

# FLOAT VALVES



OTECO drill pipe Float Valves and Baffle Plates offer high quality single piece body construction for your every need. We offer our models in plunger or flapper style with automatic fill and pressure monitoring capability. Seals for both Standard and Sour Gas (H<sub>2</sub>S) service.



<http://www.OTECO.com>



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## OVERVIEW

### Valve Body

Oteco valve bodies are manufactured for today's increasingly harsh drilling environment. All valve bodies are cast out of ductile iron or a low-alloy carbon steel and are heat treated to a hardness equal to or less than 22 Rockwell C ( $\leq 22$  Rockwell C 2 HR) to address the corrosive effects of hydrogen sulfide gas ( $H_2S$ ). Oteco's integral valve bodies are manufactured from a one-piece casting and are not welded together the way some other competitors produce their bodies. This means that you receive a superior and more reliable valve body.

### Integral Plunger Valves

All of Oteco's plunger valves are machined from one solid piece of material to produce a more reliable float valve and reduce the risk of downhole valve failure. Other leading manufacturers use two separate pieces of material to construct their plungers, which are invariably either shrunk fit, screwed or welded together.

### Flapper Valves

All Oteco standard-service flapper valves are made of low-alloy steel and then case hardened for wear resistance, thus giving a longer operating life.

### Elastomers

Available elastomers are nitrile butadiene (NBR, Buna-N), hydrogenated nitrile butadiene (HNBR) and Viton® (fluoroelastomer, FKM).

### Springs

Inconel® springs come standard on all our valves. Inconel® springs are significantly more resistant to corrosion when compared with the standard service springs provided by most other manufacturers. Inconel® springs are also good for sour-gas ( $H_2S$ ) applications.

### Interchangeability

All Oteco drill-pipe float valves and replacement parts are manufactured to standard industry dimensions and are interchangeable with other major manufacturer's parts.

### Sour-Gas ( $H_2S$ ) Service

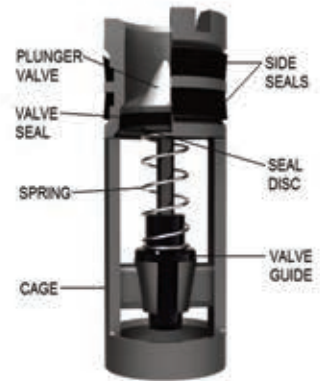
Available in both F and G models.

*The information contained in this catalog is not intended to be used as an operational guide. It is intended to provide a product and usage overview.*

## MODEL F

### PLUNGER TYPE STANDARD

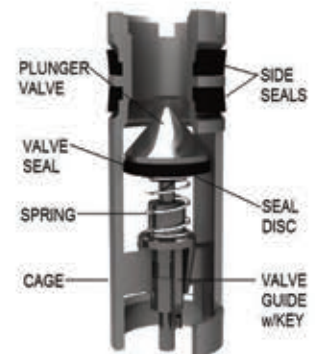
The Model F is a plunger-type float valve that provides a positive instantaneous shut off, providing constant fluid control while drilling. The Model F is a reliable and economical selection under standard drilling operations.



## MODEL FC

### PLUNGER TYPE AUTOMATIC FILL

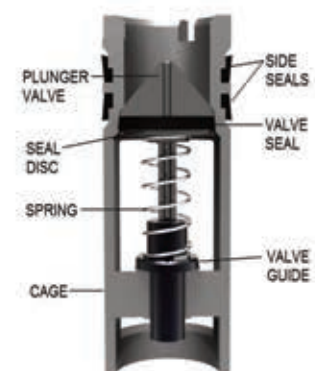
The Model FC Automatic-Fill plunger-type float valve incorporates a unique key assembly and slotted valve stem to hold the plunger open during run in of the drill pipe and allows the pipe to fill from the bottom, saving time, reducing mess, and avoiding hazards. The plunger is automatically released once circulation begins.



## MODEL FA

### PLUNGER TYPE PRESSURE MONITORING

The Model FA Pressure-Monitoring plunger-type float valve has a special port running through the plunger of the float valve. This valve is used when monitoring the bit head for gas pressure and allowing differential pressure measuring when required. The port also permits partial automatic fill during run in.

