

External Wastegate/CO2 Pneumatic Straight Gate

PSG40/50/76 Compressed Gas/Solenoid



The world's first external wastegate with fully integrated CO2 boost control. By combining the fill and spill solenoids with a dome pressure sensor directly into the cap, the system eliminates complex plumbing and reduces potential failure points. Designed for high-performance applications using compressed gas strategies, it pairs with Turbosmart's StraightGate valve for exceptional flow and control. A high-pressure Nomex diaphragm ensures reliability under extreme conditions.



- Integrated fill/spill solenoids and dome pressure sensor
- Simplified single-line CO2 or compressed air plumbing
- Zero-offset butterfly valve for maximum flow
- Inverted high-pressure Nomex diaphragm
- Reduces up to 8 external fittings and failure points

Mechanical Data

Straight Gate Option	40mm	50mm	76mm
Flow Diameter	40mm (1.57in)	50mm (1.97in)	70mm (2.75in)
Mass	1252g	1390g	1868g
Safe working pressure max.	220 psig / 1520 kPa / 15 bar		
Actuator Stroke	15mm		
Hysteresis	6.4% of base pressure		
Actuator life	550k cycles @ 150°C (302 °F) ambient 800k cycles @ 80°C (176 °F) ambient		
Max. Spring base Pressure	26 psi / 180kPa / 1.8 bar		
Min. Spring base Pressure	3 psi / 21 kPa / 0.2 bar		
Port fittings type	Air: 2x 1/8" NPT top chamber Air: 2x 1/8" NPT lower chamber		

Thermal Data

Max. ambient/compartament temp.	260°C / 500°F
Max. actuator temp.	310 °C / 590°F

Order Data

TS-0565-1242	PSG50CG Pneumatic StraightGate50 Compressed Gas 7psi Black PSG50CG Pneumatic StraightGate50 Compressed Gas (Solenoid) 7psi Black
TS-0563-1242	PSG40CG Pneumatic StraightGate40 Compressed Gas 7psi Black PSG40CG Pneumatic StraightGate40 Compressed Gas (Solenoid) 7psi Black
TS-0567-1242	PSG76CG Pneumatic StraightGate76 Compressed Gas 7psi Black PSG76CG Pneumatic StraightGate76 Compressed Gas (Solenoid) 7psi Black

Accessories

TS-0553-3003	WG45 Inlet V-Band (SG40)
TS-0504-3001	WG45 Inlet Weld Flange (SG40)
TS-0503-3002	WG60 Stainless Outlet Weld Flange (SG50)
TS-0555-3004	WG60 Outlet V-Band (SG50)
TS-0567-3003	SG76 V-Band
TS-0567-3002	SG76 Weld Flange – Stainless Steel

Refer to catalogue for further accessories

Material Data

Beryllium (Be)	0%
Diaphragm	Proprietary Silicone w/Nomex
Actuator Housing	6061 T6 anodised Al.
Control arm Bush/Linkage	N60
Control Arm	431 and 304SS
Elastomers	Viton
Springs	17-7PH Stainless Steel
Bracket	6262 T6 anodised Al.

Included in the Box

- Straight Gate unit
- Outlet V-Band
- Inlet V-Band
- Outlet Stainless Steel weld flange
- Inlet Stainless steel weld flange
- Sticker
- Instruction card



Install Req.

	40mm	50mm	76mm
Inlet Pipe	44.45mm/1.75"	57.5mm/2.25"	70mm/2.76"
Outlet Pipe	44.45mm/1.75"	57.5mm/2.25"	70mm/2.76"

Springs

Location	Inner	Inner	Middle	Outer
Pressure	7 PSI	9 PSI	12PSI	21PSI
7PSI	●			
9PSI		●		
12PSI			●	
19PSI	●		●	
21PSI				●

