

Kingline GmbH
Westliche Stadtmauerstr. 1a
91054 Erlangen
verkauf@kingline.de | +49 152 25958898



FFP2 MASKE

ZH3161
BY KINGLINE

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ZH3161

PRODUKTINFORMATIONEN

Kingline GmbH

Westliche Stadtmauerstr. 1a

91054 Erlangen

verkauf@kingline.de | +49 152 25958898

FFP2 Maske - KINGLINE ZH3161



CE 2797

Eigenschaften	
Standard	EN 149: 2001 + A1: 2009
Klassifizierung	FFP2 NR
Maße	ca. 115 x 160 mm
Nutzungsdauer	Einmalgebrauch
Einstellbarer Nasenclip	Ja
Atemwiderstand	ca. 1,7 mbar (bei 95l/min)
Kennzeichnung auf der Maske	ZH3161
Einzelverpackung	30 Stk je Box

FFP2 Masken sorgen bei sachgemäßer Verwendung und richtiger Trageweise dafür, dass mehr als 94% möglicher gesundheitsschädlichen Staubes, Rauch und Aerosolen aus der Luft gefiltert werden.

Diese hochwertigen FFP2-Masken zeichnen sich durch besonders einfaches Ein- und Ausatmen während des Tragens aus. Dabei ist auch eine gute Verständigung bei aufgesetzter Maske möglich.

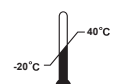
Das Nasenstück aus Weichmetall passt sich eng über den Nasenrücken an, wobei ein angenehmes Tragen durch die integrierte Schaumstoffdichtung über der Nase garantiert ist.

Die Masken sorgen für sicheres und angenehmes Arbeiten durch ihr leichtes Gewicht und das flache Design, welches für ein freies Sichtfeld auch bei Brillenträgern sorgt.

Durch den Einsatz von Kopfbändern ist auch bei einer längeren Tragedauer ein hoher Komfort gewährleistet.



bitte mitgelieferte Herstellerinformationen beachten



Temperaturbereich der Lagerung



max. Luftfeuchtigkeit bei der Lagerung



ERKLÄRUNG DER KONFORMITÄT

TYP DES PRODUKTS: Partikel-Atenschutzmasken

Name des

Modells:ZH3161,ZH3161V,ZH3310,ZH3310V,ZH3361,ZH3361V,ZH3081,ZH3081V,ZH3071,ZH3071V,ZH4071,ZH4071V,ZH4361,ZH4361V,ZH4310,ZH4310V,ZH4081,ZH4081V,ZH3291V

Der Hersteller oder sein in der Gemeinschaft benannter Vertreter:

Hersteller:

Shanghai Zhongzhi Health Articles Co.,Ltd

Nr. 1068, Mingye Road, Sheshan Industrial Zone, Songjiang District, Shanghai, China

Zugelassener Vertreter der EU:

Lotus NL B.V.

Koningin Julianaplein 10, 1e Verd, 2595AA, Den Haag, Niederlande.

Erklärt, dass die vorstehend beschriebene P.P.E in Übereinstimmung mit den Bestimmungen der Verordnung des Rates (EU) 2016/425 und wenn in diesem Fall die nationale Norm zur Umsetzung harmonisierter Standardnummern lautet:

EN 149:2001+A1:2009

identisch ist mit der P.P.E. die den Zertifikats-Nummern zugrundeliegt:

CE 714721 (EUTYPPRÜFUNGSBESCHEINIGUNG)

CE 720473 (Modul D)

Herausgegeben von:

BSI Group The Netherlands B.V.

(2797), John M. Keynesplein 9,

1066EP Amsterdam,Niederlande

09/18/2020

Title:Chief manager

Name:Nina Xu

Signature: 

Date: 2020.09.18



PRODUKTINFORMATIONEN

Modelbezeichnung (Klassifikation):	FFP1 NR	FFP2 NR	FFP3 NR
ZH3001.ZH3001V, ZH4001, ZH4001V	V	X	X
ZH3161,ZH3161V	V	V	X
ZH3310, ZH3310V,ZH4310/ZH4310V	V	V	X
ZH3071.ZH3071V	V	V	X
ZH3361, ZH3361V, ZH4361, ZH4361V	V	V	V
ZH4071.ZH4071V	V	V	V
ZH3081,ZH3081V, ZH4081,ZH4081V	V	V	V
ZH3291V	V	V	V

"NR" steht bei Modellen für den einmaligen Gebrauch

Internationale Zertifizierung: ISO9001: 2015, ISO14001 2015, OHSAS180012007

Diese Produkte entsprechen der Europäische Norm: EN149 2001+ A1:2009 and Regulation (EU) 2016/425

Aufbewahrung: in trockenem, gut belüftetem Lagerraum

Mindesthaltbarkeitsdauer: 3 Jahre

Herstellungsdatum und Fertigungslos siehe Außenseite der Verpackung .

Verwendungshinweise



1. Halten Sie die Maske mit dem Nasenstück nach oben in der Hand. Wenn die Maske gefaltet ist, dann öffnen Sie die gefaltete Maske mit dem Nasenstück nach oben und halten Sie die Maske in der Hand.



