



Occupational Health and Environmental Safety Products

Product innovation for the most demanding work environment.

Thanks to direct input from safety professionals worldwide, 3M innovation is an ongoing process. In the second of a 3-part series, you'll find an overview of products and technologies designed for a wide range of applications and workplace conditions. From maintenance-free respirators to supplied air systems no one offers a broader, more innovative line of respirators than 3M.

*Protecting people
at work, at home
for life.*

3M™ Powered & Supplied Air (P&SA) Respirators

3M™ Powered Air Purifying Respirators (PAPRs)



A PAPR is a powered air respirator system that uses a fan to deliver filtered air into a hood, helmet or full facepiece. There are many different PAPR configurations available. Depending on the working environments, select the PAPR style that best meets your needs.

Powered air systems also provide head, eye and face protection. They are available as face-mounted, helmet-mounted and belt-mounted configurations. PAPR systems include a headpiece, often a breathing tube, motor-blower unit, filters, cartridges and a battery.

3M™ Supplied Air Respirators (SARs)



3M™ Supplied Air Respirators are designed to deliver clean air to the worker. The air* can be supplied from a high pressure compressor, low-pressure pumps, or cylinders (bottled air). This clean, breathable air can be delivered to hoods, helmets, full facepieces, half facepieces and loose-fitting facepieces.

Supplied Air Respirators offer many advantages over traditional respiratory protection such as:

- Cooling or heating incoming air
- Fit testing only required on tight-fitting facepieces
- Low maintenance

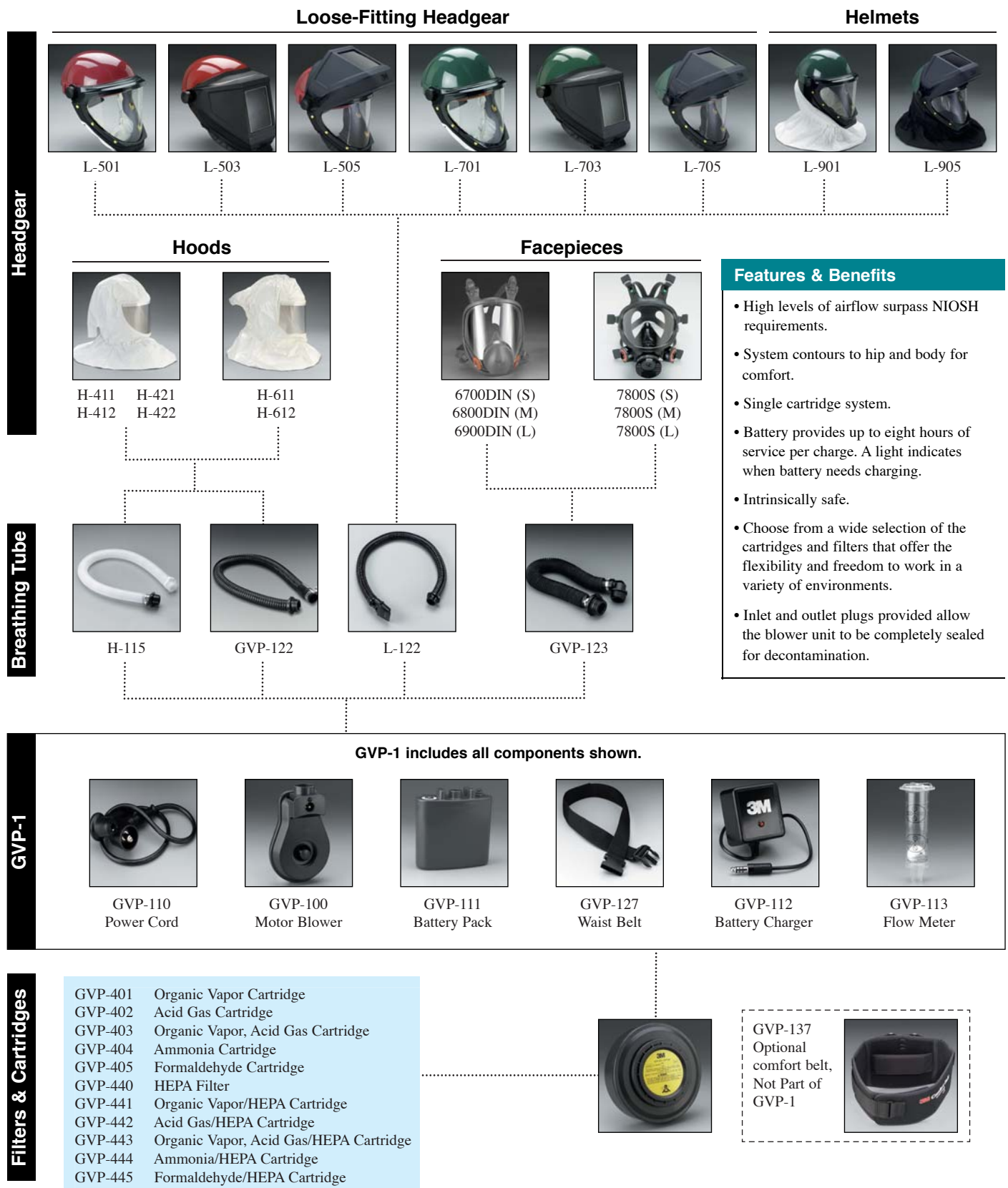
Supplied Air Systems are a good way to increase comfort, productivity and protection.

