

## Ball-Type Kelly Valve

The Ball-Type Kelly Valve provides a quick, sure shutoff in the drill string that can repay the cost of the valve quickly in mud savings and kick protection. The valve is designed to hold pressure in either direction.

This valve can also be used as either an upper or lower kelly cock. It has an exclusive corrugated spring to ensure a positive seal. Standard pressure rating is 10,000-pound test, but higher ratings are available. The ball is stainless steel and closes easily. The full-bore kelly valve won't interfere with running tools like core barrels or survey instruments.

TIW also offers the Ball-Type Kelly Valve for H<sub>2</sub>S services, meeting all NACE standards.

### Lower Kelly Cock

As a lower kelly cock, the TIW Kelly Valve stops mud loss when the kelly is disconnected from the drill string. Just close the valve before disconnecting, and mud in the kelly and hoses stays there. By saving costly drilling fluids, the valve can pay for itself quickly. The rig floor and substructure stay much cleaner and safer as well. Its streamlined O.D. allows it to pass through the blowout preventer smoothly.

### Upper Kelly Cock

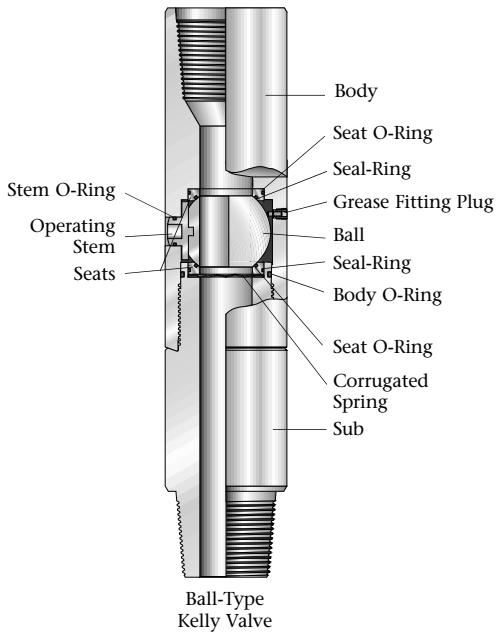
The TIW Kelly Valve with left-hand threads is used as an upper kelly cock. Positioned between the kelly and swivel, it positively shuts off flow in the drill string at any time. The inline body design will not hang up on the catline or interfere with operations.

These TIW Ball-Type Kelly Valves carry a guarantee of quality. Each is shipped with wrench, grease gun and one-pound can of lubricant. Specify size and connection from the following table.

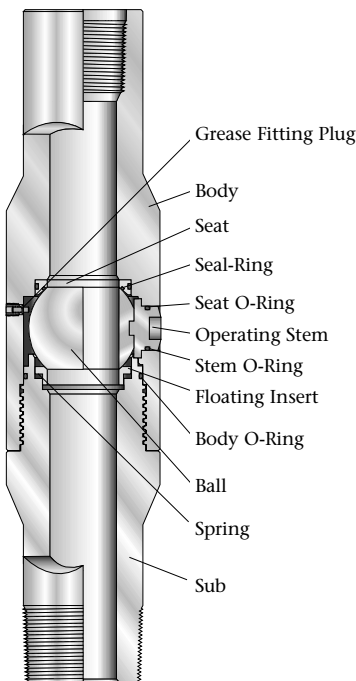
### Ball-Type Safety Valve

The Ball-Type Safety Valve is designed to stab into the drill pipe or tubing at the rig floor and close quickly in case a well kicks. After weighting material is added to the mud, the kelly is reconnected, the valve opened and circulation begun.

This is a full-bore valve. The ball-type design permits it to be compact, easy to handle and yet very strong. Standard test pressure is 10,000 pounds. Higher pressure ratings are available. The following table provides sizes and part numbers for the standard safety valves.



