

REPLACEMENT PARTS CATALOG



**ISO 9001
Certified**

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.

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



BOILER CONTROLS FLOW SWITCHES LIQUID LEVEL CONTROLS

ITT McDonnell & Miller is the recipient of the highly coveted "ISO 9001" Certification. Recognized by more than 50 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
- Discontinued Parts List
- Warranty & Return Policy
- 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.

BOILER CONTROLS

FLOW SWITCHES

LIQUID LEVEL CONTROLS

WARRANTY & RETURN POLICY...

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



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	F5-14	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

Replacement Parts for:

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<i>Flow Switches</i>79
<i>Liquid Level Controls</i>89

General Information

<i>Discontinued Parts List</i>100
<i>Warranty & Return Policy</i>102
<i>Maintenance & Replacement Interval Guidelines</i>103

BOILER CONTROL REPLACEMENT PARTS

LOW WATER CUT-OFFS

FOR SERIES

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• For Hot Water Boilers

Probe Type	 750		5
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 PS-850		6
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 RB-120		6
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900		7
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Float Type	63		8
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64		10
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764		12
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• For Steam Boilers

Probe Type	PS-800		14
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Float Type	61		15
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63		16
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LOW WATER CUT-OFFS

FOR SERIES

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157		24
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157S		26
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764		30
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• Combination Low Water Cut-Off/ Pump Controllers for Steam Boilers

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93		36
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94		38
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150		40
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150S		42
------	---	----

157		40
-----	---	----

157S		42
------	---	----

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BOILER CONTROL REPLACEMENT PARTS (continued)

WATER FEEDERS

• *Electric*

FOR SERIES Uni-Match®
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• *Mechanical*

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• *Make-Up*

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25-A  PAGE 60

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
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WATER FEEDERS

• *Make-Up (cont.)*

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

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VALVES


• *Test-N-Check®*


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FLOW SWITCH REPLACEMENT PARTS

LIQUID FLOW

• *General Purpose*

FOR SERIES FS4-3  PAGE 79

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LIQUID FLOW

• *High Sensitivity*

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FLOW SWITCH (continued)

LIQUID FLOW

• *Industrial*

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AIR FLOW

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LIQUID LEVEL CONTROL REPLACEMENT PARTS

CONDUCTANCE ACTUATED (PROBE TYPE)

FOR SERIES PAGE

• *Special Purpose*

PS-850  90

• *General Purpose*

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FLOAT ACTUATED

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PNEUMATIC ACTUATED

PFC  93

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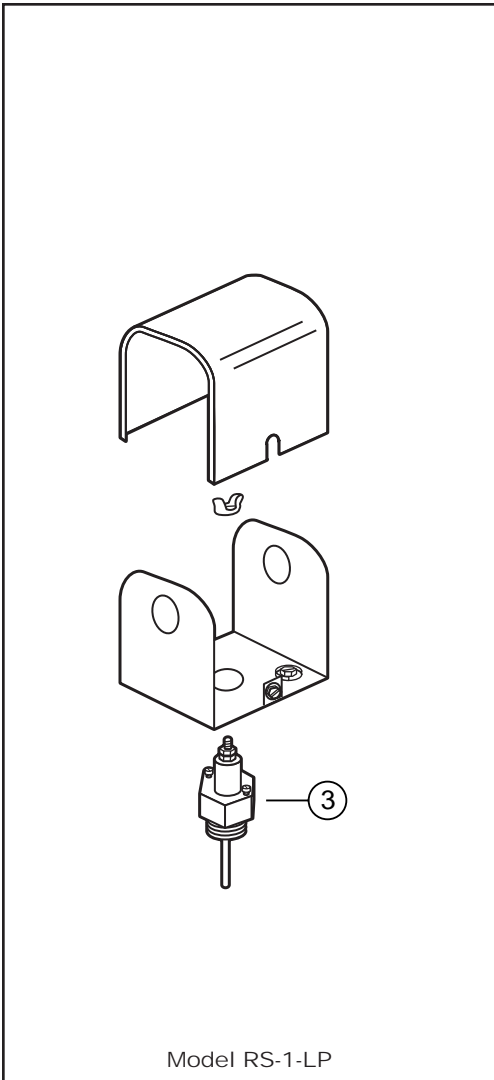
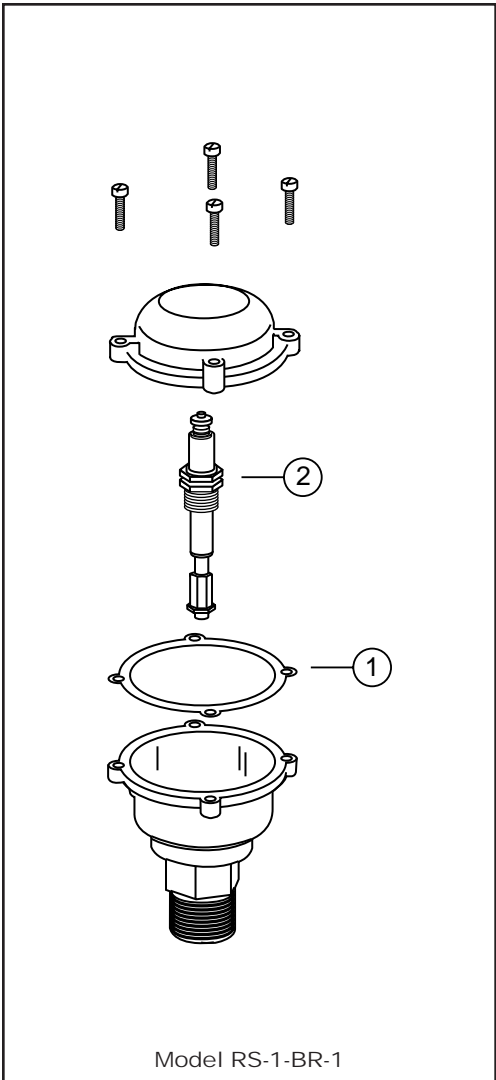
Low Water Cut-Offs – Probe Type For Hot Water Boilers

Series 750
Low Water Cut-Offs



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	Electrode	0.5 (.23)



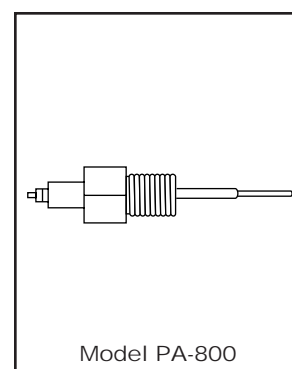
Low Water Cut-Offs – Probe Type For Hot Water Boilers

Series PS-850
Low Water Cut-Offs



Replacement Probes

For Model	Repl. Probe Model No.	Part Number	Description	Weight lbs. (kg)
PS-851-120	PA-800	354081	Probe	0.5 (.23)
PS-851-M-120				
PS-852-24				
PS-852-M-24				



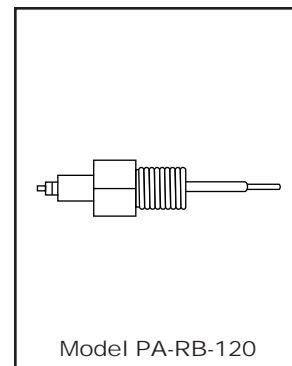
Refer to page 7 for probe dimensions and comparison.

Series RB-120
Low Water Cut-Offs



Replacement Probes

For Model	Repl. Probe Model No.	Part Number	Description	Weight lbs. (kg)
RB-120	PA-RB-120	354082	Probe	0.5 (.23)



Refer to page 7 for probe dimensions and comparison.

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

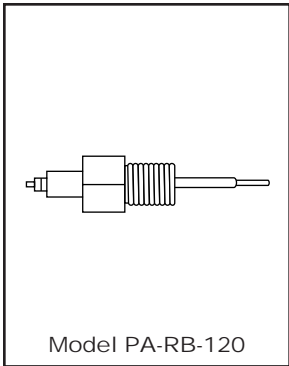
Series 900

Low Water Cut-Offs



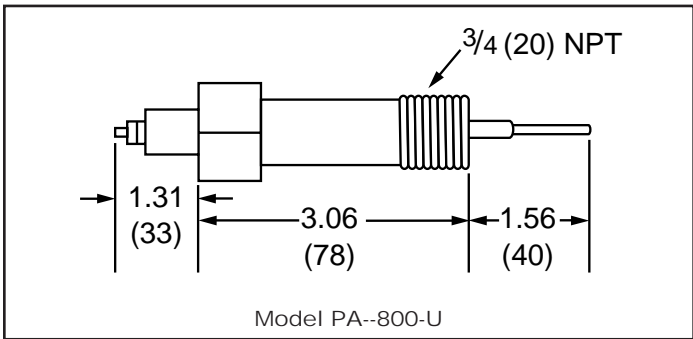
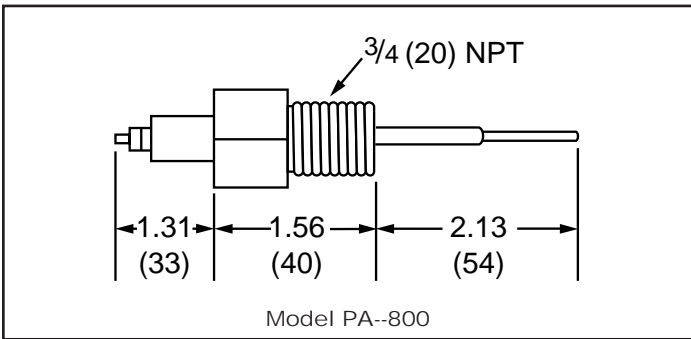
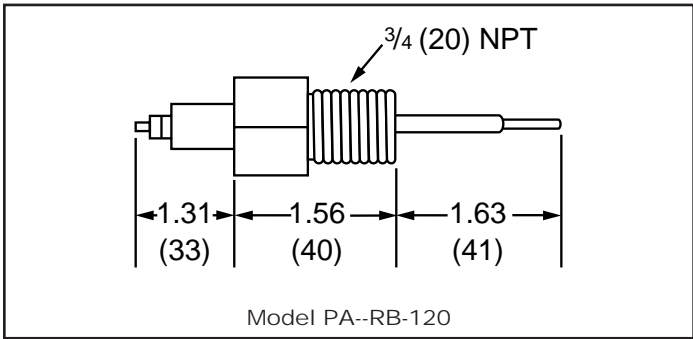
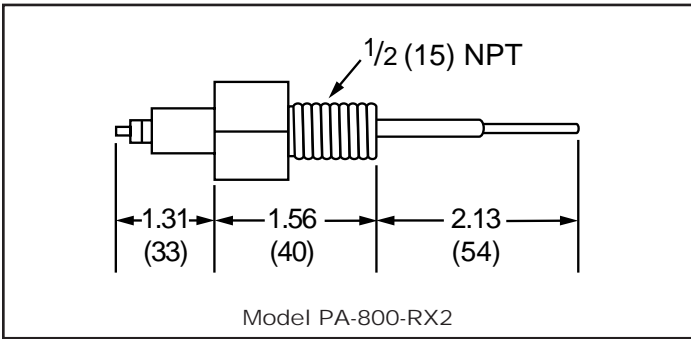
Replacement Probes

For Model	Repl. Probe Model No.	Part Number	Description	Weight lbs. (kg)
900				
900-C				
900-M	PA-RB-120	354082	Probe	0.5 (.23)
901				
901-M				
902-M				



Replacement probes not available for units manufactured prior to January 1995.

Probes Dimensions, in. (mm)



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

Series 63

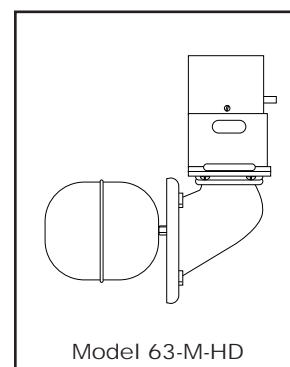
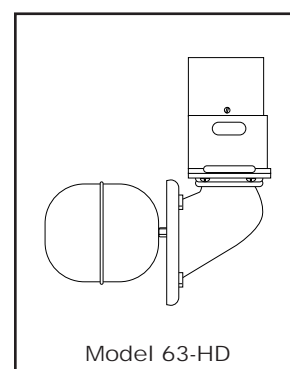
Low Water Cut-Offs



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)

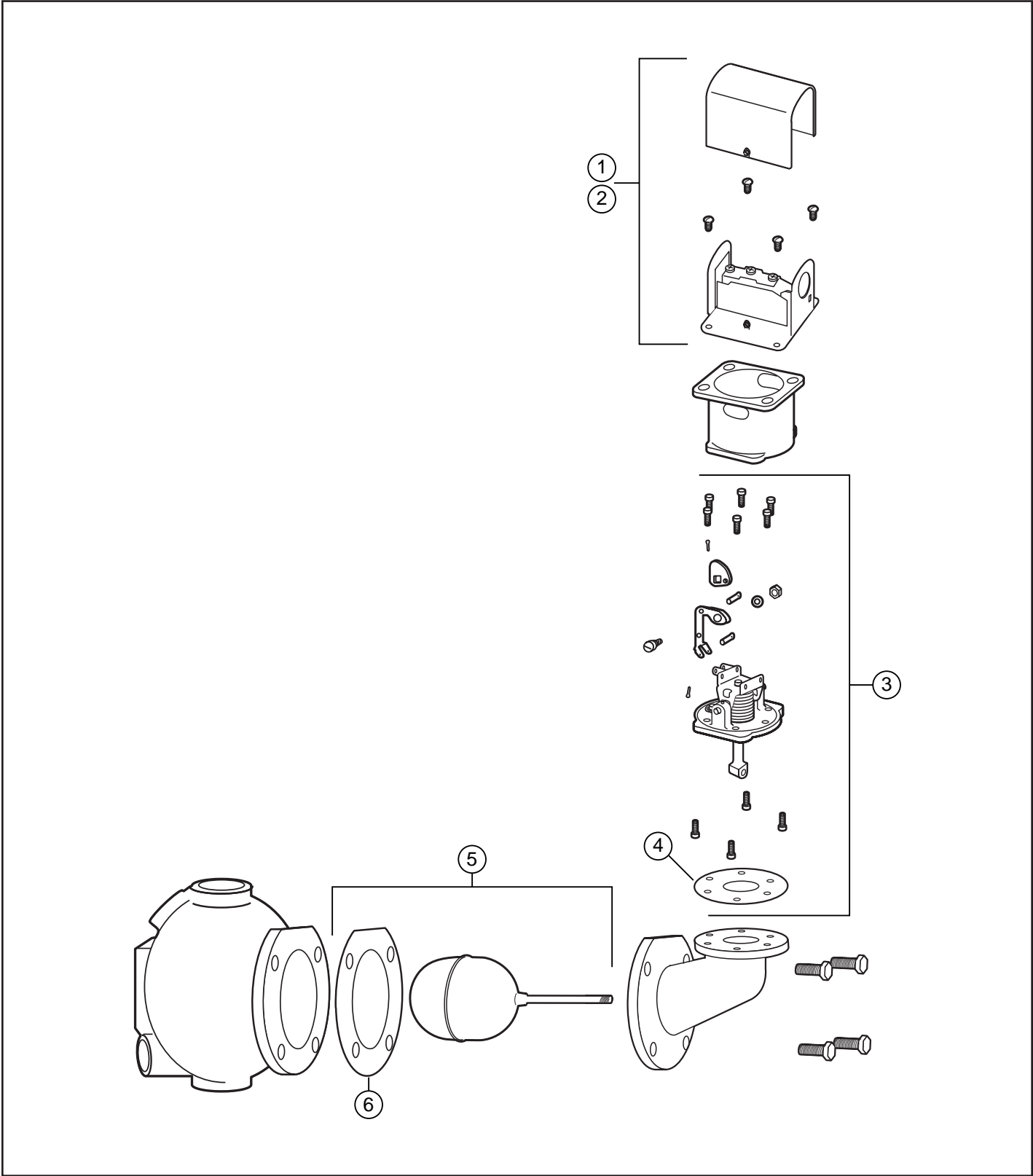
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	110000	2	Switch	1.0 (0.5)
2	110100	2-M	Switch w/manual reset	1.0 (0.5)
3	343200	SA63-5	Bellows assembly	1.5 (7.3)
4	302500	CO-11	Gasket	0.1 (.05)
5	343400	SA63-30	Float	1.0 (0.5)
6	302600	CO-12	Head gasket	0.1 (.05)

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

Series 63 (continued)

Low Water Cut-Offs

Components





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

Series 64

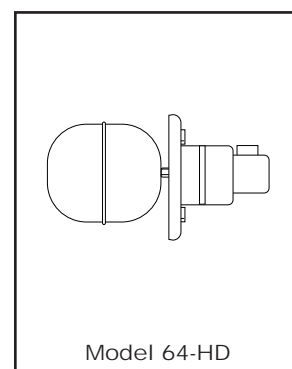
Low Water Cut-Offs



Replacement Head Mechanisms

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

Head mechanisms include a gasket and bolts.



Components (shown on page 11)

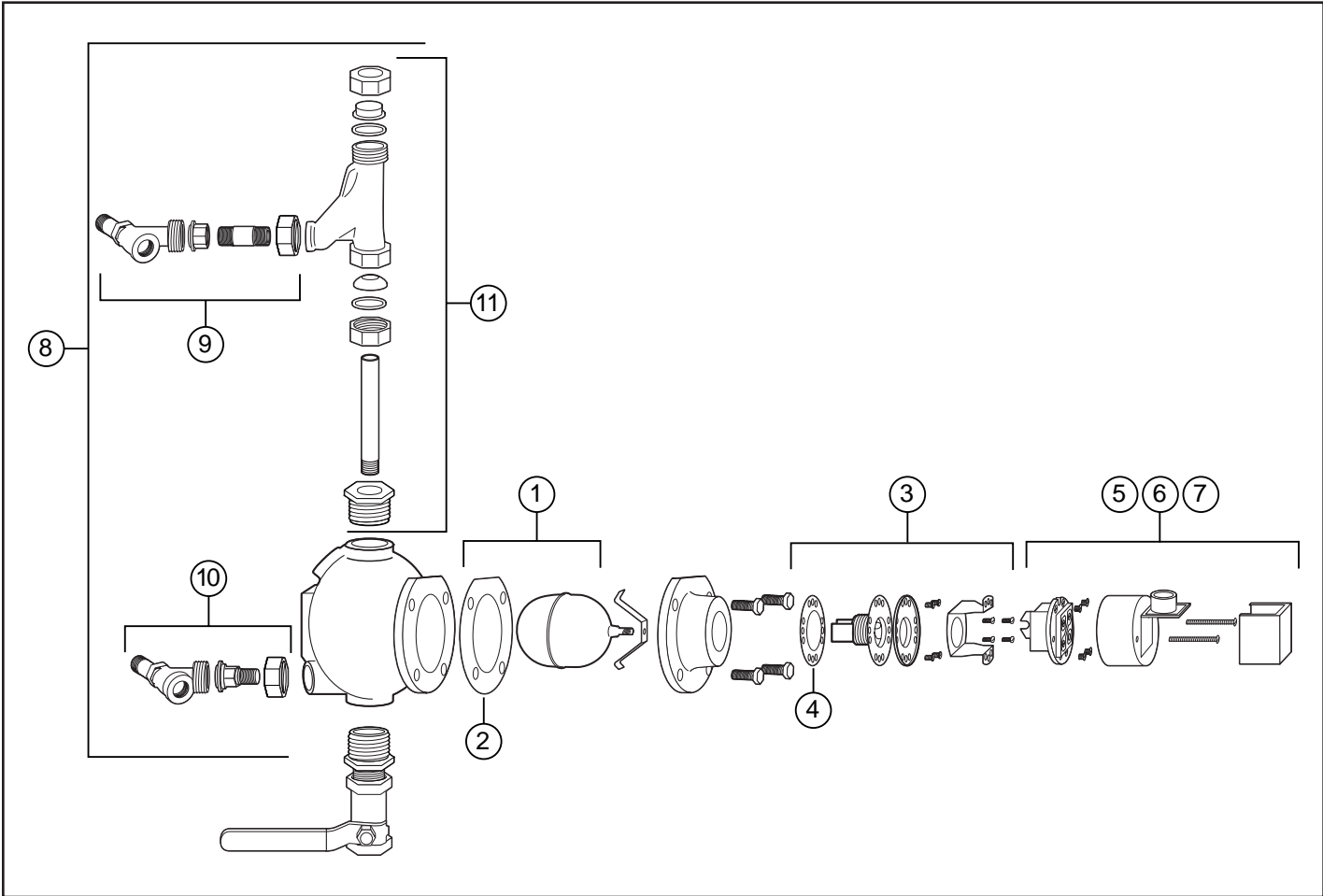
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	343600	SA64-30	Float assembly	1.0 (0.5)
2	302600	CO-12	Head gasket	0.1 (.05)
3	343500	SA64-2	Bellows assembly	0.3 (.14)
4	318800	67-12	Gasket	0.1 (.05)
5	309100	11	Switch	0.5 (.23)
6	309151	11-M	No. 11 w/manual reset	0.5 (.23)
7	309200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

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

Series 64 (continued)

Low Water Cut-Offs

Components





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

Series 764

Low Water Cut-Offs

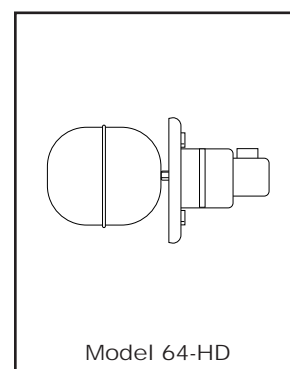


Series 764

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.



Model 64-HD

Components (shown on page 13)

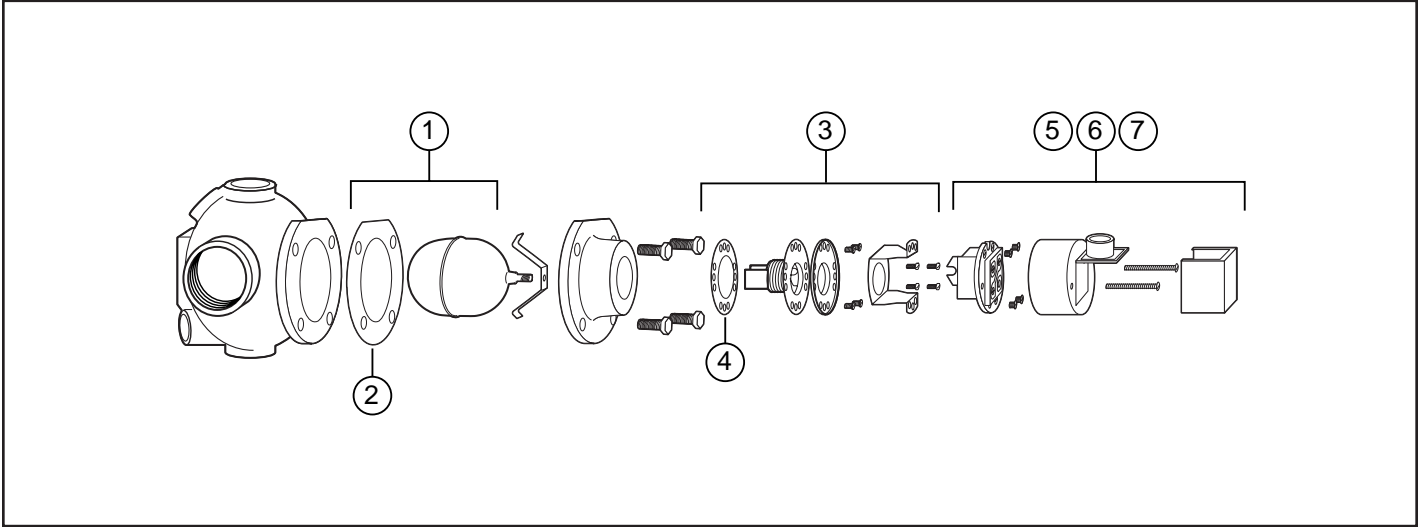
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	343600	SA64-30	Float assembly	1.0 (.5)
2	302600	CO-12	Head gasket	0.1 (.05)
3	343500	SA64-2	Bellows assembly	0.3 (.14)
4	318800	67-12	Gasket	0.1 (.05)
5	309100	11	Switch	0.5 (.23)
6	309151	11-M	No. 11 w/manual reset	0.5 (.23)
7	309200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



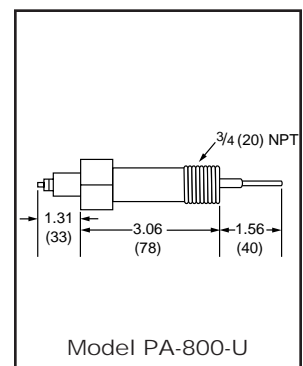
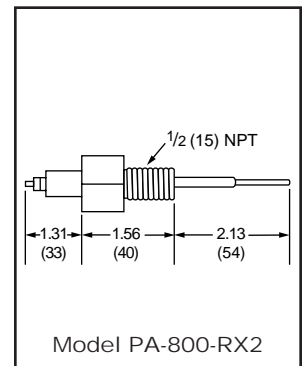
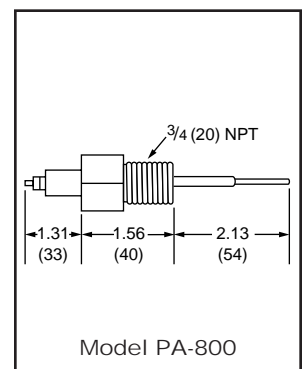
Low Water Cut-Offs – Probe Type For Steam Boilers

Series PS-800
Low Water Cut-Offs



Replacement Probes

For Model	Repl. Probe Model No.	Part Number	Description	Weight lbs. (kg)
PS-801-120	PA-800	354081	Probe	0.5 (.23)
PS-801-M-120				
PS-802-24				
PS-802-M-24				
PS-801-RX2-24	PA-800-RX2	354140	Probe	0.5 (.23)
PS-802-RX2-24				
PS-801-U-120	PA-800-U	354141	Probe	0.5 (.23)
PS-802-U-24				



Low Water Cut-Offs – Float Type For Steam Boilers

Series 61

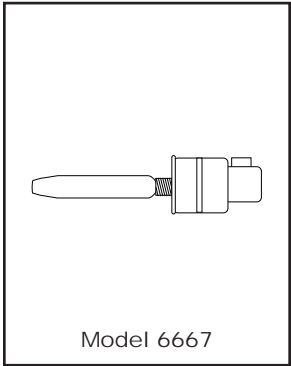
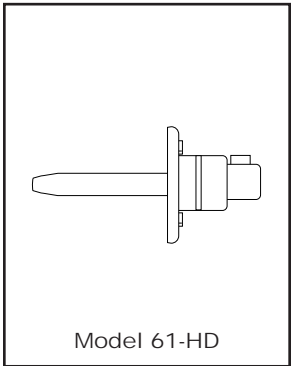
Low Water Cut-Offs



Replacement Head Mechanisms

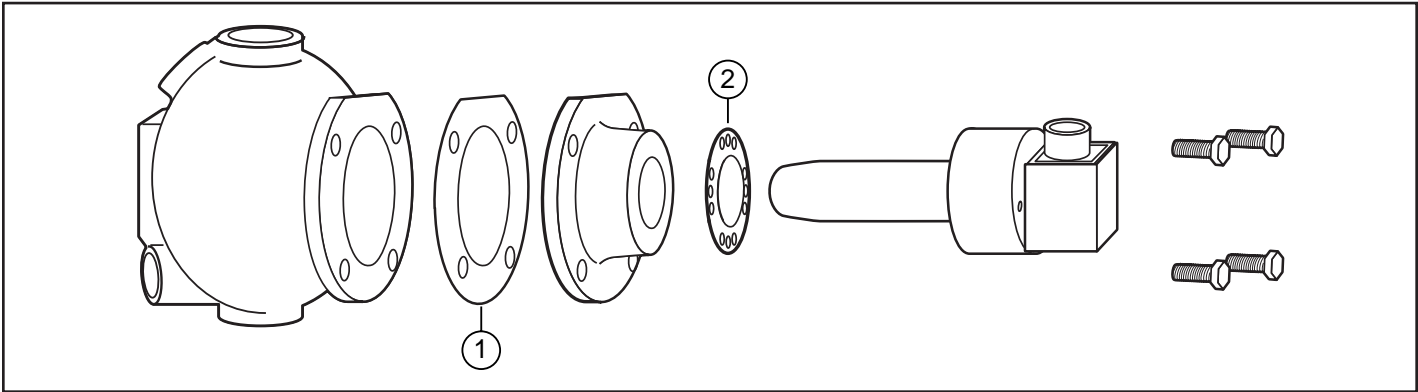
For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
61	61-HD	140300	Head mechanism	3.5 (1.6)
	or 6667	153825	Head mechanism	1.5 (0.7)

Head mechanisms include a gasket and bolts.



Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	302600	CO-12	Head gasket	0.1 (.05)
2	318800	67-12	Gasket	0.1 (.05)



Low Water Cut-Offs – Float Type For Steam Boilers

Series 63

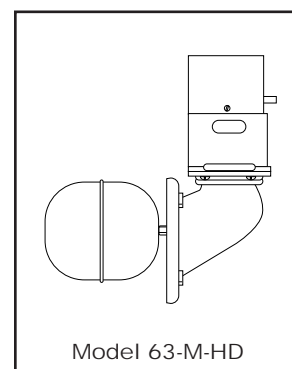
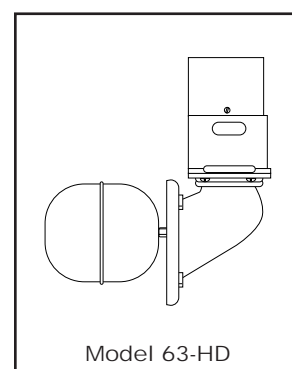
Low Water Cut-Offs



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 17)

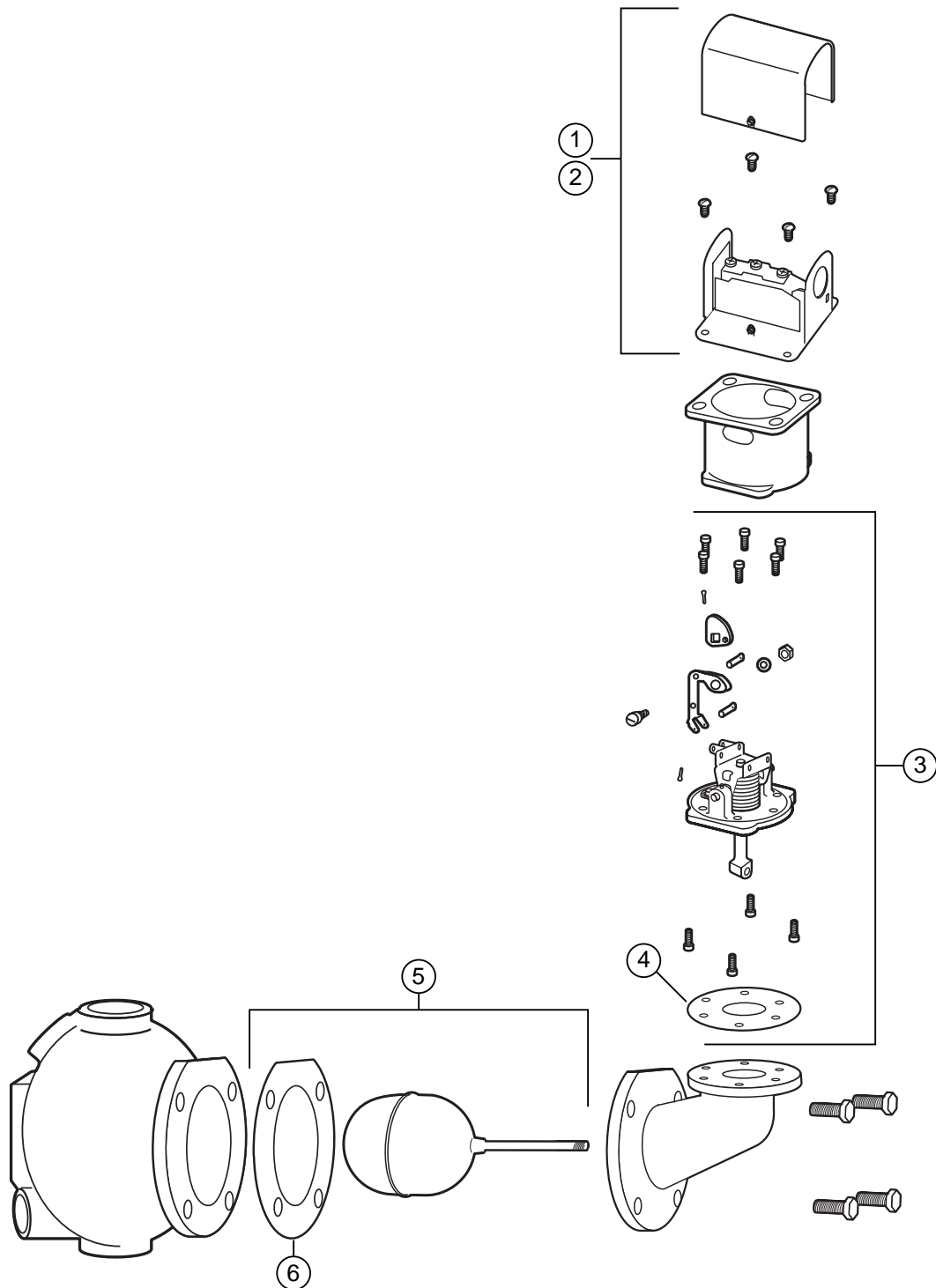
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	110000	2	Switch	1.0 (0.5)
2	110100	2-M	Switch w/manual reset	1.0 (0.5)
3	343200	SA63-5	Bellows assembly	1.5 (7.3)
4	302500	CO-11	Gasket	0.1 (.05)
5	343400	SA63-30	Float	1.0 (0.5)
6	302600	CO-12	Head gasket	0.1 (.05)

Low Water Cut-Offs – Float Type For Steam Boilers

Series 63 (continued)

Low Water Cut-Offs

Components



Low Water Cut-Offs – Float Type For Steam Boilers

Series 64

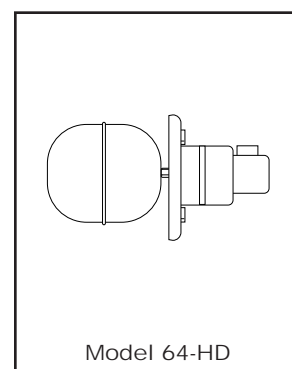
Low Water Cut-Offs



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)

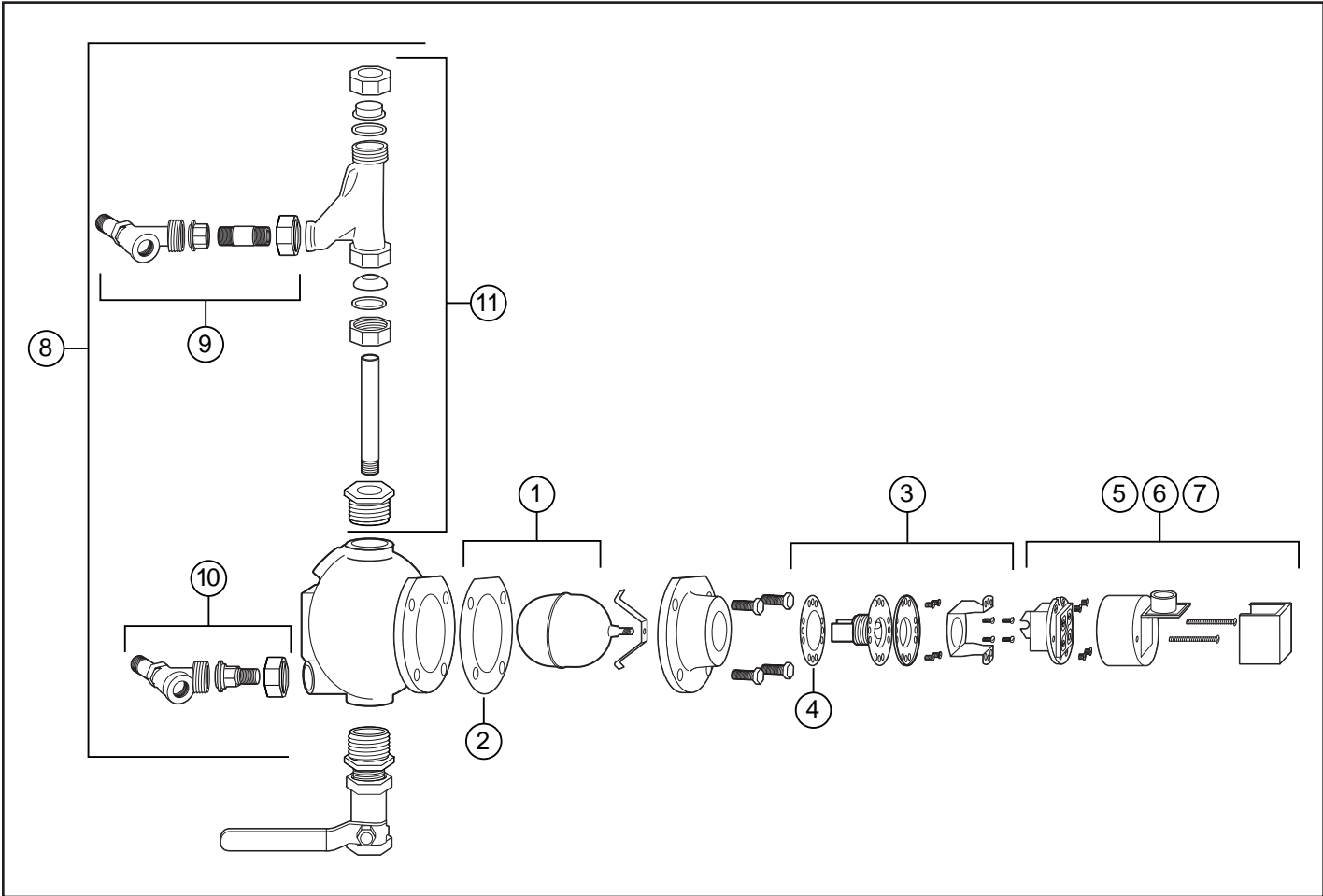
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	343600	SA64-30	Float assembly	1.0 (0.5)
2	302600	CO-12	Head gasket	0.1 (.05)
3	343500	SA64-2	Bellows assembly	0.3 (.14)
4	318800	67-12	Gasket	0.1 (.05)
5	309100	11	Switch	0.5 (.23)
6	309151	11-M	No. 11 w/manual reset	0.5 (.23)
7	309200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

Low Water Cut-Offs – Float Type For Steam Boilers

Series 64 (continued)

Low Water Cut-Offs

Components



Low Water Cut-Offs – Float Type For Steam Boilers

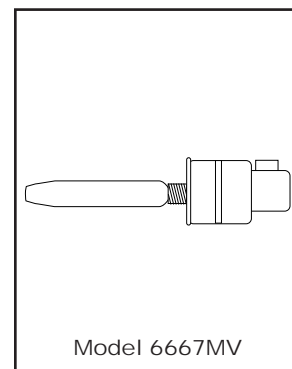
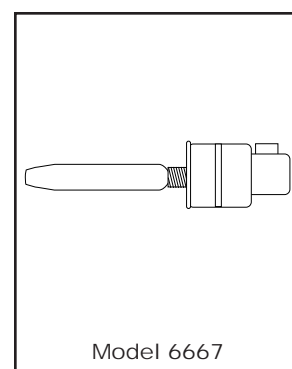
Series 67

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 21)

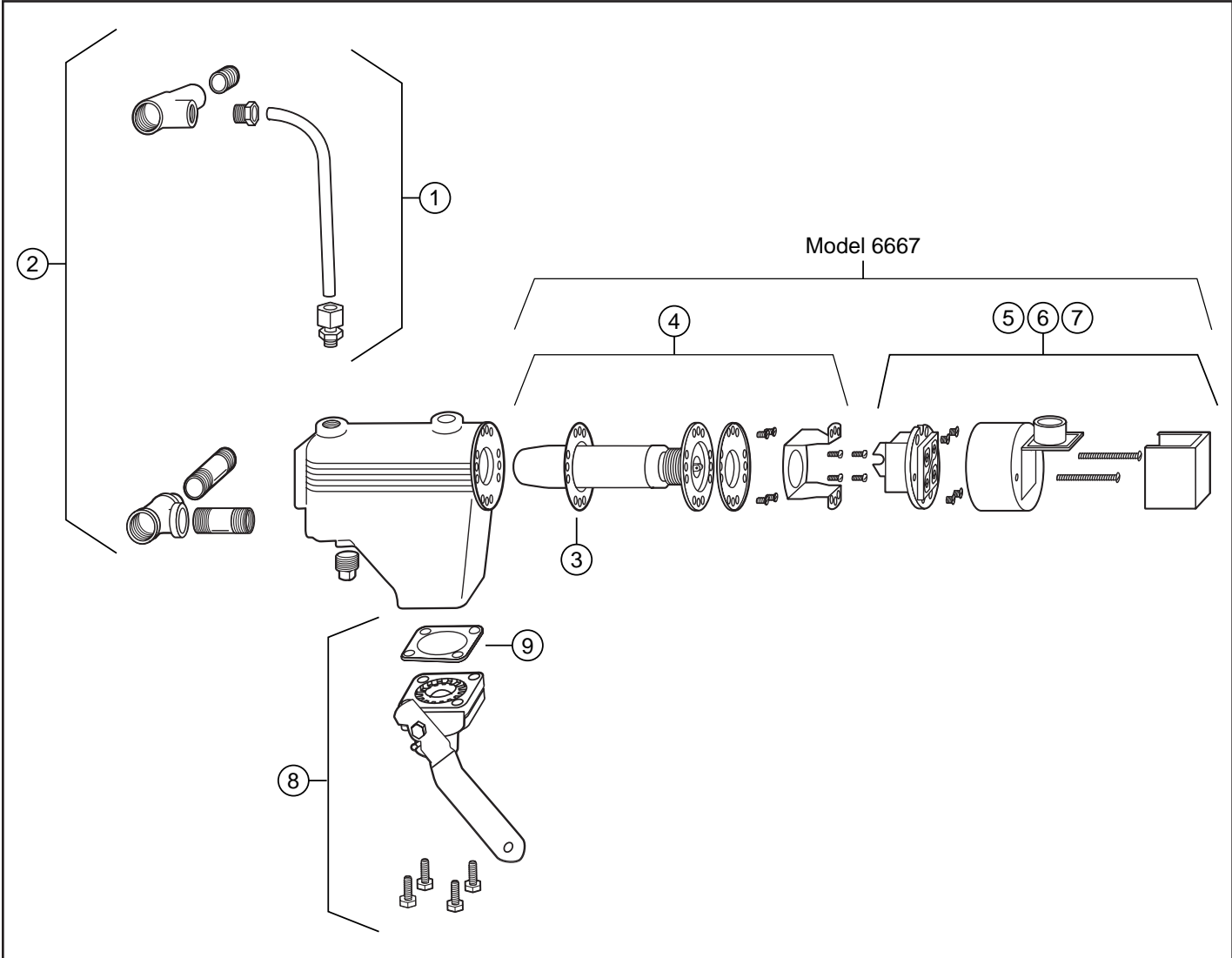
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	344100	SA66-35	Upper tube assembly	1.0 (0.5)
2	334600	MA559	Quick hook-up fittings	2.5 (1.1)
3	318800	67-12	Gasket	0.1 (.05)
4	344200	SA67-2	Float and bellows assembly	1.0 (0.5)
5	309100	11	Switch	0.5 (.23)
6	309151	11-M	Switch w/manual 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



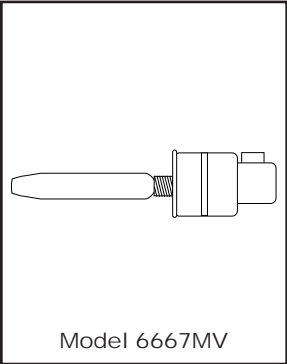
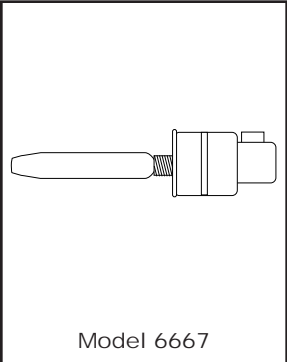
Low Water Cut-Offs – Float Type
For Steam Boilers

Series 69
Low Water Cut-Offs



Replacement Head Mechanisms

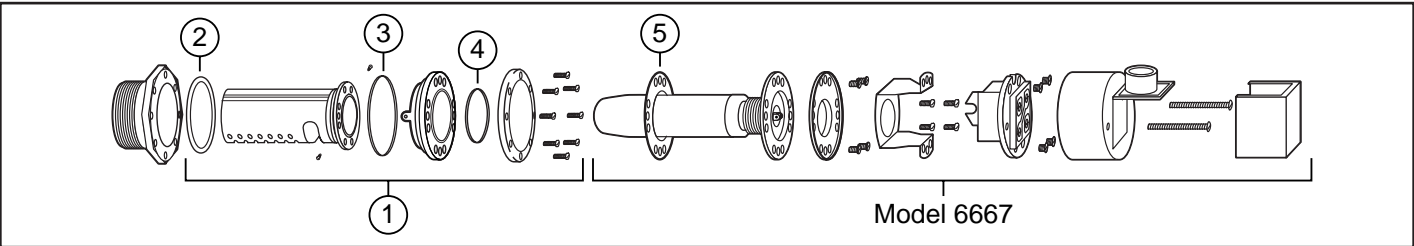
For Model	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
69	6667	153825	Head mechanism	1.5 (0.7)
69-J				
169				
269				
369				
469				
569				
69-MV-P	6667-MV	153850	6667 w/Millivolt service	1.5 (0.7)



Head mechanisms include a gasket and bolts.

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)



Low Water Cut-Offs – Float Type For Steam Boilers

Series 70
Low Water Cut-Offs



Series 70

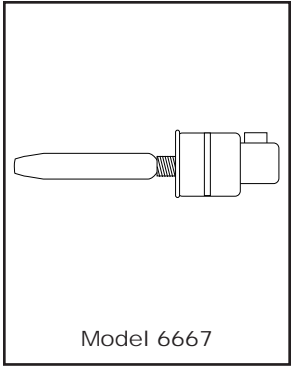


Model 70-B

Replacement Head Mechanisms

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

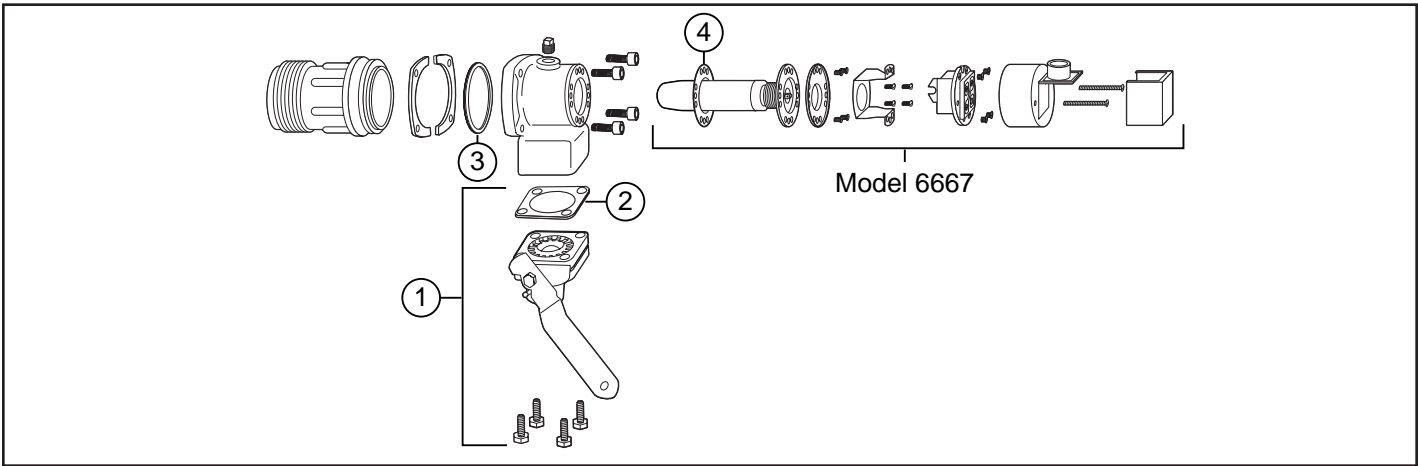
Head mechanisms include a gasket and bolts.



Model 6667

Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	310447	14-B	Blow down valve	1.0 (0.5)
2	313200	37-39	Gasket	0.1 (.05)
3	320100	68-12	Gasket	0.1 (.05)
4	318800	67-12	Gasket	0.1 (.05)



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



Series 150



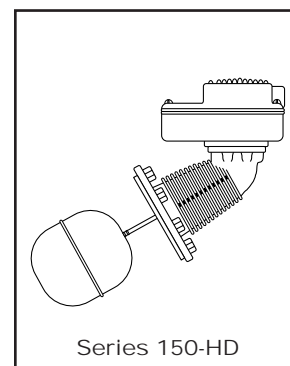
Series 157

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	173000	Head mechanism w/ mercury switch	10.5 (4.8)
	150S-HD or	173003	Head mechanism w/ snap switch	11.0 (5.4)
	150-M-HD or	173200	150-HD w/manual reset	12.0 (5.4)
	150S-M-HD	173203	150S-HD w/manual reset	11.0 (5.0)
150 (MD) 157 (MD) 157-RB-P	150-MD-HD or	173100	150-HD w/maximum differential	11.0 (5.0)
	150S-MD-HD or	173103	150S-HD w/maximum differential	11.0 (5.0)
	150-M-MD-HD	173300	150-HD w/manual reset and maximum differential	11.0 (5.0)
	150S-M-MD-HD	173302	150S-HD w/manual reset and maximum differential	11.0 (5.0)
158	158-HD or	178600	Head mechanism w/mercury switch	12.5 (5.7)
	158S-HD or	178602	Head mechanism w/snap switch	12.5 (5.7)
	158-M-HD or	178700	158-HD w/manual reset	12.5 (5.7)
	158S-M-HD	178702	158S-HD w/manual reset	12.5 (5.7)
159	159-HD or	178900	Head mechanism w/mercury switch	12.0 (5.4)
	159S-HD	178902	Head mechanism w/snap switch	12.0 (5.4)



Model 157-RB-P



Series 150-HD

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

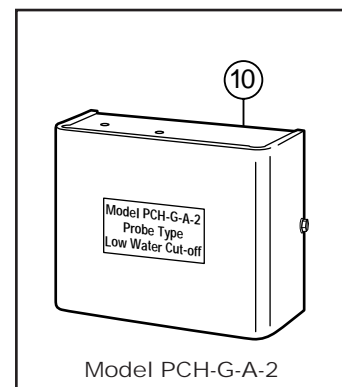
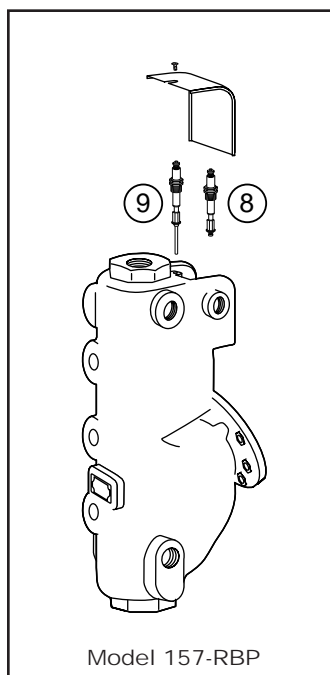
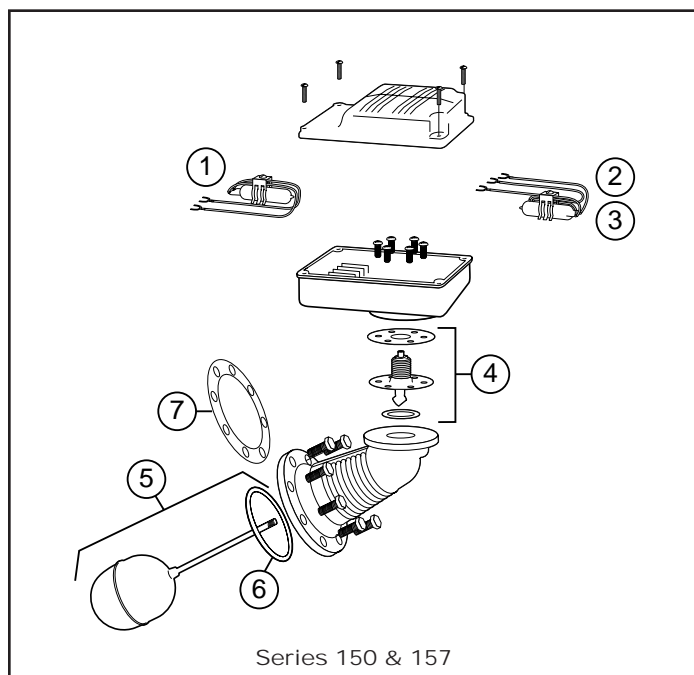
(S) in model number indicates snap switch.

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	325400	150-14	Head gasket (for full head flange, no holes)	0.5 (.23)
7	325500	150-14H	Head gasket (for raised face head flange, 8 holes)	0.5 (.23)
8	354106	EA-157-S	Short electrode for 157-RBP	0.5 (.23)
9	354107	EA-157-L	Long electrode for 157-RBP	0.5 (.23)
10	179150	PCH-G-A-2	Probe level control	2.7 (1.2)



Low Water Cut-Off/Pump Controllers

Series 150S & 157S

Low Water Cut-Off/Pump Controllers

with
MERCURY FREE
Snap-Action
Switches



Series 150S



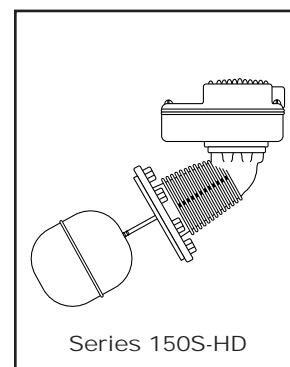
Series 157S



Model 157S-RB-P

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

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



Series 150S-HD

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

Low Water Cut-Off/Pump Controllers

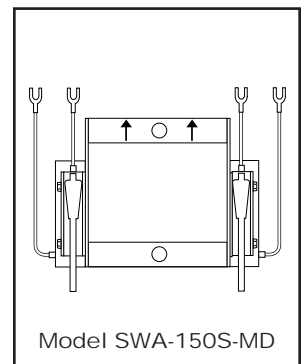
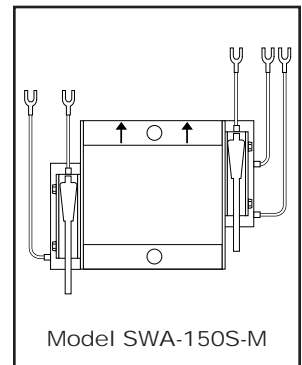
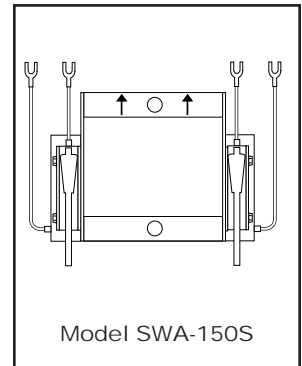
Series 150S & 157S (continued) Low Water Cut-Off/Pump Controllers

IMPORTANT:

- 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.
- Series 150S and 157S 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 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 150S-BM-MD 150S-M-MD 150S-M 157S-A-M 157S-M 157S-M-MD 157S-M-RB-P-MD 157S-RB-M 157S-RL-M 157S-R-M	SWA-150S-M	310463	Snap-action switch assembly w/manual reset	0.5 (.23)
150S-B-MD 150S-MD 157S-MD 157S-P-MD 157S-R-MD 157S-RB-MD 157S-RB-P-MD 157S-RD-MD 157S-RLS-MD	SWA-150S-MD	310464	Snap-action switch assembly for maximum differential models	0.5 (.23)



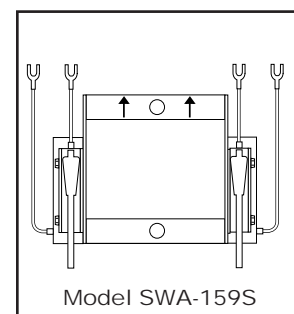
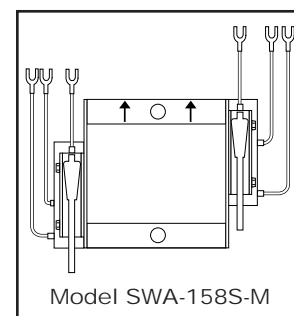
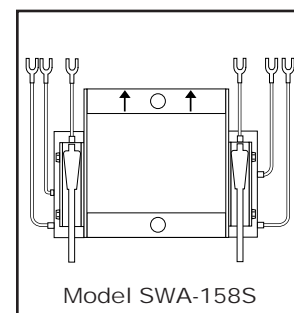
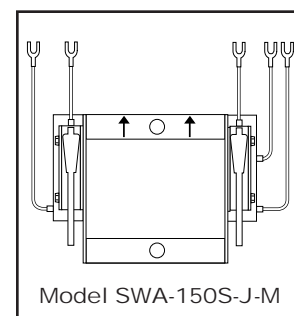
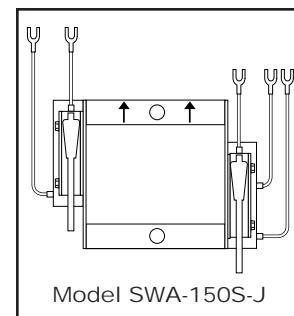
Low Water Cut-Off/Pump Controllers

Series 150S & 157S (continued)

Low Water Cut-Off/Pump Controllers

Replacement Switch Assemblies For Series 150S and 157S (cont.)

For Model	Repl. Switch Model No.	Part Number	Description	Weight lbs. (kg)
150S-J	SWA-150S-J	310466	Snap-action switch assembly for Model 150S-J	0.5 (.23)
150S-M-J	SWA-150S-J-M	310467	Snap-action switch assembly for Model 150S-J-M	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 w/manual reset	0.5 (.23)
159S	SWA-159S	310470	Snap-action switch assembly	0.5 (.23)



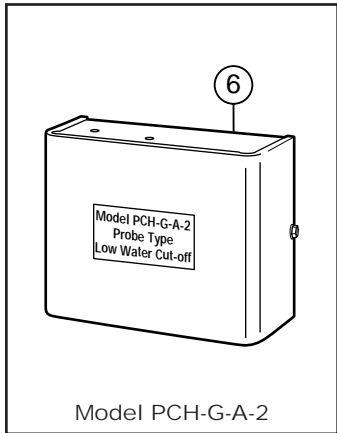
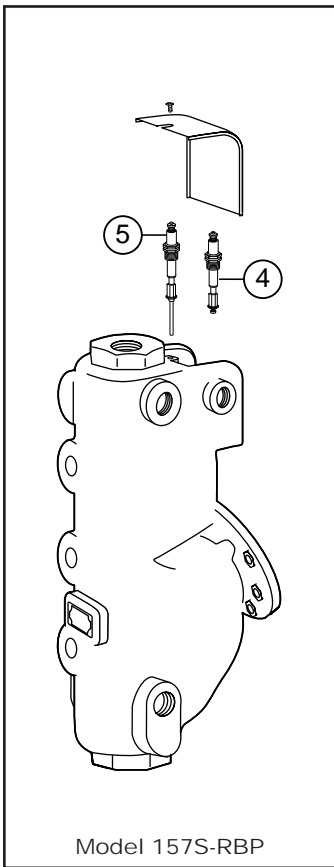
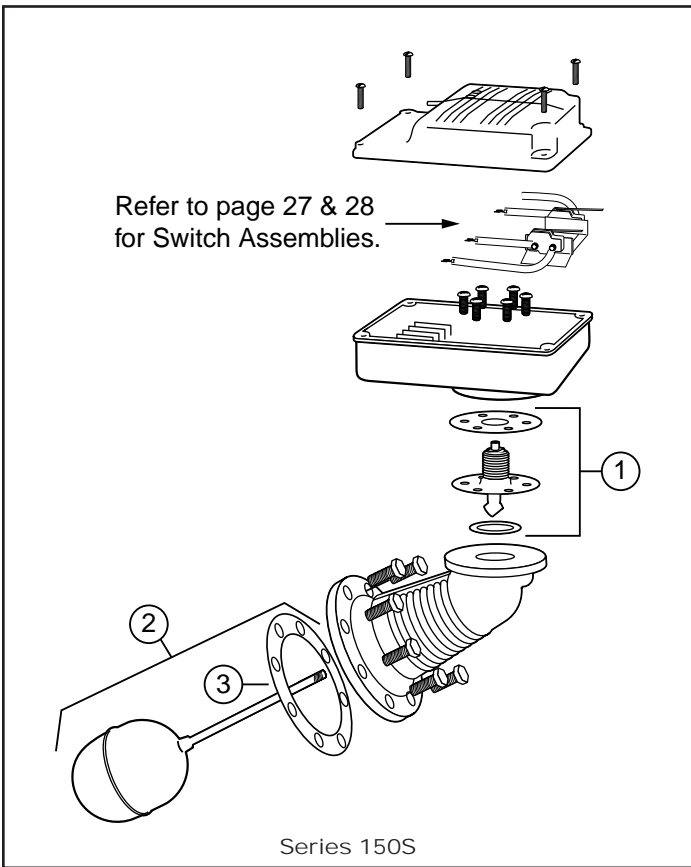
Switch assemblies include a mounting bracket and color-coded terminal connection wires.

