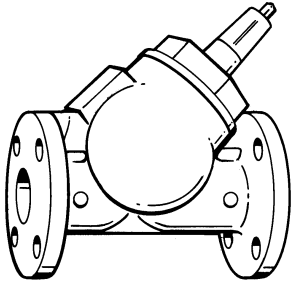


|                                                                                       |                                                                                                       |                                              |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>JOB:</b><br><br><br><br><b>UNIT TAG:</b><br><b>ENGINEER:</b><br><b>CONTRACTOR:</b> | <b>REPRESENTATIVE:</b><br><br><br><br><b>ORDER NO.</b><br><b>SUBMITTED BY:</b><br><b>APPROVED BY:</b> | <b>DATE:</b><br><b>DATE:</b><br><b>DATE:</b> |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------|



### Centrifugal Pump Accessories

## Triple Duty<sup>®</sup> Valve

Straight Pattern with Soft Seat Nonslam Check Valve,  
Throttling Valve, Calibrated Balance Valve and Shutoff Valve

### DESCRIPTION

The Triple Duty Valve is a quiet operating heavy-duty valve which performs all of the functions normally required on the discharge side of hydronic system pumps.

The valve serves as a nonslam check valve as needed for zoned pumping, parallel and standby pumping, and condenser water applications. The spring loaded disk prevents valve chatter, and assures positive shutoff.

Bell & Gossett's Triple Duty Valve has a calibrated nameplate for rough system balance. The Triple Duty Valve is also equipped with Model RV-125A readout valves for more accurate system balance.

The calibrated nameplate allows the valve to be returned to the original balance position after shutoff.

To repack under system pressure, turn the valve stem to the fully open position. Turning the valve stem to the closed position provides shutoff.

### CONSTRUCTION MATERIALS

Body: Cast Iron with Bronze Seat  
 Disc: Brass with EPDM Seat Insert  
 Stem: Stainless Steel  
 Spring: Stainless Steel  
 Packing: Teflon-Graphite (Asbestos-free)  
 Gasket: Non-Asbestos  
 Readout Valve: Brass with EPT insert, check valve & gasket

### SCHEDULE Maximum Working Pressure 175 PSIG (1,207 kPa) – Maximum Operating Temperature 250°F (121°C)

| MODEL NO. | PART # | *FLANGE SIZE<br>INCHES(mm) | TAGGING INFORMATION | QUANTITY |
|-----------|--------|----------------------------|---------------------|----------|
| 3DS-3B    | 132160 | 3 (76.2)                   |                     |          |
| 3DS-4B    | 132161 | 4 (101.6)                  |                     |          |
| 3DS-5B    | 132162 | 5 (127.0)                  |                     |          |
| 3DS-6B    | 132163 | 6 (152.4)                  |                     |          |
| 3DS-8B    | 132164 | 8 (203.2)                  |                     |          |
| 3DS-10B   | 132165 | 10 (254.0)                 |                     |          |
| 3DS-12B   | 132166 | 12 (304.8)                 |                     |          |
| 3DS-14B   | 132167 | 14 (355.6)                 |                     |          |
| 3DS-16B   | 132168 | 16 (406.4)                 |                     |          |

