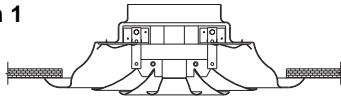


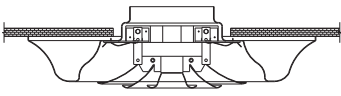
3-Position Adjustable Round Diffuser Steel (SSMA) and Aluminum (SSNM)



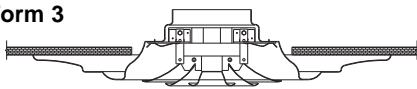
Form 1



Form 2



Form 3



Application

High capacity unit with low sound levels, for large spaces where adjustment is required only during installation and balancing.

Standard Features

- Available in heavy gauge steel or aluminum construction.
- Aluminum available through size 18 only.
- Core is easily removed for installation or maintenance.
- Form 1 has the least projection from the ceiling, and is available in neck sizes 5" - 38".
- Form 2 has the best anti-smudge characteristics, and is available in neck sizes 5" - 28".
- Form 3 has a broad cone for easy cleaning, and is available in neck sizes 5" - 24".
- Neck is sized to fit over duct for minimum air leakage.
- Discharge is adjustable from horizontal to vertical with one intermediate setting.
- Center button is removable for easy access to damper.
- Standard finish is electrocoat acrylic baked enamel. Other finishes are available upon request.
- Standard color is #11 Bright White. Other colors are available upon request.

Optional Features

- Safety chain (Option S) prevents damage or injury when removing core by connecting the core to the form.
- Gasket (Option G) minimizes air leaks around edge of diffuser.

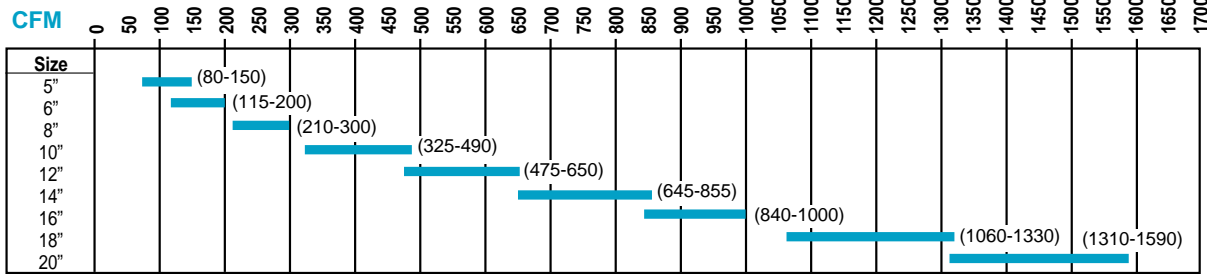
Accessories

- When specifying damper for sizes 4-24, use Opposed Blade Round Damper Model KXRA (p. 431).
- When specifying damper for sizes 28-38, use Radial Deflector Damper Model KXNA (p. 434).

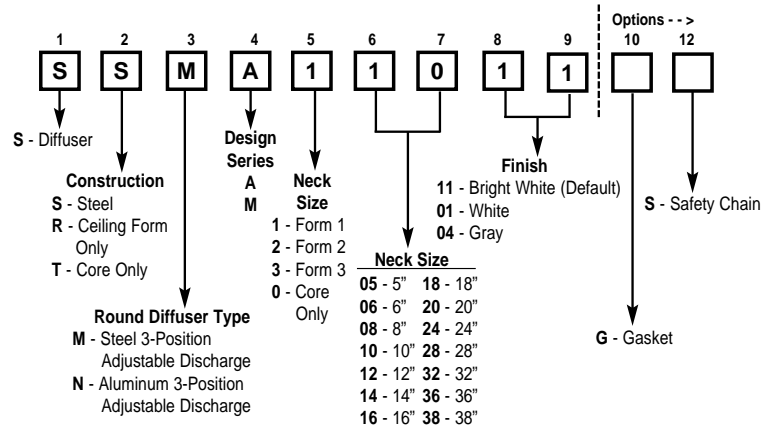
Quick Select Chart

This shows units with:

- A maximum NC/RC of 35.
- A minimum face velocity of 400 FPM.

