



S90 Stationary-Bar Return Grille
S90H/S90V S90HFF/S90VFF

PERFORMANCE BASED ON NOMINAL SIZES SHOWN IN BOLD

NC-20

Nominal Duct Size (in.)	Nominal Duct Area (ft ²)	Core Area (ft ²)	Core Velocity Velocity Pressure Neg. Static Pressure	NC-20									
				100 0.001 0.002	200 0.002 0.008	300 0.006 0.018	400 0.010 0.032	500 0.016 0.051	600 0.022 0.073	700 0.031 0.099	800 0.040 0.130	900 0.050 0.164	
6x6	0.25	0.19	Airflow, cfm NC	19 -	38 -	57 -	76 -	95 -	114 13	133 19	152 25	171 29	
8x6	0.33	0.26	Airflow, cfm NC	26 -	52 -	78 -	104 -	130 -	156 15	182 20	208 26	234 30	
10x6	0.42	0.34	Airflow, cfm NC	34 -	68 -	102 -	136 -	170 -	204 16	238 21	272 28	306 32	
8x8	0.44	0.37	Airflow, cfm NC	37 -	74 -	111 -	148 -	185 -	222 16	259 22	296 28	333 32	
12x6	0.5	0.41	Airflow, cfm NC	41 -	82 -	123 -	164 -	205 -	246 17	287 22	328 30	369 34	
14x6	0.58	0.48	Airflow, cfm NC	48 -	96 -	144 -	192 -	240 -	288 18	336 24	384 30	432 34	
16x6 12x8	0.67 0.57	0.57	Airflow, cfm NC	57 -	114 -	171 -	228 -	285 10	342 19	399 25	456 30	513 35	
10x10	0.69	0.59	Airflow, cfm NC	59 -	118 -	177 -	236 -	295 10	354 19	413 25	472 31	531 35	
18x6	0.75	0.63	Airflow, cfm NC	63 -	126 -	189 -	252 -	315 10	378 19	441 25	504 32	567 35	
20x6 12x10	0.83 0.72	0.72	Airflow, cfm NC	72 -	144 -	216 -	288 -	360 11	432 19	504 25	576 30	648 35	
22x6	0.92	0.77	Airflow, cfm NC	77 -	154 -	231 -	308 -	385 11	462 19	539 25	616 30	693 35	
24x6 12x12	1 0.88	0.88	Airflow, cfm NC	88 -	176 -	264 -	352 -	440 11	528 19	616 25	704 30	792 35	
30x6 18x10	1.25 1.11	1.11	Airflow, cfm NC	111 -	222 -	333 -	444 -	555 12	666 20	777 26	888 32	999 35	
14x14	1.36	1.22	Airflow, cfm NC	122 -	244 -	366 -	488 -	610 12	732 20	854 27	976 32	1098 35	
36x6 18x12	1.5 1.35	1.35	Airflow, cfm NC	135 -	270 -	405 -	540 -	675 13	810 20	945 27	1080 32	1215 35	
22x10	1.53	1.37	Airflow, cfm NC	137 -	274 -	411 -	548 -	685 13	822 20	959 27	1096 32	1233 36	
30x8 24x10	1.67 1.49	1.49	Airflow, cfm NC	149 -	298 -	447 -	596 -	745 14	894 21	1043 27	1192 33	1341 37	
42x6 18x14	1.75 1.59	1.59	Airflow, cfm NC	159 -	318 -	477 -	636 -	795 14	954 21	1113 27	1272 33	1431 37	
16x16	1.78	1.62	Airflow, cfm NC	162 -	324 -	486 -	648 -	810 14	972 21	1134 27	1296 33	1458 37	
24x12 18x16	2	1.82	Airflow, cfm NC	182 -	364 -	546 -	728 -	910 14	1092 21	1274 28	1456 33	1638 38	
18x18	2.25	2.07	Airflow, cfm NC	207 -	414 -	621 -	828 -	1035 14	1242 21	1449 28	1656 33	1863 38	
24x14	2.33	2.14	Airflow, cfm NC	214 -	428 -	642 -	856 -	1070 14	1284 22	1498 28	1712 33	1926 38	
30x12	2.5	2.29	Airflow, cfm NC	229 -	458 -	687 -	916 -	1145 15	1374 22	1603 28	1832 33	2061 38	
24x16	2.67	2.46	Airflow, cfm NC	246 -	492 -	738 -	984 -	1230 15	1476 22	1722 29	1968 34	2214 39	
20x20	2.78	2.57	Airflow, cfm NC	257 -	514 -	771 -	1028 -	1285 16	1542 23	1799 29	2056 34	2313 39	
36x12	3	2.75	Airflow, cfm NC	275 -	550 -	825 -	1100 -	1375 16	1650 23	1925 29	2200 34	2475 39	
30x16 24x20	3.33 3.11	3.11	Airflow, cfm NC	311 -	622 -	933 -	1244 -	1555 17	1866 24	2177 30	2488 35	2799 40	
22x22	3.36	3.14	Airflow, cfm NC	314 -	628 -	942 -	1256 -	1570 17	1884 24	2198 30	2512 35	2826 40	
42x12 36x14	3.5 3.22	3.22	Airflow, cfm NC	322 -	644 -	966 -	1288 -	1610 17	1932 24	2254 30	2576 36	2898 40	
24x22	3.67	3.43	Airflow, cfm NC	343 -	686 -	1029 -	1372 -	1715 17	2058 24	2401 30	2744 36	3087 40	
30x18	3.75	3.5	Airflow, cfm NC	350 -	700 -	1050 -	1400 -	1750 17	2100 24	2450 30	2800 36	3150 40	

