

Model: TDC

Airflow Measurements Procedure

1. Record diffuser velocities with Anlor probe in the locations and orientation shown the velocity Measurement Location Chart.

Note: Each diagram within the Velocity Measurement Location chart contains '+' signs, measure the velocity at these points on the specific TDC.

2. Calculate airflow each side using the following equation.

Flow Rate: CFM = Average Velocity x Area Factor x Balancing Factor.

Example: Size 12 x 36 diffuser, A3-1 pattern; with velocity readings 1000, 1200, 1250, 1300, 1250, 1200, and 1000 fpm. Average velocity = 1171 fpm. Flow factor table information is as follows.

Area Factor Side A = 0.08

Area Factor Side B = 0.46

Balancing Factor = 1.168

Calculations:

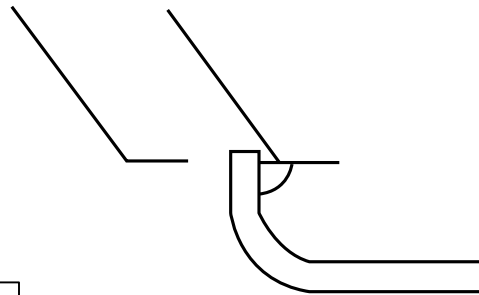
Airflow Side A = $1171 \times 0.08 \times 1.168 = 109$ CFM

Airflow Side B = $1171 \times 0.46 \times 1.168 = 629$ CFM

Total Airflow = $109 + 629 + 629 = 1367$ CFM


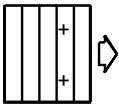
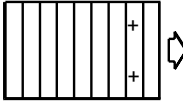
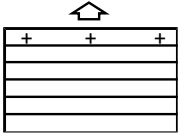

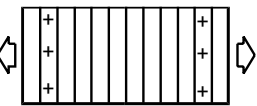
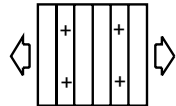
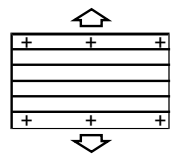
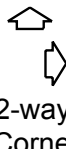
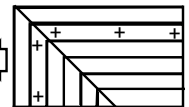
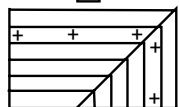
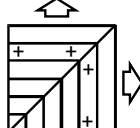

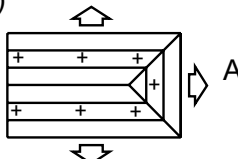
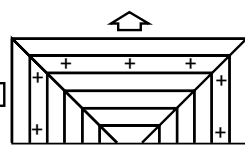
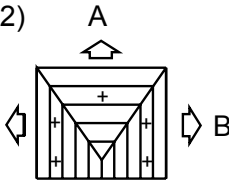
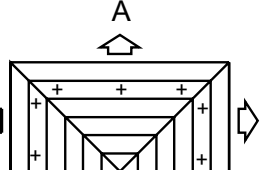
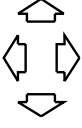
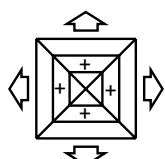
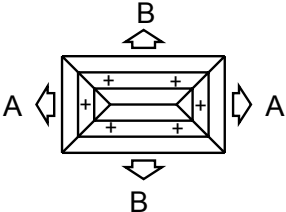
Note: A3-1 denotes a three-way pattern in one diffuser. Refer to the Velocity Measurement Locations chart.

Alnor Model 6070, 6000, 2220, or 2220-A Probe Orientation



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Velocity Measurement Locations Alnor Velometer Balancing

| | |
|---|---|
|  1-way | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>S1</p>  </div> <div style="text-align: center;"> <p>A1</p>  </div> <div style="text-align: center;"> <p>B1</p>  </div> </div> |
|  2-way | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>A2</p>  </div> <div style="text-align: center;"> <p>S2</p>  </div> <div style="text-align: center;"> <p>B2</p>  </div> </div> |
|  2-way Corner | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>E2</p>  </div> <div style="text-align: center;"> <p>F2</p>  </div> <div style="text-align: center;"> <p>G2</p>  </div> </div> |
|  3-way | <div style="display: flex; flex-direction: column; justify-content: space-around;"> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>A3 (A3-1)</p>  </div> <div style="text-align: center;"> <p>E3</p>  </div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>(A3-2)</p>  </div> <div style="text-align: center;"> <p>B3</p>  </div> </div> </div> |
|  4-way | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>A4</p>  </div> <div style="text-align: center;"> <p>B4</p>  </div> </div> |

Note: Each diffuser diagram within the Velocity Measurement Location chart contains '+' signs, position the probe at each point to measure the velocity on each specific TDC.

