



TITAN FLOW CONTROL, INC.

**DUPLEX STRAINER ♦ DUAL BALL TYPE ♦ THREE PIECE BODY**  
**ANSI CLASS 125 ♦ CAST IRON ♦ FLANGED & THREADED ENDS**

**NEW**  
**Three-Piece**  
**Design!**

**MODELS: DS 595-CI**  
 (THREADED - CAST IRON)

**DS 695-CI**  
 (FLANGED - CAST IRON)



1 1/2" DS 695-CI

## FEATURES

SIZE RANGE: 3/4" ~ 4"

♦ **DUAL-BALL DIVERTER DESIGN**

THIS DUPLEX IS DESIGNED WITH TWO STAINLESS STEEL BALLS THAT EFFICIENTLY DIVERT THE PIPELINE FLOW FROM ONE BASKET CHAMBER TO THE OTHER. TEFLON SEATS ENSURE A POSITIVE SEAL AND HELP TO PREVENT SEEPAGE INTO THE CHAMBER THAT IS BEING SERVICED FOR CLEANING.

♦ **EASY TO OPERATE**

TITAN FCI'S DUPLEX STRAINER FEATURES A LOW TORQUE, EASY TO OPERATE HANDLE THAT DOES NOT REQUIRE A GEARBOX. ADDITIONALLY, THE HANDLE'S POSITION CLEARLY INDICATES WHICH BASKET IS IN SERVICE AND WHICH BASKET CAN SAFELY BE REMOVED FOR CLEANING.

♦ **REDUCED "IN-LINE" MAINTENANCE**

TITAN'S DUPLEX HAS NUMEROUS ATTRIBUTES THAT HELP REDUCE MAINTENANCE DURING CLEANING OPERATIONS. FIRST, THE DUAL BALL DESIGN ISOLATES EACH CHAMBER AND KEEPS THE SERVICING CHAMBER DRY DURING CLEANING. THERE ARE ALSO NO SPECIAL TOOLS REQUIRED TO ACCESS AND REMOVE THE STRAINING ELEMENT FROM THE CHAMBER. LASTLY, THE DUPLEX PROVIDES COVER VENTS, DRAIN PLUGS, AND FOOT PADS ON EACH CHAMBER.

♦ **ENDLESS SCREEN OPTIONS**

THIS STRAINER CAN BE FITTED WITH VIRTUALLY ANY CONFIGURATION OF PERFORATION OR MESH LINED STRAINING ELEMENTS. STRAINING ELEMENTS CAN ALSO BE CONSTRUCTED FROM SPECIAL MATERIALS SUCH AS ALLOY 20.

## TECHNICAL

**PRESSURE/TEMPERATURE RATING <sup>(1)</sup>**  
 CAST IRON - A126 GR. B - CLASS 125

DS 595-CI (Threaded)  
 WOG (Non-shock): 200 PSI @ 150 °F

DS 695-CI (Flanged)  
 WOG (Non-shock): 200 PSI @ 150 °F

*1. The above listed temperatures are theoretical and may vary during actual operating conditions.*

## APPLICATIONS

**GENERAL APPLICATION:** THE DUPLEX STRAINER IS A UNIQUE PRODUCT WITHIN THE PIPELINE INDUSTRY. LIKE OTHER BASKET STRAINERS, THE DUPLEX STRAINER PROTECTS EXPENSIVE DOWNSTREAM EQUIPMENT BY MECHANICALLY REMOVING SOLIDS FROM FLOWING FLUIDS VIA A PERFORATED, MESH, OR WEDGE WIRE STRAINING ELEMENT. HOWEVER, THE DUPLEX STRAINER IS DESIGNED WITH TWO BASKET CHAMBERS AND A FLOW DIVERTER SYSTEM THAT ALLOWS THE PIPELINE FLOW TO BE SWITCHED FROM ONE CHAMBER TO THE OTHER, COMPLETELY ISOLATING THE FLOW TO A SINGLE CHAMBER. THIS MAKES THE DUPLEX STRAINER IDEAL FOR NON-INTERRUPTIBLE APPLICATIONS THAT CANNOT BE SHUT DOWN DURING ROUTINE MAINTENANCE AND CLEANING OPERATIONS.

