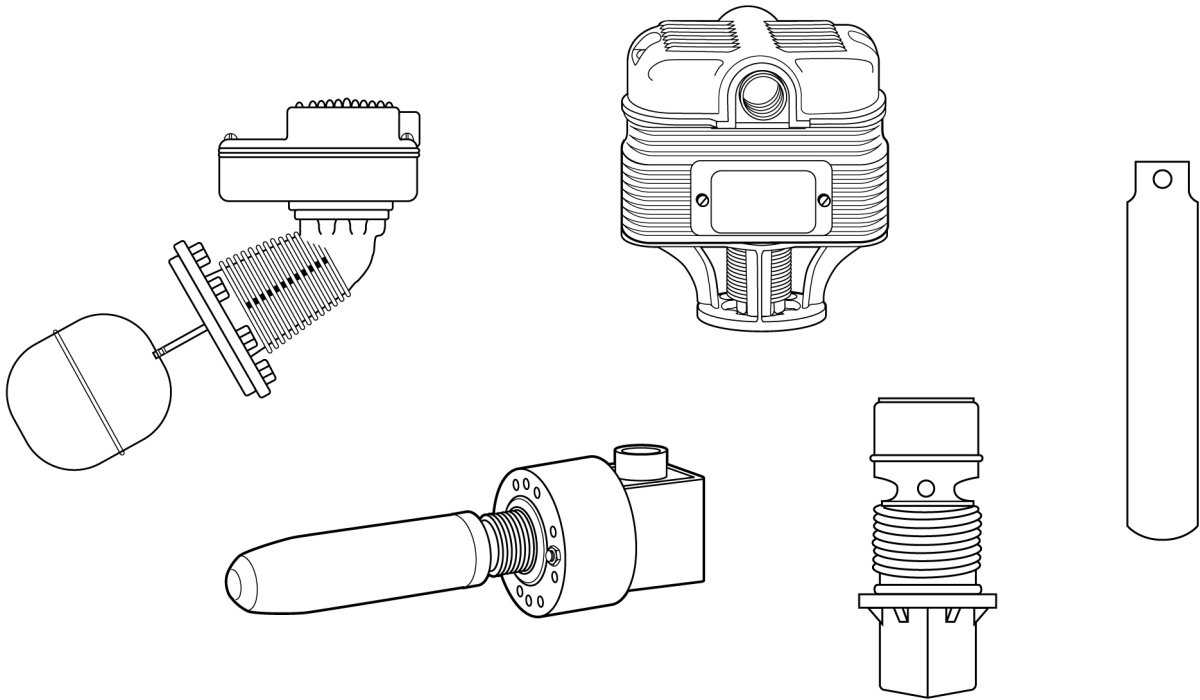


PARTS LIST

MM-701E



McDonnell & Miller Service Parts Catalog



McDonnell & Miller
a xylem brand

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














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





VALVES

| | | |
|------------------------|------|--|
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Boiler Control Replacement Parts



→ **McDonnell & Miller**
a xylem brand

Notes

[illegible]

Replacement Probes

PA-800

| For Model | Repl. Probe Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|-----------------------|-------------|-------------|------------------|
|-----------|-----------------------|-------------|-------------|------------------|

| | | | | |
|------------|--------|--------|-------|-----------|
| PS-801-120 | PA-800 | 354081 | Probe | 0.5 (.23) |
|------------|--------|--------|-------|-----------|

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|-------------|--|--|--|--|
| PSE-851-120 | | | | |
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|-----------|--|--|--|--|
| PS-802-24 | | | | |
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|-----------|--|--|--|--|
| PS-852-24 | | | | |
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|---------|--|--|--|--|
| RS-1-LP | | | | |
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|--------------|--|--|--|--|
| PS-851-M-120 | | | | |
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|-------------|--|--|--|--|
| PS-852-M-24 | | | | |
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|--------------|--|--|--|--|
| PS-801-M-120 | | | | |
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|-------------|--|--|--|--|
| PS-802-M-24 | | | | |
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|-------------|--|--|--|--|
| 750P-MT-120 | | | | |
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|-------------|--|--|--|--|
| 751P-MT-120 | | | | |
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| 751P-MT-24 | | | | |
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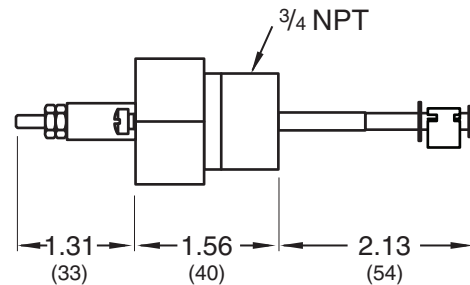
| | | | | |
|-------------|--|--|--|--|
| PSE-801-120 | | | | |
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|------------|--|--|--|--|
| PSE-802-24 | | | | |
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|---------------|--|--|--|--|
| PSE-801-M-120 | | | | |
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|--------------|--|--|--|--|
| PSE-802-M-24 | | | | |
|--------------|--|--|--|--|

Dimensions, in. (mm)



PA-800-U

| For Model | Repl. Probe Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|-----------------------|-------------|-------------|------------------|
|-----------|-----------------------|-------------|-------------|------------------|

| | | | | |
|--------------|----------|--------|-------|-----------|
| PS-801-U-120 | PA-800-U | 354141 | Probe | 0.5 (.23) |
|--------------|----------|--------|-------|-----------|

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|-------------|--|--|--|--|
| PS-802-U-24 | | | | |
|-------------|--|--|--|--|

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|----------------|--|--|--|--|
| PS-851-M-U-120 | | | | |
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|--------------|--|--|--|--|
| PS-851-U-120 | | | | |
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|---------------|--|--|--|--|
| PS-802-M-U-24 | | | | |
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|----------------|--|--|--|--|
| PS-801-M-U-120 | | | | |
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|---------------|--|--|--|--|
| 750P-MT-U-120 | | | | |
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| PSE-801-M-U-120 | | | | |
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|----------------|--|--|--|--|
| PSE-802-M-U-24 | | | | |
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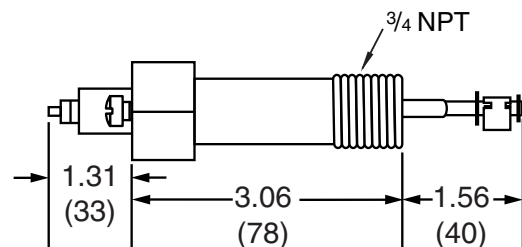
| | | | | |
|---------------|--|--|--|--|
| PSE-801-U-120 | | | | |
|---------------|--|--|--|--|

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|--------------|--|--|--|--|
| PSE-802-U-24 | | | | |
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|---------------|--|--|--|--|
| 751P-MT-U-120 | | | | |
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|--------------|--|--|--|--|
| 752P-MT-U-24 | | | | |
|--------------|--|--|--|--|

Dimensions, in. (mm)



Replacement Probes

PA-800-RX2

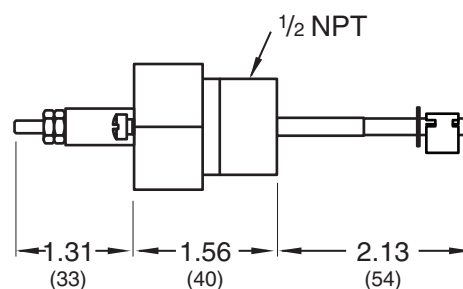
| For Model | Repl. Probe Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|-----------------------|-------------|-------------|------------------|
|-----------|-----------------------|-------------|-------------|------------------|

| | | | | |
|---------------|------------|--------|-------|-----------|
| PS-802-RX2-24 | PA-800-RX2 | 354140 | Probe | 0.5 (.23) |
|---------------|------------|--------|-------|-----------|

| | | | | |
|----------------|--|--|--|--|
| PS-851-RX2-120 | | | | |
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|----------------|--|--|--|--|
| PSE-802-RX2-24 | | | | |
|----------------|--|--|--|--|

Dimensions, in. (mm)



PA-RB-122

| For Model | Repl. Probe Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|-----------------------|-------------|-------------|------------------|
|-----------|-----------------------|-------------|-------------|------------------|

| | | | | |
|--------|-----------|--------|-------|-----------|
| RB-122 | PA-RB-122 | 354083 | Probe | 0.5 (.23) |
|--------|-----------|--------|-------|-----------|

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|-----------|--|--|--|--|
| RS-1-LP-S | | | | |
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|---------------|--|--|--|--|
| PS-851-SP-120 | | | | |
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| PS-852-SP-24 | | | | |
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| RB-120 | | | | |
|--------|--|--|--|--|

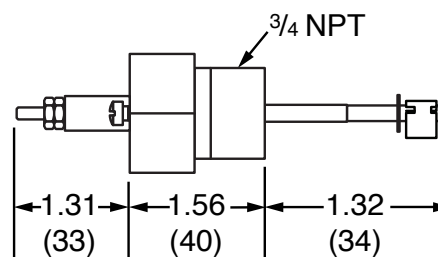
| | | | | |
|-----------------|--|--|--|--|
| PS-851-M-SP-120 | | | | |
|-----------------|--|--|--|--|

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|----------------|--|--|--|--|
| PS-852-M-SP-24 | | | | |
|----------------|--|--|--|--|

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|----------------|--|--|--|--|
| 751P-MT-SP-120 | | | | |
|----------------|--|--|--|--|

| | | | | |
|---------------|--|--|--|--|
| 752P-MT-SP-24 | | | | |
|---------------|--|--|--|--|

Dimensions, in. (mm)



Boiler Control Replacement Parts

Low Water Cut-Offs – Float Type For Steam Boilers

Series 61

Low Water Cut-Offs

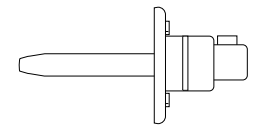


Series 61

Replacement Head Mechanisms

| For Series | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|------------|----------------------|-------------|----------------|------------------|
| 61 | 61-HD or | 140300 | Head mechanism | 3.5 (1.6) |
| | 6667 | 153825 | Head mechanism | 1.5 (0.7) |

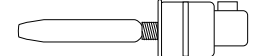
Head mechanisms include a gasket and bolts.



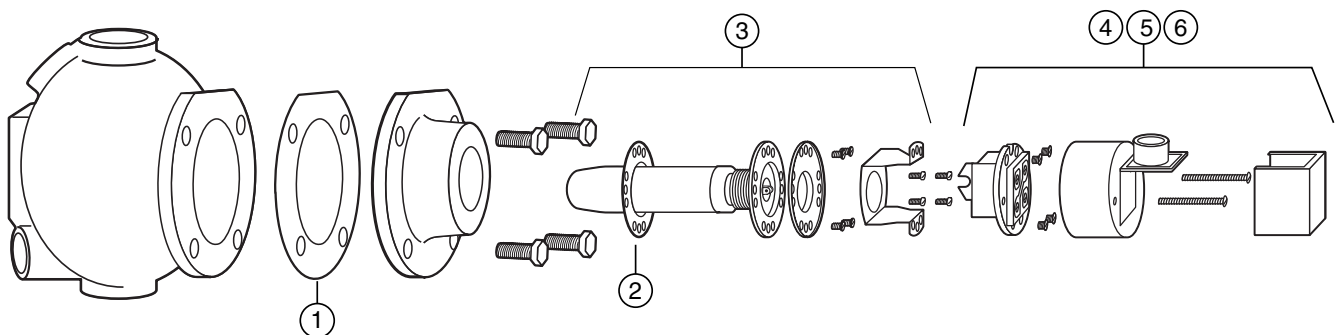
Model 61-HD

Components

| Key | Part Number | Catalog Number | Description | Weight lbs. (kg) |
|-----|-------------|----------------|------------------------------|------------------|
| 1 | 302600 | CO-12 | Head Gasket | 0.1 (0.5) |
| 2 | 318800 | 67-12 | Gasket | 0.1 (0.5) |
| 3 | 344200 | SA67-2 | Float & Bellows Assembly | 0.3 (.14) |
| 4 | 309100 | 11 | Switch | 0.5 (.23) |
| 5 | 309151 | 11-M | Switch w/Manual Reset | 0.5 (.23) |
| 6 | 309200 | 11-MV | Switch for Millivolt Service | 0.5 (.23) |



Model 6667



Boiler Control Replacement Parts

Low Water Cut-Offs – Float Type For Hot Water Boilers

Series 63

Low Water Cut-Offs

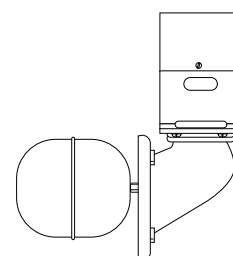


Series 63

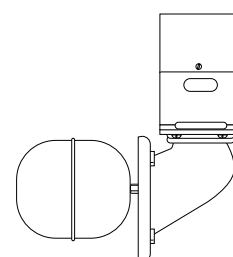
Replacement Head Mechanisms

| For Model | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|----------------------|-------------|--------------------------------|------------------|
| 63 | 63-HD | 142600 | Head mechanism w/ No. 2 switch | 7.0 (3.2) |
| 63-B | | | | |
| 63-BM | 63-M-HD | 143200 | 63-HD w/manual reset | 7.0 (3.2) |
| 63-M | | | | |

Head mechanisms include a gasket and bolts.



Model 63-HD



Model 63-M-HD

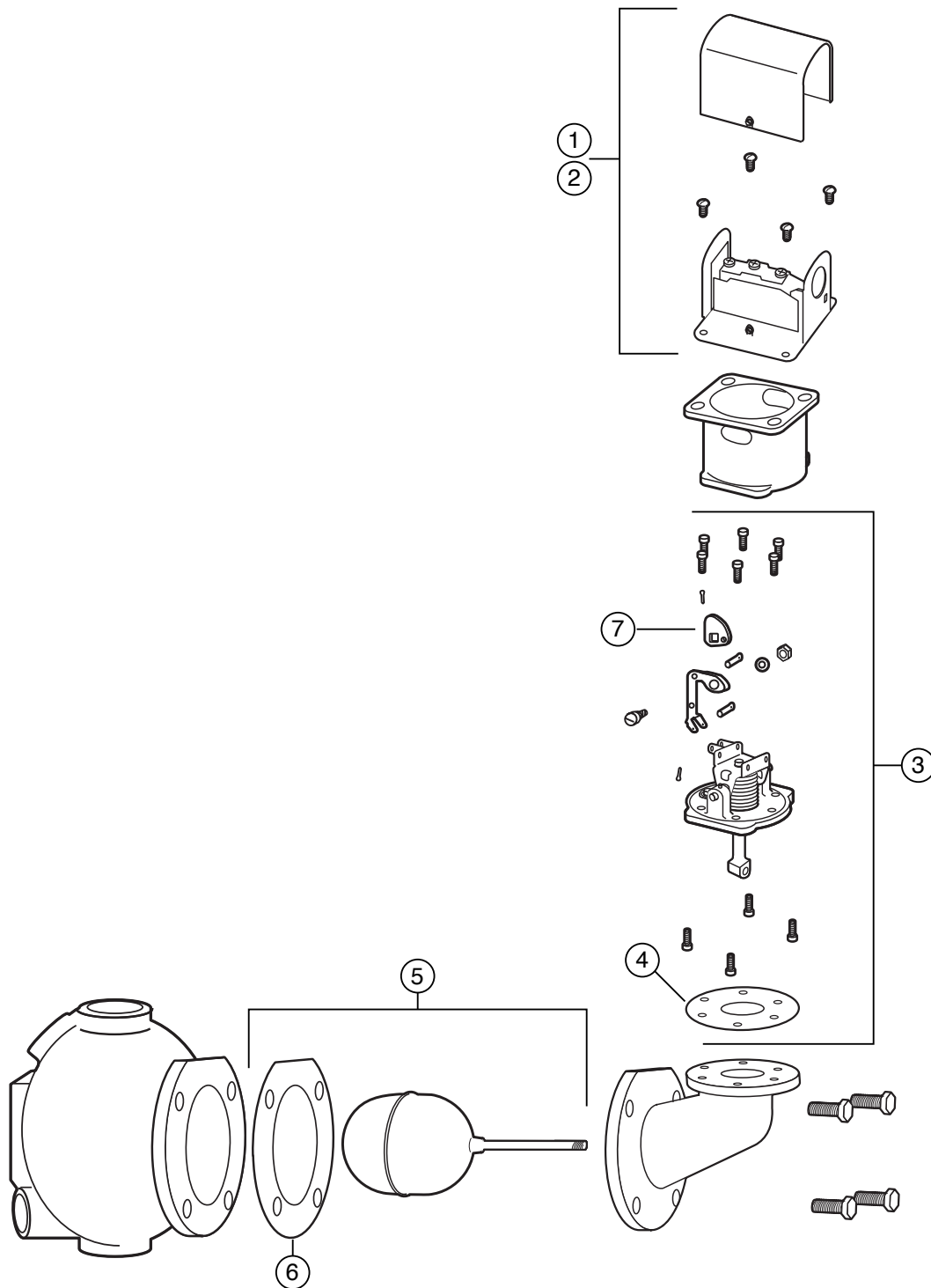
Components (shown on page 9)

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|-----------------------|------------------|
| 1 | 110000 | 2 | Switch | 1.0 (0.5) |
| 2 | 110100 | 2-M | Switch w/manual reset | 1.0 (0.5) |
| 3 | 343200 | SA63-5 | Bellows assembly | 1.5 (7.3) |
| 4 | 302500 | CO-11 | Gasket | 0.1 (.05) |
| 5 | 343400 | SA63-30 | Float | 1.0 (0.5) |
| 6 | 302600 | CO-12 | Head gasket | 0.1 (.05) |
| 7 | 302900 | CO-106 | Cam | 0.1 (.05) |

Low Water Cut-Offs – Float Type For Hot Water Boilers

Series 63 (continued)
Low Water Cut-Offs

Components



Low Water Cut-Offs – Float Type For Hot Water Boilers

Series 64

Low Water Cut-Offs

Replacement Head Mechanisms

| For Series | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|------------|----------------------|-------------|----------------|------------------|
| 64 | 64-HD | 144400 | Head mechanism | 4.0 (1.8) |
| 64-A | | | | |

Head mechanisms include a gasket and bolts.

