



## DC Series (High Purity)

Data Center Butterfly Valves  
Liquid Cooling Water Applications



### DC Series

- 1.5" - 8" Sizes
- Standard Manifolds Assemblies & Custom Spool Manifold Available
- Mechanically Polished 25 RA  $\mu$ m, (180 Grit) Internal Finish
- Stainless Steel 12-position Latching Handle For On/Off and Flow Control
- EPDM Seal (Standard)



## Valve Features

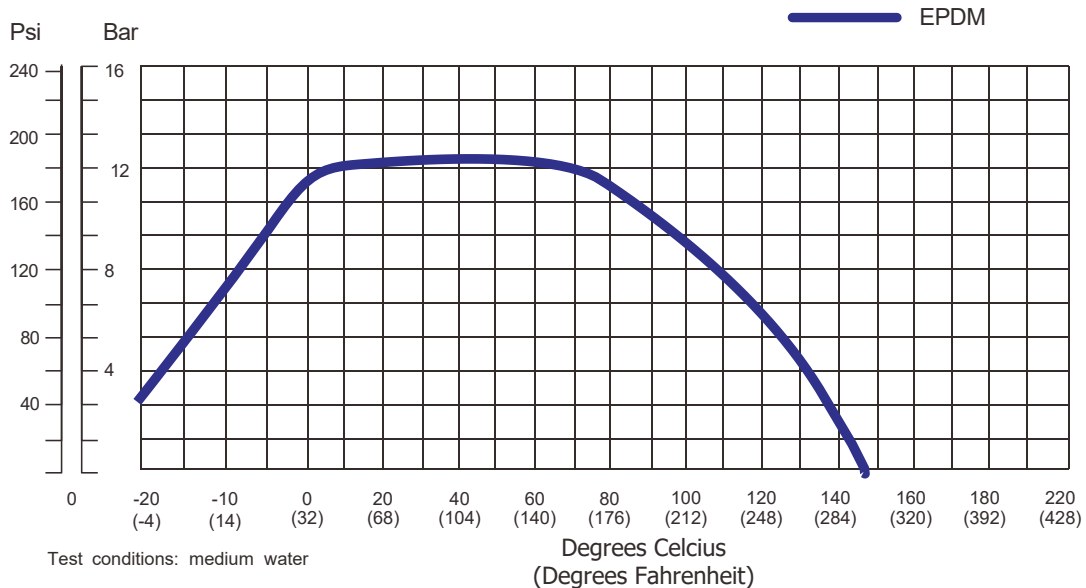
- SS304 or SS316L Material Options
- Mechanically Polished 25 RA in internal finish
- High Purity Cleaned and packaged
- Rapid Response for Process Critical Systems
- Low Maintenance with Modular Seal Replacement
- 12-position Latching Stainless Handle for on/off or Flow Control
- 100% Helium Leak Tested to 1 x 7 scc/sec
- Available in Wide Range of Integrated T-valve or Manifold Assemblies
- Manifold Assemblies are Manufactured using Pulled-Tee Construction, Reduced Number of Welds, Higher Quality, Lower Cost

