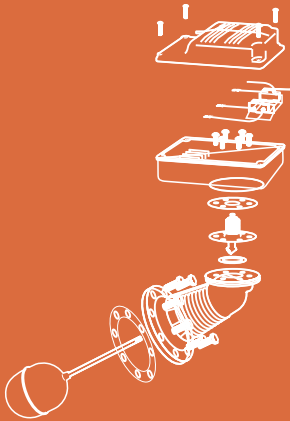
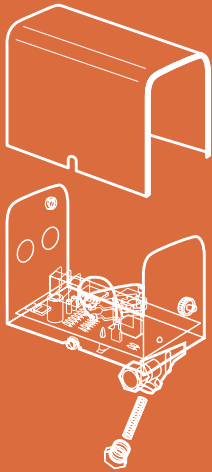




MM-701



# McDonnell & Miller

*2001-2002 Replacement Parts Catalog*



For Residential, Commercial and Industrial Applications



McDonnell & Miller



**ITT Industries**  
*Engineered for life*

# What you don't know about boiler controls... but should.

## Keep your customers safe, your reputation intact and your business strong — by regularly inspecting and replacing boiler controls.

Whether it's changing entire controls, or replacing heads or blow down valves, boiler control inspections and replacements aren't just good habits. They're essential to the safety and well-being of your customers. Homeowners rely on you as the heating professional who can help keep their boilers operating efficiently — and safely.

Replace old controls with genuine ITT McDonnell & Miller controls and replacement heads. You are assured of system compatibility, warranty coverage and product reliability.

Low Water  
Condition  
56%

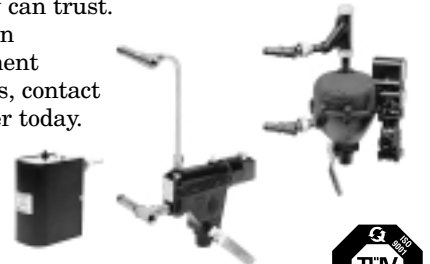
Operator Error or  
Poor Maintenance  
25%

Other  
19%

In 1995, low water conditions and operator error/improper maintenance accounted for 81 percent of all boiler accidents, according to National Board Incident Reports.

By following a recommended schedule for inspection and replacement of boiler controls, you can give your customers peace of mind — and position yourself as the professional heating contractor they can trust.

For more information on recommended replacement and inspection intervals, contact ITT McDonnell & Miller today. We'll show you how to safeguard your customers — and your reputation.



McDonnell & Miller



ITT Industries  
*Engineered for life*



3500 N. Spaulding Avenue  
Chicago, Illinois 60618  
tel: 773 267-1600  
fax: 773 267-0991  
[www.mcdonnellmiller.com](http://www.mcdonnellmiller.com)

ITT McDonnell & Miller – the industry leader. Delivering reliable performance and safety in boiler and level control products for over 70 years.

Whether it's ease of serviceability, continuous improvement, product enhancements or interchangeability, ITT McDonnell & Miller is continually doing more to give you the best performing residential, commercial and industrial liquid level and flow control products found anywhere.

## BOILER CONTROLS FLOW SWITCHES LIQUID LEVEL CONTROLS

**ITT McDONNELL & MILLER IS AN INTERNATIONALLY CERTIFIED ISO 9001 ORGANIZATION**



ITT McDonnell & Miller is the recipient of the highly coveted ISO 9001 Certification. Recognized by more than 140 countries, these worldwide standards provide a uniform measure of quality procedures in manufacturing and service organizations.

Participation in the rigid and demanding ISO 9000 Certification process is one of our most important activities. We want our customers and competitors – both in the United States and abroad – to know that we are dedicated to designing, producing and marketing the very highest quality products available anywhere.

## HOW TO USE THIS CATALOG

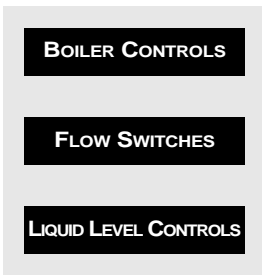
This guide will assist you in your tour of the McDonnell & Miller Replacement Parts Catalog. The information contained in the catalog is organized into 4 key categories:

- Products
- Warranty & Return Policy
- Discontinued Parts List
- Maintenance & Replacement Interval Guidelines

Easy to identify symbols and product icons will help you specify and select the replacement parts that meet your requirements.

### PRODUCTS...

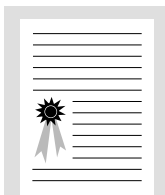
...the complete McDonnell & Miller product line, divided into 3 primary groups:



Just check the **CONTENTS** pages for the associated product icons to quickly find the control you need replacement parts for.

### WARRANTY & RETURN POLICY...

...gives you all the information regarding McDonnell & Miller warranty and return policies.



### INDEX...

...helps you find the information by part number or catalog number.



### DISCONTINUED PARTS LIST...

...easy locator to see if your part or product is no longer available.

Discontinued Parts Cross Reference			
Part Number	Model Number	Description	Replacement Part Number
110105	2M-SBV	2M switch for SBV	No Replacement
110405	5M-SBV	5M switch for SBV	No Replacement
173205	150M-HD-SBV	150M head for SBV	No Replacement
302091	FD-14	Gasket, 6 pack	304290
301500	C-22	Pin	302900
301900	C-35	Lock nut	302900
302087	F-26	Gasket, 6 pack	304100

### MAINTENANCE & REPLACEMENT INTERVAL GUIDELINES...

...the easy to read guides will help keep you on track with suggested product maintenance and replacement intervals.

Recommended Replacement Intervals

Product	Series	Recommended Maintenance	Recommended Replacement Interval (Maximum)
Low Water Cut-Offs	150, 157, 158, 159, 150S, 157, 158S, 159S	Blow down and test daily inspect annually.	15 years
	69, 169, 269, 369, 469	Inspect and test annually.	10 years
	67, 767, 70, 70-B	Blow down weekly. Inspect and test annually.	10 years
	61, 63, 64, 764	Blow down weekly. Inspect and test annually.	10 years
	42	Blow down daily. Inspect and test annually.	10 years

BOILER CONTROLS







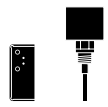

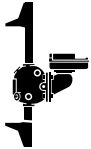

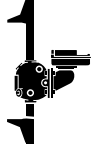


















## Replacement Parts for:

*Boiler Controls* .....5  
*Liquid Level Controls* .....57  
*Flow Switches* .....65

## General Information

*Discontinued Parts List* .....78  
*Part Number Cross Reference* ....80  
*Index* .....82  
*Warranty & Return Policy* .....86  
*Maintenance & Replacement Interval Guidelines* .....87

# BOILER CONTROL REPLACEMENT PARTS
















LOW WATER CUT-OFFS	FOR SERIES	PAGE	LOW WATER CUT-OFFS	FOR SERIES	PAGE
<ul style="list-style-type: none"> <li>• <i>For Hot Water Boilers</i></li> </ul>			<ul style="list-style-type: none"> <li>• <i>For Steam Boilers</i></li> </ul>		
Replacement Probes			PS-800 Series  5		
	PS-850 Series	 5	750 Series	 6	6
	RB Series	 6	<ul style="list-style-type: none"> <li>• <i>Combination Low Water Cut-Off/ Pump Controllers for Steam Boilers</i></li> </ul>		
	750 Series	 6	42/42A	 	20
<ul style="list-style-type: none"> <li>• <i>For Steam Boilers</i></li> </ul>			42S/42S-A	 	22
61		7	93/193	 	24
63		8	94/194	 	26
64		10	150/157	 	28
764		12	150S/157S	 	30
67		14	150E/157E	 	34
767		16			
69		18			
70/70B		19			

FLOW SWITCHES

LIQUID LEVEL CONTROLS

GENERAL INFORMATION

**BOILER CONTROL REPLACEMENT PARTS (continued)**

<u>WATER FEEDERS</u>	<u>FOR SERIES</u>	<u>PAGE</u>	<u>WATER FEEDERS</u>	<u>FOR SERIES</u>	<u>PAGE</u>
• <i>Electric</i>	Uni-Match® WF2	 35	• <i>Make-Up</i>	21	 37
	101-A	 36		25-A	 38
• <i>Mechanical</i>	47/47-2	 46	221	 40	
	247/247-2	 49	551-S	 41	
	51/51-2	 50	847	 42	
	51-S/51-S-2	 52	851	 43	
	53/53-2	 54	851-S	 44	
			3155	 45	

**VALVES**

• <i>Test-N-Check®</i>	TC-4	 	56
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BOILER CONTROLS

FLOW SWITCHES

LIQUID LEVEL CONTROLS

GENERAL INFORMATION

## LIQUID LEVEL CONTROL PRODUCTS

### CONDUCTANCE ACTUATED (PROBE TYPE)

**FOR SERIES**      **PAGE**

LPC-2000  57

PCH  57

PCL  57

### FLOAT ACTUATED

**FOR SERIES**      **PAGE**

VFS  59

E-8  60

27-W  61

65  62

80  63

165  64

### PNEUMATIC ACTUATED

PFC  58

## FLOW SWITCH PRODUCTS

### LIQUID FLOW

**FOR SERIES**      **PAGE**

• *General Purpose*

FS4-3  65

FS4-3-T  66

FS5  67

FS8-W  68

• *High Sensitivity*

FS1  69

FS1-W  69

FS6  70

FS6-W  70

### LIQUID FLOW

**FOR SERIES**      **PAGE**

• *Industrial*

FS7-4  71

FS7-4E  72

FS7-4W  72

### AIR FLOW

AF1  73

AFE-1  74

AF2  75

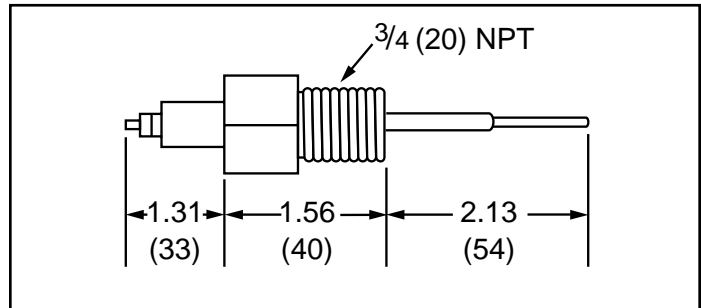
AF3  76

## 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)
PS-851-120				
PS-802-24				
PS-852-24				
RS-1-LP				
PS-851-M-120				
PS-852-M-24				
PS-801-M-120				
PS-802-M-24				

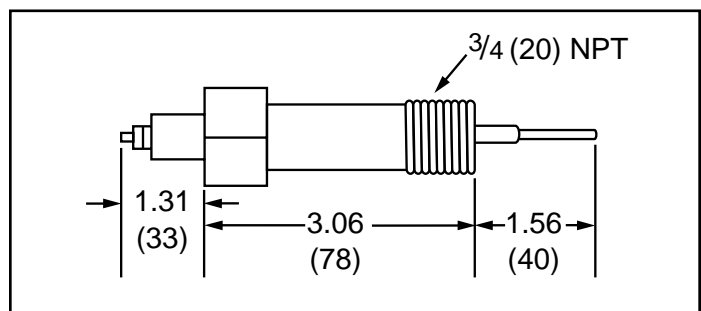
**Dimensions, in. (mm)**



### 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)
PS-802-U-24				
PS-851-M-U-120				
PS-851-U-120				
PS-802-M-U-24				
PS-801-M-U-120				

**Dimensions, in. (mm)**

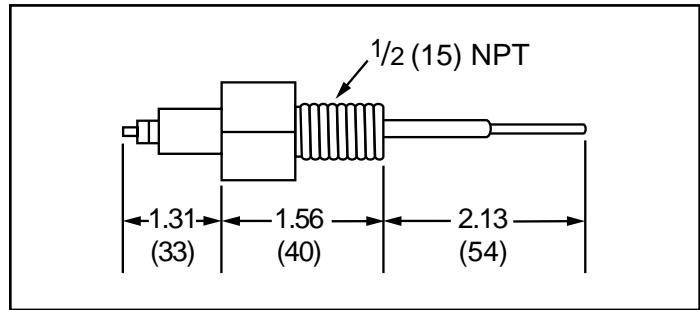


## Replacement Probes

### PA-800-RX2

For Model	Repl. Probe Model No.	Part Number	Description	Weight lbs. (kg)
PS-801-RX2-24	PA-800-RX2	354140	Probe	0.5 (.23)
PS-802-RX2-24				
PS-851-RX2-120				

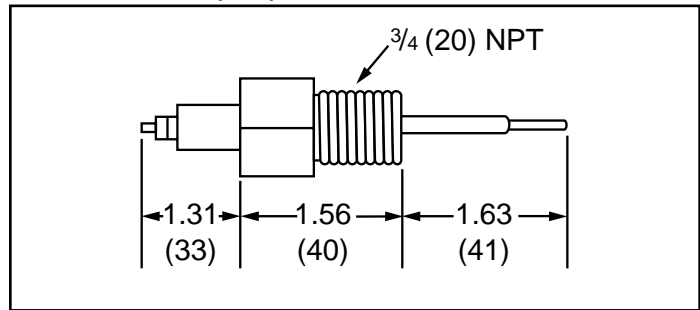
Dimensions, in. (mm)



### PA-RB-120

For Model	Repl. Probe Model No.	Part Number	Description	Weight lbs. (kg)
PS-851-SP-120	PA-RB-120	354082	Probe	0.5 (.23)
PS-852-SP-24				
RB-120				
PS-851-M-SP-120				
PS-852-M-SP-24				

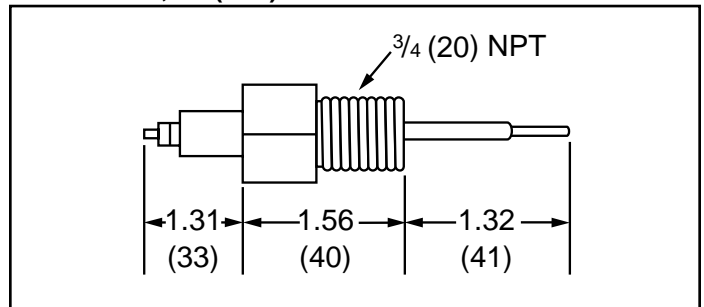
Dimensions, in. (mm)



### 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)
RS-1-LP-S				

Dimensions, in. (mm)





## Low Water Cut-Offs – Float Type For Steam Boilers

### Series 61

Low Water Cut-Offs

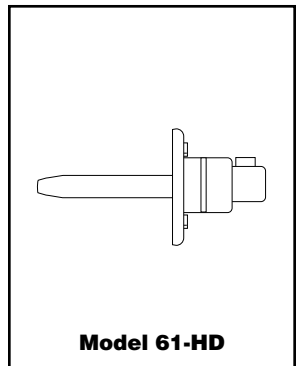


**Series 61**

### Replacement Head Mechanisms

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

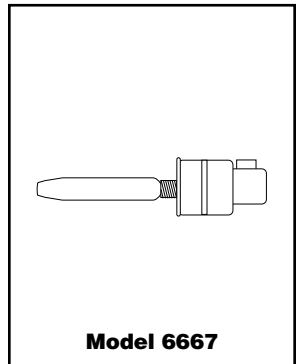
Head mechanisms include a gasket and bolts.



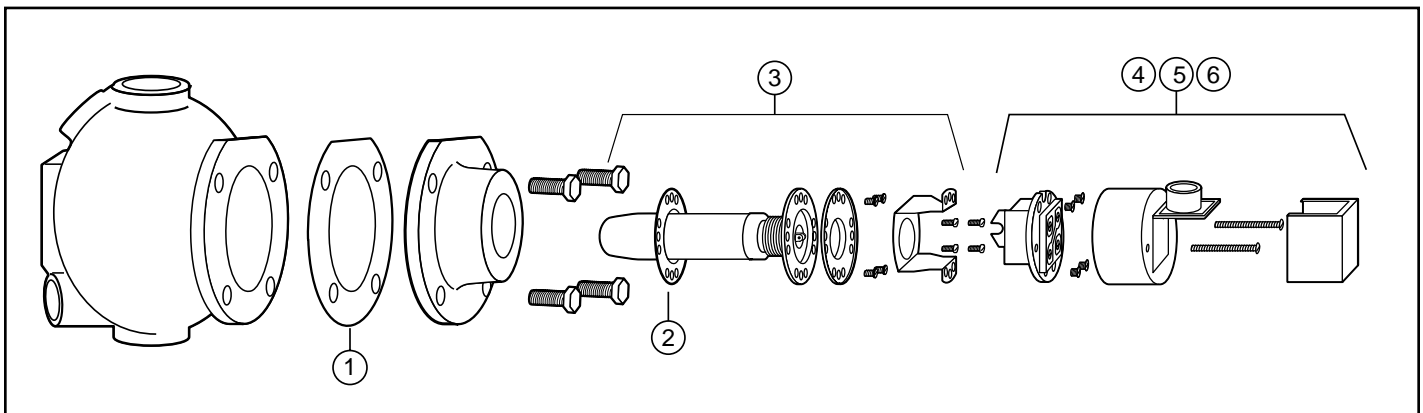
**Model 61-HD**

### 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**



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

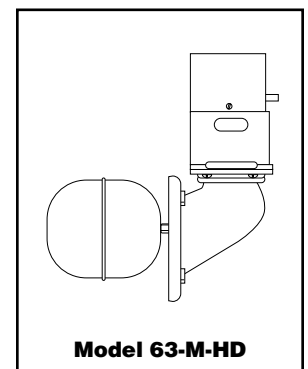
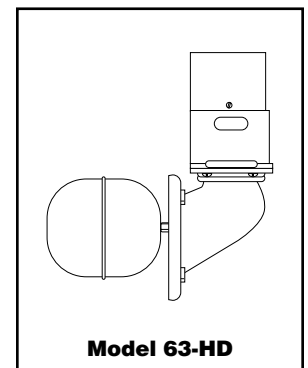
### Series 63

#### Low Water Cut-Offs



### 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				



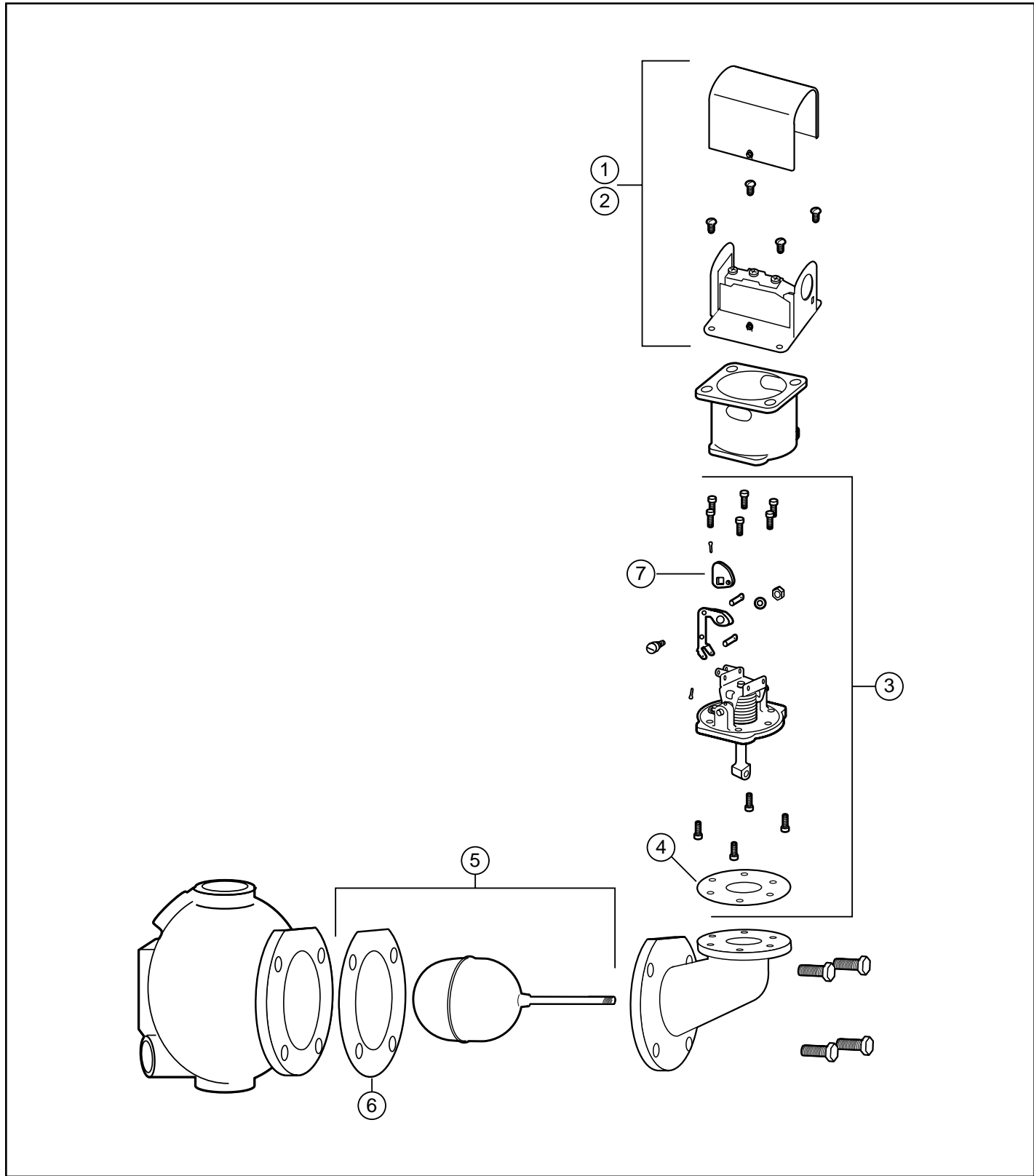
Head mechanisms include a gasket and bolts.

### 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**



**BOILER CONTROLS**

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

### Series 64

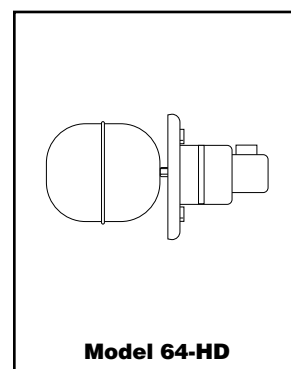
#### Low Water Cut-Offs



### 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.



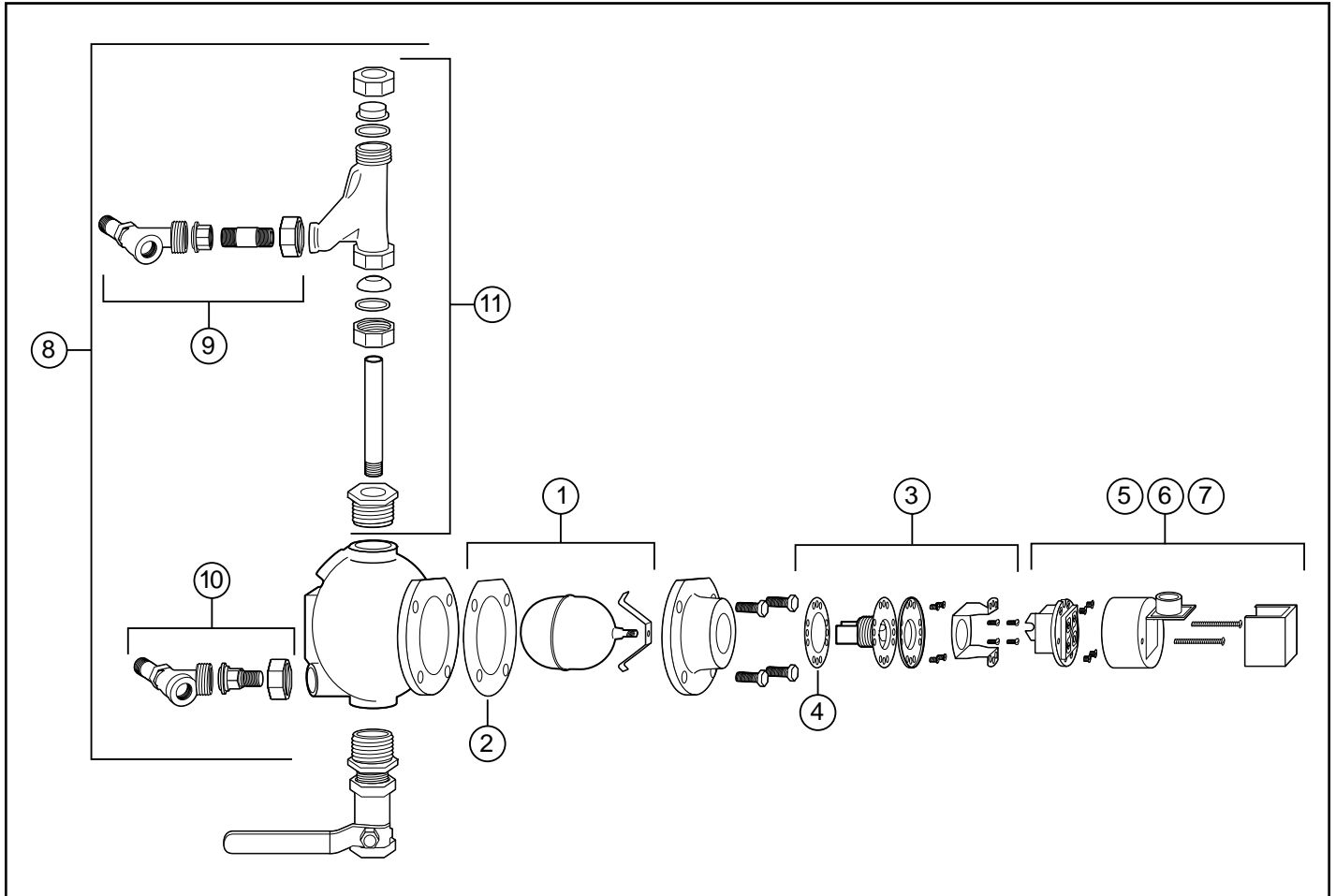
### Components (shown on page 11)

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

**Low Water Cut-Offs – Float Type  
For Hot Water Boilers  
Series 64 (continued)  
Low Water Cut-Offs**

**Components**



**BOILER CONTROLS**

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

### Series 764

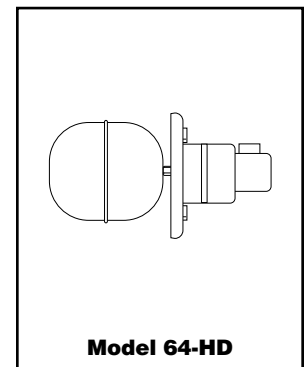
Low Water Cut-Offs



### 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.



### Components (shown on page 13)

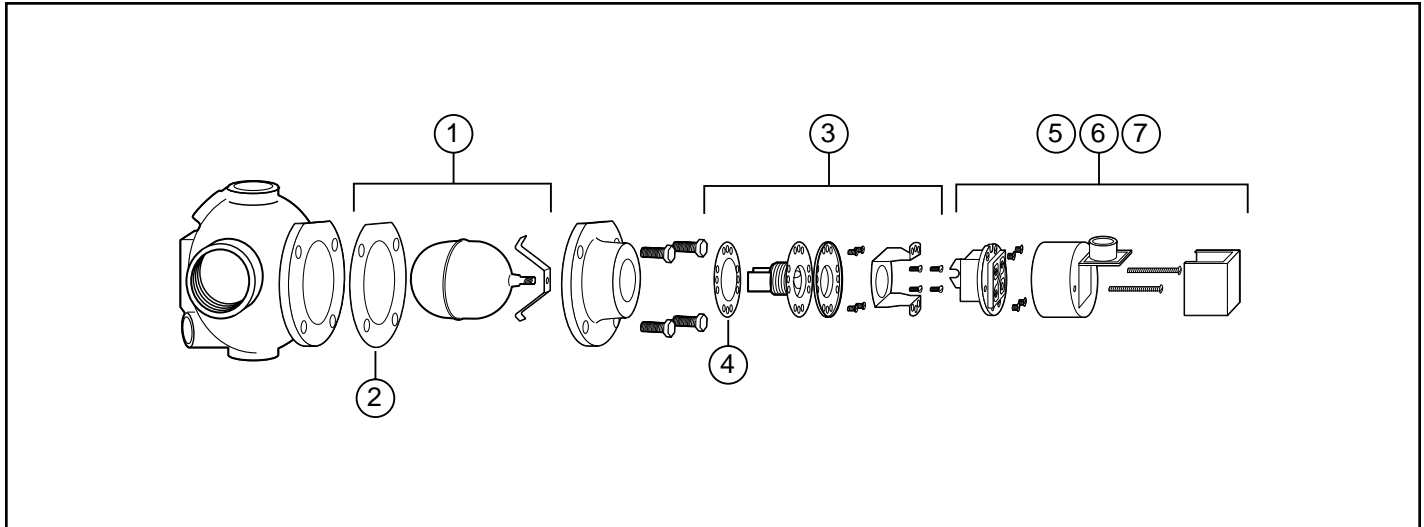
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	343600	SA64-30	Float assembly	1.0 (0.5)
2	302600	CO-12	Head gasket	0.1 (.05)
3	343500	SA64-2	Bellows assembly (includes item 2)	0.3 (.14)
4	318800	67-12	Gasket	0.1 (.05)
5	309100	11	Switch	0.5 (.23)
6	309151	11-M	No. 11 w/manual reset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



## Low Water Cut-Offs – Float Type For Steam Boilers

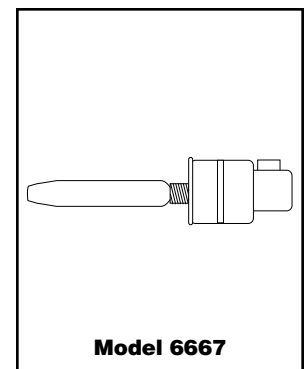
### Series 67

Low Water Cut-Offs



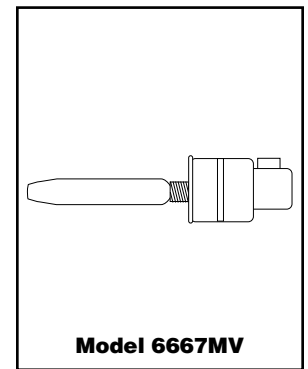
### Replacement Head Mechanisms

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)



