

GRL230, GRL 231 and GRL270 series
renamed to be FB series

APPLICATION

The FB series is primarily a return grille which can be used in commercial or residential buildings. The FB can also be used as an economical supply grille. The FB series grille can be mounted on wall and in a panel for a standard T-bar ceiling.

FEATURED STANDARD CONSTRUCTION

•MODEL:

- FB-B45 : Horizontal extruded blades, fixed deflectors set at 45°.
- FB-B30 : Horizontal extruded blades, fixed deflectors set at 30°.
- FB-F45 : Horizontal extruded Airfoil type, fixed deflectors set at 45°.

•FRAME:

- Constructed from heavy extruded aluminum with 13/16" (30 mm) flange face border with a 1" (25mm) overlap margin; with interlocked corners and mechanically stacked to form a rigid frame.

•DEFLECTORS:

- All type of deflectors are spaced on 3/4" centers

•FINISH:

- Standard finish is white color (Ral 9010).

•SIZES:

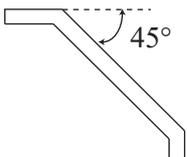
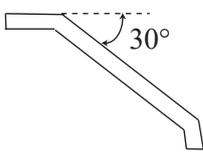
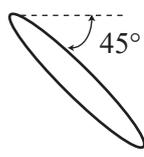
- Minimum size : 4" x 4"
- Large sizes are constructed of factory joined multiple sections.

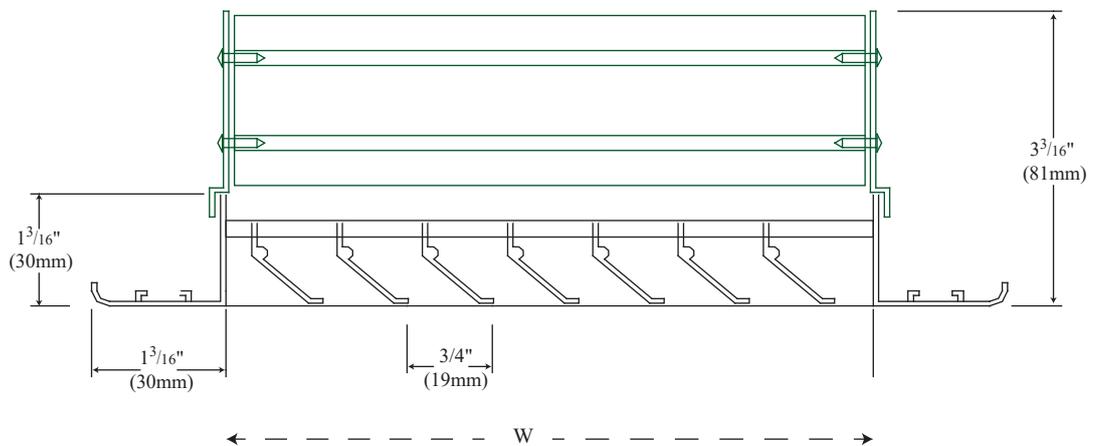
OPTIONS

- Opposed blade damper (OBD) can be fixed on the back of the grille. (refer to OBD catalogue)
- Concealed clips or countersunk screwholes for fixation.
- Foam gasket on the back of the frame.
- Aluminum, stainless steel or galvanised steel insect screen can be fixed on the back of the grille
- Mill finish (brut) or all type of RAL finishing.

N.B: - 5 mm Clearance is deducted from your order size.

ILLUSTRATION

| | |
|---|--|
|  | <p>MODEL: FB-B45. 45° deflected blade, 3/4" (19mm) spaced</p> |
|  | <p>MODEL: FB-B30. 30° deflected blade, 3/4" (19mm) spaced</p> |
|  | <p>MODEL: FB-F45 45° deflected blade, 3/4" (19mm) spaced</p> |

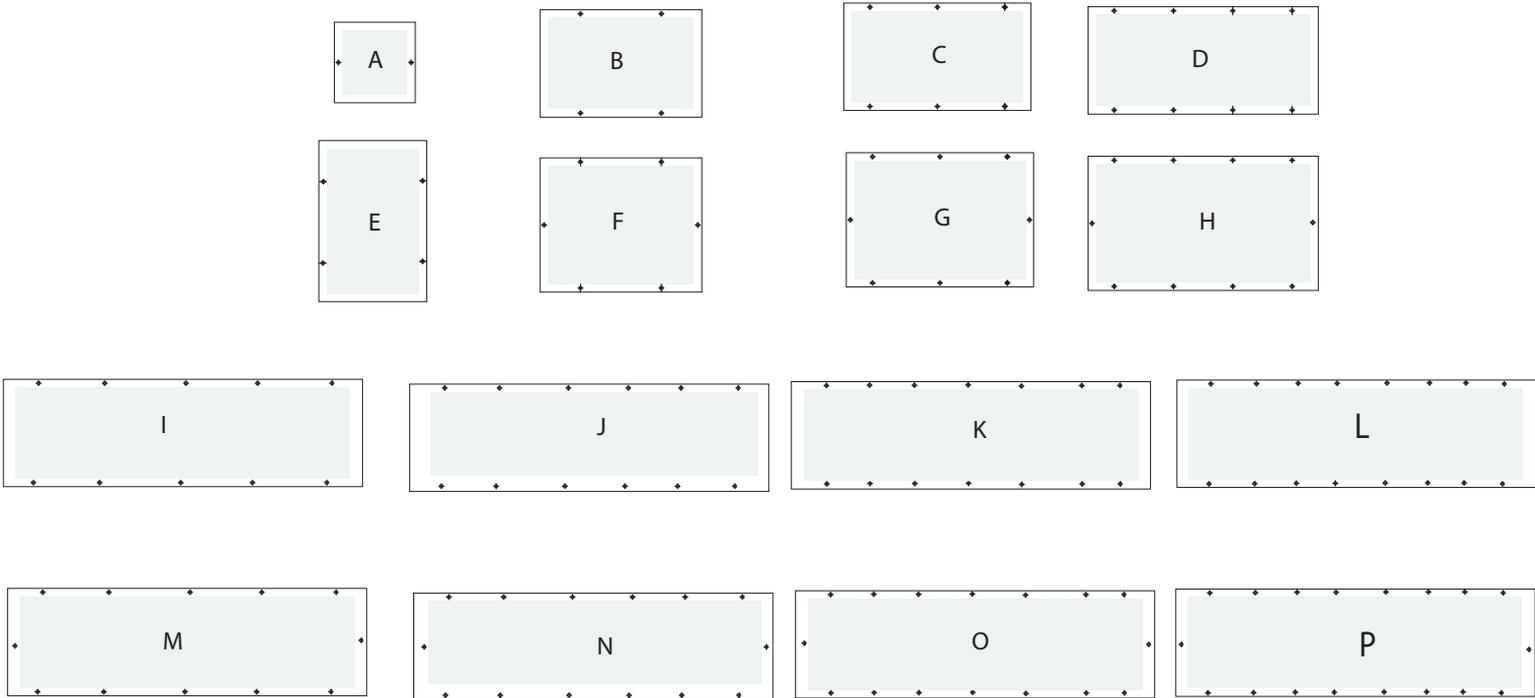


N.B: - 5 mm Clearance is deducted from your order size.