## Valve Specifications

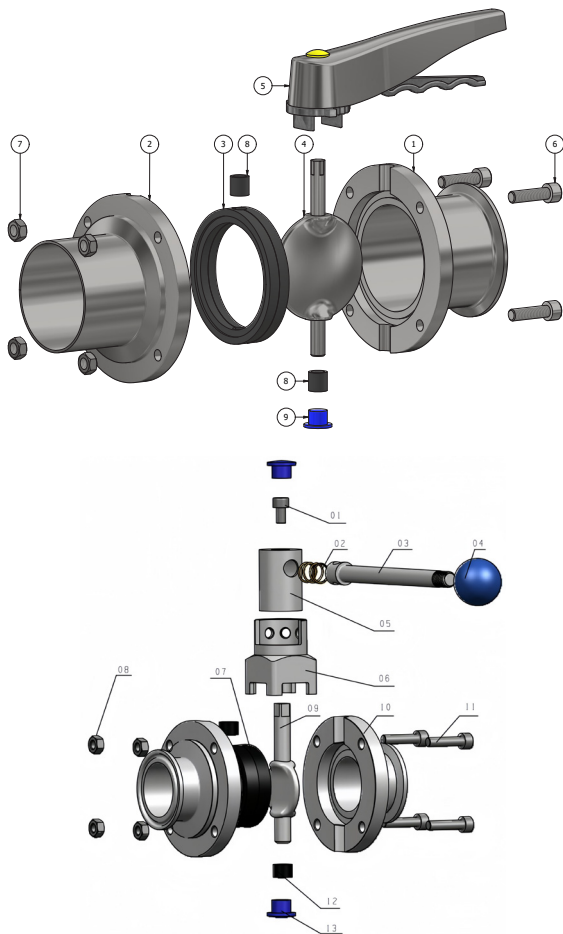
- Max. product pressure: 145 psi (10 Bar)
- Min. product pressure: Full vacuum
- Temperature range: 14°F to 248°F (-10°C to +120°C)
- Operating Torque
 

1.5"	4 N·m (3 FT-lb)
2"	5 N·m (4 FT-lb)
2.5"	10 N·m (7 FT-lb)
3"	14 N·m (10 FT-lb)
4"	25 N·m (18 FT-lb)
6"	55 N·m (41 FT-lb)
8"	80 N·m (59 FT-lb)

## Pressure-Temperature Chart



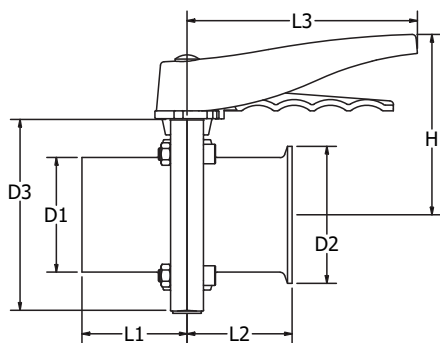
## Valve Materials



12 Position Trigger Handle		
Item	Description	Material
1	TC Flange	SS304 or SS316L
2	Tube Flange	SS304 or SS316L
3	Seal	EPDM
4	Disc	SS304 or SS316L
5	Handle	SS
6	Bolt	SS
7	Nut	SS
8	Bushing	PTFE
9	Plug	Plastic

4 Position Pull Handle		
Item	Description	Material
1	TC Flange	SS304 or SS316L
2	Tube Flange	SS304 or SS316L
3	Seal	EPDM
4	Disc	SS304 or SS316L
5	Handle	SS
6	Bolt	SS
7	Nut	SS
8	Bushing	PTFE
9	Plug	Plastic

## Valve Dimensions



12 Position Trigger Handle Dimensions  
For 4 Position Pull Handle Dimensions, Consult Factory

Size	D1 IN (mm)	D2 IN (mm)	D3 IN (mm)	L1 (tube) IN (mm)	L2 (TC) IN (mm)	L3 IN (mm)	H IN (mm)
1.5"	1.50 38.1	1.99 50.5	3.39 86	C/F C/F	1.38 35	6.22 158	C/F C/F
2"	2.00 50.8	2.52 64	4.02 102	C/F C/F	1.50 38	6.22 158	4.02 102
2.5"	2.50 63.5	3.05 77	4.53 115	C/F C/F	1.57 40	6.22 158	4.27 108
3"	3.00 76.2	3.58 91	5.04 128	C/F C/F	1.65 42	6.22 158	4.53 115
4"	4.00 101.6	4.69 119	6.06 154	C/F C/F	2.05 52	6.22 158	5.04 128
6"	6.00 152.4	6.57 167	8.46 215	C/F C/F	2.20 56	C/F C/F	C/F C/F
8"	8.00 203.2	8.56 217	11.22 285	C/F C/F	2.17 55	C/F C/F	C/F C/F

## Valve Part Number Matrix

DC **SS** - **32** - **32** **STR** **M** **TC** - **E** - **TH**  
 DC **1** - **2** - **3** **4** **5** **6** - **7** - **8**

Example: DCSS-32-32-STRMTC-E

2" straight 2-way 316L butterfly valve with 316L tube extension inlet, tri-clamp outlet, EPDM gasket, 12 position trigger handle

### DC - Evans DC Series Butterfly Valve

#### 1. Valve Material

SS	316L S.S.
SG	304L S.S.

