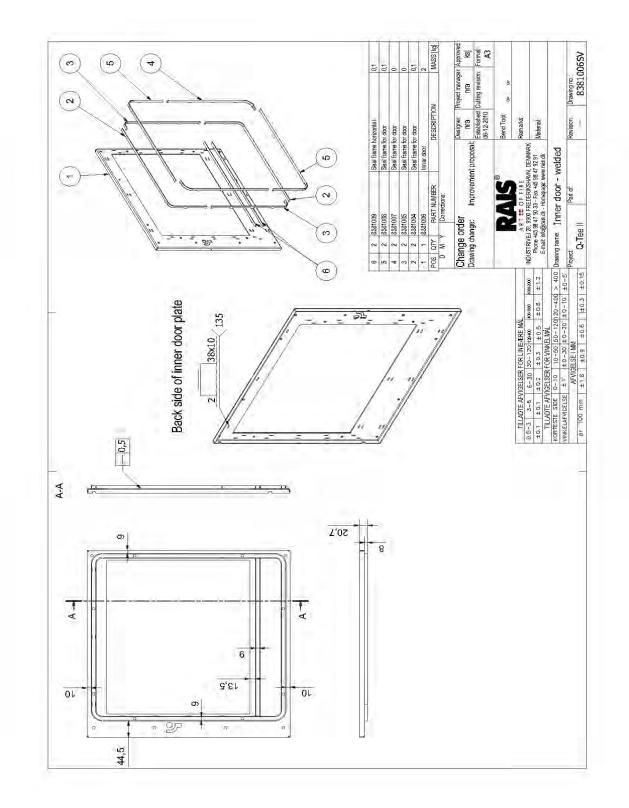


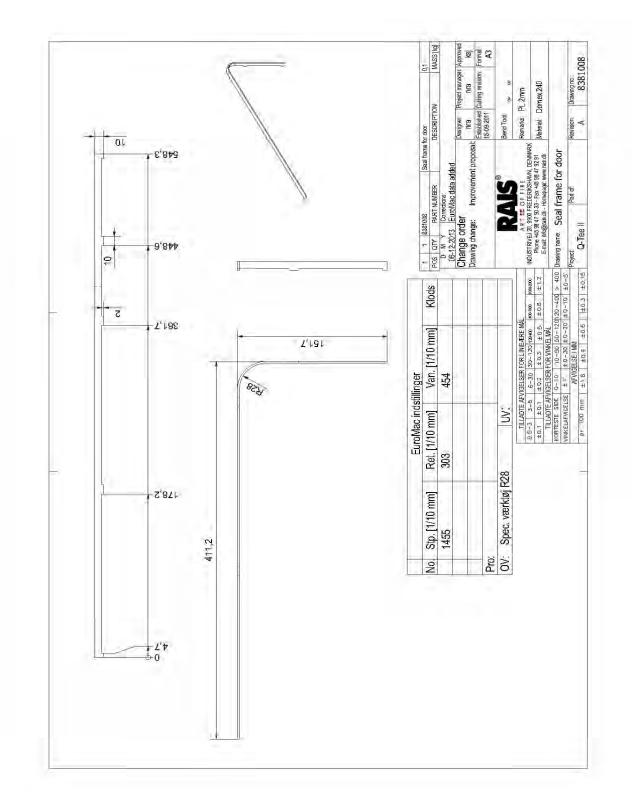


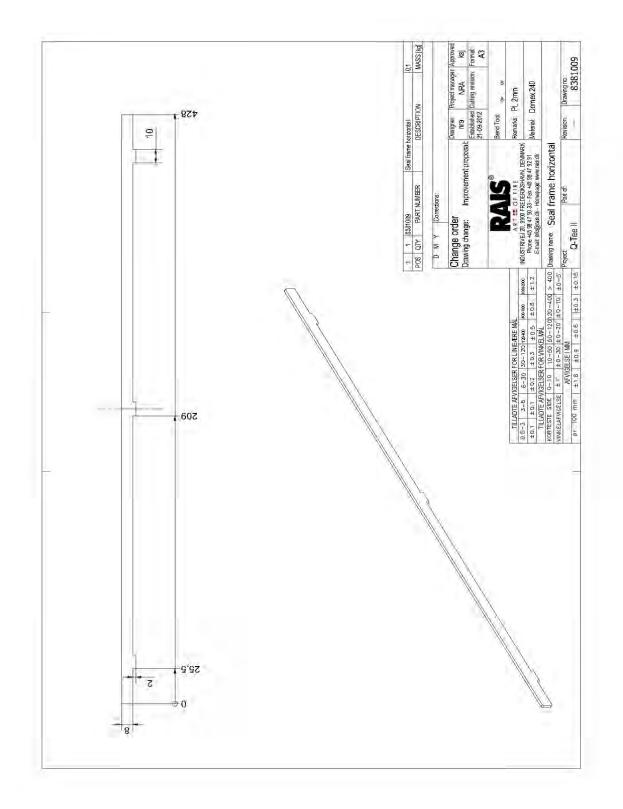


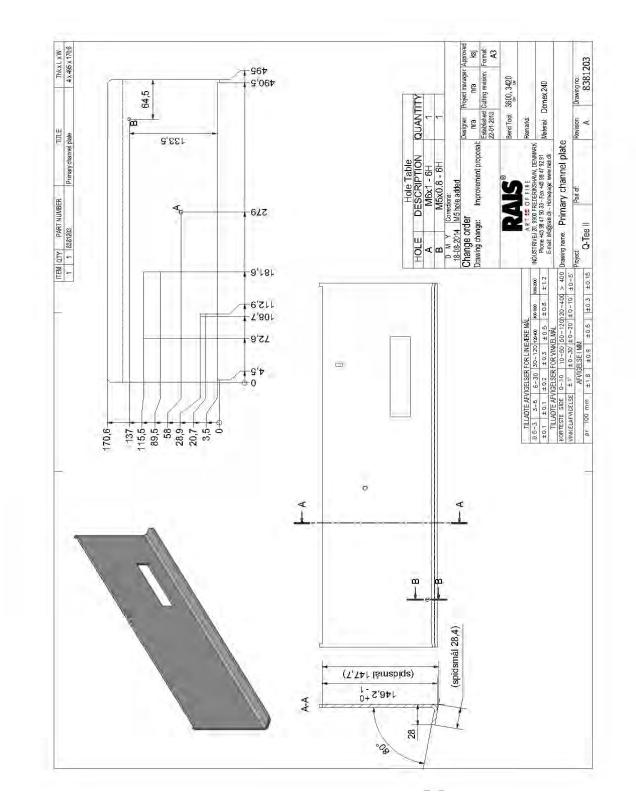


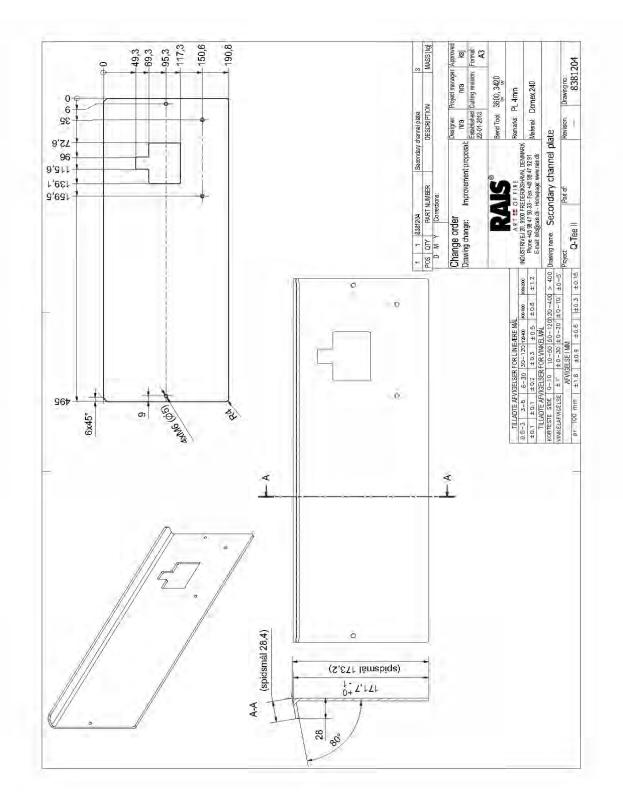


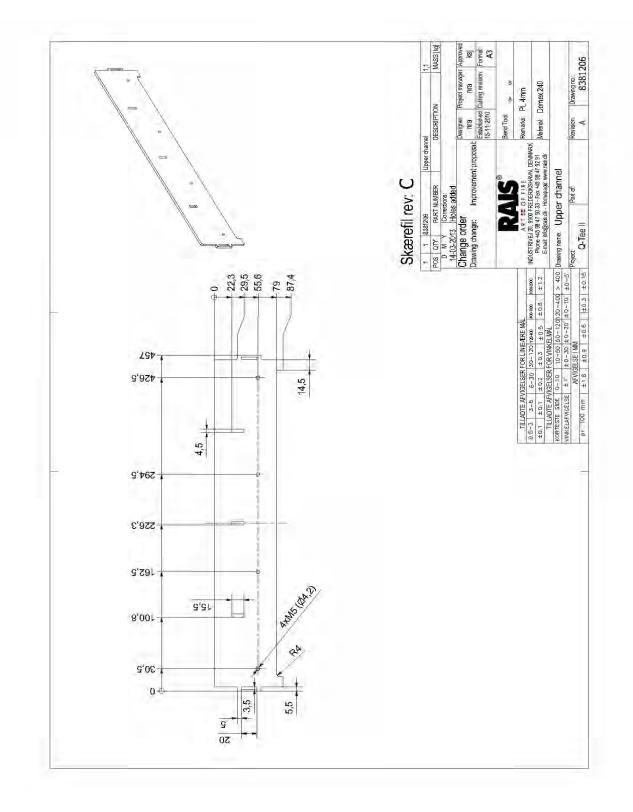