INSTALLATION DETAILS

Screw hole Position

| | | | | | | | | | | | | | | | | |
|-----------|---------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|
| | 4" (10) | 14" (35) | 16" (40) | 22" (55) | 24" (60) | 36" (90) | 38" (95) | 54" (135) | 56" (140) | 78" (195) | 80" (200) | 102" (255) | 104" (260) | 126" (315) | 128" (320) | 144" (360) |
| 4" (10) | | | | | | | | | | | | | | | | |
| | | A | B | | | C | D | | | I | J | | | K | | L |
| 22" (55) | | | | | | | | | | | | | | | | |
| 24" (60) | | | | | | | | | | | | | | | | |
| | | E | F | | | G | H | | | M | N | | | O | | P |
| 60" (150) | | | | | | | | | | | | | | | | |





MODEL FB-B45

GRL230, GRL 231 and GRL270 series
renamed to be FB series

FIXED BLADE GRILLES PERFORMANCE DATA

| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | |
|--------------------------------------|---------------------------|--|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | |
| | | 0.032 (8) | 0.057 (14) | 0.089 (22) | 0.128 (32) | 0.175 (44) | 0.217 (54) | 0.274 (69) |
| AirFlow- Cfm (L/s) | | | | | | | | |
| 10 x 4 (254 x 102) | 0.14 | 42 (20) | 56 (26) | 70 (33) | 84 (40) | 98 (46) | 112 (53) | 126 (60) |
| | NC | <15 | <15 | 16 | 23 | 29 | 34 | 38 |
| 12 x 4 (305 x 102) | 0.17 | 51 (24) | 68 (32) | 85 (40) | 102 (48) | 119 (56) | 136 (64) | 153 (72) |
| | NC | <15 | <15 | 17 | 24 | 30 | 34 | 39 |
| 14 x 4 (356 x 102) | 0.2 | 60 (28) | 80 (38) | 100 (47) | 120 (57) | 140 (66) | 160 (76) | 180 (85) |
| | NC | <15 | 16 | 21 | 26 | 32 | 36 | 40 |
| 16 x 4 (406 x 102) | 0.23 | 69 (33) | 92 (43) | 115 (54) | 138 (65) | 161 (76) | 184 (87) | 207 (98) |
| | NC | <15 | 19 | 24 | 28 | 34 | 38 | 42 |
| 18 x 4 (457 x 102) | 0.26 | 78 (37) | 104 (49) | 130 (61) | 156 (74) | 182 (86) | 208 (98) | 234 (110) |
| | NC | <15 | 21 | 27 | 31 | 36 | 40 | 44 |
| 6 x 6 (152 x 152) | 0.07 | 21 (10) | 28 (13) | 35 (17) | 42 (20) | 49 (23) | 56 (26) | 63 (30) |
| | NC | <15 | <15 | <15 | 20 | 25 | 28 | 31 |
| 8 x 6 (203 x 152) | 0.1 | 30 (14) | 40 (19) | 50 (24) | 60 (28) | 70 (33) | 80 (38) | 90 (43) |
| | NC | <15 | <15 | <15 | 21 | 27 | 30 | 32 |
| 10 x 6 (254 x 152) | 0.13 | 39 (18) | 52 (25) | 65 (31) | 78 (37) | 91 (43) | 104 (49) | 117 (55) |
| | NC | <15 | <15 | 16 | 23 | 28 | 31 | 34 |
| 12 x 6 (305 x 152) | 0.18 | 54 (26) | 72 (34) | 90 (43) | 108 (51) | 126 (60) | 144 (68) | 162 (77) |
| | NC | <15 | <15 | 18 | 25 | 30 | 33 | 36 |
| 14 x 6 (356 x 152) | 0.26 | 78 (37) | 104 (49) | 130 (61) | 156 (74) | 182 (86) | 208 (98) | 234 (110) |
| | NC | <15 | <15 | 19 | 26 | 30 | 34 | 38 |
| 16 x 6 (406 x 152) | 0.33 | 99 (47) | 132 (62) | 165 (78) | 198 (93) | 231 (109) | 264 (125) | 297 (140) |
| | NC | <15 | <15 | 20 | 27 | 31 | 35 | 39 |
| 18 x 6 (457 x 152) | 0.4 | 120 (57) | 160 (76) | 200 (94) | 240 (113) | 280 (132) | 320 (151) | 360 (170) |
| | NC | <15 | 15 | 22 | 29 | 32 | 36 | 40 |
| 20 x 6 (508 x 152) | 0.48 | 144 (68) | 192 (91) | 240 (113) | 288 (136) | 336 (159) | 384 (181) | 432 (204) |
| | NC | <15 | 16 | 24 | 30 | 33 | 37 | 41 |
| 22 x 6 (559 x 152) | 0.56 | 168 (79) | 224 (106) | 280 (132) | 336 (159) | 392 (185) | 448 (211) | 504 (238) |
| | NC | <15 | 17 | 25 | 30 | 34 | 37 | 41 |
| 24 x 6 (610 x 152) | 0.63 | 189 (89) | 252 (119) | 315 (149) | 378 (178) | 441 (208) | 504 (238) | 567 (268) |
| | NC | <15 | 18 | 27 | 31 | 35 | 38 | 42 |
| 26 x 6 (660 x 152) | 0.71 | 213 (101) | 285 (135) | 355 (168) | 426 (201) | 497 (235) | 568 (268) | 639 (302) |
| | NC | <15 | 19 | 28 | 31 | 35 | 38 | 42 |
| 28 x 6 (711 x 152) | 0.78 | 234 (110) | 312 (147) | 390 (184) | 468 (221) | 546 (258) | 624 (295) | 702 (331) |
| | NC | <15 | 20 | 29 | 32 | 36 | 39 | 43 |
| 30 x 6 (762 x 152) | 0.85 | 255 (120) | 340 (161) | 425 (201) | 510 (241) | 595 (281) | 680 (321) | 765 (361) |
| | NC | 15 | 20 | 29 | 32 | 36 | 39 | 43 |
| 32 x 6 (813 x 152) | 0.96 | 288 (136) | 384 (181) | 480 (227) | 576 (272) | 672 (317) | 768 (362) | 864 (408) |
| | NC | 15 | 21 | 29 | 33 | 36 | 39 | 43 |
| 36 x 6 (914 x 152) | 1.07 | 321 (152) | 428 (202) | 535 (253) | 642 (303) | 749 (354) | 856 (404) | 963 (455) |
| | NC | 16 | 22 | 30 | 33 | 37 | 40 | 44 |