NC-30

NC-40

• Static pressures are negative, in inches of water, measured per ANSI/ASHRAE Standard 70-2006

• NC based on room absorption of 10 dB, re 10⁻¹² watts, measured per ANSI/ASHRAE Standard 70-2006



PERFORMANCE DATA—LIGHT COMMERCIAL

S90 Stationary-Bar Return Grille S90H/S90V S90HFF/S90VFF

PERFORMANCE BASED ON NOMINAL SIZES SHOWN IN BOLD

Nominal Duct Size (in.)	Nominal Duct Area (ft ²)	Core Area (ft ²)	Core Velocity Velocity Pressure Neg. Static Pressure	NC-20 NC-30 NC-40								
				100 0.001 0.002	200 0.002 0.008	300 0.006 0.018	400 0.010 0.032	500 0.016 0.051	600 0.022 0.073	700 0.031 0.099	800 0.040 0.130	900 0.050 0.164
48x12 24x24	4	3.75	Airflow, cfm NC	375 -	750 -	1125 -	1500 -	1875 18	2250 25	2625 37	3000 38	3375 41
36x18	4.5	4.22	Airflow, cfm NC	422 -	844 -	1266 -	1688 -	2110 18	2532 25	2954 31	3376 38	3798 41
36x20 30x24	5	4.71	Airflow, cfm NC	471 -	942 -	1413 -	1884 -	2355 18	2826 25	3297 31	3768 38	4239 41
42x18	5.25	4.94	Airflow, cfm NC	494 -	988 -	1482 -	1976 -	2470 18	2964 25	3458 31	3952 38	4446 41
28x28	5.44	5.16	Airflow, cfm NC	516 -	1032 -	1548 -	2064 -	2580 18	3096 25	3612 32	4128 38	4644 41
42x20 30x28	5.83	5.51	Airflow, cfm NC	551 -	1102 -	1653 -	2204 10	2755 18	3306 26	3857 32	4408 38	4959 41
48x18 36x24	6	5.66	Airflow, cfm NC	566 -	1132 -	1698 -	2264 10	2830 18	3396 26	3962 32	4528 38	5094 41
30x30	6.25	5.94	Airflow, cfm NC	594 -	1188 -	1782 -	2376 10	2970 18	3564 26	4158 32	4752 38	5346 41
42x24 36x28	7	6.66	Airflow, cfm NC	666 -	1332 -	1998 -	2664 10	3330 19	3996 26	4662 32	5328 38	5994 41
46x22	7.03	6.68	Airflow, cfm NC	668 -	1336 -	2004 -	2672 10	3340 19	4008 27	4676 32	5344 38	6012 42
32x32	7.11	6.78	Airflow, cfm NC	678 -	1356 -	2034 -	2712 10	3390 19	4068 27	4746 32	5424 38	6102 42
36x30	7.5	7.16	Airflow, cfm NC	716 -	1432 -	2148 -	2864 10	3580 19	4296 27	5012 32	5728 38	6444 42
48x24 36x32	8	7.63	Airflow, cfm NC	763 -	1526 -	2289 -	3052 10	3815 19	4578 27	5341 32	6104 38	6867 42