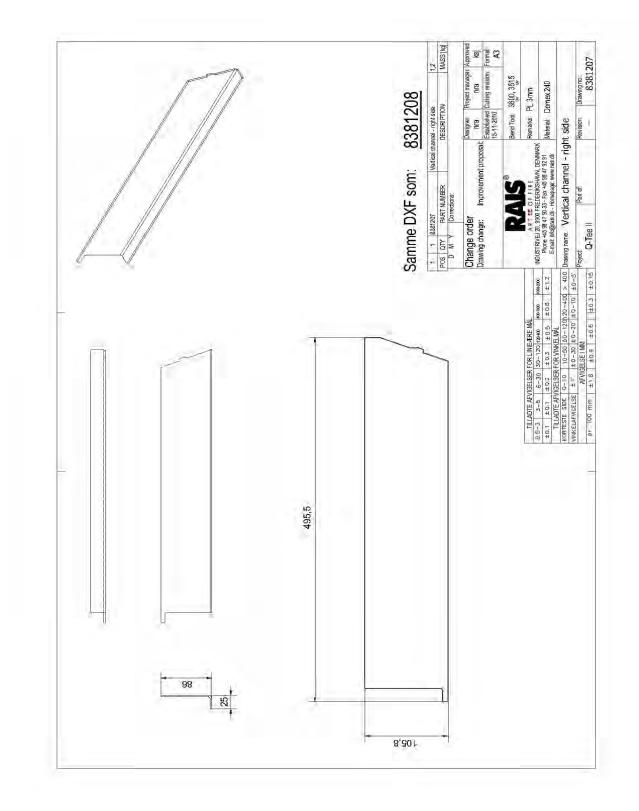


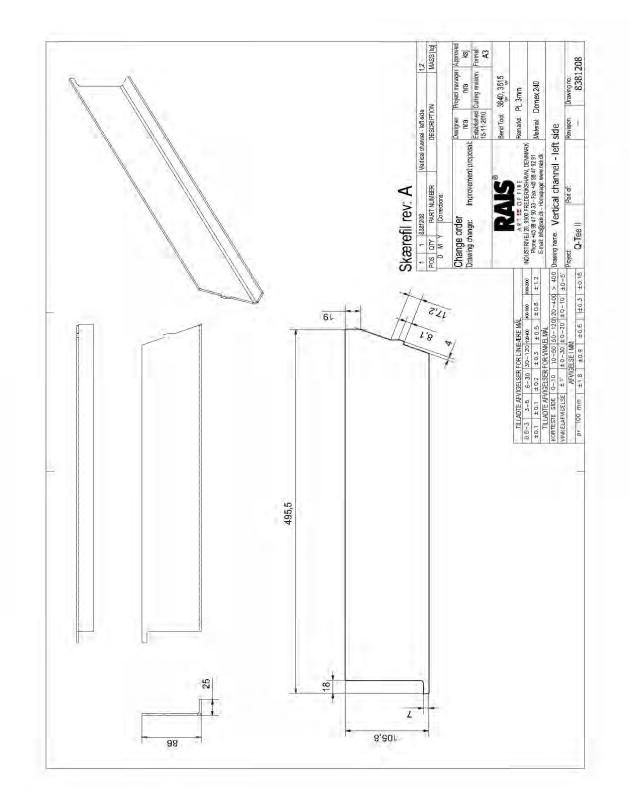


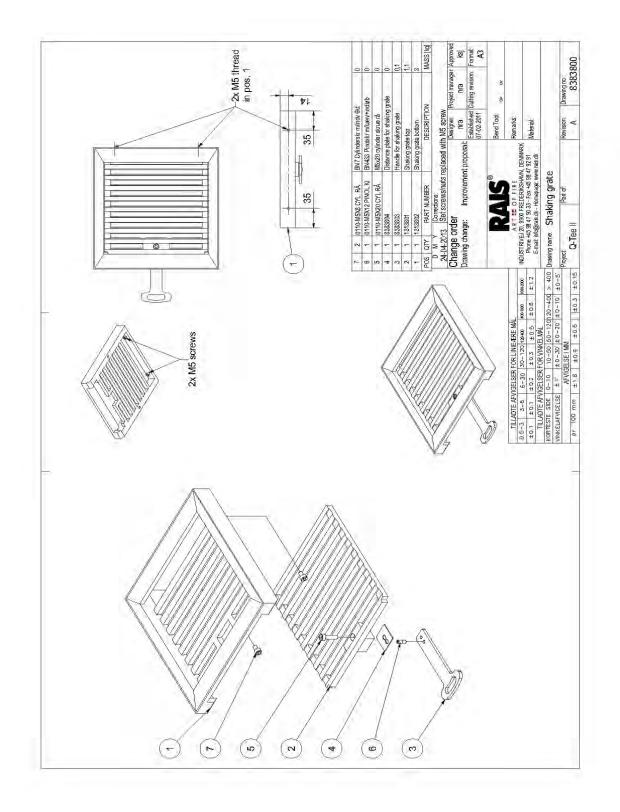


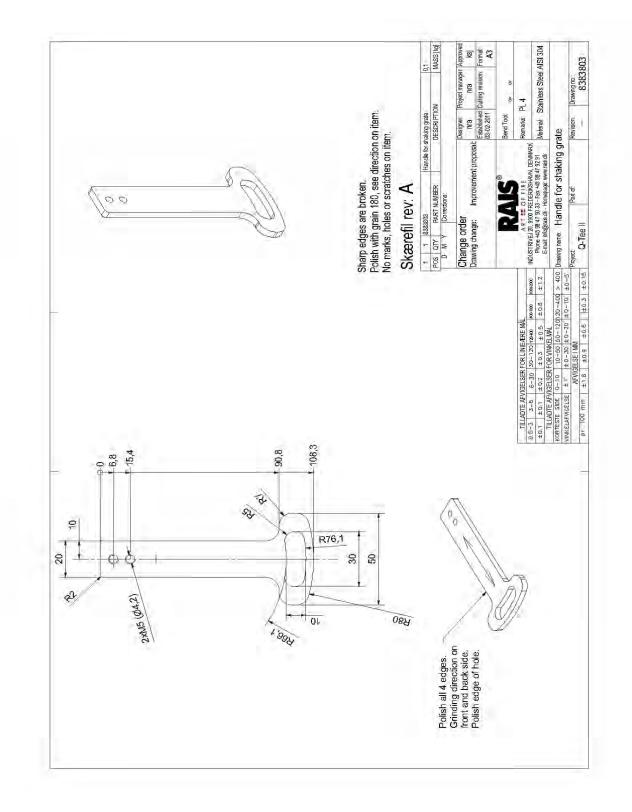


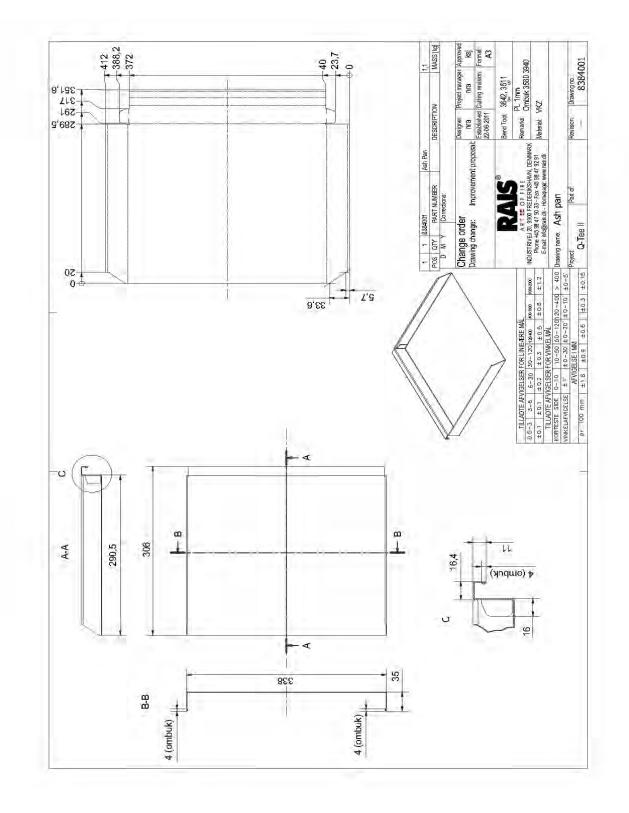




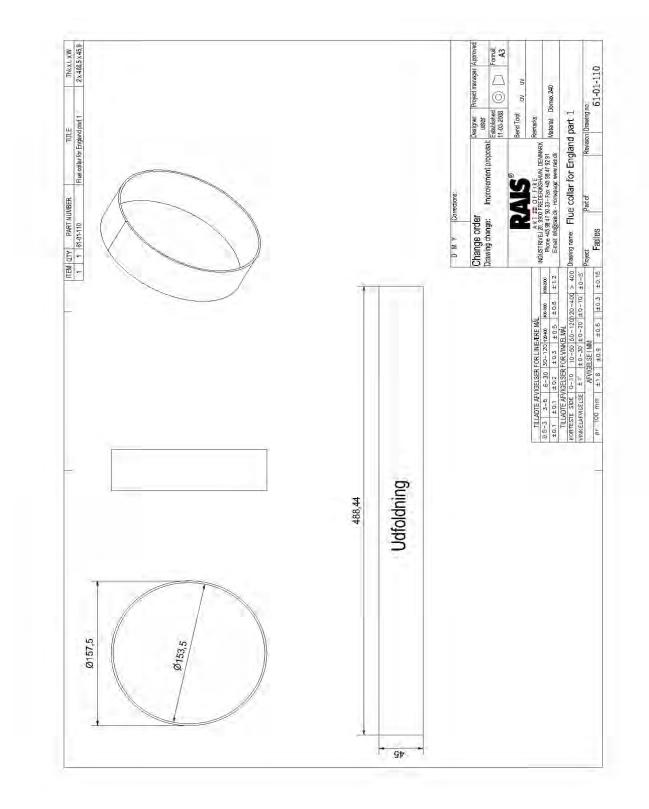