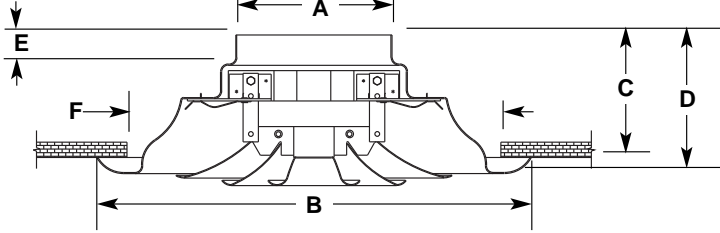


Model Numbering System



DIMENSIONAL DATA - 3-Position Round Diffuser (SSMA and SSNM)

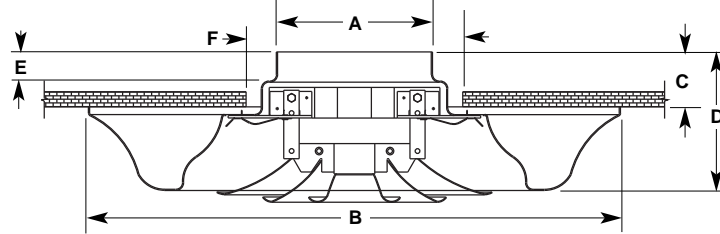
Form One
Offers a flush mount where the least obtrusive mounting is desired.



| Dim | Description | 5 | 6 | 8 | 10 | 12 | 14 | 16 |
|-----|-------------------------|--------|--------|--------|---------|---------|---------|--------|
| A | Collar ID | 5-1/16 | 6-1/16 | 8-1/16 | 10-1/16 | 12-1/16 | 14-1/16 | 16-1/8 |
| B | Form OD | 14-1/4 | 14-1/4 | 18-3/4 | 23-1/8 | 27-1/4 | 31-7/16 | 37-1/2 |
| C | Projection from Ceiling | 4-1/16 | 3-1/4 | 4-1/8 | 4-7/16 | 4-7/8 | 5-1/4 | 7-1/2 |
| D | Unit Height | 4-9/16 | 3-3/4 | 4-5/8 | 4-15/16 | 5-5/8 | 6 | 8-5/8 |
| E | Collar Height | 3/4 | 1 | 1 | 1 | 1 | 1 | 2 |
| F | Rec. Ceiling Opening | 11-3/4 | 11-3/4 | 15-1/2 | 19-1/2 | 23-1/4 | 27-1/4 | 31-3/4 |

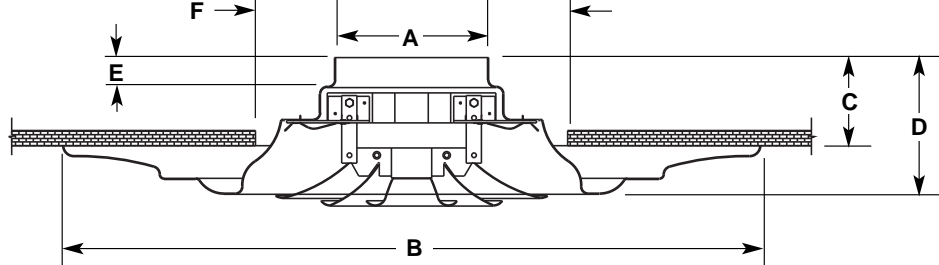
| Dim | Description | 18 | 20 | 24 | 28 | 32 | 36 | 38 |
|-----|-------------------------|----------|---------|---------|--------|---------|---------|---------|
| A | Collar ID | 18-1/8 | 20-1/8 | 24-1/8 | 28-1/8 | 32-3/16 | 36-3/16 | 38-3/16 |
| B | Form OD | 40-15/16 | 45-3/16 | 53 | 61 | 70 | 70 | 70 |
| C | Projection from Ceiling | 7-7/8 | 8-1/4 | 9-13/16 | 11-3/8 | 12-1/4 | 12-1/4 | 12-1/4 |
| D | Unit Height | 9 | 9-3/8 | 11-3/16 | 12-3/4 | 13-1/2 | 13-1/2 | 13-1/2 |
| E | Collar Height | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| F | Rec. Ceiling Opening | 35 | 39 | 47 | 55 | 63 | 63 | 63 |