Ball-Type Kelly Valve



Ball-Type Safety Valve



## Engineering Data and Parts List For Ball-Type Kelly Valves

Kelly Size, In. / Mm.	2½ / 63.5	2½ / 63.5	3 / 76.2	3 / 76.2	3 / 76.2	3 / 76.2	3½ / 88.9	3½ / 88.9	
Max. Body O.D., In. / Mm.	3⅝ / 92.1	3⅝ / 98.4	4 / 101.6	4⅛ / 104.8	4¼ / 108.0	4½ / 114.3	4½ / 114.3	4⅞ / 119.1	
Min. I.D., In. / Mm.	1⅝ / 34.9	1½ / 38.1	1¼ / 31.8	1¾ / 44.5	1½ / 38.1	1¾ / 44.5	2 / 50.8	2⅝ / 54.0	
Overall Length, In. / Cm.	26 / 66.0	26 / 66.0	30⅞ / 77.3	30⅞ / 77.3	30⅞ / 77.3	30 / 76.2	30¼ / 76.8	30¼ / 76.8	
Approx. Weight, Lb. / Kg.	75 / 34.0	75 / 34.0	85 / 38.6	90 / 41.0	95 / 43.0	126 / 57.0	165 / 75.0	175 / 79.0	
Connection	2⅝" (60.3) API IF 2⅝" AOH 2⅝" PAC	2⅝" AOH 2⅝" PAC 2⅝" H-90	2⅝" (73.0) API Reg.	2⅝" (73.0) Hughes Slim Line H-90 2⅝" (60.3) API IF	3½" (88.9) API Reg. 2⅝" PAC	2⅝" / 60.3 API IF	2⅝" (73.0) IF 2⅝" (73.0) Reed F.O.	2⅝" (73.0) IF 2⅝" (73.0) Reed F.O.	
Part	Qty.	Part Numbers							
Sub	1	*	*	*	*	*	*	*	*
Seat W/Seal Ring	2	013386	013385	013388	013387	013387	013389	013389	013390
Ball	1	006867	006885	006893	006654	006654	006883	006883	006884
Body	1	*	*	*	*	*	*	*	*
Operating Stem	1	006866	006884	006892	006653	006653	006773	006773	006773
Spring	1	001226	001227	001226	001224	001224	001220	001220	001218
Grease Fitting	1	001147	001147	001147	001147	001147	001147	001147	001147
Operating Wrench	1	006641	006641	006641	006641	006641	006641	006641	006641
Stem O-Ring	1 †	000734	000734	000734	000734	000734	000734	000734	000734
Body O-Ring	1 †	000795	000796	000797	000799	000799	000751	000751	000751
Seat O-Ring	2 †	000790	000792	000790	000794	000794	000797	000797	000798
Seal Ring	2 †	000917	000920	000916	000921	000921	000922	000922	000923
Major Repair Kit		503087	503240	510188	503089	503089	503091	503091	503092
Seal Kit		503096	503241	503097	503099	503099	503095	503095	503100

Kelly Size, In. / Mm.	3½ / 88.9	3½ / 88.9	3½ / 88.9	4¼ / 108.0	4¼ / 108.0	5¼ / 133.4	5¼ / 133.4	ALL	
Max. Body O.D., In. / Mm.	4⅞ / 123.8	5 / 127.0	5¼ / 133.4	6⅞ / 161.9	6⅞ / 161.9	7 / 177.8	7 / 177.8	7¾ / 196.9	
Min. I.D., In. / Mm.	2⅞ / 61.9	2 / 50.8	2⅞ / 61.9	2¾ / 69.9	2⅞ / 68.3	3⅝ / 80.2	3¼ / 82.6	3¼ / 82.6	
Overall Length, In. / Cm.	30⅞ / 76.4	30⅞ / 77.0	30 / 76.2	30½ / 77.5	30½ / 77.5	32 / 81.3	32 / 81.3	32 / 81.3	
Approx. Weight, Lb. / Kg.	120 / 54.0	175 / 79.0	165 / 75.0	220 / 100.0	220 / 100.0	250 / 113.0	250 / 113.0	319 / 145.0	
Connection	3½" (88.9) X-Hole	2⅞" (73.0) IF 3½" (88.9) FH 3½" (88.9) IF	4" (101.6) FH	4½" (114.3) FH 4½" (114.3) X-Hole 4½" (114.3) IF	3½" (88.9) IF Hyd. PH-6	4½" (114.3) FH	4½" (114.3) IF 4½" (114.3) X-Hole 5½" (139.7) FH	6⅞" (168.3) API Reg. LH	
Part	Qty.	Part Numbers							
Sub	1	*	*	*	*	*	*	*	*
Seat W/Seal Ring	2	013391	013392	013391	013393	013393	013394	013394	013394
Ball	1	008682	006645	008682	006813	006813	006881	006881	006881
Body	1	*	*	*	*	*	*	*	*
Operating Stem	1	006773	006644	006644	006826	006826	006840	006840	006853
Spring	1	001223	001218	001223	001219	001219	001221	001221	001221
Grease Fitting	1	001147	001147	001147	001147	001147	001147	001147	001147
Operating Wrench	1	006641	006641	006641	006651	006651	006651	006651	006651
Stem O-Ring	1 †	000734	000734	000734	000796	000796	000796	000796	000796
Body O-Ring	1 †	000805	000753	000805	000762	000762	000768	000768	000768
Seat O-Ring	2 †	000800	000798	000800	000807	000807	000812	000812	000812
Seal Ring	2 †	000924	000923	000924	000927	000927	000930	000930	000930
Major Repair Kit		503083	503084	503243	503082	503082	503085	503085	503086
Seal Kit		503101	503094	503244	503102	503102	503103	503103	503103

Popular sizes shown. Other sizes available from your TIW representative. †Parts comprising seal kit.

\*Contact the TIW engineering department for part numbers.



