



# Kraftfahrt-Bundesamt

DE-24932 Flensburg

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## EG - TYPGENEHMIGUNGSBOGEN

### EC TYPE-APPROVAL CERTIFICATE

Benachrichtigung über

**- die Typgenehmigung**

in Bezug auf die Verordnung (EG) Nr. 79/2009, nach Maßgabe der Verordnung (EU) Nr. 406/2010

Communication concerning the

**- type-approval**

with regard to Regulation (EC) No. 79/2009, as implemented by Regulation (EC) No. 406/2010

EG-Typgenehmigungsnummer: e1\*79/2009\*406/2010\*00052\*00

EC-Type Approval No.:

Grund der Erweiterung:

Reason for extension:

**Entfällt**

**Not applicable**

#### **ABSCHNITT I SECTION I**

0.1. Fabrikmarke (Firmenname des Herstellers):

Make (trade name of manufacturer):

**Schwer Fittings GmbH**

0.2. Typ:

Type:

**u2 – Klemm Keilringverschraubungen**

Betreffendes H<sub>2</sub>-Bauteil:

H<sub>2</sub> component considered:

**Verbindungsstücke der Klasse 0 zur Verwendung mit komprimiertem  
(gasförmigem) Wasserstoff**

**Fittings class 0 designed to use compressed (gaseous) hydrogen**



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Nummer der Genehmigung: e1\*79/2009\*406/2010\*00052\*00  
Approval No.:

- 0.3. Merkmale zur Typidentifizierung, sofern am Bauteil vorhanden:  
Means of identification of type, if marked on the component:  
**u2 – Klemm Keilringverschraubungen**
- 0.3.1. Anbringungsstelle dieser Merkmale:  
Location of that marking:  
**Siehe Punkt 0.7 des Beschreibungsbogens**  
**See item 0.7 of the information document**
- 0.5. Name und Anschrift des Herstellers:  
Name and address of manufacturer:  
**Schwer Fittings GmbH**  
**DE-78588 Denkingen**
- 0.7. Bei Bauteilen und selbstständigen technischen Einheiten: Anbringungsstelle und Anbringungsart des EG-Typgenehmigungszeichens:  
In the case of components and separate technical units, location and method of affixing of the EC approval mark:  
**Siehe Punkt 0.7 des Beschreibungsbogens**  
**See item 0.7 of the information document**
- 0.8. Name(n) und Anschrift(en) der Fertigungsstätte(n):  
Name(s) and address(es) of assembly plant(s):  
**Schwer Fittings GmbH**  
**DE-78588 Denkingen**
- 0.9. (Ggf.) Name und Anschrift des Bevollmächtigten des Herstellers:  
Name and address of the manufacturer's representative (if any):  
**Entfällt**  
**Not applicable**

## ABSCHNITT II SECTION II

1. Zusätzliche Angaben (soweit erforderlich): **Siehe Anlage**  
Additional information (where applicable): **See Appendix**
2. Technischer Dienst, der die Prüfungen für die Genehmigung durchführt:  
Technical service responsible for carrying out the tests:  
**TÜV SÜD Auto Service GmbH**  
**DE-80686 München**
3. Datum des Prüfberichts des Technischen Dienstes:  
Date of test report:  
**05.07.2022**



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Nummer der Genehmigung: e1\*79/2009\*406/2010\*00052\*00  
Approval No.:

4. Nummer des Prüfberichts des Technischen Dienstes:  
Number of test report:  
**22-00003-IS-MUC-00**
5. (Gegebenenfalls) Bemerkungen: **Siehe Anlage:**  
Remarks (if any): **See Appendix:**
6. Ort: **DE-24932 Flensburg**  
Place:
7. Datum: **05.07.2022**  
Date:
8. Unterschrift: **Im Auftrag**  
Signature:

Tag Aldeen Hussein Agha



9. Die Typgenehmigungsunterlagen, hinterlegt bei der zuständigen Behörde, die die Typgenehmigung erteilt hat, sind auf Anfrage erhältlich.  
The type-approval file deposited at the Administrative Service having delivered the type-approval, may be obtained.

Verzeichnis:

List of documents:

1. Anlage zum EG-Typgenehmigungsbogen  
Appendix to the EC type-approval certificate
2. Inhaltsverzeichnis zu den Beschreibungsunterlagen  
Index to the information package
3. Beschreibungsunterlagen  
Information package



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Manufacturer:	Schwer Fittings GmbH	IS-FM
Type:	u2 – Klemm Keilringverschraubungen	Page 1 of 4

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## TEST REPORT

### 22-00003-IS-MUC-00

About the Tests of fittings for Hydrogen-Powered Motor Vehicles

According to:

### REGULATION (EC) No 79/2009

OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
of 14 January 2009  
on type-approval of hydrogen-powered motor vehicles

and

COMMISSION REGULATION (EU) No 406/2010  
of 26 April 2010  
implementing Regulation (EC) No 79/2009 of the European Parliament and of the Council on  
type-approval of hydrogen-powered motor vehicles

Approval status	
<input checked="" type="checkbox"/>	Granting of a type approval
<input type="checkbox"/>	Extension/correction to type approval no.