Form Two
Offers the best anti-smudge protection because of the distance from the bottom edge of the form back up to the ceiling.



| Dim | Description | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 28 |
|-----|-------------------------|---------|--------|--------|---------|---------|---------|--------|--------|--------|----------|--------|
| A | Collar ID | 5-1/16 | 6-1/16 | 8-1/16 | 10-1/16 | 12-1/16 | 14-1/16 | 16-1/8 | 18-1/8 | 20-1/8 | 24-1/8 | 28-1/8 |
| B | Form OD | 17-1/2 | 17-1/2 | 23-1/4 | 28 | 34-1/4 | 38 | 44-1/2 | 51-1/4 | 56 | 66 | 76 |
| C | Projection from Ceiling | 1-13/16 | 1 | 1 | 1 | 1 | 1 | 2-5/8 | 2-1/2 | 2-1/2 | 3-1/4 | 3-1/2 |
| D | Unit Height | 4-9/16 | 3-3/4 | 4-5/8 | 4-15/16 | 5-5/8 | 6 | 8-5/8 | 9 | 9-3/8 | 11-13/16 | 12-3/4 |
| E | Collar Height | 3/4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 |
| F | Rec. Ceiling Opening | 6-1/4 | 6-1/4 | 8-1/4 | 10-1/4 | 12-1/4 | 14-1/4 | 16-3/8 | 18-3/8 | 20-3/8 | 24-3/8 | 28-3/8 |

Form Three
Wide flange provides an easily cleaned surface for areas of high dirt smudging rates.



| Dim | Description | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|-----|-------------------------|---------|--------|--------|---------|---------|---------|--------|--------|--------|---------|
| A | Collar ID | 5-1/16 | 6-1/16 | 8-1/16 | 10-1/16 | 12-1/16 | 14-1/16 | 16-1/8 | 18-1/8 | 20-1/8 | 24-1/8 |
| B | Form OD | 23-1/4 | 23-1/4 | 30 | 35 | 43-1/2 | 48 | 55-1/2 | 57-1/2 | 61-1/2 | 65-1/2 |
| C | Projection from Ceiling | 2-15/16 | 2-1/8 | 2-1/4 | 2-7/16 | 2-3/4 | 3 | 4-5/8 | 5 | 5-3/8 | 7-15/16 |
| D | Unit Height | 4-9/16 | 3-3/4 | 4-5/8 | 4-15/16 | 5-5/8 | 6 | 8-5/8 | 9 | 9-3/8 | 11-3/16 |
| E | Collar Height | 3/4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 |
| F | Rec. Ceiling Opening | 11 | 11 | 14-1/2 | 18-1/2 | 21-1/2 | 25 | 28-1/4 | 32-1/2 | 37 | 47 |

PERFORMANCE DATA - 3-Position Adjustable and Infinite Adjustable Round Diffusers (SSAA, SSMA, SSNM)