MODEL FB-B45

GRL230, GRL 231 and GRL270 series
renamed to be FB series

FIXED BLADE GRILLES PERFORMANCE DATA

| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | |
|----------------------------------|---------------------------|--|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | |
| | | 0.032 (8) | 0.057 (14) | 0.089 (22) | 0.128 (32) | 0.175 (44) | 0.217 (54) | 0.274 (69) |
| AirFlow- Cfm (L/s) | | | | | | | | |
| 8 x 8 (203x203) | 0.13 | 39 (18) | 52 (25) | 65 (31) | 78 (37) | 91 (43) | 104 (49) | 117 (55) |
| | NC | <15 | <15 | 16 | 23 | 28 | 31 | 34 |
| 10 x 8 (254x203) | 0.23 | 69 (33) | 92 (43) | 115 (54) | 138 (65) | 161 (76) | 184 (87) | 207 (98) |
| | NC | <15 | <15 | 18 | 26 | 30 | 33 | 36 |
| 12 x 8 (305x203) | 0.33 | 99 (47) | 132 (62) | 165 (78) | 198 (93) | 231 (109) | 264 (125) | 297 (140) |
| | NC | <15 | <15 | 20 | 27 | 31 | 34 | 37 |
| 14 x 8 (356x203) | 0.43 | 129 (61) | 172 (81) | 215 (149) | 258 (122) | 301 (142) | 344 (162) | 387 (183) |
| | NC | <15 | <15 | 22 | 28 | 32 | 36 | 39 |
| 16 x 8 (406x203) | 0.53 | 159 (75) | 212 (100) | 265 (125) | 318 (150) | 371 (175) | 424 (200) | 477 (225) |
| | NC | <15 | 16 | 24 | 29 | 33 | 37 | 40 |
| 18 x 8 (457x203) | 0.63 | 189 (89) | 252 (119) | 315 (149) | 378 (178) | 441 (208) | 504 (238) | 567 (268) |
| | NC | <15 | 18 | 26 | 30 | 34 | 38 | 41 |
| 20 x 8 (508x203) | 0.72 | 216 (102) | 288 (136) | 360 (170) | 432 (204) | 504 (238) | 576 (272) | 648 (306) |
| | NC | <15 | 19 | 27 | 31 | 35 | 39 | 42 |
| 22 x 8 (559x203) | 0.82 | 246 (116) | 328 (155) | 410 (194) | 492 (232) | 574 (271) | 656 (310) | 738 (348) |
| | NC | <15 | 20 | 27 | 31 | 35 | 39 | 42 |
| 24 x 8 (610x203) | 0.92 | 276 (130) | 368 (174) | 460 (217) | 552 (261) | 644 (304) | 736 (347) | 828 (391) |
| | NC | 15 | 21 | 28 | 32 | 36 | 40 | 43 |
| 26 x 8 (660x203) | 1.02 | 306 (144) | 408 (193) | 510 (241) | 612 (289) | 714 (337) | 816 (385) | 918 (433) |
| | NC | 15 | 22 | 29 | 33 | 37 | 40 | 43 |
| 28 x 8 (711x203) | 1.12 | 336 (159) | 448 (211) | 560 (264) | 672 (317) | 784 (370) | 896 (423) | 1008 (476) |
| | NC | 16 | 23 | 30 | 34 | 38 | 41 | 44 |
| 30 x 8 (636x203) | 1.22 | 366 (173) | 488 (230) | 610 (288) | 732 (345) | 854 (403) | 976 (461) | 1098 (518) |
| | NC | 16 | 23 | 30 | 34 | 38 | 41 | 44 |
| 32 x 8 (813x203) | 1.32 | 396 (187) | 528 (249) | 660 (312) | 792 (374) | 924 (436) | 1056 (498) | 1188 (561) |
| | NC | 16 | 24 | 31 | 35 | 39 | 42 | 45 |
| 36 x 8 (914x203) | 1.52 | 456 (215) | 608 (287) | 760 (359) | 912 (430) | 1064 (502) | 1216 (574) | 1368 (646) |
| | NC | 17 | 24 | 31 | 35 | 39 | 42 | 45 |
| 40 x 8 (1016x203) | 1.72 | 516 (244) | 688 (325) | 860 (406) | 1032 (487) | 1204 (568) | 1376 (649) | 1548 (731) |
| | NC | 17 | 24 | 32 | 36 | 40 | 43 | 46 |
| 48 x 8 (1219x203) | 2.12 | 636 (300) | 848 (400) | 1060 (500) | 1272 (600) | 1484 (700) | 1696 (800) | 1908 (900) |
| | NC | 18 | 28 | 33 | 37 | 41 | 44 | 47 |
| 10 x 10 (254x254) | 0.36 | 108 (51) | 144 (68) | 180 (85) | 216 (102) | 252 (119) | 288 (136) | 324 (153) |
| | NC | <15 | <15 | 25 | 30 | 34 | 37 | 41 |
| 12 x 10 (305x254) | 0.48 | 144 (68) | 192 (91) | 240 (113) | 288 (136) | 336 (159) | 384 (181) | 432 (204) |
| | NC | <15 | 15 | 23 | 29 | 33 | 37 | 41 |
| 14 x 10 (356x254) | 0.61 | 183 (86) | 244 (115) | 305 (144) | 366 (173) | 427 (202) | 488 (230) | 549 (259) |
| | NC | <15 | 19 | 28 | 31 | 34 | 38 | 42 |
| 16 x 10 (406x254) | 0.73 | 219 (103) | 292 (138) | 365 (172) | 438 (207) | 511 (241) | 584 (276) | 657 (310) |
| | NC | <15 | 19 | 27 | 32 | 35 | 39 | 42 |



MODEL FB-B45

GRL230, GRL 231 and GRL270 series
renamed to be FB series

FIXED BLADE GRILLES PERFORMANCE DATA

| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | |
|----------------------------------|---------------------------|--|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | |
| | | 0.032 (8) | 0.057 (14) | 0.089 (22) | 0.128 (32) | 0.175 (44) | 0.217 (54) | 0.274 (69) |
| 18 x 10 (457x254) | 0.85 | 255 (120) | 340 (160) | 425 (201) | 510 (241) | 595 (281) | 680 (321) | 765 (361) |
| | NC | 15 | 20 | 29 | 33 | 37 | 40 | 43 |
| 20 x 10 (508x254) | 0.97 | 291 (137) | 388 (183) | 485 (229) | 582 (275) | 679 (320) | 776 (366) | 873 (412) |
| | NC | 15 | 21 | 28 | 32 | 36 | 40 | 43 |
| 22 x 10 (559x254) | 1.1 | 330 (156) | 440 (208) | 550 (260) | 660 (312) | 770 (363) | 880 (415) | 990 (467) |
| | NC | 16 | 22 | 29 | 33 | 37 | 41 | 44 |
| 24 x 10 (610x254) | 1.22 | 366 (173) | 488 (230) | 610 (288) | 732 (345) | 854 (403) | 976 (461) | 1098 (518) |
| | NC | 16 | 22 | 29 | 33 | 37 | 41 | 44 |
| 26 x 10 (660x254) | 1.35 | 405 (191) | 540 (255) | 675 (319) | 810 (382) | 945 (446) | 1080 (510) | 1215 (573) |
| | NC | 16 | 22 | 29 | 33 | 37 | 41 | 44 |
| 28 x 10 (711x254) | 1.47 | 441 (208) | 588 (278) | 735 (347) | 882 (416) | 1029 (486) | 1176 (555) | 1323 (624) |
| | NC | 17 | 24 | 31 | 34 | 39 | 42 | 45 |
| 30 x 10 (762x254) | 1.59 | 477 (225) | 636 (300) | 795 (375) | 954 (450) | 1113 (525) | 1272 (600) | 1431 (675) |
| | NC | 17 | 24 | 31 | 34 | 39 | 42 | 45 |
| 32 x 10 (813x254) | 1.72 | 516 (244) | 688 (325) | 860 (406) | 1032 (487) | 1204 (568) | 1376 (649) | 1548 (731) |
| | NC | 18 | 25 | 32 | 35 | 40 | 43 | 46 |
| 36 x 10 (914x254) | 1.96 | 588 (278) | 784 (370) | 980 (463) | 1176 (555) | 1372 (648) | 1568 (740) | 1764 (833) |
| | NC | 18 | 26 | 33 | 37 | 41 | 44 | 47 |
| 40 x 10 (1016x254) | 2.2 | 660 (311) | 880 (415) | 1100 (519) | 1320 (623) | 1540 (727) | 1760 (831) | 1980 (934) |
| | NC | 19 | 27 | 34 | 38 | 42 | 45 | 48 |
| 48 x 10 (1219x254) | 2.68 | 804 (379) | 1072 (506) | 1340 (632) | 1608 (759) | 1876 (885) | 2144 (1012) | 2412 (1138) |
| | NC | 20 | 29 | 36 | 41 | 44 | 47 | 50 |
| 12 x 12 (305x305) | 0.63 | 189 (89) | 252 (119) | 315 (149) | 378 (178) | 441 (208) | 504 (238) | 567 (268) |
| | NC | <15 | 19 | 27 | 31 | 35 | 39 | 42 |
| 14 x 12 (356x305) | 0.78 | 234 (110) | 312 (147) | 390 (184) | 468 (221) | 546 (258) | 624 (295) | 702 (331) |
| | NC | <15 | 20 | 27 | 31 | 35 | 39 | 42 |
| 16 x 12 (406x305) | 0.92 | 276 (130) | 368 (174) | 460 (217) | 552 (261) | 644 (304) | 736 (347) | 828 (391) |
| | NC | 15 | 21 | 28 | 32 | 36 | 40 | 43 |
| 18 x 12 (457x305) | 1.07 | 321 (152) | 428 (202) | 535 (253) | 642 (303) | 749 (354) | 856 (404) | 963 (455) |
| | NC | 15 | 22 | 29 | 33 | 37 | 40 | 43 |
| 20 x 12 (508x305) | 1.22 | 366 (173) | 488 (230) | 610 (288) | 732 (345) | 854 (403) | 976 (461) | 1098 (518) |
| | NC | 16 | 23 | 30 | 34 | 38 | 41 | 44 |
| 22 x 12 (559x305) | 1.36 | 408 (193) | 544 (257) | 680 (321) | 816 (385) | 952 (449) | 1088 (514) | 1224 (578) |
| | NC | 16 | 23 | 30 | 34 | 38 | 41 | 44 |
| 24 x 12 (610x305) | 1.52 | 456 (215) | 608 (287) | 760 (359) | 912 (430) | 1064 (502) | 1216 (574) | 1368 (646) |
| | NC | 16 | 24 | 31 | 35 | 39 | 42 | 45 |
| 28 x 12 (711x305) | 1.82 | 546 (258) | 728 (344) | 910 (430) | 1092 (515) | 1274 (601) | 1456 (687) | 1638 (794) |
| | NC | 17 | 24 | 31 | 35 | 39 | 42 | 45 |
| 30 x 12 (762x305) | 1.96 | 588 (278) | 784 (370) | 980 (465) | 1176 (555) | 1372 (648) | 1568 (740) | 1764 (833) |
| | NC | 18 | 29 | 34 | 39 | 42 | 45 | 48 |