2. Positionieren Sie die Maske unter dem Kinn und bedecken Sie Mund und Nase.



3. Ziehen Sie das untere Kopfband über den Kopf und positionieren Sie es unter den Ohren. Ziehen Sie das obere Stirnband am Hinterkopf über die Ohren für den besten Sitz.



4. Drücken Sie auf das weiche Nasenstück, damit es sich eng an die Nase anschmiegt.



5. Um den Sitz zu überprüfen, halten Sie beide Hände über die Maske und atmen Sie kräftig aus. Wenn Luft um die Nase strömt, ziehen Sie das Nasenstück fest. Wenn am Rand Luft austritt, positionieren Sie das Kopfband neu und passen Sie es für einen besseren Sitz an. Testen Sie die Abdichtung erneut und wiederholen Sie den Vorgang, bis die Maske richtig abgedichtet ist.

Verwendung

- FFP1 NR: Schutz gegen ungiftige solide und flüssige Aerosole (z.B. Öl-Dämpfe) in Konzentrationen bis zum vierfachen des Grenzwertes
- FFP2 NR: Schutz gegen ungiftige solide und flüssige Aerosole (z.B. Öl-Dämpfe) in Konzentrationen bis zum 12fachen des Grenzwertes
- FFP3 NR: Schutz gegen ungiftige solide und flüssige Aerosole (z.B. Öl-Dämpfe) in Konzentrationen bis zum 50fachen des Grenzwertes

Atemschutz ist nur effektiv gewährleistet, wenn die richtige Maske ausgesucht, richtig angepasst und solange getragen wird, wie der/die Träger/in der Gefährdung ausgesetzt ist

Funktionen: Geeignet zur Verwendung im Bergbau, auf Baustellen, beim Schleifen, in der Pharmazie, beim Gießen, in der Landwirtschaft, Elektronik, Lebensmittelverarbeitung, bei Zementarbeiten, Textilverarbeitung, Schnitzen, Schwermetalbelastung, Gartenbau, Glasverarbeitung etc

Warnung

1. Bitte vor Gebrauch auf sichtbare Schäden, Verschmutzung und Haltbarkeitsfrist prüfen
2. Werden die Anweisungen und Gebrauchsbeschränkungen zu diesem Produkt nicht richtig beachtet oder befolgt, kann dies die Wirksamkeit der Maske beeinträchtigen und zu Krankheit oder Tod führen
3. Die Auswahl der richtigen Atemmaske ist essenziell für den Schutz Ihrer Gesundheit. Vor Gebrauch der Atemschutzmaske, lassen Sie sich von einem Berufshygieniker oder einem Arbeitsschutzexperten beraten, um die Angemessenheit für den beabsichtigten Gebrauch zu bestimmen
4. Dieses Produkt liefert keinen Sauerstoff. Nur in ausreichend belüfteten Bereichen mit genügend Sauerstoff verwenden. Diese Atemmaske nicht bei Sauerstoffkonzentration unter 19,5% verwenden
5. Nicht verwenden, wenn Schadstoffkonzentrationen unmittelbar gesundheitsschädlich oder lebensgefährlich sind. Atemmaske nicht in einer Umgebung mit Explosionsgefahr verwenden
6. Den Arbeitsbereich sofort verlassen und an die frische Luft gehen, wenn a) das Atmen schwerfällt, oder b) ein Schwindelgefühl oder Unwohlsein eintritt.
7. Gesichtshaare oder ein Bart sowie Eigenschaften der Gesichtsform können die Wirksamkeit der Atemschutzmaske beeinträchtigen
8. Niemals die Atemschutzmaske verändern oder umgestalten
9. Nicht länger als für eine Schicht (8 Stunden) verwenden. Keine Wartung notwendig. Atemschutzmaske nach einer Schicht entsorgen.
10. Atemschutzmaske in der Verpackung außerhalb direkten Sonnenlichts aufbewahren

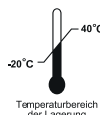
Hersteller: Shanghai Zhongzhi Health Articles Co.,Ltd
No. 1068, Mingye Road, Sheshan Industrial Zone, Songjiang District, Shanghai

Importeur: Kingline GmbH
Westliche Stadtmauerstr. 1a,
91054 Erlangen, Deutschland

Benannte Stelle

BSI Group The Netherlands B.V. (2797)

Address: Say Building, John M. Keynesplein 9, 1066 EP, Amsterdam, Netherlands



Temperaturbereich der Lagerung



max. Luftfeuchtigkeit bei der Lagerung

EU Type Examination Certificate

This is to certify that:

Shanghai Zhongzhi Health Articles
Co.,Ltd
No. 1068, Mingye Road
Sheshan Industrial Zone
Songjiang District
Shanghai
201602
China

Holds Certificate Number:

CE 714721

In respect of:

**Respiratory protective devices to EN 149:2001+A1:2009-
Filtering half masks to protect against particles see continuation sheets for Models**