| Neck Velocity | | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 |
|-------------------|--------------------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Velocity Pressure | | .003 | .010 | 0.022 | 0.040 | 0.062 | 0.090 | 0.122 | 0.160 |
| 5" | Airflow (CFM) | 27 | 55 | 82 | 109 | 136 | 164 | 191 | 218 |
| | Total Pressure | 0.004 | 0.017 | 0.039 | 0.070 | 0.109 | 0.159 | 0.218 | 0.283 |
| | Horizontal Sound (NC/RC) | --/-- | --/-- | 11/-- | 16/15H | 23/23N | 28/27N | 35/34N | 40/39N |
| | Radius of Diffusion | 1-1-1 | 1-1-2 | 1-2-4 | 2-3-5 | 3-4-6 | 3-4-7 | 4-5-8 | 4-6-9 |
| | Total Pressure | 0.006 | 0.022 | 0.049 | 0.086 | 0.132 | 0.190 | 0.259 | 0.334 |
| | Vertical Sound (NC/RC) | --/-- | --/-- | 13/-- | 19/18H | 25/25N | 31/31N | 36/36N | 41/41N |
| 6" | Airflow (CFM) | 39 | 79 | 118 | 157 | 196 | 236 | 275 | 314 |
| | Total Pressure | 0.006 | 0.025 | 0.056 | 0.099 | 0.154 | 0.222 | 0.303 | 0.396 |
| | Horizontal Sound (NC/RC) | --/-- | --/-- | 12/-- | 18/17H | 24/24N | 30/29N | 37/36N | 42/41N |
| | Radius of Diffusion | 1-1-1 | 1-2-3 | 2-2-4 | 2-3-6 | 3-4-7 | 4-5-9 | 4-6-10 | 5-7-12 |
| | Total Pressure | 0.009 | 0.036 | 0.080 | 0.141 | 0.216 | 0.309 | 0.418 | 0.543 |
| | Vertical Sound (NC/RC) | --/-- | --/-- | 14/10H | 20/19N | 26/26N | 33/33N | 38/38N | 42/42N |
| 8" | Airflow (CFM) | 70 | 140 | 209 | 279 | 349 | 419 | 489 | 559 |
| | Total Pressure | 0.005 | 0.022 | 0.049 | 0.086 | 0.134 | 0.193 | 0.259 | 0.338 |
| | Horizontal Sound (NC/RC) | --/-- | --/-- | 14/10H | 20/19H | 26/26N | 33/32N | 40/39N | 44/43N |
| | Radius of Diffusion | 1-1-2 | 1-2-4 | 2-3-6 | 3-4-8 | 4-6-9 | 5-7-11 | 6-8-13 | 7-10-15 |
| | Total Pressure | 0.007 | 0.031 | 0.069 | 0.122 | 0.192 | 0.277 | 0.380 | 0.496 |
| | Vertical Sound (NC/RC) | --/-- | --/-- | 15/11H | 22/22N | 29/29N | 35/35N | 40/40N | 44/44N |
| 10" | Airflow (CFM) | 109 | 218 | 327 | 436 | 545 | 654 | 764 | 873 |
| | Total Pressure | 0.005 | 0.022 | 0.049 | 0.086 | 0.134 | 0.193 | 0.259 | 0.338 |
| | Horizontal Sound (NC/RC) | --/-- | --/-- | 15/11H | 22/21H | 28/28N | 34/34N | 41/40N | 45/44N |
| | Radius of Diffusion | 1-1-2 | 2-3-5 | 3-4-7 | 4-6-10 | 5-7-12 | 6-9-15 | 7-10-17 | 9-12-20 |
| | Total Pressure | 0.008 | 0.032 | 0.072 | 0.128 | 0.198 | 0.287 | 0.392 | 0.507 |
