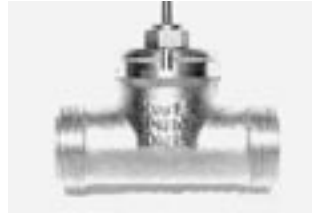
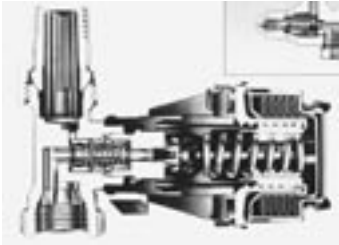




## THERMOSTATIC RADIATOR VALVES DANFOSS



| Operators<br>Model # | Description   | Capillary Tube Length (Feet) |
|----------------------|---|------------------------------|
| 013G8200             | Standard Model with Memory Ring                                 |                              |
| 013G8220             | Heavy Duty Tamper Resistant Model with Temperature Setting Lock |                              |
| 013G8202             | Remote Model with Adjustable Capillary                          | 6 1/2                        |
| 013G8564             | Wall Mount with Separate Remote Dial/Sensor                     | 6 + 6                        |
| 013G8562             | Wall Mount with Combined Remote Dial/Sensor                     | 6                            |
| 013G8565             | Wall Mount with Combined Remote Dial/Sensor                     | 16                           |

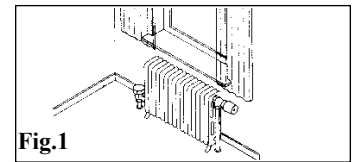
  

| Hot Water and 2 Pipe Low Pressure Steam Valves<br>Model # | Design                     | Valve Size (Inches) |
|---|----------------------------|---------------------|
| 013G8014  | NPT Angle Valve            | 1/2                 |
| 013G8015  | NPT Straight Valve         | 1/2                 |
| 013G8018  | NPT Side Mount Angle Valve | 3/4                 |
| 013G8019  | NPT Angle Valve            | 3/4                 |
| 013G8020  | NPT Straight Valve         | 3/4                 |
| 013G8023  | NPT Side Mount Angle Valve | 1                   |
| 013G8024  | NPT Angle Valve            | 1                   |
| 013G8025  | NPT Straight Valve         | 1                   |
| 013G8031  | NPT Angle Valve            | 1 1/4               |
| 013G8044  | Double Solder Union        | 3/4                 |

### Typical Installation Configuration

#### Free Standing Hot Water or Steam Radiator with Free Air Flow

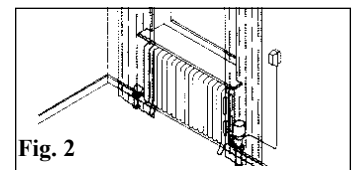
Use standard or tamper resistant model with combined operator/sensor. Always mount horizontally. Use straight, side mount angle or double solder union valve. **Fig. 1**



**Fig.1**

#### Free Standing Hot Water or Steam Radiator without Free Air Flow

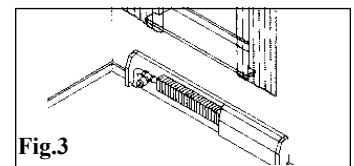
Use dial/operator with remote sensor. Sensor and capillary tube can be wall mounted. Use with straight, angle, side mount angle or double solder union. **Fig. 2**



**Fig. 2**

#### Baseboard Convactor Hot Water or Steam with Free Air Flow

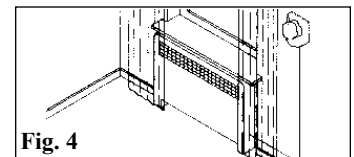
Use standard or tamper resistant model with combined operator/sensor. Always mount horizontally. Use straight, side mount angle or double solder union valve. **Fig. 3**



**Fig.3**

#### Baseboard Convactor Hot Water or Steam without Free Air Flow

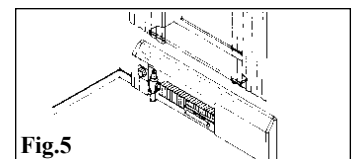
Use operator with combined remote dial/sensor. Dial sensor is wall mounted with 6' to 16' capillary tube. Use straight, angle, side mount angle or double solder union valve. **Fig. 4**



**Fig. 4**

#### Baseboard Convactor Hot Water or Steam That Requires Dial and Sensor to Mount Separately

Use operator with separate dial and remote sensor. Place remote sensor beneath radiation or on draft-free wall. Remote dial mounts on enclosure or wall. Use straight, angle, side mount angle or double solder union valve. **Fig. 5**



**Fig.5**

## BACKFLOW PREVENTERS WATTS

### Series 25AUB

- Sizes: 1/2" -2" (15-50mm, NPT threaded)      Flow Pressure Unless Otherwise Noted
- Female Union Inlet x Female Outlet      • Adj. Pressure Range From 25 to 75 psi
- Initial Pressure Up 300 psi. (20.7 bars)      • Maximum Temp. 160° F (71°C)
- Factory Set at 50 psi (344.8kPa) No

| Part#  | Description  |
|--------|--|
| 355270 | 1/2 Standard Capacity Water Pressure Regulator Valve   |
| 355272 | 3/4 Standard Capacity Water Pressure Regulator Valve   |
| 355274 | 1 Standard Capacity Water Pressure Regulator Valve     |
| 355276 | 1 1/4 Standard Capacity Water Pressure Regulator Valve |
| 355278 | 1 1/2 Standard Capacity Water Pressure Regulator Valve |
| 355280 | 2 Standard Capacity Water Pressure Regulator Valve     |



**AUB**

### Series 7

- For Use At Drinking Water Supply,      • Designed For Non-Health Hazard
- Service Entrance or w/Individual Outlets      Residential Water System Containment
- Continuous Pressure Applications

| Part#  | Description                             |
|--------|---|
| 355305 | 1/2 Dualcheck Backflow Preventer Bronze |
| 355306 | 3/4 Dualcheck Backflow Preventer Bronze |



**Series 7**

## HYDRONIC ACCESSORIES WATTS

| Part #  | Item     | Description  | Connection              |
|---------|----------|--|-------------------------|
| W2000SF | 2000S    | 3/4 swt 2 way Flw Chk                              | 3/4swt                  |
| W2000SG | 2000S    | 1 swt 2 way Flw Chk                                | 1swt                    |
| W2000F  | 2000-M4  | 3/4 3 way Flw Chk                                  | 3/4 npt                 |
| W2000G  |          | 1 3 way Fl Chk                                     | 1 npt                   |
| W2000H  |          | 1-1/4 3 way Flw Chk                                | 1-1/4 npt               |
| W2000I  |          | 1-1/2 3 way Flw Chk                                | 1-1/2 npt               |
| W1156F  | 1156F    | 1/2 Water Feed Valve                               | 1/2 npt                 |
| WS1156F | S1156F   |  | 1/2 swt                 |
| W9D     | 9D       | Backflow Preventer                                 | 1/2 npt                 |
| W9DS    | 9DS      |  | 1/2 swt                 |
| W9DSF   | 9DS      |  | 3/4 swt                 |
| W911    | 911      | Combination Fast Fill                              | 1/2npt x 1/2 npt        |
| W911S   | 911S     |  | 1/2 swt inlet x 1/2 npt |
| W374A   | 374A     | 30 psi Blr P/T Relief 550 mbtu<br>550,000 btuh Max | 3/4npt                  |
| W174A   | 174A 3/4 | 30 psi Blr P/T Relief 650 mbtu                     | 3/4npt                  |
| W174AG  | 174A 1   | 1,005,000 btuh Max                                 | 1npt                    |
| W70AD   | 70A      | 3 way mixing valve                                 | 1/2 swt                 |
| W70AF   |          |  | 3/4 swt                 |
| W70AR   |          |  | repair kit              |



**WATTS 911S**



**WATTS 174A**



**2000-MS 3/4"**

**BOILERS & ACCESSORIES**

## BALL VALVES WATTS

### Series FBV-3/ FBVS-3

- Approved MSS-SP-10
- Sizes 1/2"-2" Approved CSA(Threaded Only) UL, And FM

| Part # | Description                  |
|--------|------------------------------|
| 355140 | 1/2" CXC Ball Valve Yellow   |
| 355142 | 3/4" CXC Ball Valve Yellow   |
| 355144 | 1" CXC Ball Valve Yellow     |
| 355146 | 1 1/4" CXC Ball Valve Yellow |
| 355148 | 1 1/2" CXC Ball Valve Yellow |
| 355149 | 2 1/2" CXC Ball Valve Yellow |
| 355150 | 2" CXC Ball Valve Yellow     |
| 355152 | 3" CXC Ball Valve Yellow     |
| 355155 | 1/2" IPS Ball Valve Yellow   |
| 355157 | 3/4" IPS Ball Valve Yellow   |
| 355159 | 1" IPS Ball Valve Yellow     |
| 355161 | 1 1/4" IPS Ball Valve Yellow |
| 355163 | 1 1/2" IPS Ball Valve Yellow |
| 355165 | 2" IPS Ball Valve Yellow     |
| 355166 | 3" IPS Ball Valve Yellow     |
| 355167 | 2 1/2" IPS Ball Valve Yellow |



