

# Gen V eWG45 Hypergate45

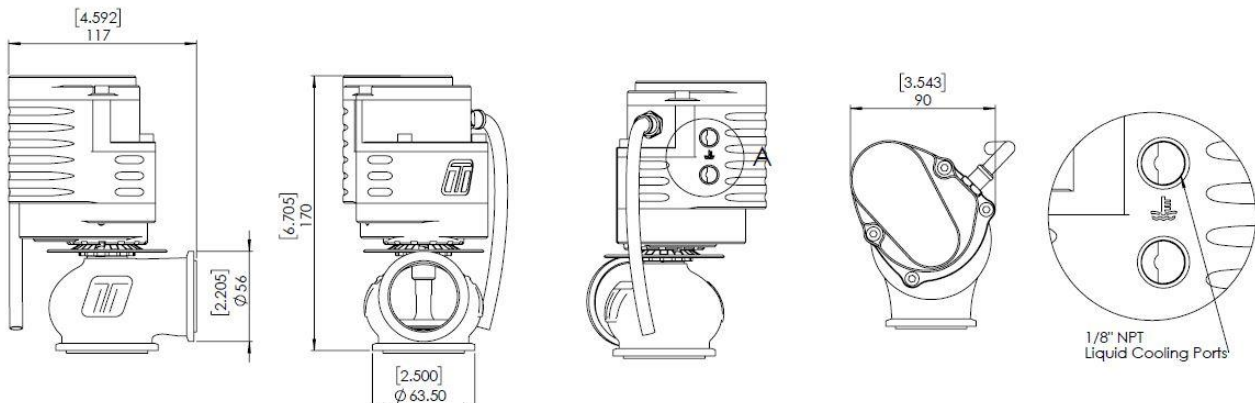


The Gen-V WG45 Hypergate45 external electronic wastegate is a cost effective, high performing 45mm external wastegate. The Gen-V provides extensive user configurability, world leading extended thermal performance, fatigue resistance and best in class flow performance for optimum control and longevity.

- Liquid cooling provision
- Strap type V-band clamps
- User adjustable actuator position
- Modular actuator design
- Full Electronic control

<b>Mechanical Data</b>	
Valve diameter	45mm (1.77in)
Mass	WG45 1846g (4.069lbs )
Actuator linearity	1.02% of full lift (BFSL)
Set pressure accuracy	+/- 0.5 psi of base pressure
Safe working pressure max.	220 psi / 1520 kPa / 15 bar
Safe inverted pressure max.	180 psi / 1250 kPa / 12.5 bar
Actuator life	550k cycles @ 150°C (302 °F) ambient 800k cycles @ 80°C (176 °F) ambient
Port fittings type	Liquid Cooling: 2x 1/8" NPT
<b>Thermal Data</b>	
Max. thermal stress (non-cooled)*	>45min @ 1250°C(2282 °F) EGT continuous
Max. thermal stress (h2O cooled)*	>24hr @ 1250°C(2282°F) EGT continuous
Max. ambient/compartament temp.	260°C / 500°F
Max. actuator temp.	150°C / 257°F
<b>Electrical Data</b>	
Sensor Operating voltage	5V +-0.5V
Output	Analog 0-5V
Operating Temperature	-40 °C to 150 °C (-40 °F to 302 °F)
Sensor Supply Current	21mA

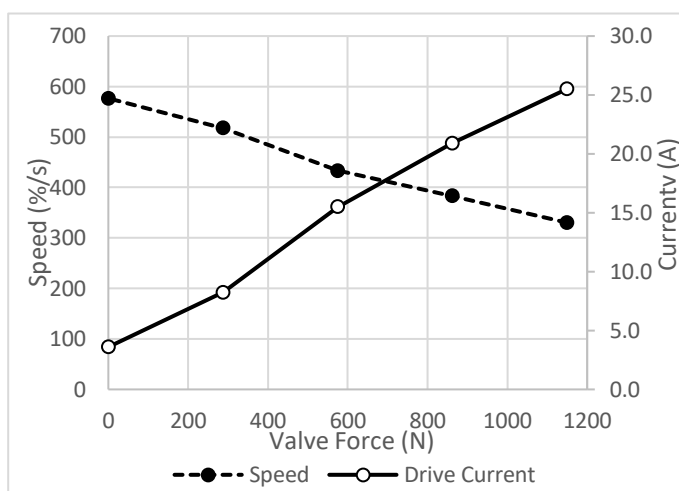
<b>Temp Sensor Data</b>		
Accuracy	+/- 2.5°C	
Voltage offset at 0°C	500mV	
Gain	10mV/ °C	
Response @63%	1.3s	
Sensor Output (mV)	Deg C	Deg F
500	0	32
2000	150	302
<b>Connection Data</b>		
Red 22AWG	5V	
Black 22AWG	0V	
White 22AWG	Valve position	
Yellow 22AWG	Sensor Temperature	
Red 14WG	Motor A (positive closed)	
Black 14AWG	Motor B (positive open)	



\*Continual source of minimum 1250°C exhaust gas, with no cool down periods for at least 30minutes and no external air cooling on actuator, this is a destructive test that an ICE engine cannot support. Contact tech support for further information.

