



## HIGH PURITY BALL VALVE

### FULL BORE & PORT

The SBLV ball valves are engineered to be a true process piping component to specifically meet the demanding processes required in pharmaceutical industries.

The three piece ball valve are machined from solid round bar in AISI 316L (1.4404 – 1.4435) for high quality, reliability and traceability. The SBLV ball valves are full bore / full port design according to ASTM A 269 Standard and dimensions, the tube-ID port opening is dimensionally identical to the adjacent tubing to comply with ASME-BPE Guidelines; Full bore / full port design minimizes line turbulence and pressure drop and increase efficiency and power saving.

### SIZE RANGE

Model SBLV – TC	With Tri Clamp from ½” up to 4” - Tube OD (2 way)
Model SBLV – SS	Butt weld from ½” up to 4” - Tube OD (2 ways)
Model SBLV - TB/BW	Tank bottom flush weld from ½” up to 2”
Model SBLV - TB/TK	Tank bottom TK-Conn removable from ½” up to 2”

### END CONNECTIONS

Interchangeable end caps are available for different applications  
Fully machined from round bar, no welded tube extension  
Tri Clamp – according to BS 4825  
Butt weld – Tube OD, or extended tube weld for orbital welding

### QUALITY & SURFACE FINISH

Internal body surfaces  $Ra \leq 0.6 \mu m$   
External mirror polished  
Enhanced surface finishes and Electropolishing is available on request

### SEAT MATERIAL

TFM 1600 PTFE cavity-filled complying with FDA guidelines and USP Class VI, is standard on SBLV  
Cavity filled seats are not suitable for steam service  
For more information on the seat characteristics please contact us

### OPERATOR & ACTUATION

The valve can be fitted with manual handle or with ISO NAMUR mounting pad for pneumatic actuators  
Stainless steel manual handle (quarter-turn for open/close)  
Pneumatic actuator (DA double acting – N.C. spring return)

### MARKING

To guarantee full traceability, the following information is marked on the valve body:  
Company logo,  
Material of construction and size,  
Max. operating pressure (30 bar),  
CE Mark  
(when necessary – internal code i.e. 0605 1623 where 0605 indicate the year and month of manufacturing and 1623 indicate our internal order confirmation.  
Additional information such as customer tag number or additional marking is available upon request

### PRESSURE & TEMPERATURE RATING

Minimum / Maximum working pressure Vacuum / 30 bar g  
Minimum / Maximum working temperature -10°C / 150°C