### 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)



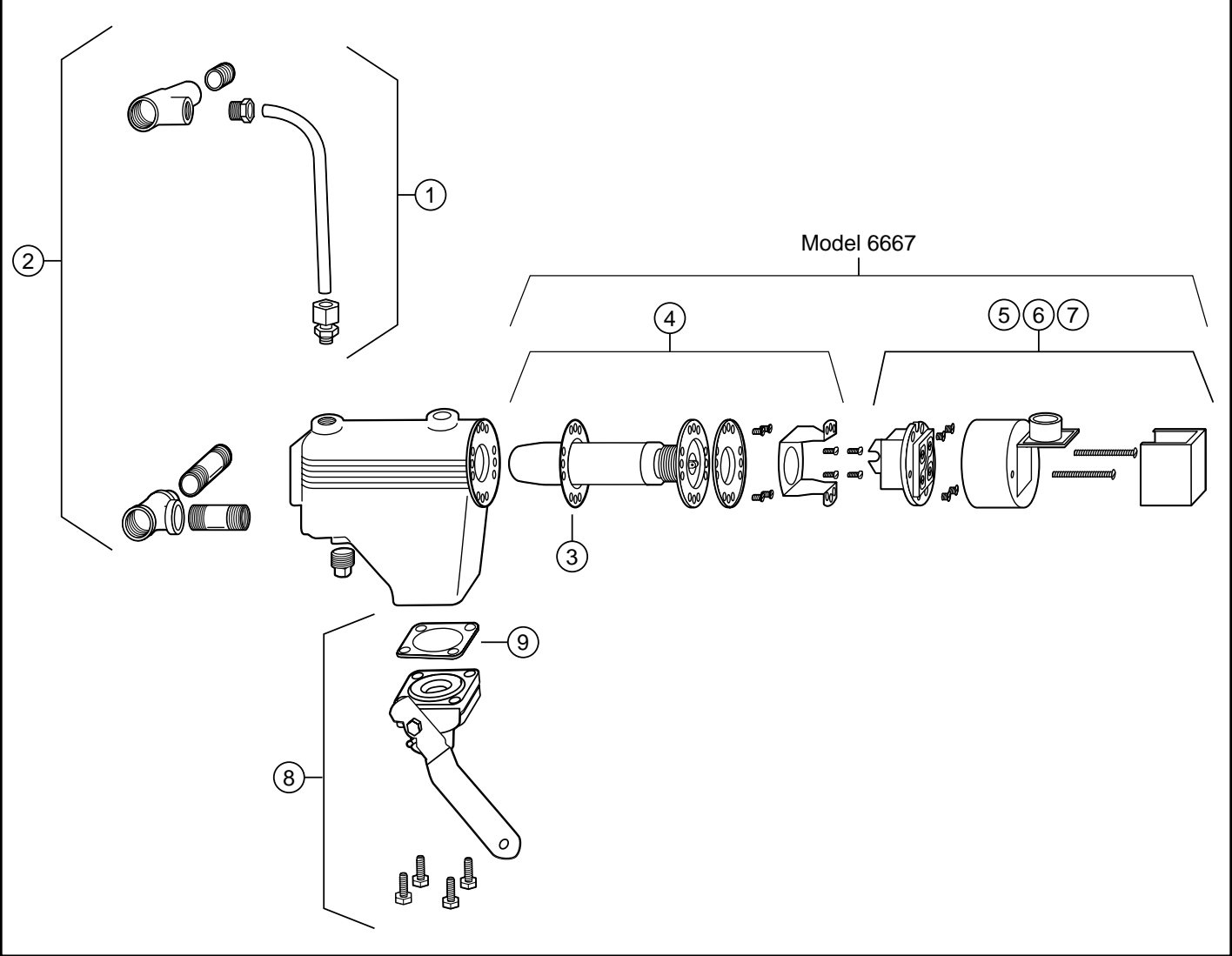


**Low Water Cut-Offs – Float Type  
For Steam Boilers**

**Series 67 (continued)**

**Low Water Cut-Offs**

**Components**



**BOILER CONTROLS**

## Low Water Cut-Offs – Float Type For Steam Boilers

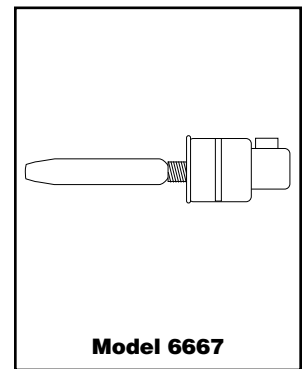
### Series 767

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)



### Components (shown on page 17)

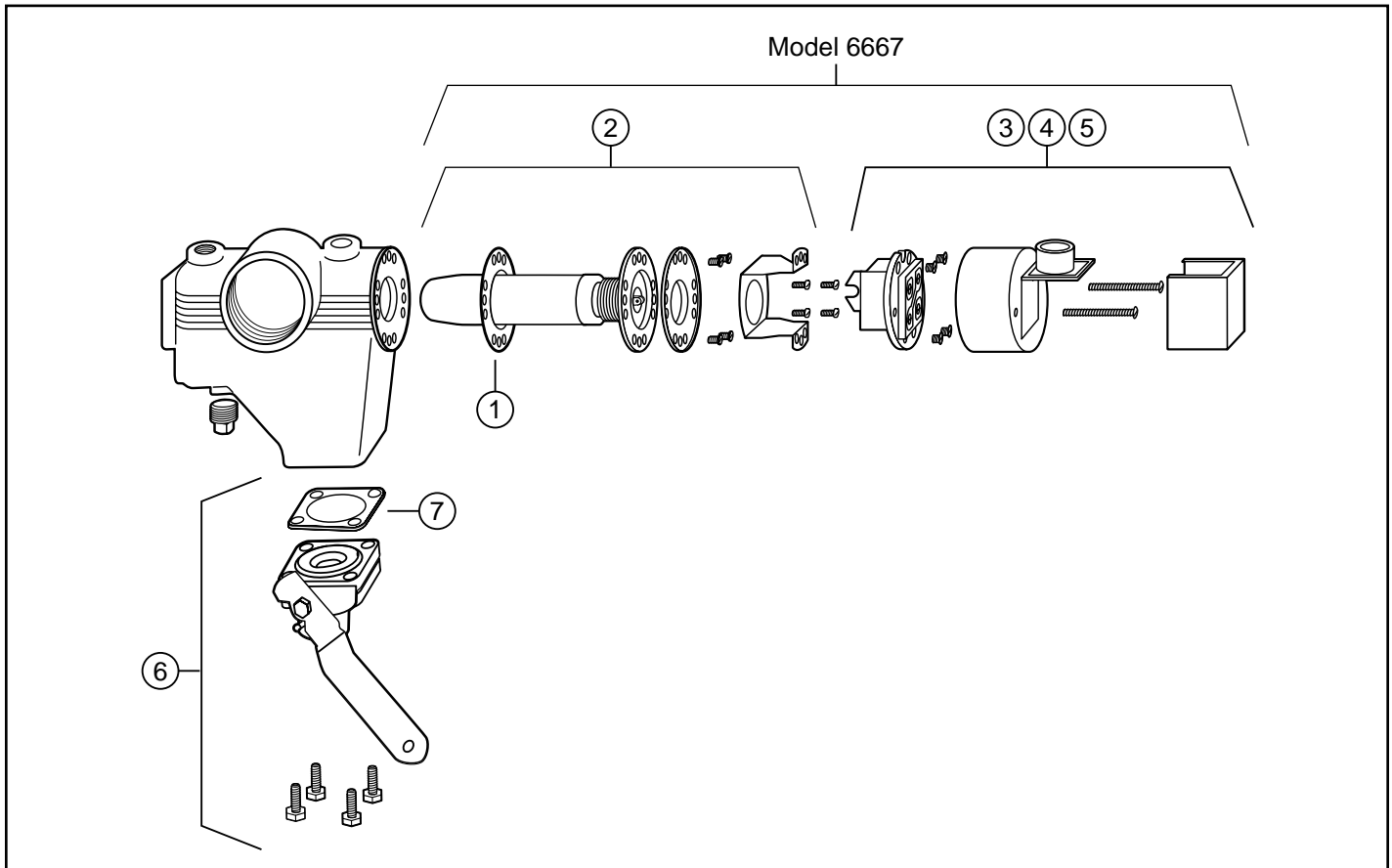
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	318800	67-12	Gasket	0.1 (.05)
2	344200	SA67-2	Float and bellows assembly	1.0 (0.5)
3	309100	11	Switch	0.5 (.23)
4	309151	11-M	Switch w/manual reset	0.5 (.23)
5	309200	11-MV	No. 11 w/Millivolt service	0.5 (.23)
6	310447	14-B	Blow-down valve	0.5 (.23)
7	313200	36-39	Blow-down valve gasket	0.1 (.05)

# Low Water Cut-Offs – Float Type For Steam Boilers

## Series 767 (continued)

### Low Water Cut-Offs

#### Components



BOILER CONTROLS

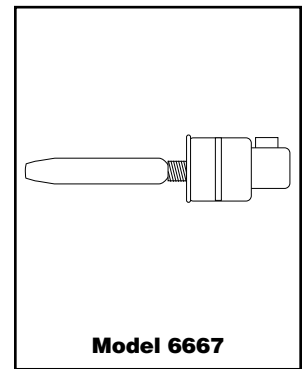
## Low Water Cut-Offs – Float Type For Steam Boilers

### Series 69

#### Low Water Cut-Offs

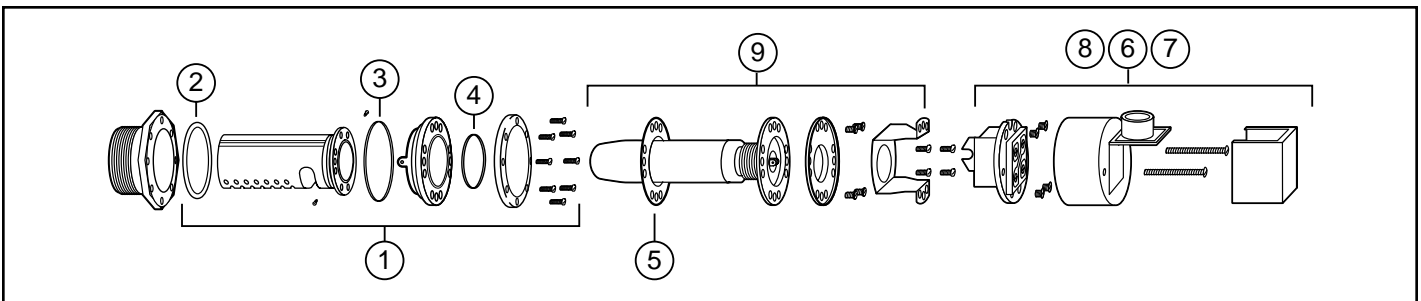
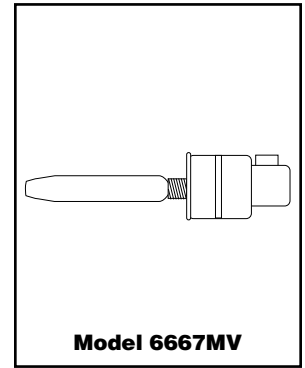
#### Replacement Head Mechanisms

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)



#### 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	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)



## Low Water Cut-Offs – Float Type For Steam Boilers

### Series 70 Low Water Cut-Offs

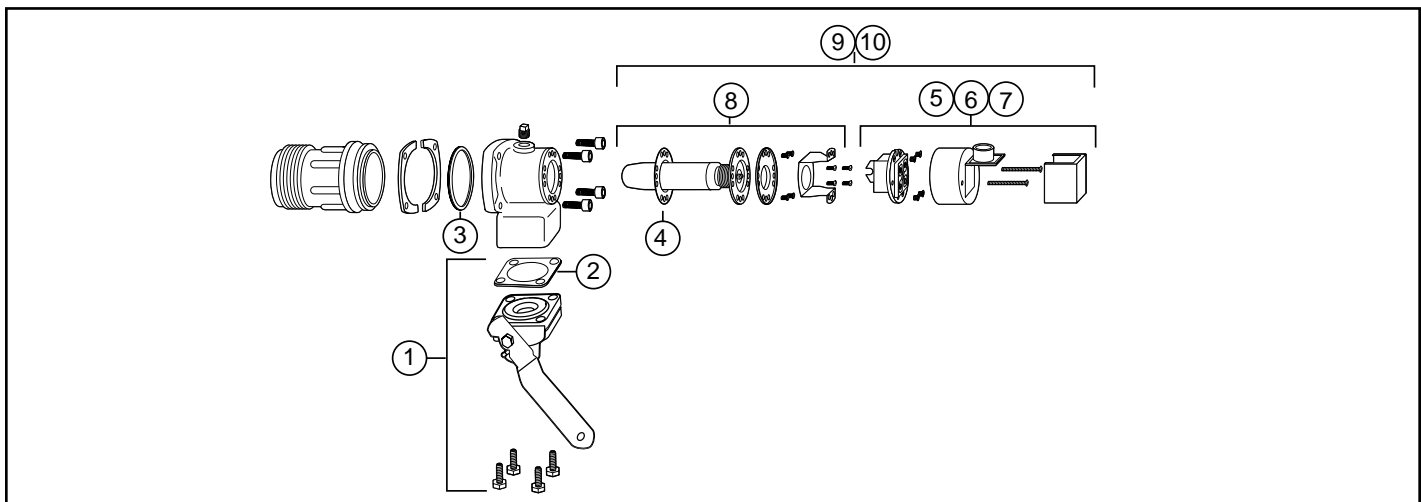
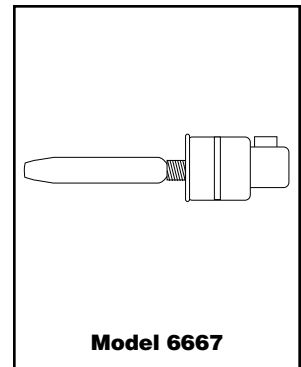


### Replacement Head Mechanisms

For Model	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
70	6667	153825	Head mechanism	1.5 (0.7)

### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	310447	14-B	Blow-down valve	1.5 (0.7)
2	313200	37-39	Gasket	0.1 (.05)
3	320100	68-12	Gasket	0.1 (.05)
4	318800	67-12	Gasket	0.1 (.05)
5	309100	11	Switch	0.5 (.23)
6	309151	11-M	Switch w/Manual Reset	0.5 (.23)
7	309200	11-MV	Switch for Millivolt Service	0.5 (.23)
8	344200	SA67-2	Float & Bellows Assembly	0.1 (.05)
9	153825	6667	Head Mechanism	1.5 (0.7)
10	153850	6667MV	Head Mechanism (Millivolt)	1.5 (0.7)



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

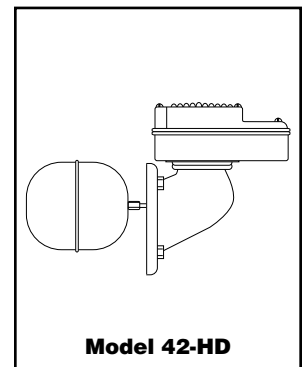
### Series 42

Low Water Cut-Off/Pump Controllers



### Replacement Head Mechanisms

For Model	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
42	42-HD	129500	Head mechanism	7.5 (3.4)
42-A				



### Components (shown on page 21)

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	348300	SA150-125	Switch, 2 wire	0.3 (.14)
2	341300	SA42-125	Switch, 2 wire	0.3 (.14)
3	302600	CO-12	Head gasket	0.1 (.05)
4*	328300	MA-159	Quick hook-up fittings (includes items 5, 6, 7)	6.0 (2.7)
5*	351800	SA259-24	Upper quick hook-up fittings	1.7 (.77)
6*	349500	SA159-24	Lower quick hook-up fittings	1.7 (.77)
7*	349400	SA159-17	Black "Y" assembly	3.0 (1.4)

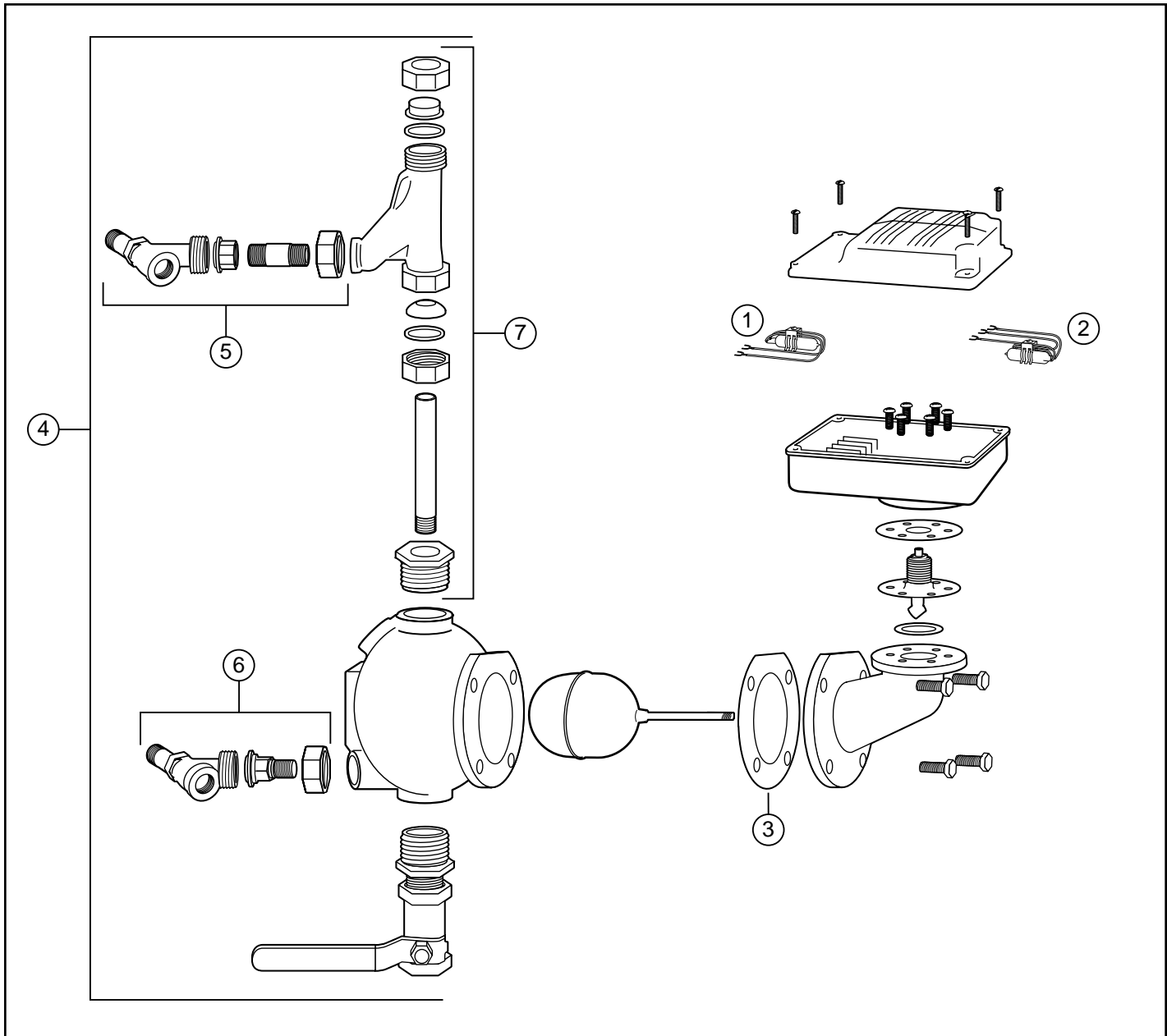
\* Available for 42-A models only.

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

## Series 42 (continued)

Low Water Cut-Off/Pump Controllers

### Components



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

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



### Replacement Head Mechanisms

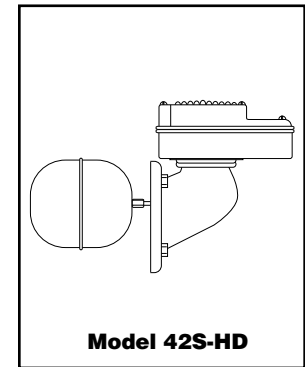
For Model	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
42S	42S-HD	129502	Head mechanism	7.5 (3.4)

Head mechanisms include a gasket and bolts.

### Components (shown on page 23)

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)

\* Available for 42S-A models only.



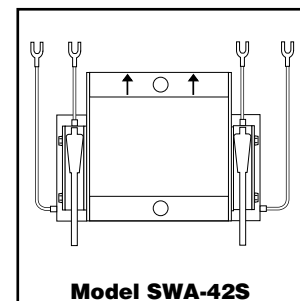
### Replacement Switch Information

#### 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)



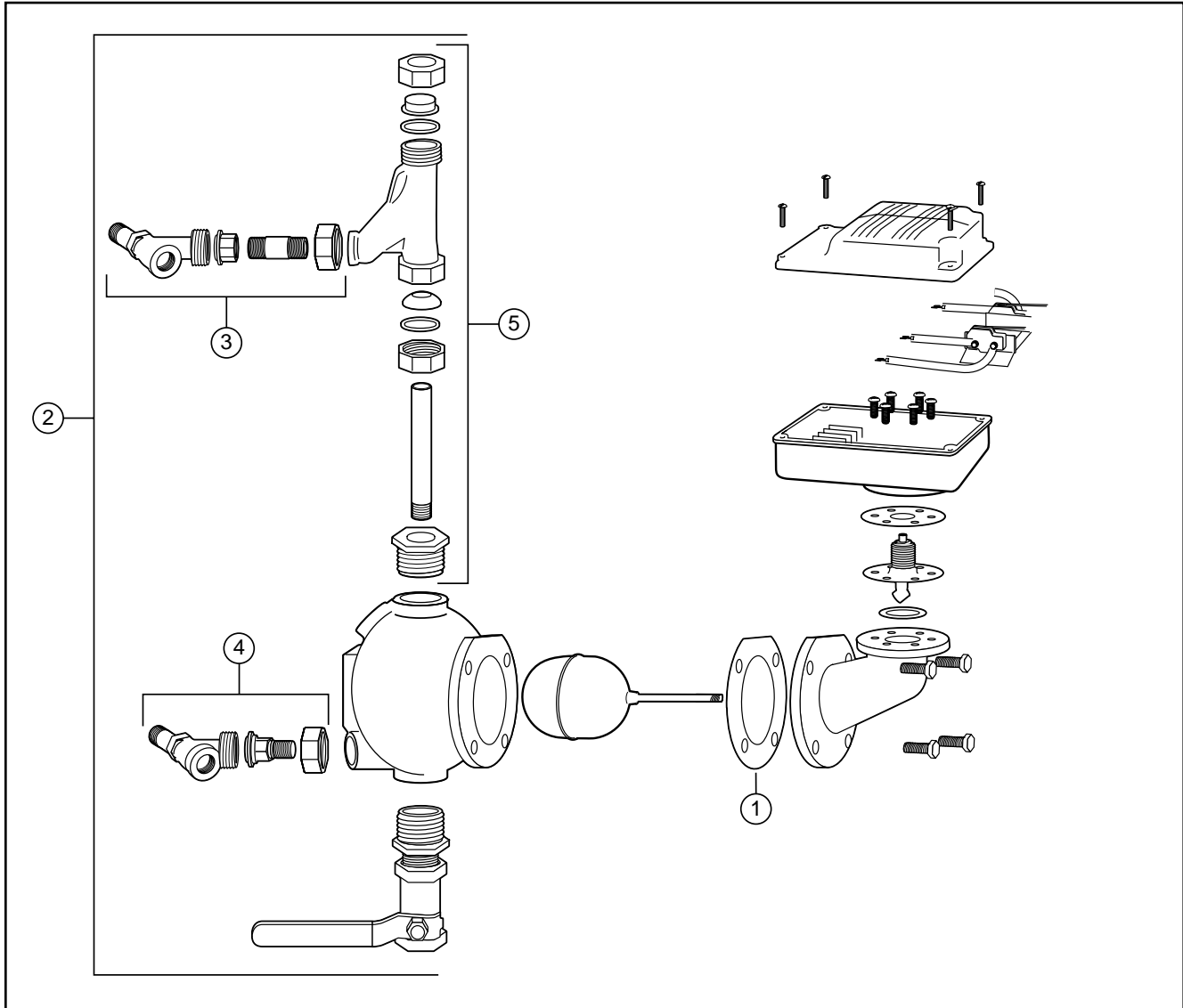


# Combination Low Water Cut-Off/Pump Controllers For Steam Boilers

## Series 42S (continued)

### Low Water Cut-Off/Pump Controllers

#### Components



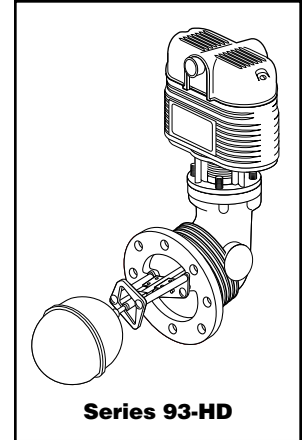
## Combination Low Water Cut-Off/Pump Controllers For Steam Boilers

### Series 93 & 193

#### Low Water Cut-Off/Pump Controllers

#### Replacement Head Mechanisms

For Model	Repl. Head Model No.	Description	Weight lbs. (kg)
93, 193	93-HD	Head mechanism	16 (7.25)
	93-7B-HD	Head mechanism with 7B switch	16 (7.25)
	93-M-HD	Head mechanism, manual reset	16 (7.25)
	93-7B-M-HD	Head mechanism with 7B switch, manual reset	16 (7.25)



#### Components (shown on page 25)

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

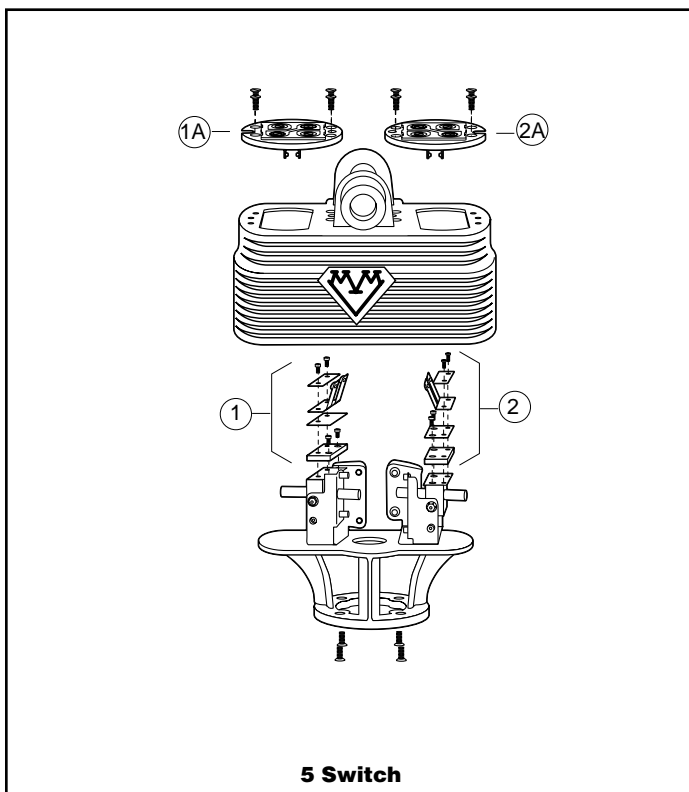
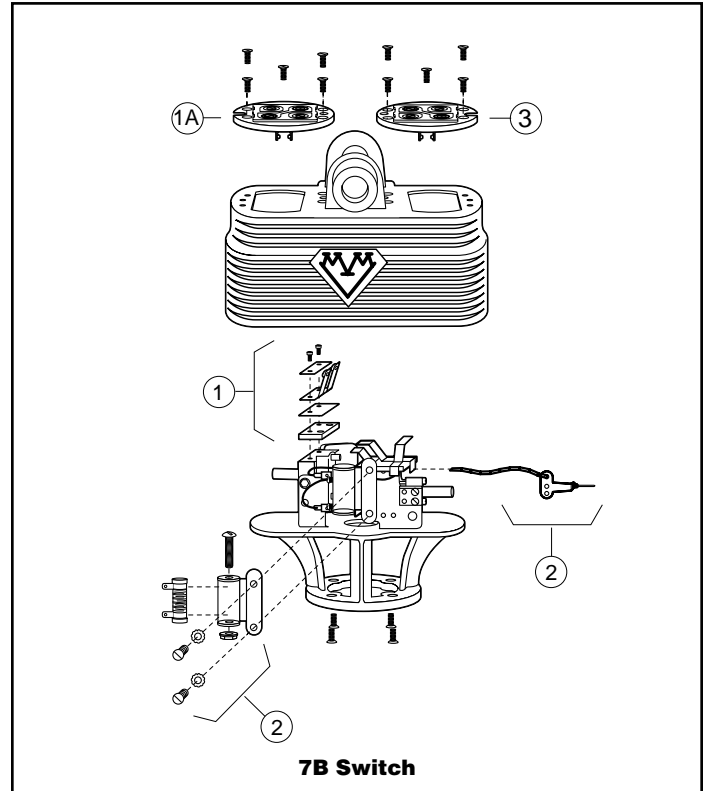
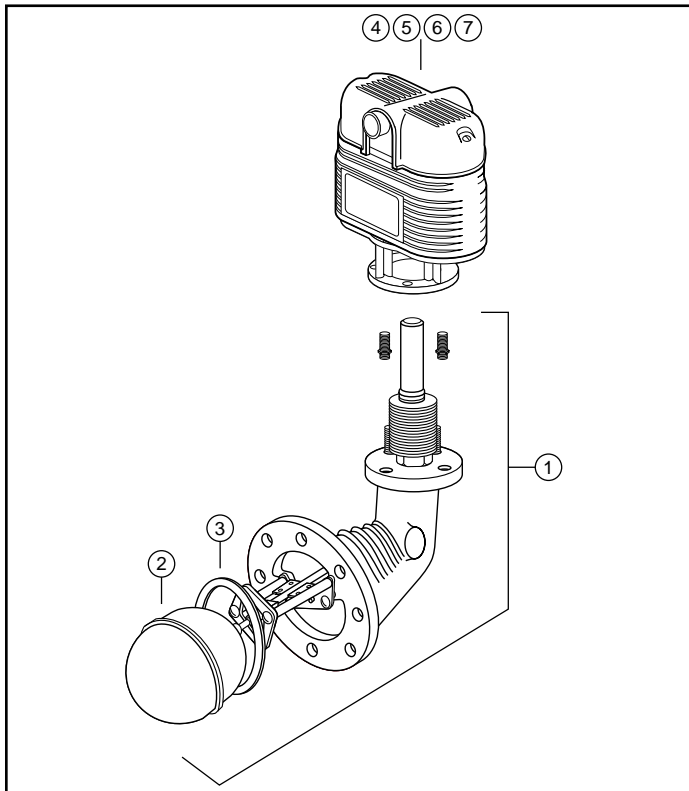
1	344800	SA91-30B	Burner Switch Contact Assembly (Red dot on terminal panel) (Includes 1A terminal panel)	0.1 (.05)
2	309000	7B-1R	Resistor/Slide Wire Assembly	0.1 (.05)
3	345150	SA7-30	Terminal Panel	0.5 (.23)

