Stayflow Kompact Series
Wafer End Connection
Installation, Operation & Maintenance Manual

Note: Before using a valve, read the entire IOM carefully and make sure you have a clear understanding of all information included.
This manual describes the procedures for the safe and efficient installation, operation and maintenance of Stayflow Kompact Series Ball Valves. **Failure to follow the procedures in this manual may result in Stayflow warranties being voided.** Problems with the operation and maintenance of these valves should be directed to the nearest Stayflow Representative.

The Stayflow KOMPACT Series are designed as a single body construction, to allow ease of access for maintenance of the valve ball and seat without special tools. This valve is an advanced quarter-turn control valve which can be used switch on and off and proportionally adjusted. Kompact Series ball core is designed with special V type notch, which owns accuracy flow control, small volume and big flow coefficient. It is applicable to controlling gas, liquid, and solid particle medium. Owing to zero clearance rotation, there is big shear force and self-cleaning property, especially applicable to controlling suspension with fibers, small solid particles, and solid grains. Therefore this product is widely used in petroleum, chemistry, papermaking, polysilicon, chemical fiber, electric power, metallurgy, pharmacy, environmental protection, and other industrial departments' self-control system.

INSTALLATION:

A. Receiving and Preparation Procedure

A1. Remove shipping protection.
A2. Inspect the valve(s) for transportation damage.
A3. Inspect the valve bore and remove any debris.
A4. Cycle the valve and inspect the valve for smooth operation, size permitting.
A5. As shipped from the factory, valves may contain a silicone based lubricant. This is for break-in and may be removed if it is objectionable for a particular application by disassembling and solvent washing.

*If transportation damage is found, immediately take pictures for record purposes and contact the inbound carrier to submit a claim.

B. Installation Procedure

B1. General – The valve may be fitted in direction of arrow casted on valve body in the pipeline. Prior to installing the valve, the pipe on either side of the intended installation should be checked to be free of dirt, debris, weld slag, etc. to prevent damage to the seats, seals and surface of the ball. The piping must also be free of tension or compression.

WARNING – Never use the valve as a pipe support or structural member.

B2. Installation of the Stayflow Kompact Series valves is accomplished by inserting the valve between flanges attached to piping and supplied by others and attaching the valve to the mating flanges with fasteners of the size and type specified by industry standards. Fasteners should be tightened in a "star" pattern.

Caution – Ensure that mating flanges are of the same size, type and pressure rating as the valve and that fasteners are of the size and type approved for the flange.

B3. Valves with actuators should be checked for actuator-valve alignment. Angular or linear misalignment will result in high operational torque. Electric and/or pneumatic connections should be made in accordance with the correct actuator IOM instructions.

C. OPERATION:

C1. Manual operation of the valve is accomplished by turning the handle ¼ turn (90 degrees).

*The valve is open when the handle is "in-line" with the valve or pipeline. The valve is closed when the handle is "across" or perpendicular to the valve or pipeline.

C2. Stayflow Kompact Series valves can be operated with either electric or pneumatic actuators. For instructions on installation and operation, refer to the IOM for the correct actuator.

C3. Stayflow Kompact Series valves may include one of several different styles of limit switches and positioners. Please refer to the appropriate IOM for each device.

MAINTENANCE:

CAUTION – Ball valves can trap fluid in the ball cavity when closed. Be prepared to capture and manage any liquid retained in the valve body when disassembling the valve.

WARNING – **If the valve has been in hazardous fluid service, review applicable MSDS sheet and decontaminate the valve before disassembly. All persons involved with the disassembly should wear personal protection equipment such as aprons, gloves, face shield, etc. to prevent personal injury.**
Access to the valve internals starts with relieving pressure in the pipeline. Turn the valve handle to the 45 degree, half open, position and flush the line, when applicable, to remove any hazardous material from the line. Repair kits can be ordered from the local Stayflow Representative. This should be done prior to any disassembly work.

CAUTION - Valves with actuators, limit switches or positioners should have these devices disassembled from the valve prior to disassembling of the valve.

WARNING- **Use extreme caution disconnecting any electrical and/or pneumatic sources to the valve to protect against personal injury. Isolate the valve actuator prior to disconnecting.**

Stem Packing
Stem seal leakage may be corrected without disassembly. Tighten the packing gland nuts one flat at a time alternating between nuts, until leakage stops. If leakage continues, or the valve's operating torque becomes excessive, the seals are worn and replacement of the packing will be necessary.