**FBV**

### Series B-6000 B-6001

- Two Piece Ball Valves
- For Residential & Commercial
- Suitable For A full Range of Liquids & Gases
- Meets Federal Spec. WW-V-35C & Complies w/ MSS-SP-110

| Part # | Description                       |
|--------|-----------------------------------|
| 355055 | 1/2" CXC Ball Valve 6001-GR       |
| 355056 | 3/4" CXC Ball Valve 6001-GR       |
| 355057 | 1" CXC Ball Valve 6001-GR         |
| 355058 | 2" CXC Ball Valve 6001-GR         |
| 355059 | 1 1/2" CXC Ball Valve 6001-GR     |
| 355060 | 2" CXC Ball Valve 6001-GR         |
| 355061 | 1/4" IPS Ball Valve B6000 Green   |
| 355062 | 1/2" IPS Ball Valve B6000 Green   |
| 355064 | 3/4" IPS Ball Valve B6000 Green   |
| 355066 | 1" IPS Ball Valve B6000 Green     |
| 355068 | 1 1/4" IPS Ball Valve B6000 Green |
| 355070 | 1 1/2" IPS Ball Valve B6000 Green |
| 355072 | 2" IPS Ball Valve B6000 Green     |



**B-6000**

### Series GBV

- Brass 2 Piece Body Construction
- Available with Tee Or Square Handle

| Part #  | Description         |
|---------|---------------------|
| 101-002 | 3/8" Gas Ball Valve |
| 101-003 | 1/2" Gas Ball Valve |
| 101-004 | 3/4" Gas Ball Valve |
| 101-005 | 1" Gas Ball Valve   |



**GBV**

## DISTRIBUTION MANIFOLDS CALEFFI

| Part # | Description                                     | Outlet # <sup>2</sup> | Part #        | Description  | Dimensions (HxWxD)  |
|--------|---|-----------------------|---------------|--|---|
| 6687C5 | Pre-assembled manifold <sup>1</sup>             | x3                    | 658100        | Bracket Set - Pair of mounting brackets for use with manifolds and 659 housing cabinet complete w/ hardware. Direct wall mount possible as well. |   |
| 6687D5 | Pre-assembled manifold <sup>1</sup>             | x4                    |               |  |   |
| 6687E5 | Pre-assembled manifold <sup>1</sup>             | x5                    |               |  |   |
| 6687F5 | Pre-assembled manifold <sup>1</sup>             | x6                    |               |  |   |
| 6687G5 | Pre-assembled manifold <sup>1</sup>             | x7                    |               |  |   |
| 6687H5 | Pre-assembled manifold <sup>1</sup>             | x8                    |               |  |   |
| 6687I5 | Pre-assembled manifold <sup>1</sup>             | x9                    | 660040        | Floor Installation Kit for 659040  |   |
| 6687L5 | Pre-assembled manifold <sup>1</sup>             | x10                   | 660060        | Floor Installation Kit for 659060  |   |
| 6687M5 | Pre-assembled manifold <sup>1</sup>             | x11                   | 660080        | Floor Installation Kit for 659080  |   |
| 6687N5 | Pre-assembled manifold <sup>1</sup>             | x12                   | 660100        | Floor Installation Kit for 659100  |   |
| 6687O5 | Pre-assembled manifold <sup>1</sup>             | x13                   | 660120        | Floor Installation Kit for 659120  |   |
| 668735 | Manifold, built in isolation & balancing valves | x3                    | 659040        | Manifold Housing Cabinet, Lockable   | 18" x 16" x 4 <sup>3</sup> / <sub>8</sub> "-5 <sup>1</sup> / <sub>2</sub> " |
| 668745 | Manifold, built in isolation & balancing valves | x4                    | 659060        | Manifold Housing Cabinet, Lockable   | 18" x 24" x 4 <sup>3</sup> / <sub>8</sub> "-5 <sup>1</sup> / <sub>2</sub> " |
| 668755 | Manifold, built in isolation & balancing valves | x5                    | 659080        | Manifold Housing Cabinet, Lockable   | 18" x 32" x 4 <sup>3</sup> / <sub>8</sub> "-5 <sup>1</sup> / <sub>2</sub> " |
| 668765 | Manifold, built in isolation & balancing valves | x6                    | 659100        | Manifold Housing Cabinet, Lockable   | 18" x 40" x 4 <sup>3</sup> / <sub>8</sub> "-5 <sup>1</sup> / <sub>2</sub> " |
| 668775 | Manifold, built in isolation & balancing valves | x7                    | 659120        | Manifold Housing Cabinet, Lockable   | 18" x 48" x 4 <sup>3</sup> / <sub>8</sub> "-5 <sup>1</sup> / <sub>2</sub> " |
| 668785 | Manifold, built in isolation & balancing valves | x8                    |               |  |   |
| 666735 | Manifold, isol. vlv for thermo-elect actuators  | x3                    | <b>Part #</b> | <b>Description</b>   | <b>Connection</b>   |
| 666745 | Manifold, isol. vlv for thermo-elect actuators  | x4                    | 508013A       | 5080 - Hydrosopic Air Vent. 150 psi/212°F  | 1/8" NPT male   |
| 666755 | Manifold, isol. vlv for thermo-elect actuators  | x5                    | 508100A       | 5081 - Replacement Hydrosopic Cartridge.   |   |
| 666765 | Manifold, isol. vlv for thermo-elect actuators  | x6                    | 502610A       | 5026 - Air Vent in Brass   | 1/8" NPT male   |
| 666775 | Manifold, isol. vlv for thermo-elect actuators  | x7                    | 502620A       | 5026 - Air Vent in Brass   | 1/4" NPT male   |
| 666785 | Manifold, isol. vlv for thermo-elect actuators  | x8                    | 502710A       | 5027 - Air Vent in Brass w/check valve   | 1/8" NPT male   |
| 667735 | Manifold, balancing vlv with flow indicator     | x3                    | 502720A       | 5027 - Air Vent in Brass w/check valve   | 1/4" NPT male   |
| 667745 | Manifold, balancing vlv with flow indicator     | x4                    | 501500A       | 501 - High Capacity Vent. 230 psi/250°F  | 3/4" NPT female   |
| 667755 | Manifold, balancing vlv with flow indicator     | x6                    |               |  |   |
| 667775 | Manifold, balancing vlv with flow indicator     | x7                    |               |  |   |
| 667785 | Manifold, balancing vlv with flow indicator     | x8                    |               |  |   |

<sup>1</sup>Return manifold w/ shut-off valves for 666 thermo-elect actuators; supply manifold w/ 666 balancing valves. Shipped with 1-658 brackets, 1 pair 391 ball valves, 2 - 5996 air vent assembly

<sup>2</sup>Outlet center distance: 1"



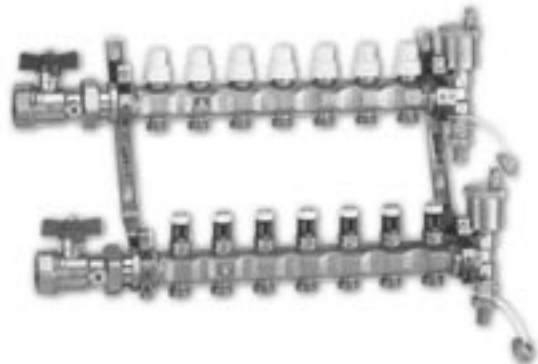
659



658



5080



## HYDROLINK RADIANT GATEWAY CALEFFI

| Part    | Connection           | Branches | Primary Size & Flow | Secondary Size & Flow (total) |
|---------|----------------------|----------|---------------------|-------------------------------|
| 559021A | 1 1/4" NPT w/ 1" NPT | 2+1      | 1" 9 GPM            | 1" 22GPM                      |
| 559022A | 1 1/4" NPT w/ 1" NPT | 2+2      | 1 1/4" 11 GPM       | 1" 26 GPM                     |
| 559031A | 1 1/4" NPT w/ 1" NPT | 3+1      | 1 1/4" 11 GPM       | 1" 26 GPM                     |

### Features:

- Hydronic separator-manifold provides a minimum change in pressure drop across all secondary loops.
- Prevents pump conflict and simplifies primary/secondary piping.
- Compact size reduces installation space.
- Painted welded steel body.
- Foam insulation prevents heat loss.
- 559021A can be mounted in 659 manifold cabinet.
- 559022A and 559031A wall mounting brackets included.
- Maximum working pressure: 100 psi
- Maximum temperature: 230°F
- 1/2" female connection for air vent code 502041
- 1/2" female connection for drain code 538400



## MANIFOLD PARTS CALEFFI

| Part #  | Description                    | Connection  |
|---------|--------------------------------|---|
| 391967A | 391 - Ball Valve Set           | 1" NPT female x 1 1/4" union straight thread                |
| 61185A  | 611 - NPT Adapter              | 1 1/4" NPT female x 1 1/4" male straight thread             |
| 61215A  | 612 - NPT Adapter              | 1" NPT female x 1 1/4" male straight thread                 |
| 599671  | 5996 - Manifold Air Vent       | 1 1/4" female Combines 59575, 5994, and 538                 |
| 59575   | Replacement Air Vent           | 3/8" male for Manifold Air 599671 only                      |
| 502041  | Replacement Air Vent           | 1/2" male for HydroLink series only                         |
| 599473  | 5994 - Fitting                 | 1 1/4" x 1/2" x 3/8" female, Three-way end fitting          |
| 538400  | 538 - Drain                    | 1/2" Drain cock with hose connector and cap                 |
| 669050  | 669 - Flow Indicator           | 3/4" female x 3/4" male Straight thread conn. (90psi/180°F) |
| 656104  | 656 - Thermo-electric actuator | No end switch   |
| 656114  | 656 - Thermo-electric actuator | With end switch   |



