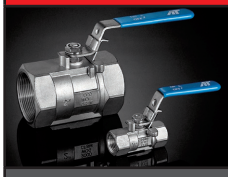
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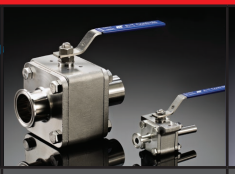
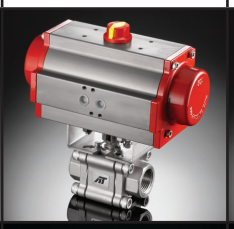
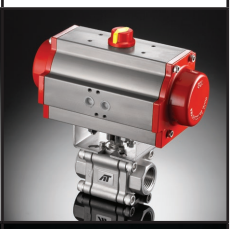
A-T Controls, Inc.

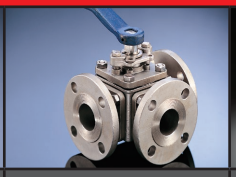
Product Overview



Valves, Valve Automation & Accessories

	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 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					
						
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 2019 compliant, Forged	HIGH PURITY 3-piece ASME BPE 2019 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	Regular (8R) Full (83)	Regular (F8R) Full (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 & others	PTFE, cavity filled, non-cavity filled, RTFE, TFM™-1600	TFM™-1600 & others	TFM™-1600 & 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						

	3-Piece		Multi-Port			
						
Series	**SERIES 88**	**SERIES F88**	**SERIES 38**	**SERIES 30**	**SERIES 31**	**DR SERIES**
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	NPT Direct Mount Bottom Entry 3-way
Automated Pneumatic						N/A
Automated Electric						
Sizes	1/4" – 4"	1/4" – 4"	1/4" – 2"	8" – 12"	1-1/2" - 6"	1/2" - 2"
Port	Full	Full	Regular	Full	Full	Regular
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 & others	RTFE, PTFE, TFM™-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	RTFE	RTFE, PTFE, or 50/50 STFE	RTFE, PTFE, 50/50 STFE, TFM-1600 & others	RTFE
End Connections	NPT, Socket Weld, Butt Weld	NPT, Socket Weld, Butt Weld	NPT	150/300# Flanged	150/300# Flanged	NPT
Max Pressure (varies by size)	2000 psi	2000 psi	1000 psi	285/740 psi	285/740 psi	2000 psi
Options	Vented Ball, Oxygen Cleaned, Gear Operator, Stem Extension & others	NACE MR0175, Vented Ball, Gear Operator, Stem Extension & others	"L" or "T" port	"L" or "T" port	"L" or "T" port, Graphite or TFM-1600 Seals & Packing, FFKM O-Ring & others	Various Port Arrangements
Fugitive Emissions	TA-Luft Certified	ISO 15848-1				TA-Luft Certified

	High Performance Multi-Port	150# Flanged				150# & 300# Flanged
						
Series	SERIES 33,43,53	SERIES 90 & 93	SERIES F90	SERIES F91	SERIES D9	SERIES F9R
General Description & Features	High performance, 3, 4 or 5-way, NPT, Socket Weld, Butt Weld, Flanged, Sanitary, Direct Mount	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, Unibody, Double Seal design, 150# flanged regular port direct mount
Automated Pneumatic						
Automated Electric						
Sizes	1/4" – 4"	1/2" – 12"	1/2" – 4"	1/2" – 6"	1/2" – 8"	1/2" – 8"
Port	Full	Full	Full	Regular	Full	Regular
Direct Mount	Yes	No	No	Yes	Yes	Yes
Pyramidal Stem Packing	Yes	Yes	Yes	Yes	Yes	No
Body Materials	316SST	316SST, WCB & Alloy 20	316SST & WCB	316SST & WCB	316SST & WCB	316SST & WCB
Trim Material	316SST	316SST	316SST	316SST	316SST, Monel & Hastelloy C	316SST
Available Seats	RTFE, PTFE, 50/50 STFE, cavity fillers, others on request	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	TFM™-1600, STFM, STFE, RTFE & others
End Connections	NPT, Socket Weld, Butt Weld, Sanitary, 150/300# Flanged	150# Flanged	150# Flanged	150# Flanged	150# Flanged	150/300# Flanged
Max Pressure (varies by size)	See spec. sheets	285 psi	285 psi	285 psi	285 psi	285/740 psi
Options	3, 4, 5-way, "L", "T", "LL", "I", "X", "TT" ports, various options	Vented Ball, Oxygen Cleaned, Gear Operator, Stem Extension & others	Vented Ball, Gear Operator, Stem Extension & others	NACE MR0175, Vented Ball, Gear Operator, Stem Extension & others	Vented ball, oxygen cleaned, gear operator, stem extension & others	Vented Ball, Gear Operator, Stem Expansion & others
Fugitive Emissions	TA-Luft Certified	TA-Luft (up to 6")	ISO 15848-1		TA-Luft Certified	ISO 15848-1