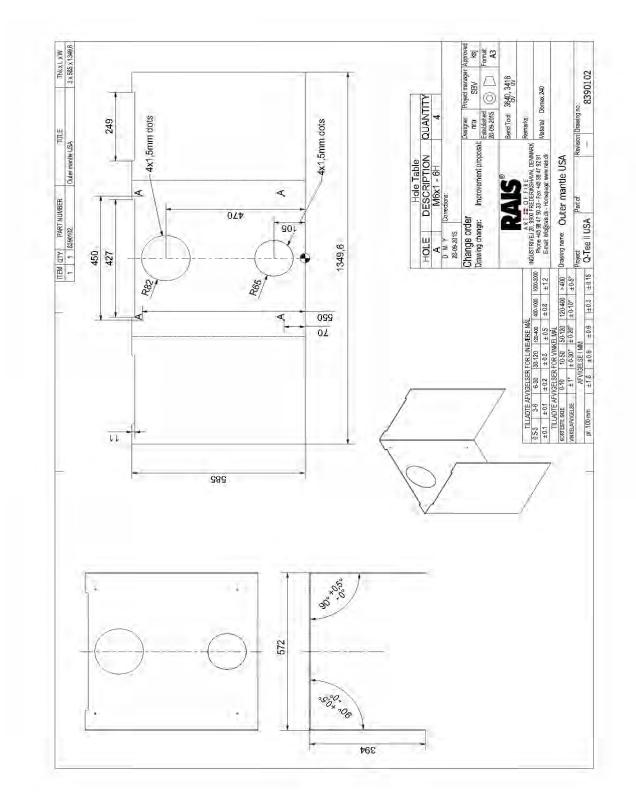


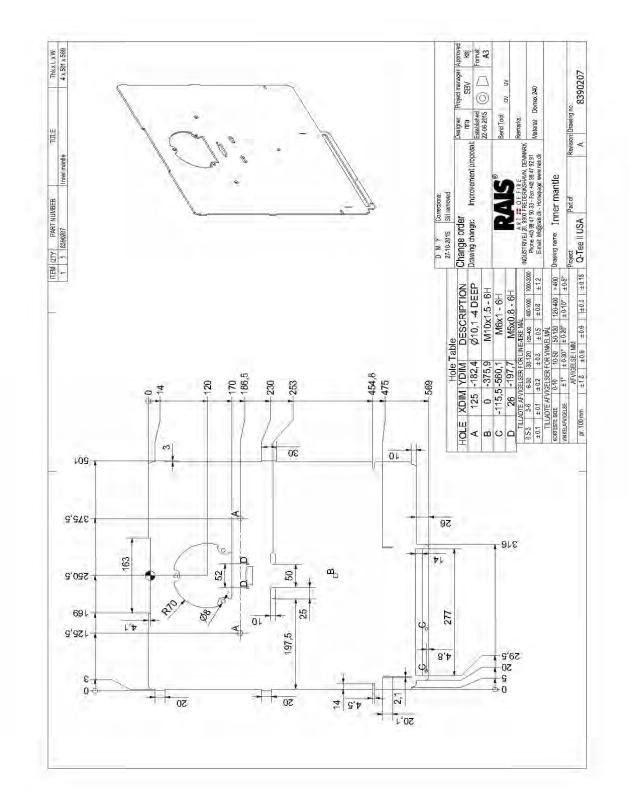


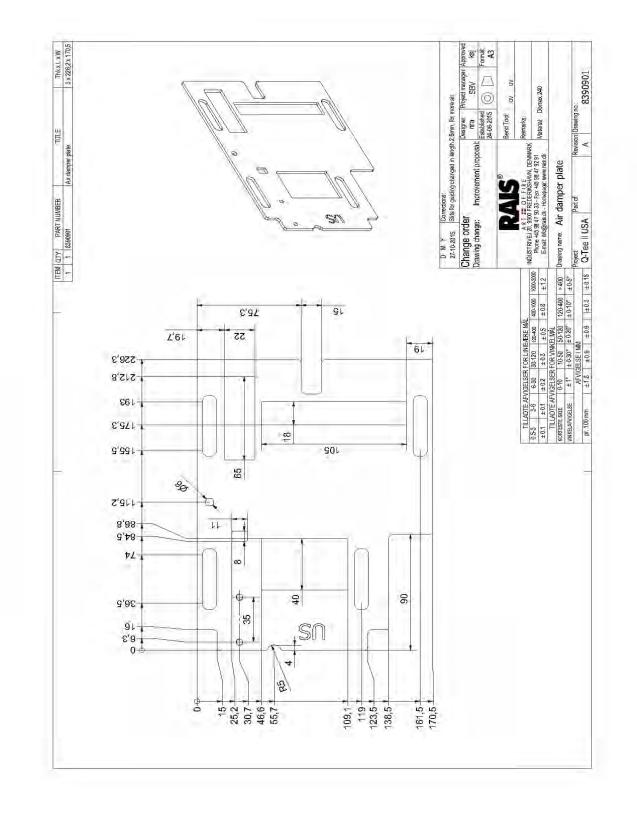




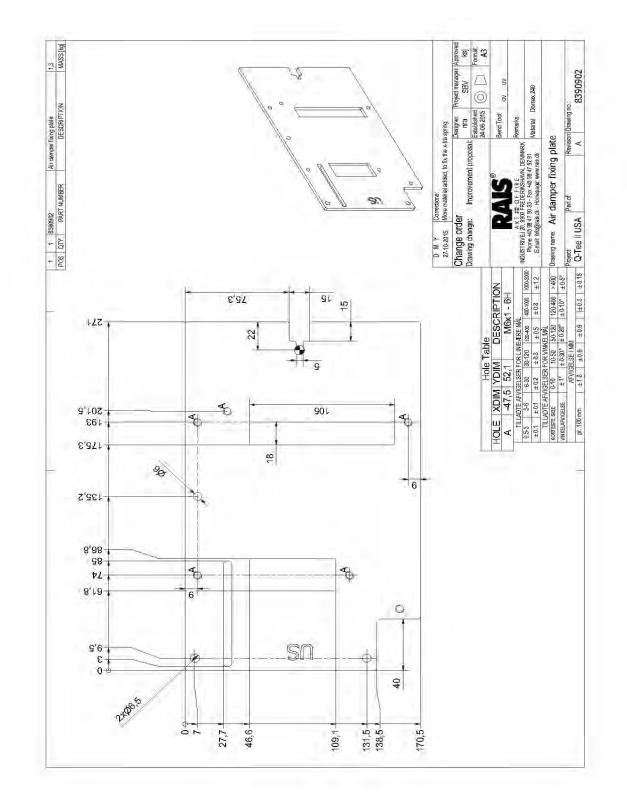




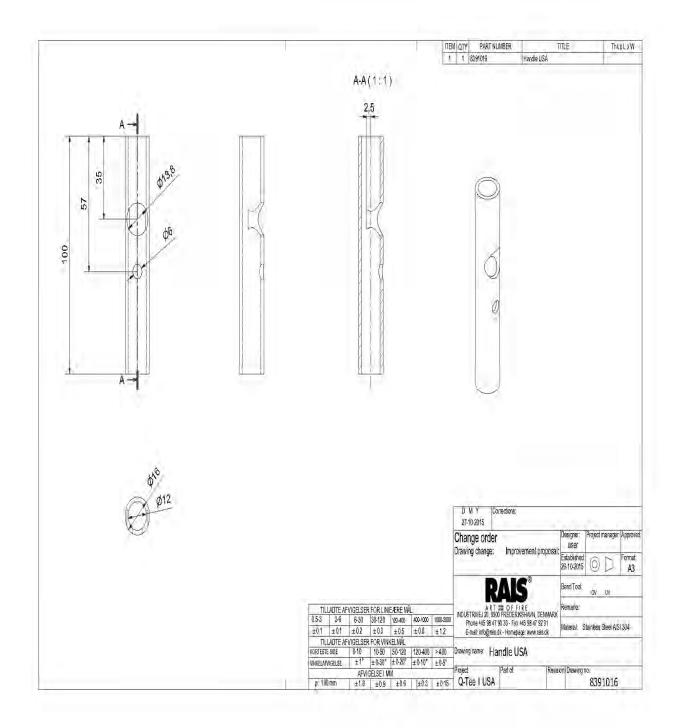


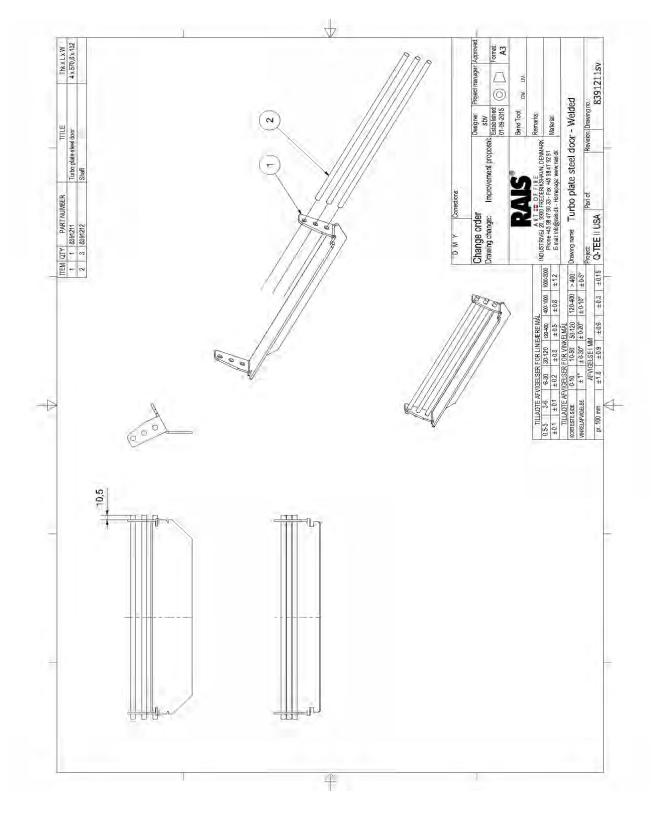


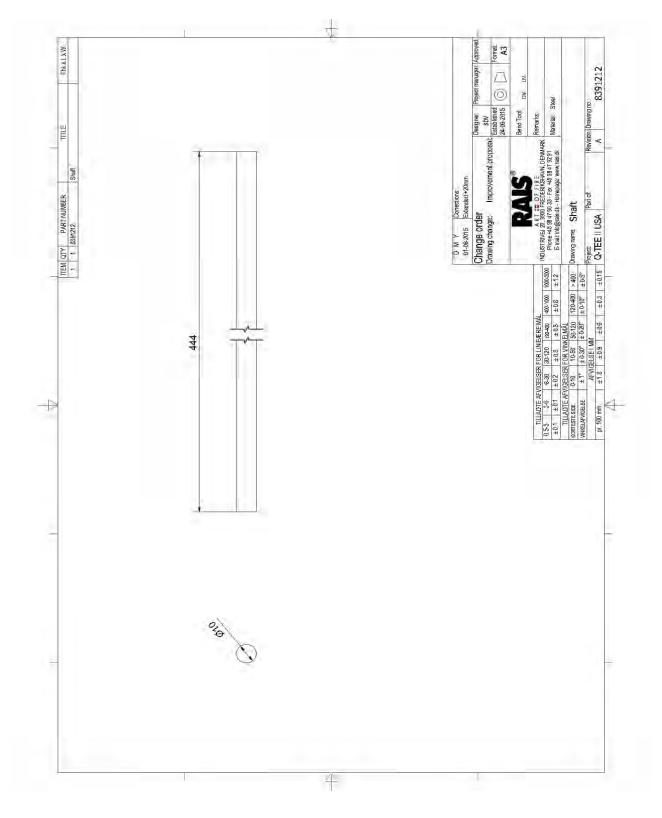