391

| Part #  | Description | Connection | PEX  | Diameter Inside | Diameter Outside |
|---------|-------------|------------|------|-----------------|------------------|
| 680503A | Fitting     | 3/4"       | 3/8" | 8.5 - 9 mm      | 12 - 14 mm       |
| 680504A | Fitting     | 3/4"       | 1/2" | 11.5 - 12 mm    | 14 - 16 mm       |
| 680505A | Fitting     | 3/4"       | 3/4" | 17mm            | 22.5 mm          |

### Hydronic Valves

| Part #  | Description   | Connection                               |
|---------|---|--|
| 510502A | 510 - Flow check valve allows straight or elbow.    | 3/4" NPT fml                             |
| 519500A | 519 - Differential By-pass Valve                    | 3/4" NPT fml inlet w/ 3/4" NPT ml out    |
| 553542A | 553 - Auto boiler feed w/ adjustable outlet press.  | 1/2" union NPT inlet w/ 1/2" NPT fml out |
| 626600A | 626 - Flow Switch. Suitable for 1" to 8" pipe.      | 1" NPT male                              |
|         | 642 - Two-way Z-one valve, 24v removable actuator   | 1/2" swt                                 |
|         | 642 - Two-way Z-one valve, 24v removable actuator   | 3/4" swt                                 |
|         | 642 - Two-way Z-one valve, 24v removable actuator   | 1" swt                                   |
|         | 642 - Two-way Z-one valve, 24v removable actuator   | 3/4" inverted flare                      |
| 676149  | 676 - Two-way Zone Valve 4.0 Cv w/ 20 psi close-off | 1/2" union swt includes 656114           |
| 676159  | 676 - Two-way Zone Valve 4.0 Cv w/ 20 psi close-off | 3/4" union swt includes 656114           |
| 676169  | 676 - Two-way Zone Valve 4.0 Cv w/ 20 psi close-off | 1" union swt includes 656114             |



680



5996

| Part #  | Description  | Connection     | Flow   | Max Flow |
|---------|--|----------------|--------|----------|
| 521400A | Three-way Mixing Valve: radiant and hydronic, adjustable | 1/2" union NPT | 3.0 Cv | 10 GPM   |
| 521500A | Three-way Mixing Valve: radiant and hydronic, adjustable | 3/4" union NPT | 3.2 Cv | 13 GPM   |
| 521600A | Three-way Mixing Valve: radiant and hydronic, adjustable | 1" union NPT   | 3.4 Cv | 15 GPM   |
| 521409  | Three-way Mixing Valve: radiant and hydronic, adjustable | 1/2" sweat     | 3.0 Cv | 10 GPM   |
| 521509  | Three-way Mixing Valve: radiant and hydronic, adjustable | 3/4" sweat     | 3.2 Cv | 13 GPM   |
| 521609  | Three-way Mixing Valve: radiant and hydronic, adjustable | 1" sweat       | 3.4 Cv | 15 GPM   |



521



642



551

### Venting Devices

| Part #  | Description                               | Connection      |
|---------|---|-----------------|
| 508013A | 5080 - Hydrosopic Air Vent. 150 psi/212°F | 1/8" NPT male   |
| 508100A | 5081 - Replacement Hydrosopic Cartridge.  |                 |
| 502610A | 5026 - Air Vent in Brass                  | 1/8" NPT male   |
| 502620A | 5026 - Air Vent in Brass                  | 1/4" NPT male   |
| 502710A | 5027 - Air Vent in Brass w/check valve    | 1/8" NPT male   |
| 502720A | 5027 - Air Vent in Brass w/check valve    | 1/4" NPT male   |
| 501500A | 501 - High Capacity Vent. 230 psi/250°F   | 3/4" NPT female |

### Air Separators

| Part #  | Description          | Cv | Connection        | rec. flow GPM |
|---------|----------------------|----|-------------------|---------------|
| 551002A | 551 - Compact DISCAL | 14 | 3/4" sweat female | 6             |
| 551003A | 551 - Compact DISCAL | 14 | 3/4" NPT female   | 6             |
| 551005A | 551 - DISCAL         | 19 | 3/4" female       | 8             |
| 551006A | 551 - DISCAL         | 21 | 1" female         | 10            |
| 551007A | 551 - DISCAL         | 43 | 1 1/4" female     | 15            |
| 551008A | 551 - DISCAL         | 51 | 1 1/2" female     | 24            |
| 551009A | 551 - DISCAL         | 78 | 2" female         | 36            |

# Honeywell

## THERMOSTATS HONEYWELL

| Model      | Description  | Programming | Color/<br>Orientation | Stages       | Switch<br>Position | Fan<br>Switch | Temp.<br>Range |
|------------|--|-------------|-----------------------|--------------|--------------------|---------------|----------------|
| T8524D1007 | 24V Electronic   | N/A         | Taupe / Hor.          | 2H, 2C       | H-Off-C-Auto       | On-Auto       | 40-99°         |
| T7300A1005 | 24V Electronic Commercial  | 7 Day       | Beige / Hor.          | 2H, 2C       | H-Off-C-Auto       | On-Auto       | 40-110°        |
| T8000C1002 | 24V Ht. Only Power Stealing  | 5-2         | White / Hor.          | 1H, 1C       | H-Off-C            | On-Auto       | 40-99°         |
| T8034C1085 | 24V Ht. Only Power Stealing Mercury  | None        | Taupe / Hor.          | 1H, 1C       | H-Off-C            | On-Auto       | 55-95°         |
| T810D1003  | 24V Ht. Only Power Stealing Bimetal  | None        | Beige / Hor.          | 1H           | N/A                | N/A           | 45-80°         |
| T8112D1005 | 24V RH-RC Battery Powered  | 5-1-1       | White / Hor.          | 1H, 1C       | H-Off-C            | On-Auto       | 45-88°         |
| T822D1024  | 24V RH-RC Pwr Stlg New Look, Mercury   | None        | Taupe / Vert.         | 1H           | N/A                | N/A           | 55-95°         |
| T834C1137  | 24V RH-RC Pwr Stlg New Look, Mercury   | None        | Taupe / Vert.         | 1 H, 1C      | H-Off-C            | On-Auto       | 55-95°         |
| T834C2499  | 24V RH-RC Pwr Stlg New Look, Mercury   | None        | White / Vert.         | 1 H, 1C      | H-Off-C            | On-Auto       | 55-95°         |
| T8400C1024 | 24V RH-RC Electronic Power Stealing  | None        | White / Square        | 1 H, 1C      | H-Off-C            | On-Auto       | 40-99°         |
| T8600D2028 | 24V RH-RC Electronic Power Stealing  | 7 Day       | Taupe / Hor.          | 1 H, 1C      | H-Off-C-Auto       | On-Auto       | 40-99°         |
| T8600D2069 | 24V RH-RC Electronic Power Stealing  | 7 Day       | White / Hor.          | 1 H, 1C      | H-Off-C-Auto       | On-Auto       | 40-99°         |
| T8602D2000 | 24V RH-RC Electronic Battery Power   | 7 Day       | Taupe / Hor.          | 1 H, 1C      | H-Off-C-Auto       | On-Auto       | 40-99°         |
| T8602D2018 | 24V RH-RC Electronic Battery Power   | 7 Day       | White / Hor.          | 1 H, 1C      | H-Off-C-Auto       | On-Auto       | 40-99°         |
| T8624D2012 | 24V RH-RC Electronic Power Stealing  | 7 Day       | White / Hor.          | 2H, 2C       | H-Off-C-Auto       | On-Auto       | 40-99°         |
| T8700B1007 | 24V RH-RC Power Stealing   | 2 Period    | White / Round         | 1H           | H-Off              | N/A           | 40-99°         |
| T8700C1005 | 24V RH-RC Power Stealing   | 2 Period    | White / Round         | 1H, 1C       | H-Off-C            | On-Auto       | 40-99°         |
| T874D1165  | 24V RH-RC Pwr Stlg Mercury   | None        | Beige / Hor.          | 2H, 2C       | H-Off-C            | N/A           | 42-88°         |
| T87F1859   | 24V w/6" Ring Mercury  | 1Ht.        | Taupe / Rnd           | Use Q539A    | N/A                | N/A           | 40-90°         |
| T87F2782   | 24V w/6" Ring Lckg Cvr & Dial, Mercury   | 1Ht.        | Taupe / Rnd           | Use Q539A    | N/A                | N/A           | 40-90°         |
| T87F2873   | 24V w/ Ht. Only Mercury  | 1Ht.        | Taupe / Rnd           | Use Q539A    | N/A                | N/A           | 40-90°         |
| T87F3855   | 24V w/ Ht. Only Mercury  | 1Ht.        | White / Rnd           | Use Q539A    | N/A                | N/A           | 40-90°         |
| TS86A1389  | Millivolt Ht Only Mercury  | 1Ht.        | Taupe / Rnd           | 1 H          | N/A                | N/A           | 40-90°         |
| T8195B1004 | 24V RH-RC Power Stealing Mercury   | 7 Day       | Taupe / Hor.          | 1H, 1C       | H-Off-C            | On-Auto       | 42-88°         |
| Q539A1014  | Gold Subbase w/RH & RC Term. @ Trans. Systems forT87F  |             |                       | H-Off-C      | On-Auto            |               |                |
| Q539A1469  | White Subbase w/RH & RC Term. @ Trans. Systems forT87F   |             |                       | H-Off-C      | On-Auto            |               |                |
| Q539A1147  | Gold Subbase w/RH & RC Term. @ Trans. Systems forT87F  |             |                       | H-Off-C      | On-Auto            |               |                |
| Q539A1451  | White version of Q539A1014 Subbase forT87F   |             |                       | H-Off-C      | On-Auto            |               |                |
| Q539A1469  | Cooling Only Subbase forT87F   |             |                       | H-Off-C      | On-Auto            |               |                |
| Q539C1020  | Heat Pump w/Auto On in Htg & Clg. forT87F  |             |                       | C Off        | On-Auto            |               |                |
| Q539J1006  | RH & RC Terminals forT87F  |             |                       |              |                    |               |                |
| Q674A1019  | Subbase for T874A-D  |             |                       | H Auto C     | On-Auto            |               |                |
| Q674A1034  | Subbase for T874A-D  |             |                       | H Off C      | On-Auto            |               |                |
| Q674A1049  | Subbase for T874A-D Auto. Changeover   |             |                       | H-Off-C-Auto | On-Auto            |               |                |
| 689A       | Beige Mount Plate- Vertical or Horizontal Mount for T8600, T8602, T8624  |             |                       |              |                    |               |                |
| TG512A1009 | Clear Universal Thermostat Guard-7 <sup>1</sup> / <sub>4</sub> H x 9 <sup>3</sup> / <sub>4</sub> W x 3 <sup>3</sup> / <sub>8</sub> D |             |                       |              |                    |               |                |
| W42AA      | Penn Dehumidistat  |             |                       |              |                    |               |                |



