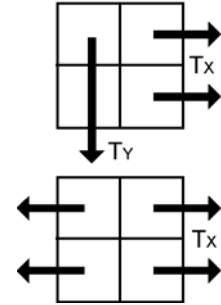


## MCD Modular Ceiling Diffuser - Aluminum

(Page 70-71, 101)

### Two Way

| Face Velocity |           | 500       | 600       | 700         | 800         | 900         | 1000        | 1200        | 1400        | 1600        | 1800        | 2000        |
|---------------|-----------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Pressure Loss |           | .020      | .020      | .030        | .040        | .050        | .060        | .090        | .120        | .160        | .200        | .250        |
| 6 x 6         | CFM       | 45        | 55        | 65          | 70          | 80          | 90          | 110         | 125         | 145         | 160         | 180         |
| Ak .090       | Throw X/Y | 2-5/2-5   | 3-5/3-5   | 3-6/3-6     | 3-6/3-6     | 5-8/5-8     | 5-9/5-9     | 5-11/5-11   | 6-12/6-12   | 6-14/6-14   | 8-15/8-15   | 9-17/9-17   |
|               | NC        | <20       | <20       | <20         | <20         | <20         | <20         | 21          | 24          | 28          | 31          | 34          |
| 8 x 8         | CFM       | 80        | 95        | 110         | 130         | 145         | 160         | 190         | 225         | 255         | 290         | 320         |
| Ak .150       | Throw X/Y | 3-6/3-6   | 3-6/3-6   | 5-8/5-8     | 5-9/5-9     | 5-11/5-11   | 6-11/6-11   | 6-14/6-14   | 8-15/8-15   | 9-17/9-17   | 11-18/11-18 | 11-20/11-20 |
|               | NC        | <20       | <20       | <20         | <20         | <20         | <20         | 22          | 26          | 29          | 32          | 35          |
| 10 x 10       | CFM       | 130       | 155       | 180         | 210         | 235         | 260         | 310         | 365         | 415         | 470         | 520         |
| Ak .250       | Throw X/Y | 3-8/3-8   | 5-9/5-9   | 5-11/5-11   | 6-11/6-11   | 6-12/6-12   | 8-12/8-12   | 9-15/9-15   | 11-17/11-17 | 12-20/12-20 | 14-21/14-21 | 15-23/15-23 |
|               | NC        | <20       | <20       | <20         | <20         | <20         | <20         | 23          | 27          | 30          | 33          | 36          |
| 12 x 12       | CFM       | 190       | 230       | 265         | 305         | 340         | 380         | 455         | 530         | 610         | 685         | 760         |
| Ak .370       | Throw X/Y | 5-9/5-9   | 5-11/5-11 | 6-12/6-12   | 8-14/8-14   | 8-15/8-15   | 9-17/9-17   | 11-18/11-18 | 12-21/12-21 | 14-23/14-23 | 15-24/15-24 | 17-26/17-26 |
|               | NC        | <20       | <20       | <20         | <20         | <20         | 20          | 24          | 28          | 31          | 35          | 37          |
| 14 x 14       | CFM       | 260       | 310       | 365         | 415         | 470         | 520         | 625         | 730         | 830         | 935         | 1040        |
| Ak .520       | Throw X/Y | 5-11/5-11 | 6-12/6-12 | 8-14/8-14   | 8-17/8-17   | 9-18/9-18   | 11-20/11-20 | 12-21/12-21 | 14-23/14-23 | 17-24/17-24 | 18-27/18-27 | 20-29/20-29 |
|               | NC        | <20       | <20       | <20         | <20         | <20         | 20          | 25          | 29          | 32          | 35          | 38          |
| 16 x 16       | CFM       | 350       | 420       | 490         | 560         | 630         | 700         | 840         | 980         | 1120        | 1260        | 1400        |
| Ak .700       | Throw X/Y | 6-12/6-12 | 8-14/8-14 | 8-17/8-17   | 9-18/9-18   | 11-21/11-21 | 12-23/12-23 | 14-26/14-26 | 17-29/17-29 | 18-30/18-30 | 21-32/21-32 | 24-33/24-33 |
|               | NC        | <20       | <20       | <20         | <20         | <20         | 21          | 26          | 30          | 33          | 36          | 39          |
| 18 x 18       | CFM       | 450       | 540       | 630         | 720         | 810         | 900         | 1080        | 1260        | 1440        | 1620        | 1800        |
| Ak .900       | Throw X/Y | 6-14/6-14 | 8-17/8-17 | 9-18/9-18   | 11-21/11-21 | 12-23/12-23 | 14-24/14-24 | 17-27/17-27 | 18-30/18-30 | 21-33/21-33 | 24-35/24-35 | 27-36/27-36 |
|               | NC        | <20       | <20       | <20         | <20         | 20          | 22          | 27          | 31          | 34          | 37          | 40          |
| 20 x 20       | CFM       | 555       | 665       | 775         | 890         | 1000        | 1110        | 1330        | 1555        | 1775        | 2000        | 2220        |
| Ak 1.100      | Throw X/Y | 8-15/8-15 | 9-18/9-18 | 11-21/11-21 | 12-24/12-24 | 14-26/14-26 | 15-29/15-29 | 18-32/18-32 | 21-35/21-35 | 24-38/24-38 | 27-39/27-39 | 30-41/30-41 |
|               | NC        | <20       | <20       | <20         | <20         | 21          | 24          | 28          | 32          | 36          | 39          | 42          |
| 22 x 22       | CFM       | 665       | 800       | 930         | 1065        | 1195        | 1330        | 1595        | 1860        | 2130        | 2395        | 2660        |
| Ak 1.330      | Throw X/Y | 8-17/8-17 | 9-20/9-20 | 12-23/12-23 | 14-26/14-26 | 15-27/15-27 | 17-30/17-30 | 20-35/20-35 | 23-38/23-38 | 27-41/27-41 | 29-44/29-44 | 33-45/33-45 |
|               | NC        | <20       | <20       | <20         | 22          | 25          | 28          | 32          | 36          | 40          | 43          | 46          |

