

Type C Continuous-Flow Class – Approval No. TC-19C-154



Bullard CC20 Respiratory Systems provide a continuous flow of air from a remote air source via airline. The flow of air is delivered to the respirator wearer through a patented air delivery system. CC20 Series respirators offer protection from airborne contaminants that are not immediately dangerous to life or health (IDLH), or that do not exceed concentrations allowed by applicable OSHA, MSHA, EPA, NIOSH or ACGIH regulations and recommendations, or any other applicable regulations for continuous flow airline respirators.

CC20 Series airline respirators are approved by NIOSH (TC-19C-154 Type C). Bullard has determined that these respirators may be used to provide respiratory protection in general purpose applications, including pharmaceutical manufacturing, chemical and pesticide handling, tank cleaning, spray painting and other industrial or agricultural applications in which hazardous compounds are present.

Bullard hoods are available in 13 different styles and sizes, including a loose-fitting facepiece style with a partial facial seal. Bullard hoods will accommodate limited facial hair without compromising the level of protection. Facial hair must not interfere with or protrude under the facial seal on the 20LF or 20LF2 style hoods.

The hood covers are held in place by snap-in replaceable suspensions or, in the case of the loose-fitting facepiece hoods, a sewn-in elastic suspension. Breathing air is supplied from a breathing tube connected to the back of the hood.

CC20 Series respirators are compatible with breathing air sources such as breathing air compressors or Bullard Free-Air® Pumps. Bullard offers the appropriate approved breathing tube, flow control device and air supply hose to connect the CC20 Series respirator to these breathing air sources.

CC20 Series respirators are approved by NIOSH for use with optional Bullard climate control devices. Contact Bullard or its local authorized distributor for more information about these and other accessories for CC20 Series respirators.

All Bullard parts must be present and properly assembled to constitute a NIOSH approved respirator.

For technical assistance, contact Bullard Technical Support at 877-BULLARD (285-5273) or 859-234-6616.

**NOTE**

Bullard CC20 hoods are also NIOSH approved for certain PAPR configurations. Please refer to your Bullard PAPR manual or call Customer Service at 877-BULLARD (285-5273).

**WARNING**

Read all instructions and warnings before using these respirators. Failure to follow these instructions could result in death or serious injury. Save this manual for future reference.

The CC20 Series Airline Respirators are not approved for abrasive blasting.

The CC20 respirator's air source must supply clean, breathable air, Grade D or better, at all times. The CC20 respirator does not purify air or filter out contaminants. Connecting the CC20 respirator to a line supplying nitrogen or other harmful gases could cause death or serious injury.



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## Component Concept

### CC20 Airline Respirators

Bullard CC20 Series airline respirators consist of five components (Figure 1); all must be present and properly assembled to constitute a complete NIOSH approved respirator.

- ① **Respirator Hood:** Available in a variety of styles (including loose-fitting facepiece) and in two Tychem®-based materials.
- 20TJ Tychem QC basic hood and headband suspension
  - 20TP Tychem QC basic hood and headband, with solvent-resistant polyester lens
  - 20TIC Tychem QC hood with inner bib and headband
  - 20TPC Tychem QC hood with inner bib and headband, with solvent-resistant polyester lens
  - 20TICH\* Tychem QC hood with inner bib for use with head protection
  - 20TICS Tychem QC hood with taped and sealed seams, with inner bib, long outer bib, and headband suspension
  - 20SIC Tychem SL hood with taped and sealed seams, with inner bib, long outer bib, and headband suspension
  - 20SICH\* Tychem SL hood with taped and sealed seams, with inner bib and long outer bib for use with head protection
  - 20LFM Tychem QC loose-fitting facepiece hood, facial seal, sewn-in suspension, lightweight breathing tube, small/medium (approx. head sizes 6 1/2 - 7)
  - 20LFL Tychem QC loose-fitting facepiece hood, facial seal, sewn-in suspension, lightweight breathing tube, large (approx. head sizes 7 1/2 - 8)
  - 20LF2S Tychem QC narrow profile loose-fitting facepiece hood, facial seal, sewn-in suspension, lightweight breathing tube, small (approx. head sizes 6 - 7)
  - 20LF2M Tychem QC narrow profile loose-fitting facepiece hood, facial seal, sewn-in suspension, lightweight breathing tube, medium (approx. head sizes 7 - 8)
  - 20LF2L Tychem QC narrow profile loose-fitting facepiece hood, facial seal, sewn-in suspension, lightweight breathing tube, large (approx. head sizes 8 - 9)

\*Requires one of the following Bullard hard hat models: C30, C30R, S51 or S51R.

### NOTE

Optional accessories include 20LCL lens covers, 20RT ratchet headband suspension, 20NC or ES42 chin strap.

- ② **Headband Suspension or Head Protection:** Hard hat models C30, C30R, S51 or S51R or suspension models 20TG and 20RT. 20LFM, 20LFL, 20LF2S, 20LF2M AND 20LF2L have sewn-in elastic headband suspensions.
- ③ **Breathing Tube for CC20 Respirators:**
- 20BT, RTBT For 20TJ, 20TIC, 20TICH, 20TICS, 20SIC, and 20SICH
  - 20LFBT For 20LFM, 20LFL, 20LF2S, 20LF2M, 20LF2L
  - 20LFBTXL For 20LFM, 20LFL, 20LF2S, 20LF2M, 20LF2L
  - 20LFBTXS For 20LFM, 20LFL, 20LF2S, 20LF2M, 20LF2L
- ④ **Flow Control Device:** Connects respirator hood to air supply hose. Available with a choice of quick-disconnect fittings, constant or adjustable airflow control and optional climate control devices.

| Flow Control Device*            |      |            |      |                              |           |                 |          |        |           |           |
|---------------------------------|------|------------|------|------------------------------|-----------|-----------------|----------|--------|-----------|-----------|
| Without Climate Control Devices |      |            |      | With Climate Control Devices |           |                 |          |        |           |           |
|                                 |      |            |      | Cold Only                    |           |                 | Hot/Cold |        |           |           |
| Constant                        |      | Adjustable |      |                              |           |                 |          |        |           |           |
| PART NO.                        | F30  | F34        | F40  | F42                          | AC100030  | AC100034        | DC5040   | DC5042 | HC240030  | HC240033  |
|                                 | F30B | F35        | F40B | F43                          | AC100030B | AC100035B       | DC5040B  | DC4043 | HC240030B | HC240034  |
|                                 | F30S | F35B       | F40S | F44                          | AC100030S | AC100037        | DC5040S  | DC5044 | HC240030S | HC240035B |
|                                 | F31  | F35S       | F41  | F47                          | AC100031  | Frigitron 2000  | DC5041   | DC5047 | HC240031  | HC240037  |
|                                 | F32  | F37        |      |                              | AC100032  | Frigitron 2000B |          |        | HC240032  |           |
|                                 | F33  |            |      |                              | AC100033  | Frigitron 2000S |          |        |           |           |

\*All flow control devices require the 20BT breathing tube to constitute complete breathing tube assemblies. Breathing tube must be purchased separately.

- ⑤ **Air Supply Hose:** Connects breathing tube to air source supplying clean breathable air.

| Hose for High Pressure Compressed Air Source  |  | Hose for Low Pressure Ambient Air Pump  |  |
|---|--|---|--|
| <b>V5</b><br>3/8" Coiled I.D. Hose<br>V5 Starter/Extension Hose<br><br>Available in 25 and 50 foot lengths with a variety of 1/4" and 1/2" quick-disconnect fitting styles and materials. See parts list (page 18) for details. |  | <b>V10</b><br>3/8" I.D. Hose<br>469 Starter Hose<br>545 Extension Hose<br><br>Available in 25, 50, and 100 foot lengths with a variety of 1/4" quick-disconnect fitting styles and materials. See parts list (page 18) for details. |  |
|   |  | <b>V20</b><br>1/2" I.D. Hose<br>V20 Starter/Extension Hose<br><br>Available in 50 and 100 foot lengths with 1/2" quick-disconnect Industrial Interchange fittings. See parts list (page 18) for details.                            |  |

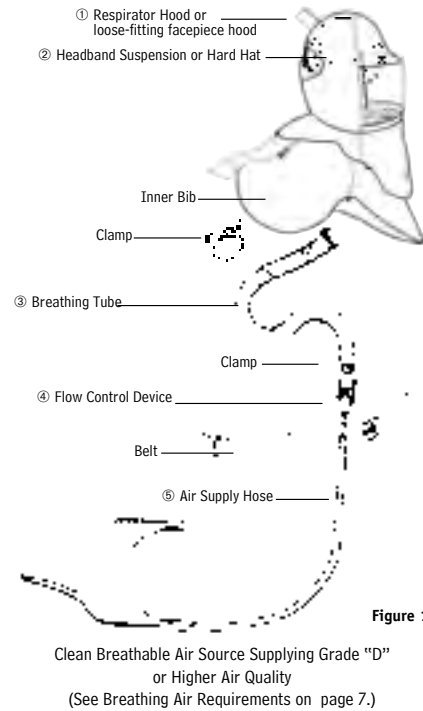


Figure 1

Clean Breathable Air Source Supplying Grade "D" or Higher Air Quality (See Breathing Air Requirements on page 7.)