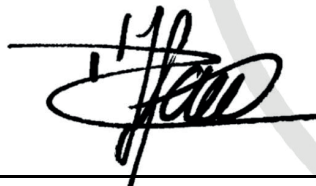
on the basis that BSI carried out the relevant Type Examination procedures under the requirements with the Regulation (EU) 2016/425 of the European Parliament and Council relating to Personal Protective Equipment Regulation (PPE) Annex V (Module B) and meets the relevant health and safety requirements specified in Annex II

For and on behalf of BSI, a Notified
Body for the above Regulation
(Notified Body Number 2797):

Previous Notified Body: BSI 0086

First Issued: 2020-08-06

Latest Issue: 2020-08-06



Drs. Dave Hagenaaars, Managing Director

Effective Date: 2020-08-06

Expiry Date: 2025-08-06

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EU Type Examination Certificate

No. CE 714721

Product Specification:

Product Type:	ZH3001 Series of Filtering half masks to protect against particles.			
Model(s):	ZH3001 ZH3001V ZH4001 ZH4001V			
Product description:	The particulate respirators are designed to protect against dust particulate and/or non-volatile liquid particles. The masks are held on the face by a pair of elasticated straps. The models are single shift devices denoted by the classification symbol NR.			
Technical specifications:	EN 149:2001+A1:2009 – Respiratory Protective Devices. Filtering half masks to protect against particles.			
EN 149 Classification	Model	Classification	Valve	Carbon
	ZH3001	FFP1 NR	No	No
	ZH3001V	FFP1 NR	Yes	No
	ZH4001	FFP1 NR	No	Yes
	ZH4001V	FFP1 NR	Yes	Yes

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EU Type Examination Certificate

No. CE 714721

Product Specification Continued:

Product Type:	ZH3071 Series of Filtering half masks to protect against particles.			
Model(s):	ZH3071 ZH3071V			
Product description:	The particulate respirators are designed to protect against dust particulate and/or non-volatile liquid particles. The masks are held on the face by a pair of elasticated straps. The models are single shift devices denoted by the classification symbol NR.			
Technical specifications:	EN 149:2001+A1:2009 – Respiratory Protective Devices. Filtering half masks to protect against particles.			
EN 149 Classification	Model	Classification	Valve	Carbon
	ZH3071	FFP1/FFP2 NR	No	Yes
	ZH3071V	FFP1/FFP2 NR	Yes	Yes

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Product Specification Continued:

Product Type:	ZH3310 Series of Filtering half masks to protect against particles.			
Model(s):	ZH3310 ZH3310V ZH4310 ZH4310V			
Product description:	The particulate respirators are designed to protect against dust particulate and/or non-volatile liquid particles. The masks are held on the face by a pair of elasticated straps. The models are single shift devices denoted by the classification symbol NR.			
Technical specifications:	EN 149:2001+A1:2009 – Respiratory Protective Devices. Filtering half masks to protect against particles.			
EN 149 Classification	Model	Classification	Valve	Carbon
	ZH3310	FFP1/FFP2 NR	No	No
	ZH3310V	FFP1/FFP2 NR	Yes	No
	ZH4310	FFP1/FFP2 NR	No	Yes
	ZH4310V	FFP1/FFP2 NR	Yes	Yes

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EU Type Examination Certificate

No. CE 714721

Product Specification Continued:

Product Type:	ZH3161 Series of Filtering half masks to protect against particles.			
Model(s):	ZH3161 ZH3161V			
Product description:	The particulate respirators are designed to protect against dust particulate and/or non-volatile liquid particles. The masks are held on the face by a pair of elasticated straps. The models are single shift devices denoted by the classification symbol NR.			
Technical specifications:	EN 149:2001+A1:2009 – Respiratory Protective Devices. Filtering half masks to protect against particles.			
EN 149 Classification	Model	Classification	Valve	Carbon
	ZH3161	FFP1/FFP2 NR	No	No
	ZH3161V	FFP1/FFP2 NR	Yes	No

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EU Type Examination Certificate

No. CE 714721

Product Specification Continued:

Product Type:	ZH4071 Series of Filtering half masks to protect against particles.			
Model(s):	ZH4071 ZH4071V			
Product description:	The particulate respirators are designed to protect against dust particulate and/or non-volatile liquid particles. The masks are held on the face by a pair of elasticated straps. The models are single shift devices denoted by the classification symbol NR.			
Technical specifications:	EN 149:2001+A1:2009 – Respiratory Protective Devices. Filtering half masks to protect against particles.			
EN 149 Classification	Model	Classification	Valve	Carbon
	ZH4071	FFP1/FFP2/FFP3 NR	No	Yes
	ZH4071V	FFP1/FFP2/FFP3 NR	Yes	Yes

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EU Type Examination Certificate

No. CE 714721

Product Specification Continued:

Product Type:	ZH3361 Series of Filtering half masks to protect against particles.			
Model(s):	ZH3361 ZH3361V ZH4361 ZH4361V			
Product description:	The particulate respirators are designed to protect against dust particulate and/or non-volatile liquid particles. The masks are held on the face by a pair of elasticated straps. The models are single shift devices denoted by the classification symbol NR.			
Technical specifications:	EN 149:2001+A1:2009 – Respiratory Protective Devices. Filtering half masks to protect against particles.			
EN 149 Classification	Model	Classification	Valve	Carbon
	ZH3361	FFP1/FFP2/FFP3 NR	No	No
	ZH3361V	FFP1/FFP2/FFP3 NR	Yes	No
	ZH4361	FFP1/FFP2/FFP3 NR	No	Yes
	ZH4361V	FFP1/FFP2/FFP3 NR	Yes	Yes

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EU Type Examination Certificate

No. CE 714721

Product Specification Continued:

Product Type:	ZH3081 Series of Filtering half masks to protect against particles.			
Model(s):	ZH3081 ZH3081V ZH4081 ZH4081V			
Product description:	The particulate respirators are designed to protect against dust particulate and/or non-volatile liquid particles. The masks are held on the face by a pair of elasticated straps. The models are single shift devices denoted by the classification symbol NR.			
Technical specifications:	EN 149:2001+A1:2009 – Respiratory Protective Devices. Filtering half masks to protect against particles.			
EN 149 Classification	Model	Classification	Valve	Carbon
	ZH3081	FFP1/FFP2/FFP3 NR	No	No
	ZH3081V	FFP1/FFP2/FFP3 NR	Yes	No
	ZH4081	FFP1/FFP2/FFP3 NR	No	Yes
	ZH4081V	FFP1/FFP2/FFP3 NR	Yes	Yes

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EU Type Examination Certificate

No. CE 714721

Product Specification continued:

Product Type:	ZH3291V Series of Filtering half masks to protect against particles.			
Model(s):	ZH3291V (mask with exhalation valve)			
Product description:	The particulate respirators are designed to protect against solid and non-volatile liquid particles. They include a valve, with no carbon. The masks are held on the face by a pair of elasticated straps. The models are single shift devices denoted by the classification symbol NR.			
Technical specifications:	EN 149:2001+A1:2009 – Respiratory Protective Devices. Filtering half masks to protect against particles.			
EN 149 Classification	Model	Classification	Valve	Carbon
	ZH3291V	FFP1/FFP2/FFP3 NR	Yes	No

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EU Type Examination Certificate

No. CE 714721

Certificate Administration Details

Technical File reference: ZH3001/ZH3291V/ZH3071/ZH3081/ZH3161/ZH3310/ZH3361 and ZH4071

Certificate Amendment Record:

Issue date	Comments	BSI Review Number
August 2020	First issue under PPE Regulation (EU) 2016/425.	2797:20:3044784

Certificate validity

The Certificate holder is responsible for ensuring that the Notified Body is advised of changes to any aspect of the overall processes utilised in the manufacture of the product, failure to do so could invalidate the Certificate in respect of product manufactured following the introduction of such changes.

The validity of the Certificate for the products is also dependent on the maintenance of the EU Conformity to Type Based on Quality Assurance of the Production Process, Annex VIII (Module D), as referenced on BSI issued Certificate CE 720473.

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BSI Group The Netherlands B.V., registered in the Netherlands under number 33264284, at John M. Keynesplein 9, 1066 EP Amsterdam, The Netherlands
A member of BSI Group of Companies.

Conformity to Type based on Quality Assurance of the Production Process

This is to certify that:

Shanghai Zhongzhi Health Articles
Co.,Ltd
No. 1068, Mingye Road
Sheshan Industrial Zone
Songjiang District
Shanghai
201602
China

Holds Certificate Number:

CE 720473

In respect of:

The manufacture of PPE for respiratory protection to the standards specified on the continuation sheet.

on the basis that BSI carried out the quality assurance assessment under the requirements with the Regulation (EU) 2016/425 of the European Parliament and Council relating to Personal Protective Equipment Regulation (PPE) Annex VIII (Module D)

For and on behalf of BSI, a Notified
Body for the above Regulation
(Notified Body Number 2797):

Previous Notified Body: BSI 0086

First Issued: 2020-04-24

Latest Issue: 2020-04-24

Drs. Dave Hagenaaars, Managing Director

Effective Date: 2020-04-24

Expiry Date: 2025-04-24

Page: 1 of 2



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Conformity to Type based on Quality Assurance of the Production Process

No. CE 720473

Product manufactured by:

Shanghai Zhongzhi Health Articles Co., Ltd
No. 1068, Mingye Road
Sheshan Industrial Zone
Songjiang District
Shanghai
201602
China

Product Specifications:

The products covered by the Module D scope of this Certificate conform to the following standards:

Standard	Product Type
EN 149:2001+A1:2009	Respiratory protective devices. Filtering half masks to protect against particles.

Certificate Administration Details.

Certificate Amendment Record

Issue date	Comments	BSI Project Number
April 2020	First Issue	2797:20:3098463

Certificate validity

The Certificate holder is responsible for ensuring that the Notified Body is advised of changes to any aspect of the overall process utilised in the manufacture of the products, failure to do so could invalidate the Certificate in respect of product manufactured following the introduction of such changes

The validity of the Certificate is also dependent on the maintenance of an ISO 9001 quality system certified by a recognized certification organisation

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A member of BSI Group of Companies.