Components (shown on page 11)

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|---|------------------|
| 1 | 343600 | SA64-30 | Float assembly | 1.0 (0.5) |
| 2 | 302600 | CO-12 | Head gasket | 0.1 (.05) |
| 3 | 343500 | SA64-2 | Bellows assembly (includes item 2) | 0.3 (.14) |
| 4 | 318800 | 67-12 | Gasket | 0.1 (.05) |
| 5 | 309100 | 11 | Switch | 0.5 (.23) |
| 6 | 309151 | 11-M | No. 11 w/manual reset | 0.5 (.23) |
| 7 | 309200 | 11-MV | No. 11 for Millivolt service | 0.5 (.23) |
| 8* | 332800 | MA-259 | Quick hook-up fittings (includes item 8, 9, 10) | 4.5 (2.0) |
| 9* | 351800 | SA259-24 | Upper quick hook-up | 1.7 (.77) |
| 10* | 349500 | SA159-24 | Lower quick hook-up | 1.7 (.77) |
| 11* | 349400 | SA159-17 | Black "Y" assembly | 2.3 (1.0) |

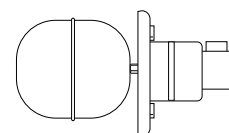
*Available for 64-A models only



Series 64



Model 64-A



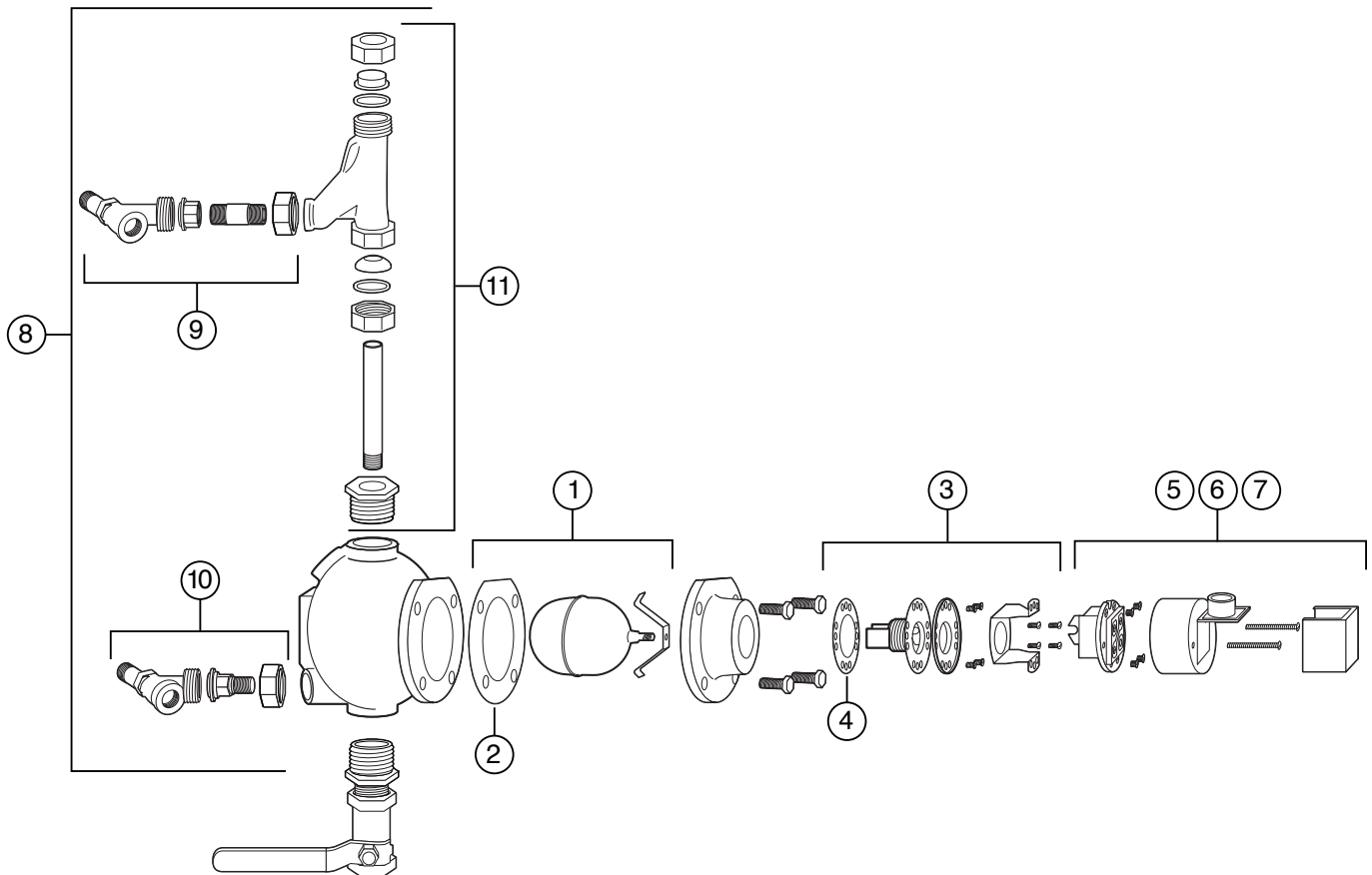
Model 64-HD

Boiler Control Replacement Parts

Low Water Cut-Offs – Float Type For Hot Water Boilers

Series 64 (continued)
Low Water Cut-Offs

Components



Low Water Cut-Offs – Float Type For Hot Water Boilers

Series 764

Low Water Cut-Offs

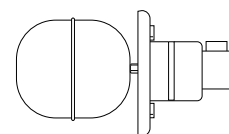
Replacement Head Mechanisms

| For Series | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|------------|----------------------|-------------|----------------|------------------|
| 764 | 64-HD | 144400 | Head mechanism | 4.0 (1.8) |

Head mechanisms include a gasket and bolts.



Series 764



Model 64-HD

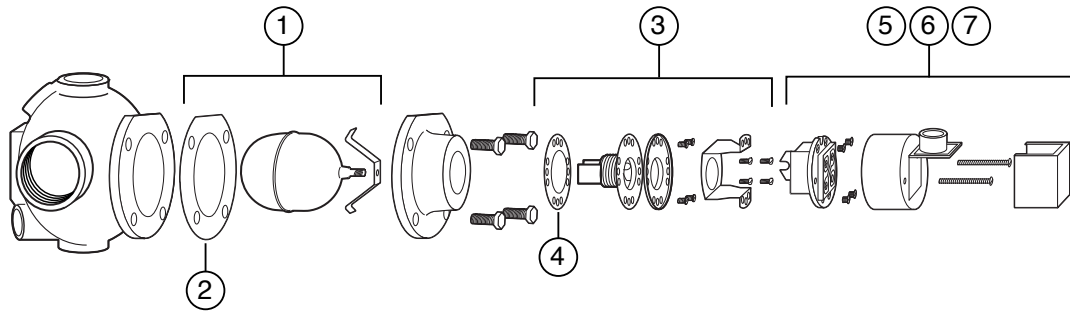
Components (shown on page 13)

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|------------------------------------|------------------|
| 1 | 343600 | SA64-30 | Float assembly | 1.0 (0.5) |
| 2 | 302600 | CO-12 | Head gasket | 0.1 (.05) |
| 3 | 343500 | SA64-2 | Bellows assembly (includes item 2) | 0.3 (.14) |
| 4 | 318800 | 67-12 | Gasket | 0.1 (.05) |
| 5 | 309100 | 11 | Switch | 0.5 (.23) |
| 6 | 309151 | 11-M | No. 11 w/manual reset | 0.5 (.23) |
| 7 | 309200 | 11-MV | No. 11 for Millivolt service | 0.5 (.23) |

Low Water Cut-Offs – Float Type For Hot Water Boilers

Series 764 (continued)
Low Water Cut-Offs

Components



Boiler Control Replacement Parts

Low Water Cut-Offs – Float Type For Steam Boilers

Series 67 Low Water Cut-Offs

Replacement Head Mechanisms

| For Model | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|----------------------|-------------|----------------------------|------------------|
| 67 | | | | |
| 67-LQHU | 6667 | 153825 | Head mechanism | 1.5 (0.7) |
| 67-G | 6667MV | 153850 | 6667 for Millivolt service | 1.5 (0.7) |



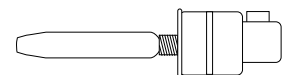
Series 67



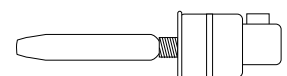
**Model 67-LQHU
(without quick
hook-up fittings)**

Components (shown on page 15)

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|------------------------------|------------------|
| 1 | 344100 | SA66-35 | Upper tube assembly | 1.0 (0.5) |
| 2 | 334600 | MA559 | Quick hook-up fittings | 2.5 (1.1) |
| 3 | 318800 | 67-12 | Gasket | 0.1 (.05) |
| 4 | 344200 | SA67-2 | Float and bellows assembly | 1.0 (0.5) |
| 5 | 309100 | 11 | Switch | 0.5 (.23) |
| 6 | 309151 | 11-M | Switch w/manual reset | 0.5 (.23) |
| 7 | 309200 | 11-MV | No. 11 for Millivolt service | 0.5 (.23) |
| 8 | 310447 | 14-B | Blow-down valve | 0.5 (.23) |
| 9 | 313200 | 37-39 | Blow-down valve gasket | 0.1 (.05) |



Model 6667



Model 6667MV

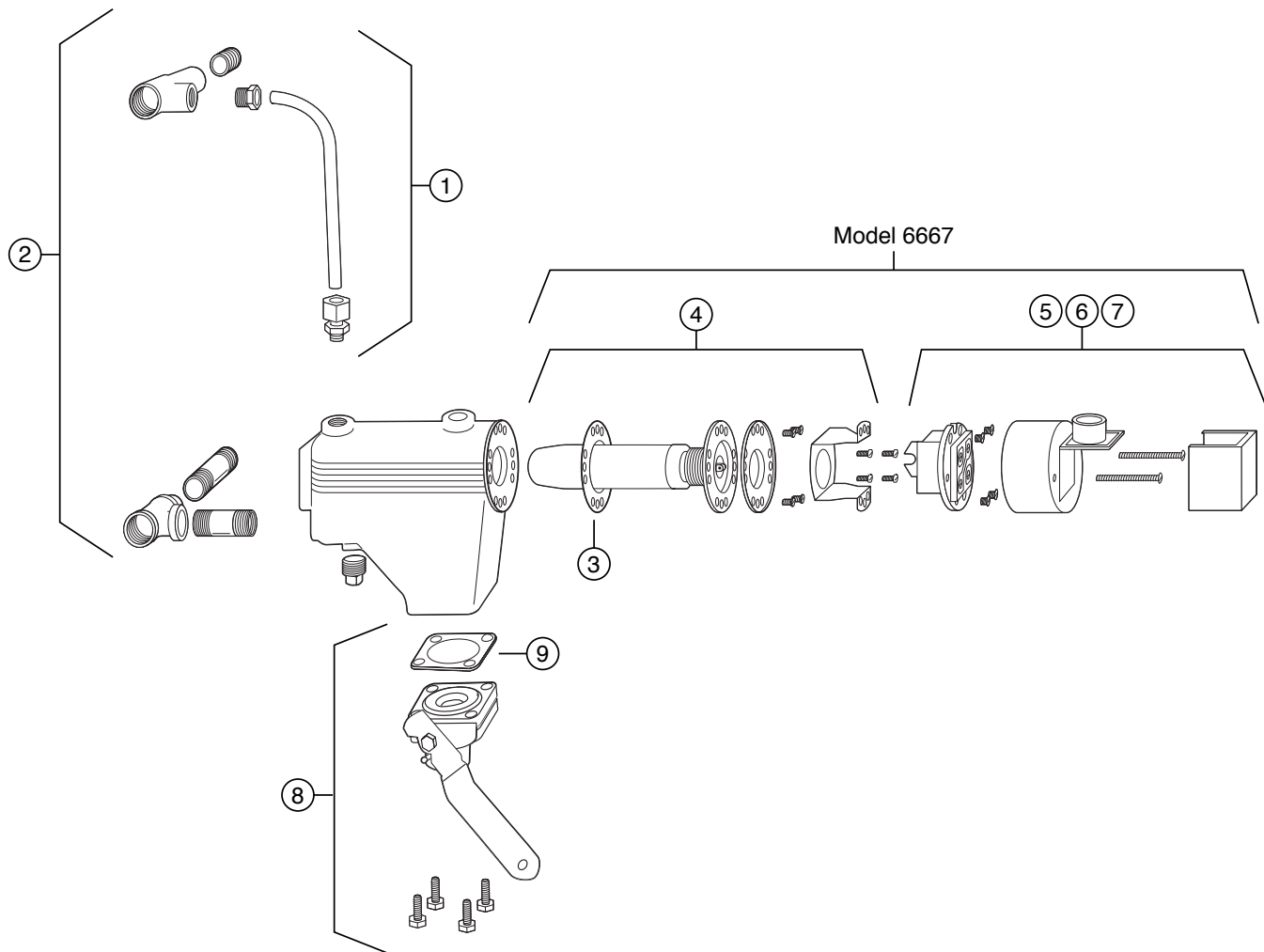


Boiler Control Replacement Parts

Low Water Cut-Offs – Float Type For Steam Boilers

Series 67 (continued)
Low Water Cut-Offs

Components



Low Water Cut-Offs – Float Type For Steam Boilers

Series 767

Low Water Cut-Offs

Replacement Head Mechanisms

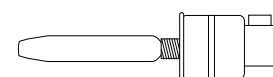
| For Model | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|----------------------|-------------|----------------|------------------|
| 767 | 6667 | 153825 | Head mechanism | 1.5 (0.7) |



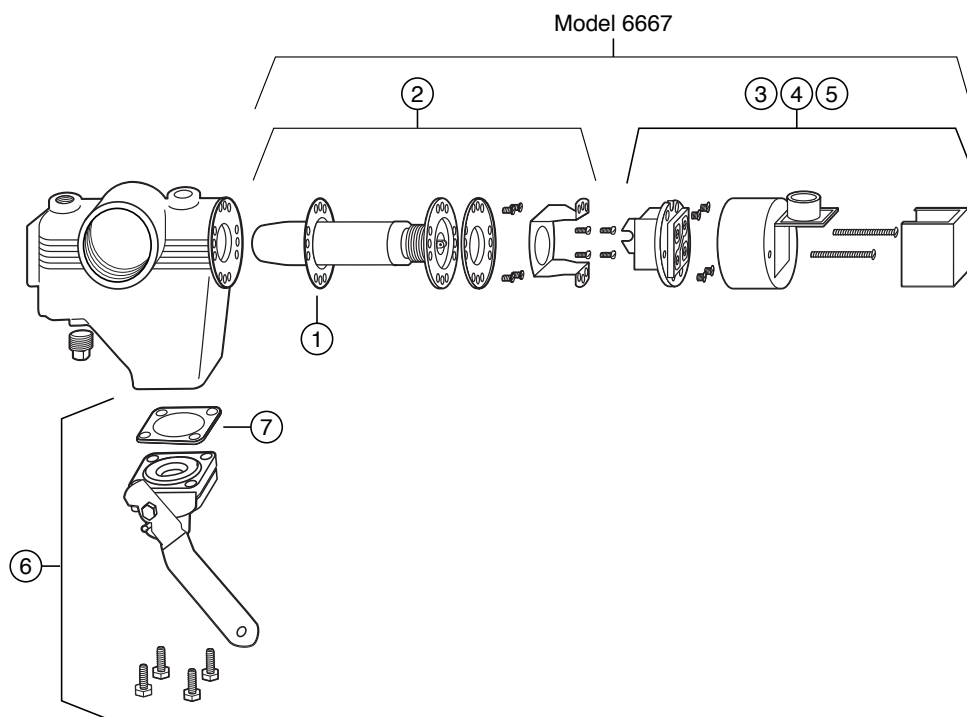
Series 767

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|----------------------------|------------------|
| 1 | 318800 | 67-12 | Gasket | 0.1 (.05) |
| 2 | 344200 | SA67-2 | Float and bellows assembly | 1.0 (0.5) |
| 3 | 309100 | 11 | Switch | 0.5 (.23) |
| 4 | 309151 | 11-M | Switch w/manual reset | 0.5 (.23) |
| 5 | 309200 | 11-MV | No. 11 w/Millivolt service | 0.5 (.23) |
| 6 | 310447 | 14-B | Blow-down valve | 0.5 (.23) |
| 7 | 313200 | 37-39 | Blow-down valve gasket | 0.1 (.05) |



Model 6667



Boiler Control Replacement Parts

Low Water Cut-Offs – Float Type For Steam Boilers

Series 69

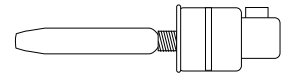
Low Water Cut-Offs

Replacement Head Mechanisms

| For Model | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|----------------------|-------------|--------------------------|------------------|
| 69 | | | | |
| 69-J | | | | |
| 169 | | | | |
| 269 | 6667 | 153825 | Head mechanism | 1.5 (0.7) |
| 369 | | | | |
| 469 | | | | |
| 569 | | | | |
| 69-MV-P | 6667-MV | 153850 | 6667 w/Millivolt service | 1.5 (0.7) |
| 369-MV | | | | |



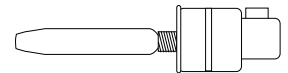
Series 69



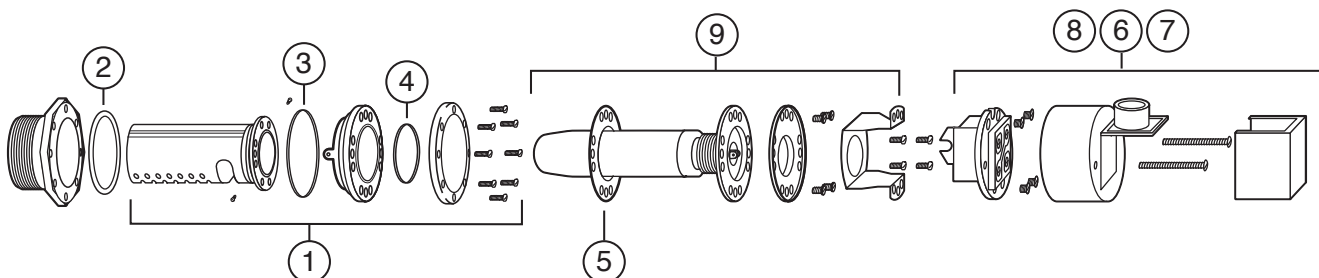
Model 6667

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|------------------------------|------------------|
| 1 | 344300 | SA69-104 | Shield assembly | 0.5 (.23) |
| 2 | 320500 | 69-112 | Gasket (GT Models) | 0.1 (.05) |
| 3 | 318826 | 69-113 | O-ring | .01 (.004) |
| 4 | 318827 | 69-114 | O-ring | .01 (.004) |
| 5 | 318800 | 67-12 | Gasket | 0.1 (.05) |
| 6 | 309100 | 11 | Switch | 0.5 (.23) |
| 7 | 309151 | 11-M | Switch w/Manual Reset | 0.5 (.23) |
| 8 | 309200 | 11-MV | Switch for Millivolt Service | 0.5 (.23) |
| 9 | 344200 | SA67-2 | Float & Bellows Assembly | 0.1 (.05) |



Model 6667MV



Combination Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 42 and 42S Low Water Cut-Off/Pump Controllers



Series 42S

Replacement Head Mechanisms

| For Model | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|----------------------|-------------|----------------|------------------|
| 42S | 42S-HD | 129502 | Head mechanism | 7.5 (3.4) |

Head mechanisms include a gasket and bolts.

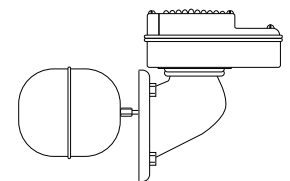
Components (shown on page 19)

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|---|------------------|
| 1 | 302600 | CO-12 | Head gasket | 0.1 (.05) |
| 2* | 328300 | MA-159 | Quick hook-up fittings (includes items 4, 5, 6) | 6.0 (2.7) |
| 3* | 351800 | SA259-24 | Upper quick hook-up fittings | 1.7 (.77) |
| 4* | 349500 | SA159-24 | Lower quick hook-up fittings | 1.7 (.77) |
| 5* | 349400 | SA159-17 | Black "Y" assembly | 3.0 (1.4) |
| 6 | 347900 | SA150-106R | Bellows Assembly | 0.4 (.18) |

* Available for 42S-A models only.



Model 42S-A



Model 42S-HD

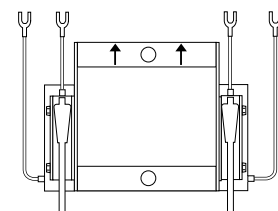
Replacement Switch Information

IMPORTANT:

- Snap switches must be replaced as an assembly.
- We recommend complete head replacement to eliminate the need for field replacement of the switch assembly.
- Series 42 & 42S Replacement Switch Assemblies are not interchangeable and must be selected and ordered for the specific control model(s) on which they will be installed.

