



# Free Floating Lever Drain Traps

**Armstrong®** For Loads to 50,000 lb/hr (22,679 kg/hr)...Pressures to 1,000 psig (69 bar)

Table LD-14. Maximum Operating Pressures for Handling Different Specific Gravity Liquids With Orifices Available in Guided Free Floating Lever Drain Traps. (See pages LD-29 and LD-30.)

| Model No.                             | Sp. Grav. | 1.00                                  |      | .95  |      | .90  |      | .85  |      | .80  |      | .75  |      | .70  |      | .65  |      | .60  |      | .55  |      | .50  |      |     |
|---------------------------------------|-----------|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
|                                       | Orifice   | Maximum Operating Pressure psig (bar) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |
|                                       | in        | psig                                  | bar  | psig | bar  | psig | bar  | psig | bar  | psig | bar  | psig | bar  | psig | bar  | psig | bar  | psig | bar  | psig | bar  | psig | bar  |     |
| 1-LD                                  | 1/8       | 121                                   | 8.3  | 109  | 7.6  | 98   | 6.8  | 87   | 6.0  | 75   | 5.2  | 64   | 4.4  | 52   | 3.6  | 41   | 2.8  | 29   | 2.0  | 18   | 1.2  | 6    | 0.4  |     |
|                                       | 7/64      | 143                                   | 9.9  | 130  | 9.0  | 116  | 8.0  | 103  | 7.1  | 89   | 6.1  | 75   | 5.2  | 62   | 4.3  | 48   | 3.3  | 35   | 2.4  | 21   | 1.4  | 7    | 0.5  |     |
|                                       | #38       | 182                                   | 12.5 | 164  | 11   | 147  | 10.2 | 130  | 9.0  | 113  | 7.8  | 95   | 6.6  | 78   | 5.4  | 61   | 4.2  | 44   | 3.0  | 26   | 1.8  | 9    | 0.6  |     |
|                                       | 5/64      | 300                                   | 20.7 | 289  | 19.9 | 259  | 17.8 | 228  | 15.7 | 198  | 13.7 | 168  | 11.6 | 137  | 9.5  | 107  | 7.4  | 77   | 5.3  | 47   | 3.2  | 16   | 1.1  |     |
| 11-LD                                 | 1/8       | 176                                   | 12.1 | 161  | 11.1 | 146  | 10.1 | 130  | 9.0  | 115  | 7.9  | 100  | 6.9  | 85   | 5.8  | 69   | 4.8  | 54   | 3.7  | 39   | 2.7  | 24   | 1.6  |     |
|                                       | 7/64      | 209                                   | 14   | 191  | 13   | 173  | 12   | 155  | 10.7 | 137  | 9.4  | 119  | 8.2  | 100  | 6.9  | 82   | 5.7  | 64   | 4.4  | 46   | 3.2  | 28   | 1.9  |     |
|                                       | #38       | 264                                   | 18   | 242  | 17   | 219  | 15   | 196  | 14   | 173  | 12   | 150  | 10.4 | 127  | 8.8  | 104  | 7.2  | 81   | 5.6  | 59   | 4.0  | 36   | 2.5  |     |
|                                       | 5/64      | 400                                   | 28   | 400  | 28   | 384  | 27   | 344  | 24   | 304  | 21   | 264  | 18   | 224  | 15   | 183  | 13   | 143  | 9.9  | 103  | 7.1  | 63   | 4.3  |     |
| 2-LD to 250 psi (17 bar)              | 5/16      | 22                                    | 1.5  | 20   | 1.4  | 18   | 1.3  | 17   | 1.1  | 15   | 1.0  | 13   | 0.9  | 11   | 0.8  | 10   | 0.7  | 8    | 0.5  | 6    | 0.4  | 4    | 0.3  |     |
|                                       | 1/4       | 36                                    | 2.5  | 33   | 2.3  | 30   | 2.1  | 27   | 1.9  | 24   | 1.7  | 22   | 1.5  | 19   | 1.3  | 16   | 1.1  | 13   | 0.9  | 10   | 0.7  | 7    | 0.5  |     |
