

PHARMACEUTICAL/BIOTECHNOLOGY CONTROL VALVE

CSE BPE 製藥級閥門系列

Head office

TAIWAN

強淞企業股份有限公司

CSE. CHIANG SUNG ENTERPRISE CO., LTD.

台灣彰化縣北斗鎮新工一路65號(北斗科學工業園區)

No.65, SHENG KUNG 1ST. RD. PEI TOU, INDUSTRIAL

PARK. CHANGHUA, TAIWAN

TEL: +886-4-8876919(Rep) FAX: +886-4-8876918

E-mail: csee@ms57.hinet.net

THAILAND

CSE TECHNOLOGIES CO., LTD.

Office:

116/11 Soi Tien-Talay 24 Bangkhuntien-Chaitalay Rd.,

Thakarm, Bangkhuntien Bangkok Thailand 10150

Tel: +662-4158051-3 Fax: +662-415-8059

Factory:

39,39/1 moo 7 Petkaseam Rd, Nongchumpon, Khaoyoy,

Petchaburi, Thailand 76140

Tel: +66-3279-6234, 796-225-6, 796-248

Fax: +66-3279-6247

CHINA

上海辦新址:

CSE上海事業部/廣州辦公室/長春辦公室

上海市松江區久富經濟開發區盛富路839號-1棟

Block 1, No.839, Shengfu Road, Songjiang District, Shanghai

Tel: +86-21-67691138, +86-21-67691190 Fax: +86-21-67691007

E-mail: stevencse@126.com

大陸工廠:

福建強新五金機械有限公司

FUJIAN CHIANG SHIN HARDWARE MACHINERY CO., LTD.

福建省漳州市長泰縣興泰工業區

Xing Tai Industrial Zone RC Chang Tai Zhang Zhou Fujian

TEL: +86-596-8310856 FAX: +86-596-8310866

東南亞經銷SouthEast Asia :

新加坡, 越南, 印尼, 馬來西亞, 菲律賓, 印度...

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The logo that you can trust



CSE GROUP

<http://www.csee.com.tw>



BPE Auto / Manual Control Valves

BPE生技製藥級手/自動閥門系列



Application 應用範圍

CSE 2-WAY / 3-WAY (T-TYPE) / MULTIPAL WAYS U-POINT DIAPHRAGM VALVES (Pneumatic/Manual)

CSE 兩通/三通/多通型/U 型及手動或氣動隔膜閥



Pure Water System/ Pharmaceutical / Food / Chemical Engineering / Industrial Chemical / Other Business
純水、製藥、食品、日化工、工業化學與其他行業

Product Benefit 主要產品優勢



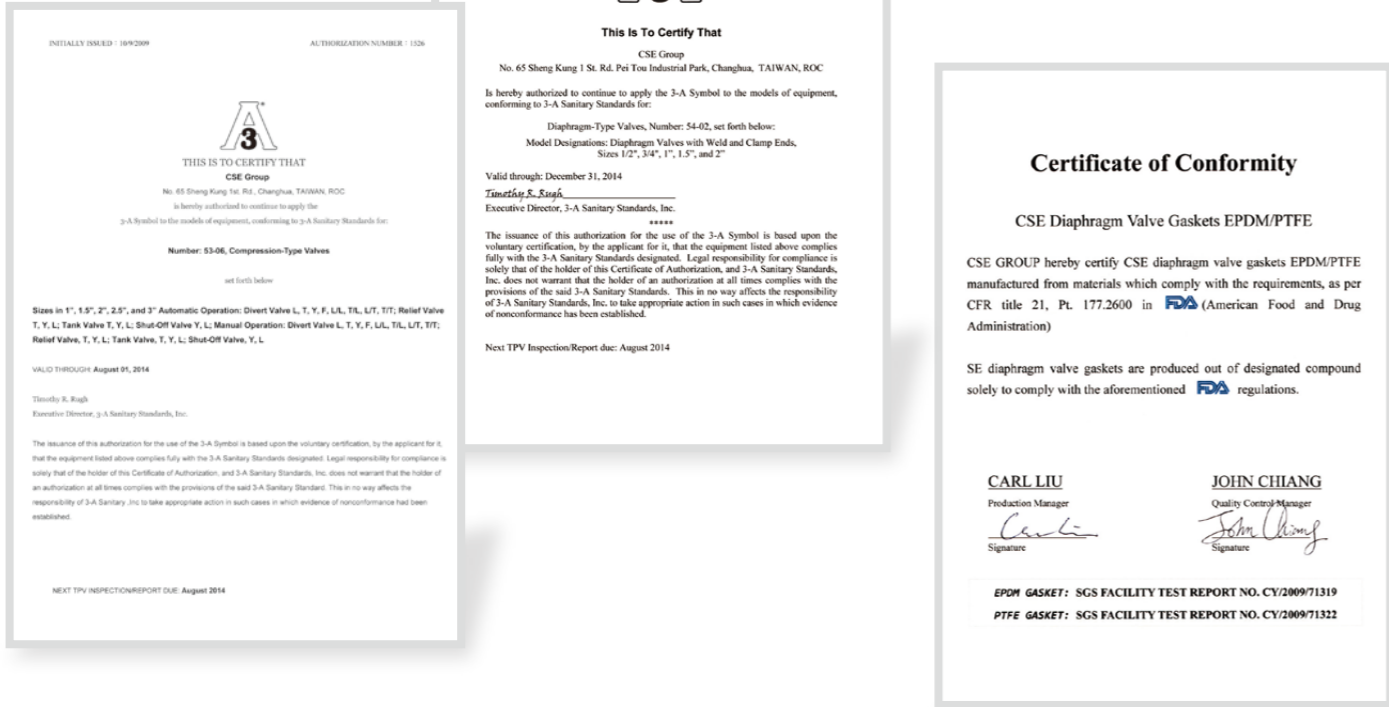
For many years, CSE GROUP always follow the highest principle of "To Attain The Minimum Residual" & "Zero Blind Spot" for the Diaphragm Valve design. Now, CSE Diaphragm Valve is the first brand assigned by cGMP, PIC/S facilities and National Health Research Institute (NHRI). We export to many major and famous pharmaceutical factories around the world; what's more, our design conforms to ASME BPE standard.