T87F



T8600



T8700



T822D



Q539A



T8112

HEAT  
CONTROLS

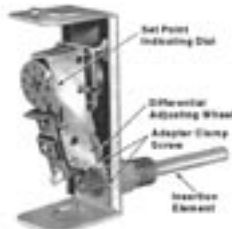
# Honeywell

## HEATING & GAS CONTROLS HONEYWELL

| Model/part # | Description  |
|--------------|--|
| AT140A1000   | 120V 40VA Multi-mount Transformer with 9" Leads                                |
| AT88A1005    | 120V 75VA foot Mount Secondary Fuse Transformer with 9" Leads                  |
| H775A1006    | Humidity Controller 5-95% RH SPST  |
| H49B1017     | Humidity Controller 15-50% RH SPST Sail Switch                                 |
| L6006C1018   | Strap on Aquastat, spsd 65-200° range, 5-30" Differential                      |
| R8225A1017   | Line Voltage Fan Relay Full Load Rating 14.0A ¾ hp SPDT                        |
| R8225B1007   | Line Voltage Fan Relay Full Load Rating 14.0A ¾ hp SPST N.O                    |
| R8239D1015   | Fan Center- SPDT120V Primary, 24V secondary w/R8222U DPST                      |
| R8239A1052   | Fan Center- SPDT120V Primary, 26.5V secondary w/R8222U DPST                    |
| L4064B2210   | Fan/Limit Control Temp.Range 50-250°F 25 Differential Element Insertion 11½"   |
| L4064B2236   | Fan/Limit Control Temp.Range 50-250°F 25 Differential Element Insertion 5"     |
| L4064W1098   | Fan/Limit Control Temp.Range 50-250°F 25 Differential w/Bimetal Switch         |
| R845A1030    | Hydronic Switching Relay DPST  |
| RA89A1074    | Relay for Switching One Line Voltage Load SPST                                 |
| RA889A1001   | Switching Relay w/24V Controller Load SPST; 24V SPST                           |
| R4222D1013   | Switching Relay w/120V Coil DPDT   |
| R8222D1014   | Switching Relay w/24V Coil DPDT  |
| ST9120G4038  | Electronic Fan Timer Replaces ST9120G4038 or 1170063                           |
| S688A1007    | Sail Switch-24VAC Used to Activate Electronic Equipment in Response to Airflow |
| W42AA        | Penn Low/Line Voltage Humidistat   |



R8225



L4064B



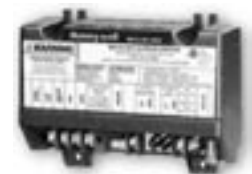
R8239D



AT140A

## COMBUSTION CONTROLS HONEYWELL

| Honeywell Part# | Description  | For Use With:             |
|-----------------|--|---------------------------|
| Q340A1066       | Bullseye Universal Thermocouple  | 18"                       |
| Q340A1074       | Bullseye Universal Thermocouple  | 24"                       |
| Q340A1082       | Bullseye Universal Thermocouple  | 30"                       |
| Q340A1090       | Bullseye Universal Thermocouple  | 36"                       |
| Q340A1108       | Bullseye Universal Thermocouple  | 48"                       |
| Q313A1188       | Thermopile 35" push in clip&nut  | Q314,Q324,Q327 Pilot Burn |
| Q350A2220       | Pilot Assembly - Used on most pilot Space Heaters  |                           |
| Q345A1305       | Pilot Burner/Ignitor ¼" CC inlet fitting for Nat. Gas  | S86, S860, S8610, S8670   |
| Q345A1313       | Pilot Burner/Ignitor ¼" CC inlet fitting for Nat. Gas  | S86, S860, S8610, S8670   |
| Q345A1321       | Pilot Burner/Ignitor ¼" CC inlet fitting for Nat. Gas  | S86, S860, S8610, S8670   |
| S8610U1003      | Universal LP module replaces over 300 existing module LP or Nat 24V input Universal HSI module replaces many exist HSI         |                           |
| S8910U1000      | Modules LP or Nat: 24V input   |                           |
| S89C1087        | HSI Single try, LP or Nat; OEM Replacement for Miller  |                           |
| Y8610U3003      | Universal IP Conversion Kit, LP or Nat. Contains S8610U Retrofit Intermittent Ign.Control w/VR8304M, Ignitor & Leads Nat.or LP |                           |
| VR8300A3518     | Standing Pilot Standard Action w/ ¾"x½" Bushing; Q340, Tepl LP Kit   | ¾"                        |
| VR8304M3506     | Int, Pilot Std Action with ¾"x½" Bushing LP Kit  | ¾"                        |
| VR8345M4302     | Universal HSI/DSI/IP w/Bushing & LP Kit  | ¾"                        |
| SV9501M2522     | Smart Valve ½" inlet ½" outlet   | Replaces SV9500/01/02     |
| VR8300A3500     | Continuous Pilot Dual Auto.Valve Combo.Gas Control ½" inlet ¾" outlet w/LP Conv.   |                           |
| VR8345M4302     | Universal Elec.Ignition Combo.Gas Control ¾" inlet ¾" outlet   |                           |



S8910U



S8610U



VR8345M

HEAT CONTROLS

# Honeywell

## BOILER & HYDRONICS CONTROLS HONEYWELL

| Honeywell Part # | Description   | Additional Info. |
|------------------|---|------------------|
| C554A1463        | Cad Cell for Use With HW Protectorelay®   | 60" Lead         |
| L4006A1678       | Immersion Aquastat 100-240° Range, 5-30° Adj. Differential w/well                         | Break on Rise    |
| L4006A1959       | Immersion Aquastat 40-180° Range, 2° Fixed Differential w/well                            | Break on Rise    |
| L4006B1155       | Immersion Aquastat 100-240° Range, 5-30° Adj. Differential w/well                         | Make on Rise     |
| L4006E1067       | Manual Reset High Limit 130-270° Range w/well   | Break on Rise    |
| L6006A11454      | Immersion Aquastat 100-240° Range, 5-30° Adj. Differential w/well                         | SPDT             |
| L6006C1018       | Strap-on Aquastat 65-200° Range, 5-30° Adj. Differential                                  | SPDT             |
| L7124U1003       | Electronic Triple Aquastat  |                  |
| L8124A1007       | Triple Aquastat Vert. 120V Burner, 130-240° Range, 10° Fixed Differential                 |                  |
| L8124C1003       | Triple Aquastat Hor. 120V Burner, 130-240° Range, 10° Fixed Differential                  |                  |
| L8124E1016       | Triple Aquastat Hor. 24V Burner, 130-240° Range, 10° Fixed Differential w/Lg. Transformer |                  |
| L8124L1011       | Triple Aquastat Hor. 120V Burner, 130-240° Range, 10° Fixed Differential                  |                  |
|                  | Includes ZC - ZR Terminals & Large Transformer  |                  |
| L8148A1017       | Aquastat Vert. 120V Burner 140-240° Range   |                  |
| L8148A1009       | Aquastat Vert. 140-240° Range, Millivolt or 24V Burner                                    |                  |
| RW700A1080       | Guard Ring LWCO Amplifier 10 Sec. Response w/Delay Retry 24V                              | use w/QW700      |
| R8184G4009       | Protectorelay® Burner Control 45 Second   |                  |
| R8182D1111       | Combination Protectorelay® and Hydronic Heating Ctl.                                      |                  |
|                  | High Limit SPST 130-240° Range 10° Fixed Differential                                     |                  |
| R8182H1070       | Same as R8182D w/ZC & ZR Terminals  |                  |
| VW400A1004       | Feeder Valve Control 2 GPM 120V 3/8 Mount   |                  |
| V8043E1012       | 3/4 SWT NC Zone Valve w/End Switch 3.5 CV   | 18° Lead         |
| V8043E1020       | 1 SWT NC Zone Valve w/End Switch 3.5 CV   | Wires            |
| V8043E1061       | 3/4 SWT NC Zone Valve w/End Switch 8.0 CV   |                  |
| V8043E1079       | 1 SWT NC Zone Valve w/End Switch 8.0 CV   | 18° Lead         |
| 121371L          | Well: 1/2" NPT 3" Insertion, 3" Insulation  |                  |
| 121371M          | Well: 3/4" NPT 3" Insertion, 3" Insulation  |                  |
| 122555C          | Well: 3/4" NPT 5" Insertion, 4" Insulation  |                  |
| 129044A          | Adapter Plate Assembly  |                  |
| 802360JA         | 24V Zone Valve Motor  |                  |