Test Report No.:	22-00003-IS-MUC-00	July 5, 2022
Manufacturer:	Schwer Fittings GmbH	IS-FM
Type:	u2 – Klemm Keilringverschraubungen	Page 2 of 4

## I. General

The Specific Component:

1.	H2-component considered <input checked="" type="checkbox"/> Designed to use CGH <input type="checkbox"/> Designed to use LH2	fitting
2.	Make:	Schwer Fittings GmbH
3.	Type: Versions or variants:	u2 – Klemm Keilringverschraubungen See "List of Variants" in Annex 2
4.	Location of type marking	Hexagon
5.	Name and address of the manufacturer:	Schwer Fittings GmbH Hans Schwer Platz 1 78588 Denkingen
6.	Location and method of affixing of the EC-approval mark	Laser graving at hexagon
7.	Name and address of the manufacturer's representative (if any):	Not applicable
8.	Name and Address of Manufacturing plant:	Schwer Fittings GmbH Hans Schwer Platz 1 78588 Denkingen
9.	Operating Conditions:	Nominal working pressure: 35 MPa @ 15°C  Operating temperature: -40°C to +85°C
10.	Filling or Duty cycles	50.000

was tested according to the requirements of the mentioned test basis.



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Manufacturer:	Schwer Fittings GmbH	IS-FM
Type:	u2 – Klemm Keilringverschraubungen	Page 3 of 4

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## II. Test Samples, Performed Tests and Test Results

The test samples, the performed tests and the test results are described and summarized in Annex 1 – Test Results.

## III. Information Folder

This Test Report is based on the following information (refer to Annex 2):

- Application for the issue of a type approval by Schwer Fittings GmbH dated 29.06.2022
- Information Document acc. to Regulation (EU) 406/2010, Annex II, Part I

## IV. Approval History (in case of extension)

	Content of extension(s)	Report No. and Date
Initial Component Testing	-	

## V. Statement of Conformity

The mentioned information folder and the type described therein are in accordance with the test basis mentioned above. The worst-case was selected in accordance with document "Requirements for Test Reports (AS-PB-T-02)".

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Type:	u2 – Klemm Keilringverschraubungen	Page 4 of 4

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*TÜV SÜD Auto Service GmbH is designated as Technical Service by:*

<b>Genehmigungsbehörde</b> <i>Approval authority</i>	<b>Land</b> <i>Country</i>	<b>Registriernummer</b> <i>Registration number</i>
Kraftfahrt-Bundesamt (KBA)	Deutschland <i>Germany</i>	KBA-P 00100-10
Vehicle Certification Agency (VCA)	Vereinigtes Königreich <i>United Kingdom</i>	VCA-TS-006
Vehicle Safety Certification Center (VSCC)	Taiwan/Taiwan	DE04-06-2
Approval Authority of the Netherlands (RDW)	Niederlande <i>The Netherlands</i>	RDWT-082-xx
National Standards Authority of Ireland (NSAI)	Irland <i>Ireland</i>	Technical Service Number: 49
Société Nationale de Certification et d'Homologation s.à r.l.	Luxemburg <i>Luxembourg</i>	13/B(g)
Swedish Transport Agency	Sweden	TT 0024

Munich,  
July 5, 2022

  
Florian Michl  
The Authorized Signatory

Annexes:

- Annex 1 - Test Results
- Annex 2 - List of Variants
- Annex 3 – Information Folder (see chapter II)

## **List of Variants**

Variants of original type approval:

Size pipe [mm]	Name
6	u2-Um6-4; u2-Em6-4; u2-Tm6-4
8	u2-Um8-4; u2-Em8-4; u2-Tm8-4
10	u2-Um10-4; u2-Em10-4; u2-Tm10-4
12	u2-Um12-4; u2-Em12-4; u2-Tm12-4
14	u2-Um14-4; u2-Em14-4; u2-Tm14-4
15	u2-Um15-4; u2-Em15-4; u2-Tm15-4
16	u2-Um16-4; u2-Em16-4; u2-Tm16-4

New Variants:

Size pipe [mm]	Name
6,35 (1/4")	u2-Uz14-4; u2-Ez14-4; u2-Tz14-4
7,937 (5/16")	u2-Uz516-4; u2-Ez516-4; u2-Tz516-4
9,525 (3/8")	u2-Uz38-4; u2-Ez38-4; u2-Tz38-4
12,7 (1/2")	u2-Uz12-4; u2-Ez12-4; u2-Tz12-4