

Adapters simplify installation of standard flame detectors on Fives North American burners. They also facilitate access to detectors for servicing.

Most adapters include a cooling air connection. All include a fitting that permits removal of detector without twisting or disconnecting wires, except 8836 and 8837 Adapters, which are used with detectors that have built-in unions or coupling nuts.

Selection. From Table A (below): Determine adapter number (based on detector to be used). From Table C (page 2): Determine suffix letter (based on burner to be used).

Examples: For Honeywell C7027A on a 6514 Burner, specify 8836-D Adapter.

For Honeywell C7007A on a 4422-4 Burner, specify 8832-B Adapter.

Combinations not available: 8832-L and 8836-L, because 8832-P and 8836-D can be used with small detectors without the necessity of a long (L) adapter for clearance.

See Page 4 for Series R Adapters for smaller size Flame Detectors.



8836-B with C7027A U.V. Scanner

Table A. N.A. Adapter Numbers for Various Honeywell Devices ①

| Honeywell P.N. | Device Connection | Device | Adapter No. |
|------------------------|-------------------|--------------------|-------------|
| Honeywell C7007A | 1/2" male NPT | Flame rod holder ♦ | 8832 |
| Honeywell C7004B | 1 1/4" female NPT | Flame rod holder ♦ | 8833 |
| Honeywell C7012A and E | 3/4" female NPT | Ultraviolet | 8835 |
| Honeywell C7027A | 1/2" female NPT | Ultraviolet | 8836 |
| Honeywell C7012C and F | 1" female NPT | Ultraviolet | 8837 |
| Honeywell C7035A | 1" female NPSM | Ultraviolet | 8837-R |

NOTE: Some Honeywell flame detectors that do not fit or are not recommended with Fives North American burners are: C7004B1002, 1010, and 1028, C7004B5, C7007A2, C7008A, C7009.

Table B. Flame Detector Adapter Numbers for various UV Flame Detectors ①

Following detectors have **not** been tested extensively in Fives North American laboratories; thus, signal strengths and application suitability are not known. (Detector manufacturer can furnish much of this information.) The adapter listed physically fits detector to burner when appropriate suffix letter from Table C is specified.

| Flame Detector | Device Connection | Adapter No. |
|--------------------------|-------------------------|------------------------------|
| Pyronics 4350B, 7150 | 1" female pipe thread | 8837 |
| PCI, PCII | 3/4" female pipe thread | 8835-R |
| Barber Colman 1291, 1292 | 3/4" female pipe thread | 8835 |
| Fireye 45UV1, 45UV5 | 1" female pipe thread | 8839-R |
| UV-1A | 1/2" female pipe thread | 8836 |
| UV-2 | 3/8" female pipe thread | 8831-R |
| 45UV2 | 3/4" pipe slip fit | 8835 |
| 45UV3 | (not pressure sealed) | |
| 48PT1, 48PT2 | 3/4" female pipe thread | 8836 |
| Bailey Meter UF 10 | 2" pipe thread | consult Fives North American |

① Adapters do not include detectors--order separately.

♦ See Sheet 8832-1

Table C. ADAPTER SUFFIX LETTERS for North American Burners^①

| | | | |
|-----------------------------|------------------------------|--------------------------|-------------------------|
| 4343..... ^⑤ | 4724.....8838-E ^③ | 5514.....D | 6527-7.....A |
| 4422-2 thru -6.....B | 4725.....8838-E ^③ | 5795.....D | 6562 (Obsolete).....H |
| 4422-7-A thru -8-A.....A | 4726.....C | 5796.....B | 6570 Pilot.....B |
| 4423, 4424.....B | 4762.....B | 5819.....G ^② | 6570 Main Flame.....D |
| | 4777.....H ^⑥ | | 6575.....B |
| 4425-2 thru -6.....B | 4795.....D | 6421.....B | |
| 4425-7-A thru -8-A.....A | 4796.....B | 6422-2 thru -6.....B | 6736.....B |
| 4431-8-A.....B | | 6422-7-A thru -8-A.....A | 6758.....B |
| 4442, 4442A.....A | 4808.....B | 6423.....B | 6795.....D |
| | 4818.....G ^② | 6425-2 thru -6.....B | |
| 4514.....D | 4819.....G ^② | | 6819.....G ^② |
| 4545-6 thru -8.....D | 4825.....F ^② | 6425-7-A thru -8-A.....A | 6820.....G ^② |
| 4545-9 FR only.....L | 4828.....B | 6427-8-A.....B | 6825.....F ^② |
| 4558/4558- -V.....B | 4831.....B | 6435.....B ^④ | 6832.....B |
| | 4832, 4833, 4836.....B | 6514.....D | 6833.....B |
| 4630 w/4630-P.....J | 4841.....B | 6520.....D | 6836.....B |
| 4630 w/4021-15 or -16.....M | | 6521.....D | 6841.....B |
| 4659.....B | 5422-2 thru -6.....B | 6526.....B | 6843.....B |
| 4682.....H | 5422-7-A thru -8-A.....A | | 6855.....B |

① Adapters do not include detectors--order separately.

