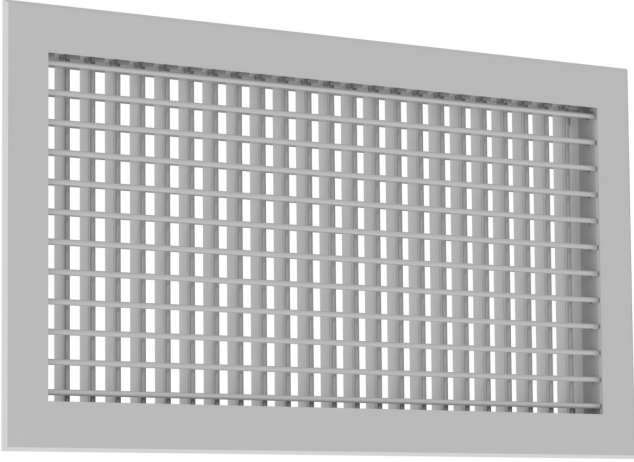




شركة مصنع عالم الناصريه المحدودة

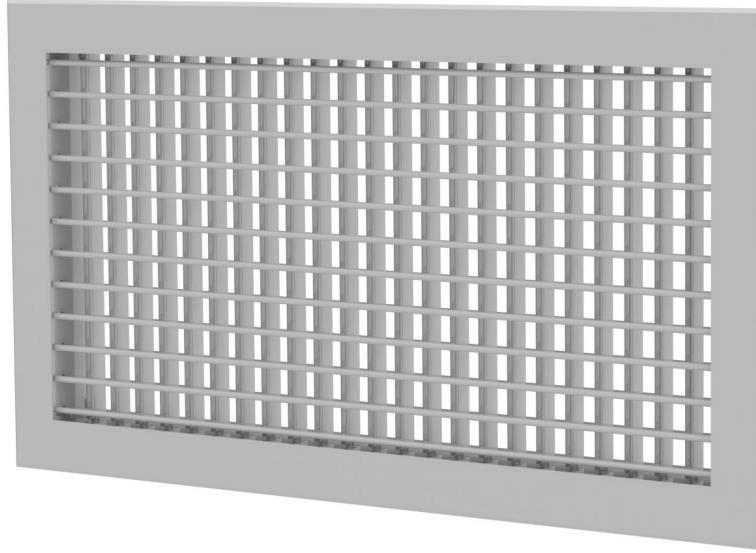
AL NASSERIAH WORLD FACTORY COMPANY LTD

## AIR GRILLES & REGISTERS



### ANA Air Grilles and Registers

Is designed for supplying or returning air, commonly used in wall air distribution applications. Basically constructed with single or double deflection blades, horizontally or vertically.



### ANA AG and AR Construction

#### Frame :

Constructed from extruded Aluminum alloy **6063** Profiles, with a thickness of **(1.2 mm)**, neck depth of **(25 mm or 45 mm)** ,depends on deflection options, and a flange width of **(30 mm)**.

#### Blades :

Constructed from extruded Aluminum alloy **6063** Profiles, attached horizontally as standard (Vertical front blades is available upon request) to the frame, and arranged with **(20 mm)** distances between each two blades centers.

#### Dampers:

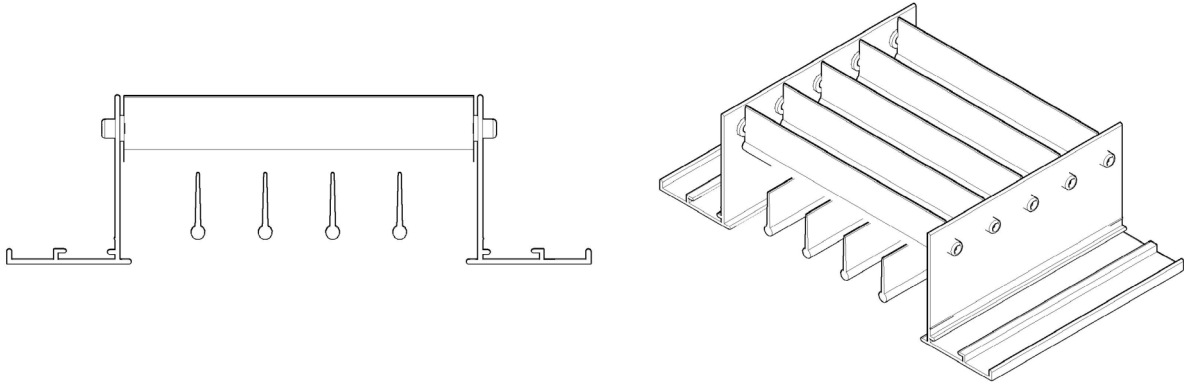
Added in air registers, Opposed blade damper (OBD) type easily attached to the top side of the grille by locking clips, constructed from extrude Aluminum alloy **6063**.

#### Finish :

Electrostatic powder coating is used for AG and AR with standard white color for the Frame and the blades **(RAL 9016)** and black color for the damper **(RAL 9005)** and other colors are available upon request from the customer.