## CERTIFICATION

### *For equipment in compliance with the European Directive 97/23/CE "PED" DN>32*

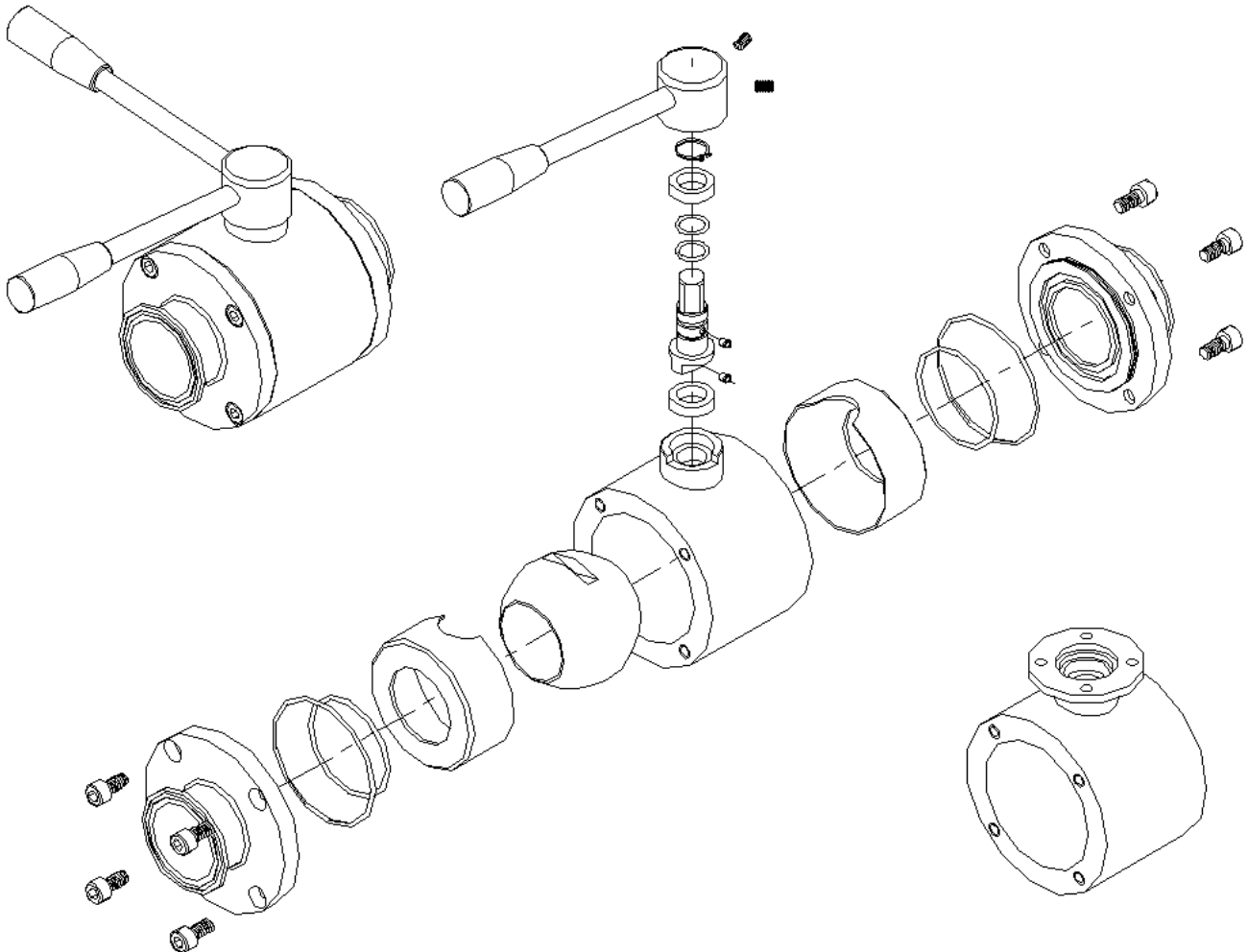
The CE Mark indicates product compliance with the new approach community directives for better harmonising member state legislation  
Declaration of CE conformity according to evaluation form "A"  
(ENCLOSURE VII European Directive 97/23/EC)  
The VSS equipment meets the basic requirements indicated in Directive 97/23/CE

### *For equipment in compliance with the European Directive 94/9/CE ATEX II2G-D T4*

Specific and supplementary marking according to Directive 94/9/CE ATEX indicating the specific symbol for the explosive.  
The unit number and the category to which it belongs, the type of atmosphere in which the product can be used and the temperature class.


Declaration of CE conformity according to evaluation form "A"  
(ENCLOSURE X European Directive 94/9/EC ATEX)

The VSS equipment complies with the basic requirements indicated in Directive 94/9/CE