*It is the employer's responsibility to ensure that the compressed air used with any supplied air system meets the requirements for at least Grade-D breathing air per the Compressed Gas Association Commodity Specification G-7.1-1997 in the U.S.

3M™ Powered Air Respirators (PAPRs)

3M™ GVP-Series Belt-Mounted

The 3M™ GVP Series Belt-Mounted PAPR combines a high level of protection with exceptional performance and versatility. This innovative product is designed to operate with many different helmets, hoods and facepieces.




3M™ Powered Air Respirators (PAPRs)

3M™ Jupiter™



Breathing Tube options :

3M™ Breathing Tube



LIGHTWEIGHT POLYURETHANE BREATHING TUBE

Tubes are equipped with 3M's new quick-release connection system (QRS)



RUGGED CHEMICAL RESISTANT RUBBER BREATHING TUBE

3M™ Jupiter™ Parts



TYPE OF BATTERY & CHARGER :
3M™ BATTERY PACK (8-HOUR, 3 PIN) WITH CHARGER



TYPE OF FILTER & CARTRIDGES :

- P3 Filters (Particulates)
- A2P3 Cartridge (OV/Particulates)
- K1P3 Cartridge (AM/Particulates)
- A1B1E1P3 Cartridge (OV/Inorganic/AG/Particulates)
- A2B1E1K1P3 Cartridge (OV/Inorganic/AG/AM/Particulates)

Head Top options :

100 SERIES : Pharmaceutical, Laboratory, Agriculture



HT-101*

- Disposable headcover in white polypropylene material
- Wide view visor



HT-103*

- Face, hair and respiratory protection
- Wide view visor



HT-120*

- Made in white easy to clean material
- Wide view visor

400 SERIES : Grinding, Sanding, Handling, Fibre Glass, Painting



HT-401*

- HT-401 (with acetate visor) ideal for the paint-spray, working with glass-fibre/ resins or other applications where the balance of chemical resistance and eye impact protection (low energy: EN166: F) is required
- Optional hood covers hair and neck
- Visor overlays maintain the clear-view



HT-402*

- HT-402 (with polycarbonate visor) ideal for grinding, sanding, or other applications requiring medium impact eye protection (EN166:B)
- Optional hood covers hair and neck
- Visor overlays maintain the clear-view

800 SERIES : Heavy Industrial Engineering



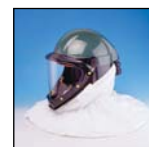
HT-820*

- Dark red helmet shell
- For use in areas where there is a risk of the head colliding with hard, stationary objects
- Self-positioning face seal
- Balanced design with the multi-adjustable head cradle
- Internal airduct for most comfortable and effective airflow
- Easy to dismantle, reassemble and maintain
- Supplied as standard with polycarbonate visor; optional acetate replacement
- Optional chin-strap



HT-840*

- Dark green helmet shell
- Self-positioning face seal
- Balanced design with the multi-adjustable head cradle
- Internal airduct for most comfortable and effective airflow
- Easy to dismantle, reassemble and maintain
- Supplied as standard with polycarbonate visor; optional acetate replacement
- Optional chin-strap