MODEL FB-B45

GRL230, GRL 231 and GRL270 series
renamed to be FB series

FIXED BLADE GRILLES PERFORMANCE DATA

| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | |
|----------------------------------|---------------------------|--|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | |
| | | 0.032 (8) | 0.057 (14) | 0.089 (22) | 0.128 (32) | 0.175 (44) | 0.217 (54) | 0.274 (69) |
| 32 x 12 (813x305) | 2.12 | 636 (300) | 848 (400) | 1060 (500) | 1272 (600) | 1484 (700) | 1696 (800) | 1908 (900) |
| | NC | 20 | 31 | 36 | 41 | 44 | 47 | 50 |
| 36 x 12 (914x305) | 2.41 | 723 (341) | 964 (455) | 1205 (569) | 1446 (682) | 1687 (796) | 1928 (910) | 2169 (1024) |
| | NC | 20 | 31 | 36 | 41 | 44 | 47 | 50 |
| 40 x 12 (1016x305) | 2.71 | 813 (384) | 1084 (512) | 1355 (640) | 1626 (767) | 1897 (895) | 2168 (1023) | 2439 (1151) |
| | NC | 20 | 31 | 36 | 41 | 44 | 47 | 50 |
| 44 x 12 (1118x305) | 3.01 | 903 (426) | 1204 (568) | 1050 (496) | 1806 (852) | 2107 (994) | 2408 (1136) | 2709 (1278) |
| | NC | 21 | 32 | 36 | 41 | 45 | 48 | 51 |
| 48 x 12 (1219x305) | 3.31 | 993 (469) | 1324 (625) | 1655 (781) | 1986 (937) | 2317 (1093) | 2648 (1250) | 2979 (1406) |
| | NC | 21 | 33 | 37 | 42 | 46 | 49 | 52 |
| 16 x 14 (406x356) | 1.11 | 333 (157) | 444 (210) | 555 (267) | 666 (314) | 777 (367) | 888 (419) | 999 (471) |
| | NC | 16 | 22 | 29 | 33 | 37 | 41 | 44 |
| 18 x 14 (457x356) | 1.29 | 387 (183) | 516 (244) | 645 (304) | 774 (365) | 903 (426) | 1032 (487) | 1161 (548) |
| | NC | 16 | 22 | 29 | 33 | 37 | 41 | 44 |
| 20 x 14 (508x356) | 1.47 | 441 (208) | 588 (278) | 735 (347) | 882 (416) | 1029 (486) | 1176 (555) | 1323 (624) |
| | NC | 16 | 23 | 30 | 34 | 38 | 42 | 45 |
| 24 x 14 (610x356) | 1.82 | 546 (258) | 728 (344) | 910 (430) | 1092 (515) | 1274 (601) | 1456 (687) | 1628 (794) |
| | NC | 17 | 24 | 31 | 35 | 39 | 42 | 45 |
| 28 x 14 (711x356) | 2.16 | 648 (306) | 864 (408) | 1080 (510) | 1296 (612) | 1512 (713) | 1728 (816) | 1944 (917) |
| | NC | 17 | 25 | 32 | 36 | 40 | 43 | 46 |
| 30 x 14 (762x356) | 2.33 | 699 (330) | 932 (440) | 1165 (550) | 1398 (660) | 1631 (770) | 1864 (880) | 2097 (990) |
| | NC | 17 | 26 | 32 | 37 | 40 | 43 | 46 |
| 32 x 14 (813x356) | 2.5 | 750 (354) | 1000 (472) | 1250 (590) | 1500 (708) | 1750 (826) | 2000 (944) | 2250 (1062) |
| | NC | 18 | 27 | 33 | 38 | 41 | 44 | 47 |
| 36 x 14 (914x356) | 2.84 | 852 (402) | 1136 (536) | 1420 (670) | 1704 (804) | 1988 (938) | 2272 (1072) | 2556 (1206) |
| | NC | 18 | 29 | 34 | 39 | 42 | 45 | 48 |
| 16 x 16 (406x406) | 1.32 | 396 (187) | 528 (249) | 660 (312) | 792 (374) | 924 (436) | 1056 (498) | 1188 (561) |
| | NC | <15 | <15 | 18 | 26 | 29 | 33 | 37 |
| 18 x 16 (457x406) | 1.52 | 456 (215) | 608 (287) | 760 (359) | 912 (430) | 1064 (502) | 1216 (574) | 1368 (646) |
| | NC | <15 | <15 | 20 | 28 | 31 | 35 | 39 |
| 24 x 16 (610x406) | 2.11 | 633 (299) | 844 (398) | 1055 (498) | 1266 (597) | 1477 (697) | 1688 (797) | 1899 (896) |
| | NC | <15 | 17 | 24 | 30 | 33 | 37 | 41 |
| 28 x 16 (711x406) | 2.51 | 753 (355) | 1004 (474) | 1255 (592) | 1506 (711) | 1757 (829) | 2008 (948) | 2259 (1066) |
| | NC | <15 | 19 | 26 | 32 | 35 | 38 | 40 |
| 30 x 16 (762x406) | 2.71 | 813 (384) | 1084 (512) | 1355 (640) | 1626 (767) | 1897 (895) | 2168 (1023) | 2439 (1151) |
| | NC | 16 | 22 | 27 | 33 | 36 | 39 | 42 |
| 32 x 16 (813x406) | 2.91 | 873 (412) | 1164 (549) | 1455 (687) | 1746 (824) | 2037 (961) | 2328 (1099) | 2619 (1236) |
| | NC | 17 | 24 | 29 | 34 | 38 | 41 | 44 |
| 36 x 16 (914x406) | 3.31 | 993 (467) | 1324 (625) | 1655 (781) | 1986 (937) | 2317 (1093) | 2648 (1250) | 2979 (1406) |
| | NC | 19 | 28 | 32 | 37 | 41 | 43 | 46 |