### WARNING

Failure to heed these warnings could result in death or serious injury.

- Improper respirator use could result in death or serious injury. Improper use may also cause certain life-threatening delayed lung diseases such as silicosis, pneumoconiosis or asbestosis.
- This respirator, when properly fitted and used, significantly reduces, but does not completely eliminate, the breathing of contaminants by the respirator wearer. Where excessive airborne contaminant levels are found, you may obtain better respiratory protection from other types of respiratory protection equipment such as a valve-operated pressure-demand airline respirator or a pressure-demand self-contained breathing apparatus respirator.
- Regulations require that the employer provide training to the user on the proper use, maintenance and limitations of this equipment. Each person using this respirator must first read and understand this entire instruction manual. The CC20 Series respirators should only be used in accordance with these operating and maintenance instructions. If you have any questions concerning the use of this respirator, ask your employer or call Bullard Technical Support at 877-BULLARD (285-5273).
- Before using these respirators, be sure your employer has determined that ambient airborne contaminant concentrations do not exceed those allowed by applicable OSHA, MSHA, EPA, NIOSH or ACGIH regulations and recommendations, or any other applicable hazard(s) in the workplace, and that this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s), and an identification of the contaminant's chemical state and physical form.
- DO NOT wear this respirator if any of the following ambient conditions exist:
  - Atmosphere is immediately dangerous to your life or health (IDLH). IDLH is defined in 29 CFR 1910.134(b).
  - You CANNOT escape without the aid of the respirator.
  - Atmosphere contains less than 19.5% oxygen.
  - Work area is poorly ventilated.
  - Unknown contaminants are present.
  - Contaminant concentrations are in excess of regulations or recommendations (as described in item 4 above).
- There are users, environments and chemicals for which these respirators are not suitable. It is the responsibility of the user and the employer to determine that these respirators are appropriate for the intended use. These respirators should not be used around heat, open flames, sparks or in any potentially flammable or explosive environment. CC20 materials will burn and will melt. DuPont Tychem® spunbonded olefin apparel fabrics have "Class 1 - Normal Flammability" characteristics, as tested according to the Flammable Fabrics Act. "Class 1" fabrics will burn and do not provide thermal protection if a fire or explosion should occur. CC20 materials may create static electricity under low relative humidity. Surface resistance and charge dissipation are proportional to the amount of antistatic agent on the fabric and the ambient relative humidity. Since the antistatic agent is water soluble, it can be washed off with water. In addition, other clothing items that are not anti-static treated might be a potential source of static formation and discharge. Contact your employer or DuPont at 1-800-44-TYVEK on this material.
- Bullard recommends that you DO NOT wear these respirators until you have passed a complete physical exam (including a chest x-ray), conducted by qualified medical personnel.
- Do not modify or alter these respirators in any manner. Use only CC20 components and replacement parts manufactured by Bullard and approved by NIOSH for use with this respirator. Failure to use Bullard components and replacement parts approved by NIOSH for use with this respirator voids NIOSH approval of the entire respirator, invalidates all Bullard warranties, and could result in death or serious injury, lung disease or exposure to other hazardous or life-threatening conditions.
- Inspect all components of these respirator systems during cleaning and before and after each use for signs of wear, tear or damage that might reduce the degree of protection originally provided. Immediately replace worn or damaged components with Bullard CC20 components approved by NIOSH for use with this respirator, or remove the respirator from service. (See INSPECTION, CLEANING AND STORAGE section for instructions on proper maintenance of CC20 Series Series respirators.)
- DO NOT connect the respirators' air supply hose to nitrogen, oxygen, toxic or inert gases. To prevent this, airline couplings used for this respirator shall be incompatible with outlets for other gas systems. Failure to connect to the proper air source could result in death or serious injury. Be certain your employer has determined that the breathing air source provides at least Grade D breathable air.
- DO NOT use these respirators in poorly ventilated areas, areas where oxygen is less than 19.5%, or in confined spaces such as tanks, small rooms, tunnels or vessels unless the confined space is well-ventilated and contaminant concentrations are below the upper limit recommended for this respirator. The procedures for confined space entry, operation and exit are defined in applicable regulations and standards, including 29 CFR 1910.146.
- DO NOT use these respirators for abrasive blasting or underwater diving.
- DO NOT reach your hand into the hood head cover in atmospheres containing air contaminants. Leave the contaminated area and clean hands before reaching inside the hood.

## Cautions & Limitations

### For CC20 Airline Respirators

- A - Not for use in atmospheres containing less than 19.5% oxygen.
- B - Not for use in atmospheres immediately dangerous to life or health.
- C - Do not exceed maximum use concentrations established by regulatory standards.
- D - Airline respirators can be used only when respirators are supplied with respirable air meeting the requirements of CGA G-7.1 Grade D or higher quality.
- E - Use only the pressure ranges and hose lengths specified in the instruction manual.
- J - Failure to properly use and maintain this product could result in injury or death.
- M - All approved respirators shall be selected, fitted, used, and maintained in accordance with MSHA, OSHA, and other applicable regulations.
- N - Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
- O - Refer to users instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
- S - Special or critical User's Instructions and/or specific use limitations apply. Refer to User's Instructions before donning.

## Operations

### Protection

#### Respiratory

The CC20 respirator is NIOSH approved (TC-19C-154) as a Type C continuous-flow supplied air respirator. It can be worn for general purpose applications, including pharmaceutical manufacturing, chemical and pesticide handling, tank cleaning, spray painting, and other industrial or agricultural applications in which hazardous compounds are present.

The CC20 respirators are not approved for use in any atmosphere immediately dangerous to life or health (IDLH), or from which the wearer cannot escape without the aid of the respirator. IDLH is defined in 29 CFR 1910.134(b).

#### Head

CC20 Series respirator hoods with the 20TG or 20RT headband suspension DO NOT provide head protection. If head protection is required, order the 20TICH or 20SICH model.

The 20TICH and 20SICH hoods, when used with a Bullard model S51 or C30 hard hat, meet ANSI Standard Z89.1-2003 Type I, Classes E & G requirements for protective headwear for industrial workers. These hard hats are designed to provide limited head protection by reducing the force of falling objects striking the top of the hard hat shell.

#### Face

The 20TICH and 20SICH models meet ANSI Z87.1-2003 impact and penetration requirements for face protection. The 0.040" acetate lens provides limited face protection from flying particles or spray of hazardous liquids, but is not shatterproof.

#### Eyes

CC20 Series respirators DO NOT provide eye protection. Wear approved safety glasses or goggles at all times when eye protection is required.

#### Ears

CC20 Series respirators DO NOT provide hearing protection. Use properly fitted earmuffs, earplugs or other protection when exposed to high noise levels.

## CC20 Breathing Air Requirements

### Air Quality

#### WARNING

The CC20 respirator must be supplied with clean, breathable air, Grade D or better, at all times. This respirator does NOT purify or filter out contaminants. Failure to heed these warnings could result in death or serious injury.

Respirable, breathable air must be supplied to the point-of-attachment of the approved Bullard air supply hose. The point-of-attachment is the point at which the air supply hose connects to the air source. A pressure gauge attached to the air source is used to monitor the pressure of air provided to the respirator wearer (see Figure 3).

Supplied breathing air must AT MINIMUM meet the requirements for Type 1 gaseous air described in the ANSI/Compressed Gas Association Commodity Specification G-7.1 for Grade D or higher quality as specified by Federal regulations 42 CFR, Part 84.141(b) and 29CFR1910.134(i).

The requirements for Grade D breathable air include:

|  |                          |
|--|--------------------------|
| Oxygen.....  | 19.5-23.5%               |
| Hydrocarbons (condensed)<br>in mg/m <sup>3</sup> of gas .....    | 5 mg/m <sup>3</sup> max. |
| Carbon monoxide .....  | 10 ppm max.              |
| Carbon dioxide .....   | 1,000 ppm max.           |
| Odor .....   | * .....                  |
| No toxic contaminants at levels that make air unsafe to breathe. |                          |

\*Specific measurement of odor in gaseous air is impractical. Air may normally have a slight odor. The presence of a pronounced odor should render the air unsatisfactory.