Replacement Switch Assemblies For Series 42S

| For Model | Repl. Switch Model No. | Part Number | Description | Weight lbs. (kg) |
|-----------|------------------------|-------------|-----------------------------|------------------|
| 42S | SWA-42S | 310488 | Snap-action switch assembly | 0.5 (.23) |



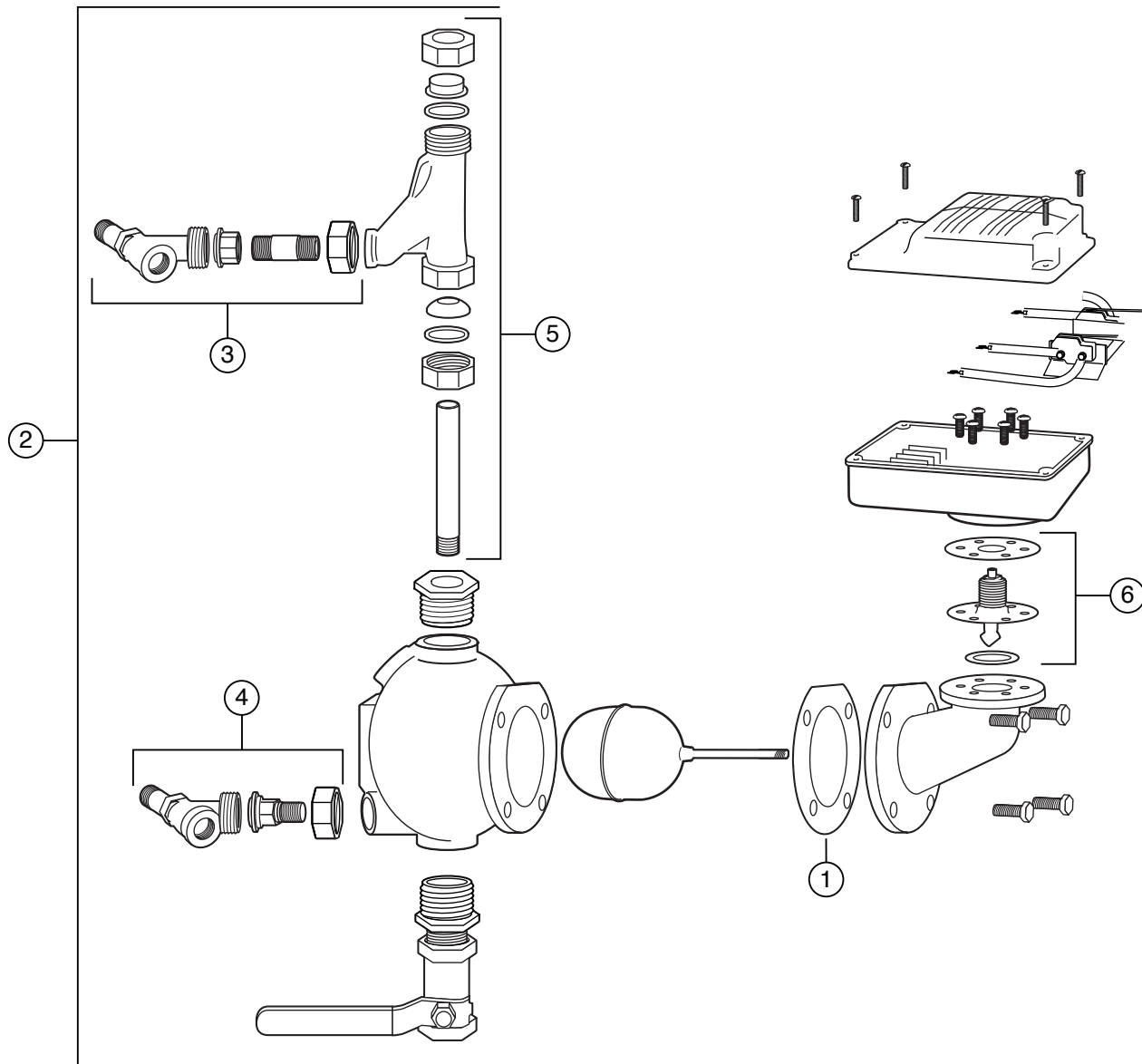
Model SWA-42S

Boiler Control Replacement Parts

Combination Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 42 and 42S (continued)
Low Water Cut-Off/Pump Controllers

Components



Combination Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 93 & 193

Low Water Cut-Off/Pump Controllers

Replacement Head Mechanisms

| For Model | Part Number | Repl. Head Model No. | Description | Weight lbs. (kg) |
|-----------|-------------|----------------------|---|------------------|
| 93, 193 | 162400 | 93-HD | Head mechanism | 16 (7.25) |
| | 163200 | 93-7B-HD | Head mechanism with 7B switch | 16 (7.25) |
| | 162600 | 93-M-HD | Head mechanism, manual reset | 16 (7.25) |
| | 163300 | 93-7B-M-HD | Head mechanism with 7B switch, manual reset | 16 (7.25) |

Components (shown on page 21)

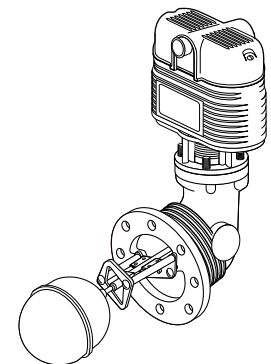
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|---------------------------------------|------------------|
| 1 | 162402 | 93-HDLS | Head w/o switch | 15.0 (6.8) |
| 2 | 345700 | SA91-60 | Float (includes item 3) | 0.7 (.32) |
| 3 | 325400 | 150-14 | Gasket | 0.1 (.05) |
| 4 | 110300 | 5 | Electric switch | 3.5 (1.6) |
| 5 | 110400 | 5-M | No. 5 w/manual reset | 3.5 (1.6) |
| 6 | 110800 | 7B | Electric switch/proportioning control | 4.0 (1.8) |
| 7 | 110900 | 7B-M | No. 7B w/manual reset | 4.0 (1.8) |

#5 Switch

| | | | | |
|---|--------|----------|---|-----------|
| 1 | 344800 | SA91-30B | Burner Switch Contact Assembly (Red dot on terminal panel) (Includes 1A terminal panel) | 0.1 (.05) |
| 2 | 345000 | SA91-30P | Pump Switch Contact Assembly (Blue dot on terminal panel) (Includes 2A terminal panel) | 0.1 (.05) |

#7B Switch

| | | | | |
|---|--------|----------|---|-----------|
| 1 | 344800 | SA91-30B | Burner Switch Contact Assembly (Red dot on terminal panel) (Includes 1A terminal panel) | 0.1 (.05) |
| 2 | 309000 | 7B-1R | Resistor/Slide Wire Assembly | 0.1 (.05) |
| 3 | 345150 | SA7-30 | Terminal Panel | 0.5 (.23) |



Series 93-HD



Series 93



Series 193

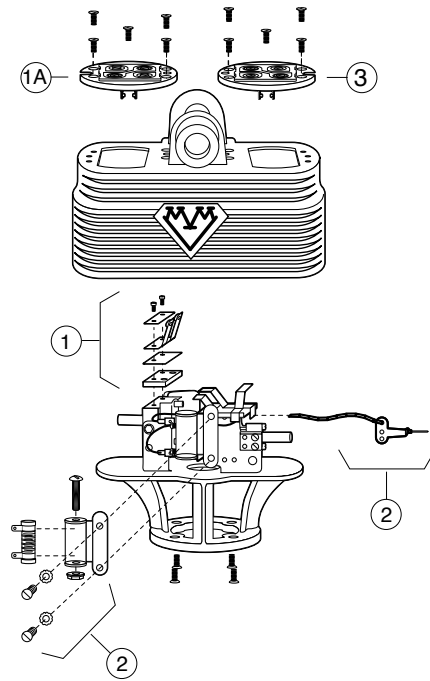
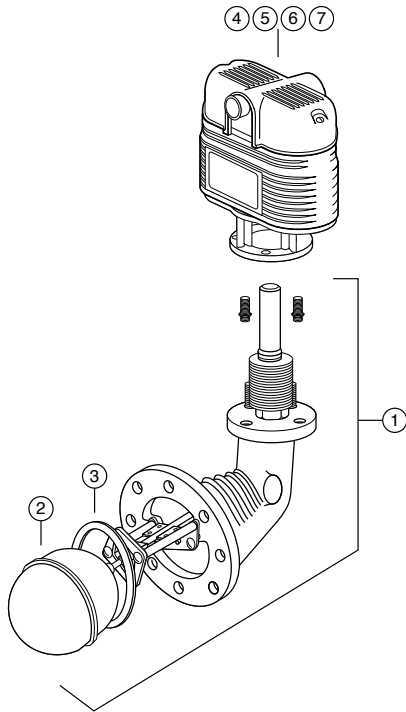
Boiler Control Replacement Parts

Combination Low Water Cut-Off/ – Pump Controllers For Steam Boilers

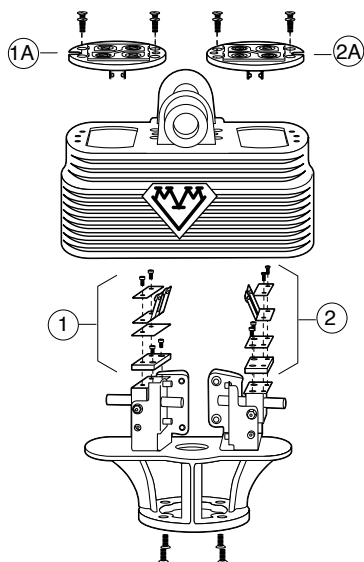
Series 93 & 193 (continued)

Low Water Cut-Off/Pump Controllers

Components



7B Switch



5 Switch

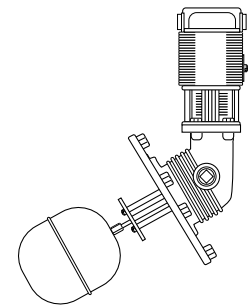
Combination Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 94 & 194

Low Water Cut-Off/Pump Controllers

Replacement Head Mechanisms

| For Model | Part Number | Repl. Head Model No. | Description | Weight lbs. (kg) |
|-----------|-------------|----------------------|---|------------------|
| 94, 194 | 165300 | 94-HD | Head mechanism | 21 (9.52) |
| | 166000 | 94-M-HD | Head mechanism, manual reset | 21 (9.52) |
| | 166400 | 94-7B-HD | Head mechanism with 7B switch | 21 (9.52) |
| | 166500 | 94-7B-M-HD | Head mechanism with 7B switch, manual reset | 21 (9.52) |



Series 94-HD

Components (shown on page 23)

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|---------------------------------------|------------------|
| 1 | 165302 | 94-HDLS | Head w/o switch | 15.0 (6.8) |
| 2 | 345700 | SA91-60 | Float (includes item 3) | 0.7 (.32) |
| 3 | 323300 | 92-68 | Gasket | 0.1 (.05) |
| 4 | 110300 | 5 | Electric switch | 3.5 (1.6) |
| 5 | 110400 | 5-M | No. 5 w/manual reset | 3.5 (1.6) |
| 6 | 110800 | 7B | Electric switch/proportioning control | 4.0 (1.8) |
| 7 | 110900 | 7B-M | No. 7B w/manual reset | 4.0 (1.8) |



Series 94

#5 Switch

| | | | | |
|---|--------|----------|---|-----------|
| 1 | 344800 | SA91-30B | Burner Switch Contact Assembly (Red dot on terminal panel) (Includes 1A terminal panel) | 0.1 (.05) |
| 2 | 345000 | SA91-30P | Pump Switch Contact Assembly (Blue dot on terminal panel) (Includes 2A terminal panel) | 0.1 (.05) |

#7B Switch

| | | | | |
|---|--------|----------|---|-----------|
| 1 | 344800 | SA91-30B | Burner Switch Contact Assembly (Red dot on terminal panel) (Includes 1A terminal panel) | 0.1 (.05) |
| 2 | 309000 | 7B-1R | Resistor/Slide Wire Assembly | 0.1 (.05) |
| 3 | 345150 | SA7-30 | Terminal Panel | 0.5 (.23) |

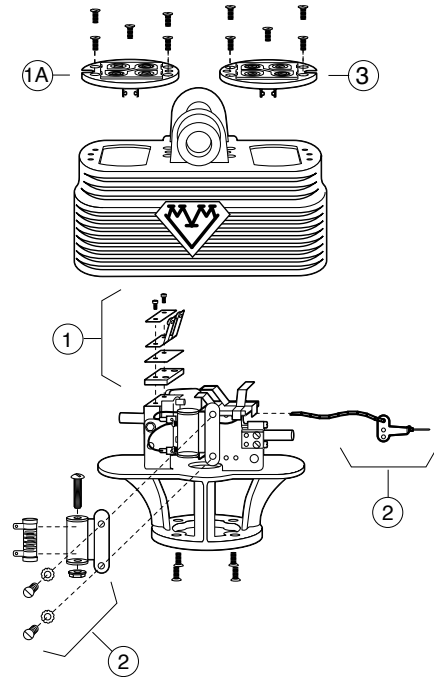
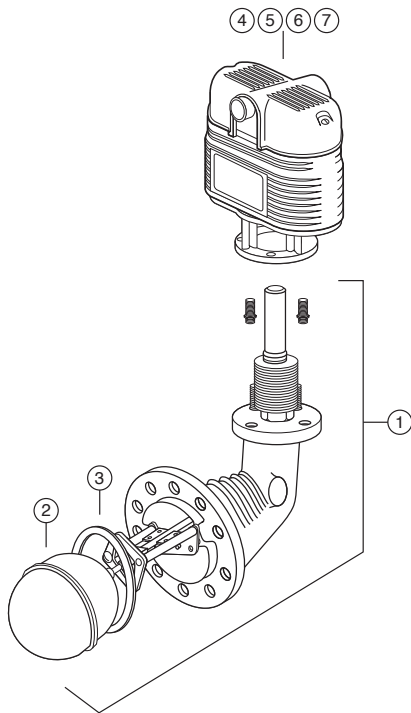


Series 194

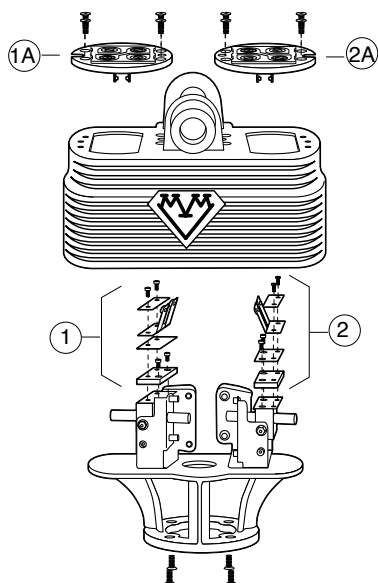
Boiler Control Replacement Parts

Combination Low Water Cut-Off/ – Pump Controllers For Steam Boilers

Series 94 & 194 (continued)
Low Water Cut-Off/Pump Controllers



7B Switch



5 Switch

Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 150, 150S Series 157, 157S

The Series 150S is available as an alternative for Series 150 LWCO controls that contain mercury switches. Please keep in mind that in a replacement or repair situation you do not have to change out the entire control. A head replacement (i.e. 150S-HD) is all that's required.

There may be additional letters such as 'B', 'R', 'RL', etc. in the sales catalog designation of the control. These additional letters designate tapping locations and sizes which have no affect on which head mechanism to purchase. All head mechanisms are interchangeable and can be installed on any body.

'MD' Models

The 'MD' model should be used as a replacement head when the boiler operating pressure is less than 50 psi. These were created to provide a control with factory settings to compensate for the narrowing of setpoints. The larger differential between pump on and burner off reduces the potential for nuisance burner shutdown.

It is important to understand that there are requirements that lead to the best performance of ALL level controllers and LWCO's:

- Use of properly-sized pump starters/relays in the pump control circuitry
- Pumps that are balanced to the system requirements
- Equalizing piping, per the boiler manufacturer's recommendations, to properly sense the boiler water level
- Industry accepted blowdown piping to provide best cleaning action of the control chamber, float linkage mechanism and/or probes
- Proper periodic blowdown of the boiler controls.
- Proper chemical treatment of boiler water.
- Annually cleaning and careful examination of the float mechanism, probes, and electrical switches or controls. More frequent cleaning may be required for exceptionally dirty steam systems.



**150 or 150S
Float Chamber Body**



**157 or 157S
Water Column Body**

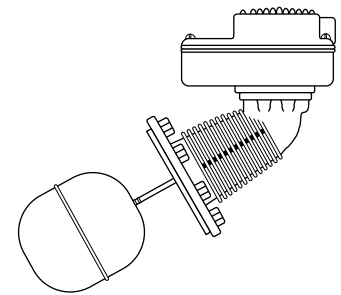
Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 150, 150S Series 157, 157S

(continued)

Replacement Head Mechanisms

| For Model | Part Number | Repl. Head Model No. | Description | Weight lbs. (kg) |
|--------------|-------------|--|-------------|------------------|
| 150S-HD | 173003 | Head mechanism | | 11.0 (5.0) |
| 150S-M-HD | 172809 | 150S-HD w/manual reset | | 11.0 (5.0) |
| 150S-MD-HD | 173103 | 150S-HD w/maximum differential | | 11.0 (5.0) |
| 150S-M-MD-HD | 172810 | 150S-HD w/manual reset and maximum differential | | 11.0 (5.0) |
| 158S-HD | 178602 | Head mechanism | | 12.5 (5.7) |
| 158S-M-HD | 172821 | 158-S-HD w/manual reset | | 12.5 (5.7) |
| 158S-M-MD-HD | 172822 | 158-S-HD w/manual reset and maximum differential | | 12.5 (5.7) |
| 159S-HD | 172702 | Head mechanism | | 12.0 (5.7) |



Series 150S-HD

Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 150, 150S Series 157, 157S

IMPORTANT:

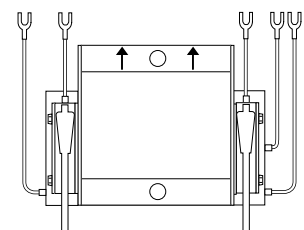
- Snap switches **must** be replaced as an assembly.
- We recommend complete head replacement to eliminate the need for field adjustment of the switch assembly.
- Series 150S and 157S replacement switch assemblies are not interchangeable with Series 150 and 157 mercury switch controls.

Note:

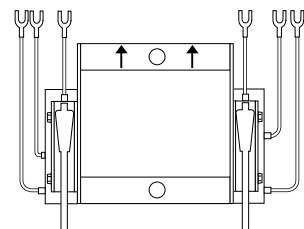
Manual reset models with date code 03K (October 2003)
or older require the purchase of a new head.