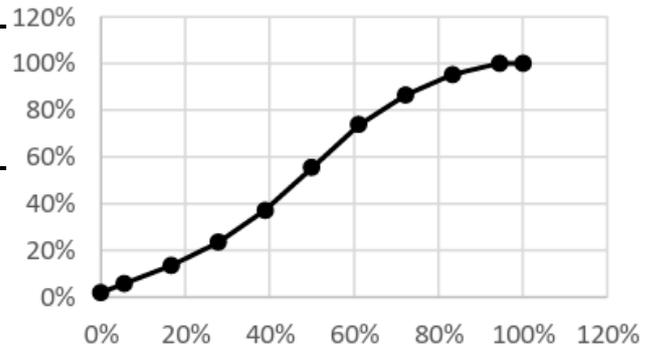
*Continual source of minimum 1250°C exhaust gas, with no cool down periods for at least 30minutes and no external air cooling on actuator, this is a destructive test that an ICE engine cannot support. Contact tech support for further information.

Max. Flow

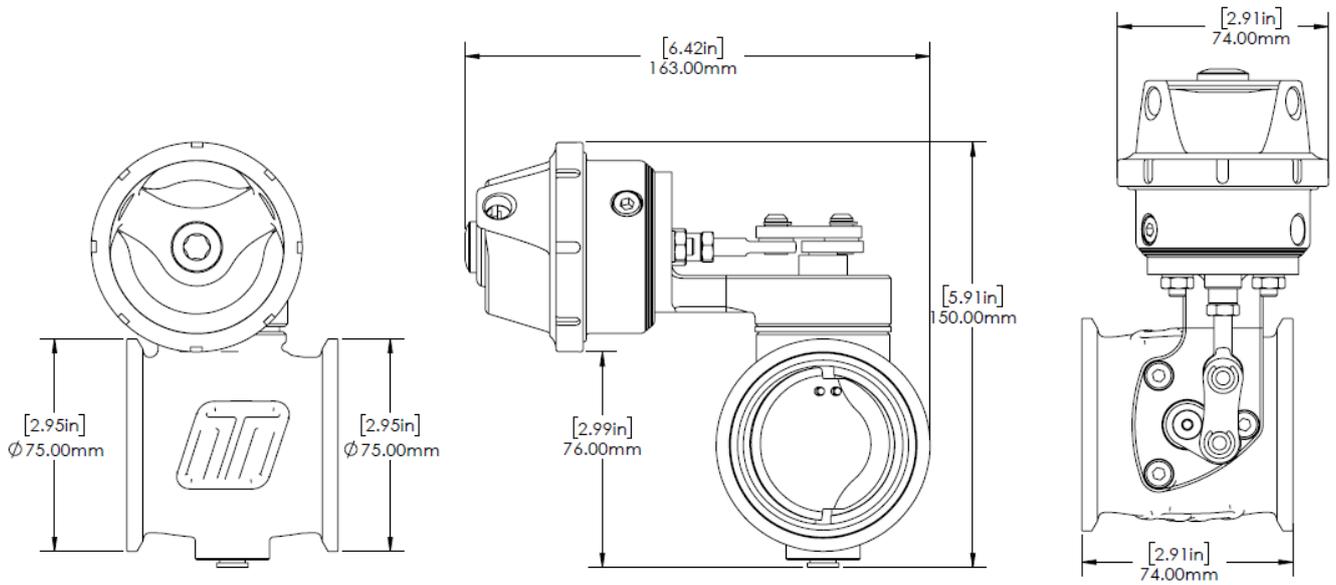
40mm	223.7 CFM / 6.34m ³ /min @1psiP
50mm	383.9 CFM / 10.87m ³ /min @1psiP
76mm	723.7 CFM/ 20.5 m ³ /min @1psiP