| | Vertical Sound (NC/RC) | --/-- | 10/-- | 16/13H | 24/24N | 30/29N | 36/36N | 41/41N | 45/45N |
| 12" | Airflow (CFM) | 157 | 314 | 471 | 628 | 785 | 942 | 1100 | 1257 |
| | Total Pressure | 0.005 | 0.022 | 0.049 | 0.086 | 0.134 | 0.193 | 0.259 | 0.338 |
| | Horizontal Sound (NC/RC) | --/-- | --/-- | 16/13H | 22/22H | 29/30N | 35/35N | 42/41N | 46/46N |
| | Radius of Diffusion | 1-2-3 | 2-3-6 | 3-5-9 | 5-7-12 | 6-9-14 | 7-10-17 | 9-12-20 | 10-14-23 |
| | Total Pressure | 0.008 | 0.032 | 0.072 | 0.128 | 0.198 | 0.287 | 0.392 | 0.507 |
| | Vertical Sound (NC/RC) | --/-- | 11/-- | 17/15H | 25/25N | 31/30N | 37/37N | 42/42N | 46/46N |
| 14" | Airflow (CFM) | 214 | 428 | 641 | 855 | 1069 | 1283 | 1497 | 1710 |
| | Total Pressure | 0.006 | 0.024 | 0.052 | 0.091 | 0.142 | 0.204 | 0.277 | 0.356 |
| | Horizontal Sound (NC/RC) | --/-- | 10/-- | 16/14H | 23/23N | 29/30N | 36/36N | 43/42N | 47/47N |
| | Radius of Diffusion | 1-2-3 | 3-4-7 | 4-6-10 | 6-8-13 | 7-10-17 | 19-12-20 | 10-15-24 | 12-17-27 |
| | Total Pressure | 0.008 | 0.032 | 0.072 | 0.128 | 0.198 | 0.287 | 0.392 | 0.507 |
| | Vertical Sound (NC/RC) | --/-- | 12/-- | 18/16H | 25/25N | 32/32N | 38/38N | 43/43N | 47/47N |
| 16" | Airflow (CFM) | 279 | 559 | 838 | 1117 | 1369 | 1676 | 1955 | 2234 |
| | Total Pressure | 0.006 | 0.025 | 0.056 | 0.099 | 0.154 | 0.222 | 0.303 | 0.396 |
| | Horizontal Sound (NC/RC) | --/-- | 10/-- | 17/15H | 23/24N | 30/30N | 36/36N | 44/43N | 47/47N |
| | Radius of Diffusion | 1-2-4 | 3-4-8 | 5-7-12 | 6-9-16 | 8-12-20 | 10-14-24 | 12-17-27 | 14-19-31 |
| | Total Pressure | 0.007 | 0.029 | 0.066 | 0.118 | 0.184 | 0.264 | 0.366 | 0.476 |
| | Vertical Sound (NC/RC) | --/-- | 12/-- | 18/17H | 26/26H | 32/32N | 38/38N | 44/44N | 48/48N |
| 18" | Airflow (CFM) | 353 | 707 | 1060 | 1414 | 1767 | 2121 | 2474 | 2827 |
| | Total Pressure | 0.005 | 0.020 | 0.045 | 0.080 | 0.122 | 0.178 | 0.238 | 0.308 |
| | Horizontal Sound (NC/RC) | --/-- | 11/-- | 17/16H | 24/25N | 30/30N | 37/37N | 44/43N | 48/48N |
| | Radius of Diffusion | 2-2-4 | 3-5-9 | 5-8-13 | 7-10-18 | 9-13-22 | 11-16-27 | 14-19-31 | 16-23-36 |
| | Total Pressure | 0.006 | 0.027 | 0.062 | 0.109 | 0.169 | 0.248 | 0.339 | 0.442 |
| | Vertical Sound (NC/RC) | --/-- | 13/-- | 19/18H | 27/27N | 33/33N | 39/39N | 46/46N | 49/49N |

