



A-T Controls, Inc.

Product Overview



	1-Piece	2-Piece				
Series	SERIES 10	SERIES 20	SERIES 21C	SERIES 22	SERIES 24	SERIES F23/F26
General Description & Features	1-piece unibody design, end-loaded ball	2-piece general purpose full port, locking handle	2-piece general purpose carbon steel, regular port, locking handle	2-piece high performance direct mount	2-piece high performance 3000 psi	2-piece high pressure seal welded
Automated Pneumatic	Not available	Not available	Not available			Call factory
Automated Electric	Not available	Not available	Not available			Call factory
Sizes	1/4" – 2"	1/4" – 3"	1/4" – 2"	1/4" – 3"	1/4" - 2"	1/4" - 2"
Port	Regular	Full	Regular	Full	See brochure	Full & Regular; See Dimensions
Direct Mount	No	No	No	Yes	Yes	No
Pyramidal Stem Packing	No	No	No	Yes	Yes	No
Body Materials	316SST	316SST	WCB	316SST	316SST	316SST & WCB
Trim Material	316SST	316SST	316SST	316SST	316SST	316SST
Available Seats	RTFE	RTFE	RTFE	RTFE, call for others	Delrin®, PEEK	PEEK Standard Delrin® available non-stock
End Connections	NPT	NPT	NPT	NPT	NPT	NPT
Max Pressure (varies by size)	2000 psi	1000 psi	2000 psi	1000 psi	3000 psi	3600/6000 psi
Options	None	None	None	NACE MR0175, Others call factory	NACE MR0175, Others call factory	Call factory
Fugitive Emissions				TA-Luft Certified		

3-Piece

3-Piece						
Series	Series 55	Series 77	Series HP	Series H78	Series 8R/83	Series F8R/F83
General Description & Features	3-piece standard service exposed bolt "swing-out" design, locking handle	Cavity and non-cavity filled 3-piece, sanitary clamp or tube O.D. ends	HIGH PURITY 3-piece ASME BPE 2016 compliant, Forged	HIGH PURITY 3-piece ASME BPE 2016 compliant, Cast	3-piece high performance, locking handle	Firesafe 3-piece high performance, locking handle
Automated Pneumatic						
Automated Electric						
Sizes	1/4" – 4"	1/2" – 4"	1/2" – 4"	1/2" – 4"	1/4" – 2-1/2"	1/4" – 2-1/2"
Port	Full	Full	Full	Full	Full (8R) Regular (83)	Full (F8R) Regular (F83)
Direct Mount	No	Yes	No	Yes	No	No
Pyramidal Stem Packing	No	Yes	Yes	Yes	Yes	Yes
Body Materials	316SST & WCB	316L SST	F316L SST	CF3M	316SST & WCB	316SST & WCB
Trim Material	316SST	316L SST	316SST	316SST	316SST	316SST
Available Seats	RTFE, PTFE, 50/50 STFE, CTFE, TFM™-1600 and others	PTFE, cavity filled, non-cavity filled, RTFE, TFM™-1600	TFM™-1600 and others	TFM™-1600 and others	RTFE, PTFE, TFM™-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK and others	RTFE, PTFE, TFM™-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK and others
End Connections	NPT, Socket Weld, Butt Weld	Sanitary Clamp, Tube O.D.	Hygienic Clamp, Tube O.D.	Hygienic Clamp, Tube O.D.	NPT, Socket Weld, Butt Weld	NPT, Socket Weld, Butt Weld
Max Pressure (varies by size)	1000 psi	1000 psi	1500 psi	1000 psi	2000 psi	2000 psi
Options	Vented Ball, Oxygen Cleaned, Gear Operator, Stem Extension and others	Vented Ball, Oxygen Cleaned and Others	Electropolished, Vented Ball, Oxygen Cleaned, Lockable Handle, Gear Operator, Anti-Static Design	Electropolished, Vented Ball, Oxygen Cleaned, Gear Operator, Anti-Static Design	Vented Ball, Oxygen Cleaned, Gear Operator, Stem Extension and others	NACE MR0175, Vented Ball, Gear Operator, Stem Extension and others
Fugitive Emissions					TA-Luft Certified	

3-Piece		Multi-Port			High Performance Multi-Port	
						
Series	SERIES 88	SERIES F88	SERIES 38	SERIES 30	SERIES 31	SERIES 33,43,53
General Description & Features	3-piece high performance, direct mount, locking handle	Firesafe 3-piece high performance, direct mount, locking handle	NPT general purpose 3-way	150# & 300# Flanged 3-way	150# & 300# Flanged Direct Mount 3-way	High performance, 3, 4 or 5-way, NPT, Socket Weld, Butt Weld, Flanged, Sanitary, Direct Mount
Automated Pneumatic						
Automated Electric						
Sizes	1/4" – 4"	1/4" – 4"	1/4" – 2"	8" – 12"	1-1/2" - 6"	1/4" – 4"
Port	Full	Full	Regular	Full	Full	Full
Direct Mount	Yes	Yes	No	No	Yes	Yes
Pyramidal Stem Packing	Yes	Yes	No	No	No	Yes
Body Materials	316SST, WCB & Alloy 20	316SST & WCB	316SST	316SST & WCB	316SST & WCB	316SST
Trim Material	316SST, Monel & Hastelloy C	316SST, Monel & Hastelloy C	316SST	316SST	316SST	316SST
Available Seats	RTFE, PTFE, TFM™-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK and others	RTFE, PTFE, TFM™-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK and others	RTFE	RTFE, PTFE, or 50/50 STFE	RTFE, PTFE, 50/50 STFE, TFM-1600 & others	RTFE, PTFE, 50/50 STFE, cavity fillers, others on request
End Connections	NPT, Socket Weld, Butt Weld	NPT, Socket Weld, Butt Weld	NPT	150/300# Flanged	150/300# Flanged	NPT, Socket Weld, Butt Weld, Sanitary, 150/300# Flanged
Max Pressure (varies by size)	2000 psi	2000 psi	1000 psi	285/740 psi	285/740 psi	See spec. sheets
Options	Vented Ball, Oxygen Cleaned, Gear Operator, Stem Extension and others	NACE MR0175, Vented Ball, Gear Operator, Stem Extension and others	"L" or "T" port	"L" or "T" port, Graphite or TFM-1600 Seals & Packing, FFKM O-Ring & others	"L" or "T" port	3, 4, 5-way, "L", "T", "LL", "I", "X", "TT" ports, various options
Fugitive Emissions	TA-Luft Certified					TA-Luft Certified

150# Flanged						150# & 300# Flanged	600# Flanged
							
Series	SERIES 90 & 93	SERIES F90	SERIES F91	SERIES D9	SERIES FD9	SERIES FD9-F6	
General Description & Features	150# flanged 2-piece, full port, with pyramidal stem packing	Firesafe 150# flanged 2-piece, full port with pyramidal stem packing	Firesafe Unibody design 150# flanged regular port Direct mount	Direct mount 150# flanged 2-piece, full port with pyramidal stem packing	Firesafe direct mount 150# and 300# flanged 2-piece, full port with pyramidal stem packing	2-piece split body 600# flanged, full port with pyramidal stem seal	
Automated Pneumatic							
Automated Electric							
Sizes	1/2" – 12"	1/2" – 4"	1/2" – 6"	1/2" – 8"	1/2" – 6, 8, or 12" (depending on class & material-see spec sheets)	1/2" – 2"	
Port	Full	Full	Regular	Full	Full	Full	
Direct Mount	No	No	Yes	Yes	Yes	Yes	
Pyramidal Stem Packing	Yes	Yes	Yes	Yes	Yes	Yes	
Body Materials	316SST, WCB & Alloy 20	316SST & WCB	316SST & WCB	316SST & WCB	316SST & WCB	316SST & WCB	
Trim Material	316SST	316SST	316SST	316SST, Monel & Hastelloy C	316SST, Monel & Hastelloy C	316SST	
Available Seats	RTFE, PTFE, TFM-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	RTFE, PTFE, TFM-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	RTFE, PTFE, TFM-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	RTFE, PTFE, TFM-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	RTFE, PTFE, TFM-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	
End Connections	150# Flanged	150# Flanged	150# Flanged	150# Flanged	150/300# Flanged	600# Flanged	
Max Pressure (varies by size)	285 psi	285 psi	285 psi	285 psi	285/740 psi	1480 psi	
Options	Vented Ball, Oxygen Cleaned, Gear Operator, Stem Extension and others	Vented Ball, Gear Operator, Stem Extension and others	NACE MR0175, Vented Ball, Gear Operator, Stem Extension and others	Vented ball, oxygen cleaned, gear operator, stem extension and others	NACE MR0175, Vented ball, gear operator, stem extension and others	NACE MR0175, Vented ball, gear operator, stem extension and others	
Fugitive Emissions	TA-Luft (up to 6")	ISO 15848-1		TA-Luft Certified	ISO 15848-1 (150#)		