Contact the Compressed Gas Association (1725 Jefferson Davis Highway, Arlington, VA 22202) or [www.cganet.com](http://www.cganet.com) for complete details on Commodity Specification G-7.1.

### Air Source

Locate the source of supplied air, whether it is a breathing air compressor or an ambient air pump, such as a Bullard Free-Air® pump, in a clean air environment. Locate the air source far enough from your work site to ensure the air remains contaminant-free. Always use an inlet filter on your air source.

Use suitable after-cooler/dryers with filters, and carbon monoxide monitors and alarms, like the Bullard Series of CO monitors and filters, as necessary for compressed air.

Compressed air should be regularly sampled to be sure that it meets Grade D requirements.

## CC20 Breathing Air Pressure

Air pressure should be monitored at the point-of-attachment while operating this respirator. A reliable air pressure gauge must be present to permit you to monitor pressure during actual respirator operation.

#### WARNING

Failure to supply the minimum required pressure at the point-of-attachment for your hose length and CC20 respirator type will reduce airflow and could result in death or serious injury.

## Special or Critical User's Instructions

The Breathing Air Pressure Table (see page 8) defines the air pressure ranges necessary to provide CC20 Series respirators with a volume of air that falls within the required range of 6-15 cfm or 170-425 lpm (Ref. 42 CFR, Part 84, Subpart J, 84.150).

Make sure you understand the information in the Breathing Air Pressure Table before using this respirator.

- Determine the type of air source you are using (Column 1), then find your flow control valve/climate control device (Column 2).
- Be sure your Bullard air supply hose (Column 3) is approved for use with your flow control valve/climate control device.
- Determine that your Bullard air supply hose is within the approved length (Column 4).
- Make sure you have not exceeded the maximum number of hose sections (Column 5).
- Set the air pressure at the point-of-attachment within the required pressure range (Column 6) for your flow control valve/climate control device, and air supply hose type and length.

## CC20 Breathing Air Supply Hoses and Hose Fittings

NIOSH approved Bullard air supply hose(s) MUST be used between the breathing tube connection fitting on the wearer's belt and the point-of-attachment to the air supply.

NIOSH approved Bullard quick-disconnect fittings MUST be used to connect V5 or V20 hose lengths together. When connecting lengths of V10 hose, only use Bullard V11 hose-to-hose adapters. Secure connection(s) until wrench-tight and leak-free. Total connected hose length and number of hoses MUST be within the ranges specified on the Breathing Air Pressure Table (see page 8).

The breathing tube connection fitting MUST be secured to the belt that is supplied with this respirator. Securing the breathing tube connection helps prevent the air supply hose from snagging, disconnecting or pulling the respirator hood off your head.

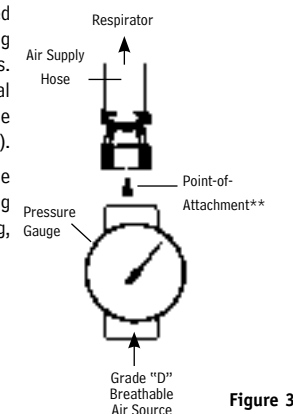


Figure 3

\*\*Use either a V13 hose-to-hose pipe adapter or a quick-disconnect coupler to attach the air supply hose.

## S - Special or Critical Users Instructions

### CC20 Breathing Air Pressure Table

This table defines the air pressure ranges necessary to provide CC20 Series respirators with a volume of air that falls within the required range of 6-15 cfm or 170-425 lpm according to U.S. Government regulations (42 CFR, Part 84, Subpart J, 84.150, Table 8).

| 1  | 2   | 3               | 4                                | 5                                  | 6                                     |
|--|---|-----------------|----------------------------------|------------------------------------|---------------------------------------|
| Air Source   | Flow Control Valve/<br>Climate Control Device   | Air Supply Hose | Air Supply Hose<br>Length (feet) | Maximum Number of<br>Hose Sections | Required Pressure<br>Range (psig air) |
| Stationary or Portable Air<br>Compressor   | F30, F30B, F30S, F31, F32, F33,<br>F34, F37   | V10             | 25                               | 1                                  | 14-15                                 |
|  |   |                 | 50                               | 2                                  | 15-18                                 |
|  |   |                 | 75-150                           | 3                                  | 19-29                                 |
|  |   |                 | 200                              | 5                                  | 25-34                                 |
|  |   |                 | 250-300                          | 5                                  | 31-39                                 |
|  | F35, F35B   | V5              | 25                               | 1                                  | 12-18                                 |
|  |   |                 | 50                               | 2                                  | 19-23                                 |
|  | F40, F40B, F40S, F41, F42, F43,<br>F44, F47   | V10             | 25                               | 1                                  | 22-25                                 |
|  |   |                 | 50                               | 2                                  | 24-27                                 |
|  |   |                 | 75-150                           | 3                                  | 27-37                                 |
|  |   |                 | 200                              | 5                                  | 33-40                                 |
|  |   |                 | 250-300                          | 5                                  | 38-45                                 |
| V5   |   | 25              | 1                                | 22-26                              |                                       |
| AC100030, AC100030B,<br>AC100030S, AC100031,<br>AC100032, AC100033,<br>AC100034, AC10035B,<br>AC100037 | V10   | 25-50           | 2                                | 55-65                              |                                       |
|  |   | 75-150          | 3                                | 60-70                              |                                       |
|  |   | 175-300         | 5                                | 65-75                              |                                       |
|  | V5  | 25              | 1                                | 55-65                              |                                       |
| DC5040, DC5040B, DC5040S,<br>DC5041, DC5042, DC5043,<br>DC5044, DC5047                                 | V10   | 50              | 2                                | 48-52                              |                                       |
|  |   | 75-150          | 3                                | 59-72                              |                                       |
|  |   | 200             | 3                                | 80-84                              |                                       |
|  |   | 250             | 3                                | 85-92                              |                                       |
|  |   | 300             | 5                                | 90-98                              |                                       |
|  | V5  | 25              | 1                                | 53-57                              |                                       |
| 50   | 2   | 67-71           |                                  |                                    |                                       |
|  | HC2400030, HC2400030B,<br>HC2400030S, HC2400031,<br>HC2400032, HC2400033,<br>HC2400034, HC2400035B,<br>HC240007 | V10             | 25                               | 1                                  | 59-61                                 |
| 50   |   |                 | 2                                | 63-65                              |                                       |
| 75-150   |   |                 | 3                                | 68-75                              |                                       |
| 200  |   |                 | 4                                | 77-79                              |                                       |
| 250  |   |                 | 5                                | 80-82                              |                                       |
| 300  |   | 5               | 84-86                            |                                    |                                       |
| V5   |   | 25              | 1                                | 65-66                              |                                       |
| 50   | 1   | 68-69           |                                  |                                    |                                       |
| Bullard Free-Air® Pumps  | F35, F35b, F35s   | V20             | 25                               | 1                                  | 3-5                                   |
|  |   |                 | 50                               | 1                                  | 4-6                                   |
| 100  |   |                 | 2                                | 6-8                                |                                       |
| 200  |   |                 | 2                                | 10-15                              |                                       |
| 300  |   |                 | 3                                | 13-18                              |                                       |
| Frigitron 2000<br>Frigitron 200B<br>Frigitron 2000S  | V20   | 50              | 1                                | 16-22                              |                                       |
|  |   | 100             | 2                                | 18-25                              |                                       |
|  |   | 200             | 2                                | 22-30                              |                                       |
|  |   | 300             | 3                                | 25-34                              |                                       |

## CC20 Respirator Assembly

### Adjusting and Installing Headband Suspension in Hood

(If using 20TICH or SICH models, see page 10.)

To change the headband size, unlock the four pins from the sizing holes. Place the headband on your head. Pull down, allowing headband to expand until it feels comfortable. The headband will automatically adjust to your size. Lock into place by pushing the four pins into the sizing holes (Figure 4).

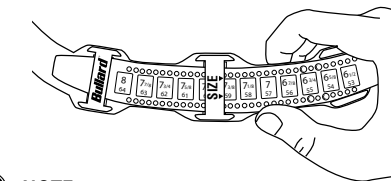


Figure 4



#### NOTE

If using the optional 20RT ratchet headband suspension, refer to the instruction sheet provided with the 20RT.