# Engineering Data and Parts List For Ball-Type Safety Valves

Tool Body, Max. O.D., In. / Mm. Min. I.D., In. / Mm. Approx. Total Length, In. / Cm. Approx. Weight, Lb. / Kg. Connection		2½ / 63.5 1½ / 23.8 22 / 55.9 20 / 9.0 1" (25.4) Hyd. CS F.O.	4½ / 114.3 2 / 50.8 22½ / 57.9 45 / 20.0 2" (50.8) EUE	4½ / 114.3 TO ORDER 27½ / 69.7 45 / 20.0 2¾" (60.3) Hyd. CS 2¾" (60.3) Hyd. PH-6	4 11/16 / 119.0 2½ / 54.0 25 15/16 / 65.9 46 / 21.0 2 7/8" (73.0) O.D. API IF	4 7/8 / 123.8 2 7/16 / 61.9 21 5/8 / 54.9 46 / 21.0 2 1/2" (63.5) EUE	4 7/8 / 123.8 TO ORDER 24 1/4 / 61.6 51 / 23.0 2 7/8" (73.0) O.D. Hyd. PH-6	4 7/8 / 123.8 2 7/16 / 61.9 29 5/8 / 75.2 125 / 57.0 3 1/2" (88.9) Hughes X-Hole	
Part	Qty.	Part Numbers							
Sub	1	*	*	*	*	*	*	*	
Floating Insert	1	006948	006912	006912	006925	006980	006980	006980	
Ball	1	006950	006758	006758	006784	006799	006799	006799	
Seat W/Seal Ring	1	013454	013455	013455	013456	013457	013457	013457	
Body	1	*	*	*	*	*	*	*	
Operating Stem	1	006924	006914	006914	006914	006983	006983	006983	
Spring	1	001217	084265	084265	001210	001211	001211	001211	
Grease Fitting	1	001147	001147	001147	001147	001147	001147	001147	
Body O-Ring	1 †	000737	000751	000751	000752	000807	000807	000807	
Operating Wrench	1	001153	006641	006641	006641	006641	006641	006641	
Stem O-Ring	1 †	000724	000738	000738	000738	000738	000738	000738	
Seat O-Ring	1 †	000735	000799	000799	000800	000801	000801	000801	
Seal Ring	1 †	000915	000922	000922	000923	000924	000924	000924	
Major Repair Kit		503122	503112	503112	503136	503137	503137	503137	
Seal Kit		503141	503142	503142	503143	503144	503144	503144	

Tool Body, Max. O.D., In. / Mm. Min. I.D., In. / Mm. Approx. Total Length, In. / Cm. Approx. Weight, Lb. / Kg. Connection		5 / 127.0 2 / 50.8 30 5/16 / 77.0 125 / 57.0 3 1/2" (88.9) O.D. API IF (NOT F.O.)	5 / 127.0 2 7/16 / 61.9 30 1/2 / 77.5 130 / 59.0 3 1/2" (88.9) API FH	6 3/8 / 161.9 2 11/16 / 68.3 33 1/2 / 85.1 170 / 77.0 3 1/2" (88.9) O.D. API IF	7 / 117.8 3 / 76.2 31 3/4 / 80.6 187 / 86.0 3 1/2" (88.9) EUE	7 1/2 / 190.5 3 1/4 / 82.6 32 / 81.3 208 / 94.0 4 1/2" (114.3) API IF	7 1/2 / 190.5 3 1/4 / 82.6 32 / 81.3 208 / 94.0 4 1/2" (114.3) X-Hole	7 1/2 / 190.5 3 1/4 / 82.6 32 / 81.3 208 / 94.0 4 1/2" (114.3) Hughes H-90	7 1/2 / 190.5 3 1/4 / 82.6 32 / 81.3 208 / 94.0 4 1/2" (114.3) API FH
Part	Qty.	Part Numbers							
Sub	1	*	*	*	*	*	*	*	*
Floating Insert	1	007022	006980	006905	007038	007038	007038	007038	007049
Ball	1	007023	006799	006906	006841	006841	006841	006841	007051
Seat W/Seal Ring	1	013458	013457	013459	013461	013461	013461	013461	015621
Body	1	*	*	*	*	*	*	*	*
Operating Stem	1	007025	006983	006908	006840	007041	007041	007041	007041
Spring	1	001209	001211	001212	001208	001208	001208	001208	001215
Grease Fitting	1	001147	001147	001147	001147	001147	001147	001147	001147
Body O-Ring	1 †	000752	000807	000762	000819	000820	000820	000820	000818
Operating Wrench	1	006641	006641	006651	006651	006651	006651	006651	006651
Stem O-Ring	1 †	000738	000738	000796	000796	000748	000748	000748	000748
Seat O-Ring	1 †	000799	000801	000808	000812	000812	000812	000812	000811
Seal Ring	1 †	000922	000924	000926	000929	000929	000929	000929	000928
Major Repair Kit		503138	503137	503110	503139	503140	503140	503140	503140
Seal Kit		503145	503144	503146	503147	503148	503148	503148	503148

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\*Contact the TIW engineering department for part numbers.