\*Standard 125 PSIG (862 kPa) ANSI Flanges

# TRIPLE DUTY® VALVE – STRAIGHT PATTERN

## PERFORMANCE DATA

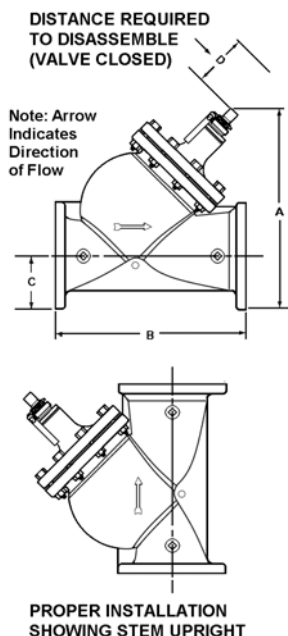
B-833A

| Cv RATING IN GPM (m <sup>3</sup> /hr) VS. PERCENT OF STEM RISE |              |              |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
|----------------------------------------------------------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| MODEL NO.                                                      | 20%          |              | 30%           |               | 40%           |               | 50%           |               | 60%           |               | 70%           |               | 80%           |               | 90%           |               | 100%          |               |
|                                                                | A            | B            | A             | B             | A             | B             | A             | B             | A             | B             | A             | B             | A             | B             | A             | B             | A             | B             |
| 3DS-3B                                                         | 28<br>(6)    | 28<br>(6)    | 43<br>(10)    | 43<br>(10)    | 57<br>(13)    | 57<br>(13)    | 70<br>(16)    | 71<br>(16)    | 83<br>(19)    | 83<br>(19)    | 94<br>(21)    | 94<br>(21)    | 105<br>(24)   | 106<br>(24)   | 112<br>(25)   | 113<br>(26)   | 117<br>(26)   | 118<br>(27)   |
| 3DS-4B                                                         | 47<br>(11)   | 47<br>(11)   | 71<br>(16)    | 72<br>(16)    | 93<br>(21)    | 95<br>(21)    | 114<br>(26)   | 116<br>(26)   | 132<br>(30)   | 135<br>(31)   | 150<br>(34)   | 152<br>(35)   | 166<br>(38)   | 168<br>(38)   | 178<br>(40)   | 181<br>(41)   | 190<br>(43)   | 191<br>(43)   |
| 3DS-5B                                                         | 75<br>(17)   | 76<br>(17)   | 121<br>(28)   | 123<br>(28)   | 165<br>(38)   | 169<br>(38)   | 204<br>(46)   | 209<br>(47)   | 238<br>(54)   | 245<br>(56)   | 276<br>(63)   | 283<br>(64)   | 305<br>(69)   | 312<br>(71)   | 325<br>(74)   | 331<br>(75)   | 357<br>(81)   | 360<br>(82)   |
| 3DS-6B                                                         | 110<br>(25)  | 112<br>(25)  | 173<br>(39)   | 175<br>(40)   | 235<br>(53)   | 238<br>(54)   | 291<br>(66)   | 295<br>(67)   | 341<br>(77)   | 348<br>(79)   | 392<br>(89)   | 402<br>(91)   | 443<br>(101)  | 454<br>(103)  | 493<br>(112)  | 508<br>(115)  | 534<br>(121)  | 556<br>(126)  |
| 3DS-8B                                                         | 159<br>(36)  | 159<br>(36)  | 273<br>(62)   | 278<br>(63)   | 333<br>(76)   | 341<br>(77)   | 410<br>(93)   | 422<br>(96)   | 486<br>(110)  | 500<br>(114)  | 550<br>(125)  | 569<br>(129)  | 622<br>(141)  | 631<br>(143)  | 684<br>(155)  | 690<br>(157)  | 749<br>(170)  | 748<br>(170)  |
| 3DS-10B                                                        | 250<br>(57)  | 253<br>(57)  | 378<br>(86)   | 389<br>(88)   | 513<br>(117)  | 528<br>(120)  | 629<br>(143)  | 652<br>(148)  | 748<br>(170)  | 775<br>(176)  | 854<br>(194)  | 889<br>(202)  | 935<br>(212)  | 983<br>(223)  | 1023<br>(232) | 1075<br>(244) | 1117<br>(254) | 1169<br>(265) |
| 3DS-12B                                                        | 426<br>(97)  | 436<br>(99)  | 663<br>(151)  | 688<br>(156)  | 883<br>(201)  | 923<br>(210)  | 1089<br>(247) | 1151<br>(261) | 1277<br>(290) | 1343<br>(305) | 1443<br>(328) | 1539<br>(350) | 1607<br>(365) | 1704<br>(387) | 1765<br>(401) | 1870<br>(425) | 1874<br>(425) | 1992<br>(452) |
| 3DS-14B                                                        | 578<br>(131) | 594<br>(135) | 885<br>(201)  | 916<br>(208)  | 1173<br>(266) | 1219<br>(277) | 1437<br>(326) | 1497<br>(340) | 1710<br>(388) | 1760<br>(400) | 1946<br>(442) | 2017<br>(458) | 2159<br>(490) | 2228<br>(506) | 2399<br>(545) | 2499<br>(567) | 2566<br>(583) | 2669<br>(606) |
| 3DS-16B                                                        | 614<br>(139) | 619<br>(141) | 1021<br>(232) | 1036<br>(235) | 1422<br>(323) | 1445<br>(328) | 1789<br>(406) | 1798<br>(408) | 2127<br>(483) | 2143<br>(487) | 2412<br>(548) | 2417<br>(549) | 2708<br>(615) | 2715<br>(616) | 2974<br>(675) | 2983<br>(677) | 3283<br>(746) | 3368<br>(765) |

**A. FLOWMETER Cv FOR BALANCING.** MINIMUM READING OF 3 FEET (.9 m) OF PRESSURE DROP REQUIRED FOR ACCURATE FLOW DETERMINATION.

