

# AT SERIES

## Pneumatic Modulating Valve Actuator

Durable. Accurate. Compact. Modular.

- Thrusts up to 425,000 lbs
- SIL-3 Capable
- GT3 Triple Seal Gland for Severe Service Applications



# Design & Materials

Cowan has a US Patent and Canadian Patent for the design

**Barrel** | High-strength composite standard; aluminum, steel or stainless steel optional

**Rod Wiper** | Prevents contamination inside the cylinder

**Standard:**  
Analog output compatible with most digital positioners (see page 7)

**Optional:**  
Digital output for open and close indication

**Piston Packing**  
Nitrile U-cup standard; low-temp optional

**Gland Packing**  
Polyurethane U-cup standard; low-temp optional

**Transducer module**

- Easy-access for field maintenance and replacement
- Completely self-contained
- No need to disassemble cylinder or remove the valve assembly

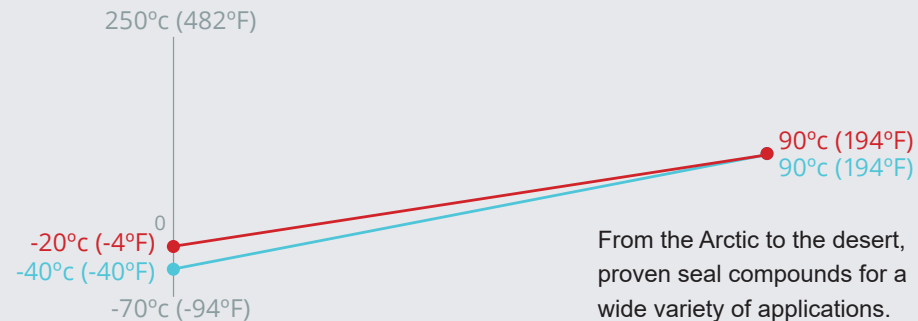
Material Breakdown	STANDARD	Corrosion Resistant	AWWA
Head & Cap	Steel	SS 316	Cad Plated
Barrel	Composite	Composite	Composite
Piston	Aluminum (4"-8") & Steel (10" and above)	Steel	Cad Plated
Piston Rod	AISI 1045	SS 316	SS 316
Gland	SAE 660	Delrin	Delrin
Tie Rod 4" - 10"	AISI 1045	SS 316	SS 316
Tie Rod 12" & Above	AISI 1045	SS 17 - 4 PH	SS 17 - 4 PH

# Specifications

Cowan AT Series Pneumatic Modulating Valve Actuators are designed to suit a wide range of applications; from commodity to severe-service extremes.



14" Bore AT Series with pneumatic control panel, operating a dart valve in a mining flotation cell application



- **Vibration Resistance:** up to 10Gs at 2000Hz
- **Resolution:** Essentially Infinite
- **Air Supply:** Instrumented quality air is recommended
- **Thrust:** up to 425,000 lbs
- **Bore size:** 4" - 42"
- **Rod Size:** 1" to 5 ½"
- **Stroke Range:** Up to 144"
- **Pressure Rating:** 150 psi
- **Configuration:** Spring-Return or Double-Acting
- **Compatibility:** Compatible with the most popular brands of Digital Positioners and communication protocols
- **Actuator Protection Class:** IP67



**Tested to over 6.5 million cycles!**

CABLE SPECIFICATIONS	
Protection Class	Meets NEMA 1, 3, 4, 6P and IEC IP67
Cable Ratings	UL: ITC/PLTC/AWM, 105°C, 300 V CSA: CMX-OUTDOOR-CMG/AWM, 105°C, 300 V

# Add-Ons



8" Bore Stainless Steel AT Series with remote positioner in a potash plant



## Mounting Kits: ISO, MSS, & Customized Patterns Available

Cowan valve mounting kits can be designed for any linear valve. Mounting kits available in steel and stainless steel construction.

**Anti-Rotation Torque Arm:**  
Maintains constant alignment between valve stem and cylinder piston-rod. Compatible with rotary type switch boxes and beacons.

**Field-Adjustable Travel Stops:**  
to limit stroke for position-seated or limited-travel applications. Ensures valve reaches positive sealing every time without damage to valve internals



## Digital Positioner Options

**Remote Mount**  
Digital positioners mounted remotely in a cabinet are ideal for harsh environments and any application with difficult or limited access to the actuator.