One-way Factors

The following tables provide the area and balancing factors based on flow pattern. Use the corresponding area pattern and balancing tables based on the measurement locations chart on page 2.

Area Patterns - A1, B1, and S1

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|------|------|------|------|------|------|------|------|------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| 9 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| 12 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 15 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 18 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 21 | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 24 | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 |
| 30 | | | | | | | | 1.00 | 1.00 | 1.00 |
| 36 | | | | | | | | | 1.00 | 1.00 |
| 48 | | | | | | | | | | 1.00 |

Balancing Factors - A1 and S1

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.151 | | | | | | | | | |
| 9 | 0.227 | 0.340 | | | | | | | | |
| 12 | 0.303 | 0.454 | 0.605 | | | | | | | |
| 15 | 0.378 | 0.567 | 0.756 | 0.945 | | | | | | |
| 18 | 0.454 | 0.681 | 0.908 | 1.134 | 1.361 | | | | | |
| 21 | 0.529 | 0.794 | 1.059 | 1.323 | 1.588 | 1.853 | | | | |
| 24 | 0.605 | 0.908 | 1.210 | 1.513 | 1.815 | 2.118 | 2.420 | | | |
| 30 | 0.756 | 1.134 | 1.513 | 1.891 | 2.269 | 2.647 | 3.025 | 3.781 | | |
| 36 | | 1.351 | 1.815 | 2.269 | 2.723 | 3.176 | 3.620 | 4.538 | 5.445 | |
| 48 | | | 2.420 | 3.025 | 3.630 | 4.235 | 4.840 | 6.050 | 7.260 | 9.680 |

Balancing Factors - B1

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|-------|-------|-------|------|-------|----|----|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | | | | | | | | | | |
| 9 | 0.125 | | | | | | | | | |
| 12 | 0.188 | 0.281 | | | | | | | | |
| 15 | 0.250 | 0.375 | 0.500 | | | | | | | |
| 18 | 0.313 | 0.469 | 0.625 | 0.781 | | | | | | |
| 21 | 0.375 | 0.563 | 0.750 | 0.938 | 1.125 | | | | | |
| 24 | 0.438 | 0.656 | 0.875 | 1.094 | 1.313 | 1.531 | | | | |
| 30 | 0.500 | 0.750 | 1.000 | 1.250 | 1.500 | 1.750 | 2.00 | | | |
| 36 | | 0.938 | 1.250 | 1.563 | 1.875 | 2.188 | 2.50 | 3.125 | | |

Two-way Factors

The following tables provide the area and balancing factors based on flow pattern. Use the corresponding area pattern and balancing tables based on the measurement locations chart on page 2.

Area Patterns - A2, B2, and S2

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|------|------|------|------|------|------|------|------|------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | | |
| 9 | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | |
| 12 | | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 15 | | | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 18 | | | | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 21 | | | | | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 24 | | | | | | | 0.50 | 0.50 | 0.50 | 0.50 |
| 30 | | | | | | | | 0.50 | 0.50 | 0.50 |
| 36 | | | | | | | | | 0.50 | 0.50 |
| 48 | | | | | | | | | | 0.50 |

Balancing Factors - A2

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.151 | | | | | | | | | |
| 9 | 0.227 | 0.340 | | | | | | | | |
| 12 | 0.303 | 0.454 | 0.605 | | | | | | | |
| 15 | 0.378 | 0.567 | 0.756 | 0.945 | | | | | | |
| 18 | 0.454 | 0.681 | 0.908 | 1.134 | 1.361 | | | | | |
| 21 | 0.529 | 0.794 | 1.059 | 1.323 | 1.588 | 1.853 | | | | |
| 24 | 0.605 | 0.908 | 1.210 | 1.513 | 1.815 | 2.118 | 2.420 | | | |
| 30 | 0.756 | 1.134 | 1.513 | 1.891 | 2.269 | 2.647 | 3.025 | 3.781 | | |
| 36 | | 1.351 | 1.815 | 2.269 | 2.723 | 3.176 | 3.620 | 4.538 | 5.445 | |
| 48 | | | 2.420 | 3.025 | 3.630 | 4.235 | 4.840 | 6.050 | 7.260 | 9.680 |