MODEL FB-B45

GRL230, GRL 231 and GRL270 series
renamed to be FB series

FIXED BLADE GRILLES PERFORMANCE DATA

| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | |
|----------------------------------|---------------------------|--|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | |
| | | 0.032 (8) | 0.057 (14) | 0.089 (22) | 0.128 (32) | 0.175 (44) | 0.217 (54) | 0.274 (69) |
| 18 x 18 (457x457) | 1.74 | 522 (246) | 696 (329) | 870 (411) | 1044 (493) | 1218 (575) | 1392 (657) | 1566 (739) |
| | NC | 17 | 23 | 31 | 35 | 39 | 43 | 46 |
| 24 x 18 (610x457) | 2.41 | 723 (341) | 964 (455) | 1205 (569) | 1446 (682) | 1687 (796) | 1928 (910) | 2169 (1024) |
| | NC | 18 | 25 | 32 | 36 | 41 | 44 | 47 |
| 28 x 18 (711x457) | 2.75 | 825 (389) | 1100 (519) | 1375 (649) | 1650 (779) | 1925 (908) | 2200(1038) | 2475 (1168) |
| | NC | 18 | 25 | 32 | 36 | 41 | 44 | 47 |
| 30 x 18 (762x457) | 3.08 | 924 (436) | 1232 (581) | 1540 (727) | 1848 (872) | 2156 (1018) | 2464 (1163) | 2772 (1308) |
| | NC | 19 | 25 | 33 | 37 | 41 | 45 | 48 |
| 36 x 18 (914x457) | 3.75 | 1125 (531) | 1500 (708) | 1875 (885) | 2250 (1062) | 2625 (1239) | 3000 (1416) | 3375 (1593) |
| | NC | 20 | 26 | 34 | 38 | 42 | 46 | 49 |
| 40 x 18 (1016x457) | 4.2 | 1260 (595) | 1680 (793) | 2100 (991) | 2520 (1189) | 2940 (1388) | 3360 (1586) | 3780 (1784) |
| | NC | 21 | 27 | 35 | 39 | 43 | 47 | 50 |
| 20 x 20 (508x508) | 2.21 | 663 (313) | 884 (417) | 1105 (522) | 1326 (626) | 1547 (730) | 1768 (834) | 1989 (939) |
| | NC | 18 | 24 | 31 | 35 | 39 | 43 | 47 |
| 24 x 20 (610x508) | 2.71 | 813 (384) | 1084 (512) | 1355 (640) | 1626 (767) | 1897 (895) | 2168 (1023) | 2439 (1151) |
| | NC | 19 | 25 | 32 | 36 | 40 | 44 | 48 |
| 30 x 20 (762x508) | 3.45 | 1035 (488) | 1380 (651) | 1725 (814) | 2070 (977) | 2415 (1140) | 2760 (1303) | 3105 (1465) |
| | NC | 19 | 30 | 34 | 38 | 42 | 45 | 49 |
| 36 x 20 (914x508) | 4.2 | 1260 (595) | 1680 (793) | 2100 (991) | 2520 (1189) | 2940 (1387) | 3360 (1586) | 3780 (1784) |
| | NC | 19 | 31 | 35 | 40 | 44 | 47 | 51 |
| 40 x 20 (1016x508) | 4.61 | 1383 (653) | 1844 (870) | 2305 (1088) | 2766 (1305) | 3227 (1523) | 3688 (1740) | 4149 (1958) |
| | NC | 19 | 32 | 36 | 41 | 45 | 49 | 52 |
| 48 x 20 (1219x508) | 5.44 | 1632 (770) | 2176 (1027) | 2720 (1284) | 3264 (1540) | 3808 (1797) | 4352 (2054) | 4893 (2309) |
| | NC | 19 | 33 | 38 | 43 | 47 | 51 | 54 |
| 24 x 24 (610x610) | 3.3 | 990 (467) | 1320 (623) | 1650 (779) | 1980 (934) | 2310 (1090) | 2640 (1246) | 2970 (1402) |
| | NC | 19 | 30 | 34 | 40 | 43 | 46 | 49 |
| 36 x 24 (914x610) | 5.09 | 1527 (721) | 2036 (961) | 2545 (1201) | 3054 (1441) | 3563 (1682) | 4072 (1922) | 4581 (2162) |
| | NC | 21 | 32 | 37 | 42 | 45 | 48 | 51 |
| 48 x 24 (1219x610) | 6.88 | 2064 (974) | 2752 (1299) | 3440 (1623) | 4128 (1948) | 4816 (2273) | 5504 (2598) | 6192 (2922) |
| | NC | 23 | 34 | 40 | 44 | 48 | 51 | 54 |
| 30 x 30 (762x762) | 4.97 | 1491 (704) | 1988 (938) | 2485 (1173) | 2982 (1407) | 3479 (1642) | 3976 (1876) | 4473 (2111) |
| | NC | 18 | 29 | 34 | 40 | 43 | 46 | 49 |

Notes:

- 1- Data is obtained from tests conducted in accordance with ANSI/ASHREA Standard 70-1991.
- 2- All pressures are in Inch of Water.
- 3- N.C values are based on octave band 2-7 sound power levels minus a room absorption of 10db.

MODEL FB-F45

FIXED BLADES GRILLES PERFORMANCE DATA

GRL230, GRL 231 and GRL270 series
renamed to be FB series

| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | | |
|----------------------------------|---------------------------|--|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) | 1000 (5.1) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | | |
| | | 0.02 (5) | 0.035 (9) | 0.054 (14) | 0.078 (20) | 0.106 (27) | 0.139 (35) | 0.176 (44) | 0.217 (54) |
| AirFlow- Cfm (L/s) | | | | | | | | | |
| 6 x 6 (152x152) | 0.12 | 36 (17) | 48 (23) | 60 (28) | 72 (34) | 84 (40) | 96 (45) | 108 (51) | 120 (57) |
| | NC | <15 | <15 | 16 | 19 | 21 | 23 | 25 | 27 |
| 8 x 6 (203x152) | 0.18 | 54 (26) | 72 (34) | 90 (43) | 108 (51) | 126 (60) | 144 (68) | 162 (77) | 180 (85) |
| | NC | <15 | <15 | 17 | 19 | 21 | 23 | 25 | 27 |
| 10 x 6 (254x152) | 0.24 | 72 (34) | 96 (45) | 120 (57) | 144 (68) | 168 (79) | 192 (91) | 216 (102) | 240 (113) |
| | NC | <15 | <15 | 17 | 20 | 22 | 24 | 26 | 28 |
| 12 x 6 (305x152) | 0.27 | 81 (38) | 108 (51) | 135 (64) | 162 (77) | 189 (89) | 216 (102) | 243 (115) | 270 (127) |
| | NC | <15 | <15 | 18 | 20 | 22 | 24 | 26 | 28 |
| 14 x 6 (356x152) | 0.32 | 96 (45) | 128 (60) | 160 (76) | 192 (91) | 224 (106) | 256 (121) | 288 (136) | 320 (151) |
| | NC | <15 | <15 | 18 | 21 | 23 | 25 | 27 | 29 |
| 16 x 6 (406x152) | 0.36 | 108 (51) | 144 (68) | 180 (85) | 216 (102) | 252 (119) | 288 (136) | 324 (153) | 360 (170) |
| | NC | <15 | <15 | 19 | 21 | 23 | 25 | 27 | 29 |
| 18 x 6 (457x152) | 0.42 | 126 (60) | 168 (79) | 210 (99) | 252 (119) | 294 (139) | 336 (159) | 378 (178) | 420 (198) |
| | NC | <15 | <15 | 19 | 22 | 24 | 26 | 28 | 30 |
| 20 x 6 (508x152) | 0.48 | 144 (68) | 192 (91) | 240 (113) | 288 (136) | 336 (159) | 384 (181) | 432 (204) | 480 (227) |
| | NC | <15 | 15 | 20 | 22 | 25 | 27 | 29 | 32 |
| 24 x 6 (610x152) | 0.63 | 189 (89) | 252 (119) | 315 (149) | 378 (178) | 441 (208) | 504 (238) | 567 (268) | 630 (297) |
| | NC | <15 | 16 | 21 | 24 | 27 | 29 | 31 | 34 |
| 30 x 6 (762x152) | 0.75 | 225 (106) | 300 (142) | 375 (177) | 450 (212) | 525 (248) | 600 (283) | 675 (319) | 750 (354) |
| | NC | <15 | 18 | 24 | 27 | 29 | 31 | 33 | 36 |
| 36 x 6 (914x152) | 0.94 | 282 (133) | 376 (177) | 470 (222) | 564 (266) | 658 (311) | 752 (355) | 846 (399) | 940 (444) |
| | NC | 16 | 20 | 27 | 29 | 31 | 34 | 37 | 41 |
| 8 x 8 (203x203) | 0.27 | 81 (38) | 108 (51) | 135 (64) | 162 (77) | 189 (89) | 216 (102) | 243 (115) | 270 (127) |
| | NC | <15 | <15 | 16 | 19 | 21 | 23 | 26 | 28 |
| 10 x 8 (254x203) | 0.32 | 96 (45) | 128 (60) | 160 (76) | 192 (91) | 224 (106) | 256 (121) | 288 (136) | 320 (151) |
| | NC | <15 | <15 | 17 | 20 | 22 | 24 | 26 | 28 |
| 12 x 8 (305x203) | 0.42 | 126 (60) | 168 (79) | 210 (99) | 252 (119) | 294 (139) | 336 (159) | 378 (178) | 420 (198) |
| | NC | <15 | <15 | 18 | 21 | 23 | 25 | 27 | 30 |
| 14 x 8 (356x203) | 0.48 | 144 (68) | 192 (91) | 240 (113) | 288 (136) | 336 (159) | 384 (181) | 432 (204) | 480 (227) |
| | NC | <15 | <15 | 19 | 22 | 24 | 27 | 29 | 31 |
| 16 x 8 (406x203) | 0.57 | 171 (81) | 228 (108) | 285 (135) | 342 (161) | 399 (188) | 456 (215) | 513 (242) | 570 (269) |
| | NC | <15 | 16 | 20 | 23 | 26 | 28 | 30 | 32 |
| 18 x 8 (457x203) | 0.63 | 189 (89) | 252 (119) | 315 (149) | 378 (178) | 441 (208) | 504 (238) | 567 (268) | 630 (297) |
| | NC | <15 | 17 | 21 | 24 | 26 | 29 | 31 | 33 |
| 20 x 8 (508x203) | 0.76 | 228 (108) | 304 (144) | 380 (179) | 456 (215) | 532 (251) | 608 (287) | 684 (323) | 760 (359) |
| | NC | <15 | 18 | 22 | 24 | 27 | 29 | 31 | 33 |
| 24 x 8 (610x203) | 0.83 | 249 (118) | 332 (157) | 415 (196) | 498 (235) | 581 (274) | 664 (313) | 747 (353) | 830 (392) |
| | NC | 15 | 19 | 23 | 25 | 28 | 30 | 32 | 34 |
| 30 x 8 (762x203) | 1.12 | 336 (159) | 448 (211) | 560 (264) | 672 (317) | 784 (370) | 896 (423) | 1008 (476) | 1120 (529) |
| | NC | 16 | 21 | 26 | 29 | 31 | 33 | 35 | 37 |
| 36 x 8 (914x203) | 1.26 | 378 (178) | 504 (238) | 630 (297) | 756 (357) | 882 (416) | 1008 (476) | 1134 (535) | 1260 (595) |
| | NC | 17 | 24 | 28 | 30 | 33 | 35 | 37 | 39 |