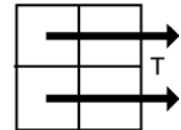


NC re 10dB room attenuation (LW10<sup>-1</sup>2W)

Note: The minimum Throw Dimension is based on a terminal velocity of 250 FPM. The maximum Throw Dimension is based on a terminal velocity of 125 FPM.

### One-Way

| Face Velocity |       | 500   | 600   | 700   | 800   | 900   | 1000  | 1200  | 1400  | 1600  | 1800  | 2000  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Pressure Loss |       | .020  | .020  | .030  | .040  | .050  | .060  | .090  | .120  | .160  | .200  | .250  |
| 6 x 6         | CFM   | 45    | 55    | 65    | 70    | 80    | 90    | 110   | 125   | 145   | 160   | 180   |
| Ak .090       | Throw | 2-6   | 4-6   | 4-8   | 4-8   | 6-10  | 6-12  | 6-14  | 8-16  | 8-18  | 10-20 | 12-22 |
|               | NC    | <20   | <20   | <20   | <20   | <20   | <20   | 21    | 24    | 28    | 31    | 34    |
| 8 x 8         | CFM   | 80    | 95    | 110   | 130   | 145   | 160   | 190   | 225   | 255   | 290   | 320   |
| Ak .150       | Throw | 4-8   | 4-8   | 6-10  | 6-12  | 6-14  | 8-14  | 8-18  | 10-20 | 12-22 | 14-24 | 14-26 |
|               | NC    | <20   | <20   | <20   | <20   | <20   | <20   | 22    | 26    | 29    | 32    | 35    |
| 10 x 10       | CFM   | 130   | 155   | 180   | 210   | 235   | 260   | 310   | 365   | 415   | 470   | 520   |
| Ak .250       | Throw | 4-10  | 6-12  | 6-14  | 8-14  | 8-16  | 10-16 | 12-20 | 14-22 | 16-26 | 18-28 | 20-30 |
|               | NC    | <20   | <20   | <20   | <20   | <20   | <20   | 23    | 27    | 30    | 33    | 36    |
| 12 x 12       | CFM   | 190   | 230   | 265   | 305   | 340   | 380   | 455   | 530   | 610   | 685   | 760   |
| Ak .370       | Throw | 6-12  | 6-14  | 8-16  | 10-18 | 10-20 | 12-20 | 12-22 | 14-24 | 16-28 | 18-30 | 20-30 |
|               | NC    | <20   | <20   | <20   | <20   | <20   | 20    | 24    | 28    | 31    | 35    | 37    |
| 14 x 14       | CFM   | 260   | 310   | 365   | 415   | 470   | 520   | 625   | 730   | 830   | 935   | 1040  |
| Ak .520       | Throw | 6-14  | 8-16  | 10-18 | 10-22 | 12-24 | 14-26 | 16-28 | 18-30 | 22-32 | 24-36 | 26-38 |
|               | NC    | <20   | <20   | <20   | <20   | <20   | 20    | 25    | 29    | 32    | 35    | 38    |
| 16 x 16       | CFM   | 350   | 420   | 490   | 560   | 630   | 700   | 840   | 980   | 1120  | 1260  | 1400  |
| Ak .700       | Throw | 8-16  | 10-18 | 10-22 | 12-24 | 14-28 | 16-30 | 18-34 | 22-38 | 24-40 | 28-42 | 32-44 |
|               | NC    | <20   | <20   | <20   | <20   | <20   | 21    | 26    | 30    | 33    | 36    | 39    |
| 18 x 18       | CFM   | 450   | 540   | 630   | 720   | 810   | 900   | 1080  | 1260  | 1440  | 1620  | 1800  |
| Ak .900       | Throw | 8-18  | 10-22 | 12-24 | 14-28 | 16-30 | 18-36 | 22-36 | 24-40 | 28-44 | 32-46 | 35-48 |
|               | NC    | <20   | <20   | <20   | <20   | 20    | 22    | 27    | 31    | 34    | 37    | 40    |
| 20 x 20       | CFM   | 555   | 665   | 775   | 890   | 1000  | 1110  | 1330  | 1555  | 1775  | 2000  | 2220  |
| Ak 1.100      | Throw | 10-20 | 12-24 | 14-28 | 16-32 | 18-34 | 20-38 | 24-42 | 28-46 | 32-50 | 36-52 | 40-54 |
|               | NC    | <20   | <20   | <20   | <20   | 21    | 24    | 28    | 32    | 36    | 39    | 42    |
| 22 x 22       | CFM   | 665   | 800   | 930   | 1065  | 1195  | 1330  | 1595  | 1860  | 2130  | 2395  | 2660  |
| Ak 1.330      | Throw | 10-22 | 12-26 | 16-30 | 18-34 | 20-36 | 22-40 | 26-46 | 30-50 | 36-54 | 38-58 | 44-60 |
|               | NC    | <20   | <20   | <20   | 20    | 23    | 26    | 30    | 34    | 38    | 41    | 44    |



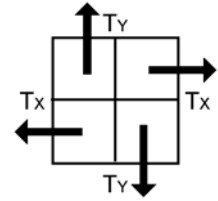
NC re 10dB room attenuation (LW10<sup>-1</sup>2W)

Note: The minimum Throw Dimension is based on a terminal velocity of 250 FPM. The maximum Throw Dimension is based on a terminal velocity of 125 FPM.