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)



Low Water Cut-Offs – Float Type For Steam Boilers

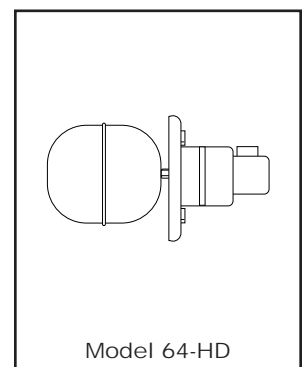
Series 764 Low Water Cut-Offs



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 31)

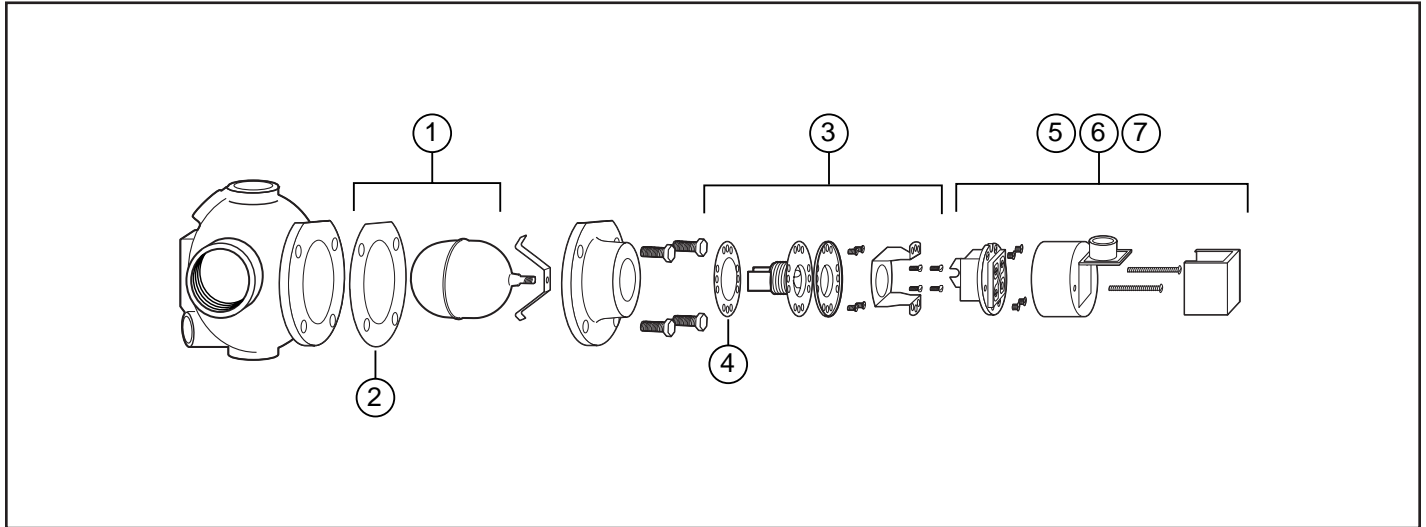
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	343600	SA64-30	Float assembly	1.0 (0.5)
2	302600	CO-12	Head gasket	0.1 (.05)
3	343500	SA64-2	Bellows assembly	0.3 (.14)
4	318800	67-12	Gasket	0.1 (.05)
5	309100	11	Switch	0.5 (.23)
6	309151	11-M	No. 11 w/manual reset	0.5 (.23)
7	309200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

Low Water Cut-Offs – Float Type For Steam Boilers

Series 764 (continued)

Low Water Cut-Offs

Components



Low Water Cut-Offs – Float Type For Steam Boilers

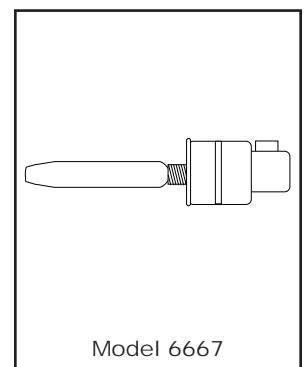
Series 767

Low Water Cut-Offs



Replacement Head Mechanisms

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



Components (shown on page 33)

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

Model 6667

1 2 3 4 5 6 7

The diagram illustrates the exploded view of the Model 6667 engine assembly. The components are numbered as follows:

- 1**: A large, cylindrical component, likely the main body or housing.
- 2**: A long, cylindrical shaft or rod.
- 3**: A small, rectangular component, possibly a valve or piston.
- 4**: A small, rectangular component, possibly a valve or piston.
- 5**: A small, rectangular component, possibly a valve or piston.
- 6**: A bracket or support structure.
- 7**: A small, rectangular component, possibly a valve or piston.

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

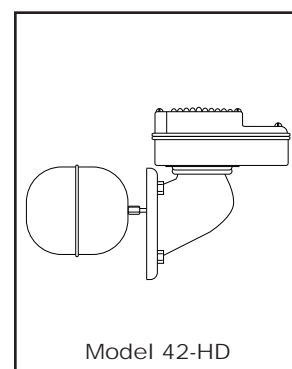
Series 42

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 35)

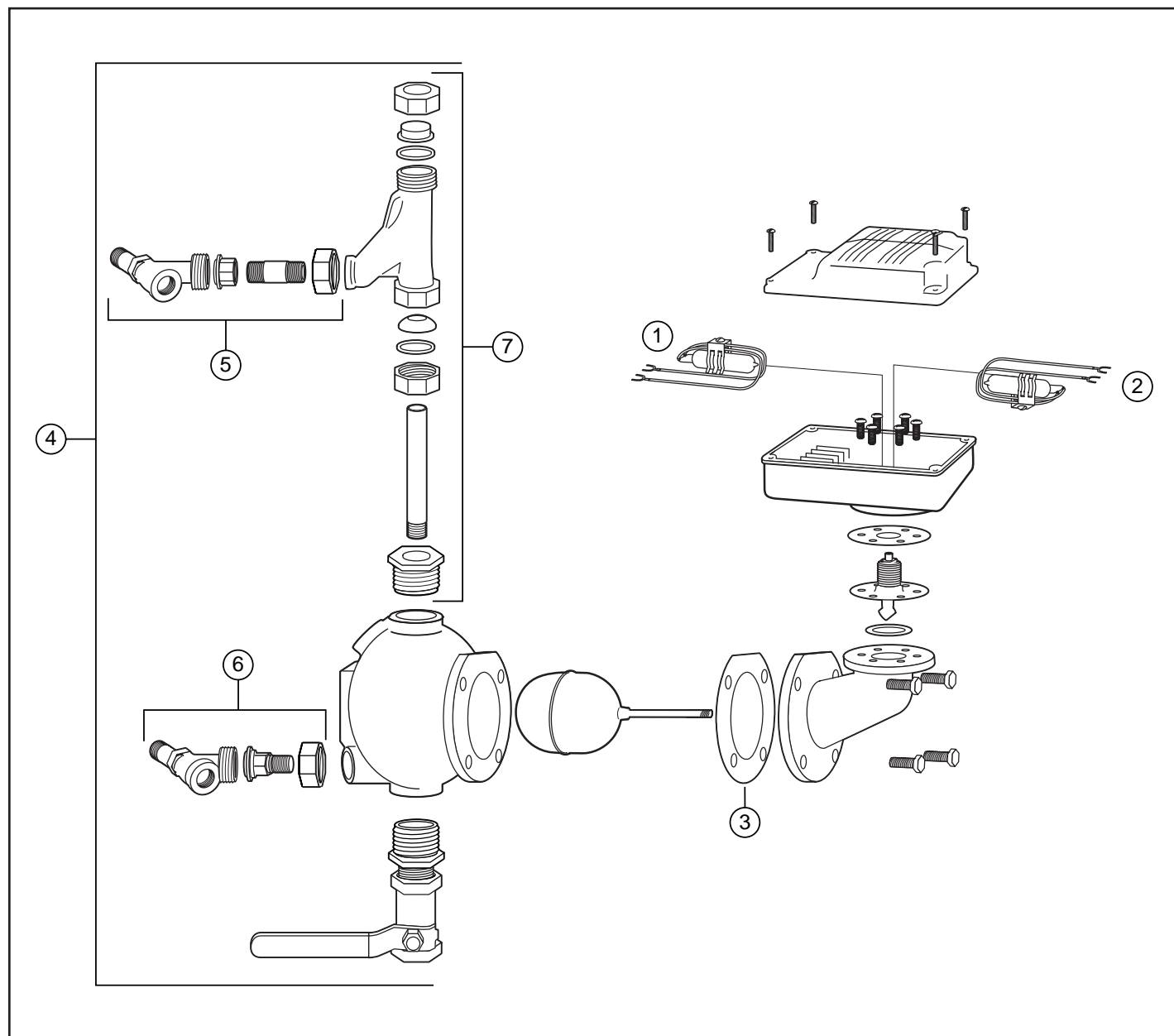
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	348300	SA150-125	Switch, 2 wire	0.3 (.14)
2	341300	SA42-125	Switch, 2 wire	0.3 (.14)
3	302600	CO-12	Head gasket	0.1 (.05)
4	328300	MA-159	Quick hook-up fittings (includes items 7, 8, 9)	6.0 (2.7)
5	351800	SA259-24	Upper quick hook-up 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)

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 93 & 193

Low Water Cut-Off/Pump Controllers



Series 93



Series 193

Components (shown on page 37)

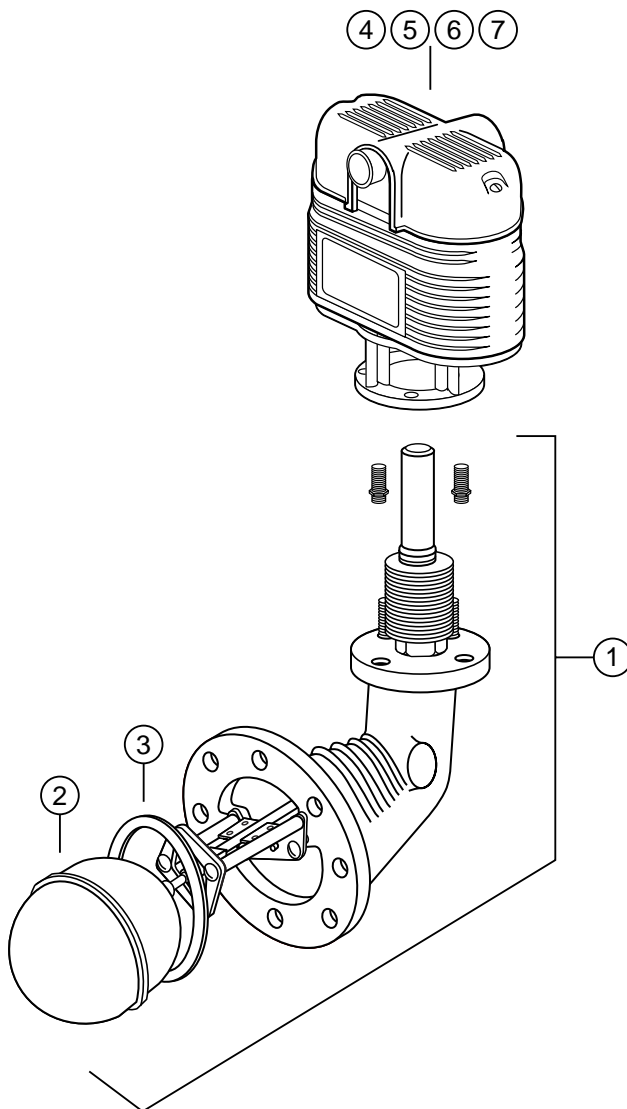
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	162402	93-HDLS	Head w/o switch	15.0 (6.8)
2	345700	SA91-60	Float (includes item 3)	0.7 (.32)
3	325400	150-14	Gasket	0.1 (.05)
4	110300	5	Electric switch	3.5 (1.6)
5	110400	5-M	No. 5 w/manual reset	3.5 (1.6)
6	110800	7B	Electric switch/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

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



Components (shown on page 39)

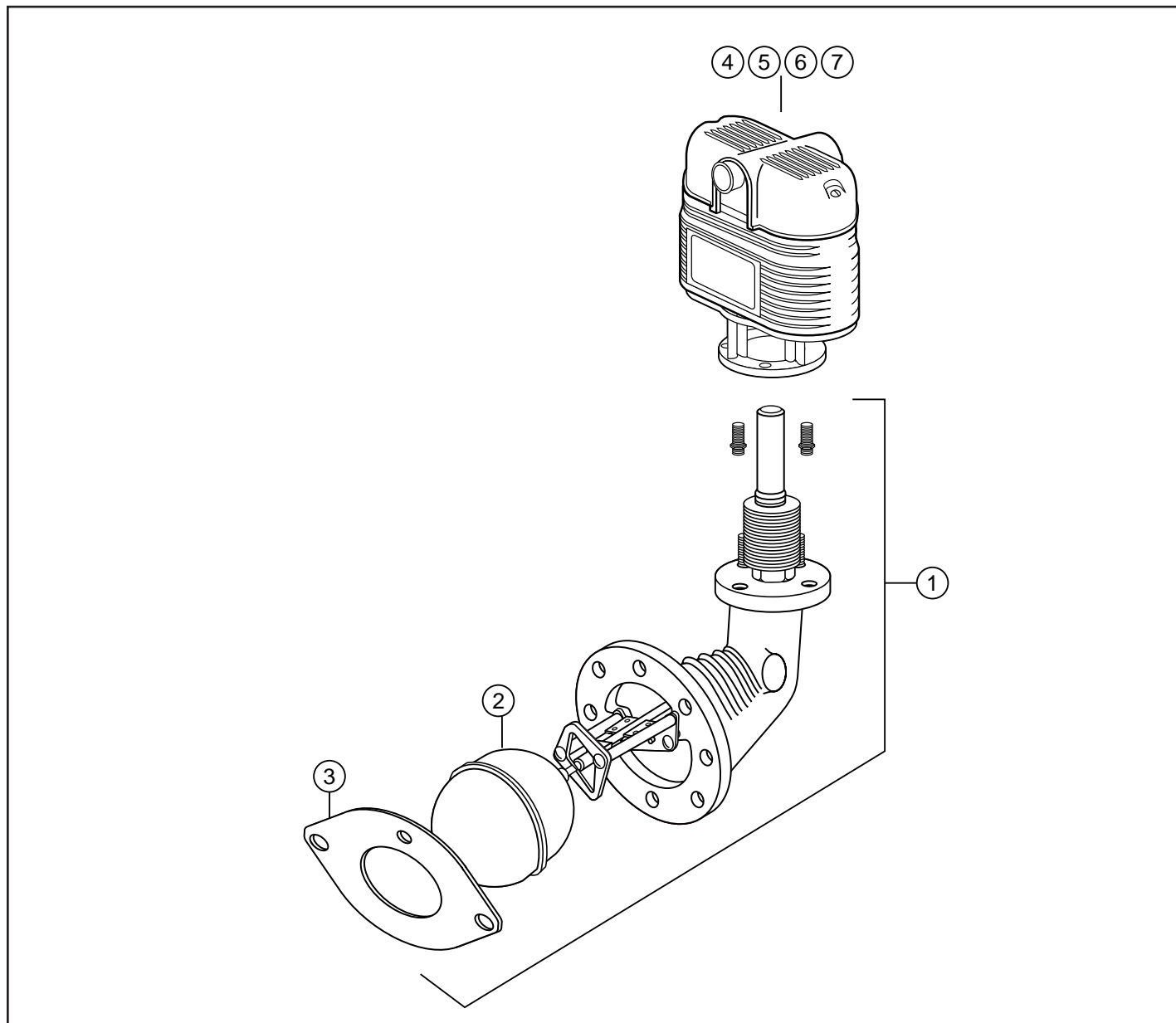
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	165302	94-HDLS	Head w/o switch	15.0 (6.8)
2	345700	SA91-60	Float (includes item 3)	0.7 (.32)
3	323300	92-68	Gasket	0.1 (.05)
4	110300	5	Electric switch	3.5 (1.6)
5	110400	5-M	No. 5 w/manual reset	3.5 (1.6)
6	110800	7B	Electric switch/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

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

Series 94 & 194 (continued)

Low Water Cut-Off/Pump Controllers

Components



Low Water Cut-Offs

Combination Low Water Cut-Offs/Pump Controllers 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



Series 150



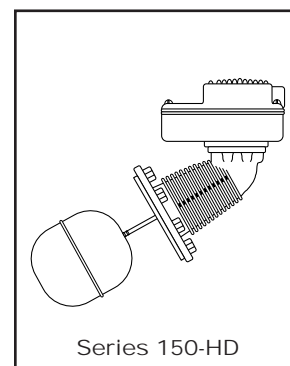
Series 157

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	173000	Head mechanism w/ mercury switch	10.5 (4.8)
	150S-HD or	173003	Head mechanism w/ snap switch	11.0 (5.4)
	150-M-HD or	173200	150-HD w/manual reset	12.0 (5.4)
	150S-M-HD	173203	150S-HD w/manual reset	11.0 (5.0)
150 (MD) 157 (MD) 157-RB-P	150-MD-HD or	173100	150-HD w/maximum differential	11.0 (5.0)
	150S-MD-HD or	173103	150S-HD w/maximum differential	11.0 (5.0)
	150-M-MD-HD	173300	150-HD w/manual reset and maximum differential	11.0 (5.0)
	150S-M-MD-HD	173302	150S-HD w/manual reset and maximum differential	11.0 (5.0)
158	158-HD or	178600	Head mechanism w/mercury switch	12.5 (5.7)
	158S-HD or	178602	Head mechanism w/snap switch	12.5 (5.7)
	158-M-HD or	178700	158-HD w/manual reset	12.5 (5.7)
	158S-M-HD	178702	158S-HD w/manual reset	12.5 (5.7)
159	159-HD or	178900	Head mechanism w/mercury switch	12.0 (5.4)
	159S-HD	178902	Head mechanism w/snap switch	12.0 (5.4)



Model 157S-RB-P



Series 150-HD

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

(S) in model number indicates snap switch.



Low Water Cut-Offs

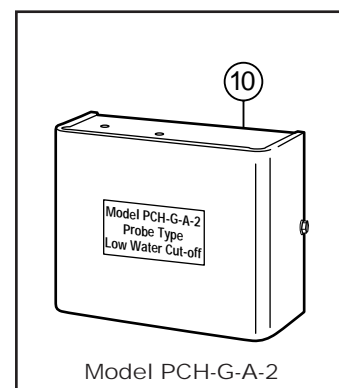
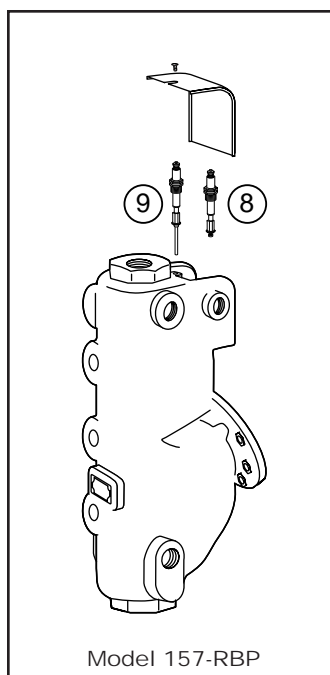
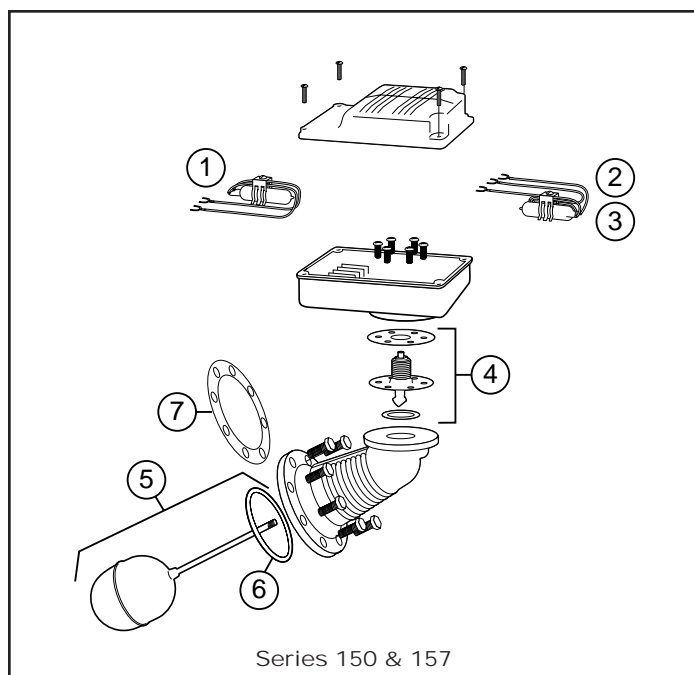
Combination Low Water Cut-Offs/Pump Controllers for Steam Boilers

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	325400	150-14	Head gasket (for full head flange, no holes)	0.5 (.23)
7	325500	150-14H	Head gasket (for raised face head flange, 8 holes)	0.5 (.23)
8	354106	EA-157-S	Short electrode for 157-RBP	0.5 (.23)
9	354107	EA-157-L	Long electrode for 157-RBP	0.5 (.23)
10	179150	PCH-G-A-2	Probe level control	2.7 (1.2)



Low Water Cut-Offs

Combination Low Water Cut-Offs/Pump Controllers for Steam Boilers

Series 150S & 157S

Low Water Cut-Off/Pump Controllers

with
MERCURY FREE
Snap-Action
Switches



Series 150S



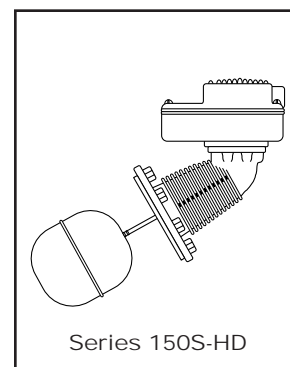
Series 157S



Model 157S-RB-P

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

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



Series 150S-HD

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

Low Water Cut-Offs

Combination Low Water Cut-Offs/Pump Controllers for Steam Boilers

Series 150S & 157S (continued)

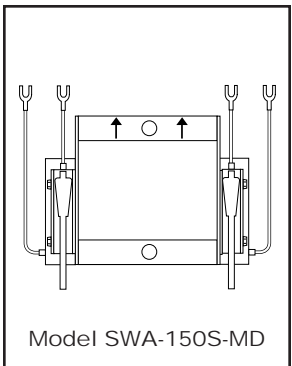
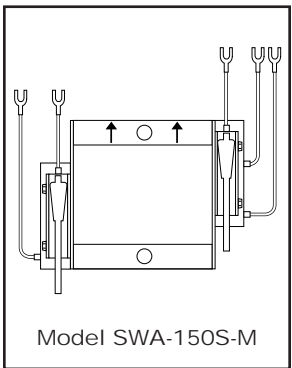
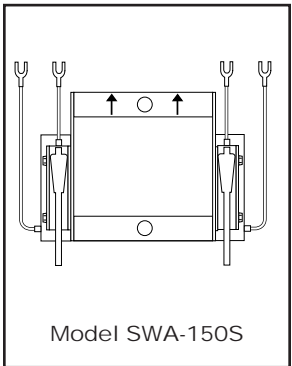
Low Water Cut-Off/Pump Controllers

IMPORTANT:

- 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.
- Series 150S and 157S 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 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 150S-BM-MD 150S-M-MD 150S-M 157S-A-M 157S-M 157S-M-MD 157S-M-RB-P-MD 157S-RB-M 157S-RL-M 157S-R-M	SWA-150S-M	310463	Snap-action switch assembly w/manual reset	0.5 (.23)
150S-B-MD 150S-MD 157S-MD 157S-P-MD 157S-R-MD 157S-RB-MD 157S-RB-P-MD 157S-RD-MD 157S-RLS-MD	SWA-150S-MD	310464	Snap-action switch assembly for maximum differential models	0.5 (.23)



Low Water Cut-Offs

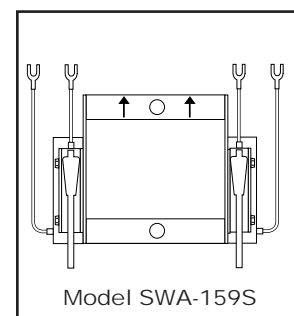
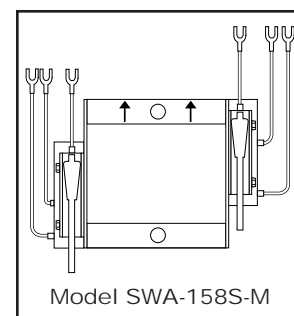
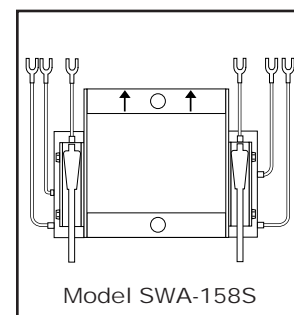
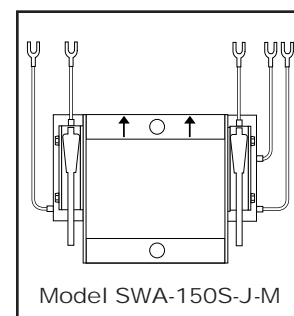
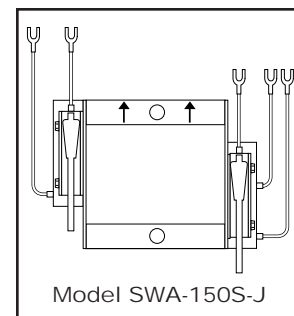
Combination Low Water Cut-Offs/Pump Controllers for Steam Boilers

Series 150S & 157S (continued)

Low Water Cut-Off/Pump Controllers

Replacement Switch Assemblies For Series 150S and 157S (cont.)

For Model	Repl. Switch Model No.	Part Number	Description	Weight lbs. (kg)
150S-J	SWA-150S-J	310466	Snap-action switch assembly for Model 150S-J	0.5 (.23)
150S-M-J	SWA-150S-J-M	310467	Snap-action switch assembly for Model 150S-J-M	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 w/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-Offs

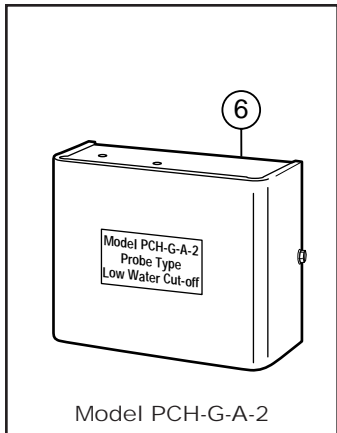
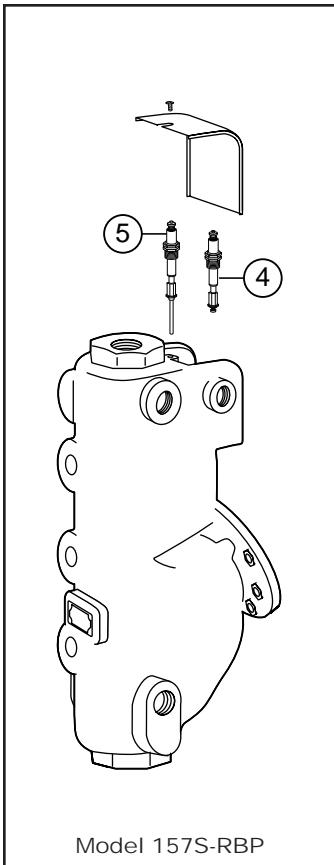
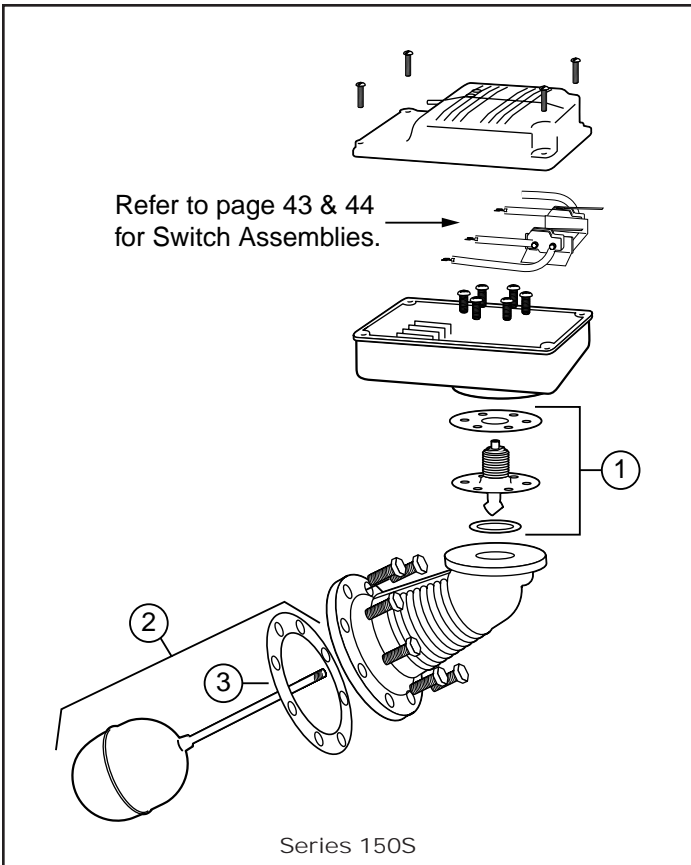
Combination Low Water Cut-Offs/Pump Controllers for Steam Boilers

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)



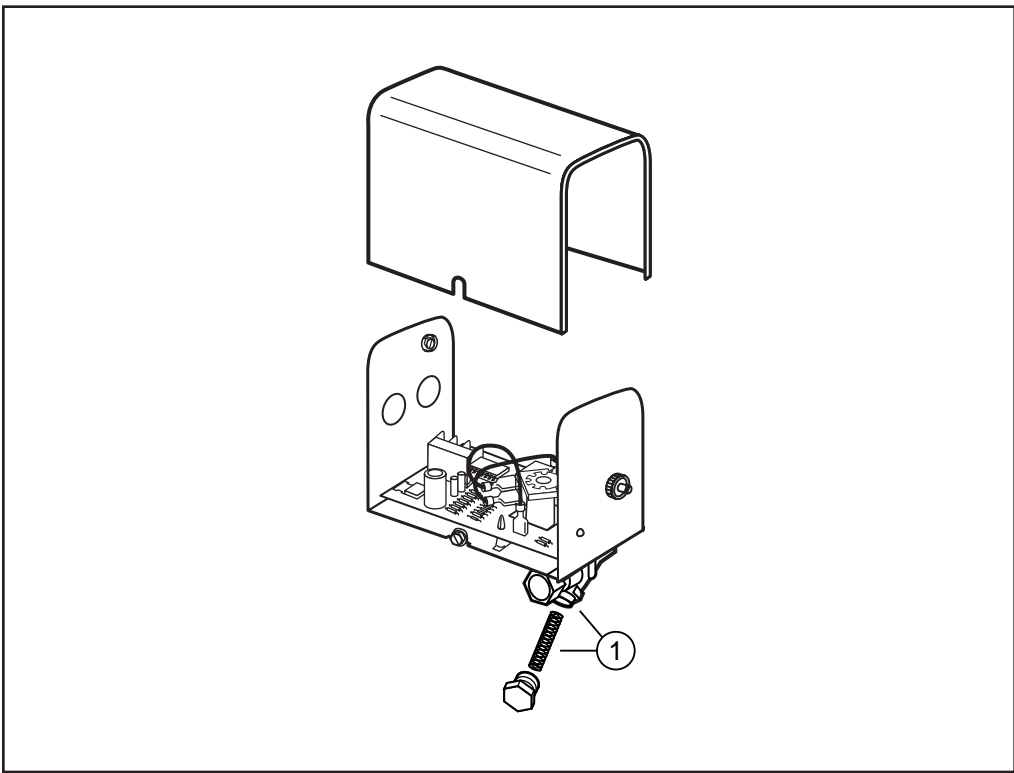
Water Feeders – Electric

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)