|                                       | 3/16      | 79                                    | 5.5  | 73   | 5.0  | 67   | 4.6  | 60   | 4.2  | 54   | 3.7  | 47   | 3.3  | 41   | 2.8  | 35   | 2.4  | 28   | 2.0  | 22   | 1.5  | 16   | 1.1  |     |
|                                       | 5/32      | 137                                   | 9.4  | 126  | 8.7  | 115  | 7.9  | 104  | 7.2  | 93   | 6.4  | 82   | 5.6  | 71   | 4.9  | 60   | 4.1  | 49   | 3.4  | 38   | 2.6  | 27   | 1.8  |     |
| 22-LD to 533 psi (475 bar)            | 1/8       | 234                                   | 16.1 | 215  | 14.8 | 196  | 13.5 | 178  | 12.2 | 159  | 10.9 | 140  | 9.6  | 121  | 8.4  | 102  | 7.1  | 83   | 5.8  | 65   | 4.5  | 46   | 3.2  |     |
|                                       | 7/64      | 299                                   | 20.6 | 275  | 19   | 251  | 17.3 | 227  | 15.7 | 203  | 14   | 179  | 12   | 155  | 10.7 | 131  | 9.0  | 107  | 7.4  | 83   | 5.7  | 59   | 4.0  |     |
|                                       | #38       | 372                                   | 25.7 | 342  | 23.6 | 313  | 21.6 | 283  | 19.5 | 253  | 17.4 | 223  | 15   | 193  | 13   | 163  | 11.2 | 133  | 9.2  | 103  | 7.1  | 73   | 5.0  |     |
|                                       | 5/64      | 533                                   | 37   | 475  | 33   | 461  | 32   | 417  | 29   | 372  | 26   | 328  | 23   | 284  | 20   | 240  | 17   | 196  | 14   | 152  | 10.5 | 108  | 7.4  |     |
| 32-LD                                 | 5/16      | 29                                    | 2.0  | 26   | 1.8  | 23   | 1.6  | 21   | 1.4  | 18   | 1.2  | 15   | 1.0  | 12   | 0.9  | 10   | 0.7  | 7    | 0.5  | 4    | 0.3  | 2    | 0.1  |     |
|                                       | 1/4       | 47                                    | 3.3  | 43   | 3.0  | 38   | 2.6  | 34   | 2.3  | 29   | 2.0  | 25   | 1.7  | 20   | 1.4  | 16   | 1.1  | 12   | 0.8  | 7    | 0.5  | 3    | 0.2  |     |
|                                       | 3/16      | 104                                   | 7.2  | 94   | 6.5  | 85   | 5.8  | 75   | 5.2  | 65   | 4.5  | 55   | 3.8  | 45   | 3.1  | 35   | 2.4  | 25   | 1.8  | 16   | 1.1  | 6    | 0.4  |     |
|                                       | 5/32      | 180                                   | 12   | 163  | 11   | 146  | 10   | 129  | 8.9  | 112  | 7.7  | 95   | 6.5  | 78   | 5.4  | 61   | 4.2  | 44   | 3.0  | 27   | 1.9  | 10   | 0.7  |     |
|                                       | 1/8       | 307                                   | 21   | 278  | 19   | 249  | 17   | 220  | 15   | 191  | 13   | 162  | 11   | 133  | 9    | 104  | 7.2  | 75   | 5.2  | 46   | 3.2  | 17   | 1.2  |     |
|                                       | 7/64      | 393                                   | 27   | 356  | 25   | 319  | 22   | 282  | 19   | 245  | 17   | 207  | 14   | 170  | 12   | 133  | 9    | 96   | 6.6  | 59   | 4.1  | 22   | 1.5  |     |
|                                       | #38       | 489                                   | 34   | 443  | 31   | 397  | 27   | 351  | 24   | 304  | 21   | 258  | 18   | 212  | 15   | 166  | 11   | 120  | 8    | 73   | 5.1  | 27   | 1.9  |     |
|                                       | 5/64      | 600                                   | 41   | 600  | 41   | 585  | 40   | 517  | 36   | 449  | 31   | 381  | 26   | 313  | 22   | 244  | 17   | 176  | 12   | 108  | 7    | 40   | 2.8  |     |
| 3-LD to 250 psi (17 bar) (Cast Iron)  | 1/2       | 16                                    | 1.1  | 14   | 1.0  | 13   | 0.9  | 12   | 0.8  | 10   | 0.7  | 9    | 0.6  | 7    | 0.5  | 6    | 0.4  | 5    | 0.3  | 3    | 0.2  | 2    | 0.1  |     |