## ANA Supply Air Grille

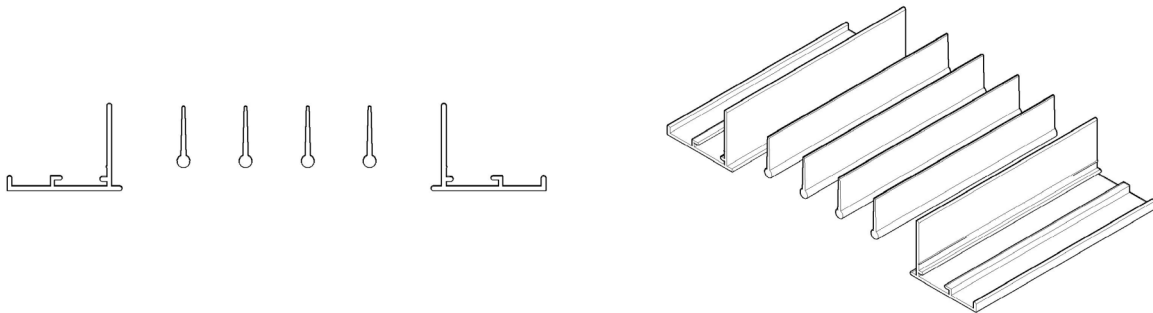
Model : NSAG - X



- Double deflection Horizontal or Vertical attached front blades with **(20 mm)** distance between the blades (Front Horizontal blades are standard)
- Front and rear blades are movable and can be adjusted to the required angle.

## ANA Return Air Grille

Model : NRAG - X



- Single deflection Horizontal or Vertical attached blades with **(20 mm)** distance between the blades.
- Blades are movable and can be adjusted to the required angle.

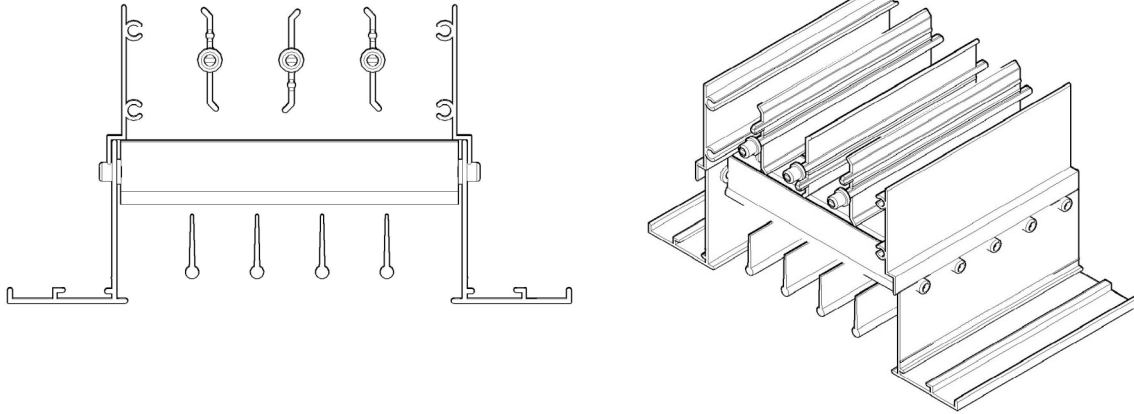
\*X - H (Front Blades are Horizontal) and V (Front Blades are Vertical)

Standard - Horizontal Front Blades

## AIR GRILLES & REGISTERS

### ANA Supply Air Register

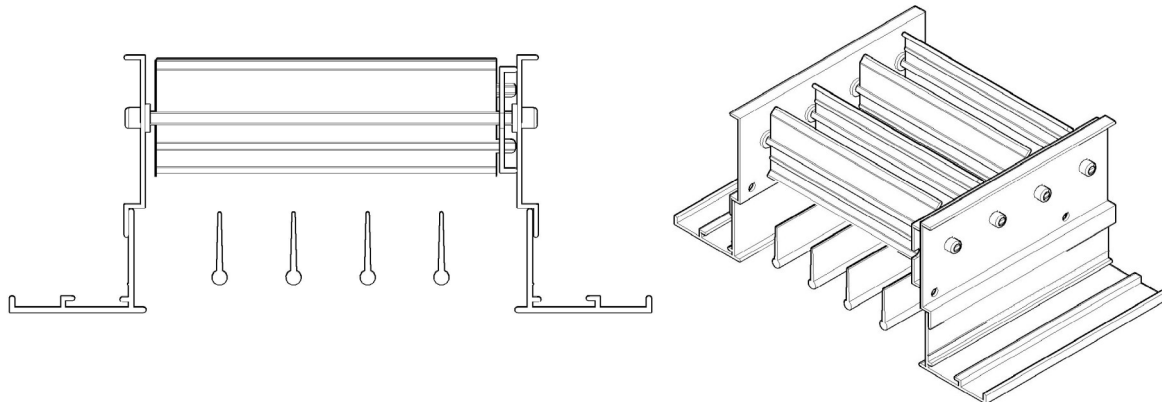
Model : NSAR- X



- Double deflection Horizontal or Vertical attached front blades with **(20 mm)** distance between the blades.
- Front and rear blades are movable and can be adjusted to the required angle.
- Opposed blade damper (OBD) is attached to the neck with locking clips and it's lever operated.