Balancing Factors - B2

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|--------|-------|-------|-------|-------|-------|-------|-------|----|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | | | | | | | | | | |
| 9 | 0.125 | | | | | | | | | |
| 12 | 0.188 | 0.281 | | | | | | | | |
| 15 | 0.250 | 0.375 | 0.500 | | | | | | | |
| 18 | 0.313 | 0.469 | 0.625 | 0.781 | | | | | | |
| 21 | 0.375 | 0.563 | 0.750 | 0.938 | 1.125 | | | | | |
| 24 | 0.438 | 0.6656 | 0.875 | 1.094 | 1.313 | 1.531 | | | | |
| 30 | 0.500 | 0.750 | 1.000 | 1.250 | 1.500 | 1.750 | 2.00 | | | |
| 36 | | 0.938 | 1.250 | 1.563 | 1.875 | 2.188 | 2.50 | 3.125 | | |
| 48 | | | 1.50 | 1.875 | 2.250 | 2.625 | 3.000 | 3.750 | 4.500 | |

Two-way Factors (continued)

Balancing Factors - S2

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.756 | | | | | | | | | |
| 9 | 0.114 | 0.170 | | | | | | | | |
| 12 | 0.152 | 0.227 | 0.303 | | | | | | | |
| 15 | 0.189 | 0.284 | 0.378 | 0.488 | | | | | | |
| 18 | 0.227 | 0.341 | 0.454 | 0.567 | 0.681 | | | | | |
| 21 | 0.265 | 0.397 | 0.530 | 0.662 | 0.794 | 0.927 | | | | |
| 24 | 0.353 | 0.458 | 0.605 | 0.757 | 0.908 | 1.059 | 1.210 | | | |
| 30 | 0.378 | 0.567 | 0.757 | 0.946 | 1.140 | 1.324 | 1.513 | 1.891 | | |
| 36 | | 0.681 | 0.908 | 1.135 | 1.362 | 1.588 | 1.815 | 2.269 | 2.728 | |
| 48 | | | 2.420 | 1.513 | 1.815 | 2.118 | 2.420 | 3.025 | 3.630 | 4.840 |



Two-way Corner Factors

TDC-FF
03-24-04

Two-way Corner Factors

The following tables provide the area and balancing factors based on flow pattern. Use the corresponding area pattern and balancing tables based on the measurement locations chart on the previous page.

Area Patterns - E2 and F2

| Neck Width (inches) | Side A - Length (inches) | | | | | | | | | Side B - Length (inches) | | | | | | | | |
|---------------------|--------------------------|------|------|------|------|------|------|------|-------|--------------------------|------|------|------|------|------|------|------|------|
| | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 9 | 0.33 | 0.25 | 0.20 | 0.17 | 0.14 | 0.13 | 0.10 | | | 0.67 | 0.75 | 0.80 | 0.83 | 0.86 | 0.88 | 0.90 | | |
| 12 | | 0.38 | 0.30 | 0.25 | 0.21 | 0.19 | 0.15 | 0.13 | | | 0.63 | 0.70 | 0.75 | 0.79 | 0.81 | 0.85 | 0.88 | |
| 15 | | | 0.40 | 0.33 | 0.29 | 0.25 | 0.20 | 0.17 | 0.13 | | | 0.60 | 0.67 | 0.71 | 0.75 | 0.80 | 0.83 | 0.88 |
| 18 | | | | 0.42 | 0.36 | 0.31 | 0.25 | 0.21 | 0.166 | | | | 0.58 | 0.64 | 0.69 | 0.75 | 0.79 | 0.84 |
| 21 | | | | | 0.43 | 0.38 | 0.30 | 0.25 | 0.19 | | | | | 0.57 | 0.63 | 0.70 | 0.75 | 0.81 |
| 24 | | | | | | 0.44 | 0.35 | 0.29 | 0.22 | | | | | | 0.56 | 0.65 | 0.71 | 0.78 |
| 30 | | | | | | | 0.44 | 0.33 | 0.25 | | | | | | | 0.60 | 0.67 | 0.75 |
| 36 | | | | | | | | 0.42 | 0.31 | | | | | | | | 0.58 | 0.69 |
| 48 | | | | | | | | | 0.38 | | | | | | | | | 0.63 |

Area Pattern - G2

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|------|------|------|------|------|------|------|------|------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | | |
| 9 | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | |
| 12 | | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 15 | | | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 18 | | | | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 21 | | | | | | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 24 | | | | | | | 0.50 | 0.50 | 0.50 | 0.50 |
| 30 | | | | | | | | 0.50 | 0.50 | 0.50 |
| 36 | | | | | | | | | 0.50 | 0.50 |
| 48 | | | | | | | | | | 0.50 |