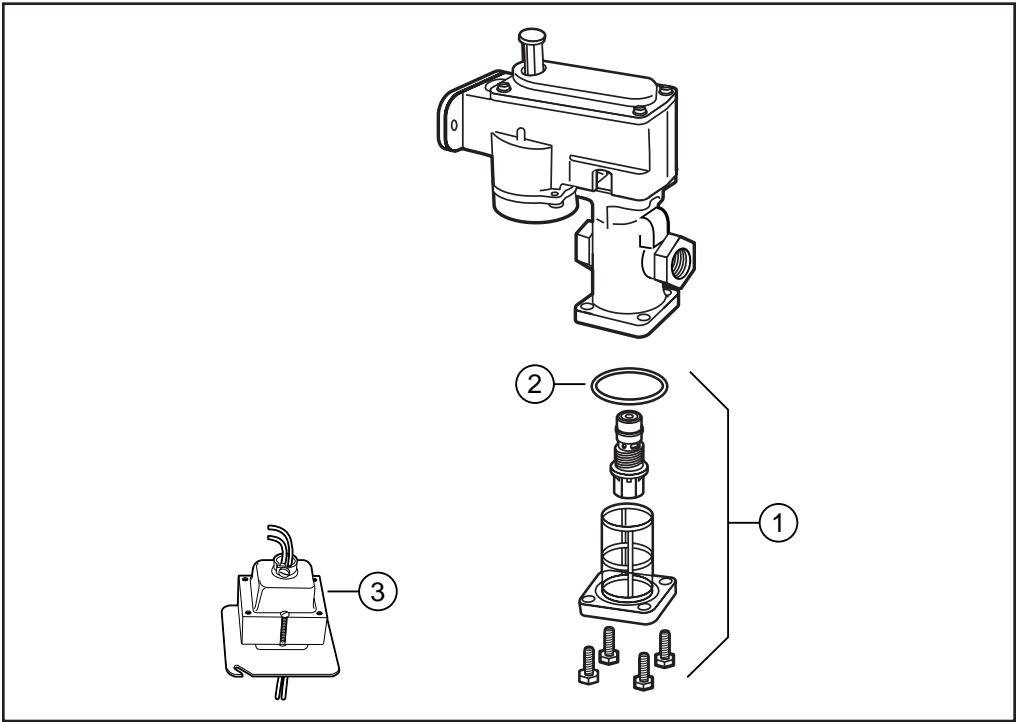
Water Feeders – Electric

Series 101-A
Electric Water Feeders

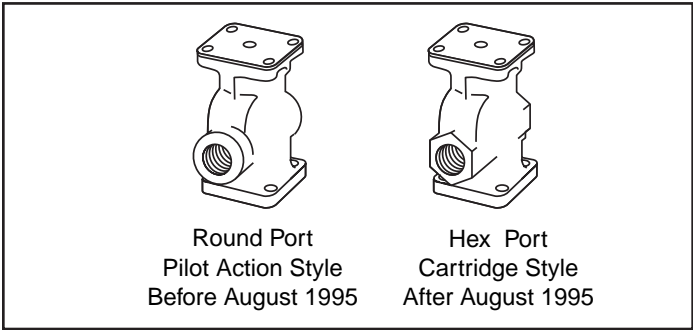


Components

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)



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



Water Feeders – Mechanical

Series 47

Mechanical Water Feeders

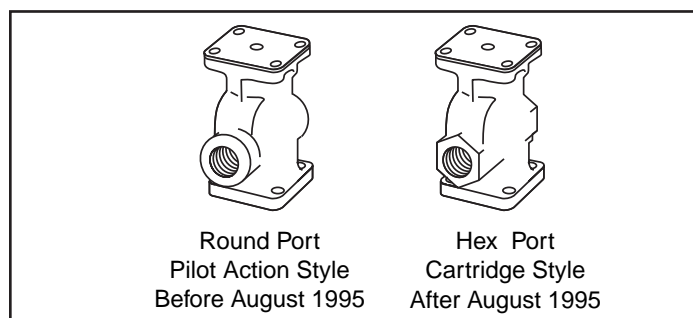


Series 47

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 items 3)	0.2 (.09)
5	341500	SA47-4	Bellows bracket assembly	1.5 (.07)
6	312800	37-27	Gasket	0.1 (.05)
7	302900	CO-106	Cam assembly	0.1 (.05)
8	332800	MA-259	Quick hook-up fittings (includes items 9, 10, 11)	4.5 (2.0)
9	349400	SA159-17	Black "Y" assembly	2.3 (1.0)
10	351800	SA259-24	Upper quick hook-up fittings	1.7 (.77)
11	349500	SA159-24	Lower quick hook-up fittings	1.7 (.77)
12	340600	SA37-30	Float (includes item 13)	2.0 (0.9)
13	312700	37-26	Gasket	0.1 (.05)
14	310447	14-B	Blow down valve	1.5 (0.7)
15	313200	37-39	Blow down valve gasket	1.0 (0.5)

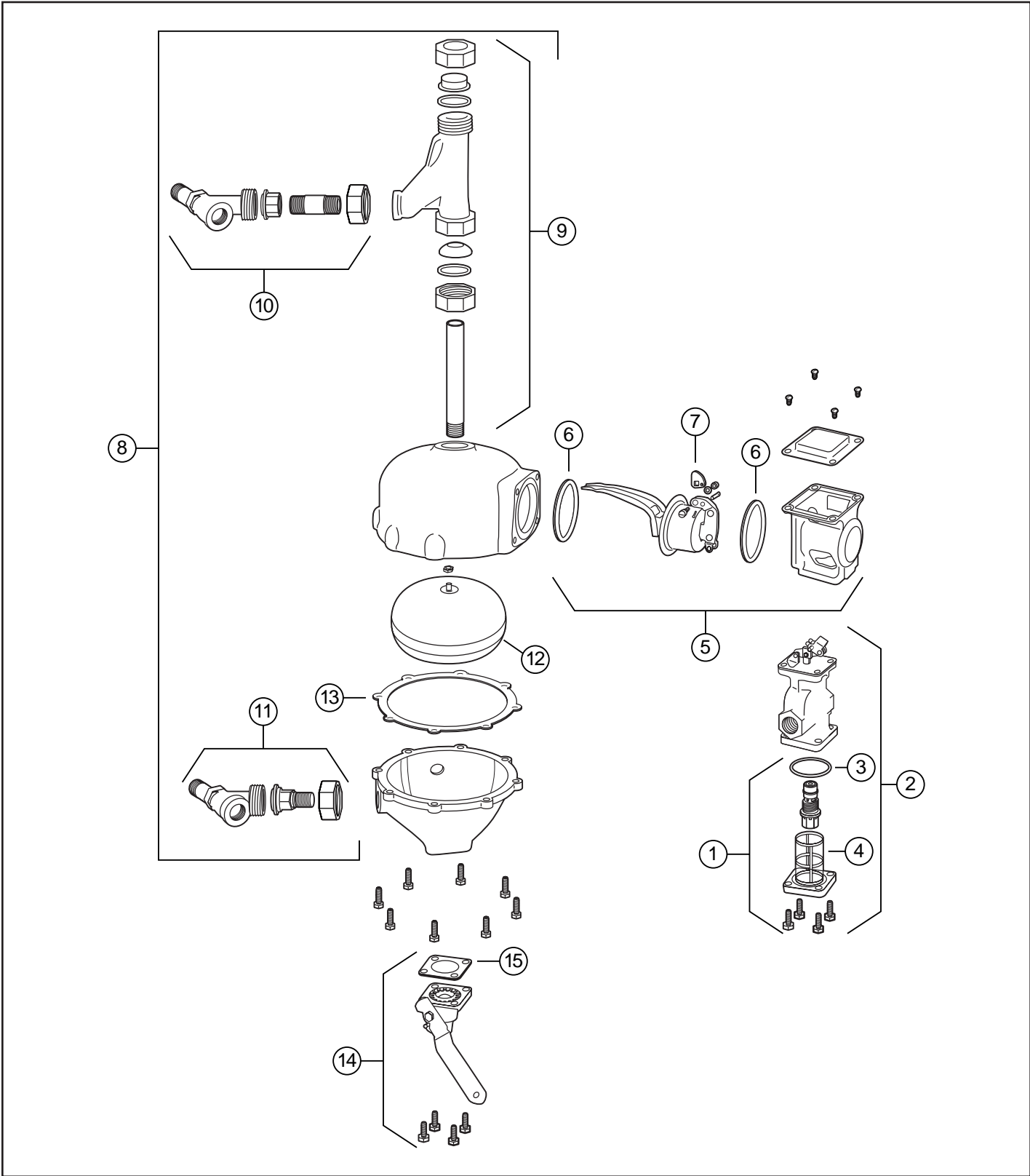
* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.



Water Feeders – Mechanical

Series 47 (continued) Mechanical Water Feeders

Components



Water Feeders – Mechanical

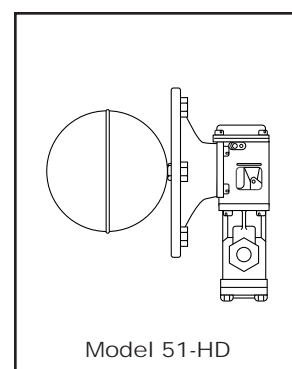
Series 51

Mechanical Water Feeders



Replacement Head Mechanisms

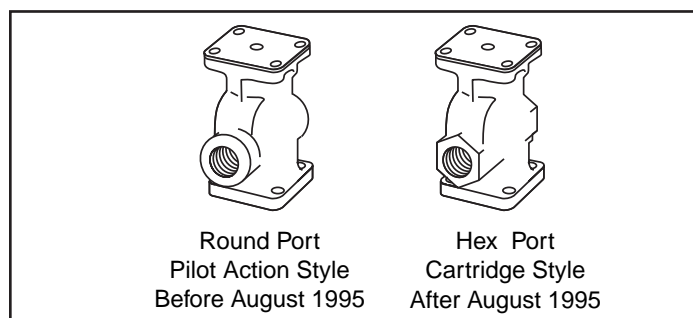
For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
51	51-HD	134900	Head mechanism	19.0 (8.6)



Components (shown on page 51)

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	342350	SA51-30	Float	2.5 (1.1)
2	304100	F-26	Gasket	0.1 (.05)
3	312800	37-27	Gasket	0.1 (.05)
4	302900	CO-106	Cam assembly	0.1 (.05)
5	342000	SA51-4	Bellows bracket assembly	1.5 (0.7)
6*	342500	SA51-101-102	Valve & strainer kit	3.0 (1.4)
7	310452	CTRD-51	Cartridge & strainer kit	0.8 (.36)
8	324435	37-101	Tetraseal O-ring	0.1 (.05)
9	347100	SA101-38	Strainer basket	0.7 (.32)

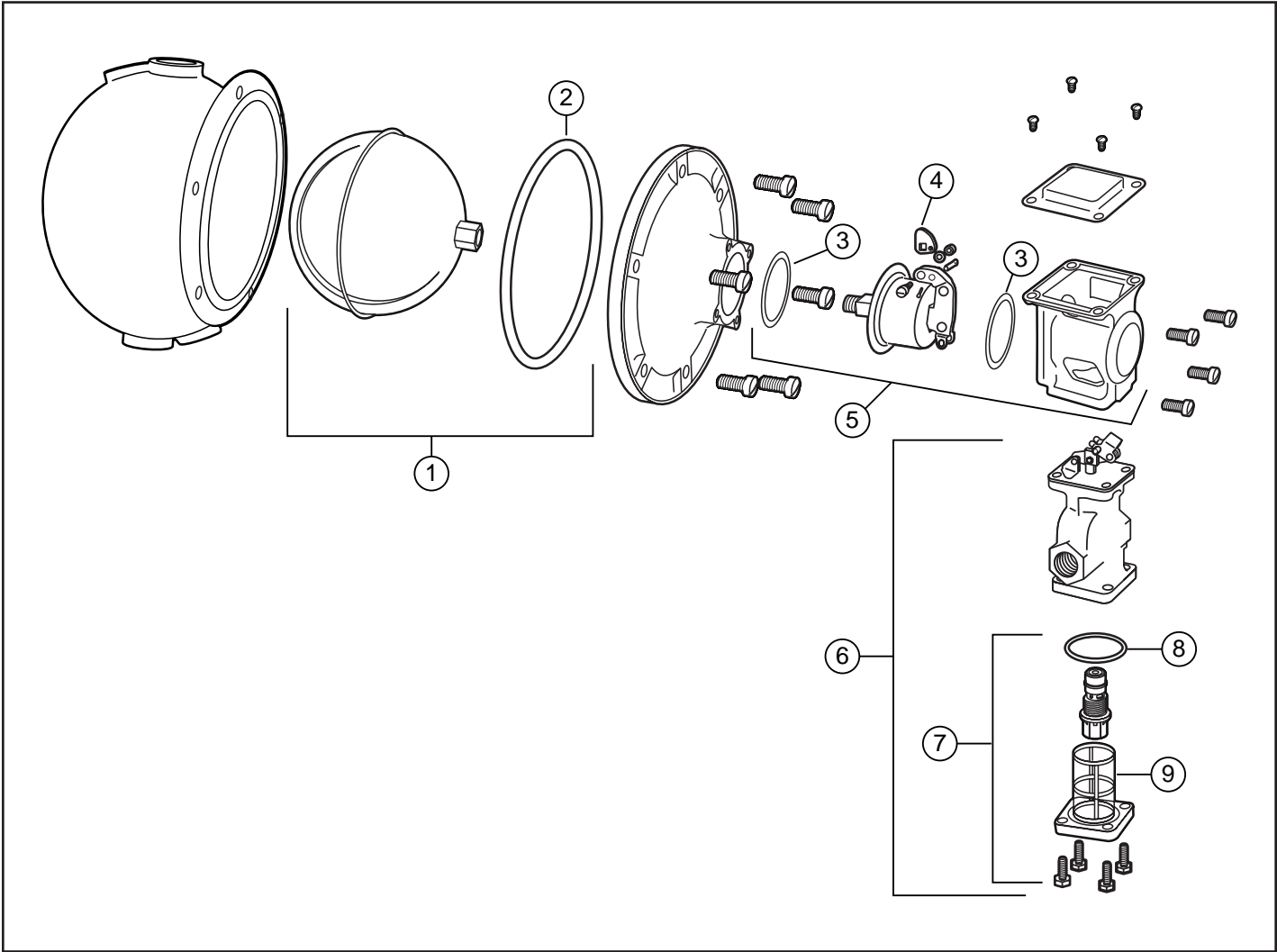
* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.



Water Feeders – Mechanical

Series 51 (continued) Mechanical Water Feeders

Components





Water Feeders – Mechanical

Series 51-S

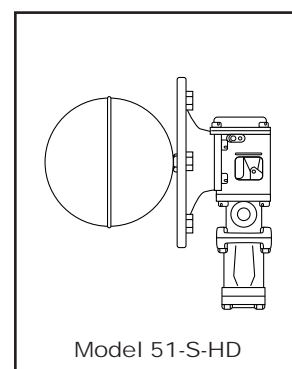
Mechanical Water Feeders



Series 51-S

Replacement Head Mechanisms

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
51S	51-S-HD	135800	Head mechanism	19.0 (8.6)



Model 51-S-HD

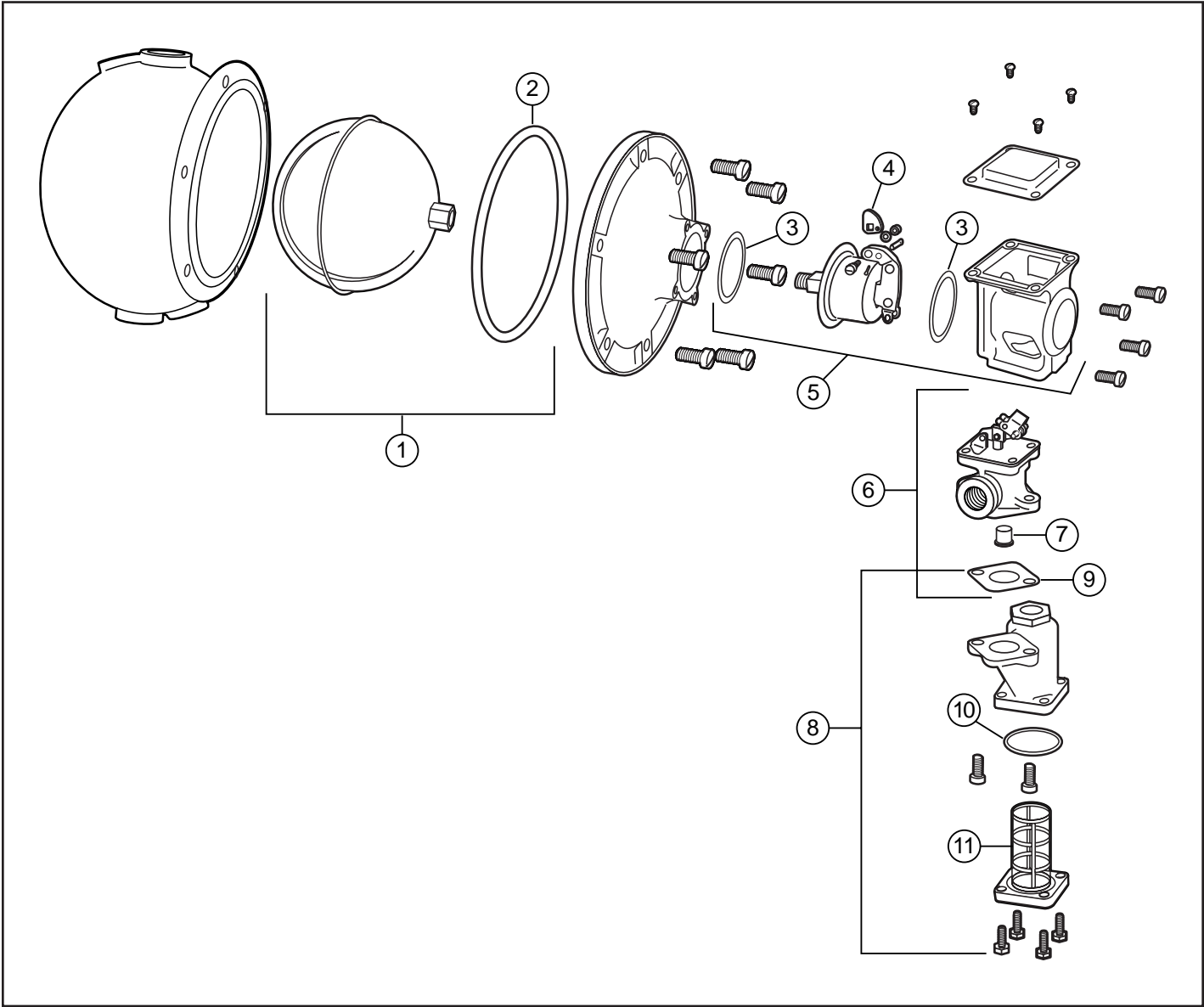
Components (shown on page 53)

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	342350	SA51-30	Float	2.5 (1.1)
2	304100	F-26	Gasket	0.1 (.05)
3	312800	37-27	Gasket	0.1 (.05)
4	302900	CO-106	Cam assembly	0.1 (.05)
5	342000	SA51-4	Bellows bracket assembly	1.5 (0.7)
6	342100	SA51S-6	Valve assembly	3.0 (1.4)
7	316200	51S-114	Valve seat	0.8 (.36)
8	342200	SA51-9	Strainer assembly	0.1 (.05)
9	312900	37-28	Gasket	0.1 (.05)
10	324435	37-101	Tetraseal O-ring	0.1 (.05)
11	340700	SA37-38	Strainer basket (includes item 10)	0.7 (.32)

Water Feeders – Mechanical

Series 51-S (continued) Mechanical Water Feeders

Components



Water Feeders – Mechanical

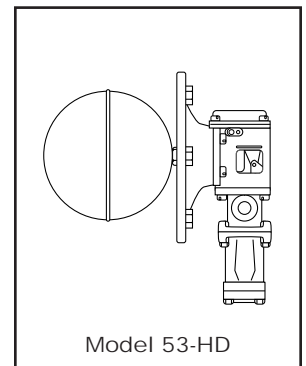
Series 53

Mechanical Water Feeders



Replacement Head Mechanisms

For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
53	53-HD	137000	Head mechanism	19.0 (8.6)



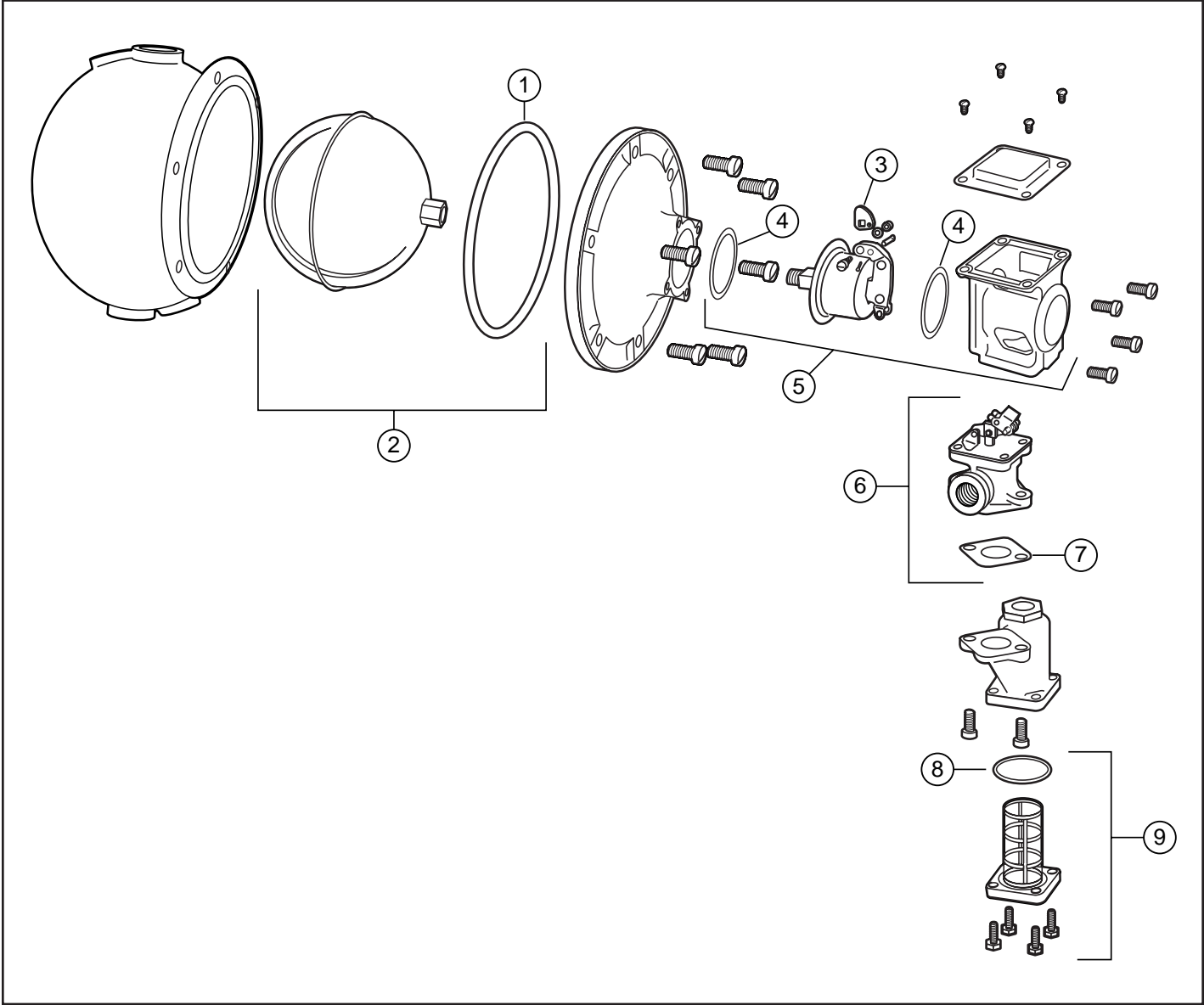
Components (shown on page 55)

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	303100	F-26	Gasket	0.1 (.05)
2	304200	F-48	Float	4.0 (1.8)
3	302900	CO-106	Cam assembly	0.1 (.05)
4	312800	37-27	Gasket	0.1 (.05)
5	342700	SA53-4	Bellows bracket assembly	1.5 (0.7)
6	342800	SA53-6	Valve assembly	3.0 (1.4)
7	312900	37-28	Gasket	0.1 (.05)
8	324435	37-101	Tetraseal O-ring	0.1 (.05)
9	340700	SA37-38	Strainer basket	0.7 (.32)

Water Feeders – Mechanical

Series 53 (continued) Mechanical Water Feeders

Components



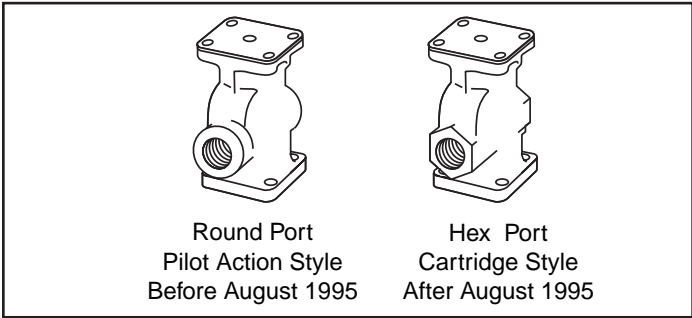
Water Feeders – Mechanical

Series 247
Mechanical Water Feeders

Components (shown on page 57)

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	O-ring	0.1 (.05)
4*	347100	SA101-38	Strainer for hex port valves (includes item 3)	0.2 (.09)
5	341900	SA47-104	Bellows bracket assembly	1.5 (0.7)
6	312800	37-27	Gasket	0.1 (.05)
7	302900	CO-106	Cam assembly	0.1 (.05)
8	340600	SA37-30	Float (includes item 9)	2.0 (.9)
9	312700	37-26	Gasket	0.1 (.05)

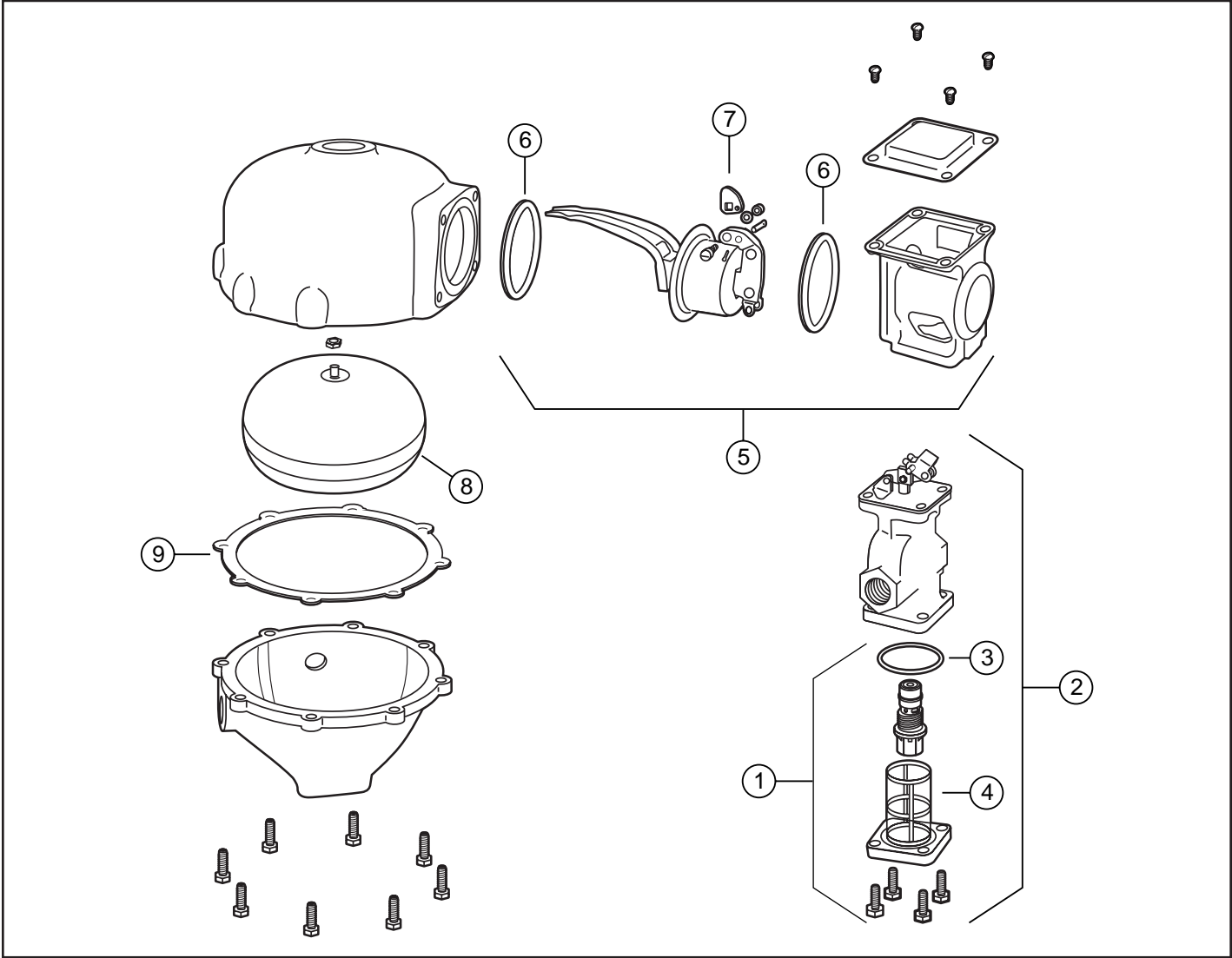
* Units manufactured prior to August 1995 have a round port pilot valve and a strainer assembly. These valve and strainer assemblies can be replaced with the current hex port cartridge valve and strainer assembly.