Replacement Switch Assemblies for Series 150S and 157S

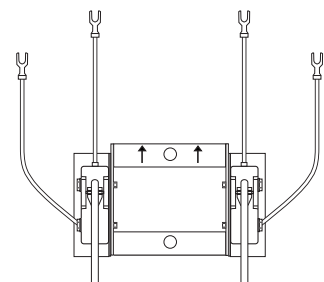
| For Model | Repl. Switch Model No. | Part Number | Description | Weight lbs. (kg) |
|--|------------------------|-------------|--|------------------|
| All 150S & 157S Units Except 'MD' Models | SWA-150S | 310462 | Snap-action switch assembly | 0.5 (.23) |
| | SWA-150S-M | 354089 | Snap-action switch assembly w/manual reset | 0.5 (.23) |
| All 150S & 157S 'MD' Models | SWA-150S-MD | 310464 | Snap-action switch assembly for maximum differential models | 0.5 (.23) |
| | SWA-150S-M-MD | 354086 | Snap-action switch assembly for maximum differential models w/manual reset | 0.5 (.23) |
| All 158S Models | SWA-158S | 310468 | Snap-action switch assembly for Model 158S | 0.5 (.23) |
| | SWA-158S-M | 354087 | Snap-action switch assembly w/manual reset | 0.5 (.23) |
| All 159S Models | SWA-159S | 310470 | Snap-action switch assembly | 0.5 (.23) |



**Model SWA-150S
Model SWA-150S-MD
Model SWA-150S-M
Model SWA-150S-M-MD**



**Model SWA-158S
Model SWA-158S-M**



Model SWA-159S

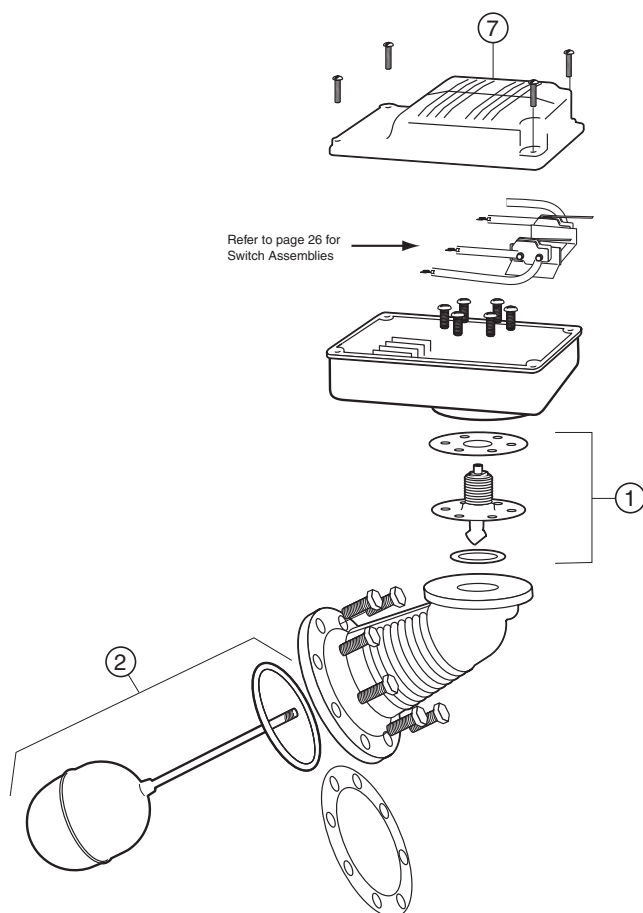
Switch assemblies include a mounting bracket and color-coded terminal connection wires.

Boiler Control Replacement Parts

Low Water Cut-Off/Pump Controllers For Steam Boilers

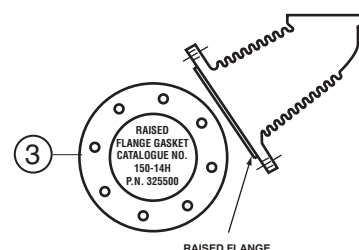
Series 150, 150S

Series 157, 157S (continued)

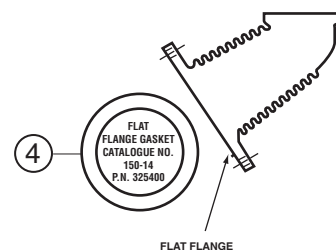


Series 150S

Series 150 Head Gasket and Casting



This new gasket, specifically designed for the Raised Flange Heads, may be used.



This gasket **must** be used on the Flat Flange Heads.

Components

| Item Number | Model Number | Part Number | Description | Weight lbs. (kg) |
|-------------|--------------|-------------|--|------------------|
| 1 | SA150-106R | 347900 | Bellows assembly | 0.4 (.18) |
| 2 | SA150-11 | 347600 | Float & rod | 1.0 (0.5) |
| 3 | 150-14H | 325500 | Head gasket for raised face flange head, 8 holes | 0.5 (.23) |
| 4 | 150-14 | 325400 | Head gasket for flat face flange head, no holes | 0.5 (.23) |
| 7 | 150-436 | 326950 | Cover | .435 (.19) |

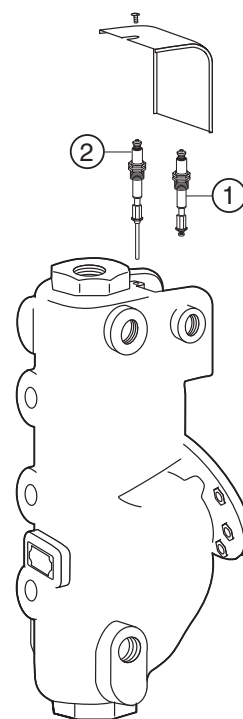
Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 150, 150S

Series 157, 157S (continued)

Components

| Item Number | Model Number | Part Number | Description | Weight lbs. (kg) |
|-------------|--------------|-------------|------------------------------|------------------|
| 1 | EA-157-S | 354106 | Short electrode for 157S-RBP | 0.5 (.23) |
| 2 | EA-157-L | 354107 | Long electrode for 157S-RBP | 0.5 (.23) |



Model 157S-RBP

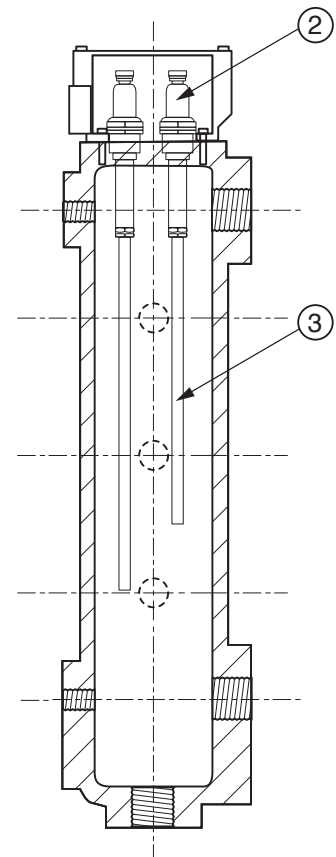
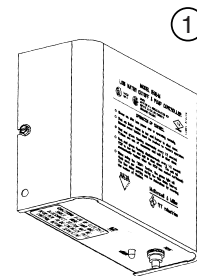
Boiler Control Replacement Parts

Low Water Cut-Off/Pump Controllers For Steam Boilers

Series 1575

Components

| Item Number | Model Number | Part Number | Description | Weight lbs. (kg) |
|-------------|--------------|-------------|-------------------------------|------------------|
| 1 | 150E-CU | 310490 | Control unit, automatic reset | 2.07 (.96) |
| 2 | PA-750-HP | 176319 | High Pressure Probe | 0.5 (0.23) |
| 3 | PS-1-SS | 179530 | Sensing Probe Rod-12" | 0.5 (0.23) |



Notes

[illegible]

Water Feeders – Electric

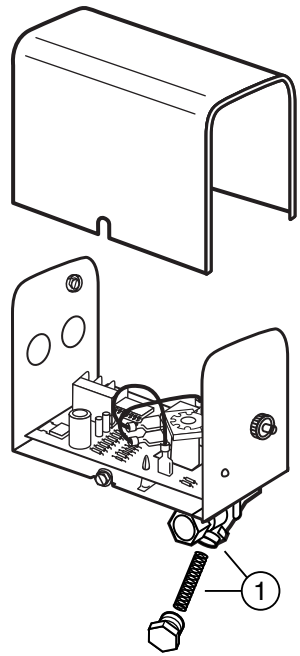
Series WF2 and WFE Uni-Match® Electric Water Feeders

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|----------------------|------------------|
| 1 | 310473 | STR-WF2 | Strainer/orifice kit | 0.1 (.05) |



Uni-Match®



Water Feeders – Electric

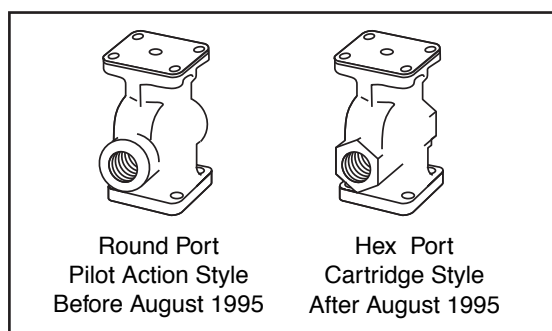
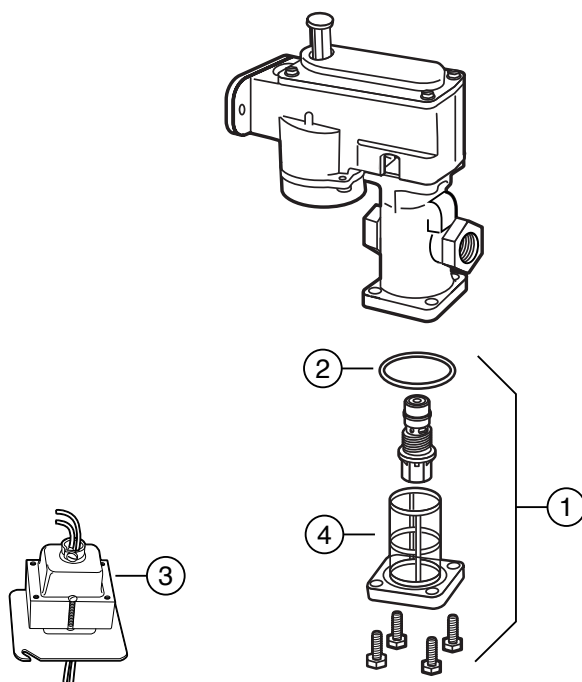
Series 101-A Electric Water Feeders



Series 101-A

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|----------------------------|------------------|
| 1 | 310453 | CTRD-101 | Cartridge & strainer kit | 0.8 (.36) |
| 2 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 3 | 324100 | 101-24V-48 | Transformer (24V) | 3.5 (1.6) |
| 4 | 347100 | SA-101-38 | Strainer (includes item 2) | 0.7 (.32) |



Water Feeders – Make-Up

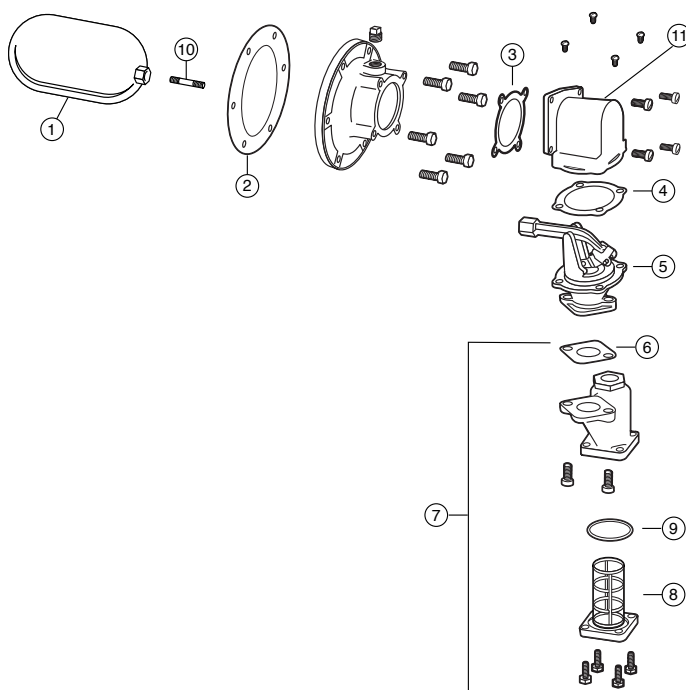
Series 21 Make-Up Water Feeders

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--|------------------|
| 1 | 311200 | 21-30 | Float (includes item 2) | 1.7 (.77) |
| 2 | 335400 | 847-26 | Gasket | 0.1 (.05) |
| 3 | 311100 | 21-27 | Gasket | 0.1 (.05) |
| 4 | 310800 | 21-12 | Gasket | 0.1 (.05) |
| 5 | 339500 | SA21-6 | Valve assembly (includes items 2, 3, 4 & 6) | 3.0 (1.4) |
| 6 | 312900 | 37-28 | Gasket | 0.1 (.05) |
| 7 | 342300 | SA51-9R | Strainer assembly | 3.0 (1.4) |
| 8 | 339700 | SA21-38R | Strainer basket (includes item 9) | 1.0 (0.5) |
| 9 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 10 | 311400 | 21-109 | Connector | 0.1 (.05) |
| 11 | 310600 | 21-3 | Bracket | 2.5 (1.1) |



Series 21



Boiler Control Replacement Parts

Water Feeders – Make-Up

Series 25-A Make-Up Water Feeders

Replacement Head Mechanisms

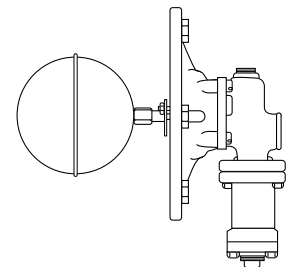
| For Series | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|------------|----------------------|-------------|----------------|------------------|
| 25-A | 25A-HD | 127100 | Head mechanism | 20 (9.1) |



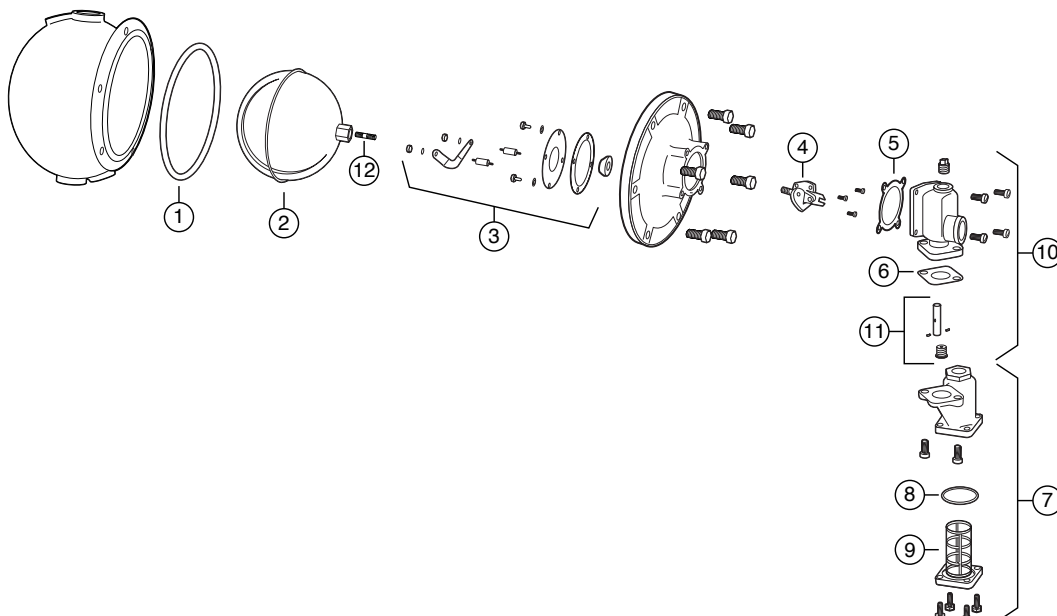
Series 25-A

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|---|------------------|
| 1 | 304100 | F-26 | Gasket | 0.1 (.05) |
| 2 | 334100 | 421-30 | Float (includes item 2) | 1.5 (0.7) |
| 3 | 340400 | SA27T-75 | Diaphragm seal assembly (includes item 1) | 0.1 (.05) |
| 4 | 339800 | SA25-5 | Arm assembly | 0.1 (.05) |
| 5 | 311100 | 21-27 | Gasket | 0.1 (.05) |
| 6 | 312900 | 37-28 | Gasket | 0.1 (.05) |
| 7 | 342300 | SA51-9R | Strainer assembly (includes item 6) | 3.0 (1.4) |
| 8 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 9 | 339700 | SA21-38R | Strainer basket (includes item 8) | 1.0 (0.5) |
| 10 | 339900 | SA25A-6 | Valve assembly | 3.0 (1.4) |
| 11 | 340000 | SA25A-15 | Stem, disc & seat assembly (includes item 6) | 0.3 (.14) |
| 12 | 311900 | 27T-9 | Float Rod | 0.1 (.05) |



Model 25-A-HD



Water Feeders – Make-Up

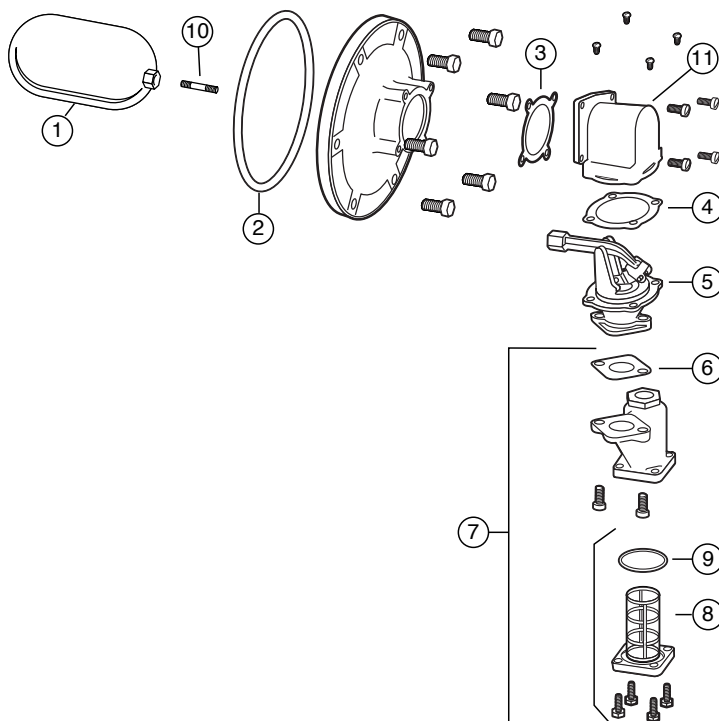
Series 221 Make-Up Water Feeders

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--------------------------------------|------------------|
| 1 | 311200 | 21-30 | Float (includes item 2) | 1.7 (.77) |
| 2 | 304100 | F-26 | Gasket | 0.1 (.05) |
| 3 | 311100 | 21-27 | Gasket | 0.1 (.05) |
| 4 | 310800 | 21-12 | Gasket | 0.1 (.05) |
| 5 | 339500 | SA21-6 | Valve assembly (includes 2,3,4,6) | 3.0 (1.4) |
| 6 | 312900 | 37-28 | Gasket | 0.1 (.05) |
| 7 | 342300 | SA51-9R | Strainer assembly | 3.0 (1.4) |
| 8 | 339700 | SA21-38R | Strainer basket (includes item 9) | 1.0 (0.5) |
| 9 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 10 | 311400 | 21-109 | Connector | 0.1 (.05) |
| 11 | 310600 | 21-3 | Bracket | 2.5 (1.1) |



Series 221



Water Feeders – Make-Up

Series 551-S Make-Up Water Feeders

Replacement Head Mechanisms

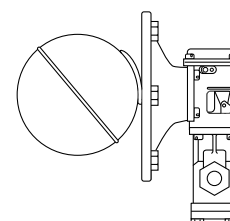
| For Series | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|------------|----------------------|-------------|----------------|------------------|
| 551-S | 551S-HD | 136600 | Head mechanism | 25.7 (11.7) |

Components

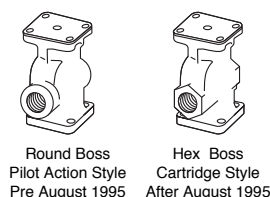
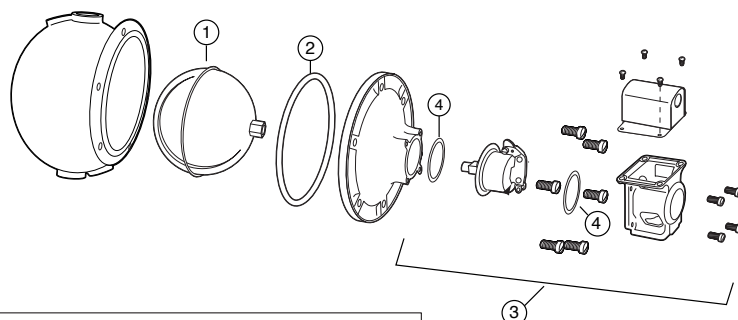
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|----------------|--|------------------|
| 1 | 310437 | FLT-51-05 | Float (includes item 2) (see note below) | 2.5 (1.1) |
| 2 | 304100 | F-26 | Gasket | 0.1 (.05) |
| 3 | 310442 | BA-551-05 | Bellows bracket assembly (see note below) | 1.5 (0.7) |
| 4 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 5* | 352600 | SA551S-101-102 | Valve & strainer kit | 4.0 (1.8) |
| 6 | 324435 | 37-101 | Tetraseal o-ring | 0.1 (.05) |
| 7 | 347100 | SA101-38 | Strainer basket (includes item 6) | 0.7 (.32) |
| 8 | 310452 | CTRD-51 | Cartridge kit | 0.8 (.36) |



Series 551-S



Series 551-S-HD



* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.