#### 2. Valve Size

24	1.5"	64	4"
32	2"	96	6"
40	2.5"	128	8"
48	3"		

#### 3. Main Size

24	1.5"	64	4"
32	2"	96	6"
40	2.5"	128	8"
48	3"		

#### 4. Valve Assembly Pattern Designator

STR	Straight 2-way Butterfly Valve
SHC	Single Horizontal Cross
DHC	Double Horizontal Cross

#### 5. Inlet Connection

M	316L S.S. Tube Extension
W	304L S.S. Tube Extension
L	316L S.S. SCH 10S Pipe Extension
G	304L S.S. SCH 10S Pipe Extension
TC	Tri-Clamp End
PLTE	Presslok End (EPDM O-ring)
U	304L 150# ANSI Flange

#### 6. Outlet Connection (leave blank if same as Inlet)

M	316L S.S. Tube Extension
W	304L S.S. Tube Extension
L	316L S.S. SCH 10S Pipe Extension
G	304L S.S. SCH 10S Pipe Extension
TC	Tri-Clamp End
PLTE	Presslok End (EPDM O-ring)
U	304L 150# ANSI Flange

#### 7. Valve Gasket Material

E	EPDM
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#### 8. Handle Type

TH	12 Position Trigger Handle
PH	4 Position Pull Handle



Mechanical Polished 25 RA µin,  
(180 Grit) Internal Finish



SHC - Single Horizontal  
Cross Pattern



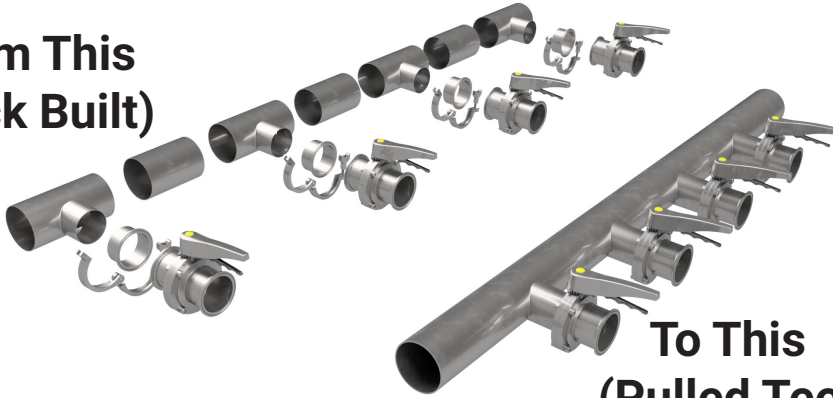
DHC - Double Horizontal  
Cross Pattern

# Evans DC Series (Pre-fabricated Manifolds)

Traditional air-cooling systems are no longer sufficient for today's industry. More advanced technologies are entering the market stage, demanding more efficient and powerful data centers. The fast-moving evolution driven by Artificial Intelligence, Machine Learning along with integration with the internet and cloud computing adds considerable stress to the thermal management systems.

To address these challenges, liquid cooling has emerged as the preferred data center solution. Next generation data racks necessitate increased cooling capacity, higher flow and lower pressure. Stainless steel liquid cooling piping has emerged as the preferred solution due to its cleanliness, robustness and long-term reliability.

## From This (Stick Built)



## To This (Pulled Tee)

Do away with traditional stick-built laterals by using Evans innovative "pulled tee" manifolds. Eliminate up to 3 welds per POC (point of connection) when using traditional reducing tees. Reduce costs in excess of 30-40% when using Evans High Purity DC Series Butterfly Valves.