### Adjust Crown Straps for Vertical Fit

To improve suspension comfort, adjust crown straps vertically by repositioning the crown strap posts in the crown straps. Vertical adjustment makes the headband ride higher or lower on the wearer's head. To adjust, push crown strap post from slot, move to new slot, and snap in to secure. Move key to desired vertical position. Repeat for other crown strap post (Figure 7).



#### NOTE

20LF and 20LF2 series loose-fitting facepiece hoods have a sewn-in headband.



#### NOTE

If the hood rises off your head during use, first verify proper air pressure, then select a different hood for your application, or use the optional chin strap.

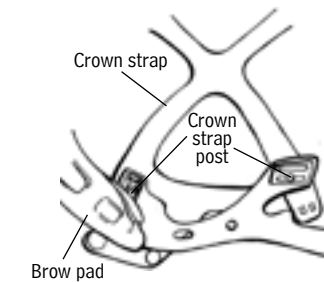


Figure 5

## Adjusting and Installing Hard Hat in Respirator Hood\*

1. Assemble and adjust the standard Bullard hard hat suspensions RS4PC or RS6PC or the optional ratchet suspensions RS4RC or RS6RC by following the directions on instruction sheet attached to headband on hard hat. Read all hard hat warning labels and instructions. The following Bullard hard hat models are NIOSH approved for use with CC20 Series respirator hoods: C30, C30R, S51 and S51R.
2. If desired, install and adjust optional ES42 hard hat chinstrap.
3. Before inserting hard hat into hood, remove the two adhesive-backed Velcro® strips attached to the Velcro piece that is sewn into the hood (see Figures 7 & 8).
4. Peel the backing off the longer Velcro tab and apply it to the inside center rear of the hard hat, about 1/4" up from the edge. Apply shorter Velcro tab to the underside of the brim of the hard hat (see Figure 7).
5. Insert hard hat into respirator hood with cap visor facing front of hood (see Figure 6).
6. Tuck cap brim on top of front elastic Velcro band sewn into hood (see Figure 7).
7. Loop the Velcro strip sewn inside the hood around the back of the cap and affix it to the corresponding Velcro tab previously installed inside the hard hat in step 4 (see Figure 8).
8. Remove protective plastic from plastic lens of respirator hood. If desired, apply optional 20LC or 20LCL adhesive-backed lens covers designed to protect the respirator's plastic lens. Apply 2-3 lenses at a time. When lens becomes soiled, remove by pulling tab at edge of lens cover to clear your vision.

\* The 20TICH and 20SICH model respirator hoods require a hard hat or a suspension.



Figure 6

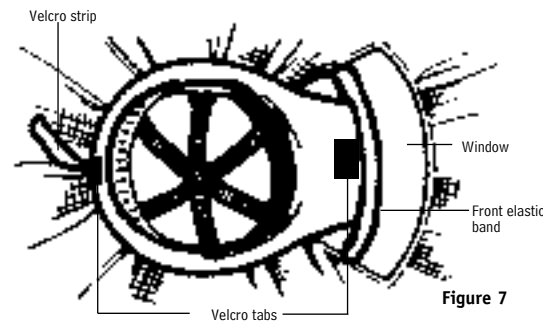


Figure 7

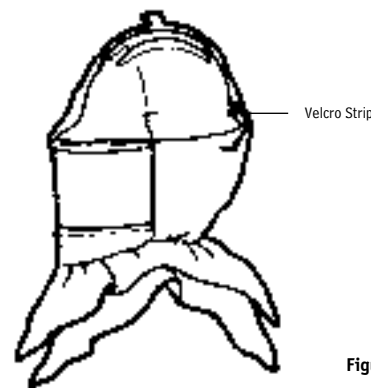


Figure 8

## Installing Breathing Tube Assembly in Hoods (20BT or RTBT)

1. Remove nylon clamp from plastic anchor plate on hood (see Figure 9). Do not remove foam from inside the breathing tube, used with CC20 Series Airline Respirators. The foam helps reduce the noise level of incoming air.

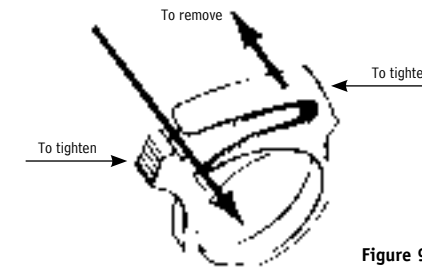


Figure 9

2. Insert the open end of the breathing tube approximately five inches into hood's air entry sleeve (see Figure 10).



Figure 10

3. Install nylon clamp over air entry sleeve and breathing tube, inserting clamp locks through two holes in plastic anchorplate that is sewn into hood. Locks should face away from user's neck (see Figure 11).



Figure 11

4. Engage clamp locks and squeeze together until tight.
5. For CC20 Series Airline Respirators, attach other end of breathing tube to flow control device on belt by screwing nylon hose connector on flow control device.

**NOTE**  
Refer to PAPR manual for connection of breathing tube to PAPR blower.

## Installing Breathing Tube Assembly in Loose-Fitting Facepieces

1. The 20LFM, 20LFL, 20LF2S, 20LF2M and 20LF2L loose-fitting facepieces have a sewn-in breathing tube connector on the back. The 20LFBT breathing tube has a special connector on the hood end with bayonet type pins.
2. Insert the bayonet connector of the 20LFBT breathing tube in the hood connector and turn clockwise until it locks in place (see Figure 12).



Figure 12

## Using Climate Control Devices for CC20 Series Airline Respirators

CC20 Series Airline Respirators are approved by NIOSH for use with four optional Bullard climate control devices: AC1000 Series, DC50 Series, HC2400 Series and Frigitron 2000 Series.

### WARNING

Climate control devices are not approved for use with Powered Air-Purifying Respirators. Failure to heed these instructions could result in death or serious injury.

1. Follow the instructions supplied with your climate control device.
2. Screw nylon hose connector on end of breathing tube to hose thread on climate control device.
3. Firmly tighten hose connector by hand (see Figure 13).

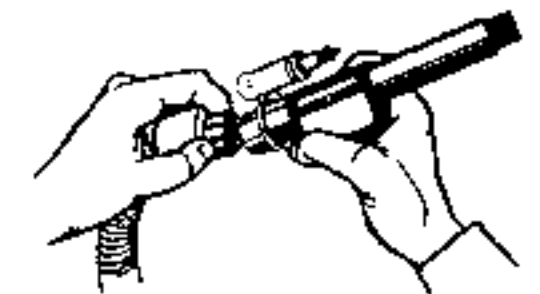


Figure 13

4. Lace belt supplied with respirator through belt loop bracket on climate control device.

## CC20 Respirator Use

### ⚠ WARNING

Do not put on or remove these respirators in a hazardous atmosphere except for emergency escape purposes. Failure to heed these warnings could result in death or serious injury.

### Donning the CC20 Respirator

Before using your CC20 Series respirator, assemble the respirator using the instructions given on pages 9-11.

1. Connect NIOSH approved Bullard air supply hose to an air source supplying Grade D breathable air as defined on page 7. Turn on breathing air source.
2. With air flowing, connect breathing tube assembly to air supply hose (see Figure 14). Connect quick-disconnect fitting on breathing tube assembly to quick-disconnect coupler on air supply hose. Once fitting is secured, release coupling sleeve to lock fittings together. Pull on both hoses to make sure they are attached securely.
3. Adjust air pressure at point-of-attachment to within the approved pressure range (see Figure 15). See the Breathing Air Pressure Table (page 8) for approved pressure ranges.

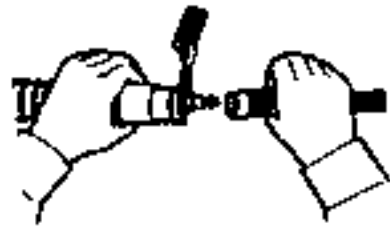


Figure 14

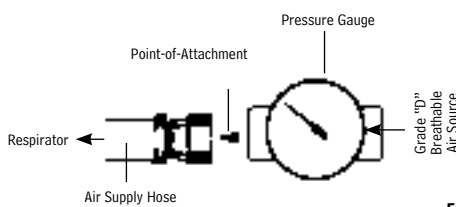


Figure 15

4. With air still flowing, put on CC20 Series respirator hood.
5. Position headband suspension or hard hat for a comfortable fit. (See instructions on page 9 for proper sizing).
6. If using an optional chin strap, pull elastic strap under your chin. Adjust for a secure and comfortable fit.
7. If using the Bullard loose-fitting facepiece hoods: Available in large 20LF2L or 20LFL, medium 20LF2M or 20LFM, and small 20LF2S. Select the size that fits most comfortably and matches your head size. Remove the protective cover from the visor. Pull the hood over your head and adjust the headband around your head and the elasticized edge of the faceseal under your chin. Make sure that the breathing tube is not twisted after donning.
8. Tuck inner bib of hood (except on 20TJ, 20TP, 20LFM, 20LFL, 20LF2S, 20LF2M and 20LF2L) into shirt or protective clothing for additional splash and overspray protection (see Figure 16).