WARNING- **Do not remove packing gland while the line is under pressure. Personal injury could occur**

D. Valve Disassembly-

WARNING – **Use extreme caution when removing the SENTINEL Series valve from the pipeline to prevent personal injury that may be caused by "cold springing" of the piping.**

CAUTION – valves shall be adequately supported prior to unfastening the studs and nuts that hold the valve in line and secured with lifting straps or slings to hold the weight of the valve.

D1. Remove the flange bolts and nuts and lift valve from line for servicing. NOTE: care should be taken to avoid scratching or damaging serrated gasket. These valves can be heavy depending on what size you are repairing. They should be adequately supported before removal from the line has begun.
D2. For manual valve, Loosen handle nut remove handle. For actuated valve, remove actuator, and other hardware. Next, remove Self Lubricating Bearing and Packing.
D3. Remove Socket Head Screw, Retainer, Wave Spring, Seat and O ring just in case if needed to replace.
D4. Remove Hexagon Nut, Gland, Stud, Packing and Upper shaft.

Visual Inspection-

Clean and inspect all metal parts. It is not necessary to replace stem unless the seating surfaces have been damaged by abrasion or corrosion. Stayflow strongly recommends that all seats, seals and packing be replaced whenever a valve is disassembled for reconditioning. This is the surest protection against subsequent leakage after reassembly. Replacement parts are sold in kit form. Refer to the metal tag attached to the side of the valve body to identify the specific sealing materials used. Kits can be obtained via the local Stayflow Distributor. Replacement parts should be purchased prior to valve disassembly. Required information to purchase replacement parts include:

a. Line size
b. Model designation
c. Seat/seal materials

Valve Reassembly –

Note- The valve may be reassembled and operated dry when no lubricants are allowed in the system; however, a light lubricant stem will aid in assembly or reduce initial operating torque. Lubricant used must be compatible with the intended system fluid.
Install one new seat and seal in the body cavity with the spherical curvature facing the ball. Replace the stem in the reverse order from above based on valve size, including reattaching the handle. Use the wrench to bring the valve at closed position. This will align the stem tang and the ball slot. Turn the handle to the open position to help hold the ball in place the body seal gasket into the shoulder counter-bore at the flange in the valve body. Using the match marks to realign the body and body end, carefully place the cap end back into the body. Install the cap end nuts and tighten in a star pattern to the torque values specified below.

Note: Make sure ball is in closed position before tightening up the end connections.

WARNING- **extreme care must be exercised during tightening of the body end nuts to make sure that complete engagement of studs with the body flange is maintained. There should be at least one stud thread exposed on each side.**
Cycle the valve slowly, with a gentle back and forth motion to build gradually to a full quarter turn. By cycling slowly, the new seat lips will conform to the seal shape against the ball. An initial fast turning motion, at this point, may cut the seats before they have a chance to form the proper seal. When possible and practical, test the valve prior to reinstalling into the pipeline.

Reinstallation-
Carefully inspect the faces of both the valve flanges and the mating flanges to insure they are clean and undamaged. Place the valve in the preferred position and support it from moving. Install a sealing gasket between each pair of flanges and reinsert the bolting and hand tighten. Secure the bolting to the recommended torque values in a star pattern to insure that the gasket is compressed evenly around the entire circumference.

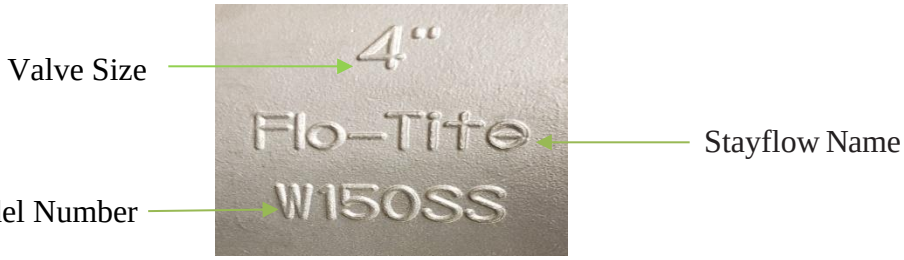
Repair Kits –
Repair kits typically consist of replaceable seats, body seals and packing seals. Contact your local Stayflow Representative to order and receive the kits prior to any maintenance work.