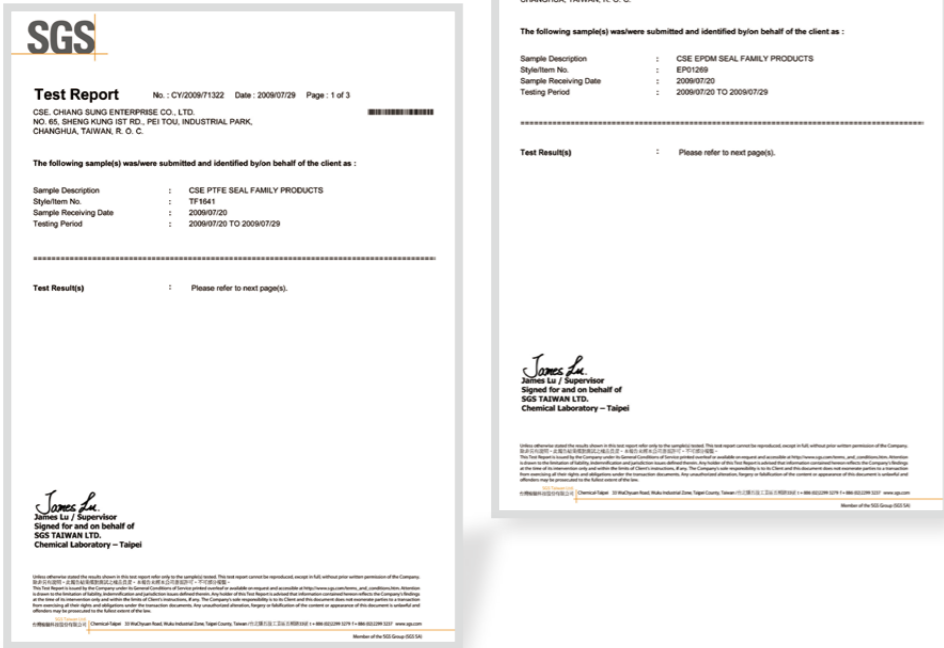
CSE隔膜閥產品之設計，多年來，一直秉持著“以達到最低殘留”及“清洗無死角”為重要原則；目前，更獲各大cGMP與PICs藥廠及國家疫苗生產中心為第一指定品牌，其設計更符合BPE製藥級規範，並外銷至歐美各大藥廠。

Assured Quality Guarantee
嚴謹的品質保證

3A 證明
3A Certificates



SGS 膜片測試證明
Diaphragms SGS Certificates

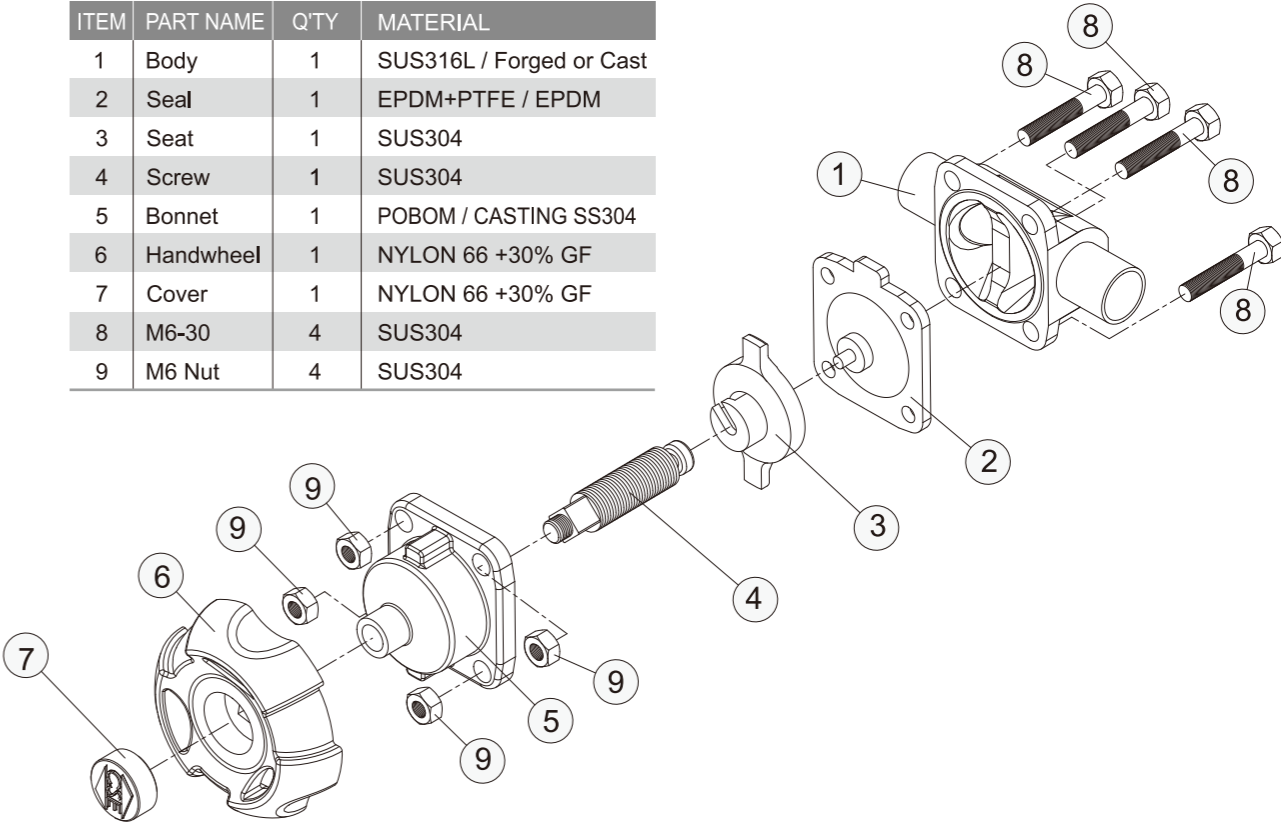


Technical Specification 技術說明

(A) Construction Assembly & Parts List

PARTS LIST

ITEM	PART NAME	Q'TY	MATERIAL
1	Body	1	SUS316L / Forged or Cast
2	Seal	1	EPDM+PTFE / EPDM
3	Seat	1	SUS304
4	Screw	1	SUS304
5	Bonnet	1	POBOM / CASTING SS304
6	Handwheel	1	NYLON 66 +30% GF
7	Cover	1	NYLON 66 +30% GF
8	M6-30	4	SUS304
9	M6 Nut	4	SUS304