34x34	8.03	7.68	Airflow, cfm NC	768 -	1536 -	2304 -	3072 10	3840 19	4608 27	5376 32	6144 38	6912 42
36x34	8.5	8.14	Airflow, cfm NC	814 -	1628 -	2442 -	3256 11	4070 19	4884 27	5698 32	6512 38	7326 42
42x30	8.75	8.38	Airflow, cfm NC	838 -	1676 -	2514 -	3352 11	4190 20	5028 27	5866 32	6704 38	7542 42
36x36	9	8.63	Airflow, cfm NC	863 -	1726 -	2589 -	3452 11	4315 20	5178 27	6041 33	6904 38	7767 43
42x34 48x30	10	9.6	Airflow, cfm NC	960 -	1920 -	2880 -	3840 11	4800 20	5760 27	6720 33	7680 38	8640 43
38x38	10.03	9.64	Airflow, cfm NC	964 -	1928 -	2892 -	3856 11	4820 20	5784 27	6748 33	7712 38	8676 43
42x36	10.5	10.1	Airflow, cfm NC	1010 -	2020 -	3030 -	4040 11	5050 20	6060 27	7070 33	8080 38	9090 43
46x34	10.86	10.45	Airflow, cfm NC	1045 -	2090 -	3135 -	4180 11	5225 20	6270 27	7315 33	8360 38	9405 43
42x38	11.08	10.67	Airflow, cfm NC	1067 -	2134 -	3201 -	4268 11	5335 20	6402 27	7469 33	8536 38	9603 43
40x40	11.11	10.7	Airflow, cfm NC	1070 -	2140 -	3210 -	4280 11	5350 20	6420 27	7490 33	8560 38	9630 43
48x36	12	11.57	Airflow, cfm NC	1157 -	2314 -	3471 -	4628 11	5785 20	6942 27	8099 33	9256 39	10413 44
42x42	12.25	11.82	Airflow, cfm NC	1182 -	2364 -	3546 -	4728 11	5910 20	7092 27	8274 33	9456 39	10638 44
44x44	13.44	12.99	Airflow, cfm NC	1299 -	2598 -	3897 -	5196 12	6495 21	7794 28	9093 34	10392 39	11691 44
48x42	14	13.54	Airflow, cfm NC	1354 -	2708 -	4062 -	5416 12	6770 21	8124 28	9478 34	10832 40	12186 45
46x46	14.69	14.22	Airflow, cfm NC	1422 -	2844 -	4266 -	5688 12	7110 21	8532 28	9954 35	11376 40	12798 45
48x46	15.33	14.85	Airflow, cfm NC	1485 -	2970 -	4455 -	5940 12	7425 22	8910 28	10395 35	11880 40	13365 45
48x48	16	15.5	Airflow, cfm NC	1550 -	3100 -	4650 -	6200 13	7750 22	9300 29	10850 35	12400 40	13950 45

• Static pressures are negative, in inches of water, measured per ANSI/ASHRAE Standard 70-2006

• NC based on room absorption of 10 dB, re 10⁻¹² watts, measured per ANSI/ASHRAE Standard 70-2006