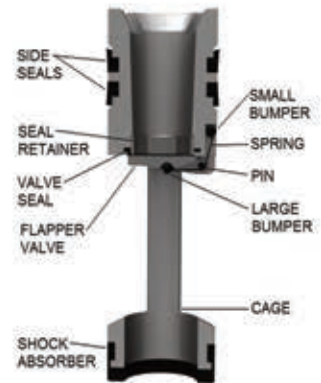


*FLOAT VALVE INSTALLATION: Simply lubricate the side seals and slide the float valve into the cavity of the float sub or the bored-out drill collar. Caution: fill drill pipe regularly when going in the hole. Failure to do this can cause damage to the drill pipe and float valve.*

### MODEL G

## FLAPPER TYPE STANDARD

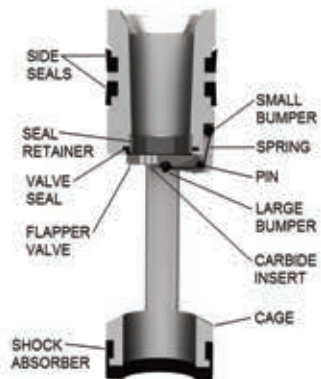
The Model G is a flapper-type float valve that, when opened, offers an unobstructed bore through the float valve. The uniquely designed flapper closes rapidly to prevent shavings from entering the drill string when circulation stops and also assists primary BOP equipment in maintaining internal pressure control. The valve will fully open when the first joint is raised from the hole, preventing pulling wet joints.



### MODEL GA

## FLAPPER TYPE PRESSURE MONITORING

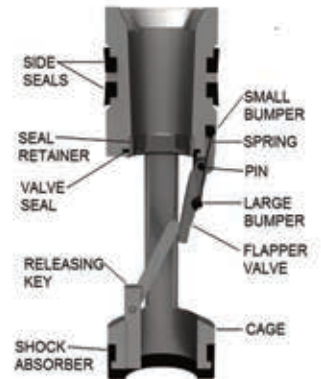
The Model GA Pressure-Monitoring flapper-type float valve is indistinguishable from the Model G with the exception of a tungsten-carbide insert in the flapper valve. The insert has a quarter-inch orifice through the center that allows for differential pressure monitoring. The orifice also allows for partial automatic filling of the drill pipe during run in.



### MODEL GC

## FLAPPER TYPE AUTOMATIC FILL

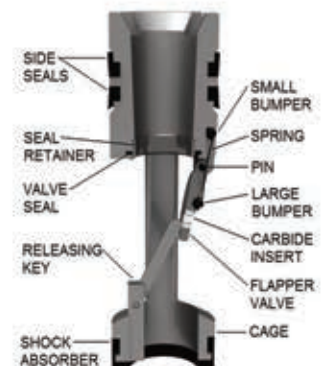
The Model GC Automatic-Fill flapper-type float valve incorporates a unique self-releasing key assembly that holds the flapper partially open during run in, allowing the pipe to fill from the bottom. This eliminates the need for filling the drill pipe from the top, saving time and money. The valve will fully open when the first joint is raised from the hole, preventing pulling wet joints while avoiding the environmental and safety risks related to having mud on the rig floor. The valve can be run with the automatic-fill option or in the standard, closed position.