*The above data represents common market and service applications. No representation or guarantee, expressed or implied, is given due to the numerous variations of concentrations, temperatures and flow conditions that may occur during actual service.*

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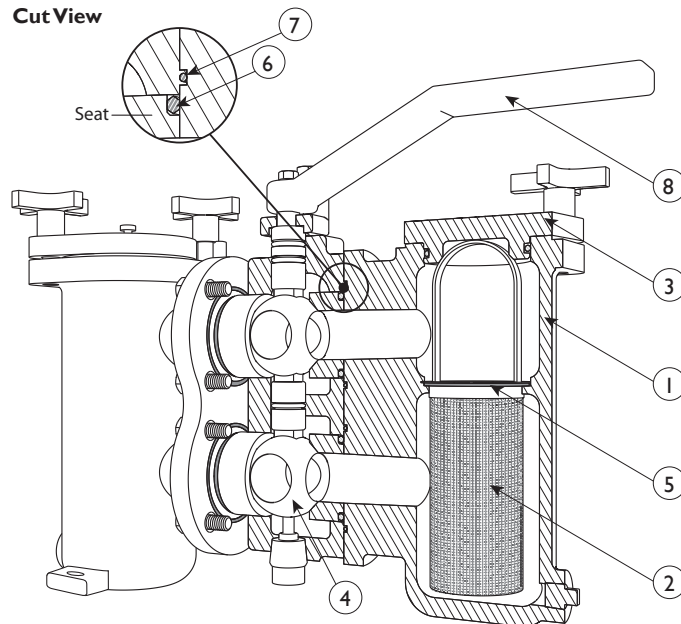


**BILL OF MATERIALS <sup>(1)</sup>**

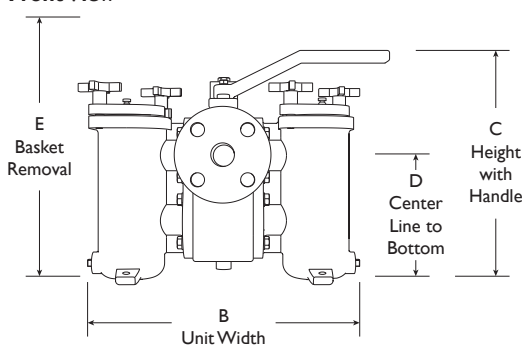
No.	Part	DS 595/695-CI
1	Main Body / Basket Housing <sup>(2)</sup>	Cast Iron ASTM A126 Gr. B
2	Straining Element <sup>(3)</sup>	Stainless Steel
3	Cover	Cast Iron ASTM A126 Gr. B
4	Ball	Stainless Steel
5	O-Ring Straining Element	Buna-N
6	Seat Seal	Teflon (PTFE)
7	Seals	Buna-N
8	Handle	Carbon Steel Zinc Coated

1. Bill of Materials represents standard materials. Equivalent or better materials may be substituted at the manufacturer's discretion.
2. Carbon Steel, Stainless Steel, and Aluminum Bronze units are also available.
3. Denotes recommended spare parts.

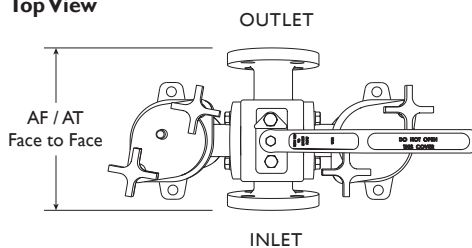
Cut View



Front View



Top View



Cut parts shown with hatch.

Illustrations are representative of a 1" DS696-CS (Flanged model). Please ask for certified drawings when required.

**DIMENSIONS AND PERFORMANCE DATA <sup>(1)</sup>**

SIZE <sup>(2)</sup>	in	3/4 <sup>(3)</sup>	1	1 1/4	1 1/2	2	2 1/2	3 <sup>(3)</sup>	4 <sup>(3)</sup>
	mm	20	25	32	40	50	65	80	100
<b>AF DIMENSION</b>	in	---	7.0	9.37	9.37	10.6	13.5	13.5	16.0
FLANGED FACE TO FACE	mm	---	178	238	238	270	343	343	406
<b>AT DIMENSION</b>	in	5.59	5.59	7.5	7.5	10.0	11.5	---	---
THREADED FACE TO FACE	mm	142	142	191	191	254	292	---	---
<b>B DIMENSION</b>	in	12.95	12.95	15.12	15.12	18.43	22.05	22.0	26.85
UNIT WIDTH (INCLUDING PLUG)	mm	329	329	384	384	468	560	560	682
<b>C DIMENSION</b>	in	11.0	11.0	14.2	14.2	17.7	22.0	22.0	25.2
HEIGHT WITH HANDLE	mm	280	280	360	360	450	560	560	640
<b>D DIMENSION</b>	in	5.83	5.83	8.3	8.3	10.7	13.7	13.7	15.9
CENTER LINE TO BOTTOM	mm	148	148	211	211	271	347	347	403
<b>E DIMENSION</b>	in	15.4	15.4	21.3	21.3	26.4	35.0	35.0	41.0
BASKET REMOVAL	mm	390	390	541	541	670	885	885	1040
<b>APPROXIMATE WEIGHT</b>	lb	---	46.3	73.9	73.9	121.3	237.0	238.1	373.7
DS 695, FLANGED	kg	---	21	33.5	33.5	55	107.5	108	169.5
<b>APPROXIMATE WEIGHT</b>	lb	43.7	43.0	69.9	69.5	119.0	227.0	---	---
DS 595, THREADED	kg	19.8	19.5	31.7	31.5	54	103	---	---
<b>Flow Coefficient</b>	C <sub>v</sub>	13	14	19	24	42	68	105	180