	Metal Seat Flanged	Metal Seat 3-Piece	V-Port Control Valves	Segmented Valves
Series	SERIES M (FMU, FMB, FMS)	SERIES M (FMX)	V SERIES	VS/VV/VM SERIES
General Description & Features	150#, 300#, 600#, Split Body Unidirectional & Bidirectional	NPT, Socket Weld, Butt Weld, 3-Piece Class 600 Bidirectional	V-Port Control Valves (V7/V8/V9/FVD9)	Unibody V-Port Segmented
Automated Pneumatic				
Automated Electric				
Sizes	150#/300#: 1/2" - 8" 600#: 1/2" - 6"	600#: 1/2" - 2"	1/2" - 6"	1" - 16"
Port	Full	Full	30°, 60°, 90°, others on request	Segmented
Direct Mount	No	No	Some	No
Pyramidal Stem Packing	No	No	Yes	No
Body Materials	316SST, WCB, 316L SST, 317SST, Duplex & others	316SST, WCB, 316L SST, 317SST, Duplex & others	316SST & WCB	CF8M, WCB, 317SST, Duplex & others
Trim Material	Tungsten Carbide, HCr, Chrome Carbide	Tungsten Carbide, HCr, Chrome Carbide	316SST	See spec. sheet
Available Seats	Tungsten Carbide 316SST, Stellite®, Chrome Carbide 316SS	Tungsten Carbide 316SST, Stellite®, Chrome Carbide 316SS	RTFE, PTFE, 50/50 STFE, call with application	50/50 STFE, Stellite® Inlay, Tungsten Carbide Coated 316SST
End Connections	150/300/600# Flanged	NPT, Socket Weld & Butt Weld	NPT, Socket Weld, Butt Weld, Flanged, Tube O.D. & Sanitary Clamp	150/300#, Flanged or Wafer
Max Pressure (varies by size)	See spec. sheets	See spec. sheets	See spec. sheets	See spec. sheet
Options	Scraper seat, Black Liquor, See spec. sheets	See spec. sheets	Various, please call with requirements	See spec. sheet

Butterfly Valves				Ball Valves	
High Performance	Resilient Seated	NSF 61 & 372 Certified Valves			
Series					
	PS/PF/PM/PH SERIES P1S/P1F/P1M/P1H SERIES	OC/OS SERIES	AS SERIES	NS SERIES	NS20 / NS22 & NS55 SERIES
General Description & Features	High Performance Butterfly Valves	Resilient Butterfly Valves	PFA Lined Butterfly Valves	NSF 61 & 372 Certified / Dead-end Service Butterfly Valves	1 to 3 pc ball valves, Certified to NSF 61 & 372 for use in water applications
Automated Pneumatic					
Automated Electric					
Sizes	2" - 36" Stock, larger available	1-1/2" - 36" Stock (up to 126" available)	2" - 12" Stock, (CF for 14"-24")	2" - 24" Stock	1/4" - 4"
Port	Through shaft disc	Stub shaft disc	Stub shaft 1-pc disc	Through shaft disc	Full
Direct Mount	Yes	Yes	Yes	Yes	NSD9 Series - yes
Pyramidal Stem Packing	No	No	No	No	Yes
Body Materials	316SST, WCB, & others	Ductile Iron, 316SST	316SST, WCB, & others	Ductile Iron or 316SST	316SST
Trim Material	316SST, Alloy 20, Duplex, & others	Ductile Iron, Aluminum Bronze, 316SST, Nylon coated & others	PFA/304SST, PFA/316SST & others	Nylon Coated Ductile Iron, 316SST, or (non-NSF) Aluminum Bronze	316SST
Available Seats	RTFE (G2TFE), 50/50 STFE, 316L SST, Inconel®, TFM-1600™ & others	Buna, EPDM, Food Grade EPDM, High Temp EPDM, Viton®, PTFE & others	PTFE	EPDM or FKM, Buna-N (if NSF is not required)	RTFE or PTFE
End Connections	150/300# Wafer or Lug	150# Wafer or Lug	150# Wafer or Lug	150# Wafer or Lug	NPT, Socket Weld, Butt Weld
Max Pressure (varies by size)	See spec. sheets	See spec. sheet	150 psi	225 psi	1000 psi
Options	Call factory	Call factory	Call factory	Gear Operator, Handle options	V-Port ball (30°, 60°, or 90°)
Fugitive Emissions				TA-Luft Certified	TA-Luft (NS22)
					TA-Luft Certified

Trunnion Mounted Ball Valves



Series	TS SERIES	TM SERIES
General Description & Features	Trunnion Mounted Soft Seat Ball Valves TS2 - 2 pc cast TS3 - 3 pc forged	Trunnion Mounted Metal Seat Ball Valves TM3 - 3 pc cast
Automated Pneumatic	Call factory for Rack & Pinion or THD automation options	Call factory for Rack & Pinion or THD automation options
Automated Electric	Call factory for Electric automation options	Call factory for Electric automation options
Sizes	2" - 48"	2" - 24"
Port	Full/Regular	Full
Direct Mount	ISO 5211	No
Pyramidal Stem Packing	No	No
Body Materials	A105N, WCB, LF2, LCC, F316, CF8M & others	WCB, CF8M & others
Trim Material	See spec sheet	See spec sheet
Available Seats	RPTFE, Devlon®, PEEK (See spec sheet)	Tungsten Carbide, Chrome Carbide, Hard Chrome (See spec sheet)
End Connections	Raised Face, Weld End, RTJ	Raised Face, RTJ
Max Pressure (varies by size)	See spec sheet	See spec sheet
Options	Call factory	Call factory

TS2 Series

2" to 12" Cast, ANSI Class 150/300

2-Piece CAST SOFT Seated



TS3 Series
2" to 48" Forged
ANSI Class 150/300/600

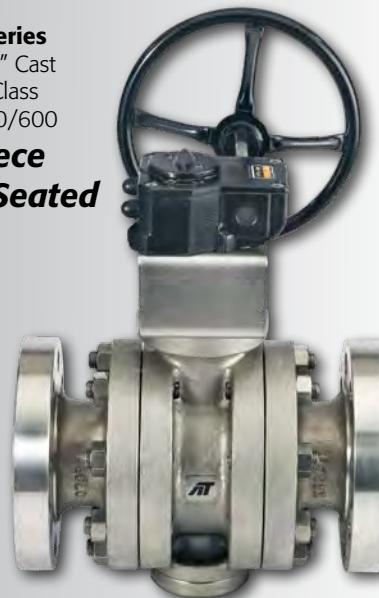
3-Piece FORGED SOFT Seated



TM3 Series

2" to 24" Cast
ANSI Class
150/300/600

3-Piece METAL Seated



	Pig Valve	Dual Valve Isolation Assemblies	Cryogenic	Lined Ball Valve	Tank Bottom
					
Series	P1 SERIES	WB SERIES	W6 SERIES	C8/CR SERIES	LB SERIES
General Description & Features	Full schedule 10 pipe diameter for pigging applications	Dual Valve Isolation Block and Bleed valves, 2000 psi, Firesafe API-607 6th Ed.	Dual Valve Isolation Block and Bleed valves, 6000 psi, Firesafe API-607 5th Ed.	3-Piece Extended Bonnet	PFA Lined, split body, 150# flanged ball valve
Automated Pneumatic		N/A	N/A		
Automated Electric		N/A	N/A		
Sizes	2", 3", 4"	3/8" - 2"	1/2"-2"	1/4" - 2"	1/2" - 8"
Port	SCH 10 Pipe Diameter	Full	Full & Regular	Full (C8) Regular (CR)	Full
Direct Mount	Yes	No	No	Yes	No
Pyramidal Stem Packing	Yes	No	No	Yes	No
Body Materials	316SST	316SST	316SST	316SST	316SST & WCB
Trim Material	316SST	316SST	316SST	316SST	PFA + 316SST
Available Seats	PTFE & RTFE	CTFE	PEEK	PCTFE	RTFE, PTFE, 50/50 STFE, CTFE, others on request
End Connections	150# Flanged or Socket Weld	NPT	NPT, Female x Male Block Valve, Female End Bleed Valve	NPT & Socket Weld	150# Flanged
Max Pressure (varies by size)	400/285 psi	2000 psi	6000 psi	1000 psi	232 psi
Options	See spec. sheet	NACE MR0175	NACE MR0175	See spec. sheet	Oxygen Cleaned, Gear Operator
					Vented Ball, Oxygen Cleaned, Gear Operator, & others

