

The following installation details apply to model **CAR**

Use and Operation

The CAR Constant Airflow Regulator is a device that automatically regulates airflow in duct systems to constant levels. CAR responds automatically to duct pressure changes to regulate airflow in supply or exhaust applications. The CAR adjusts the amount of free area therefore controlling constant velocity and airflow. The passive control element responds to duct pressure and requires no electric or pneumatic sensors or controls. Airflow adjustment range is controlled with a bit Torx T10, CAR is a low-cost solution to balancing forced-air systems for heating, air conditioning and ventilation, eliminating the need for in-site balancing.

Installation

1. CAR may be installed either in horizontal or vertical round duct. If installed in horizontal duct, the BAS marking must face downward.
2. Device to be installed in registered boxes, rigid ducts, or duct collars through a friction fit caused by the rubber gasket. The gasket also creates an air seal. **DO NOT USE FASTENERS TO INSTALL THIS PRODUCT.**
3. If installed in the intake position, the CAR must be set back at least three times the duct diameter from intake grills. The CAR must also be set back at least three times the duct diameter from duct connections duct bends, or other places with turbulent air.
4. If installed in an exhaust position, the CAR must be set back at least the distance of the duct diameter from duct exhaust grills. The CAR must also be set back the distance of the duct diameter from duct connections, duct bends, or other places with turbulent air.
5. Install with access for future removal or inspection.
6. Avoid using fasteners in the duct where the CAR is placed to prevent ineffective operation and damage.
7. Avoid contact between the CAR and gypsum board duct.
8. Install in accordance with necessary mechanical and building codes.
9. Install CAR following the correct airflow direction of the duct.

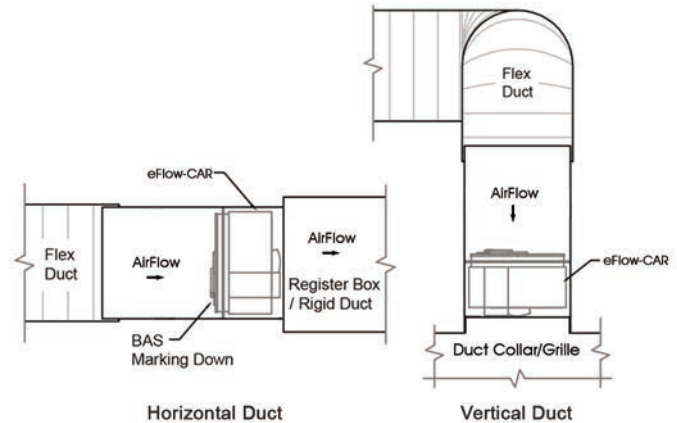
Maintenance

The CAR Constant Airflow Regulator requires no maintenance when used in normal conditions. However, if the device is installed in filterless exhaust application, maintaining access for future cleaning and inspection is recommended. To clean the CAR, remove CAR, wash it with soap and warm water, dry the CAR, and reinstall the product.

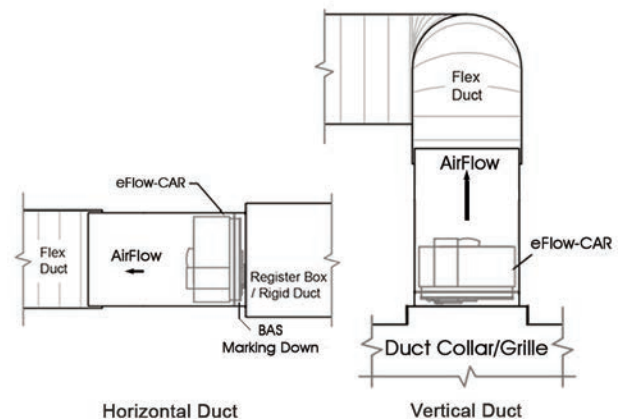
Adjustments

The CAR Constant Airflow Regulator has an adjustment range, controlled with a bit Torx T10. To change the airflow rate, unscrew the set screw and slide the CAR section of the regulator up or down. Move up to decrease airflow rate. Move down to increase airflow rate.