Test Report

EN 149 : 2001 + A1 : 2009

Report no: 1.13.05.01

Client: INSPEC Certification Services
56 Leslie Hough Way
Salford
Greater Manchester
M6 6AJ

(on behalf of): Shanghai Zhongzhi Health Articles Co., Ltd

Client order: TA13/0022

Order(s) received: 26 March 2013

Model(s): ZH3161 and ZH3161V

Date(s) of tests: 27 March to 1 May 2013

Signed:



Peter Threlfall, Laboratory Supervisor

Issued: 2 May 2013

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Tests marked are not included in the UKAS accreditation schedule for INSPEC.

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<http://inspec-international.com/ToB.pdf>

If you have difficulty accessing the Terms of Business, you may contact us for a copy.

Summary of assessment*

Clause	Requirement	Assessment (See Key)	
		Model:	
		ZH3161	ZH3161V
7.4	Packaging	Ltd	
7.5	Material	Ltd	Ltd
7.6	Cleaning and disinfecting		
7.7	Practical performance	Ltd	Ltd
7.8	Finish of parts	Ltd	Ltd
7.9.1	Total inward leakage		Pass (FFP2)
7.9.2	Penetration of filter material: Sodium chloride		Pass
7.9.2	Penetration of filter material: Paraffin oil		Pass
7.10	Compatibility with skin	Ltd	Ltd
7.11	Flammability		Pass
7.12	Carbon dioxide content of the inhalation air	Pass	
7.13	Head harness	Ltd	Ltd
7.14	Field of vision	Ltd	Ltd
7.15	Exhalation valve(s)		Pass
7.16	Breathing resistance	Ltd	Pass
7.17	Clogging		
7.18	Demountable parts		NAP
9	Marking	Fail	Fail
10	Information to be supplied by the manufacturer	Fail	Fail

Key

	Shading shows the clauses requested. Any other clauses were not requested.
Pass	Requirement satisfied.
Ltd	Testing requested was insufficient completely to verify compliance with the clause. Refer to the "Result details" section for more information.
Fail	Requirement not satisfied. Refer to the "Result details" section for more information.
NAs	Assessment not carried out.
NAP	Requirement not applicable.
NT	Requested but not tested due to early termination following failure.

* Assessment relates only to those specimens which were tested and are the subject of this report.

Product characteristics

Property	Characteristic	
Model	ZH3161	ZH3161V
Classification claimed	Unspecified	Unspecified
Exhalation valve(s)	None	Single
Usage designation	NR	NR

Submission details

Product	Quantity	Date received	INSPEC specimen no. (1A0157 +)
ZH3161 filtering half mask	30	22 March 2013	111 to 160
ZH3161V filtering half mask	65		201 to 260

Procedures

Specimens were selected at random from the submission(s) detailed above.

Testing was performed in accordance with BS EN 149 : 2001 incorporating Corrigendum No. 1 (January 2003), and amendment A1 (2009) unless otherwise specified below. Reference should be made to the standard when reading this report.

Unless stated otherwise, specimens were tested in the condition as received by INSPEC.

7.7 The client instructed that practical performance testing be carried out on one specimen of each model.

Practical performance tests were conducted in simulation of the practical use of the apparatus under the conditions prevailing in the gallery area of the laboratory. The exercises undertaken and the equipment used were as specified in the standard.

7.9.2 Filter penetration testing by the paraffin oil method was carried out using a modified Phoenix SG-20 aerosol generator and a Phoenix model JM-6000 photometer or a TEC Services' model PH-3 photometer. These give similar performance to the instruments specified.

For the 120mg exposure test, the peak penetration during exposure is reported and in addition the penetration after three minutes for comparison purposes.

During the 120mg exposure test, the sodium chloride penetration showed continued decline and the test was terminated as the product was marked NR.

7.16 Exhalation resistance was tested at a continuous flow of 160 l/min.

Result details**7.4 Packaging****Model ZH3161**

The masks were not packaged as offered for sale. Manufacturer to certify regarding the final packaging to be used.

NAs

The masks were packaged in clear plastic bags that gave some protection against mechanical damage or contamination before use.

Pass**7.5 Material****Model ZH3161**

Specimens 121, 122 and 151 were conditioned in accordance with 8.3.1. None of the specimens conditioned suffered mechanical failure or collapse.

Pass

Specimens 117 to 119 were conditioned in accordance with 8.3.2. None of the specimens conditioned suffered collapse.

Pass

The effects of filter media release were not assessed. Manufacturer to certify.

NAs**Model ZH3161V**

Specimens 220 to 225 were conditioned in accordance with 8.3.1. None of the specimens conditioned suffered mechanical failure or collapse.

Pass

Specimens 206 to 210, 217 to 219, 226 to 231, 233, 239, 240, 246 and 247 were conditioned in accordance with 8.3.2. None of the specimens conditioned suffered collapse.