② Use only C7035A UV with 8837-F or -G Adapter because of ambient temperature considerations. Adapter includes Honeywell Heat Block.

③ Or Series R. Also, R can be used in place of any A or B.

④ If flame supervision is mounted, Sensitrol™ Oil Valve cannot be close-connected because of interference with handle.

⑤ See Sheet 4343-3 for TwinBed® II flame detector assemblies.

⑥ Requires modified version of adapter shown in Fig 1, page 3. Use adapter 4-6153-1

RADIANT TUBE BURNERS

Flame supervision can be used with 4724 and 4725 Radiant Tube Burners. The 8838-E-UV Adapter-Detector assembly includes a C7035A-1080 Detector and 8790-0 Observation Port.

The 8838-E-UV assembly is threaded into the back of a standard 4724 or 4725 Burner in place of its observation port. An integral observation port is mounted in the upper leg of the "Y", while the lower leg holds the C7035A Detector.

The "Y" fitting can be removed without disturbing the quartz sealing lens in the front of the adapter.

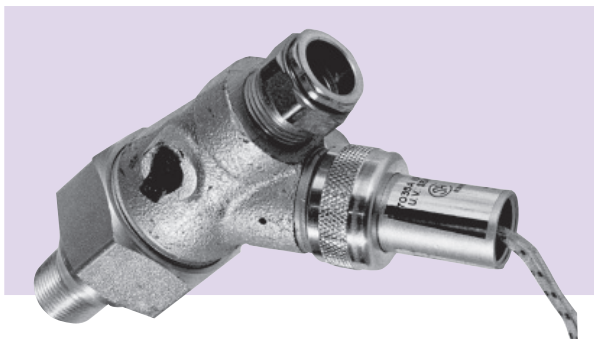
Since no burner modification is involved, an 8838-E-UV Adapter-Detector can be added to many existing burners.

A radiant tube burner flame supervision concept must take into account the fact the UV detector will **not** pick up the pilot flame. Sequence begins trial for ignition simultaneously with both pilot and main flame.

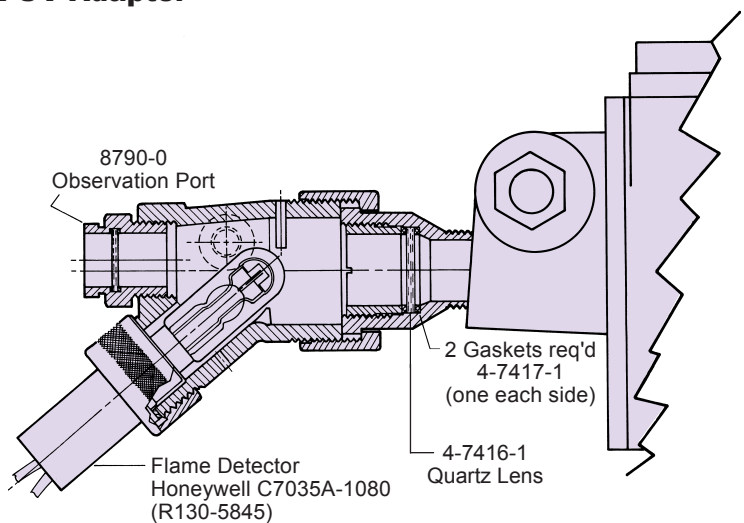
During operation, direct spark ignition or gas pilot **must be interrupted** after normal ignition interval. Pilot air can be left on under all normal operating conditions.

When replacing a UV detector in the field, remove black shield from C7035A-1080 UV tube to allow adequate signal strength. Position detector tube for maximum grid exposure with upright plates at sides.

8838-E-UV Adapter



To order, specify: 8838-E-UV Flame Adapter-Detector including C7035A-1080 UV Detector, or 8838-E Flame Detector Adapter only.



