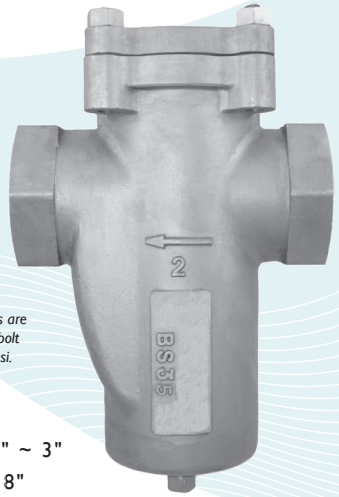
Purple Engineering

# SIMPLEX BASKET STRAINER ❖ RF FLANGED & THREADED

## ANSI CLASS 150/300 ❖ CARBON AND STAINLESS STEEL




**MODELS:**

**BS 35-CS**
(CARBON STEEL - THREADED - 150/300)

**BS 35F-CS**
(CARBON STEEL - RF FLANGED - 150)

**BS 35-SS**
(STAINLESS STEEL - THREADED - 150/300)

**BS 35F-SS**
(STAINLESS STEEL - RF FLANGED - 150)

*• Quick-opening cover designs are available. Quick-opening, two bolt cover option is rated at 150 psi.*

SIZE RANGE:
THREADED: 3/8" ~ 3"
FLANGED: 1" ~ 8"

## FEATURES

◇ **HIGH QUALITY CONSTRUCTION**
THE SERIES BS35 BASKET STRAINER IS AVAILABLE IN CARBON OR STAINLESS STEEL WITH EITHER THREADED OR FLANGED (RF) END CONNECTIONS. IT FEATURES A MACHINED GROOVE THAT ENCAPSULATES THE COVER GASKET AND AIDS IN PREVENTING GASKET BLOW-OUTS.

◇ **MINIMAL PRESSURE LOSS**
PRESSURE LOSS IS MINIMIZED BY PROVIDING AN OVER-THE-TOP FLOW PATH AND LARGE STRAINING AREA. THE STRAINING CAPACITY IS A MINIMUM OF SIX TIMES THAT OF THE CROSS SECTIONAL AREA OF THE CONNECTING PIPE.

◇ **LARGE STRAINING CAPACITY**
WITH ITS LARGE BODY AND SIZEABLE STRAINING ELEMENT, THE SERIES BS35 BASKET STRAINER CAN STORE LARGE AMOUNTS OF DEBRIS - THUS MAXIMIZING TIME BETWEEN SERVICING. IT ALSO FEATURES A MACHINED SEAT WITH O-RING THAT ENABLES FINE FILTRATIONS - DOWN TO 40 MICRONS.

◇ **NUMEROUS STRAINING ELEMENT OPTIONS**
STRAINING ELEMENTS ARE AVAILABLE IN A VARIETY OF PERFORATIONS, MESHES, AND MATERIALS. SPECIAL DESIGNS ARE ALSO AVAILABLE INCLUDING MAGNETIC, WEDGE WIRE, DRILLED PERFORATIONS, AND PLEATED STRAINING ELEMENTS. THE STANDARD MATERIAL FOR STRAINING ELEMENTS IS TYPE 304 STAINLESS STEEL.

◇ **SELF-CLEANING OPTION**
UTILIZING A MODIFIED STRAINING ELEMENT, THE BOTTOM DRAIN CAN BE FITTED WITH A BALL VALVE TO ALLOW FOR THE AUTOMATIC CLEANING OR FLUSHING OF THE STRAINING ELEMENT WHILE KEEPING THE PIPELINE IN SERVICE.