1. Dimensions, weights, and flow coefficients are provided for reference only. Always request certified drawings.
2. Larger sizes (5" ~ 8") are available upon request. Please contact factory for pricing and delivery.
3. Flanged units are not available in 3/4" size; Threaded units are not available in 3" or 4" sizes.

**PRESSURE - TEMPERATURE RATING**

<b>ANSI Class 125</b>	<b>DS 595/695-CI</b>
WOG (Non-shock)	200 PSI @ 150 °F

**REFERENCED STANDARDS & CODES**

Code	Description
ASME/ANSI B16.1	Cast Iron Pipe Flanges and Flanged Fittings
ASME/ANSI B16.4	Cast Iron Pipe Threaded Fittings

**MATERIAL TEMPERATURES**

Seat/Seal/Ball	Temp Range
Buna-N (Seal)	-20 ~ 250 °F
Stainless Steel Ball	Max 450 °F

**STANDARD SCREEN SELECTIONS**

Size	Liquid	Open Area	Steam	Open Area
3/4" ~ 4"	1/16 (.0625)	41%	Not Recommended	

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TITAN FLOW CONTROL, INC.

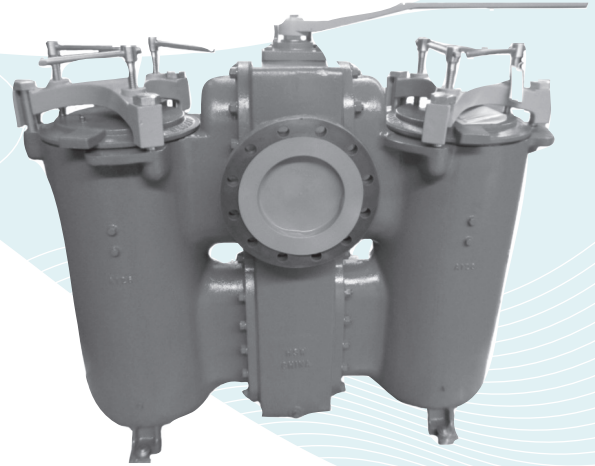
**DUPLEX STRAINER ♦ QUAD BALL TYPE ♦ THREE PIECE BODY**  
**ASME CLASS 125 (CI) & 150 (CS & SS) ♦ FLANGED**

**MODELS: DS 695-CI**  
 (Flanged - Cast Iron)

**DS 696-CS**  
 (Flanged - Carbon Steel)

**DS 696-SS**  
 (Flanged - Stainless Steel)

**NEW**  
**Quad-Ball**  
**Design!**



## FEATURES

- ♦ **UNIQUE QUAD-BALL DIVERSION SYSTEM**  
 REVOLUTIONARY FOUR BALL DESIGN THAT EFFICIENTLY DIVERTS THE PIPELINE FLOW FROM ONE CHAMBER TO THE OTHER. TEFLON SEATS ENSURE A POSITIVE SEAL AND HELP TO PREVENT SEEPAGE INTO THE CHAMBER THAT IS BEING CLEANED.
- ♦ **LOW OPERATING TORQUE**  
 TITAN FCI'S DUPLEX STRAINER FEATURES A LOW TORQUE, EASY TO OPERATE HANDLE THAT DOES NOT REQUIRE ANY AUTOMATION. ADDITIONALLY, THE HANDLE'S POSITION CLEARLY INDICATES WHICH BASKET IS IN SERVICE AND WHICH BASKET CAN SAFELY BE REMOVED FOR CLEANING.
- ♦ **REDUCED MAINTENANCE**  
 THE QUAD BALL DESIGN ISOLATES EACH CHAMBER AND KEEPS THE SERVICING CHAMBER DRY DURING CLEANING. NO SPECIAL TOOLS ARE REQUIRED TO ACCESS AND REMOVE THE STRAINING ELEMENT FROM THE CHAMBER. COVER VENTS, DRAIN PLUGS, AND FOOT PADS ARE PROVIDED ON EACH CHAMBER.
- ♦ **NUMEROUS OTHER BENEFITS**  
 TITAN'S NEW DESIGN OFFERS COUNTLESS OTHER ADVANTAGES INCLUDING: NO INTERRUPTION IN SERVICE, COMPACT STRUCTURE, LONG SERVICE LIFE, AND LOW PRESSURE DROP.