	Heavy Duty Actuators	Pneumatic Scotch Yoke Actuators	Pneumatic Rack & Pinion Actuators	180° Pneumatic Actuators	Stainless Steel Pneumatic Actuators	Declutchable Gear Operators
						
Series	THD SERIES		SY SERIES		2R, 2K, 2CI SERIES	
General Description & Features	Pneumatic and hydraulic scotch yoke design, Symmetrical and Canted yoke		Pneumatic Scotch Yoke design	Pneumatic Actuators designed to direct mount on ball & butterfly valves	180° Rack & Pinion pneumatic actuators	Corrosion Resistant Stainless steel Rack & Pinion design
Models	Full range of torques to 1,600,000 in-lbs	Five pressure group models 1,465-12,191 in-lbs, Twenty spring cartridge models 537-10,900 in-lbs	Thirteen models 60-35,550 in-lbs (Double Acting) 96-24,500 in-lbs (Spring Return)	Five models 740 -6200 in-lbs (Double Acting only)	Eight models 88-18,033 in-lbs (Double Acting) 147-9,899 in-lbs (Spring Return)	Six models
Variations	Double Acting, Spring Return	Double Acting, Spring Return	ISO 5211, Keystone®, and Centerline® patterns stock, others on request	180° Dribble and batch control	Double Acting, Spring Return	ISO 5211, Keystone®, and Centerline® patterns stock, others on request
Types	Pneumatic and hydraulic	Pneumatic	Eleven sizes rack & pinion, two sizes scotch yoke	Pneumatic	Pneumatic	Declutchable
Materials	Ductile iron center body	Ductile iron center body	Hard anodized aluminum body	Hard anodized aluminum body	316SST	Ductile iron
Features	Torque stabilizer bar, Dual travel stops, female drive	Identical mounting configuration on both sides, Flip 180° to change rotation of actuator, Dual travel stops	Dual travel stops	Excellent for multi-port valve automation	Dual travel stops, Direct mount, ISO 5211 mounting	Easy declutch mechanism, low profile
Options	Manual overrides, various controls, high/low temp, accumulator tanks, Dribble control, 3-position control & others	Dribble control, 3-position control, Various control accessories	High & low temp seals, Extended travel stops, Reduced cycle times available, Marine epoxy coating on end caps, Dribble control, 3-position control, Various accessories	Dribble control, 3-position control	Dribble control, 3-position control, Various control accessories	Dump valves, NAMUR adaptor plates

Gear Operators		Electric Actuators			Fail Safe Electric Actuators	
Series	Q SERIES	WE/XE/SE SERIES	XC SERIES	KE SERIES	FSE SERIES	BFS SERIES
General Description & Features	Manual gear operators for quarter-turn valves	Weather-Proof, Explosion-Proof, or Submersible electric actuators	CSA Explosion-Proof electric actuators	Weather-Proof electric actuators	Weather-Proof Spring Return electric actuators	Weather-Proof Battery backup electric actuators
Models/ Sizes	Eight standard sizes, Larger sizes available to 410,000 in-lbs	Fourteen sizes, WE-350 to WE-80000 XE-690 to XE-25900 SE-690 to SE-25900	Ten sizes, XC-00690 to XC-25900	Four sizes, KE-440 to KE-3500	Four sizes, FSE-440 to FSE-2300	Four sizes, BFS-690 to BFS-2640
Variations	ISO 5211 mounting in inventory, others on request	On-off & modulating, 12VAC/DC, 24VAC/DC, 110VAC, 220VAC/1PH & other voltages on request	On-off & modulating, 12VAC/DC, 24VAC/DC, 110VAC, 220VAC/1PH	On-Off & Modulating, 12VDC, 24VDC, 24VAC, 110VAC, 220VAC/1PH	On-Off & Modulating, 24VDC, 110VAC, 220VAC/1PH	On-Off & Modulating, 110VAC, 220VAC/1PH
Types	Quarter-turn	Type 4, 4X, 7, Explosion-proof ATEX, submersible, IP68 10M 72HR	 CSA Type 4, 4X, 6 & 7, Explosion-proof	IP67 Weather-Proof	IP67 & Type 4,4X Weather-Proof	IP67 & Type 4,4X Weather-Proof
Materials	Cast iron (others available)	Die cast aluminum Epoxy coated enclosure	Die cast aluminum Epoxy coated enclosure	Die cast aluminum Epoxy coated enclosure	Die cast aluminum Epoxy coated enclosure	Die cast aluminum Epoxy coated enclosure
Features	Dual travel stops	AWWA-C540-93, Manual override, Four switches standard, Heater & stat standard, Self-locking gear train	AWWA-C540-93, Manual override, Four switches standard, Heater & stat standard, Self-locking gear train	Self-Locking worm gear train, manual override with wrench, (2) Aux switches, Heater & Stat	Fail-Safe Spring Return, (2) Aux switches, Heater & stat, Visual Dome Indicator	Fail-Safe Battery back-up, (2) Aux switches, Heater & stat, Visual Dome Indicator, Manual override
Options	Top-mounted limit switches, others	Vibration and shock resistant, Fireproof coated enclosure, Intelligent and integral control unit, Analog & digital modulating control cards	Vibration and shock resistant, Intelligent and integral control unit, Analog & digital modulating control cards	Analog Modulating Control Module	Manual override, Analog Modulating Control Module	Analog Modulating Control Module

Limit Switches		Solenoids	Positioners	FM Approved Assemblies	Mighty Controllers	Control Options & Other Accessories	
General Description & Features							
	APL SERIES	EX, EC, ES, EY & EW SERIES	TVCS, TVC5, TVC6 & others	PPR, EPR, SS2, SS3 & SS5	FM Assemblies	MVC SERIES	
	Various models of CSA limit switch boxes	Various limit switch boxes	NAMUR mount, solenoids or pipe mounted	Pneumatic, electro-pneumatic, digital or "smart"	FM Approved Assemblies for gas safety shutoff and gas safety vent applications	Edge Computing Controller	
						Speed controls, flow controls, lock-up valves Filter regulators, dribble controls, & others	
	APL-2, APL-3, APL-4, APL-5, APL-9	EX, EC, ES, EY & EW Series	TVCS, TVC5, TVC6 & others	EPR1000, PPR1200, 760, PS2, TZIDC, SS2, SS3, SS5	Sizes 1/4" - 6"	MVCG1, MVCG2, MVCG3	Various, Call Factory
	Weatherproof, Explosion-Proof Materials, switch types	Weatherproof, Explosion-Proof Materials, switch types	Weatherproof, Explosion-Proof, 3, 4 or 5-way	Pneumatic, electro-pneumatic, digital "smart" HART, FieldBus	Gas Safety Shut-off, Gas Safety Vent or Manual Safety Cocks Assemblies	Functionality configurable via software	Various, Call Factory
	CSA Type 4, 4X, 7, SPDT, proximity, low voltage, high amp. & others	SPDT, proximity, low voltage, high amp. AS-i & others	2-position, 3-position, single or dual coil	Rotary or linear	150/300# Flanged, NPT, Socket Weld, & Butt Weld	Safe areas, Explosion Proof	Various, Call Factory
	Aluminum or Stainless Steel	Aluminum or Stainless Steel	Aluminum or Stainless Steel	Aluminum body	316SST & WCB	Polycarbonate, Aluminum, or Stainless Steel	Various, Call Factory
Features	2-way & 3-way position indicators	2-way & 3-way position indicators	Direct-mount	Easy to calibrate, repeatable	Full Port, Direct-mount, Pyramidal Stem Packing	24 point iGPIO, Universal Power, Industrial Temp Range, IP68, Industry standard communication protocols	Various, Call Factory
Options	Several types of communication options	Several types of communication options	Various voltages & configurations	Transmitters, limit switches, mounting hardware, call with requirements	See spec. Sheet	Factory installed apps, local hand controls	Various, Call Factory

Additional Ball Valve Options and Variations

Oval Handle

The oval shaped handle allows for operation without the chance of dislodging a standard design handle that clothing or other equipment may catch in passing by a valve.