Pass

The effects of filter media release were not assessed. Manufacturer to certify.

NAs**7.7 Practical performance****Model ZH3161****Specimen and subject details:**

Specimen	Subject
148	AH
149	-

Pass**NAs**

No adverse comments were made following testing.

Model ZH3161V**Specimen and subject details:**

Specimen	Subject
248	ED
249	-

Pass**NAs**

No adverse comments were made following testing.

7.8 Finish of parts**Model ZH3161**

None of the specimens used in the limited laboratory testing undertaken showed evidence of sharp edges or burrs.

Ltd**Model ZH3161V**

None of the specimens used in the limited laboratory testing undertaken showed evidence of sharp edges or burrs.

Ltd**7.9.1 Total inward leakage (%)****Model ZH3161V**

Subject	Specimen	Cond	Walk	Head side/ side	Head up/down	Talk	Walk	Mean	
KDS	201	AR	5.78	5.91	5.16	5.36	5.28	5.50	
WA	202	AR	3.06	3.04	5.42	1.07	1.43	2.80	
AH	203	AR	3.70	4.38	5.14	2.15	2.25	3.53	
JDU	204	AR	8.05	7.42	7.65	9.08	6.74	7.79	
ED	205	AR	3.92	1.02	2.65	0.40	0.96	1.79	
VE	206	TC	8.20	10.47	7.12	2.09	5.02	6.58	
BH	207	TC	4.75	4.46	5.89	1.86	1.79	3.75	
SMT	208	TC	2.11	2.55	2.09	2.32	2.36	2.29	
SR	209	TC	10.43	3.84	2.15	2.17	2.69	4.26	
INH	210	TC	1.11	3.01	1.38	2.85	1.53	1.98	
Maximum permitted (FFP1)			25					22	Pass
Maximum permitted (FFP2)			11					8	Pass
Maximum permitted (FFP3)			5					2	Fail

All 50 individual exercise results were not greater than 25% (FFP1).

Pass

All 10 individual wearer arithmetic means were not greater than 22% (FFP1).

Pass

All 50 individual exercise results were not greater than 11% (FFP2).

Pass

All 10 individual wearer arithmetic means were not greater than 8% (FFP2).

Pass

32 out of 50 individual exercise results were not greater than 5% (FFP3).

Fail

2 out of 10 individual wearer arithmetic means were not greater than 2% (FFP3).

Fail

Subject facial dimensions:

Subject	Face Length (mm)	Face Width (mm)	Face Depth (mm)	Mouth Width (mm)
KDS	102	128	98	49
WA	121	138	120	56
AH	119	113	115	50
JDU	123	156	132	49
ED	114	138	100	47
VE	116	132	115	45
BH	120	139	108	54
SMT	117	131	115	40
SR	126	137	138	52
INH	125	153	95	58

7.9.2 Penetration of filter material**Model ZH3161V****Sodium chloride**

Specimen	Condition	Penetration (%)		
		After 3 minutes	Max. during exposure	
211	A.R.	0.02		
212		0.02		
213		0.02		
220	S.W.	0.15		
221		0.05		
222		0.03		
226	M.S. + T.C.	0.04	0.04	
227		0.08	0.08	
228		0.07	0.07	
Maximum permitted (FFP1)		20		Pass
Maximum permitted (FFP2)		6.0		Pass
Maximum permitted (FFP3)		1.0		Pass

Paraffin oil:

Specimen	Condition	Penetration (%)		
		After 3 minutes	Max. during exposure	
214	A.R.	0.10		
215		0.08		
216		0.08		
223	S.W.	0.12		
224		0.16		
225		0.28		
229	M.S. + T.C.	0.22	0.32	
230		0.16	0.19	
231		0.27	0.33	
Maximum permitted (FFP1)		20		Pass
Maximum permitted (FFP2)		6.0		Pass
Maximum permitted (FFP3)		1.0		Pass

7.10 Compatibility with skin**Model ZH3161**

No problems were encountered during limited practical performance testing.

Ltd

Total inward leakage testing was not carried out.

NAs

The likelihood of materials in contact with the skin causing irritation or other adverse effect on health was not assessed. Manufacturer to certify.

NAs**Model ZH3161V**

No problems were encountered during limited practical performance testing.

Ltd

No problems were encountered during total inward leakage testing.

Pass

The likelihood of materials in contact with the skin causing irritation or other adverse effect on health was not assessed. Manufacturer to certify.

NAs**7.11 Flammability****Model ZH3161V**

Specimens 244 and 245 (A.R.) and 246 and 247 (T.C.) were tested. None of the specimens ignited.

Pass

7.12 Carbon dioxide content of the inhalation air**Model ZH3161****Pass**

Specimen	CO ₂ (%)
135	0.64
136	0.74
137	0.75
Maximum permitted	1.0

7.13 Head harness**Model ZH3161**

The head harness was designed to allow the particle filtering half-mask to be donned and removed easily during limited practical performance testing.

Ltd

The head harness was self-adjusting and there were no adverse comments regarding security following limited practical performance testing.

Ltd

Inward leakage testing was not carried out.