SIZE RANGE: 6" ~ 8"

## TECHNICAL

**PRESSURE/TEMPERATURE RATING <sup>(1)</sup>**  
 CAST IRON - A126 GR.B - CLASS 125

WOG (Non-shock): 200 PSI @ 150 °F

**PRESSURE/TEMPERATURE RATING <sup>(1)</sup>**  
 CARBON STEEL - A216 GR. WCB - CLASS 150

WOG (Non-shock): 285 PSI @ 100 °F

**PRESSURE/TEMPERATURE RATING <sup>(1)</sup>**  
 STAINLESS STEEL - A351 GR. CF8M - CLASS 150

WOG (Non-shock): 275 PSI @ 100 °F

*1. The above listed temperatures are theoretical and may vary during actual operating conditions.*

## APPLICATIONS

**GENERAL APPLICATION:** THE DUPLEX STRAINER IS A UNIQUE PRODUCT WITHIN THE PIPELINE INDUSTRY. LIKE OTHER BASKET STRAINERS, THE DUPLEX STRAINER PROTECTS EXPENSIVE DOWNSTREAM EQUIPMENT BY MECHANICALLY REMOVING SOLIDS FROM FLOWING FLUIDS VIA A PERFORATED, MESH, OR WEDGE WIRE STRAINING ELEMENT. HOWEVER, THE DUPLEX STRAINER IS DESIGNED WITH TWO BASKET CHAMBERS AND A FLOW DIVERTER SYSTEM THAT ALLOWS THE PIPELINE FLOW TO BE SWITCHED FROM ONE CHAMBER TO THE OTHER, COMPLETELY ISOLATING THE FLOW TO A SINGLE CHAMBER. THIS MAKES THE DUPLEX STRAINER IDEAL FOR NON-INTERRUPTIBLE APPLICATIONS THAT CANNOT BE SHUT DOWN DURING ROUTINE MAINTENANCE AND CLEANING OPERATIONS.

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**DUPLEX BASKET STRAINER**

**Flanged Ends**

**DS 696-CS** (Carbon Steel) • **DS 696-SS** (Stainless Steel)  
**DS 695-CI** (Cast Iron)

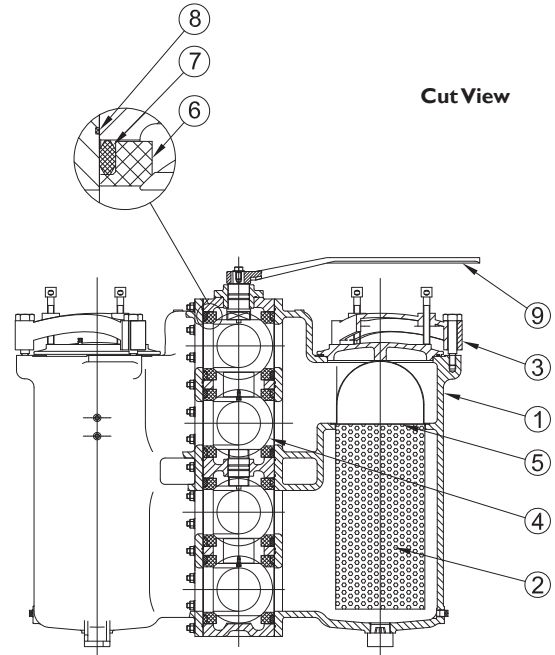
ASME Class 125 CI

ASME Class 150 CS & SS

**BILL OF MATERIALS (1)**

No.	Part	DS 696-CS	DS 696-SS	DS 695-CI
1	Body	Carbon Steel A216 Gr.WCB	Stainless Steel A351 Gr. CF8M	Cast Iron A126 Gr. B
2	Straining Element (3)	Stainless Steel	Stainless Steel	Stainless Steel
3	Cover	Carbon Steel A216 Gr.WCB	Stainless Steel A351 Gr. CF8M	Cast Iron A126 Gr. B
4	Ball	Stainless Steel Type 304	Stainless Steel Type 304	Stainless Steel Type 304
5	O-Ring	Buna-N	Viton	Buna-N
6	Seat	Teflon (PTFE)	Teflon (PTFE)	Teflon (PTFE)
7	Seal	Buna-N	Viton	Buna-N
8	O-Ring Body	Buna-N	Viton	Buna-N
9	Handle	Carbon Steel Zinc Coated	Carbon Steel Zinc Coated	Carbon Steel Zinc Coated

1. Bill of Materials represents standard materials. Equivalent or better materials may be substituted at the manufacturer's discretion.
2. Aluminum Bronze units are also available.
3. Denotes recommended spare parts.



