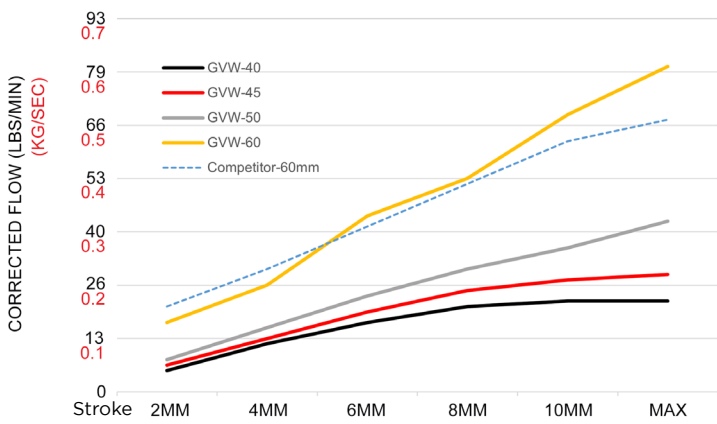


GARRETT VENT | EXTERNAL WASTEGATES

Flow Data

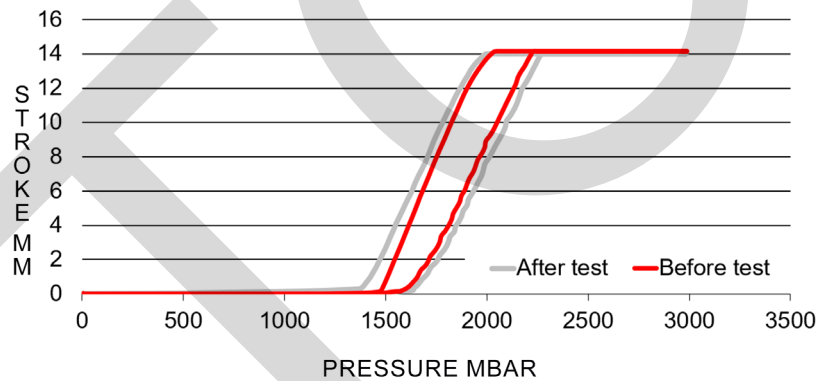


Actuation Durability Test Data

When researching and testing common shortfalls of wastegates, we observed how heat cycling and normal wear can rapidly change their actuation characteristics. Garrett engineers created GVW as a high flowing product with low degradation in performance over its lifespan.

Actuation data (opening and closing) in the chart was measured before and after extreme testing conditions. Results show the heat cycled GVW product maintains linear control of the wastegate as compared to the new product.

Precise actuation of the GVW provides accurate calibration settings and performance throughout the lifespan of the product. Accurate wastegates, allow for optimum performance of the turbocharger.



Spring Pressure Chart

	PSI	3	4	6	7	9	10	12	13	Base Pressure	16	17	19	20	22	23	25
GVW-40	Bar	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5	1.6	1.7
Red		x					x	x			x						
Blue			x						x	x					x	x	x
Green				x			x		x				x				x
White					x			x						x	x		x
Brown						x				x					x		
Purple										x	x	x	x	x		x	x
GVW-45	PSI	3	4	6	7	9	10	12	13	14.5	16	17	19	20	22	23	
GVW-50	Bar	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5	1.6	
Blue		x				x	x		x	x					x	x	
Green			x						x				x		x		
White				x		x		x		x				x			x
Brown					x		x	x		x	x						
Purple										x	x		x	x	x		x
Black											x	x	x	x	x		x
GVW-60	PSI	3	4	6	7	9	10	12	13	14.5	16	17	19	20	22	23	
GVW-60	Bar	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5	1.6	
Red							x	x					x			x	
Blue		x							x					x			
Green			x							x					x	x	
White					x		x					x	x	x	x		x
Brown				x							x						
Purple						x		x	x	x	x	x	x	x	x		x

Spring pressures are calculated based on a 1:1 boost/backpressure ratio. Actual intake manifold (boost) pressure can vary