Water Feeders – Mechanical

Series 247 (continued) Mechanical Water Feeders

Components



Water Feeders – Make-Up

Series 21

Make-Up Water Feeders

Components (shown on page 59)

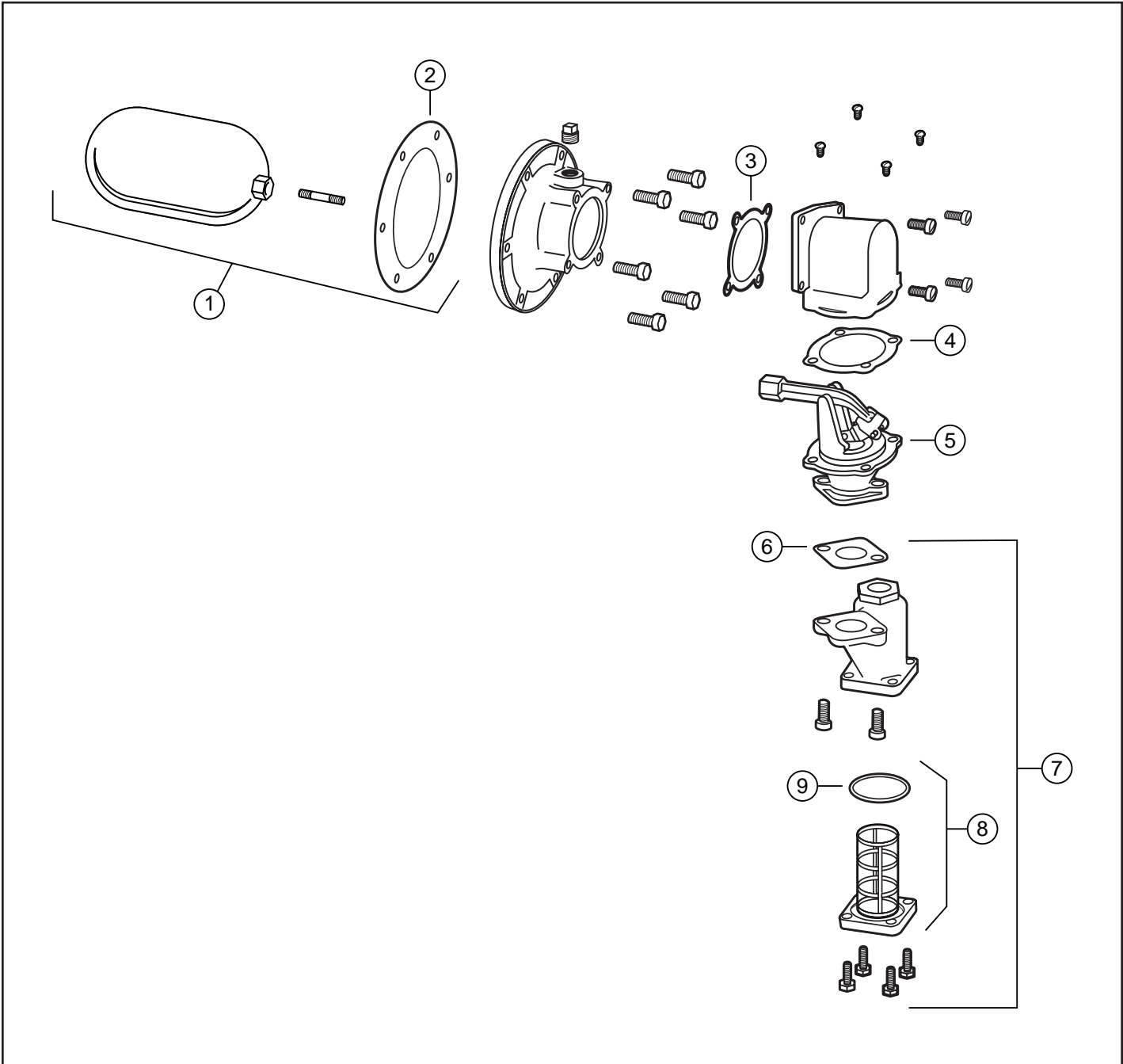
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	311200	21-30	Float	1.7 (.77)
2	335400	847-26	Gasket	0.1 (.05)
3	311100	21-27	Gasket	0.1 (.05)
4	310800	21-12	Gasket	0.1 (.05)
5	339500	SA21-6	Valve assembly	3.0 (1.4)
6	312900	37-28	Gasket	0.1 (.05)
7	342300	SA51-9R	Strainer assembly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



Water Feeders – Make-Up

Series 21 (continued) Make-Up Water Feeders

Components





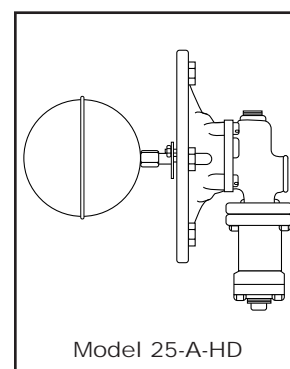
Water Feeders – Make-Up

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)



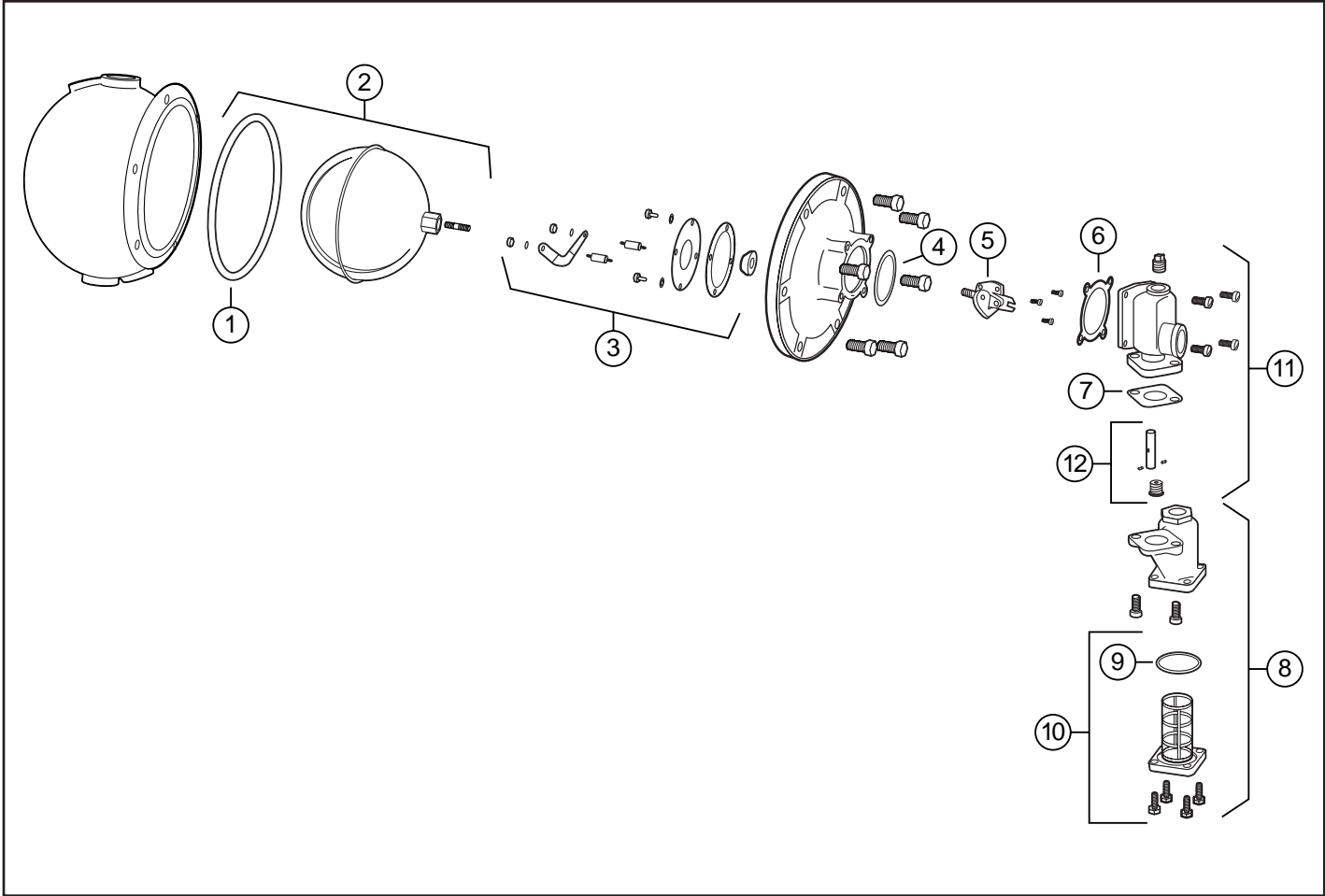
Components (shown on page 61)

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 items 1 & 4)	0.1 (.05)
4	312100	27T-13	Gasket	0.1 (.05)
5	339800	SA25-5	Arm assembly	0.1 (.05)
6	311100	21-27	Gasket	0.1 (.05)
7	312900	37-28	Gasket	0.1 (.05)
8	342300	SA51-9R	Strainer assembly (includes item 7)	3.0 (1.4)
9	324435	37-101	Tetraseal O-ring	0.1 (.05)
10	339700	SA21-38R	Strainer basket	1.0 (0.5)
11	339900	SA25A-6	Valve assembly	3.0 (1.4)
12	340000	SA25A-15	Stem & disc assembly	0.3 (.14)

Water Feeders – Make-Up

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

Components

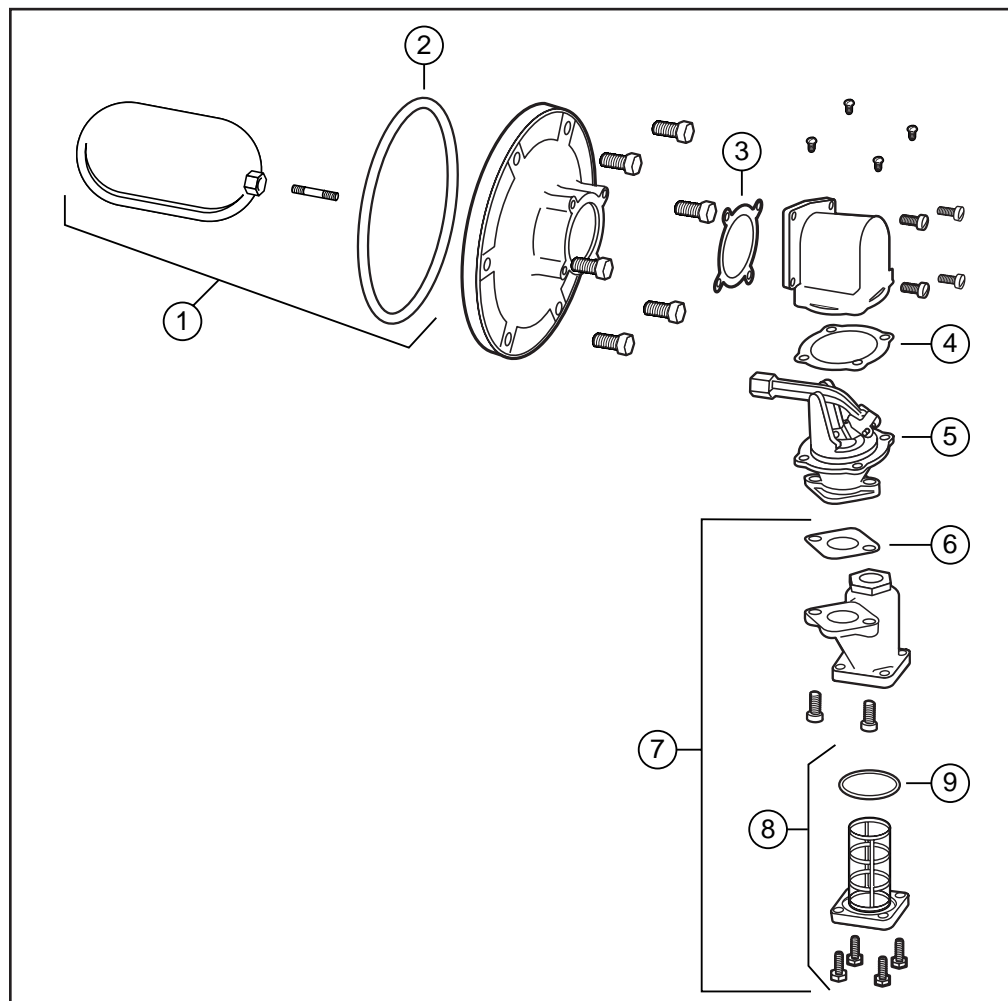


Water Feeders – Make-Up

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	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)



Water Feeders – Make-Up

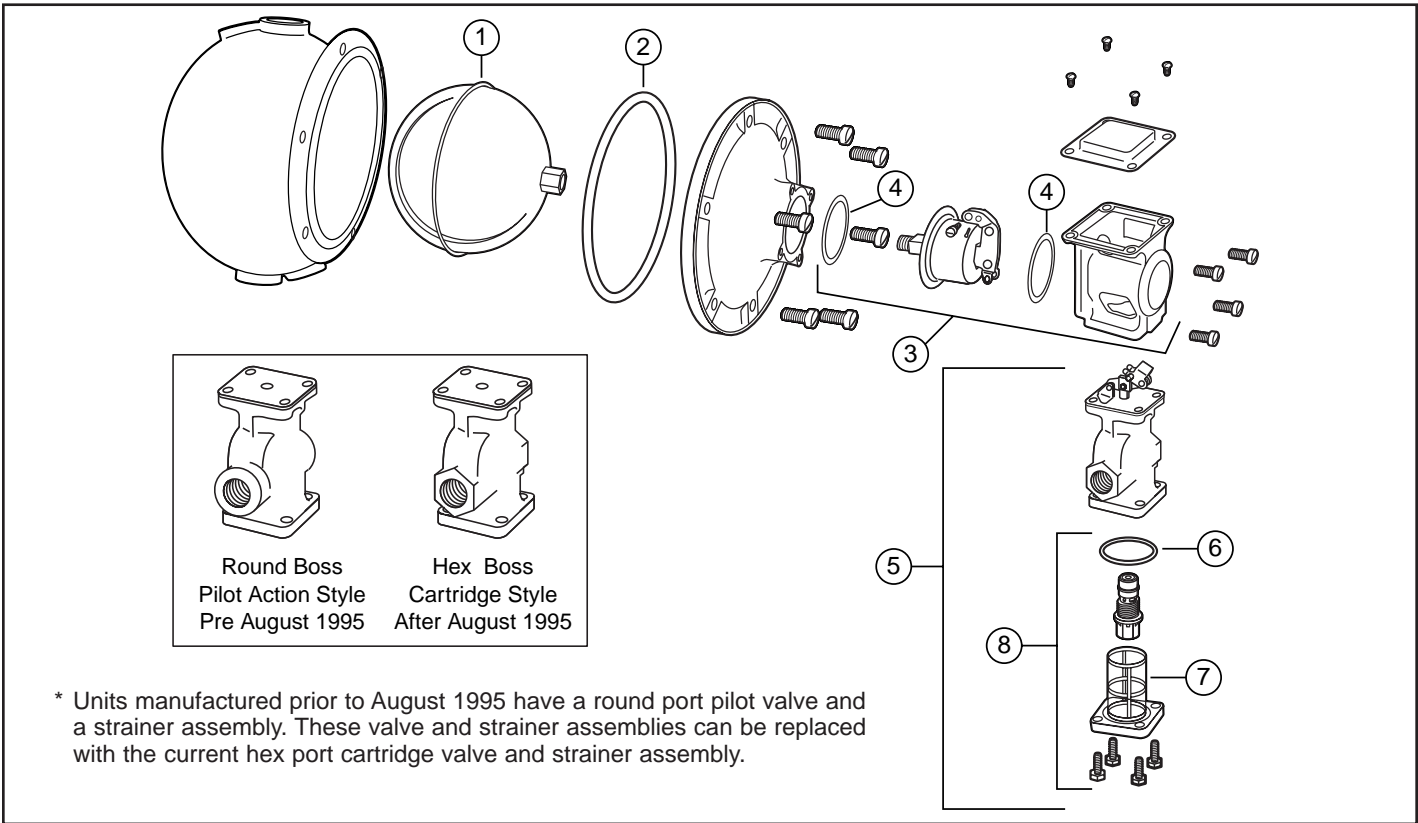
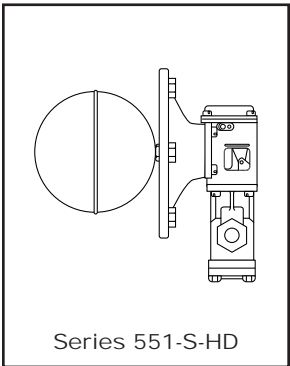
Series 551-S
Make-Up Water Feeders

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	342350	SA51-30	Float (includes item 2)	2.5 (1.1)
2	304100	F-26	Gasket	0.1 (.05)
3	352400	SA551S-4	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	Tetraseal o-ring	0.1 (.05)
7	347100	SA101-38	Strainer basket (includes item 6)	0.7 (.32)
8	310452	CTRD-51	Cartridge kit	0.8 (.36)



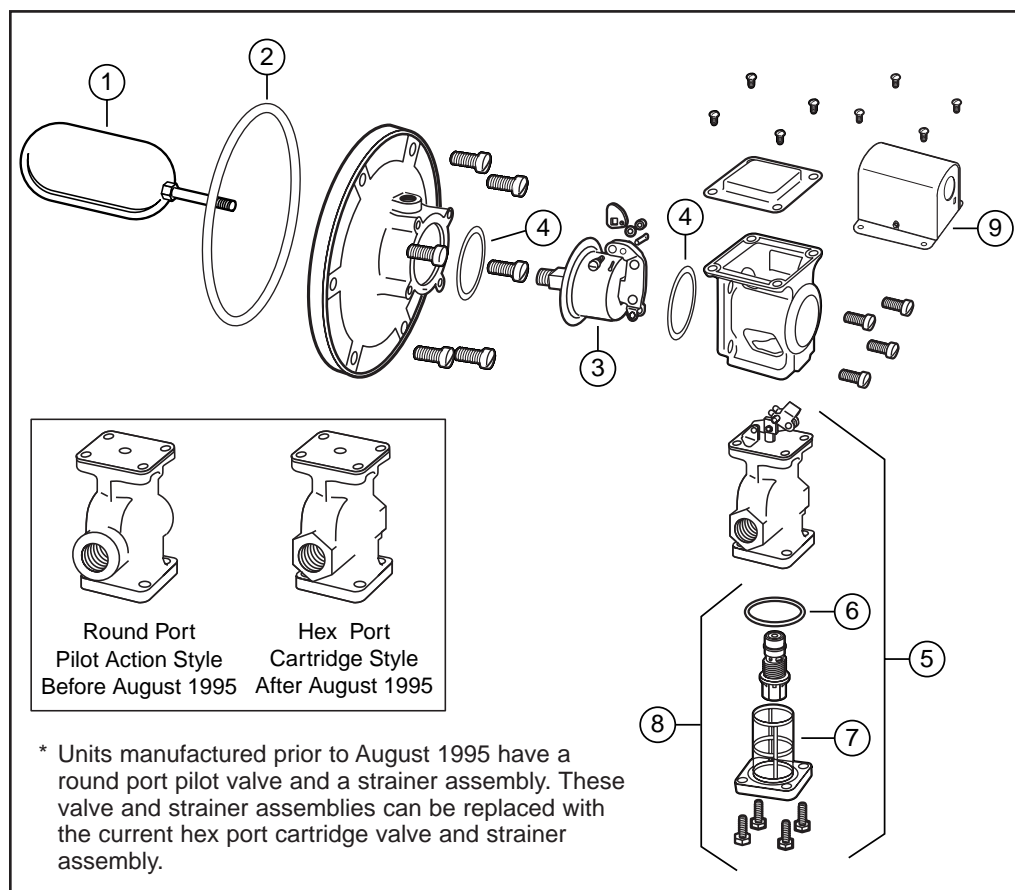
Water Feeders – Make-Up

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 4)	1.5 (0.7)
4	312800	37-27	Gasket	0.1 (.05)
5*	341600	SA47-101-102	Valve & strainer kit	3.0 (1.4)
6	324435	37-101	Tetraseal O-ring	0.1 (.05)
7	347100	SA101-38	Strainer basket (includes item 6)	0.7 (.32)
8	310453	CTRD-101	Cartridge & strainer kit	0.8 (.36)
9	110000	2	Switch	1.0 (0.5)

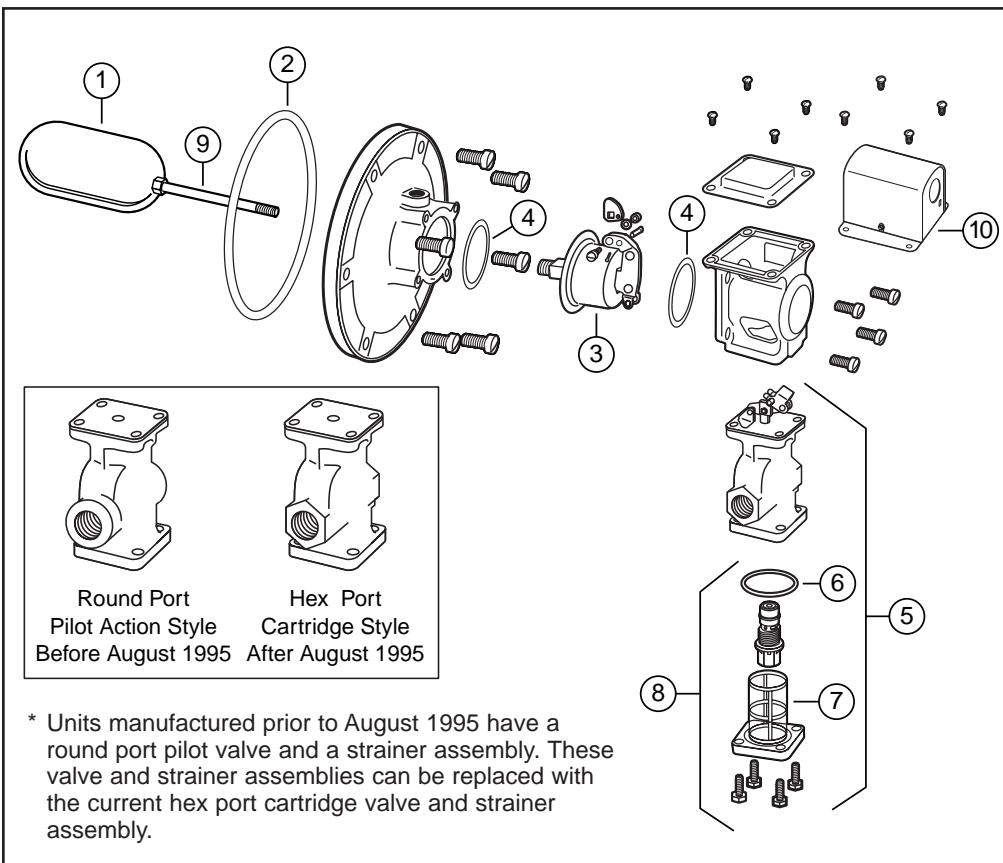


Water Feeders – Make-Up

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 (.9)
2	335400	847-26	Gasket	0.1 (.05)
3	352925	SA851-4	Bellows bracket assembly (includes item 4)	1.5 (0.7)
4	312800	37-27	Gasket	0.1 (.05)
5*	342500	SA51-101-102	Valve & strainer kit	3.0 (1.4)
6	324435	37-101	Tetraseal O-ring	0.1 (.05)
7	347100	SA101-38	Strainer basket (includes item 6)	0.7 (.32)
8	310452	CTRD-51	Cartridge & strainer kit	0.8 (.36)
9	335700	851-105	Float rod	0.3 (.14)
10	110000	2	Switch	1.0 (.05)

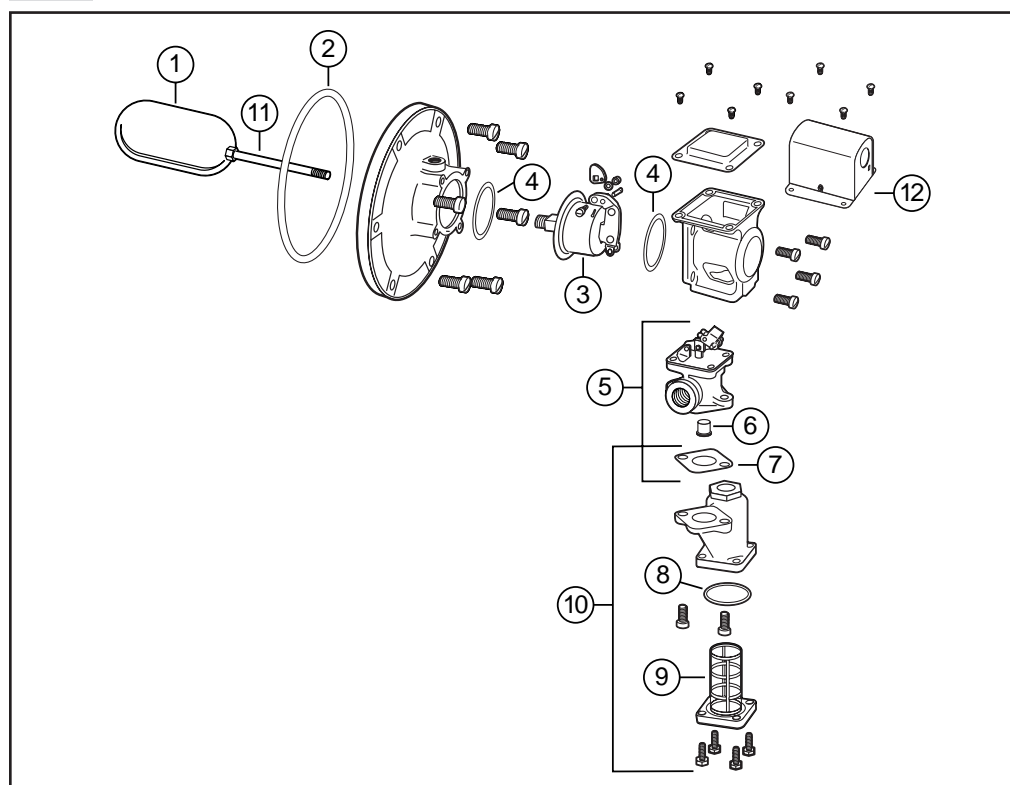
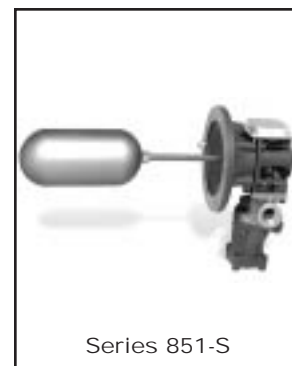


Water Feeders – Make-Up

Series 851-S Make-Up Water Feeders

Components

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



Water Feeders – Make-Up

Series 3155

Make-Up Water Feeders

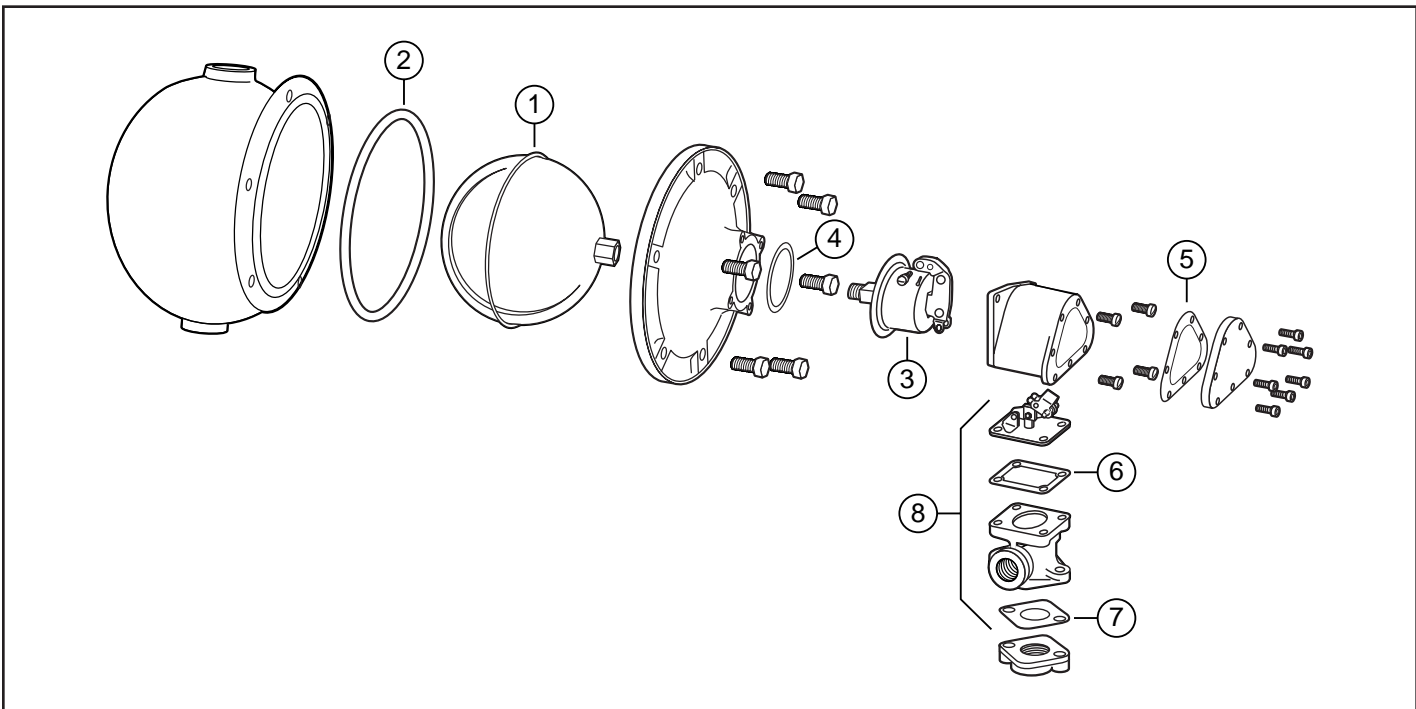
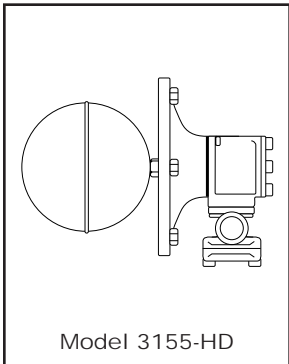
Replacement Head Mechanisms

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	342350	SA51-30	Float (includes item 2)	2.5 (1.1)
2	304100	F-26	Gasket	0.1 (.05)
3	352100	SA355-4	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)



Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 47-2

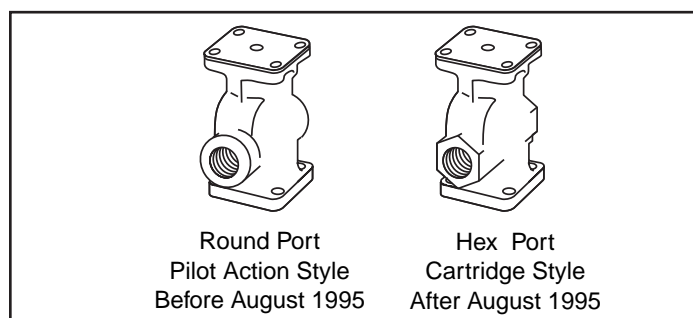
Mechanical Water Feeder/Low Water Cut-Offs

Components (shown on page 69)

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	310453	CTRD-101	Cartridge and strainer kit	.35 (.16)
2*	341600	SA47-101-102	Valve, cartridge & strainer assembly kit	3.0 (1.4)
3	324435	37-101	Tetraseal o-ring	0.1 (.05)
4	347100	SA101-38	Strainer for hex port valves (includes item 3)	0.2 (.09)
5	341500	SA47-4	Bellows and bracket assembly	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)



* 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.