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

### Series 93 & 193 (continued)

#### Low Water Cut-Off/Pump Controllers

#### Components



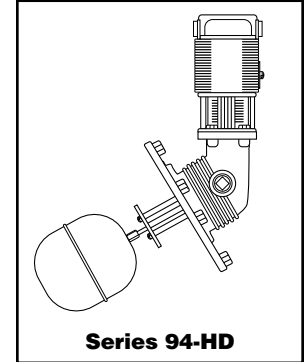
## Combination Low Water Cut-Off/Pump Controllers For Steam Boilers

### Series 94 & 194

#### Low Water Cut-Off/Pump Controllers

#### Replacement Head Mechanisms

For Model	Repl. Head Model No.	Description	Weight lbs. (kg)
94, 194	94-HD	Head mechanism	21 (9.52)
	94-M-HD	Head mechanism, manual reset	21 (9.52)
	94-7B-HD	Head mechanism with 7B switch	21 (9.52)
	94-7B-M-HD	Head mechanism with 7B switch, manual reset	21 (9.52)



#### Components (shown on page 27)

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)
<b>#5 Switch</b>				
1	344800	SA91-30B	Burner Switch Contact Assembly <small>(Red dot on terminal panel) (Includes 1A terminal panel)</small>	0.1 (.05)
2	345000	SA91-30P	Pump Switch Contact Assembly <small>(Blue dot on terminal panel) (Includes 2A terminal panel)</small>	0.1 (.05)
<b>#7B Switch</b>				
1	344800	SA91-30B	Burner Switch Contact Assembly <small>(Red dot on terminal panel) (Includes 1A terminal panel)</small>	0.1 (.05)
2	309000	7B-1R	Resistor/Slide Wire Assembly	0.1 (.05)
3	345150	SA7-30	Terminal Panel	0.5 (.23)

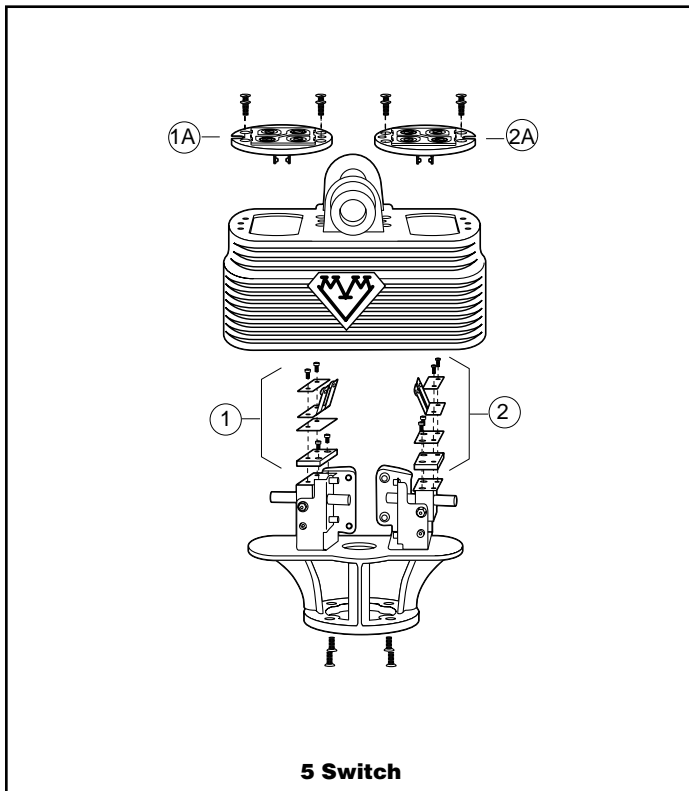
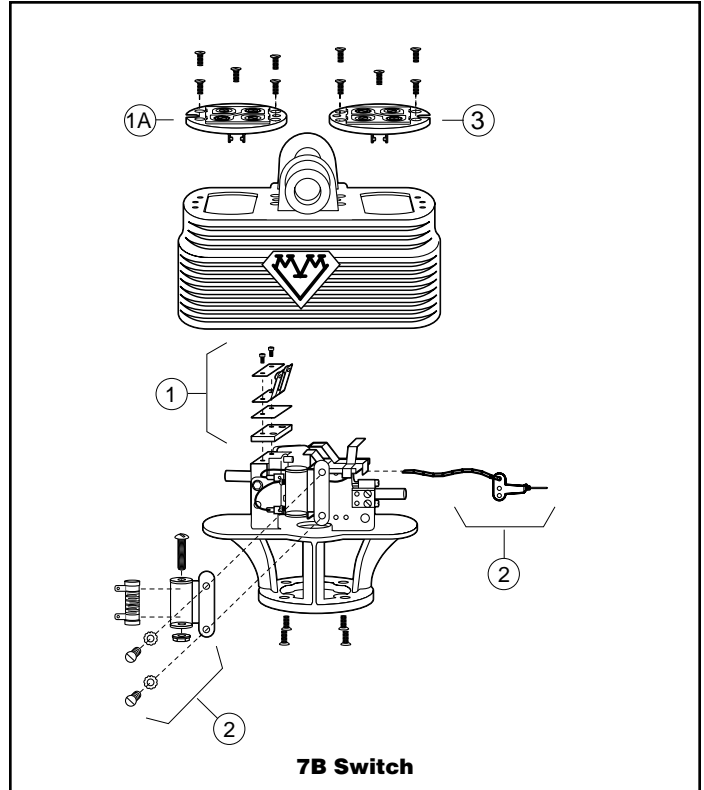
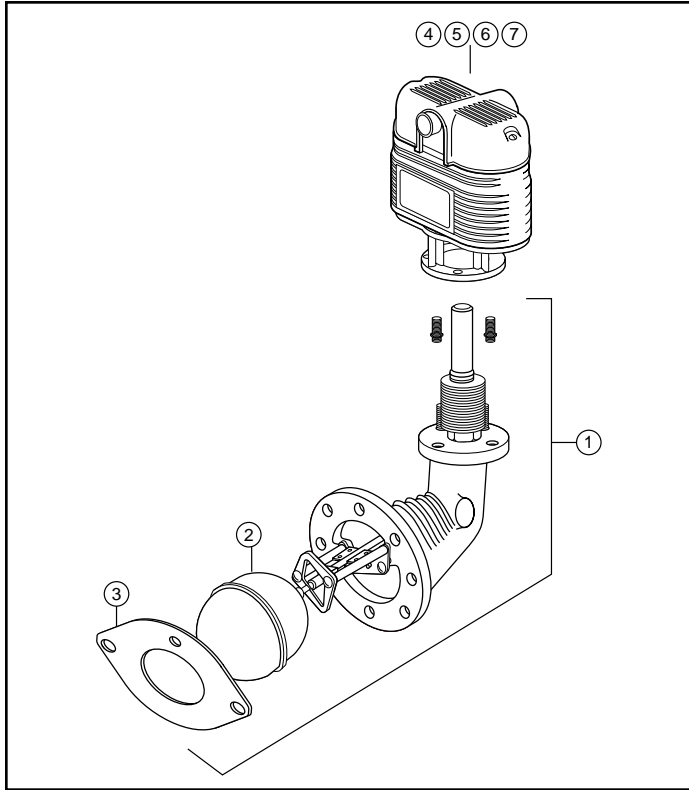


## Combination Low Water Cut-Off/ – Pump Controllers For Steam Boilers

### Series 94 & 194 (continued)

#### Low Water Cut-Off/Pump Controllers

BOILER CONTROLS



## Low Water Cut-Offs – Float Type For Steam Boilers

### Series 150 & 157

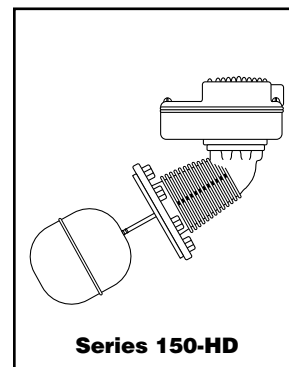
Low Water Cut-Offs

Consider our new  
Mercury Free Series 150S  
Replacement Head Mechanisms  
for an environmentally friendly alternative



### Replacement Head Mechanisms For Series 150 and 157

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)	
150 157	150-HD or 150S-HD	173000 173003	Head mechanism w/ mercury switch Head mechanism w/ snap switch	10.5 (4.8) 11.0 (5.4)	
	150-M-HD or 150S-M-HD	173200 173203	150-HD w/manual reset 150S-HD w/manual reset	12.0 (5.4) 11.0 (5.0)	
	150-MD-HD or 150S-MD-HD	173100 173103	150-HD w/maximum differential 150S-HD w/maximum differential	11.0 (5.0) 11.0 (5.0)	
	150-M-MD-HD or 150S-M-MD-HD	173300 173302	150-HD w/manual reset and maximum differential 150S-HD w/manual reset and maximum differential	11.0 (5.0) 11.0 (5.0)	
158	158-HD or 158S-HD	178600 178602	Head mechanism w/mercury switch Head mechanism w/snap switch	12.5 (5.7) 12.5 (5.7)	
	158-M-HD or 158S-M-HD	178700 178702	158-HD w/manual reset 158S-HD w/manual reset	12.5 (5.7) 12.5 (5.7)	
	159	159-HD or 159S-HD	178900 178902	Head mechanism w/mercury switch Head mechanism w/snap switch	12.0 (5.4) 12.0 (5.4)



Head mechanisms have a raised face flange and include a gasket and bolts.

(S) in model number indicates snap switch.

## Low Water Cut-Offs – Float Type For Steam Boilers

### Series 150 & 157 (continued)

#### Low Water Cut-Offs

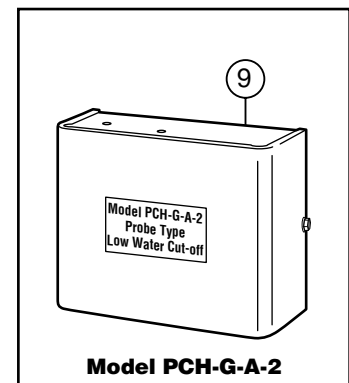
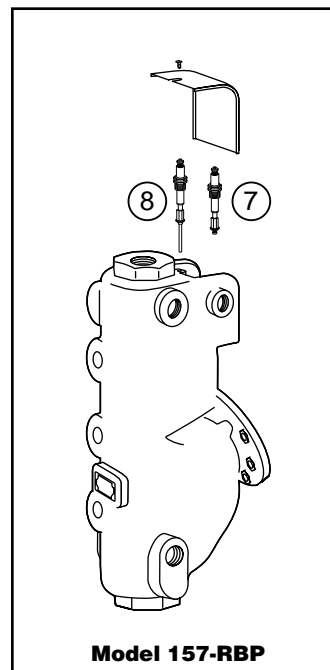
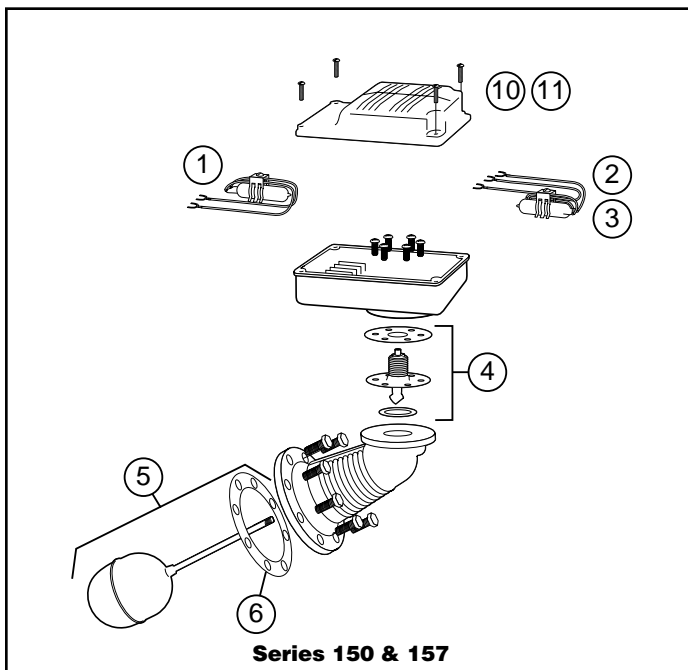
#### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	348300	SA150-125	Mercury switch, 2 wire	0.3 (.14)
2	348100	SA150-124	Mercury switch, 3 wire	.14 (.06)
3	348200	SA150M-124	Mercury switch, 3 wire (manual reset)	0.3 (.14)
4	347900	SA150-106R	Bellows assembly	0.4 (.18)
5	347600	SA150-11	Float & rod	1.0 (0.5)
6	325500	150-14H	Head gasket (for raised face head flange, 8 holes)	0.5 (.23)
7	354106	EA-157-S	Short electrode for 157-RBP	0.5 (.23)
8	354107	EA-157-L	Long electrode for 157-RBP	0.5 (.23)
9	179150	PCH-G-A-2	Probe level control	2.7 (1.2)
10	348900	SA150M-436	Cover for mercury switch, manual reset only	.435 (.19)
11	326950	SA150-436	Cover for all other models	.435 (.19)

#### 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.



## Low Water Cut-Off/Pump Controllers

### Series 150S & 157S

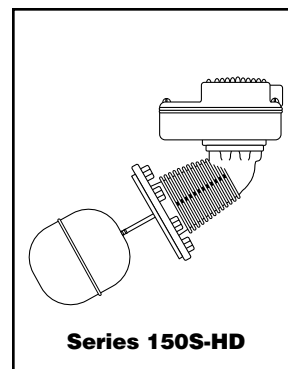
Low Water Cut-Off/Pump Controllers

with  
**MERCURY FREE**  
Snap-Action  
Switches



### Replacement Head Mechanisms For Series 150, 150S, 157, 157S

For Model	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
150	150S-HD or	173003	Head mechanism	11.0 (5.0)
150S	150S-M-HD	173203	150S-HD w/manual reset	11.0 (5.0)
157				
157S				
<b>150 (MD)</b>				
<b>150S (MD)</b>				
<b>157 (MD)</b>	<b>150S-MD-HD</b>	<b>173103</b>	<b>150S-HD w/maximum differential</b>	<b>11.0(5.0)</b>
<b>157S (MD)</b>	<b>150S-M-MD-HD</b>	<b>173302</b>	<b>150S-HD w/manual reset and maximum differential</b>	<b>11.0(5.0)</b>
157-RB-P				
157S-RB-P				
158	158S-HD or	178602	Head mechanism	12.5 (5.7)
158S	158S-M-HD	178702	158-S-HD w/manual reset	12.5 (5.7)
159				
159S	159S-HD	178902	Head mechanism	12.0 (5.7)



Head mechanisms include a gasket and bolts.  
(S) in model number indicates snap switch.



## Low Water Cut-Off/Pump Controllers

### Series 150S & 157S (continued)

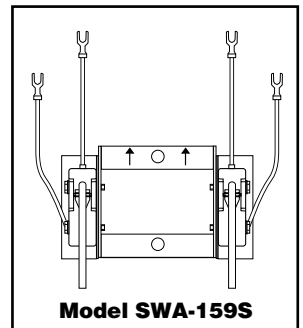
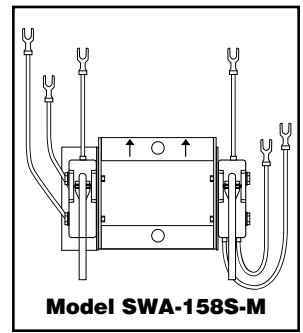
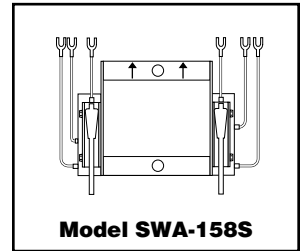
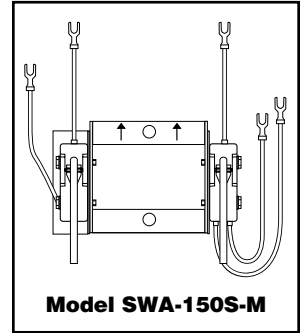
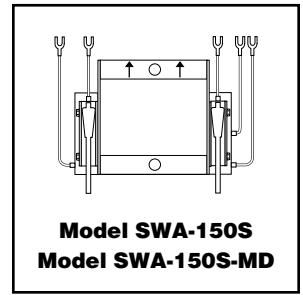
#### Low Water Cut-Off/Pump Controllers

**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.

#### Replacement Switch Assemblies For Series 150S and 157S

For Model	Repl. Switch Model No.	Part Number	Description	Weight lbs. (kg)
150S 150S-B 157S 157S-A 157S-P 157S-R 157S-RL	SWA-150S	310462	Snap-action switch assembly	0.5 (.23)
150S-B-M <b>150S-BM-MD</b> <b>150S-M-MD</b> 150S-M 157S-A-M 157S-M <b>157S-M-MD</b> <b>157S-M-RB-P-MD</b> 157S-RB-M 157S-RL-M 157S-R-M	SWA-150S-M	310463	Snap-action switch assembly w/manual reset	0.5 (.23)
<b>150S-B-MD</b> <b>150S-MD</b> <b>157S-MD</b> <b>157S-P-MD</b> <b>157S-R-MD</b> <b>157S-RB-MD</b> <b>157S-RB-P-MD</b> <b>157S-RD-MD</b> <b>157S-RLS-MD</b>	SWA-150S-MD	310464	Snap-action switch assembly for maximum differential models	0.5 (.23)
158S	SWA-158S	310468	Snap-action switch assembly for Model 158S	0.5 (.23)
158S-M	SWA-158S-M	310469	SWA-158S with manual reset	0.5 (.23)
159S	SWA-159S	310470	Snap-action switch assembly	0.5 (.23)



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

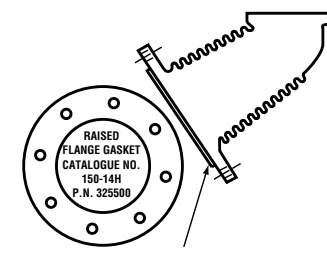
## Low Water Cut-Off/ Pump Controllers

### Series 150S & 157S (continued) Low Water Cut-Off/Pump Controllers

#### Components

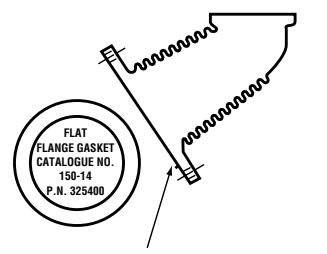
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	347900	SA150-106R	Bellows assembly	0.4 (.18)
2	347600	SA150-11	Float & rod	1.0 (0.5)
3	325500	150-14H	Head gasket for raised face flange head, 8 holes	0.5 (.23)
4	354106	EA-157-S	Short electrode for 157S-RBP	0.5 (.23)
5	354107	EA-157-L	Long electrode for 157S-RBP	0.5 (.23)
6	179150	PCH-G-A-2	Probe level control	2.7 (1.2)
7	326950	150-436	Cover	.435 (.19)

**Series 150 Head Gasket and Casting**



RAISED FLANGE

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

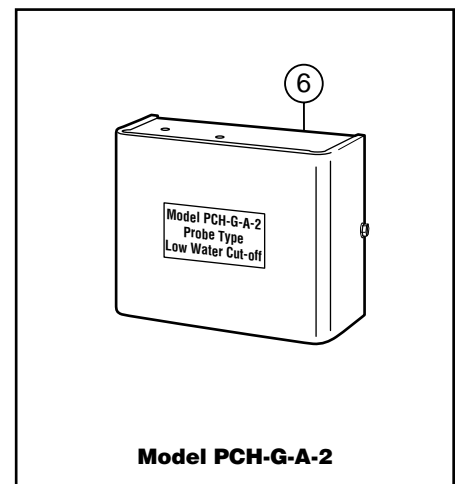
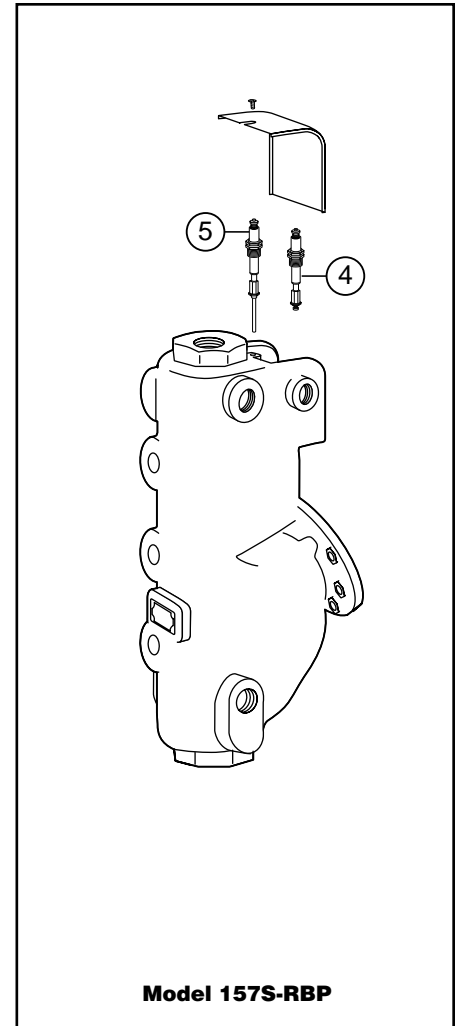
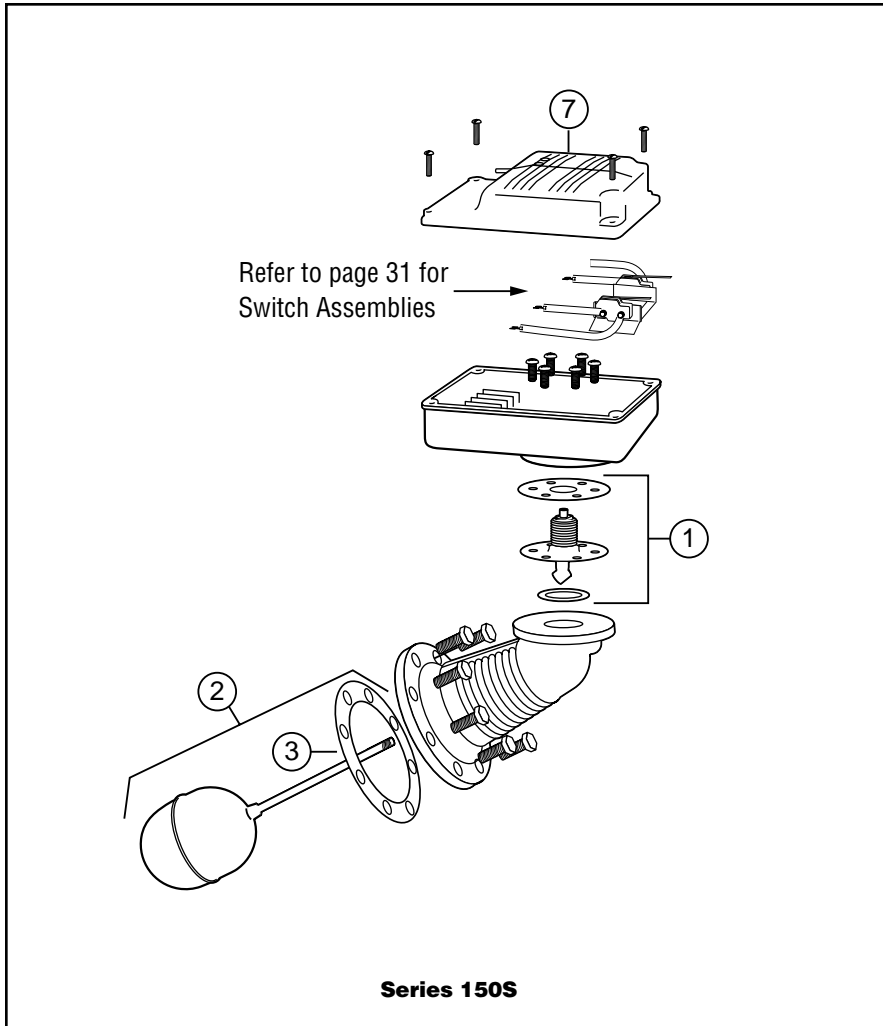


FLAT FLANGE

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

## Low Water Cut-Off/ Pump Controllers

### Series 150S & 157S (continued) Low Water Cut-Off/Pump Controllers



BOILER CONTROLS

## Low Water Cut-Offs – Probe Type For Steam Boilers

### Series 150E & 157E Low Water Cut-Offs



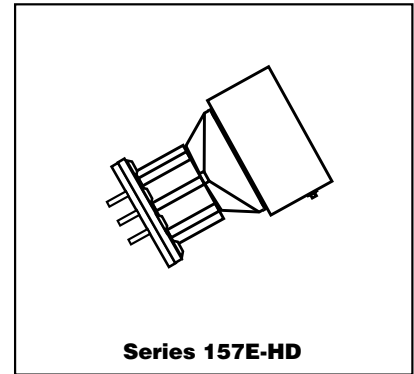
**Series 150E**

### Replacement Head Mechanisms

For Model	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
150E	171640	150E-HD	Head, automatic reset	7.45 (3.48)
157E				



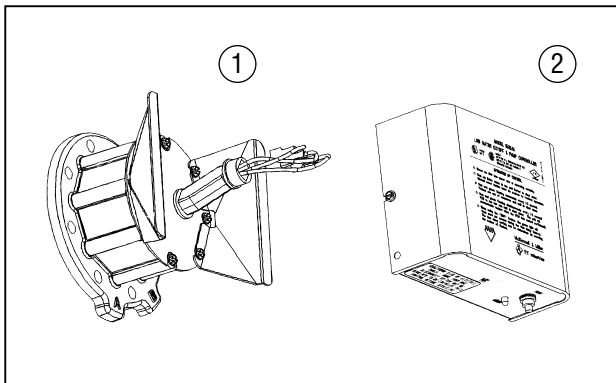
**Series 157E**



**Series 157E-HD**

### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	310492	150E-PF	Flange/Probe assembly	5.38 (2.51)
2	310490	150E-CU	Control unit, automatic reset	2.07 (.96)



**Series 150E and 157E**

**Water Feeders – Electric**

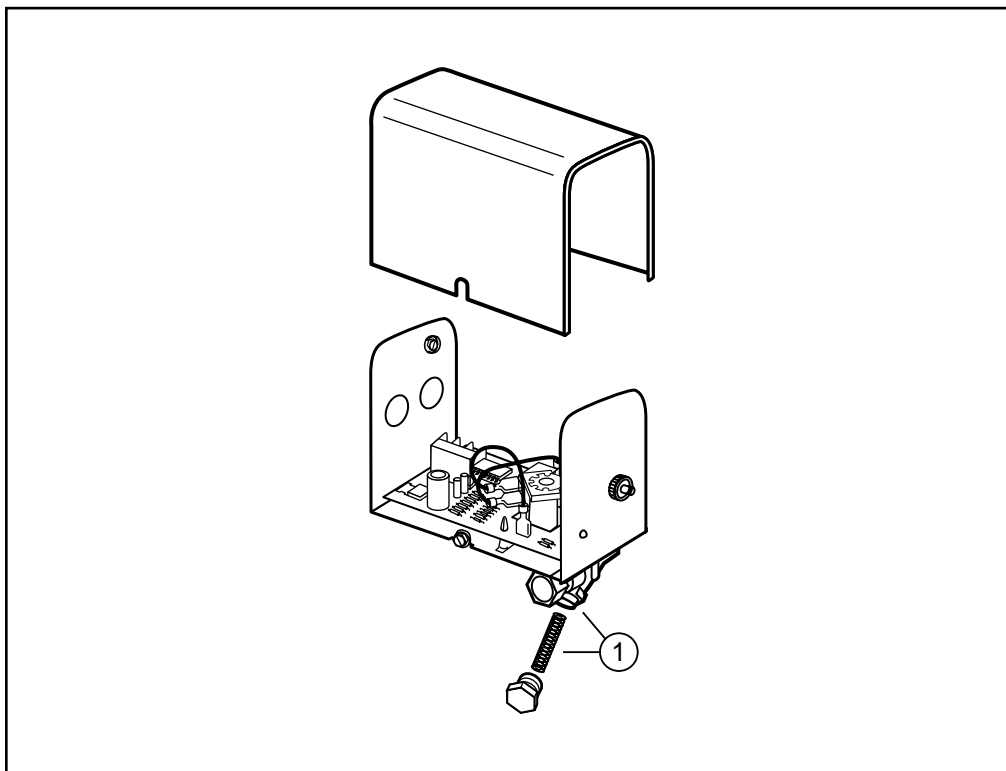
**Series WF2 Uni-Match®**  
Electric Water Feeders

**Components**

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



BOILER CONTROLS



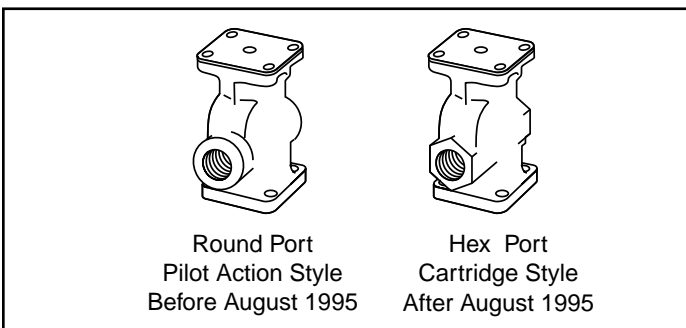
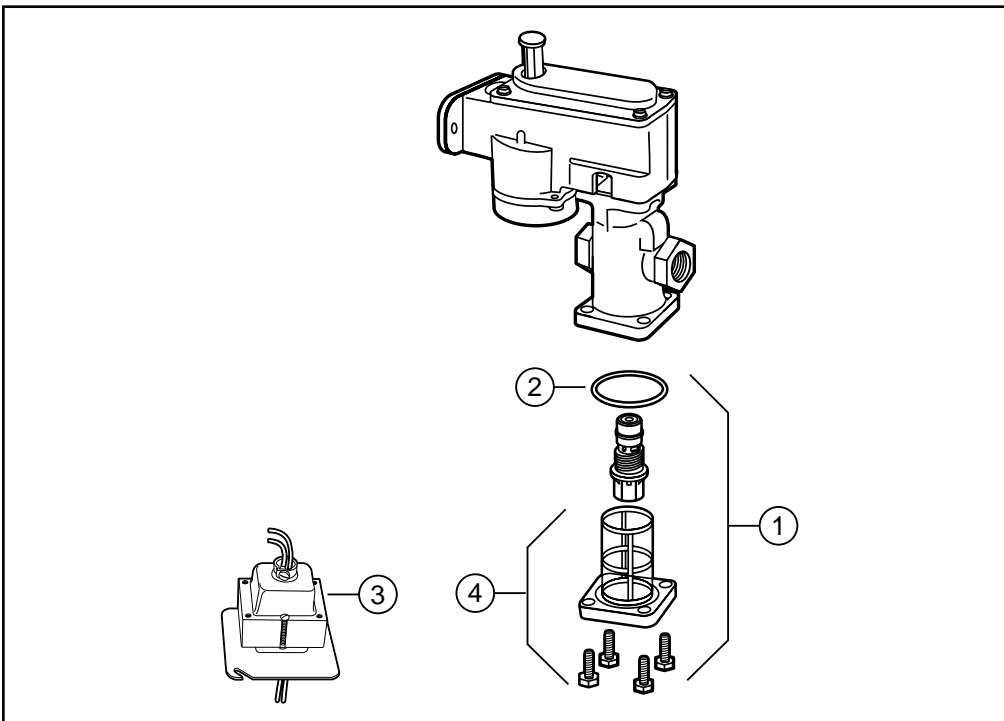
## Water Feeders – Electric

