

# 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

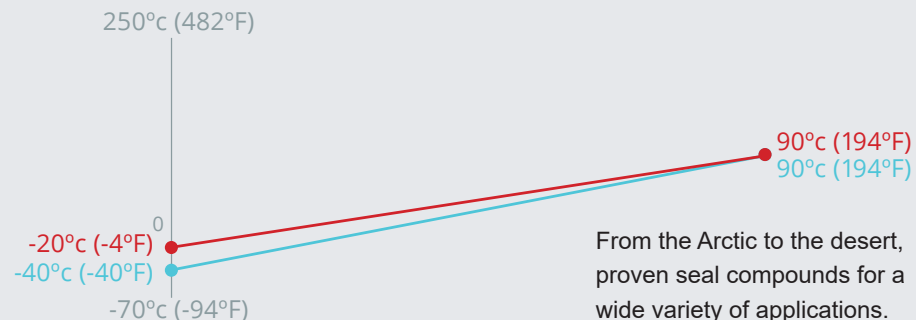
Material Breakdown	STANDARD	Corrosion Resistant	AWWA
Head & Cap	Steel	SS 316	Cad Plated
Barrel	Composite	Composite	Composite
Piston	Aluminum (4"-8") & Steel (10" and above)	Steel	Cad Plated
Piston Rod	AISI 1045	SS 316	SS 316
Gland	SAE 660	Delrin	Delrin
Tie Rod 4" - 10"	AISI 1045	SS 316	SS 316
Tie Rod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

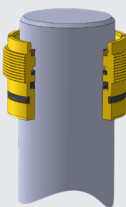


## Boosters

### 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:

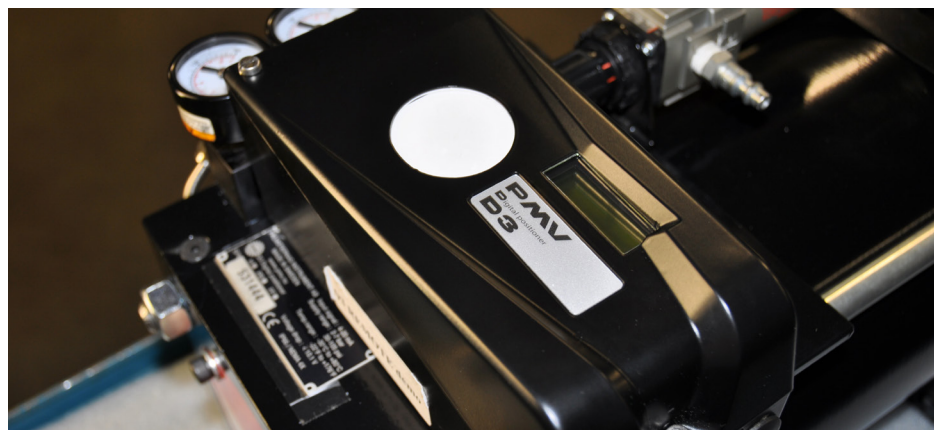
Triple-seal gland with dual wipers. Rugged metallic scraper and urethane double-acting wiper deflect contamination away from the rod seal for long service life.

Options:

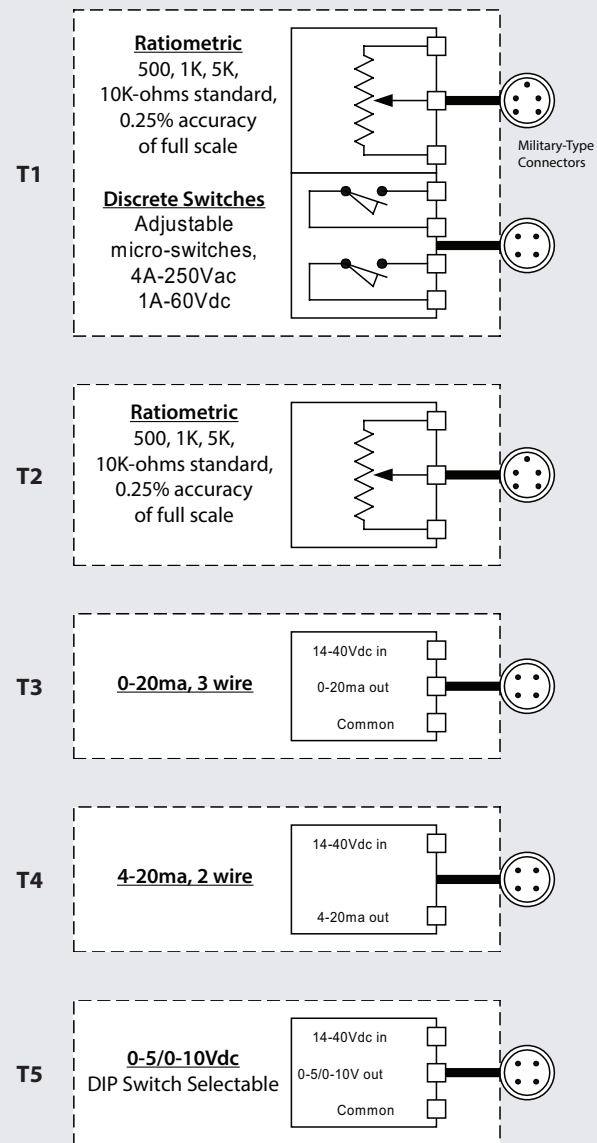
- Low Temp
- Cast iron construction for applications where yellow metals are not allowed

# 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

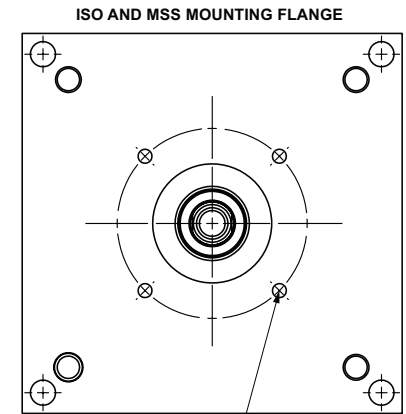
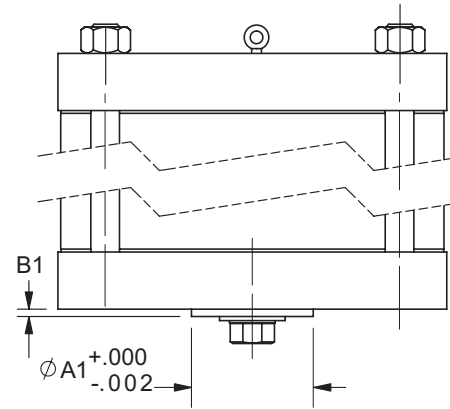
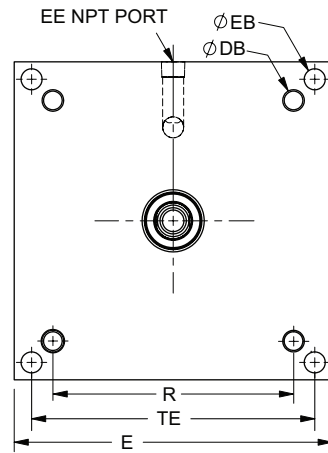
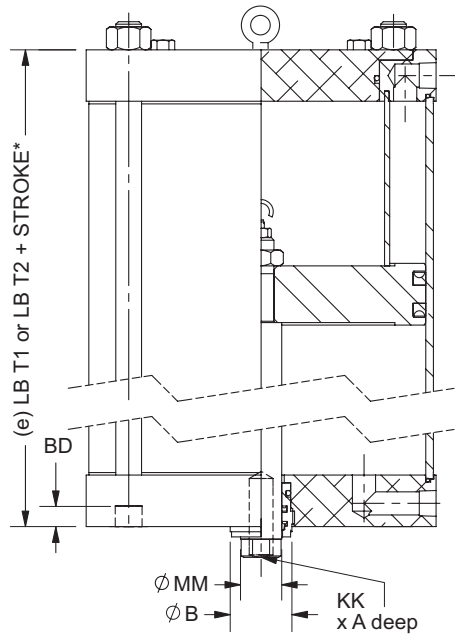