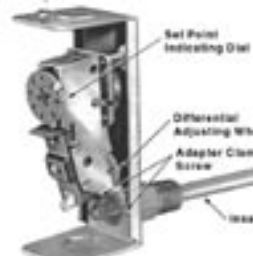
**L8148**



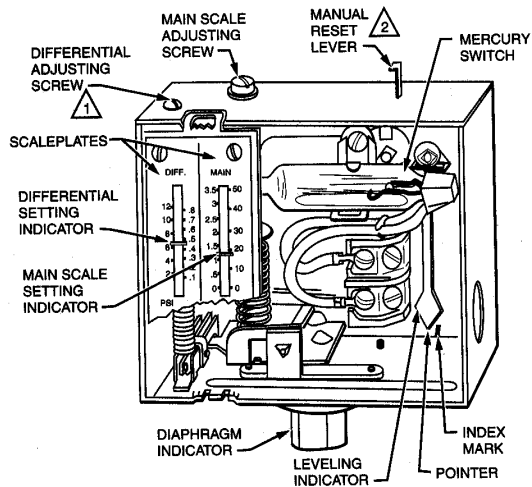
**L7124U**



**C554A**



**L4006**



**L404**

HEAT CONTROLS



## OIL BURNER PARTS CARLIN



### EZ Series Oil Burner

- The oil factory calibrated residential oil burner
- Delivers short, clean flame
- Quiet, Quiet, Quiet
- Available pre-assembled
- Easy to set up and adjust
- Advanced interrupted duty control systems available

| Model | Model# | Firing Rate | Air Tube Lgth. | Motor RPM-HP | Motor Amps | Nozzle Line Htr Watts | Blower Whl Dia. x Wdth | Shipping Wgt |
|-------|--------|-------------|----------------|--------------|------------|-----------------------|------------------------|--------------|
| EZ-1  | 96876  | 0.50-1.65   | 5,7,9          | 3450 1/7     | 2.7        | 8                     | 51/16x2                | 21           |
| EZ-2  | 96995  | 1.50-2.25   | 11             |              |            |                       |                        |              |
| EZ-3  | 96996  | 2.00-2.60   |                |              |            |                       |                        |              |

| Model      | Burner | Primary Control | Ignitor     | Air Tube | Pump    | Flange                    |
|------------|--------|-----------------|-------------|----------|---------|---------------------------|
| 96876-**A  | EZ-1   | 48254           | Carlin 14KV | **       | 1 Stage | Universal Flange & Gasket |
| 96876-**B  |        | 40200-02        | Carlin 14KV |          |         |                           |
| 96876-**C  |        | R8184 Hywl      | Carlin 14KV |          |         |                           |
| 96876-**D  |        | R8184 Hywl      | 10KV        |          |         |                           |
| 96876-**H  |        | 50200-02        | Carlin 14KV |          |         |                           |
| 96876-**JI |        | 60200-02        | Carlin 14KV |          |         |                           |

\*Substitute 05, 07, 09, or 11 for \*\* air tube length -Also available with EZ-2 or EZ-3

## CARLIN CONTROLS



### EZ-Temp™ Features:

- Microprocessor operated coordinates limit, diagnostic, or sensor assemblies
- Easy remote sensors wired to control
- Diagnostic LED's
- Smart technology

| EZ-Temp™ Model | Description     | Action               | Hi Limit   | Sensors                 | Wires | Adj. Operating Limit Range | Fixed High Limit Temp. | Fixed Differential |
|----------------|-----------------|----------------------|------------|-------------------------|-------|----------------------------|------------------------|--------------------|
| 90000A         | Dual Temp Ctl   | Operating & Hi Limit | Man. Reset | Oper. Limit, Hi Limit   | 6     | 50-240°                    | 160-240°               | 5-100°             |
| 90000B         | Redundant Limit | Oper. & Hi Limit     | Man. Reset | 1 Sensor                | 3     | 50-240°                    | 160-240°               | 5-100°             |
| 90100A         | Dual Temp Limit | Operating & Hi Limit | Man. Reset | Oper. Limit, Hi Limit   | 6     | 50-240°                    | 160-240°               | 5-100°             |
| 90100B         | Dual Temp Limit | Operating & Hi Limit | Man. Reset | 2-Oper. Limit,Hi Limit  | 6     | 50-240°                    | 160-240°               | 5-100°             |
| 90100C         | Dual Temp Limit | Operating & Hi Limit | Man. Reset | Oper. Limit, 2-Hi Limit | 6     | 50-240°                    | 160-240°               | 5-100°             |
| 90200A         | Temp Limit Ctl. | Break on Rise        | Man. Reset | 1 Sensor                | 3     | 50-240°                    | 160-240°               | 5-100°             |
| 90200B         | Temp Limit Ctl. | Make on Rise         | Man. Reset | 1 Sensor                | 3     | 50-240°                    | 160-240°               | 5-100°             |
| 90200B         | Temp Limit Ctl. | SPDT                 | Man. Reset | 1 Sensor                | 4     | 50-240°                    | 160-240°               | 5-100°             |

| Ignition Controls Model | Duty Cycle  | Ignition Trial (sec.) | Other Features  |
|-------------------------|-------------|-----------------------|---|
| 48245                   | Constant    | 45                    |   |
| 40200                   | Interrupted | 15                    |   |
| 42230                   | Interrupted | 30                    |   |
| 50200                   | Interrupted | 15                    |   |
| 60200                   | Interrupted | 15                    | "Three strikes" serviceman's protection, alarm contacts, lockout and recycle LED's<br>All the features of the 50200 with pre & post purge |

### Carlin Complete 3 Year Warranty

## OIL BURNER PARTS CARLIN

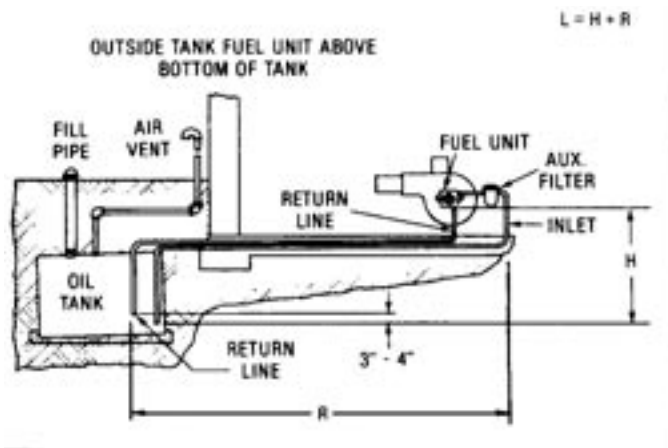


| Part#        | Description  |
|--------------|--|
| 4100-SO-CAS  | Carlin Residential Constat Duty Ignitor & Base Plate                       |
| 4100-SO-SC   | Carlin Commercial for 201 CRD or 301CRD                                    |
| 4100-SO-LC   | Carlin Commercial for 601 CRD or 1150FFD                                   |
| 4100-SO-BK1  | Beckett AF, AFG Constant Duty Ignitor & Base Plate                         |
| 4100-SO-BK2  | Beckett S, SR Constant Duty Ignitor & Base Plate                           |
| 4100-SO-WA1  | Wayne HS/HSR Constant Duty Ignitor & Base Plate                            |
| 4100-SO-WA2  | Wayne E Constant Duty Ignitor and Base Plate                               |
| 4100-SO-WA3  | Wayne M Constant Duty Ignitor and Base Plate                               |
| 4100-S       | Constant Duty Ignitor, High Voltage Terminals, & Template (no base plate)  |
| 41020-00-CAS | Carlin Base Plate and Interface Plate                                      |
| 41020-00-BK1 | Beckett AF, AFG Base Plate   |
| 41020-00-WA1 | Wayne HS/HSR Base Plate  |
| 41020-00-WA2 | Wayne E Base Plate   |
| 41020-00-WA3 | Wayne M Base Plate   |
| 41000-SO-KIT | Service Kit Inc. Two Transformers and Six Base Plates in a Rugged Tool Box |

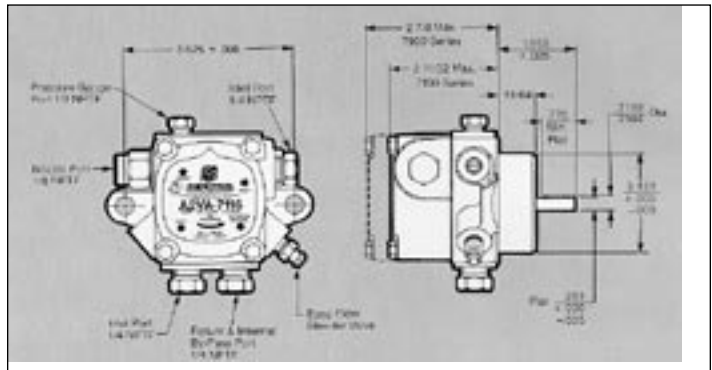


[www.carlincombustion.com](http://www.carlincombustion.com)