NAs**Model ZH3161V**

The head harness was designed to allow the particle filtering half-mask to be donned and removed easily during limited practical performance and total inward leakage testing.

Ltd

The head harness was self-adjusting and there were no adverse comments regarding security following limited practical performance and total inward leakage testing.

Ltd

The product satisfied the total inward leakage requirements. See 7.9.1 for results.

Pass**7.14 Field of vision****Model ZH3161**

There were no adverse comments following limited practical performance tests.

Ltd**Model ZH3161V**

There were no adverse comments following limited practical performance tests.

Ltd**7.15 Exhalation valve****Model ZH3161V**

There were no observed problems during testing of function in all orientations. See 7.16 for results.

Pass

The valve was protected against dirt and mechanical damage by a shroud.

Pass

The product satisfied leakage requirements as FFP2. See 7.9 for results.

Pass

There were no observed problems when assessing operation after high exhalation flow. See 7.16 for results.

Pass

The valve housing withstood 10N applied for 10s. Specimens 232 (A.R.), 233 (T.C.) and 234 (M.S.) were tested.

Pass

7.16 Breathing resistance

Model ZH3161

Ltd

Specimen	Condition	Inhalation resistance (mbar)		Exhalation resistance (mbar)
		At 30 l/min	At 95 l/min	At 160 l/min
111	A.R.	Not requested		2.30
112				2.33
113				2.19
117	T.C.	Not requested		2.28
118				2.26
119				2.11
121	S.W.	Not requested		2.08
122				2.30
151				2.24
Maximum permitted				3.0

Model ZH3161V

Specimen	Condition	Inhalation resistance (mbar)		Exhalation resistance (mbar)	
		At 30 l/min	At 95 l/min	At 160 l/min	
211	A.R.	0.59	1.91	1.88	
212		0.53	1.74	1.80	
213		0.51	1.76	1.86	
217	T.C.	0.47	1.60	1.57	
218		0.52	1.73	1.74	
219		0.51	1.70	1.72	
220	S.W.	0.49	1.61	1.71	
221		0.50	1.70	1.48	
222		0.49	1.71	1.69	
238	A.R. + F.C.	0.54	1.81	1.88	
239	T.C. + F.C.	0.54	1.73	1.79	
240		0.56	1.89	2.06	
Maximum permitted (FFP1)		0.6	2.1	3.0	Pass
Maximum permitted (FFP2)		0.7	2.4	3.0	Pass
Maximum permitted (FFP3)		1.0	3.0	3.0	Pass

7.18	Demountable parts	
	Model ZH3161V	
	No demountable parts were used.	NAp
9	Marking	
	Both models	
9.1	Packaging	
	The specimens were submitted in plastic bags inside a large cardboard box.	
	The marking on the packaging was clear and durable.	Pass
	The markings required by the Standard were assessed as follows.	
9.1.1	The manufacturer's identification was not present.	Fail
9.1.2	Type identification was marked.	Pass
9.1.3	The classification was not given.	Fail
9.1.4	The number and year of the standard were not given.	Fail
9.1.5	The end of shelf life was not given.	Fail
9.1.6	Neither the required statement nor pictogram relating to manufacturer's information was present.	Fail
9.1.7	The recommended storage requirements were not given.	Fail
9.1.8	The letter "D" was neither appropriate nor marked.	NAp
9.2	Particle filtering half mask	
	The particle filtering half mask was not marked.	Fail
10	Information to be supplied by the manufacturer	
	The instructions to users have been assessed as detailed below, with reference only to the relevant requirements of the Standard.	
	INSPEC Testing Services has not assessed these instructions with respect to claims made by the manufacturer outside of the requirements of the Standard, and therefore accepts no responsibility for the legitimacy of any such claims.	
	The information specified by the Standard was assessed as follows.	
10.1	The information did not accompany smallest package, an example copy was sent.	Fail
10.2	Were in the official language (English).	Pass
10.3	Contained all necessary information for trained and qualified persons apart from;-	Pass
	- colour codes were neither used or explained;	NAp
	- maintenance information was not given, the mask was designated single use;	NAp
10.4	Were clear and comprehensible.	Pass
10.5	Required warnings were given against various problems likely to be encountered.	Pass
10.6	Discard information was provided.	Pass
10.7	The product was not marked with R or NR, manufacturer to certify regarding reuse of the device.	NAs

Estimates of the uncertainty of measurement

Clause	Test	Uncertainty
7.4	Packaging	Not Applicable
7.5	Material	See Note 1
7.6	Cleaning and disinfecting	Not Applicable
7.7	Practical performance	See Note 1
7.8	Finish of parts	Not Applicable
7.9.1	Total inward leakage	± 4.7%
7.9.2	Penetration of filter material - Sodium chloride	± 4.8%
7.9.2	Penetration of filter material - Paraffin oil	± 4.2%
7.10	Compatibility with skin	Not Applicable
7.11	Flammability	See Note 1
7.12	CO ₂ content of the inhalation air	± 4.0%
7.13	Head harness	Not Applicable
7.14	Field of vision	See Note 1
7.15	Exhalation valve(s)	See Note 1
7.16	Breathing resistance	± 2.1%
7.17.2	Breathing resistance after clogging	± 3.9%
7.17.3	Filter penetration after clogging - Sodium chloride	± 4.7%
7.17.3	Filter penetration after clogging - Paraffin oil	± 4.1%
7.18	Demountable parts	Not Applicable

Note 1 The acceptance criterion for this test is a straightforward “Pass/Fail”, rather than a numerical value. Consequently, as there is no value to be reported, uncertainty has not been reported either.