Spring Return Fail-Safe Handle

This handle is designed for use in critical services where the open or closed position must be maintained by manual positioning. Manual release of the handle will result in spring-to-close or spring-to-open as the application requires. Sizes 1/4" to 1 1/2" available on direct mount valves.



Side Vented Ball Option

Vents pressure to the upstream side. Equalizes pressure in the valve caused by thermal expansion of liquid. Maintains seat seal and prevents blowout of the seats. (Stem slot is vented as standard.)

Ball Valve Seat Materials

We offer a variety of seat materials to cover numerous flow and service applications. Below is a brief description of the seat materials. Some are stock and others are available upon special request. Temperatures are for reference only. Refer to pressure-temperature charts on individual valve sheets.

Name	Material Composition	Max. Temp.	Application & Benefits
RTFE	Reinforced Teflon® 15% Glass Fiber/ 85% PTFE	450°F	Glass fiber reinforced PTFE is our standard seat material. Has chemical resistance of PTFE with the improved wear and abrasion resistance. Versatile temperature characteristics.
50/50 STFE	50% SST Powder/ 50% PTFE	550°F	The 50/50 composition gives this seat material good sealing and temperature resistant properties. Good for steam and abrasive applications. Better cold flow properties than RTFE.
PTFE	Virgin Teflon®	400°F	Good chemical resistance and lower torque values. Used for many general applications. Good for low cycle life applications
TFM™-1600	Modified Teflon®	500°F	Second generation PTFE. Offers better creep resistance. Lower coefficient of friction provides lower torque values and resists deformation. Ideal for applications requiring higher purity such as semi-conductor. Resists "popcorning" in monomer service, like Butadine.
CTFE	25% Carbon Graphite/ 75% PTFE	480°F	Good for low pressure steam applications and abrasive and slurry services.
PCTFE	Polychlorotrifluorethene	212°F	Ideal for applications with low or cryogenic temperatures.
PEEK	Polyether Ether Ketone	550°F	Good chemical resistance with higher temperature tolerance.
Delrin®	DuPont™ Polyoxymethylene	180°F	Good for high pressure applications.
UHMWPE	Ultra High Molecular Weight Polyethylene	180°F	UHMWPE has good abrasion resistance, good for abrasive and slurry services. Torques are significantly higher than RTFE. Good for tobacco and nuclear services.
MG1241	5% Graphite/ 20% Glass Fiber/ 75% PTFE	480°F	Good for high cycle applications and abrasive service.
Stellite®/ 316SST	Stellite® Inlay/ 316SST*	661°F	Unidirectional or Bidirectional shut-off. *Other base material available.
TC/316SST	Tungsten Carbide Coated 316SST*	842°F	Unidirectional or Bidirectional shut-off. *Other base material available.
CrC/316SST	Chrome Carbide Coated 316SST*	932°F	Unidirectional or Bidirectional shut-off. *Other base material available.

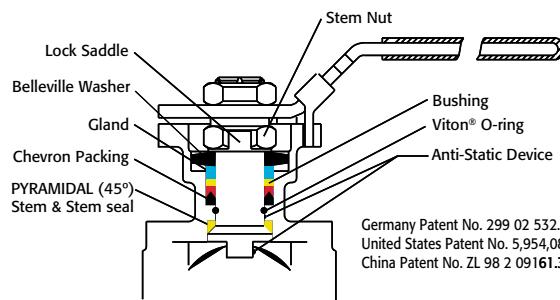
"V" Port Control Ball

"V" ported balls give better flow control properties to a traditionally round ported ball valve. They are available with a 15°, 30°, 60° or 90° "V" port. The 15° and 30° ports allow for finer control at lower flow rates. The 60° and 90° ports allow more precise control for higher Cv applications. Custom openings are also available per application. Also available in segment V-Ball.

Featuring Standard

Anti-Static Grounding
Blowout Proof Stems
Pyramidal Stem Seal Packing System

The best performing
stem seal packing system
on the market





Cincinnati OH Headquarters

A-T Controls is a global leader in the design, manufacturing and sale of manual & automated process valves for all types of industries. We are known for our extensive inventory and highly experienced staff that enable us to provide the customer solutions needed to fulfill most valve and actuator requirements, while offering both a competitive price and the fastest turnaround in the industry.

Our mission at A-T Controls is to provide quality valve and automation products through solutions-oriented selling and manufacturing with responsive communication.

Our products are used in virtually every industry including: Oil & Gas, Refining, Petrochemical, Chemical Processing, Pulp & Paper, Mining, Transportation, Food and Beverage, Pharmaceuticals, Marine, HVAC, Power and more.



Stafford TX

Founded in 1994, A-T Controls currently operates out of the primary facility in Cincinnati, Ohio and another in Stafford, Texas with several sales offices throughout North America. Our Products are sold and serviced through a network of distributors throughout the U.S. and Canada, parts of Central and South America, South Africa, and Asia-Pacific.



A-T Controls is proud to be a member of the PON family with shared core values.

- » Passion to Perform
- » Trust to Act
- » Act Responsibly
- » Make it Fun



A-T Product Literature: Offering, Policy, and How to Order



Full Product Line Catalog Binders

- LIT0001 BLUE - Ball Valves & Automation
- LIT0002 WHITE - Automation
- LIT0030 BLACK - Butterfly Valves & Automation
- LIT0040 RED - Trunnion Mounted Ball Valves & Automation

Printed Copies

To request copies of printed literature, please visit our website to submit the online form from the Literature Request button on the home page (<http://www.a-tcontrols.com/literature-request.aspx>).

LITERATURE REQUEST

For your reference, a date code and item number (LIT00XX) is printed on each brochure, typically on the lower left of back cover. Please reference the item code, brochure title and quantity when ordering.

- Product Catalog
- Installation and Operation Manual
- Certifications
- Electric Schematic
- Product Drawing
- 3D Models

Electronic Documents

ATControls.com contains a wealth of resources, including PDF downloads of all A-T product catalogs, application-specific white papers and more.



LIT0047 Product Specification Battlecards
LIT0048 Trunnion Mounted Battlecards



Quality & Certifications

At A-T Controls, we are committed to quality and it is our mission to supply the highest value and best quality valve and valve automation products available in the industry. Our objective is to provide these quality products in a timely manner to our valued customers and distribution partners. We will strive to attain continuous improvement and innovation in product design, performance, value and quality management system, which we will measure based on internal and customer driven feedback. The goal of A-T Controls is to operate at the highest level of integrity in our relations with customers, vendors and personnel. For quality documentation not linked here, please call the office to request from our quality manager.



