

4 *Respiratory Protection*





Choosing Respiratory Protection



Hazards. **Dusts** vary in size and the finer they are the higher the hazard. **Mists** result from spraying applications. **Fumes** are particles that are produced during welding and created by vaporisation. **Gasses** usually odourless and invisible and replace the oxygen content in the atmosphere. **Vapours** occurs when solvents evaporate at room temperature general have additive smell.

Choosing the right protection. Identify the hazard is it a dust, mist, fume, gas or vapour. Assess what the level of contamination is. Compare the levels of hazard to the W.E.L. (workplace exposure limits). Choose the correct respirator applicable to the hazard. Ensure the user has information on the correct wearing storage and use of RPE.

Protection. Products should be chosen by the APF (Assigned Protection Factor) of the product to ensure the level of the hazard is reduced and is providing the wearer with clean filtered air.

Exposure limits. WEL's (Workplace Exposure Limits) are published by the H.S.E. in the EH40 document providing the concentrations levels that substances should not be exceeded. The respiratory equipment can then be chosen by its A.P.F. (Assigned Protection Factor) to reduce the hazard and provide clean air to the user. **Example: Wood Dust**

- Measured respiratory hazard = 45mg/m² • WEL (Workplace Exposure Limit) = 5mg/m²
- Divide Hazard Level 45mgm² by WEL 5mg/m² = 9
- You then have to choose a respirator with an APF greater than 9 which would be a P2.

Fit-testing of Respiratory Protective Equipment (RPE) facepieces. To ensure the wearer has the correct device, the initial selection of RPE should include fit-testing. RPE should have a tight-fitting facepiece (filtering facepieces are usually known as disposable masks, half and full-face masks). Repeat fit-testing will be needed if anything changes. For example, if the model or size of facepiece is changed or there are significant changes to the individual wearer's facial characteristics due to weight gain/loss or dentistry. There are two forms of fit-testing – Qualitative and Quantitative:

Qualitative fit-testing is usually adequate for disposable filter facepieces and half-masks. This can be done as a simple pass/fail based on the wearer's subjective assessment of the fit and leakage. This method is not suitable for full-face masks.

Quantitative fit-testing provides a numerical measure of the fit known as a 'fit factor'. These tests give an objective measure of face fit. They require specialised equipment and are more complicated to carry out. These methods are recommended for full-face masks.

Assigned Protection Factors & Standards for Respiratory Protective Equipment (RPE) types			
RESPIRATOR TYPE	DESCRIPTION	STANDARD	APF RANGE
Filtering facepieces for particulates	Provides protection against dust/mists/fumes. Normally intended for 1 day's use	EN 149:2001	4-20
Filtering facepieces for nuisance gas/vapour	Provides protection against dusts/mists/fumes. Also protection against nuisance level gas/vapour	EN 149:2001	4-20
Half masks (dust)	Provides protection against a variety of contaminants dependant on Filter(s)	EN 140, EN 143, EN 405	4-20
Half mask (gas/vapour)	Provides protection against a variety of contaminants dependant on Filter(s)	EN 140, EN 141, EN 405	4-10
Full face masks (dust)	Provides protection against a variety of contaminants dependant on Filter(s) and protection for the face/eyes	EN 136, EN 143	4-40
Full face masks (gas/vapour)	Provides protection against a variety of contaminants dependant on Filter(s) and protection for the face/eyes	EN 136, EN 141, EN 14387	4-20
Powered respirators	Provides clean air to the headpiece by drawing air through a filter. Protection can be tailored to a variety of hazards	EN 146, EN 12941, EN 12942	5-40
Airline hood or helmet	Provides clean air to the wearer's headpiece from an external source of breathable quality air. Can also provide eye/head protection	EN 270, EN 1835, EN 139	5-40
Self contained open circuit breathing apparatus	The top level of protection. For tasks where there is an immediate danger to life or health	EN 1146, EN 137	Up to 2000



3M 6000 Series Half Face Mask

code: AR036

size: **S** **M** **L**

features:

- Twin filter design provides low breathing resistance
- Soft, lightweight, elastomeric face piece
- Cost-effective replacement filters
- Unique 3M Bayonet filter fixing system
- Cradle head harness and easy fasten neck strap
- Few replaceable parts for easy maintenance
- Conforms to EN 140



3M 7500 Silicone Half Face Mask

code: AR050

size: **S** **M** **L**

features:

- Patented 3M cool valve provides easy breathing while reducing heat and moisture build up
- Unique head harness and yoke design provide greater stability when wearing, and make the mask much easier to wear with other head gear like welding and grinding shields
- Utilises all existing 3M 2000, 5000 and 6000 series filters and cartridges
- Durable and re-usable with a range of replacement parts
- Improved sizing characteristics, allows comfortable fit over wide range of faces
- Soft silicone material provides more flexibility and fewer pressure points on face and head
- Extremely pliable face seal to improve fit
- Conforms to EN 140



3M 6900 Series Full Face Mask

code: AR037

features:

- NIOSH approved respirator that covers and protects the entire face
- Lightweight and durable
- The face seal is made of a silicone rubber, making it remarkably comfortable for the user
- Low maintenance design minimizes time required to maintain the product
- The full face respirator provides respiratory protection against airborne contaminants when used in accordance with all instructions
- Provides user with a wide range of view
- Latex free and reusable
- Conforms to EN 136: class 1



Work Safely with Us! >>>

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exhalation valve ▶

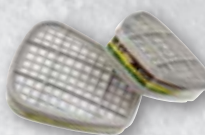
◀ built in filters

3M 4000 Series Maintenance Free Gas / Vapour and Particulate Respirator

Half Face Mask Integral Filter code: AR042/4277
Maintenance Free Reuseable Respirator code: AR041

features:

- ▶ Maintenance free design for maximum safety and simplicity
- ▶ No maintenance records are required if disposed of within one month
- ▶ Replace after 28 days or when breathing resistance increases or breakthrough occurs, whichever occurs first
- ▶ 2 large bonded carbon filters for low breathing resistance
- ▶ Low profile design for better peripheral vision
- ▶ Low resistance parabolic valve to reduce heat build-up
- ▶ Soft/Non-allergenic face piece material
- ▶ Lightweight and well balanced design
- ▶ Cradle head harness
- ▶ Easy to fasten neck strap
- ▶ Conforms to EN 405:2001/CE



6059 Gas Combination Filter

code: AR037/F



6099 Full Face Mask Gas / Vapour Filter

code: AR049/6099



6055 A2 Gas and Vapour Filter

code: AR047



6051 Type A Filter Half Face Mask 4 Pack

code: AR041/6051



6054 K1 Filter for Ammonia

code: AR038

3M 6000 Series Filter

features:

- ▶ Lightweight
- ▶ Low breathing resistance
- ▶ Well balanced when fitted to a mask
- ▶ Provides excellent field of vision as a result of the unique trapezoidal shape
- ▶ Bayonet fitting system ensures precise and secure locking
- ▶ Versatility: can be used on all 6000 and 7000 Series half masks and full face masks
- ▶ Filters can be used in combination with 3M™ 5000 particulate filters
- ▶ Conforms to EN 14387



3M P3 2135 Particulate Filter

code: AR039

features:

- ▶ 3M Advanced Electret Filter material for maximal filtration efficiency and light weight
- ▶ Approved as a P3 filter
- ▶ Lighter than conventional filters that provide comparable protection
- ▶ Durable, water-resistant and flame retardant
- ▶ Bayonet fitting ensures precise and safer locking
- ▶ Versatility: can be used on all 3M 6000, 3M 7000 and 3M 7500 Series half masks and full face masks
- ▶ Conforms to EN 143



◀ expanded filter area

3M FFP3D Mask Premium Buckle Strap

code: AR046/8835

features:

- ▶ Expanded filter area, unique design reduces breathing resistance
- ▶ Comfortable, lightweight off-the-face design
- ▶ Reliable, effective protection against fine particulates
- ▶ 3M Cool Flow valve reduces heat build-up to offer comfortable protection, particularly in hot and humid conditions
- ▶ Soft sealing ring and adjustable straps ensure a comfortable, properly sealed fit
- ▶ Red colour coded valve lettering denotes FFP3 protection level
- ▶ Conforms to EN 149:2001



3M Cup Shaped Valved Respirator

code: AR044/8822

features:

- 3M Cool Flow valve reduces heat build up to offer comfortable protection, particularly in hot and humid conditions
- Reliable, effective protection against fine particulates
- Durable collapse resistant inner shell
- Excellent fit over a wide range of face sizes provided by convex shape, nose clip and twin-strap design
- Comfortable, light weight off-the-face design
- Blue colour coded straps denoting FFP2 protection level
- Conforms to EN 149:2001

3M Cool Flow™ valve ►



3M Aura Valved Dust and Mist Respirator

code: AR048/9332

features:

- Comfort, flat-fold, valved disposable respirator (P3 protection)
- Low breathing resistance filter technology
- Innovative 3 panel design fits a wide range of face shapes and sizes
- Accommodates facial movements
- Individually wrapped for hygienic storage prior to use
- 3M Cool Flow™ valve for reduced heat and moisture build up
- Conforms to EN 149:2001

flat-fold ►



3M Foldable Unvalved Respirator

code: AR045/9310

features:

- Provides comfort and style without compromising performance
- Extensive European field trials have proved the superiority of this range over more traditional respirators
- Three-panel design for improved comfort, fit and communication
- Reliable, effective protection against fine particulates
- Individually packed, foldable design prevent contamination before use and allows easy storage
- Soft inner cover-web for greater comfort against the skin
- Even-tensioned straps relieve pressure for a comfortable and secure fit
- Yellow colour coded straps denoting FFP1 protection level
- Conforms to EN 149:2001

flat-fold ►



3M Foldable Valved Respirator

code: AR043/9322

features:

- This new generation of respirators provides comfort and style without compromising performance
- Extensive European field trials have proved the superiority of this range over more traditional respirators
- Three-panel design for improved comfort, fit and communication
- Reliable, effective protection against fine particulates
- 3M Cool Flow valve reduces heat build-up to offer comfortable protection, particularly in hot and humid conditions
- Individually packed, foldable design prevent contamination before use and allows easy storage
- Soft inner cover-web for greater comfort against the skin
- Even-tensioned straps relieve pressure for a comfortable and secure fit
- Blue colour coded straps denoting FFP2 protection level
- Conforms to EN 149:2001

flat-fold ►





FFP1 Face Mask

code: AR032

features:

- Approved class FFP1 protective mask, for protection against coarse health-hazardous dry and liquid-borne particles
- Typical application areas include wood sanding dust, quartz dust, coarser allergenic particles, pollen, etc
- CN P1 masks are packed in individual hygienic plastic bags, with 20 bags in a box and 200 in a transport case
- Conforms to EN 149:2001



CNP1CV FFP1 Face Mask

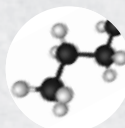
code: AR033

features:

- Approved class FFP1 protective mask, for protection against coarse health-hazardous dry and liquid-borne particles
- The CN P1 CV mask incorporates a layer of activated carbon that effectively removes strong or unhealthy odours
- It is also fitted with a valve for exhalation, which helps to reduce the temperature in the mask, reducing condensation and moisture build-up
- Typical application areas include agriculture, chicken farms, various types of sanitation and clearance work, etc
- CN P1 CV masks are packed in individual hygienic plastic bags, with 15 in a box and 150 in each transport case
- Conforms to EN 149:2001



activated carbon ►



CNP1V FFP1 Face Mask

code: AR031.1

features:

- Approved class FFP1 protective mask, for protection against coarse health-hazardous dry and liquid-borne particles
- The CN P1 V mask is fitted with a valve for exhalation, which also helps to reduce the temperature in the mask, reducing condensation and moisture build-up
- Typical application areas include wood sanding dust, quartz dust, chemical particles, polishing dust etc
- CN P1 V masks are packed in individual hygienic plastic bags, with 15 bags in a box and 150 in each transport case
- Conforms to EN 149:2001



exhalation valve ►



CNP2 FFP2 Face Mask

code: AR027

features:

- Approved class FFP2 protective mask, for protection against health-hazardous dry and liquid-borne particles
- Typical application areas include metal dust, glass fibre dust, polishing dust, building dust etc
- CN P2 masks are packed in individual hygienic plastic bags, with 20 bags in each box and 200 in each transport case
- Conforms to EN 149:2001





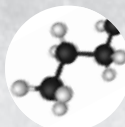
CNP2CV FFP2 Face Mask

code: AR029

features:

- Approved class FFP2 protective mask, for protection against health-hazardous dry and liquid-borne particles
- The CN P2 CV mask incorporates a layer of activated carbon that effectively removes strong or unhealthy odours
- It is also fitted with a valve for exhalation, which helps to reduce the temperature in the mask, reducing condensation and moisture build-up
- Typical application areas include welding or the presence of welding fume, extreme sanitation and clearance work, etc
- CN P2 CV masks are packed in individual hygienic plastic bags, with 15 in a box and 150 in each transport case
- Conforms to EN 149:2001

activated carbon ►



CNP3V FFP3 Face Mask

code: AR030

features:

- Approved class FFP3 protective mask, for protection against very small health-hazardous dry and liquid-borne particles
- The CN P3 V mask is fitted with a valve for exhalation, which helps to reduce the temperature in the mask, reducing condensation and moisture build-up
- Typical application areas include the chemical industry, protection against bacteria and viruses, lighter radioactive dust, etc
- CN P3 V masks are packed in individual hygienic plastic bags, with 15 in a box and 150 in each transport case
- Conforms to EN 149:2001

exhalation valve ►



CNP2V FFP2 Face Mask

code: AR028

features:

- Approved class FFP2 protective mask, for protection against health-hazardous dry and liquid-borne particles
- The CN P2 V mask is fitted with a valve for exhalation, which also helps to reduce the temperature in the mask, reducing condensation and moisture build-up
- Typical application areas include chemical dust, clay dust, concrete dust, etc
- CN P2 V masks are packed in individual hygienic plastic bags, with 15 bags in a box and 150 in each transport case
- Conforms to EN 149:2001

exhalation valve ►



P2SLAV Mask

code: AR034

features:

- This respirator is the same as the MKP2SL, but with an exhalation valve for greater working conditions
- These masks are to be used in the same situations and under the same conditions as the standard FFP2 masks without valve
- Conforms to EN 149:2001

exhalation valve ►





Duetta Twin Filter Half Face Mask

code: AR021

features:

- ▶ Excellent field of vision, unrestricted movement
- ▶ Twin filter technology gives comfortable balance to mask
- ▶ Non-allergenic
- ▶ Newly designed face seal gives optimum fit
- ▶ The mask consists of only a few parts for easy maintenance
- ▶ The one-piece harness adjustable headgear guarantees fit
- ▶ Fitting and removing the mask is possible without loosening the harness
- ▶ Easy safe fitting of filters through bayonet sockets
- ▶ The filters have a high absorption capacity, longer lasting in the workplace
- ▶ Clear safe filter concept, no confusing design problems
- ▶ If required additional pre-filters can be added
- ▶ Easy handling high efficiency
- ▶ Excellent wearer comfort
- ▶ Conforms to EN 149:2001



Duetta Prefilter Holder

code: AR026

features:

- ▶ Duetta Prefilter Holder



Duetta Pre-Filter code: AR/PLP1011

features:

- ▶ Duetta Prefilter



Deutta 205 Gas Combination Filter

code: AR024

features:

- ▶ AIBIEIKIP3 Deutta gas combination filter
- ▶ Conforms to EN 143



Deutta 2027 P3 Half Face Particle Filter 4 Pack

code: AR022

features:

- ▶ Deutta 2027 P3 Half Face Particle Filter
- ▶ Pack of 4
- ▶ Conforms to EN 143



Duetta A2P3 Filter 2 Pack

code: AR020

features:

- ▶ Duetta A2P3 Filter
- ▶ Pack of 2
- ▶ Conforms to EN 143



Purelite Xstream

P103000-2 Powered Head Shield

code: AR/P103000-2

features:

- ▶ Lightweight battery powered respirator
- ▶ Protects lungs from harmful dusts, water-based mists and fumes providing a constant supply of clean air through high efficiency filters
- ▶ Provides excellent protection for allergy sufferers
- ▶ Protects eyes and face against impact from flying debris and chemical splashes
- ▶ Exceptionally lightweight, quiet and comfortable to wear
- ▶ Self-contained and battery powered for up to 4 hours of continuous use extending up to 8 hours with optional second battery
- ▶ Easily adjusts to a wide range of head sizes
- ▶ Ready for instant use with easily replaced components
- ▶ Designed for long-term durability and low cost ownership
- ▶ Flip-up visor easily adjusts to any position
- ▶ Approved to EN 146 THP 2



Purelite Xstream

TH2P Filter for Purelite Xtreme

code: AR/PUR/XTREME

features:

- ▶ Conforms to EN 146



T2 Tornado Full Hood Respirator

code: AR036

features:

- ▶ Lightweight and compact
- ▶ Comfortable to wear, contoured waist mounted control unit prevents snagging
- ▶ Maintains optimum airflow to the headtop
- ▶ Low flow indicator with clear audible alarm
- ▶ Auxiliary outlet, useful for air tools (e.g. spray gun)
- ▶ Combined odour filter and silencer provide superior wearer comfort
- ▶ Integrated visual indication of oil contaminated air supply
- ▶ Fully adjustable
- ▶ Airline filter units – compatible air filter units for one or two users are included in the range
- ▶ Conforms to EN 1835



How does it work?

The nebuliser produces a mist measuring approximately 5 microns. If the wearer tastes the substance, the seal has been broken and the wearer must be re-tested.



Fit Test Kit code: AR040

features:

- ▶ Over the years awareness to Occupational health has greatly improved
- ▶ Misuse of Respiratory Protective Equipment (RPE) has been fairly commonplace
- ▶ From facial hair interfering with the seal on the face to tearing off the bottom strap of the respirator, to burning holes in the filter, allowing the wearer to smoke through it, has been common practice
- ▶ This is a fit test to prevent the above from occurring