### ANA Return Air Register

Model : NRAR- X



- Single deflection Horizontal or Vertical attached blades with **(20 mm)** distance between the blades.
- Blades are movable and can be adjusted to the required angle.
- Opposed blade damper (OBD) is attached to the neck with locking clips and it's lever operated.

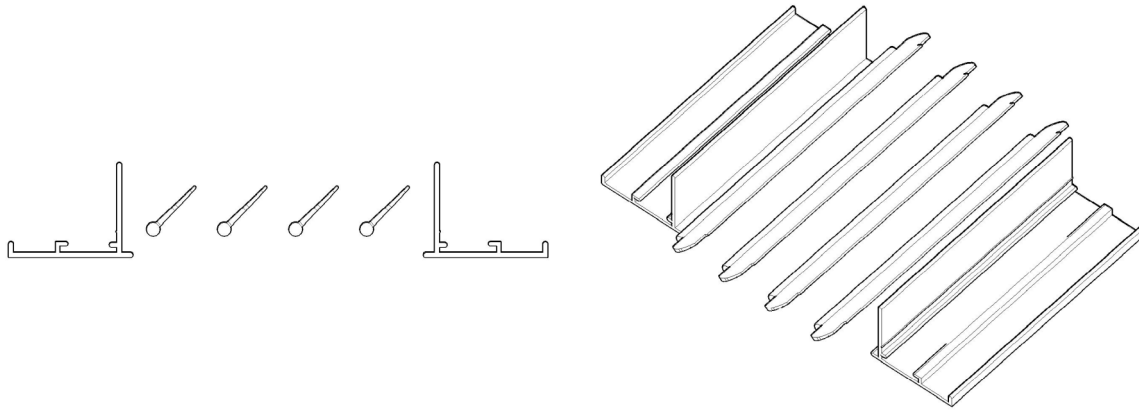
\*X - H (Front Blades are Horizontal) and V (Front Blades are Vertical)

Standard - Front Blades will be Horizontal

## AIR GRILLES & REGISTERS

### ANA Fixed Blade Air Grille

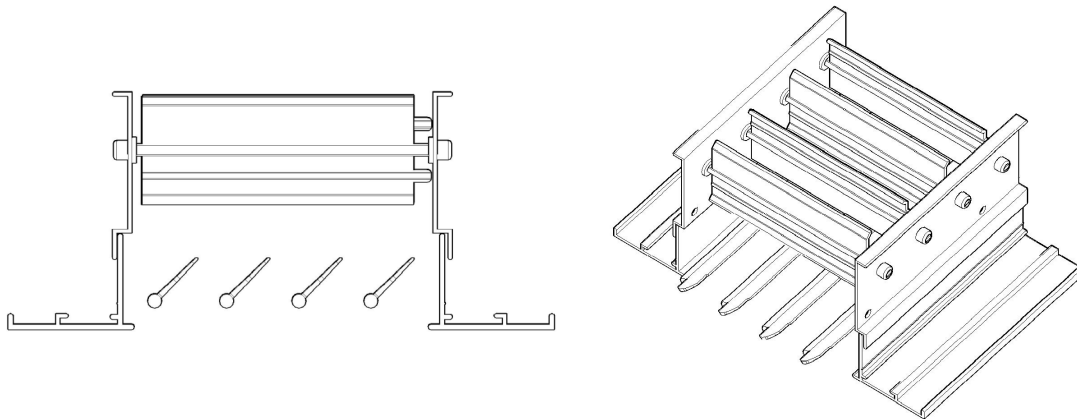
Model : NFBAG - X



- Single side of fixed blades with **(20 mm)** distance between each two blades center, used as transfer grille to pass the air to other rooms and partitions.
- Blades are fixed in an angle of **45°**.

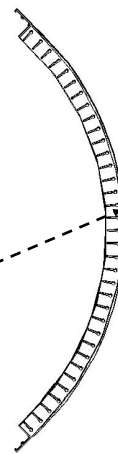
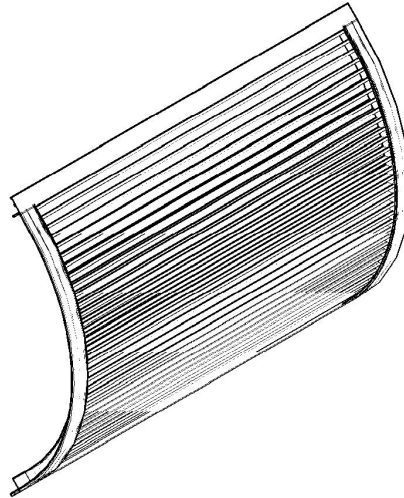
### ANA Fixed Blade Air Register

Model : NFBAR - X



- Single side of fixed blades with **(20 mm)** distance between each two blades center, used as transfer grille to pass the air to other rooms and partitions.
- Blades are fixed in an angle of **45°**.
- Opposed blade damper (OBD) is attached to the neck with locking clips and it's lever operated.