**Cut View**

**DIMENSIONS AND PERFORMANCE DATA (1)**

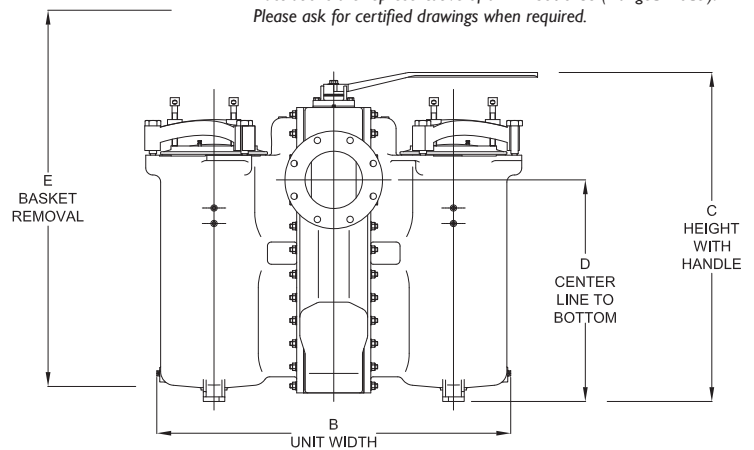
SIZE (2)	6"		8"	
	in	mm	in	mm
<b>AF DIMENSION</b> FACE TO FACE	in	22	26.75	
	mm	559	680	
<b>B DIMENSION</b> UNIT WIDTH (INCLUDING PLUG)	in	35.31	48.50	
	mm	897	1368	
<b>C DIMENSION</b> HEIGHT WITH HANDLE	in	35.63	45.12	
	mm	905	1146	
<b>D DIMENSION</b> CENTER LINE TO BOTTOM	in	24.45	30.39	
	mm	621	772	
<b>E DIMENSION</b> BASKET REMOVAL	in	48	62	
	mm	1220	1575	
APPROXIMATE WEIGHT DS DS695/696, FLANGED	lb	850	1600	
	kg	386	726	
Flow Coefficient	C <sub>v</sub>	429	776	

1. Dimensions, weights, and flow coefficients are provided for reference only. Always request certified drawings.

**Please contact factory for more information.**

Larger, fabricated duplex strainers are available. Fabricated duplex strainers can be designed to meet any space or application requirements.

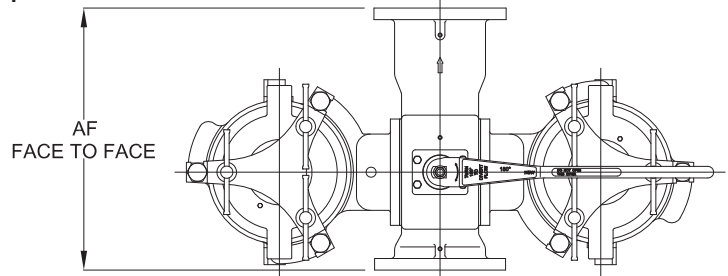
**Front View**



Cut parts shown with hatch.

Illustrations are representative of a 1" DS696-CS (Flanged model). Please ask for certified drawings when required.

**Top View**



**PRESSURE - TEMPERATURE RATING**

ASME Class 125	DS 695-CI	
WOG (Non-shock)	200 PSI @ 150 °F	
ASME Class 150	DS 696-CS	DS 696-SS
WOG (Non-shock)	285 PSI @ 100 °F	275 PSI @ 100 °F

**MATERIAL TEMPERATURES**

Seat/Seal/Ball	Temp Range
Buna-N (Seal)	-20 ~ 250 °F
Viton (Seal)	-40 ~ 400 °F
Stainless Steel Ball	Max 450 °F

**STANDARD SCREEN SELECTIONS**

Size	Liquid	Open Area	Steam	Open Area
6" ~ 8"	1/8" (0.125)	41%		Not Recommended

**REFERENCED STANDARDS & CODES**

Code	Description
ASME/ANSI B16.5	Pipe Flanges and Flanged Fittings
ASME/ANSI B16.11	Forged Steel Fittings, Socket-Welding, and Threaded
ASME B16.1	Gray Iron Pipe Flanges and Flanged Fittings

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