Flame Detector Adapter Dimensions in inches

| Adapter designation | For a burner having | For a ^⑨ detector having | Overall length | Radius max. ^⑧ | Cooling Air connection ^⑦ |
|---------------------|---------------------|------------------------------------|----------------|--------------------------|-------------------------------------|
| 8832-A | 3/4" NPT | 1/2" male | 6 7/8" | 2 1/8" | 1/4" NPT |
| 8832-B | 3/4" NPT | pipe thread | 5" | 2 1/8" | |
| 8832-C | 1/2" NPT | | 4 3/4" | 2" | |
| 8832-D | 1" NPT | | 5 1/2" | 2 1/8" | |
| 8832-H | 3/8-16 ANT | | 3 7/8" | See Fig. 1 | None |
| 8832-J | See Fig. 3 | | See Fig. 3 | See Fig. 3 | 1/4" NPT |
| 8832-M | See Fig. 2 | | See Fig. 2 | See Fig. 2 | |
| 8832-P | 1" NPT | | 6 13/16" | 2 5/8" | |
| 8833-A | 3/4" NPT | 1 1/4" female | 9" | 2 3/8" | |
| 8833-B | 3/4" NPT | pipe thread | 7 3/8" | 2 3/8" | |
| 8833-D | 1" NPT | | 7 3/8" | 2 5/8" | |
| 8833-H | 3/8-16 ANT | | 5 1/8" | See Fig. 1 | None |
| 8833-J | See Fig. 3 | | 1 7/8" | See Fig. 3 | 1/4" NPT |
| 8833-L | 1" NPT | | 11" | 2 1/4" | |
| 8833-M | See Fig. 2 | | 1 7/8" | See Fig. 2 | |
| 8835-A | 3/4" NPT | 3/4" female | 7 15/16" | 2 1/2" | |
| 8835-B | 3/4" NPT | pipe thread | 6 5/16" | 2 1/2" | |
| 8835-C | 1/2" NPT | | 6 1/4" | 2 1/2" | |
| 8835-D | 1" NPT | | 7" | 2 1/2" | |
| 8835-H | 3/8-16 ANT | | 7 1/8" | See Fig. 1 | |
| 8835-J | See Fig. 3 | | 5 1/2" | See Fig. 3 | |
| 8835-L | 1" NPT | | 10 3/8" | 2 1/4" | |
| 8835-M | See Fig. 2 | | 5" | See Fig. 2 | |
| 8836-A | 3/4" NPT | 1/2" female | 6 1/16" | 2 1/4" | |
| 8836-B | 3/4" NPT | pipe thread | 4 9/16" | 2 1/4" | |
| 8836-C | 1/2" NPT | | 3 7/8" | 2" | |
| 8836-D | 1" NPT | | 4 13/16" | 2 1/4" | |
| * 8836-F | 3/4" NPT | | 5 11/16" | 2 1/4" | |
| 8836-H | 3/8-16 ANT | | 6 1/8" | See Fig. 1 | |
| 8836-J | See Fig. 3 | | 5 1/16" | See Fig. 3 | |
| 8836-M | See Fig. 2 | | 4 3/4" | See Fig. 2 | |
| 8837-A | 3/4" NPT | 1" female | 5 15/16" | 2 5/8" | |
| 8837-B | 3/4" NPT | pipe thread | 4 15/16" | 2 5/8" | |
| 8837-D | 1" NPT | | 4 7/8" | 2 5/8" | |
| 8837-F | 3/4" NPT | | 8 3/4" | 2 5/8" | |
| 8837-G | 1" NPT | | 8 3/4" | 2 5/8" | |

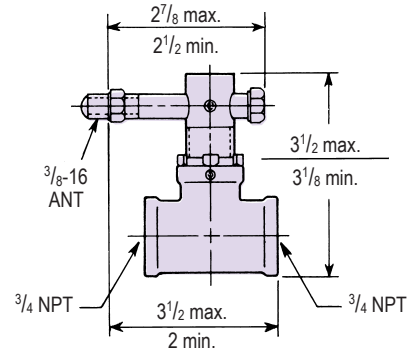


Fig. 1. Part number 3-2156-1, used with "H" adapters for 4682 Burners Complete.

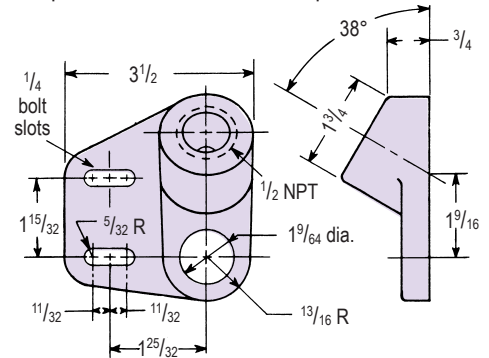


Fig. 2. Part number 4-2408-3, used with "M" adapters for 4021-15 or 4021-16 Pilot Tip on 4630 Main Burner Sections.

