

Kelvion



Plate Heat Exchangers  
After Sales & Service

8/1/2017

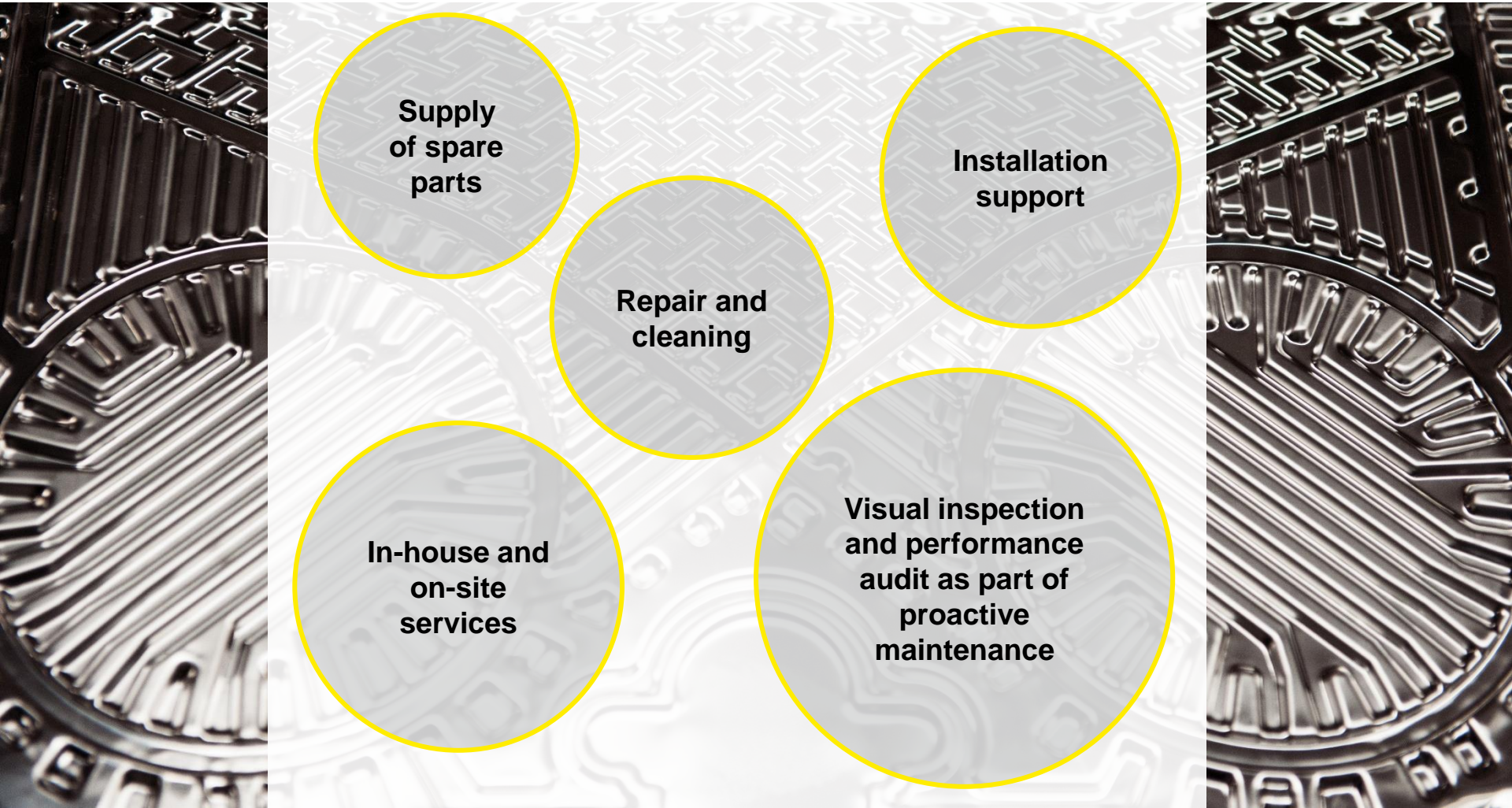
# **AFTER SALES & SERVICE FOR PLATE HEAT EXCHANGERS**

## OUR PROMISE





## SCOPE OF DELIVERY AND SERVICES



**Supply  
of spare  
parts**

**Installation  
support**

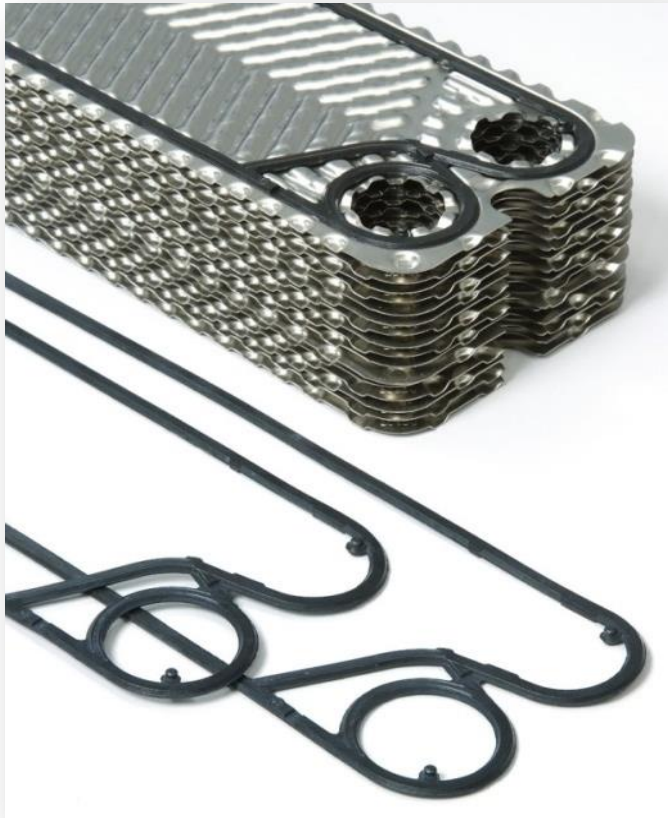
**Repair and  
cleaning**

**In-house and  
on-site  
services**

**Visual inspection  
and performance  
audit as part of  
proactive  
maintenance**

## **SPARE PARTS SERVICES**

### **FOR KELVION (AND GEA) PLATE HEAT EXCHANGERS AND FOR OTHER MANUFACTURERS**



- Single gaskets