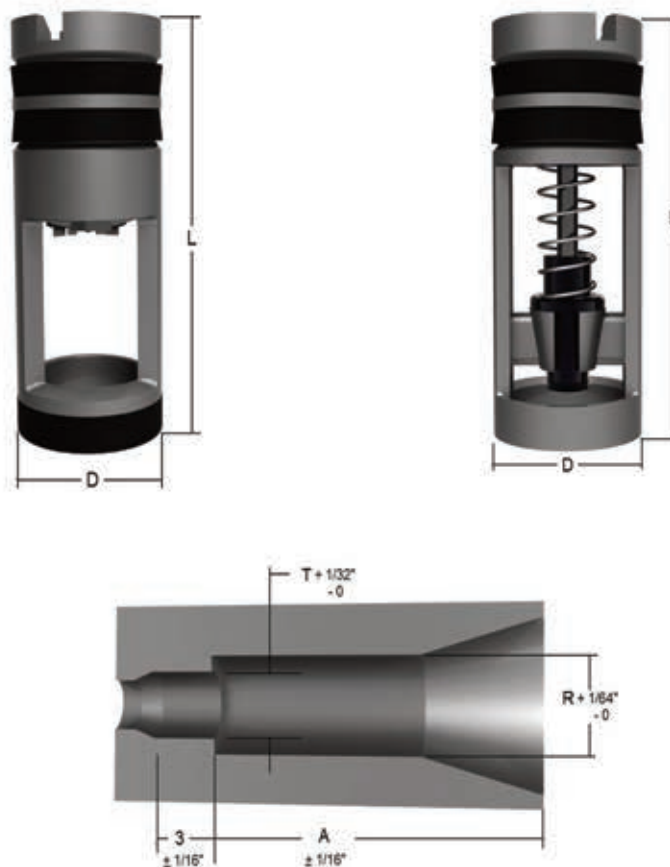


### MODEL GCA

## FLAPPER TYPE AUTO FILL/PRESSURE MONITORING

The Model GCA Automatic-Fill/Pressure-Monitoring flapper-type float valve includes all the advantages of the Models G, GC, and GA. An unobstructed bore through the float valve, when open, permits automatic partial filling of the drillpipe from the bottom and measuring differential pressures when necessary.





$$A = L \text{ (Length of Float Valve)} + \text{Length of Tool Joint Pin} + 1/4'' \text{ Clearance}$$

## DIMENSIONAL DATA

Valve Size	D Diameter of Valve	R (D + 1/32) Diameter Recess F/Valve	L Valve Length	T* Baffle Plate Recess Diameter	Valve ID Model F	Valve ID Model G
1R	1-21/32"	1-11/16"	5-7/8"	1-5/16"	1"	N/A
1F-2R	1-29/32"	1-15/16"	6-1/4"	1-1/2"	1-1/4"	1"
2F-3R	2-13/32"	2-7/16"	6-1/2"	1-29/32"	1-9/16"	1-1/4"
3F	2-13/16"	2-27/32"	10"	2-7/16"	1-7/8"	1-5/8"
3.5IF	3-1/8"	3-5/32"	10"	2-11/16"	1-7/8"	1-5/8"
4R	3-15/32"	3-1/2"	8-5/16"	2-15/16"	2-5/16"	1-31/32"
4F	3-21/32"	3-11/16"	12"	3-1/4"	2-1/2"	2-3/16"
5R	3-7/8"	3-29/32"	9-3/4"	3-3/8"	2-3/4"	2-1/4"
5F-6R	4-25/32"	4-13/16"	11-3/4"	4-9/32"	3-1/4"	2-7/8"
6F	5-11/16"	5-23/32"	14-5/8"	5-3/16"	4-1/8"	N/A

\*Disregard if this diameter is the same or smaller than the standard tool joint ID.

## TOOL JOINT SPECIFICATION GUIDE

Tool Joint Types	Model Sizes									
	1R	1F-2R	2F-3R	3F	3.5IF	4R	4F	5R	5F-6R	6F
API Regular	2-3/8"	2-7/8"	3-1/2"			4-1/2"		5-1/2" 5-9/16**	6-5/8" 7-5/8**†	8-5/8"
Hughes or Reed Acme	2-3/8"	2-7/8"	3-1/2"			4-1/2"		5-1/2" 5-9/16"	6-5/8"	
Union Tool	2-3/8"	2-7/8" 3-1/2"					4-1/2"	5-1/2" 5-9/16**	6-5/8**†	
Hughes or Reed Double Streamline		2-7/8" 2-3/8"	3-1/2"	4" 4-1/2"			5"	5-1/2" 5-9/16**		
API Full Hole		2-3/8"	2-7/8"	3-1/2"	4"	4-1/2"	4-1/2**			6-5/8**
Reed Acme Full Hole				3-1/2**			4-1/2**		5-1/2" 5-9/16**	
Hughes Acme Streamline		2-3/8"	2-7/8"	3-1/2**			4-1/2**		5-1/2" 5-9/16**	
Hughes Xtra Hole			2-7/8"	3-1/2"			4-1/2"	5"	5-1/2" 5-9/16**	
Reed Semi-Internal Flush			2-7/8"	3-1/2"			4-1/2"	5"		
API Internal Flush		2-3/8"	2-7/8"		3-1/2"		4"	4-1/2**		
Hydril Type IF (Int. Flush Ext. Upset)		2-3/8**	2-7/8**	3-1/2**				4-1/2"	5"	
Hydril EIU (Ext. Int. Upset)				3-1/2"		4"	4-1/2"		5-1/2" 5-9/16**	6-5/8"
Hydril Type F (Ext. Flush)	2 7/8" 3-1/2**			4-1/2" 5"		5-1/2" 5-9/16"		6-5/8"		
Hughes Ext. Flush Acme		3-1/2"	4-1/2"			5-1/2" 5-9/16"		6-5/8"		
Hughes Ext. Flush Full Hole				4-1/2"						

\*Indicates that the float subs in these sizes have a smaller ID than the standard tool joint ID. †Indicates interchangeability. Models G and GA, are available in sizes 1F-2R through 5F-6R. Models GC and GCA are available in sizes 2F-3R through 5F-6R. Models F and FA are available in all sizes. Model FC is available in sizes 2F-3R through 6F.