Balancing Factors - E2, F2, and G2

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.169 | | | | | | | | | |
| 9 | 0.216 | 0.380 | | | | | | | | |
| 12 | 0.288 | 0.431 | 0.675 | | | | | | | |
| 15 | 0.359 | 0.539 | 0.719 | 1.055 | | | | | | |
| 18 | 0.431 | 0.647 | 0.862 | 1.078 | 1.509 | | | | | |
| 21 | 0.503 | 0.755 | 1.006 | 1.258 | 1.519 | 2.012 | | | | |
| 24 | 0.575 | 0.862 | 1.150 | 1.438 | 1.725 | 2.067 | 2.700 | | | |
| 30 | 0.719 | 1.078 | 1.438 | 1.797 | 2.156 | 2.516 | 2.875 | 4.219 | | |
| 36 | | 1.294 | 1.725 | 2.156 | 2.588 | 3.019 | 3.450 | 4.313 | 6.075 | |
| 48 | | | 2.300 | 2.875 | 3.450 | 4.025 | 4.60 | 5.750 | 6.900 | 10.800 |



Note: Refer to the Air Balancing Application Guide for more information about balancing air systems.

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Three-Way Factors

The following tables provide the area and balancing factors based on flow pattern. Use the corresponding area pattern and balancing tables based on the measurement locations chart on page 2.

Area Patterns - A3, A3-2, B3, and E3

| Neck Width (inches) | Side A - Neck Length (inches) | | | | | | | | | | Side B - Neck Length (inches) | | | | | | | | | |
|---------------------|-------------------------------|------|------|------|------|------|------|------|------|------|-------------------------------|------|------|------|------|------|------|------|------|------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.25 | 0.38 | 0.50 | 0.60 | 0.67 | 0.71 | 0.75 | 0.80 | | | 0.38 | 0.31 | 0.25 | 0.20 | 0.17 | 0.14 | 0.13 | 0.10 | | |
| 9 | | 0.25 | 0.33 | 0.42 | 0.50 | 0.57 | 0.63 | 0.70 | 0.75 | | | 0.38 | 0.33 | 0.29 | 0.25 | 0.21 | 0.29 | 0.15 | 0.13 | |
| 12 | | | 0.25 | 0.31 | 0.38 | 0.44 | 0.50 | 0.60 | 0.67 | 0.75 | | | 0.38 | 0.34 | 0.31 | 0.28 | 0.25 | 0.20 | 0.17 | 0.13 |
| 15 | | | | 0.25 | 0.30 | 0.35 | 0.40 | 0.50 | 0.58 | 0.69 | | | | 0.38 | 0.35 | 0.33 | 0.30 | 0.25 | 0.21 | 0.16 |
| 18 | | | | | 0.25 | 0.29 | 0.33 | 0.42 | 0.50 | 0.63 | | | | | 0.38 | 0.35 | 0.33 | 0.29 | 0.25 | 0.19 |
| 21 | | | | | | 0.25 | 0.29 | 0.36 | 0.43 | 0.56 | | | | | | 0.38 | 0.36 | 0.32 | 0.29 | 0.22 |
| 24 | | | | | | | 0.25 | 0.31 | 0.38 | 0.50 | | | | | | | 0.38 | 0.34 | 0.31 | 0.25 |
| 30 | | | | | | | | 0.25 | 0.30 | 0.40 | | | | | | | | 0.38 | 0.35 | 0.30 |
| 36 | | | | | | | | | 0.25 | 0.33 | | | | | | | | | 0.38 | 0.33 |
| 48 | | | | | | | | | | 0.25 | | | | | | | | | | 0.38 |