- Gasket packages
- Single plates
- Plate packages
- Frame parts\*
- Frames\*
- Technical information
- Replacement packages
- Service logistics

\*for Kelvion or GEA plate heat exchangers only



## ON-SITE SERVICES

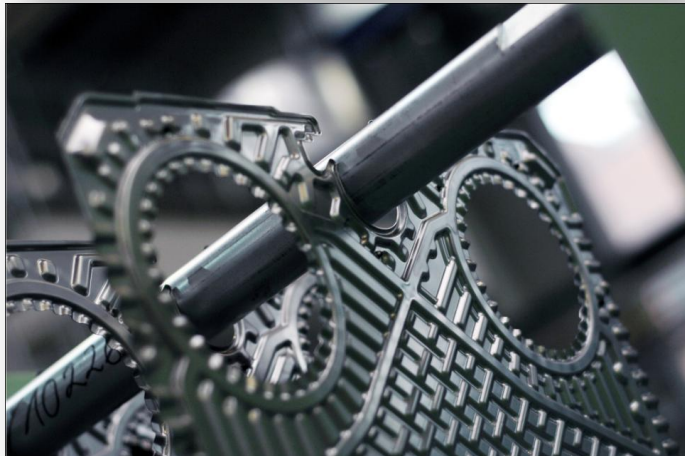


### Installations and modifications

- Modifications
- Leakage testing
- Pressure tests incl. certification

### Inspection, cleaning and repair

- Visual inspection
- Cleaning
- Replacement of gaskets and plates
- Modifications
- Leakage testing
- Pressure tests incl. certification
- Hydrogen leakage testing