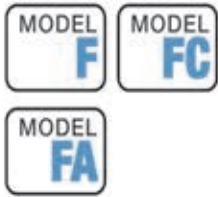
## BIT & SHANK SIZES

Bit Size (in.)	3 1/4	3 3/4	4 1/4	4 3/4	5 1/4	6	6 1/4	6 3/4	6 7/8	6 3/4	7 1/4	8 1/4	8 3/4	8 7/8	9 1/4	9 3/4	10 1/4	11	12 1/4	13 1/4	20	24	25
Std. API Pin Shank Size (in.)	2 1/2	2 3/4	2 3/4	2 3/4	3 1/4	3 3/4	3 3/4	3 3/4	3 3/4	3 3/4	4 1/4	4 3/4	4 3/4	4 3/4	6 1/4	6 3/4	6 3/4	6 3/4	6 3/4	6 3/4	7 1/4	7 3/4	7 3/4

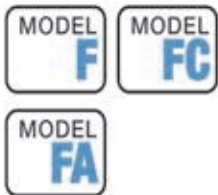
## BIT SUB INFORMATION

Valve Size	Thread Size	Tool Joint Type	Standard OD	Face to Shoulder or Face to Face
1R	2-3/8"	API Regular	3-1/8"	18"
1F-2R	2-7/8"		3-3/4"	20"
2F-3R	3-1/2"		4-1/4"	20"
4R	4-1/2"		5-1/2"	24"
5R	5-1/2"		6-3/4"	28"
5F-6R	6-5/8"		7-3/4"	30"
5F-6R	7-5/8"		8-7/8"	30"
6F	8-5/8"		10"	30"
3F	3-1/2"	API Full Hole	4-5/8"	24"
3.5IF	4"		5-1/4"	24"
4F	4-1/2"		5-3/4"	28"
5F-6R	5-1/2"		7"	30"
6F	6-5/8"		8"	30"
1F-2R	2-3/8"	API IF	3-3/8"	18"
2F-3R	2-7/8"	API IF Box X Pin	4-1/8"	20"
3.5IF	3-1/2"	API IF	4-3/4"	24"
4F	4"		5-3/4"	28"
5R	4-1/2"		6-3/8"	28"
5F-6R	5-1/2"		7-3/8"	30"
6F	6-5/8"		8-3/4"	30"

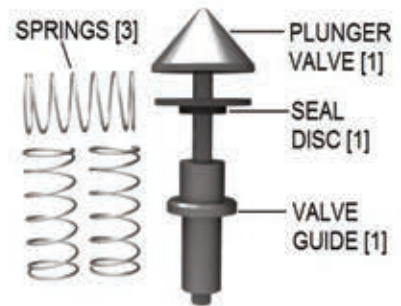
The information guide above is for reference purposes only. Please use appropriate API specifications when manufacturing these subs.



## RUBBER REPAIR KIT F



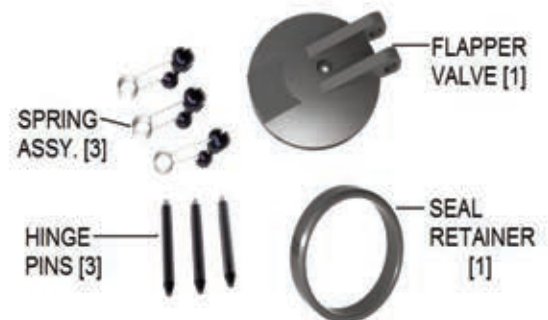
## METAL REPAIR KIT F

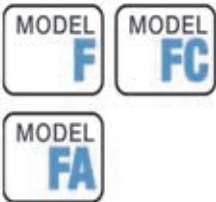


## RUBBER REPAIR KIT G



## METAL REPAIR KIT G





## MODEL F VALVE PULLER

The Model F Valve Puller makes easy work of removing stuck or tight float valves from the sub or drill collar. Simply engage the special catch into the bottom of the float valve, rotate 90°, and then simply slide the bumper into the stop and the float valve is removed.