Note 2 The uncertainty value is based on a standard uncertainty multiplied by a coverage factor $k = 2$, which provides for a confidence level of approximately 95%. Values expressed as a percentage (%) are relative.

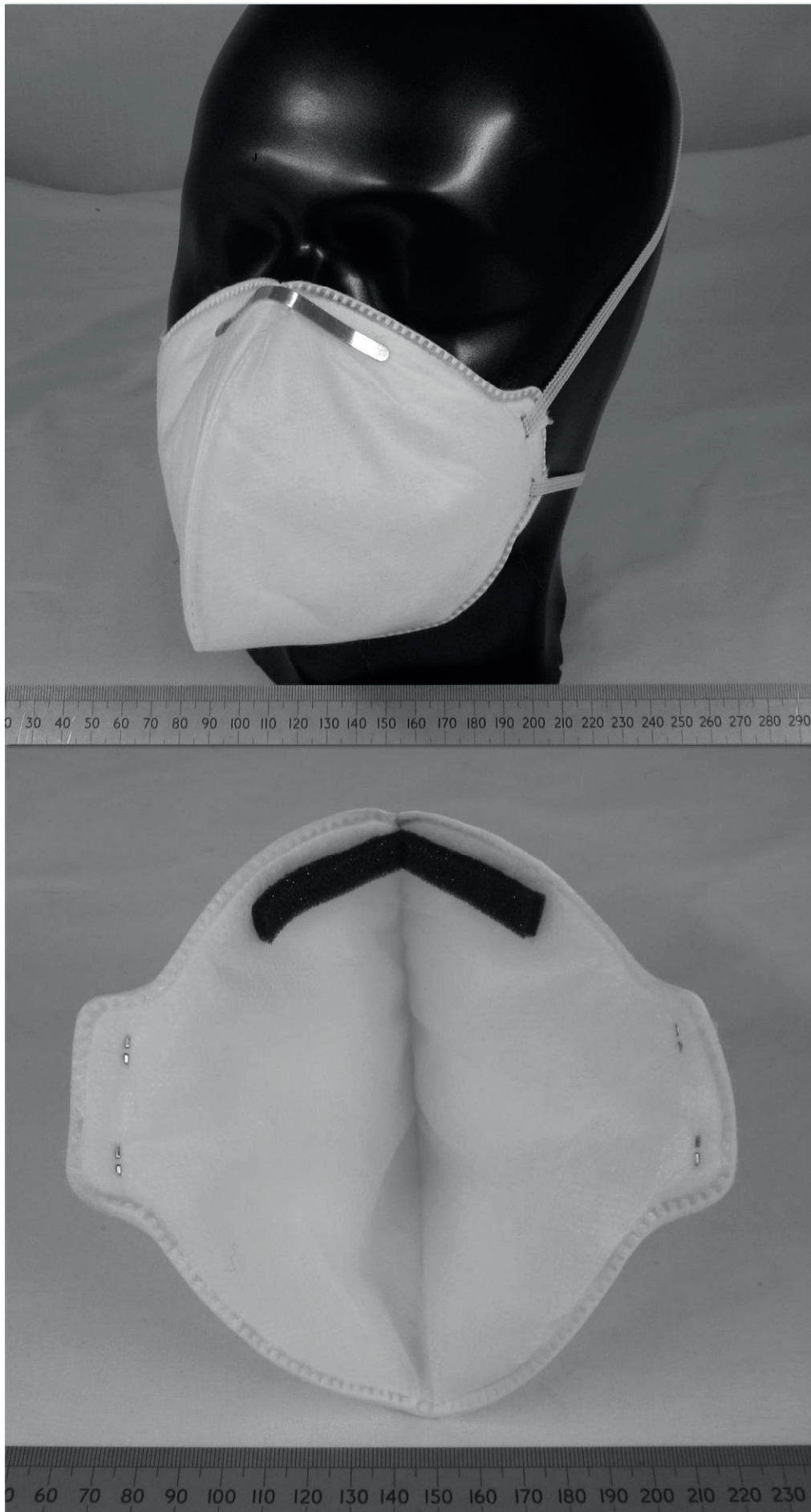
It should be noted that the above values have not been taken into account when making assessment to the pass/fail criteria.

ANNEX

This Annex comprises one section.

1. Photographs of the products tested. (2 pages)

Shanghai Zhongzhi Health Articles Co., Ltd's model ZH3161 filtering half mask



Shanghai Zhongzhi Health Articles Co., Ltd's model ZH3161V filtering half mask