## MAINTENANCE



- 1 Upon receipt of your plates, we will perform an initial inspection of the plate and gasket integrity
- 2 Thorough removal of the old gasket to ensure a good clean surface
- 3 Chemical cleaning of the plates removes persistent deposits
- 4 Dye penetration test is performed to determine cracks or pin holes
- 5 Removal of residues after dye penetration test

## MAINTENANCE



- 6 The gasket groove is cleaned and prepared for the regasketing process
- 7 Final inspection of each plate prior to regasketing
- 8 New gaskets are fitted
- 9 For glued gaskets – additional tensioning of plate pack and glue curing in an oven
- 10 Final Kelvion inspection and careful pack for safe transportation

# **HYDROGEN LEAKAGE TESTING**



# HYDROGEN LEAKAGE TESTING

## Leakage test on systems

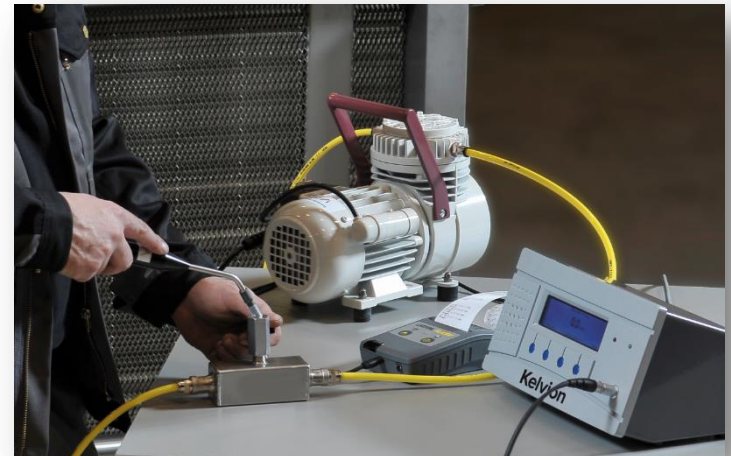
- High specific industry requirements
- Hygienic guidelines:
  - IFS (International Food Standard)
  - HACCP (Hazard Analysis Critical Control Point)

## Hydrogen method

- This method is based on a testing gas (inert gas, consisting of 10 % H<sub>2</sub> and 90 % N<sub>2</sub>) that is suitable for both leak detection and tightness testing
- Hydrogen at the correct concentration is absolutely safe (ISO 101569). In fact, hydrogen/nitrogen mixtures are also commonly used as a inert gas atmosphere