(B) Specifications

材 質 Material	Body: Forged or Cast/316L 閥體：鍛造或鑄造/316L Diaphragm: EPDM+PTFE/NC or NO 膜片：EPDM+PTFE/常開或常閉
連接方式 Connection	Clamp End/Weld End... 夾接式/焊接式
閥體型式 Body Type	Direct Connection (Two Way)/Equal T / Reducing T/U-Point... 直通式(二通)/同徑三通(同徑T型)/異徑三通(異徑T型)/180° U型
作動方式 Operation	Normal Open / Normal Closed 常開式/常閉式
適用溫度 Work Temp.	Diaphragm: EPDM+PTFE (-10°C~150°C) 膜片：EPDM+PTFE (-10°C~150°C)
壓力範圍 Work Pressure	Max: 10 Bars 最大壓力值：10 Bars
表面處理 Surface	SF1: ID Polished to Ra≤0.5μm / SF4: EP Finished to Ra≤0.38μm ID/OD Mirror Polished & ID Ra≤0.5μm / OD Sand Blasted...

CSE Diaphragm Valve by Forging / Casting Specifications

衛生級手動不鏽鋼隔膜閥



Features 特性

1. Nylon 66+玻口纖維材質的把手符合人體操作，並配有調整限位裝置。
2. 以目測方式觀察開關狀態。
3. 鍛造/鑄造ASME BPE 316L 材質與符合ASME BPE 設計之閥體，內孔粗糙度Ra ≤0.4 (機械拋光) or 0.3 um (電解拋光)。
4. 表面處理：鏡面、毛絲面、EP 電解拋光。
5. 弧面採用CNC 多R 角設計，壓迫力量平均不滲漏。

1. Handle of Nylon 66 + G. Fiber material with adjustable control panel. Strong and easy manual operation.
2. Visual for ON/OFF available.
3. Meet ASME BPE by forging or casting 316L body material. Surface ID Ra ≤0.4 um by mechanical polish or Ra ≤0.3 um by EP.
4. Surface Finish: Mirror / Satin / EP Finish. Meet BPE requirement.
5. The seal rib with CNC precision, various R-angle design and machining. More average sealing power and operation safety with no leakage problem.

Advantages 優點

1. 特殊螺桿與曲面多R 角設計並搭配CSE 特殊設計膜片油封，可延長隔膜片使用壽命。
2. 可安裝在垂直或水平位置，流向絲毫不影響閥門開關，開關作動保證20 萬次以上。
3. 口徑尺寸符合3A、BPE、DIN、ISO 規格。
4. 隔膜片符合美國FDA(177.2600/21: EPDM)(177.1550/21: PTFE)並通過SGS 等食品製藥權威機構之安口認證。
1. Special screw bolt + various Seal Rib R-angle curves design + CSE FDA gaskets. For valves safety and long circle operation.
2. Horizontal + Vertical set-ups are available. Easy operation and circle life operation guarantee over 200,000 times.
3. Connection Ends : 3A, DIN, SMS, ISO standards.
4. EPDM + PTFE separate askets: meet FDA Specification (177.2600/21: EPDM) (177.1550/21: PTFE) and SGS Approval.

安裝 α 角設計

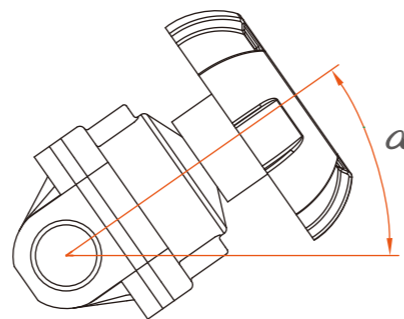
Installation for self-draining operation

◎無殘留安裝

α 角是15 度到35 度有3 到5 度的傾斜偏擺。詳細安裝角度，請聯絡CSE 代表。

α =15 up to 35° plus 3° to 5° inclination to the pipe axis.

For detailed installation angle values, please contact CSE representative.



◎認證

食品衛生級應用

隔膜片符合美國FDA(177.2600/21: EPDM)(177.1550/21: PTFE)並通過SGS 等食品製藥權威機構之安口認證。

CSE 隔膜閥榮獲美國3A 協會通過認證。

Body & Diaphragm

The material of the body is ASME 316L by Forging or Casting. The OD surface finish gives various choices from standard EP bright style to sand blasting. ID is achieved by highly professional CNC full machining and later to MP and EP technology. Other than this, you name it, and CSE do it. OEM design is always welcomed to us.

CSE所有的隔膜閥體皆為鍛造加工，其材質為316L。閥體外部處理包括了噴砂及電解處理二種，其中電解處理可提高耐腐蝕性能，外觀更顯光亮；閥體二端所連接的尺寸更採用CNC高精度數控加工；閥體內部則由專業拋光技術所精拋而成。CSE更可以根據客戶的要求設計多重通位的閥體。