## OIL PUMPS SUNTEC



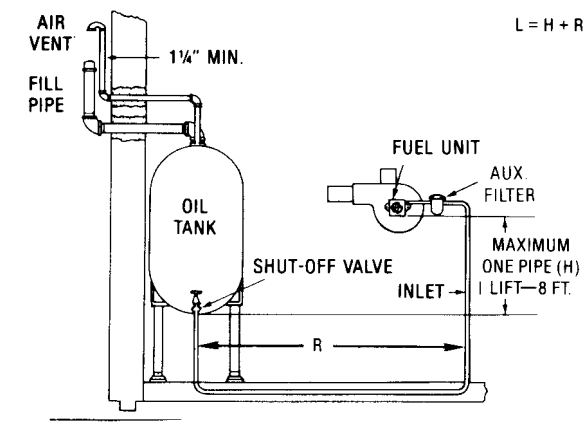
| Model     | Stage | RPM  | Rotation | Strainer & Nozzle Rating @100PSI |
|-----------|-------|------|----------|----------------------------------|
| A2VA-7116 | 1     | 3450 | RH       | 3GPH                             |
| A1VA-7112 | 1     | 1750 | RH       | 3GPH                             |
| B2VA-8216 | 2     | 3450 | RH       | 3GPH                             |



**Single pipe systems have a maximum lift of 8'.**

### Single Stage Pump 3 GPH

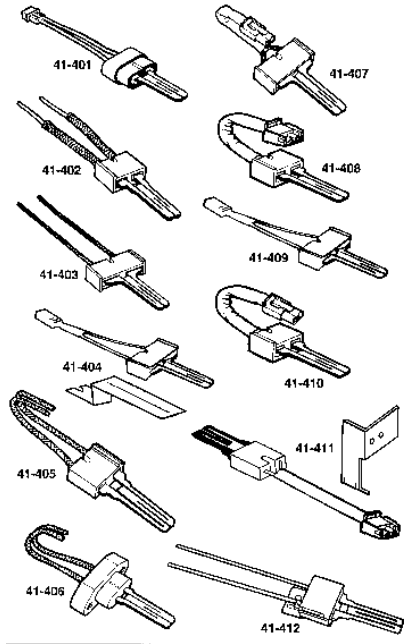
| Lift "H" | 1725 RPM      | 1725 RPM      | 3450 RPM      | 3450 RPM      |
|----------|---------------|---------------|---------------|---------------|
|          | 1 Stg.-2 Stg. | 1 Stg.-2 Stg. | 1 Stg.-2 Stg. | 1 Stg.-2 Stg. |
| 0        | 86-100        | 100           | 84-93         | 100           |
| 2        | 75-100        | 100           | 73-85         | 100           |
| 4        | 64-89         | 100           | 63-77         | 100           |
| 6        | 54-80         | 100           | 52-69         | 100           |
| 8        | 43-70         | 100           | 42-60         | 100           |
| 10       | 32-61         | 100           | 31-52         | 100           |
| 12       | 21-51         | 85-100        | 21-44         | 83-100        |
| 14       | na-41         | 42-100        | na-36         | 62-100        |



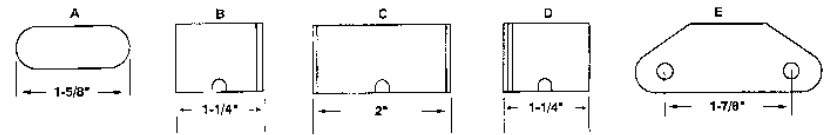
HEAT CONTROLS

## GAS CONTROLS & ACCESSORIES ROBERTSHAW

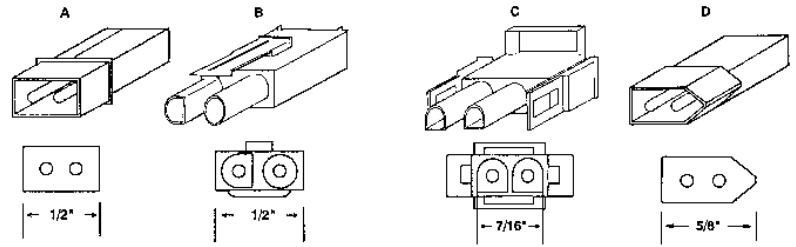
| Number   | Description        | Additional Information | Additional Information |
|----------|--------------------|------------------------|------------------------|
| 1950-001 | Thermopile         | 32"                    |                        |
| 1951-001 | Thermopile PG9     | 32"                    |                        |
| 1980-018 | Thermocouple       | 18"                    |                        |
| 1980-024 | Thermocouple       | 24"                    |                        |
| 1980-030 | Thermocouple       | 30"                    |                        |
| 1980-036 | Thermocouple       | 36"                    |                        |
| 41-401   | Norton HSI Ignitor | A block A terminal     | 4½ lead                |
| 41-402   | Norton HSI Ignitor | B block                | 19"                    |
| 41-403   | Norton HSI Ignitor | C block                | 5½ lead                |
| 41-404   | Norton HSI Ignitor | C block D terminal     | 4½ lead                |
| 41-405   | Norton HSI Ignitor | D block                | 5½ lead                |
| 41-406   | Norton HSI Ignitor | E block                | 10½ lead               |
| 41-407   | Norton HSI Ignitor | C block B terminal     | 4½ lead                |
| 41-408   | Norton HSI Ignitor | B block C terminal     |                        |
| 41-409   | Norton HSI Ignitor | C block D terminal     |                        |
| 41-410   | Norton HSI Ignitor | B block B terminal     |                        |
| 41-411   | Norton HSI Ignitor | B block C terminal     |                        |
| 41-412   | Norton HSI Ignitor | B block                |                        |



### CERAMIC BLOCK STYLES



### TERMINAL BLOCK STYLES



## OIL BURNER PARTS BECKETT

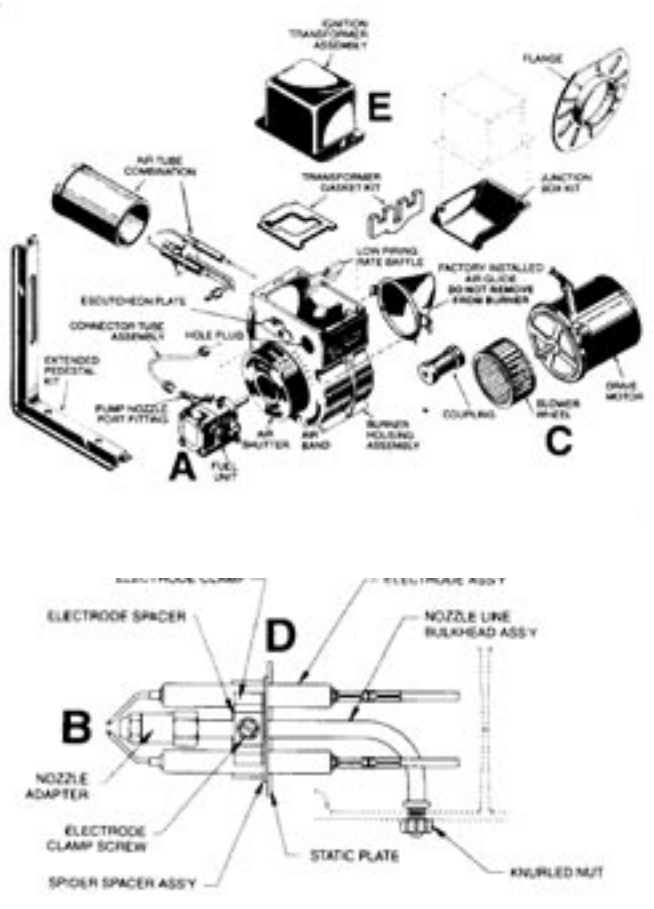
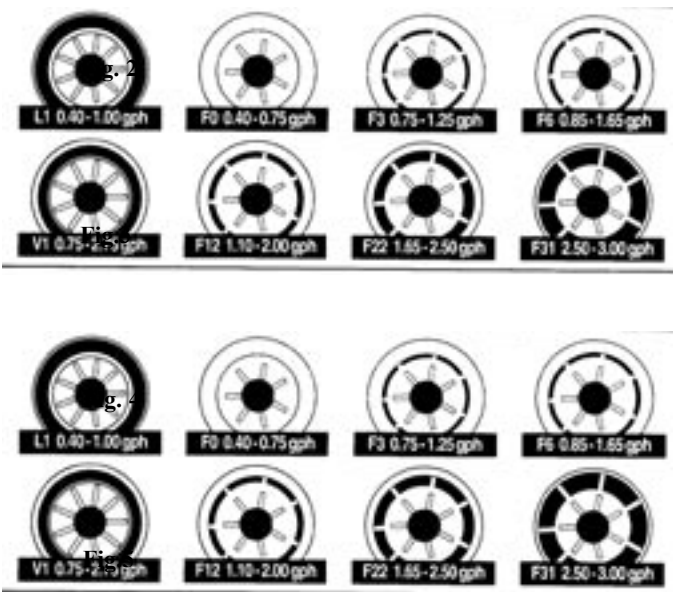