Note: when using the puller to remove a Model FC valve, special care must be taken when engaging the catch so that it does not make contact with the releasing key.



## MODEL G VALVE PULLER

The Model G Valve Puller is dual-purpose tool. In addition to removing tight or stuck float valves from subs or drill collars, it assists in removing and installing the seal-retaining ring when changing out the valve seal.





## PLUNGER TYPE

Standard Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
1R	480131200	1.5	15929800	1.0	16012200	0.5	911200	6.0
1F-2R	480131422	1.5	16011300	2.0	16012300	0.7	911200	6.0
2F-3R	480132432	2.5	16011400	2.0	16012400	0.8	912432	8.0
3F	480133400	5.0	16011500	2.0	16012500	1.0	913400	10.0
3.5IF	480133600	5.0	16011500	2.0	16012600	1.0	913400	10.0
4R	480134200	7.0	16011700	2.0	16012700	1.0	914200	12.0
4F	480134400	9.5	16011800	3.0	16012800	1.0	914400	13.0
5R	480135200	9.5	16011900	4.0	16012900	1.0	914400	15.0
5F-6R	480135462	16.0	16012000	5.0	16013000	1.1	914400	19.0
6F	480136400	28.0	16012100	5.0	16013100	2.0	916400	21.0

PLUNGER TYPE  
AUTOMATIC FILL

Standard Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
2F-3R	480182432	2.5	70017100	2.0	16012400	0.8	912432	8.0
3F	480183400	5.0	70017300	2.0	16012500	1.0	913400	10.0
3.5IF	480183600	5.0	70017300	2.0	16012600	1.0	913400	10.0
4R	480184200	7.0	70017400	2.0	16012700	1.0	914200	12.0
4F	480184400	9.5	70017500	3.0	16012800	1.0	914400	13.0
5R	480185200	9.5	70017600	4.0	16012900	1.0	914400	15.0
5F-6R	480185462	16.0	70017700	5.0	16013000	1.1	914400	19.0
6F	480186400	28.0	70017800	5.0	16013100	2.0	916400	21.0

PLUNGER TYPE  
PRESSURE MONITORING

Standard Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
1R	480121200	1.5	15929805	1.0	16012200	0.1	911200	7.0
1F-2R	480121422	1.5	16011305	1.0	16012300	0.1	911200	7.0
2F-3R	480122432	2.5	16011405	2.0	16012400	0.8	912432	8.0
3F	480123400	5.0	16011505	2.0	16012500	1.0	913400	10.0
3.5IF	480123600	5.0	16011505	2.0	16012600	1.0	913400	10.0
4R	480124200	7.0	16011705	2.0	16012700	1.0	914200	12.0
4F	480124400	9.5	16011805	2.0	16012800	1.0	914400	13.0
5R	480125200	10.5	16011905	3.5	16012900	1.0	914400	15.0
5F-6R	480125462	16.0	16012005	5.0	16013000	1.1	914400	19.0
6F	480126400	28.0	16012105	5.0	16013100	1.2	916400	21.0



## PLUNGER TYPE

H<sub>2</sub>S Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
1R	480301200	1.5	15929800	1.0	71081701	0.5	911200	6.0
1F-2R	480301422	1.5	16011300	2.0	71081801	0.7	911200	7.0
2F-3R	480302432	2.5	16011400	2.0	71081901	0.8	912432	8.0
3F	480303400	5.0	16011500	2.0	71082001	1.0	913400	10.0
3.5IF	480303600	5.0	16011500	2.0	71082101	1.0	913400	10.0
4R	480304200	7.0	16011700	2.0	71082201	1.0	914200	12.0
4F	480304400	9.5	16011800	3.0	71082301	1.0	914400	13.0
5R	480305200	9.5	16011900	4.0	71082401	1.0	914400	15.0
5F-6R	480305462	16.0	16012000	5.0	71082501	1.1	914400	19.0
6F	480306400	28.0	16012100	5.0	71082601	2.0	916400	21.0

Note: Metal repair kits are for 3 dressings. Rubber repair kits are for 4 dressings. Individual parts available upon request.