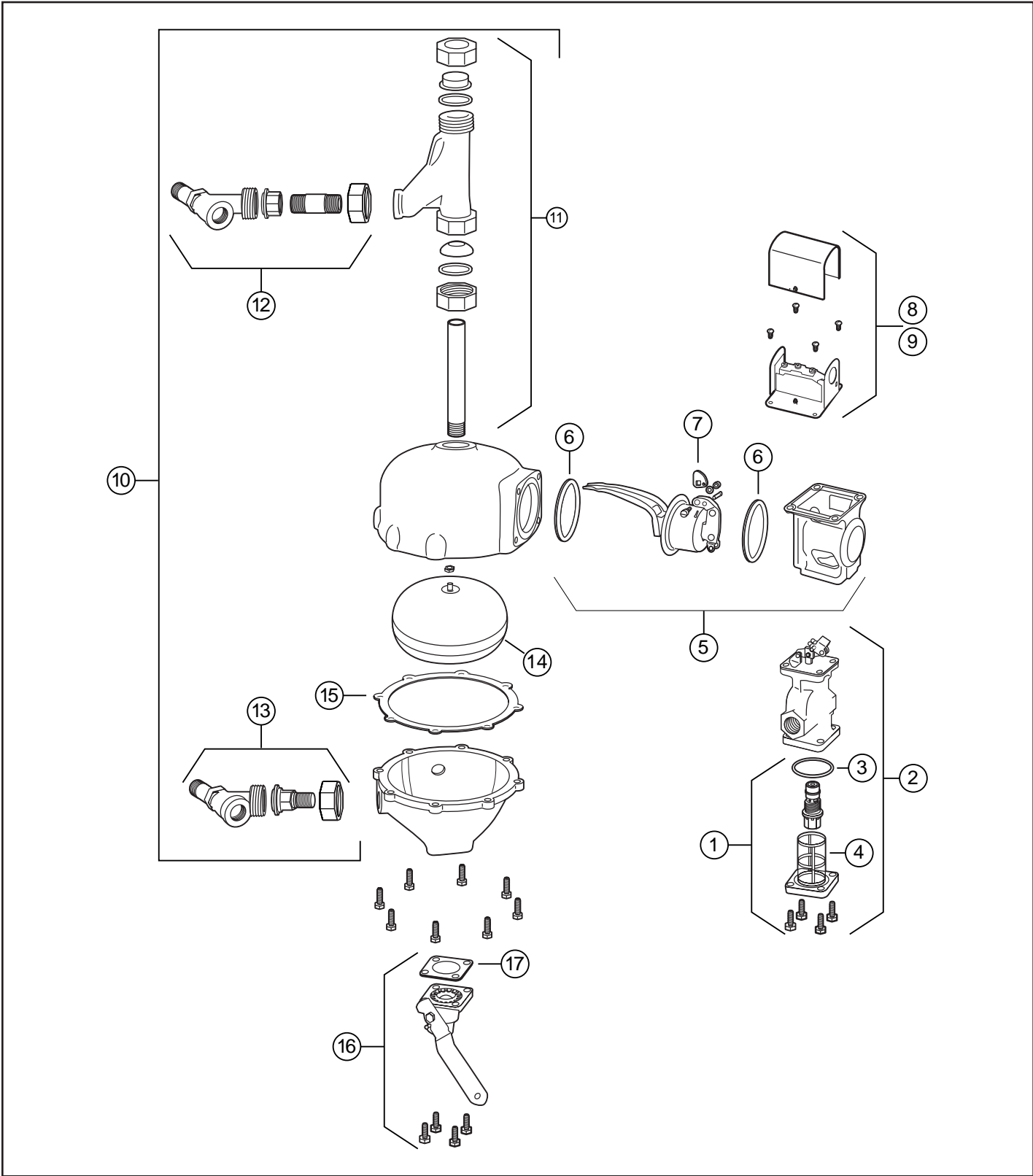


Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 47-2 (continued)

Mechanical Water Feeder/Low Water Cut-Offs

Components



Combination Mechanical Water Feeder/ Low Water Cut-Offs

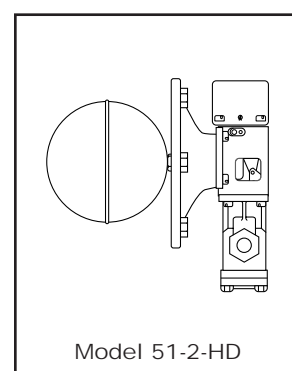
Series 51-2

Water Feeder/Low Water Cut-Offs



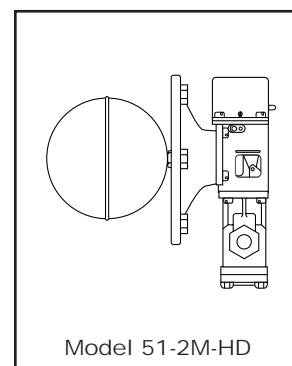
Replacement Head Mechanisms

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



Components (shown on page 71)

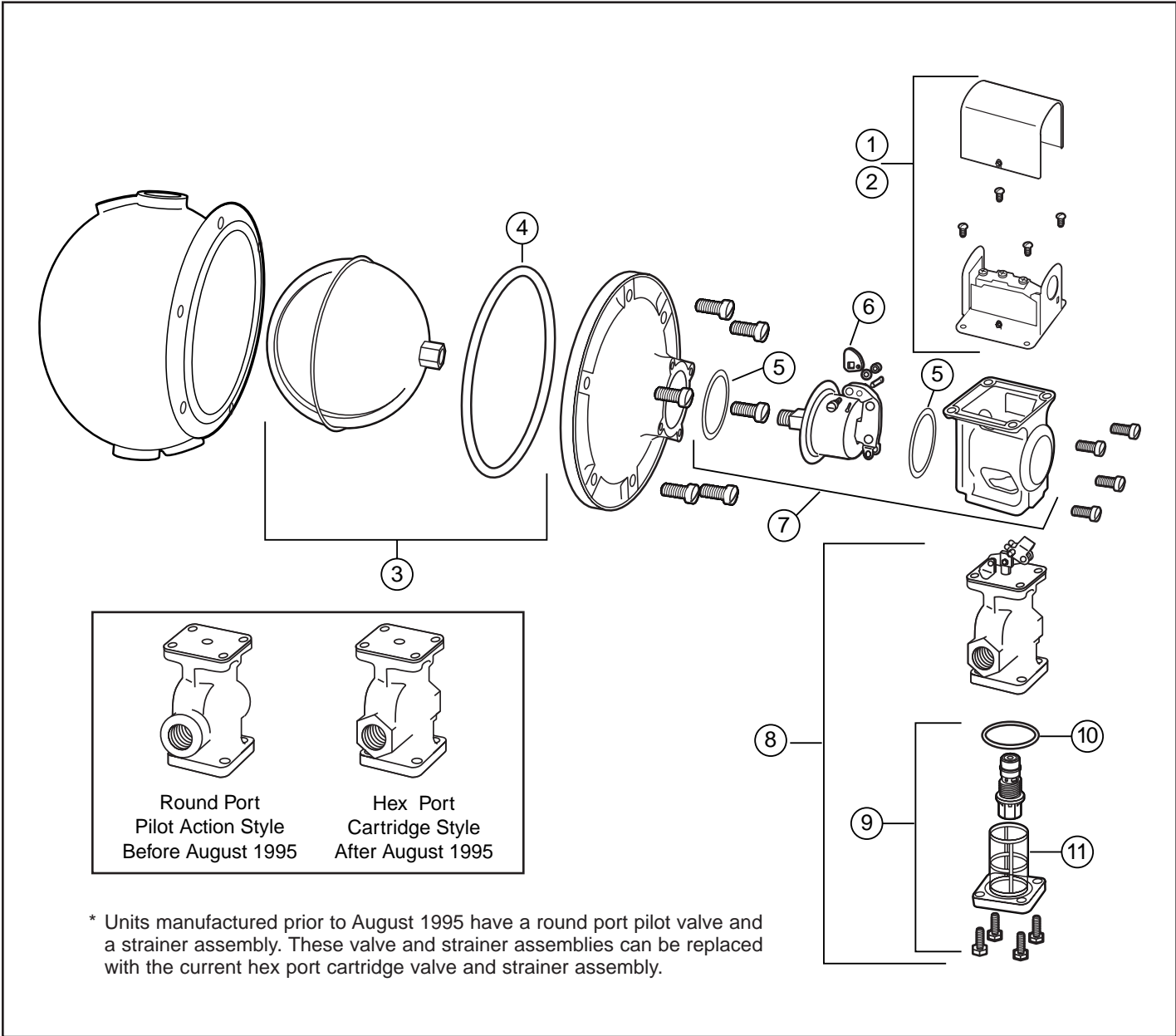
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	110000	2	Low water cut-off switch	1.0 (0.5)
2	110100	2-M	No. 2 w/manual reset	1.0 (0.5)
3	342350	SA51-30	Float	2.5 (1.1)
4	304100	F-26	Gasket	0.1 (.05)
5	312800	37-27	Gasket	0.1 (.05)
6	302900	CO-106	Cam assembly	0.1 (.05)
7	342000	SA51-4	Bellows bracket assembly	1.5 (0.7)
8	342500	SA51-101-102	Valve & strainer kit	3.0 (1.4)
9	310452	CTRD-51	Cartridge & strainer kit	0.8 (.36)
10	324435	37-101	Tetraseal O-ring	0.1 (.05)
11	347100	SA101-38	Strainer basket (includes item 10)	0.7 (.32)



Combination Mechanical Water Feeder/ Low Water Cut-Offs

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

Components





Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 51-S-2

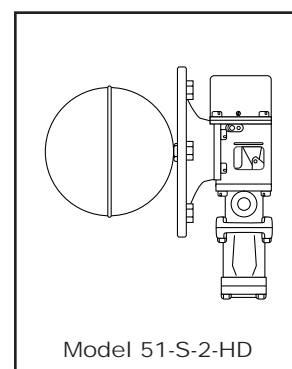
Water Feeder/Low Water Cut-Offs



Series 51-S-2

Replacement Head Mechanisms

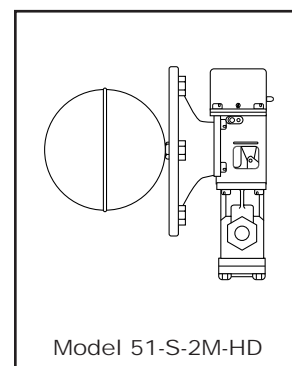
For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
51-S	51-S-2-HD	136200	Head mechanism w/ No. 2 switch	20.5 (9.3)
	or 51-S-2M-HD	136250	51-S-2-HD w/manual reset	21.7 (9.8)



Model 51-S-2-HD

Components (shown on page 73)

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	342350	SA51-30	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	342000	SA51-4	Bellows bracket assembly	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 12)	0.7 (.32)

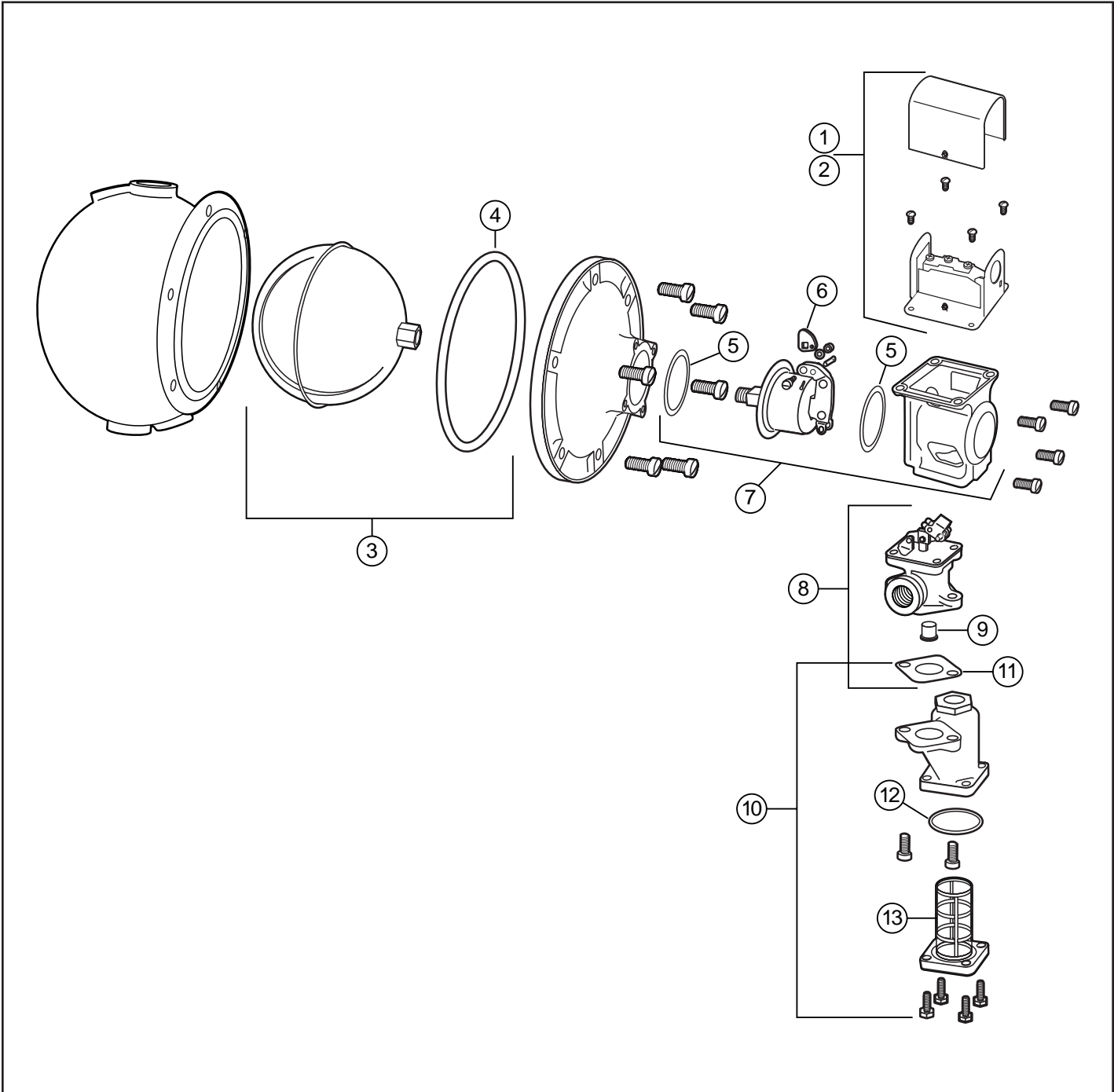


Model 51-S-2M-HD

Combination Mechanical Water Feeder/ Low Water Cut-Offs

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

Components





Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 53-2

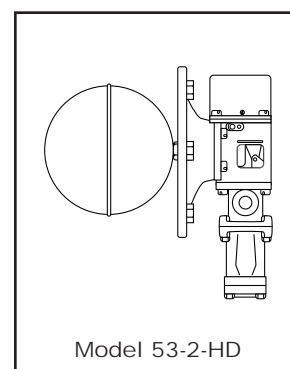
Water Feeder/Low Water Cut-Offs



Series 53-2

Replacement Head Mechanisms

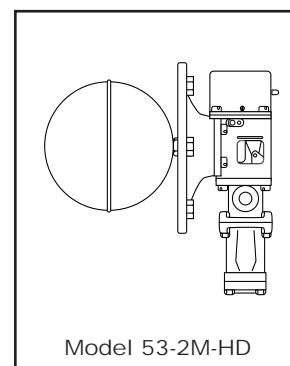
For Series	Repl. Head Model No.	Part Number	Description	Weight lbs. (kg)
53	53-2-HD	137300	Head mechanism w/ No. 2 switch	20.5 (9.3)
	or 53-2M-HD	137250	53-2-HD w/manual reset	20.5 (9.3)



Model 53-2-HD

Components (shown on page 75)

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	304200	F-48	Float	4.0 (1.8)
5	302900	CO-106	Cam assembly	0.1 (.05)
6	312800	37-27	Gasket	0.1 (.05)
7	342700	SA53-4	Bellows bracket assembly	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)

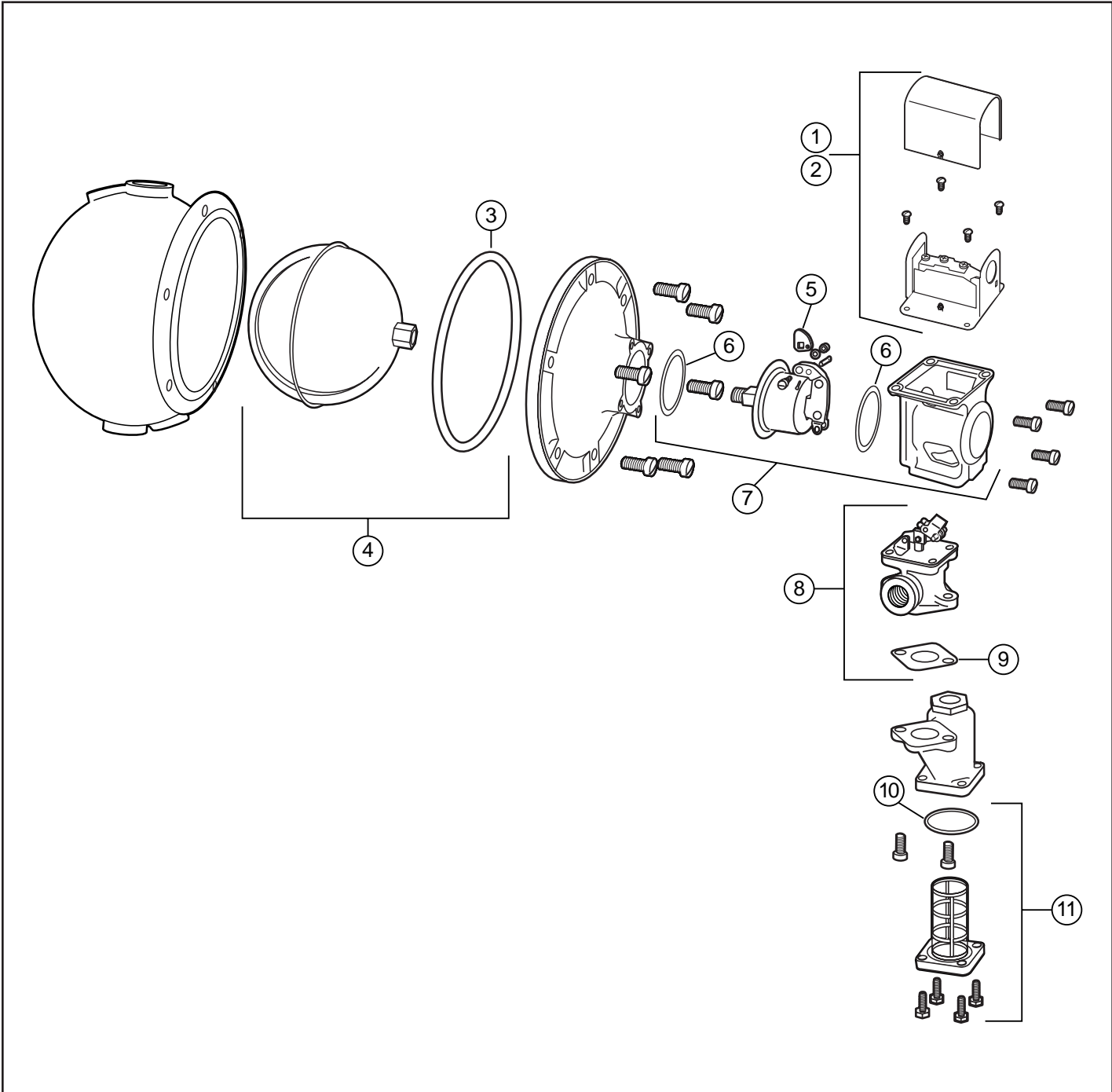


Model 53-2M-HD

Combination Mechanical Water Feeder/ Low Water Cut-Offs

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

Components





Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 247-2

Mechanical Water Feeder/Low Water Cut-Offs

Components (shown on page 77)

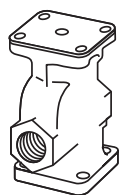
Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	310453	CTRD-101	Cartridge & strainer kit	.35 (.16)
2*	341600	SA47-101-102	Valve, cartridge & strainer assembly kit	3.0 (1.4)
3	324435	37-101	Tetraseal o-ring	0.1 (.05)
4	347100	SA101-38	Strainer for hex port valves (includes item 3)	0.2 (.09)
5	341900	SA47-104	Bellows & bracket assembly	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)



* 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.



Round Port
Pilot Action Style
Before August 1995



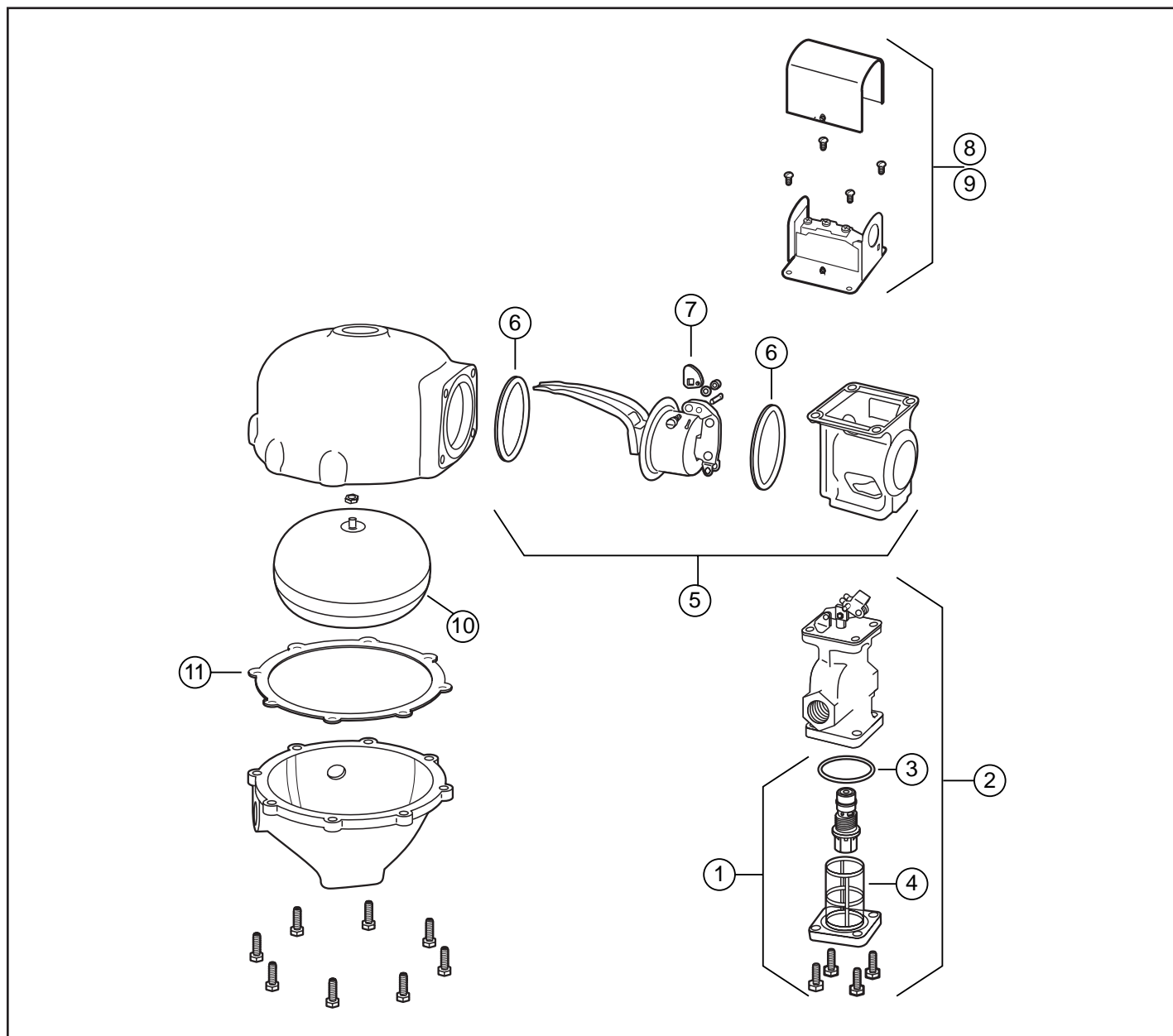
Hex Port
Cartridge Style
After August 1995

Combination Mechanical Water Feeder/ Low Water Cut-Offs

Series 247-2 (continued)

Mechanical Water Feeder/Low Water Cut-Offs

Components

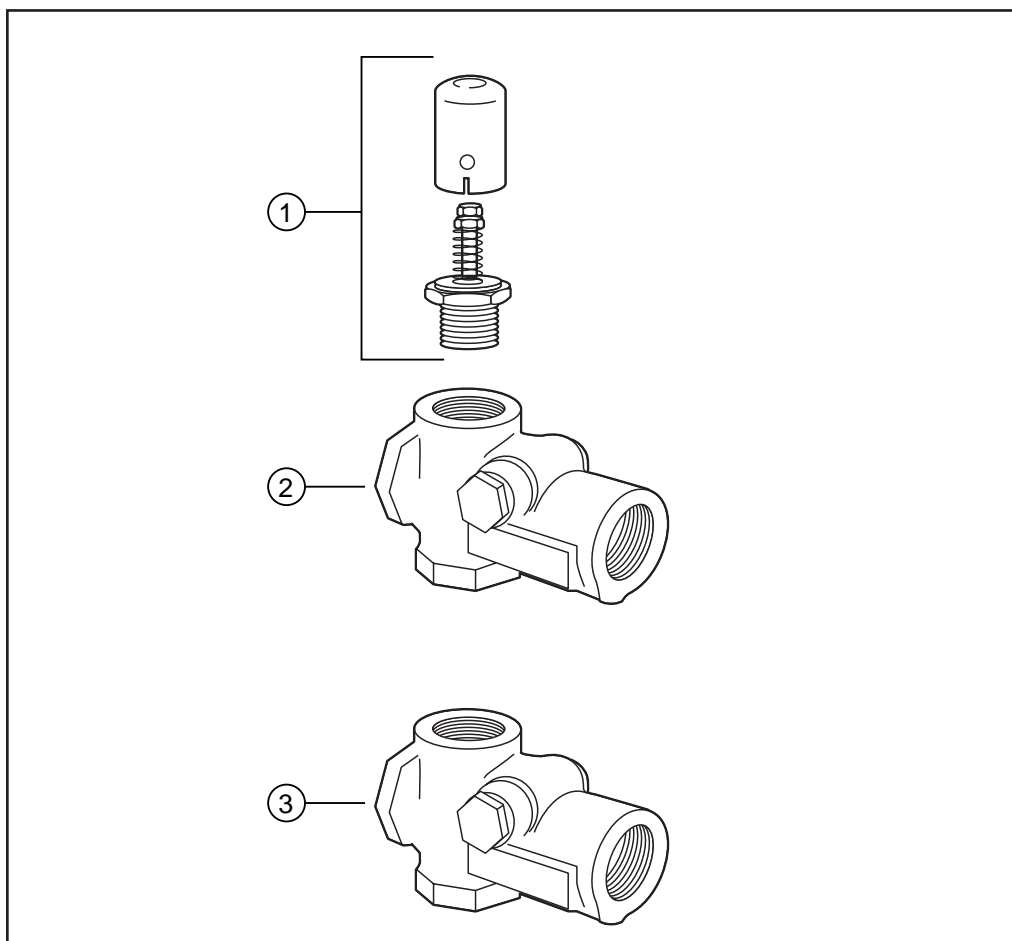


Valves

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)



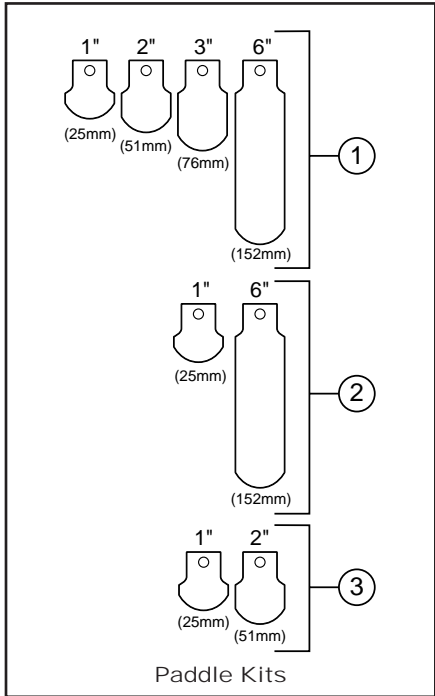
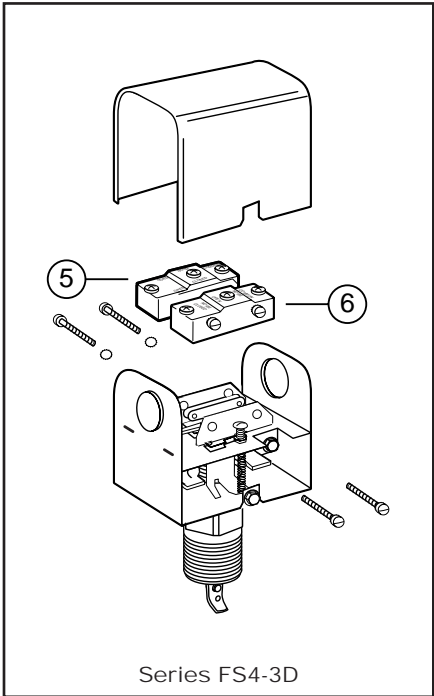
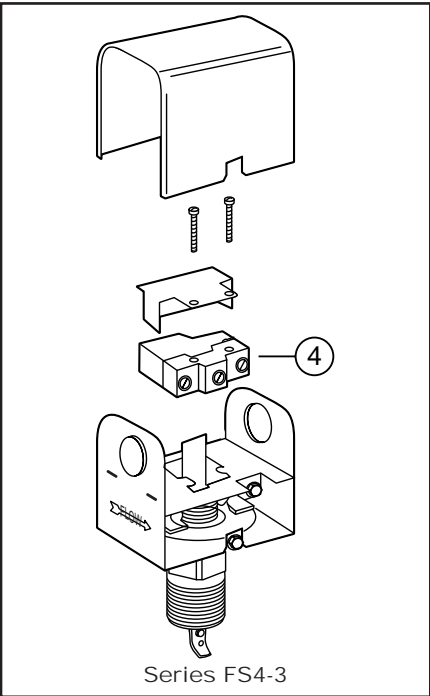
Flow Switches – Liquid

Series FS4-3 General Purpose Liquid Flow Switches

Components

For Model	Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
FS4-3					
FS4-3D					
FS4-3J					
FS4-3S	1	336800	FS4-15	Monel paddle kit	0.1 (.05)
FS4-3DS					
FS4-3-5R					
FS4-3-20					
FS4-3RP	2	336101	FS4-15RP	Stainless steel paddle kit (reinforced paddles)	.08 (.04)
FS4-3F	3	336801	FS4-15-F	Monel Paddle Kit	0.1 (.05)
All models (except FS4-3D)	4	340700	SA37-38	SPDT switch	0.3 (.14)
FS4-3D	5	305512	FS4-3D-17	SPDT switch	0.3 (.14)
	6	304300	FS1-17	SPDT switch (next to adjustment screw)	0.3 (.14)

Note: Paddle kits include screws and washers.