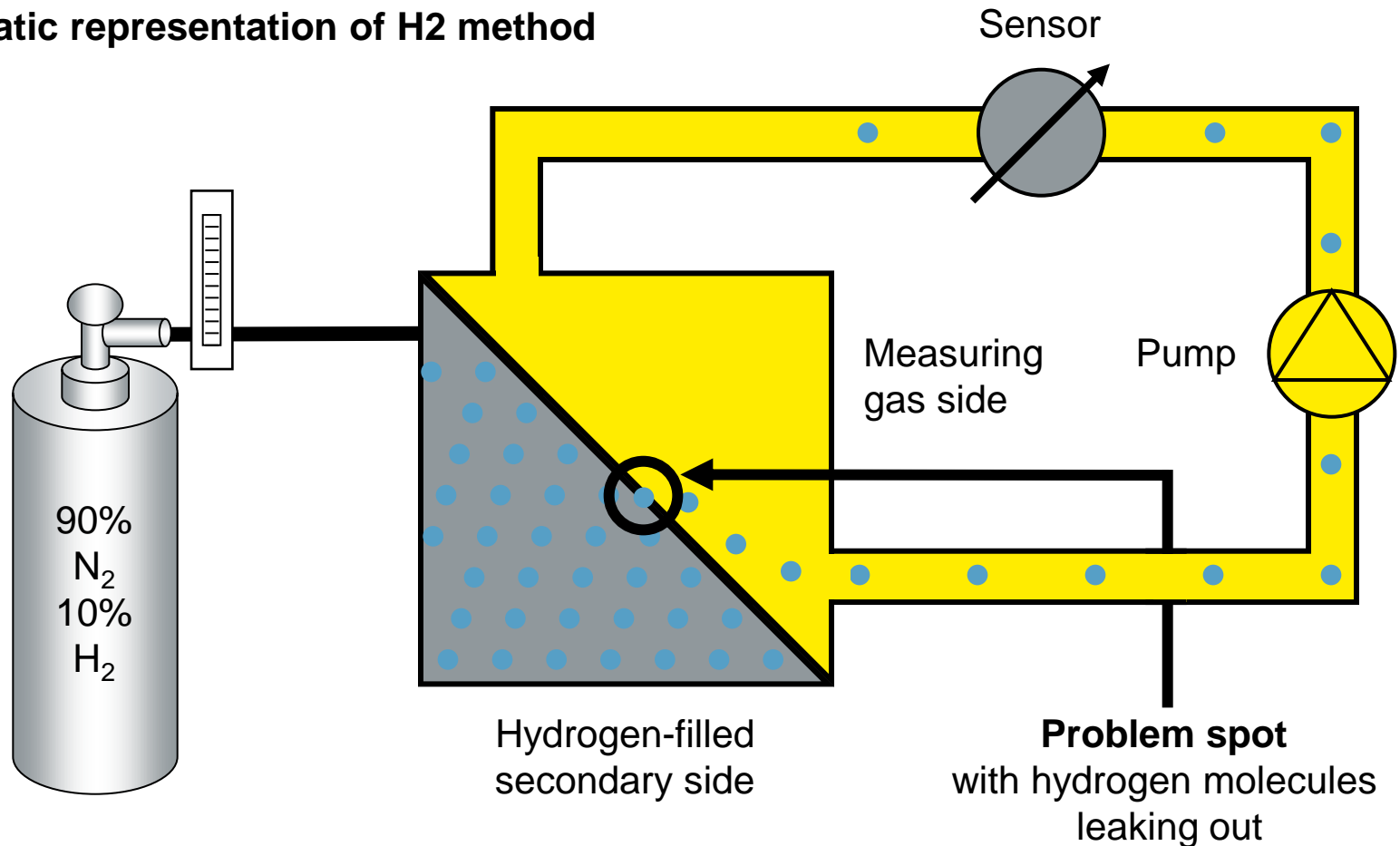
## Hydrogen Leak Detector EcoSafe 2000

- Robust and simple construction for industrial surrounding
- Fast response behavior
- Early detection of material fatigue
- Mobile and can be applied at short notice
- 10% hydrogen result in 100% safety
- Proven product quality management