|                                       | 3/8       | 33                                    | 2.3  | 31   | 2.1  | 28   | 1.9  | 25   | 1.7  | 22   | 1.5  | 19   | 1.3  | 16   | 1.1  | 13   | 0.9  | 10   | 0.7  | 7    | 0.5  | 4    | 0.3  |     |
|                                       | 5/16      | 54                                    | 3.7  | 49   | 3.4  | 44   | 3.0  | 39   | 2.7  | 35   | 2.4  | 30   | 2.1  | 25   | 1.7  | 20   | 1.4  | 16   | 1.1  | 11   | 0.8  | 6    | 0.4  |     |
| 13-LD to 570 psi (39 bar) (Stainless) | 9/32      | 71                                    | 4.9  | 65   | 4.5  | 59   | 4.0  | 52   | 3.6  | 46   | 3.2  | 40   | 2.7  | 34   | 2.3  | 27   | 1.9  | 21   | 1.4  | 15   | 1.0  | 8    | 0.6  |     |
|                                       | 1/4       | 107                                   | 7.4  | 97   | 6.7  | 88   | 6.1  | 79   | 5.4  | 69   | 4.8  | 60   | 4.1  | 50   | 3.5  | 41   | 2.8  | 32   | 2.2  | 22   | 1.5  | 13   | 0.9  |     |
|                                       | 7/32      | 153                                   | 10.5 | 139  | 9.6  | 126  | 8.7  | 112  | 7.7  | 99   | 6.8  | 85   | 5.9  | 72   | 5.0  | 59   | 4.0  | 45   | 3.1  | 32   | 2.2  | 18   | 1.2  |     |
| 33-LD to 900 psi (62 bar) (Steel)     | 3/16      | 230                                   | 16   | 209  | 14   | 189  | 13   | 169  | 12   | 149  | 10.3 | 129  | 8.9  | 108  | 7.5  | 88   | 6.1  | 68   | 4.7  | 48   | 3.3  | 27   | 1.9  |     |
|                                       | 5/32      | 359                                   | 25   | 327  | 23   | 296  | 20   | 264  | 18   | 233  | 16   | 201  | 14   | 169  | 12   | 138  | 9.5  | 106  | 7.3  | 74   | 5.1  | 43   | 2.9  |     |
|                                       | 1/8       | 726                                   | 50   | 662  | 46   | 598  | 41   | 534  | 37   | 470  | 32   | 406  | 28   | 342  | 24   | 278  | 19   | 214  | 15   | 150  | 10.3 | 86   | 5.9  |     |
| 7/64                                  | 900       | 62                                    | 847  | 58   | 765  | 53   | 683  | 47   | 601  | 41   | 519  | 36   | 437  | 30   | 356  | 25   | 274  | 19   | 192  | 13   | 110  | 7.6  |      |     |
| 6-LD Cast Iron                        | 1-1/16    | 21                                    | 1.4  | 19   | 1.3  | 18   | 1.2  | 16   | 1.1  | 15   | 1.0  | 13   | 0.9  | 12   | 0.8  | 10   | 0.7  | 9    | 0.6  | 7    | 0.5  | 6    | 0.4  |     |
|                                       | 7/8       | 32                                    | 2.2  | 30   | 2.1  | 28   | 1.9  | 26   | 1.8  | 23   | 1.6  | 21   | 1.4  | 19   | 1.3  | 16   | 1.1  | 14   | 1.0  | 12   | 0.8  | 9    | 0.6  |     |
|                                       | 3/4       | 47                                    | 3.2  | 44   | 3.0  | 40   | 2.8  | 37   | 2.5  | 34   | 2.3  | 30   | 2.1  | 27   | 1.9  | 24   | 1.6  | 20   | 1.4  | 17   | 1.2  | 14   | 0.9  |     |
|                                       | 5/8       | 72                                    | 4.9  | 67   | 4.6  | 61   | 4.2  | 56   | 3.9  | 51   | 3.5  | 46   | 3.2  | 41   | 2.8  | 36   | 2.5  | 31   | 2.1  | 26   | 1.8  | 21   | 1.4  |     |
|                                       | 9/16      | 95                                    | 6.5  | 88   | 6.1  | 81   | 5.6  | 75   | 5.2  | 68   | 4.7  | 61   | 4.2  | 55   | 3.8  | 48   | 3.3  | 41   | 2.8  | 34   | 2.4  | 28   | 1.9  |     |