## TECHNICAL

| PRESSURE/ TEMPERATURE RATING<br>CS - ASTM A216 GR. WCB - CLASS 150 |
|---|
| WOG (Non-shock): 285 PSI @ 100 °F |
| Saturated Steam: 150 PSI @ 366 °F |
| Maximum Liquid: 80 PSI @ 800 °F |
| **PRESSURE/ TEMPERATURE RATING<br>SS - ASTM A351 GR. CF8M - CLASS 150** |
| WOG (Non-shock): 275 PSI @ 100 °F |
| Saturated Steam: 150 PSI @ 366 °F |
| Maximum Liquid: 20 PSI @ 1000 °F |
| **PRESSURE/ TEMPERATURE RATING<br>CS - ASTM A216 GR. WCB - CLASS 300** |
| WOG (Non-shock): 740 PSI @ 100 °F |
| Saturated Steam: 300 PSI @ 420 °F |
| Maximum Liquid: 400 PSI @ 800 °F |
| **PRESSURE/ TEMPERATURE RATING<br>SS - ASTM A351 GR. CF8M - CLASS 300** |
| WOG (Non-shock): 720 PSI @ 100 °F |
| Saturated Steam: 300 PSI @ 420 °F |
| Maximum Liquid: 350 PSI @ 1000 °F |

## APPLICATIONS

**MARKETS:** WATER & WASTEWATER, PULP & PAPER, CHEMICAL & PETROCHEMICAL, PETROLEUM, OIL & GAS, TRANSPORTATION, MARINE INDUSTRY, AND FOOD INDUSTRY

**GENERAL APPLICATION:** SIMPLEX BASKET STRAINERS ARE INSTALLED INTO A PIPELINE SYSTEM TO REMOVE UNWANTED DEBRIS FROM THE PIPELINE FLOW. BASKET STRAINERS ARE COMMONLY USED IN HORIZONTAL PIPELINES WHERE DEBRIS LOADING IS HIGH AND THE COLLECTION OF SOLIDS IS REQUIRED. STRAINING IS ACCOMPLISHED VIA A PERFORATED OR MESH LINED STRAINING ELEMENT, INTERNAL TO THE BASKET STRAINER. IN GENERAL, THE SIZE OF THE PERFORATION OR MESH SHOULD BE SLIGHTLY SMALLER THAN THE SMALLEST DEBRIS PARTICLE TO BE REMOVED. IT IS IMPORTANT TO NOTE THAT THE CORRECT SIZE OF A BASKET STRAINER IS DETERMINED BY ITS JOB FUNCTION, NOT BY THE SIZE OF THE PIPELINE.

*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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Purple Engineering

# SIMPLEX BASKET STRAINER

Threaded Ends (150/300 lb) — Raised Face Flanged Ends (150 lb)

**BS 35-CS** (Carbon Steel) **BS 35F-CS** (Carbon Steel)

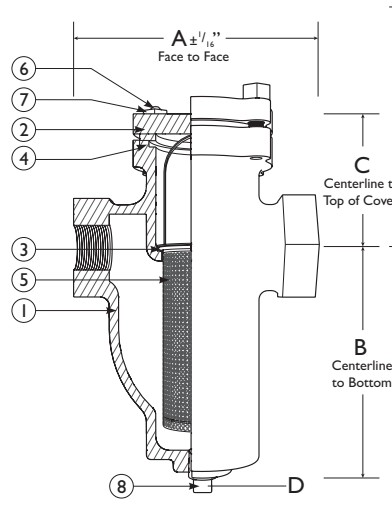
**BS 35-SS** (Stainless Steel) **BS 35F-SS** (Stainless Steel)

ANSI Class 150/300 lb

## BILL OF MATERIALS (1)

| No. | PART | BS 35-CS & BS 35F-CS (2) | BS 35-SS & BS 35F-SS |
|---|---|---|---|
| 1 | Body | Carbon Steel A216 Gr. WCB | Stainless Steel A351 Gr. CF8M Type 316 |
| 2 | Cover | Carbon Steel A216 Gr. WCB | Stainless Steel A351 Gr. CF8M Type 316 |
| 3 | O-Ring (Basket) (3) | Buna-N | Viton |
| 4 | Gasket (Cover) (3) (4) | Spiral Wound Stainless Steel Non-Asbestos | |
| 5 | Straining Element (3) | Type 304 Stainless Steel (Other materials are available) | |
| 6 | Studs | Alloy Steel A193-B7 | Stainless Steel 18-8 Series 300 |
| 7 | Nuts | Carbon Steel A194-2H | Stainless Steel 18-8 Series 300 |
| 8 | Bottom Drain Plug | Carbon Steel | Stainless Steel |

1. Equivalent or better materials may be substituted at the manufacturer's discretion.
2. Carbon Steel bodies are epoxy painted.
3. Denotes recommended spare parts.
4. Gasket is for the 4 bolt cover option, which is standard. If quick open cover is specified, the O-ring material for the cover is Buna-N on BS35-CS & BS35F-CS or Viton on BS35-SS & BS35F-SS.
5. Bolted cover is standard (3/8" - 8"). Quick-open cover 3/8"- 3" is 2 bolt style. Quick-open cover 4"- 8" is clamp style.