HT-880*

- Dark green helmet shell
- Comfortable elasticated neck seal
- Balanced design with multi-adjustable head cradle
- Internal airduct for most comfortable and effective airflow
- Easy to dismantle, reassemble and maintain
- Supplied as standard with polycarbonate visor; optional acetate replacement
- Optional Cordura™ shroud instead of Tyvek™
- Optional chin-strap

*Modular headtop with QRS connector for use with modular air-sources

3M™ Powered Air Respirators (PAPRs)

3M™ Jupiter™ Turbo Unit

FLEXIBILITY

- The 3M™ Jupiter™ turbo unit can be used with 10 different headtops with only 1 connection system. This makes it unique and versatile; with the correct headtop and breathing tube, it can be made suitable for many applications including the following types of work:

- Pharmaceutical
- Agricultural
- Welding
- Spraying
- Utilities
- Hazardous environments*
- Mining
- Work in tight spaces
- Laboratory
- Light industrial
- Grinding
- Handling fibreglass
- Work in chemical environments
- Engineering*
- Foundry work
- General maintenance

*Intrinsically Safety System Available

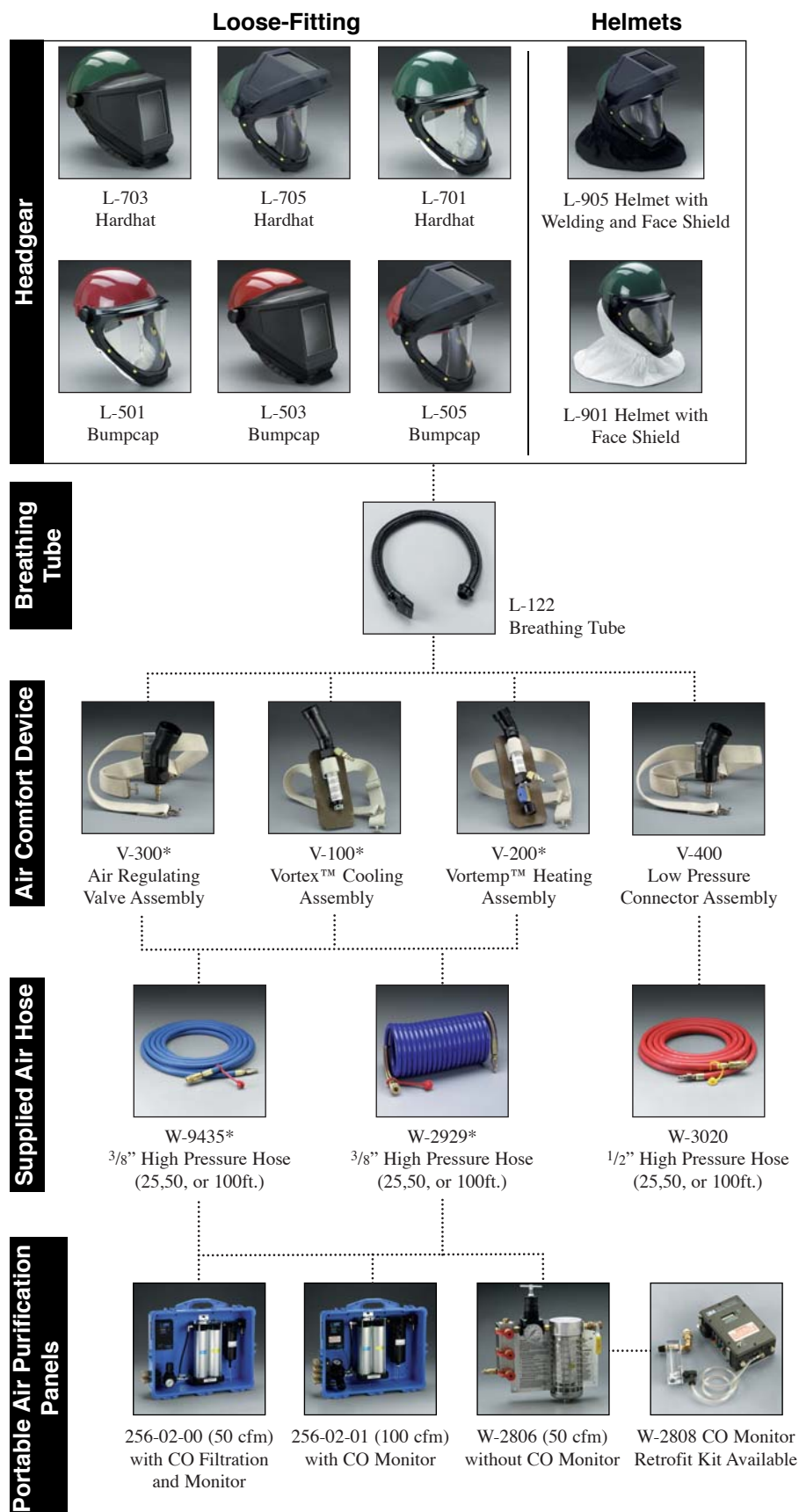


3M Decon Belt, allow user to undergo decon shower with the system.



3M™ Supplied Air Respirators

3M™ L-Series Headgear Loose-Fitting & Helmets