Manual Ball Valve Part Number Matrix

1 Prefix	4 End Connection	7 Special Designations																																										
F Firesafe Tested F (on 31 Series) Graphite Packing and Seals T (on 31 Series) TFM Packing and Seals NS NSF 61 & 372 Certified Series	TH NPT Ends SW Socket Weld Ends BW Butt Weld Ends EW Extended Butt Weld Ends F1 150# Flanged Ends F3 300# Flanged Ends F6 600# Flanged Ends FR 600# RTJ Flanged Ends SA Sanitary Clamp Ends SF Sanitary Clamp Ends w/ Cavity Filler DA Tube O.D. Ends DF Tube O.D. Ends w/ Cavity Filler DS Sanitary Clamp x Tube O.D. Ends TE NPT x Extended Butt Weld TS NPT x Socket Weld MF Male NPT x Female NPT QQ Tube Socket Weld W1 150# Wafer W3 300# Wafer W6 600# Wafer	X No Specials, Series Standard G Gear Operator L Lockable Handle (HP Series) R Regular Port Valve O Oval Handle (available on some) S Spring Return Handle (Direct Mount only)																																										
2 Valve Series	5 Valve Size	8 Additional Specials																																										
10 1pc. Regular Port 2000 WOG 20 2pc. Full Port 1000 WOG 21 2pc. Regular Port 2000/1500 WOG 22 2pc. Direct Mount 1000 WOG, Full Port 23 2pc. 3600 WOG, Seal-Welded 24 2pc. 3000 WOG 26 2pc. 6000 WOG, Seal-Welded 30 3-Way Flanged, Full Port 31 3-Way Flanged, Direct Mount, Full Port 33 3, 4, 5-Way Full Port, Multiport 38 3-Way NPT, Regular Port 55 3pc. 1000/800 WOG, Full Port 77 3pc. 1000/800 WOG, Full Port, Sanitary HP 3pc. Forged High Purity H78 3pc. Cast High Purity, Encapsulated Bolts 83 3pc. 2000/1500 WOG, Full Port 8R 3pc. 2000/1500 WOG, Regular Port 88 3pc. Direct Mount 2000/1500/1000 WOG, Full Port R8 3pc. Direct Mount 2000/1500 WOG, Regular Port 90 2pc. Flanged Full Port (Investment Cast) 91 Unibody Regular Port Flanged 93 2pc. Flanged Full Port (Sand Cast) V7 3pc. Sanitary, V-Port V8 3pc. V-Port V9 Flanged V-Port D9 Direct Mount Flanged T5 Tank Bottom 3pc. C8 Cryogenic 3pc. Full Port CR Cryogenic 3pc. Regular Port DR 3-Way Bottom Entry Diverter Valve LB PFA Lined Split Body Flanged Ball Valve P1 Schedule 10 Piggable Valve MU Metal Seat Unidirectional Shutoff, Floating Ball MB Metal Seat Bidirectional Shutoff, Floating Ball MS Metal Seat Scraper Seat Design MX Metal Seat 3 pc. Bidirectional, Floating Ball M3 3-Way Metal Seat VS Segment V-Port, Soft VM Segment V-Port, Metal Graphite Packing VV Segment V-Port, Metal Viton® Packing WB Block and Bleed Isolation Valve, 2000 WOG W6 Block and Bleed Isolation Valve, 6000 WOG	3 30° V-Port (v-ball) 6 60° V-Port (v-ball) 9 90° V-Port (v-ball) Blank No Designation, SST Stem A 17-4 PH® Stem B XM-19 (Nitronic 50) Stem C Duplex 2205 Stem D Inconel® 718 Stem L L-Port 3-Way arrangement T T-Port 3-Way arrangement K FFKM O-Ring (31 Series) X No Specials, Standard (HP/H78 Series) S Anti-Static Option (HP/H78 Series)																																											
3 Body Material	6 Seat, Lining & Trim Materials																																											
Blank No Designation=SST Body and Trim A Alloy 20 C Carbon Steel Body L Low Carbon 316L Stainless Steel J Low Carbon 304 Stainless Steel H Carbon Body /Hastelloy Ball & Stem Q Carbon Steel Body/Monel Ball & Stem R 316 SST Body/Monel Ball & Stem T Hastelloy C-276 Body & Trim E Electropolished Stainless Steel Z Epoxy Coated Carbon Steel D CD3MN Duplex SST G CE3MN Super Duplex SST 2 F316L (SF4) Electropolished Forged 3 CF3M (SF4) Electropolished Cast 4 F316H Forged 5 LCB 8 LCC 6 WC6 9 WC9	X Reinforced TFE Seats (RTFE) P Virgin TFE (PTFE) U UHMWPE Seats D Delrin® S 50/50 STFE Seats C 25% CS Powder/ 75% TFE Seats (CTFE) T TFM™-1600 F TFE Cavity Filler K PCTFE (Cryogenic) L PFA Lined w/ PTFE Seats M MG1241 Z PEEK 2 Tungsten Carbide Coated 316 SST Seats & Ball 3 HCr Coated Ball/Stellite® Inlay Seats 4 Chrome Carbide Coated 316 SST Seats & Ball 8 Inconel® 718+CrC																																											
		<p>Viton® is a registered trademark of E.I. DuPont de Nemours. Delrin® is a registered trademark of DuPont Performance Polymers. 17-4 PH® is a registered trademark of AK Steel Corporation. TFM™ is a trademark of Dyneon™, a 3M Company. Stellite® is a registered trademark of the Deloro Stellite Company, Inc. Inconel® is a registered trademark of Inco Alloys/Special Metals Corporation.</p>																																										
		<p align="center">HOW TO ORDER MANUAL VALVES</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td align="center">1</td><td align="center">-</td><td align="center">2</td><td align="center">3</td><td align="center">-</td><td align="center">4</td><td align="center">-</td><td align="center">5</td><td align="center">-</td><td align="center">6</td><td align="center">7</td><td align="center">8</td><td align="center">-</td><td align="center">9</td> </tr> <tr> <td align="center">↓</td><td></td><td align="center">↓</td><td align="center">↓</td><td></td><td align="center">↓</td><td></td><td align="center">↓</td><td></td><td align="center">↓</td><td></td><td align="center">↓</td><td></td><td align="center">↓</td> </tr> <tr> <td align="center">F</td><td align="center">-</td><td align="center">88</td><td align="center">C</td><td align="center">-</td><td align="center">TH</td><td align="center">-</td><td align="center">0150</td><td align="center">-</td><td align="center">X</td><td align="center">X</td><td align="center">X</td><td></td><td></td> </tr> </table>	1	-	2	3	-	4	-	5	-	6	7	8	-	9	↓		↓	↓		↓		↓		↓		↓		↓	F	-	88	C	-	TH	-	0150	-	X	X	X		
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F	-	88	C	-	TH	-	0150	-	X	X	X																																	

Automated Ball Valve Part Number Matrix

1 Prefix	
F	Firesafe Tested
F	(on 31 Series) Graphite Packing and Seals
T	(on 31 Series) TFM Packing and Seals
NS	NSF 61 & 372 Certified Series

2 Valve Series	
10	1pc. Regular Port 2000 WOG
20	2pc. Full Port 2000 WOG
21	2pc. Regular Port 1000 WOG
22	2pc. Direct Mount 1000/800 WOG, Full Port
24	2pc. 3000 WOG
30	3-Way Flanged Full Port
31	3-Way Flanged, Direct Mount, Full Port
33	3, 4, 5-Way Full Port, Multiport
38	3-Way NPT, Regular Port
55	3pc. 1000 WOG, Full Port
77	3pc. 1000 WOG, Full Port, Sanitary
HP	3pc. Forged High Purity
H78	3pc. Cast High Purity, Encapsulated Bolts
83	3pc. 2000/1500 WOG, Full Port
8R	3pc. 2000/1500 WOG, Regular Port
88	3pc. Direct Mount 2000/1500 WOG, Full Port
R8	3pc. Direct Mount 2000/1500 WOG, Regular Port
90	2pc. Flanged Full Port (Investment Cast)
91	Unibody Regular Port Flanged
93	2pc. Flanged Full Port (Sand Cast)
V7	3pc. Sanitary, V-Port
V8	3pc. V-Port
V9	Flanged V-Port
D9	Direct Mount Flanged
T5	Tank Bottom 3pc.
C8	Cryogenic 3pc. Full Port
CR	Cryogenic 3pc. Regular Port
DR	3-Way Bottom Entry Diverter Valve
LB	PFA Lined Split Body Flanged Ball Valve
P1	Schedule 10 Piggable Valve
VS	Segment V-Port, Soft
VM	Segment V-Port, Metal Graphite Packing
VV	Segment V-Port, Metal Viton® Packing

3 Body Material	
Blank	No Designation=SST Body and Trim
A	Alloy 20
C	Carbon Steel Body
L	Low Carbon 316 Stainless Steel
J	Low Carbon 304 Stainless Steel
H	Carbon Body /Hastelloy Ball & Stem
Q	Carbon Steel Body/Monel Ball & Stem
R	316 SST Body/Monel Ball & Stem
T	Hastelloy C-276 Body & Trim
E	Electropolished Stainless Steel
Z	Epoxy Coated Carbon Steel
D	CD3MN Duplex SST
G	CE3MN Super Duplex SST
2	F316L (SF4) Electropolished Forged
3	CF3M (SF4) Electropolished Cast
4	F316H Forged
5	LCB
8	LCC
6	WC6
9	WC9

4 End Connection	
T	NPT Ends
S	Socket Weld Ends
B	Butt Weld Ends
E	Extended Butt Weld Ends
F	150# Flanged Ends
3	300# Flanged Ends
6	600# Flanged Ends
R	600# RTJ Flanged Ends
C	Sanitary Clamp Ends
D	Tube O.D. Ends
H	Sanitary Clamp x Tube O.D. Ends
M	NPT x Socket Weld
Q	Tube x Socket Weld

5 Seat, Lining & Trim Materials	
1	Valve Series Standard
X	Reinforced TFE Seats (RTFE)
P	Virgin TFE (PTFE)
U	UHMWPE Seats
D	Delrin®
S	50/50 STFE Seats
C	25% CS Powder/ 75% TFE Seats (CTFE)
T	TFM™-1600
F	TFE Cavity Filler
K	PCTFE (Cryogenic)
L	PFA Lined
M	MG1241
Z	PEEK
2	Tungsten Carbide Coated 316SST Seats & Ball
3	HCr Coated Ball/Stellite® Inlay Seats
4	Chrome Carbide Coated 316 SST Seats & Ball
8	Inconel® 718+CrC

