

eWG40 ALS CompGate



The Gen-V ALS40 Comp-Gate40 external Anti-Lag Valve is a cost effective, high performing 40mm Anti Lag Valve that can be operated without complex activation plumbing. 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

Mechanical Data

Valve diameter	40mm (1.57in)
Mass	ALV 40 1572g (3.465 lbs)
Actuator linearity	1.02% of full lift (BFSL)
Set pressure accuracy	+/- 0.5 psi of base pressure
Safe working pressure max.	135 psi / 920 kPa / 9.3 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

Thermal Data

Max. thermal stress (non-cooled)*	>45min @ 1250°C EGT continuous
Max. thermal stress (h2O cooled)*	>24hr @ 1250°C EGT continuous
Max. ambient/compartament temp.	260°C / 500°F
Max. actuator temp.	150°C / 302°F

Electrical Data

Sensor Operating voltage	5V±0.5V
Outputs	• Analog 0-5V • Pulse Width Modulated signal
Operating Temperature	-40 °C to 150 °C (-40 °F to 302 °F)
Sensor Supply Current	21mA
PWM Frequency	220-268 Hz

Temp Sensor Data

Accuracy	±2.7°C	
Voltage offset at 0°C	2630mV	
Gain	-13.6mV/°C	
Deg C (Deg F)	Rev A Temp Sensor Output (mV)	Rev B Temp Sensor Output (mV)
0 °C (32 °F)	500	2630
150 °C (302 °F)	2000	538

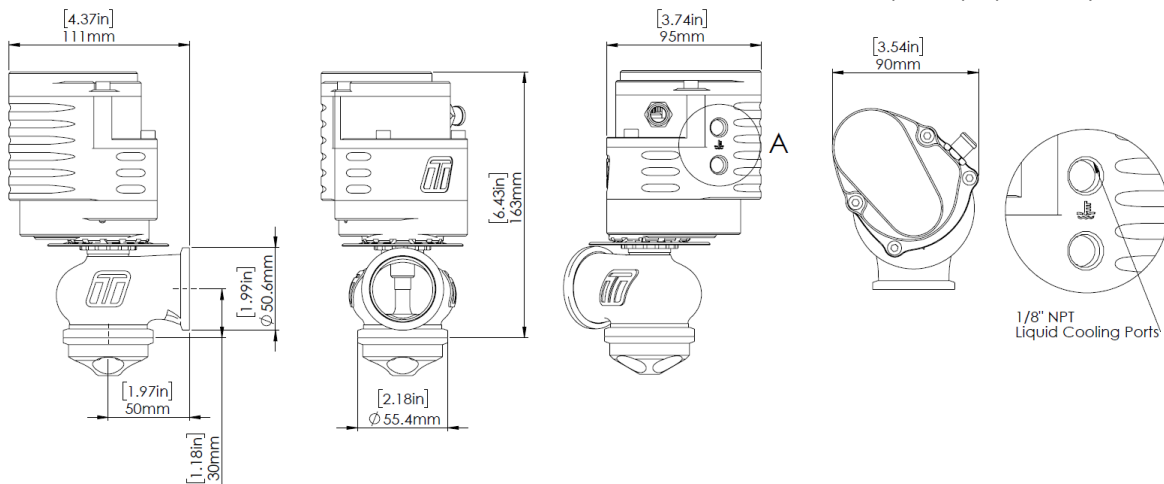
Position Sensor Data

Position	Target Voltage (V)	Duty Cycle (Rev B)
100%	0.20-0.60V	~16%
0%	4.40-4.80V	~84%

Connection Data

Red 22AWG	5V
Black 22AWG	0V
White 22AWG	Valve position
Blue 22AWG (Rev B Only)	*Unfiltered Signal (Position Output)
Yellow 22AWG (Orange Rev A)	Sensor Temperature
Red 14AWG	Motor A (positive closed)
Black 14AWG	Motor B (positive open)

*Note: The Blue (unfiltered position signal) is not required for use & is for development purposes only.



*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.