Figure 16

9. Pull respirator outer bib over collar of shirt or protective clothing. If you are using the 20SIC, 20SICH, or 20TICH model, pull the long outer bib down on the outside of clothing and tie at the sides.
10. With breathing tube assembly attached to the hood, fasten belt at waist or hip level and adjust for comfort.
11. Recheck air pressure and adjust if necessary.
12. With air flowing into your respirator, you are now ready to enter work area.

### Removing the CC20 Respirator

When finished working, leave work area wearing respirator and with air still flowing. Once outside contaminated area, remove respirator and then disconnect the air supply hose using the quick-disconnect fittings.

### ⓘ NOTE

If using V20 Series (1/2" I.D.) air supply hose, the hose quick-disconnect coupler does not have a shut-off valve. Therefore, air will continue to flow freely after disconnecting hose from respirator.

## Inspection, Cleaning and Storage

### ⚠ WARNING

Failure to heed these instructions could result in death or serious injury.

LEAVE WORK AREA IMMEDIATELY IF:

- Any respirator component becomes damaged
- Airflow into respirator hood stops or slows down
- Air pressure gauge drops below the minimum specified in the Breathing Air Pressure Table
- Breathing becomes difficult
- You become dizzy, nauseous, too hot, too cold, or ill
- You taste, smell, or see contaminants inside respirator hood
- Your vision becomes impaired

### ⚠ WARNING

Do not store respirator in your work area or leave it unattended in a contaminated environment. Respirable contaminants can remain suspended in the air for several hours after work activity ceases, even though you may not see them. Proper work practice requires you to wear the respirator until you are outside the contaminated area. If you place or store the respirator in a contaminated environment, contaminants, dirt, and dust could get into the respirator. When you put the respirator back on, you could breathe in contaminants upon reuse. Failure to heed these instructions could result in death or serious injury.

Bullard CC20 Series respirators have a limited service life. Therefore, a regular inspection and replacement program must be conducted.

The Bullard CC20 Series respirators and all component parts and assemblies should be inspected for damage or excessive wear before and after each use to ensure proper functioning. Immediately remove the respirator from service and replace parts or assemblies that show any sign of failure or excessive wear that might reduce the degree of protection originally provided.

Use only CC20 components and replacement parts manufactured by Bullard and approved by NIOSH for use with these respirators.

Since respirator use and the quality of maintenance performed vary with each job site, it is impossible to provide a specific time frame for respirator replacement.

Inspect all components of this respirator system during cleaning and before and after each use for signs of wear, tear or damage that might reduce the degree of protection originally provided. Respirators used by more than one person must be cleaned, inspected and sanitized after each use. If not cleaned, contamination may cause illness or disease.

### ⚠ WARNING

The air you breathe will not be clean unless the respirator you wear is clean. Failure to heed this warning could result in death or serious injury.

## Hood and Headband Suspension

### Inspection

Inspect the hood material for rips, tears, or damage from excessive wear that might reduce the degree of protection originally provided. Inspect the inner neck cuff for elasticity. The respirator's plastic lens should be inspected for cracks, scratches or any other signs of damage.

Disassemble the breathing tube from the hood by removing the nylon hose clamp. To remove the hose clamp, slide the locks sideways in opposite directions.

Remove the headband suspension and optional chin strap from the hood, except on loose-fitting facepiece hoods, remove the breathing tube by turning the connector on the tube counter-clockwise and pulling out. Inspect headband suspension for cracks, frayed or cut crown straps, torn headband or size adjustment slots, loss of pliability, or other signs of excessive wear. Check the chin strap for loss of elasticity, cuts, and cracked hanger clips.

If damage is detected, replace immediately with Bullard replacement part(s) or remove the respirator from service.

### Cleaning

Bullard does not recommend laundering the hood. When the hood becomes dirty, it should be discarded and replaced. The respirator's plastic lens, headband suspension, and optional chin strap should be hand-sponged with warm water and mild detergent, rinsed, and air-dried. Mineral spirits may be used to remove paints or coatings from the solvent-resistant lens of the 20 TP and 20TPC hoods. After cleaning and before reassembling, once again carefully inspect parts for signs of damage.

### ⚠ CAUTION

Do not use volatile solvents for cleaning this respirator or any parts and assemblies, with the exception that mineral spirits may be used to clean the solvent-resistant lens of the 20TP and 20TPC hoods. Strong cleaning and disinfecting agents, and many solvents, can damage the plastic parts and reduce the protective properties of the respirator. Failure to heed these instructions may result in minor or moderate injury and/or equipment damage.

## Hard Hat

### Inspection

Inspect the hard hat shell for nicks, gouges, cracks, and any damage due to impact, rough treatment, or wear.

Remove the headband suspension and optional chin strap from the hard hat. Inspect the headband suspension for cracks, frayed or cut crown straps, torn headband and size adjustment slots, loss of pliability or other signs of excessive wear. Check the chin strap for loss of elasticity, cuts, and cracked hanger clips.

If damage is detected, replace part(s) immediately with Bullard replacement parts or remove the hard hat from service.

### Cleaning

The hard hat shell, headband suspension, and optional chin strap should be hand cleaned with warm water and mild detergent, rinsed and air-dried. After cleaning and before reassembling, once again carefully inspect parts for signs of damage.

## Breathing Tube

### Inspection

Inspect the breathing tube for tears, cracks, holes, or excessive wear that might reduce the degree of protection originally provided. If any signs of excessive wear are present, replace the breathing tube immediately or remove the respirator from service.

### Cleaning

To clean the breathing tube, hand-sponge with warm water and mild detergent, being careful not to get water inside. Rinse and air-dry. After cleaning, once again carefully inspect breathing tube for signs of damage.

## Flow Control Valve/Climate Control Device

### Inspection

Be sure the hose thread is screwed tightly into the breathing tube so no air can escape during use. Check the adjustment knob on the flow control device for cracks and other damage.

### Cleaning

To clean, hand-sponge with warm water and mild detergent, being careful not to get water inside. After cleaning, once again carefully inspect flow control valve/climate control device for signs of damage. If any signs of excessive wear are present, replace the flow control valve/climate control device or remove the respirator from service.

### CAUTION

Do not cut or remove the foam that is inside the CC20 Series Airline Respirator breathing tube. The foam helps reduce the noise level of the incoming air supply. It does not filter or purify your breathing air. NIOSH has approved this respirator with the foam in place. Failure to follow these instructions may result in minor or moderate injury and/or equipment damage.

## Air Supply Hoses

### Inspection

Air supply hose(s) should be inspected closely for abrasions, corrosion, cuts, cracks and blistering. Be sure the hose fittings are crimped tightly to the hose so that no air can escape. Make sure the hose has not been kinked or crushed by any equipment that may have rolled over it.

If any of the above signs are present or any other signs of excessive wear are detected, replace the hose(s) immediately or remove the respirator from service.

### Cleaning

The air supply hose(s) should be hand-sponged with warm water and mild detergent, rinsed and air dried. Do not get water inside the air supply hose. After cleaning, once again carefully inspect air supply hose(s) for signs of damage.

### WARNING

Only use air supply hoses that are NIOSH approved for use with the CC20 respirator. Other hoses could reduce airflow and protection, and expose the wearer to life-threatening conditions. Failure to follow these instructions could result in death or serious injury.

## Storage

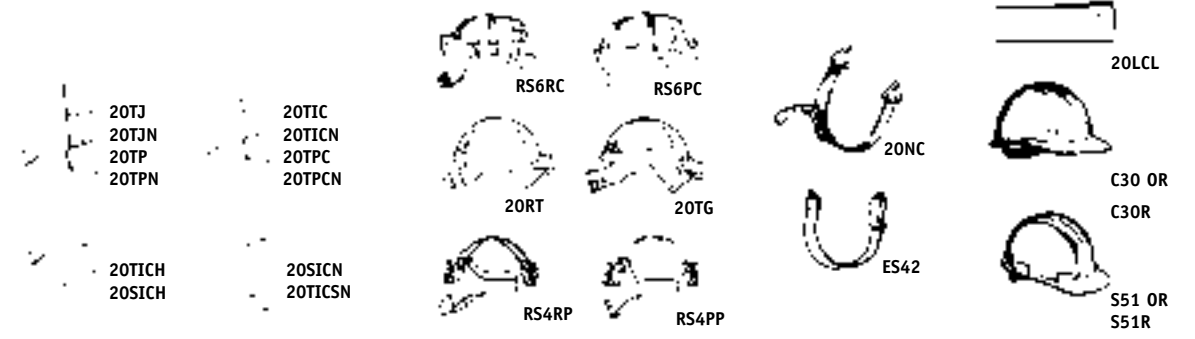
After reusable respirator components have been cleaned and inspected, place them in a plastic bag or an airtight container.