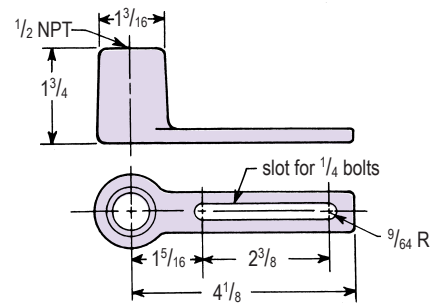
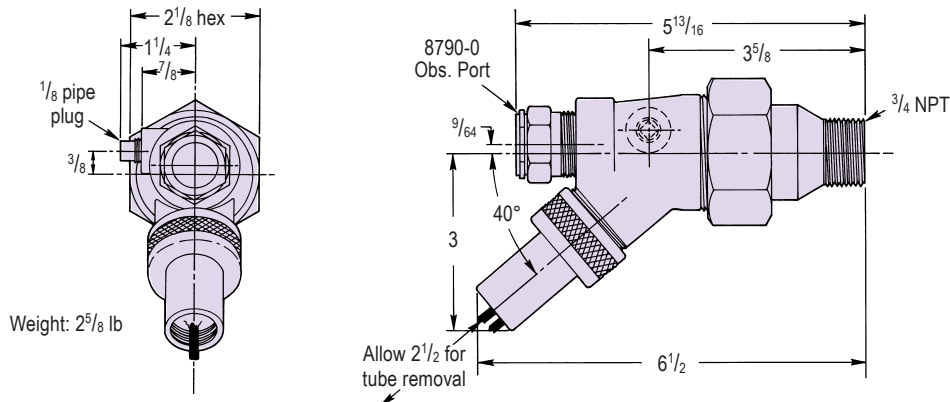


Fig. 3. Part number 4-3151-1, used with "J" adapters 4630-P Pilot.

To order, specify: Adapter number with appropriate letter suffix.
 Example: 8836-B Adapter

- ⑦ A throttling valve in the cooling air line is suggested for limiting air flow to minimum amount required.
- ⑧ "Radius max." applies to adapters not dimensioned above: It is radius of a cylinder in space adapter would occupy while being screwed into mounting.
- ⑨ 8832 and 8833 adapters for flame rods only. See Sheet 8832-1, page 2
- * Includes Honeywell Heat Block

8838-E-UV Adapter-Detector assembly including C7035A UV Detector and 8790-0 Observation Port



"R" Adapters for smaller size Flame Detectors

**NOTE: "R" Adapters are shipped with a setscrew plugging the hole that vents cooling air. ♦
Leave the setscrew in place when assembling the adapter for purging air[Ⓢ], but remove it if cooling air is employed.
Adapters have the capacity to flow 50 scfh with 8 psi of cooling air pressure.**

Each "R" adapter is designed for a specific detector. Adapters have a sealing window and a ¼" tube connector for cooling or purging air: When adapters are assembled as shown below, air will be for cooling only; when mounting detector on same end as sealing window, function of air is changed to purging. When using the purging setup on a burner developing backpressure, use sufficient air pressure to assure positive flow through the adapter into the burner.

Adapters have ¾" NPT to fit ¾" NPT flame detector mounting provision of most Fives North American burners. Basic 8835-R unit is common to all "R" adapters. It is ¾" NPT on both ends. Other adapters are made from the 8835-R by adding an appropriate fitting to one end.

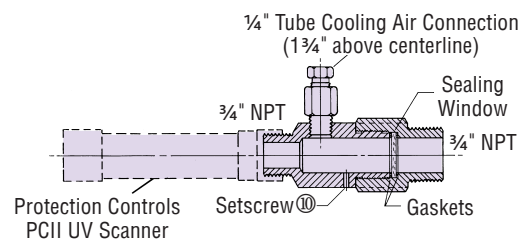
Ⓢ Disassemble the detector adapter fitting from the main body and re-assemble it to the other end of the body, so that the UV detector will be mounted to the same end as the sealing window. Shut purge air off during ignition cycle if burner lighting is affected.

Adapters and Detectors (see Table B note on Page 1)

- 8831-R Adapter for Fireye UV-2 Scanner (N.A. R130-2130).
- 8834-R Adapter for 8790-0 Observation Port.
- 8835-R Adapter for Protection Controls PCII UV Scanner.
- 8836-R Adapter for Honeywell C7027A Flame Detector (N.A. R130-5841).
- 8837-R Adapter for Honeywell C7035A-1080 Flame Detector (N.A. R130-5845).
- 8839-R Adapter for Fireye 45UV5 Flame Detector (N.A. R130-2151).