Area Pattern - A3-1

| Neck Width (inches) | Side A - Neck Length (inches) | | | | | | | | | | Side B - Neck Length (inches) | | | | | | | | | |
|---------------------|-------------------------------|------|------|------|------|------|------|------|------|------|-------------------------------|------|------|------|------|------|------|------|------|------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | | 0.17 | 0.13 | 0.10 | 0.08 | 0.07 | 0.06 | 0.05 | | | | 0.42 | 0.44 | 0.45 | 0.46 | 0.46 | 0.47 | 0.48 | | |
| 9 | | | 0.19 | 0.15 | 0.13 | 0.11 | 0.09 | 0.08 | 0.06 | | | | 0.41 | 0.43 | 0.44 | 0.45 | 0.45 | 0.46 | 0.47 | |
| 12 | | | | 0.20 | 0.17 | 0.14 | 0.13 | 0.10 | 0.08 | 0.06 | | | | 0.40 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 |
| 15 | | | | | 0.21 | 0.18 | 0.16 | 0.13 | 0.10 | 0.08 | | | | | 0.40 | 0.41 | 0.42 | 0.44 | 0.45 | 0.46 |
| 18 | | | | | | 0.21 | 0.19 | 0.15 | 0.13 | 0.09 | | | | | | 0.39 | 0.41 | 0.41 | 0.44 | 0.45 |
| 21 | | | | | | | 0.22 | 0.18 | 0.15 | 0.11 | | | | | | | 0.40 | 0.41 | 0.43 | 0.45 |
| 24 | | | | | | | | 0.20 | 0.17 | 0.13 | | | | | | | | 0.40 | 0.42 | 0.44 |
| 30 | | | | | | | | | 0.21 | 0.16 | | | | | | | | | 0.40 | 0.42 |
| 36 | | | | | | | | | | 0.19 | | | | | | | | | | 0.41 |

Balancing Factors - A3 and A3-1

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.117 | | | | | | | | | |
| 9 | 0.123 | 0.263 | | | | | | | | |
| 12 | 0.175 | 0.276 | 0.467 | | | | | | | |
| 15 | 0.234 | 0.350 | 0.490 | 0.730 | | | | | | |
| 18 | 0.292 | 0.438 | 0.584 | 0.766 | 1.051 | | | | | |
| 21 | 0.350 | 0.525 | 0.701 | 0.876 | 1.103 | 1.430 | | | | |
| 24 | 0.409 | 0.613 | 0.817 | 1.022 | 1.226 | 1.501 | 1.868 | | | |
| 30 | 0.467 | 0.701 | 0.934 | 1.168 | 1.401 | 1.635 | 1.960 | 2.919 | | |
| 36 | | 0.876 | 1.168 | 1.459 | 1.751 | 2.043 | 2.335 | 3.063 | 4.203 | |
| 48 | | | 1.401 | 1.751 | 2.102 | 2.452 | 2.802 | 3.503 | 4.410 | 7.840 |

Three-way Factors (continued)

Balancing Factors - A3-2

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|--------|-------|-------|-------|-------|-------|----|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 9 | 0.209 | | | | | | | | | |
| 12 | 0.279 | 0.418 | | | | | | | | |
| 15 | 0.348 | 0.522 | 0.696 | | | | | | | |
| 18 | 0.418 | 0.627 | 0.836 | 0.1044 | | | | | | |
| 21 | 0.487 | 0.731 | 0.975 | 1.218 | 1.462 | | | | | |
| 24 | 0.557 | 0.836 | 1.114 | 1.393 | 1.671 | 1.950 | | | | |
| 30 | 0.696 | 1.044 | 1.393 | 1.741 | 2.089 | 2.437 | 2.785 | | | |
| 36 | | 1.253 | 1.671 | 2.089 | 2.507 | 2.924 | 3.342 | 4.178 | | |
| 48 | | | 2.228 | 2.785 | 3.342 | 3.899 | 4.456 | 5.570 | 6.684 | |

Balancing Factors - B3 and E3

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 9 | 0.184 | | | | | | | | | |
| 12 | 0.276 | 0.413 | | | | | | | | |
| 15 | 0.368 | 0.551 | 0.735 | | | | | | | |
| 18 | 0.459 | 0.689 | 0.919 | 1.148 | | | | | | |
| 21 | 0.551 | 0.827 | 1.103 | 1.378 | 1.654 | | | | | |
| 24 | 0.643 | 0.965 | 1.286 | 1.608 | 1.929 | 2.251 | | | | |
| 30 | 0.735 | 1.103 | 1.470 | 1.838 | 2.205 | 2.573 | 2.940 | | | |
| 36 | | 1.378 | 1.838 | 2.297 | 2.756 | 3.216 | 3.675 | 4.595 | | |
| 48 | | | 2.025 | 2.756 | 3.307 | 3.859 | 4.410 | 5.513 | 6.615 | |

Four-Way Factors

The following tables provide the area and balancing factors based on flow pattern. Use the corresponding area pattern and balancing tables based on the measurement locations chart on page 2.