Store the respirator and parts where they will be protected from contamination, distortion and damage from elements such as dust, direct sunlight, heat, extreme cold, excessive moisture and harmful chemicals.

## Parts and Accessories

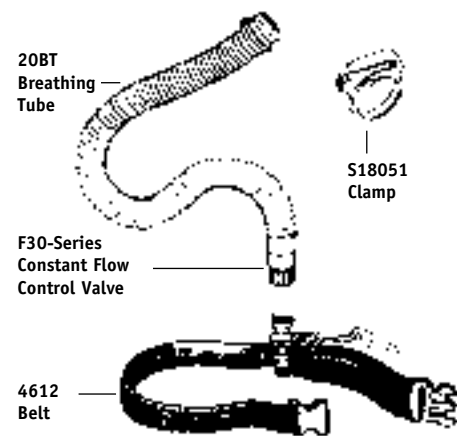
CC20 Series airline respirators consist of five components – respirator hood, headband suspension or head protection, breathing tube, flow control device, and air supply hose.

| CATALOG NUMBER   | DESCRIPTION  | CATALOG NUMBER   | DESCRIPTION  |
|--|--|--|--|
| <b>Respirator System</b>                                     |  |  |  |
| CC20SYS  | Includes 20TIC35 respirator assembly, Free-Air® pump and V20100ST air supply hose, and 20LCL lens covers | 20TICH   | Tychem QC, hard hat not included                                     |
|  |  | 20SICH   | Tychem SL, with taped and sealed seams, hard hat not included        |
| <b>Respirator Assemblies</b>                                 |  |  |  |
| <b>For use with compressed air</b>                           |  |  |  |
| CC20TJ30   | Includes 20TJN hood, 20TG headband suspension and V30 breathing tube assembly                            | 20TICS   | Tychem QC with taped and sealed seams, and 20TG headband suspension  |
| CC20TIC30  | Includes 20TCN hood, 20TG headband suspension and V30 breathing tube assembly                            | 20TICSN  | Tychem QC with taped and sealed seams, no headband suspension        |
| CC20TICH30   | Includes 20TICH hood, 20TG headband suspension and V30 breathing tube assembly                           | 20SIC  | Tychem SL, with taped and sealed seams, and 20TG headband suspension |
| CC20LF30   | Includes 20LFL hood and X30 breathing tube assembly  | 20SICN   | Tychem SL, with taped and sealed seams, no headband suspension       |
| <b>For use with Bullard Free-Air® pumps</b>                  |  |  |  |
| CC20TJ35   | Includes 20TJN hood, 20TG suspension and V35 breathing tube assembly                                     | 20LFM  | Tychem QC, facial seal, sewn-in suspension, medium                   |
| CC20TIC35  | Includes 20TCN hood, 20TG suspension and V35 breathing tube assembly                                     | 20LFL  | Tychem QC, facial seal, sewn-in suspension, large                    |
| CC20TICH35   | Includes 20TICH hood, 20TG suspension and V35 breathing tube assembly                                    | 20LF2S   | Tychem QC, narrow profile, facial seal, sewn-in suspension, small    |
| CC20LF35   | Includes 20LFL hood and X35 breathing tube assembly  | 20LF2M   | Tychem QC, narrow profile, facial seal, sewn-in suspension, medium   |
|  |  | 20LF2L   | Tychem QC, narrow profile, facial seal, sewn-in suspension, large    |
| <b>Respirator Hoods</b>                                      |  |  |  |
| <b>Basic style hood, for use with headband suspension</b>    |  |  |  |
| 20TJ   | Tychem QC with 20TG headband suspension  | 20TG   | Standard headband suspension   |
| 20TJN  | Tychem QC, no headband suspension  | 20RT   | Flex-Gear® ratchet headband suspension                               |
| 20TP   | Tychem QC, with solvent-resistant polyester lens, 20TG headband suspension                               | C30  | Hard hat with standard suspension, white                             |
| 20TPN  | Tychem QC with solvent-resistant polyester lens, no suspension   | C30R   | Hard hat with ratchet suspension, white                              |
|  |  | S51  | Hard hat with standard suspension, white                             |
|  |  | S51R   | Hard hat with ratchet suspension, white                              |
| <b>Hood with inner bib, for use with headband suspension</b> |  |  |  |
| 20TIC  | Tychem QC, with 20TG headband suspension   | <b>Accessory Items for All Hoods</b>                     |  |
| 20TICN   | Tychem QC, no headband suspension  | 20LCL  | Mylar lens covers (25/pkg)   |
| 20TPC  | Tychem QC, with solvent-resistant polyester lens, 20TG headband suspension                               | <b>Headband Suspensions and Hard Hats</b>                |  |
| 20TPCN   | Tychem QC with solvent-resistant polyester lens, no suspension   | 20TG   | Standard headband suspension   |
|  |  | 20RT   | Flex-Gear® ratchet headband suspension                               |
|  |  | C30  | Hard hat with standard suspension, white                             |
|  |  | C30R   | Hard hat with ratchet suspension, white                              |
|  |  | S51  | Hard hat with standard suspension, white                             |
|  |  | S51R   | Hard hat with ratchet suspension, white                              |
|  |  | <b>Accessories for Headband Suspension and Hard Hats</b> |  |
|  |  | RS6PC  | Standard replacement suspension for C30 hard hat                     |
|  |  | RS6RC  | Replacement ratchet suspension for C30R hard hat                     |
|  |  | RS4PC  | Standard replacement suspension for S51 hard hat                     |
|  |  | RS4RC  | Replacement ratchet suspension for S51R hard hat                     |
|  |  | 20NC   | Chin strap for 20TG and 20RT headband suspension                     |
|  |  | ES42   | Chin strap for C30 and S51 hard hats                                 |
| <b>Hood with inner bib, for use with Bullard hard hat</b>    |  |  |  |