**B. Cv FOR CALCULATING PRESSURE DROP ACROSS THE VALVE.**

**NOTE:** MAXIMUM RECOMMENDED PRESSURE DROP SHOULD NOT EXCEED 25 FEET (7.6 m).



| MODEL<br>NUMBER | DIMENSIONS IN INCHES (mm) |                   |                   |                   |                   |                   | APPROX.<br>SHPG. WT.<br>LBS. (Kg) |
|-----------------|---------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------------------------|
|                 | FLANGE<br>SIZE*           | A                 |                   | B                 | C                 | D                 |                                   |
|                 |                           | OPEN              | CLOSED            |                   |                   |                   |                                   |
| 3DS-3B          | 3<br>(76.2)               | 11.22<br>(285.00) | 10.51<br>(266.90) | 10.00<br>(254.00) | 3.75<br>(95.25)   | 3.50<br>(88.90)   | 36 (16)                           |
| 3DS-4B          | 4<br>(101.6)              | 13.07<br>(332.00) | 12.19<br>(309.60) | 14.50<br>(368.30) | 4.50<br>(114.30)  | 3.94<br>(100.00)  | 62 (28)                           |
| 3DS-5B          | 5<br>(127.0)              | 17.41<br>(442.20) | 16.35<br>(415.20) | 16.00<br>(406.40) | 5.00<br>(127.00)  | 6.25<br>(158.80)  | 105 (48)                          |
| 3DS-6B          | 6<br>(152.4)              | 19.02<br>(483.10) | 17.78<br>(451.60) | 18.00<br>(457.20) | 5.50<br>(139.71)  | 6.88<br>(174.80)  | 148 (67)                          |
| 3DS-8B          | 8<br>(203.2)              | 21.90<br>(556.30) | 20.48<br>(520.30) | 21.50<br>(546.10) | 6.75<br>(171.45)  | 8.25<br>(209.60)  | 230 (104)                         |
| 3DS-10B         | 10<br>(254.0)             | 26.02<br>(660.90) | 24.42<br>(620.40) | 25.50<br>(647.70) | 8.00<br>(203.20)  | 10.38<br>(263.70) | 380 (172)                         |
| 3DS-12B         | 12<br>(304.8)             | 30.25<br>(768.40) | 27.95<br>(710.00) | 30.00<br>(762.00) | 9.50<br>(241.30)  | 12.25<br>(311.20) | 546 (248)                         |
| 3DS-14B         | 14<br>(355.6)             | 34.42<br>(874.30) | 32.04<br>(813.70) | 33.75<br>(857.25) | 10.50<br>(266.70) | 14.50<br>(368.30) | 765 (347)                         |
| 3DS-16B         | 16<br>(406.4)             | 38.24<br>(971.30) | 35.28<br>(896.00) | 35.00<br>(889.00) | 11.75<br>(298.45) | 16.50<br>(491.10) | 980 (445)                         |

\*STANDARD 125 PSIG (862 kPa) ANSI FLANGES.

Dimensions are subject to change. Not to be used for construction purposes unless certified.

## TYPICAL SPECIFICATIONS

Furnish and install as shown on plans, an angle pattern valve designed to perform the functions of a nonslam check valve, throttling valve, shutoff valve and calibration balancing valve.

The valve shall be a heavy-duty cast iron construction with standard 125 psig (862 kPa) ANSI flanged connections, and rated for a maximum working pressure of 175 psig (1207 kPa) at 250°F (121°C). The valve shall be fitted with a bronze seat, replaceable brass disc with EPDM seat insert, stainless steel stem, and chatter-preventing spring and calibrated nameplate. The valve design shall permit repacking under full system pressure.

The valve shall be equipped with brass readout valve (with integral check valve) for taking differential pressure readings across the orifice for accurate system balance.

Valve Cv rating at full open position not to be less than \_\_\_\_\_. (Refer to the 100% stem rise value shown in row "B" for required valve.)

All valves shall be Xylem Bell & Gossett Model No. 3D-\_\_\_\_S Triple Duty Valve.

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