MODEL FB-F45

FIXED BLADES GRILLES PERFORMANCE DATA

| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | | |
|----------------------------------|---------------------------|--|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) | 1000 (5.1) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | | |
| | | 0.02 (5) | 0.035 (9) | 0.054 (14) | 0.078 (20) | 0.106 (27) | 0.139 (35) | 0.176 (44) | 0.217 (54) |
| AirFlow- Cfm (L/s) | | | | | | | | | |
| 40 x 8 (1016x203) | 1.46 | 438 (207) | 584 (276) | 730 (345) | 876 (413) | 1022 (482) | 1168 (551) | 1314 (620) | 1460 (689) |
| | NC | 17 | 26 | 30 | 32 | 35 | 37 | 39 | 41 |
| 48 x 8 (1219x203) | 1.72 | 516 (244) | 688 (325) | 860 (406) | 1032(487) | 1204 (568) | 1376 (649) | 1548 (730) | 1720 (812) |
| | NC | 18 | 28 | 32 | 34 | 36 | 38 | 40 | 42 |
| 10 x 10 (254x254) | 0.42 | 126 (60) | 168 (79) | 210 (99) | 252 (119) | 294 (139) | 336 (159) | 378 (178) | 420 (198) |
| | NC | <15 | <15 | 18 | 21 | 23 | 25 | 27 | 30 |
| 12 x 10 (305x254) | 0.48 | 144 (68) | 192 (91) | 240 (113) | 288 (136) | 336 (159) | 384 (181) | 432 (204) | 480 (227) |
| | NC | <15 | <15 | 19 | 22 | 24 | 27 | 29 | 31 |
| 14 x 10 (356x254) | 0.57 | 171 (81) | 228 (108) | 285 (135) | 342 (161) | 399 (188) | 456 (215) | 513 (242) | 570 (269) |
| | NC | <15 | 16 | 20 | 23 | 26 | 28 | 30 | 32 |
| 16 x 10 (406x254) | 0.63 | 189 (89) | 252 (119) | 315 (149) | 378 (178) | 441 (208) | 504 (238) | 567 (268) | 630 (297) |
| | NC | <15 | 17 | 21 | 24 | 26 | 29 | 31 | 33 |
| 18 x 10 (457x254) | 0.75 | 225 (106) | 300 (142) | 375 (177) | 450 (212) | 525 (248) | 600 (283) | 675 (319) | 750 (354) |
| | NC | <15 | 18 | 22 | 24 | 27 | 29 | 31 | 33 |
| 20 x 10 (508x254) | 0.83 | 249 (118) | 332 (157) | 415 (196) | 498 (235) | 581 (274) | 664 (313) | 747 (353) | 830 (392) |
| | NC | 15 | 19 | 23 | 25 | 28 | 30 | 32 | 34 |
| 24 x 10 (610x254) | 1.12 | 336 (159) | 448 (211) | 560 (264) | 672 (317) | 784 (370) | 896 (423) | 1008 (476) | 1120 (529) |
| | NC | 16 | 21 | 26 | 29 | 31 | 33 | 35 | 37 |
| 28 x 10 (711x254) | 1.21 | 363 (171) | 484 (228) | 605 (286) | 726 (343) | 847 (400) | 968 (457) | 1089 (514) | 1210 (571) |
| | NC | 17 | 23 | 27 | 29 | 32 | 34 | 36 | 38 |
| 30 x 10 (762x254) | 1.26 | 378 (178) | 504 (238) | 630 (297) | 756 (357) | 882 (416) | 1008 (476) | 1134 (535) | 1260 (595) |
| | NC | 17 | 24 | 28 | 30 | 33 | 35 | 37 | 39 |
| 36 x 10 (914x254) | 1.66 | 498 (235) | 664 (313) | 830 (392) | 996 (470) | 1162 (548) | 1328 (627) | 1494 (705) | 1660 (783) |
| | NC | 18 | 26 | 30 | 32 | 35 | 37 | 39 | 41 |
| 40 x 10 (1016x254) | 1.83 | 549 (259) | 732 (345) | 915 (432) | 1098 (518) | 1281 (604) | 1464 (691) | 1647 (777) | 1830 (864) |
| | NC | 18 | 28 | 32 | 34 | 36 | 38 | 40 | 42 |
| 48 x 10 (1219x254) | 2.18 | 654 (309) | 872 (412) | 1090 (514) | 1308 (617) | 1526 (720) | 1744 (823) | 1962 (926) | 2180(1029) |
| | NC | 19 | 29 | 34 | 36 | 38 | 40 | 42 | 44 |
| 12 x 12 (305x305) | 0.63 | 189 (89) | 252 (119) | 315 (149) | 378 (178) | 441 (208) | 504 (238) | 567 (268) | 630 (297) |
| | NC | <15 | 16 | 20 | 23 | 25 | 28 | 30 | 32 |
| 14 x 12 (356x305) | 0.75 | 225 (106) | 300 (142) | 375 (177) | 450 (212) | 525 (248) | 600 (283) | 675 (319) | 750 (354) |
| | NC | <15 | 17 | 21 | 23 | 26 | 28 | 30 | 31 |
| 16 x 12 (406x305) | 0.83 | 249 (118) | 332 (157) | 415 (196) | 498 (235) | 581 (274) | 664 (313) | 747 (353) | 830 (392) |
| | NC | <15 | 18 | 22 | 24 | 27 | 29 | 31 | 32 |
| 18 x 12 (457x305) | 0.94 | 282 (133) | 376 (177) | 470 (222) | 564 (266) | 658 (311) | 752 (355) | 846 (399) | 940 (444) |
| | NC | <15 | 18 | 22 | 24 | 27 | 29 | 31 | 32 |
| 20 x 12 (508x305) | 1.03 | 309 (146) | 412 (194) | 515 (243) | 618 (292) | 721 (340) | 824 (389) | 927 (438) | 1030 (486) |
| | NC | <15 | 19 | 23 | 25 | 28 | 30 | 32 | 33 |
| 24 x 12 (610x305) | 1.26 | 378 (178) | 504 (238) | 630 (297) | 756 (357) | 882 (416) | 1008 (476) | 1134 (535) | 1260 (595) |
| | NC | 15 | 20 | 24 | 27 | 29 | 31 | 33 | 34 |
| 28 x 12 (711x305) | 1.4 | 420 (198) | 560 (264) | 700 (330) | 840 (396) | 980 (463) | 1120 (529) | 1260 (595) | 1400 (661) |
| | NC | 16 | 21 | 25 | 28 | 31 | 33 | 35 | 36 |