## MODEL FA PLUNGER TYPE PRESSURE MONITORING

H<sub>2</sub>S Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
2F-3R	480352432	2.5	16011405	2.0	71081901	0.8	912432	8.0
3F	480353400	5.0	16011505	2.0	71082001	1.0	913400	10.0
3.5IF	480353600	5.0	16011505	2.0	71082101	1.0	913400	10.0
4R	480354200	7.0	16011705	2.0	71082201	1.0	914200	12.0
5F-6R	480355462	16.0	16012005	5.0	71082501	1.1	914400	19.0

## MODEL G FLAPPER TYPE

Standard Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
1F-2R	480151422	2.0	51988400	0.7	51988300	0.5	901422	7.0
2F-3R	480152432	3.5	16013200	0.8	16013800	0.6	902432	8.0
3F	480153400	5.0	16013300	1.0	16013900	1.0	903400	10.0
3.5IF	480153600	5.5	16013300	1.0	51982000	1.0	903400	10.0
4R	480154200	7.0	16013400	1.1	16014000	1.5	904200	12.0
4F	480154400	8.0	16013500	1.4	16014100	1.6	904400	13.0
5R	480155200	9.0	16013600	1.6	16014200	1.6	905200	15.0
5F-6R	480155462	18.0	16013700	1.8	16014300	2.0	905462	19.0

## MODEL GA FLAPPER TYPE PRESSURE MONITORING

Standard Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
1F-2R	480161422	2.0	52070800	0.8	51988300	0.5	901422	7.0
2F-3R	480162432	3.5	17135000	0.8	16013800	0.6	902432	8.0
3F	480163400	5.0	17136700	1.0	16013900	1.0	903400	10.0
3.5IF	480163600	5.0	17136700	1.0	51982000	1.0	903400	10.0
4R	480164200	7.0	17116000	1.1	16014000	1.5	904200	12.0
4F	480164400	8.0	17136800	1.4	16014100	1.6	904400	13.0
5R	480165200	9.0	17136900	1.6	16014200	1.6	905200	15.0
5F-6R	480165462	18	17134200	1.8	16014300	2.0	905462	19.0

## MODEL GC FLAPPER TYPE AUTOMATIC FILL

Standard Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
2F-3R	480192432	3.5	16013200	0.8	16013800	0.6	902432	8.0
3F	480193400	5.0	16013300	1.0	16013900	1.0	903400	10.0
3.5IF	480193600	5.0	16013300	1.0	51982000	1.0	903400	10.0
4R	480194200	7.0	16013400	1.1	16014000	1.5	904200	12.0
4F	480194400	8.0	16013500	1.4	16014100	1.6	904400	13.0
5R	480195200	9.0	16013600	1.6	16014200	1.6	905200	15.0
5F-6R	480195462	18.0	16013700	1.8	16014300	2.0	905462	19.0

Note: Metal repair kits are for 3 dressings. Rubber repair kits are for 4 dressings. Individual parts available upon request.



### FLAPPER TYPE AUTO FILL/PRESSURE MONITORING

Standard Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
2F-3R	480192433	3.5	17135000	0.8	16013800	0.6	902432	8.0
3F	480193401	5.0	17136700	1.0	16013900	1.0	903400	10.0
3.5IF	480193601	5.0	17136700	1.0	51982000	1.0	903400	10.0
4R	480194201	7.0	17116000	1.1	16014000	1.5	904200	12.0
4F	480194401	8.0	17136800	1.4	16014100	1.6	904400	13.0
5R	480195201	9.0	17136900	1.6	16014200	1.6	905200	15.0
5F-6R	480195463	18.0	17134200	1.8	16014300	2.0	905462	19.0



### FLAPPER TYPE

H<sub>2</sub>S Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
1F-2R	480311422	2.0	51997300	0.7	51997200	0.5	901422	7.0
2F-3R	480312432	3.5	71085901	0.8	71082701	0.6	902432	8.0
3F	480313400	5.0	71086001	1.0	71082801	1.0	903400	10.0
3.5IF	480313600	5.0	71086001	1.0	52125001	1.0	903400	10.0
4R	480314200	7.0	71086101	1.1	71082901	1.5	904200	12.0
4F	480314400	8.0	71086201	1.4	71083001	1.6	904400	13.0
5R	480315200	9.0	71086301	1.6	71083101	1.6	905200	15.0
5F-6R	480315462	18.0	71086401	1.8	71083201	2.0	905462	19.0



