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| Prüfbericht-Nr.: <i>Test Report No.:</i> | 15081148 001 | Auftrags-Nr.: <i>Order No.:</i> | 154081249 | Seite 1 von 11 Page 1 of 11 |
| Kunden-Referenz-Nr.: <i>Client Reference No.:</i> | 345871 | Auftragsdatum: <i>Order date:</i> | 04.01.2015 | |
| Auftraggeber: <i>Client:</i> | Bestway Inflatables & Material Corp. No. 3065, Cao An Road, Shanghai 201812, P.R. China | | | |
| Prüfgegenstand: <i>Test item:</i> | Hand air pump for inflatable consumer products | | | |
| Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i> | 62086; 62088; P3045; P3047; P3049 | | | |
| Auftrags-Inhalt: <i>Order content:</i> | GS mark certification | | | |
| Prüfgrundlage: <i>Test specification:</i> | EN 16051-2:2012 AfPS GS 2014:01 PAK | | | |
| Wareneingangsdatum: <i>Date of receipt:</i> | 04.01.2015 | Detaillierte Fotodokumentation siehe Anlage zu diesem Bericht Detailed photo documentation see appendix to this report | | |
| Prüfmuster-Nr.: <i>Test sample No.:</i> | 0154081249-1 | | | |
| Prüfzeitraum: <i>Testing period:</i> | 04.01.2015 – 16.03.2015 | | | |
| Ort der Prüfung: <i>Place of testing:</i> | TÜV Rheinland (Shanghai) Co., Ltd. | | | |
| Prüflaboratorium: <i>Testing laboratory:</i> | TÜV Rheinland (Shanghai) Co., Ltd. | | | |
| Prüfergebnis*: <i>Test result*:</i> | Pass | | | |
| geprüft von / tested by: | | kontrolliert von / reviewed by: | | |
| 21.04.2015 Tu Feng / PE |  | 22.04.2015 Zhang Li / Reviewer |  | |
| Datum <i>Date</i> | Name / Stellung <i>Name / Position</i> | Unterschrift <i>Signature</i> | Datum <i>Date</i> | Name / Stellung <i>Name / Position</i> |
| Sonstiges / Other: Foreseeable use was considered. Currently neither a safeguard clause procedure has been invoked nor is an increase in accidents known for this/these product(s). This test report is only valid together with: Attachment 1:Material list for PAHs risk assessment | | | | |
| Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i> | | Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i> | | |
| * Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested | | | | |
| Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark. | | | | |

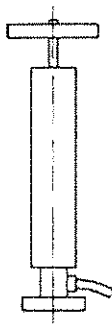
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Produktbeschreibung
Product description

| | | |
|--------------|--|--|
| 1 | <p>Produktdetails <i>Product details</i></p> | <p>62086 and 62088 are completely same but for different market with three adapters. P3045 has two adapters. Adapter and hose are connected by glue. The adapters are same as P3046. P3047 and P3049 have one adapter. Adapter and hose are connected by glue. The adapter is same as P3046 bigger adapter. P3047 and P3049 are completely same but for different market. Pump bodies of all types are same. Only hose and adapters are different.</p> |
| 2 | <p>Maße / Gewicht <i>Dimensions / Weight</i></p> | See CDF |
| 3 | <p>Bedienelemente <i>Operating elements</i></p> | N/A |
| 4 | <p>Ausstattung / Zubehör <i>Equipment / Accessories</i></p> | N/A |
| 5 | <p>Verwendete Materialien <i>Used materials</i></p> | See CDF |
| 6 | <p>Sonstiges <i>Other</i></p> | N/A |
| See appendix | | See appendix |
| See appendix | | See appendix |