1.5" BS 35 Threaded

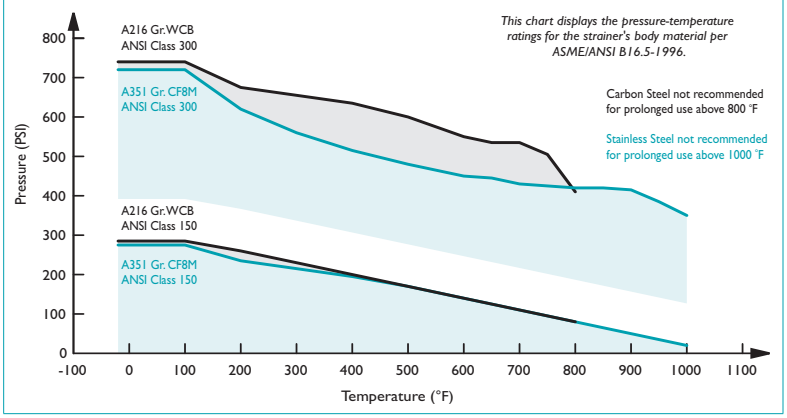
- *Illustration displays threaded end connection unit only. Table below contains dimensions for both threaded and flanged type units. Threaded Sizes: 3/8" ~ 3" Flanged Sizes: 1" ~ 8"*
- *Quick-opening cover designs are available. Quick-opening cover for 3/8" - 3" is a two bolt cover rated at 150 psi. Quick-opening cover for 4" - 8" is a fully rated clamp style cover. Four bolt cover is shown and is standard.*
- *Bottom drain is furnished with plug.*