Cabinets available: NEMA 4/4X or for hazardous areas. Manual override pushbuttons Customized to suit your application



## Direct Mount

Direct mount digital positioner

- NEMA 4X/IP66
- Fail/close or Open Upon Loss of Power
- Optional Fail Last Module
- Intrinsically safe version available

• Communication options:

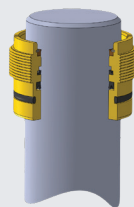
- 4-20 mA
- HART
- Profibus PA
- Foundation Fieldbus
- and more!



## Boosters

**Volume Booster**  
Volume boosters are recommended with larger modulating actuators for smooth operations.

Typically required for 10" bore and above. Booster can be installed either directly on the AT or in a remote panel.



## Gland Seals

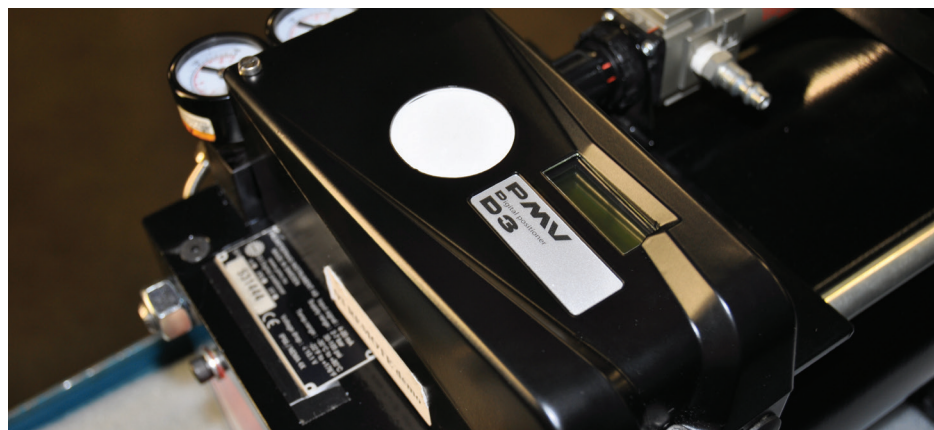
**GT3 Gland for Harsh Environments:**  
Triple-seal gland with dual wipers. Rugged metallic scraper and urethane double-acting wiper deflect contamination away from the rod seal for long service life.

Options:

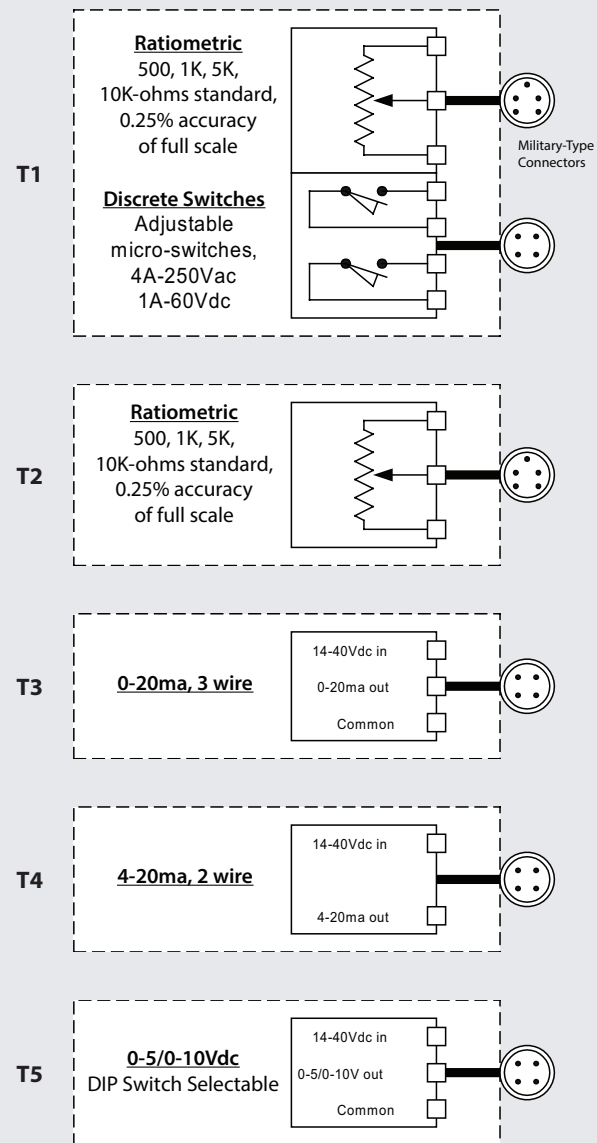
- Low Temp
- Cast iron construction for applications where yellow metals are not allowed