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| Clause | Anforderungen - Prüfungen / <i>Requirements - Tests</i> | <i>Measuring results - Remarks</i> | <i>Evaluation</i> |

| | | | |
|-----|---|--------------------|---|
| 1 | Scope This document specifies safety requirements, performance requirements and requirements for marking and labelling of air pumps for inflatable consumer articles including the adapter side interface geometry between pump adapters and valves for inflatable consumer articles. This document does not apply for complete pumps (including tubes and adapters) for inflation and deflation sold together with the appropriate consumer article as a set. This document is not applicable to electrical inflators. | | |
| 2 | Normative references | | |
| 3 | Terms and definitions | | |
| 4 | Air pumps | | P |
| 4.1 | Types of air pumps Air pumps are classified in types as shown below (examples see Figures 1 and Figure 2): a) Type H, hand-operated air pump; b) Type F foot-operated air pump. | Hand pumps, Type H | P |
| | EXAMPLE 1 <div style="text-align: center;">  </div> <p style="text-align: center;">Figure 1 — Hand operated air pump. type H. example</p> | | |

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EXAMPLE 2

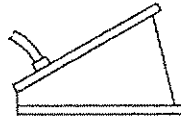


Figure 2 — Foot operated air pump, type F, example

| | | | |
|---------|--|---|---|
| 4.2 | Requirements and test methods | | P |
| 4.2.1 | <p>General</p> <p>If not otherwise stated air pumps shall be tested appropriately in accordance with their individual functions and properties.</p> <p>All test related to pressure and displaced volume shall be performed at an ambient temperature of $(20 \pm 3)^{\circ}\text{C}$.</p> | Informative. | P |
| 4.2.2 | <p>Safety requirements</p> <p>There shall be no sharp corners or edges. Where the pump mechanism form shear and pinch points safety distances in accordance with EN ISO 13857 shall be applied.</p> | Checked and fine. No such sharp corner/edges or shear/pinch points. | P |
| 4.2.3 | Nominal pressure | | P |
| 4.2.3.1 | <p>Requirements</p> <p>The maximum force to achieve the rated nominal air pressure shall not exceed 600 N for hand and foot operated air pumps.</p> <p>The interface of connecting parts (e. g. tube between valve and pump) shall be designed in a way that they do not become loose or defect when the allowed maximum pressure of the pump is applied.</p> | <p>Operating forces for nominal air pressure are tested.</p> <p>It is ca. 400N for 0.5bar.</p> <p>Connecting parts function well at nominal air pressure.</p> | P |

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| 4.2.3.2 | <p>Testing</p> <p>The achievable pressure shall be measured at the interface to the article when the pump is normally operated up to a maximum force of 600 N.</p> <p>For testing the adhesion of interface points any article of the appropriate pressure class shall be applied for testing. The article shall be inflated to the rated nominal pressure and checked for continuous adhesion of connecting points by visual inspection. This procedure shall be repeated ten times.</p> <p>After complete compression air pumps of type F shall reset to their initial position within 3 s when tested at an ambient temperature of (20 ± 3) °C.</p> | <p>The pressure at 600N is 0.8barbar.</p> <p>Informative.</p> <p>Informative.</p> | P |
| 4.2.4 | Operational reliability | | P |
| 4.2.4.1 | <p>Requirements</p> <p>Air pumps shall perform appropriately after being submitted to the durability test (4.2.4.2.1).</p> <p>When tested for static strength in accordance with 4.2.4.2.2 there shall be no deformation or brake of the operating element (e. g. handle or foot plate).</p> | Test performed and products function well after test. | P |
| 4.2.4.2 | Testing | | P |