**MCD Modular Ceiling Diffuser - Aluminum**  
(Page 70-71, 101)

**Four-Way**

| Face Velocity        |           | 500         | 600         | 700         | 800         | 900         | 1000        | 1200        | 1400        | 1600        | 1800        | 2000        |
|----------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Pressure Loss</b> |           | <b>.020</b> | <b>.020</b> | <b>.030</b> | <b>.040</b> | <b>.050</b> | <b>.060</b> | <b>.090</b> | <b>.120</b> | <b>.160</b> | <b>.200</b> | <b>.250</b> |
| 6 x 6<br>Ak .090     | CFM       | 45          | 55          | 65          | 70          | 80          | 90          | 110         | 125         | 145         | 160         | 180         |
|                      | Throw X/Y | 1-3/1-3     | 2-3/2-3     | 2-4/2-4     | 2-4/2-4     | 3-5/3-5     | 3-6/3-6     | 3-7/3-7     | 4-8/4-8     | 4-9/4-9     | 5-10/5-10   | 6-11/6-11   |
|                      | NC        | <20         | <20         | <20         | <20         | <20         | <20         | 21          | 24          | 28          | 31          | 34          |
| 8 x 8<br>Ak .150     | CFM       | 80          | 95          | 110         | 130         | 145         | 160         | 190         | 225         | 255         | 290         | 320         |
|                      | Throw X/Y | 2-4/2-4     | 2-4/2-4     | 3-5/3-5     | 3-6/3-6     | 3-7/3-7     | 4-7/4-7     | 4-9/4-9     | 5-10/5-10   | 6-11/6-11   | 7-12/7-12   | 7-13/7-13   |
|                      | NC        | <20         | <20         | <20         | <20         | <20         | <20         | 22          | 26          | 29          | 32          | 35          |
| 10 x 10<br>Ak .250   | CFM       | 130         | 155         | 180         | 210         | 235         | 260         | 310         | 365         | 415         | 470         | 520         |
|                      | Throw X/Y | 2-5/2-5     | 3-6/3-6     | 3-7/3-7     | 4-7/4-7     | 4-8/4-8     | 5-8/5-8     | 6-10/6-10   | 7-11/7-11   | 8-13/8-13   | 9-14/9-14   | 10-15/10-15 |
|                      | NC        | <20         | <20         | <20         | <20         | <20         | <20         | 23          | 27          | 30          | 33          | 36          |
| 12 x 12<br>Ak .370   | CFM       | 190         | 230         | 265         | 305         | 340         | 380         | 455         | 530         | 610         | 685         | 760         |
|                      | Throw X/Y | 3-6/3-6     | 3-7/3-7     | 4-8/4-8     | 5-9/5-9     | 5-10/5-10   | 6-11/6-11   | 7-12/7-12   | 8-14/8-14   | 8-15/8-15   | 10-16/10-16 | 11-17/11-17 |
|                      | NC        | <20         | <20         | <20         | <20         | <20         | 20          | 24          | 28          | 31          | 35          | 37          |