## ANA Curved Air Grille



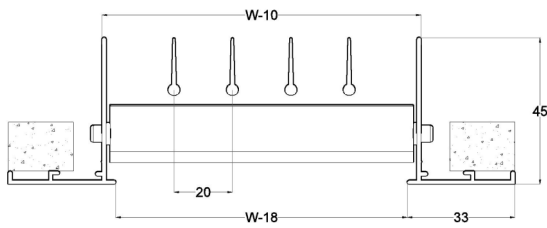
Radius up to Inside face of Grill

- The grilles are carefully constructed to be unobtrusive in appearance for architectural excellence. The grilles may be used in ceiling, side wall applications and Spiral duct etc.
- Single deflection with Horizontal movable blades are spaced with 20mm distance
- Radius up to the face of the grill or backside cutting on the height side of the grill.
- Opposed Blade damper (OBD) is not available for Curved Air Grille

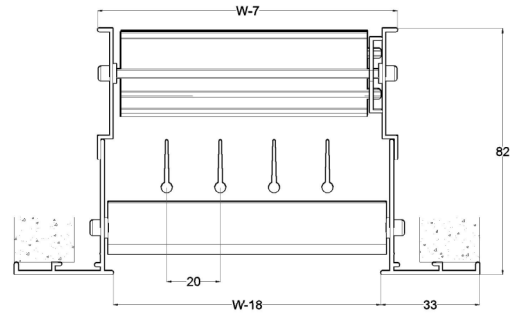
# AIR GRILLES & REGISTERS

## ANA Air Grilles & Registers Dimensions

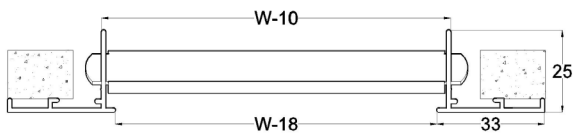
W = Ceiling or Wall opening width



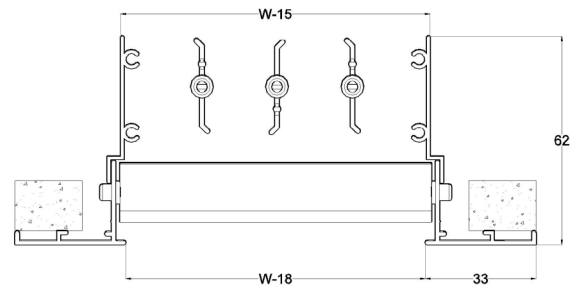
**SUPPLY AIR GRILL**



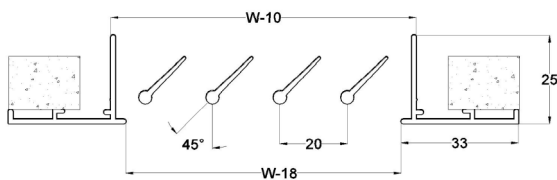
**SUPPLY AIR REGISTER**



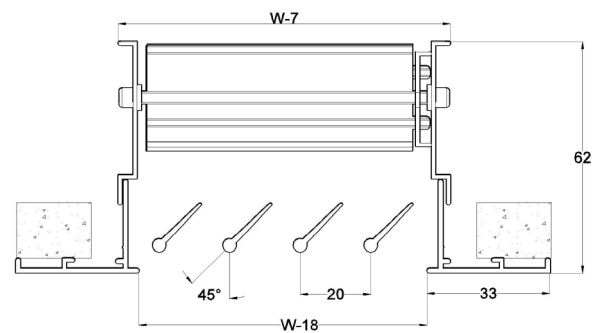
**RETURN AIR GRILL**



**RETURN AIR REGISTER**



**FIXED BLADE AIR GRILL**



**FIXED BLADE AIR GRILL**

## Quick Selection Table

Neck size A x B		Air flow CFM/Ft		Neck size A x B		Air flow CFM/Ft		Neck size A x B		Air flow CFM/Ft	
cm	Inches	min	max	cm	Inches	min	max	cm	Inches	min	max
20x20	8x4	50	150	42.5x20	17x8	210	420	120x20	48x8	615	1450
15x15	6x6	50	150	35x25	14x10	210	420	80x30	32x12	615	1500
25x20	10x4	60	200	100x10	40x4	245	500	67.5x35	27x14	615	1550
17.5x15	7x6	60	250	65x15	26x6	245	450	60x40	24x16	615	1600
30x10	12x4	60	220	47.5x20	19x8	245	450	55x45	22x18	615	1650
20x15	8x6	70	230	40x25	16x10	245	550	50x50	20x20	615	1660
40x10	16x4	100	240	32.5x30	13x12	245	600	120x25	48x10	760	1700
25x15	10x6	100	240	85x15	34x6	310	650	100x30	40x12	760	1750
45x10	18x4	100	250	60x20	24x8	310	650	90x35	36x14	760	1750
30x15	12x6	100	270	50x25	20x10	310	700	75x40	30x16	760	1800
20x20	8x8	100	270	40x30	16x12	310	750	65x45	26x18	760	1850
52.5x10	21x4	130	280	35x35	14x14	310	800	60x50	24x20	760	1900
35x15	14x6	130	250	95x15	38x6	355	820	120x30	48x12	920	1950
25x20	10x8	130	285	45x30	18x12	355	850	90x40	36x16	920	2000
60x10	24x4	150	290	40x35	16x14	355	900	80x45	32x16	920	2100
40x15	16x6	150	290	77.5x20	31x8	400	950	70x50	28x20	920	2150
70x10	28x4	155	300	62.5x25	25x10	400	980	60x60	24x24	920	2200
45x15	18x6	155	300	55x30	22x12	400	1000	120x35	48x14	1065	2500
30x20	12x8	155	300	45x35	18x14	400	1050	90x45	36x18	1065	2600
25x25	10x10	155	320	40x40	16x16	400	180	82.5x50	33x20	1065	2700
75x10	30x4	180	310	110x20	44x8	545	1200	70x60	28x24	1065	2800
50x15	20x6	180	310	90x25	36x10	545	1250	120x40	48x16	1260	3000
35x20	14x8	180	290	75x30	30x12	545	1300	110x45	44x18	1260	3100
30x25	12x10	180	315	60x35	24x14	545	1350	95x50	38x20	1260	3200
90x10	36x4	180	410	55x40	22x16	545	1400	87.5x55	35x22	1260	3300
55x15	22x6	210	410	50x45	20x18	545	1440	77.5x60	31x24	1260	3350