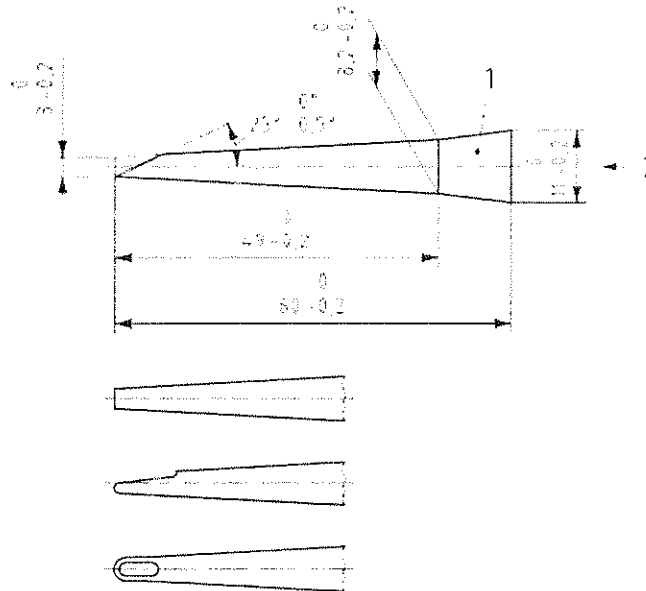
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| 4.2.4.2. 1 | <p>Durability test</p> <p>A total of 5 000 cycles shall be applied. Cycles shall be subdivided by applying:</p> <ul style="list-style-type: none"> - 4 000 cycles at 1/3 of rated nominal pressure, - 1 000 cycles at rated nominal pressure. <p>Action is performed against the relevant specified pressure by executing the maximum cycle length of the pump.</p> <p>When tested to the 1/3 nominal pressure cycle action shall be stopped for cooling down (to room temperature) after every 500th cycle and after every 50th cycle when tested to nominal pressure.</p> <p>50 % of the cycles shall be executed on a surface with an inclination of 5°.</p> | Test performed and products function well after test. | P |
| 4.2.4.2. 2 | <p>Static strength</p> <p>Hand operated air pumps shall be loaded vertically with a quasi-static force of 600 N for a period of 10 s. The force shall be equally distributed to both parts of the handle and applied at the middle of each handle length.</p> <p>Foot operated pumps shall be loaded vertically with a quasi-static force of 750 N for a period of 10 s. The load shall be applied via a loading pad of 50 mm diameter at the centre line of the foot plate. The distance from the edge opposite the pivoting point shall be 1/3 of length of the foot plate. For air pumps without a hinge the load shall be applied at the centre point of the foot plate.</p> | Product can hold required test force without failure. | P |
| 4.2.5 | Displaced volume against atmospheric pressure | | P |
| 4.2.5.1 | <p>Requirements</p> <p>The rated displaced volume shall comply to the real displaced volume, if the pumps are loaded with 600 N respectively with 750 N.</p> | Volume test performed according to 4.2.5.2. Displaced volumes are acceptable. | P |

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| 4.2.5.2 | <p>Testing</p> <p>The air pump shall be filled with water and operated under water. The amount of water pumped out of the pump per cycle shall be measured and evaluated as intermediate displaced volume.</p> <p>The final displaced volume is calculated as the mean value of 10 cycles.</p> <p>For double stroke pumps the displaced volume is calculated by considering each active stroke.</p> | <p>Displaced volume is 2.8L/cycle Tested volume is 2.9L/cycle</p> | P |
| 4.2.6 | <p>Adapters and interface dimensions</p> <p>See requirements and dimensions in Clause 5.</p> | | P |
| 4.3 | <p>Marking and labelling</p> <p>Air pumps shall have a type plate providing the data below:</p> <ul style="list-style-type: none"> - manufacturer and/or distributor; - nominal displaced volume in l per stroke and/or cycle; - nominal pressure in bar. <p>Compliance of air pumps with this standard may be expressed by the manufacturer in his own responsibility (self declaration) with reference to this standard.</p> | <p>Mentioned. Mentioned. Mentioned. Mentioned.</p> | P |

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| 5 | <p>Adapter for plug valves and valve/pump connection with twist lock closure</p> <p>The typical adapter for connecting the pump with the plug valves of the respective reference sizes "small/medium/ large" (see EN 16051-1:2012, Table 2 and Figure 2) shall have the external dimension as shown in Figure 3:</p> <p>Adapters with other designs meeting the functional and compatibility requirements of this standard are acceptable.</p> <p>The valve shall allow the insertion of the adapter (see Figure 3) for full inflation and deflation according to EN 16051-1:2012, Table 2 and Figure 2.</p> <p>The coupling device receiving the adapters is shown in Figure 4.</p> <p>Dimensions for valve/pump connection with twist lock closure in accordance with Figure 5.</p> | <p>The adapters have different construction. They meeting the functional and compatibility requirements of this standard.</p> | P |

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Dimensions in millimetres



Key

- 1 adapter, wall thickness max. 1 mm
- 2 pump tube

Figure 3 — Adapter for plug valves (preferred dimensions)