One of the most popular styles of positive pressure respirators is the loose-fitting facepiece. It combines excellent respiratory protection with limited hard hat protection, secondary eye and face protection and comfort. This style of headgear allows the wearer to keep his beard and not require fit-testing. The helmet options are available for general purpose or welding.

Features & Benefits Helmets

- Liftable face shield
- Rugged outer shell
- Many shroud options
- Adjustable ratchet
- Helmets can be converted for general purpose or welding

Features & Benefits Loose-Fitting Facepieces

- Liftable lens
- Hard hat options
- Can be worn with glasses
- No fit-testing required
- Excellent vision
- No breathing resistance

Suggested Applications

- | | |
|------------------|-----------|
| • Chipping | • Welding |
| • Grinding | • Loading |
| • Spray painting | • Bagging |

WARNING

These respirators help reduce exposure to certain airborne contaminants. Misuse may result in sickness or death. Before use, the wearer must read and understand the User Instructions provided as part of the product packaging. Call 3M OH&ES Division Technical Service for more information.

Important

Before using these respirators, you must determine the following:

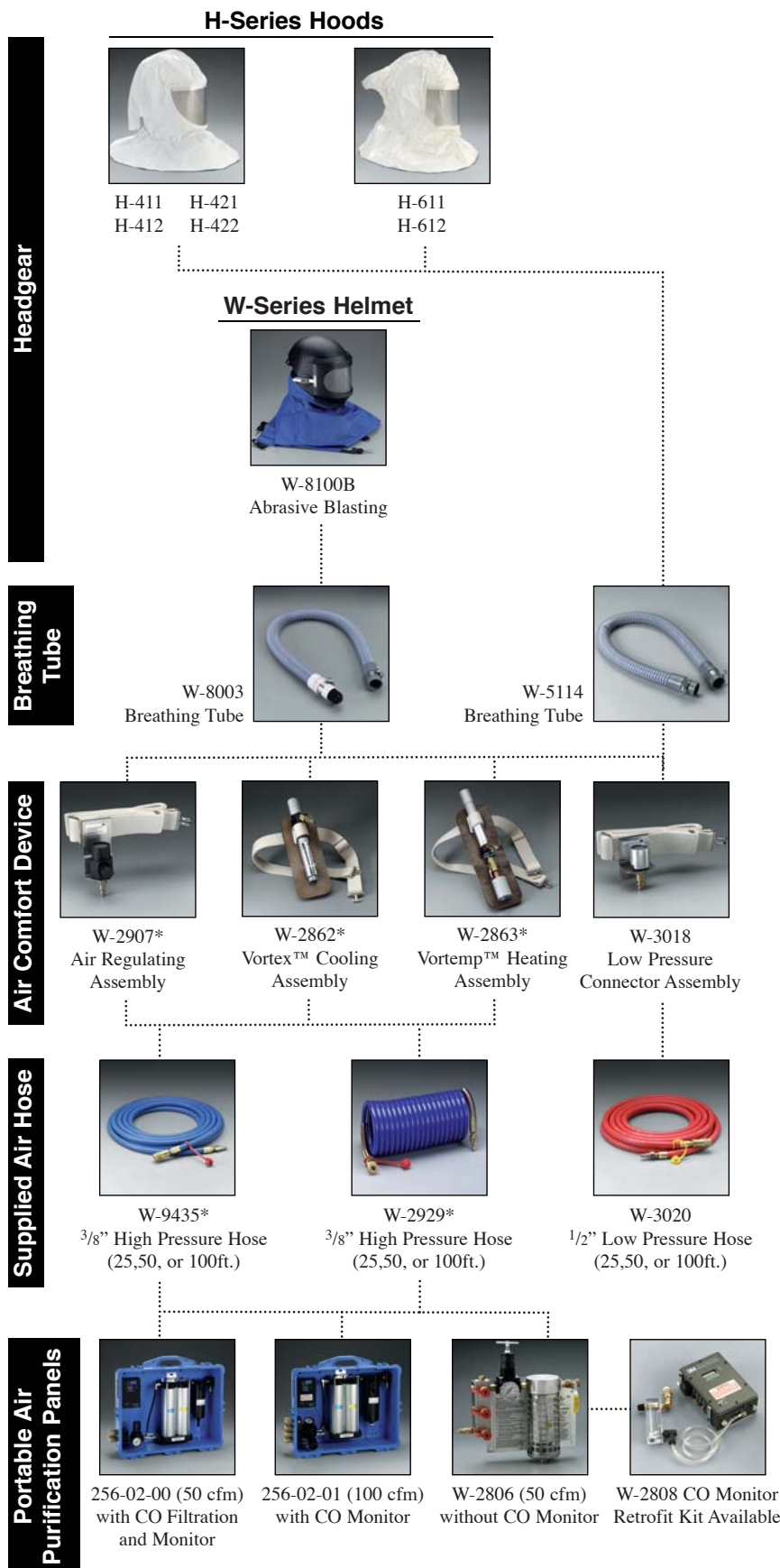
1. The type of contaminant(s) for which the respirator is being selected.
2. The concentration level of contaminant(s).
3. Whether the respirator can be properly fitted on the wearer's face.

