



# Adflo™ Powered Air Respirator



## Data Sheet

Valid for model produced 2006 from serial number xxxxxx

### Description:

The 3M™ Adflo™ Respiratory System is a combined face and breathing protection device, for increased comfort and safety in welding.

The Adflo unit is equipped with a particle filter which removes particles from the air.

The Adflo unit provides a constant airflow independent of filter combinations and clogging.

The Adflo unit can also be equipped with a gas filter (for example A1B1E1).

The Adflo unit supplies air to the head top via the connecting breathing tube.

The airflow creates a slight positive pressure which together with the sealing to the face prevents particles and other contaminants from entering the head top.

The Adflo unit has a three bar battery indicator. (see figure). When all bars are illuminated the battery has full capacity.

In addition the Adflo unit also has a five step particle filter indicator (see figure). The figure illustrates the expected runtime versus particle filter clogging. The standard battery runtime is shown on the left axis and the heavy-duty battery runtime is shown on the right axis.

On the horizontal axis, green and red LEDs shows the particle filter clogging.

**NOTE!** The start point is different when a gas-filter is added. See figure.

The figure is also made as a sticker attached to the Adflo unit or particle filter packaging material.

**NOTE!** The unit must not be used with other than approved headtops and filters.

### Applications:

The Adflo Respiratory System is designed to provide a supply of filtered air from the Adflo unit, via a breathing tube, to a head top. The equipment can be used in environments which require a class TH2 P, TH2 A1B1E1 P or TH2 A2 P breathing protection device. The choice of breathing equipment is governed by the concentration and type of contamination found in the ambient air. The complete system protects against particulate contamination and if the gas filter is used, against certain gaseous contamination.

### Approvals:

The complete system is a breathing protection device complying with EN 12941:1998, class TH2 P (SL), TH2 A1B1E1 P (SL) or TH2 A2 P (SL).

This product, when used as part of a 3M Approved system has been shown to meet the Basic Safety

Requirements under Article 10 and 11B of the European Directive 89/686/EEC and is thus CE marked.

The product was examined at the design stage by: Inspec Certification, Upper Wingbury, Courtyard, Wingrave, Aylesbury, Buckinghamshire, HP22 4LW (Notified Body number 0194).

The Adflo Respiratory System also complies with the requirements of European Standards EN 61000-6-3 Emission and 61000-6-2 Immunity (EMC electromagnetic compatibility directive 89/336/EEC).

### Standards:

EN 12941:1998 Respiratory protective devices – Powered particle filtering devices incorporating helmets or hoods – Requirements, testing, marking.

TH2 P (SL) classification of the unit with regards to protection when using particle filters or odour filter in combination with particle filters. The number "TH2" defines the level of protection (inward leakage) within the classification, whilst the letter P indicates use of a particulate filter and letters "SL" shows that the filter has been tested against particles of liquid and solid matter.

TH2 A1B1E1P and TH2 A2P classification of the unit with regards to protection when using gas filters. The letters "A", "B" and "E" indicate that the filter provides protection against organic, inorganic and acid gases as defined by the standard and the number describes the filter capacity. The number "TH2" and letter P are defined as above for particulate filter protection.

### Additional standards:

EN 61000-6-3:2001 Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments

EN 61000-6-2:2001 Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for Industrial environments

### Materials

**Plastics:** Polyamide/ABS

**Electronics:** Printed circuit board assy

**Batteries:** NiMH 7,2/10,8 Volt

## Spare parts and accessories:

| Part no  | Description                    |
|----------|--------------------------------|
| 83 76 20 | Battery (standard 7,2 Volt)    |
| 83 76 21 | Battery (heavy duty 10,8 Volt) |
| 83 31 01 | Battery charger                |
| 83 40 00 | Breathing tube                 |
| 83 40 03 | Breathing tube, cover          |
| 83 40 05 | Breathing tube, rubber         |
| 83 60 00 | Spark arrestor                 |
| 83 60 10 | Prefilter, pkg of 5            |
| 83 70 10 | Particle filter P SL           |
| 83 71 10 | Odour filter                   |
| 83 71 20 | Odour filter pad               |
| 83 72 42 | Gas filter A1B1E1              |
| 83 75 42 | Gas filter A2                  |