|                                       | 1/2       | 138                                   | 9.5  | 128  | 8.8  | 118  | 8.1  | 108  | 7.5  | 99   | 6.8  | 89   | 6.1  | 79   | 5.4  | 69   | 4.8  | 59   | 4.1  | 50   | 3.4  | 40   | 2.8  |     |
|                                       | 7/16      | 196                                   | 13   | 182  | 13   | 168  | 12   | 154  | 11   | 140  | 10   | 126  | 8.7  | 112  | 7.7  | 98   | 6.8  | 85   | 5.8  | 71   | 4.9  | 57   | 3.9  |     |
|                                       | 3/8       | 250                                   | 17   | 250  | 17   | 250  | 17   | 243  | 17   | 221  | 15   | 199  | 14   | 177  | 12   | 155  | 11   | 133  | 9.0  | 111  | 7.7  | 90   | 6.2  |     |
|                                       | 11/32     | 250                                   | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250 |
|                                       | 5/16      | 250                                   | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250 |
|                                       | 9/32      | 250                                   | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250 |
|                                       | 1/4       | 250                                   | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250 |
| 7/32                                  | 250       | 17                                    | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  |     |
| 3/16                                  | 250       | 17                                    | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  | 17   | 250  |     |
| 36-LD Forged Steel                    | 1-1/16    | 16                                    | 1.1  | 15   | 1.01 | 13   | 0.91 | 12   | 0.81 | 10   | 0.71 | 9    | 0.6  | 7    | 0.5  | 6    | 0.4  | 4    | 0.3  | 3    | 0.2  | 1    | 0.1  |     |
|                                       | 7/8       | 25                                    | 1.7  | 23   | 1.6  | 21   | 1.4  | 18   | 1.3  | 16   | 1.1  | 14   | 0.95 | 11   | 0.79 | 9    | 0.63 | 7    | 0.47 | 5    | 0.31 | 2    | 0.16 |     |
|                                       | 3/4       | 36                                    | 2.5  | 33   | 2.3  | 30   | 2.1  | 27   | 1.8  | 23   | 1.6  | 20   | 1.4  | 17   | 1.1  | 13   | 0.91 | 10   | 0.68 | 7    | 0.45 | 3    | 0.22 |     |
|                                       | 5/8       | 56                                    | 3.9  | 51   | 3.5  | 46   | 3.1  | 41   | 2.8  | 35   | 2.4  | 30   | 2.1  | 25   | 1.7  | 20   | 1.4  | 15   | 1.05 | 10   | 0.69 | 5    | 0.34 |     |
|                                       | 9/16      | 74                                    | 5.1  | 67   | 4.6  | 60   | 4.2  | 54   | 3.7  | 47   | 3.2  | 40   | 2.8  | 34   | 2.3  | 27   | 1.8  | 20   | 1.4  | 13   | 0.92 | 7    | 0.46 |     |
|                                       | 1/2       | 107                                   | 7.4  | 97   | 6.7  | 88   | 6.0  | 78   | 5.4  | 68   | 4.7  | 58   | 4.0  | 49   | 3.4  | 39   | 2.7  | 29   | 2.0  | 19   | 1.3  | 10   | 0.66 |     |
|                                       | 7/16      | 152                                   | 10.5 | 138  | 9.6  | 125  | 8.6  | 111  | 7.6  | 97   | 6.7  | 83   | 5.7  | 69   | 4.8  | 55   | 3.8  | 41   | 2.9  | 27   | 1.9  | 14   | 0.94 |     |
|                                       | 3/8       | 240                                   | 17   | 218  | 15   | 197  | 14   | 175  | 12   | 153  | 10.5 | 131  | 9.0  | 109  | 7.5  | 87   | 6.0  | 65   | 4.5  | 43   | 3.0  |      |      |     |