# Compatible Positioner Brands

The AT's cable type transducer is compatible with the most popular brands of positioners. Our engineers can help you select the appropriate positioner to ensure compatibility.



# Output Options

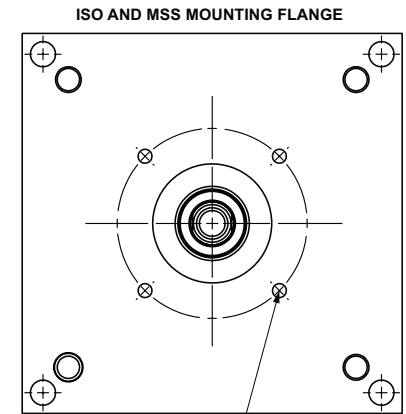
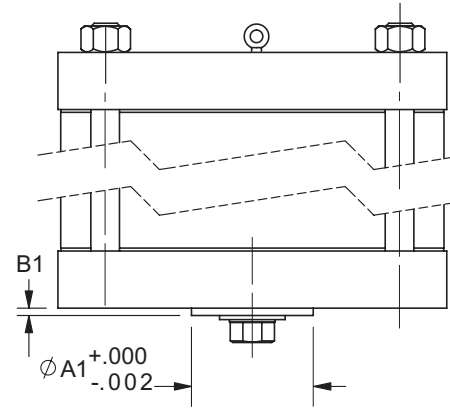
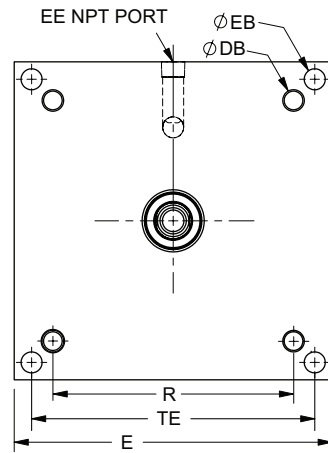
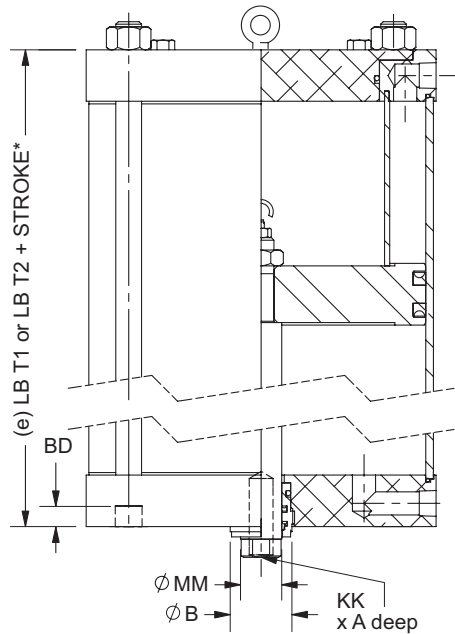


\*AT available feedback combinations

\*\*T2 is default

# Actuator Dimensions: 5"– 26" Bore

Actuation Solutions and Systems for the World's Most Challenging Environments



C1 OF BOLTS, D1 THREADS  
E1 DEEP ON F1 P.C.D.