Area Patterns - A4 and B4

| Neck Width (inches) | Side A - Neck Length (inches) | | | | | | | | | | Side B - Neck Length (inches) | | | | | | | | | |
|---------------------|-------------------------------|------|------|------|------|------|------|------|------|------|-------------------------------|------|------|------|------|------|------|------|------|------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.25 | 0.17 | 0.13 | 0.10 | 0.08 | 0.07 | 0.06 | 0.05 | | | 0.25 | 0.33 | 0.38 | 0.40 | 0.42 | 0.43 | 0.44 | 0.45 | | |
| 9 | | 0.25 | 0.19 | 0.15 | 0.13 | 0.11 | 0.09 | 0.08 | 0.06 | | | 0.25 | 0.31 | 0.35 | 0.38 | 0.39 | 0.41 | 0.43 | 0.44 | |
| 12 | | | 0.25 | 0.20 | 0.17 | 0.14 | 0.13 | 0.10 | 0.08 | 0.06 | | | 0.25 | 0.30 | 0.33 | 0.36 | 0.38 | 0.40 | 0.42 | 0.44 |
| 15 | | | | 0.25 | 0.21 | 0.18 | 0.16 | 0.13 | 0.10 | 0.08 | | | | 0.25 | 0.29 | 0.32 | 0.34 | 0.38 | 0.40 | 0.42 |
| 18 | | | | | 0.25 | 0.21 | 0.19 | 0.15 | 0.13 | 0.09 | | | | | 0.25 | 0.29 | 0.31 | 0.35 | 0.38 | 0.41 |
| 21 | | | | | | 0.25 | 0.22 | 0.18 | 0.15 | 0.11 | | | | | | 0.25 | 0.28 | 0.33 | 0.35 | 0.39 |
| 24 | | | | | | | 0.25 | 0.20 | 0.17 | 0.13 | | | | | | | 0.25 | 0.30 | 0.33 | 0.38 |
| 30 | | | | | | | | 0.25 | 0.21 | 0.15 | | | | | | | | 0.25 | 0.29 | 0.34 |
| 36 | | | | | | | | | 0.25 | 0.19 | | | | | | | | | 0.25 | 0.31 |
| 48 | | | | | | | | | | 0.25 | | | | | | | | | | 0.25 |

Balancing Factors - A4 and B4

| Neck Width (inches) | Neck Length (inches) | | | | | | | | | |
|---------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 30 | 36 | 48 |
| 6 | 0.175 | | | | | | | | | |
| 9 | 0.238 | 0.394 | | | | | | | | |
| 12 | 0.318 | 0.476 | 0.700 | | | | | | | |
| 15 | 0.397 | 0.595 | 0.794 | 1.094 | | | | | | |
| 18 | 0.476 | 0.714 | 0.953 | 1.191 | 1.575 | | | | | |
| 21 | 0.556 | 0.833 | 1.111 | 1.389 | 1.67 | 2.144 | | | | |
| 24 | 0.635 | 0.953 | 1.270 | 1.588 | 1.905 | 2.223 | 2.800 | | | |
| 30 | 0.794 | 1.191 | 1.588 | 1.984 | 2.381 | 2.778 | 3.175 | 4.375 | | |
| 36 | | 1.429 | 1.905 | 2.381 | 2.858 | 3.334 | 3.810 | 4.763 | 6.300 | |
| 48 | | | 2.540 | 3.175 | 3.810 | 4.445 | 5.080 | 6.350 | 7.620 | 11.200 |

TDC with Round Neck Adapters

Area Factors

| Pattern | Area (inches) | | | | |
|---------|---------------|-------|---------|---------|---------|
| | 6 x 6 | 9 x 9 | 12 x 12 | 15 x 15 | 18 x 18 |
| S1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| S2 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| G2 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| A3 (a) | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| A3 (b) | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| A4 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |

Balancing Factors

| Pattern | 6-inch | 8-inch | 10-inch | 12-inch | 14-inch | 16-inch |
|---------|--------|--------|---------|---------|---------|---------|
| S1 | 0.118 | 0.211 | 0.330 | 0.475 | 0.647 | 0.844 |
| S2 | 0.118 | 0.211 | 0.330 | 0.475 | 0.647 | 0.844 |
| G2 | 0.132 | 0.236 | 0.368 | 0.530 | 0.722 | 0.942 |
| A3 | 0.096 | 0.171 | 0.267 | 0.385 | 0.524 | 0.684 |
| A4 | 0.137 | 0.244 | 0.382 | 0.550 | 0.749 | 0.977 |