Verband der TÜV e.V.

Friedrichstraße 136
10117 Berlin
Deutschland
Tel. +49 30 760095-400
Fax +49 30 760095-401

berlin@vdtuev.de
www.vdtuev.de

TÜV®

VdTÜV | Friedrichstraße 136 | 10117 Berlin | Deutschland

HAM-LET
Nazareth Illit
17000, Ziporit industrial zone
ISRAEL

Ansprechpartner(in)	DW/DW-Fax	E-Mail	Datum
		bauteile@vdtuev.de	13.10.2017

Bauteilprüfungen von Komponenten, Bauteilkennzeichen Nr. 011/
Type tests of components, type test approval no. 011

Sehr geehrte Damen und Herren,

anbei erhalten Sie das VdTÜV-Merkblatt (Bauteilprüfblatt). Die Prüfberichte sind Ihnen von der Prüfstelle unmittelbar zugegangen.

Sie haben sich verpflichtet, den TÜV SÜD einmal jährlich mit der stichprobenweisen Überprüfung der Fertigung dieser Geräte zu beauftragen. Über die Durchführung dieser Prüfung bitten wir Sie, uns durch eine Kopie des Prüfberichtes zu unterrichten.

Mit freundlichen Grüßen

Verband der TÜV e.V.
Geschäftsbereich Anlagentechnik,
Arbeitswelt, Systemsicherheit, Regelwerke
– Zertifizierungen und Registrierungen –

i.A. S. Fischer

Blohm

Anlagen

∅ TÜV SÜD, Herr Uwe Becker

Ladies and Gentlemen,

please find enclosed the corresponding VdTÜV-Merkblatt (Bauteilprüfblatt). The test reports have been sent to you directly from the testing office.

It is your responsibility to instruct the TÜV SÜD once a year with the random test of the production of these devices. We request a copy of the corresponding test report.

Kind regards

	Type tested components **Type test approval No. 17-011**	**Components** **011** **2017-10-10**

English Translation
This translation was presented to the VdTÜV. VdTÜV takes no responsibility for the correctness of the translation. Hints (information) for improvement should be addressed to the VdTÜV. In case of doubt or dispute, the latest edition of the German text only is valid.

1	**Manufacturer**	HAM-LET Nazareth Illit, 17000 Ziporit industrial zone Israel
2	**Type**	**Tube fittings**
	Versions	Gaugeable tube fittings and adapter fittings Size range from 1/16" to 2" and from 2 mm to 50 mm
3	**Component Identification**	**TÜV . K . 17-011**
	Validity	**2022-07-31**
4	**Application**	Connection elements for tubes
5	**Test requirements**	– VdTÜV-Merkblatt Komponenten 100, edition 2017-03 in combination with VdTÜV-Merkblatt Allgemeines 002, edition 2015-05 – ASTM F1387-99: „Standard Specification for Performance of Piping and Tubing Mechanically Attached Fittings" (Reapproved 2005 + 2012) – Directive 2014/68/EU, edition 15.05.2014 (Pressure equipment directive); Art. 4, Abs. 3 – AD 2000-Merkblatt A 4, edition 2015-11 – AD 2000-Merkblatt W 2, edition 2016-09 – TA-Luft, section 5.2.6.3, edition 2002-07 (VDI 2440, edition 2000-11) – Sources of information: DIN 2470-1:1987-12 DIN 30690-1:2006-02 DIN 3230-5:1984-08 DIN 3230-6:1987 DVGW G 463 (A), edition 2016-06 DVGW-DIN 3387-1, edition 2008-11 EN 1594:2009-06 EN 14141:2003 GasHDrLtgV TRB 600, section 5, edition 1998-06 TRD 110, amendment I, edition 1996-08 TRFL TRGL 241, edition6 1978-08 WHG

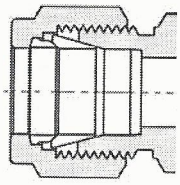
Replacement for **BP ARMA 359** **edition 2012-11**	**Test report by TÜV SÜD dated 2017-07-01**

Publisher: Verband der TÜV e. V.
Print and distribution: TÜV Media GmbH, Am Grauen Stein, 51105 Köln · Unternehmensgruppe TÜV Rheinland Group

6.1.2 Variants pressure rating

The maximum pressure rating of a fitting combination is equal to that of the individual fitting type with the lowest rating.