\*AT available feedback combinations

\*\*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	E1	F1
FA07	4,500	2.166	0.120	4	5/16-18	1 1/16	2.750
FA10	9,000	2.312	0.120	4	3/8-16	1 1/16	4.000
FA14	25,000	3.750	0.160	4	5/8-11	1 3/16	5.500
FA16	35,000	5.000	0.190	4	3/4-10	1 1/8	6.500
FA25	50,000	6.000	0.190	8	5/8-11	1 1/8	10.000
FA30	75,000	7.000	0.190	8	3/4-10	1 1/8	11.750
FA35	140,000	8.500	0.190	8	1-8	1 1/4	14.000
FA40	230,000	9.000	0.320	8	1 1/4-7	1 1/2	16.000

ISO Flange Mounting Dimensions (in)							
ISO FLANGE	MAX. THRUST (lbs.)	A1	B1	C1	D1	E1	F1
F07	4,495	2.165	0.118	4	M8	7/16	2.755
F10	8,990	2.756	0.118	4	M10	5/8	4.016
F14	22,480	3.937	0.157	4	M16	3/4	5.512
F16	33,723	5.118	0.197	4	M20	7/8	6.496
F25	44,964	7.874	0.197	8	M16	7/8	10.000
F30	73,066	9.055	0.197	8	M20	7/8	11.732
F35	157,374	10.236	0.197	8	M30	7/8	14.016
F40	247,302	11.811	0.314	8	M36	7/8	15.984

Consult factory for more detailed dimensions

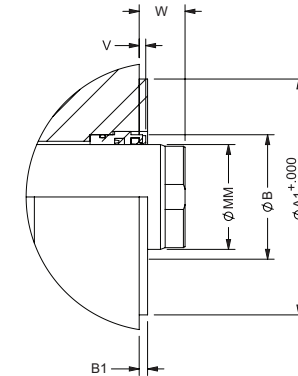
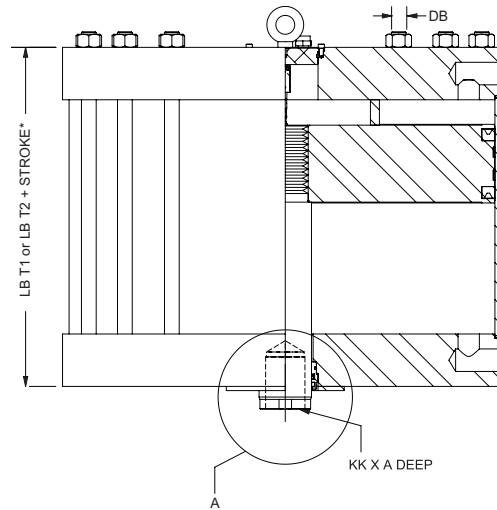
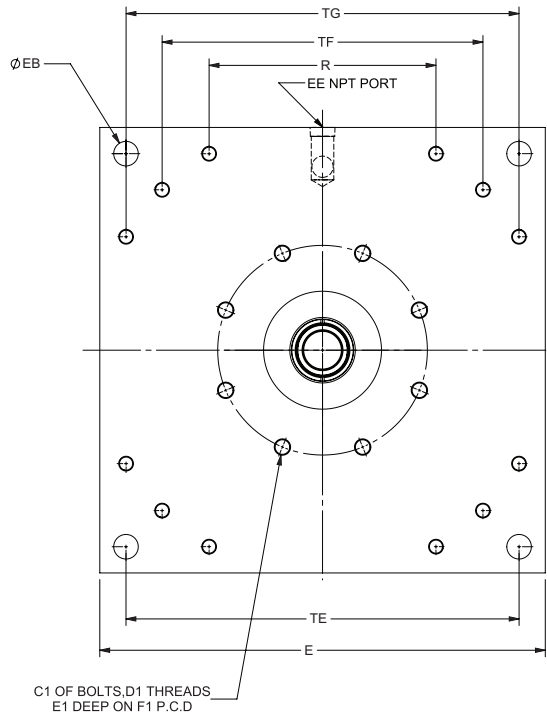
\*Other Mounting Patterns are available; consult factory

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

Consult factory for dimensions

# Actuator Dimensions: 28"– 42" Bore

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\*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

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