*Aluminum Round Diffusers available in sizes 6-18 only.

ROUND DIFFUSERS

**PERFORMANCE DATA - 3-Position Adjustable and Infinite Adjustable Round Diffusers
(SSAA, SSMA, SSNM)**

| Neck Velocity | | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 |
|-------------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|
| Velocity Pressure | | .003 | .010 | 0.022 | 0.040 | 0.062 | 0.090 | 0.122 | 0.160 |
| 20" | Airflow (CFM) | 436 | 873 | 1309 | 1745 | 2182 | 2618 | 3054 | 3491 |
| | Total Pressure | 0.005 | 0.020 | 0.045 | 0.080 | 0.122 | 0.178 | 0.238 | 0.308 |
| | Horizontal Sound (NC/RC) | --/-- | 11/-- | 18/17H | 24/26N | 31/31N | 37/37N | 45/44N | 48/48N |
| | Radius of Diffusion | 2-3-5 | 4-6-10 | 6-9-15 | 8-12-20 | 11-15-25 | 13-19-30 | 15-22-35 | 18-26-40 |
| | Vertical Total Pressure | 0.006 | 0.027 | 0.062 | 0.109 | 0.169 | 0.248 | 0.339 | 0.442 |
| 24" | Airflow (CFM) | 628 | 1257 | 1885 | 2513 | 3142 | 3770 | 4398 | 5027 |
| | Total Pressure | 0.005 | 0.020 | 0.045 | 0.080 | 0.122 | 0.178 | 0.238 | 0.308 |
| | Horizontal Sound (NC/RC) | --/-- | 12/-- | 18/18H | 25/27N | 31/32N | 38/38N | 46/45N | 49/49N |
| | Radius of Diffusion | 2-3-6 | 4-7-12 | 7-10-18 | 10-14-24 | 13-18-30 | 16-22-37 | 19-27-44 | 22-31-50 |
| | Vertical Total Pressure | 0.006 | 0.027 | 0.062 | 0.109 | 0.169 | 0.248 | 0.339 | 0.442 |
| 28" | Airflow (CFM) | 855 | 1710 | 2566 | 3421 | 4276 | 5131 | 5986 | 6842 |
| | Total Pressure | 0.005 | 0.020 | 0.045 | 0.080 | 0.122 | 0.178 | 0.238 | 0.308 |
| | Horizontal Sound (NC/RC) | --/-- | 12/-- | 19/19H | 26/28N | 32/33N | 39/39N | 46/46N | 50/50N |
| | Radius of Diffusion | 2-4-7 | 5-8-14 | 8-12-22 | 12-17-29 | 15-22-37 | 19-27-44 | 22-32-52 | 26-37-59 |
| | Vertical Total Pressure | 0.007 | 0.029 | 0.066 | 0.118 | 0.184 | 0.264 | 0.366 | 0.476 |
| 32" | Airflow (CFM) | 1117 | 2234 | 3351 | 4468 | 5585 | 6702 | 7819 | 8936 |
| | Total Pressure | 0.005 | 0.020 | 0.046 | 0.081 | 0.127 | 0.183 | 0.247 | 0.327 |
| | Horizontal Sound (NC/RC) | --/-- | 13/10H | 20/20H | 26/28N | 33/34N | 39/40N | 47/47N | 50/50N |
| | Radius of Diffusion | 3-4-8 | 6-9-16 | 10-14-25 | 13-20-34 | 17-25-43 | 21-31-52 | 26-37-61 | 30-43-70 |
| | Vertical Total Pressure | 0.006 | 0.027 | 0.062 | 0.109 | 0.169 | 0.248 | 0.339 | 0.442 |
| 36" | Airflow (CFM) | 1414 | 2827 | 4241 | 5655 | 7069 | 8482 | 9896 | 11310 |
| | Total Pressure | 0.007 | 0.027 | 0.061 | 0.106 | 0.166 | 0.238 | 0.327 | 0.425 |
| | Horizontal Sound (NC/RC) | --/-- | 13/10H | 20/20H | 27/29N | 33/34N | 40/41N | 47/47N | 51/51N |
| | Radius of Diffusion | 3-5-9 | 7-10-18 | 11-16-29 | 15-23-39 | 20-29-49 | 24-35-60 | 29-43-70 | 34-50-80 |
| | Vertical Total Pressure | 0.008 | 0.033 | 0.077 | 0.133 | 0.204 | 0.296 | 0.402 | 0.518 |
| 38" | Airflow (CFM) | 1575 | 3150 | 4725 | 6301 | 7876 | 9451 | 11026 | 12601 |
| | Total Pressure | 0.007 | 0.030 | 0.069 | 0.120 | 0.188 | 0.272 | 0.368 | 0.481 |
| | Horizontal Sound (NC/RC) | --/-- | 13/10H | 20/20H | 27/29N | 33/34N | 40/41N | 47/47N | 51/51N |
| | Radius of Diffusion | 3-5-10 | 7-11-20 | 12-18-31 | 16-24-41 | 21-31-52 | 26-38-64 | 31-46-74 | 36-53-86 |
| | Vertical Total Pressure | 0.009 | 0.037 | 0.082 | 0.142 | 0.224 | 0.324 | 0.438 | 0.568 |

ROUND DIFFUSERS

Notes on Performance Data:

- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991.
- Actual performance in the field may vary.
- Testing was conducted in isothermal conditions.
- Sound levels are based on a room absorption of 10db re 10⁻¹² watts.
- A "--" indicates an NC or RC level less than 10.

Units of Measure Used:

- The duct velocity is given in Feet per Minute (FPM).
- Velocity Pressure and Total Pressure are given in Inches of Water (W.G.).
- Radius of Diffusion values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.
- Sound data is given in both NC (Noise Criteria) and RC (Room Criteria). NC is first with RC second, separated by a slash.