## Improved Quality

- More robust design, reduced number of weld seams (3-per valve)
- Manufactured in a controlled environment
- Helium leak tested and certified to  $1 \times 10^{-7}$  scc/sec
- Complete QA/QC documentation package

## Reduced Costs

- Eliminate 70% of welds
- Overhead reductions in QA/QC, cutting, facing, and prep activities
- Eliminate disassembly/reassembly of valves for welding purposes
- Reduced material handling
- Reduction of weld Argon gas consumption

## Liquid Cooling Manifold Features

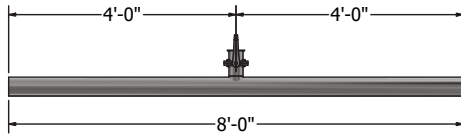
- Main run lengths up to 24ft (7m), and diameters up to NPS 12 (300mm)
- Manifold assemblies fully traceable and individually marked with customer specified markings and standard part number
- Branch valve (POC) sizes up to 4"
- Available with 304L or 316L stainless ASTM tube or SCH 10S pipe
- Custom EOL (end of line) assemblies
- Manifolds can be supplied with Presslok Slip Couplings for "non-welded" permanent installation.

## Manifold Specifications and Design Rules

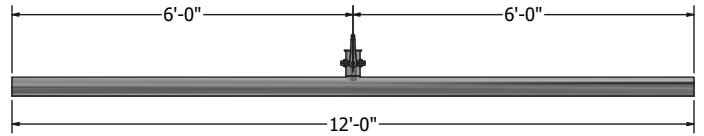
- POC (point of connection) / valve alignment +/- 1 degree
- Minimum valve spacing between POC's 12" (300mm)
- Minimum POC distance from end of pipe is 12" (300mm)
- Dimensional tolerance +/- 0.25" (6.35mm)

## Lateral Standard Dimensions

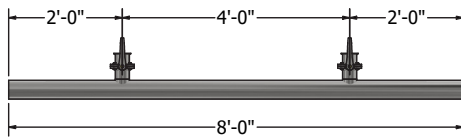
### 8' Long SHC1



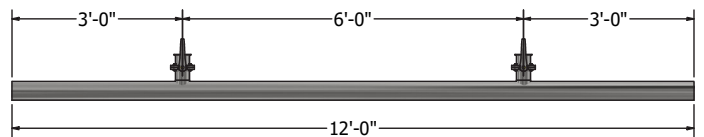
### 12' Long SHC1



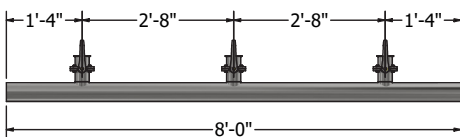
### 8' Long SHC2



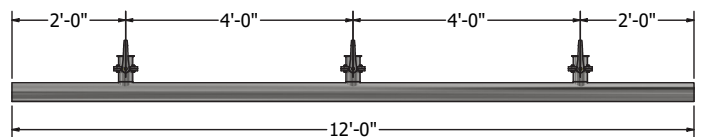
### 12' Long SHC2



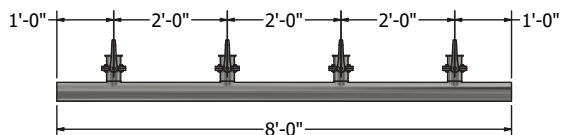
### 8' Long SHC3



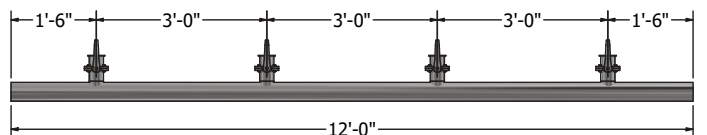
### 12' Long SHC3



### 8' Long SHC4



### 12' Long SHC4



# Evans DC Series (Pre-fabricated Manifolds)

## Manifold Part Number Matrix

**DC SS - 32 - 64 SHC 4 M TC - 12 - E - TH**  
**DC 1 - 2 - 3 4 5 6 7 - 8 - 9 - 10**

Example: DCSS-32-64SHCMTC-12-E-TH

Manifold assembly, 4" 316L S.S. tube main, qty 4 316L 2" butterfly valve SHC braces with tri-clamp ends, 12' long, EPDM gaskets, 12 position trigger handle

### DC - Evans DC Series Butterfly Valve

#### 1. Valve Material

SS	316L S.S.
SG	304L S.S.