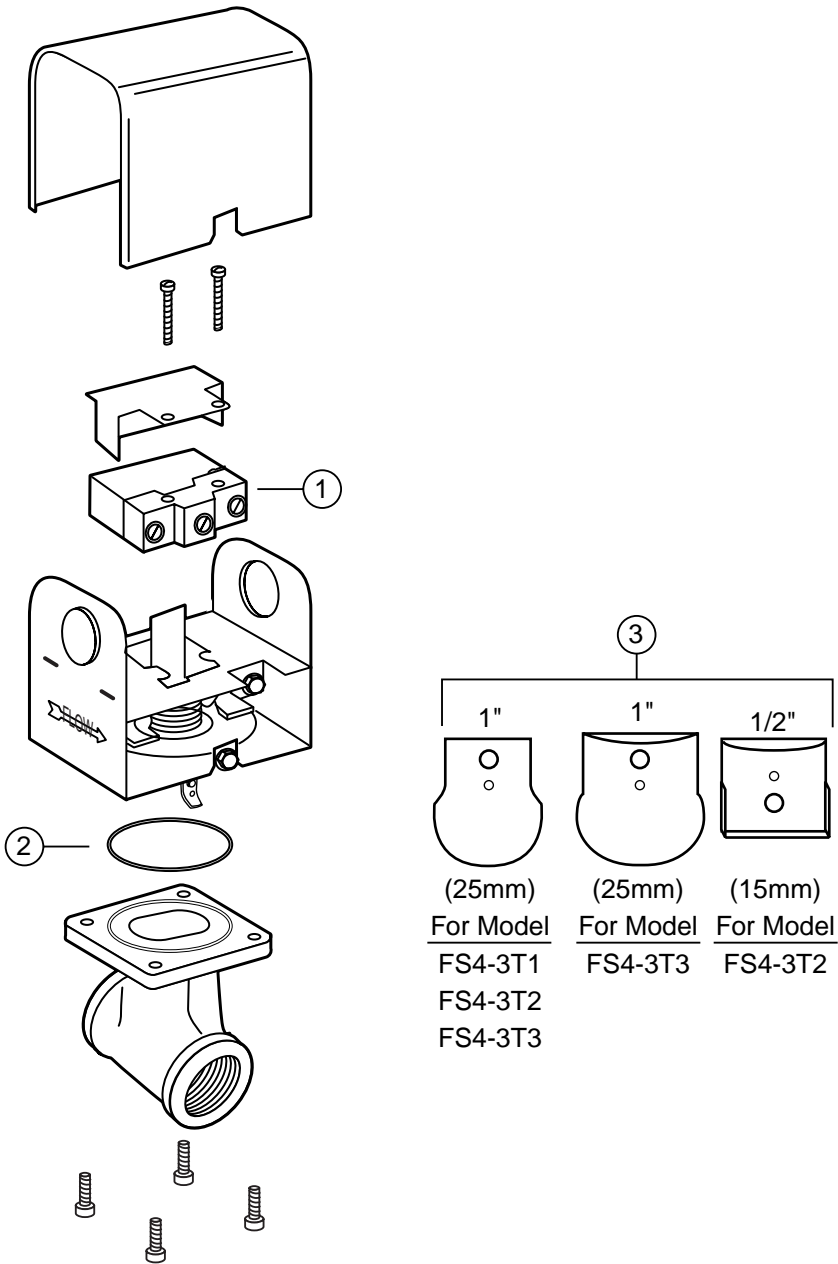
Flow Switches – Liquid

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	305800	FS4T-41	O-ring	0.1 (.05)
3	336900	FS4-3T-25	Paddle kit	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

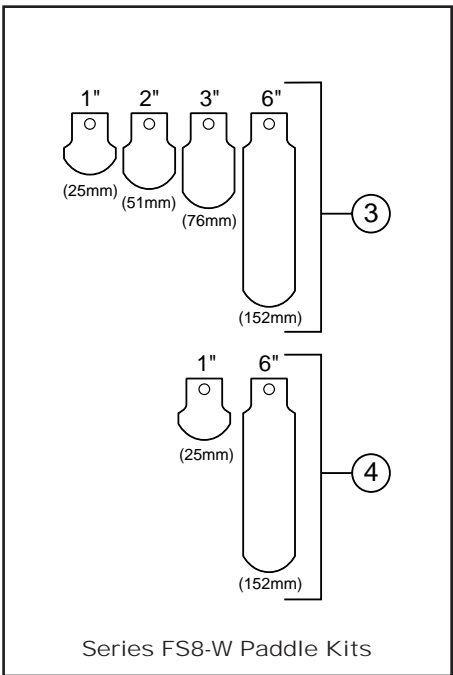
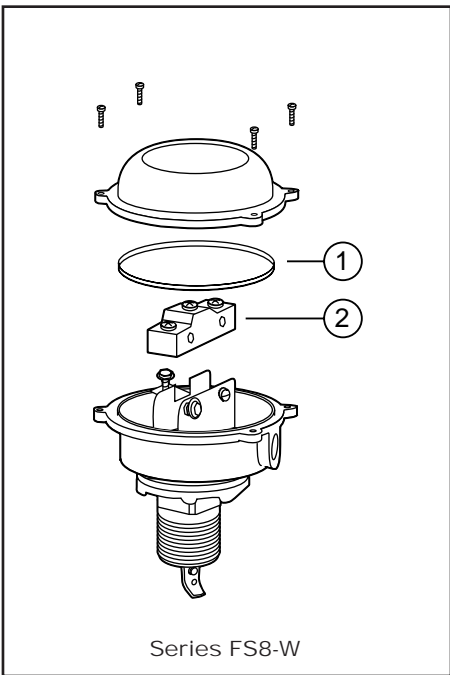
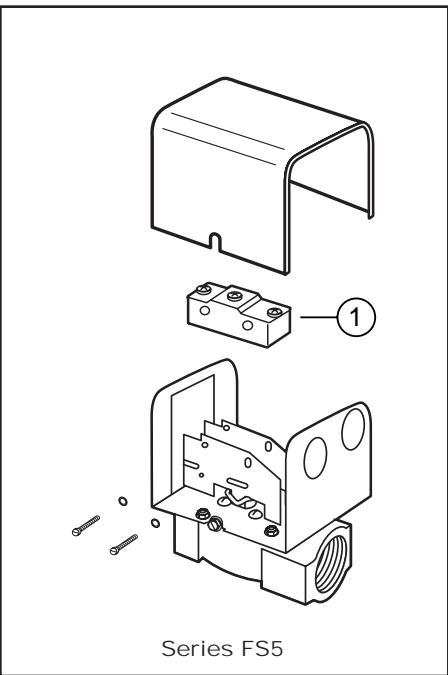
General Purpose Liquid Flow Switches

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	Paddle kit	0.1 (.05)
4	336101	FS4-15RP	Stainless steel paddle kit (reinforced paddles)	.08 (0.4)



Note: Paddle kits include screws and washers.

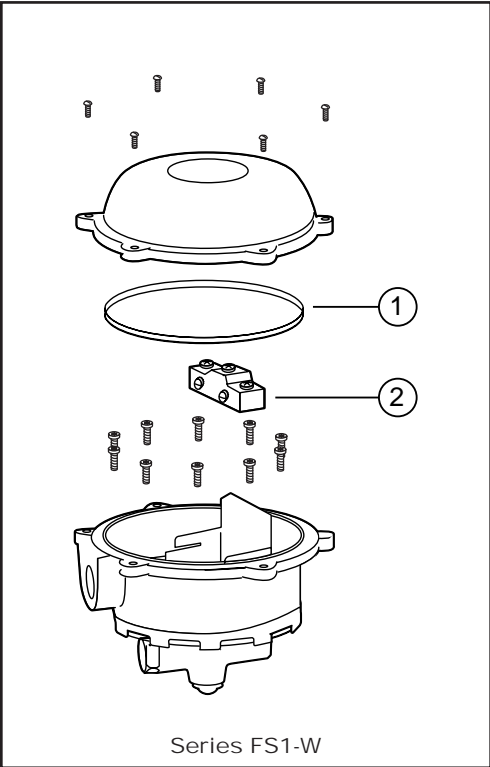
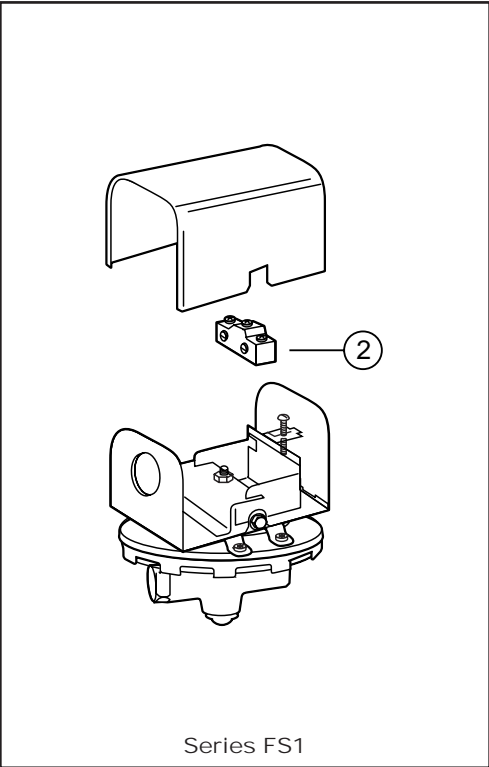


Flow Switches – Liquid

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

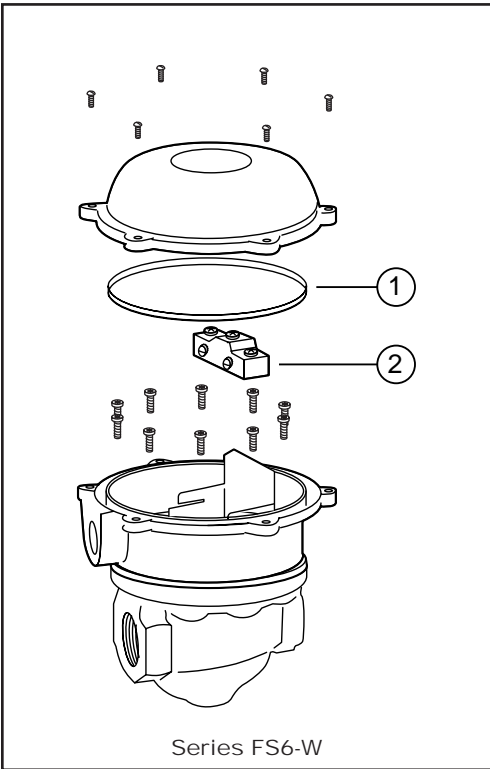
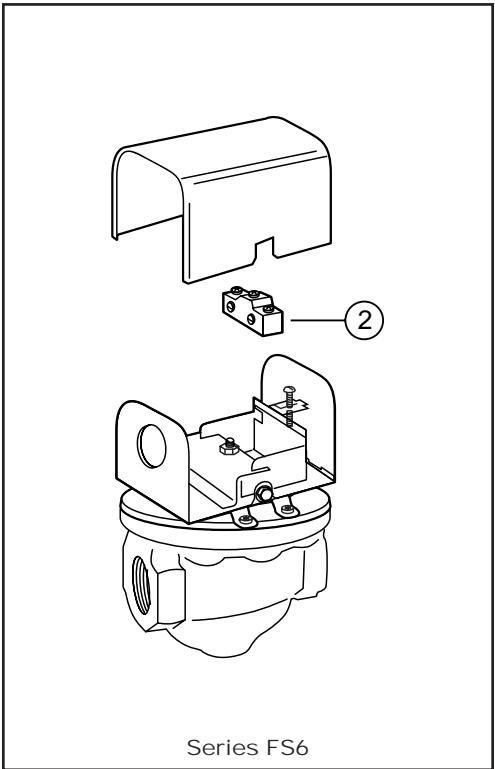
Flow Switches – Liquid

Series FS6

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)



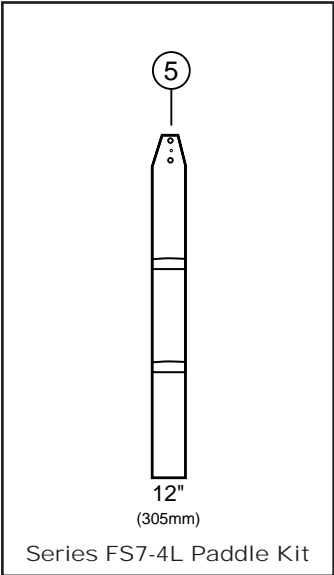
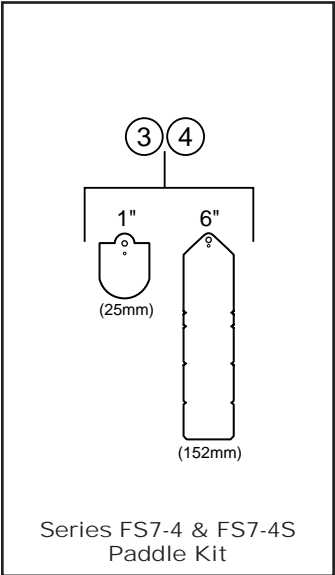
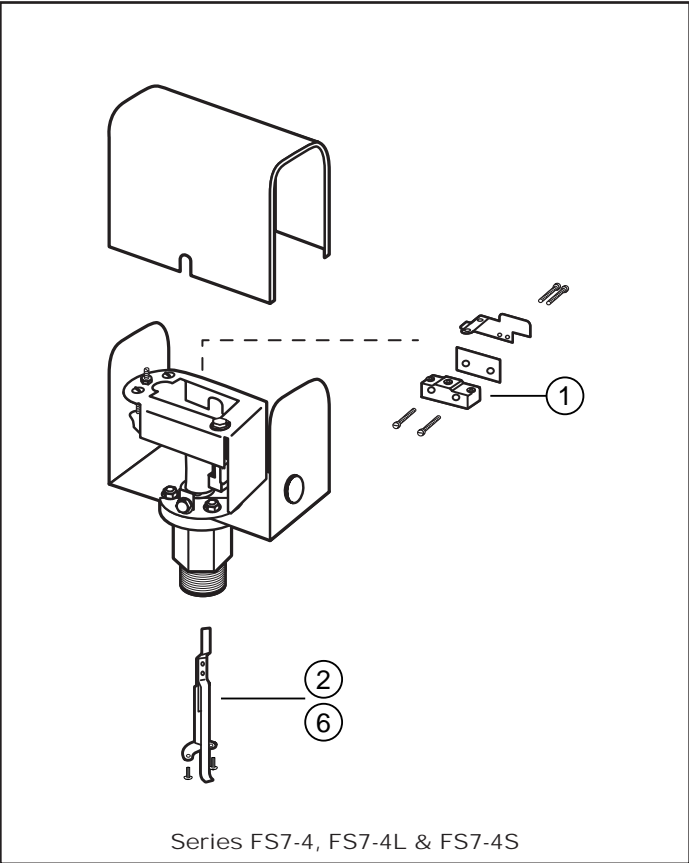
Flow Switches – Liquid

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

Components

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

Note: Paddle kits include screws and washers.



Flow Switches – Liquid

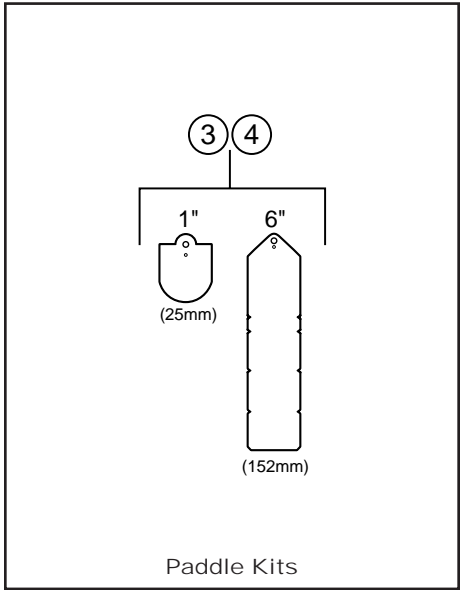
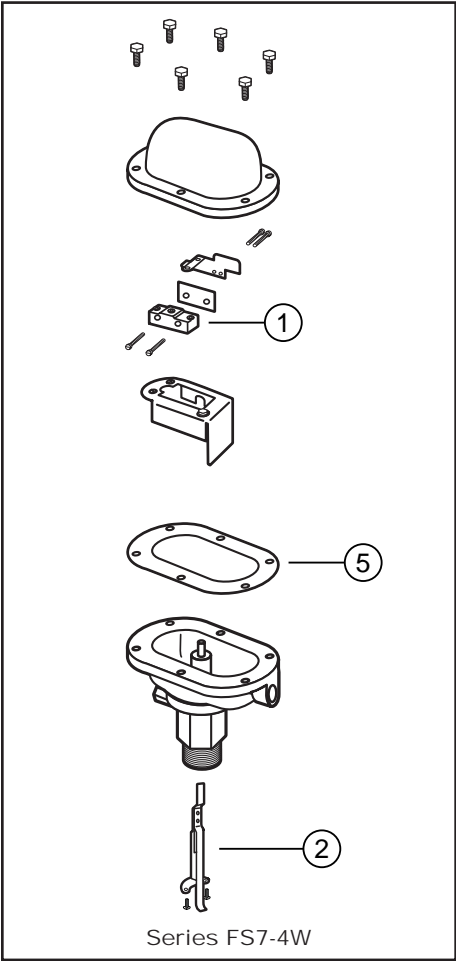
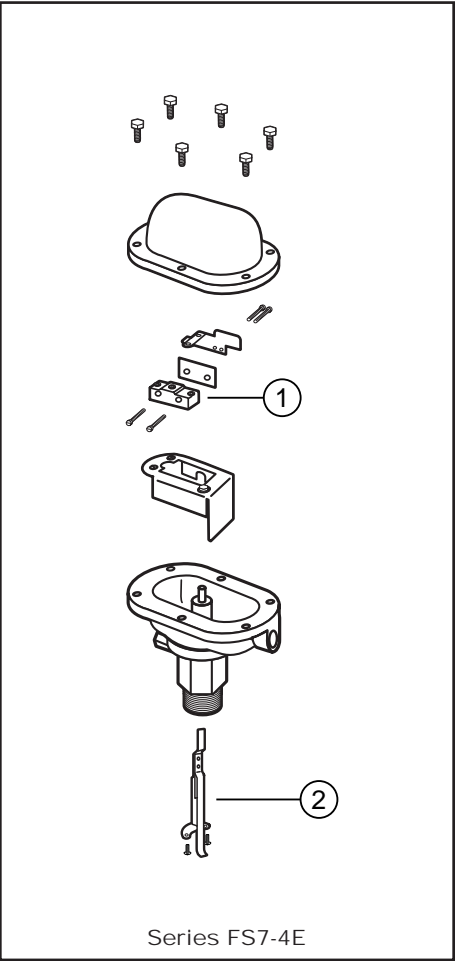
Series FS7-4E & FS7-4W Industrial Liquid Flow Switches

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.



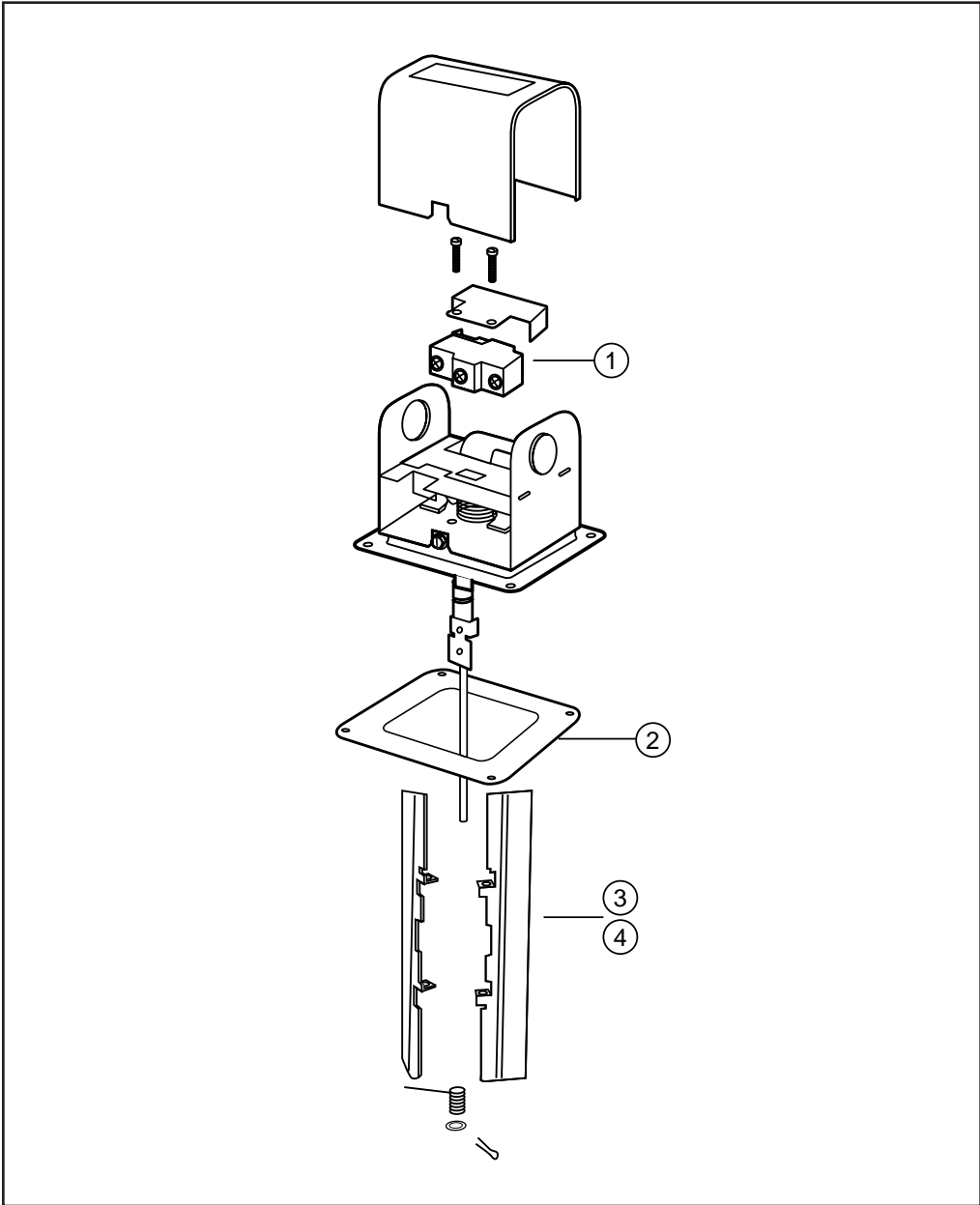
Flow Switches – Air

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	0.1 (.05)
4	336050	AF1-S-122	Paddle kit for model AF1-S	0.1 (.05)

Note: Paddle kits include screws and washers.



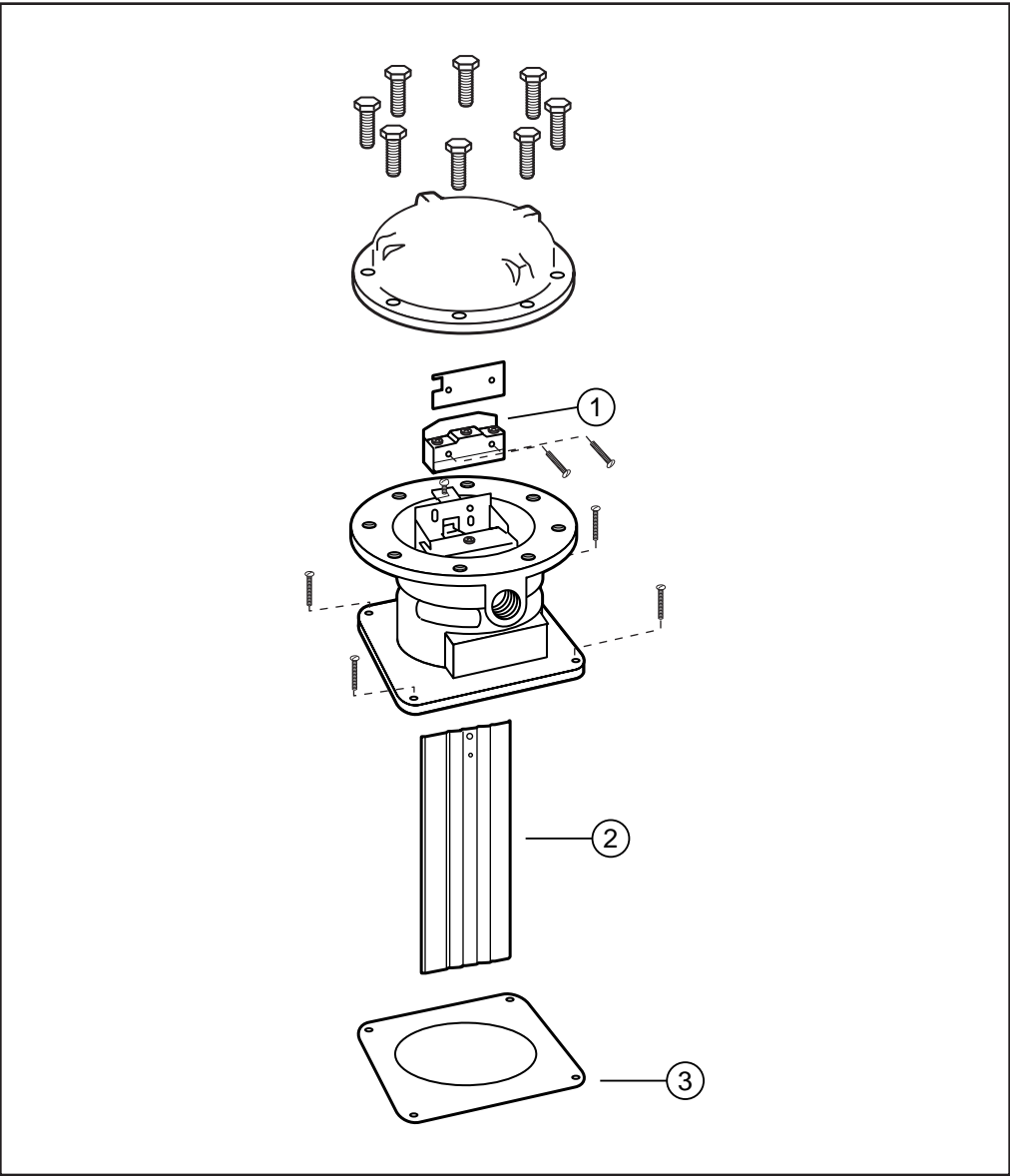
Flow Switches – Air

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	0.1 (.05)
3	317352	AFE-1-21	Gasket	0.1 (.05)

Note: Paddle kits include screws and washers.



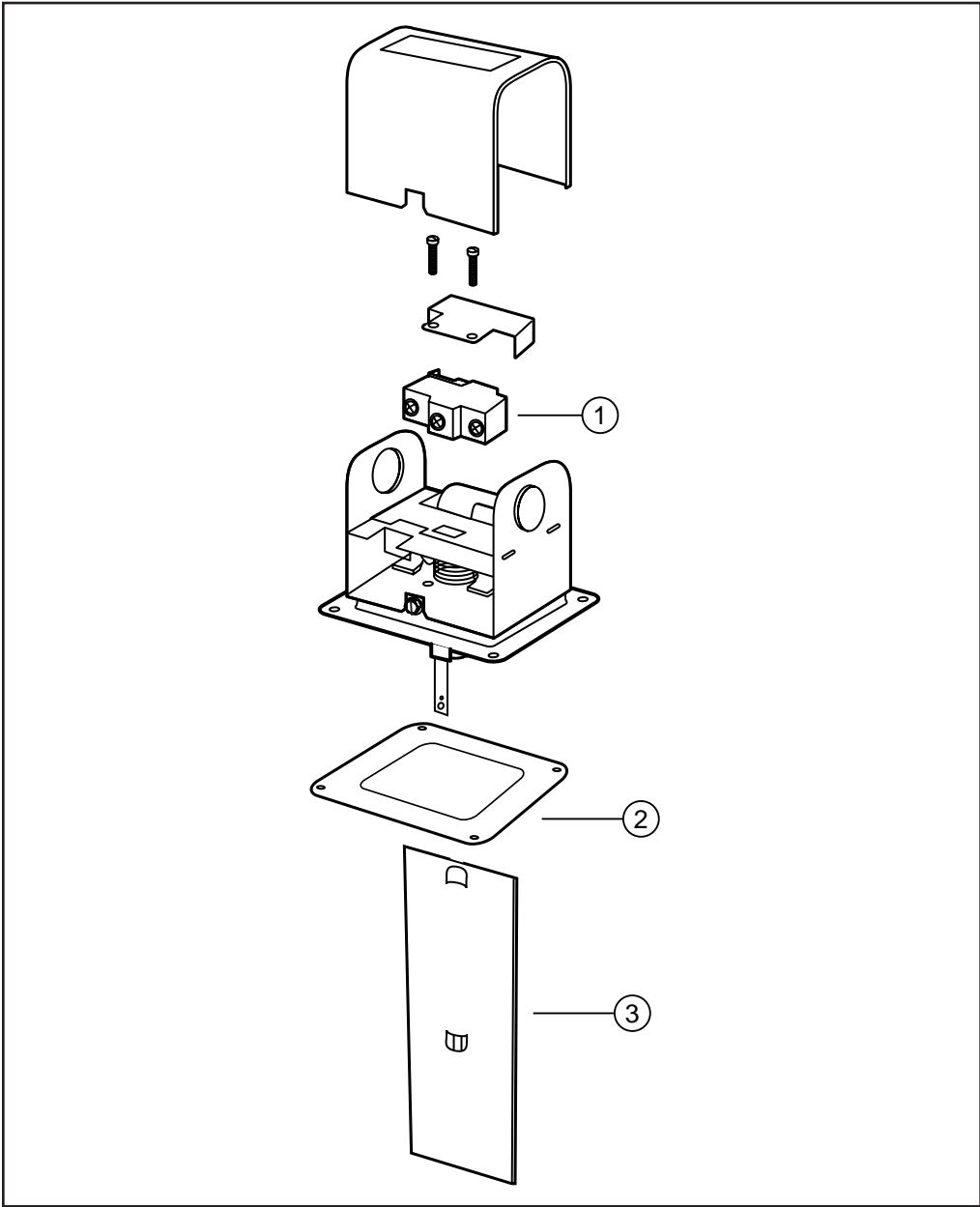
Flow Switches – Air

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	0.1 (.05)

Note: Paddle kits include screws and washers.



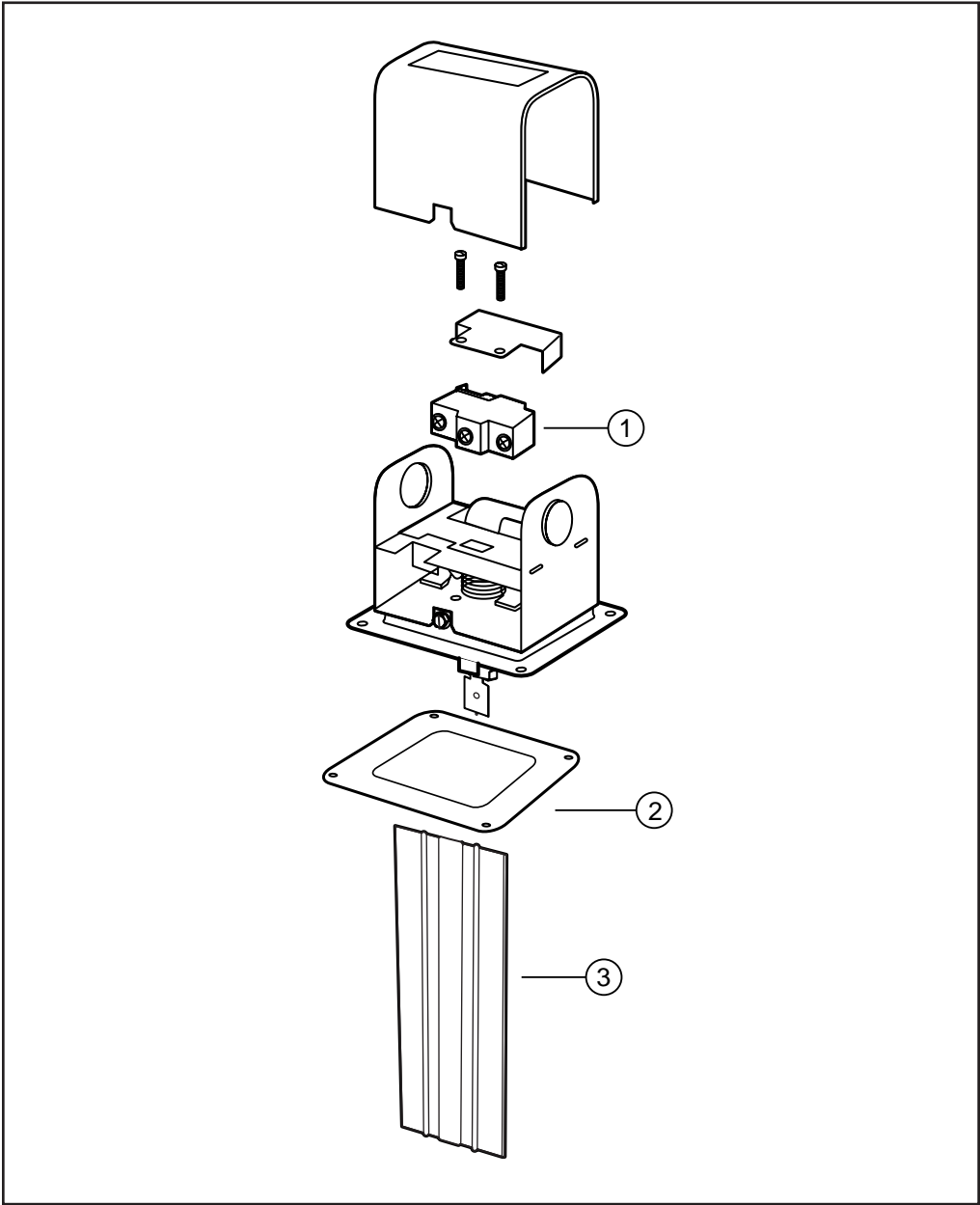
Flow Switches – Air

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	0.1 (.05)

Note: Paddle kits include screws and washers.