Fig.1

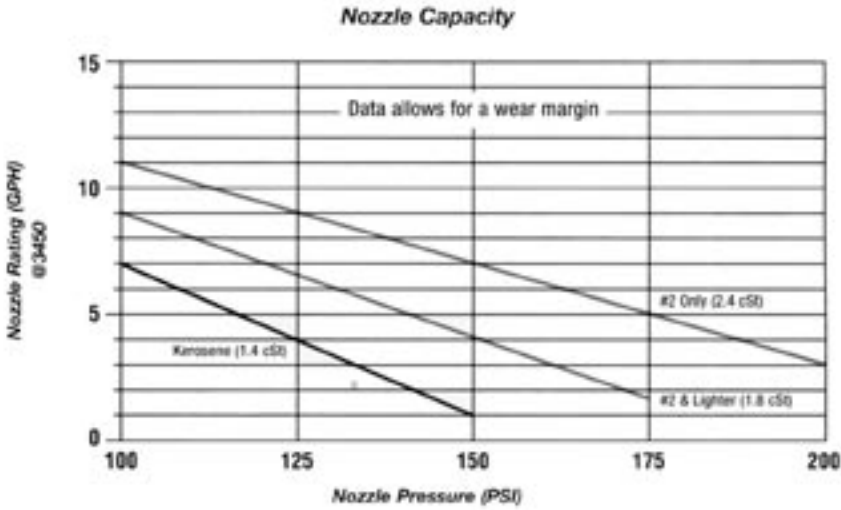


| Manf.           | Model #        | Burner  | Head Type | Blower Wheel    | Nozzle                       |
|-----------------|----------------|---------|-----------|-----------------|------------------------------|
| Boyertown       | LB 84, 95, 112 | AF      | F3        | 4 1/4 x 3 1/2   | .75, .85, 1.00               |
| Hallmark        | 140            |         |           |                 | 1.10, 80A                    |
|                 | LB168          |         | F6        |                 | 1.35 80A                     |
|                 | LB85           | AFG     | F3        | 4 1/4 x 2 1/2   | .65 80A                      |
|                 | LB115, 145     |         | F4        |                 | .85, 1.00 80A                |
|                 | LB160          |         | F4        |                 | 1.10 80B                     |
| Burnham         | V-72           | AFG     | F0        | 4 1/4 x 2 1/2   | .50 70B                      |
|                 | V-73           |         | F3        |                 | .85 80B                      |
|                 | V-74           |         | F4        |                 | 1.10 80B                     |
|                 | V-75           |         | F6        |                 | 1.35 80B                     |
|                 | V-76           |         | F12       |                 | 1.50 80B                     |
|                 | V-77           |         | F16       |                 | 1.75 80B                     |
|                 | V-713          |         | F3        |                 | .65 80Z                      |
|                 | V-714          |         | F6        |                 | 1.00 80A                     |
|                 | LE1            |         | L1        |                 | .50 70B                      |
|                 | LE2            |         | L1        |                 | .85 60B                      |
|                 | LE3            |         | V1-0      |                 | 1.10 45B                     |
|                 | LEDV1          | AFII 85 | AF2-6     | 4 1/2 x 2 Strip | .50 70B                      |
|                 | LEDV2          | AFII150 | AF2-6     | 4 1/2 x 2 TAB   | .85 60B                      |
|                 | LEDV3          | AFII150 | AF2-6     | 4 1/2 x 2 TAB   | 1.00 60B                     |
| Columbia        | EM 85, 100     | AFG     | F3        | 4 1/4 x 2 1/2   | .65, .75 80B                 |
|                 | EM125          |         | F6        |                 | 1.00 80B                     |
| Crown           | CT3            | AFG     | L1        | 4 1/4 x 2 1/2   | .65 70B                      |
|                 | CT4            |         | L1        |                 | .85 80AR                     |
|                 | CT5            |         | V1-1      |                 | 1.10 80B                     |
|                 | BD120          |         | L-1       |                 | .85 80AR                     |
|                 | BD178          |         | V1-1      |                 | 1.35 70B                     |
| Dunkirk         | 3E75           | AFG     | L1        | 4 1/4 x 2 1/2   | .75 70B                      |
|                 | 3E100          |         | L1        |                 | 1.00 70A                     |
|                 | 4E125          |         | V1-0      |                 | 1.25 70B                     |
| Energy Kinetics | EK-1           | AFG     | F3        | 4 1/4 x 2 1/2   | .75 70A<br>.85 70A           |
| H. B. Smith     | 8-3            | AFG     | L1        | 4 1/4 x 2 1/2   | .75, .85 60B                 |
|                 | 8-4            |         | V1-1      |                 | 1.00, 1.25 70B               |
|                 | 8-5            |         | V1-2      |                 | 1.35, 1.65 60B               |
| New Yorker      | AP-490         | AFG     | F3        | 4 1/4 x 2 1/2   | .85 80B                      |
|                 | AP-590, 690    |         | F6        |                 | 1.10, 1.25 80A               |
|                 | CLW3           |         | F0        |                 | .65 80B                      |
|                 | CLW3, 4        |         | F3        |                 | 1.00 80A, B                  |
|                 | CLW4           |         | F6        |                 | 1.35 80B                     |
| Newmac          | NL2, NMR OR    | AFG     | F4        | 4 1/4 x 2 1/2   | .65, .75, .85 0R<br>1.00 70A |
|                 | NLF            |         |           |                 | 1.00 70A                     |
|                 | NH3            | AFG     | F3        | 4 1/4 x 2 1/2   | .65, .75, .85, 70A           |
|                 | LFR            | AFG     | L1        | 4 1/4 x 2 1/2   | .40, .50, .55 45B            |
|                 | NBR            | AFG     | L1        | 4 1/4 x 2 1/2   | .65, .75, .85 60B            |
|                 | NBR            | AFG     | V1        | 4 1/4 x 2 1/2   | 1.00, 1.10 45ES              |
| Nordyne         | CMF800         | AF      | F0        | 4 1/4 x 3 1/2   | .60 80B                      |
|                 | CMF100PO       |         | F3H       |                 | .75 80B                      |
| Peerless        | WBV-3-85, 110  | AFG     | F3        | 4 1/4 x 2 1/2   | .75, .90 80A                 |
|                 | WBV-4-125      |         | F3        |                 | 1.10 80B                     |
|                 | WBV-5-150      |         | F6        |                 | 1.25 80B                     |
|                 | JO(T)75, 100   |         | F3        |                 | .65, .86 80B                 |
|                 | JO(T)125       |         | F3        |                 | 1.10 80B                     |
|                 | JO(T)150, 175  |         | F6        |                 | 1.25, 1.50 80A               |
| Slantfin        | L20            | AFG     | F0        | 4 1/4 x 2 1/2   | .75 80B                      |
|                 | L30            |         | F4S       |                 | 1.00, 1.00 80W<br>1.35 80SS  |
|                 | L40            |         | F120      |                 | 1.50 80B                     |
|                 | XL20           |         | F0        | 4 1/4 x 3 1/2   | .65 80W                      |
|                 | XL30           | AF      | F3        |                 | 1.00 80W                     |
|                 | XL40           |         | F6        |                 | 1.35 80W                     |
| Weil-McLain     | G0-3           | AFG     | F3        | 4 1/4 x 2 1/2   | .85 70B                      |
|                 | G4-4           |         | F4        |                 | 1.25 80B                     |
|                 | G0-5           |         | F5        |                 | 1.50 80B--                   |

HEAT CONTROLS

## OIL BURNER PARTS BECKETT

| Model    | Description | Pressure Range | In Pressure | Return Pressure |
|----------|-------------|----------------|-------------|-----------------|
| Cleancut | Oil Pump    | 100-200 psi    | 10 psi Max  | 10 psi Max      |



**Cleancut**



**AF/AFG**

| Model  | Description             | Elec. Input | Current Draw | Speed    |
|--------|-------------------------|-------------|--------------|----------|
| AF/AFG | PSC 1/2 hp Burner Motor | 115/60Hz    | 1.7 FLA      | 3450 RPM |

| Model       | Description                              | HxWxD     | Elec. Input         |
|-------------|--|-----------|---------------------|
| Heatmanager | Hot Water Heating System Fuel Economizer | 4x4x2 1/2 | 24/115/220 VAC @ 5W |



**HEAT CONTROLS**

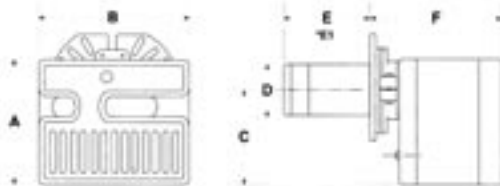
## 40 SERIES OIL BURNER RIELLO



### Features:

- High Efficiency
- Extremely Quiet
- Safety Solenoid
- Low Energy Consumption
- Interrupted Ignition
- Smoke-Free Starts
- Positive Shutoff
- Automatic Air Shutter
- Electronic Controls
- Also available in Gas

| Part #  | Description           |
|---------|-----------------------|
| 3005843 | Riello F Series Motor |
| R40     | Riello R40 Repair Kit |
| 7001010 | Riello Pump           |