For selections please use technical data table or use the quick selection table to determine the suitable AG or AR size :

1. Calculate the value of the air flow.
2. Use the Data sheet to determine the suitable size according to the required throw and NC.
3. For preselected sizes specifications, search for the size or the closest bigger size.

## AIR GRILLES & REGISTERS

### ANA Supply Air Grille & Register (Page no:8 to 11)

Size WxH (inches)	A <sub>r</sub> (sq.ft)	Air Flow (cfm)	50	75	100	125	150	175	200	225	250
5x6 8x4 6x6	0.16	Total Pressure	0.008	0.018	0.033	0.051	0.074				
		Throw (ft.)	7-10	9-12	10-14	11-16	12-17				
		NC	18	19	20	20	20				
		Velocity (fpm)	315	470	625	780	940				
8x5 10x4 8x6 12x4 10x5	0.20	Total Pressure	0.005	0.011	0.02	0.031	0.045	0.66	0.081		
		Throw (ft.)	7-10	9-12	10-14	11-16	12-17	13-18	144-20		
		NC	18	19	20	20	20	20	20		
		Velocity (fpm)	250	375	500	625	750	875	1000		
14x4 10x6 12x5 16x4	0.27	Total Pressure			0.009	0.014	0.021	0.028	0.037		
		Throw (ft.)			10-14	11-16	12-17	13-18	14-20		
		NC			20	20	20	20	20		
		Velocity (fpm)			370	463	555	650	740		
14x5 18x4 12x6	0.32	Total Pressure			0.006	0.009	0.014	0.02	0.025	0.031	0.039
		Throw (ft.)			10-14	11-16	12-18	13-19	14-20	15-22	16-23
		NC			20	20	20	20	20	20	20
		Velocity (fpm)			315	390	480	545	635	705	780
14x6 20x4 16x5 10x8	0.36	Total Pressure			0.005	0.008	0.011	0.015	0.019	0.024	0.03
		Throw (ft.)			10-14	11-16	12-18	13-19	14-20	15-22	16-23
		NC			20	20	20	20	20	20	20
		Velocity (fpm)			280	345	415	490	555	625	695
24x4 16x6 12x8 20x5 10x10	0.41	Total Pressure (in.w.g)			0.004	0.006	0.008	0.011	0.014	0.018	0.022
		Throw (ft.)			9-15	11-16	12-17	13-19	14-20	15-22	16-23
		NC			20	20	20	20	20	20	20
		Velocity (fpm)			245	305	365	425	490	550	615

#### Data Key :

- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- A<sub>r</sub> : Area Factor (Square Feet).

## ANA Supply Air Grille & Register

Size WxH (inches)	Ar (sq.ft)	Air Flow (cfm)	300	325	350	375	400	425	450	475	500	550
14x14 20x10 34x6	0.82	Total Pressure	0.007	0.009	0.010	0.012	0.015	0.018	0.020	0.021	0.022	0.023
		Throw (ft.)	14-20	16-22	16-23	17-25	20-25	21-30	20-27	20-28	20-29	22-33
		NC	18	19	20	20	20	21	21	21	21	21
		Velocity (fpm)	355	400	445	490	535	580	600	610	635	690
36x6 18x12 22x10 28x8 16x14	0.94	Total Pressure					0.10	0.013	0.015	0.016	0.017	0.019
		Throw (ft.)					14-20	15-22	16-23	16-24	17-25	18-22
		NC					19	20	20	20	20	21
		Velocity (fpm)					415	470	520	480	530	500
30x8 32x8 24x10 18x14 48x5 20x12 30x10	1.06	Total Pressure									0.10	0.012
		Throw (ft.)									23-32	24-34
		NC									20	21
		Velocity (fpm)									470	520
28x10 20x14 48x6 36x8 24x12 30x10	1.22	Total Pressure									0.006	0.007
		Throw (ft.)									22-32	23-33
		NC									20	20
		Velocity (fpm)									400	430
32x10 20x16 40x8 18x18 28x12 24x14	1.38	Total Pressure									0.006	0.007
		Throw (ft.)									22-32	23-33
		NC									20	20
		Velocity (fpm)									360	400
36x10 30x12 20x18 48x8 32x12 24x16	1.51	Total Pressure									0.004	0.005
		Throw (ft.)									22-31	23-33
		NC									20	20
		Velocity (fpm)									330	365

### Data Key :

- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- Ar : Area Factor (Square Feet).