### Series 101-A Electric Water Feeders



#### 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

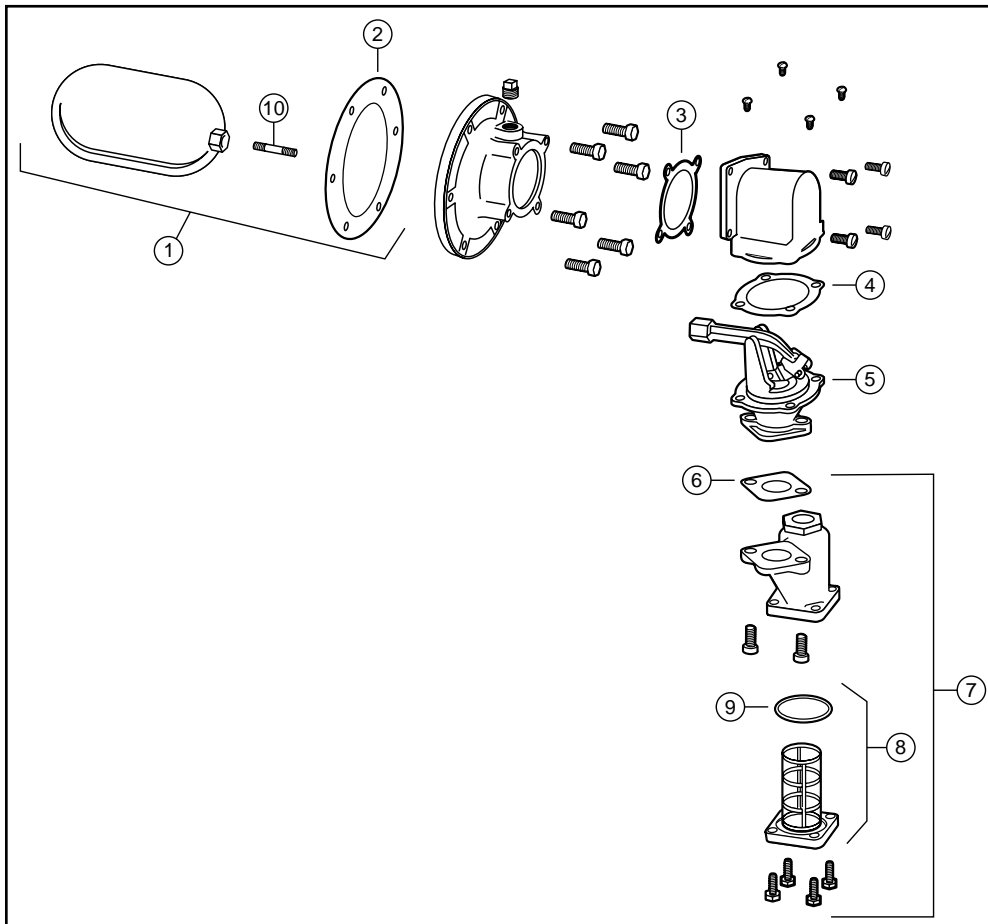
### Series 21 Make-Up Water Feeders

#### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	311200	21-30	Float	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	1.0 (0.5)
9	324435	37-101	Tetraseal O-ring	0.1 (.05)
10	311400	21-109	Connector	0.1 (.05)



BOILER CONTROLS



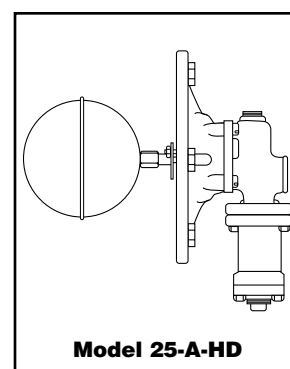
## Water Feeders – Make-Up

### 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)



### Components (shown on page 39)

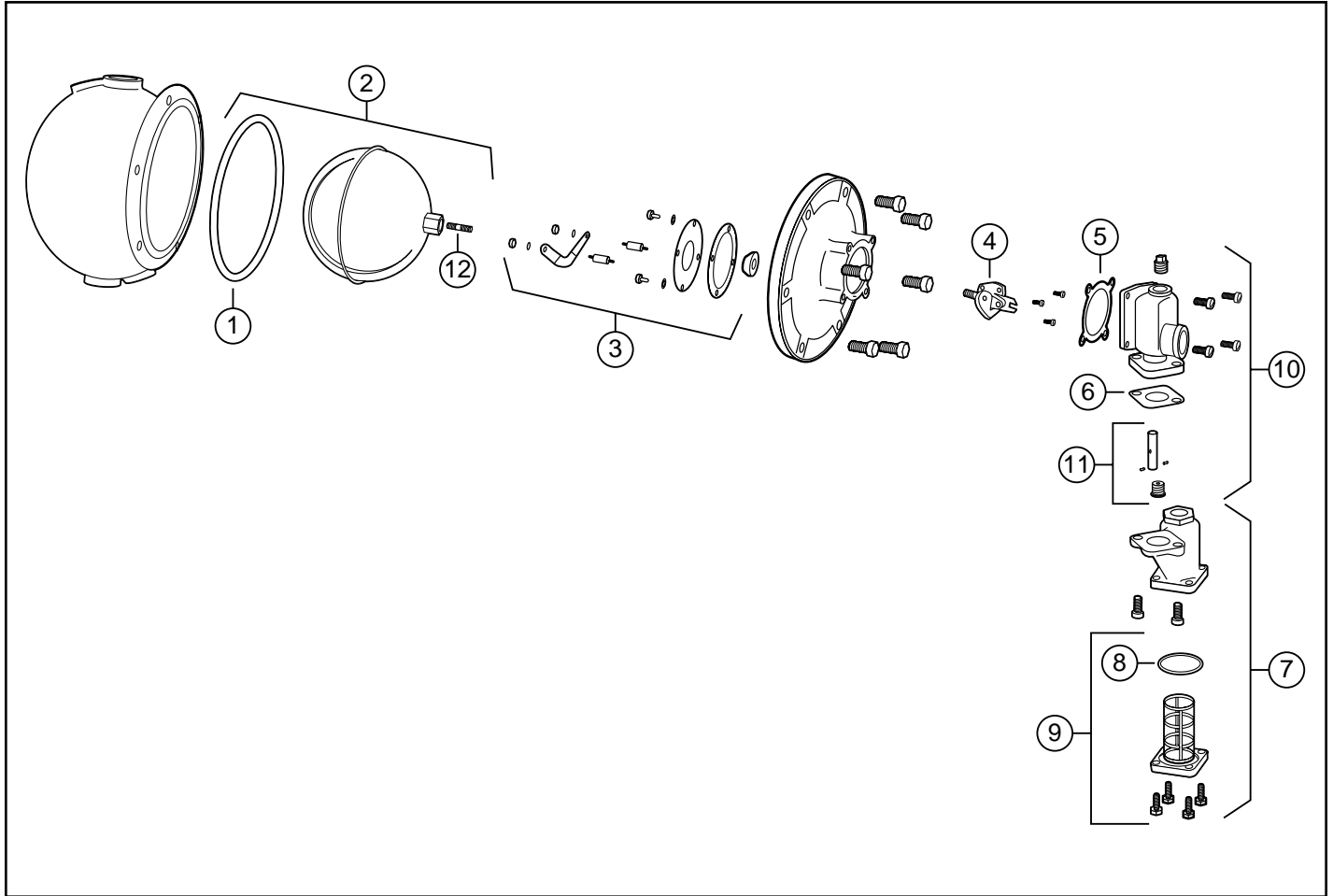
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	304100	F-26	Gasket	0.1 (.05)
2	334100	421-30	Float	1.5 (0.7)
3	340400	SA27T-75	Diaphragm seal assembly (includes item 1)	0.1 (.05)
4	339800	SA25-5	Arm assembly	0.1 (.05)
5	311100	21-27	Gasket	0.1 (.05)
6	312900	37-28	Gasket	0.1 (.05)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



# Water Feeders – Make-Up

## Series 25-A (continued) Make-Up Water Feeders

### Components



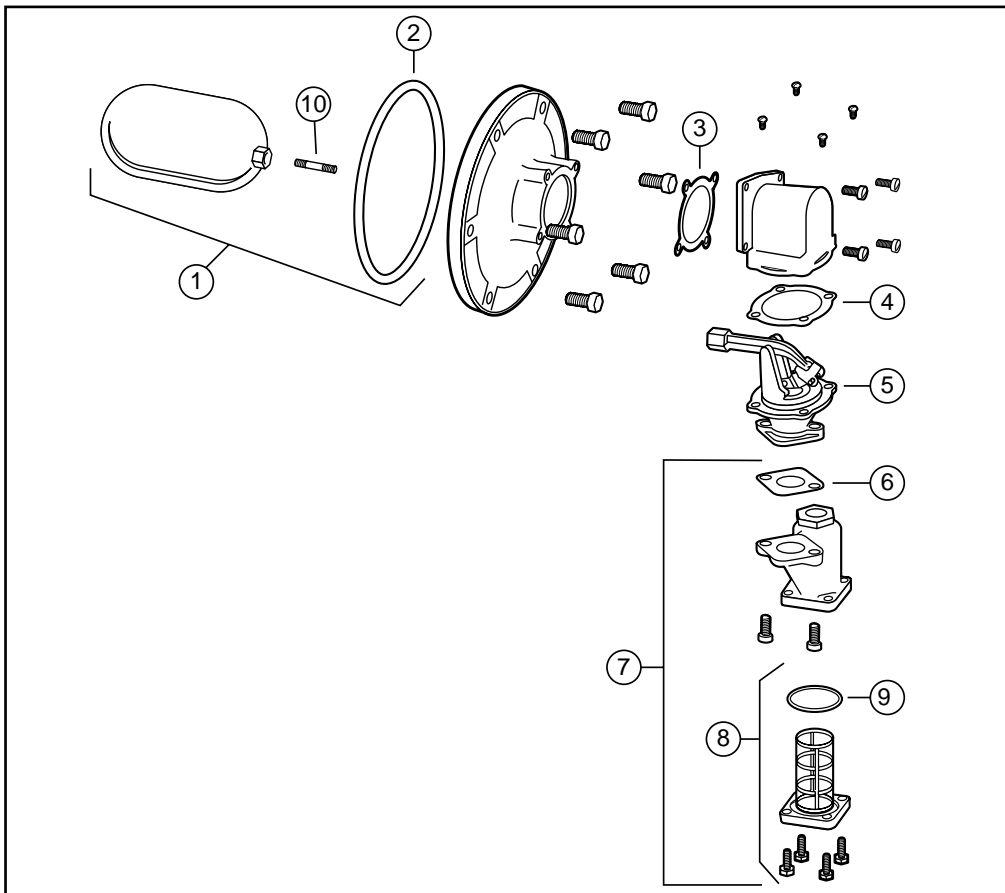
BOILER CONTROLS

## 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	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	1.0 (0.5)
9	324435	37-101	Tetraseal O-ring	0.1 (.05)
10	311400	21-109	Connector	0.1 (.05)



## Water Feeders – Make-Up

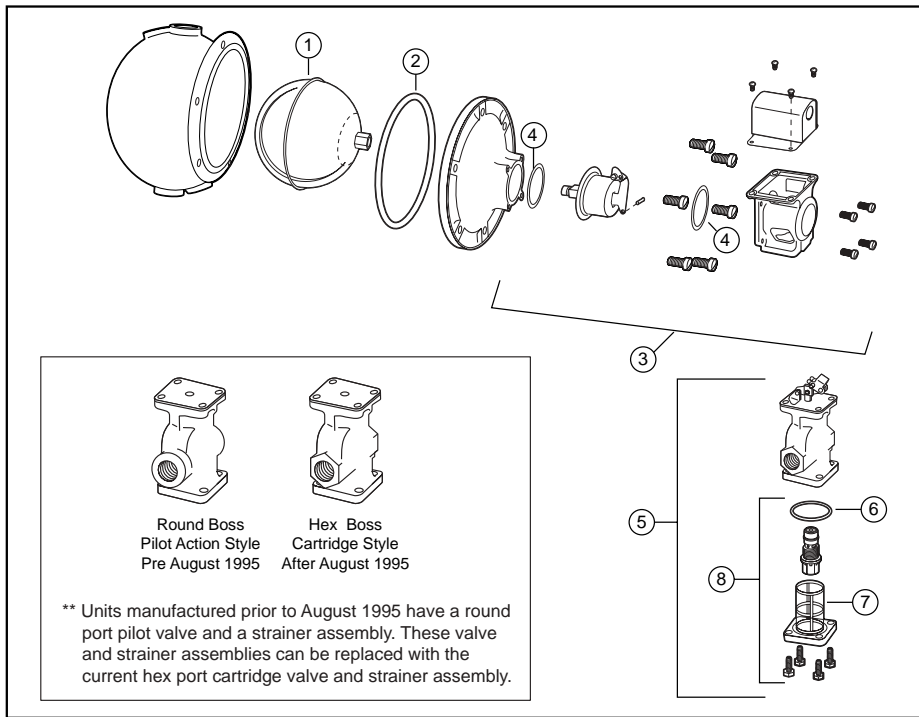
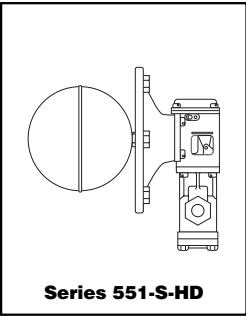
### Series 551-S Make-Up Water Feeders

#### 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)	2.5 (1.1)
2	304100	F-26	Gasket	0.1 (.05)
3*	310442	BA-551-05	Bellows bracket assembly	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	Tetra seal o-ring	0.1 (.05)
7	347100	SA101-38	Strainer basket (includes item 6 and bolts)	0.7 (.32)
8	310452	CTRD-51	Cartridge kit	0.8 (.36)



**Bellows Bracket Assembly for Series 51, 51S, 53, 3155, and 551S**

April 1999 or Before  
February 2005 and After

May 1999 through  
January 2005

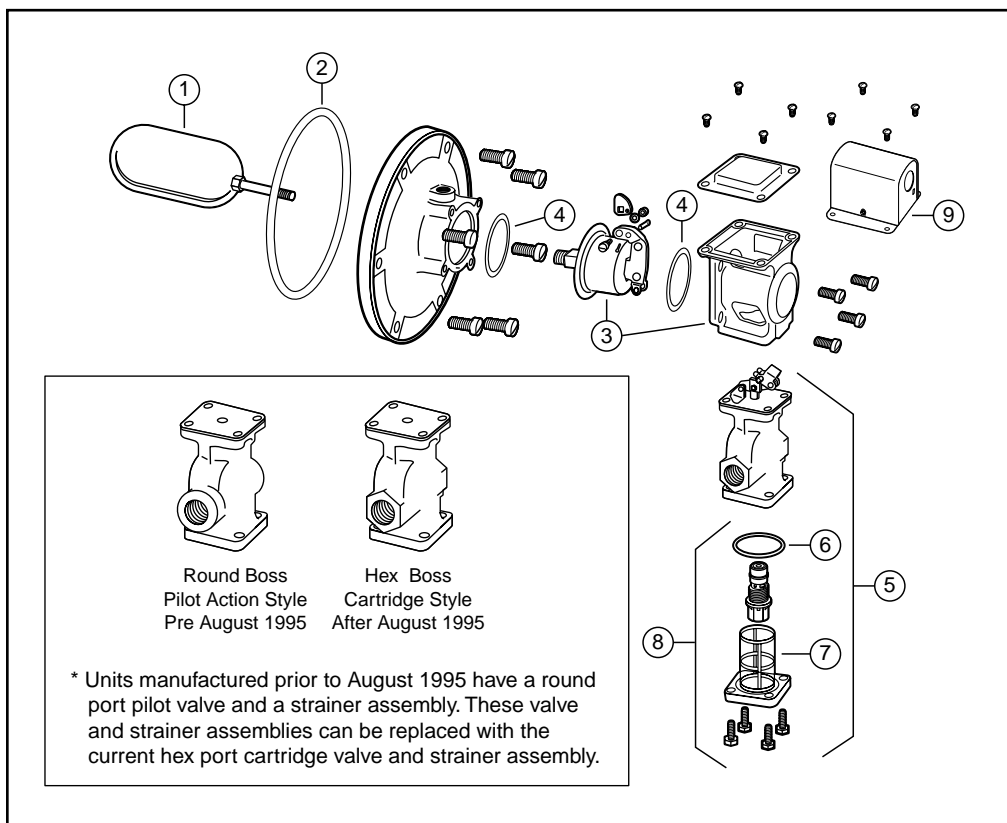
\*One time float and bellows replacement is required when replacing bellows or float assemblies with date codes before February 2005.

## 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 and bolts)	0.7 (.32)
8	310453	CTRD-101	Cartridge & strainer kit	0.8 (.36)
9	110000	2	Switch	1.0 (0.5)



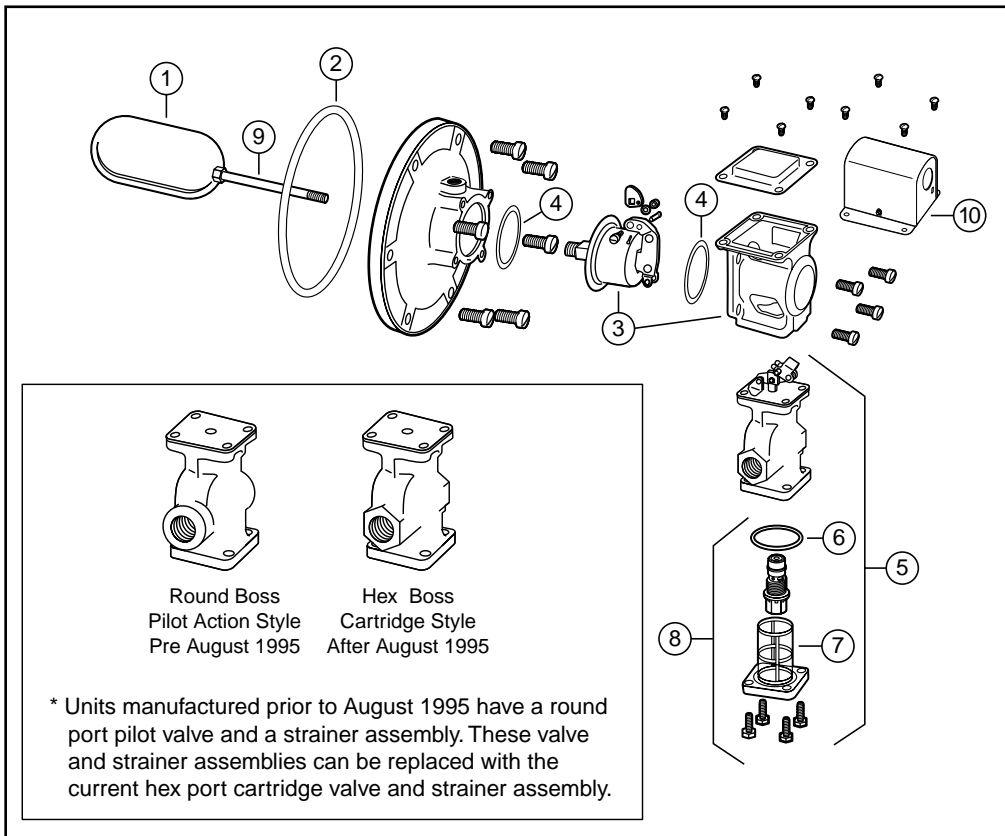
## Water Feeders – Make-Up

### 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 and bolts)	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)

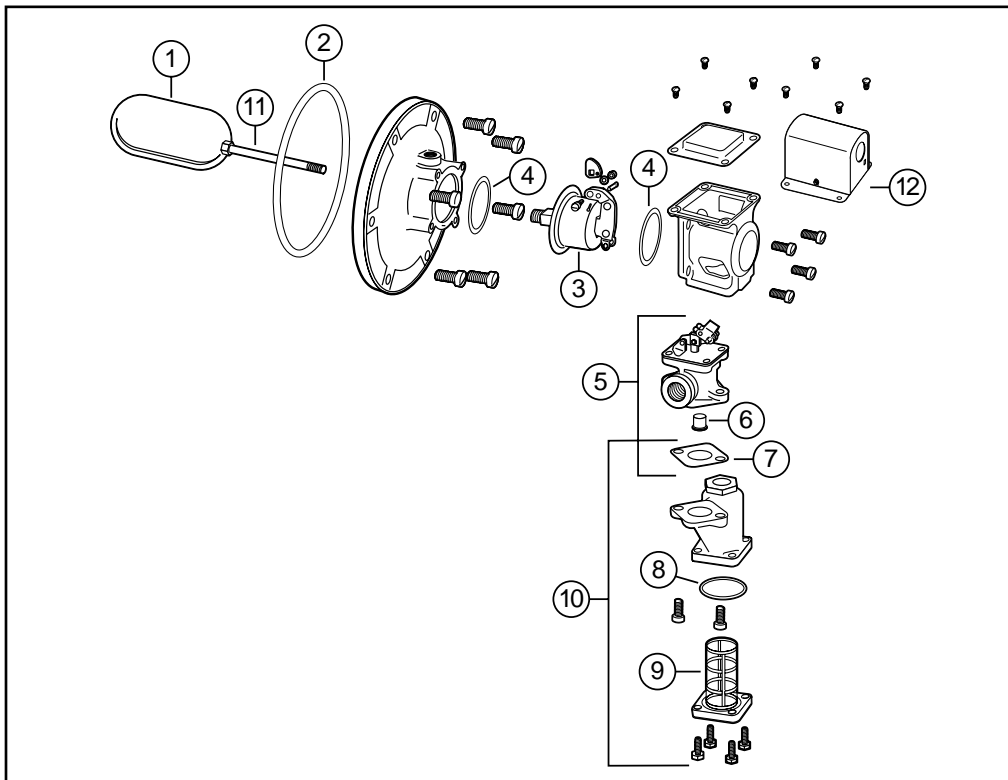
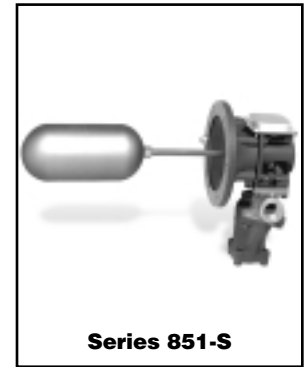


## Water Feeders – Make-Up

### 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 and bolts)	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)



## Water Feeders – Make-Up

### Series 3155

#### Make-Up Water Feeders

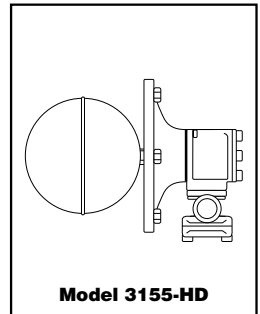
#### Replacement Head Mechanisms

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
3551	3155-HD	137800	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)	2.5 (1.1)
2	304100	F-26	Gasket	0.1 (.05)
3*	310443	BA-3155-05	Bellows assembly (includes item 4)	1.5 (.7)
4	312800	37-27	Gasket	0.1 (.05)
5	333800	355-73	Gasket	0.1 (.05)
6	333600	355-16	Gasket	0.1 (.05)
7	312900	37-28	Gasket	0.1 (.05)
8	353155	SA3155-6	Valve assembly	3.0 (1.4)



**Bellows Bracket Assembly for Series 51, 51S, 53, 3155, and 551S**

April 1999 or Before  
February 2005 and After

May 1999 through  
January 2005

\*One time float and bellows replacement is required when replacing bellows or float assemblies with date codes before February 2005.

## Combination Mechanical Water Feeder/ Low Water Cut-Offs


### Series 47/47-2

#### Mechanical Water Feeder/Low Water Cut-Offs

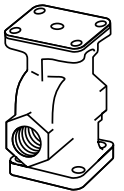
Components (shown on page 47)

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 and bolts)	0.2 (.09)
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)





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.

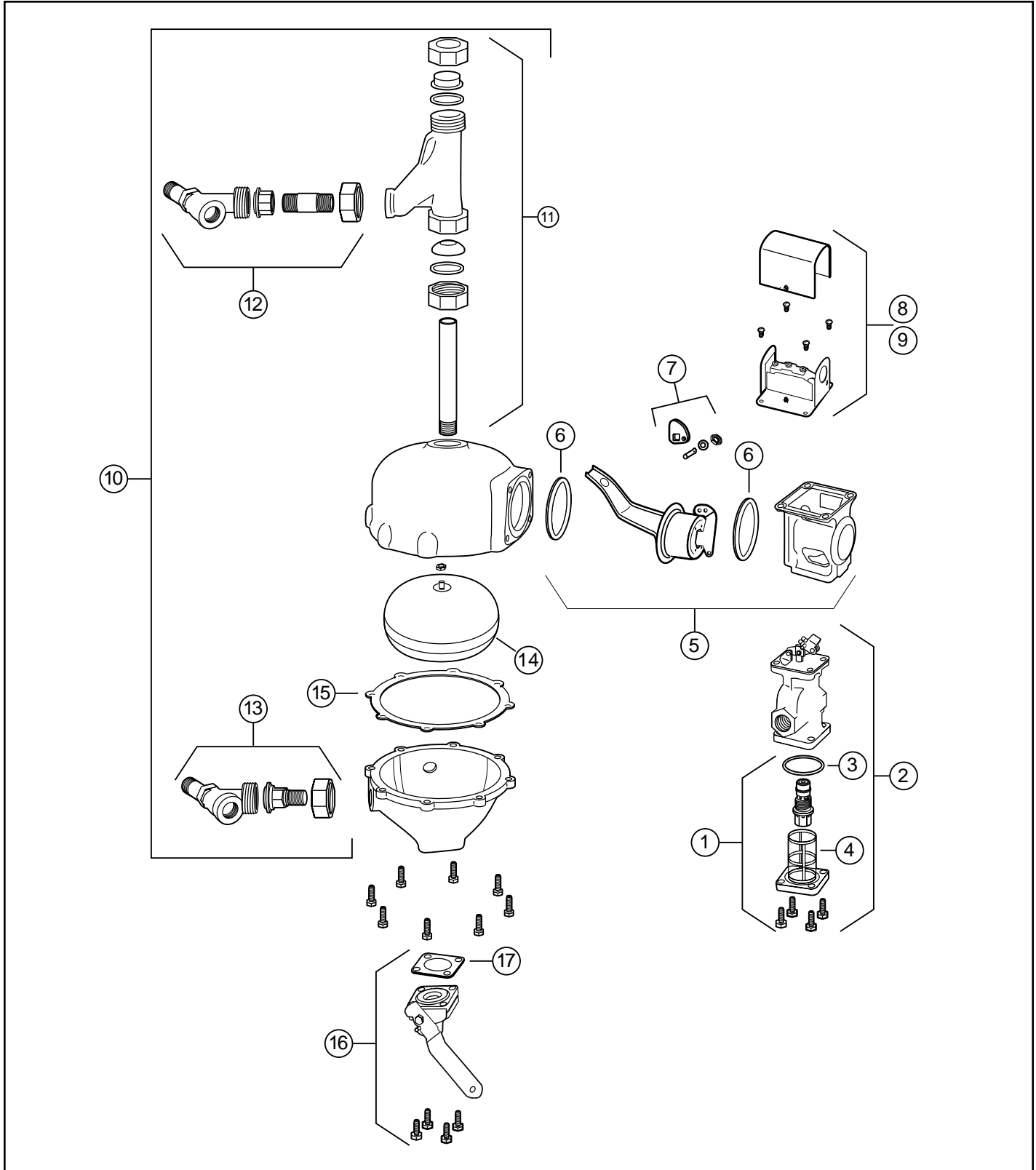


# Combination Mechanical Water Feeder/ Low Water Cut-Offs

## Series 47/47-2 (continued)

### Mechanical Water Feeder/Low Water Cut-Offs

#### Components



BOILER CONTROLS

## Combination Mechanical Water Feeder/ Low Water Cut-Offs


### Series 247/247-2

### Mechanical Water Feeder/Low Water Cut-Offs

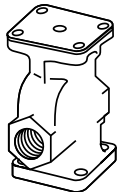
Components (shown on page 49)

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 and bolts)	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	CO-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 (includes item 11)	2.0 (0.9)
11	312700	37-26	Gasket	0.1 (.05)





Round Boss  
Pilot Action Style  
Pre August 1995



Hex Boss  
Cartridge Style  
After August 1995

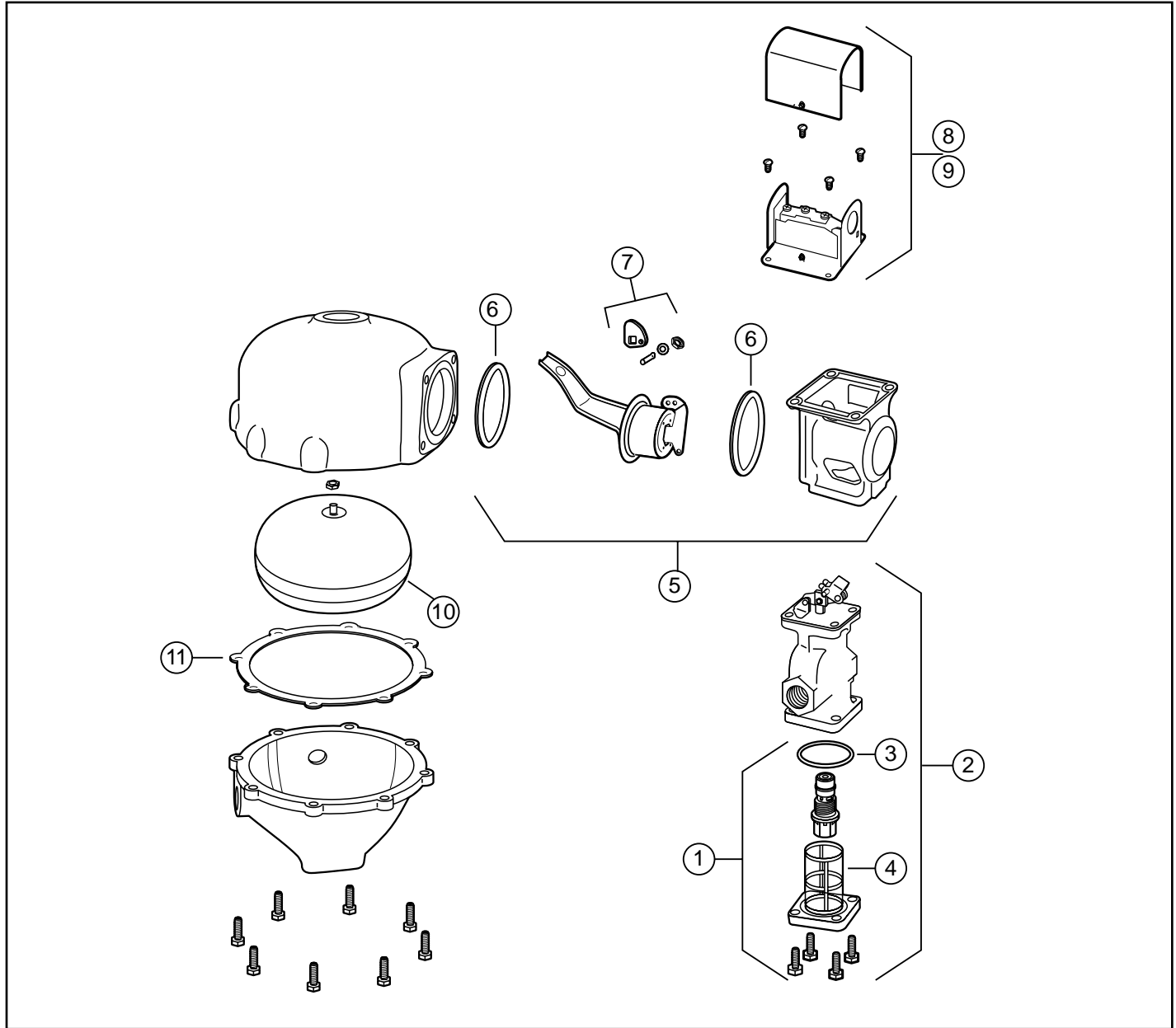
\* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.