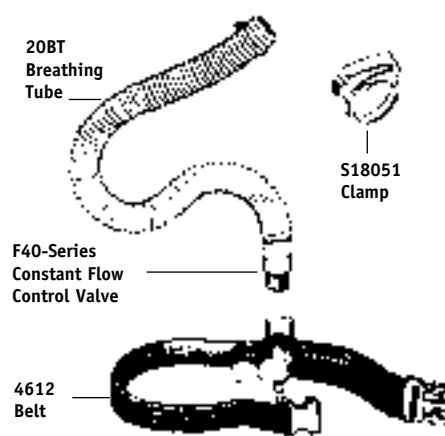


| CATALOG NUMBER   | DESCRIPTION  | CATALOG NUMBER   | DESCRIPTION   |
|--|--|--|---|
| <b>Breathing Tubes</b>   |  |  | disconnect nipple   |
| RTBT   | Disposable breathing tube with clamp   |  |   |
| 20BT   | Breathing tube with clamp for CC20 only  | <b>Adjustable Flow Breathing Tube Assemblies</b>       | For use with Breathing Air Compressors  |
| 20LFBT   | Breathing tube (lightweight) with clamp for 20LF and 20LF2 Series hoods only, airline mode         | V40  | With 1/4" Industrial Interchange, steel (Hansen compatible) quick-disconnect nipple                           |
| 20LFBTXL   | Extra large breathing tube assembly  | V41  | With 1/4" Schrader steel quick-disconnect nipple  |
| 20LFBTXS   | Extra small breathing tube assembly  | V43  | With 1/4" Snap-Tite, brass quick-disconnect nipple  |
| <b>Breathing Tube Assemblies for CC20 Series Airline Respirators</b>                                       |  | X40  | For 20LFM and 20LFL hoods with 1/4" Industrial Interchange, steel (Hansen compatible) quick-disconnect nipple |
| Include breathing tube, airflow control device, quick-disconnect nipple and belt. (Note: 20BT + F30 = V30) |  |  |   |
| <b>Constant Flow Breathing Tube Assemblies</b>   |  | <b>Replacement Parts for Breathing Tube Assemblies</b> |   |
| For use with Breathing Air Compressors   |  |  |   |
| V30  | With 1/4" Industrial Interchange steel (Hansen compatible) quick-disconnect nipple                 | S18051   | Nylon breathing tube clamp  |
| V31  | With 1/4" Schrader steel quick-disconnect nipple   | 4612   | Belt, Nylon webbing   |
| V32  | With 1/4" Snap-Tite steel quick-disconnect nipple  |  |   |
| V33  | With 1/4" Snap-Tite brass quick-disconnect nipple  |  |   |
| <b>Constant Flow Breathing Tube Assemblies</b>   |  |  |   |
| For use with 20LFM and 20LFL Loose-Fitting Facepiece Hoods   |  |  |   |
| X30  | With 1/4" Industrial Interchange steel (Hansen compatible) quick-disconnect nipple                 |  |   |
| X31  | With 1/4" Schrader steel quick-disconnect nipple   |  |   |
| X32  | With 1/4" Snap-Tite steel quick-disconnect nipple  |  |   |
| X33  | With 1/4" Snap-Tite brass quick-disconnect nipple  |  |   |
| <b>Constant Flow Breathing Tube Assemblies</b>   |  |  |   |
| For use with Bullard Free-Air Pumps  |  |  |   |
| V35  | With 1/2" Industrial Interchange, steel (Hansen compatible) quick-disconnect nipple                |  |   |
| X35  | For 20LF and 20LF2 Series hoods with 1/2" Industrial Interchange, steel (Hansen compatible) quick- |  |   |

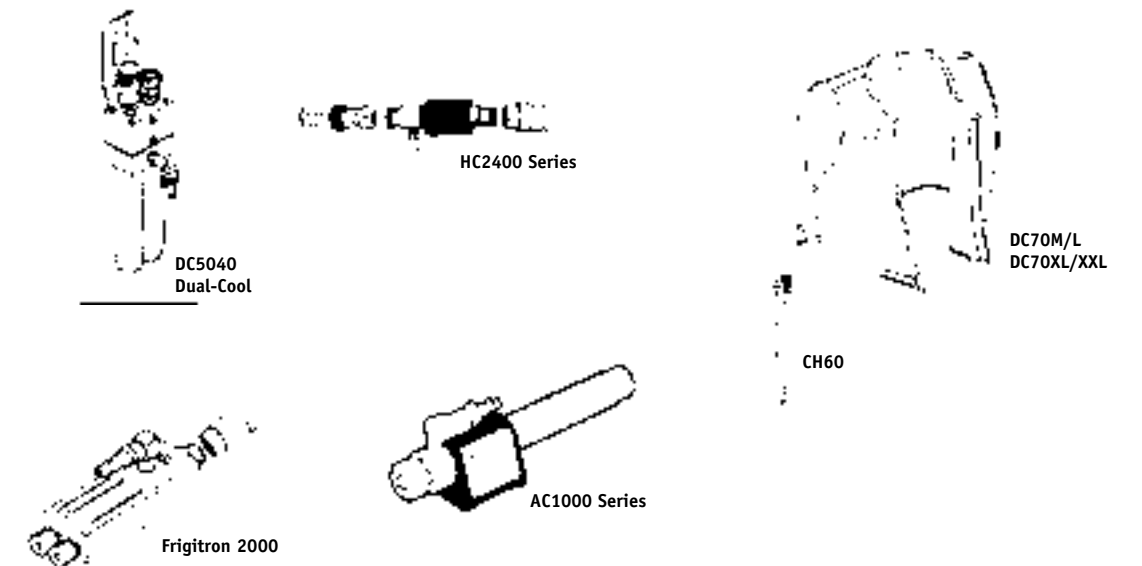
### V30 Series Breathing Tube Assembly



### V40 Series Breathing Tube Assembly



| CATALOG NUMBER  | DESCRIPTION  | CATALOG NUMBER  | DESCRIPTION   |
|---|--|---|---|
| <b>Flow Control Devices for CC20 Series Airline Respirators</b>       |  | <b>Dual-Cool™ - Climate Control Device</b>  |   |
| <b>Flow Control Valves</b>  |  | DC5040  | With 1/4" Industrial Interchange steel (Hansen compatible) quick-disconnect nipple. Includes CH60 connector hose and nylon belt (Order vest separately) |
| F30   | Constant flow control valve with 1/4" Industrial Interchange (Hansen compatible) quick-disconnect nipple (other industrial fittings available)   | DC70M/L   | Medium/Large cooling vest   |
| F40   | Adjustable flow control valve with 1/4" Industrial Interchange (Hansen compatible) quick-disconnect nipple (other industrial fittings available) | DC70XL/XXL  | Extra Large/XX-Large cooling vest   |
| F35   | Constant flow control valve with 1/2" Industrial Interchange (Hansen compatible) quick-disconnect nipple   | <b>Replacement Parts for Climate Control Assemblies</b>   |   |
| <b>Climate Control Assemblies for CC20 Series Airline Respirators</b> |  | MV2400  | Muffler/valve assembly for HC2400   |
| For use with Breathing Air Compressors                                |  |   |   |
| <b>Cold Tubes – Adjustable Flow</b>                                   |  | CH60  | Connector hose for use with DC5040  |
| AC1000  | With 1/4" Industrial Interchange steel (Hansen compatible) quick-disconnect nipple   | <b>Climate Control Assembly</b>   |   |
| AC100031  | With 1/4" Schrader steel quick-disconnect nipple   | For use with Bullard EDP30 or ADP20 Free-Air Pump   |   |
| AC100032  | With 1/4" Snap-Tite steel quick-disconnect nipple  | <b>Cool Tube - Adjustable Flow</b>  |   |
| <b>Hot/Cold Tubes - Adjustable Flow</b>                               |  | Frigitron® 2000 With 1/2" Industrial Interchange steel (Hansen compatible) quick-disconnect nipple. |   |
| HC2400  | With 1/4" Industrial Interchange steel (Hansen compatible) quick-disconnect nipple   |   |   |
| HC240031  | With 1/4" Schrader steel quick-disconnect nipple   |   |   |
| HC240032  | With 1/4" Snap-Tite steel quick-disconnect nipple  |   |   |



## Air Supply Hoses and Fittings for CC20 Series Airline Respirators

### V10 Series Starter Hose Kits

For use with Breathing Air Compressors

Include 25' (7.6m), 3/8" I.D. rubber hose with 1/4" female quick-disconnect coupler and V13 adapter fitting (3/8" hose-to-3/8" pipe)

|       |   |
|-------|---|
| 4696  | With 1/4" Industrial Interchange steel (Hansen compatible) quick-disconnect coupler |
| 46913 | With 1/4" Schrader steel quick-disconnect coupler                                   |
| 46915 | With 1/4" Snap-Tite steel quick-disconnect coupler                                  |

### V10 Series Extension Hose Kits

For use with Breathing Air Compressors

Include 3/8" I.D. rubber hose, V11 hose-to-hose adapter fitting and V13 hose-to-pipe fitting (3/8" hose-to-3/8" pipe)

|      |                                  |
|------|----------------------------------|
| 5454 | 25' (7.6 m) Extension hose kit   |
| 5457 | 50' (15.2 m) Extension hose kit  |
| 5458 | 100' (30.5 m) Extension hose kit |

### V20 Series Hoses

For use with Bullard Free-Air Pumps

Include 1/2" I.D. rubber hose with 1/2" Industrial Interchange (Hansen compatible) female quick-disconnect coupler and 1/2" male quick-disconnect nipple

|                |               |
|----------------|---------------|
| V2050ST        | 50' (15.2 m)  |
| V20100ST       | 100' (30.5 m) |
| V2025STSHUTOFF | 25' (7.62 m)  |
| V2050STSHUTOFF | 50' (15.2M)   |

### V5 Series Coiled Hoses

For use with Breathing Air Compressors

Include 3/8" I.D. Nylon coiled hose with 1/4" female quick-disconnect coupler and 1/4" male quick-disconnect nipple.

