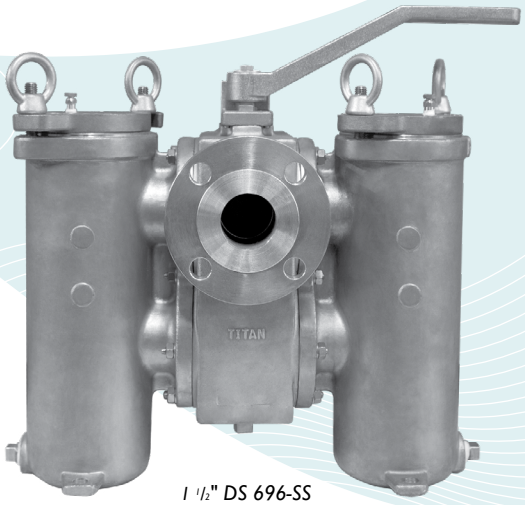
TITAN FLOW CONTROL, INC.

# DUPLEX STRAINER ❖ DUAL BALL TYPE ❖ THREE PIECE BODY

## ASME CLASS 150 ❖ CARBON & STAINLESS ❖ FLANGED & THREADED

NEW Three-Piece Design!




1 1/2" DS 696-SS

## MODELS:

**DS 596-CS**
(Threaded - Carbon Steel)

**DS 596-SS**
(Threaded - Stainless Steel)

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

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

## 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**

THE TITAN† FCI 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 (1)<br>CARBON STEEL - A216 GR. WCB - CLASS 150 |
|---|
| WOG (Non-shock): 285 PSI @ 100 °F |
| **PRESSURE/ TEMPERATURE RATING (1)<br>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.*
2. *Max and min temperatures are for reference only. Prolonged use at these temperatures is not recommended for optimal service life.*

## 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.

*Ball-Type Duplex Strainers are not recommended for slurry and fibrous content applications.*

*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.*

**TITAN® FLOW CONTROL, INC.**

**YOUR PIPELINE TO THE FUTURE!**

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DS96-1020

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# DUPLEX BASKET STRAINER

**Threaded Ends**
**DS 596-CS** (Carbon Steel)
**DS 596-SS** (Stainless Steel)

**Flanged Ends**
**DS 696-CS** (Carbon Steel)
**DS 696-SS** (Stainless Steel)

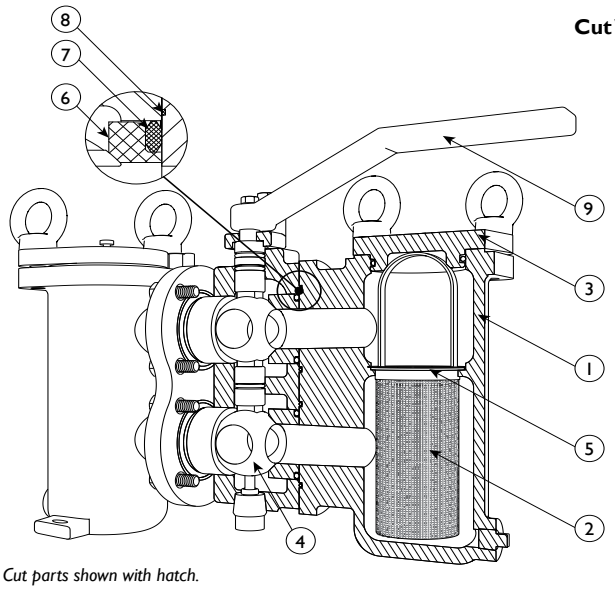
ASME Class 150

## BILL OF MATERIALS (1)

| No. | Part | DS 596/696-CS | DS 596/696-SS |
|---|---|---|---|
| 1 | Main Body / Basket Housing (2) | Carbon Steel A216 Gr.WCB | Stainless Steel A351 Gr. CF8M |
| 2 | Straining Element (3) | Stainless Steel | Stainless Steel |
| 3 | Cover | Carbon Steel A216 Gr.WCB | Stainless Steel A351 Gr. CF8M |
| 4 | Ball | Stainless Steel | Stainless Steel |
| 5 | O-Ring Straining Element | Buna-N | Viton |
| 6 | Seat | Teflon (PTFE) | Teflon (PTFE) |
| 7 | Seal | Buna-N | Viton |
| 8 | O-Ring Body | Buna-N | Viton |
| 9 | Handle | Carbon Steel Zinc Coated | Carbon Steel Zinc Coated |

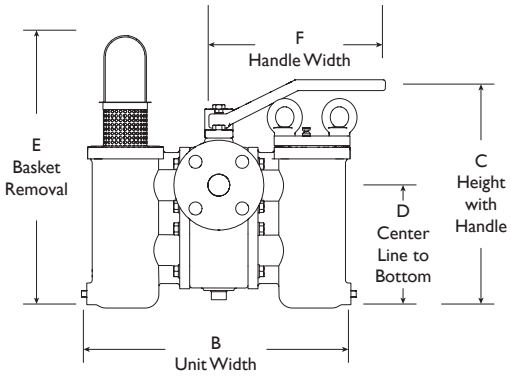
1. Bill of Materials represents standard materials. Equivalent or better materials may be substituted at the manufacturer's discretion.
2. Aluminum Bronze and Cast Iron units are also available.
3. Denotes recommended spare parts.