CSE Diaphragm Valve Precision Lower Body Design

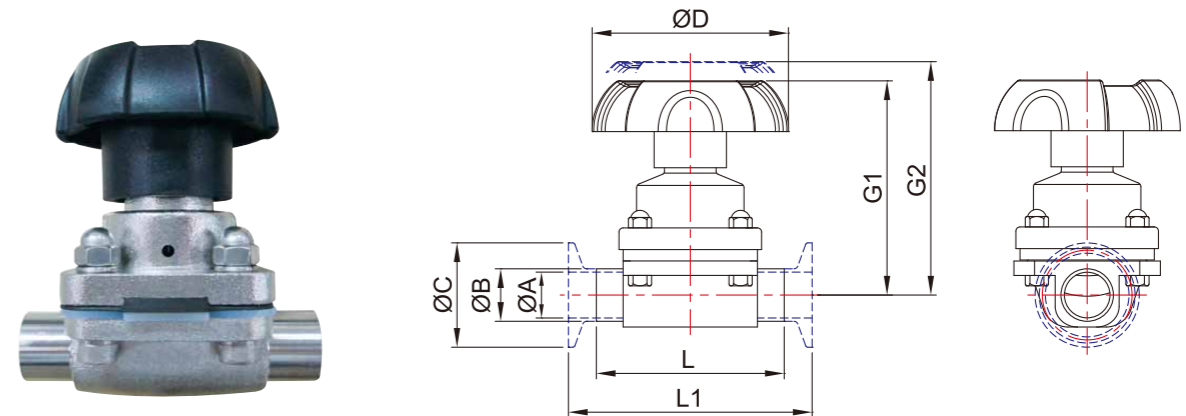
- The body material: ASME 316L by Forging or Casting
- Surface : OD: wide choices from EP Bright-SF4 / Sand blasting / Mechanical Polish-SF1
ID: Highly professional MP and EP polished, meet ASME BPE requirement.
- All body with CNC Precision Full machining. Not just cast and polish.
- Working Pressure: Maximum 10 bars
- Connection Ends: Weld Ends / Clamp Ends with 3A / ISO / DIN / SMS
- 閥體材質：SS316L
- 工作壓力：最大10 bars
- 接口方式：焊接 / 夾式3A / ISO / DIN / SMS



CSE Two Way Manual Diaphragm Valve

手動二通無菌隔膜閥

The Connection Dimension 主要尺寸規格



3A	ØA	ØB	ØC	BPE	ØA	ØB	ØC	ØD	G1	G2	L	L1
1/2"	9.4	12.7	25.2	1/2"	9.4	12.7	25	60	74	83	124	88.9
3/4"	15.75	19.05	25.2	3/4"	15.75	19.05	25	60	74	83	135	101.6
1.0"	22.1	25.4	50.5	1.0"	22.1	25.4	25/50.4	95	100	113	141.2	114.3
1.5"	34.8	38.1	50.5	1.5"	34.8	38.1	50.4	95	119	134	168.4	139.7
2.0"	47.5	50.8	64	2.0"	47.5	50.8	63.9	118	135	153	190.5	158.8

DIN	ØA	ØB	ØC	ØD	G1	G2	L	L1
DN10	10	13	34		74	83	124	88.9
DN20	20	23	34	60	100	113	135	101.6
DN25	26	29	50.5	60	100	113	141.2	114.3
DN32	32	35	50.5	95	119	134	168.4	139.7
DN40	38	41	50.5	95	119	134	168.4	139.7
DN50	50	53	64	118	135	153	190.5	158.8

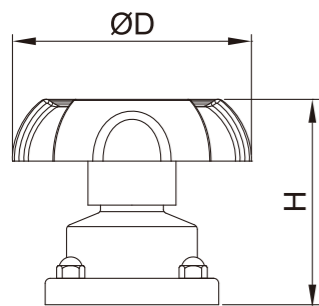
CSE Diaphragm Valve Precision Upper Body Design and Gaskets 上本體 & 膜片

- Upper Body Material: SS304 by Casting
Conforming to ASME BPE standard to match light friction and low torque handle design. It is safe with no leakage problem.
- EPDM/Silicone /Viton/PTFE...difference gasket material. For your wide choices on various food, acid, chemical or any other fluid industries.
- Applied to fluid of max 150 , depending on the gasket material.
- 上本體SS304符合ASME BPE之精鑄材質，安口不漏，配合低阻力、低扭力，不鬆脫之螺桿把手設計
- 適用於惰性或腐蝕性的流體，視膜片的材質而定。
- 工作介質的最高溫度150°C，視膜片的材質而定。



The Connection Dimension 主要尺寸規格

閥體尺寸 (DN)	DN8~DN10	DN15~DN20	DN25	DN32~DN40	DN50
隔膜尺寸 (AxB)	25.5 x 25	36.5 x 33	53.5 x 44.5	64.5 x 64.5	82.2 x 74.2
工作壓力 (EPDM)	max. 10bar	max. 10bar	max. 10bar	max. 10bar	max. 10bar
工作溫度 (EPDM)	max. 130°C	max. 130°C	max. 130°C	max. 130°C	max. 130°C
工作壓力 (PTFE)	max. 10bar	max. 10bar	max. 10bar	max. 10bar	max. 10bar
工作溫度 (PTFE)	max. 150°C	max. 150°C	max. 150°C	max. 150°C	max. 150°C



DN	ØD	H
DN8~DN10	Ø32	55
DN15~DN20	Ø61	72
DN25	Ø92	109
DN32~DN40	Ø114	126
DN50	Ø140	149

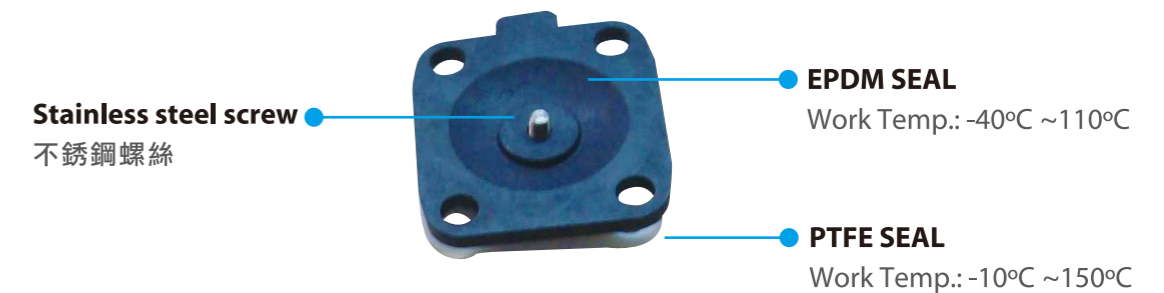
Diaphragm

All the diaphragms in CSE Group meet Sanitary and Pharmaceutical Standards and they have gained Certificate of FDA. The Diaphragms are of high temperature resistance and strong corrosion resistance; they are of long service life and are widely used.