|             |  |
|-------------|--|
| V52530      | 25' (7.6 m) with 1/4" Industrial Interchange steel (Hansen compatible) fittings  |
| V55030      | 50' (15.2 m) with 1/4" Industrial Interchange steel (Hansen compatible) fittings |
| V52531      | 25' (7.6 m) with 1/4" Schrader steel quick-disconnect fittings                   |
| V55031      | 50' (15.2 m) with 1/4" Schrader steel quick-disconnect fittings                  |
| V52532      | 25' (7.6m) with 1/4" Snap-Tite steel fittings                                    |
| V55032      | 50' (15.2 m) with 1/4" Snap-Tite steel fittings                                  |
| V52533      | 25' (7.6m) with 1/4" Snap-Tite brass fittings                                    |
| V55033      | 50' (15.2 m) with 1/4" Snap-Tite brass fittings                                  |
| V52533FF    | 25' (7.6m) with 1/4" Snap-Tite brass fittings                                    |
| V55033FF    | 50' (15.2 m) with 1/4" Snap-Tite brass fittings                                  |
| V52533FS    | 25' (7.6m) with 1/4" Snap-Tite brass fittings                                    |
| V55033FS    | 50' (15.2 m) with 1/4" Snap-Tite brass fittings                                  |
| V52535BLACK | 25' (7.6 m) with 1/2" Industrial Interchange steel (Hansen compatible) fittings  |
| V55035BLACK | 50' (15.2 m) with 1/2" Industrial Interchange steel (Hansen compatible) fittings |

### V5 Series Kink-Free Hoses \* XXX is designation RED, GRN, BLK, YLW, BLU

For use with Breathing Air Compressors

Include 3/8" I.D. Nylon coiled hose with 1/4" female quick-disconnect coupler and 1/4" male quick-disconnect nipple.

|             |  |
|-------------|--|
| V5KF2530XXX | 25' (7.6 m) with 1/4" Industrial Interchange steel (Hansen compatible) fittings  |
| V5KF5030XXX | 50' (15.2 m) with 1/4" Industrial Interchange steel (Hansen compatible) fittings |
| V5KF2531XXX | 25' (7.6 m) with 1/4" Schrader steel quick-disconnect fittings                   |
| V5KF5031XXX | 50' (15.2 m) with 1/4" Schrader steel quick-disconnect fittings                  |
| V5KF2532XXX | 25' (7.6m) with 1/4" Snap-Tite steel fittings                                    |
| V5KF5032XXX | 50' (15.2 m) with 1/4" Snap-Tite steel fittings                                  |

### V5 Series Kink-Free Hoses (continued)

|               |  |
|---------------|--|
| V5KF2533XXX   | 25' (7.6m) with 1/4" Snap-Tite brass fittings                                    |
| V5KF5033XXX   | 50' (15.2 m) with 1/4" Snap-Tite brass fittings                                  |
| V5KF2533XXXFF | 25' (7.6m) with 1/4" Snap-Tite brass fittings                                    |
| V5KF5033XXXFF | 50' (15.2 m) with 1/4" Snap-Tite brass fittings                                  |
| V5KF2533XXXFS | 25' (7.6m) with 1/4" Snap-Tite brass fittings                                    |
| V5KF5033XXXFS | 50' (15.2 m) with 1/4" Snap-Tite brass fittings                                  |
| V5KF2535XXX   | 25' (7.6 m) with 1/2" Industrial Interchange steel (Hansen compatible) fittings  |
| V5KF5035XXX   | 50' (15.2 m) with 1/2" Industrial Interchange steel (Hansen compatible) fittings |

### Quick-Disconnect Nipples, Couplers and Adapters

For use with V10 hoses only

#### Nipples

#### 1/4" Industrial Interchange (Hansen compatible)

|       |                      |
|-------|----------------------|
| S9841 | With 1/4" Female NPT |
| V17   | With 3/8" Female NPT |

#### 1/4" Schrader

|        |                      |
|--------|----------------------|
| S19432 | With 1/4" Female NPT |
| S19433 | With 3/8" Female NPT |

#### 1/4" Snap-Tite

|        |                      |
|--------|----------------------|
| S19442 | With 1/4" Female NPT |
| S17651 | With 3/8" Female NPT |

#### Couplers (Shut-Off Type)

#### 1/4" Industrial Interchange (Hansen compatible)

|     |                      |
|-----|----------------------|
| V14 | With 1/4" Female NPT |
| V15 | With 3/8" Male NPT   |

#### 1/4" Schrader

|        |                      |
|--------|----------------------|
| V18    | With 1/4" Female NPT |
| S17603 | With 1/4" Male NPT   |
| S17601 | With 3/8" Male NPT   |

#### 1/4" Snap-Tite

|        |                      |
|--------|----------------------|
| V19    | With 1/4" Female NPT |
| S17615 | With 3/8" Female NPT |
| S17611 | With 1/4" Male NPT   |
| S17614 | With 3/8" Male NPT   |

#### Hose Adapters

|     |                                      |
|-----|--------------------------------------|
| V11 | Hose-to-hose, 3/8" hose to 3/8" hose |
| V12 | Hose-to-pipe, 3/8" hose to 1/4" pipe |
| V13 | Hose-to-pipe, 3/8" hose to 3/8" pipe |

### Other Available Flow Control Assemblies (without breathing tube) for CC20 Series Airline Respirators

#### Adjustable Flow

|      |   |
|------|---|
| F40  | 1/4" Industrial Interchange                   |
| F40B | 1/4" Industrial Interchange (Brass)           |
| F40S | 1/4" Industrial Interchange (Stainless Steel) |
| F41  | 1/4" Schrader                                 |
| F42  | 1/4" Snap-Tite, steel                         |
| F43  | 1/4" Snap-Tite, brass                         |
| F44  | 1/4" Snap-Tite, stainless steel               |
| F47  | 1/4" CEJN                                     |

#### Constant Flow

|      |   |
|------|---|
| F30  | 1/4" Industrial Interchange                   |
| F30B | 1/4" Industrial Interchange (Brass)           |
| F30S | 1/4" Industrial Interchange (Stainless Steel) |
| F31  | 1/4" Schrader                                 |
| F32  | 1/4" Snap-Tite, steel                         |
| F33  | 1/4" Snap-Tite, brass                         |
| F34  | 1/4" Snap-Tite, stainless steel               |
| F35  | 1/2" Industrial Interchange                   |
| F37  | 1/4" CEJN                                     |
| F35B | 1/2" Industrial Interchange (Brass)           |
| F35S | 1/2" Industrial Interchange (Stainless Steel) |

#### Adjustable Cool Tubes

| Cold Only      | Hot/Cold  | Dual-Cool | Coupling Type                                 |                       |
|----------------|-----------|-----------|---|-----------------------|
| AC100030       | HC240030  | DC5040    | 1/4" Industrial Interchange                   | 1/4" Snap-Tite, steel |
| AC100030B      | HC240030B | DC5040B   | 1/4" Industrial Interchange (Brass)           | 1/4" Snap-Tite, brass |
| AC100030S      | HC240030S | DC5040S   | 1/4" Industrial Interchange (Stainless Steel) | 1/4" Snap-Tite,       |
| AC100031       | HC240031  | DC5041    | 1/4" Schrader                                 | stainless steel       |
| AC100032       | HC240032  | DC5042    |   | 1/4" CEJN             |
| AC100033       | HC240033  | DC5043    |   |                       |
| AC100034       | HC240034  | DC5044    |   |                       |
| AC100037       | HC240037  | DC5047    |   |                       |
| AC100035B      | HC240035B |           |   |                       |
| FRIGITRON2000  |           |           |   |                       |
| FRIGITRON2000B |           |           |   |                       |
| FRIGITRON2000S |           |           |   |                       |

## Return Authorization

The following steps must be completed before Bullard will accept any returned goods. Please read carefully.

Follow the steps outlined below to return goods to Bullard for repair or replacement under warranty or for paid repairs:

1. Contact Bullard Technical Support by telephone or in writing at:

**Bullard**  
1898 Safety Way  
Cynthiana, KY 41031-9303  
Toll-free: 877-BULLARD (285-5273)  
Phone: 859-234-6616

In your correspondence or conversation with Technical Support, describe the problem as completely as possible. For your convenience, your technical support specialist will try to help you correct the problem over the phone.

- Verify with your technical support specialist that the product should be returned to Bullard. Technical Support will provide you with written permission and a return authorization number as well as the labels you will need to return the product.
- Before returning the product, decontaminate and clean it to remove any hazardous materials which may have settled on the product during use. Laws and/or regulations prohibit the shipment of hazardous or contaminated materials. Products suspected to be contaminated will be professionally discarded at the customer's expense.
- Ship returned products, including those under warranty, with all transportation charges pre-paid. Bullard cannot accept returned goods on a freight collect basis.
- Returned products will be inspected upon return to the Bullard facility. Bullard Technical Support will telephone you with a quote for required repair work which is not covered by warranty. If the cost of repairs exceeds stated quote by more than 20%, your technical support specialist will call you for authorization to complete repairs. After repairs are completed and the goods have been returned to you, Bullard will invoice you for actual work performed.



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