6 Valve Size	
025	1/4"
038	3/8"
050	1/2"
075	3/4"
100	1"
125	1-1/4"
150	1-1/2"
200	2"
250	2-1/2"
300	3"
400	4"
600	6"
800	8"
AAA	10"
BBB	12"

7 Actuator - Pneumatic (DA)	
TRYD	TR10DA
TR1D	TR20DA
2R2D	2R40DA
2R3D	2R80DA
2R4D	2R130DA
2R5D	2R200DA
2R6D	2R300DA
2R7D	2R70DA
2R8D	2R1750DA
2R9D	2R2500DA
2R10D	2R3500DA
2R11D	2R5000DA
2R12D	2R7500DA
2R13D	2R10000DA
2R14D	2R15000DA
2R15D	2R20000DA
2R16D	2R25000DA
2R17D	2R30000DA
2R18D	2R35000DA
2R19D	2R40000DA
2R20D	2R45000DA
2R21D	2R50000DA
2R22D	2R55000DA
2R23D	2R60000DA
2R24D	2R65000DA
2R25D	2R70000DA
2R26D	2R75000DA
2R27D	2R80000DA
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2R38D	2R135000DA
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2R242D	2R1155000DA
2R243D	2R1160000DA
2R244D	2R1165000DA
2R245D	2R1170000DA
2R246D	2R1175000DA
2R247D	2R1

Resilient Seated Butterfly Valve Part Number Matrix

A-T Controls OC/OS Series Resilient Seated Butterfly Valves

1 Valve Series
OC A-T BFV with DD Stem (14" and larger)
OS A-T BFV with Square Stem (2-12") (Standard)

2 Body Material
blank (No Designation)= SST Body
B Ductile Iron (Standard)

3 End Connection
L1 125/150# Lug
W1 125/150# Wafer with Guide Holes
W2 125/150# Wafer (no Guide Holes)

4 Valve Size
0150 1-1/2" 1400 14"
0200 2" 1600 16"
0250 2-1/2" 1800 18"
0300 3" 2000 20"
0400 4" 2400 24"
0500 5" 3000 30"
0600 6" 3600 36"
0800 8"
1000 10"
1200 12"

5 Seat Material/Style
B Buna P PTFE
E EPDM V Viton®
H High Temp EPDM
F Food Grade EPDM (FDA compliant) (up to 12")

6 Disc Material/Style
B Aluminum Bronze
D Ductile Iron (Nickel Plated)
N Nylon Coated Ductile Iron
S 316 SST
U Undercut Aluminum Bronze (6" and larger only)
W Polished 316 SST
Y Undercut Polished 316 SST (6" and larger only)
Z Undercut 316 SST (6" and larger only)

7 Stem Bushing
R PTFE (Standard)
B Lubricated Bronze

8 Operator Designation
X Bare Stem
H Standard 10 point Handle
S Stainless Steel 10 point Handle
I Infinite Adjustment Handle
G Gear Operator

9 Stem
E 420 SST Upper and Lower Stem (Standard with DI Body)
F 431 SST Upper Stem, 316 SST Lower Stem (Standard with PTFE seat or SST Body)
A 17-4 PH® Upper stem, 316 SST Lower Stem

PTFE seat: F or A stem options only

AS Series Lined

Resilient Seated Butterfly Valves

1 Valve Series
AS A-T Split Body Lined Butterfly Valve

2 Body Material
blank (No Designation)= SST Body

3 End Connection
L1 125/150# Lug
W1 125/150# Wafer with Guide Holes
W2 125/150# Wafer (no Guide Holes)

4 Valve Size
0150 1-1/2" 1400 14"
0200 2" 1600 16"
0250 2-1/2" 1800 18"
0300 3" 2000 20"
0400 4" 2400 24"
0500 5" 3000 30"
0600 6" 3600 36"
0800 8"
1000 10"
1200 12"

5 Seat Material/Style
P PTFE

6 Disc Material/Style
F PFA Encapsulated over 304 SST (standard with WCB body)
M PFA Encapsulated over 316 SST (standard with SST body)

7 Stem Bushing
R PTFE

8 Operator Designation
X Bare Stem
H Standard 10 point Handle
S Stainless Steel 10 point Handle
G Gear Operator

9 Stem
A 17-4 PH® Stem

EXAMPLE:

ASC-L1-0600-PFR-XA
(6" A-T Controls Split Body Lined Butterfly Valve, ASTM A216 Grade WCB Body, 150# Lug Style, PTFE Seat, PFA Encapsulated over 304 SST Disc, PTFE Stem Bushing, 17-4 PH Stem.)

How To ORDER MANUAL AS SERIES BUTTERFLY VALVES

1 2 - 3 - 4 - 5 6 7 - 8 9
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ASC - L1 - 0600 - PFR - X A

NS Series Butterfly Valves

1 Valve Series
NS A-T NSF 61 & 372 Certified Dead-End Service Butterfly Valve

2 Body Material
blank A351 CF8M (No Designation)

3 End Connection
L1 125/150# Lug

4 Valve Size
0200 2" 1400 14"
0250 2-1/2" 1600 16"
0300 3" 1800 18"
0400 4" 2000 20"
0500 5" 2400 24"

5 Seat Material/Style

B Buna-N (Dead-End Service only)
N EPDM (NSF 61 & 372 and Dead-End Service)
V FKM (Dead-End Service only)

6 Disc Material/Style

N Nylon Coated Ductile Iron (NSF 61 & 372)
S A351 CF8M (NSF 61 & 372)
B Aluminum Bronze

8 Operator Designation

X Bare Stem
S Stainless Steel 10 position Handle
L Locking Handle 10 position (up to 6")
G Gear Operator

How To ORDER MANUAL NS SERIES BUTTERFLY VALVES

1 2 - 3 - 4 - 5 6 7 - 8 9
↓↓ ↓ ↓ ↓↓↓ ↓↓

NS - L1 - 0400 - NBR - X A

How To ORDER AUTOMATED RESILIENT SEATED BUTTERFLY VALVES

1 2 - 3 - 4 - 5 6 7 - 8 9 / actuator size - options
↓↓ ↓ ↓ ↓↓↓ ↓↓

OSB - W1 - 0200 - E D R - X E / 2R3S - XX

(See Actuator Size Legend)

High Performance Butterfly Valve Part Number Matrix

A-T Controls **POWER-SEAL** High Performance Butterfly Valves

1 Valve Series	
PS	Power-Seal Soft Seat
PF	Power-Seal Firesafe Seat
PM	Power-Seal Metal Seat
PH	Power-Seal Metal Seat High Temp
P1S	Power-Seal P1S Soft Seat
P1F	Power-Seal P1F Firesafe Seat
P1M	Power-Seal P1M Metal Seat
P1H	Power-Seal P1H Metal Seat High Temp

5 Seat Material	
P	PTFE
R	RTFE (Standard on PS)
G	G2TFE (Standard on P1S)
S	50/50 STFE*
T	TFM™-1600*
6	316L SST (Standard on PM & P1M)
7	Inconel® 625 (Standard on PH & P1H)
F	RTFE/316L SST (Standard on PF) G2TFE/316L SST (Standard on P1F)
W	Hastelloy C-276

*When used in P1F valves the soft seat is backed up with a 316L SST secondary seat.