MODEL FB-F45

FIXED BLADES GRILLES PERFORMANCE DATA

GRL230, GRL 231 and GRL270 series
renamed to be FB series

| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | | |
|----------------------------------|---------------------------|--|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) | 1000 (5.1) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | | |
| | | 0.02 (5) | 0.035 (9) | 0.054 (14) | 0.078 (20) | 0.106 (27) | 0.139 (35) | 0.176 (44) | 0.217 (54) |
| 30 x 12 (762x305) | 1.46 | 438 (207) | 584 (276) | 730 (345) | 876 (413) | 1022 (482) | 1168 (551) | 1314 (620) | 1460 (689) |
| | NC | 17 | 22 | 26 | 29 | 32 | 34 | 36 | 38 |
| 36 x 12 (914x305) | 1.95 | 585 (276) | 780 (368) | 975 (460) | 1170 (552) | 1365 (644) | 1560 (736) | 1755 (828) | 1950 (920) |
| | NC | 19 | 24 | 28 | 31 | 33 | 35 | 37 | 39 |
| 40 x 12 (1016x305) | 2.18 | 654 (308) | 872 (411) | 1090 (514) | 1308 (617) | 1526 (720) | 1744 (823) | 1962 (926) | 2180(1029) |
| | NC | 19 | 25 | 28 | 31 | 34 | 36 | 37 | 39 |
| 44 x 12 (1118x305) | 2.36 | 708 (334) | 944 (445) | 1180 (557) | 1416 (668) | 1652 (780) | 1888 (891) | 2124(1002) | 2360(1114) |
| | NC | 20 | 25 | 29 | 32 | 34 | 37 | 38 | 40 |
| 48 x 12 (1219x305) | 2.53 | 759 (358) | 1012 (478) | 1265 (597) | 1518 (716) | 1771 (836) | 2024 (955) | 2277(1075) | 2530(1194) |
| | NC | 20 | 26 | 30 | 33 | 35 | 38 | 39 | 41 |
| 18 x 14 (457x356) | 1.12 | 336 (159) | 448 (211) | 560 (264) | 672 (317) | 784 (370) | 896 (423) | 1008 (476) | 1120 (529) |
| | NC | 15 | 19 | 23 | 26 | 28 | 30 | 32 | 33 |
| 20 x 14 (508x356) | 1.26 | 378 (178) | 504 (238) | 630 (297) | 756 (357) | 882 (416) | 1008 (476) | 1134 (535) | 1260 (595) |
| | NC | 15 | 20 | 24 | 27 | 29 | 31 | 33 | 34 |
| 24 x 14 (610x356) | 1.46 | 438 (207) | 584 (276) | 730 (345) | 876 (413) | 1022 (482) | 1168 (551) | 1314 (620) | 1460 (689) |
| | NC | 16 | 21 | 25 | 28 | 30 | 32 | 34 | 36 |
| 28 x 14 (711x356) | 1.79 | 537 (253) | 716 (338) | 895 (422) | 1074 (507) | 1253 (591) | 1432 (676) | 1611 (760) | 1790 (845) |
| | NC | 17 | 22 | 27 | 30 | 32 | 34 | 36 | 38 |
| 30 x 14 (762x356) | 1.95 | 585 (276) | 780 (368) | 975 (460) | 1170 (552) | 1365 (644) | 1560 (736) | 1755 (828) | 1950 (920) |
| | NC | 18 | 23 | 28 | 31 | 33 | 35 | 37 | 39 |
| 36 x 14 (914x356) | 2.18 | 654 (309) | 872 (412) | 1090 (514) | 1308 (617) | 1526 (720) | 1744 (823) | 1962 (926) | 2180(1029) |
| | NC | 19 | 24 | 29 | 32 | 34 | 36 | 38 | 40 |
| 16 x 16 (406x406) | 1.12 | 336 (159) | 448 (211) | 560 (264) | 672 (317) | 784 (370) | 896 (423) | 1008 (476) | 1120 (529) |
| | NC | <15 | 18 | 22 | 25 | 27 | 29 | 31 | 32 |
| 18 x 16 (457x406) | 1.26 | 378 (178) | 504 (238) | 630 (297) | 756 (357) | 882 (416) | 1008 (476) | 1134 (535) | 1260 (595) |
| | NC | 15 | 20 | 24 | 27 | 29 | 31 | 33 | 34 |
| 24 x 16 (610x406) | 1.72 | 516 (244) | 688 (325) | 860 (406) | 1032(487) | 1204 (568) | 1376 (649) | 1548 (730) | 1720 (812) |
| | NC | 16 | 22 | 26 | 29 | 31 | 33 | 35 | 37 |
| 30 x 16 (762x406) | 2.18 | 654 (309) | 872 (412) | 1090 (514) | 1308 (617) | 1526 (720) | 1744 (823) | 1962 (926) | 2180(1029) |
| | NC | 18 | 24 | 28 | 31 | 33 | 36 | 37 | 39 |
| 36 x 16 (914x406) | 2.53 | 759 (358) | 1012 (478) | 1265 (597) | 1518 (716) | 1771 (836) | 2024 (955) | 2277(1075) | 2530(1194) |
| | NC | 19 | 26 | 29 | 32 | 34 | 36 | 38 | 40 |
| 18 x 18 (457x457) | 1.46 | 438 (207) | 584 (276) | 730 (345) | 876 (413) | 1022 (482) | 1168 (551) | 1314 (620) | 1460 (689) |
| | NC | 16 | 21 | 25 | 28 | 30 | 32 | 34 | 36 |
| 24 x 18 (610x457) | 1.95 | 585 (276) | 780 (368) | 975 (460) | 1170 (552) | 1365 (644) | 1560 (736) | 1755 (828) | 1950 (920) |
| | NC | 18 | 23 | 28 | 31 | 33 | 35 | 37 | 39 |
| 30 x 18 (762x457) | 2.53 | 759 (358) | 1012 (478) | 1265 (597) | 1518 (716) | 1771 (836) | 2024 (955) | 2277(1075) | 2530(1194) |
| | NC | 19 | 25 | 29 | 32 | 34 | 36 | 38 | 40 |
| 36 x 18 (914x457) | 3 | 900 (425) | 1200 (566) | 1500 (708) | 1800 (850) | 2100 (991) | 2400(1133) | 2700(1274) | 3000(1416) |
| | NC | 20 | 26 | 30 | 33 | 35 | 37 | 39 | 41 |
| 48 x 18 (1219x457) | 3.9 | 1170 (552) | 1560 (736) | 1950 (920) | 2340(1104) | 2730(1288) | 3120(1472) | 3510(1656) | 3900(1841) |
| | NC | 21 | 27 | 31 | 34 | 36 | 38 | 40 | 42 |