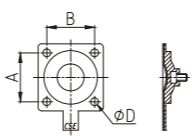
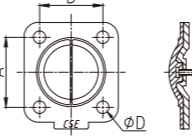
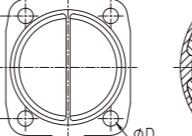
CSE膜片均符合衛生/製藥級標準並通過美國FDA之認證，更具有耐高溫、使用壽命長、抗腐蝕強、適用性廣泛...等特點。



Internal Structure of the Diaphragm



製藥、食品和生物技術專用膜片一覽表

隔膜閥	規格	AxB	ØD	材質
	DN8 ~ DN10	25.5x25	4 x Ø4	PTFE / EPDM
	DN15 ~ DN20	36.5x33	4 x Ø6.5	PTFE / EPDM
	DN25 DN32 ~ DN40 DN50	53.5x44.5 64.5x64.5 82.2x74.2	4 x Ø8.5 4 x Ø10.5 4 x Ø12.5	PTFE / EPDM

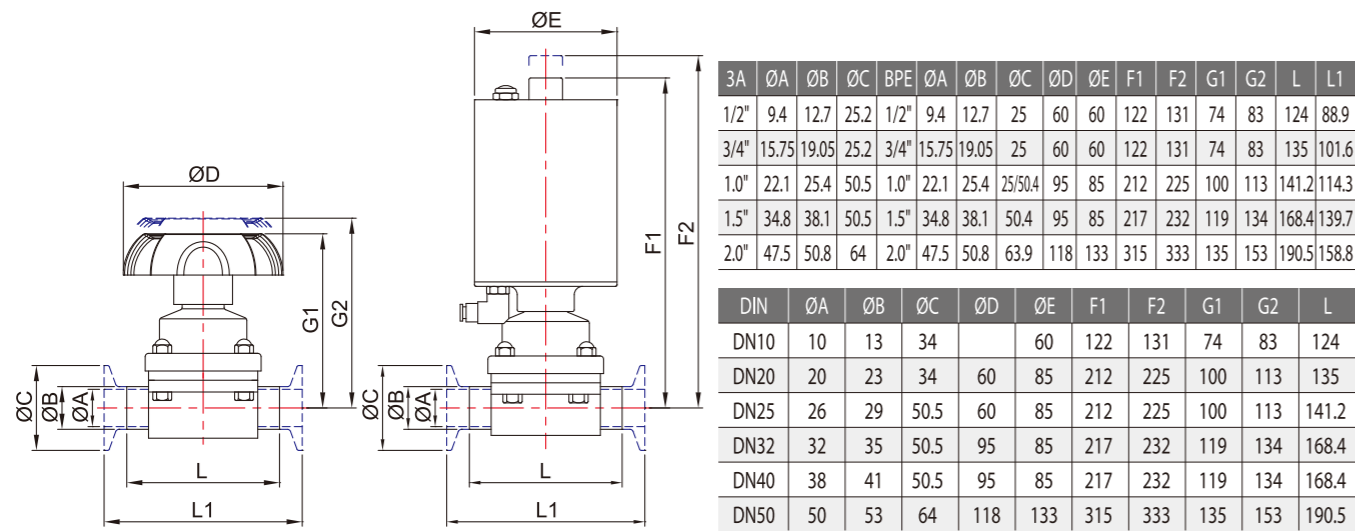
CSE Pneumatic Diaphragm Valve and Control Unit

CSE氣動隔膜閥與控制裝置

CSE Pneumatic Diaphragm Valve Controlling Actuator special design as in:

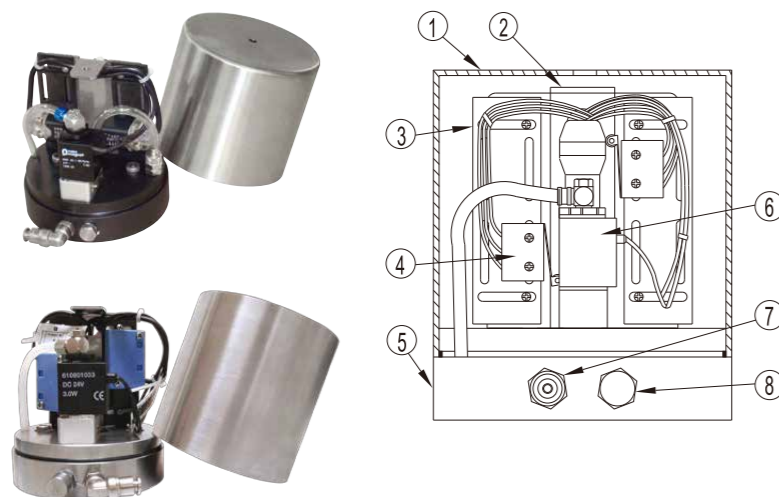
- Material: All S304 Body / Spring / Piston. Easy clean / no corrosion problems.
- Precision design and Machining:
For high torque out-put / low noise and smooth functions.
- Safe and secure by CIP clean to meet International GMP/ cGMP, PICS, and ASME BPE standards.