All respirator instructions, warnings and use and time limitations must be read and understood by the wearer before use.

*Also available with stainless steel fittings. When ordering, please add "SS" to end of product number.

3M™ Supplied Air Respirators

3M™ W-Series Helmets & H-Series Hoods



H-Series Hoods

3M Hoods allows comfortable protection from the contaminants. With Voltex™ cooling assembly, the incoming air can be cooled by as much as 50°F.

Most Popular Models

H-411	Hood Assembly, with Collar and Cap Suspension, Tychem® QC
H-412	Hood Assembly, with Collar and HardHat, Tychem® QC
H-421	Hood Assembly, with Inner Shroud and Cap Suspension, Tychem® QC
H-422	Hood Assembly, with Inner Shroud and Hardhat, Tychem® QC
H-611	Sealed-Seam Hood Assembly, with Collar and Cap Suspension, Tychem® SL
H-612	Sealed-Seam Hood Assembly, with Collar and HardHat, Tychem® SL

Suggested Applications

- Spray painting
- Pharmaceuticals manufacturing
- Chemical handling/mixing
- Pesticide operations
- Light grinding
- Shake-out
- General maintenance

W-Series Helmets

The W-Series helmets are very durable products for the toughest environments.

- Double shroud system distributes air over the upper torso, providing additional comfort.
- Removable inner shell for easy cleaning / decontamination.
- Helmets come with durable reusable shrouds.

Suggested Applications

- Chipping
- Grinding
- Spray painting
- Welding
- Loading
- Bagging

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3M™ Supplied Air Respirators

3M™ Dual Airline Tight-Fitting Facepieces

Facepieces



7800S Series
Full Facepiece



6000 Series
Full Facepiece



7500 Series
Half Facepiece



6000 Series
Half Facepiece

Standard Kits



Back-Mounted Adapter Kits
SA-2000 (High Pressure)
SA-2000LP (Low Pressure)

Combination Kits



Combination Back-Mounted Adapter Kits
SA-2100 (High Pressure)
SA-2100LP (Low Pressure)



Front-Mounted Adapter Kits
SA-1000 (High Pressure)
SA-1000LP (Low Pressure)



Combination Front-Mounted Adapter Kits
SA-1100 (High Pressure)
SA-1100LP (Low Pressure)

Adapter Kits

Supplied Air Hose



W-9435
3/8" High Pressure Hose
(25, 50, or 100ft.)



W-2929
3/8" High Pressure Hose
(25, 50, or 100ft.)



W-3020
1/2" Low Pressure Hose
(25, 50, or 100ft.)