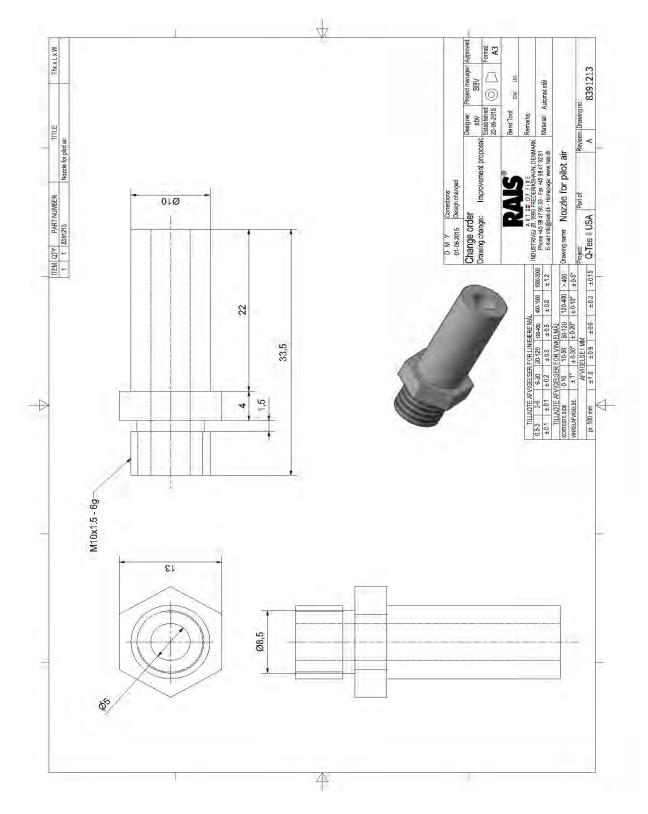


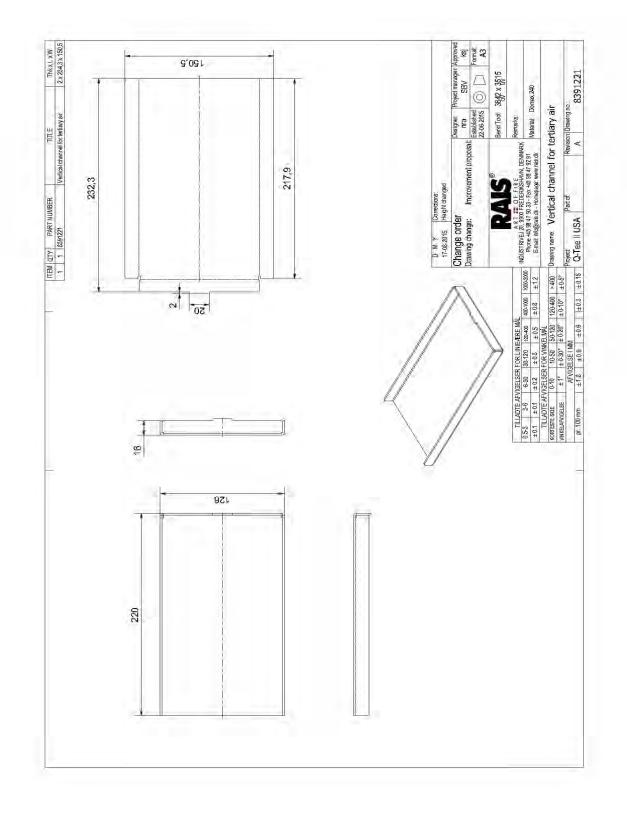


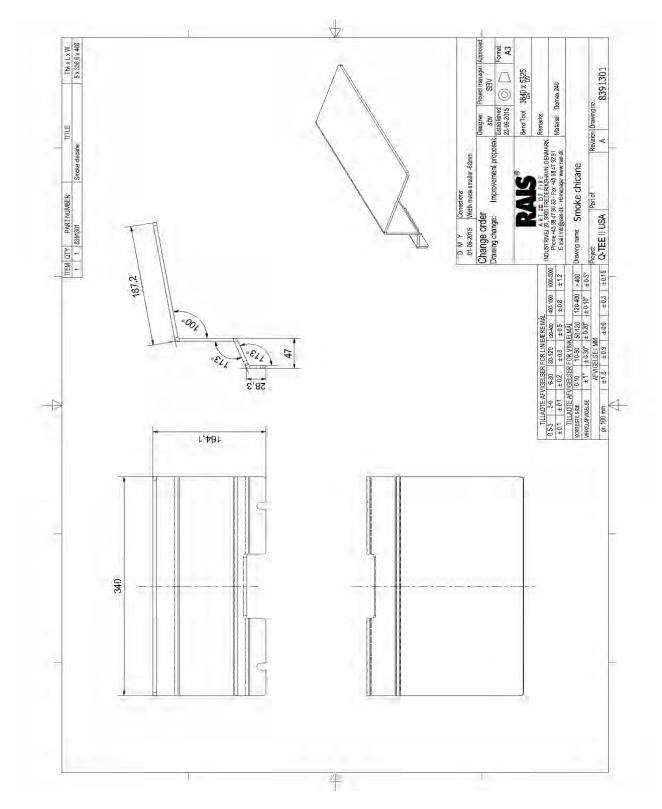




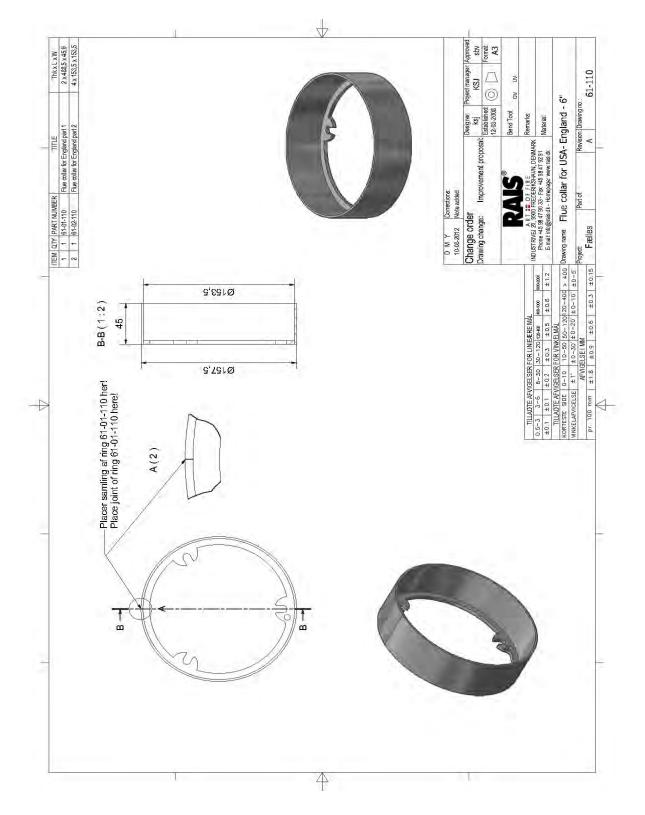


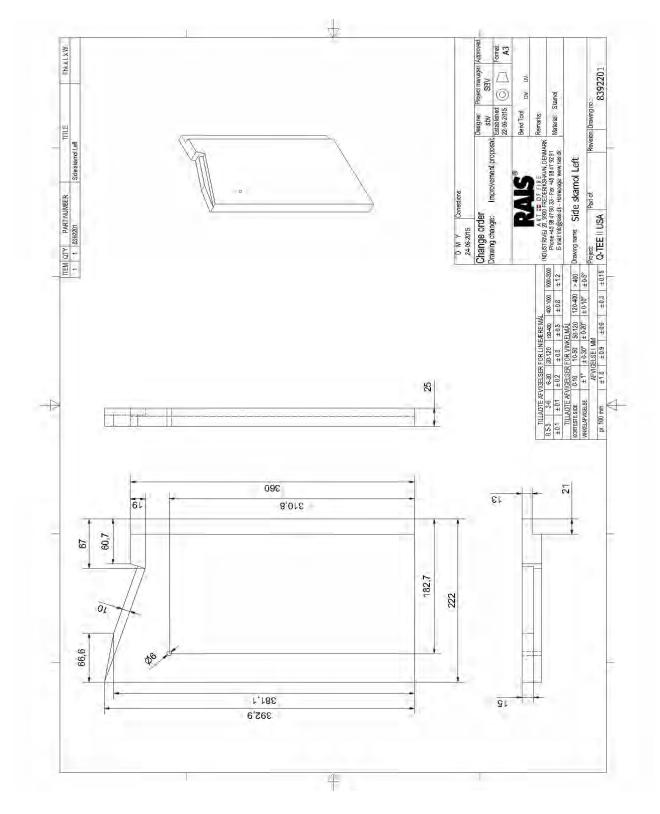




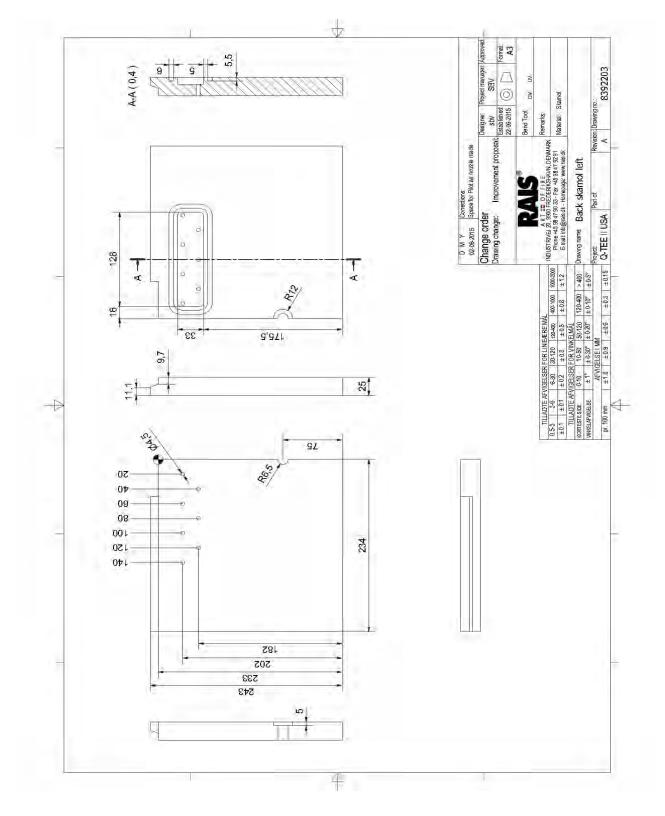