Dimensions in millimetres

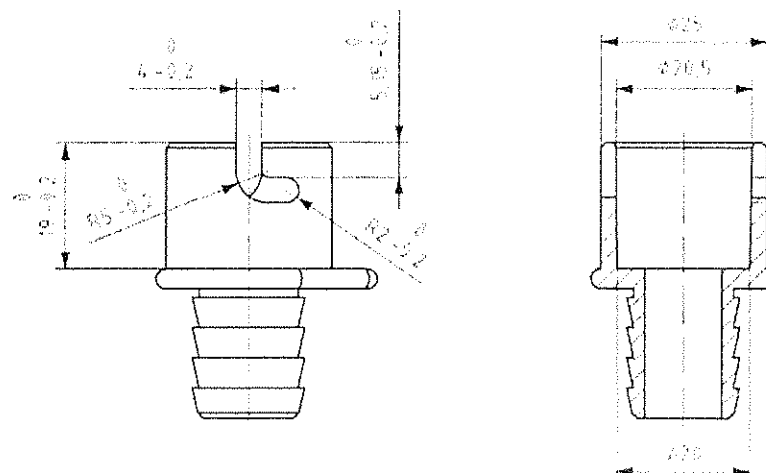
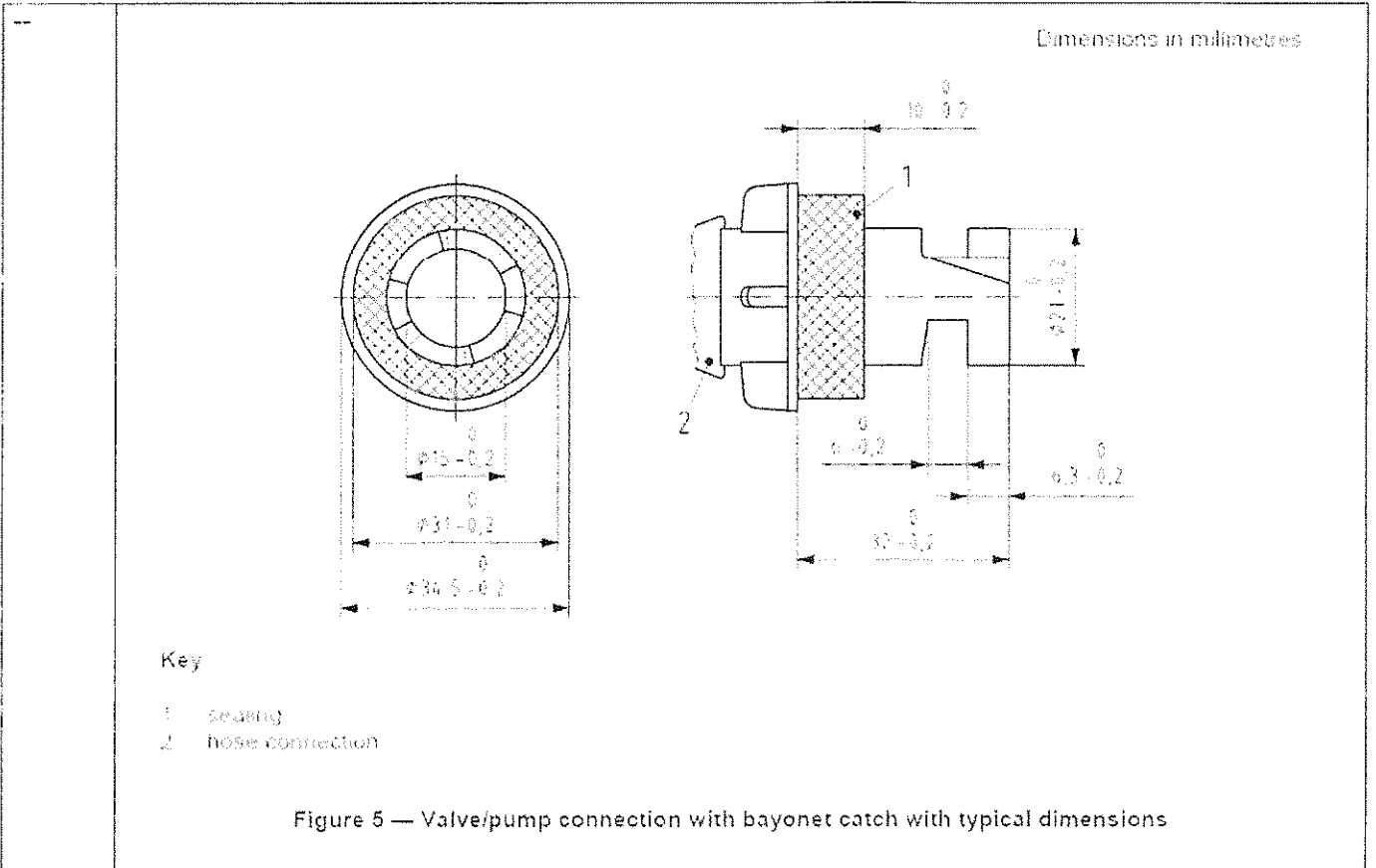