## FEATURES

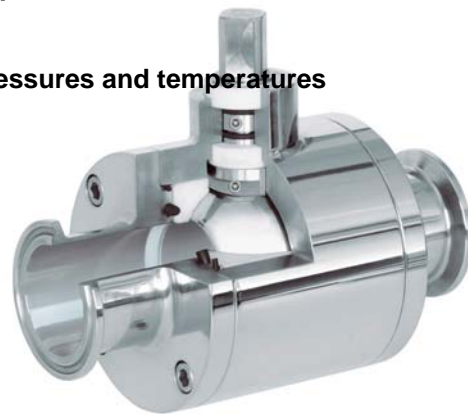
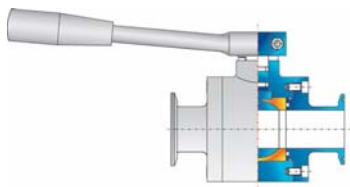
- **BODY**  
Three-Piece Sanitary design enables in-line maintenance of ball valve.  
Full flow body design minimizes line turbulence and pressure drop through the valve
  - **END CONNECTION**  
Clamp end connections are self-aligning for fast, easy disassemble and reassembly without tools.  
Butt-weld end connections are available
  - **BODY BOLTING**  
Body bolting in 304 Stainless Steel permits easy assembly/disassembly of the valve.
  - **BALL**  
Precision machined from solid bar and polished to a mirror finish for bubble tight shut-off.  
Each ball is designed to have minimum torque and provides high life cycle.
  - **STEM**  
Stem and packing design eliminates possibility of stem becoming dislodged or blown out. Designed to operate with handle for manual operation, or for direct mounting of pneumatic actuator that meets ISO 5211 specifications.
  - **ANTISTATIC DEVICE (optional on request)**  
To eliminate possibility of static electrical charges within the valve, two grounding connections are set in the stem to ensure electrical continuity for the entire ball valve.
  - **HANDLE**  
Ball valves fall under the general category of "rotary valves": quarter-turn for open/close. Handle gives visual indication of flow with stop lug
  - **MOUNTING PAD**  
A set of ISO 5211 mounting patterns are available to accommodate a wide range of pneumatic actuators. Machined flat surface ensures correct alignment of actuator to the stem top for minimum side loading during operation.
  - **BALL SEAT**  
Various seat materials are available for wide range of applications.  
As Standard :TFM 1600 PTFE cavity-filled seat are intended to prevent the build up of product that may-when entrapped between the ball and body cavity-solidify or otherwise inhibit the smooth operation of the valve closure member on critical process applications.
-  **Valves used in continuous steam service (24 hours continuously) should not use this seat arrangement.**
- **STEM SEAL**  
Two Viton O-rings and two stem guide in 25% Glass Fibre filled PTFE ensuring sealing integrity of the stem
  - **BODY SEAL**  
Two Viton O-rings for each end connections ensuring sealing integrity of the valve body.



## BENEFITS

Ball valves are well proven in the most rigorous applications. some key advantages of the design include:

- Economical – compared to most other valves design
- High flow rate through an unobstructed flow path
- Quick, quarter-turn operation
- Easy to automate pneumatically
- Inherently flexible to meet a wide range of pressures and temperatures
- Easy and simple to maintain
- Self-flushing design



**Manual valve Body cut**



**Manual Flush Bottom valve  
mounted on tank connection**



**Pneumatic Valve Body**



**Pneumatic Valve**



## TFM™ as Seat Material

**CSK-BIO** High Purity ball valves is using Dyneon™ TFM 1600 PTFE as a standard seat material

### What is TFM™ ?

TFM is chemically modified PTFE that fills the gap between conventional PTFE and melt-processable PFA. According to ASTM D 4894 and ISO Draft WDT 539-1.5, TFM is classified as a PTFE. TFM-PTFE is a second-generation modified polytetra-fluoro-ethylene (PTFE) that maintains the exceptional chemical and heat resistance properties of conventional PTFE, but with significantly lower melt viscosity. This property results in better particle fusion during sintering and much smoother ball-to-seat sealing surfaces.

TFM 1600 PTFE are ideal for ball valves in high purity applications. In addition, TFM complies with:

- 3A Sanitary standard for multiple-use plastic materials used as product contact surfaces for dairy equipment.
- FDA-21 CFR 177.1550 direct contact with meat or poultry food products prepared under FDA inspection.
- USP23, biological test for plastic Class VI

**TFM 1600 PTFE**  
for steam service



Cavity filled seat  
**TFM 1600 PTFE**  
for high purity  
applications

### Properties

- Lower Porosity and Permeability
- Reduced "cold-flow" and deformation under load
- Lower void contact
- Smoother Surfaces
  