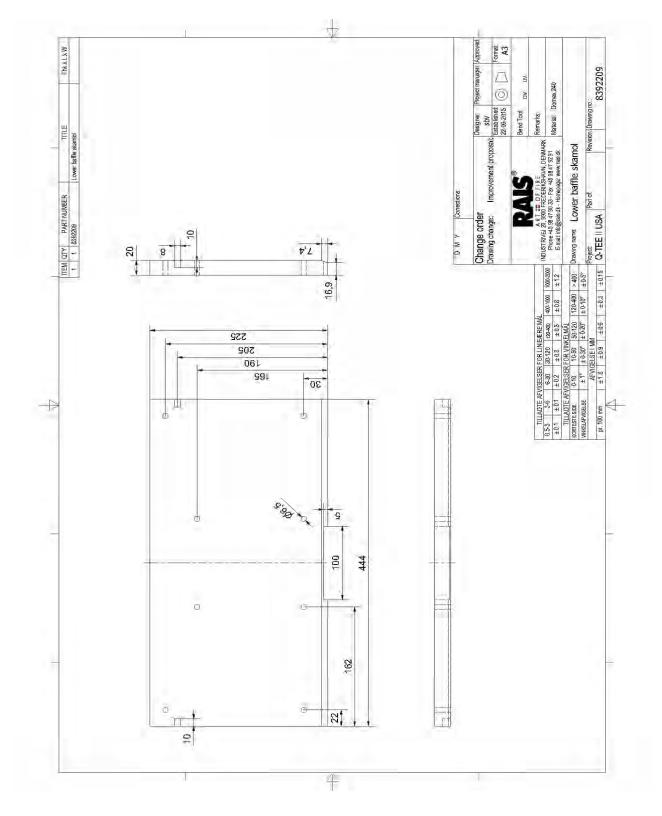


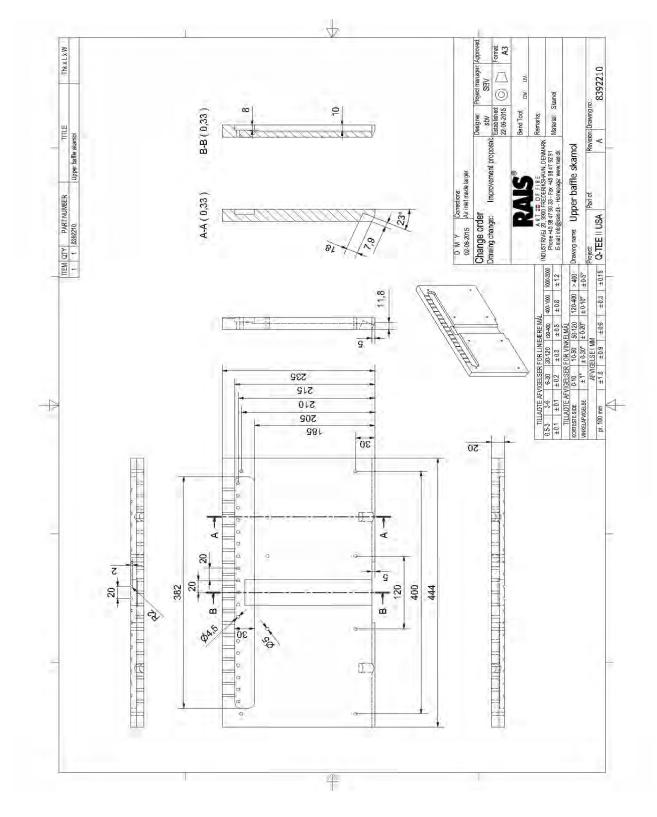


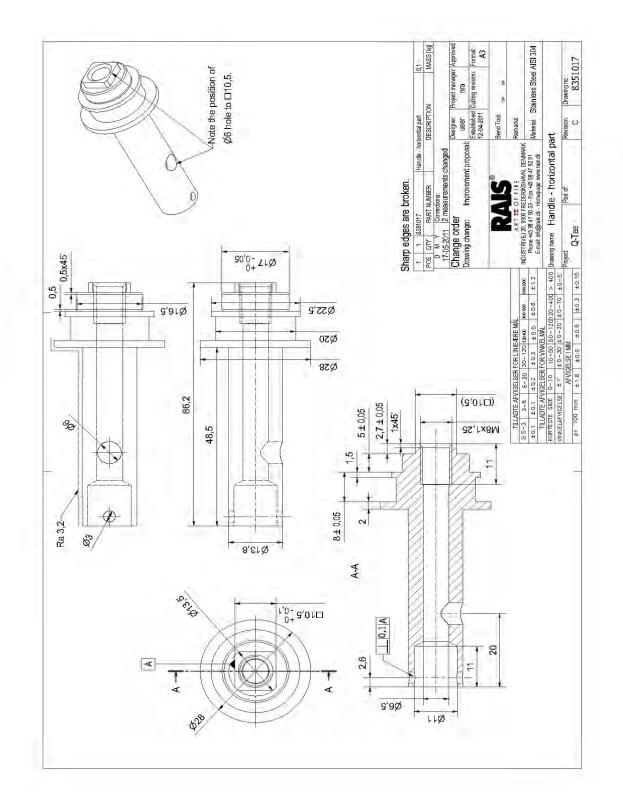
Drawing 49

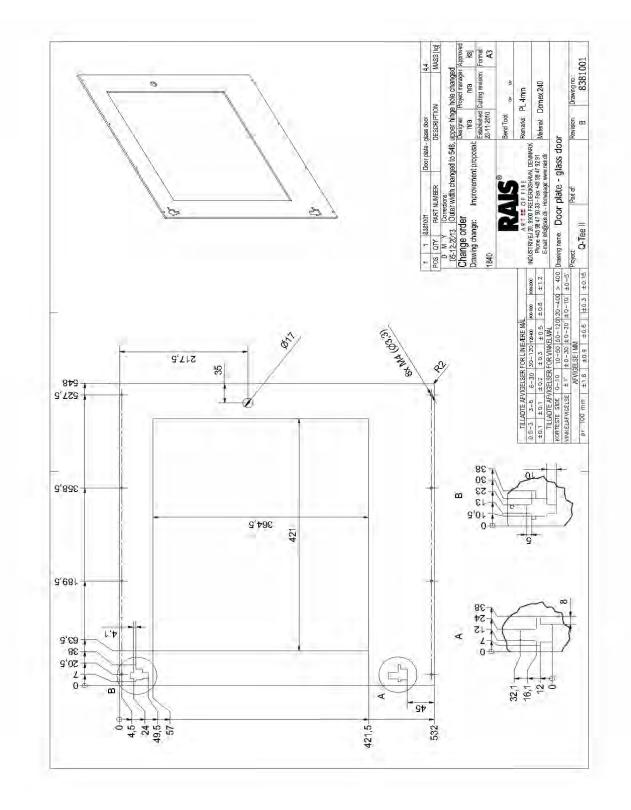


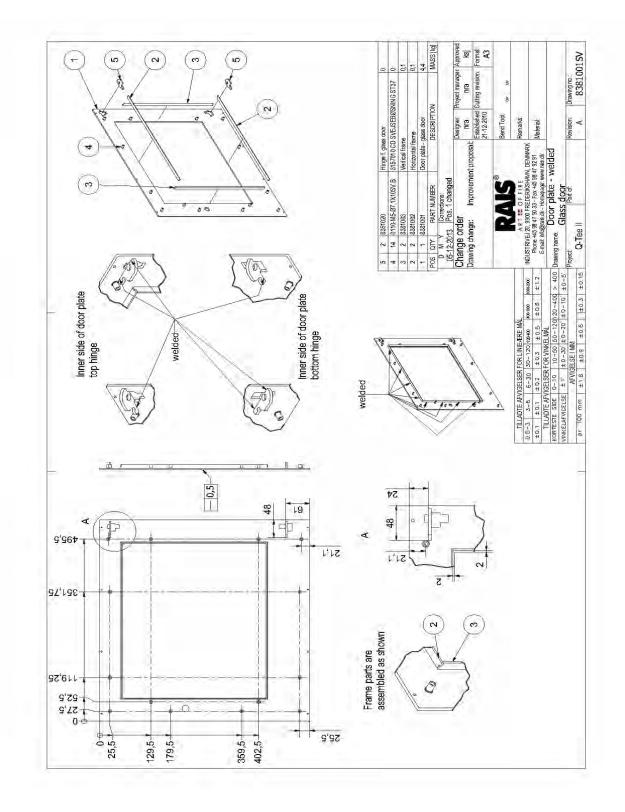
OMNI-Test Laboratories, Inc.