NOTE:
One time float and bellows replacement is required when replacing bellows or float assemblies with date codes before February 2005 (05B).

Water Feeders – Make-Up

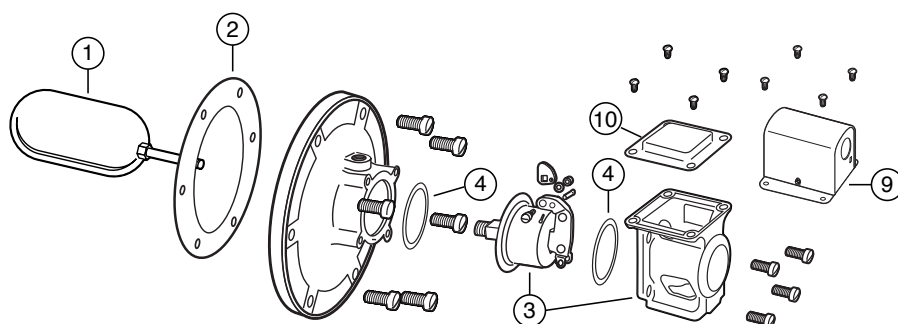
Series 847 Make-Up Water Feeders

Components

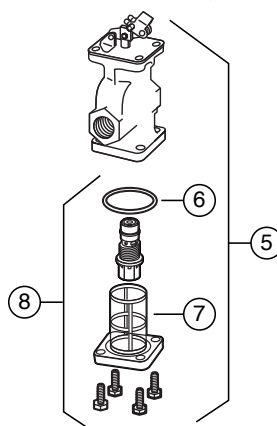
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--|------------------|
| 1 | 313600 | 37A-130 | Float (includes item 2) | 2.0 (0.9) |
| 2 | 335400 | 847-26 | Gasket | 0.1 (.05) |
| 3 | 352800 | SA847-4 | Bellows bracket assembly (includes item 2 and 4) | 1.5 (0.7) |
| 4 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 5* | 341600 | SA47-101-102 | Valve & strainer kit | 3.0 (1.4) |
| 6 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 7 | 347100 | SA101-38 | Strainer basket (includes item 6) | 0.7 (.32) |
| 8 | 310453 | CTRD-101 | Cartridge & strainer kit | 0.8 (.36) |
| 9 | 110000 | 2 | Switch | 1.0 (0.5) |
| 10 | 312600 | 37-20 | Cover | 0.1 (.05) |



Series 847



* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.



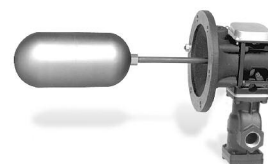
Boiler Control Replacement Parts

Water Feeders – Make-Up

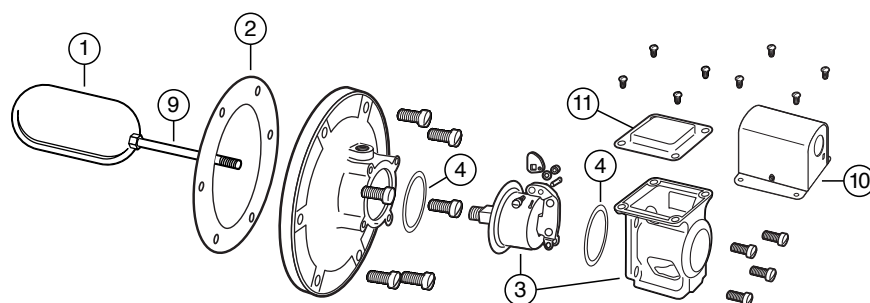
Series 851 Make-Up Water Feeders

Components

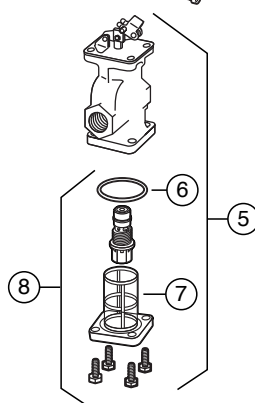
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|-----------------------------------|------------------|
| 1 | 313600 | 37A-130 | Float (includes item 2) | 2.0 (0.9) |
| 2 | 335400 | 847-26 | Gasket | 0.1 (.05) |
| 3 | 352925 | SA851-4 | Bellows bracket assembly | 1.5 (0.7) |
| 4 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 5* | 342500 | SA51-101-102 | Valve & strainer kit | 3.0 (1.4) |
| 6 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 7 | 347100 | SA101-38 | Strainer basket (includes item 6) | 0.7 (.32) |
| 8 | 310452 | CTRD-51 | Cartridge & strainer kit | 0.8 (.36) |
| 9 | 335700 | 851-105 | Float rod | 0.3 (.14) |
| 10 | 110000 | 2 | Switch | 1.0 (.05) |
| 11 | 312600 | 37-20 | Cover | 0.1 (.05) |



Series 851



* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.

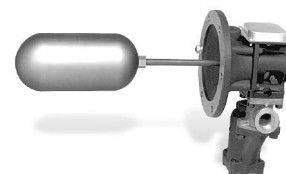


Water Feeders – Make-Up

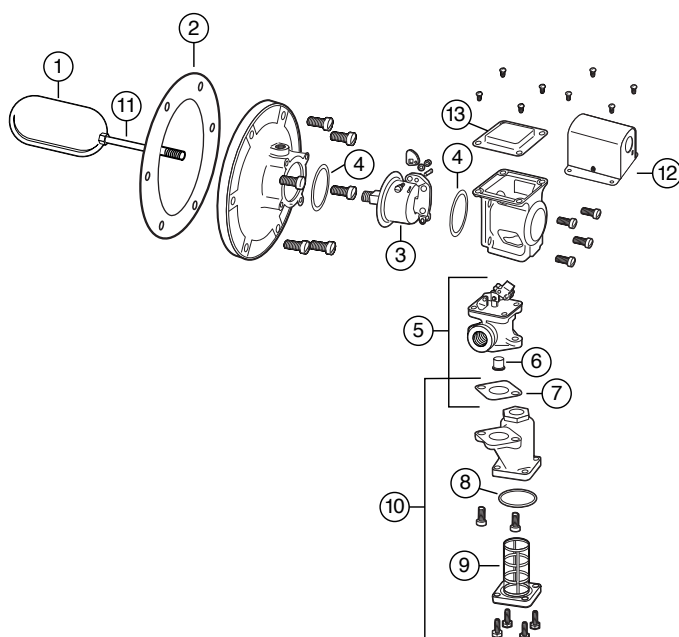
Series 851-S Make-Up Water Feeders

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--|------------------|
| 1 | 313600 | 37A-130 | Float (includes item 2) | 2.0 (.9) |
| 2 | 335400 | 847-26 | Gasket | 0.1 (.05) |
| 3 | 352925 | SA851-4 | Bellows bracket assembly (includes item 4) | 1.5 (.7) |
| 4 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 5 | 342100 | SA51S-6 | Valve assembly | 3.0 (1.4) |
| 6 | 316200 | 51S-114 | Valve seat | 0.1 (.05) |
| 7 | 312900 | 37-28 | Gasket | 0.1 (.05) |
| 8 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 9 | 340700 | SA37-38 | Strainer basket (includes item 8)) | 0.7 (.32) |
| 10 | 342200 | SA51-9 | Strainer assembly | 3.0 (1.4) |
| 11 | 335750 | 851S-105 | Float rod | 0.3 (.14) |
| 12 | 110000 | 2 | Switch | 1.0 (0.5) |
| 13 | 312600 | 37-20 | Cover | 0.1 (0.5) |



Series 851-S



Boiler Control Replacement Parts

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 47/47-2

Mechanical Water Feeder/Low Water Cut-Offs

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|---|------------------|
| 1 | 310453 | CTRD-101 | Cartridge and strainer kit | .35 (.16) |
| 2* | 341600 | SA47-101-102 | Valve, cartridge & strainer assembly kit | 3.0 (1.4) |
| 3 | 324435 | 37-101 | Tetraseal o-ring | 0.1 (.05) |
| 4 | 347100 | SA101-38 | Strainer for hex port valves (includes item 3) | 0.7 (.32) |
| 5 | 341500 | SA47-4 | Bellows and bracket assembly (includes item 15) | 1.5 (0.7) |
| 6 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 7 | 302900 | CO-106 | Cam assembly | 0.1 (.05) |
| 8 | 110000 | 2 | Switch | 1.0 (0.5) |
| 9 | 110100 | 2-M | Switch with manual reset | 1.0 (0.5) |
| 10 | 332800 | MA-259 | Quick hook-up fittings (includes item 11, 12, 13) | 4.5 (2.0) |
| 11 | 349400 | SA159-17 | Black "Y" assembly | 2.3 (1.0) |
| 12 | 351800 | SA259-24 | Upper quick hook-up fittings | 1.7 (.77) |
| 13 | 349500 | SA159-24 | Lower quick hook-up fittings | 1.7 (.77) |
| 14 | 340600 | SA37-30 | Float assembly | 2.0 (0.9) |
| 15 | 312700 | 37-26 | Gasket | 0.1 (.05) |
| 16 | 310447 | 14-B | Blow-down valve (includes item 17) | 1.5 (0.7) |
| 17 | 313200 | 37-39 | Blow-down valve gasket | 1.0 (0.5) |



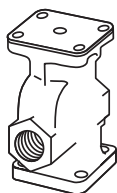
Series 47



Series 47-2



Round Port
Pilot Action Style
Before August 1995



Hex Port
Cartridge Style
After August 1995

* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.



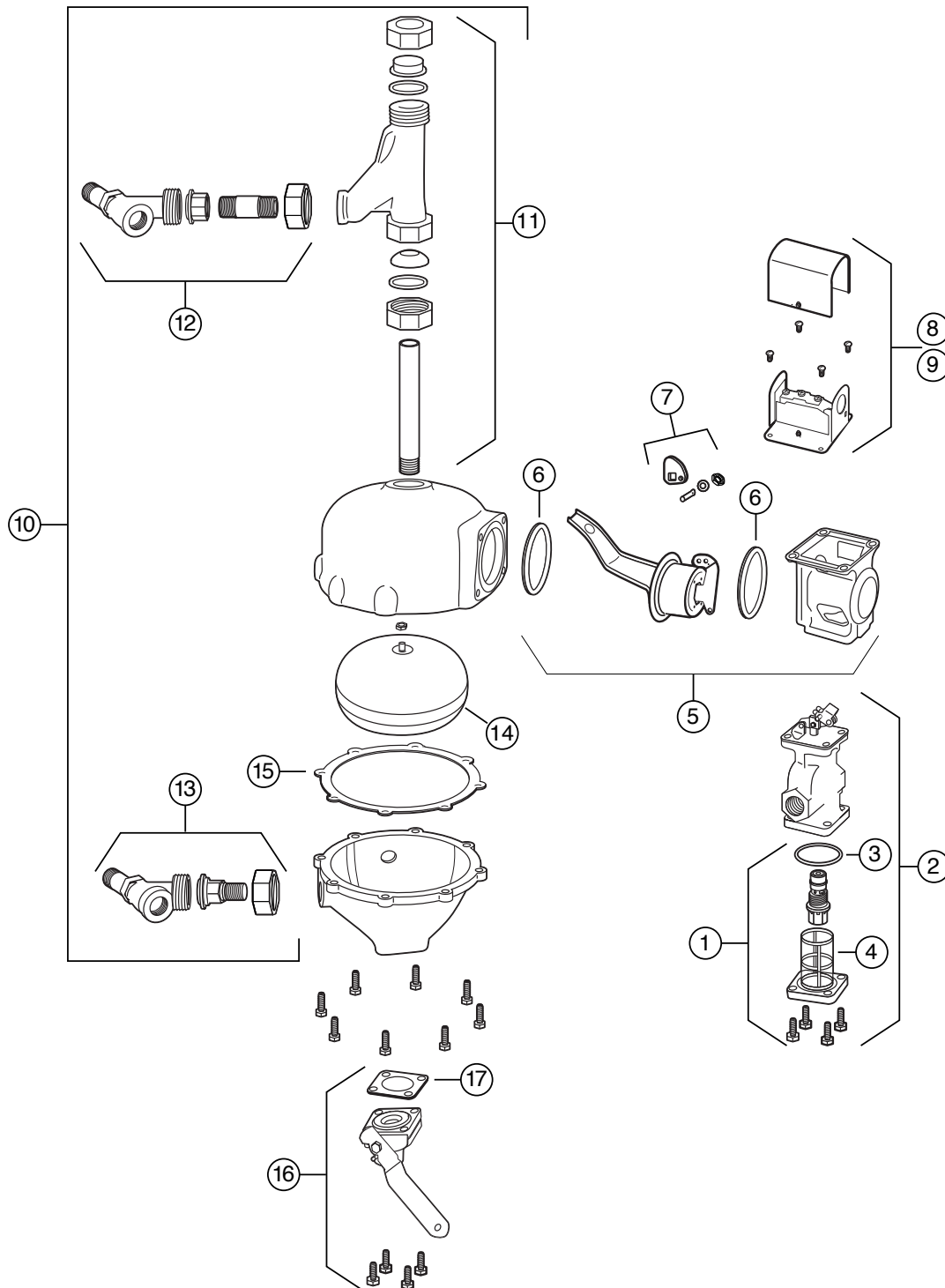
Boiler Control Replacement Parts

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 47/47-2 (continued)

Mechanical Water Feeder/Low Water Cut-Offs

Components



Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 247/247-2

Mechanical Water Feeder/Low Water Cut-Offs

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--|------------------|
| 1 | 310453 | CTRD-101 | Cartridge & strainer kit | .35 (.16) |
| 2* | 341600 | SA47-101-102 | Valve, cartridge & strainer assembly kit | 3.0 (1.4) |
| 3 | 324435 | 37-101 | Tetraseal o-ring | 0.1 (.05) |
| 4 | 347100 | SA101-38 | Strainer for hex port valves (includes item 3) | 0.2 (.09) |
| 5 | 341900 | SA47-104 | Bellows & bracket assembly (includes item 11) | 1.5 (0.7) |
| 6 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 7 | 302900 | C0-106 | Cam assembly | 0.1 (.05) |
| 8 | 110000 | 2 | Switch | 1.0 (0.5) |
| 9 | 110100 | 2-M | Switch w/manual reset | 1.0 (0.5) |
| 10 | 340600 | SA37-30 | Float assembly | 2.0 (0.9) |
| 11 | 312700 | 37-26 | Gasket | 0.1 (.05) |



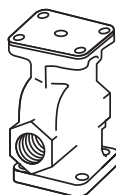
Series 247



Series 247-2



Round Boss
Pilot Action Style
Pre August 1995



Hex Boss
Cartridge Style
After August 1995

* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.



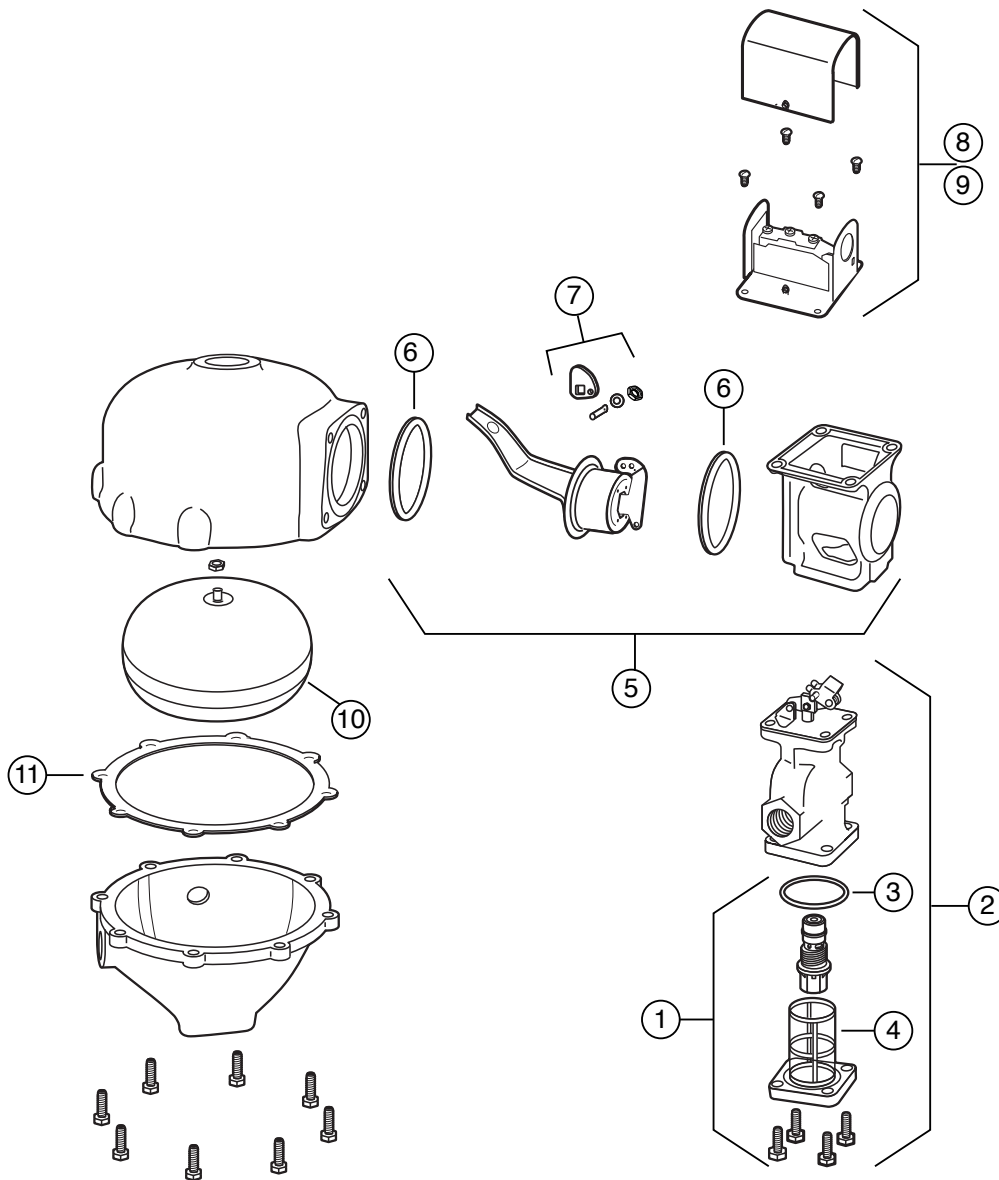
Boiler Control Replacement Parts

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 247/247-2 (continued)

Mechanical Water Feeder/Low Water Cut-Offs

Components



Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 51/51-2

Water Feeder/Low Water Cut-Offs

Replacement Head Mechanisms

| For Series | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|------------|----------------------|-------------|--------------------------------|------------------|
| 51-2 | 51-2-HD | 135100 | Head mechanism w/ No. 2 switch | 18.3 (8.3) |
| | or 51-2M-HD | 135300 | 51-2-HD w/manual reset | 26.0 (11.8) |

Components (shown on page 43)