## 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

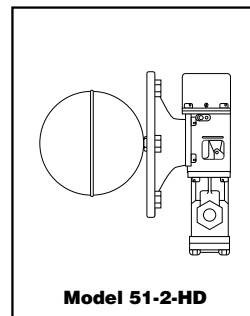


### Replacement Head Mechanisms

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
51-2	51-2-HD or	135100	Head mechanism w/ No. 2 switch	18.3 (8.3)
	51-2M-HD	135300	51-2-HD w/manual reset	26.0 (11.8)
51	51-HD	134900	51 Head mechanism w/o switch	18.1 (8.2)

### Components (shown on page 51)

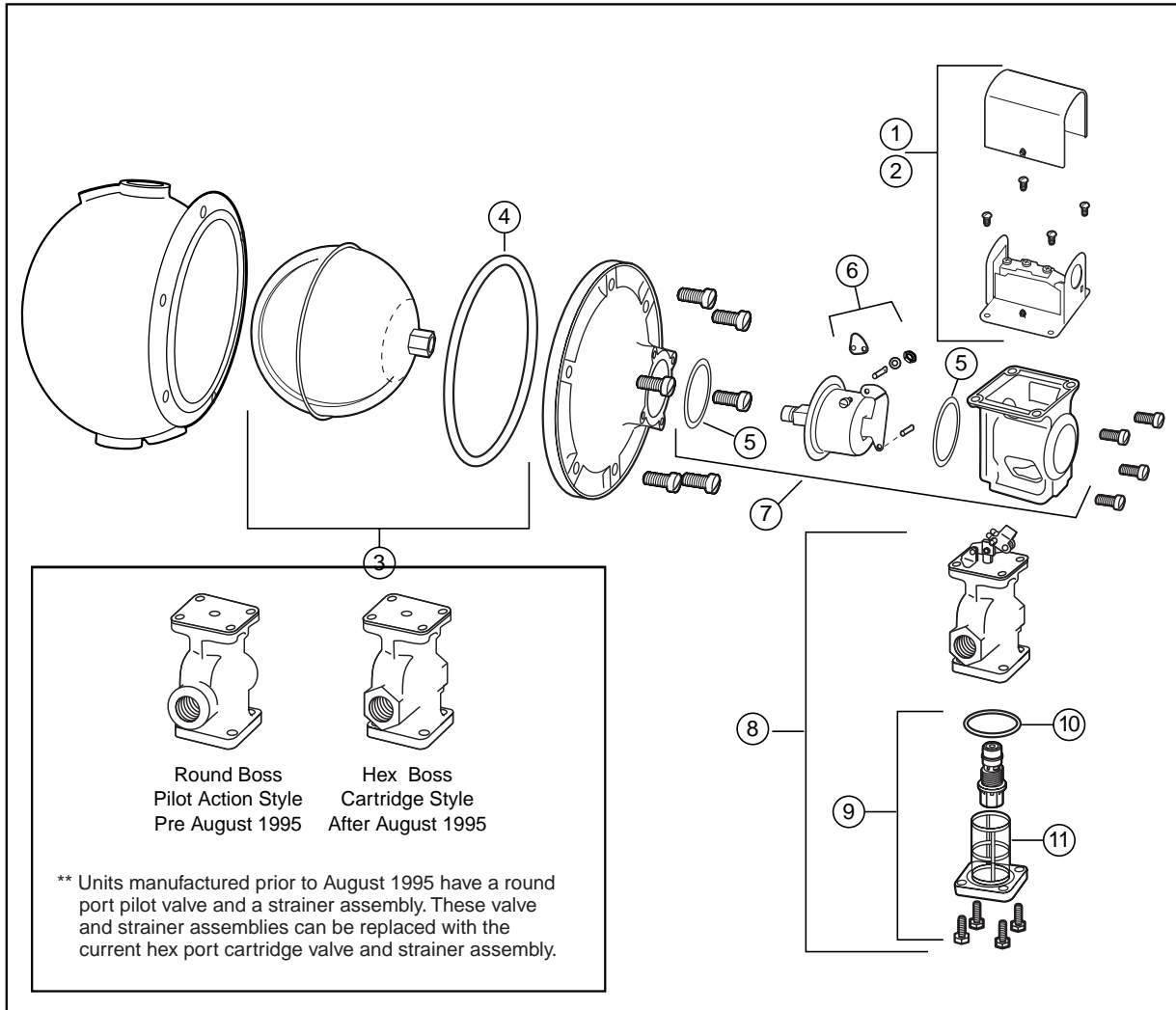
Item	Part	Model	Description	Weight
1	110000	2	Low water cut-off switch	1.0 (0.5)
2	110100	2-M	No. 2 w/manual reset	1.0 (0.5)
3*	310437	FLT-51-05	Float	2.5 (1.1)
4	304100	F-26	Gasket	0.1 (.05)
5	312800	37-27	Gasket	0.1 (.05)
6	302900	CO-106	Cam assembly	0.1 (.05)
7*	310439	BA-51-05	Bellows bracket assembly (includes item 4)	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 and bolts)	0.7 (.32)



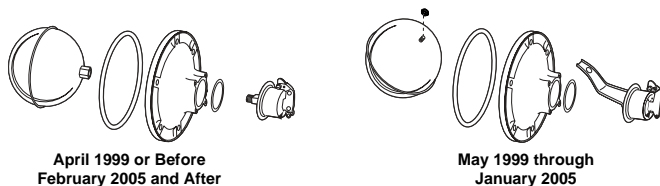
## Combination Mechanical Water Feeder/ Low Water Cut-Offs

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

#### Components



#### Bellows Bracket Assembly for Series 51, 51S, 53, 3155, and 551S



\*One time float and bellows replacement is required when replacing bellows or float assemblies with date codes before February 2005.



## Combination Mechanical Water Feeder/ Low Water Cut-Offs

### Series 51-S/51-S-2

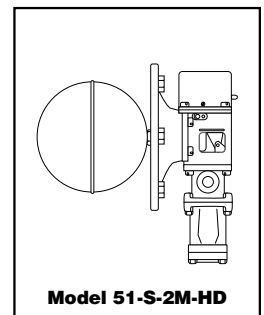
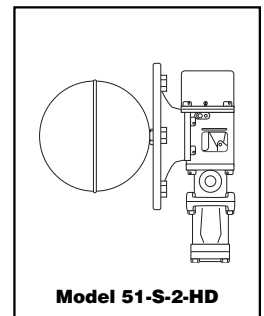
Water Feeder/Low Water Cut-Offs

#### Replacement Head Mechanisms

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
51-S	51-S-2-HD	136200	Head mechanism w/ No. 2 switch	20.5 (9.3)
	or			
	51-S-2M-HD	136250	51-S-2-HD w/manual reset	21.7 (9.8)
	51-S-HD	135800	Head mechanism w/o switch	19.5 (8.8)

#### Components (shown on page 53)

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	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)	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)

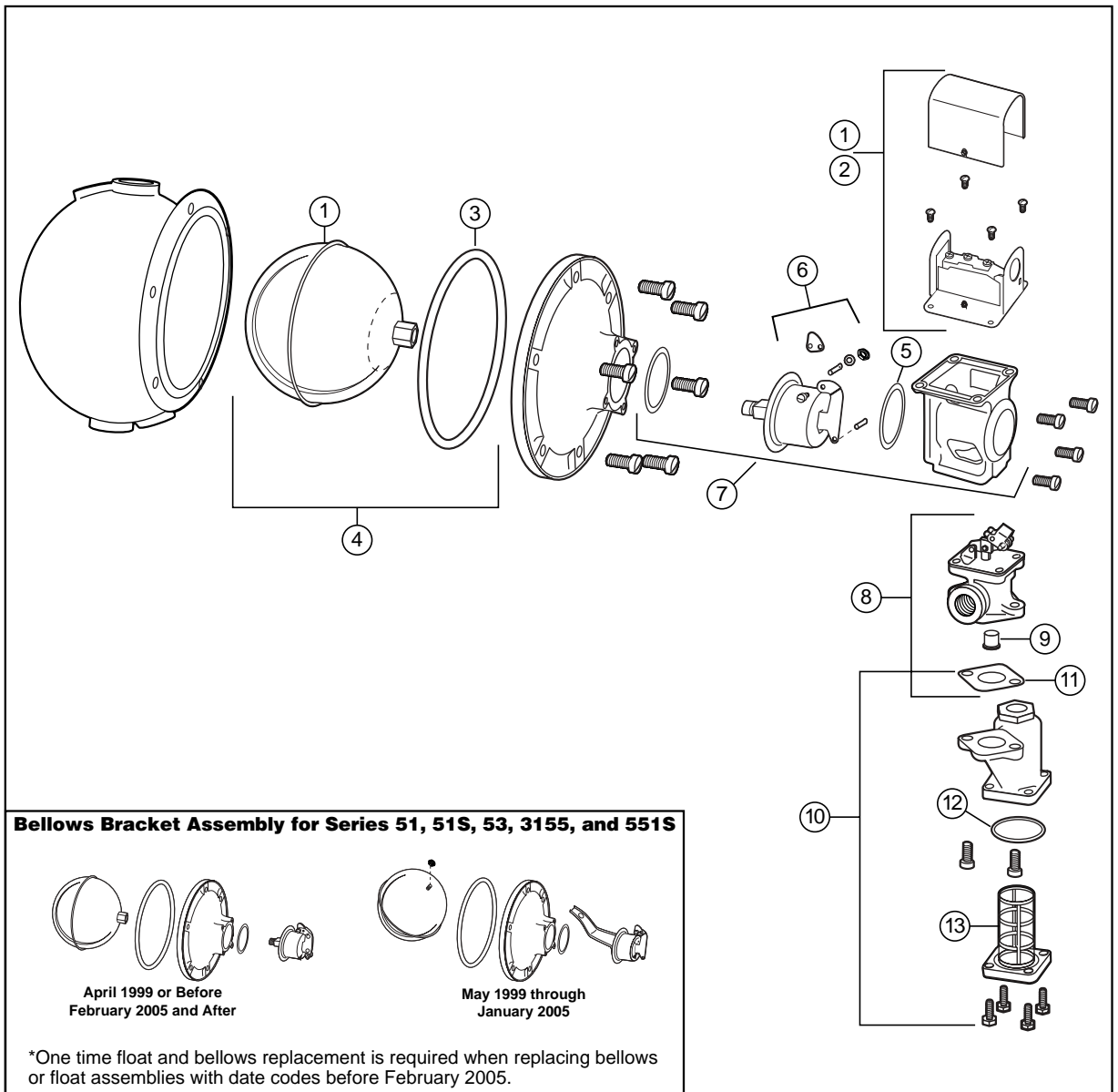


## Combination Mechanical Water Feeder/ Low Water Cut-Offs

### Series 51-S/51-S-2 (continued)

Water Feeder/Low Water Cut-Offs

#### Components



## Combination Mechanical Water Feeder/ Low Water Cut-Offs

### Series 53/53-2

Water Feeder/Low Water Cut-Offs

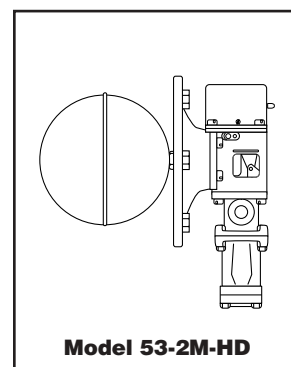
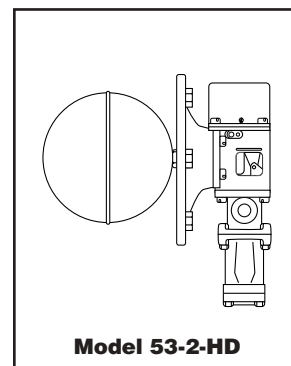


### Replacement Head Mechanisms

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
53	53-2-HD or	137300	Head mechanism w/ No. 2 switch	20.5 (9.3)
	53-2M-HD	137250	53-2-HD w/manual reset	20.5 (9.3)
	53-HD	137000	Head mechanism w/o switch	19.5 (8.8)

### Components (shown on page 55)

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	303100	F-26	Gasket	0.1 (.05)
4*	310438	FLT-53-05	Float	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)	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)



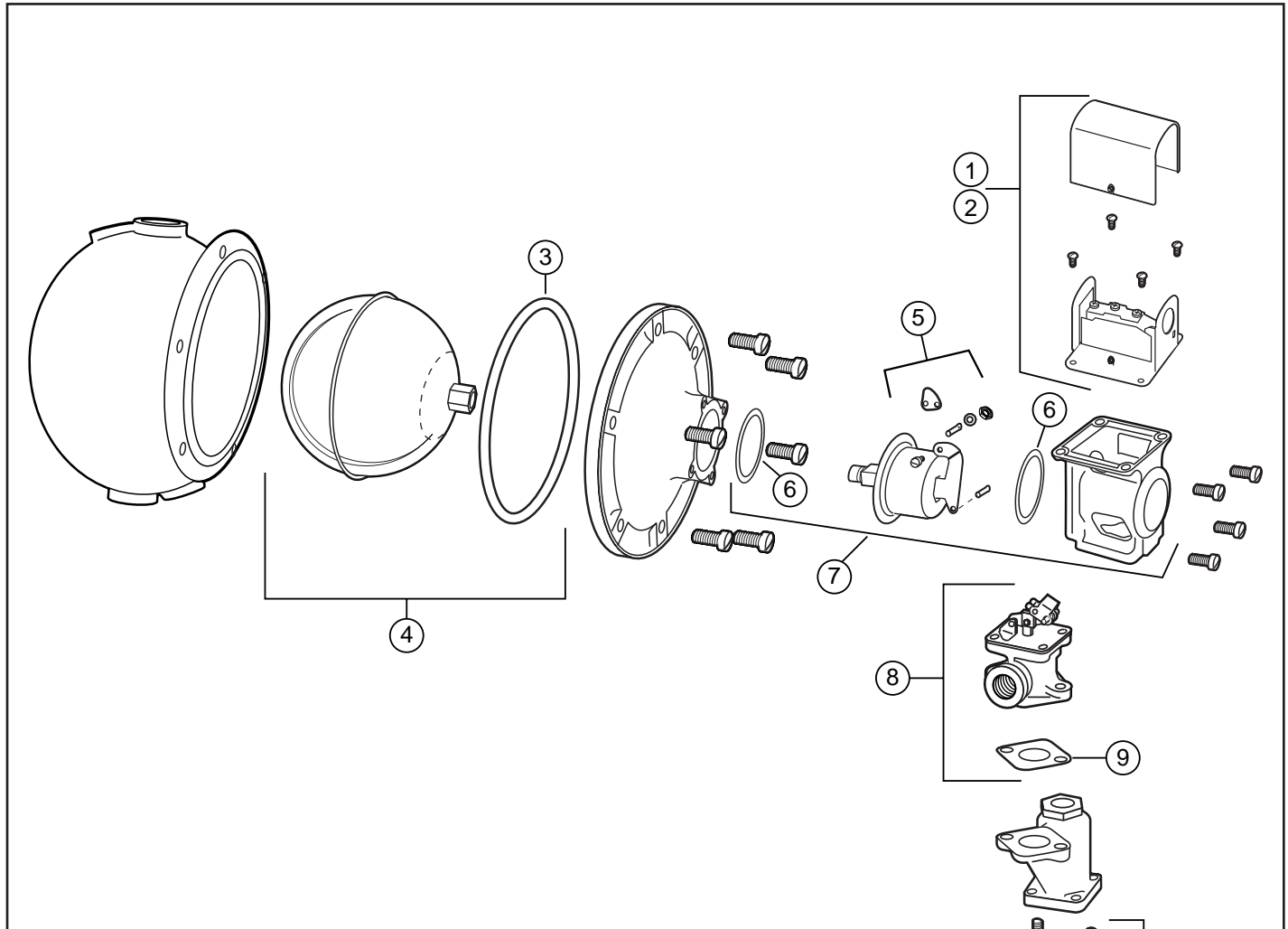


**Combination Mechanical Water Feeder/  
Low Water Cut-Offs**

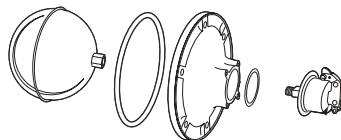
**Series 53/53-2 (continued)**

**Water Feeder/Low Water Cut-Offs**

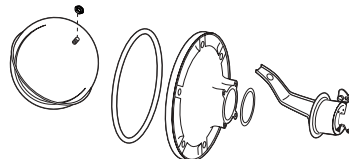
**Components**



**Bellows Bracket Assembly for Series 51, 51S, 53, 3155, and 551S**



April 1999 or Before  
February 2005 and After



May 1999 through  
January 2005

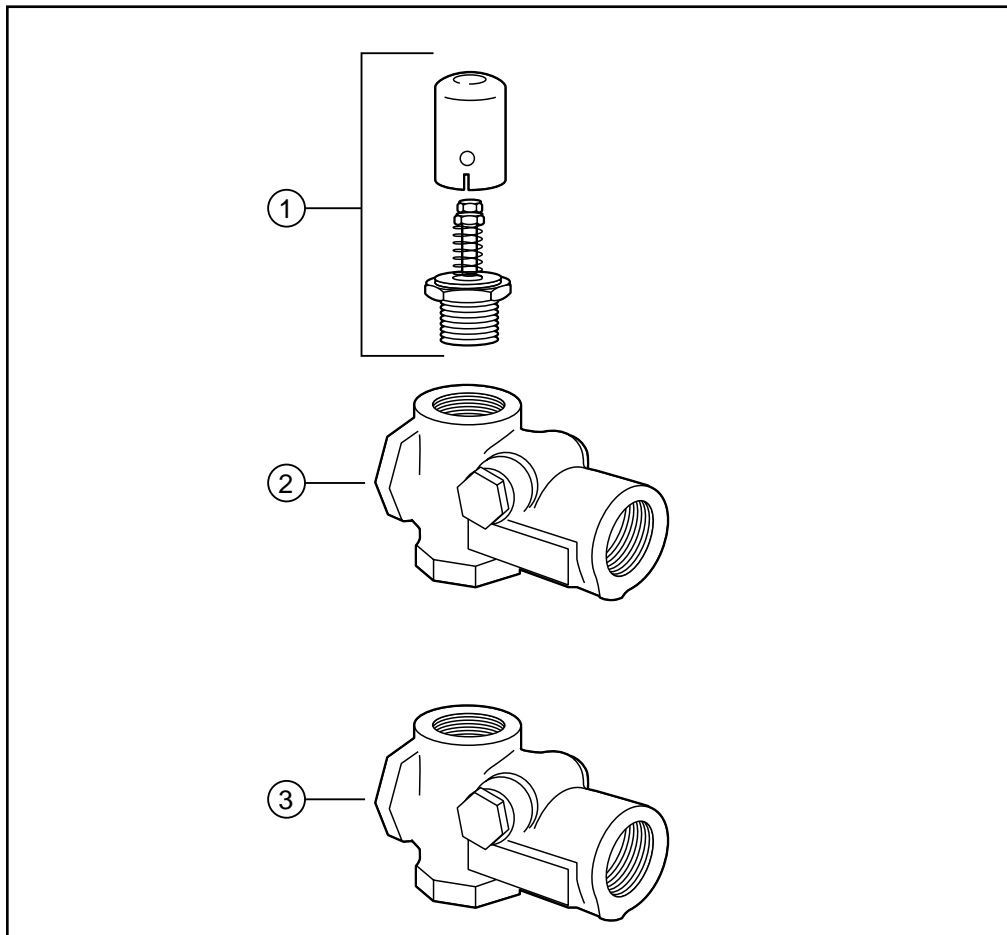
\*One time float and bellows replacement is required when replacing bellows or float assemblies with date codes before February 2005.

## 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)

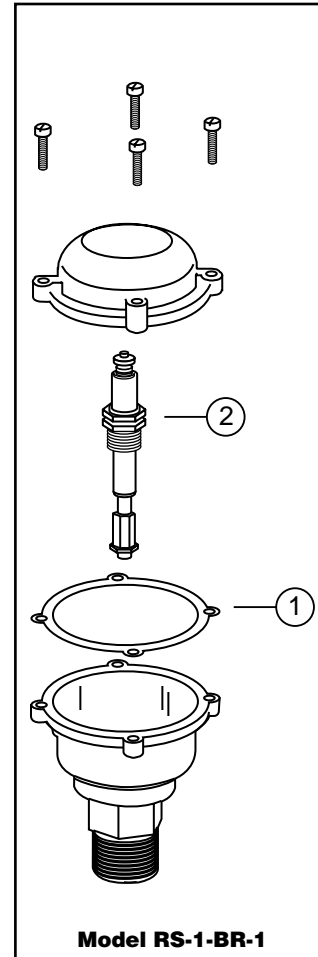
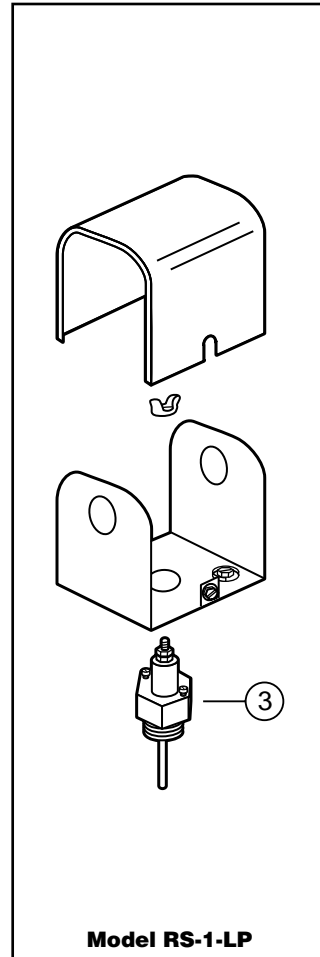
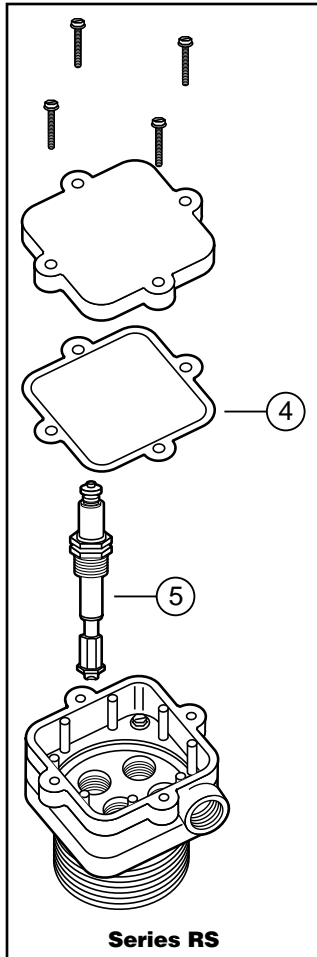


## Probe Type Remote Sensors



### Components for Remote Sensors

For Model	Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
RS-1-BR-1	1	354370	GSKT-RS-1	Cover gasket	0.3 (.14)
	2	354401	EA-RS	Electrode	0.5 (.23)
RS-1-LP	3	354081	PA-800	Probe	0.5 (.23)
RS-2-BR-1	4	354410	GSKT-RS-2	Cover gasket	0.3 (.14)
	5	354401	EA-RS	Electrode	0.5 (.23)
RS 3					
RS 4					
RS 5					



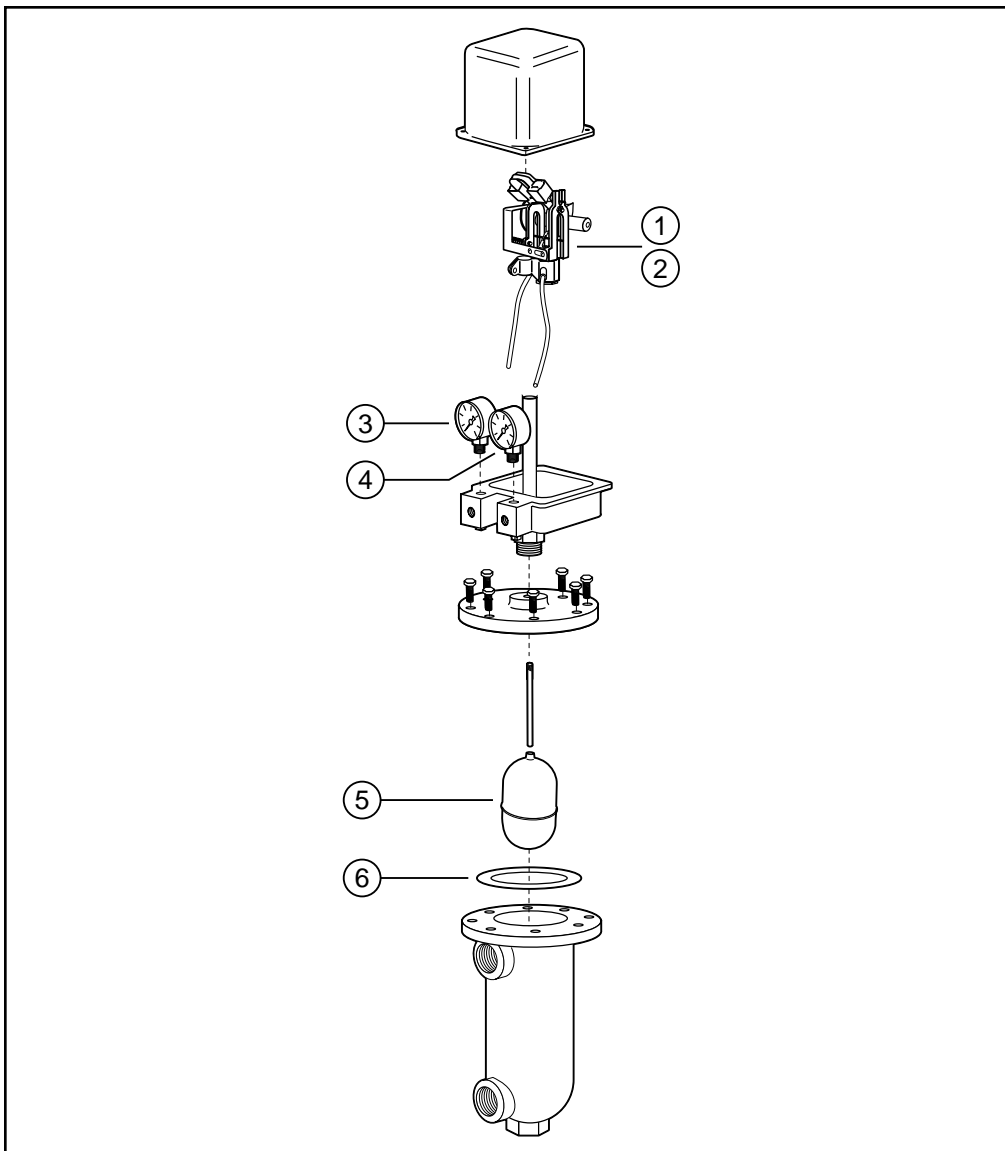
LIQUID LEVEL CONTROLS

## 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)



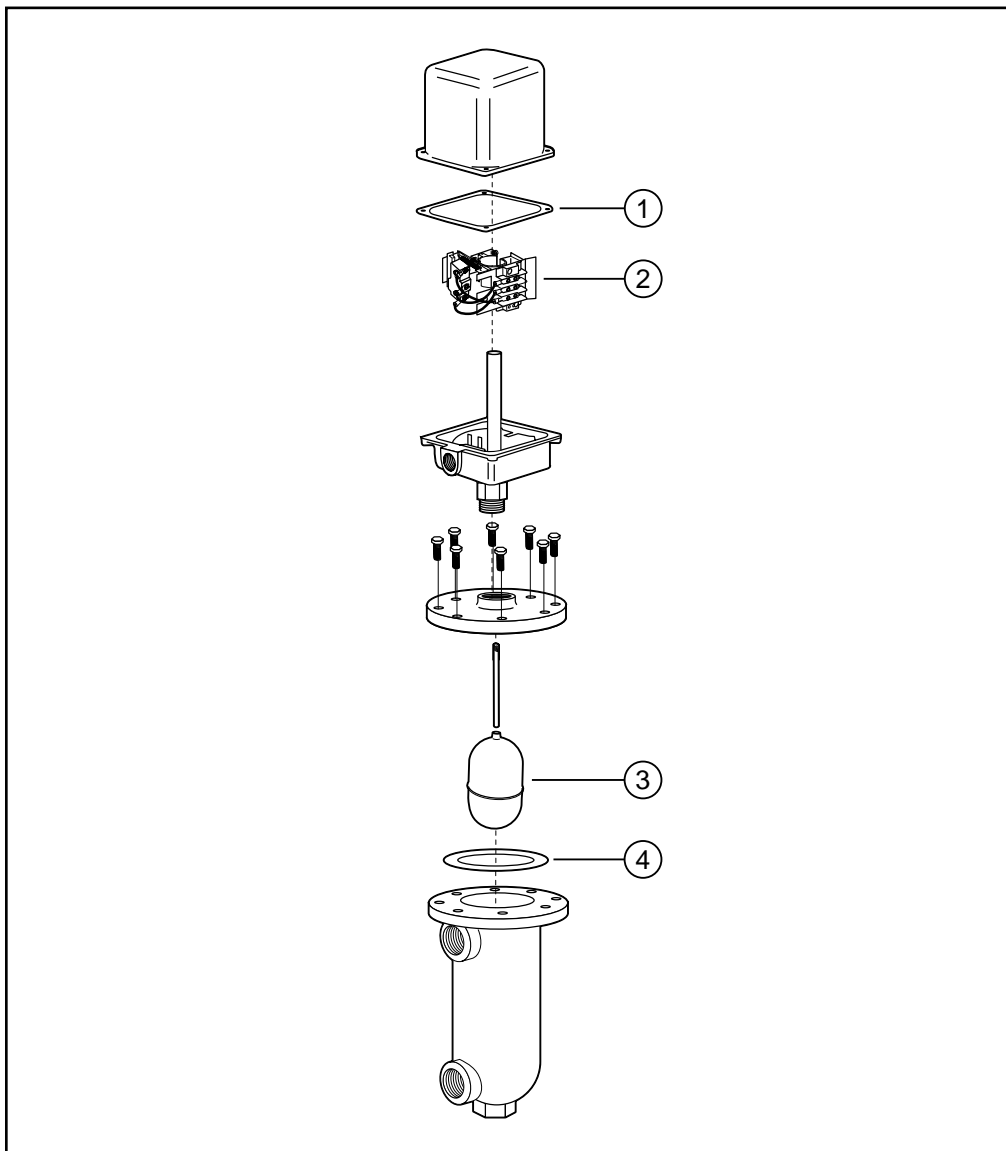
LIQUID LEVEL CONTROLS

## Float Actuated

### Series VFS Liquid Level Controls

#### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	354380	GSKT-VFS-1	Cover gasket for vapor proof models ("V" designated)	0.2 (.09)
2	354361	SWA-VFS	SPDT switch module	0.5 (.23)
3	354320	FLT-PFC	Float	0.5 (.23)
4	354310	GSKT-PFC	Gasket	0.2 (.09)