## Use Limitations:

The 3M™ Adflo™ Respiratory System must not be used:

- if the Adflo unit does not supply enough air (low flow alarm).
- in environments where there is an immediate danger to IDLH (health or life).
- in environments where the oxygen concentration falls below 19.5%.
- in confined spaces with limited air supply.
- if the user is not sure about the contamination present in the ambient air.
- in environments which are so strongly contaminated that if the equipment were to stop working, exposure would lead to severe injury.
- in fire hazard or explosive environments.
- when the breathing tube might make a loop and get caught up by something in the surrounding area.

## Technical specifications:

|                             |                                                                                                        |
|-----------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Weight:</b>              | 1160 g (Adflo unit with particle filter)<br>370 g (Adflo unit belt)<br>140 g (Standard breathing tube) |
| <b>Battery type:</b>        | 7,2 V and 10,8 V NiMH<br>(Charging time: max. 4 hours)                                                 |
| <b>Range of temperature</b> |                                                                                                        |
| <b>Use:</b>                 | -5°C - +55°C                                                                                           |
| <b>Storage:</b>             | -20°C - +55 °C                                                                                         |

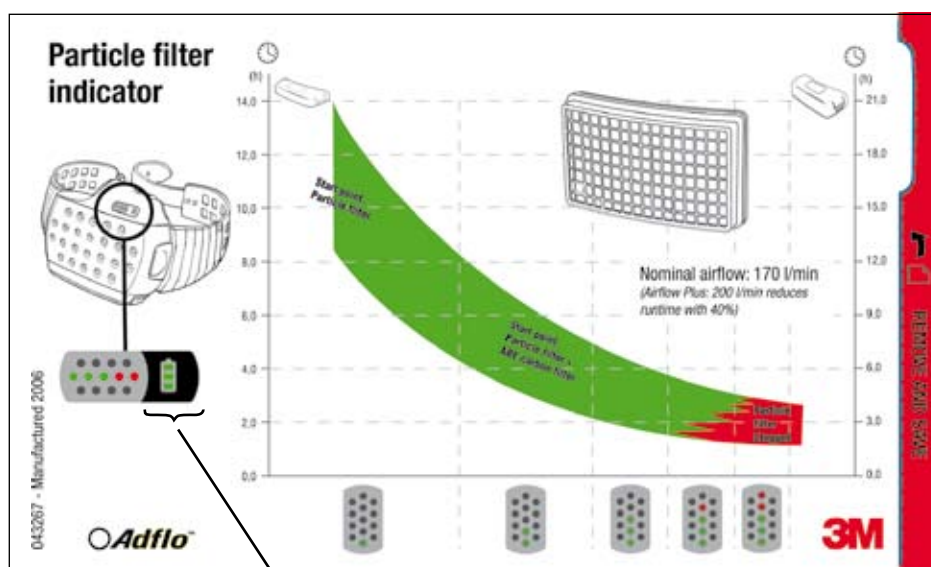
## User instructions:

1. Start the Adflo unit by pressing the ON button. One green light illuminates (nominal airflow 170 l/min).
2. Pressing the ON button again makes a second green light illuminate (airflow plus 200 l/min).
3. Pressing the ON button a third time makes the Adflo unit go back to the first nominal airflow and only one green light is illuminated.
4. To switch the Adflo unit off, press the OFF button for at least 1 second.

**NOTE!** If the red light illuminates together with an audible warning, this indicates that the airflow is too low. This takes place at manufacturer's minimum design flow rate. If the low flow alarm is active more than 2 minutes, the unit will shut off.

**NOTE!** When a brief audible warning is given and the battery indicator flashes, the battery needs to be charged. If the audible warning changes to continuous short tones, the battery is totally flat and the unit will shut off within 20 seconds.

**NOTE!** When the red indicators are illuminated, you can expect a short battery runtime and we recommend replacing the particle filter with a new clean particle filter. With a clean particle filter you can expect longer runtime. The graph shows the relation between runtime in hours and the particle filter clogging. For detailed information see figure.



Battery  
indicator