**Cut View**

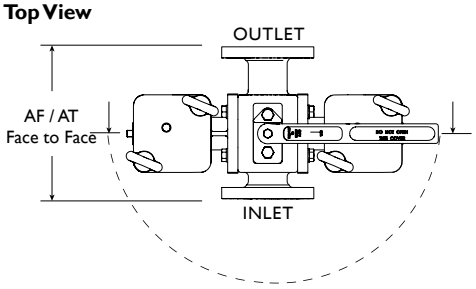



*Cut parts shown with hatch.*
*Illustrations are representative of a 1" DS696-CS (Flanged model).*
*Please ask for certified drawings when required.*

**Front View**




**Top View**




## DIMENSIONS AND PERFORMANCE DATA (1)

| SIZE (2) | | in | 3/4 (3) | 1 | 1 1/4 | 1 1/2 | 2 | 2 1/2 | 3 (3) | 4 (3) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
| **AF** DIMENSION FLANGED FACE TO FACE | | in | --- | 7.0 | 9.37 | 9.37 | 10.6 | 13.5 | 13.5 | 16.0 |
| | | mm | --- | 178 | 238 | 238 | 270 | 343 | 343 | 406 |
| **AT** DIMENSION THREADED FACE TO FACE | | in | 5.59 | 5.59 | 7.5 | 7.5 | 10.0 | 11.5 | --- | --- |
| | | mm | 142 | 142 | 191 | 191 | 254 | 292 | --- | --- |
| **B** DIMENSION UNIT WIDTH (INCLUDING PLUG) | | in | 12.95 | 12.95 | 15.12 | 15.12 | 18.43 | 22.05 | 22.0 | 26.85 |
| | | mm | 329 | 329 | 384 | 384 | 468 | 560 | 560 | 682 |
| **C** DIMENSION HEIGHT WITH HANDLE | | in | 12.0 | 12.0 | 14.8 | 14.8 | 18.4 | 22.7 | 22.7 | 25.5 |
| | | mm | 305 | 305 | 377 | 377 | 468 | 579 | 579 | 649 |
| **D** DIMENSION CENTER LINE TO BOTTOM | | in | 5.83 | 5.83 | 8.3 | 8.3 | 10.7 | 13.7 | 13.7 | 15.9 |
| | | mm | 148 | 148 | 211 | 211 | 271 | 347 | 347 | 403 |
| **E** DIMENSION BASKET REMOVAL | | in | 15.4 | 15.4 | 21.3 | 21.3 | 26.4 | 35.0 | 35.0 | 41.0 |
| | | mm | 390 | 390 | 541 | 541 | 670 | 885 | 885 | 1040 |
| **F** DIMENSION HANDLE LENGTH | | in | 7.87 | 7.87 | 7.87 | 7.87 | 10.03 | 13.00 | 13.00 | 15.00 |
| | | mm | 200 | 200 | 200 | 200 | 270 | 330 | 330 | 380 |
| APPROXIMATE WEIGHT DS 696, FLANGED | | lb | --- | 46.3 | 73.9 | 73.9 | 121.3 | 237.0 | 238.1 | 373.7 |
| | | kg | --- | 21 | 33.5 | 33.5 | 55 | 107.5 | 108 | 169.5 |
| APPROXIMATE WEIGHT DS 596, THREADED | | lb | 43.7 | 43.0 | 69.9 | 69.5 | 119.0 | 227.0 | --- | --- |
| | | kg | 19.8 | 19.5 | 31.7 | 31.5 | 54 | 103 | --- | --- |
| Flow Coefficient | | $C_v$ | 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 (6", 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.

## NPT FITTING SCHEDULE:

| Size | 3/4" ~1" | 1-1/4" | 1-1/2" | 2" ~ 4" |
|---|---|---|---|---|
| Cover Vent | 1/8" | 1/8" | 1/8" | 1/8" |
| Drain | 1/4" | 1/4" | 1/4" | 1/2" |

## REFERENCED STANDARDS & CODES

| Code | Description |
|---|---|
| ASME B16.5 | Pipe Flanges and Flanged Fittings |
| ASME B16.11 | Forged Steel Fittings, Socket-Welding, and Threaded |

## SCREEN SELECTION GUIDELINES

| Size | Liquid | Open Area |
|---|---|---|
| 3/4" ~ 4" | 1/16 (.0625) | 41% |

## MATERIAL TEMPERATURES

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

## PRESSURE - TEMPERATURE RATING

| ASME Class 150 | DS 596/696-CS | DS 596/696-SS |
|---|---|---|
| WOG (Non-shock) | 285 PSI @ 150 °F | 275 PSI @ 100 °F |

*1. Max and min temperatures are for reference only. Prolonged use at these temperatures is not recommended for optimal service life.*
*2. Contact factory for use above 200 °F*