

High Flow Myth

What does high flow really mean?

Many companies have been marketing high flow converters for years, and new types of high flow converters are being released. What does high flow really mean and what does it apply to? Below we will outline some key points that are important when selecting a catalytic converter, and how to determine what parts are appropriate.

High Flow Converters VS Conventional Aftermarket Converters

You may ask what is the difference between a high flow converter and its conventional counterpart. In most cases, they appear the same, and the only obvious difference is the part number and the label on the box. So what is the real difference here? The truth is, high flow is not really defined in the converter industry, and is mostly a marketing ploy. Often the difference is that the manufacturers do manufacture the parts better, to ensure that no rough edges are left on the inside of the part that could disrupt airflow and create turbulence. Some companies have designed thinner walled catalyst with more cells per inch, which results in increased airflow and efficiency. Beyond that, there is really little difference, unless the converter is obviously larger than alternative parts.

What about Spun Metallic converters?

You have probably heard that metallic converters are less restrictive to exhaust gases than ceramic units. Is there any truth to this? Yes there is some truth involved, there are metallic converters that have superior airflow qualities. However, most of the metallic converters on the market today, both aftermarket, and OEM, are actually inferior to their ceramic counterparts in terms of airflow characteristics. Due to the way they are constructed, they have a number of serious flaws. Firstly, there is no real control on the cell density. The density varies by how tightly the unit is wrapped. In general, this means that the center of the converter, will normally be wrapped the tightest. The small pores tend to be restrictive in comparison to the larger pores on the outside. The larger pores have less contact with the exhaust gases than the smaller pores, yet the exhaust gases will tend to naturally flow through the largest pores. This causes the converter to become much less efficient than its ceramic counterpart. The steel substrate typically used has less surface area than ceramic, which aggravates the situation. Of all the vehicles under recall from Toyota, Honda, Nissan, and others manufactured between 2000—2005 for emissions related problems, a large percentage of them are using metallic substrates. This leaves metallics with only 3 advantages over ceramic substrates. Heat resistance (the substrate may resist melting, but the catalyst on the surface may still be damaged.) and structural integrity (the substrate is not easily broken). They can also be manufactured to small sizes without needed additional padding.

High Flow Aftermarket VS OEM

So one may ask, how do these high flow converters rank against the converters that were originally made for the vehicle. This is a good question and one many people shy away from. Each OEM converter is designed to meet strict emission requirements, and also to help maintain proper backpressure and sound. Aftermarket converters on the other hand are generally manufactured to a price standard. High flow converters are no exception. Depending on the application, most aftermarket converters are inferior to OEM designs in terms of airflow. The substrates are typically smaller than OEM designs, offering fewer passages and thicker cell walls. This increases backpressure. Since the cans are smaller, they tend to alter sound differently. Instead of having a deep mellow tone, they often have a louder un-muffled tone that tends to give the impression of increased power. In reality, it is the lack of resonance within the can, and the small substrate. This tends to be especially true of trucks, SUVs, large passenger cars, and high performance application. Most mid to small body converters are best suited to small vehicles with small engines. Larger vehicles with larger engines tend to have larger converters, and these should generally be replaced with a converter of comparable size to maintain proper airflow and sound.

What does Bear River Converters Offer?

We carry several different sizes of converters for many applications, including remanufactured OEM and a line of premium quality universal converters. The 500 series is well suited to small cars and for replacing pre-cats. The 900 series is suitable for most cars and light trucks, though discretion should be used. The 1000 series is suitable for high performance applications, trucks, SUVs, and large cars. The 200 and 2000 series are intended for all high performance applications, including trucks and SUVs rated over 6,000 lbs. If you have any questions about which products would be best suited to your application, feel free to give us a call and we would be more than happy to advise you.