## ANA Supply Air Grille & Register

Size WxH (inches)	A <sub>r</sub> (sq.ft)	Air Flow (cfm)	600	650	700	750	800	900	1000	1100	1200
22x8 36x5 30x6 18x10 48x4 32x6	0.8	Total Pressure	0.028	0.031	0.039	0.045	0.051				
		Throw (ft.)	25-35	25-36	26-38	28-40	29-43				
		NC	22	24	26	29	31				
		Velocity (fpm)	720	785	845	905	965				
14x14 20x10 34x6	0.85	Total Pressure	0.019	0.022	0.026	0.029	0.034				
		Throw (ft.)	25-35	26-37	27-38	28-40	29-43				
		NC	21	24	26	29	31				
		Velocity (fpm)	705	765	825	880	940				
36x6 16x12 22x10 28x8 16x14	0.94	Total Pressure	0.018	0.021	0.024	0.027	0.032				
		Throw (ft.)	25-35	26-37	27-38	28-40	28-42				
		NC	20	23	25	28	29				
		Velocity (fpm)	640	690	745	800	850				
30x8 24x10 18x14 48x5 20x12 32x8	1.06	Total Pressure	0.014	0.016	0.019	0.022	0.025				
		Throw (ft.)	24-35	26-37	26-38	28-40	28-40				
		NC	20	22	24	27	28				
		Velocity (fpm)	565	615	660	710	755				
28x10 20x14 48x6 38x8 24x12 30x10	1.22	Total Pressure	0.009	0.010	0.012	0.013	0.016	0.020	0.025		
		Throw (ft.)	24-34	25-35	27-39	28-40	29-41	30-43	32-46		
		NC	20	20	23	25	27	30	34		
		Velocity (fpm)	460	510	595	615	690	740	830		
32x10 20x16 40x8 18x16 28x12 24x14	1.38	Total Pressure	0.007	0.008	0.009	0.010	0.012	0.015	0.016	0.022	0.026
		Throw (ft.)	24-34	25-35	27-39	29-40	29-41	30-43	32-46	33-47	35-49
		NC	20	20	20	23	24	26	32	35	38
		Velocity (fpm)	435	470	505	545	580	650	725	795	870

### Data Key :

- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- A<sub>r</sub> : Area Factor (Square Feet).

## ANA Supply Air Grille & Register

Size WxH (inches)	Ar (sq.ft)	Air Flow (cfm)	1200	1300	1400	1500	1600	1700	1800	1900	2000	2400	2800	3200
36x10 30x12 20x18 48x8 32x12 24x16	1.51	Total Pressure	0.022	0.026										
		Throw (ft.)	36-50	37-51										
		NC	37	39										
		Velocity (fpm)	795	860										
28x14 22x18 20x20 40x10 34x12	1.75	Total Pressure	0.018	0.021										
		Throw (ft.)	35-49	36-51										
		NC	36	38										
		Velocity (fpm)	685	740										
30x14 24x18 36x12	1.81	Total Pressure	0.014	0.017	0.019									
		Throw (ft.)	35-50	36-51	38-53									
		NC	35	37	40									
		Velocity (fpm)	665	720	775									
30x16 40x12 48x10 60x8	2	Total Pressure	0.011	0.013	0.016									
		Throw (ft.)	35-49	36-51	37-53									
		NC	34	36	39									
		Velocity (fpm)	600	650	700									
50x10 42x12 36x14 28x18 32x16	2.12	Total Pressure	0.008	0.009	0.010	0.011	0.013	0.015	0.017					
		Throw (ft.)	35-49	36-51	38-53	39-55	40-57	41-58	42-60					
		NC	31	34	36	38	41	44	47					
		Velocity (fpm)	565	615	660	705	755	800	850					
24x24 36x16 48x12 72x8 58x10 60x10	2.48	Total Pressure	0.006	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.020	0.027	0.035
		Throw (ft.)	35-49	36-51	37-53	39-55	40-57	41-58	42-60	44-62	45-63	49-69	53-75	67-80
		NC	26	28	30	32	34	36	38	40	42	50	52	55
		Velocity (fpm)	485	525	565	605	645	685	725	765	805	965	1130	1290

### Data Key :

- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- Ar : Area Factor (Square Feet).

