

Site Documentation
K 70101 ASU No. 9 Košice

Chapter 3.7.7.2 Indirect Fired Water Bath Vaporizer

Indirect Fired Water Bath Vaporizer W73101

- EC Certificate of Conformity
- EC Type-Examination Certificate According to Module B
- Declaration by the Manufacture
- Indirect Fired Water Bath Vaporizer
General Arrangement Drawing no. CN4185-1
- Water bath Vaporizer 16.000 Nm³/h
P&I Diagram CN4518-2
- Declaration
- Result of the Hazard Analysis

EC-DECLARATION OF CONFORMITY

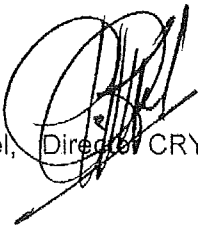
(in accordance with annex VII of the Pressure Equipment Directive)

We, CRYONORM, Koperweg 3, 2401LH Alphen a/d Rijn, hereby declare that in compliance with the above Directive, the product(s) detailed below have been manufactured in accordance with annex III, conformity assessment module B 'Type Examination' and module D 'Product Quality Assurance' as approved by Stoomwezen B.V. (Notified Body No. 0343), Weena Zuid 168, 3012 NC Rotterdam, under EC Type Examination Certificate 9001014 and EC Certificate of Conformity Module D STW 302030636.

Product Description : 1 -off Indirect Fired Waterbath Vaporiser 16000 Nm³/hr
CRYONORM Project : R2-040241
Serial Number : 7769
Applicable Standards : ASME VIII
Other Applicable Directives : see Eclipse IIB declarations of Conformity

Alphen a/d Rijn, The Netherlands

Date: 20/12/2004

P.A.A.M. Tel,  Director CRYONORM B.V.

EC CERTIFICATE OF CONFORMITY

with the requirements of the Pressure Equipment Directive 97/23/EC

This is to certify that Stoomwezen BV has followed the relevant procedures to assess the Quality Management System of:

Cryonorm B.V.
Alphen aan de Rijn, The Netherlands

*and has established that proof has been furnished that the requirements of Annex III,
Module D+ D1
of the Pressure Equipment Directive 97/23/EC are fulfilled.*

SCOPE

Production of vaporisers, coldboxes and pipingsystems for application in skids

This certificate is valid under the condition of the continued maintenance of the quality system in accordance with the requirements of the above Directive.

Authorisation is hereby given to use the Stoomwezen BV Identification Number in accordance with the requirements of the specified Directive in relation to the products within the scope as mentioned above.

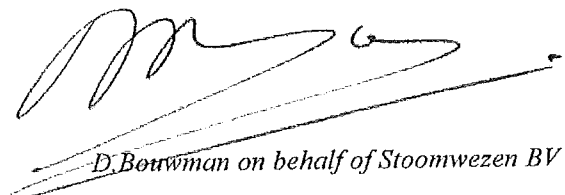
Certificate No: **STW 302030636**

Date of Issue of original Certificate: **january 29, 2002**

Current Certificate: **january 29, 2002**

Certificate Expiry: **february 1, 2005**

Stoomwezen European Identification Number: **0343**


D. Bouwman on behalf of Stoomwezen BV

EC TYPE-EXAMINATION CERTIFICATE ACCORDING TO MODULE B

This is to certify that Lloyd's Register Nederland B.V. as a notified body under articles 11 and 12 of the Pressure Equipment Directive 97/23/EC, has followed the relevant procedures for the EC type-examination of the pressure equipment indicated below and that the results are in compliance with the applicable essential safety requirements of the Pressure Equipment Directive and are subject to possible conditions as mentioned in the appraisal document attached to this certificate.