Flow Linearity

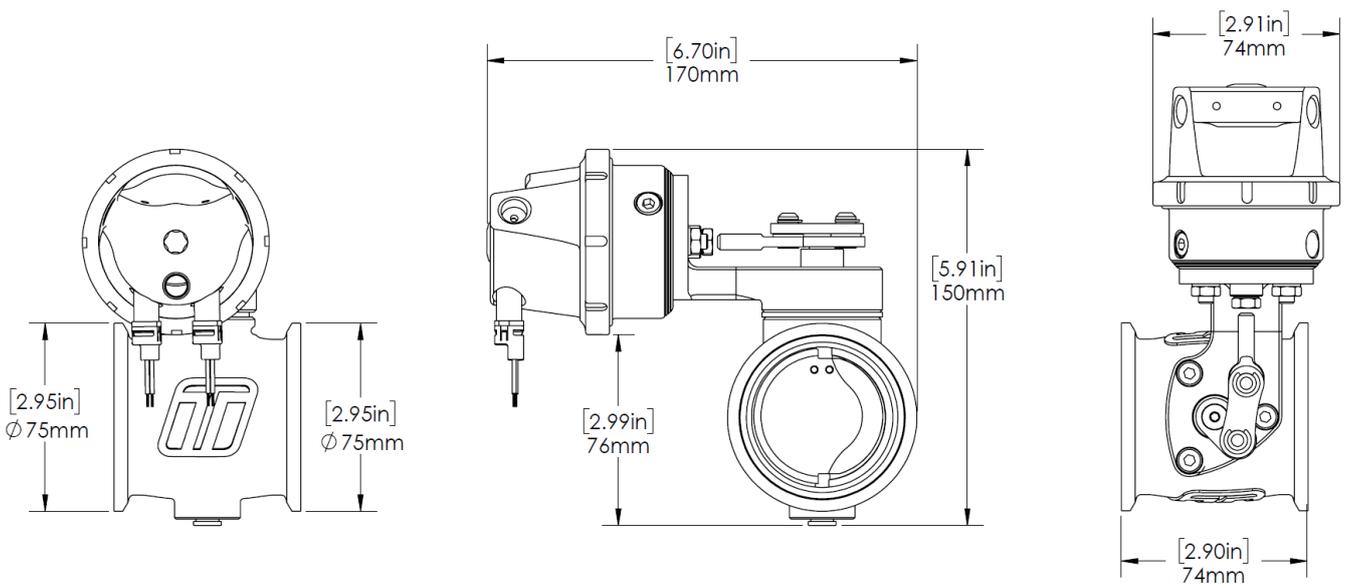
40mm	-2.6% of full lift (BFSL)
50mm	-8.8 of full lift (BFSL)
76mm	-2.6% of full lift (BFSL)



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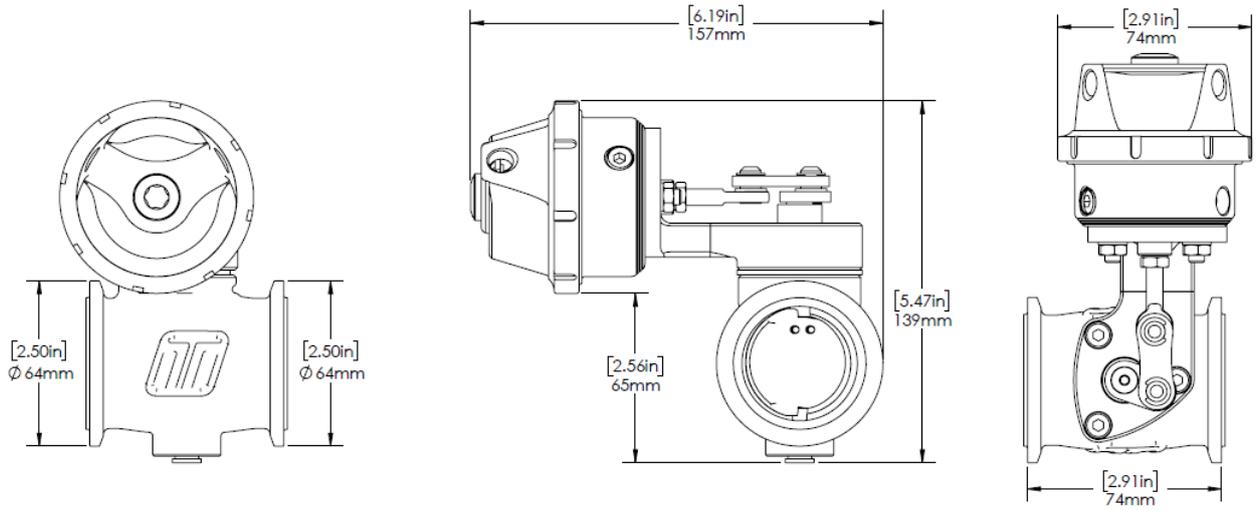