6 Disc Material/Style	
S	316 SST (Standard on CS and SST body PS & P1S)
X	Same as Body Material
7	316 SST/Stellite® (Standard on PH & P1H)
6	316 SST/HCr (Standard on PM, P1M, PF & P1F)

7 Stem Bearing	
R	PTFE Composite (Standard with Soft Seat)
C	Carbon Graphite (Standard with Firesafe & Metal Seat) or Metaloplast (Standard on P1F)
B	Bronze
*	Other

8 Operator Designation	
X	Bare Stem
H	Standard 10 point Handle
S	Stainless Steel 10 point Handle
G	Gear Operator

9 Stem	
A	17-4 PH® Stem (Standard)
B	XM-19
T	Hastelloy C-276
*	Other

10 Packing (Live Loaded)	
G	Graphite (Standard)
P	PTFE V-Ring (Standard for P1S)
V	PTFE Inverted V-Ring (Vacuum Service)
D	PTFE Pressure & Vacuum V-Ring

3 End Connection	
L1	Class 150 Lug
L3	Class 300 Lug
W1	Class 150 Wafer with Guide Holes
W3	Class 300 Wafer with Guide Holes

4 Valve Size	
0200	2"
0250	2-1/2"
0300	3"
0400	4"
0500	5"
0600	6"
0800	8"
1000	10"
1200	12"
1400	14"
1600	16"
1800	18"
2000	20"
2400	24"
2600	26"
2800	28"
3000	30"
3200	32"
3600	36"
4000	40"
4400	44"
4800	48"

How to Order **POWER-SEAL** High Performance Butterfly Valves

How To Order Manual POWER-SEAL HIGH PERFORMANCE BUTTERFLY VALVES	
1 2 - 3 - 4 - 5 6 7 - 8 9 10	
↓↓	↓
PSC - W1 - 0300 - R S R - X A G	

1 2 - 3 - 4 - 5 6 7 - 8 9 10	
↓↓	↓
P1SC - W1 - 0300 - G S R - X A P	

How To Order Automated Power-Seal High Performance Butterfly Valves	
1 2 - 3 - 4 - 5 6 7 - 8 9 10 / actuator size - options	
↓↓	↓
P1SC - W1 - 0300 - G S R - X A P / 2R5S - XX	

(see Actuator Size Legend & Automated Accessories)

How to Order Triac Pneumatic Actuators



TRIAC® Model Number Matrix for Pneumatic Rack & Pinion Actuators

2 TRIAC® Rack & Pinion Actuator with double travel stops
T TRIAC® Rack & Pinion Actuator with single travel stop (TR10DA, TR20DA, TR20SR only)

R ISO / DIN mounting configuration
CI Direct mount to Center Line® BFV**
K Direct mount to Keystone® / ABZ / Ultraflow® BFV
N Direct mount to Nibco® BFV (special order: CF)
D Direct mount to Demco® BFV (special order: CF)

Note: Others available, call for details

0000 Actuator size (10, 20, 40, 80, 130, 200, 300, 500, 850, 1200, 1750, 2500, 3500)

DA Double acting configuration
DAR Double acting (reverse acting) configuration
SR Spring return fail clockwise configuration
SO Spring return fail counter-clockwise configuration

Blank Standard Buna seals (-5°F to 175°F)
V Viton® seals (0°F to 300°F)
LT Low temperature Buna seals (-45°F to 175°F)

Blank 5 springs per side (SR & SO only) (See brochure for 2CI model numbers)
0 Specify number of springs per side (1-6) (SR & SO only)
 (See brochure for 2CI model numbers)

E Extra long travel stops

Example: 2R80SRE (TRIAC Model 80 Rack & Pinion Actuator with Travel Stop in both directions, Spring Return fail clockwise, with Extra long travel stops)

**Note: When ordering a 2CI actuator, please specify the valve size per the 2CI model numbers on page 9 of our Rack & Pinion brochure (LIT0004).

Triac WE / XE Series Part Number Reference

Model	
WE	Weather Proof, CSA TYPE 4, 4X, IP67
XE	Explosion Proof Design, ATEX & IECEx Ex d IIB T4 Gb, IP67
FE	Fire Proof Unit (1050°F for 50 Min)
SE	Submersible unit (IP68, 10 meters for 72 Hours)



Control		(n/a on XE-500 and XE/SE-690)
Blank	(2) Position Control (Open / Close)	
M	Standard Modulating Control Card (TMC3) with 4-20mA transmitter	
D	High Resolution Modulating Card (TDC) (TDC-100 or TDC-400; see Misc. Options for transmitter)	
P	Profibus DP On/Off (motor option X only)	
Q	Profibus DP Proportional Control/Position Feedback (motor option X only)	
R	Modbus RTU (RS485) On/Off	
Z	Modbus RTU (RS485) Proportional Control/Position Feedback	
L	Boiler Feed (4-20mA) <i>TSM extension recommended</i>	
S	Boiler Feed (0-135ohm) <i>TSM extension recommended</i>	

Actuator	
Size	
-350	350 In-Lbs
-350HS	270 In-Lbs
-500	500 In-Lbs
-690	690 In-Lbs
-1350	1350 In-Lbs
-1700	1700 In-Lbs
-2640	2640 In-Lbs
-4400	4400 In-Lbs
-5200	5200 In-Lbs
-6900	6900 In-Lbs
-10500	10500 In-Lbs
-17500	17500 In-Lbs
-25900	25900 In-Lbs
-53000	53000 In-Lbs
-80000	80000 In-Lbs

Motor	
X	110VAC/1PH*
A	24VDC/VAC - On/Off*
B	12VDC
C	24VDC
D	24VAC/1PH
E	220VAC/1PH*
H	440/460/480VAC/3PH
N	12VDC/VAC - On/Off

Place holder only - Omit when at end of part number
(Sizes 500 - 2640)
(Size 690)
WED/XED/SED models only (Sizes 500 - 2640)
WED/XED/SED models only (Sizes 500 - 2640)
(Sizes 500 - 80000)
(Sizes 1350 - 80000)
(Size 690)

Options		
X	No options (Place holder only)	Omit when at end of part number
B	Semi-integral Control Unit (1PH/3PH)	(Sizes 13500 - 25900)
C	Intelligent Digital Control Unit (3PH)	(Sizes 13500 - 80000)
D	Local / Remote Control Switches	(Sizes 500 - 25900)
E	RCT Electronic Speed Control Module	- 110 VAC only (Sizes 500 - 25900)
F	AMI 2-Wire Relay & Speed Control	- 110 VAC only (Sizes 500 - 25900)
G	AST Sequence Timer	(Sizes 500 - 25900)
HS1/HS2	See High Speed Options	
R	2 Wire Control, Relay*	- 110 VAC control voltage
S	2 Wire Control, Relay*	- 24 VAC control voltage
T	2 Wire Control, Relay*	- 24 VDC control voltage

Miscellaneous Options		
Note: Add all miscellaneous options to end of part number		
Blank	No options	
T	4-20mA Transmitter	-On/off or Modulating Control "D"
N	1000 Ohm Potentiometer*	
O	5000 Ohm Potentiometer*	
P	10K Ohm Potentiometer*	
Y	180° Operation	(Sizes 690 thru 10500)
Y-3P	180° Operation, 3 Position Control	(Sizes 690 thru 10500)
L	-40°F Low Temp Kit	(Sizes 500 thru 25900)
I	Visual LED Indicator (Open, Close, Power)	(Sizes 690 thru 10500)
S	(4) Auxiliary limit switches (6 total)	(Sizes 690 thru 25900)
	Floor Drive Mounting Configuration - See Floor Drive Catalog	

Examples

WEM-1350

(Weather Proof Housing, Modulating Control, model size 1350, 110VAC / 1PH)

WEM-1350XXT

(Weather Proof Housing, Modulating Control, model size 1350, 110VAC / 1PH, 4-20mA Transmitter)

XE-500 is only available as On/Off; applicable options marked with ().

A-T Controls reserves the right to change product designs and technical/dimensional specifications without notice.

TRIAC® XC Series CSA Approved Explosion Proof Actuators

Model	
XC	Explosion Proof, CSA Class I, Division 1, Groups C, D; T4 Type 4, 4X, 6 & 7, IP66/IP67 Ex d IIB T4 Gb Class I, Zone 1, AEx d IIB T4 Gb

Part Number Reference

Control	
Blank	(2) Position Control (Open / Close)
D	Modulating Controller* (Sizes 01350 - 01700), motor options C & E only

Actuator	Output Torque			
Size	110 VAC	220 VAC	24V AC/DC	12 VDC
-00690	690	690	620	350
-00860	860	790	700	440
-01350	1350	1350	1350	-
-01700	1700	1590	1410	-
-02640	2640	2300	2120	-
-04400	3980	3980	-	-
-06900	6900	6900	-	-
-10500	9600	8300	-	-
-17500	17500	17500	-	-
-25900	25900	25900	-	-

Motor	
X	110VAC/1PH
A	24V AC/DC
B	12VDC
C	24VDC
E	220VAC/1PH
N	12V AC/DC

3-wire on/off (Sizes 00690 - 02640)
(Sizes 00690 & 00860)
XCD MODELS ONLY (Sizes 01350 - 01700)
3-wire on/off (Sizes 00690-00860)

Misc. Options	
Blank	Note: Add all miscellaneous options to end of part number
XT	No options

Note: Class 1, Division 2 areas require a certified seal-off fitting during installation

Example
XC-01350X - Triac Explosion Proof Electric Actuator, 1350 In-Lbs (150Nm), 21 Second Operation, 110VAC/1PH, 50-60Hz, 2 FLA, Two Position Control, ISO Mounting, 10 Watts Compartment Heater & Thermostat, (2) Auxiliary Limit Switches with Independent Cams, (2) Torque Switches, Diecast Anodized Aluminum Polyester Coated Construction, Class F Extended Duty Fan Motor, Manual Override, (2) 3/4" NPT Conduit Connections, F07/F10 ISO Mounting Pad, 19MM (0.748) Star Output Drive, cCSAus Approved Class I, Division 1, Groups C, D; T4, Ex d IIB Gb T4, Class I, Zone 1, AEx d IIB Gb T4, Type 4, 4X, 6 & 7, IP66, IP67, Ambient Temp = -20°C to +60°C; Color - Silver

A-T Controls reserves the right to change product designs and technical/dimensional specifications without notice. See website for updates.