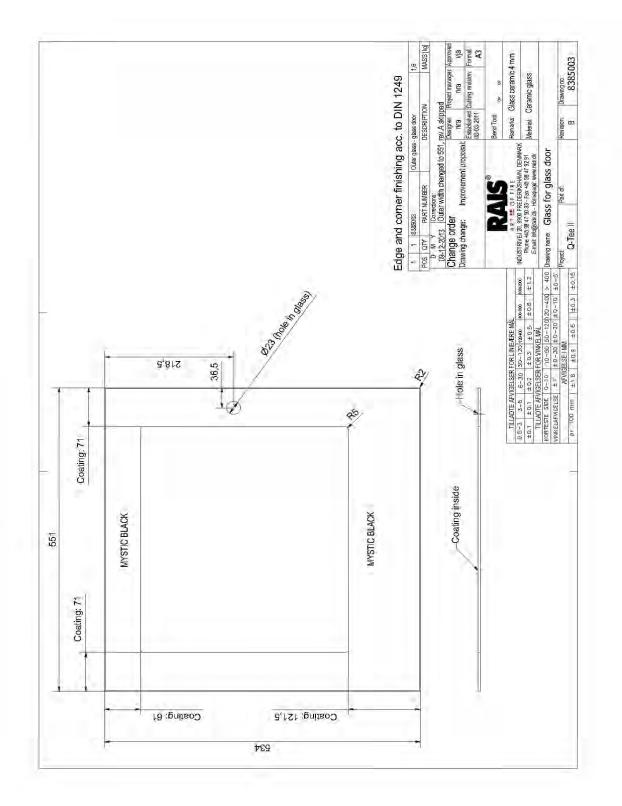


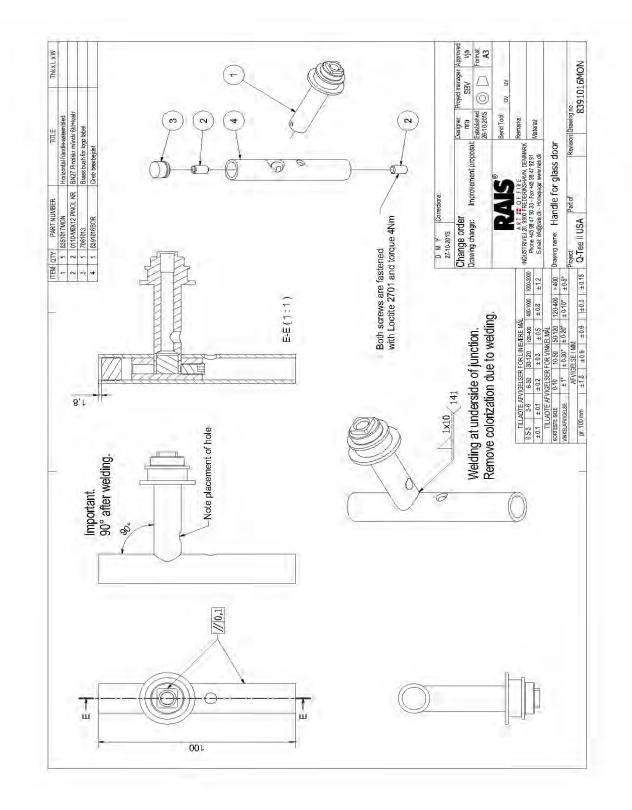


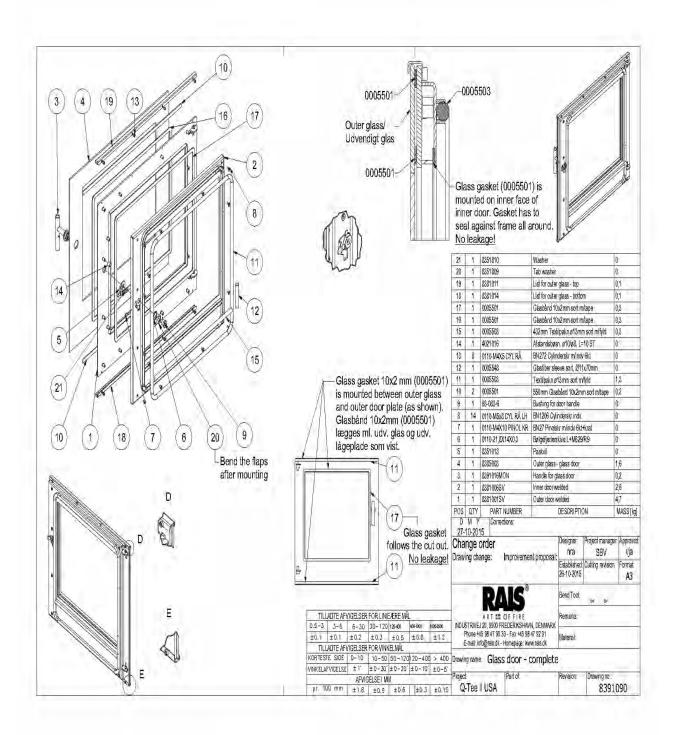


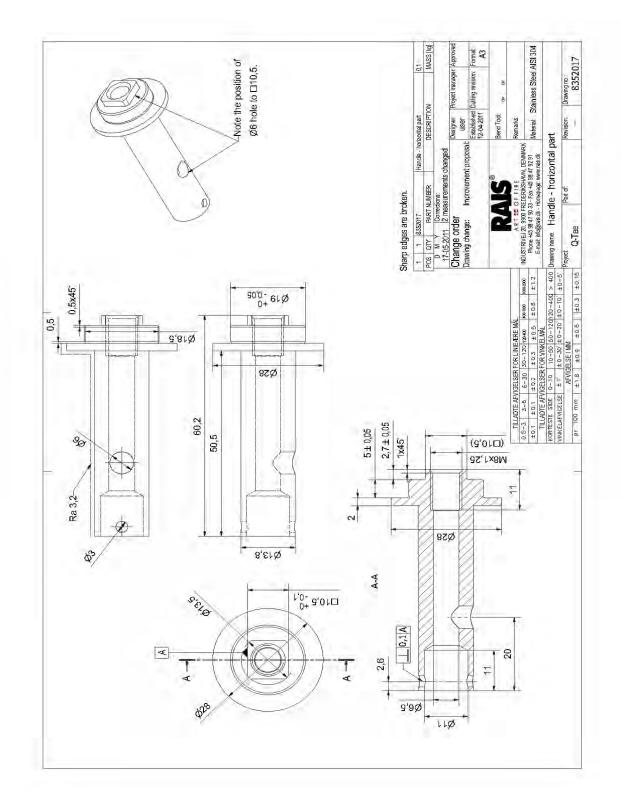


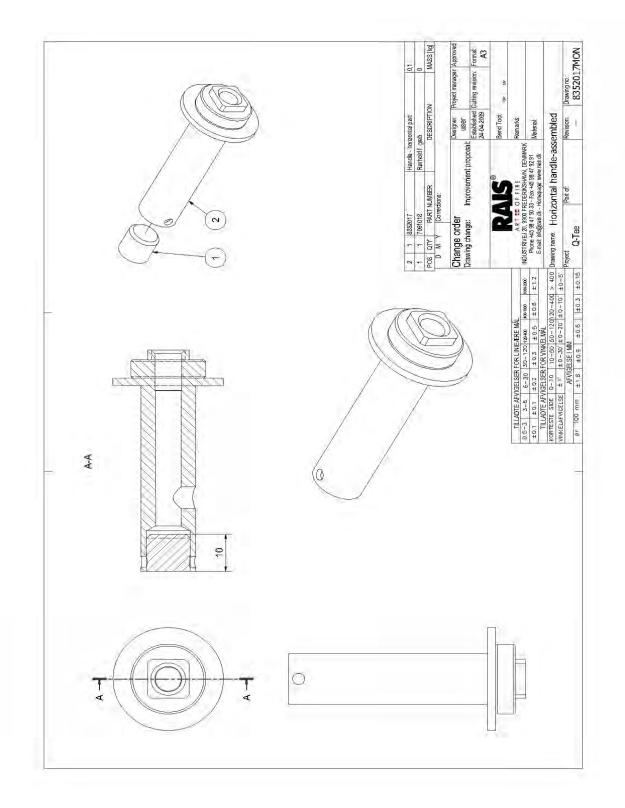






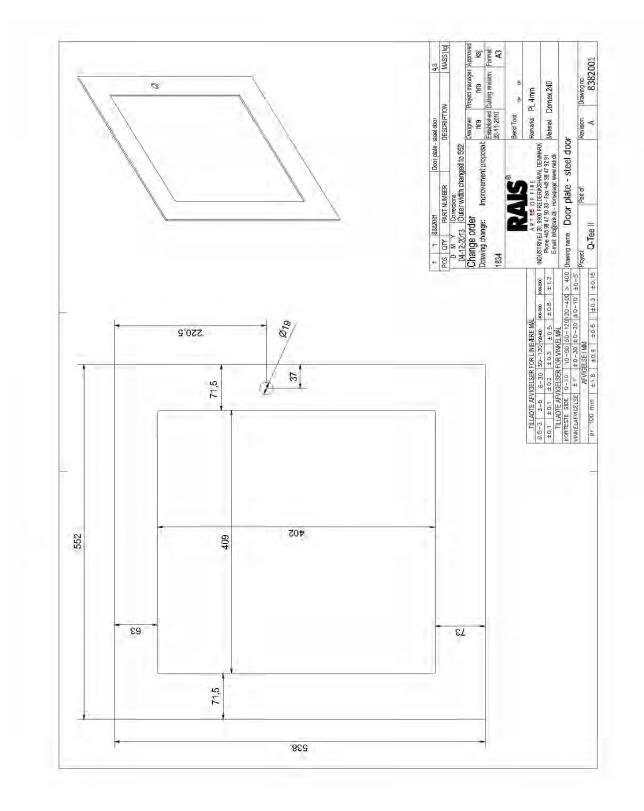