# Free Floating Guided Lever Drain Traps

For Loads to 49,000 lb/hr (22,226 kg/hr)...Pressures to 300 psig (21 bar)

Armstrong's cast iron, free-floating guided lever drain traps use the same bodies, caps, lever mechanisms, valves and seats of Armstrong inverted bucket steam traps that have been proven in years of service. Elliptical floats and high leverage make it possible to open large orifices to provide adequate capacity for drain trap size and weight.

The hemispherical valve, seat and leverage of the 1-LD, 2-LD, 3-LD and 6-LD cast iron traps are identical in design, materials and workmanship to those for saturated steam service up to 300 psig (21 bar) with the exception of the addition of a guidepost to assure a positive, leaktight valve closing under all conditions.

## List of Materials

| Table LD-15.                 |                 |                 |       |                                   |                             |
|------------------------------|-----------------|-----------------|-------|-----------------------------------|-----------------------------|
| Model No.                    | Valve & Seat    | Leverage System | Float | Body & Cap                        | Gasket                      |
| 1-LD<br>2-LD<br>3-LD<br>6-LD | Stainless Steel |                 |       | Cast Iron<br>ASTM A48<br>Class 30 | Compressed<br>Asbestos-free |

For information on special materials, consult the Armstrong Application Engineering Department.

For a fully detailed certified drawing, refer to:

1-LD CD #1070  
2-LD, 3-LD, 6-LD CD #1034

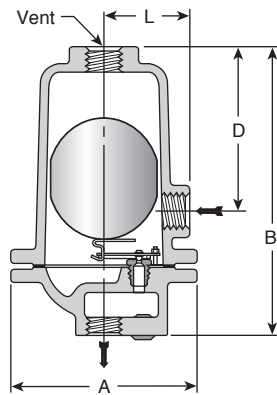


Figure LD-33.

No. 2-LD, 3-LD and 6-LD cast iron guided lever drain traps. No. 1-LD has standard top inlet and optional side connection.



## Physical Data

| Model No.                            | Cast Iron                            |     |          |        |                                   |            |          |        |
|--------------------------------------|--------------------------------------|-----|----------|--------|-----------------------------------|------------|----------|--------|
|                                      | 1-LD                                 |     | 2-LD     |        | 3-LD                              |            | 6-LD     |        |
| Pipe Connections                     | in                                   | mm  | in       | mm     | in                                | mm         | in       | mm     |
|                                      | 1/2*                                 | 15* | 1/2, 3/4 | 15, 20 | 1/2, 3/4, 1                       | 15, 20, 25 | 1-1/2, 2 | 40, 50 |
| "A"                                  | 3-3/4                                | 95  | 5-1/4    | 133    | 6-3/8                             | 162        | 10-3/16  | 259    |
| "B"                                  | 5-1/2                                | 140 | 8        | 203    | 10-5/8                            | 270        | 17       | 432    |
| "D"                                  | 2-7/8                                | 73  | 4-3/8    | 111    | 6-3/32                            | 155        | 8-3/8    | 213    |
| "K" (☉ Outlet to ☉ Inlet)            | 13/16                                | 21  | —        | —      | —                                 | —          | —        | —      |
| "L"                                  | 1-7/8                                | 48  | 2-7/16   | 62     | 2-7/8                             | 73         | 4-5/8    | 117    |
| Approx. Wt. lb (kg)                  | 4 (2)                                |     | 13 (6)   |        | 22 (10)                           |            | 80 (36)  |        |
| Max. Allow. Pressure (Vessel Design) | 300 psig @ 200°F†<br>(21 bar @ 93°C) |     |          |        | 250 psig @ 450°F (17 bar @ 232°C) |            |          |        |

NOTE: Vessel design pressure may exceed float collapse pressure in some cases.

Pipe size of vent connection is same as that of inlet and outlet connections.

\*1/4" (6 mm) outlet.

† For pressures not exceeding 250 psig (17 bar), a maximum temperature of 450°F (232°C) is allowed.