Manufacturer Name : Tekoma B.V.
 Address : Koperweg 3
 Place : 2401 LH ALPHEN AAN DEN RIJN
 Country : NEDERLAND

Type of pressure equipment : Vessel

Pressure equipment Description : Gas fired WWB vaporiser-16
 and/or type no. kNm3/hr

Number(s) and revision of the Design Appraisal Document, : 9001014; revision 00
 with further (technical) details

This certificate remains valid until the expiry date unless cancelled or revoked.
 For prolongation of this certificate an application can be addressed to LR Nederland B.V.
 This certificate is not valid for pressure equipment, of which design or method of manufacture has been varied or modified in such a way that it falls outside the range as specified in this certificate. For this certificate to remain valid, the manufacturer is obliged to inform the notified body named on this certificate of any modification to the pressure equipment.

Date of issue: 14 January 2005

Issued by Lloyd's Register Nederland B.V.

Notified body number **0343**

Expiry date: 10 years after date of issue.

Number of this certificate:

Signed:

PED/B/ 9001014

Issue: 00

Location manager - Regional Office Rotterdam

Name: W.G.W.M. Fakkers

Lloyd's Register Nederland B.V. trading under the name of Stoomwezen is a member of the Lloyd's Register Group



To any agreement entered into with Lloyd's Register Nederland B.V. our general terms and conditions Stoomwezen, filed at the Trade Registry of the Chamber of Commerce at Rotterdam under number 24247948, shall apply

In accordance with the General Administrative Law Act (*Algemene wet bestuursrecht*), interested parties can submit objections or lodge an appeal in writing against any decision (or measure) taken by Lloyd's Register Nederland B.V. in its capacity as inspection or certification entity within the scope of the Pressure Equipment Directive 97/23/EC as implemented in the Dangerous Equipment Act or the Commodities Act (*Wet op de gevaarlijke werktuigen* or *Warenwet*)
 Form ETNL/112.1e (2004.1)

DECLARATION BY THE MANUFACTURER
(Directive 98/37/EEC, Art. 4.2 and Annex II, sub B)

Manufacturer: Eclipse Combustion bv
herewith declares that,

The : Burner IJ06
Type : 605356.001
Project : 605356
Customer : Tekoma B.V.
Customer's ref. : R2-04 0241

- is intended to be incorporated into machinery or to be assembled with other machinery to constitute machinery covered by Directive 98/37/EEC, as amended does therefore not in every respect comply with the provisions of this directive
- does comply with the provisions of the following other EEC directives:
EN60204/1

and that

- the following harmonized standard have been applied:
EN746-2
- the following national technical standards and/or specifications have been used: Eclipse
Standard Design Practice

and furthermore declares that it is not allowed to put the machinery into service until the machinery into which it is to be incorporated or of which it is to be a component has been found and declared to be in conformity with the provisions of Directive 98/37/EEC and with national implementing legislation, i.e. as a whole, including the machinery referred to in this declaration.

Gouda, 22-12-2004
Eclipse Combustion bv


J.M. Boerleider,
Manager Engineering.

DECLARATION BY THE MANUFACTURER
(Directive 98/37/EEC, Art. 4.2 and Annex II, sub B)

Manufacturer: Eclipse Combustion bv
herewith declares that,

The : valve train G50/80A6000NL
Type : 605356.004
Project : 605356
Customer : Tekoma B.V.
Customer's ref. : R2-04 0241

- is intended to be incorporated into machinery or to be assembled with other machinery to constitute machinery covered by Directive 98/37/EEC, as amended does therefore not in every respect comply with the provisions of this directive
- does comply with the provisions of the following other EEC directives:
EN60204/1

and that

- the following harmonized standard has been applied:
EN746-2
- the following national technical standards and/or specifications have been used: Eclipse Standard Design Practice

and furthermore declares that it is not allowed to put the machinery into service until the machinery into which it is to be incorporated or of which it is to be a component has been found and declared to be in conformity with the provisions of Directive 98/37/EEC and with national implementing legislation, i.e. as a whole, including the machinery referred to in this declaration.

Gouda, 22-12-2004

Eclipse Combustion bv


J.M. Boerleider,
Manager Engineering.