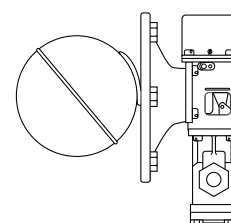
| Item | Part | Model | | |
|------|--------|--------------|--|-----------|
| 1 | 110000 | 2 | Low water cut-off switch | 1.0 (0.5) |
| 2 | 110100 | 2-M | No. 2 w/manual reset | 1.0 (0.5) |
| 3 | 310437 | FLT-51-05 | Float (see note following page) | 2.5 (1.1) |
| 4 | 304100 | F-26 | Gasket | 0.1 (.05) |
| 5 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 6 | 302900 | CO-106 | Cam assembly | 0.1 (.05) |
| 7 | 310439 | BA-51-05 | Bellows bracket assembly (includes item 4) (see note following page) | 1.5 (0.7) |
| 8* | 342500 | SA51-101-102 | Valve & strainer kit | 3.0 (1.4) |
| 9 | 310452 | CTRD-51 | Cartridge & strainer kit | 0.8 (.36) |
| 10 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 11 | 347100 | SA101-38 | Strainer basket (includes item 10) | 0.7 (.32) |



Series 51



Series 51-2



Model 51-2-HD

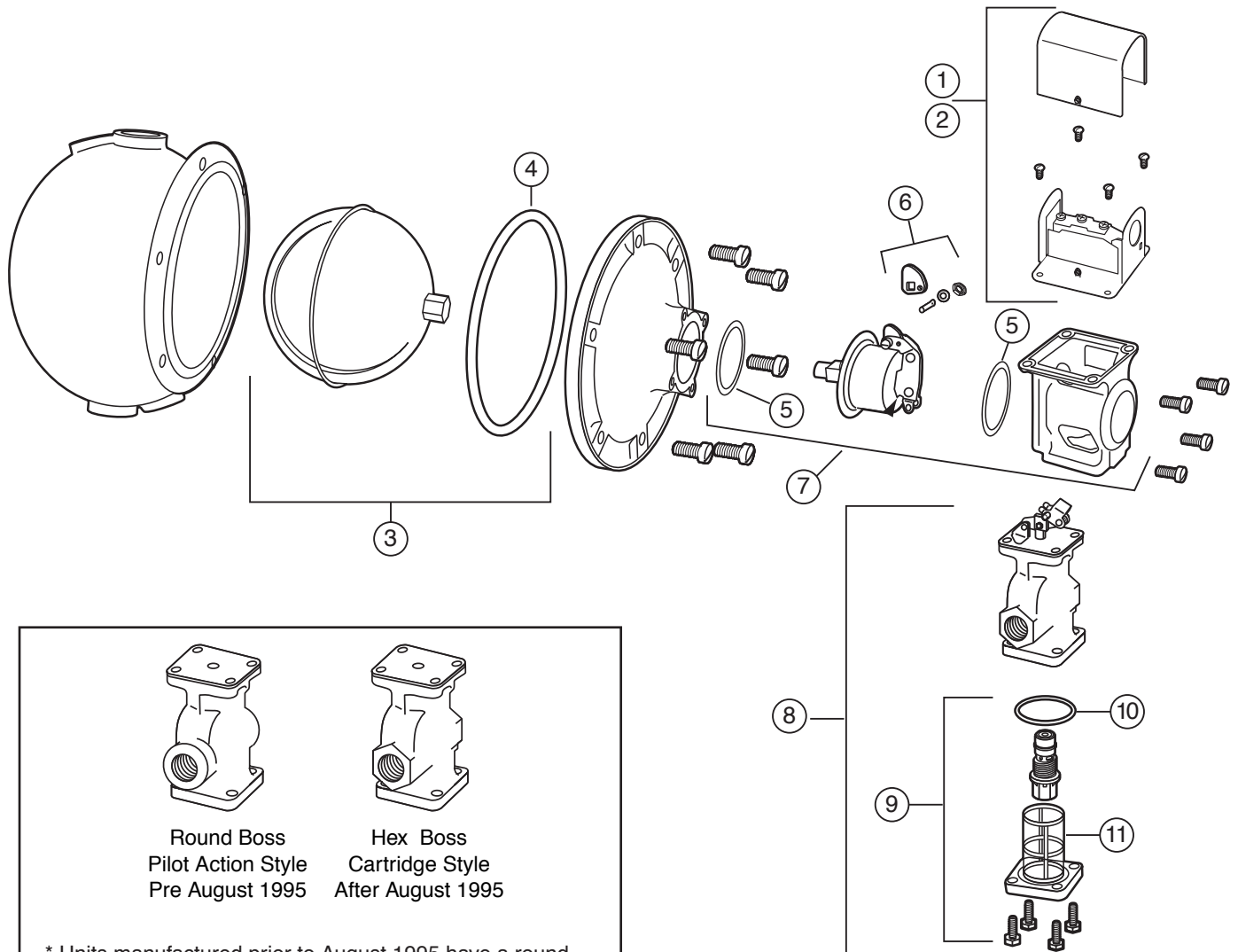
Boiler Control Replacement Parts

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 51/51-2 (continued)

Water Feeder/Low Water Cut-Offs

Components



* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.

Note: One time float and bellows replacement is required when replacing bellows or float assemblies with date codes before February, 2005 (05B).

Boiler Control Replacement Parts

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 51-S/51-S-2 Water Feeder/Low Water Cut-Offs

Replacement Head Mechanisms

| For Series | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|------------|----------------------|-------------|--------------------------------|------------------|
| 51-S | 51-S-2-HD or | 136200 | Head mechanism w/ No. 2 switch | 20.5 (9.3) |
| | 51-S-2M-HD | 136250 | 51-S-2-HD w/manual reset | 21.7 (9.8) |

Components (shown on page 47)

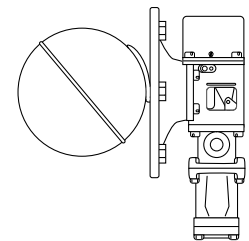
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--|------------------|
| 1 | 110000 | 2 | Low water cut-off switch | 1.0 (0.5) |
| 2 | 110100 | 2-M | No. 2 w/manual reset | 1.0 (0.5) |
| 3 | 310437 | FLT-51-05 | Float (see note following page) | 2.5 (1.1) |
| 4 | 304100 | F-26 | Gasket | 0.1 (.05) |
| 5 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 6 | 302900 | CO-106 | Cam assembly | 0.1 (.05) |
| 7 | 310439 | BA-51-05 | Bellows bracket assembly (includes item 4) (see note following page) | 1.0. (0.7) |
| 8 | 342100 | SA51S-6 | Valve assembly | 3.0 (1.4) |
| 9 | 316200 | 51S-114 | Valve seat | 0.8 (.36) |
| 10 | 342200 | SA51-9 | Strainer assembly | 0.1 (.05) |
| 11 | 312900 | 37-28 | Gasket | 0.1 (.05) |
| 12 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 13 | 340700 | SA37-38 | Strainer basket (includes item 12) | 0.7 (.32) |



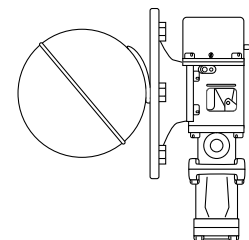
Series 51-S



Series 51-S-2



Model 51-S-2-HD

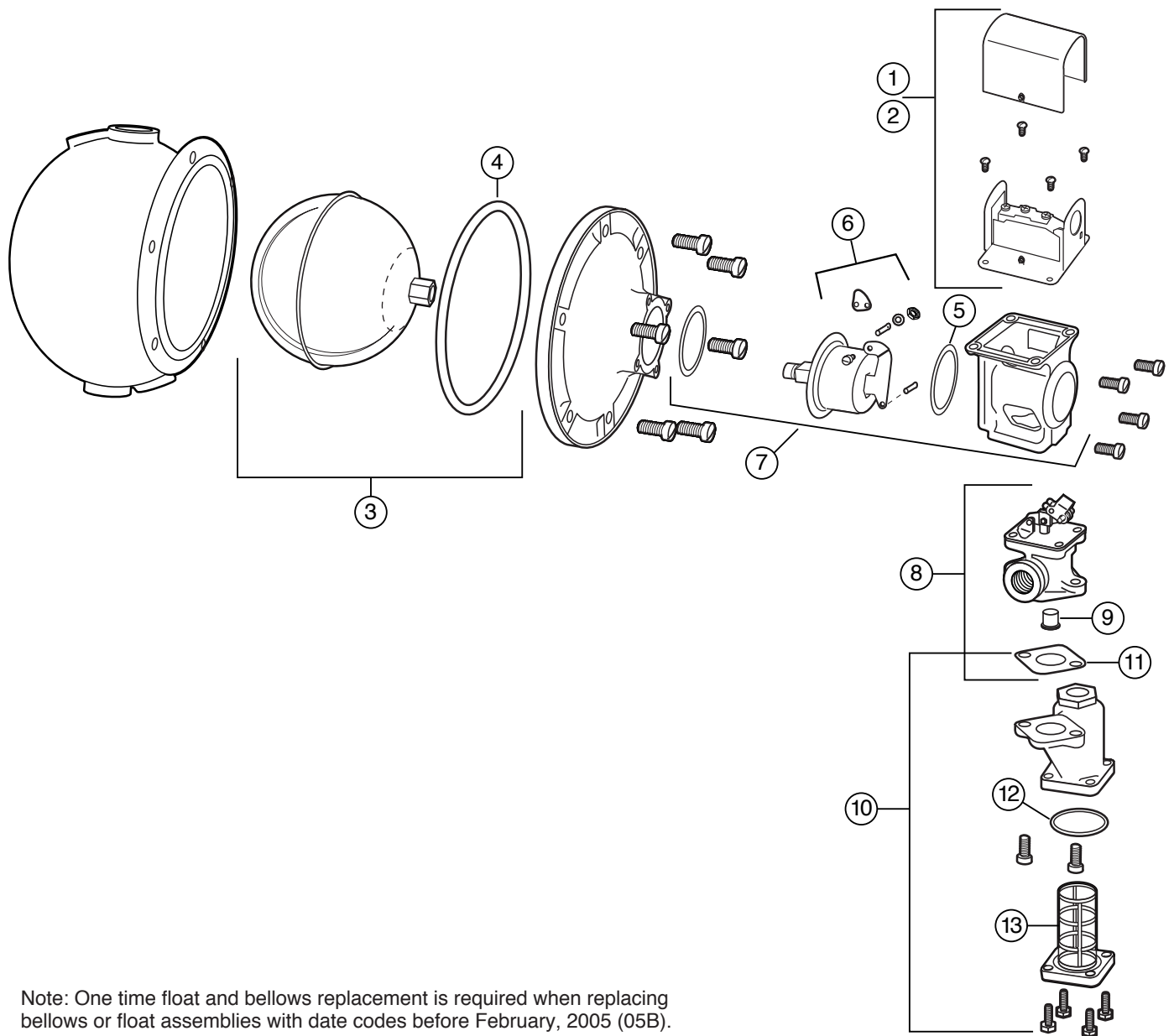


Model 51-S-2M-HD

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 51-S/51-S-2 (continued)
Water Feeder/Low Water Cut-Offs

Components



Note: One time float and bellows replacement is required when replacing bellows or float assemblies with date codes before February, 2005 (05B).

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 53/53-2

Water Feeder/Low Water Cut-Offs

Replacement Head Mechanisms

| For Series | Repl. Head Model No. | Part Number | Description | Weight lbs. (kg) |
|------------|----------------------|-------------|--------------------------------|------------------|
| 53 | 53-2-HD | 137300 | Head mechanism w/ No. 2 switch | 20.5 (9.3) |
| | or 53-2M-HD | 137250 | 53-2-HD w/manual reset | 20.5 (9.3) |

Components (shown on page 49)

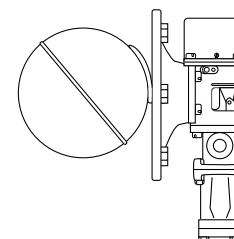
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--|------------------|
| 1 | 110000 | 2 | Low water cut-off switch | 1.0 (0.5) |
| 2 | 110100 | 2-M | No. 2 w/manual reset | 1.0 (0.5) |
| 3 | 304100 | F-26 | Gasket | 0.1 (.05) |
| 4 | 310438 | FLT-53-05 | Float (See note following page) | 4.0 (1.8) |
| 5 | 302900 | CO-106 | Cam assembly | 0.1 (.05) |
| 6 | 312800 | 37-27 | Gasket | 0.1 (.05) |
| 7 | 310441 | BA-53-05 | Bellows bracket assembly (includes item 3) (See note following page) | 1.5 (0.7) |
| 8 | 342800 | SA53-6 | Valve assembly | 3.0 (1.4) |
| 9 | 312900 | 37-28 | Gasket | 0.1 (.05) |
| 10 | 324435 | 37-101 | Tetraseal O-ring | 0.1 (.05) |
| 11 | 340700 | SA37-38 | Strainer basket | 0.7 (.32) |



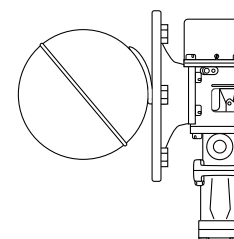
Series 53



Series 53-2



Model 53-2-HD

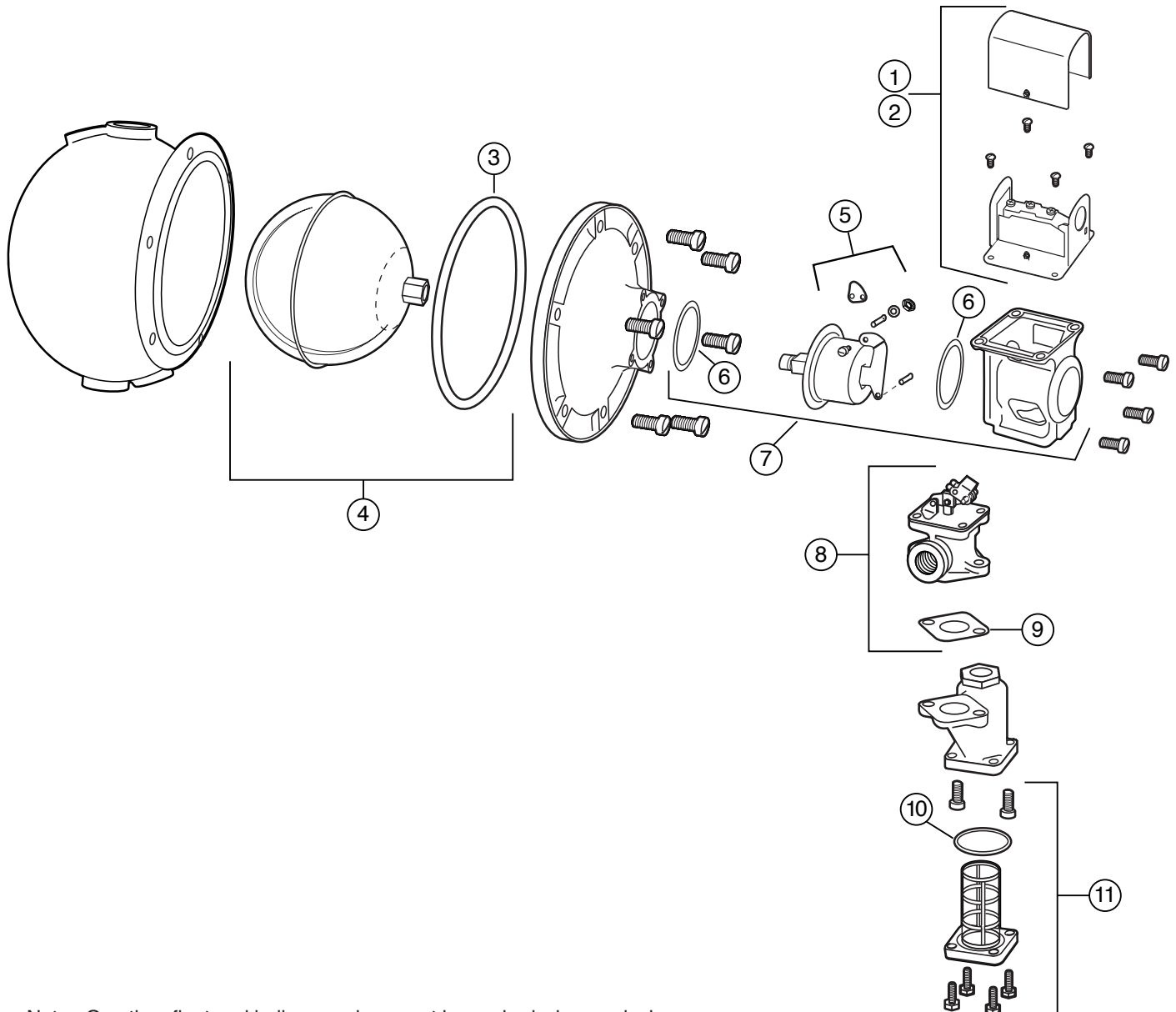


Model 53-2M-HD

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 53/53-2 (continued)
Water Feeder/Low Water Cut-Offs

Components



Note: One time float and bellows replacement is required when replacing bellows or float assemblies with date codes before February, 2005 (05B).