**All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.**



# Free Floating Guided Lever Drain Traps

For Loads to 9,500 lb/hr (4,309 kg/hr)...Pressures to 570 psig (39 bar)

Armstrong's stainless steel, free-floating guided lever drain traps use the same bodies, caps, lever mechanisms, valves and seats of Armstrong inverted bucket steam traps that have been proven in years of service. Elliptical floats and high leverage make it possible to open large orifices to provide adequate capacity for drain trap size and weight.

The hemispherical valve, seat and leverage of the 11-LD, 22-LD and 13-LD stainless steel traps are identical in design, materials and workmanship to those for saturated steam service up to 570 psig (39 bar) with the exception of the addition of a guidepost to assure a positive, leaktight valve closing under all conditions.

## List of Materials

| Table LD-17.            |                 |                 |       |                                    |        |
|-------------------------|-----------------|-----------------|-------|------------------------------------|--------|
| Model No.               | Valve & Seat    | Leverage System | Float | Body & Cap                         | Gasket |
| 11-LD<br>22-LD<br>13-LD | Stainless Steel |                 |       | Sealed<br>Stainless Steel,<br>304L | —      |

For information on special materials, consult the Armstrong Application Engineering Department.

For a fully detailed certified drawing, refer to list below:

11-LD CD #1066  
13-LD and 22-LD CD #1086

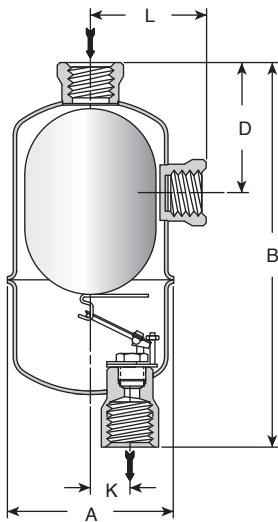


Figure LD-34.

No. 11-LD, 22-LD and 13-LD stainless steel guided lever liquid drain trap with sealed, tamperproof construction.



## Physical Data

Table LD-18. Armstrong Guided Lever Liquid Drain Traps

| Model No.                               | Stainless Steel   |     |   |     |   |     |
|---|---|-----|---|-----|---|-----|
|   | 11-LD**   |     | 22-LD   |     | 13-LD   |     |
| Pipe Connections                        | in  | mm  | in  | mm  | in  | mm  |
|   | 3/4*  | 20* | 3/4   | 20  | 1   | 25  |
| "A"                                     | 2-3/4   | 70  | 3-15/16   | 100 | 4-1/2   | 114 |
| "B"                                     | 7-1/4   | 184 | 8-13/16   | 224 | 11-3/8  | 289 |
| "D"                                     | —   | —   | 3   | 76  | 6-1/8   | 156 |
| "K"                                     | 9/16  | 14  | 7/8   | 22  | 1-3/16  | 30  |
| "L"                                     | —   | —   | 2-5/8   | 67  | 3-9/32  | 83  |
| Approx. Wt. lbs (kg)                    | 1-3/4 (0.79)  |     | 3-1/4 (1.5)   |     | 7-1/2 (3.4)   |     |
| Max. Allowable Pressure (Vessel Design) | 500 psig @ 100°F (35 bar @ 38°C)<br>440 psig @ 500°F (30 bar @ 260°C) |     | 600 psig @ 100°F (41 bar @ 38°C)<br>475 psig @ 500°F (33 bar @ 260°C) |     | 570 psig @ 100°F (39 bar @ 38°C)<br>490 psig @ 500°F (34 bar @ 260°C) |     |

Note: Vessel design pressure may exceed float collapse pressure in some cases.

Pipe size of vent connection is same as that of inlet and outlet connections.

\*1/2" (15 mm) outlet. \*\*No side connection.

All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.

# 180 Series Free Floating Lever Drain Traps

All Stainless Steel for Horizontal Installation

For pressures to 400 psig (28 bar) . . . Capacities to 2,000 lb/hr (907 kg/hr)



Armstrong's stainless steel, free-floating guided lever drain traps use the same bodies, caps, lever mechanisms, valves and seats as Armstrong inverted bucket steam traps that have been proven in years of service. Elliptical floats and high leverage make it possible to open large orifices to provide adequate capacity for drain trap size and weight.