MODEL FB-F45

FIXED BLADES GRILLES PERFORMANCE DATA

GRL230, GRL 231 and GRL270 series
renamed to be FB series

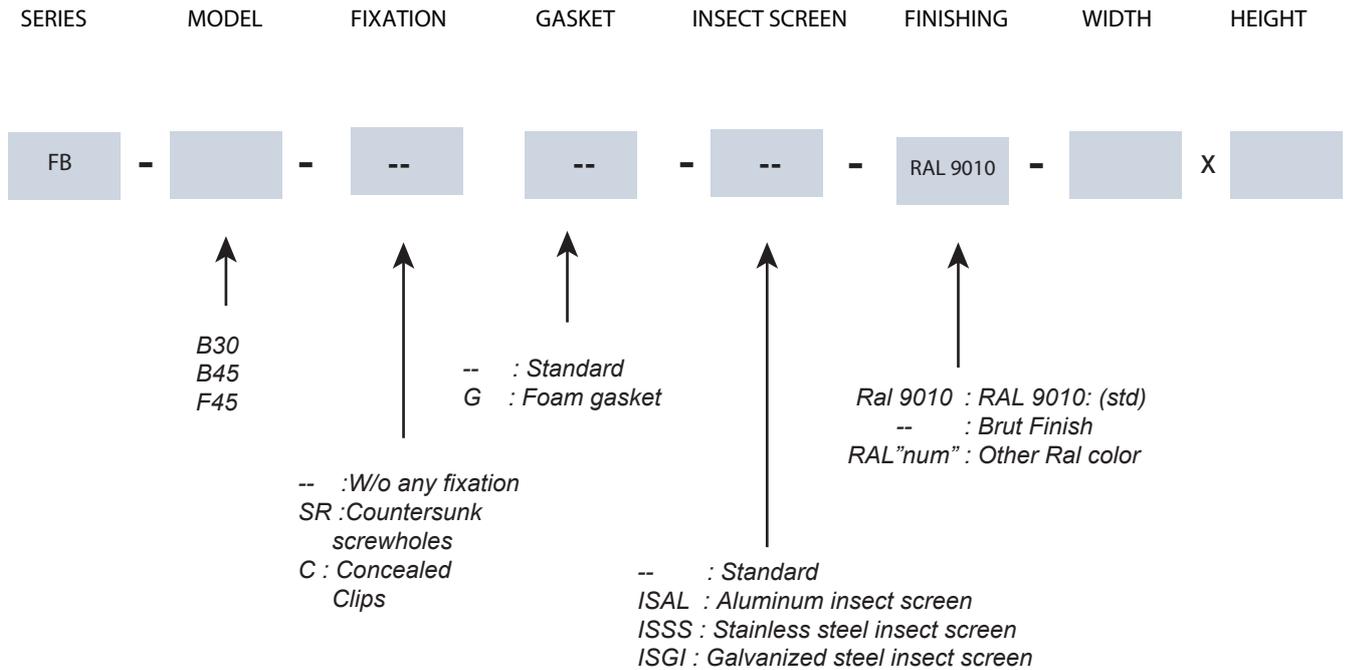
| GRILLES Sizes in Inch (mm) | A.K Factor in Sq.Ft | Face Velocity - fpm (m/s) | | | | | | | |
|----------------------------------|---------------------------|--|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 300 (1.5) | 400 (2.0) | 500 (2.5) | 600 (3.0) | 700 (3.6) | 800 (4.1) | 900 (4.6) | 1000 (5.1) |
| | | Negative Static Pressure in Inch Wg (Pa) | | | | | | | |
| | | 0.02 (5) | 0.035 (9) | 0.054 (14) | 0.078 (20) | 0.106 (27) | 0.139 (35) | 0.176 (44) | 0.217 (54) |
| 20 x 20 (508x508) | 1.72 | 516 (244) | 688 (325) | 860 (406) | 1032(487) | 1204 (568) | 1376 (649) | 1548 (730) | 1720 (812) |
| | NC | 16 | 22 | 26 | 29 | 31 | 33 | 35 | 37 |
| 24 x 20 (610x508) | 2.18 | 654 (309) | 872 (412) | 1090 (514) | 1308 (617) | 1526 (720) | 1744 (823) | 1962 (926) | 2180(1029) |
| | NC | 17 | 23 | 27 | 30 | 33 | 35 | 37 | 39 |
| 30 x 20 (762x508) | 2.77 | 831 (392) | 1108 (523) | 1385 (654) | 1662 (784) | 1939 (915) | 2216(1046) | 2493(1177) | 2770(1307) |
| | NC | 18 | 24 | 28 | 31 | 34 | 36 | 38 | 40 |
| 36 x 20 (914x508) | 3.25 | 975 (460) | 1300 (614) | 1625 (767) | 1950 (920) | 2275(1074) | 2600(1227) | 2925(1380) | 3250(1534) |
| | NC | 19 | 26 | 29 | 32 | 35 | 37 | 39 | 41 |
| 40 x 20 (1016x508) | 3.6 | 1080 (510) | 1440 (680) | 1800 (850) | 2160(1019) | 2520(1189) | 2880(1359) | 3240(1529) | 3600(1699) |
| | NC | 21 | 27 | 30 | 33 | 36 | 38 | 40 | 42 |
| 48 x 20 (1219x508) | 4.37 | 1311(619) | 1748(825) | 2185(1031) | 2622(1237) | 3059(1444) | 3496(1650) | 3933(1856) | 4370(2062) |
| | NC | 23 | 28 | 31 | 34 | 36 | 38 | 40 | 42 |
| 24 x 24 (610x610) | 2.53 | 759 (358) | 1012 (478) | 1265 (597) | 1518 (716) | 1771 (836) | 2024 (955) | 2277(1075) | 2530(1194) |
| | NC | 19 | 25 | 29 | 32 | 34 | 36 | 38 | 40 |
| 30 x30 (762x762) | 4.37 | 1311(619) | 1748(825) | 2185(1031) | 2622(1237) | 3059(1444) | 3496(1650) | 3933(1856) | 4370(2062) |
| | NC | 23 | 28 | 31 | 34 | 36 | 38 | 40 | 42 |

Notes:

- 1- Data is obtained from tests conducted in accordance with ANSI/ASHREA Standard 70-1991.
- 2- All pressures are in Inch of Water (Pa).
- 3- N.C values are based on octave band 2-7 sound power levels minus a room absorption of 10db.

GRL230, GRL 231 and GRL270 series
renamed to be FB series

ORDERING INFORMATION

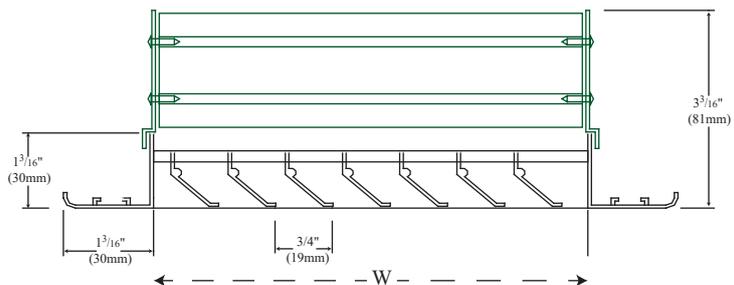


•Model:

- FB-B45 : Horizontal extruded blades, fixed deflectors set at 45°.
- FB-B30 : Horizontal extruded blades, fixed deflectors set at 30°.
- FB-F45 : Horizontal extruded Airfoil type, fixed deflectors set at 45°.

•Sizes:

- Minimum size : 4" x 4"
- Large sizes are constructed of factory joined multiple sections.



N.B: - For more information, please check the submittal sheet
- 5 mm Clearance is deducted from your order size.