#### 2. Valve Size

24	1.5"	64	4"
32	2"	96	6"
40	2.5"	128	8"
48	3"		

#### 3. Main Size

24	1.5"	96	6"
32	2"	128	8"
40	2.5"	160	10"
48	3"	192	12"
64	4"		

#### 4. Valve Assembly Pattern Designator

SHC	Single Horizontal Cross
SHC90	Single Horizontal Cross
DHC	Double Horizontal Cross

#### 5. Number of Valves

1	1 Valve
2	2 Valves
3	3 Valves

(more valves available)

#### 6. Main End Connection

M	316L S.S. Tube
W	304L S.S. Tube
L	316L S.S. SCH 10S Pipe
G	304L S.S. SCH 10S Pipe
U	304L 150# ANSI Flange
RG	Roll Groove Pipe End
SC	Presslok Slip Coupling (See note Page 5)

#### 7. Valve End Connection

M	316L S.S. Tube Extension
W	304L S.S. Tube Extension
L	316L S.S. SCH 10S Pipe Extension
G	304L S.S. SCH 10S Pipe Extension
TC	Tri-Clamp End
PLTE	Presslok End (EPDM O-ring)
U	304L 150# ANSI Flange

#### 8. Spool Length

6	6 feet
10	10 feet
12	12 feet
20	20 feet
24	24 feet

(any length available up to 24')

#### 9. Valve Gasket Material

E	EPDM
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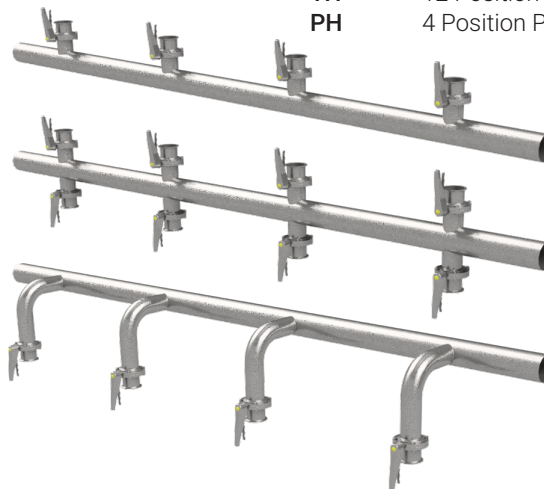
#### 10. Handle Type

TH	12 Position Trigger Handle
PH	4 Position Pull Handle

## SHC Configuration

## DHC Configuration

## SHC90 Configuration



## Learn more about related Evans Products

**EVANS COMPONENTS** | Data Center Product/System Applications At A Glance  
Liquid Cooling Water Applications



**Features**

- High Quality "Full Ported" 3-PC Stainless Ball Valves (1/2" - 4")
- Main Size Stainless SQ-1103 Pipe or Tube O.D. Dimensions up to 12" NPS
- Pre-fabricated Sections up to 24'
- Pulled-Tree Construction, Reduced Number of Welds, Higher Quality, Lower Cost Design
- 100% Helium Leak Tested to 1 x 10<sup>-6</sup> atm/cc/yr
- Weld Free Installation using Presslok Slip-couplings or ANSI Flanges



**EVANS COMPONENTS** | Evans Ball Valves  
PW "Industrial" Series



**PW Series**

- Full Port Design
- 1/4" - 6" Size Range
- Integrated Valve Assemblies
- Spool Manifolds up to 24' (7m) Lengths
- One-piece ANSI 150lb Flange Optional
- 100% Pressure Tested



**EVANS COMPONENTS** | Evans PLT Series Presslok® Stainless Tube Fittings/Valves  
Tube Size Range: 1/2" thru 4"



**PRESSLOK® GO/NO-GO GAUGES**

If Presslok® Go/No-Go Gauge slips over-pressed section of fitting, press is acceptable.  
If gauge does not slip over pressed section, press is unacceptable.



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