Table 1 Let-Lok tube fittings



Fitting size	Tube outside diameter	Max. pressure rating [bar]	
		at -194 °C to 20 °C	at 300 °C
1/16"	1/16"	820	697
1/8"	1/8"	740	629
3/16"	3/16"	700	595
1/4"	1/4"	700	595
5/16"	5/16"	550	468
3/8"	3/8"	450	383
1/2"	1/2"	450	383
5/8"	5/8"	410	349
3/4"	3/4"	390	332
7/8"	7/8"	334	284
1"	1"	275	234
1 1/4"	1 1/4"	330	281
1 1/2"	1 1/2"	330	281
2"	2"	248	210
2 mm	2 mm	520	442
3 mm	3 mm	670	570
4 mm	4 mm	660	561
6 mm	6 mm	710	604
8 mm	8 mm	520	442
10 mm	10 mm	510	434
12 mm	12 mm	470	400
14 mm	14 mm	430	366
15 mm	15 mm	400	340
16 mm	16 mm	400	340
18 mm	18 mm	370	315
20 mm	20 mm	380	323
22 mm	22 mm	340	289
25 mm	25 mm	320	272
32 mm	32 mm	330	280
38 mm	38 mm	310	264
50 mm	50 mm	270	230

Table 5 „LG“ male threaded fittings (parallel pipe thread)

Fitting size	Maximum pressure rating [bar]	
	at -54 °C to 20 °C	at 300 °C
G1/8"	232	197
G1/4"	198	168
G3/8"	193	164
G1/2"	146	124
G3/4"	125	106
G1"	103	88
G1 1/4"	125	106
G1 1/2"	108	92
Note: Pressure rating when used with metallic gasket (stainless steel)		

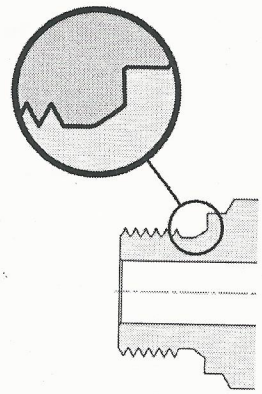


Table 6 „LOK“ male threaded fittings (parallel pipe thread)

Fitting size	Maximum pressure rating [bar]	
	at 20 °C	at 204 °C
G1/8"	232	223
G1/4"	198	190
G3/8"	193	185
G1/2"	146	140
G3/4"	125	120
G1"	103	99
G1 1/4"	125	120
G1 1/2"	108	104
Note: Pressure rating when used with copper gasket		

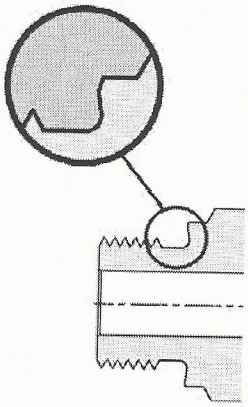


Table 7 „LOB“ male threaded fittings

Fitting size	Maximum pressure rating [bar]	
	with fluorocarbon (FKM) O-Ring	
	at -29 °C to 20 °C	at 204 °C
5/16"-24	315	302
7/16"-20	315	302
1/2"-20	315	302
9/16"-20	315	302
3/4"-16	315	302
7/8"-14	250	240
1 1/16"-12	250	240
1 3/16"-12	200	192
1 5/16"-12	200	192
1 5/8"-12	160	154
1 7/8"-12	160	154

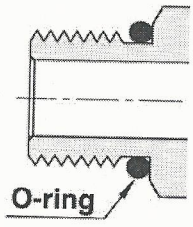
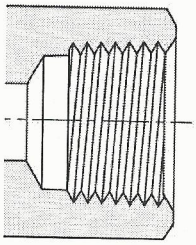


Table 11 „R“ und NPT female threaded fittings

Fitting size	Maximum pressure rating [bar]	
	at -54 °C to 20 °C	at 232 °C
R1/16"	460	428
R1/8"	440	409
R1/4"	450	419
R3/8"	360	335
R1/2"	330	307
R3/4"	320	298
R1"	300	279
R1 1/4"	350	326
R1 1/2"	310	288
R2"	206	192
NPT1/16"	460	428
NPT1/8"	440	409
NPT1/4"	450	419
NPT3/8"	360	335
NPT1/2"	330	307
NPT3/4"	320	298
NPT1"	300	276
NPT1 1/4"	350	326
NPT1 1/2"	310	288
NPT2"	206	192
Note: Maximum Temperature of the tube connection is limited to the maximum allowable temperature of the gasket material. Consult the manufacturer for detailed information.		



6.2 Materials

The tube fittings are manufactured of 1.4401 / 316 (X5CrNiMo17-12-2) according DIN EN 10272 and DIN EN 10222-5 / ASTM A276 and ASTM A479. The bodies of tube fittings are machined from hot rolled or cold drawn bar or from die forgings. The materials used are produced by manufacturers approved to AD 2000-Merkblatt W 0. Material tests are documented with certificates according DIN EN 10204 section 3.1.

Note: Fittings are intended for use with annealed stainless steel tubing in accordance with manufacturer's recommendations for hardness and surface finish. The media resistance of the materials used has to be examined in each individual case.

7 Particular stipulations

The manufacturer tests the fittings in accordance with the product-specific requirements of the applicable regulations mentioned in section 5. In case of doubt or dispute (English to German version), the German text only is valid (BP Komponente 011, edition 2017-08).