CSE 氣動隔膜閥控制器採用口SS304 汽缸特殊加工與設計，
達到高輸出扭力、低噪音、作動平順，
可CIP 清洗、安口、精準，符合cGMP 與PIC/S 國際BPE 要求。



CSE Control Box for Auto Actuator and Divert Valve

控制盒



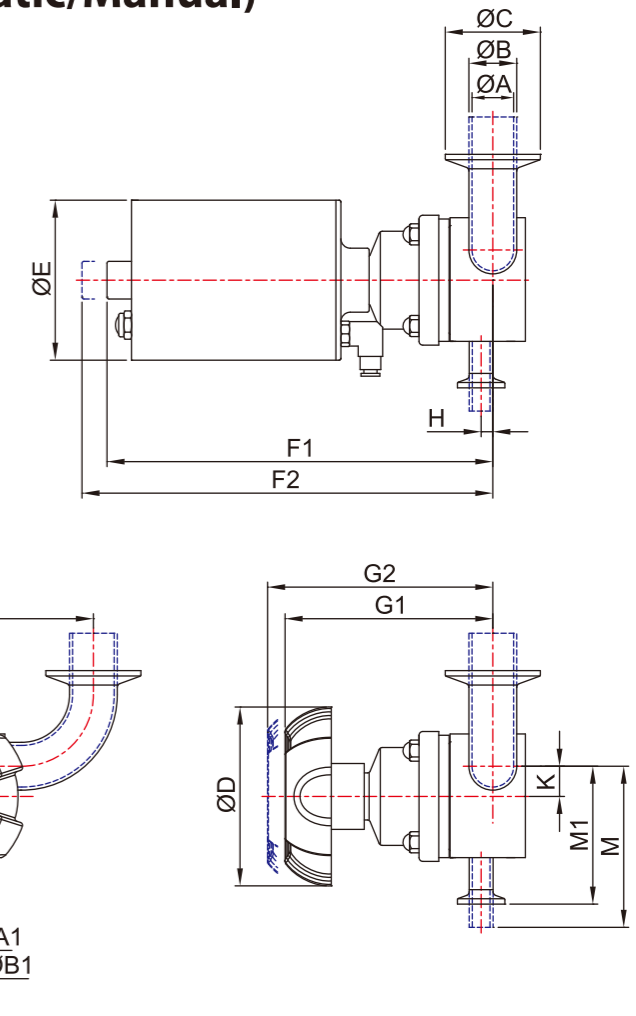
Control box construction assembly drawing & items list

零件表 Parts List			
Item	Parts name	Q'TY	Material
1	Cover	1	PC or St.St 304
2	Switch plate	1	St.St 304
3	Plastic hanger	2	St.St 304
4	Micro switch	2	3A 125VAC. 30VDC
5	Air manifold	1	P.O.M (Plastic) or St.St 304
6	Electrovalve	1	DC24 3.0W
7	Air connection	1	Cu
8	E/N connect piece	1	St.St 304

The Connection Dimension 主要尺寸規格

Three Way U-Bend (Pneumatic/Manual)