**THERMOSTAT CLOSED (CALLING FOR HEAT) AND OPERATING LIMITS CLOSED**

**RESET CONTROL BOX (PRESS RED BUTTON)**

|   |  |
|---|--|
| <p><b>BURNER STARTS</b></p> <p><b>BURNER REMAINS IN PRE-PURGE</b></p> <ul style="list-style-type: none"> <li>✓ FIRST CHECK IF CAD CELL MAY BE SENDING LIGHT DURING PRE-PURGE BY REMOVING CAD CELL AND CHECKING RESISTANCE VALUE – LESS THAN 40,000 OHMS WITH LIGHT OR MORE THAN 150,00 OHMS WITHOUT LIGHT (ALTERNATIVE IS TO REMOVE CAD CELL AND RESET BURNER – IF BURNER LOOKS OUT, CAD CELL SHOULD BE REPLACED)</li> <li>✓ THEN CHECK VISUALLY TO ENSURE GOOD CONTACT BETWEEN CONTROL BOX AND SUB-BASE</li> <li>✓ THEN CHECK SUB-BASE FOR MIS-WIRED TERMINALS</li> <li>✓ THEN CHECK FOR "OPEN" CIRCUIT BETWEEN TERMINALS 2 &amp; 8 – IF "OPEN" CIRCUIT FOUND THE COIL SHOULD BE REPLACED</li> <li>✓ THEN CHECK TO ENSURE VOLTAGE BETWEEN TERMINALS 3 &amp; 7 WITHIN RANGE OF 38VAC – 51VAC</li> </ul> <p>IF THE CONDITION PERSISTS, THE CONTROL BOX IS LIKELY FAULTY AND SHOULD BE REPLACED</p>   | <p><b>BURNER DOES NOT START</b></p> <ul style="list-style-type: none"> <li>✓ CHECK POWER SUPPLY AT SUB-BASE (BETWEEN L &amp; N) TO ENSURE VOLTAGE WITHIN RANGE OF 102VAC – 132VAC</li> </ul> <p style="text-align: center; background-color: black; color: white; padding: 2px;"><b>No VOLTAGE</b></p> <ul style="list-style-type: none"> <li>✓ FIRST CHECK SYSTEM FUSE AND ENSURE SERVICE SWITCH IS ON</li> <li>✓ THEN CHECK TO ENSURE ALL CONTROL LIMITS ARE CLOSED</li> <li>✓ THEN CHECK THERMOSTAT OR 24V RELAY FOR 0VAC</li> </ul> <p style="text-align: center; background-color: black; color: white; padding: 2px;"><b>VOLTAGE WITHIN RANGE</b></p> <ul style="list-style-type: none"> <li>✓ FIRST TURN OFF POWER SUPPLY</li> <li>✓ THEN PLACE A JUMPER BETWEEN SUB-BASE TERMINALS 5 &amp; 6</li> <li>✓ THEN TURN ON POWER SUPPLY</li> </ul> |
| <p><b>BURNER CONTINUES TO CYCLE THROUGH PRE-PURGE AND IGNITION WITH IMMEDIATE FLAME DROPOUT</b></p> <ul style="list-style-type: none"> <li>✓ FIRST CHECK BURNER SETTINGS FOR COMPLIANCE WITH SPECIFICATIONS</li> <li>✓ THEN CHECK COIL FOR MISSING METAL YOKE/BRAKET</li> <li>✓ THEN CHECK CAD CELL BY REMOVING CAD CELL AND CHECKING RESISTANCE VALUE – LESS THAN 40,000 OHMS WITH LIGHT OR MORE THAN 150,000 OHMS WITHOUT LIGHT (ALTERNATIVE IS TO REMOVE CAD CELL AND RESET BURNER – IF BURNER LOOKS OUT THE CAD CELL SHOULD BE REPLACED)</li> <li>✓ THEN CHECK SUB-BASE FOR MIS-WIRED TERMINALS</li> <li>✓ THEN CHECK TO ENSURE RESISTANCE OF COIL ON TERMINALS 1 &amp; 2 WITHIN RANGE OF 1215 OHMS – 1485 OHMS</li> <li>✓ THEN CHECK PUMP VALVE STEM CONDITION BY REMOVING VALVE STEM AND ENSURING PISTON/PLUNGER OPERATES FREELY – IF NOT OPERATING PROPERLY THE VALVE STEM SHOULD BE REPLACED</li> </ul> <p>IF THE CONDITION PERSISTS, THE CONTROL BOX IS LIKELY FAULTY AND SHOULD BE REPLACED</p>   | <p style="text-align: center; background-color: black; color: white; padding: 2px;"><b>MOTOR RUNS</b></p> <ul style="list-style-type: none"> <li>✓ FIRST CHECK TO ENSURE VOLTAGE BETWEEN TERMINALS 3 &amp; 7 WITHIN RANGE OF 38VAC – 51VAC</li> <li>✓ THEN CHECK VISUALLY TO ENSURE GOOD CONTACT BETWEEN CONTROL BOX AND SUB-BASE</li> </ul> <p>IF THE CONDITION PERSISTS, THE CONTROL BOX IS LIKELY FAULTY AND SHOULD BE REPLACED</p>   |
| <p><b>BURNER LOCKS OUT AFTER TRIAL FOR IGNITION</b></p> <ul style="list-style-type: none"> <li>✓ FIRST CHECK OIL SUPPLY – FOR POSSIBLE EMPTY TANK, CLOSED VALVE, DIRTY FILTER, DAMAGED SUPPLY LINES, ETC.</li> <li>✓ THEN CHECK COIL FOR MISSING METAL YOKE/BRAKET</li> <li>✓ THEN CHECK IF CAD CELL FAILS TO SENSE FLAME DURING IGNITION BY REMOVING CAD CELL AND CHECKING RESISTANCE VALUE – LESS THAN 40,000 OHMS WITH LIGHT OR MORE THAN 150,000 OHMS WITHOUT LIGHT (ALTERNATIVE IS TO REMOVE CAD CELL AND RESET BURNER – IF BURNER LOOKS OUT, CAD CELL SHOULD BE REPLACED)</li> <li>✓ THEN CHECK TO ENSURE PUMP VACUUM IS WITHIN RANGE OF 0 – 11" Hg</li> <li>✓ THEN CHECK TO ENSURE OIL PRESSURE IS WITHIN APPROPRIATE RANGES OF 20 – 80 PSI IN PRE-PURGE MODE AND 120 – 200 PSI IN FIRING MODE</li> <li>✓ THEN CHECK CONNECTION, SETTINGS AND CONDITION OF IGNITION ELECTRODES – CLEAN OR REPLACE IF NECESSARY</li> <li>✓ THEN CHECK BREEDER OR OVERFIRE DRAFT – REDUCE EXCESSIVE DRAFT CONDITIONS</li> <li>✓ THEN CHECK NOZZLE AND PUMP STRAINER AND REPLACE IF NECESSARY</li> <li>✓ THEN CHECK PUMP VALVE STEM CONDITION BY REMOVING VALVE STEM AND ENSURING PISTON/PLUNGER OPERATES FREELY – IF NOT OPERATING PROPERLY THE VALVE STEM SHOULD BE REPLACED</li> <li>✓ THEN CHECK TO ENSURE RESISTANCE OF COIL ON TERMINALS 2 &amp; 8 IS WITHIN RANGE OF 1.3 OHM ± 10%</li> <li>✓ THEN CHECK TO ENSURE PUMP DRIVE KEY IS IN PLACE AND IN GOOD CONDITION</li> </ul> <p>IF THE CONDITION PERSISTS, THE CONTROL BOX IS LIKELY FAULTY AND SHOULD BE REPLACED</p> | <p style="text-align: center; background-color: black; color: white; padding: 2px;"><b>MOTOR DOES NOT RUN</b></p> <ul style="list-style-type: none"> <li>✓ FIRST CHECK ELECTRICAL CONNECTIONS</li> <li>✓ THEN CHECK FOR AND REPLACE SEIZED PUMP/MOTOR</li> <li>✓ THEN CHECK FOR DEFECTIVE (PSC) MOTOR CAPACITOR – IF MOTOR HUMB THE CAPACITOR SHOULD BE REPLACED</li> <li>✓ THEN WAIT UNTIL MOTOR COOLS AND RESET CONTROL BOX</li> </ul> <p>IF THE CONDITION PERSISTS, THE MOTOR LIKELY SHUT DOWN ON A THERMAL OVERLOAD AND SHOULD BE REPLACED</p>   |

TECHNICAL SUPPORT

1 800 4 RIELLO

(1 800 474 1664)

HEAT CONTROLS

| Model | Firing Rate gph | Output BTUH | Motor Amps | Motor RPM | Pump Press.Max | Watts | "A"                            | "B"                            | "F"                            |
|-------|-----------------|-------------|------------|-----------|----------------|-------|--------------------------------|--------------------------------|--------------------------------|
| F3    | 0.5-0.95        | 70-133      | 1.6        | 3250      | 200            | 155   | 8 <sup>3</sup> / <sub>4</sub>  | 9 <sup>7</sup> / <sub>8</sub>  | 8 <sup>7</sup> / <sub>8</sub>  |
| F4    | 0.75-1.5        | 105-210     | 1.7        | 3250      | 200            | 175   | 9 <sup>1</sup> / <sub>8</sub>  | 10 <sup>3</sup> / <sub>4</sub> | 9 <sup>1</sup> / <sub>4</sub>  |
| F10   | 1.45-2.95       | 203-413     | 2.2        | 3250      | 200            | 230   | 10 <sup>1</sup> / <sub>4</sub> | 12                             | 10 <sup>1</sup> / <sub>2</sub> |
| F15   | 2.55-5.75       | 357-805     | 4.0        | 3250      | 200            | 450   | 11 <sup>3</sup> / <sub>4</sub> | 13 <sup>3</sup> / <sub>4</sub> | 11 <sup>3</sup> / <sub>4</sub> |
| F20   | 3.5-6.4         | 490-896     | 4.3        | 3250      | 200            | 465   | 11 <sup>3</sup> / <sub>4</sub> | 13 <sup>3</sup> / <sub>4</sub> | 11 <sup>3</sup> / <sub>4</sub> |