Valves

Series TC-4 Test-N-Check® Valves

Components

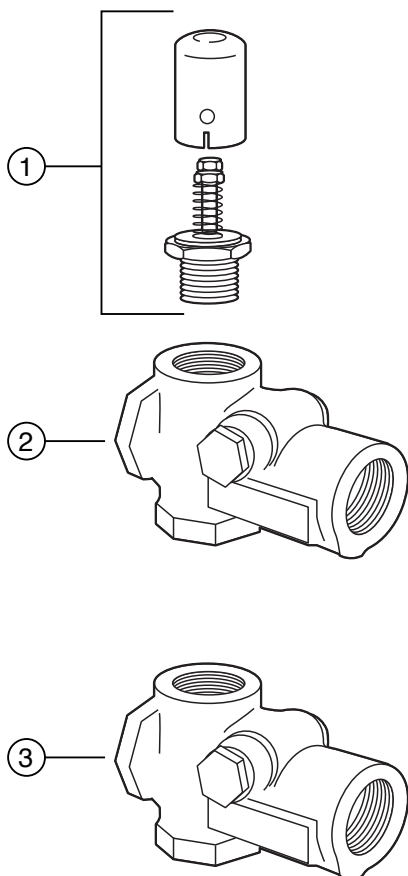
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|-------------------------------|------------------|
| 1 | 317354 | TC-V | Vacuum breaker w/gasket | 0.3 (.14) |
| 2 | 317350 | TC-U | Upper valve (includes item 1) | 2.7 (1.2) |
| 3 | 317353 | TC-L | Lower valve | 2.7 (1.2) |



**Series TC-4
Upper Valve**



**Series TC-4
Lower Valve**



Probe Type Remote Sensors

Components for Remote Sensors

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--------------|------------------|
| 1 | 354370 | GSKT-RS-1 | Cover gasket | 0.3 (.14) |
| 2 | 354401 | EA-RS | Electrode | 0.5 (.23) |
| 3 | 354081 | PA-800 | Probe | 0.5 (.23) |
| 4 | 354410 | GSKT-RS-2 | Cover gasket | 0.3 (.14) |



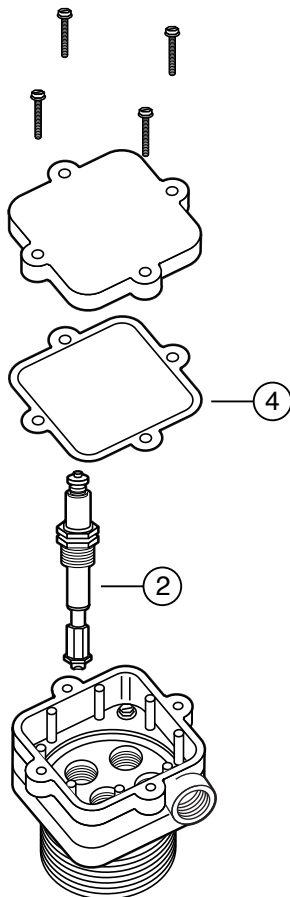
**Remote Sensor
Model RS-1-BR-1**



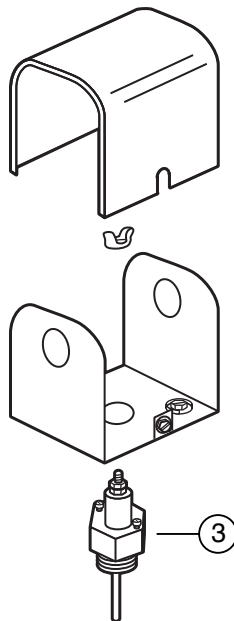
**Remote Sensor
Model RS-1-LP**



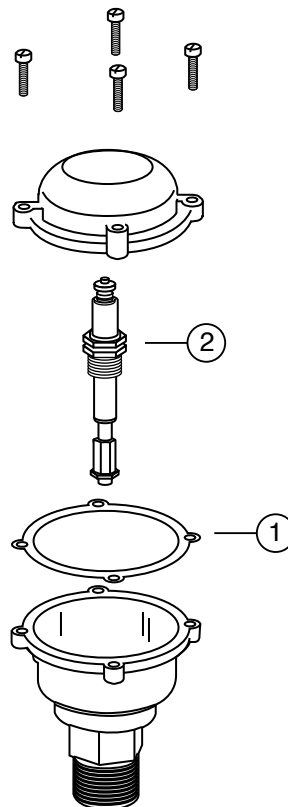
**Remote Sensor
Series RS**



Series RS



Model RS-1-LP



Model RS-1-BR-1

Pneumatic Actuated

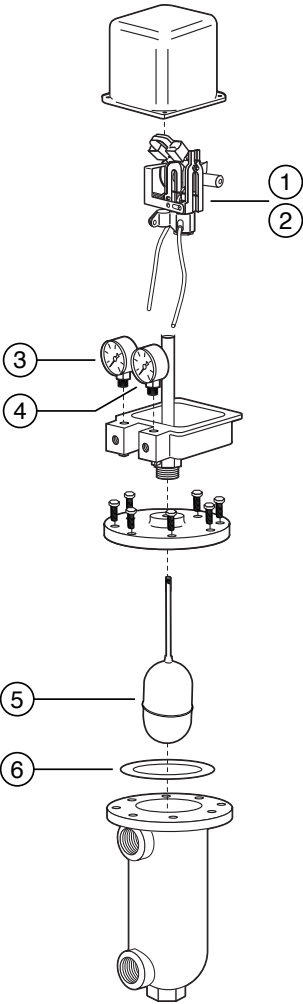
Series PFC Liquid Level Controls

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|-------------------------|------------------|
| 1 | 310471 | SWA-PFC-D | Valve assembly-DA | 2.0 (0.9) |
| 2 | 310472 | SWA-PFC-R | Valve assembly-RA | 2.0 (0.9) |
| 3 | 354411 | G-PFC-S | Supply gauge | 0.3 (.14) |
| 4 | 354412 | G-PFC-O | Output gauge | 0.3 (.14) |
| 5 | 354320 | FLT-PFC | Float (includes item 6) | 0.5 (.23) |
| 6 | 354310 | GSKT-PFC | Gasket | 0.2 (.09) |



Series PFC



Float Actuated

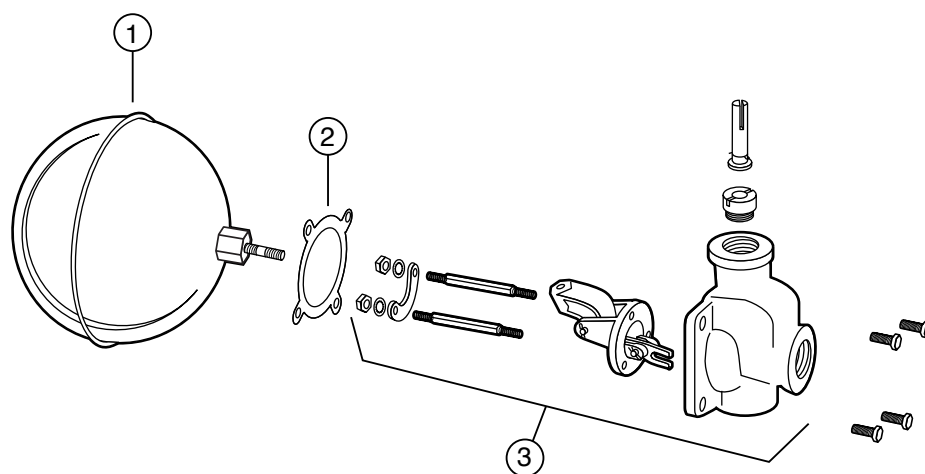
Series 27-W Liquid Level Controls



Series 27-W

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|-------------------------------------|------------------|
| 1 | 334100 | 421-30 | Float & Nipple (includes item 2) | 1.5 (0.7) |
| 2 | 311100 | 21-27 | Gasket | 0.1 (.05) |
| 3 | 340100 | SA27W-6 | Valve assembly (includes item 2) | 3.5 (1.6) |



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Flow Switch Replacement Parts

Flow Switches – Liquid

Series FS4-3

General Purpose Liquid Flow Switches

Components

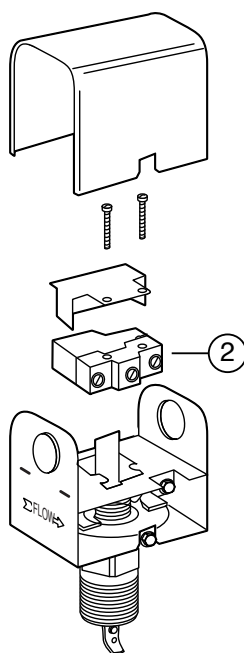
| For Model | Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|------------------------------------|-------------|-------------|--------------|--|------------------|
| All models (except those below) | 1 | 310451 | FS4-15SS | Stainless steel paddle kit | 0.1 (.05) |
| | 2 | 305200 | FS4-33 | SPDT switch | 0.3 (.14) |
| FS4-3D | 3 | 305512 | FS4-3D-17 | SPDT switch | 0.3 (.14) |
| | 4 | 304300 | FS1-17 | SPDT switch (next to adjustment screw) | 0.3 (.14) |

Note: Paddle kits include screws and washers.

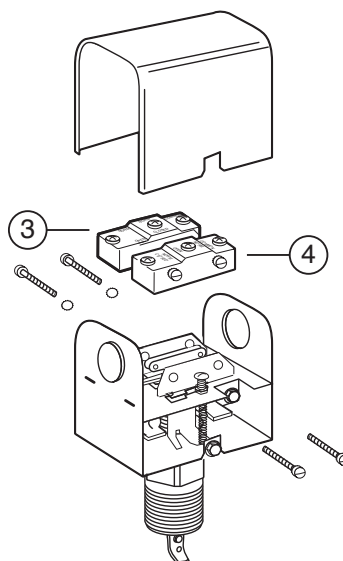


Series FS4-3

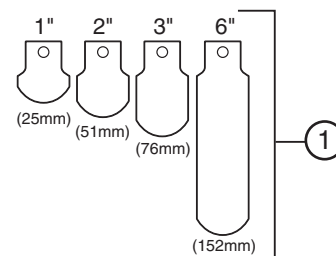
FLOW SWITCHES



Series FS4-3



Series FS4-3D



Paddle Kit

Flow Switches – Liquid

Series FS4-3T General Purpose Liquid Flow Switches

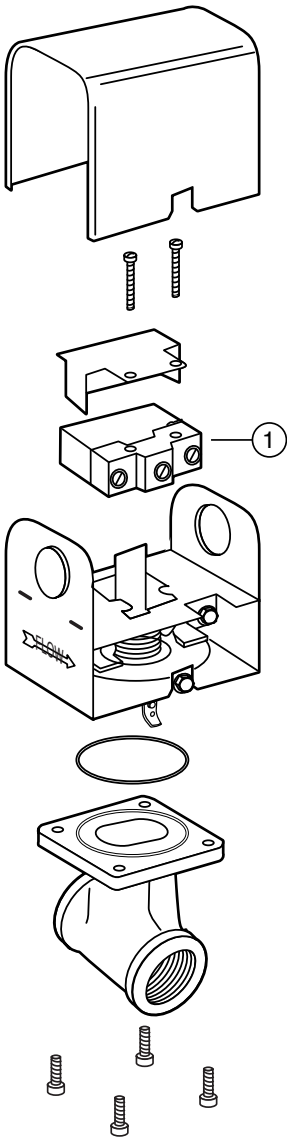
Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|------------------------------|------------------|
| 1 | 305200 | FS4-33 | SPDT switch | 0.3 (.14) |
| 2 | 336900 | FS4-3T-25 | Paddle kit (includes O-ring) | 0.1 (.05) |

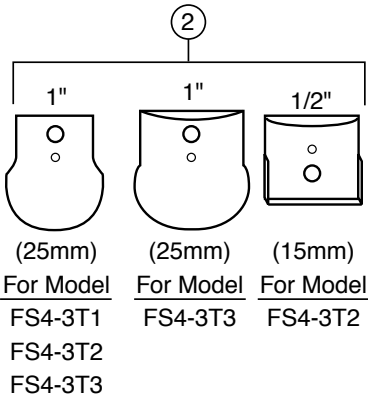
Note: Paddle kits include screws and washers.



Series FS4-3T



FS4-3T



Paddle Kit

Flow Switch Replacement Parts

Flow Switches – Liquid

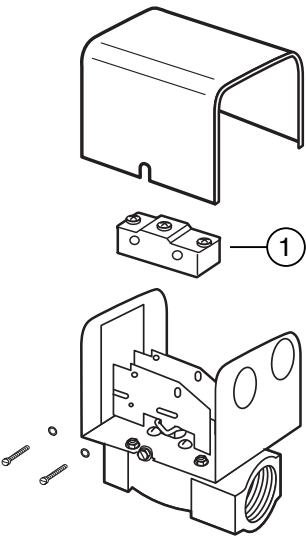
Series FS5 General Purpose Liquid Flow Switches

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|-------------|------------------|
| 1 | 304300 | FS1-17 | Switch | 0.3 (.14) |



Series FS5



Series FS5

Series FS8-W

General Purpose Liquid Flow Switches

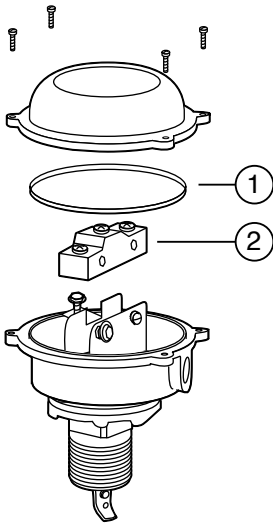
Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|----------------------------|------------------|
| 1 | 307400 | GSKT-FS8W | O-ring | 0.1 (.05) |
| 2 | 310478 | FS8-33 | Switch | 0.3 (.14) |
| 3 | 310451 | FS4-15SS | Stainless steel paddle kit | 0.1 (.05) |

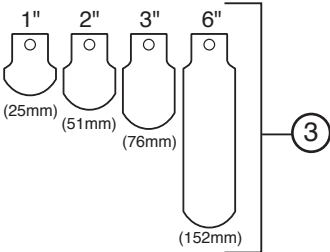


Series FS8-W

Note: Paddle kits include screws and washers.



Series FS8-W



Paddle Kit

Flow Switch Replacement Parts

Series FS250

General Purpose Liquid Flow Switches

Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|----------------------------|------------------|
| 1 | 310801 | GSKT-FS254 | O-Ring | 0.1 (.05) |
| 2 | 310802 | SW-FS250 | Switch | 0.3 (0.14) |
| 3 | 310451 | FS4-15SS | Stainless steel paddle kit | 0.1 (.05) |

Note: Paddle kits include screws and washers.

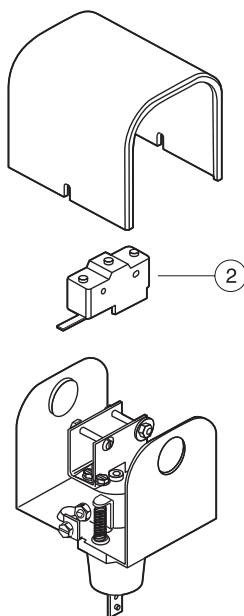


FS251

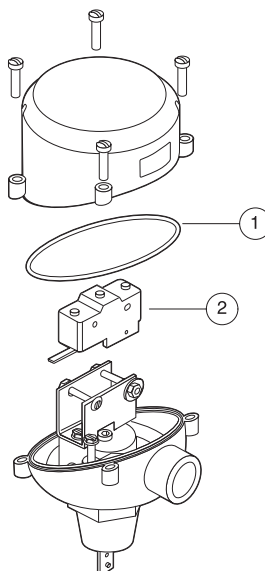


FS254

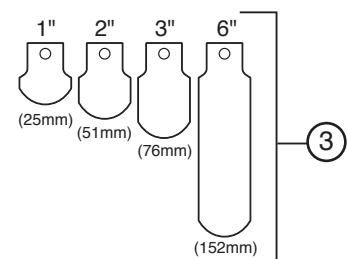
FLOW SWITCHES



FS251



FS254



Paddle Kit

Flow Switches – Liquid

Series FS1 & FS1-W High Sensitivity Liquid Flow Switches

Components

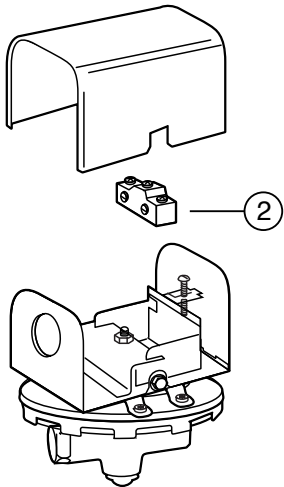
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|-------------|------------------|
| 1 | 300311 | GSKT-FS1/6W | O-ring | 0.1 (.05) |
| 2 | 304300 | FS1-17 | Switch | 0.3 (.14) |



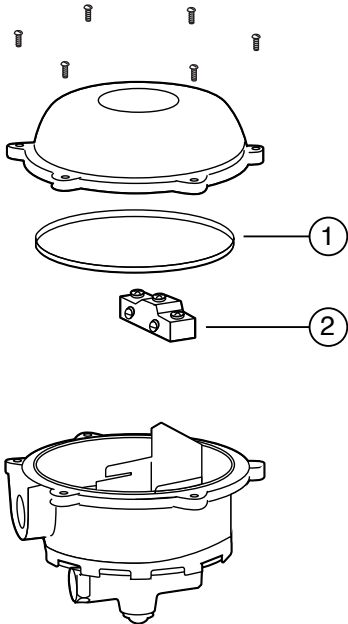
Series FS1



Series FS1-W



Series FS1



Series FS1-W

FLOW SWITCHES

Flow Switch Replacement Parts

Flow Switches – Liquid

Series FS6 & FS6-W High Sensitivity Liquid Flow Switches

Components

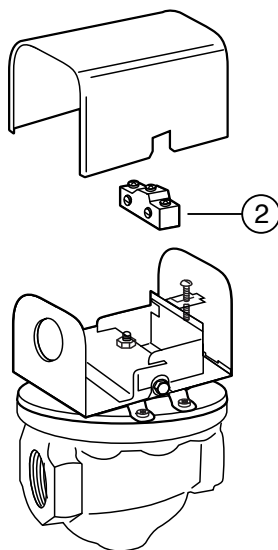
| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|-------------|------------------|
| 1 | 300311 | GSKT-FS1/6W | O-ring | 0.1 (.05) |
| 2 | 304300 | FS1-17 | Switch | 0.3 (.14) |



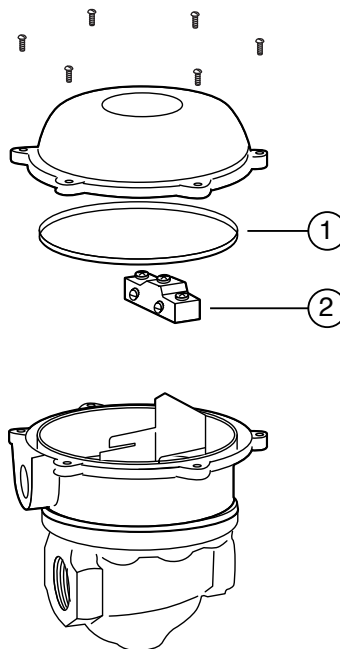
Series FS6



Series FS6-W



Series FS6



Series FS6-W

Flow Switches – Liquid

Series FS7-4, FS7-4L & FS7-4S Industrial Liquid Flow Switches

Components

| For Series | Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|------------|-------------|-------------|--------------|----------------------------|------------------|
| FS7-4 | 1 | 307000 | FS7-31 | SPDT switch | 0.3 (.14) |
| FS7-4S | | | | | |
| FS7-4L | | | | | |
| FS7-4 | 2 | 337550 | FS7S-4R-4 | Paddle arm | 0.5 (.23) |
| FS7-4S | | | | | |
| FS7-4 | 3 | 306700 | FS7-28 | Bronze paddle kit | 0.1 (.05) |
| FS7-4S | 4 | 306800 | FS7-28S | Stainless steel paddle kit | 0.1 (.05) |
| FS7-4L | 5* | 337900 | FS7-28L | Bronze paddle kit | 0.1 (.05) |
| FS7-4L | 6* | 337650 | FS7-VL-4R-4 | Paddle arm | 0.5 (.23) |

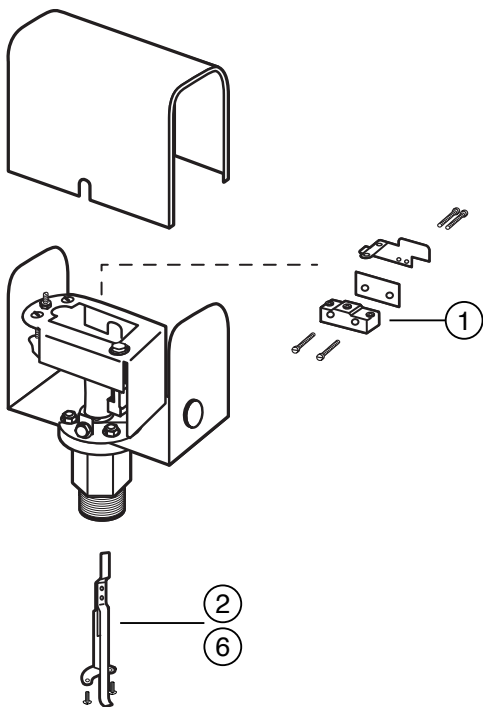
Note: Paddle kits include screws and washers.
* Available on L models only.