\*See page 5 for output options  
LB T1 - Opt T1, LB T2 - Opt T2-T5

Actuator Dimensions (in)													Thrust Values (lbs)			ISO or MSS Mounting Pattern*		
BORE	A	B	BD	DB	E	EE	KK	R	LB T1	LB T2	MM	TE	W	60 PSI	80 PSI	100 PSI	STD	OPT
5	1.75	1.50	3/4	1/2-20	5.50	1/4	5/8-18	3.32	N/A	8.88	1.00	N/A	0.75	1,131	1,508	1,885	F/FA07	
6	1.75	1.50	7/8	1/2-20	6.50	1/4	5/8-18	4.10	N/A	9.38	1.00	N/A	0.75	1,649	2,199	2,749	F/FA07	
7	1.75	1.50	1/2	5/8-18	7.50	3/8	5/8-18	4.88	N/A	8.88	1.00	N/A	0.75	2,262	3,016	3,770	F/FA07	
8	1.75	1.50	N/A	5/8-18	8.50	3/8	5/8-18	N/A	9.50	8.88	1.00	7.60	0.75	2,969	3,958	4,948	F/FA10	F/FA07
10	2.25	2.00	N/A	3/4-16	10.75	1/2	1-14	N/A	9.63	9.00	1.38	9.40	0.88	4,623	6,164	7,705	F/FA10	F/FA07
12	2.25	2.00	N/A	3/4-16	12.75	1/2	1-14	N/A	10.00	9.38	1.38	11.10	0.88	6,697	8,929	11,161	F/FA14	F/FA10
14	2.25	2.00	N/A	7/8-14	14.88	1/2	1-14	N/A	10.75	10.13	1.38	12.87	0.88	9,147	12,196	15,245	F/FA14	F/FA10
16	2.25	2.63	N/A	1-14	17.00	3/4	1 1/4-12	N/A	11.25	10.63	2.00	14.85	1.13	11,875	15,834	19,792	F/FA14	F/FA10
18	2.25	2.63	N/A	1 1/8-12	19.00	3/4	1 1/4-12	N/A	11.25	10.63	2.00	16.70	1.13	15,080	20,106	25,133	F/FA16	F/FA14
20	2.25	3.13	N/A	1 1/4-12	21.00	3/4	1 1/4-12	N/A	12.00	11.38	2.50	18.40	1.13	18,555	24,740	30,925	F/FA16	F/FA14
24	3.50	3.75	N/A	1 1/4-12	25.25	3/4	2 1/4-12	N/A	14.00	13.38	3.00	21.75	1.25	26,719	35,626	44,532	F/FA25	F/FA16
26	3.50	4.25	N/A	1 1/2-12	27.50	3/4	2 1/4-12	N/A	15.00	9.50	3.50	23.34	1.25	31,278	41,705	52,131	F/FA30	F/FA25

MSS Flange Mounting Dimensions (in)						
MSS FLANGE	MAX. THRUST (lbs.)	A1	B1	C1	D1	F1
FA07	4,500	2.166	0.120	4	5/16-18	1 1/16
FA10	9,000	2.312	0.120	4	3/8-16	1 1/16
FA14	25,000	3.750	0.160	4	5/8-11	1 3/16
FA16	35,000	5.000	0.190	4	3/4-10	1 1/8
FA25	50,000	6.000	0.190	8	5/8-11	1 1/8
FA30	75,000	7.000	0.190	8	3/4-10	1 1/8
FA35	140,000	8.500	0.190	8	1-8	1 1/4
FA40	230,000	9.000	0.320	8	1 1/4-7	1 1/2

ISO Flange Mounting Dimensions (in)						
ISO FLANGE	MAX. THRUST (lbs.)	A1	B1	C1	D1	F1
F07	4,495	2.165	0.118	4	M8	7/16
F10	8,990	2.756	0.118	4	M10	5/8
F14	22,480	3.937	0.157	4	M16	3/4
F16	33,723	5.118	0.197	4	M20	7/8
F25	44,964	7.874	0.197	8	M16	7/8
F30	73,066	9.055	0.197	8	M20	7/8
F35	157,374	10.236	0.197	8	M30	7/8
F40	247,302	11.811	0.314	8	M36	7/8