DECLARATION BY THE MANUFACTURER
(Directive 98/37/EEC, Art. 4.2 and Annex II, sub B)

Manufacturer: Eclipse Combustion bv
herewith declares that,

The : control panel
Type : 605356.002
Project : 605356
Customer : Tekoma B.V.
Customer's ref. : R2-04 0241

- is intended to be incorporated into machinery or to be assembled with other machinery to constitute machinery covered by Directive 98/37/EEC, as amended does therefore not in every respect comply with the provisions of this directive
- does comply with the provisions of the following other EEC directives:
EN60204/1

and that

- the following harmonized standard have been applied:
EN746-2
- the following national technical standards and/or specifications have been used: Eclipse
Standard Design Practice

and furthermore declares that it is not allowed to put the machinery into service until the machinery into which it is to be incorporated or of which it is to be a component has been found and declared to be in conformity with the provisions of Directive 98/37/EEC and with national implementing legislation, i.e. as a whole, including the machinery referred to in this declaration.

Gouda, 22-12-2004
Eclipse Combustion bv


J.M. Boerleider,
Manager Engineering.

Auftrag-Nr.: 100043034
Reference No.:
N° de référence:

Prüf-Nr.: 0091 / 41126655/12
Inspection No.:
N° d'inspection:

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ARBEITSPRÜFUNG (SCHWEISSEN) - PRÜFUNGSBESCHEINIGUNG

WELDING PRODUCTION TEST CERTIFICATE / CERTIFICAT D'ESSAI DE PRODUCTION DE SOUDAGE

Zertifizierstelle:
Certification Body:
Organisme de certification:

TÜV Technische Überwachung Hessen GmbH
Anlagen- und Industrieservice
Am Römerhof 15, 60486 Frankfurt

Zeichen: AIS-Mitte
Sign:
Sign.:

Hersteller / Anschrift:
Manufacturer / Address:
Constructeur / Adresse:

Air Liquide AGS GmbH
Depotstr. 1
63457 Hanau

Beleg-Nr. des Herstellers: WPS-E-041
Manufacturer's Reference No.:
N° de référence du constructeur:

Vorschrift/Prüfnorm:
Code/Testing Standard:
Code/Norme d'essai:

AD 2000-HP 5/2 (100%)

Datum der Schweißung: 2004-09-20
Date of Welding:
Date du soudage:

Einzelheiten zur Prüfung - TEST DETAILS - DEFINITION D'ESSAI

Prüfgegenstand:
Test object:
Objet de contrôle:

Innenbehälter für Kaltvergaser KV 150
(Kaltgestreckt)

Fabrik-Nr.: 1500113, 1500104
Manufact. No.:
N° de fabrication:

Schweißprozeß:
Welding Process:
Procédé de soudage:

UP (121)

Nahtart: I-Stoß
Joint Type:
Type de joint:

Grundwerkstoff:
Parent Metal:
Matériaux de base:

1.4301 (X5CrNi 18 10)

Dicke [mm]: 6,9
Parent Metal Thickness [mm]:
Épaisseur du matériau [mm]:

Schweißpositionen:
Welding Positions:
Positions de soudage:

waagrecht (PA)

Außendurchmesser [mm]: 1800
Pipe Outside Diameter [mm]:
Diamètre extérieur [mm]:

Zusatzwerkstoff/Bezeichn.:
Filler Metal Type/Designation:
Caractéristique du métal d'apport:

Thermanit JE

Stromart: G⁺
Type of Welding Current:
Nature de courant de soudage:

Schutzgas / Wurzelschutz:
Shielding Gas / Backing Gas:
Gaz de protection / Purge:

-

Pulver: Marathon 213
Flux:
Flux:

Vorwärmung:
Preheat:
Préchauffage:

keine

Schmelze-Nr. Probe/Objekt: 200843902
Heat No. Test Piece/Object:
N° Coulée coupon/objet: 478678

Wärmenachbehandlung:
Post Weld Heat Treatment:
Traitement therm. après soudage:

keine

Schweißer: L. Berecz (Nr.212)
Welder:
Soudeur:

SONSTIGE ANGABEN - OTHER INFORMATION - AUTRES PARAMÈTRES

Zugehörige Verfahrensprüfung mit Prüf-Nr.:-

Belonging to Welding Procedure Approval with Certificate No.
Qualification du mode opératoire de soudage au N°. de certificat

Hiermit wird bestätigt, daß die Prüfungsschweißungen in Übereinstimmung mit den Anforderungen der vorbezeichneten Vorschriften bzw. Prüfnormen zufriedenstellend vorbereitet, geschweißt und geprüft wurden. / Certified that test welds were prepared, welded and tested satisfactorily in accordance with the requirements of the code or the testing standard indicated above. / Nous certifions que les essais de soudage ont été préparés, soudés et contrôlés avec succès, conformément aux exigences du code ou de la norme d'essai ci-dessus mentionné(e).

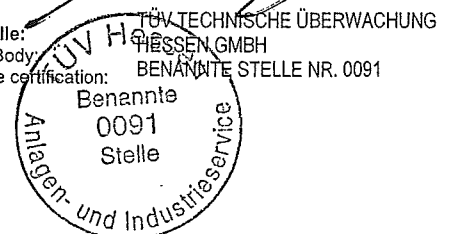
Ort: FRANKFURT
Location:
Lieu:

Datum der Ausstellung: 2004-10-05
Date of issue:
Date d'émission:

Name und Unterschrift:
Name and Signature:
Nom et signature:

Anlagen: 1
Annexes:
Annexes:

Zertifizierstelle:
Certification Body:
Organisme de certification:



Auftrag-Nr.: 100043034
Reference No.:
N° de référence:

Prüf-Nr.: 0091 / 41126655/12
Inspection No.:
N° d'inspection:

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PRÜFERGEBNISSE (1)

TEST RESULTS (1) / RÉSULTATS DES ESSAIS (1)

Sichtprüfung:
Visual Examination:
Examen visuel:

erfüllt
satisfactory
satisfaisant

Durchstrahlungsprüfung *):
Radiography *):
Radiographie *):

erfüllt
satisfactory
satisfaisant

Ultraschallprüfung *):
Ultrasonic Examination *):
Ultra-sons *):

entfällt
not applicable
sans objet

ZUGPRÜFUNG - TENSILE TESTS - ESSAIS DE TRACTION

Temperatur [°C]: RT
Temperature/Température:



Nr. No. N°	Position Location Position	Art **) Sort Nature	Abmessung Dimension [mm x mm]	Re MPa	Rp 0,2/1,0 MPa	Rm MPa	A [%] an / on / on L0 [mm]:	Z [%]	Bruchlage ***) Fracture Loc. Cassure Posit.	Bemerkungen Remarks Remarques
Anforderungen Requirements / Exigences					≥195/≥230	500-700			--	--
2115	PA	TW	25,0 x 6,9	-	266/302	595	-	-	SG	

**) TW = Quer zur Naht - Transv. to the Weld - Transvers soudure
AW = Schweißgutprobe - All-weld Metal - Métal déposé

***) GW = Grundwerkstoff - Base Material - Métal de base
WEZ = WEZ - HAZ - ZAT
SG = Schweißgut - Weld Metal - Métal déposé
GWL = Bruch außerh. L0 - Fracture outside L0 - Cassure hors de L0

BIEGEPRÜFUNG - BEND TEST - ESSAI DE PLIAGE

Biegedorn-Durchmesser [mm]: 14
Former Diameter/Diamètre du mandrin:

Nr. No. N°	Position Location	Art **) Sort Nature	Biegewinkel/-dehnung Bend. angle/Elongation Allongement de pliage	Bemerkungen Remarks Remarques	Nr. No. N°	Position Location	Art **) Sort Nature	Biegewinkel/-dehnung Bend. angle/Elongation Allongement de pliage	Bemerkungen Remarks Remarques
			 L0 [mm] %					 L0 [mm] %	
2115	PA	FBB	180 21 33	ohne Anriß					
2115	PA	FBB	180 20 35	ohne Anriß					