Portable Air Purification Panels



256-02-00 (50 cfm)
with CO Filtration
and Monitor



256-02-01 (100 cfm)
with CO Monitor



W-2806 (50 cfm) without
CO Monitor



W-2808 CO Monitor
Retrofit Kit Available

3M offers the wearer tight-fitting half and full facepiece airline respirators that provide superior comfort and convenience. The 3M systems help you work with greater safety and efficiency.

Features & Benefits

- Front and back mount options
- High or low pressure options
- Three sizes available in four different models
- Check valves that allow for negative or positive pressure use
- Speaking diaphragm options
- Scratch-resistant polycarbonate lenses

Suggested Applications

- Spray painting
- Welding
- Chemical handling
- Pharmaceuticals
- Abatement
- Maintenance

WARNING

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Important

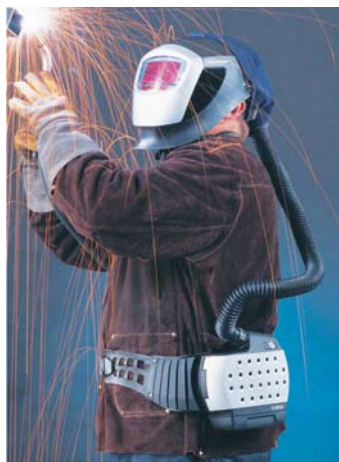
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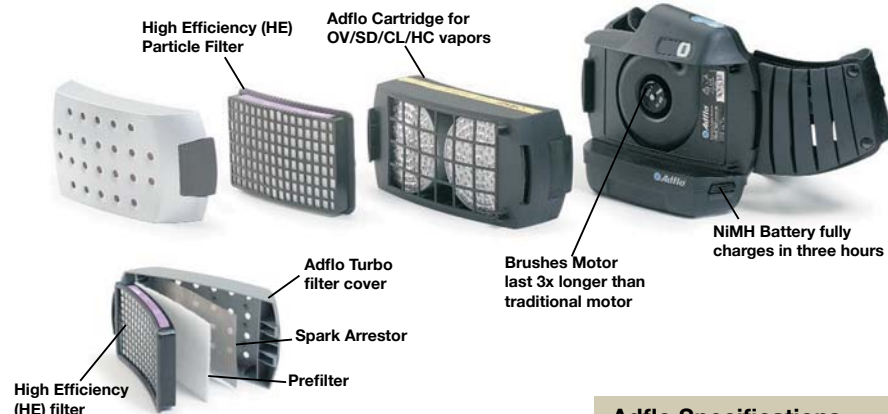
3M™ Welding Products

3M™ Speedglas™ with Adflo™ (PAPR) Eye, Face and Respiratory Protection



Are your employees working in exhausting, hard-to-breathe-in environments? Let them try one of our many positive pressure systems for just a couple of hours. That's all it takes to realize how comfortable work can be. Comfort can help lead to more work time.

Two Respirators In One!



High Efficiency (HE) filter

We've reinvented the powered air-purifying respirator for welders. The result is Speedglas® with Adflo®:

A lightweight, compact, all-in-one system. Its exclusive "stackable" configuration means that the Adflo cartridge can be "stacked" onto the High Efficiency (HE) particulate filter for additional protection against organic, sulfur dioxide, chlorine, and hydrogen chloride vapors. In effect, it's two systems in one, allowing increased user flexibility to adapt to changing welding applications. And you can selectively replace either the particle filter or the Adflo OV/SD/CL/HC cartridge as needed; you don't have to change both filters at the same time!

The Adflo system has no external batteries, no battery cables, and no sharp corners. Its slim profile is designed to go into tight spaces. And it's the most ergonomically perfect PAPR available to welders.

Adflo Specifications

Assigned Protection Factor: 25
Airflow (nominal): 6+ cfm (170+ lpm) minimum
Battery: NiMH
HE: up to 12 - 13 hrs/charge
HE + OV/SD/CL/HC: up to 5.5 - 6 hrs/charge
Battery Charging Time: 3 hours
System Weights
Helmet assembly w/ 9000X lens:
1.79 lbs (0.81 kg)
Adflo Turbo w/Battery, Breathing Tube & Belt:
4.48 lbs (2.03 kg)
OV/SD/CL/HC Cartridge: 1.79 lbs (0.81 kg)
Operating Temperatures:
23° to 131°F (-5° to 55°C)
Respirator Approval: NIOSH 42 CFR 84

Exclusive "stackable" configuration adapts to changing welding applications.