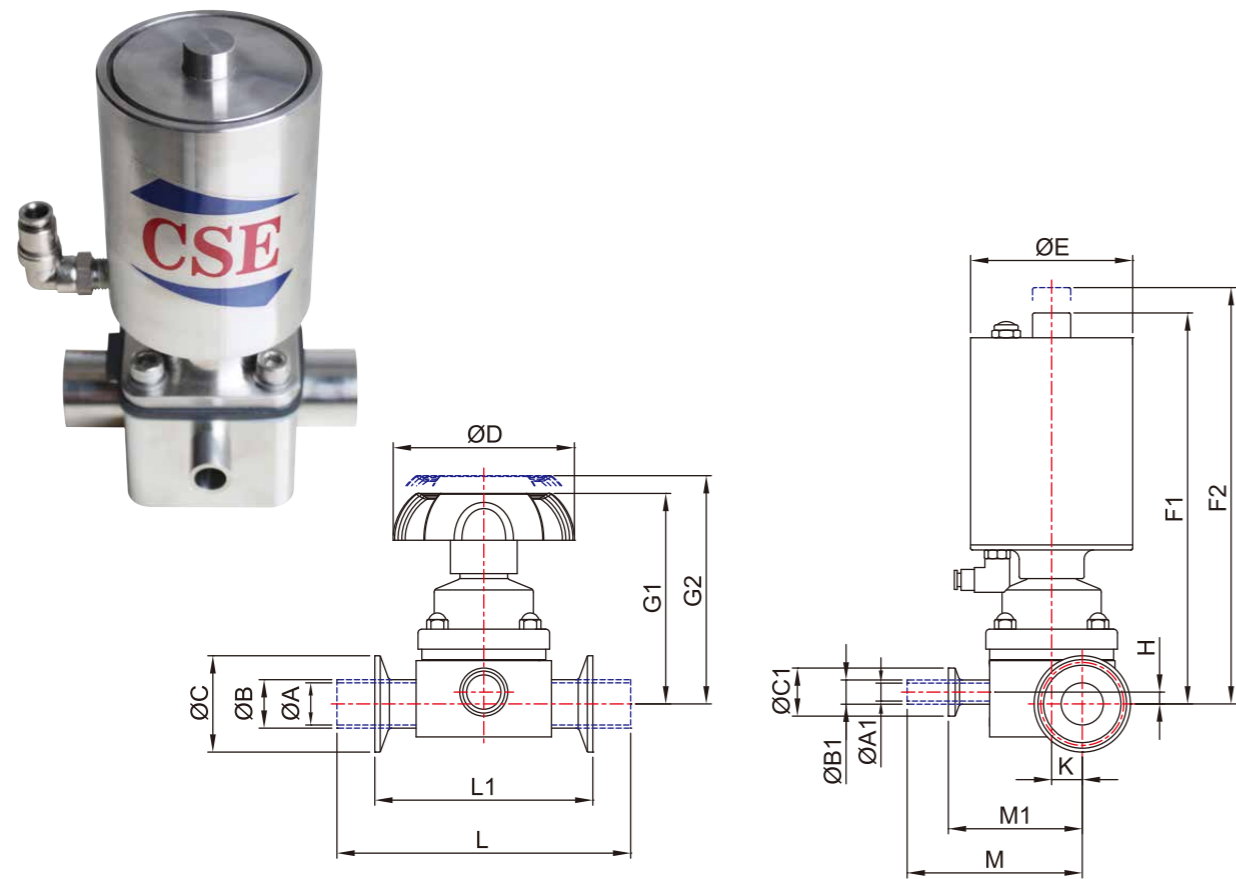
零死角 U型閥



SIZE	ØA	ØB	ØC	ØA1	ØB1	ØC1	ØD	ØE	F1	F2	G1	G2	L1	L	H	K	M1	M	N
1/2"*1/2"	9.4	12.7	25.2	9.4	12.7	25.2	60	60	122	131	74	83	31.75	57.15		6.8	51	69.4	101.7
1/2"*3/4"	15.75	19.05	25.2	9.4	12.7	25.2	60	60	122	131	74	83	41.25	66.68	6.18	9.98	54.18	72.85	120.66
1/2"*1.0"	22.1	25.4	50.5	9.4	12.7	25.2	60	60	122	131	74	83	50.8	76.2	13.44	13.15	57.35	75.75	165.1
1/2"*1.5"	34.8	38.1	50.5	9.4	12.7	25.2	60	60	122	131	74	83	69.9	95.3	19.5	19.5	63.7	82.1	203.3
1/2"*2.0"	47.5	50.8	64	9.4	12.7	25.2	60	60	122	131	74	83	88.9	120.7	19.5	25.85	70.05	88.45	241.3
3/4"*3/4"	15.75	19.05	25.2	15.75	19.05	25.2	60	60	122	131	74	83	41.28	66.68	4.5	9.98	54.18	72.58	120.66
3/4"*1.0"	22.1	25.4	50.5	15.75	19.05	25.2	60	60	122	131	74	83	50.8	76.2	10.7	13.15	57.35	72.75	165.1
3/4"*1.5"	34.8	38.1	50.5	15.75	19.05	25.2	60	60	122	131	74	83	69.9	95.3	17.5	19.5	63.7	82.1	203.3
3/4"*2.0"	47.5	50.8	64	15.75	19.05	25.2	60	60	122	131	74	83	88.9	120.7	17.5	25.85	70.05	88.45	241.3
1.0"*1.0"	22.1	25.4	50.5	22.1	25.4	50.5	95	85	212	225	100	113	50.8	76.2	6.2	16.05	68.25	70.6	165.1
1.0"*1.5"	34.8	38.1	50.5	22.1	25.4	50.5	95	85	212	225	100	113	69.9	95.3	14.5	22.4	74.6	93	203.3
1.0"*2.0"	47.5	50.8	64	22.1	25.4	50.5	95	85	212	225	100	113	88.9	120.7	18.4	28.75	80.95	99.35	241.3
1.5"*1.5"	34.8	38.1	50.5	34.8	38.1	50.5	95	85	217	232	119	134	69.9	95.3	6.2	22.4	86.6	105	228.7
1.5"*2.0"	47.5	50.8	64	34.8	38.1	50.5	95	85	217	232	119	134	88.9	120.7	13.7	28.75	92.95	111.35	266.7
2.0"*2.0"	47.5	50.8	64	47.5	50.8	64	118	133	315	333	135	153	88.9	120.7		28.75	98.95	123.75	285.8

The Connection Dimension 主要尺寸規格

Three Way T-Type (Pneumatic/Manual)
零死角 T型閥



3A	ØA	ØB	ØC	ØA1	ØB1	ØC1	ØD	ØE	F1	F2	G1	G2	L1	L	H	K	M1	M
1/2"*1/2"	9.4	12.7	25.2	9.4	12.7	25.2	60	60	122	131	74	83	88.9	139.7		6.8	51	69.4
1/2"*3/4"	15.75	19.05	25.2	9.4	19.05	25.2	60	60	122	131	74	83	88.9	139.7	6.18	9.98	54.18	72.58
1/2"*1.0"	22.1	25.4	50.5	9.4	25.4	50.8	60	60	122	131	74	83	114.3	154	13.2	13.15	57.35	75.75
1/2"*1.5"	34.8	38.1	50.5	9.4	38.1	50.8	60	60	122	131	74	83	114.3	153.6	19.5	19.5	63.7	82.1
1/2"*2.0"	47.5	50.8	64	9.4	50.8	64	60	60	122	131	74	83	114.3	153.6	19.5	25.85	70.05	88.45
3/4"*3/4"	15.75	19.05	25.2	15.75	19.05	25.2	60	60	122	131	74	83	88.9	139.7	4.5	9.98	54.18	72.58
3/4"*1.0"	22.1	25.4	50.5	15.75	25.4	50.5	60	60	122	131	74	83	114.3	153.6	10.7	13.15	57.35	75.75
3/4"*1.5"	34.8	38.1	50.5	15.75	38.1	50.5	60	60	122	131	74	83	114.3	153.6	17.5	19.5	63.7	82.1
3/4"*2.0"	47.5	50.8	64	15.75	50.8	64	60	60	122	131	74	83	114.3	153.6	17.5	25.85	70.05	88.45
1.0"*1.0"	22.1	25.4	50.5	22.1	25.4	50.5	95	85	212	225	100	113	114.3	172.6	6.2	16.05	70.6	86.65
1.0"*1.5"	34.8	38.1	50.5	22.1	38.1	50.5	95	85	212	225	100	113	114.3	172.6	14.5	22.4	74.6	93
1.0"*2.0"	47.5	50.8	64	22.1	50.8	64	95	85	212	225	100	113	114.3	172.6	18.4	28.75	80.95	99.35
1.5"*1.5"	34.8	38.1	50.5	34.8	38.1	50.5	95	85	217	232	119	134	139.7	197.6	6.2	22.4	86.6	105
1.5"*2.0"	47.5	50.8	64	34.8	50.5	64	95	85	217	232	119	134	139.7	197.6	13.7	28.75	92.95	111.35
2.0"*2.0"	47.5	50.8	64	47.5	50.8	64	118	133	315	333	135	153	158.8	211.6		28.75	98.95	123.75

Application 應用範圍

TANK BOTTOM VALVE (Pneumatic/Manual)
CSE 隔膜式桶底閥



Pharmacy/Biotechnology, Water for Injection (WFI), Vaccine
生技製藥，注射液用水，接種疫苗

Product Benefit 主要產品優勢



- 無殘留&零死角設計
“No Residual” & “Zero Blind Spot.” Design

產品採用45度往下洩料設計讓本體內不殘留，並可使用CIP或高溫清洗設計，真正達到製藥級的標準。
CSE “No Residual” success is achieved by valve ID 45-degree design. It will apply to CIP System or Ultra-High-Temperature Processing. CSE Tank Bottom Valve conforms to ASME BPE Standard.