| 14 x 14<br>Ak .520   | CFM       | 260         | 310         | 365         | 415         | 470         | 520         | 625         | 730         | 830         | 935         | 1040        |
|                      | Throw X/Y | 3-7/3-7     | 4-8/4-8     | 5-9/5-9     | 5-11/5-11   | 6-12/6-12   | 7-13/7-13   | 8-14/8-14   | 9-15/9-15   | 11-16/11-16 | 12-18/12-18 | 13-19/13-19 |
|                      | NC        | <20         | <20         | <20         | <20         | <20         | 20          | 25          | 29          | 32          | 35          | 38          |
| 16 x 16<br>Ak .700   | CFM       | 350         | 420         | 490         | 560         | 630         | 700         | 840         | 980         | 1120        | 1260        | 1400        |
|                      | Throw X/Y | 4-8/4-8     | 5-9/5-9     | 5-11/5-11   | 6-12/6-12   | 7-14/7-14   | 8-15/8-15   | 9-17/9-17   | 11-19/11-19 | 12-20/12-20 | 14-21/14-21 | 16-22/16-22 |
|                      | NC        | <20         | <20         | <20         | <20         | <20         | 21          | 26          | 30          | 33          | 36          | 39          |
| 18 x 18<br>Ak .900   | CFM       | 450         | 540         | 630         | 720         | 810         | 900         | 1080        | 1260        | 1440        | 1620        | 1800        |
|                      | Throw X/Y | 4-9/4-9     | 5-11/5-11   | 6-12/6-12   | 7-14/7-14   | 8-15/8-15   | 9-16/9-16   | 11-18/11-18 | 12-20/12-20 | 14-22/14-22 | 16-23/16-23 | 18-24/18-24 |
|                      | NC        | <20         | <20         | <20         | <20         | 20          | 22          | 27          | 31          | 34          | 37          | 40          |
| 20 x 20<br>Ak 1.100  | CFM       | 555         | 665         | 775         | 890         | 1000        | 1110        | 1330        | 1555        | 1775        | 2000        | 2220        |
|                      | Throw X/Y | 5-10/5-10   | 6-12/6-12   | 7-14/7-14   | 8-16/8-16   | 9-17/9-17   | 10-19/10-19 | 12-21/12-21 | 14-23/14-23 | 16-25/16-25 | 18-26/18-26 | 20-27/20-27 |
|                      | NC        | <20         | <20         | <20         | <20         | 21          | 24          | 28          | 32          | 36          | 39          | 42          |
| 22 x 22<br>Ak 1.330  | CFM       | 665         | 800         | 930         | 1065        | 1195        | 1330        | 1595        | 1860        | 2130        | 2395        | 2660        |
|                      | Throw X/Y | 5-11/5-11   | 6-13/6-13   | 8-15/8-15   | 9-17/9-17   | 10-18/10-18 | 11-20/11-20 | 13-23/13-23 | 15-25/15-25 | 18-27/18-27 | 19-29/19-29 | 22-30/22-30 |
|                      | NC        | <20         | <20         | <20         | 20          | 23          | 26          | 30          | 34          | 38          | 41          | 44          |