The hemispherical valve, seat and leverage of the 180-LD and 181-LD stainless steel traps are identical in design, materials and workmanship to those for saturated steam service up to 570 psig (39 bar), except that the 180 Series traps have a guidepost to ensure a positive, leak-tight valve closing under all conditions. The 180 Series is designed for situations where mounting a drainer close to the floor is critical. A back vent connection is required.

For a fully detailed certified drawing, refer to list below:

180-LD CD #1276

181-LD CD #1276



## List of Materials

| Model No.        | Valve & Seat    | Leverage System | Float | Body & Cap                  |
|------------------|-----------------|-----------------|-------|-----------------------------|
| 180-LD<br>181-LD | Stainless Steel |                 |       | Sealed Stainless Steel 304L |

## Physical Data

| Model No.                           | 180-LD      |     | 181-LD      |     |
|-------------------------------------|-------------|-----|-------------|-----|
|                                     | in          | mm  | in          | mm  |
| Pipe Connections                    | 1/2         | 15  | 3/4         | 20  |
| "A" (Diameter)                      | 2-11/16     | 68  | 2-11/16     | 68  |
| "B" (Height)                        | 6           | 135 | 6-9/16      | 167 |
| "C" (Face to Face)                  | 4-5/16      | 110 | 4-5/16      | 110 |
| "D" (Bottom to $\varnothing$ Inlet) | 5-1/8       | 113 | 5-9/16      | 141 |
| Weight, lb (kg)                     | 1-3/4 (0.8) |     | 2-3/8 (1.1) |     |

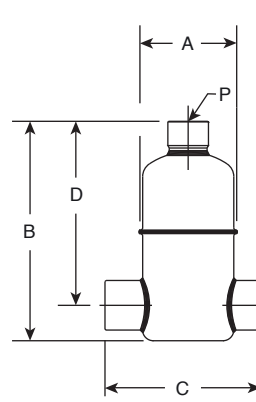


Figure LD-35.  
Model 180-LD

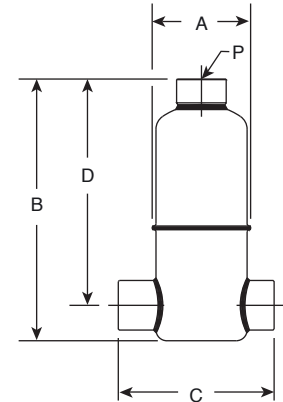
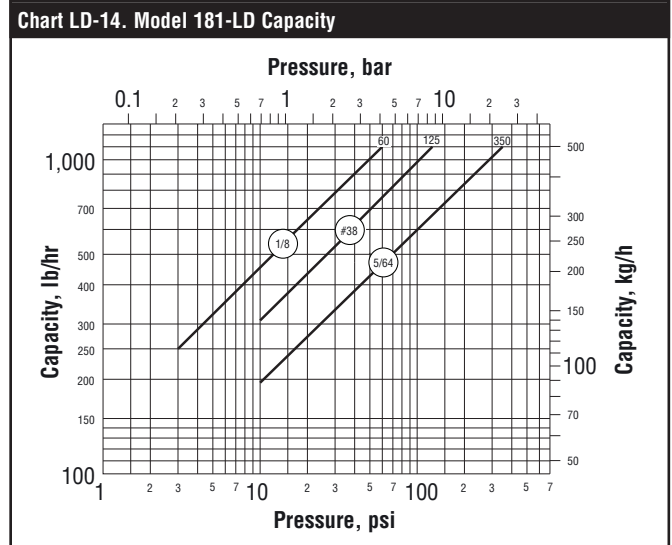
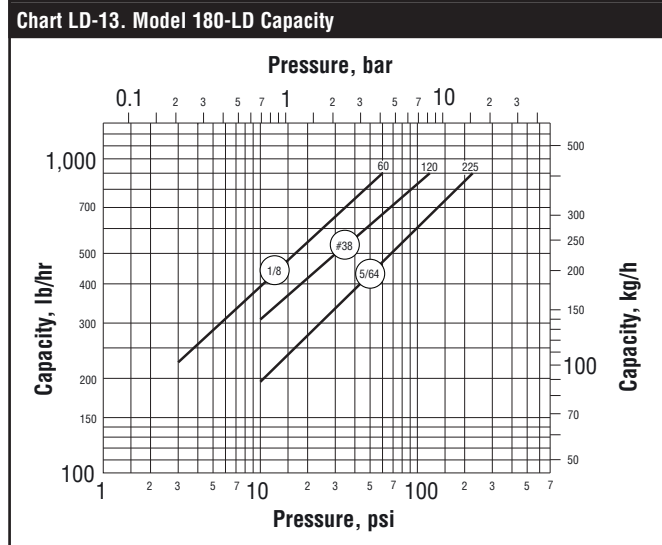


Figure LD-36.  
Model 181-LD



All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.



