



For questions or to place an order, please contact asaldana@orinocollc.com, or visit our website at orinocollc.com.

flowMAX

hi-tech MUFFLER system

CLEAN air and a SMOOTH ride

***STAINLESS STEEL that will never
rust or corrode***

Unique Features:

- ◆ ***True Free Flow Design***
- ◆ ***Scavenging Effect at 1500 RPM***
- ◆ ***Low Backpressure helps increase torque***
- ◆ ***Good torque on low RPMs***
- ◆ ***Free Flow = Releasing available horsepower***
- ◆ ***Stainless Steel 304 Body***
- ◆ ***Aluminum End Caps***
- ◆ ***CNC Machined Components***
- ◆ ***Engineered Down Pipe for better flowing***
- ◆ ***Slip-on Ease of Installation***

Securing the muffler to the passenger peg or other mounting point on the motorcycle consists of a specifically formed, laser-cut, 304 series stainless steel body clamp. We insulate this clamp with an extruded rubber insulator strap to assure a slip-free secure system. All applications feature custom bends/ears, so that no other brackets are required.

Scooter Program Data Sheet

RPM	Temp F°	Delta h	Inch ³	Pressure lb.
1000	244	1	0.1963	0.0062
1432	316	2	0.3925	0.0124
1570	333	3	0.5888	0.0185
1576	352	4	0.7850	0.0247

Pressure = $\rho \cdot g \cdot h$

Symbol $g = .83$

.0315 lb/in³

1/18/2007

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Backpressure: Friend or Foe?

Backpressure can influence in 2 places: Just at the start when the exhaust valve opens and at cam overlap.

Figure 1. Pressure measurements at the exhaust valve during the start of the exhaust stroke at BDC to cam overlap at the end of the exhaust stroke/beginning of the intake stroke at TDC.

(DIAGRAM)

Notice the positive (backpressure) spike at the far left as the exhaust valve just opens at BDC. The exhaust gases must now push against this POSITIVE (back)pressure before it can leave the combustion chamber. The pressure tracing is upwards and positive. Energy must be used up in order to overcome the initial positive (back) pressure in the exhaust system before the exhaust gas is pushed out of the combustion chamber.

After we are able to overcome the positive backpressure, you see that the exhaust gas begins to travel faster and creates a NEGATIVE pressure. The pressure tracing in the diagram is downwards or has a negative value. The more negative a pressure becomes means that you are creating more suction or a vacuum in the system. The system is literally sucking or pulling out exhaust gas from the combustion chamber or cylinder. This sucking or "SCAVENGING" effect not only helps remove more exhaust gas from the cylinder. It also helps suck in more intake air & fuel mix at cam overlap. The faster the exhaust gas travels, the more vacuum it creates. We want to get as much as negative pressure created before cam overlap.

Figure 2. Pressure at the intake port, in the combustion chamber, and in the exhaust port at cam overlap and afterwards. Everything is interconnected. The pressure in one section affects the pressure inside another section.