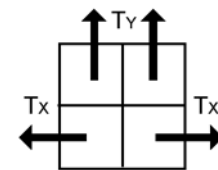


NC re 10dB room attenuation (LW10<sup>-1</sup>ΔW)

Note: The minimum Throw Dimension is based on a terminal velocity of 250 FPM. The maximum Throw Dimension is based on a terminal velocity of 125 FPM.

**Three-Way**

| Face Velocity        |       | 500         | 600         | 700         | 800         | 900         | 1000        | 1200        | 1400        | 1600        | 1800        | 2000        |
|----------------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Pressure Loss</b> |       | <b>.020</b> | <b>.020</b> | <b>.030</b> | <b>.040</b> | <b>.050</b> | <b>.060</b> | <b>.090</b> | <b>.120</b> | <b>.160</b> | <b>.200</b> | <b>.250</b> |
| 6 x 6<br>Ak .090     | CFM   | 45          | 55          | 65          | 70          | 80          | 90          | 110         | 125         | 145         | 160         | 180         |
|                      | Throw | 1-3/2-5     | 2-3/3-5     | 2-4/3-6     | 2-4/3-6     | 3-5/5-8     | 3-6/5-9     | 3-7/5-11    | 4-8/6-12    | 4-9/6-14    | 5-10/8-15   | 6-11/9-17   |
|                      | NC    | <20         | <20         | <20         | <20         | <20         | <20         | 21          | 24          | 28          | 31          | 34          |
| 8 x 8<br>Ak .150     | CFM   | 80          | 95          | 110         | 130         | 145         | 160         | 190         | 225         | 255         | 290         | 320         |
|                      | Throw | 2-4/3-6     | 2-4/3-6     | 3-5/5-8     | 3-6/5-9     | 3-7/5-11    | 4-7/6-11    | 4-9/6-14    | 5-10/8-15   | 6-11/9-17   | 7-12/11-18  | 7-13/11-20  |
|                      | NC    | <20         | <20         | <20         | <20         | <20         | <20         | 22          | 26          | 29          | 32          | 35          |
| 10 x 10<br>Ak .250   | CFM   | 130         | 155         | 180         | 210         | 235         | 260         | 310         | 365         | 415         | 470         | 520         |
|                      | Throw | 2-5/3-8     | 3-6/5-9     | 3-7/5-11    | 4-7/6-11    | 4-8/6-12    | 5-8/8-12    | 6-10/9-15   | 7-11/11-17  | 8-13/12-20  | 9-14/14-21  | 10-15/15-23 |
|                      | NC    | <20         | <20         | <20         | <20         | <20         | <20         | 23          | 27          | 30          | 33          | 36          |
| 12 x 12<br>Ak .370   | CFM   | 190         | 230         | 265         | 305         | 340         | 380         | 455         | 530         | 610         | 685         | 760         |
|                      | Throw | 3-6/5-9     | 3-7/5-11    | 4-8/6-12    | 5-9/8-14    | 5-10/8-15   | 6-11/9-17   | 7-12/11-18  | 8-14/12-21  | 9-15/14-23  | 10-16/15-24 | 11-17/17-26 |
|                      | NC    | <20         | <20         | <20         | <20         | <20         | 20          | 24          | 28          | 31          | 35          | 37          |
| 14 x 14<br>Ak .520   | CFM   | 260         | 310         | 365         | 415         | 470         | 520         | 625         | 730         | 830         | 935         | 1040        |
|                      | Throw | 3-7/5-11    | 4-8/6-12    | 5-9/8-14    | 5-11/8-17   | 6-12/9-18   | 7-13/11-20  | 8-14/12-21  | 9-15/14-23  | 11-16/17-24 | 12-18/18-27 | 13-19/20-29 |