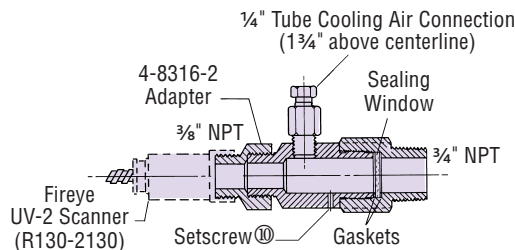
All Series R adapters have the following parts in common:

| | |
|-----------------------|-------------|
| Cooling Air Connector | R916-2211 |
| Sealing Window | 4-7628-1 |
| Gasket (2 req'd) | 4-7629-1 |
| Body | 4-9770-2 |
| ¾" Mtg. Adapter | 4-7932-1 |
| #8-32 Setscrew | R776-1431-N |

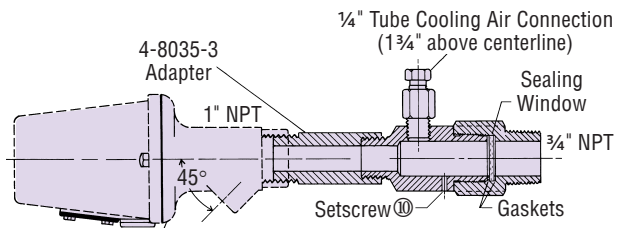


¾" NPT
¾" NPT
Sealing Window
Gaskets
Setscrew[Ⓢ]
Protection Controls
PCII UV Scanner
3½" long
1 7/16" maximum OD
8835-R

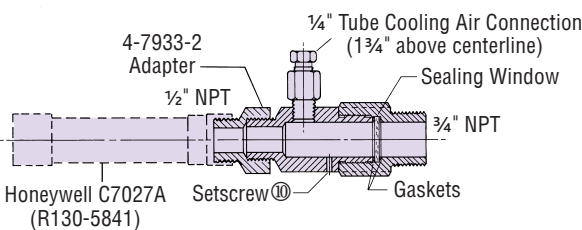
(8835-R Also available with 1" NPT connections as PT. No. 4-40356-1)



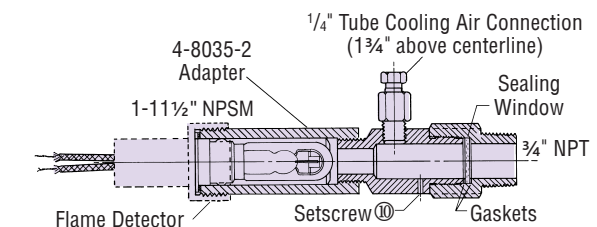
¼" Tube Cooling Air Connection
(1 ¼" above centerline)
4-8316-2
Adapter
¾" NPT
Sealing Window
¾" NPT
Fireye
UV-2 Scanner
(R130-2130)
Setscrew[Ⓢ]
Gaskets
4½" long
1 7/8" maximum OD
8831-R



¼" Tube Cooling Air Connection
(1 ¼" above centerline)
4-8035-3
Adapter
1" NPT
Sealing Window
¾" NPT
Fireye
45UV5 Scanner
(R130-2151)
Setscrew[Ⓢ]
Gaskets
4½" long
1 7/8" maximum OD
8839-R



¼" Tube Cooling Air Connection
(1 ¼" above centerline)
4-7933-2
Adapter
½" NPT
Sealing Window
¾" NPT
Honeywell C7027A
(R130-5841)
Setscrew[Ⓢ]
Gaskets
4½" long
1 7/8" maximum OD
8836-R



¼" Tube Cooling Air Connection
(1 ¼" above centerline)
4-8035-2
Adapter
1-11 ½" NPSM
Sealing Window
¾" NPT
Flame Detector
Honeywell C7035A-1080
(R130-5845)
Setscrew[Ⓢ]
Gaskets
6¼" long
1 7/8" maximum OD
8837-R

♦ Remove if installed as shown for venting cooling air.

DIMENSIONS SHOWN ARE SUBJECT TO CHANGE. PLEASE OBTAIN CERTIFIED PRINTS FROM FIVES NORTH AMERICAN COMBUSTION, INC. IF SPACE LIMITATIONS OR OTHER CONSIDERATIONS MAKE EXACT DIMENSION(S) CRITICAL.

WARNING: Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and insurance Underwriters recommendations, and care in operation.

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