- Temperature rating
- Pressure Rating

*TFM™ is a trademark of Dyneon*

*For more information on the seat characteristics please contact us.*

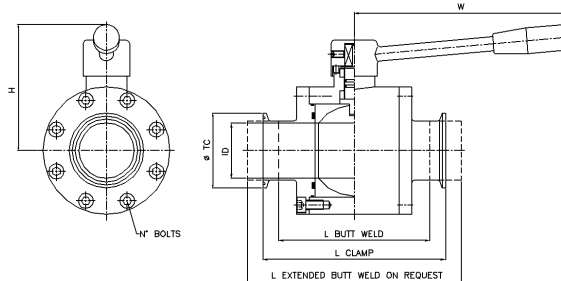
### Benefits

Dramatically reduces surface contamination  
Greater pressure and temperature capabilities without the need for fillers  
Improves wear resistance  
Less operating torque and reduced particle generation  
-70°F up to 475°F  
1,500 psi Cold Working Pressure  
150 psi Steam Pressure



## DIMENSION AND TORQUE VALUES

### MANUAL HANDLE



CODE	INCH	DN	ØTC	ID	LBW	LTC	W	H	Kv	Kg
SBLV 1/2"-97TC-6	1/2"	15	25	9,4	84	88	95	50	4,68	0,900
SBLV 3/4"-97TC-6	3/4"	20	25	15,7	84	88	95	50	10,2	0,850
SBLV 1"-97TC-6	1"	25	50,4	22,1	110	110	125	75	24,6	2,500
SBLV 1 1/2"-97TC-6	1 1/2"	40	50,4	34,8	145	145	185	85	48,3	3,500
SBLV 2"-97TC-6	2"	50	64	47,5	160	147	185	90	77,8	5,800
SBLV 2 1/2"-97TC-6	2 1/2"	65	77,4	60,2	180	164	240	105	87,0	6,900
SBLV 3"-97TC-6	3"	80	90	72,9	190	176	240	115	105,6	14,800
SBLV 4"-97TC-6	4"	100	118,8	97,6	220	215	240	150	129,0	24,500

Kv in mc/h = Kv value with fully open ball; fluids: water, ambient temperature 20°C

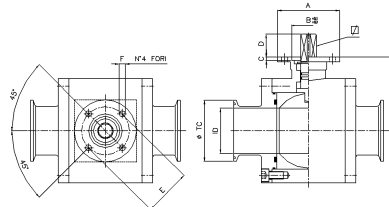
L = overall length

LBW = butt weld

LTC = Tri Clamp

special extended tube for orbital welding available on request

### ISO 5211 MOUNTING PAD FOR PNEUTATIC ACTUATOR



CODE	A	B	C	D	E	F	ISO	□	Nm	H
ACTUATOR TYPE	SR-DA	SR-DA	SR-DA	SR-DA	SR-DA	SR-DA	SR-DA	SR-DA	#	
SBLV 1/2"-97TC-6	Ø45	25	2,5	9,5	36	5,5	F03	9	15	38,5
SBLV 3/4"-97TC-6	Ø45	25	2,5	9,5	36	5,5	F03	9	15	38,5
SBLV 1"-97TC-6	Ø55-45	30-25	2,5	11,5-10	42-50	5,5-6,5	F04-F05	11-9	30	58,5
SBLV 1 1/2"-97TC-6	Ø65	35	3,5	14,5-12	50	6,5	F05	14-11	60	67
SBLV 2"-97TC-6	Ø65	35	3,5	14,5	50	6,5	F05	17-14	120	77
SBLV 2 1/2"-97TC-6	Ø85	35	3,5	19-14,5	70	8,5	F07	22-17	180	83,5
SBLV 3"-97TC-6	Ø85	35	3,5	19-14,5	70	8,5	F07	22-17	240	97
SBLV 4"-97TC-6	Ø150-120	85-55	3,5	25-18	125-102	13-11	F12-F10	27-22	480	126

- Pneumatic actuator type: SR = Simple Effect, spring return, DA = Double Effect, air to close
- # Maximum break-out torque in Nm.

Additional information and more at: [sales@cskbio.com](mailto:sales@cskbio.com)  
The specifications or design are subject to change without prior notice.