## ANA Return Air Grille & Register (Page 12 to 15)

Size WxH (inches)	Ar (sq.ft)	Air Flow (cfm)	50	75	100	125	150	175	200	225	250
5x6 8x4 6x6	0.16	Total Pressure	0.008	0.018	0.033	0.051	0.074				
		NC	18	19	20	20	20				
		Velocity (fpm)	315	470	625	780	940				
8x5 10x4 8x6 12x4 10x5	0.20	Total Pressure	0.005	0.011	0.02	0.031	0.045	0.066	0.081		
		NC	18	19	20	20	20	20	20		
		Velocity (fpm)	250	375	500	625	750	875	1000		
14x4 10x4 8x6 12x4 10x5	0.27	Total Pressure			0.009	0.014	0.021	0.028	0.037		
		NC			20	20	20	20	20		
		Velocity (fpm)			370	463	555	650	740		
14x5 18x4 12x6	0.32	Total Pressure			0.006	0.009	0.014	0.02	0.025	0.031	0.039
		NC			20	20	20	20	20	20	20
		Velocity (fpm)			315	390	480	545	635	705	780
14x6 20x4 16x5 10x8	0.36	Total Pressure			0.005	0.008	0.011	0.015	0.019	0.024	0.03
		NC			20	20	20	20	20	20	20
		Velocity (fpm)			280	345	415	490	555	625	695
24x4 16x6 12x8 20x5 10x10	0.41	Total Pressure			0.004	0.006	0.008	0.011	0.014	0.018	0.022
		NC			20	20	20	20	20	20	20
		Velocity (fpm)			245	305	365	425	490	550	615

### Data Key :

- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- Ar : Area Factor (Square Feet).

## ANA Return Air Grille & Register

Size WxH (inches)	Ar (sq.ft)	Air Flow (cfm)	300	325	350	375	400	425	450	475	500	550
14x14 20x10 34x6	0.82	Total Pressure	0.007	0.009	0.010	0.012	0.015	0.018	0.020	0.021	0.022	0.023
		NC	18	19	20	20	20	21	21	21	21	21
		Velocity (fpm)	355	400	445	490	535	580	600	610	635	690
36x6 18x12 22x10 28x8 16x14	0.94	Total Pressure					0.010	0.013	0.015	0.012	0.017	0.019
		NC					19	20	20	20	20	21
		Velocity (fpm)					415	470	520	480	530	500
30x8 24x10 18x14 48x5 20x12 16x16	1.06	Total Pressure (in.w.g)									0.010	0.012
		NC									20	21
		Velocity (fpm)									470	520
28x10 20x14 48x6 36x8 24x12 30x10	1.22	Total Pressure									0.006	0.007
		NC									20	20
		Velocity (fpm)									400	430
32x10 20x16 40x8 18x18 28x12 24x14	1.38	Total Pressure									0.005	0.006
		NC									20	20
		Velocity (fpm)									360	400
36x10 30x12 20x18 48x8 32x12 24x16	1.51	Total Pressure									0.004	0.005
		NC									20	20
		Velocity (fpm)									330	365

### Data Key :

- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- Ar : Area Factor (Square Feet).

## ANA Return Air Grille & Register

Size WxH (inches)	Ar (sq.ft)	Air Flow (cfm)	600	650	700	750	800	900	1000	1100	1200
22x8 36x5 30x6 18x10 48x4 32x6	0.8	Total Pressure	0.028	0.031	0.039	0.045	0.051				
		NC	22	24	26	29	31				
		Velocity (fpm)	720	785	845	905	965				
14x14 20x10 34x6	0.85	Total Pressure	0.019	0.022	0.026	0.029	0.034				
		NC	21	24	26	29	31				
		Velocity (fpm)	705	765	825	880	940				
36x6 16x12 22x10 28x8 16x14	0.94	Total Pressure	0.014	0.016	0.019	0.022	0.025				
		NC	20	22	24	27	28				
		Velocity (fpm)	640	690	745	800	850				
30x8 24x10 18x14 48x5 20x12 32x8	1.06	Total Pressure	0.014	0.016	0.019	0.022	0.025				
		NC	20	22	24	27	28				
		Velocity (fpm)	565	615	660	710	755				
28x10 20x14 48x6 38x8 24x12 30x10	1.22	Total Pressure	0.009	0.010	0.012	0.013	0.016	0.020	0.025		
		NC	20	20	23	25	27	30	34		
		Velocity (fpm)	460	510	595	615	690	740	830		
32x10 20x16 40x8 18x16 28x12 24x14	1.38	Total Pressure	0.007	0.008	0.009	0.010	0.012	0.015	0.016	0.022	0.026
		NC	20	20	20	23	24	26	32	35	38
		Velocity (fpm)	435	470	505	545	580	650	725	795	870

### Data Key :

- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- Ar : Area Factor (Square Feet).

## ANA Return Air Grille & Register

Size WxH (inches)	A <sub>r</sub> (sq.ft)	Air Flow (cfm)	1200	1300	1400	1500	1600	1700	1800	1900	2000	2400	2800	3000
36x10 30x12 20x18 48x8 32x12 24x16	1.51	Total Pressure	0.022	0.026										
		NC	37	39										
		Velocity (fpm)	795	860										
28x14 22x18 20x20 40x10 34x12	1.75	Total Pressure	0.018	0.021										
		NC	36	38										
		Velocity (fpm)	685	740										
30x14 24x18 36x12	1.81	Total Pressure	0.014	0.017	0.019									
		NC	35	37	40									
		Velocity (fpm)	665	720	775									
30x16 40x12 48x10 60x8	2	Total Pressure	0.011	0.013	0.016									
		NC	34	36	39									
		Velocity (fpm)	600	650	700									
50x10 42x10 42x12 36x14 28x18 32x16	2.12	Total Pressure	0.008	0.009	0.010	0.011	0.013	0.015	0.017					
		NC	31	34	36	38	41	44	47					
		Velocity (fpm)	565	615	660	705	755	800	850					
24x24 36x16 48x12 72x8 58x10 60x10	2.48	Total Pressure	0.006	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.020	0.027	0.035
		NC	26	28	30	32	34	36	38	40	42	50	52	55
		Velocity (fpm)	485	525	565	605	645	685	725	765	805	965	1130	1290

### Data Key :

- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- A<sub>r</sub> : Area Factor (Square Feet).