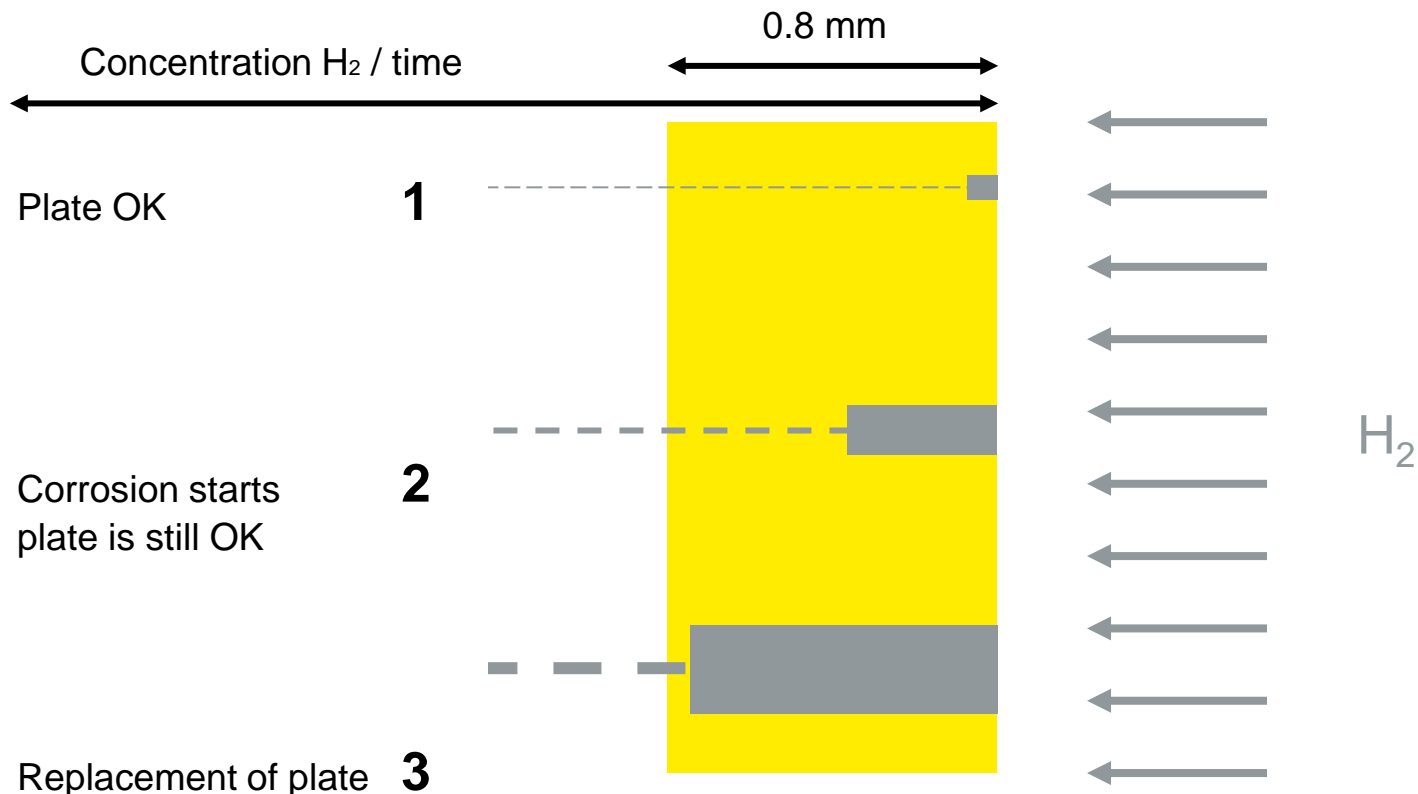
# HYDROGEN LEAKAGE TESTING

Schematic representation of H<sub>2</sub> method



# HYDROGEN LEAKAGE TESTING

## Early detection of material fatigue

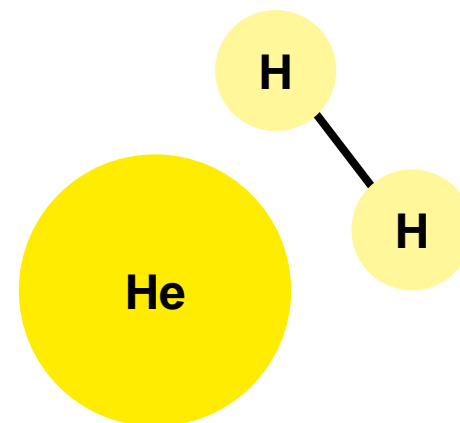




## PREVENTIVE TESTING METHODS

	Air	Hydrogen	Helium
Molecular weight	29 g/mol	2 g/mol	4 g/mol
Density	1.2 g/l	0.09 g/l	0.18 g/l
Viscosity	18.3 $10^{-6}$ Pa s	8.7 $10^{-6}$ Pa s	19.4 $10^{-6}$ Pa s
Background concentration	100%	0.5 ppm	5 ppm