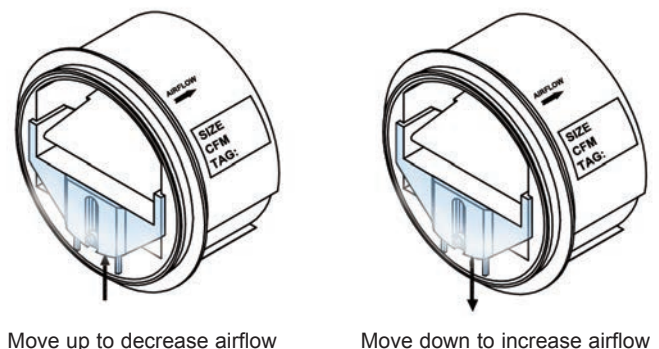
Intake Applications



Exhaust Applications



Airflow Adjustment



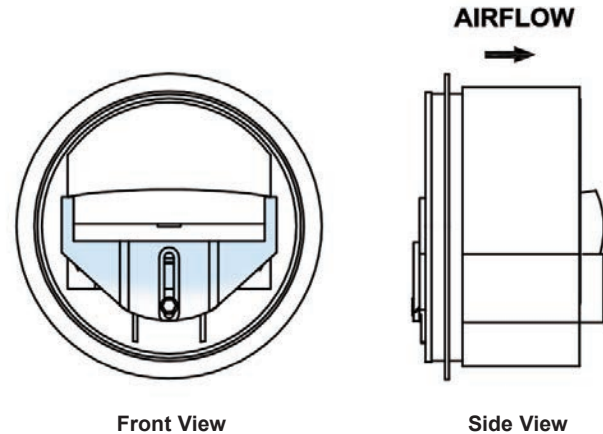
Issues and Solutions

If airflow is too low:

- Wrong CAR installed; check CFM requirements against CAR label, replace or adjust airflow if necessary.
- CAR operating incorrectly; check CAR for damage and replace if necessary.
- Duct pressure too low; increase fan speed or replace fan if necessary.
- Duct air leakage too high; seal any gaps with tape.

If airflow or noise is too high:

- Wrong CAR installed; check CFM requirements against CAR label, replace or adjust airflow if necessary.
- CAR operating incorrectly; check CAR for damage and replace if necessary.
- Duct pressure too high; decrease fan speed or replace fan if necessary.
- CAR too close to fan; separate the two with manual damper to lower pressure through CAR, or move CAR further away from fan.



Cubic Feet/Minute (CFM) - Cubic Meter/Hour (CMH) Conversion Charts

To set desired Cubic Feet/Minute (CFM) setpoint, please refer to the conversion charts below.

CAR 3"		CAR 4"		CAR 5"		CAR 6"		CAR 8"		CAR 10"		CAR 10" (cont)	
CFM	CMH	CFM	CMH	CFM	CMH	CFM	CMH	CFM	CMH	CFM	CMH	CFM	CMH
10	15	30	50	60	100	105	180	175	300	265	450	418	710
12	20	35	60	65	110	111	190	182	310	270	460	424	720
15	25	41	70	70	120	118	200	188	320	277	470	430	730
18	30	44	75	77	130	124	210	194	330	283	480	436	740
21	35	47	80	82	140	130	220	200	340	288	490	441	750
24	40	53	90	88	150	141	240	206	350	295	500	447	760
26	45	60	100	95	160	147	250	212	360	300	510	453	770
30	50			100	170	153	260	218	370	306	520	459	780
				105	180	159	270	224	380	312	530	465	790
						165	280	230	390	318	540	470	800
						170	290	235	400	324	550		
						175	300	241	410	330	560		
								247	420	335	570		
								253	430	341	580		
								259	440	347	590		
								265	450	353	600		
								270	460	360	610		
								277	470	365	620		
								283	480	370	630		
								288	490	377	640		
								295	500	383	650		
										388	660		
										394	670		
										400	680		
										406	690		
										412	700		