Environmentally-friendly NiMH battery charges in less than 3 hours with a smart charger that won't ever overcharge.



System Intelligence: Constant Airflow Rate, regardless of battery charge and filter loading. Audible and visual alarms signal low airflow and low battery charge.



The unique belt design has a solid leather front, cut narrow to allow the welder to bend forward easily. Along the welder's sides, the leather becomes wider, with large ventilation holes for maximum breathability. The turbo unit securely attaches to, and is nestled between, the two plastic arms of the belt so the turbo's weight is evenly distributed across the entire lower back and upper hips. The plastic arms are vertically rigid but with pleats so the welder can move and turn with freedom.



Exclusive airflow pattern means perfectly-distributed air throughout the entire breathing zone of the helmet.



Complete Systems Adflo® Powered Respirator

Complete Speedglas welding helmet or face shield with Adflo powered respirators, air hose, air flow indicator, belt, spark arrestor, prefilter, particle filter, battery and battery charger.

Speedglas FlexView with Adflo



Part Number : 44 66 80
Welding lens : with Speedglas 9002X shade 9-13

Speedglas with Adflo



Part Number : 46 66 80
Welding lens : with Speedglas 9002X shade 9-13

Speedglas FlexView with safety helmet and Adflo



Part Number : 44 68 80
Welding lens : with Speedglas 9002X shade 9-13

Speedglas with safety helmet and Adflo



Part Number : 47 66 80
Welding lens : with Speedglas 9002X shade 9-13

ClearVisor/Visor with Adflo



Part Number : 89 90 20
Visor Type : with polycarbonate face shield

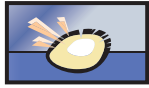
Part Number : 89 90 21
Visor Type : with acetate face shield

3M™ Welding Products

Speedglas® 9002

Examples of New Delay Function :

You are doing high amp welding on stainless steel, creating an extremely bright weld pool. When you stop for a second to reposition the electrode you don't want to immediately see the brilliant glowing light from hot weld pool, so you set Delay to "+" to add time before the lens switches from dark to light.

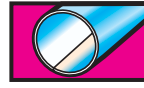


You are quickly making a series of tack welds. You want to be able to rapidly check each weld before moving to the next position, so you set Delay to "-" to reduce the time for dark-to-light switching.



Examples of Improved Sensitivity Function :

You are welding pipe or tube with partially obscured arcs. (Or your hands are partially blocking the arc.) By selecting a greater Sensitivity, you can get reliable darkening even with hidden areas.



You are using a new TIG inverter with settings as low as 1 amp and virtually flat frequency. Select a greater Sensitivity and the 9002's photosensors will sense the arc for reliable auto-darkening.



Adjust With Gloves On

The 9002's new membrane-covered control buttons let you change settings or turn on/off with your gloves on. The membrane seals the lens from dirt. Much faster than analog knobs, too.



Now, You're Ready for Whatever They Throw at You!

Welding Products 9002 Specifications

	9002X
CO ₂ reduction	Yes
Heat-reflecting front	Yes
Available with SideWindows™	Yes
Available with respiratory protection	Yes
Available with hard hat	Yes
Weight, complete helmet	17.39 oz / 493 g
Material, helmet	Polyamide nylon
Color, helmet	Black / Silver
Safety standards	ANSI Z87.1
Viewing area	4.09" x 2.13" (104 x 4 mm)
Light shade	Shade 3
Dark shade	9, 10, 11, 12 & 13
Off (Fail-Safe) shade	Nominal 5
Battery type	Lithium 3 Volt (Two)
Solar cell	Yes
Battery life time (average)	3,000 hours
Operating temperature	23°F to 131°F -5°C to +55°C
Part #, helmet with lens Add "H" for Hard Hat, "SW" for SideWindow™	14-0012-31
Part #, lens only	04-0000-21

Choose from...

3 Delay Settings...

to match how quickly the lens changes from dark-to-light to the job. (Lens always provides full UV/IR protection.)

Lens Shade	"-" Setting	*Normal Setting	"+" Setting
9	60	100	150
10	60	150	200
11	100	200	300
12	100	250	400
13	100	300	500

*All speeds in milliseconds

4 Sensitivity Settings...

to match the lens' sensitivity to the job.