汽缸快速拆換
The Actuator can be Taken off and replaced

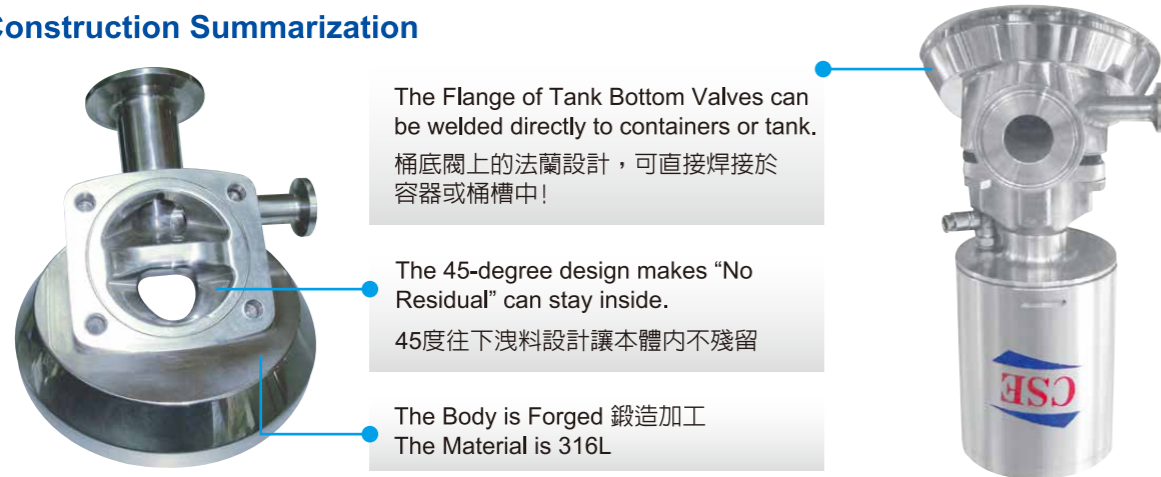
本汽缸設計採用快速拆裝設計，讓您在變換常開或常時可以輕鬆調整汽缸，且彈簧並有安口防彈處理避免拆裝時的危險。

可電控設計
The Actuator can be set with Control Box.

汽缸可搭配CSE控制盒使用，讓你長距離控制或設計閥串都能簡單安裝。

Technical Specification 技術說明

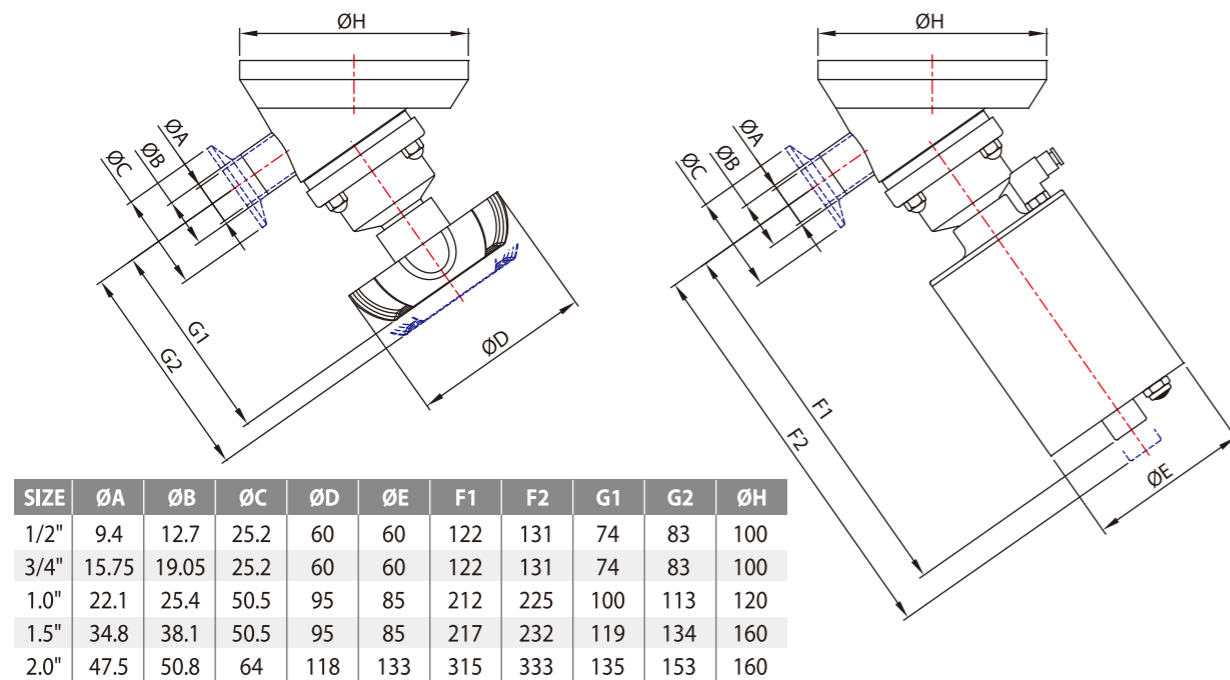
(A) Construction Summarization



(B) Specifications

材質 Material	Body: Forged/316L 閥體：鍛造/316L Diaphragm: EPDM+PTFE/NC or NO 膜片：EPDM+PTFE/常開或常閉
連接方式 Connection	Clamp End/Weld End... 夾接式/焊接式
作動方式 Operation	Normal Open / Normal Closed 常開式/常閉式
適用溫度 Work Temp.	Diaphragm: EPDM+PTFE (-10°C~150°C) 膜片：EPDM+PTFE (-10°C~150°C)
壓力範圍 Work Pressure	Max: 10 Bars 最大壓力值：10 Bars
表面處理 Surface	SF1: ID Polished to Ra≤0.5μm / SF4: EP Finished to Ra≤0.38μm ID/OD Mirror Polished & ID Ra≤0.5μm / OD Sand Blasted...

The Connection Dimensions 主要尺寸規格



Project Examples 工程實例

