



Tamarack Technologies, Inc.

The Cape Backdraft Damper

The Cape Backdraft Damper is the ultimate one way air flow valve, designed to overcome the inefficiencies and limitations of traditional gravity or butterfly dampers.

The Cape Backdraft Damper consists of a specially formulated fabric sleeve attached to an outer metal sleeve. The fabric sleeve will allow air to pass through in the desired direction of flow with miniscule reduction in airflow. We tested our damper against two others at a moderate airflow, the kind of airflow you will see in a residential ventilation application. First, we ran the fan through plain duct, to set our desired airflow. Then we inserted each type of damper into the same duct and measured the airflow.

Product	Resulting Airflow in CFM
6" duct, 4'length	80
Butterfly damper	17
Gravity damper	30
Cape Damper	77

The other dampers decrease system efficiency by adding static pressure in the direction of desired airflow. This parasitic loss will mean that the system will fail to operate as designed.

For reverse airflow, airflow that should be stopped by a backdraft damper, the Cape Backdraft Damper gives a better seal at a lower pressure and holds that seal as the pressure increases. We used the same setup for this except that because these dampers are all reasonably effective at stopping air we compared leakage rates at various pressures.

Leakage in CFM @ Inches/wg

Product	-.10"wg	-.080	-.052	-.036	-.018
Butterfly damper	1.6 CFM	2.0	1.6	1.2	1.0
Gravity damper	3.0	4.0	5.0	5.0	5.0
Cape Damper	0.4	2.0	2.0	2.0	2.0

The Cape Damper works as well or better than other dampers at stopping undesired airflow. The Cape Damper is far superior at allowing unrestricted airflow in the desired direction of flow; it doesn't steal away system efficiency. The Cape Damper is quiet, no metal clanging sounds, and it can be installed in a horizontal or vertical orientation.