**) FBB=Decklage in Zugzone - Face - Endroit RBB=Wurzel in Zugzone - Root - Envers SBB = Seitenbiegeprobe - Side - Cote

KEHLNAHT-BRUCHPRÜFUNG *):

entfällt

FILLET FRACTURE TEST *): - ESSAIS DE TEXTURE *):

KERBSCHLAGBIEGEPRÜFUNG IMPACT TESTS - ESSAIS DE RÉSILIENCE

Art: Charpy-V
Sort:
Nature:

Anforderung [J]: ≥ 32 (Probe 10 x 8)
Requirements [J]:
Exigences [J]:

Nr. No. N°	Position Location Position	Kerblage Notch Location Sens de l'entaille	Größe Size/Dimens. [mm x mm]	Temp. Temp./Temp. [°C]	Werte - Values - Valeurs [J]	Σn/n [J]	Bemerkungen Remarks Remarques
					1 2 3		
2115	PA	VWT	6,6 x 8,0	-196	29 31 30	30	Vorgereckt auf 410 MPa

Auftrag-Nr.: 100043034
Reference No.:
N° de référence:

Prüf-Nr.: 0091 / 41126655/12
Inspection No.:
N° d'inspection:

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PRÜFERGEBNISSE (2)

TEST RESULTS (2) / RÉSULTATS DES ESSAIS (2)

CHEMISCHE ANALYSE [%]

CHEMICAL COMPOSITION [%] - ANALYSE CHIMIQUE [%] *)

GW = Grundwerkstoff - Base Material - Métal de base
SG = Schweißgut - Weld Metal - Métal déposé

Nr. No. N°	Art Sort Nature	C	Si	Mn	P	S						
-												

HÄRTEPRÜFUNG *)

HARDNESS TEST *) - ESSAI DE DURETÉ *)

Lage der Messungen (Skizze) *)

Location of Measurements (Sketch) *)

Localisation des mesures (croquis) *)

Art / Last: - Type / Load: - Type / Charge:

HV 10

Nr. No. N°	Meßreihe Measuring Line Ligne de mesure	Grundwerkstoff Base Material Métal de base	WEZ HAZ ZAT	Schweißgut Weld Metal Métal déposé	WEZ HAZ ZAT	Grundwerkstoff Base Material Métal de base
-						

GEFÜGEUNTERSUCHUNG - TEXTURE EXAMINATION - EXAMEN DE LA STRUCTUR

Anlagen: 1
Annexes:/Annexes:

Nr. No. N°	Position Location Position	Gefüge Texture/Structur Makro Mikro Macro Micro	Gefügebeurteilung Texture Assessment/Analyse de la structur
2115	PA	x	Einwandfreier Nahtaufbau, keine Beanstandungen.

SONST. PRÜFUNGEN - OTHER TESTS - AUTRES ESSAIS *)

keine

BEMERKUNGEN - REMARKS - REMARQUES

keine

Die Prüfergebnisse sind:

Test Results were:/Les résultats des essais sont:



zufriedenstellend
acceptable / acceptables



nicht zufriedenstellend
not acceptable / non acceptables

Die Prüfungen wurden ausgeführt in

Anwesenheit von:

Test carried out in the presence of:

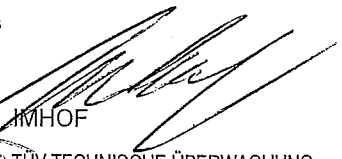
Les essais ont été effectués en présence de:

Dipl.-Ing. D. Imhof

Name und Unterschrift:

Name and Signature:

Nom et signature:



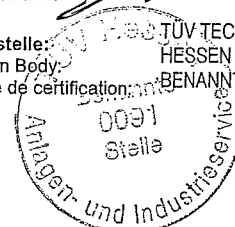
Die Ergebnisse der Prüfungen entsprechen den Prüfgrundlagen.