TRIAC THD Model Number Matrix

TRIAC® THD Model Number Matrix



THD Series

S - Symmetrical Scotch Yoke
C - Canted Scotch Yoke (N/A in S09 model)

Model (Center Body)

09
11
13
16
20
27

Actuator Action

DA - Double Acting
SC - Spring Return Fail Clockwise
SO - Spring Return Fail Counter-Clockwise

Pressure Group

200	735
280	785
335	835
385	935
435	985
485	1020
535	
585	
685	

Spring Cartridge

Blank - Double Acting
- Select spring code from spring return torque charts for specific actuator

Manual Override

Blank - No Override
D - Declutchable Gear (S09 only)
J - Jackscrew
H - Hydraulic (N/A on S09)

Seals & Grease

Blank - Standard Buna Seals (-29°C to 93°C) (-20°F to 200°F)
V - High Temperature Seals (-18°C to 177°C) (0°F to 350°F)
L - Low Temperature Seals (-40°C to 82°C) (-40°F to 180°F)
L1 - Low/High Temperature Seals (-50°C to 177°C) (-58°F to 350°F)

Example:

S **13** **SC** **435** **CB** **H - L**

S13SC435CBH-L: Triac S13 435 Pressure Group Heavy Duty Spring Return, Spring Cartridge SCS13CE, Spring Clockwise, Symmetrical Scotch Yoke Actuator with Travel Stop Adjustment in Both Directions, 11.73" Bolt Circle ISO 5211 Valve Mounting, 1/2" NPT Air Supply Connection Complete with Hydraulic Override and Low Temperature Seals

How To Order

TRUNNION MOUNTED BALL VALVES PART NUMBER MATRIX

Fire Safe Designation (must be included)

X Non-Firesafe
F Firesafe (standard)

Port

F Full Port
R Regular Port

Valve Series

TS2 Soft seat Trunnion, 2 pc design (cast)
TS3 Soft seat Trunnion, 3 pc design (forged)
TSW Soft seat Trunnion, seal welded
TM3 Metal seat Trunnion, 3 pc design (cast)
TMW Metal seat Trunnion, seal welded

Body Material

C A216 WCB (-20°F to 800°F)
5 A352 LCB (-50°F to 800°F)
8 A352 LCC (-50°F to 650°F)
X CF8M 316 SST (-450°F to 1200°F)
L CF3M 316L SST (-450°F to 800°F)
7 A105N Forged Steel (-20°F to 800°F)
D CD3MN Duplex SST (-50°F to 550°F)
G CE3MN Super Duplex SST (-50°F to 550°F)
6 WC6, A217 (-20°F to 1100°F)
9 WC9, A217 (-20°F to 1100°F)
F A350 LF2 (-50°F to 800°F)
4 A182 F316 (-450°F to 1200°F)
(other options: consult factory)

End Connection

F1	150 RF	R1	150 RTJ
F3	300 RF	R3	300 RTJ
F6	600 RF	R6	600 RTJ
F9	900 RF	R9	900 RTJ
F15	1500 RF	R15	1500 RTJ
F25	2500 RF	R25	2500 RTJ

WE Weld End (*please see chart)
X Special Configuration (BW x Flanged, etc.)

Bevel

XX Standard Bevel or not applicable

*See chart below for various options

*** Weld End Connections Chart for ordering**

Pipe Schedule	ANSI Class						
	150	300	600	900	1500	2500	Special
10	AA	AB	AC	AD	AE	AF	AY
20	BA	BB	BC	BD	BE	BF	BY
30	CA	CB	CC	CD	CE	CF	CY
40	DA	DB	DC	DD	DE	DF	DY
60	EA	EB	EC	ED	EE	EF	EY
80	FA	FB	FC	FD	FE	FF	FY
XH	GA	GB	GC	GD	GE	GF	GY
100	HA	HB	HC	HD	HE	HF	HY
120	JA	JB	JC	JD	JE	JF	JY
140	KA	KB	KC	KD	KE	KF	KY
160	LA	LB	LC	LD	LE	LF	LY
XXH	MA	MB	MC	MD	ME	MF	MY
Spec	YA	YB	YC	YD	YE	YF	YY

Valve Size

0200 2"
0300 3"
0400 4"
0600 6"
0800 8"
1000 10"
1200 12"
1400 14"

1600 16"
1800 18"
2000 20"
2400 24"
3000 30"
3600 36"
4200 42"
4800 48"

Packing

G Graphite packing (standard)
P TFE packing

Seals

E EPDM
B HNBR
N HNBR AED
W FKM
V FKM AED
X Custom Material/Compound

Paint

X Standard
S Special (Customer Specified Coating)

Options

H Wrench Operated to 4"
G Gear Operator
L Gear Operator w/ Locking Plate
X Bare Stem
E Extended Bonnet (specify extension length required)
B Bypass Piping w/ 2-way valve
F Factory Acceptance Test
C Customer to specify custom testing
S Spool Piece Mounting Kit for Automation
M Channel Design Mounting Kit for Automation
(other options: consult factory)

Stem

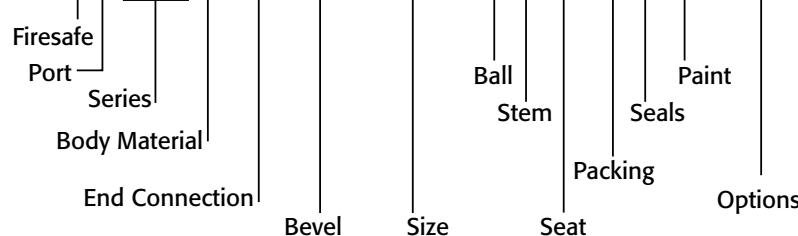
H 4140 / ENP
A 17-4 PH®
B XM-19
S 316SST
D Inconel® 718
C Duplex 2205
9 A350 LF2 / ENP
7 A105N / ENP

Seat

R1 RTFE (Single Piston)
R2 RTFE (Double Piston)
V1 Devlon® (Single Piston)
V2 Devlon® (Double Piston)
Z1 PEEK (Single Piston)
Z2 PEEK (Double Piston)
3 316/Stellite®
2 Tungsten Carbide Coated 316SS
4 Chrome Carbide Coated 316SS



HOW TO ORDER A-T Trunnion Mounted Ball Valves: **FFTS37-F1XX-0600-7HR1GWX-GBF**



FFTS37-F1XX-0600-7HR1GWX-L

6", 3-Piece, Full Port Trunnion Forged Ball Valve, ANSI Class 150 RFF, API 6D, API-607 Firesafe, A105N Body, A105N/3mil ENP Ball, 4140/1mil ENP Stem, RTFE (Single Piston) Seat, Graphite Packing/Seals, FKM Seals, NACE MR-0175, Gear Operator with Locking Plate

Specials and Applied Solutions

While you have come to know A-T Controls for superior service in automated valves and day-to-day automation and controls, we specialize in offering solutions to your more unique and difficult applications. Listed below are some of the specials and solutions oriented products and services we offer.

Special End Connections

Virtually any Control Accessories

Filter Regulators

Speed Controls

Solenoids

Pneumatic Positioners

Electro-pneumatic Positioners

Dribble and "Batch" Controls

Complete Mounting and Assembly

Lockup Valves

Declutchable Gear Operators

Dump Valves

Flow Controls

Mounting Kits

Various Metallurgy

Special Coatings and Treatments

Special Tubing and Fittings

Alloy Trim

Limit Switches

Mounted on Manual Valves



180° Actuators



Dual Valve Assemblies



Fusible Link Assemblies



Stem Extensions



Lockout Mounting Kits



Special Seats

Balls & Seal Designs / Various handle & operator options



Steam Jackets



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