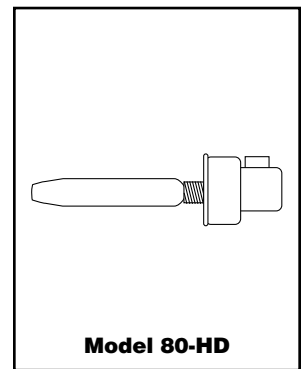
LIQUID LEVEL CONTROLS

## Float Actuated For Fuel Oil Series E-8 Liquid Level Controls



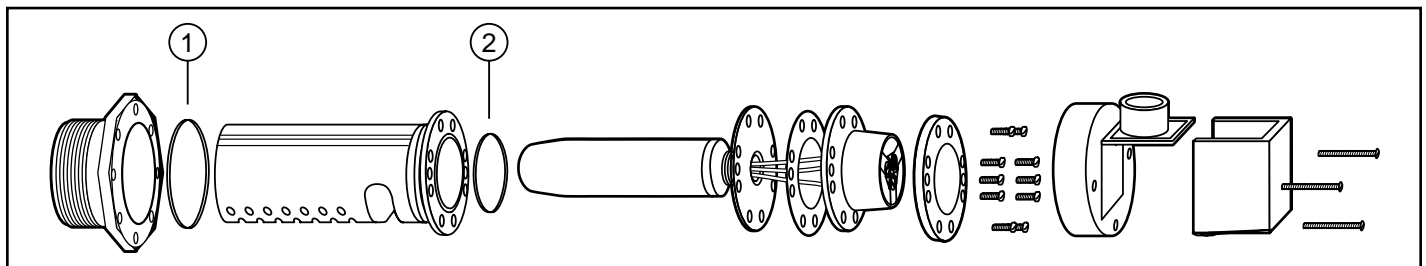
### Replacement Head Mechanisms

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
E-8	80-HD	158200	Head mechanism	1.5 (0.7)



### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	318827	69-114	O-ring	0.1 (.05)
2	318826	69-113	O-ring	0.1 (.05)



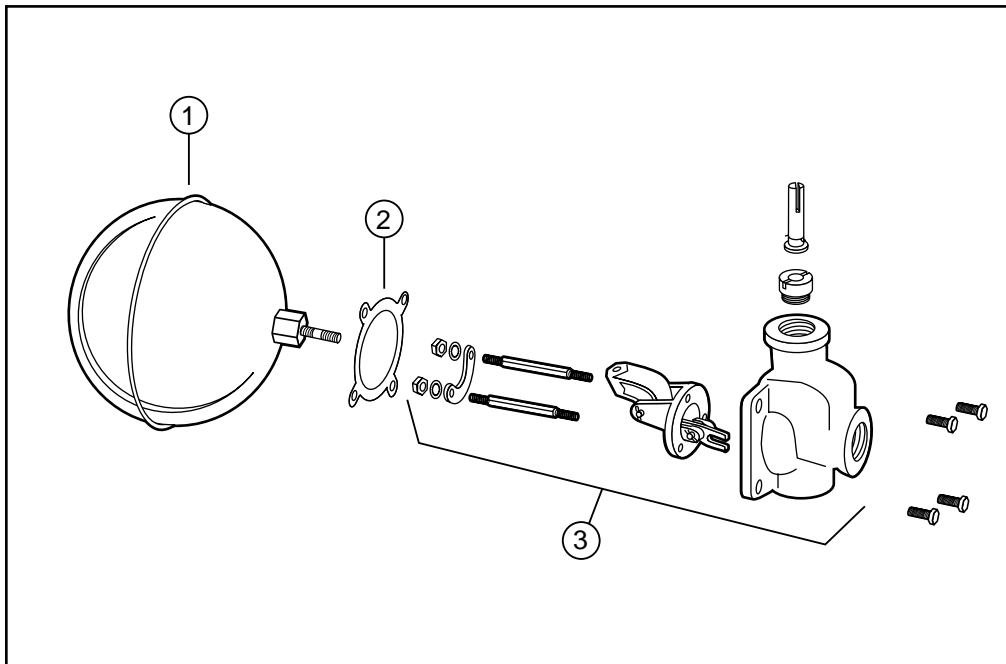
## Float Actuated

### Series 27-W Liquid Level Controls



#### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	334100	421-30	Float	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)



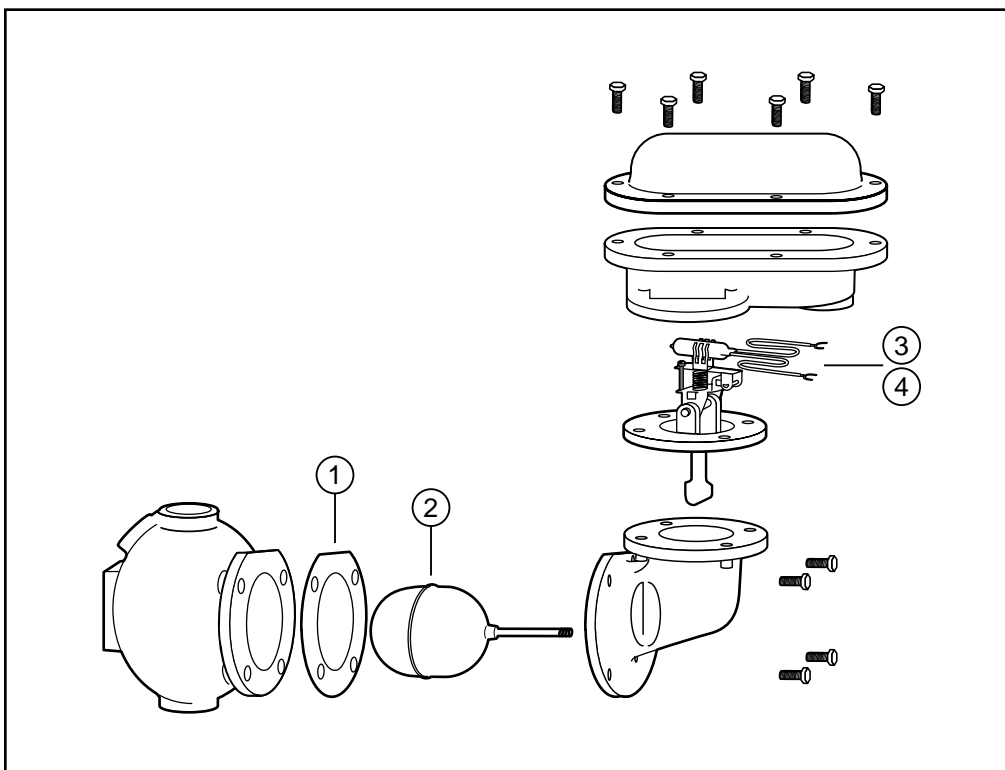
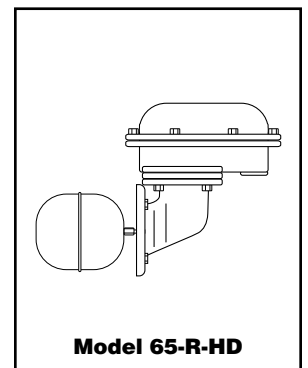
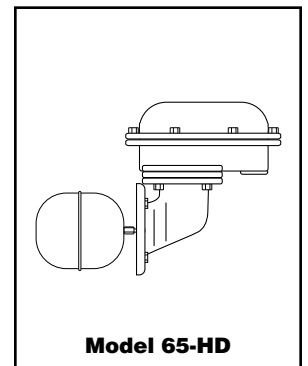
## Float Actuated For Liquid Series 65 Liquid Level Controls

### Replacement Head Mechanisms

For Model	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
65	65-HD	146900	Head mechanism	19.3 (8.8)
	or 65-R-HD	147000	65-HD w/reverse action	19.3 (8.8)

### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	302600	CO-12	Gasket	0.1 (.05)
2	343100	SA60-30	Float (includes item 1)	1.0 (0.5)
3	343800	SA65-25	Direct action switch	0.3 (.14)
4	344000	SA65-125	Reverse action switch	0.3 (.14)



LIQUID LEVEL CONTROLS

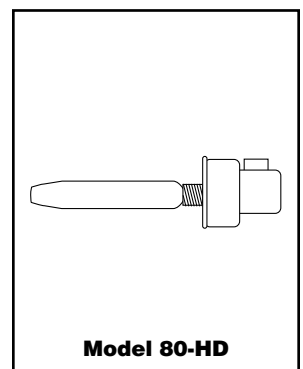


## Float Actuated For Fuel Oil Series 80 Liquid Level Controls



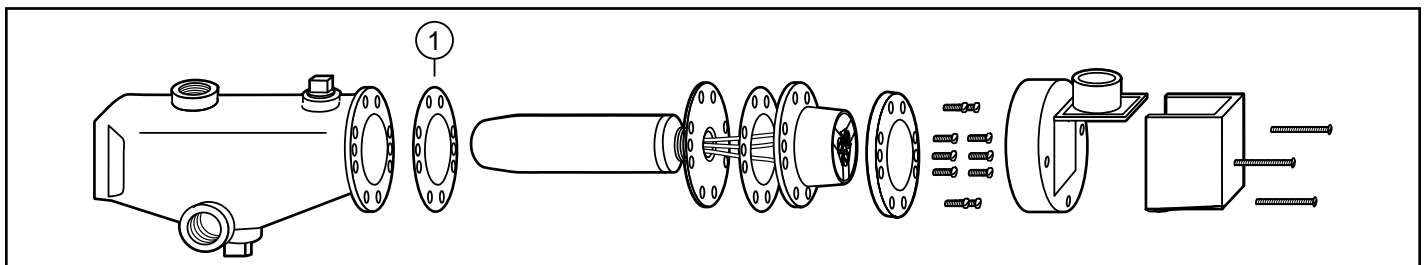
### Replacement Head Mechanisms

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
80	80-HD	158200	Head mechanism	1.5 (0.7)



### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	318800	67-12	Gasket	0.1 (.05)



LIQUID LEVEL CONTROLS

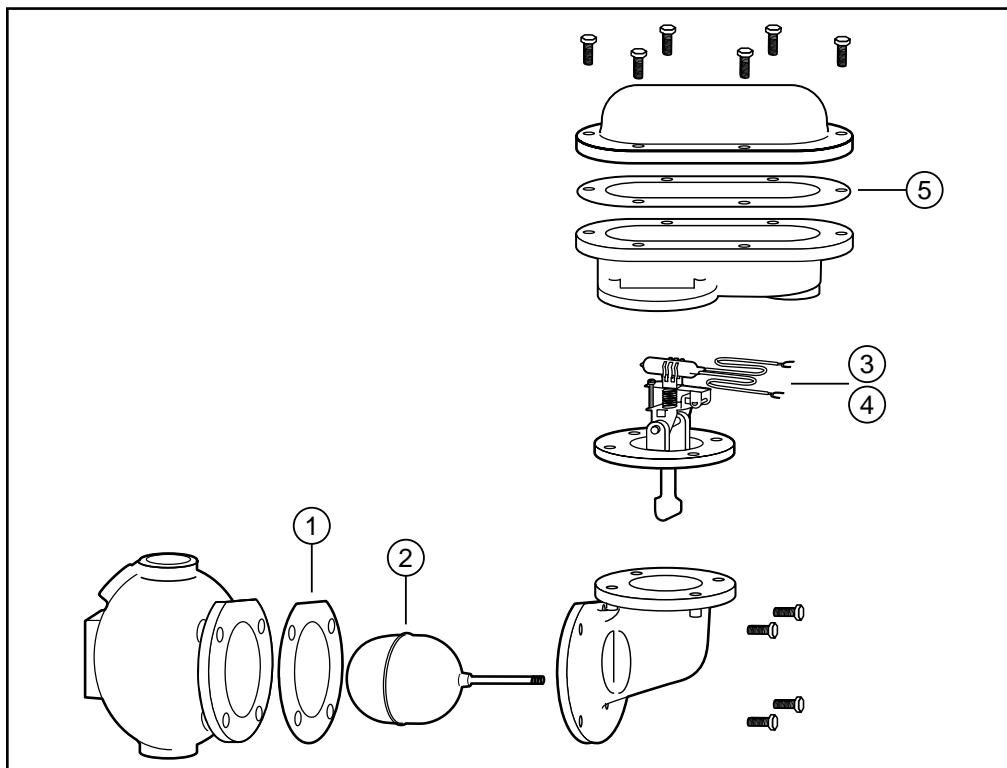
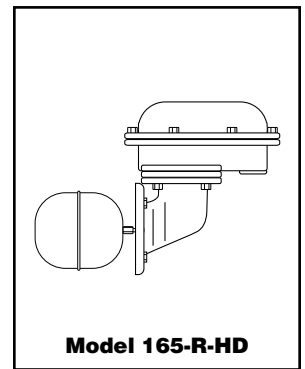
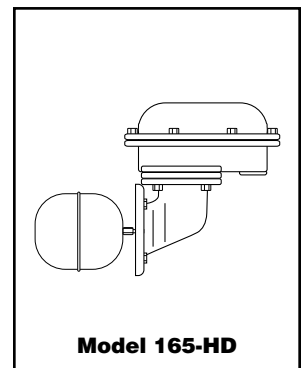
## Float Actuated For Liquid Series 165 Liquid Level Controls

### Replacement Head Mechanisms

For Model	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
165	165-HD	147200	Head mechanism	19.3 (8.8)
	165-R-HD	147350	165-HD w/reverse action	19.3 (8.8)

### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	302600	CO-12	Gasket	0.1 (.05)
2	343100	SA60-30	Float (includes item 1)	1.0 (0.5)
3	343800	SA65-25	Direct action switch	0.3 (1.4)
4	344000	SA65-125	Reverse action switch	0.3 (1.4)
5	329000	165G-39	Gasket	0.1 (.05)



## Flow Switches – Liquid

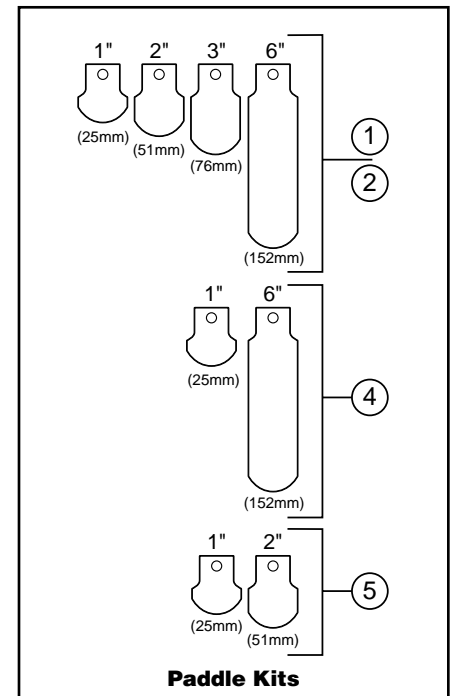
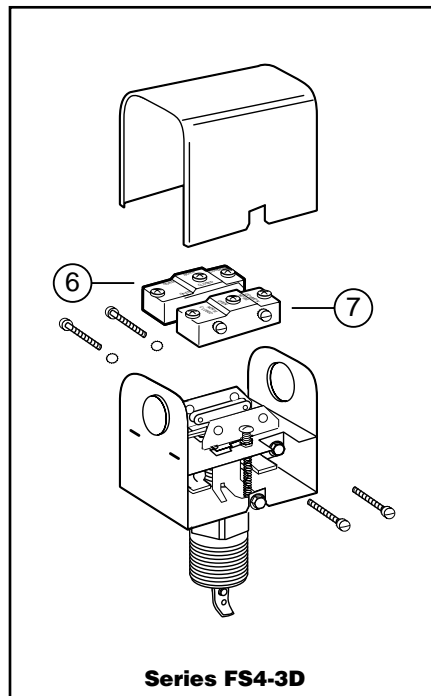
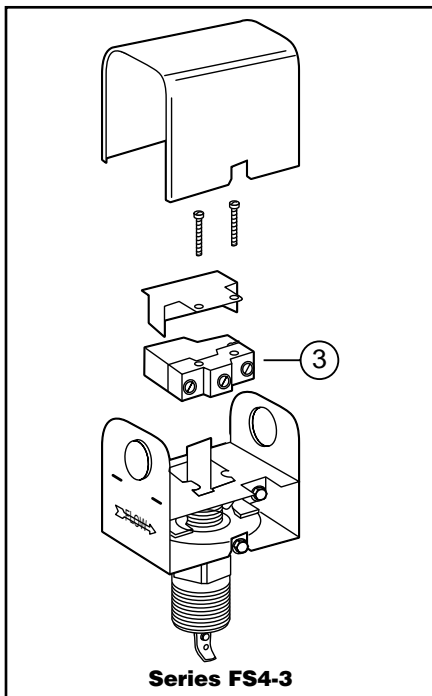
### Series FS4-3 General Purpose Liquid Flow Switches

#### Components

For Model	Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
All models (except those below)	1	336800	FS4-15	Monel paddle kit	0.1 (.05)
	2	310451	FS4-15SS	Stainless steel paddle kit	0.1 (.05)
	3	305200	FS4-33	SPDT switch	0.3 (.14)
FS4-3RP	4	336101	FS4-15RP	Monel paddle kit	0.08 (.36)
FS4-3F	5	336801	FS4-15F	Paddle kit	0.1 (.05)
FS4-3D	6	305512	FS4-3D-17	SPDT switch	0.3 (.14)
	7	304300	FS1-17	SPDT switch (next to adjustment screw)	0.3 (.14)



Note: Paddle kits include screws and washers.



## Flow Switches – Liquid

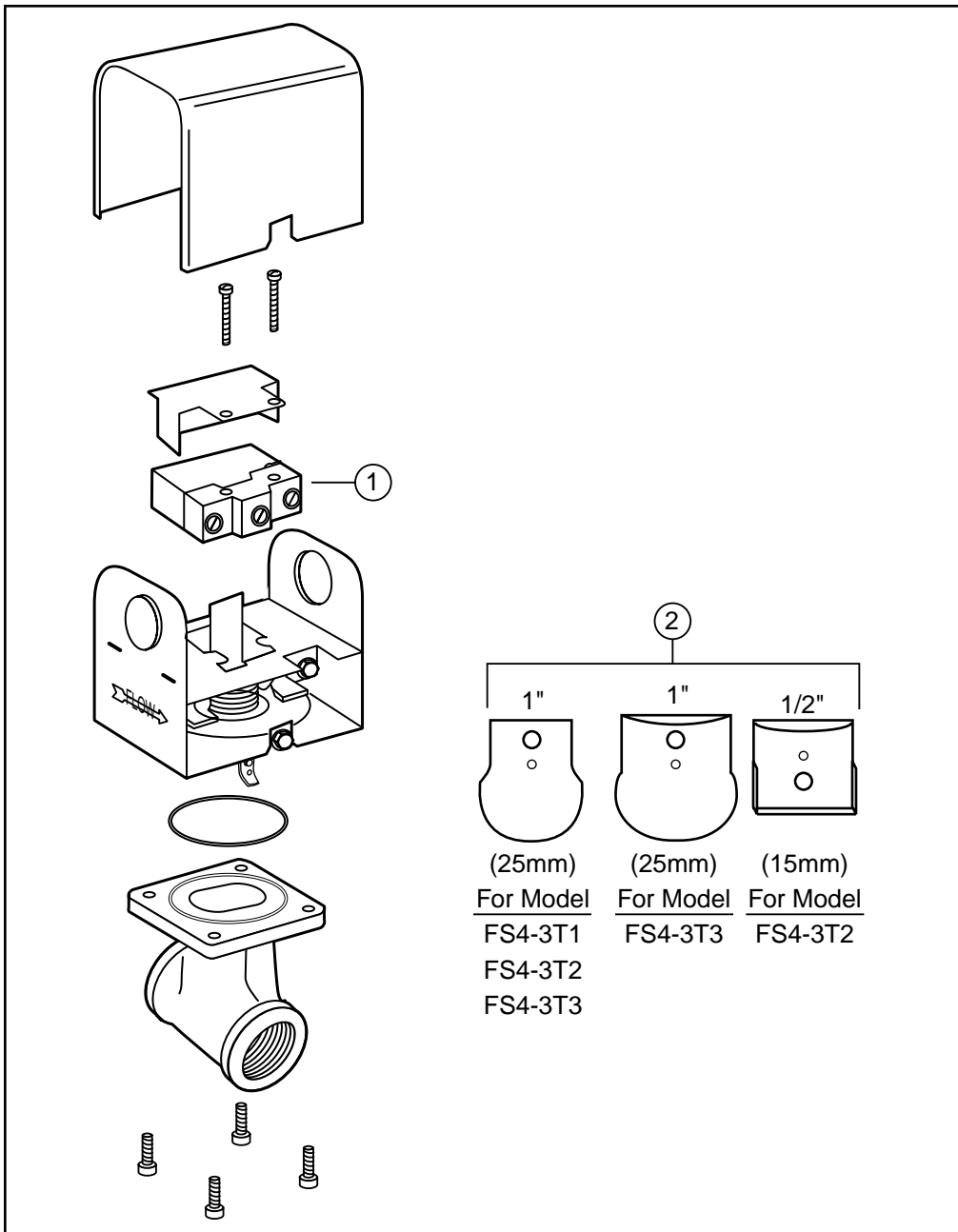
### Series FS4-3T

#### 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.



FLOW SWITCHES

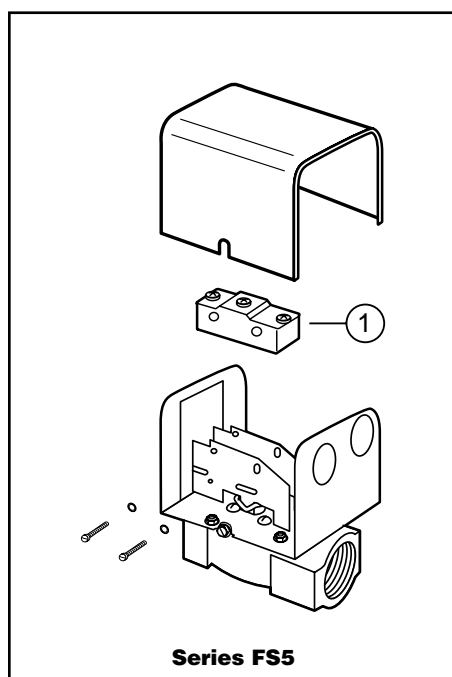
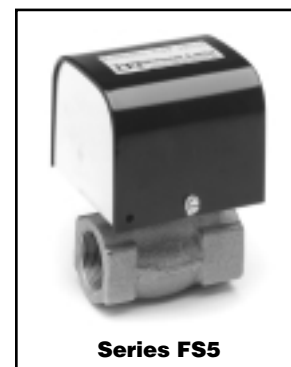
## Flow Switches – Liquid

### 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)



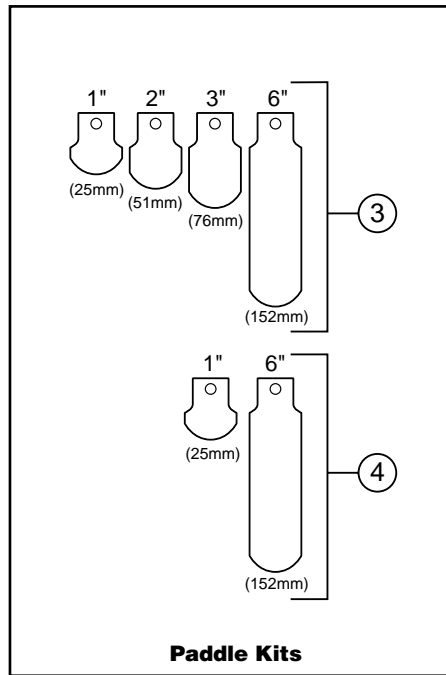
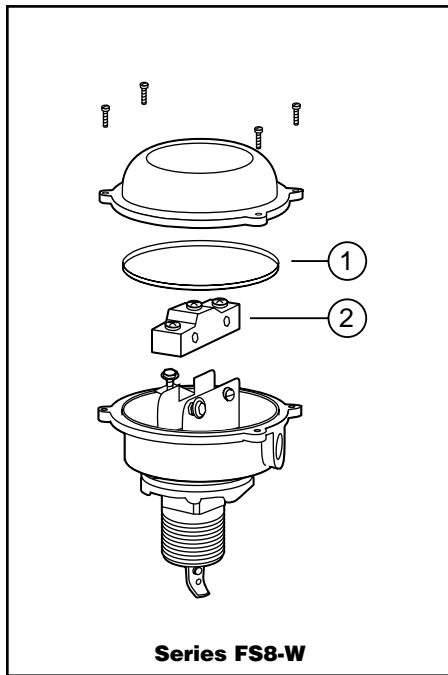
## Series FS8-W General Purpose Liquid Flow Switches

### Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	307400	GSKT-FS8W	O-ring	0.1 (.05)
2	305800	FS1-17	Switch	0.3 (.14)
3	336800	FS4-15	Monel Paddle kit	0.1 (.05)
3	310451	FS4-15SS	Stainless steel paddle kit	0.1 (.05)
4	336101	FS4-15RP	Stainless steel paddle kit	.08 (0.4)



Note: Paddle kits include screws and washers.