### FLAPPER TYPE PRESSURE MONITORING

H<sub>2</sub>S Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
1F-2R	480261422	2.0	52070801	0.7	51997200	0.5	901422	7.0
2F-3R	480262432	3.5	17135001	0.8	71082701	0.6	902432	8.0
3F	480263400	5.0	17136701	1.0	71082801	1.0	903400	10.0
3.5IF	480263600	5.0	17036701	1.0	52125001	1.0	903400	10.0
4R	480264200	7.0	17116001	1.1	71082901	1.5	904200	12.0
4F	480264400	8.0	17136801	1.4	71083001	1.6	904400	13.0
5R	480265200	9.0	17136901	1.6	71083101	1.6	905200	15.0
5F-6R	480265462	12.0	17134201	1.8	71083201	2.0	905462	19.0



### FLAPPER TYPE AUTOMATIC FILL

H<sub>2</sub>S Service

Size	Assembly	Weight (lbs.)	Metal Repair Kit	Weight (lbs.)	Rubber Repair Kit	Weight (lbs.)	Puller Assembly	Weight (lbs.)
2F-3R	480332432	3.5	71085901	0.8	71082701	0.6	902432	8.0
3F	480333400	5.0	71086001	1.0	71082801	1.0	903400	10.0
3 1/2 IF	480333600	5.0	71086001	1.0	52125001	1.0	903400	10.0
4R	480334200	7.0	71086101	1.1	71082901	1.5	904200	12.0
4F	480334400	8.0	71086201	1.4	71083001	1.6	904400	13.0
5R	480335200	9.0	71086301	1.6	71083101	1.6	905200	15.0
5F-6R	480335462	12.0	71086401	1.8	71083201	2.0	905462	19.0

Note: Metal repair kits are for 3 dressings. Rubber repair kits are for 4 dressings. Individual parts available upon request.

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## BAFFLE PLATES

Baffle plates can be placed on top of the drill-pipe float valve or the drill bit too help prevent damage from recorders or other wire-line tools that are dropped down the string.



RING TYPE



SPIDER TYPE

## BAFFLE PLATES

### RING-AND-SPIDER TYPE

Part Number	Connection Type/Size	DPFV Size	Type	Weight (lbs)	Baffle Plate OD	Usage On/In
91701	2 7/8" API Reg.	1F2R	Spider	0.5	1.94"	Bit
91702	3 1/2" API Reg.	2F3R	Ring	0.4	2.28"	Bit
91703	4 1/2" API Reg.	4R	Ring	0.8	3.22"	Bit
91704	5 9/16" API Reg.	5R	Ring	1.3	3.87"	Bit
91705	6 5/8" API Reg.	5F6R	Ring	1.5	4.63"	Bit
91706	7 5/8" API Reg.	5F6R	Ring	1.7	5.33"	Bit
91707	8 5/8" API Reg.	6F	Ring	2.2	6.18"	Bit
91711	Replaced by 91721	3F	Spider	0.6	2.75"	Joint
91712	4 1/2" API FH	4F	Ring	0.9	3.36"	Joint
91713	5 9/16" API FH	5F6R	Ring	1.5	4.63"	Joint
91714	6 5/8" API FH	6F	Ring	2.2	5.45"	Bit
91721	3 1/2" API FH	3F	Spider	0.6	2.63"	Float
91722	4 1/2" API FH	4F	Spider	0.7	3.44"	Float
	4 1/2" API Reg.	4R				
	5 9/16" API Reg.	5R				
91723	5 9/16" FH	5F6R	Spider	1.0	4.68"	Float
	6 5/8" API Reg.	5F6R				
91724	6 5/8" API FH	6F	Spider	1.0	6.56"	Float
91725	3 1/2" API IF	3.5IF	Spider	0.6	3.06"	Float
91726	Replaced by 91722	5R	Spider	0.8	3.76"	Float
91740	Replaced by 91743	2F3R	Ring	0.7	2.34"	Bit
91741	3 1/2" API IF	3.5IF	Ring	0.7	3.06"	Joint
91742	4 1/2" API IF	5R	Ring	1.6	4.22"	Joint
91743	2 7/8" API IF	2F3R	Spider	0.7	2.40"	Joint
91744	4" API IF/4 1/2" XH	4F	Ring	1.0	3.88"	Joint





For over 60 years OTECO, Inc. has been providing high quality oilfield equipment to the worldwide oil and gas markets.

Operating from our modern 120,000 square foot manufacturing facility in Houston, Texas, OTECO continues to provide products to the high quality standards for which we are known.

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