Situation	Sensitivity Setting
Two welders, working nearby	1
MIG/MAG welding	2
Low amp TIG welding	3
Hidden arc TIG tube welding	4
Grinding	1 or 2

5 Shade Settings...

to match the lens' shade to the type of welding.



Welding Products 9002X

- Extra large 4.09" x 2.13" viewing area
- Solar panel extends battery life to 3000 hours



SideWindows™ Lenses Improve Visibility, Safety & Comfort

Now welders can have peripheral vision with Welding Products SideWindows™ helmets. The two shade 5 side lenses increase the viewing area by over 100%. SideWindows lenses allow welders to see potentially-hazardous peripheral objects, such as protruding beams, vehicles, and other welders, with the helmet down. The peripheral vision lenses also permit welders to easily move around their work area with constant protection from UV/IR radiation.

The two side lenses are designed solely for peripheral vision; the welder continues to view his own arc through the center (auto-darkening) lens.



Speedglas 9002X
Part Number
40 18 80



Speedglas FlexView 9002X
Part Number
44 18 80

3M™ Welding Products

Speedglas® 9002

Welding Products

ProTop



Protop Speedglas 9002X
Part Number : 48 38 80

The new Welding Products ProTop combination hard hat, welding helmet, and auto-darkening lens system is especially designed for welders working in areas with overhead hazards, such as cranes, protruding beams and moving machinery. The key to the Welding Products ProTop system is the exclusive pivot mechanism that connects the welding helmet to the hard hat. Traditional welding hard hats create a very high center-of gravity when the welding helmet is raised; as a result, the user feels off-balance, and the leveraged weight puts additional strain on neck muscles. On the other hand, the ProTop pivot mechanism has two sets of axes: one to lift the welding helmet away from the welder's face, and another axis to "nest" the welding helmet down low over the hard hat, in a perfectly balanced, locked-down position. The welding helmet automatically unlocks when the welder pulls it back down into position over the face. In addition to having a much more comfortable (lower) center-of-gravity, the nested welding helmet is much less likely to bump into obstacles as the welder moves around the work area.

Speedglas® Utility An Entry-Level Auto-Darkening Lens & Helmet



Auto Off—Turns off lens 30 minutes after last arc.
Immediate Off—Simply hold ON/AUTO OFF
button down for two seconds.

Our most affordable auto-darkening lens! The Welding Products Utility is especially designed for MIG (GMAW) and stick (SMAW) welding only. The Welding Products Utility is perfect for the serious part-time welder, as well as for maintenance welding on the farm equipment, automobiles, and any other MIG or stick project. Two lens models: dark shade 10 or 11.

It's the most affordable auto-darkening lens and helmet from world's leading manufacturer.

The Speedglas Utility comes in 2 shades : -

- i) Speedglas Utility Shade 10
Part Number : 40 81 10
- ii) Speedglas Utility Shade 11
Part Number : 40 81 11

- UV/IR protection is constant even when lens is OFF or in the shade 3 light state.
- Super durable, extremely lightweight, chemical and heat resistant nylon helmet.
- Outstanding optical clarity.
- Extremely dependable performance.

Speedglas Utility Specifications

Light Shade: 3
Dark Shade: factory-set at 10 or 11
Off (Fail-Safe) Shade: nominal 5
Viewing Area: 3.57" x 1.68" (91 x 43mm)
Weight, Helmet with Lens: 17.14oz (486g)
Battery Life (Average): 2000 hours

3M Innovation gives you ...

More *Options*
More *Innovation*
More *Solutions*



For Negative Pressure Respirators - First Responder Products - Hearing Protection Products - Air Monitoring Systems - Eye Protection Products - Head Protection Products, refer to **Volume 1**



For Sorbents, refer to **Volume 3**

Innovation is our inspiration. It represents quality, excellence, customer and technical service, education and new products - all designed to meet your workplace protection needs. Innovation reinforces our reputation as a progressive research and development company that creates imaginative technologies, breakthrough products and unique solutions. Our goal is to help protect employees from workplace hazards and be your preferred manufacturer of health and safety products.

Innovation helps us respond to change, as customers continue to expect and demand more. As they should. And we will deliver. Today 3M offers a more complete array of health and safety products than ever before. More options. More innovation. More solutions.

We strive to earn your loyalty with our continuing commitment to leadership in the industrial health and safety market. Because, after all, our brand is our promise.



**Occupational Health and
Environmental Safety Division**

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