Figure 4 — Coupling device with typical dimensions

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-END-

ATTACHMENT 1 OF TEST REPORT 15081148 001

QMF-OD-32016SHG

Material list for PAH risk assessment; Only materials accessible without tools

Product designation:

Hand air pump for inflatable consumer products

Certificate No.:

S 50306424 0001

Type:

62086; 62088; P3045; P3047; P3049

| Material / Component # | Location / Function of the material | Name / Description of the material | PAH relevant 1) | Evidence attached, institute, report no., date | Category | Smell | Rigidity | Colour | Chem. test needed? | Test result (within the given limits) |
|------------------------|-------------------------------------|---------------------------------------|--|--|--|---|--|--|---|---------------------------------------|
| 62086; 62030 body | black / white plastic / printing | TUV RH-SHG 0154082508a 001 2015.01.15 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Soft <input type="checkbox"/> Flexible <input checked="" type="checkbox"/> Rigid | <input type="checkbox"/> Black or dark-colored <input checked="" type="checkbox"/> White or light-colored | <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> passed <input type="checkbox"/> failed | |
| 62086; 62030 cap | black plastic | TUV RH-SHG 0154082508a 001 2015.01.15 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Soft <input type="checkbox"/> Flexible <input checked="" type="checkbox"/> Rigid | <input checked="" type="checkbox"/> Black or dark-colored <input type="checkbox"/> White or light-colored | <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> passed <input type="checkbox"/> failed | |
| 62086; 62030 pole | black plastic | TUV RH-SHG 0154082508a 001 2015.01.15 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Soft <input type="checkbox"/> Flexible <input checked="" type="checkbox"/> Rigid | <input checked="" type="checkbox"/> Black or dark-colored <input type="checkbox"/> White or light-colored | <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> passed <input type="checkbox"/> failed | |
| 62086; 62030 tube | black plastic | TUV RH-SHG 0154082508a 001 2015.01.15 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Soft <input checked="" type="checkbox"/> Flexible <input type="checkbox"/> Rigid | <input checked="" type="checkbox"/> Black or dark-colored <input type="checkbox"/> White or light-colored | <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> passed <input type="checkbox"/> failed | |
| 62086; 62030 tip | black plastic | TUV RH-SHG 0154082508a 001 2015.01.15 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Soft <input type="checkbox"/> Flexible <input checked="" type="checkbox"/> Rigid | <input checked="" type="checkbox"/> Black or dark-colored <input type="checkbox"/> White or light-colored | <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> passed <input type="checkbox"/> failed | |
| 62086; 62030 connector | black plastic | TUV RH-SHG 0154082508a 001 2015.01.15 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Soft <input type="checkbox"/> Flexible <input checked="" type="checkbox"/> Rigid | <input checked="" type="checkbox"/> Black or dark-colored <input type="checkbox"/> White or light-colored | <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> passed <input type="checkbox"/> failed | |

Refer to PAH test report

Except for the parts marked, other parts are not considered to be held for more than 30s.

Risk assessment for the above mentioned product indicates PAH relevance : Yes ¹⁾ No

I herewith declare that the below listed materials are used in our product submitted to GS-certification and conform with the attached PAHs test reports.

Date 2015-04-15

Short statement

申请人盖章和签名 (Applicant's seal and legally binding signature)

Tu Feng/PE  11.09.2015