FLOW SWITCHES

## Flow Switches – Liquid

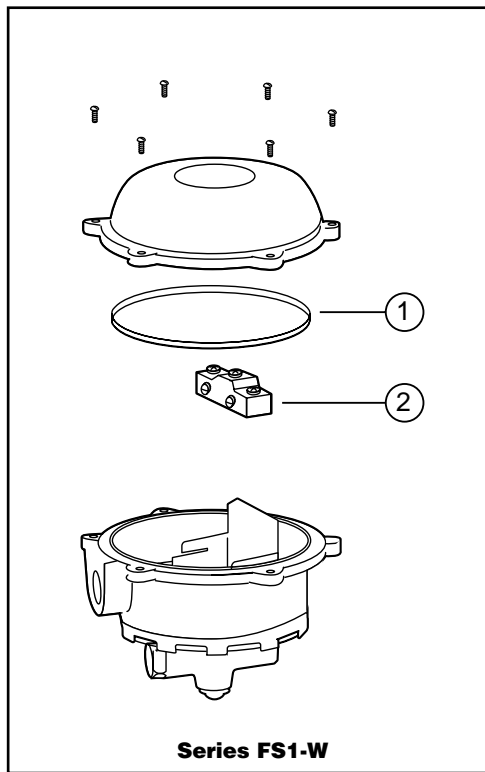
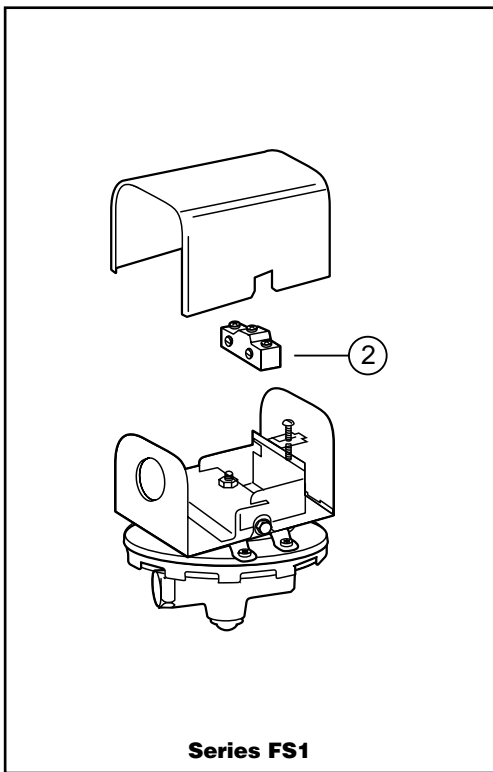
### Series FS1 & FS1-W High Sensitivity Liquid Flow Switches

#### Components

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



FLOW SWITCHES



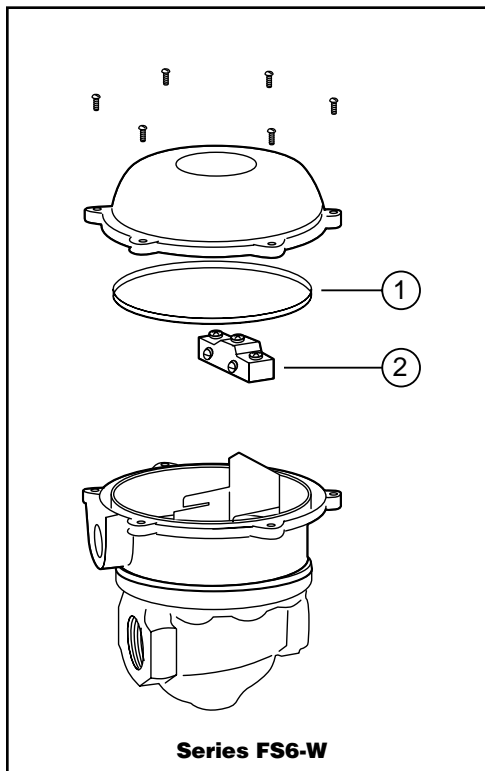
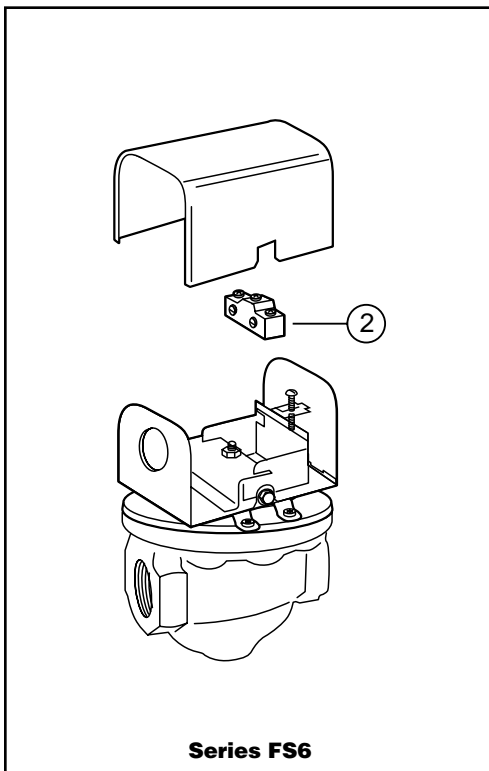
## Flow Switches – Liquid

### 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)



FLOW SWITCHES



## Flow Switches – Liquid

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

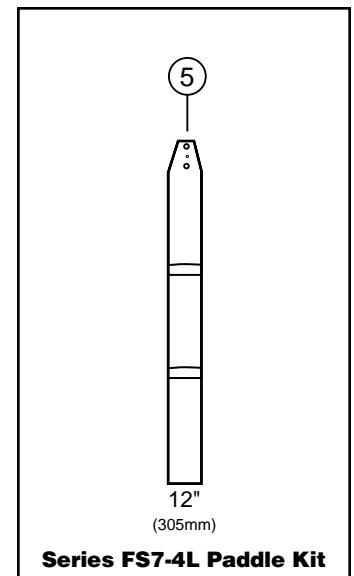
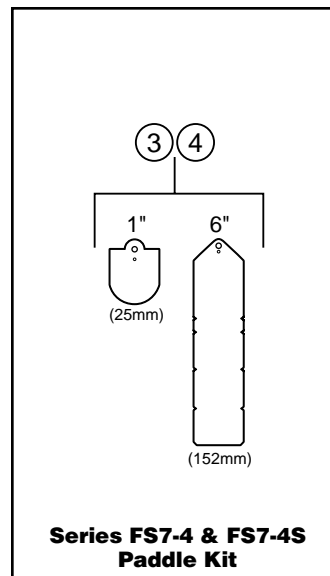
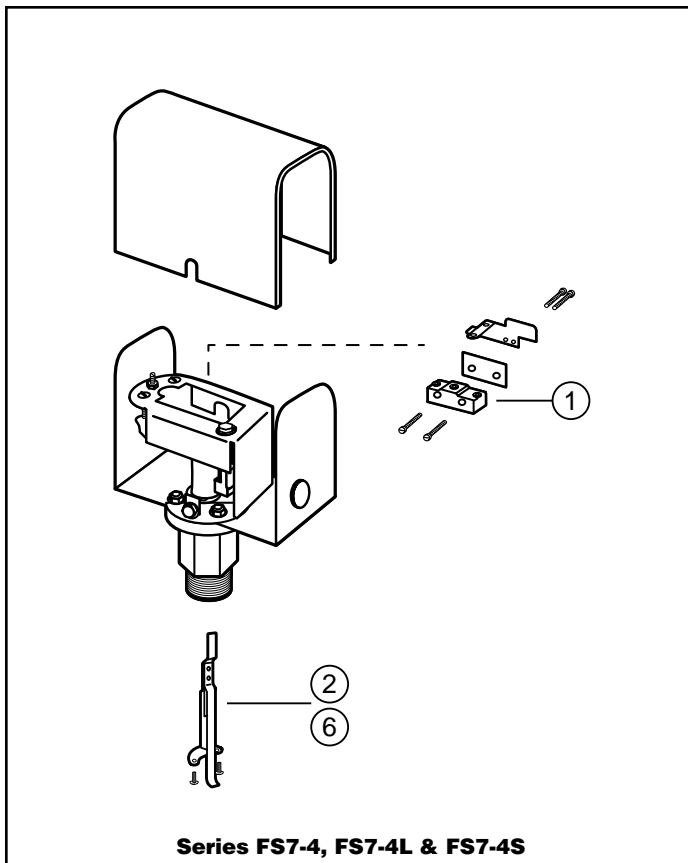
#### Components

For Series	Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
FS7-4					
FS7-4S	1	307000	FS7-31	SPDT switch	0.3 (.14)
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.



FLOW SWITCHES



## Flow Switches – Liquid

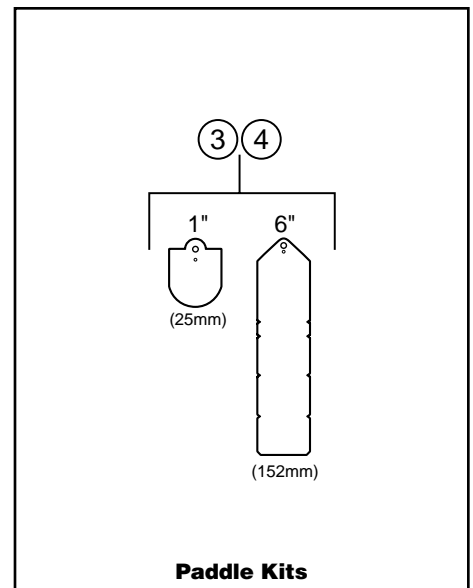
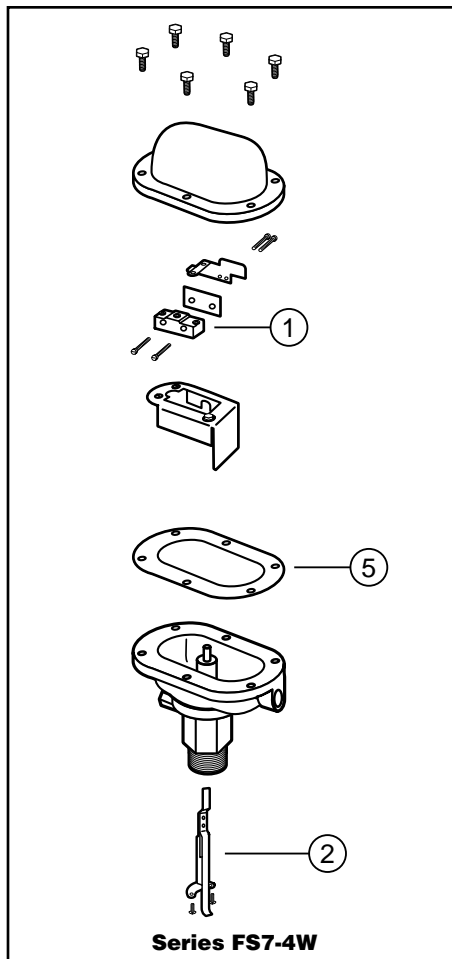
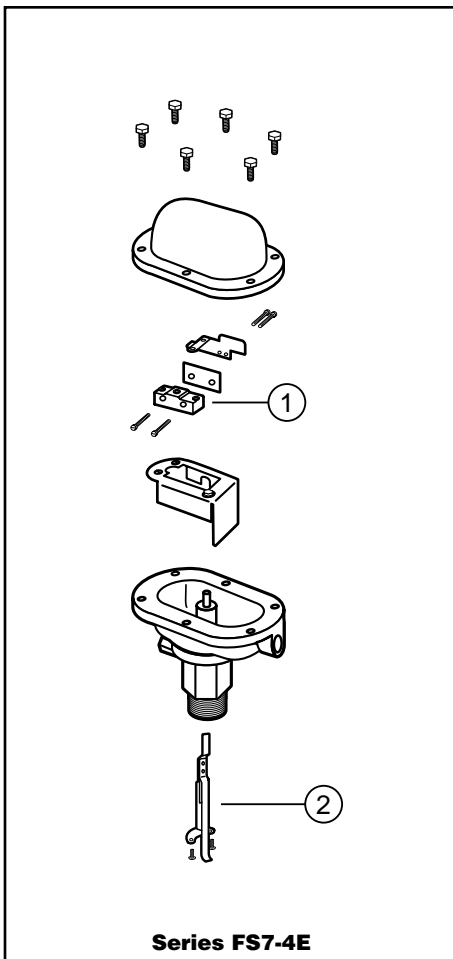
### Series FS7-4E & FS7-4W Industrial Liquid Flow Switches

#### 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)



Note: Paddle kits include screws and washers.



## Flow Switches – Air

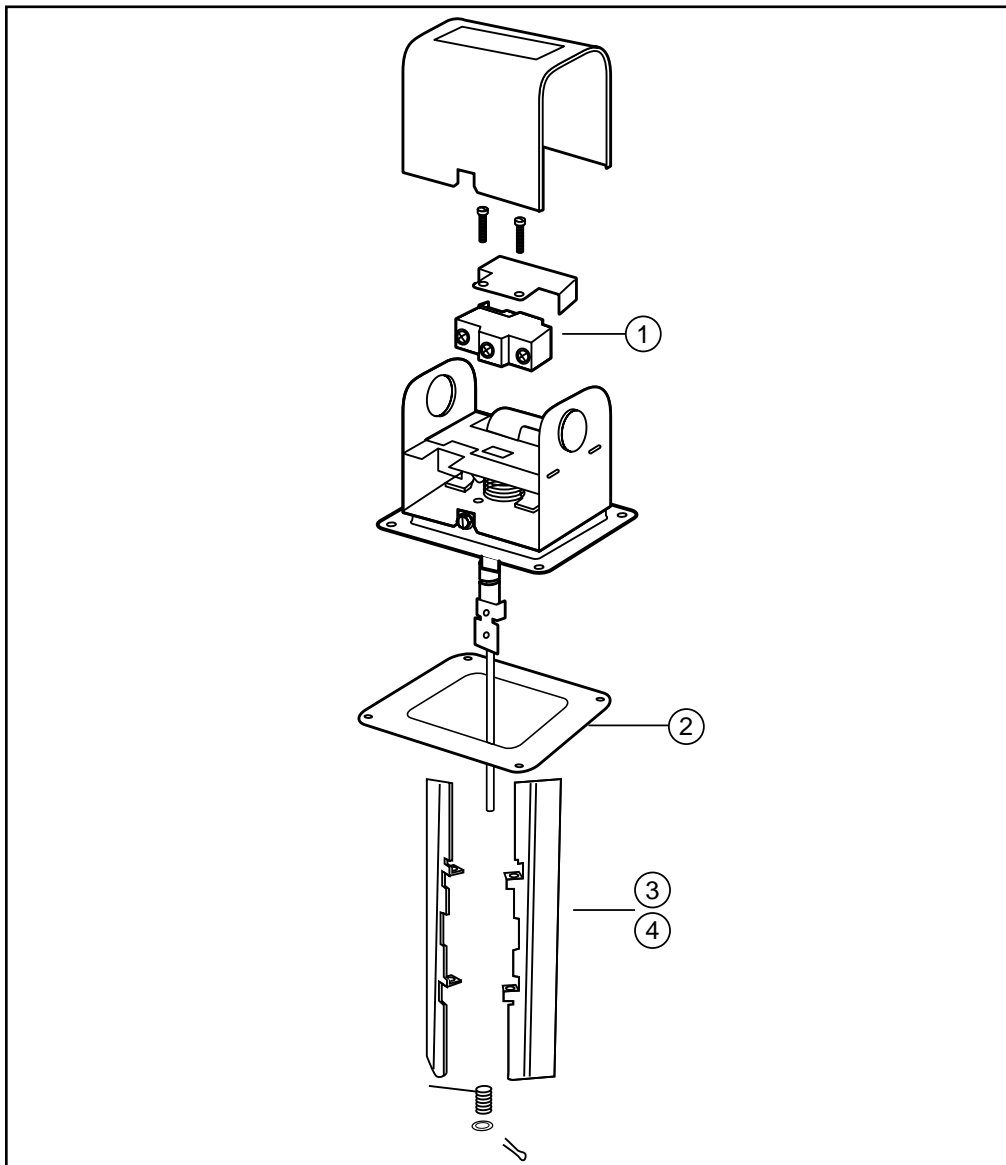
### Series AF1 Air Flow Switches

#### 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.



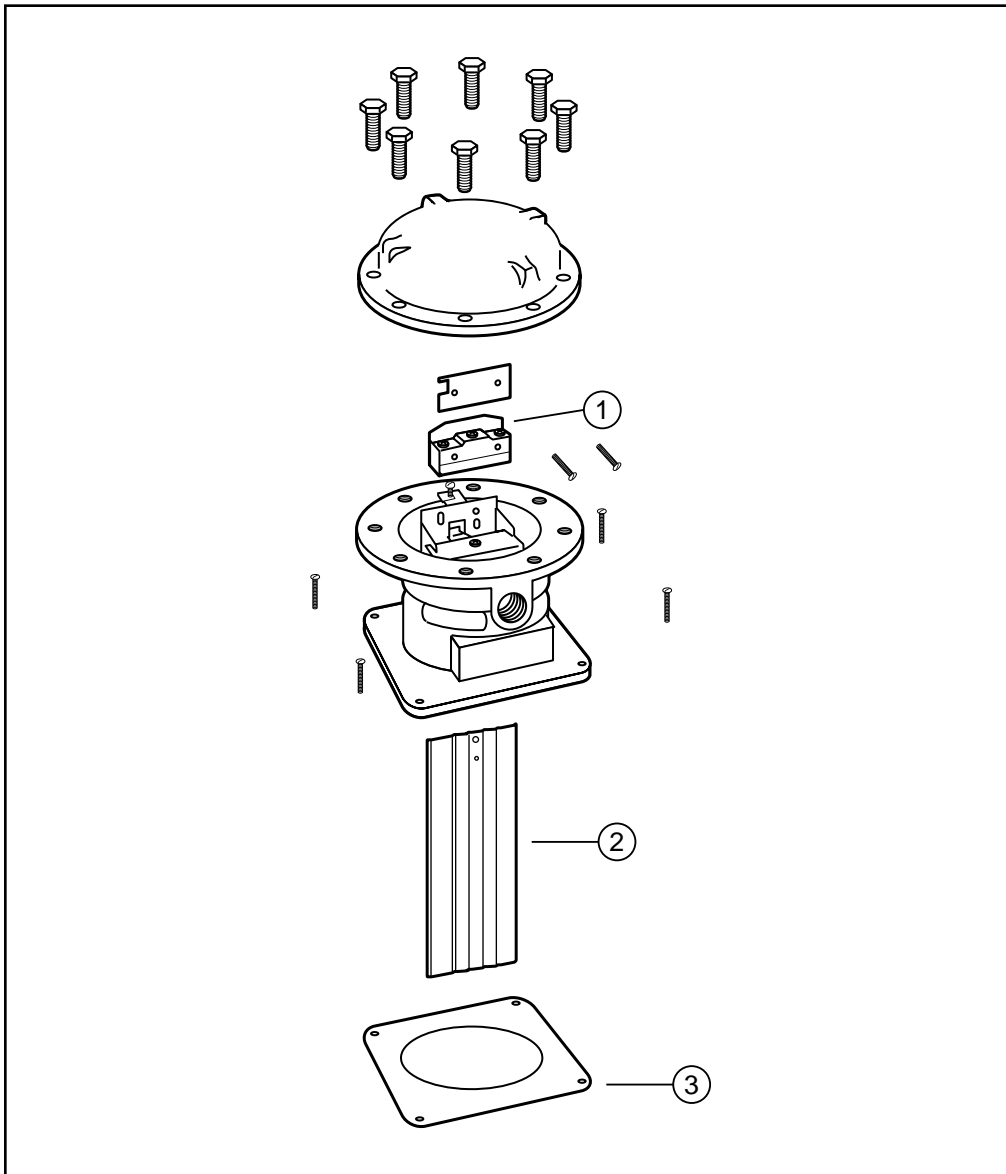
## Flow Switches – Air

### Series AFE-1 Air Flow Switches

#### Components

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)

Note: Paddle kits include screws and washers.



FLOW SWITCHES

## Flow Switches – Air

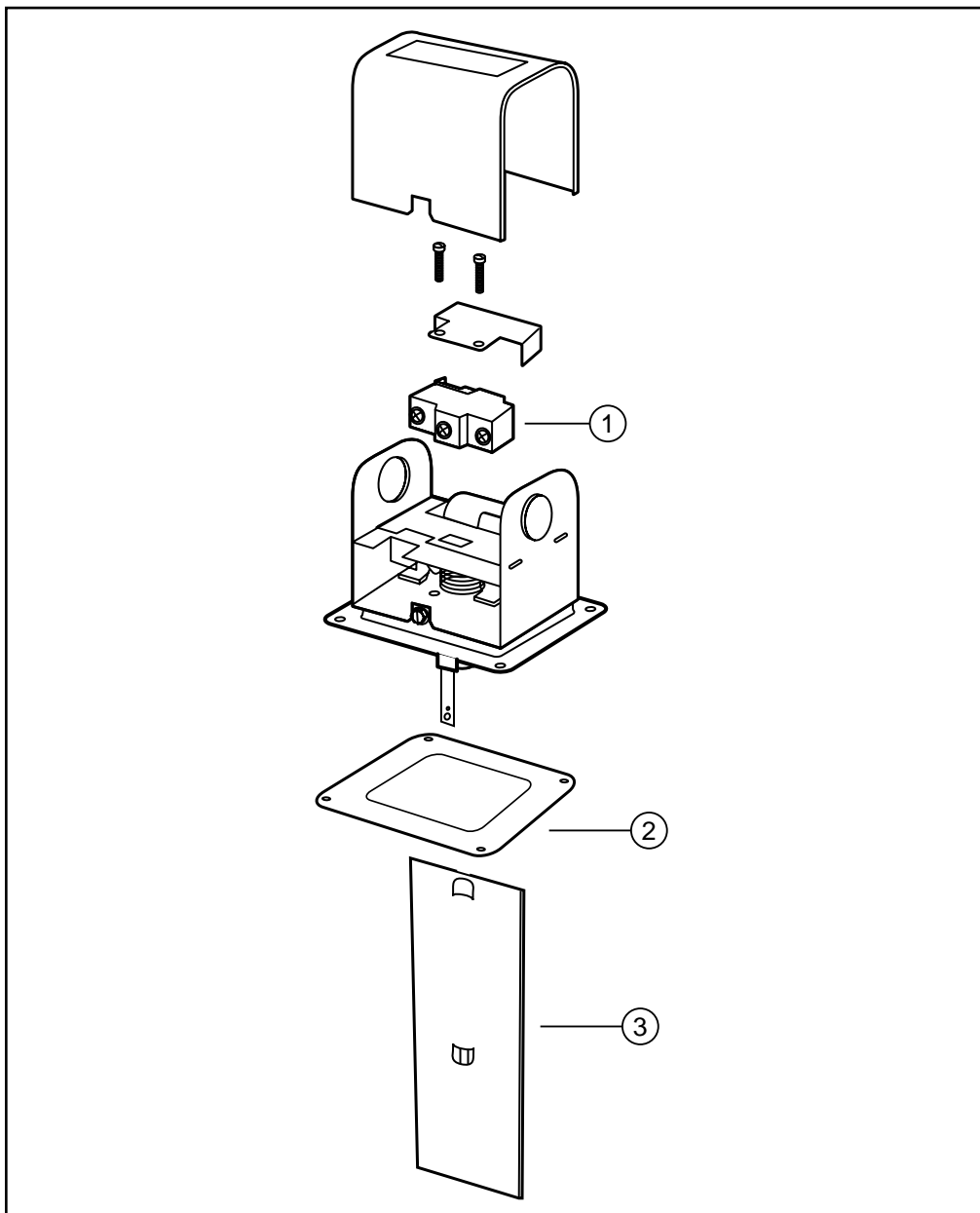
### Series AF2 Air Flow Switches

#### 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.



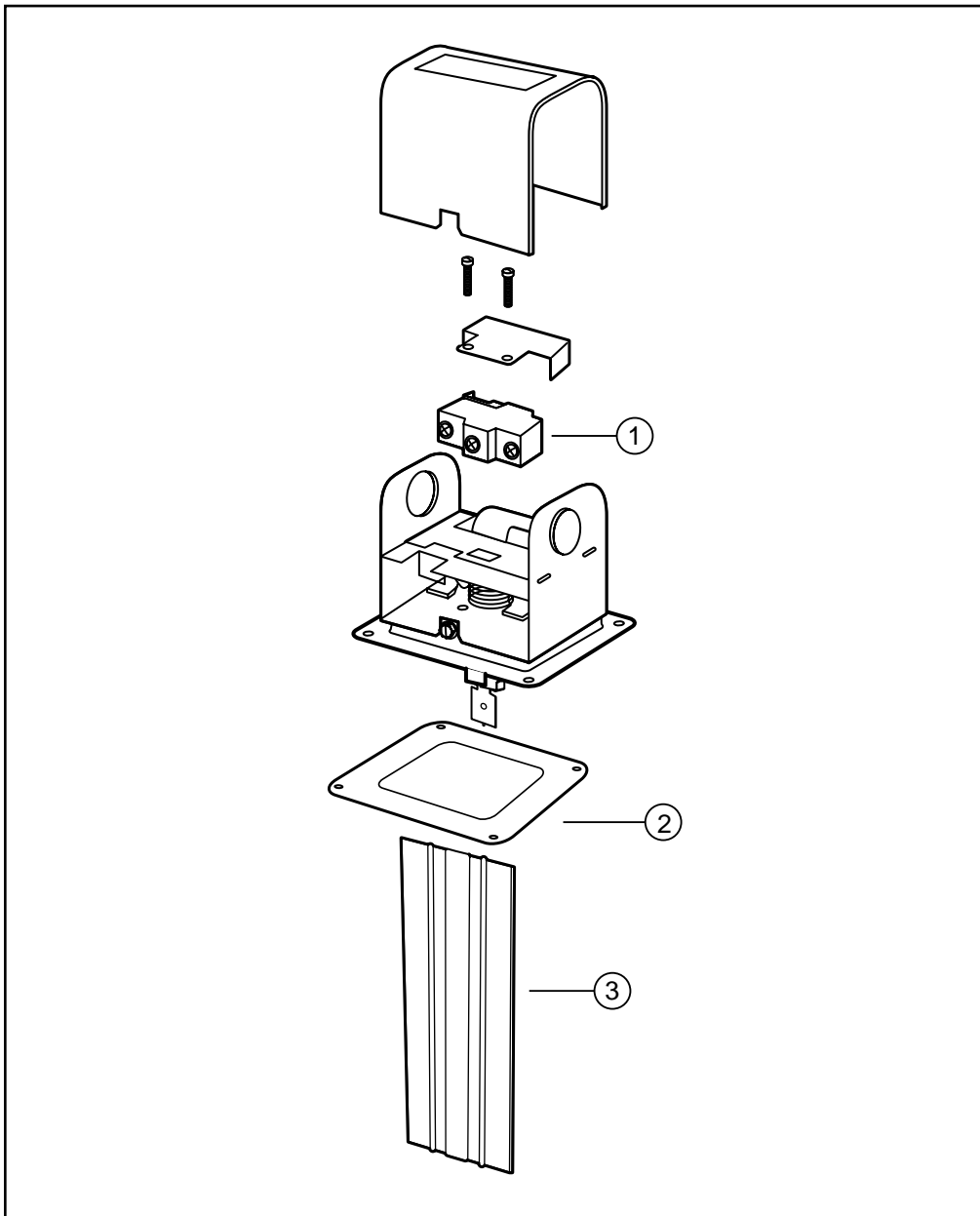
## Flow Switches – Air

### 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.



FLOW SWITCHES



This list enables you to quickly determine which parts are no longer available. Suitable replacement parts/kits are listed.

Part Number	Catalog Number	Description	Replacement/Where to Find
110500	6	Switch 1 Level	5 Switch
110600	6M	Switch 1 Level Man. Reset	5M Switch
125800	18A	Make-Up Water Feeder	Series 18 or 18LF
126100	418	Make-Up Water Feeder	Series 18 or 18LF
144625	900	Probe Level Control	Series PS851-120
144635	900-C	Probe Level Control	Series PS851-120
144650	900-M	Probe Level Control	Series PS851-M-120
144660	901	Probe Level Control	Series RB-120
144670	901-M	Probe Level Control	Series PS851-M-120
144680	902-M	Probe Level Control	Series PS851-M-120
153855	PS-801-24	Probe Control LWCO	Series PS-802-24
153856	PS-801-U-24	Probe Control LWCO	Series PS-802-U-24
153860	PS-801-M-24	Probe Control LWCO	Series PS-802-M-24
153891	PS-851-24	Probe Control LWCO	Series PS-852-24
153892	PS-852-M-24	Probe Control LWCO	Series PS-852-M-24
158419	PS-801-RX2-24	Probe Control LWCO	Series PS-802-RX2-24
162700	93-6	High Pressure Level Control	Series 93
162750	93-6-HD	Head Mechanism	93-HD
166200	94-6-HD	Head Mechanism	94-HDLS and 5 Switch
180100	VFC-1M-G	Float Level Control	Series VFS
180110	VFC-1A-G	Float Level Control	Series VFS
180120	VFC-1M-V	Float Level Control	Series VFS
180130	VFC-1A-V	Float Level Control	Series VFS
180140	VFC-2M-G	Float Level Control	Series VFS
180150	VFC-2A-G	Float Level Control	Series VFS
180160	VFC-2M-V	Float Level Control	Series VFS
180170	VFC-2A-V	Float Level Control	Series VFS
180180	VFC-3M-G	Float Level Control	Series VFS
180190	VFC-3A-G	Float Level Control	Series VFS
180200	VFC-3M-V	Float Level Control	Series VFS
180210	VFC-3A-V	Float Level Control	Series VFS
180220	VFS-1M-G	Float Level Control	Series VFS-V
180230	VFS-1A-G	Float Level Control	Series VFS-V
180260	VFS-2M-G	Float Level Control	Series VFS-V
180270	VFS-2A-G	Float Level Control	Series VFS-V
180300	VFS-3M-G	Float Level Control	Series VFS-V
180310	VFS-3A-G	Float Level Control	Series VFS-V
180810	PDC-1-GS	Pneumatic Displr Control	Series PFC or LPC-2000
180811	PDC-1-GR	Pneumatic Displr Control	Series PFC or LPC-2000
301900	C-35	Lock Nut	CO-106
302400	CO-8	Adjusting Screw	CO-106
304600	FS4-15	Replacement Paddle 1 in.	FS4-15 Paddle Kit
304700	FS4-16	Replacement Paddle 2 in.	FS4-15 Paddle Kit
304800	FS4-17	Replacement Paddle 3 in.	FS4-15 Paddle Kit
304900	FS4-25	Replacement Paddle	FS4-3T-25 Paddle Kit
305500	FS4-37	Replacement Paddle 6 IN	FS4-15 Paddle Kit
305700	FS4T-40	Replacement Paddle	FS4-3T-25 Paddle Kit
305800	FS4T-41	Replacement Seal	FS4-3T-25 Paddle Kit
306500	FS7-118	Replacement Paddle	FS7-28 Paddle Kit
306600	FS7-27	Replacement Paddle	FS7-28S Paddle Kit
307350	FS7S-27	Replacement Spring	Series FS1, FS6 & FS7
308800	XF-36	Screw Replacement	3/8-16 x 1 Hex Steel Cap Screw
309900	17-27	Replacement Washer	Series 18
310000	17-28	Replacement Washer	Series 18
310100	17-29	Replacement Nut	Series 18
310200	17-36	Replacement Washer	Series 18
310449	SA42-5	Bellows Assembly	Series 42 or 42-HD
310454		Isolation Gasket	SA-150-106R
313300	37-43	Brass Nipple 1/2 x 3-1/2	MA559
313400	37-58	Brass Nipple 1/2x2-1/4	MA559
313650	37-134	Screw 4/Box	5/16-18 x 3/4 Fillister Head Machine Screw
314500	47-3	Valve Bracket	Replacement Bellows
314600	47-11	Pin	CO-106
314900	47-49	MA-259 Union Tail	SA259-24
315000	47-58	MA-259 Nipple	SA259-24
316100	51-14	Valve Seat	SA21-6 or SA53-6
316400	59-18	MA-259 Washer	SA159-17
316500	59-21	MA-259 Tube	SA159-17
316600	59-27	MA-259 Packing	SA159-17
318100	66-32	1/2 Brass Tee	MA559