VALVE - SOFT PARTS							
SEAT		STEM SEALS		BODY SEAL		O-RINGS	
TFM	F	TFM	F	TFM	F	VITON	V
CTFM	Y	CTFM	Y	CTFM	Y	EPDM	E
PTFE	T	RTFM	X	PTFE	T	PTFE	T
RPTFE	R	PTFE	T	RPTFE	R	BUNA	B

Stayflow's marking system follows MSS SP-25-1998

Valve Markings- Casted into valve bodies include the following; Stayflow Name, Model Numbers, Body Material, Valve Size, & Pressure Rating

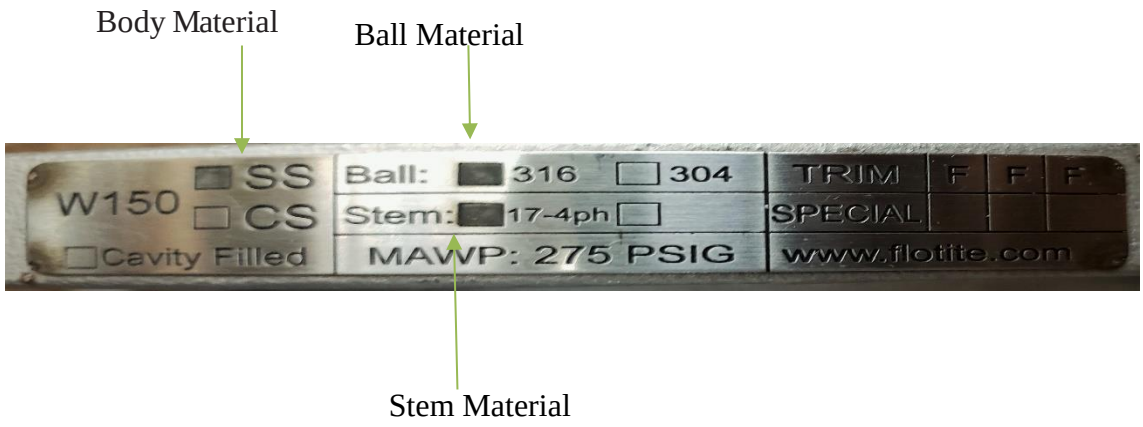
Valve Side A



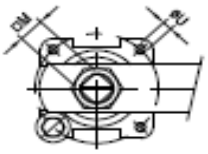
Valve Side B

Standard Trim Soft Parts

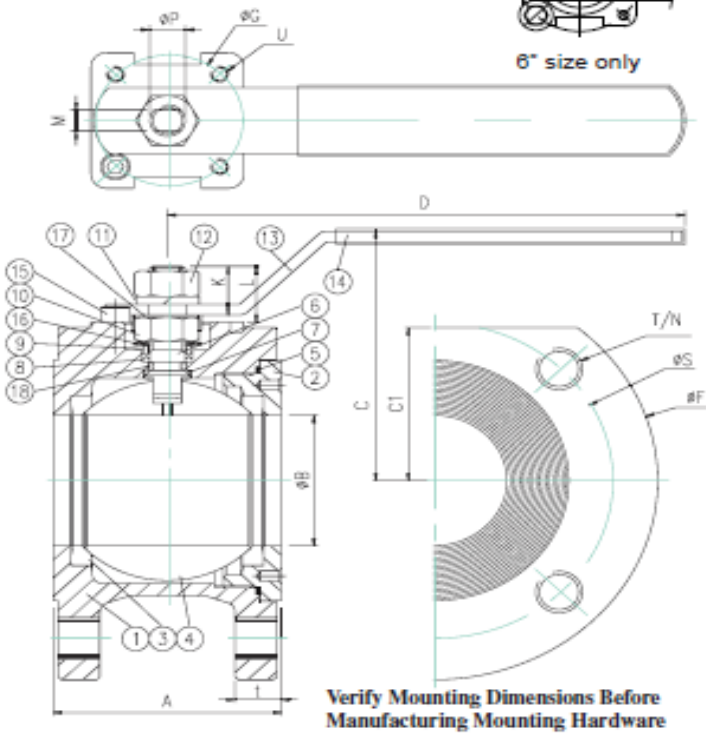
ID-Codes



Design & Technical Data



6" size only



Verify Mounting Dimensions Before Manufacturing Mounting Hardware

Kompact Series
Wafer Type Ball Valve

Models:

Stainless Steel	W 150-SS
Carbon Steel	W 150-CS

BILL OF MATERIALS:

Item	Parts	W150SS	W150CS	Qty
1	Body	ASTM A351 CF8M	ASTM A216 WCB	1
2	Retainer	ASTM A351 CF8M	ASTM A216 WCB	1
3	Seat #	TFM1600/Super-Tek	TFM1600/Super-Tek	2
4	Ball	ASTM A351 CF8M	ASTM A351 CF8	1
5	Gasket #	TFM1600	TFM1600	1
6	Stem	17-4PH	17-4PH	1
7	Thrust Washer #	25% Carbon Filled PTFE	25% Carbon Filled PTFE	1
8	Stem Packing #	TFM1600	TFM1600	3
9	Packing Follower	SS304	SS304	1
10	Packing Nut	SS304	SS304	1
11	Handle Washer	SS304	SS304	1
12	Handle Nut	SS304	SS304	1
13	Handle	SS304	Zinc Plated Steel	1
14	Handle Cover	PVC	PVC	1
15	Handle Stopper	SS304	Carbon Steel	1
16	Belleville Washer	SS301	SS301	2
17	Lock Washer	SS304	SS304	1
18	O-Ring #	Viton	Viton	1

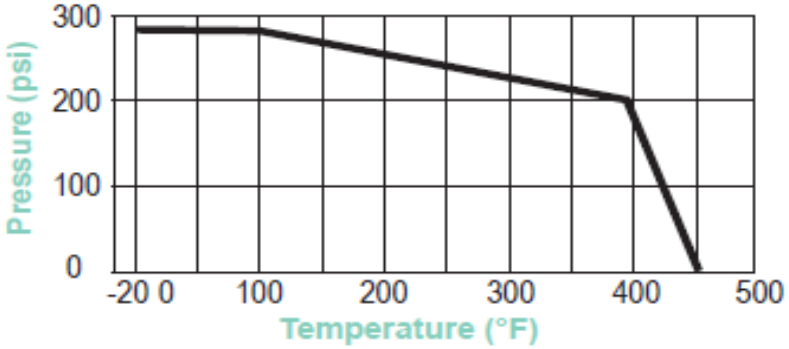
 # Parts included in the repair kits
Special body materials are also available
Please see exploded view on following page

Dimensions & Technical Data

SIZE	A	B	C	C1	D	F	G	K	L	M	N	P	S	t	T	ISO Pad	U	Cv	Torque In-Lb	Weight Lbs
1/2"	1.61	0.63	2.56	0.70	4.84	3.78	1.42	0.39	0.66	0.26	4	0.39	2.37	0.55	1/2-13unc	F03	M5	15	58	3.2
3/4"	1.77	0.79	2.72	0.74	4.84	4.13	1.42	0.39	0.68	0.26	4	0.39	2.75	0.63	1/2-13unc	F03	M5	40	80	3.7
1"	2.13	0.98	3.15	1.75	6.22	4.53	1.65	0.63	0.99	0.34	4	0.55	3.13	0.63	1/2-13unc	F04	M5	70	108	6.6
1 1/4"	2.28	1.26	3.43	2.01	6.22	5.31	1.65	0.63	0.94	0.34	4	0.55	3.50	0.63	1/2-13unc	F04	M5	120	150	7.9
1 1/2"	2.44	1.50	3.78	2.17	7.80	5.71	1.97	0.83	1.15	0.39	4	0.63	3.87	0.63	1/2-13unc	F05	M6	200	200	8.8
2"	3.05	1.97	3.76	2.38	6.89	6.00	1.97	0.70	0.85	0.31	4	0.47	4.75	0.62	5/8-11unc	F05	M6	480	300	11
3"	4.57	2.99	5.71	3.46	9.57	7.50	2.76	0.77	1.50	0.47	4	0.75	6.00	0.75	5/8-11unc	F07	M8	1150	750	26
4"	5.91	3.78	6.59	4.49	11.22	8.66	2.76	1.01	1.32	0.47	8	0.75	7.50	0.94	5/8-11unc	F07	M8	1850	1000	44
6"	7.17	5.31	8.46	6.34	18.11	11.0	4.02	1.05	1.20	0.87	8	1.10	9.50	1.00	3/4-10unc	F10	0.43	4800	2018	84

Larger Sizes On Application: Consult Factory

Pressure & Temperature Rating:



All Valves 100% Hydrostatically Pressure Tested in Open and Closed Position

Class 150 Test Pressure:
Shell 425 Psi Seat 80 Psi (air)

Technical Specification	
Body Wall Thickness	ASME B16.34
Body Bolting	ASME B16.34
Testing Standards	ASME B16.34, API 598
NACE	MR-0175
Manufacturing	CE Certified / ISO 9001

Transmitter Isolation Option

Valve flange machined to 26° - 28°
knife gate offset tank end.
45° handle for insulation recess.

Please carefully review all important procedures in this manual. If anything is unclear, please feel free to contact Stayflow directly