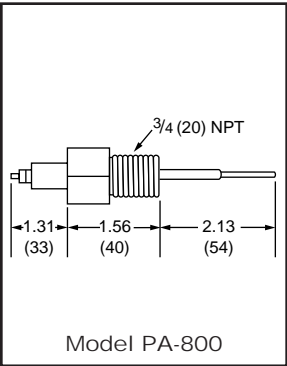
Conductance Actuated – Probe Type

Series PS-850
Special Purpose Liquid Level Controls



Replacement Probes

For Model	Repl. Probe Model No.	Part Number	Description	Weight lbs. (kg)
PS-851-120	PA-800	354081	Probe	0.5 (.23)
PS-851-M-120				
PS-852-24				
PS-852-M-24				

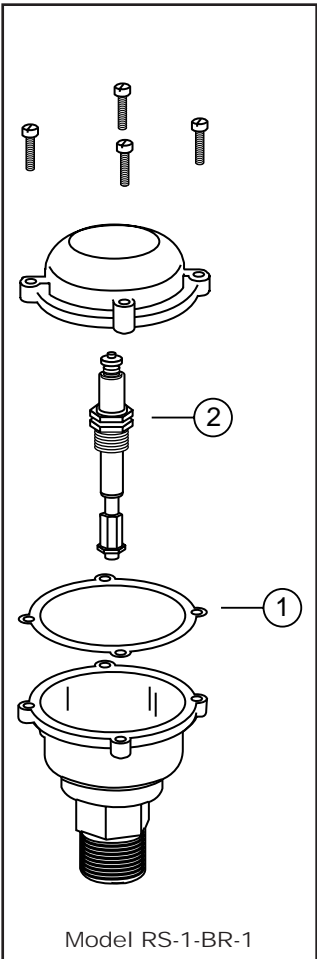
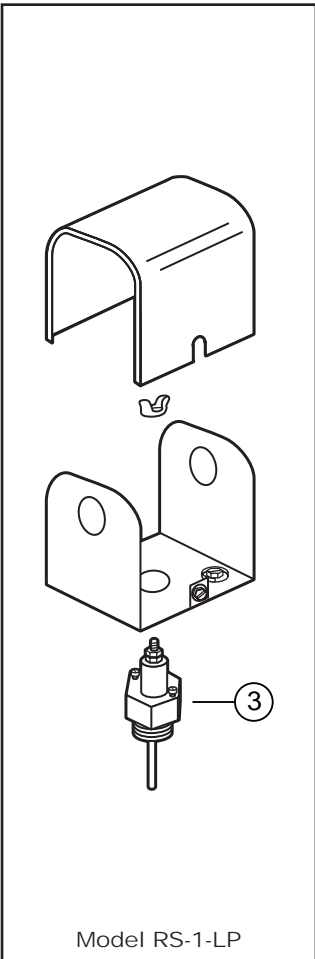
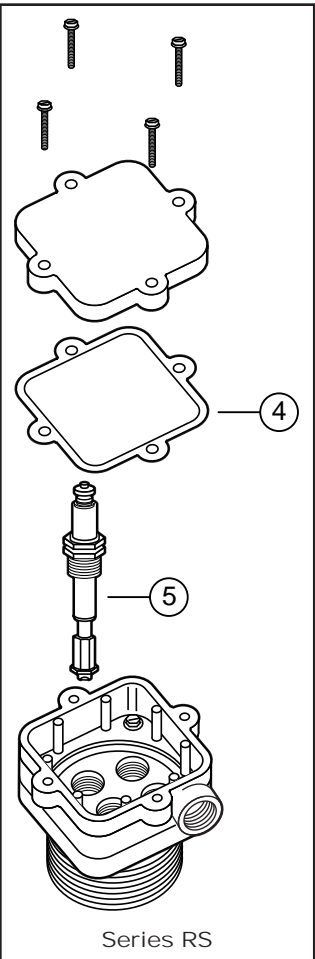


Conductance Actuated – Probe Type

NEW **Series LPC-2000**
General Purpose Liquid Level Controls

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 gasketset	0.3 (.14)
	5	354401	EA-RS	Electrode	0.5 (.23)

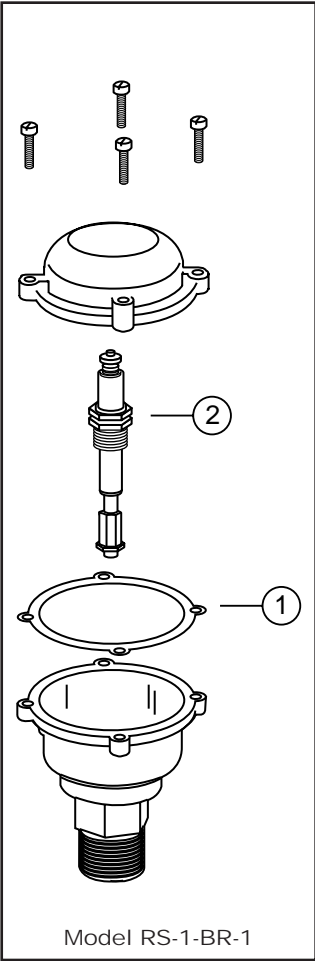
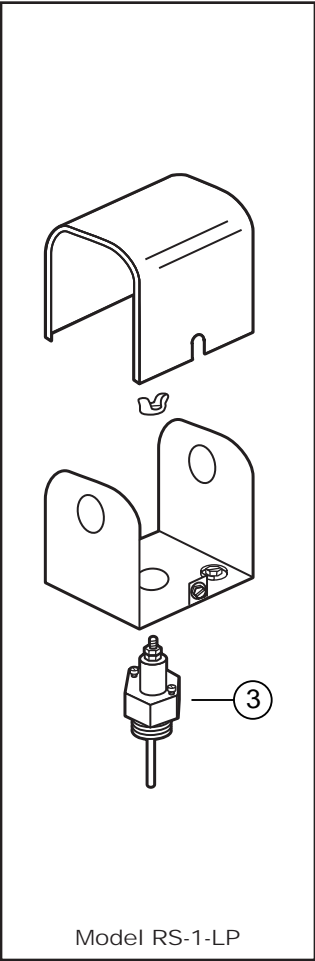
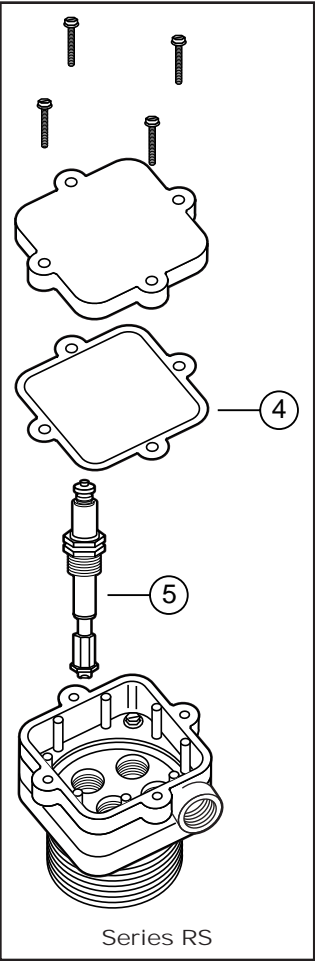


Conductance Actuated – Probe Type

Series PCH & PCL
General Purpose Liquid Level Controls

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 gasketset	0.3 (.14)
	5	354401	EA-RS	Electrode	0.5 (.23)



LIQUID LEVEL CONTROLS

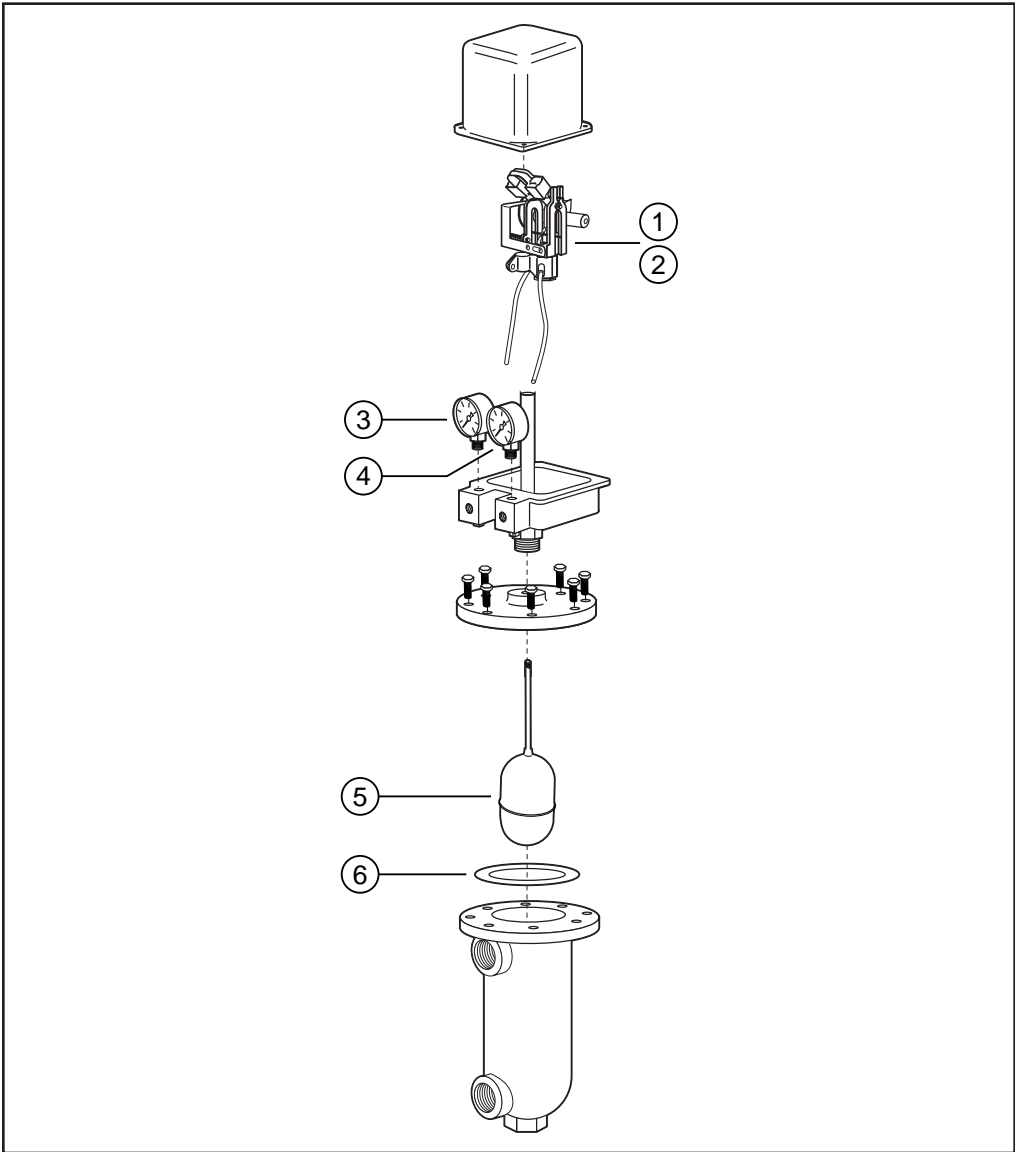
Pneumatic Actuated

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)

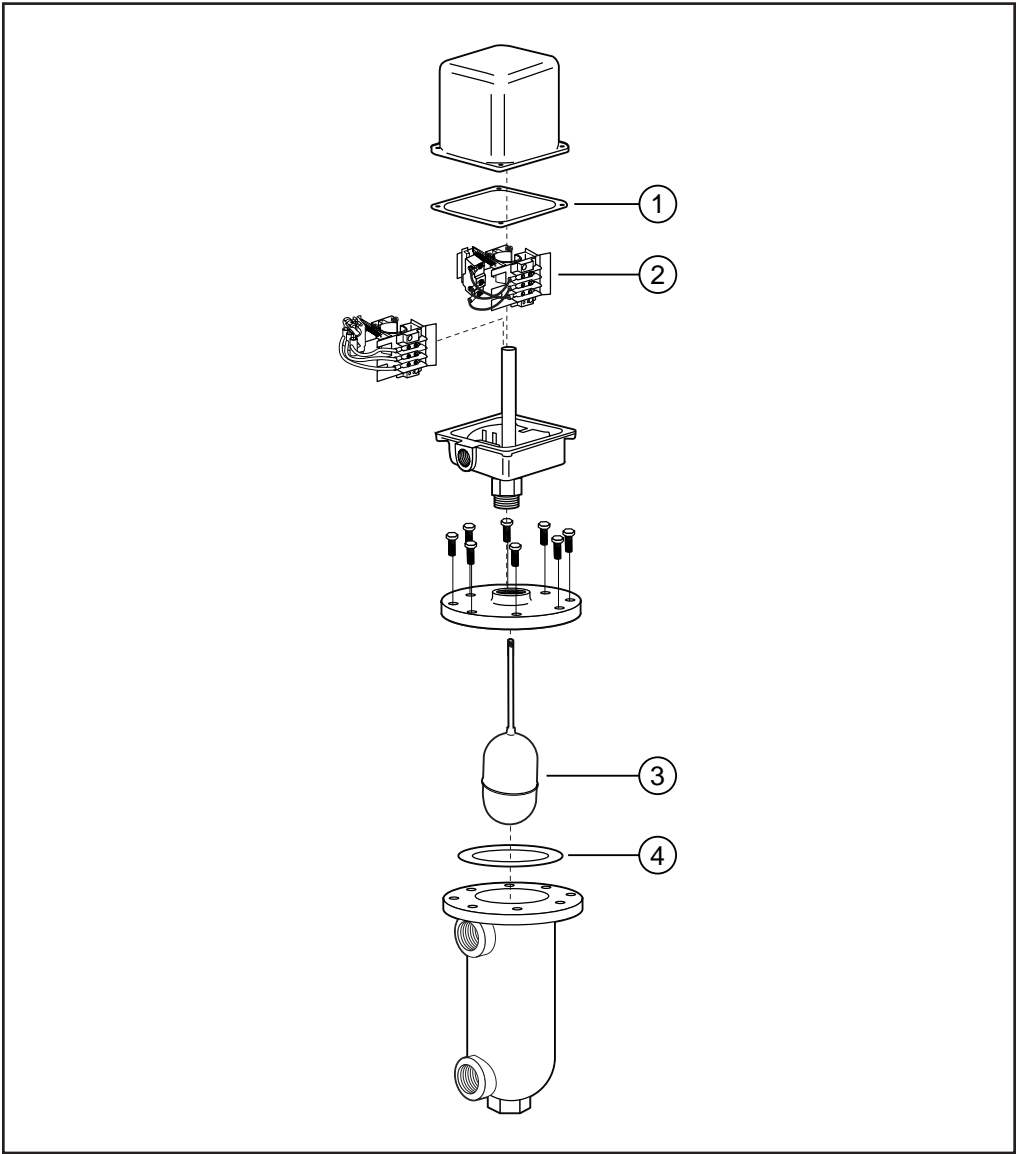


Float Actuated

Series VFS
Liquid Level Controls

Components

Item Number	Part Number	Model Number	Description	Weight lbs. (kg)
1	354380	GSKT-VFC-V	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)



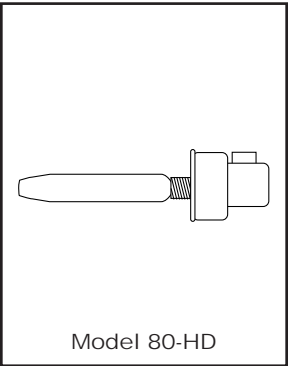
Float Actuated
For Fuel Oil

Series E-8
Liquid Level Controls



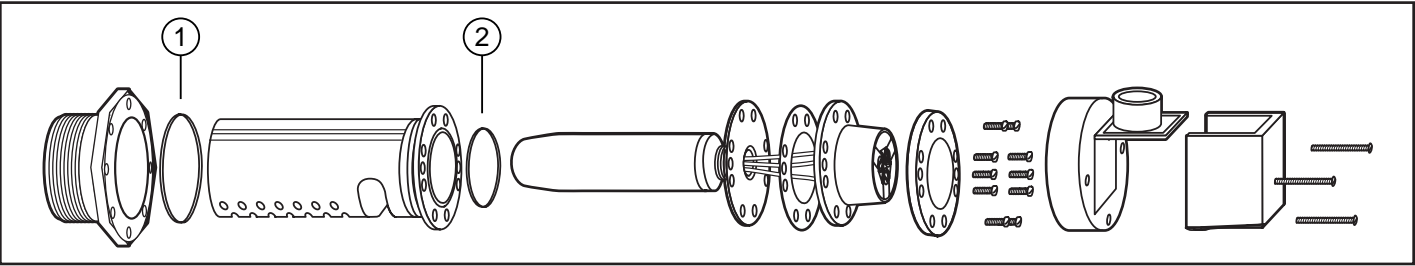
Replacement Head Mechanisms

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
For Fuel Oil

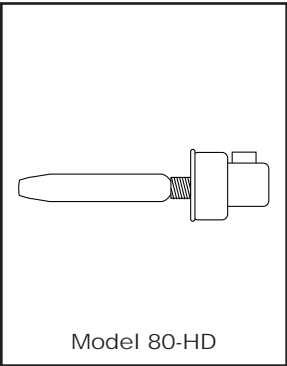
Series 80

Liquid Level Controls



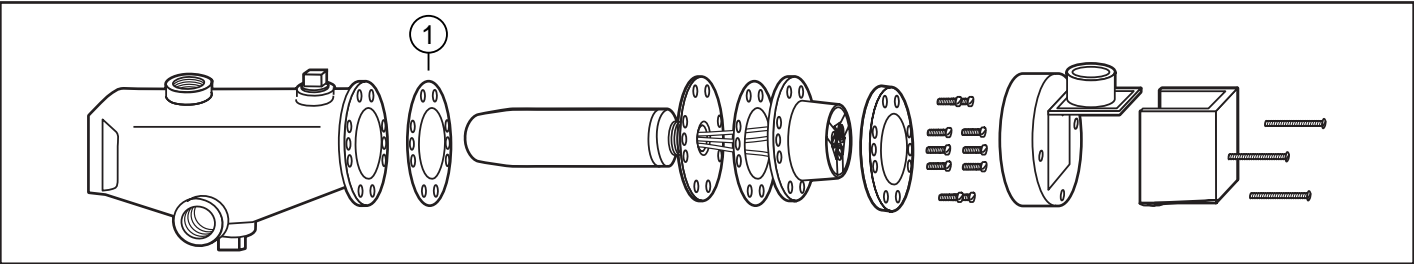
Replacement Head Mechanisms

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)



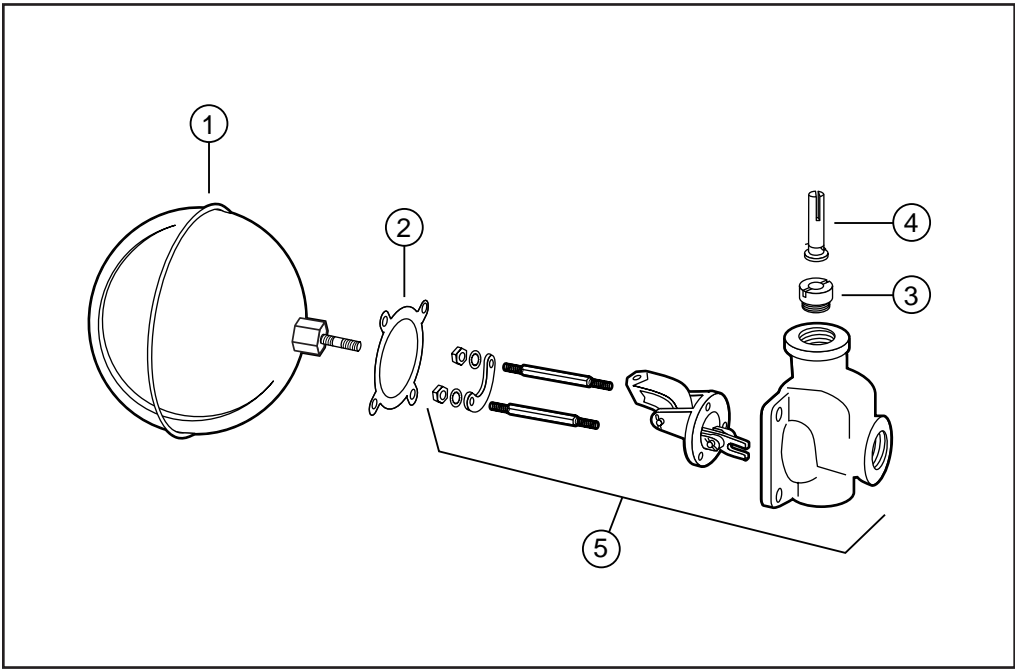
Float Actuated

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	311600	25A-14	Valve seat	0.1 (.05)
4	340300	SA27W-15	Valve stem assembly	0.1 (.05)
5	340100	SA27W-6	Valve assembly	3.5 (1.6)



Float Actuated
For Liquid

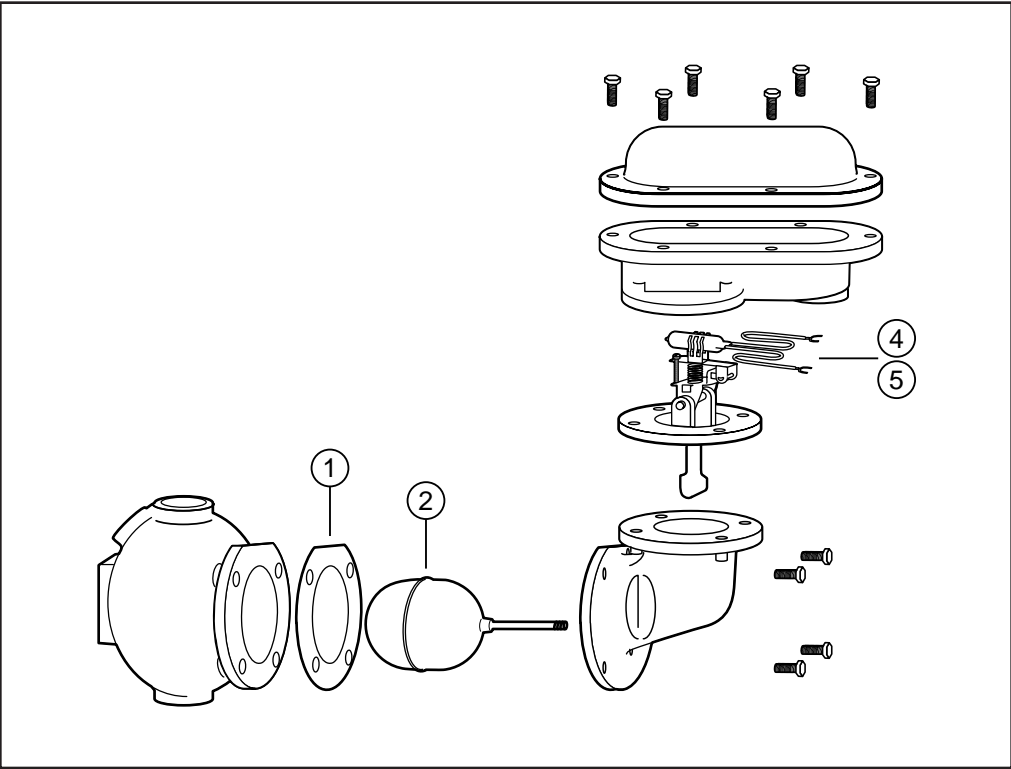
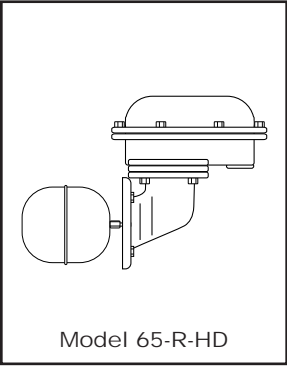
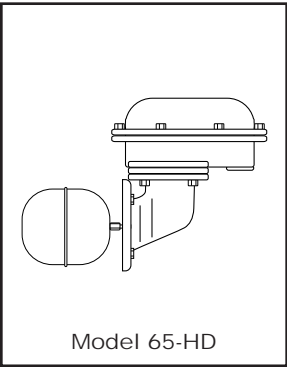
Series 65
Liquid Level Controls

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)
	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)



Float Actuated For Liquid

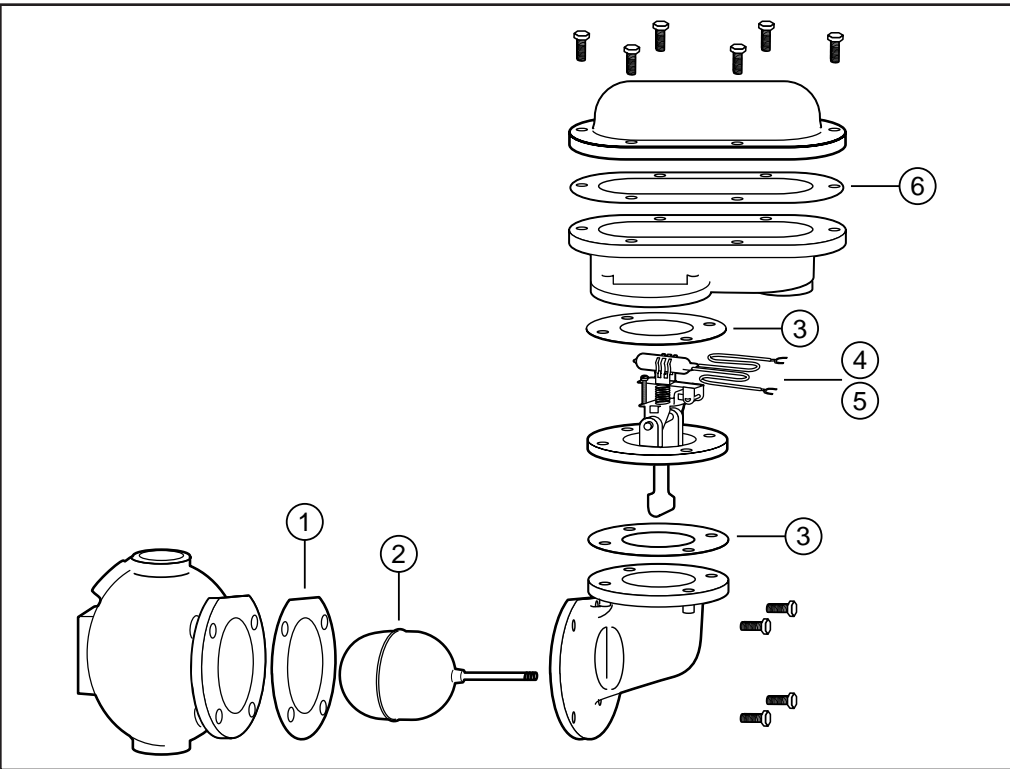
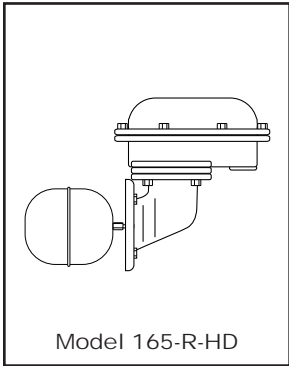
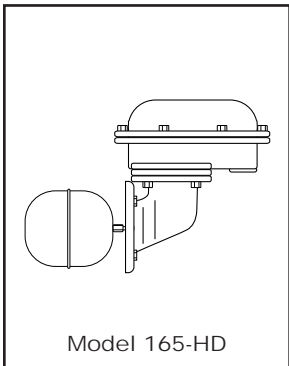
Series 165 Liquid Level Controls

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	317600	65-11	Gasket	0.1 (.05)
4	343800	SA65-25	Direct action switch	0.3 (1.4)
5	344000	SA65-125	Reverse action switch	0.3 (1.4)
6	329000	165G-39	Gasket	0.1 (.05)





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	PS-801-24 Probe Control LWCO	Series PS-802-24
153856	PS-801-U-24	PS-801-U-24 Probe Control LWCO	Series PS-802-U-24
153860	PS-801-M-24	PS-801-M-24 Probe Control LWCO	Series PS-802-M-24
153891	PS-851-24	PS-851-24 Probe Control LWCO	Series PS-852-24
153892	PS-852-M-24	PS-851-M-24 Probe Control LWCO	Series PS-852-M-24
158419	PS-801-RX2-24	PS-801-RX2-24 Probe Control LWCO	Series PS-802-RX2-24
162400	93-HD	Head Mechanism	93-HDLS and 5 Switch
162600	93-M-HD	Head Mechanism	93-HDLS and 5-M Switch
162700	93-6	High Pressure Level Control	Series 93
162750	93-6-HD	Head Mechanism	93-HDLS and 5 Switch
163200	93-7B-HD	Head Mechanism	93-HDLS and 7B Switch
163300	93-7BM-HD	Head Mechanism	93-HDLS and 7B-M Switch
165300	94-HD	Head Mechanism	94-HDLS and 5 Switch
166000	94-M-HD	Head Mechanism	94-HDLS and 5-M Switch
166200	94-6-HD	Head Mechanism	94-HDLS and 5 Switch
166400	94-7B-HD	Head Mechanism	94-HDLS and 7B Switch
166500	94-7BM-HD	Head Mechanism	94-HDLS and 7B-M 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
302500	CO-11	Bellows Gasket	150-9 Gasket
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
309150	11M	Switch, Manual Reset	11M Replacement Kit
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



Part Number	Catalog Number	Description	Replacement/Where to Find
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
317600	65-11	Gasket	Control or Replacement Head Mechanism
318100	66-32	1/2 Brass Tee	MA559
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

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

- 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.

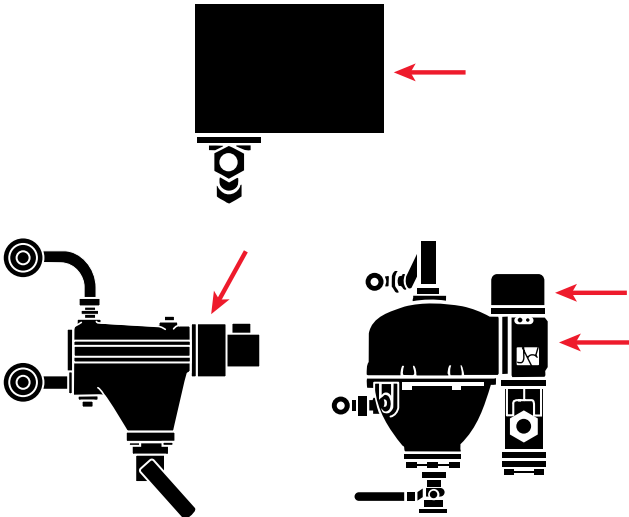
ITT McDonnell & Miller controls manufactured after 1972 feature a stamped date code, so you can easily check the life expectancy and recommended replacement intervals. **If a control has no date stamp or does not have the ITT logo on it – replace it!**


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	K09 Translates to October 1990
B = February	X = 1980	
	Y = 1981	
C = March	Z = 1982	
	38 = 1983	
D = April	48 = 1984	
	58 = 1985	
E = May	68 = 1986	
F = June	78 = 1987	
	88 = 1988	
G = July	98 = 1989	
	09 = 1990	Beginning 1996 the year is no longer reversed. 96K Translates to October 1996
H = August	19 = 1991	
J = September	29 = 1992	
	39 = 1993	
K = October	49 = 1994	
	59 = 1995	
L = November	96 = 1996	
	97 = 1997	
M = December	98 = 1998	
	99 = 1999	
	00 = 2000	

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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