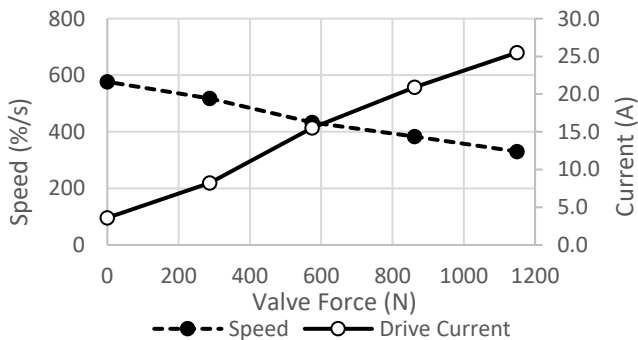
Material Data

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

Motor Data

Wire Size	14AWG
Direction	Red wire positive closed
Stall Current**	60A
Hold Current	0A (Short motor wire for braking)
Max Force @stall	4085N
Max Force @power	2042N
Speed (Opening)	598%/s

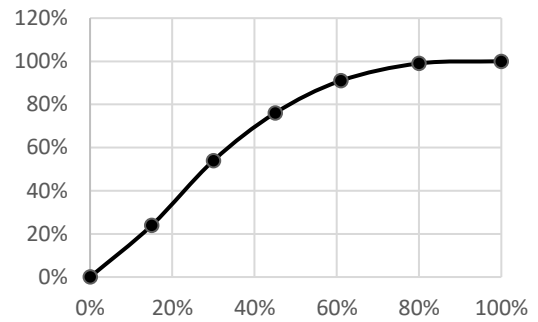
Speed Vs Force



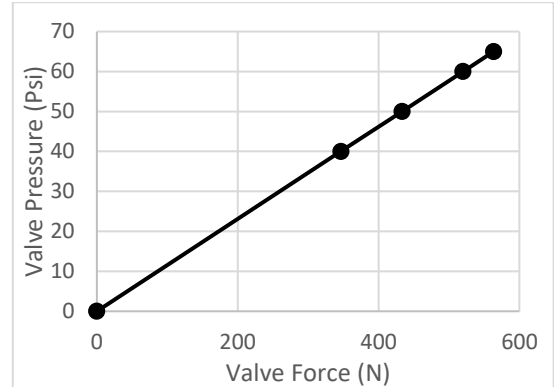
Flow Characteristics

Max. Flow	165.4 CFM/4.53 m3/min @1psidP
Flow Linearity	-18% of full lift (BFSL)

Flow Linearity



Valve Force Vs Exhaust Pressure

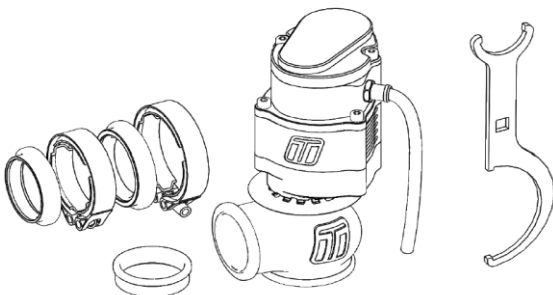


Water Cooling

Temperature Range	-40 to 120degC / -40 to 248degF
Pressure Range	0 to 100psi / 0 to 689kPa / 6.9 Bar
Coolant Safe	Yes

Included in the Box

- Anti-Lag Valve unit
- SS316 Valve seat
- Inlet V-Band
- Inlet SS304 weld flange
- Outlet V-Band
- Collar tool (Master/Slave)
- Sticker
- Instruction card



Order Data

TS-0552-1601	WG40ALS Comp-Gate40 Electronic Black
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Accessories

TS-0552-3003	WG40 Inlet V-Band
TS-0552-3004	WG40 Outlet V-Band
TS-0552-3006	WG40 Stainless Inlet Weld Flange
TS-0552-3007	WG40 Stainless Outlet Weld Flange
TS-0550-3013	54mm Actuator Collar Tool
TS-0552-3001	WG40 Valve Seat
TS-0550-3104	ALV40 Outlet Weld Flange: 5-1
TS-0550-3098	ALV40 Outlet Weld Flange: 4-1
TS-0550-3099	ALV40 Outlet Weld Flange: 3-1
TS-0550-3100	ALV40 Outlet Weld Flange: 2-1
TS-0505-3001	WG40 Inlet Weld Flange (Single Outlet)
TS-0550-3101	ALV40 Inlet Weld Flange: Alloy
TS-0550-3102	ALV40 Inlet Pipe Adapter 1 3/4" (44.5mm)
TS-0550-3103	ALV Inlet Pipe Adapter 1=1/2" (38.1mm)

Refer to catalogue for further accessories

Install Req.

Inlet Pipe	Suits 42.16mm/1.660" OD
Outlet Pipe	Suits 42.16mm/1.660" OD or 33.40mm/1.315" OD
Water Port	6mm / 0.236" (Recommended -4 AN Fitting)

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