|                      | NC    | <20         | <20         | <20         | <20         | <20         | 20          | 25          | 29          | 32          | 35          | 38          |
| 16 x 16<br>Ak .700   | CFM   | 350         | 420         | 490         | 560         | 630         | 700         | 840         | 980         | 1120        | 1260        | 1400        |
|                      | Throw | 4-8/6-12    | 5-9/8-14    | 5-11/8-17   | 6-12/9-18   | 7-14/11-21  | 8-15/12-23  | 9-17/14-26  | 11-19/17-29 | 12-20/18-30 | 14-21/21-32 | 16-22/24-33 |
|                      | NC    | <20         | <20         | <20         | <20         | <20         | 21          | 26          | 30          | 33          | 36          | 39          |
| 18 x 18<br>Ak .900   | CFM   | 450         | 540         | 630         | 720         | 810         | 900         | 1080        | 1260        | 1440        | 1620        | 1800        |
|                      | Throw | 4-9/6-14    | 5-11/8-17   | 6-12/9-18   | 7-14/11-21  | 8-15/12-23  | 9-16/14-24  | 11-18/17-27 | 12-20/18-30 | 14-22/21-33 | 16-23/24-35 | 18-24/27-36 |
|                      | NC    | <20         | <20         | <20         | <20         | 20          | 22          | 27          | 31          | 34          | 37          | 40          |
| 20 x 20<br>Ak 1.100  | CFM   | 555         | 665         | 775         | 890         | 1000        | 1110        | 1330        | 1555        | 1775        | 2000        | 2220        |
|                      | Throw | 5-10/8-15   | 6-12/9-18   | 7-14/11-21  | 8-16/12-24  | 9-17/14-26  | 10-19/15-29 | 12-21/18-32 | 14-23/21-35 | 16-25/24-38 | 18-26/27-39 | 20-27/30-41 |
|                      | NC    | <20         | <20         | <20         | <20         | 21          | 24          | 28          | 32          | 36          | 39          | 42          |
| 22 x 22<br>Ak 1.330  | CFM   | 665         | 800         | 930         | 1065        | 1195        | 1330        | 1595        | 1860        | 2130        | 2395        | 2660        |
|                      | Throw | 5-11/8-17   | 6-11/9-20   | 8-15/12-23  | 9-17/14-26  | 10-18/15-27 | 11-20/17-30 | 13-23/20-35 | 15-25/23-38 | 18-27/27-41 | 19-29/29-44 | 22-30/33-45 |
|                      | NC    | <20         | <20         | <20         | 20          | 23          | 26          | 30          | 34          | 38          | 41          | 44          |



NC re 10dB room attenuation (LW10<sup>-1</sup>ΔW)

Note: The minimum Throw Dimension is based on a terminal velocity of 250 FPM. The maximum Throw Dimension is based on a terminal velocity of 125 FPM.

**ECBXT Four-Way Ceiling Diffuser Box - Steel**  
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| Neck Velocity       |     | 400  | 500  | 600  | 700  | 800  | 900  | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
|---------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 22 x 22<br>Ak 1.343 | CFM | 537  | 537  | 672  | 806  | 940  | 1074 | 1209 | 1343 | 1612 | 1880 | 2149 | 2417 |
|                     | Pt  | .028 | .042 | .059 | .077 | .098 | .121 | .146 | .203 | .267 | .339 | .419 | .505 |

**Notes:**

1. ECBXT diffuser boxes tested with all valves fully open.
2. Pt = Total Pressure is the sum of static pressure and velocity pressure.
3. Ak is the effective area of the diffuser face.
4. Tests conducted in accordance with ASHRAE 70-1991.