- Lightweight molecule
- Very low viscosity
- Low background concentration (0.5 ppm)
- Environmentally compatible
- Cheapest testing gas (around 25% of cost of helium)
- Non-toxic
- Non-corrosive
- Food approval (E 949)




## IN PRACTICE



## QUALITY AND PERFECTION ARE OUR PASSION



**Kelvion** 

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**Serviceprotokoll**

Kunde:	Anspruchspartner:	Report Nr.:
Anschrift:	Telefon:	Datum:
PLZ - Ort:	Auftragsnummer Kunde:	Auftragsnummer OEA:
PWT Hersteller:	Fabrik-Nr.:	Anspannmaß Soll in mm: Max. Min.
PWT Typ:	Benutzer:	Anzahl Gewindestangen:
Plattenmaterial:	Plattenstärke:	Schweißnaht:
Dichtungsmaterial:	Plattenanzahl:	Dichtungsrichtung:

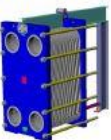

**Serviceumfang:**

<input type="checkbox"/> Plattenpaketausbau	<input type="checkbox"/> Druckprobe / Leckagestest
<input type="checkbox"/> Plattenreinigung	<input type="checkbox"/> IST Zustand
<input type="checkbox"/> Plattenprüfung	<input type="checkbox"/> Leckage extern Plattenpaket
<input type="checkbox"/> Dichtungswechsel	<input type="checkbox"/> Leckage extern Gestaltplatten
<input type="checkbox"/> Plattenpaketwechsel	<input type="checkbox"/> Leckage intern
<input type="checkbox"/> Plattenpaketeinbau	<input type="checkbox"/> Anders:

**Inspektionsbericht**

Externe Inspektion		Interne Inspektion	
geprüft / OK = JIN		geprüft / OK = JIN	
1.1 Leckage	<input type="checkbox"/>	2.1 Platten und Dichtungen	<input type="checkbox"/>
1.2 Plattenanordnung	<input type="checkbox"/>	2.2 Anfangs- und Endplattenabdichtung	<input type="checkbox"/>
1.3 Gewindestangen	<input type="checkbox"/>	2.3 Port-Rings / GRT	<input type="checkbox"/>
1.4 Gestellanschlüsse	<input type="checkbox"/>	2.4 Anschlußdichtungen	<input type="checkbox"/>
1.5 Gestellplatten	<input type="checkbox"/>	2.5 Gestellplatten	<input type="checkbox"/>
1.6 A - Maß SOLL	mm	2.6 Platten gereinigt	<input type="checkbox"/>
1.7 A - Maß IST	mm	2.7 Dichtungen gewechselt	<input type="checkbox"/>
1.8 A - Maß nach Service	mm	2.8 Platten (NEU) getauscht	<input type="checkbox"/>
1.9 Betriebsbedingungen	<input type="checkbox"/>	2.9 Platten (REKO) getauscht	<input type="checkbox"/>

**Optische Darstellung:**

**ZERTIFIKAT**

PÜG Prüf- und Überwachungsgesellschaft mbH

hat am 16.06.2014 in Holzwickede an einer

**SGU-Prüfung von operativ tätigen Führungskräften**

gemäß Dokument 017 des normativen SCC-Regelwerkes (Version 2011) teilgenommen und bestanden.

**DakS** Deutsche Akkreditierungsstelle D-2P-16007-01-01

**SCHERREITS CERTIFIKAT C CONTRAKTOREN**

Dieses Dokument ist gültig bis 15.06.2024.  
Registriernummer: 0614SCC0165F

Gäufelden, 23.06.2014

  
Prüfungsteilnehmer  
Dipl.-Ing. Rainer Heermann

  
Bereichsleiterin SGU-Personal-zertifizierung  
Andrea Schönhaar

**PÜG**

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