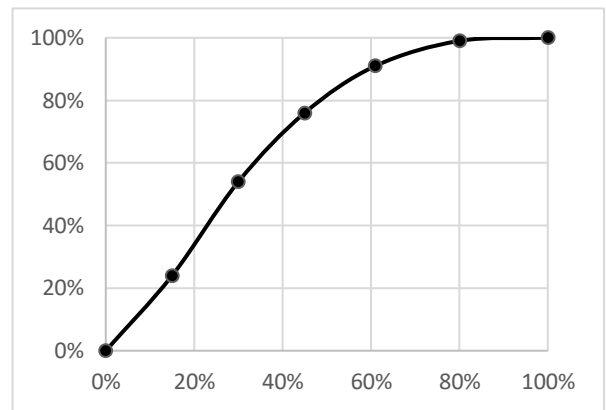
<b>Material Data</b>	
Beryllium (Be)	0%
Main Body	High temp 347 SS
Actuator housing	6061 T6 anodised Al.
Valve Guide	Nitronic 60
Valve	EV8 w/ proprietary plating
V-Band	Heat treated 431 SS w/ 18-8 nut
Weld Flanges	304 Stainless Steel
<b>Motor Data</b>	
Wire Size	16AWG
Direction	Red wire positive closed
Stall Current**	60A
Hold Current	0A (Motor braking available)
Max Force @stall	4085N (918lbf)
Max Force @power	2042N (459lbf)
Speed (Opening)	598%/s

#### Speed Vs Force

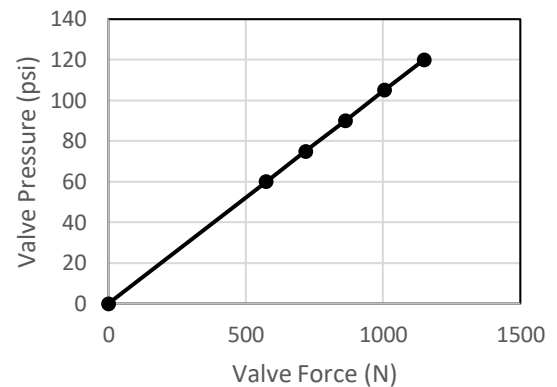


<b>Flow Characteristics</b>	
Max. Flow	193.6 CFM/5.48m <sup>3</sup> /min @1psidP
Flow Linearity	-18% of full lift (BFSL)

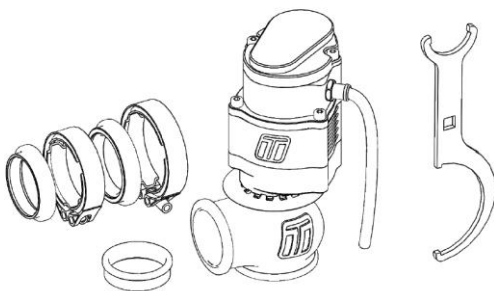
#### Flow Linearity



#### Valve Force Vs Exhaust Pressure



<b>Included in the Box</b>
Wastegate unit
SS316 Valve seat
Inlet V-Band
Inlet SS304 weld flange
Outlet V-Band
Outlet SS304 weld flange
Collar tool (master/slave)
Sticker
Instruction card



<b>Order Data</b>	
TS-0553-1502	Gen-V eWG45 Hypergate 45 Electronic Black

<b>Accessories</b>	
TS-0553-3001	WG45 Valve seat
TS-0553-3002	WG45 Valve and Guide set
TS-0553-3003	WG45 Inlet V-Band
TS-0553-3004	WG45 Outlet V-Band
TS-0504-3007	WG45 Alloy Inlet Weld Flange
TS-0504-3008	WG45 Alloy Outlet Weld Flange
TS-0550-3013	54mm Actuator Collar Tool
<i>Refer to catalogue for further accessories</i>	

<b>Install Req.</b>	
Inlet Pipe	Suits 47.63mm/1.875" OD
Outlet Pipe	Suits 44.45mm/1.75" OD
Port Tube Min. ID	6mm / 0.236"

\*\* High amperage for prolonged periods will damage the motor, keep high Amperage operation to short bursts.