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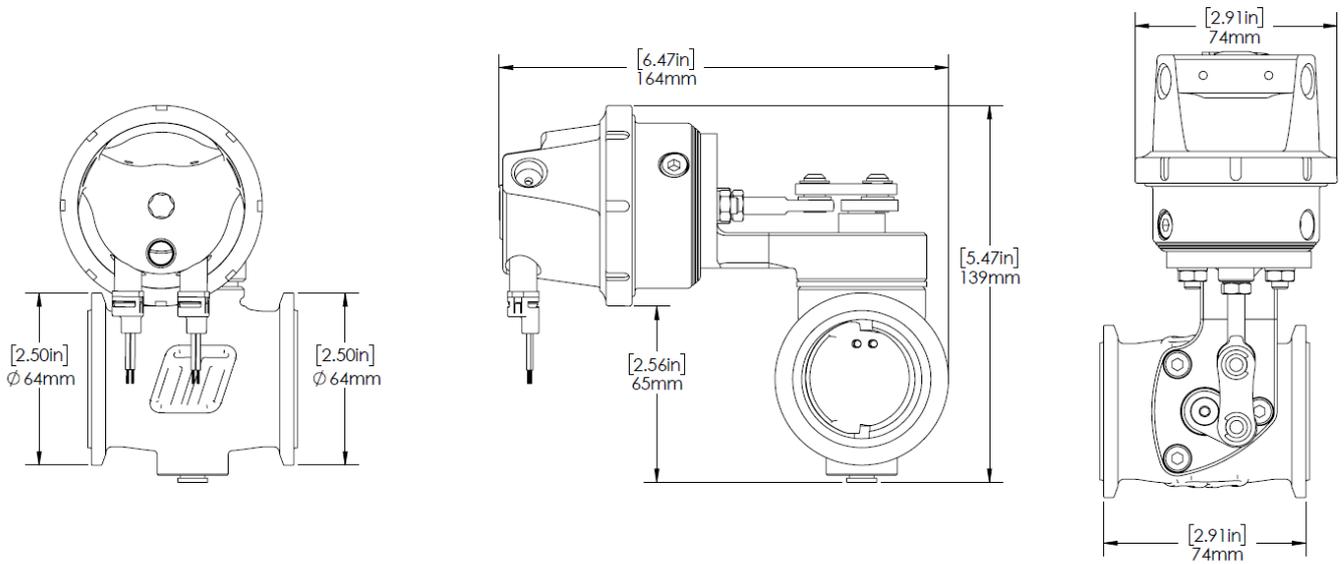