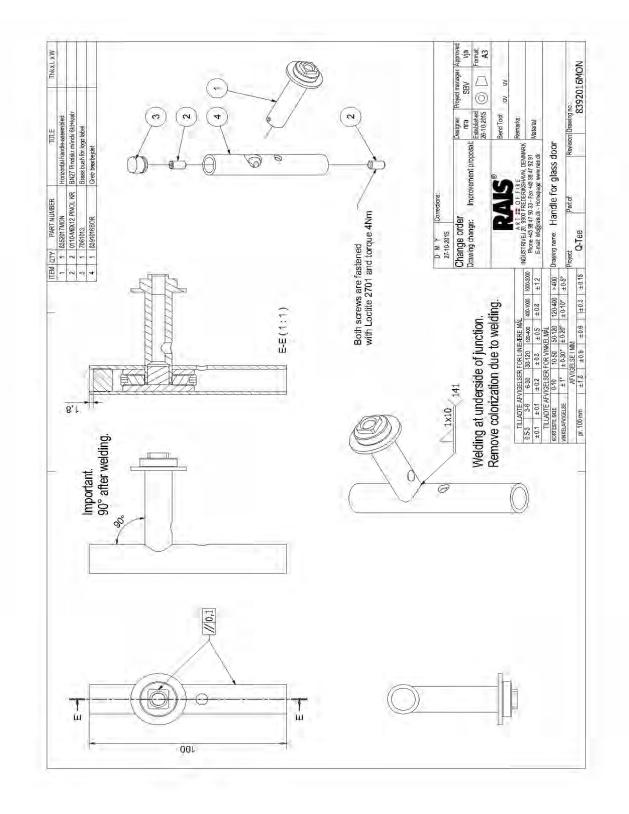


RAIS A/S Model: Q -TEE II Series Project: 0138WS016S.REV001

Drawing 60

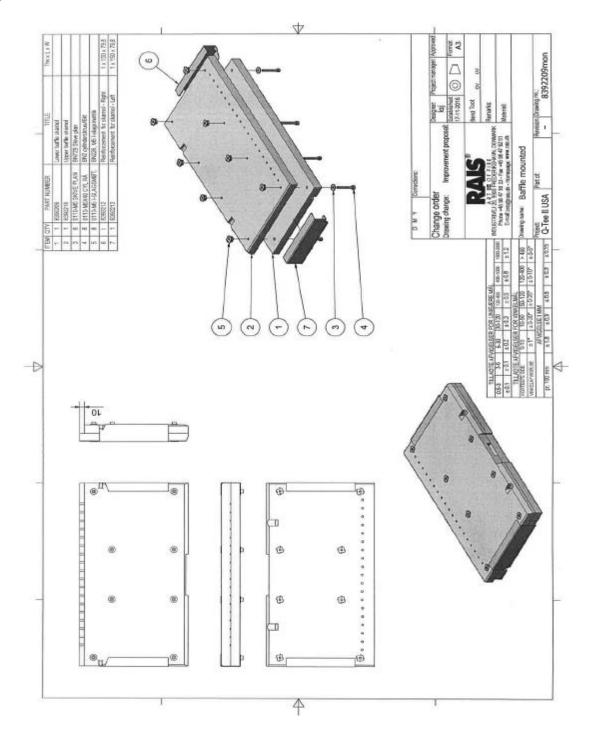


Drawing 61



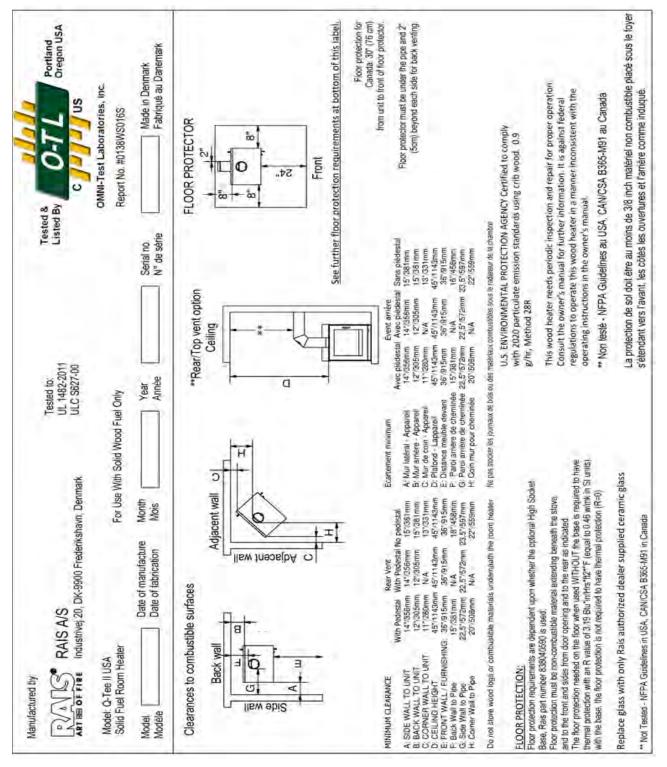
RAIS A/S Model: Q -TEE II Series Project: 0138WS016S.REV001