Part Number	Catalog Number	Description	Replacement/Where to Find
318200	66-33	1/2 Compression Tee	SA66-35
318300	66-35	90° Brass Tube	SA66-35
318400	66-36	1/2 x 3/4 Fitting	SA66-35
318600	66-102	66-102 Retaining Ring	SA64-2 or SA67-2
318700	66-133	1/2 Double Compression Fitting	SA66-35
320600	69-113	69 Clamp	SA-69-104
321900	91-39	Gasket	93-HDLS or 94-HDLS
322000	91-43	Replacement Bushing	93-HDLS or 94-HDLS
322100	91-44	Replacement Pin	93-HDLS or 94-HDLS
322200	91-64	Replacement Screw	93-HDLS or 94-HDLS
322300	91-65	Replacement Screw	93-HDLS or 94-HDLS
322400	91-66	Replacement Stud	93-HDLS or 94-HDLS
322500	91-68	Replacement Stud	93-HDLS or 94-HDLS
322600	91M-76	Replacement Spring	93-HDLS or 94-HDLS
322900	91-158	Replacement Stop	93-HDLS or 94-HDLS
325300	150-9	Bellows Gasket	SA-150-106R
328400	159-17	MA-259 Tee	SA159-17
328600	159-34	MA-259 Tail Fitting	SA159-17
328700	159-35	MA-259 Cap	SA159-17
328800	159-36	Nut	SA159-17, SA159-24 or SA259-24
328900	159-37	MA-259 Gasket	SA159-17
336200		Bellows Replacement for FS4-3T	Series FS4-3T
336500	SA-FS1-13	Diaphragm Assembly	Series FS1, FS1-W
337100	SA-FS6-13	Diaphragm Assembly	Series FS6, FS6-W
337200	SAFS7-4	Valve Body	Series FS7
337400	SAFS7-4R-4	Replacement Paddle	Series FS7S-4R-4
338500	SA7-3	Slide Wire	Series 7B-1R
338850	SA14-215	Valve Seal	Series 14-B
339100	SA18-6	Valve Body Assembly	Series 18
339300	SA18-15	Replacement Seat Assembly	Series 18
339400	SA18-30	Float & Rod Assembly	Series 18
341000	SA42-30	Float & Rod	New Unit
343300	SA63-18	Switch Arm Assembly	SA63-5
343700	SA65-5R	Bellows Base Assembly	Control or Replacement Head Mechanism
344600	SA91-4	Seal Tube	93-HDLS or 94-HDLS
344900	SA91-110BR	Spring Assembly	SA91-30B
345200	SA91-110PR	Spring Assembly	SA91-30P
345400	SA91-33	Magnet Assembly	93-HDLS or 94-HDLS
345800	SA91-128	Contact Assembly	93-HDLS or 94-HDLS
346000	SA92-60	Float Assembly	SA91-60
346200	SA93-60	Float Assembly	SA91-60
346300	SA93-128	Arm Assembly	93-HDLS or 94-HDLS
346651		Solenoid (101A-120V)	Series 101A-120
347010		Solenoid (101A-24V) Old Type	Series 101A-24
347011		Head Assembly (101A-120 V)	Series 101A-120
347012		Head Assembly (101A-24 V)	Series 101A-24
347013		Solenoid (101A-24 V)	Series 101A-24
347200	SA101-102	Valve & Strainer Assembly	Series 101A
347500	SA118-30	SA118-30 Float & Rod	Series 18
353026		900 Series Probe w/Flange	Series PS-851
354315		Tower Tube Assembly for VFC	Series VFS or PFC
354325		Float Rod & Armature	Series VFS
354326		Bearing Assembly	Series VFS or PFC
354330		Switch SPDT for VFC	SWA-VFS
354340		Switch SPST for VFC	SWA-VFS
354350		Switch Module	SWA-VFS
354360		Switch Module SPST for VFC	SWA-VFS
354362		Snap Switch Module SPST for VFC	SWA-VFS
354413		Valve Assembly	SWA-PFC-D or SWA-PFC-R

## LEVEL & BOILER CONTROLS

Part Number	Catalog Number	Part Number	Catalog Number	Part Number	Catalog Number
110000	2	308050	SA2-7	339900	SA25A-6
110100	2M	309000	7B-1R	340000	SA25A-15
110300	5	309100	11	340100	SA27W-6
110400	5M	309151	11M	340400	SA27T-75
110800	7B	309200	11MV	340600	SA37-30
110900	7BM	310447	14-B	340700	SA37-38
127100	25A HD	310452	CTRD-51	341300	SA42-125
129500	42-HD	310453	CTRD-101	341500	SA47-4
129502	42S-HD	310462	SWA150S	341600	SA47-101-102
134900	51-HD	310463	SWA150S-M	341700	SA47C-101-102
135100	51-2-HD	310464	SWA150S-MD	341900	SA47-104
135300	51-2M-HD	310468	SWA158S	342100	SA51S-6
135800	51S-HD	310469	SWA158S-M	342200	SA51-9
136200	51S-2-HD	310470	SWA159	342300	SA51-9R
136250	51S-2M-HD	310471	SWA-PFC-D	342500	SA51-101-102
136600	551S-HD	310472	SWA-PFC-R	342800	SA53-6
137000	53-HD	310473	STR-WF2	343100	SA60-30
137250	53-2M-HD	310600	21-3	343200	SA63-5
137300	53-2-HD	310800	21-12	343400	SA63-30
137800	3155-HD	311100	21-27	343500	SA64-2
140300	61-HD	311200	21-30	343600	SA64-30
142600	63-HD	311400	21-109	343800	SA65-25
143200	63-M-HD	311450	21-130	344000	SA65-125
144251	64-M-HD	311800	27-9	344100	SA66-35
144400	64-HD	311900	27T-9	344200	SA67-2
146900	65-HD	312100	27T-13	344300	SA69-104
147000	65R-HD	312400	27T-70	344800	SA91-30B
147200	165-HD	312600	37-20	345000	SA91-30P
147350	165R-HD	312700	37-26	345150	SA7-30
153825	6667	312800	37-27	345700	SA91-60
153850	6667-MV	312850	37-27R	347100	SA101-38
158200	80-HD	312900	37-28	347600	SA150-11
1162400	93-HD	312950	37-28R	347900	SA150-106R
162402	93-HDLS	313200	37-39	348100	SA150-124
162600	93-M-HD	313600	37A-130	348200	SA150M-124
163200	93-7B-HD	315450	47-171	348300	SA150-125
163300	93-7BM-HD	316200	51S-114	348900	SA150M-436
165300	94-HD	317350	TC-U	349400	SA159-17
165302	94-HDLS	317353	TC-L	349500	SA159-24
165500	94A	317354	TC-V	351800	SA259-24
165700	94A-7B	317600	65-11	352250	SA356-4R
165800	94AM	318800	67-12	352255	SA357-6R
165900	94M	318826	69-113	352600	SA551S-101-102
166000	94-M-HD	318827	69-114	352800	SA847-4
166300	94-7B	320100	68-12	352925	SA851S-4
166400	94-7B-HD	320500	69-112	353155	SA3155-6
166500	94-7BM-HD	323300	92-68	354081	PA-800
173000	150-HD	324100	101-24V-48	354082	PA-RB-120
173003	150S-HD	324435	37-101	354083	PA-RB-120II
173100	150-MD-HD	325400	150-14	354106	EA-157-L
173103	150S-MD-HD	325500	150-14H	354107	EA-157-S
173200	150-M-HD	326950	150-436	354140	PA-800-RX2
173203	150S-M-HD	327500	155-14	354141	PA-800-U
173300	150-M-MD-HD	328300	MA159	354310	GSKT-PFC
173302	150S-M-MD-HD	328500	159-24	354320	FLT-PFC
178000	157R158HD	329000	165G-39	354361	SWA-VFS
178001	157R158S-HD	332800	MA259	354370	GSKT-RS-1
178600	158-HD	333600	355-16	354380	GSKT-VFS-1
178602	158S-HD	333800	355-73	354401	EA-RS
178700	158-M-HD	333850	355-73R	354410	GSKT-RS-2
178702	158S-M-HD	334100	421-30	354411	G-PFC-S
178900	159-HD	334600	MA559	354412	G-PFC-O
178902	159S-HD	335400	847-26	310480	FLT-51
302500	CO-11	335700	851-105	310481	BA-51
302600	CO-12	335750	851S-105	310482	FLT-53
302900	CO-106	339500	SA21-6	310483	BA-53
304100	F-26	339700	SA21-38R	310484	BA-551
308000	S-2	339800	SA25-5	310485	BA-3155

## FLOW SWITCHES

Part Number	Catalog Number	Part Number	Catalog Number	Part Number	Catalog Number
300311	FS1/6W-GS KT	307400	FS8W-12	337650	FS7-VL-4R-4
301200	AF1-21	308300	AFE-1-122	337900	FS7-28L
301400	AF2-122	301478	FS8-33		
301450	AF3-122	301451	FS4-15SS		
303400	E-2-SPR	317352	AFE-1-21		
303401	E-2-GSKT	334800	612		
304290	FS1-14	334900	612R		
304300	FS1-17	336000	AF1-122		
304400	FS4-3COV	336050	AF1-S-122		
305200	FS4-33	336100	E-2-PDL		
305512	FS4-3D-17	336101	FS4-15RP		
306700	FS7-28	336800	FS4-15		
306800	FS7-28S	336801	FS4-15F		
307000	FS7-31	336900	FS4-3T-25		
307200	FS7W-43	337550	FS7S-4R-4		

# LEVEL AND BOILER CONTROLS

Part Number	Catalog Number	Description	Where Used	Page
110000	2	CUTOFF/ALARM SWITCH	47, 51, 53, 63	46, 50, 54, 8
110100	2M	CUTOFF/ALARM SW W/MAN RESET	47, 51, 53, 63	46, 50, 54, 8
110300	5	SWITCH 2 LEVELS	93, 193, 94, 194	24, 26
110400	5M	SWITCH 2 LEVELS MAN RESET	93, 193, 94, 194	24, 26
110800	7B	PROPORTIONING LWCO SWITCH	93, 193, 94, 194	24, 26
309000	7B-1R	RESISTOR/SLIDE WIRE KIT	7B, 93, 193, 94, 194	24, 26
110900	7BM	PROPORTIONING LWCO SWITCH	93, 193, 94, 194	24, 26
309100	11	SWITCH REPLACEMENT	61, 64, 67, 69, 70	7, 10, 14, 18, 19
309151	11M	CONVERSION/REPLACEMENT KIT	11, 64, 67	10, 12, 14, 16, 18
309200	11MV	REPLACEMENT SWITCH	67G, 69MV	14, 18
310447	14-B	BLOW DOWN BALL VALVE	47, 67, 70B	46, 14, 19
310600	21-3	REPLACEMENT BRACKET	21	37
310800	21-12	GASKET	21	37
311100	21-27	GASKET	21, 25A, 27	37, 38, 61
311200	21-30	REPLACEMENT FLOAT	21	37
311400	21-109	REPLACEMENT CONNECTOR	21	37
127100	25A HD	HEAD MECHANIS	25A	38
311800	27-9	FLOAT & NIPPLE REPLACEMNT	27W	61
311900	27T-9	REPLACEMENT NIPPLE	25A	38
312100	27T-13	GASKET	25A	38
312400	27T-70	REPLACEMENT STUD	25A	38
312600	37-20	REPLACEMENT COVER	551, 51S, 851, 53B	41, 52, 43, 54
312700	37-26	GASKET	47	46
312800	37-27	GASKET	47, 51, 53, 3155	46, 50, 54, 45
312900	37-28	GASKET	53, 3155, 21, 25A, 51	54, 45, 37, 38, 50
313200	37-39	GASKET	47, 53, 67, 70	46, 54, 14, 19
324435	37-101	TETRASEAL O-RING	21, 25A, 47, 51, 53, 101A	37, 38, 46, 52, 54, 36
313600	37A-130	REPLACEMENT FLOAT	847, 851	42, 43
129500	42-HD	HEAD MECHANISM	42, 42A	20
129502	42S-HD	HEAD MECHANISM	42S, 42S-A	22
315450	47-171	REPLACEMENT CAP	47, 247	46, 49
135100	51-2-HD	HEAD MECHANISM	51-2	50
135300	51-2M-HD	HEAD MECHANISM	51-2M	50
134900	51-HD	HEAD MECHANISM	51	50
135800	51S-HD	HEAD MECHANISM	51S	52
136200	51S-2-HD	HEAD MECHANISM	51S-2	52
136250	51S-2M-HD	HEAD MECHANISM	51S-2M	52
316200	51S-114	SEAT	51S	52
137300	53-2-HD	HEAD MECHANISM	53-2	54
137250	53-2M-HD	HEAD MECHANISM	53-2M	54
137000	53-HD	HEAD MECHANISM	53	54
140300	61-HD	HEAD MECHANISM	61	7
142600	63-HD	HEAD MECHANISM	63	8
143200	63-M-HD	HEAD MECHANISM	63M	8
144400	64-HD	HEAD MECHANISM	64	10
144251	64-M-HD	HEAD MECHANISM	64M	10
317600	65-11	GASKET	65, 65R, 165, 165R	62, 64
146900	65-HD	HEAD MECHANISM	65	62
147000	65R-HD	HEAD MECHANISM	65R	62
318800	67-12	GASKET	61, 64, 67, 70, 80	7, 10, 14, 19, 63
320100	68-12	GASKET	70	19
320500	69-112	GASKET	69	18
318826	69-113	O-RING	69	18
318827	69-114	O-RING	69	18
158200	80-HD	HEAD MECHANISM	80, E-8	63, 60
323300	92-68	GASKET	94, 194	26
162400	93-HD	HEAD MECHANISM	93, 193	24
162402	93-HDLS	HEAD MECHANISM LESS SWITCH	93, 193	24
162600	93-M-HD	HEAD MECHANISM	93M, 193M	24
163200	93-7B-HD	HEAD MECHANISM	93-7B, 193-7B	24
163300	93-7BM-HD	HEAD MECHANISM	93-7BM, 193-7BM	24
165300	94-HD	HEAD MECHANISM	94, 194	26
165302	94-HDLS	HEAD MECHANISM LESS SWITCH	94, 194	26
166000	94-M-HD	HEAD MECHANISM	94M, 194M	26
166400	94-7B-HD	HEAD MECHANISM	94-7B, 194-7B	26
166500	94-7BM-HD	HEAD MECHANISM	94-7BM, 194-7BM	26
324100	101-24V-48	TRANSFORMER	101A-24	36
325400	150-14	GASKET	93, 193, 150 Series	24, 28, 30
325500	150-14H	GASKET	150 Series w/Raised Face	28, 30
326950	150-436	JUNCTION BOX COVER	42, 150 Series	20, 28, 30
173000	150-HD	HEAD MECHANISM	150 Series	28, 30

Part Number	Catalog Number	Description	Where Used	Page
171640	150E-HD	HEAD, AUTOMATIC RESET	150E	34
310492	150E-PF	FLANGE/PROBE ASSEMBLY	150E	34
310490	150E-CU	CONTROL UNIT, AUTOMATIC RESET	150E	34
173003	150S-HD	HEAD MECHANISM	150 Series	28, 30
173200	150-M-HD	HEAD MECHANISM	150-M Series	28
173203	150S-M-HD	HEAD MECHANISM	150-M Series	28
173100	150-MD-HD	HEAD MECHANISM	150-MD Series	28
173103	150S-MD-HD	HEAD MECHANISM	150-MD Series	28
173300	150-M-MD-HD	HEAD MECHANISM	150-M-MD Series	28
173302	150S-M-MD-HD	HEAD HECHANISM	150-M-MD Series	28
327500	155-14	SEAT FOR 3155	3155	45
178600	158-HD	HEAD MECHANISM	158	28
178602	158S-HD	HEAD MECHANISM	158	28
178700	158-M-HD	HEAD MECHANISM	158M	28
178702	158S-M-HD	HEAD MECHANISM	158M	28
328500	159-24	QUICK HOOK-UP Y FITTING	42A, 47, 64A, 67	20
178900	159-HD	HEAD MECHANISM	159	28
178902	159S-HD	HEAD MECHANISM	159	28
329000	165G-39	GASKET	165	64
147200	165-HD	HEAD MECHANISM	165	64
147350	165R-HD	HEAD MECHANISM	165R	64
333600	355-16	GASKET	3155	45
333800	355-73	GASKET	3155	45
334100	421-30	REPLACEMENT FLOAT	25A, 27	38, 61
136600	551S-HD	HEAD MECHANISM	551S	41
335400	847-26	GASKET	21, 847, 851	37, 42, 43
335700	851-105	FLOAT ROD	851	43
335750	851S-105	FLOAT ROD	851S	43
137800	3155-HD	HEAD MECHANISM	3155	45
153825	6667	HEAD MECHANISM	67, 69	14, 18
153850	6667-MV	HEAD MECHANISM	67G	14
310481	BA-51	BELLOWS ASSY.	51	50
310483	BA-53	BELLOWS ASSY.	53	54
310484	BA-551	BELLOWS ASSY.	551, 551S	41
310485	BA-3155	BELLOWS ASSY.	3155	45
302500	CO-11	GASKET	E-28, 63	8
302600	CO-12	GASKET	42, 61, 63, 64, 65, 42S	20, 7, 8, 10, 62, 22
302900	CO-106	CAM	47, 51, 53, 63	46, 50, 54, 8
310452	CTRD-51	CART/STRNR	51, 851	50, 43
310453	CTRD-101	CART/STRNR	101A, 47, 247, 847	36, 46, 49, 42
354106	EA-157-L	ELECTRODE LONG	157-RBP	28
354107	EA-157-S	ELECTRODE SHORT	157-RBP	28
354401	EA-RS	ELECTRODE	RS UNITS	57
304100	F-26	GASKET	221, 25A, 51, 53, 3155	40, 38, 50, 54, 45
310480	FLT-51	FLOAT	51, 3155	50, 45
310482	FLT-53	FLOAT	53	54
354320	FLT-PFC	FLOAT	VFC, VFS, PFC	59, 58
354412	G-PFC-O	OUTPUT GAUGE	PFC	58
354411	G-PFC-S	SUPPLY GAUGE	PFC	58
354310	GSKT-PFC	COVER GASKET	VFC, VFS, PFC	59, 58
354370	GSKT-RS-1	COVER GASKET	RS1-BR1	57
354410	GSKT-RS-2	COVER GASKET	RS2-BR1	57
354380	GSKT-VFS-1	COVER GASKET	VFC, VFS	59
328300	MA159	QUICK HOOK-UP FITTINGS	42A, 47, 64A, 42S-A	20, 46, 10, 22
332800	MA259	QUICK HOOK-UP FITTINGS	42A, 47, 64A	20, 46, 10
334600	MA559	QUICK HOOK-UP FITTINGS	67	14
354081	PA-800	PROBE STANDARD	PS 800, 850 Series w/Remote Probe	5
354140	PA-800-RX2	PROBE REMOTE	PS 800, 850 Series	5
354141	PA-800-U	PROBE LONG BARREL	PS 800, 850 Series w/Extended Probe	5
354082	PA-RB-120	PROBE SHORT	RB-120, PS 851/852 SP Series	6, 5
354083	PA-RB-122	PROBE RB-122	RB-122	6
308000	S-2	SWITCH COVER REPL	11, 61, 64, 67, 69, 70, 80	7, 10, 12, 14, 16, 18, 19, 63
308050	SA2-7	SWITCH COVER REPLACEMENT	2, 47, 51, 53, 63	46, 52, 50, 54, 8
345150	SA7-30	TERMINAL PANEL FOR 7B	7B, 93, 193, 94, 194	24, 26
339500	SA21-6	VALVE ASSEMBLY	21	37
339700	SA21-38R	STRAINER ASSEMBLY	21	37

Part Number	Catalog Number	Description	Where Used	Page
339800	SA25-5	ARM ASSEMBLY	25A	38
339900	SA25A-6	VALVE SUBASSEMBLY	25A	38
340000	SA25A-15	STEM & DISC ASSEMBLY	25A	38
340400	SA27T-75	DIAPHRAGM SEAL ASSEM.	25A	38
340100	SA27W-6	VALVE MECHANISM ASSEM.	27W	61
340600	SA37-30	FLOAT ASSEMBLY	47	46
340700	SA37-38	STRAINER BASKET ASSEM	51S, 53	52
341300	SA42-125	TWO WIRE PUMP SWITCH	42	20
341500	SA47-4	LARGE BELLOWS ASSEMBLY	47	46
341900	SA47-104	BELLOWS ASSEMBLY	247	49
341600	SA47-101-102	VALVE & STRAINER	47, 247, 847	46, 49, 42
341700	SA47C-101-102	VALVE & STRAINER	47C	46
342500	SA51-101-102	VALVE & STRAINER	51, 851	50, 43
342200	SA51-9	STRAINER ASSEMBLY	51	50
342300	SA51-9R	STRAINER ASSEMBLY	25A	38
342100	SA51S-6	VALVE ASSEMBLY	51S	52
342800	SA53-6	VALVE ASSEMBLY	53	54
343100	SA60-30	FLOAT ASSEMBLY	65	62
343200	SA63-5	BELLOWS ASSEMBLY	63	8
343400	SA63-30	FLOAT ASSEMBLY	63	8
343500	SA64-2	BELLOWS BASE ASSEMBLY	64	10
343600	SA64-30	FLOAT ASSEMBLY	64	10
343800	SA65-25	SWITCH-DA	65	62
344000	SA65-125	SWITCH-RA	65R	62
344100	SA66-35	TUBE ASSEMBLY	67	14
344200	SA67-2	FLOAT & BELLOWS ASSEM.	61, 67, 69, 70	7, 14, 18, 19
344300	SA69-104	REPLACEMENT SHIELD	69 Series	18
344800	SA91-30B	BURNER SWITCH	5, 6, 93, 193, 94, 194	24, 28
345000	SA91-30P	PUMP SWITCH	5, 93, 193, 94, 194	24, 28
345700	SA91-60	FLOAT	93, 193, 94, 194	24, 28
347100	SA101-38	STRAINER BASKET ASSEM	47, 51, 101	46, 50, 36
347600	SA150-11	FLOAT & ROD	150 Series	28
347900	SA150-106R	BELLOWS ASSEMBLY	150 Series	28
348100	SA150-124	3 WIRE SWITCH	42, 150 Series (Non "S")	20, 28
348300	SA150-125	2 WIRE SWITCH	42, 150 Series (Non "S")	20, 28
348200	SA150M-124	3 WIRE SWITCH	150 Series (Non "S")	28
310462	SWA150S	SNAP SWITCH ASSM.	150S	30
310463	SWA150S-M	SNAP SWITCH ASSM.	150S-M, 150S-M-MD	30
310464	SWA150S-MD	SNAP SWITCH ASSM.	150S-MD	30
310468	SWA158S	SNAP SWITCH ASSM.	158S	30
310469	SWA158S-M	SNAP SWITCH ASSM.	158S-M	30
310470	SWA159	SNAP SWITCH ASSM.	159	28
348900	SA150M-436	JUNCTION BOX COVER	150 Series	28
349400	SA159-17	BLACK Y ASSEMBLY	42A, 47, 64A, 42S-A	22, 46, 10, 22
349500	SA159-24	LOWER QUICK HOOK-UP	42A, 47, 64A, 67, 42S-A	20, 46, 10, 14, 22
351800	SA259-24	UPPER QUICK HOOK-UP	47, 42A, 42S-A	46, 20, 22
352600	SA551S-101-102	VALVE/STR ASM	551S	41
352800	SA847-4	BELLOWS ASSEMBLY	847	42
352925	SA851S-4	BELLOWS ASSEMBLY	851, 851S	43
353155	SA3155-6	VALVE ASSEMBLY	3155	45
310473	STR-WF2	STRAINER & ORFICE KIT	WF-2 FEEDERS	35
310471	SWA-PFC-D	VALVE ASSEMBLY-DA	PFC-1-G	58
310472	SWA-PFC-R	VALVE ASSEMBLY-RA	PFC-1-GR	58
354361	SWA-VFS	SWITCH MODULE	VFS	59
317353	TC-L	REPLACEMENT LOWER VALVE	TC-4	56
317350	TC-U	REPLACEMENT UPPER VALVE	TC-4	56
317354	TC-V	VACUUM BRKR & GASKET	TC-4	56

# FLOW SWITCHES

Part Number	Catalog Number	Description	Where Used	Page
336000	AF1-122	PADDLE KIT	AF1	73
301200	AF1-21	GASKET	AF-1, 2, 3	73, 75, 76
336050	AF1-S-122	PADDLE KIT	AF1-S	73
301400	AF2-122	PADDLE KIT	AF-2	75
301450	AF3-122	PADDLE KIT	AF-3, AFE-1	76, 74
308300	AFE-1-122	PADDLE KIT	AFE-1	74
317352	AFE-1-21	GASKET	AFE-1	74
304290	FS1-14	GASKET	FS1, FS6	69, 70
304300	FS1-17	REPLACEMENT SWITCH	FS1,4-3D,5,6,AFE-1	69, 65, 67, 70, 73
300311	FS1/6W-GSKT	O-RING SQUARE CUT	FS1-W, FS6-W	69, 70
336800	FS4-15	PADDLE KIT	FS4-3, FS8-W	65, 68
336801	FS4-15F	PADDLE KIT	FS4-3F	65
336101	FS4-15RP	PADDLE KIT	FS4-3RP	65
305200	FS4-33	REPLACEMENT SWITCH	All FS4-3's (Except D's)	65
304400	FS4-3COV	COVER	FS4-3, AF-1,2 &3	65, 73, 75, 76
305512	FS4-3D-17	SWITCH	FS4-3D's	65
336900	FS4-3T-25	PADDLE KIT	FS4-3T's	65
306700	FS7-28	PADDLE KIT	FS7-4	71
306800	FS7-28S	PADDLE KIT	FS7-4S	71
337900	FS7-28L	REPLACEMENT PADDLE	FS7-4L	71
307000	FS7-31	REPLACEMENT SNAP SWITCH	FS7-4,AF-1,2&3,VFS	71, 73, 75, 76, 59
337650	FS7-VL-4R-4	LONG PADDLE ARM	FS7-4L	71
337550	FS7S-4R-4	PADDLE ARM KIT	FS7-4 & 4S	71
307200	FS7W-43	GASKET	FS7-4W	72
307400	FS8W-12	O-RING	FS8-W	72

## Warranty Policy

ITT 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 ITT McDonnell & Miller and all Hoffman Specialty products furnished by it are free from defects in materials and workmanship.

ITT McDonnell & Miller's liability for any breach of this Warranty shall be limited solely to replacement or repair at the sole option of ITT 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 ITT McDonnell & Miller of any breach of this warranty, within the aforementioned Warranty Period by notifying the ITT McDonnell & Miller representative with responsibility for servicing the Buyer's account. Further, product alleged to be defective must be shipped by buyer to ITT 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 ITT 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 ITT McDonnell & Miller and excluded from the warranty.

ITT 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 ITT McDonnell & Miller facilities; (b) have been subject to misuse, negligence or accident; or (c) have been used in a manner contrary to ITT McDonnell & Miller instructions.

In the case of Products not manufactured by ITT McDonnell & Miller, there is no warranty from ITT McDonnell & Miller, but ITT McDonnell & Miller will extend to the buyer any Warranty from ITT 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 ITT McDonnell & Miller. This consent is in the form of an RGA number issued by ITT 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 ITT McDonnell & Miller will be either refused or sent back to the sender freight collect by a carrier chosen by ITT 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 ITT McDonnell & Miller.
6. Products which are obsolete or made to special order are not returnable.



**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 and may not meet local code requirements.
- 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. ITT 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.

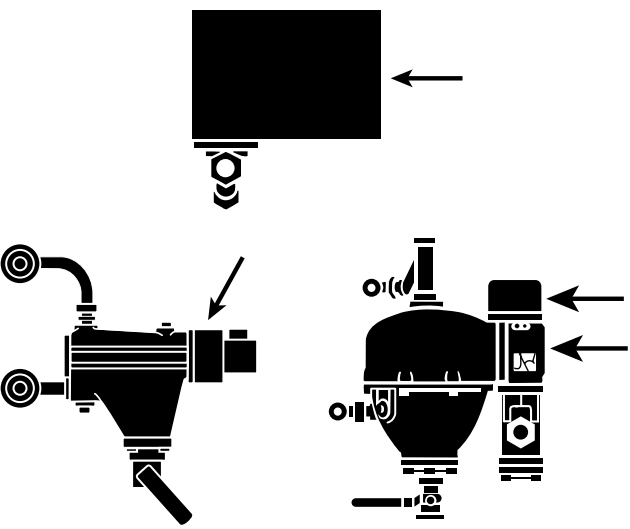
ITT McDonnell & Miller controls manufactured after 1972 feature a stamped date code, so you can easily check the life expectancy and recommended replacement intervals. **If a control has no date stamp or does not have the ITT logo on it – replace it!**


See the chart (right) 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.

**WHERE TO FIND**


**McDonnell & Miller**

**DATE CODES**




**McDonnell & Miller**

**Product Date Code Translation**

Month	Year	Example
A = January	W = 1979	<b>K09</b> Translates to <b>October 1990</b>
B = February	X = 1980	
C = March	Y = 1981	
D = April	Z = 1982	
E = May	38 = 1983	
F = June	48 = 1984	
G = July	58 = 1985	
H = August	68 = 1986	
J = September	78 = 1987	
K = October	88 = 1988	
	98 = 1989	
	09 = 1990	
L = November	19 = 1991	
M = December	29 = 1992	
	39 = 1993	
	49 = 1994	
	59 = 1995	
	96 = 1996	
	97 = 1997	
	98 = 1998	
	99 = 1999	
	00 = 2000	
	01 = 2001	
	02 = 2002	

## Recommended Replacement Intervals

Product	Series	Recommended Maintenance	Recommended Replacement Interval (Maximum)
Low Water Cut-Offs	150, 157, 158, 159, 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 70, 70-B	Blow down weekly. Inspect and test annually.	10 years
	61, 63, 64, 764	Blow down weekly. Inspect and test annually.	10 years
	42	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, PS-800, PA-850, 900, RB-120	Inspect and test annually.	15 years
	RB-24	Inspect and test annually.	10 years
Water Feeders	WF2/Uni-Match®	Inspect and test annually. Replace filter annually.	10 years
	101-A	Inspect, test, and replace cartridge valve annually.	10 years
	21, 221, 25-A, 53, 551-S, 847, 3155	Inspect and test annually.	15 years
	47, 51, 53, 247	Blow down weekly. Inspect and replace cartridge valve annually.	10 years
Liquid Level Controls	LPC-2000, PS-850, PCH PCL, PFC, VFC, VFS	Inspect and test annually.	15 years
	18, 18-SS, 27-W	Inspect and test annually.	5 years
Replacement Blow Down Valves	14-B	Inspect and test annually.	10 years
	14	Replace with 14-B blow down valve.	3 years
Replacement Probes	750, PS-800, PS-850, 900, RB-120, PCH, PCL	Inspect annually.	10 years
Replacement Head Mechanisms for Commercial/Industrial Applications	25-A, 42, 51, 51-S, 53, 61, 63, 64, 67, 70, 93 94, 150, 150S, 157, 157S, 193, 194	Inspect and test annually.	5 years

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