The results of the above approval tests are in accordance with the specification.

Les résultats de l'essai de qualification sont conformes à la specification.

Zertifizierstelle:
Certification Body:
Organisme de certification:

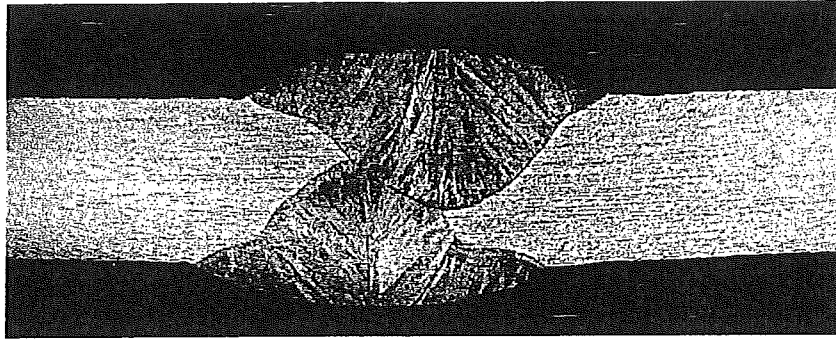
TÜV TECHNISCHE ÜBERWACHUNG
HESSEN GMBH
BENANNTE STELLE NR. 0091



*) falls erforderlich / if required / si nécessaire

GEFÜGEDARSTELLUNG

Prüf-Nr.: 41126655/12
Anlage: 1
Blatt-Nr.: 1 von 1
Durchl.-Nr.: 04/2215



Übersicht 1.4301
V = 3:1

Ätzung : Adler

**BEIBLATT ZUR BESCHEINIGUNG ÜBER DIE SCHLUSS-
UND WASSERDRUCKPRÜFUNG EINES DRUCKGERÄTES**

Bei Reparaturen und bei Überholungen am Innenbehälter ist dieser dem zuständigen Sachverständigen zur inneren Untersuchung und Wasserdruckprüfung vorzustellen. Zur Beurteilung des jeweiligen Zustandes durch Besichtigung und Ausleuchtung ist auf Verlangen des Sachverständigen der untere Boden abzutrennen.

Das Anschweißen darf nur von einem Schweißer durchgeführt werden, der auch Arbeitsprüfungen dieser einseitig geschweißten Naht im Herstellerwerk geschweißt hat. Nach dem Anschweißen ist die Naht 100%ig zu röntgen.

Nach Erreichen der Hälfte der zulässigen Lastwechsel ($\hat{p} - \check{p}$ = Berechnungsdruck), das heißt nach 100 Jahren Betriebszeit ist der Behälter einer inneren Prüfung gemäß AD 2000-Merkblatt S1, Punkt 7.3.1 zu unterziehen (siehe Abnahmezeichnung).



Bescheinigung

des Druckgeräte-Herstellers

(Diese Bescheinigung ist eine Anlage zur
Schluss- und Druckprüfbescheinigung des inneren
Druckgerätes mit gleicher Fabrik-Nummer).

Hersteller: Air Liquide AGS GmbH
63457 Hanau

Fabrik-Nr.: KV 150 0113

Verwendungszweck: Vakuummantel für vakuum-
isolierte Druckbehälter für
tiefkalte flüssige Gase

Erstmalige Prüfung durch den Hersteller

Es wird bescheinigt, daß der vorgenannte Druckgerät ordnungsgemäß
hergestellt wurde und daß er nach dem Ergebnis der Dichtheitsprüfung den
insoweit zu stellenden Anforderungen entspricht.

Der oben beschriebene Vakuumbehälter ist ausgerüstet mit

- einer Überdrucksicherung, ausgeführt als lose auf-
liegende Platte, die bei einem inneren Überdruck von
 $p \geq 0,025$ bar anspricht,
- einem Vakuumprüfventil.

Hanau, 12.11.2004

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O.Minke