** High amperage for prolonged periods will damage the motor, keep high Amperage operation to short bursts.

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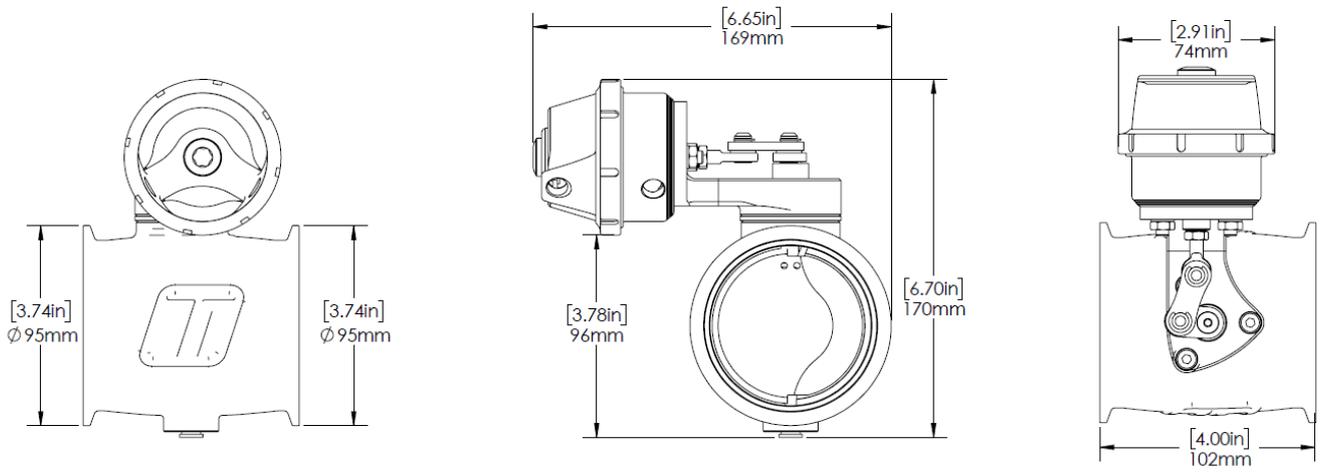


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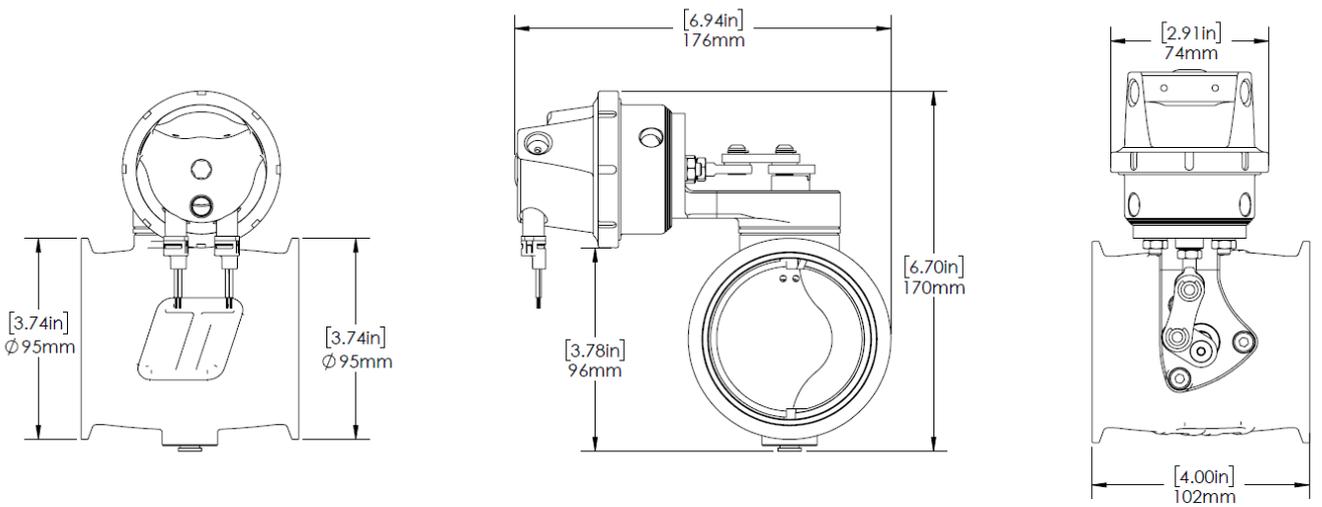


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TS-0567-1252



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