# Free Floating Guided Lever Drain Traps

For Loads to 42,000 lb/hr (19,050 kg/hr)...Pressures to 1,000 psig (69 bar)

Armstrong's forged steel, free floating guided lever drain traps use the same bodies, caps, lever mechanisms, valves and seats of Armstrong inverted bucket steam traps that have been proven in years of service. Elliptical floats and high leverage make it possible to open large orifices to provide adequate capacity for drain trap size and weight.

The hemispherical valve, seat and leverage of the 32-LD, 33-LD and 36-LD forged steel traps are identical in design, materials and workmanship to those for saturated steam service up to 1,000 psig (69 bar) with the exception of the addition of a guidepost to assure a positive, leaktight valve closing under all conditions.

## List of Materials

| Model No.               | Valve & Seat    | Leverage System | Float | Body & Cap                | Gasket                      |
|-------------------------|-----------------|-----------------|-------|---------------------------|-----------------------------|
| 32-LD<br>33-LD<br>36-LD | Stainless Steel |                 |       | Forged Steel<br>ASTM A105 | Compressed<br>Asbestos-free |

For information on special materials, consult the Armstrong Application Engineering Department.

For a fully detailed certified drawing, refer to CD #1035.

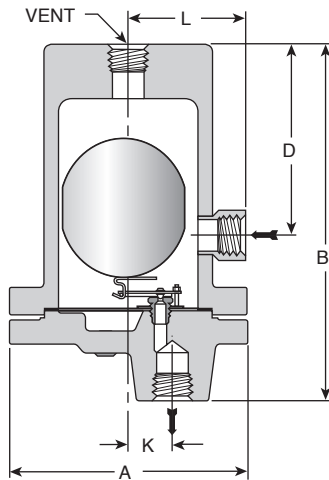


Figure LD-37.

No. 32-LD, 33-LD and 36-LD forged steel guided lever drain trap. Socketweld or flanged connections are also available.



## Physical Data

| Model No.                               | Forged Steel  |             |   |             |            |          |
|---|---|-------------|---|-------------|------------|----------|
|   | 32-LD†  |             | 33-LD†  |             | 36-LD†     |          |
| Pipe Connections                        | in  | mm          | in  | mm          | in         | mm       |
|   |   | 1/2, 3/4, 1 | 15, 20, 25  | 1/2, 3/4, 1 | 15, 20, 25 | 1-1/2, 2 |
| "A"                                     | 6-3/4   | 171         | 8   | 203         | 11-7/8     | 302      |
| "B"                                     | 10-3/16   | 259         | 11-9/16   | 294         | 17-1/8     | 435      |
| "D"                                     | 5-9/16  | 141         | 6-1/16  | 154         | 9          | 229      |
| "K"                                     | 1-1/4   | 32          | 1-7/16  | 37          | 2-1/8      | 54       |
| "L"                                     | 3-3/8   | 86          | 3-9/16  | 90          | 6-1/16     | 154      |
| Approx. Wt. lbs (kg)                    | 31 (14)   |             | 49 (22)   |             | 163 (74)   |          |
| Max. Allowable Pressure (Vessel Design) | 600 psig @ 100°F (41 bar @ 38°C)<br>500 psig @ 750°F (35 bar @ 400°C) |             | 1,000 psig @ 100°F (69 bar @ 38°C)<br>600 psig @ 750°F (41 bar @ 400°C) |             |            |          |

**Note:** Vessel design pressure may exceed float collapse pressure in some cases.

Pipe size of vent connection is same as that of inlet and outlet connections.

†Available in Type 316 stainless steel. Consult factory.