## ANA Fixed Blade Grille & Register

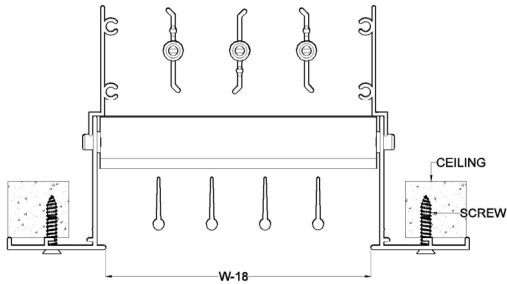
Size WxH (inches)	Ar (sq.ft)	Air Flow (cfm)	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400
6x6	0.13	Total Pressure	0.013	0.029	0.052	0.087	0.118										
		NC	18	19	20	20	20										
		Velocity (fpm)	385	575	770	960	1155										
8x8	0.18	Total Pressure	0.006	0.014	0.025	0.039	0.057	0.077	0.100								
		NC	18	19	20	20	20	20	20								
		Velocity (fpm)	285	420	560	700	840	975	1100								
10x10	0.37	Total Pressure			0.004	0.006	0.010	0.014	0.017	0.021	0.027						
		NC			20	20	20	20	20	20	20						
		Velocity (fpm)			270	340	405	470	540	610	675						
12x12	0.52	Total Pressure					0.004	0.005	0.007	0.009	0.012	0.016	0.017	0.020	0.023	0.026	0.030
		NC					18	18	19	19	20	20	20	20	20	21	21
		Velocity (fpm)					285	335	375	430	470	530	575	625	675	720	770

### Data Key :

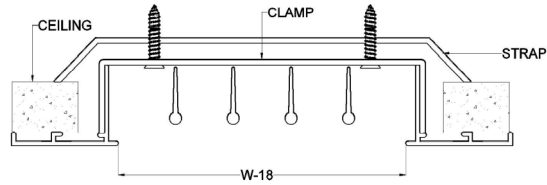
- Air Flow : (CFM)
- Velocity : Feet per Minute (FPM)
- Throw : Feet (ft.)
- Pressure drop : Inch Water Gauge (in.w.g)
- CFM : Cubic Feet per Minute (CFM)
- NC : Noise Criteria at 10db attenuation.
- Ar : Area Factor (Square Feet).

## AIR GRILLES & REGISTERS

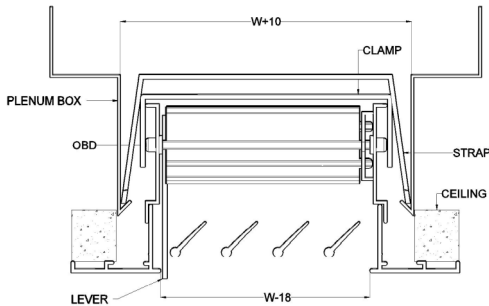
### ANA AG and AR Installation :



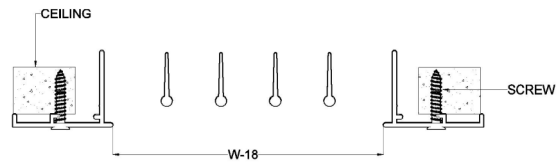
**Screw in wall**



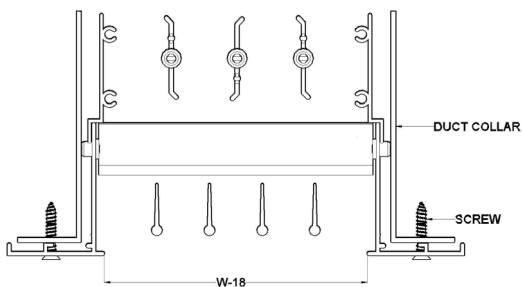
**Clamp & Strap\***



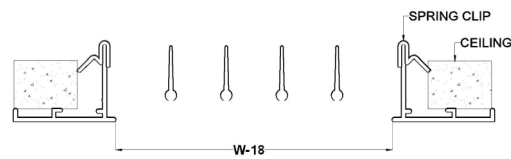
**Clamp & Strap in Plenum**



**Screw in Wall**



**Screw on duct collar**



**Spring Clip**

### ANA Long AG and AR

- AG and AR at ANA factory are manufactured in a maximum length of 5 meters per single piece .
- Each 30 cm blades are reinforced with abutment in between.
- \* Clamp and Strap will be provided with additional cost.