## DIMENSIONS AND PERFORMANCE DATA (1)

| Size | | 3/8 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 6 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 150 | 200 |
| $A_1$ DIMENSION FACE TO FACE (THREADED) | in | 4.562 | 4.562 | 4.562 | 5.312 | 6.312 | 6.312 | 8.25 | 11.25 | 11.25 | n/a | n/a | n/a |
| | mm | 116 | 116 | 116 | 135 | 161 | 161 | 210 | 286 | 286 | n/a | n/a | n/a |
| $A_2$ DIMENSION FACE TO FACE (FLANGED) | in | n/a | n/a | n/a | 5.687 | n/a | 7.00 | 9.00 | 10.375 | 11.75 | 15.00 | 20.25 | 27.375 |
| | mm | n/a | n/a | n/a | 145 | n/a | 178 | 229 | 264 | 299 | 381 | 515 | 696 |
| $B_1$ DIMENSION CTR. LINE TO BOTTOM (THREADED) | in | 4.00 | 4.00 | 4.00 | 4.687 | 6.50 | 6.50 | 7.875 | 8.75 | 11.375 | n/a | n/a | n/a |
| | mm | 102 | 102 | 102 | 120 | 166 | 166 | 201 | 223 | 289 | n/a | n/a | n/a |
| $B_2$ DIMENSION CTR. LINE TO BOTTOM (FLANGED) | in | n/a | n/a | n/a | 4.687 | n/a | 6.50 | 8.00 | 8.75 | 11.50 | 13.75 | 20.00 | 24.24 |
| | mm | n/a | n/a | n/a | 120 | n/a | 166 | 204 | 223 | 293 | 350 | 508 | 616 |
| $C_1$ DIMENSION CTR. LINE TO TOP (THREADED) | in | 2.50 | 2.50 | 2.50 | 2.75 | 3.00 | 3.00 | 3.625 | 4.00 | 4.50 | n/a | n/a | n/a |
| | mm | 64 | 64 | 64 | 70 | 77 | 77 | 93 | 102 | 115 | n/a | n/a | n/a |
| $C_2$ DIMENSION CTR. LINE TO TOP (FLANGED) | in | n/a | n/a | n/a | 3.00 | n/a | 3.00 | 3.75 | 4.00 | 4.75 | 6.18 | 7.88 | 10.55 |
| | mm | n/a | n/a | n/a | 77 | n/a | 77 | 96 | 102 | 121 | 157 | 201 | 268 |
| D DIMENSION NPT BLOW-OFF (BOTH) | in | 3/8 | 3/8 | 3/8 | 3/8 | 1/2 | 1/2 | 3/4 | 1 | 1 | 2 | 2 | 2 |
| | mm | 10 | 10 | 10 | 10 | 15 | 15 | 20 | 25 | 25 | 50 | 50 | 50 |
| E DIMENSION SCREEN REMOVAL (BOTH) | in | 4.812 | 4.812 | 4.812 | 5.875 | 8.125 | 8.125 | 10.125 | 11.875 | 14.812 | 19.875 | 29.125 | 37.125 |
| | mm | 123 | 123 | 123 | 150 | 207 | 207 | 258 | 302 | 377 | 505 | 740 | 943 |
| ASSEMBLED WEIGHT THREADED (APPROXIMATE) | lb | 6.0 | 6.0 | 5.5 | 8.0 | 16.0 | 16.0 | 25.5 | 49.0 | 51.0 | n/a | n/a | n/a |
| | kg | 2.7 | 2.7 | 2.5 | 3.6 | 7.3 | 7.3 | 11.6 | 22.2 | 23.1 | n/a | n/a | n/a |
| ASSEMBLED WEIGHT FLANGED (APPROXIMATE) | lb | n/a | n/a | n/a | 11.0 | n/a | 19.5 | 31.5 | 44.5 | 65.5 | 142.0 | 266.0 | 518.0 |
| | kg | n/a | n/a | n/a | 5.0 | n/a | 8.8 | 14.3 | 20.2 | 29.7 | 64.4 | 120.5 | 234.7 |
| Flow Coefficient | $C_V$ | 14 | 14 | 14 | 24 | 43 | 43 | 70 | 90 | 140 | 290 | 780 | 1600 |

1. Dimensions, weights, and flow coefficients are provided for reference only. When required, always request certified drawings. • *Threaded Sizes: 3/8" ~ 3"* • *Flanged Sizes: 1" ~ 8"*

## PRESSURE - TEMPERATURE RATINGS




## PRESSURE - TEMPERATURE RATING (1)

| ANSI CLASS 150 | A216 Gr.WCB (2) | A351 Gr. CF8M (2) |
|---|---|---|
| WOG (Non-shock) | 285 PSI @ 100 °F | 275 PSI @ 100 °F |
| Saturated Steam | 150 PSI @ 366 °F | 150 PSI @ 366 °F |
| Max Liquid | 80 PSI @ 800 °F | 20 PSI @ 1000 °F |
| **ANSI CLASS 300** | **A216 Gr.WCB (2)** | **A351 Gr. CF8M (2)** |
| WOG (Non-shock) | 740 PSI @ 100 °F | 720 PSI @ 100 °F |
| Saturated Steam | 300 PSI @ 420 °F | 300 PSI @ 420 °F |
| Max Liquid | 400 PSI @ 800 °F | 350 PSI @ 1000 °F |

1. Threaded units are dual rated ANSI Class150/300. Flanged units are rated at ANSI Class 150.
2. Pressure and Temperature ratings are considerably lower for units installed with the optional quick-opening covers. Please consult factory for further information.

## STANDARD STRAINING ELEMENTS

| Size | Liquid | Open Area | Steam | Open Area |
|---|---|---|---|---|
| 3/8" ~ 2" | 1/16 (.0625) | 41% | 1/32 (.033) | 28% |
| 2 1/2" ~ 4" | 1/16 (.0625) | 41% | 3/64 (.045) | 36% |
| 5" ~ 8" | 1/8 (.125) | 40% | 3/64 (.045) | 36% |

## REFERENCED STANDARDS & CODES

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