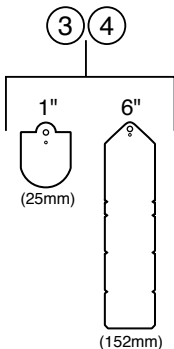
Series FS7-4



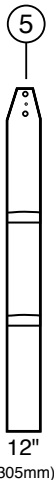
Series FS7-4L



Series FS7-4, FS7-4L & FS7-4S



Series FS7-4 & FS7-4S Paddle Kit



Series FS7-4L Paddle Kit

Flow Switch Replacement Parts

Flow Switches – Liquid

Series FS7-4E & FS7-4W Industrial Liquid Flow Switches

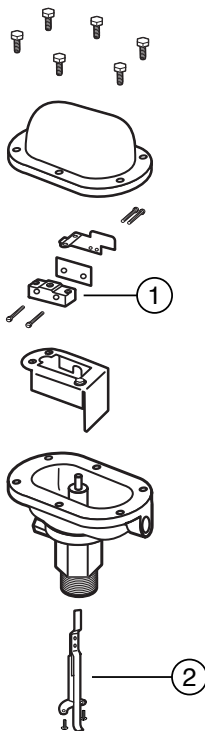
Components

| For Series | Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|--------------------|-------------|-------------|--------------|----------------------------|------------------|
| All models | 1 | 307000 | FS7-31 | SPDT switch | 0.3 (.14) |
| | 2 | 337550 | FS7S-4R-4 | Paddle arm | 0.4 (.18) |
| FS7-4E FS7-4W | 3 | 306700 | FS7-28 | Bronze paddle kit | 0.1 (.05) |
| FS7-4SE FS7-4SW | 4 | 306800 | FS7-28S | Stainless steel paddle kit | 0.1 (.05) |
| FS7-4W FS7-4SW | 5 | 307200 | FS7-W-43 | Gasket | 0.1 (.05) |

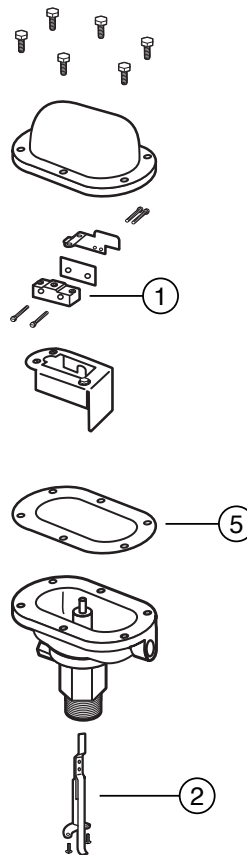


Series FS7-4E & FS7-4W

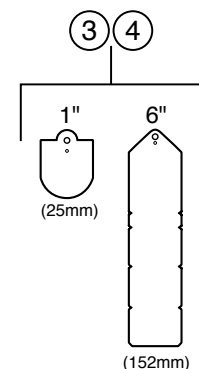
Note: Paddle kits include screws and washers.



Series FS7-4E



Series FS7-4W



Paddle Kit

Flow Switches – Air

Series AF1 Air Flow Switches

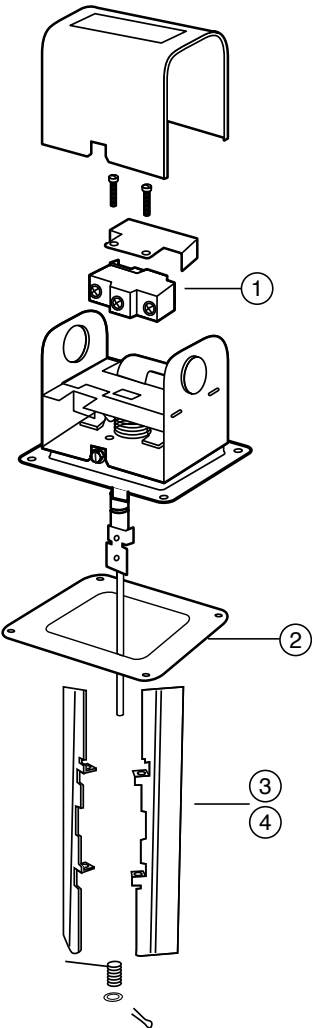
Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|--|------------------|
| 1 | 307000 | FS7-31 | SPDT switch | 0.3 (.14) |
| 2 | 301200 | AF1-21 | Gasket | 0.1 (.05) |
| 3 | 336000 | AF1-122 | Paddle kit for model AF1 & AF1-J (includes item 2) | 0.1 (.05) |
| 4 | 336050 | AF1-S-122 | Paddle kit for model AF1-S (includes item 2) | 0.1 (.05) |

Note: Paddle kits include screws and washers.



Series AF1



Series AFE-1 Air Flow Switches

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|---------------------------------|------------------|
| 1 | 304300 | FS1-17 | SPDT switch | 0.3 (.14) |
| 2 | 308300 | AFE-1-122 | Paddle kit (includes item 3) | 0.1 (.05) |
| 3 | 317352 | AFE-1-21 | Gasket | 0.1 (.05) |



Series AFE-1



Flow Switches – Air

Series AF2 Air Flow Switches

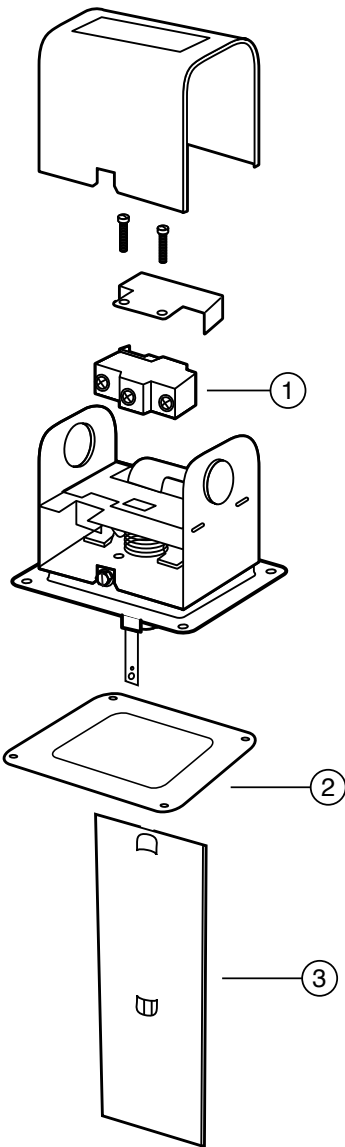
Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|------------------------------|------------------|
| 1 | 307000 | FS7-31 | SPDT switch | 0.3 (.14) |
| 2 | 301200 | AF1-21 | Gasket | 0.1 (.05) |
| 3 | 301400 | AF2-122 | Paddle kit (includes item 2) | 0.1 (.05) |

Note: Paddle kits include screws and washers.



Series AF2



Flow Switch Replacement Parts

Flow Switches – Air

Series AF3 Air Flow Switches

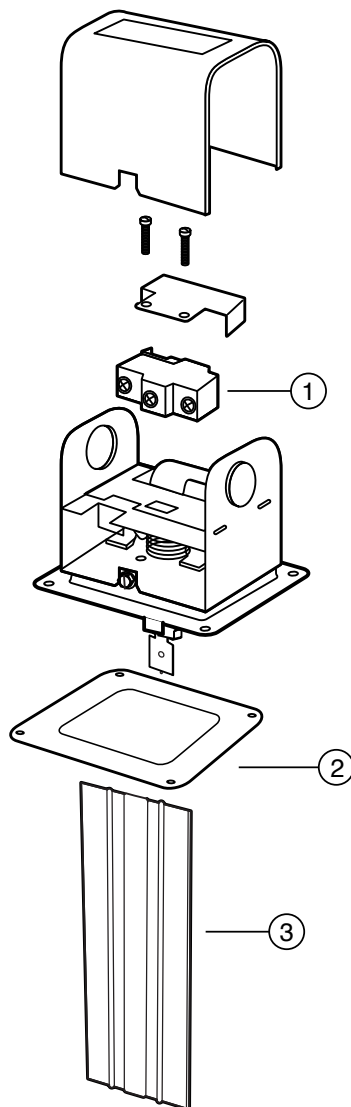
Components

| Item Number | Part Number | Model Number | Description | Weight lbs. (kg) |
|-------------|-------------|--------------|---------------------------------|------------------|
| 1 | 307000 | FS7-31 | SPDT switch | 0.3 (.14) |
| 2 | 301200 | AF1-21 | Gasket | 0.1 (.05) |
| 3 | 301450 | AF3-122 | Paddle kit (includes item 2) | 0.1 (.05) |

Note: Paddle kits include screws and washers.



Series AF3



Warranty Policy

McDonnell & Miller warrants for a period of two (2) years from the date of manufacture or one (1) year from date of installation, whichever comes first, that all McDonnell & Miller and all Hoffman Specialty products furnished by it are free from defects in materials and workmanship.

McDonnell & Miller's liability for any breach of this Warranty shall be limited solely to replacement or repair at the sole option of McDonnell & Miller, of any part or parts found to be defective during the Warranty Period providing the Product is properly installed and is being used for its intended purpose. Buyer must notify McDonnell & Miller of any breach of this warranty, within the aforementioned Warranty Period by notifying the McDonnell & Miller representative with responsibility for servicing the Buyer's account. Further, product alleged to be defective must be shipped by buyer to McDonnell & Miller's representative, transportation charges prepaid.

It is expressly agreed that this shall be the sole and exclusive remedy of the buyer, under no circumstances shall McDonnell & Miller be liable for any costs, loss, expense, damages, special damages, incidental damages or consequential damages arising directly or indirectly from the design, manufacture, sale, or use or repair of the product whether based upon warranty, contract, negligence or strict liability. In no event will liability exceed the purchase price of the product.

The warranty and limits of liability contained herein are in lieu of all other warranties and liabilities expressed or implied. All implied warranties or merchantability and fitness for a particular purpose are hereby disclaimed by McDonnell & Miller and excluded from the warranty.

McDonnell & Miller neither assumes nor authorizes any person to assume for it, any other Warranty obligation in connection with the sale of the Product. This Warranty shall not apply to any product or parts of products which (a) have been repaired or altered outside of authorized McDonnell & Miller facilities; (b) have been subject to misuse, negligence or accident; or (c) have been used in a manner contrary to McDonnell & Miller instructions.

In the case of Products not manufactured by McDonnell & Miller, there is no warranty from McDonnell & Miller, but McDonnell & Miller will extend to the buyer any Warranty from McDonnell & Miller's supplier of such products

Warranty Procedure

Return product to place of purchase or contact our local Manufacturer's Representative.

Return Goods Policy

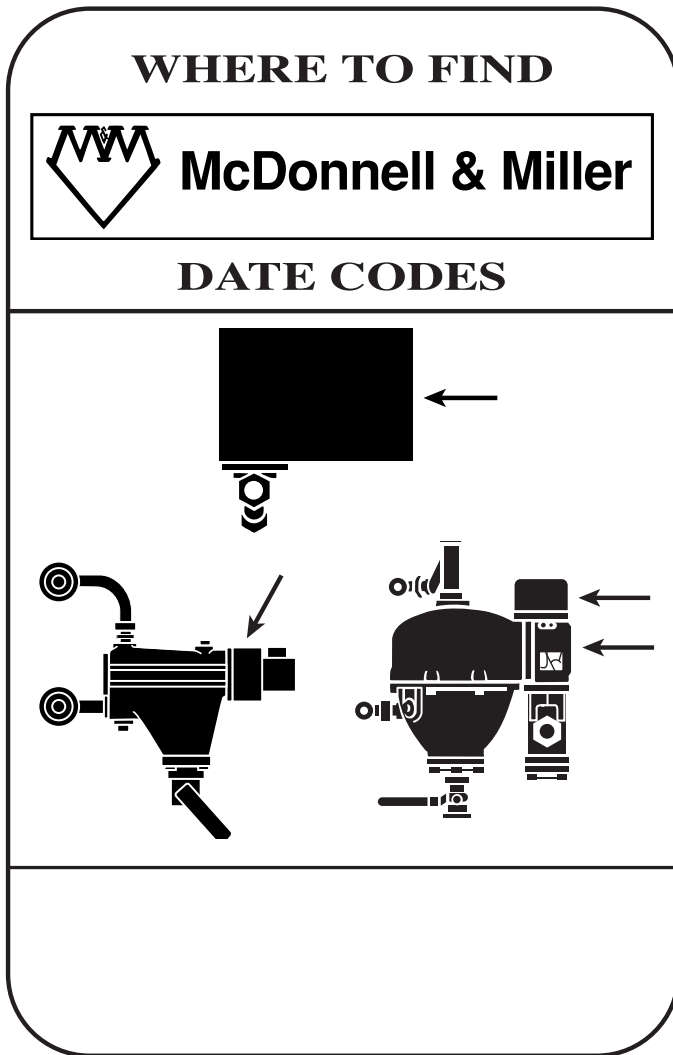
Unused material may be returned for credit only with the written or oral consent of McDonnell & Miller. This consent is in the form of an RGA number issued by McDonnell & Miller, and is subject to the following conditions.


1. Materials must be unused, of current design, and in original cartons.
2. Credit will be issued based upon either a referenced invoice or product date code if an invoice is not referenced. Requestor is to supply copy of the referenced invoice if requested.
3. A 25% restocking charge will apply.
4. Unauthorized material returned to McDonnell & Miller will be either refused or sent back to the sender freight collect by a carrier chosen by McDonnell & Miller.
5. If material is received but subsequently found not to have met the above conditions, it will be sent back to the sender freight collect by a carrier chosen by McDonnell & Miller.
6. Products which are obsolete or made to special order are not returnable.

Date Codes

McDonnell & Miller controls manufactured after 1972 feature a stamped date code, so you can easily check the life expectancy and recommended replacement intervals. **If a control has no date stamp replace it!**

See chart for more specific information on maintenance and replacement intervals. Below are guides to help you quickly locate and translate the date code on McDonnell & Miller controls.



| <div style="border: 1px solid black; padding: 5px; text-align: center;">  McDonnell & Miller </div> Product Date Code Translation | | |
|---|-----------|--|
| Month | Year | Example |
| A = January | 97 = 1979 | K09 Translates to October 1990 |
| B = February | 08 = 1980 | |
| | 18 = 1981 | |
| C = March | 28 = 1982 | |
| | 38 = 1983 | |
| D = April | 48 = 1984 | |
| | 58 = 1985 | |
| E = May | 68 = 1986 | |
| | 78 = 1987 | |
| F = June | 88 = 1988 | |
| | 98 = 1989 | |
| G = July | 09 = 1990 | |
| H = August | 19 = 1991 | Between 1996 and 2008 month designer proceeded year and year designator was not reversed. |
| J = September | 29 = 1992 | |
| | 39 = 1993 | |
| K = October | 49 = 1994 | |
| | 59 = 1995 | |
| L = November | 96 = 1996 | |
| | 97 = 1997 | |
| | 98 = 1998 | |
| | 99 = 1999 | |
| | 00 = 2000 | |
| M = December | 01 = 2001 | |
| | 02 = 2002 | 96K Translates to October 1996 |
| | 03 = 2003 | |
| | 04 = 2004 | |
| | 05 = 2005 | |
| | 06 = 2006 | |
| | 07 = 2007 | |
| | 08 = 2008 | |
| | 09 = 2009 | |
| | 01 = 2010 | |
| | 11 = 2011 | |
| | 21 = 2012 | |
| | 31 = 2013 | Beginning 2009 month designator proceeds year and year designator is again reversed. |
| | 41 = 2014 | |
| | 51 = 2015 | |
| | 61 = 2016 | |
| | 71 = 2017 | |
| | 81 = 2018 | K21 Translates to October 2012 |
| | 91 = 2019 | |

IMPORTANT

- Product repairs made with non-McDonnell & Miller parts will invalidate our warranty as well as any agency recognitions. Without this recognition the product would no longer be eligible for use in listed end-use equipment.
- Previously used controls should never be installed on a new system. Always install new controls on a new boiler or system.
- A more frequent replacement interval may be necessary based on the condition of the unit at time of inspection. McDonnell & Miller's warranty is one (1) year from date of installation or two (2) years from the date of manufacture.
- Use of water treatment can diminish product life. In such cases, components should be replaced on a more frequent basis.
- Visually inspect the inside of the float chamber during the annual inspection. Partial disassembly may be required.

Inspect all controls annually, and replace, repair or clean, as needed. All chambered units are to be blown down per manufacturers instructions and local code requirements. These requirements are to be determined by the local service company, and are based on water quality and system operation variables. Refer to the installation instructions provided with the product for specific assembly and test procedures.

McDonnell & Miller products must also be maintained in accordance with the following ASME Code.

ASME Boiler and Pressure Vessel Code – Section VI Paragraph 7.07 G

Low-Water Fuel Cut-Off and Water Feeder Maintenance. Low-water fuel cut-offs and water feeders should be dismantled annually, by qualified personnel, to the extent necessary to insure freedom from obstructions and proper functioning of the working parts., Inspect connecting lines to boiler for accumulation of mud, scale, etc., and clean as required. Examine all visible wiring for brittle or worn insulation and make sure electrical contacts are clean and that they function properly. Give special attention to solder joints on bellows and float when this type of control is used. Check float for evidence of collapse and check mercury bulb (where applicable) for mercury separation or discoloration. Do not attempt to repair mechanisms in the field. Complete replacement

mechanisms, including necessary gaskets and installation instructions are available from the manufacturer. After reassembly, test as per 7.05H.

Recommended Replacement Intervals

| Product | Series | Recommended Maintenance | Recommended Replacement Interval (Maximum) |
|--|--|---|--|
| Low Water Cut-Offs | 1575, 150S, 157S, 158S, 159S | Blow down and test daily inspect annually. | 15 years |
| | 69, 169, 269, 369, 469 | Inspect and test annually. | 10 years |
| | 67, 767 | Blow down weekly. Inspect and test annually. | 10 years |
| | 61, 63, 64, 764 | Blow down weekly. Inspect and test annually. | 10 years |
| | 42S | Blow down daily. Inspect and test annually. | 10 years |
| | 93, 94, 193, 194 | Blow down and test daily. Inspect and test annually. | 15 years |
| | 750, 751P/752P, PSE-800 RB-122E | Inspect and test annually. | 15 years |
| | RB-24E | Inspect and test annually. | 10 years |
| Water Feeders Inspect Annually | WFE/Uni-Match® | Inspect and test annually. | 10 years |
| | 21, 221, 25-A, 51-S, 53, 851-S, 3155 | Inspect and test annually. | 15 years |
| | 101-A, 47, 51, 247 847, 551-S, 851 | Blow down weekly. Inspect and replace cartridge valve annually. | 10 years |
| Liquid Level Controls | PFC | Inspect and test annually. Blow down weekly | 15 years |
| | 27-W | Inspect and test annually. | 5 years |
| Replacement Blow Down Valves | 14-B | Inspect and test annually. | 10 years |
| Replacement Probes | 751P/752P, PSE-800 RB-122E | Self cleaning probes. Inspect 5 years. | 10 years |
| Replacement Head Mechanisms for Commercial/Industrial Applications | 25-A, 42S, 51, 51-S, 53, 61, 63, 64, 67, 93 94, 150S, 157S, 193, 194 | Inspect and test annually. | 5 years |
| Flow Switches | FS1, FS4-3, FS5, FS43T, FS6, FS7-4, FS8W, AF, FS-250 | Inspect and test annually. | 10 years |

Notes

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Notes

[illegible]

Notes

[illegible]

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services, and agricultural settings. With its October 2016 acquisition of Sensus, Xylem added smart metering, network technologies and advanced data analytics for water, gas and electric utilities to its portfolio of solutions. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xyleminc.com

The Little Red Schoolhouse® - Training the Industry



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- Modern Hydronic System Design - Advanced*
- Design & Application of Water Based HVAC Systems
- Large Chilled Water System Design*
- Pump Service & Maintenance School
- Steam Systems Design & Applications
- Steam System Operation & Maintenance
- Plumbing Systems Design

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For applications to attend these seminars, please contact a Bell & Gossett Representative in your area. They will have the schedule dates for all seminars and will make all the arrangements for you. As a service and a continuing educational source to the HVAC industry, these seminars are offered free of charge. IACET certified CEU credits are awarded for each seminar.

* The USGBC has approved the technical and instructional quality of the Modern Hydronic Heating Systems - Basic Seminar (15 GBCI CE Hours) and the Large Chilled Water Design Seminar (11 GBCI CE Hours). These courses are approved for GBCI Continuing Education Hours towards LEED Credential Maintenance Programs.



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