Consult factory for more detailed dimensions

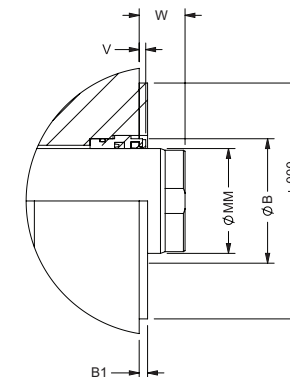
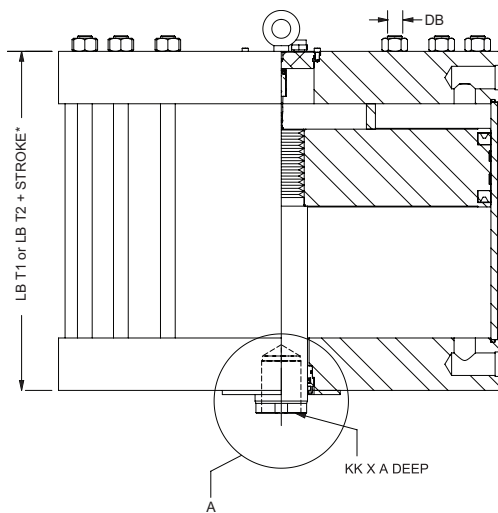
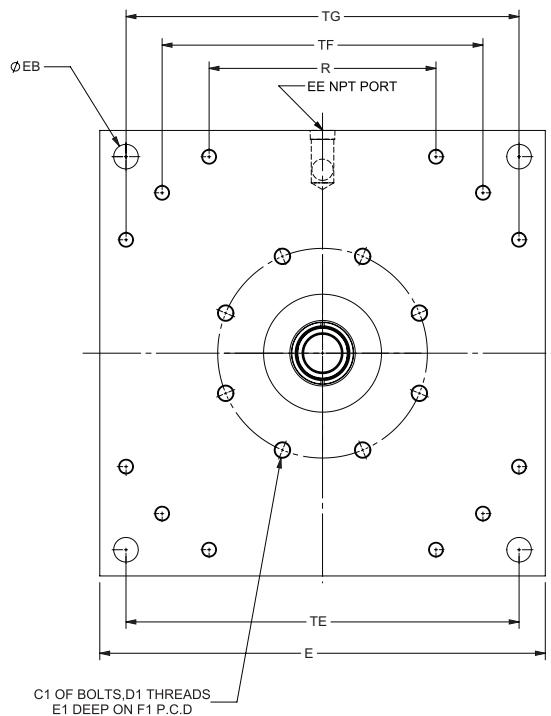
\*Other Mounting Patterns are available; consult factory

\*Thrust of up to 425,000 lbs available.

Consult factory for dimensions

# Actuator Dimensions: 28"– 42" Bore

Actuation Solutions and Systems for the World's Most Challenging Environments



\*See page 5 for output options  
LBT1 - Opt T1, LBT2 - Opt T2-T5

Actuator Dimensions (in)																	Thrust Values (lbs)			ISO or MSS Mounting Pattern*		
BORE	A	B	DB	E	EB	EE	KK	LB	LB T1	LB T2	MM	V	W	R	TE	TF	TG	60 PSI	80 PSI	100 PSI	STD	OPT
28	3.50	4.25	8x1½-12	31.25	1.56	¾	2¼-12UN	12.25	17.00	17.00	3.50	0.25	1.25	17.60	26.00	25.00	N/A	36,368	48,490	60,613	F/FA25	F/FA30
30	3.50	4.25	8x1½-12	31.50	1.88	1 ½NP	2¼-12UN	12.25	17.00	17.00	3.50	0.25	1.50	18.70	26.70	26.70	N/A	41,834	55,779	69,724	F/FA25	F/FA30
32	3.50	4.75	8x1½-12	34.00	1.88	1 ½NP	2¾-12UN	14.00	16.00	16.00	4.00	0.25	1.75	17.30	30.00	30.00	N/A	47,501	63,334	79,168	F/FA30	F/FA35
36	4.50	6.25	12x1½-12	39.00	2.50	1 ½NP	4-12UN	20.00	20.00	20.00	5.50	0.25	1.75	13.30	33.00	27.60	36.60	59,647	79,529	99,412	F/FA30	F/FA35
42	4.50	6.25	12x1½-12	45.00	2.50	1 ½NP	4-12UN	20.00	20.00	20.00	5.50	0.25	1.75	15.40	38.00	31.80	42.30	81,701	108,935	136,168	F/FA30	F/FA35

Consult factory for more detailed dimensions

\*Other Mounting Patterns are available; consult factory

## Related materials

Visit our website to download or request a printed catalogue.



## Solutions Include:

**Valve Actuators**

**Fail-Safe Systems**

**Digital Process Control Panels**

**Pneumatic Process Control Panels**

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