Drawing 62



VII - LABELS

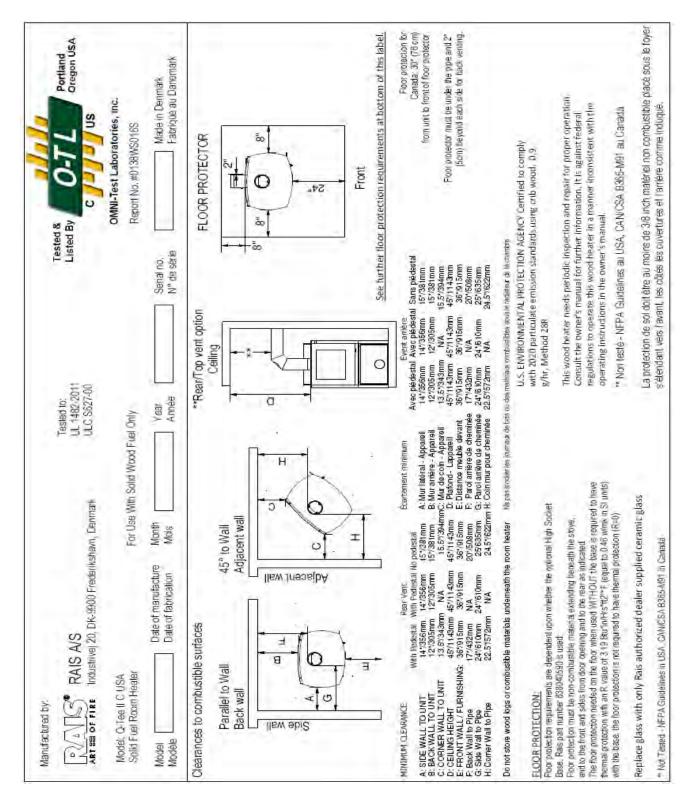
Label 1 - Q-TEE II Listing Label



Label 2 - Warnings Label

TO PREVENT HOUSE FIRES	FOUR EVILER LES INCENDIES JOMES ILGUES Contadez les Autorités des Bâtiments et des pompiers concernant
Contact local Building or Fire officials about restrictions and installation inspection in your	les restrictions et inspections d'installation dans votre région.
area.	Insaliez et utilisez oet appareil uniquement en respectant les instructions d'installation et d'utilisation du fabricuart
Install and use only in accordance with manufacturer's installation and operating instructions and local codes. Installation must meet minimum requirements of NFPA 211	u ourisation ou han quain. Respectez aussi les réglementations locales. Tabserioa de réglementations locales, finstallation doit respecter les normes minimums de NFPA X-11 aux USA et B365 au Canada.
In USA, and B365 in Canada. Refer to manufacturer's instructions and local codes for precautions required for passing chimmey through a combustible wall or celling. Inspect and clean chimmey system frequently in accordance with manufacturer's instruction.	Référez-vous aux instructions du fabricant et réglement locaux concernant les précautions nécessaires à prendre pour le passage de la cheminée à travers une paroi ou un plafond combustible. Inspectize et nettoyaz le système de cheminée fréquemment selon
Do not connect this stove to a chimney flue serving another appliance.	res inserveuens ou reuncent. Ne connectez pas ce poéle à un conduit de cheminée utilisée
Do not use grate or elevate fire. Build wood fire directly on hearth.	par un aufre appareil. Nurillisaz nas de mille et ne faites pas monter le feu.
Fue connector pipe must be 6 inch diameter, minimum single wall 24 mag black or 25 msg blued steel.	Établissez le feu de bois directement dans l'â ître. Le tuyeu de connexion au conduit doit avoir un diamétre de 6 inch.
Chimney must be factory built 6" diameter Class "A" 103 HT, or masonry.	minimum simple conduit 24 msg acter noir ou 25 msg acter belui.
TO PREVENT CREOSOTE FIRES Inspect and clean chirmey frequently - Under certain conditions of use, creosote buildup may occur rapidly.	La cheminée doit être une fabrication de 6" de diametre Class "A" 103 HT, ou en maconnerie. POR EVITER LES FEUX DE CREOSOTE
Do not use other fuels than Fire wood.	inspectez et nettoyez la chemiee regulerement - sous cartaines condition d'empio, la créosote peut s 'accumuler rapidement.
CAUTION: Fully open combustion air control before opening the	Ne pas utiliser d'autres combustibles que le bois.
fuel feed door. CaliTION: Only onersite the wood bester with the closes closed	AVIS: Ouvrez complétement le contrôle d'air de combustion avant d'ouvrir la porte du foyer.
	AVIS: Seulement se servir du poèle portes fermeas.
CAUTION: HOT WHILE IN OPERATION-DO NOT TOUCH KEEP CHILDREN AND CLOTHING AWAY-	ATTENTION: CHAUD PENDANT LE FONCTIONNEMENT - NE PAS TOUCHER ECARTEZ LES ENFANTS ET
CONTACT MAY CAUSE SKIN BURNS.	LES VETEMENTS- LE CONTACT PEU CAUSER
SEE NAMEPLATE AND INSTRUCTIONS. KEEP FURNISHINGS AND OTHER COMBUSTIBLE	E LES INSTRUCTIONS. TENIR LES MEUBLES ET
MATERIALS A CONSIDERABLE DISTANCE AWAY	
FROM THE APPLIANCE.	GRANDE DISTANCE DE LAPPAREIL.
Do not overfire - If heater or chimney	Évitez de surshauffer-si le feu ou la cheminée
connector glows, you are overfiring.	rougeoie, vois surchauffez.

Label 3 - Q-TEE II C Listing Label



VIII. MANUALS

User / Installation Manual, Combined English and French Language, Cover



USER MANUAL / MANUAL D'UTILISATION

Q-Tee II USA

Q-Tee II C USA



User / Installation Manual, Combined English and French Language, Table of Contents

US English

User Manual Q-Tee II USA / Q-Tee II C USA

Q-Tee II USA Q-Tee II C USA

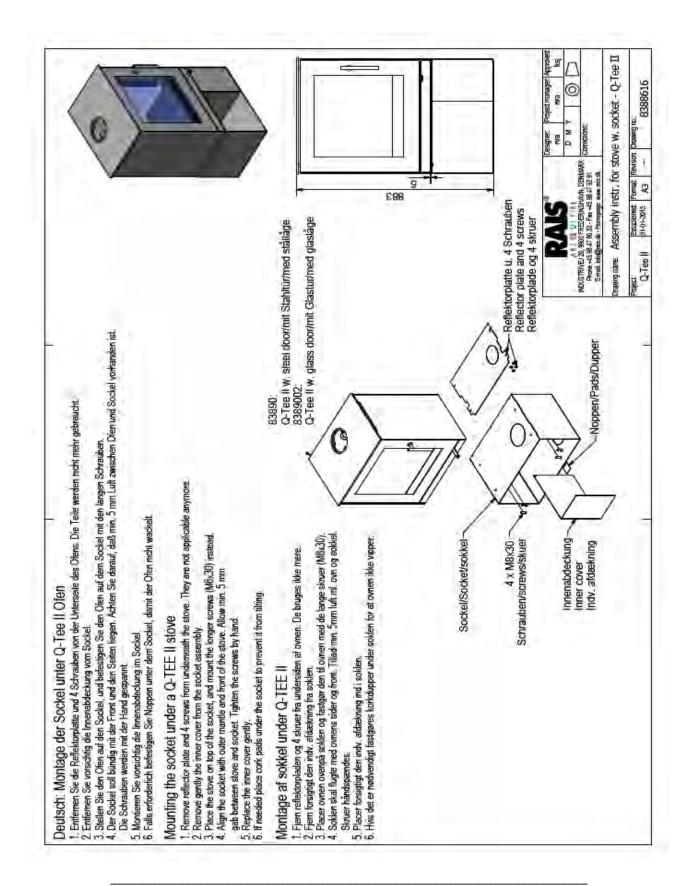
OMNI report no. : #0138WS016S

Revision : 7 Date (DMY) : 12-01-2017

INTRODUCTION
WARRANTY
SPECIFICATIONS
CONVECTION
GLASS AND REPLACEMENT OF GLASS
CHIMNEY
INSTALLATION
NAME TAG Q-Tee II USA
CLEARANCES TO COMBUSTIBLE WALLS Q-Tee II USA14-15
CLEARANCES TO NON-COMBUSTIBLE WALLS Q-Tee II USA 16
FLOOR PROTECTION Q-Tee II USA
NAME TAG Q-Tee II C USA
CLEARANCES TO COMBUSTIBLE WALLS Q-Tee II C USA
CLEARANCES TO NON-COMBUSTIBLE WALLS Q-Tee II C USA 20
FLOOR PROTECTION Q-Tee II C USA
FIREWOOD
DRYING AND STORING
ADJUSTING THE COMBUSTION AIR
USING THE STOVE
ADJUSTING THE AIR CONTROL
CONTROL
FIRST FIRE
COLD HANDLE
LIGHTING AND STOKING
FUEL CAUTION
CARE AND MAINTENANCE
CLEANING THE SMOKE/BAFFLE SYSTEM
DISPOSAL OF ASHES
TROUBLE SHOOTING
SPARE PART DRAWING

3

Pedestal Base Installation Instructions (Packaged with pedestal base accessory part no. 838040590



IX. MANUFACTURING AND PRODUCTION TESTS

In order to maintain a listing by OMNI of the product(s) described in this report, the manufacturer agrees to perform the following Manufacturing and Production tests:

None are required

.

X. - QUALITY ASSURANCE / QUALITY CONTROL (QA / QC)

As a testing laboratory, OMNI follows the guidelines of ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories," and the quality assurance/quality control (QA/QC) procedures found in OMNI's Quality Assurance Manual. As a certification organization, OMNI follows ISO/IEC Guide 17065, "General Requirements for Bodies Operating Product Certification Systems."

OMNI's scope of accreditation includes, but is not limited to, the following:

- American National Standards Institute (ANSI) for certification of products to safety standards (Certification ID #0654).
- International Accreditation Service, Inc. (formerly ICBO ES) as a testing laboratory (TL-130).
- Standards Council of Canada (SCC) for certification of products to safety standards.
- Serving as a testing laboratory for the certification of wood heaters by the U.S. Environmental Protection Agency.

This report is issued within the scope of OMNI's accreditation. Accreditation certificates are available upon request.

Following each quality assurance inspection, an audit form will be submitted to the manufacturer for signature indicating that the production units meet the requirements, as tested by OMNI, of the appropriate standards or that resolutions must be made to continue listing. Failure to produce data needed for annual audits or unapproved changes in production that may jeopardize the safety of the appliance may result in the revocation of listing.

XI - REVISION HISTORY

Date	Project No.	Initials	Section	Item	Summary of Changes
12/2/2015	0138WS016S	A. Kravitz	ALL	ALL	First Edition of Report
5/10/2017 0138WS016S.REV		1 A. Kravitz	I	Project History	Added new model
			II	Description	
	0138WS016S.REV001		IV	1, 5	Added new door glass & baffle
			VI	9-13, 62	Added dwgs. for new unit
			VII	2	Updated to include new model
		S. Button	VIII	All	Updated to include new model
			ļ		
<u> </u>					
			ļ		
			ļ		
ļ					