	150# & 300# Flanged	600# Flanged	Metal Seat Flanged	Metal Seat 3-Piece	V-Port Control Valves	Segmented Valves
						
Series	**SERIES FD9**	**SERIES FD9-F6**	**SERIES M (FMU, FMB, FMS)**	**SERIES M (FMX)**	**V SERIES**	**VS/VV/VM SERIES**
General Description & Features	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	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	1/2" – 6, 8, or 12" *(depending on class & material-see spec sheets)*	1/2" – 2"	150#/300#: 1/2" - 8" 600#: 1/2" - 6"	600#: 1/2" – 2"	1/2" – 6"	1" – 16"
Port	Full	Full	Full	Full	30°, 60°, 90°, others on request	Segmented
Direct Mount	Yes	Yes	No	No	Some	No
Pyramidal Stem Packing	Yes	Yes	No	No	Yes	No
Body Materials	316SST & WCB	316SST & WCB	316SST, WCB, 316L SST, Duplex & others	316SST, WCB, 316L SST, Duplex & others	316SST & WCB	CF8M, WCB, 317SST, Duplex & others
Trim Material	316SST, Monel & Hastelloy C	316SST	Tungsten Carbide, HCr, Chrome Carbide	Tungsten Carbide, HCr, Chrome Carbide	316SST	See spec. sheet
Available Seats	RTFE, PTFE, TFM™-1600, 50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	50/50 STFE, CTFE, UHMWPE, Delrin®, PEEK & others	Tungsten Carbide 316SST, Stellite®, Chrome Carbide 316SST	Tungsten Carbide 316SST, Stellite®, Chrome Carbide 316SST	RTFE, PTFE, 50/50 STFE, call with application	50/50 STFE, Stellite® Inlay, Tungsten Carbide Coated 316SST
End Connections	150/300# Flanged	600# Flanged	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)	285/740 psi	1480 psi	See spec. sheets	See spec. sheets	See spec. sheets	See spec. sheet
Options	NACE MR0175, Vented ball, gear operator, stem extension & others	NACE MR0175, Vented ball gear operator, stem extension & others	Scraper seat, Black Liquor, See spec. sheets	See spec. sheets	Various, please call with requirements	Attenuator, Gear Operator
Fugitive Emissions	ISO 15848-1	ISO 15848-1				

	Butterfly Valves				Ball Valves	
	High Performance	Resilient Seated		NSF 61 & 372 Certified Valves		
						
Series	P1S/P1F/P1M/ P1H SERIES	ES/OS SERIES	AS SERIES	NS SERIES	NS20 / NS22 & NS55 SERIES	NS90 / NSD9 & NSV9 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	2 pc Flanged 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″	1/2″ - 6″
Port	Double offset disc	Concentric disc	Concentric disc	Concentric disc	Full	Full
Direct Mount	Yes	Yes	Yes	Yes	NS22 Series - yes	NSD9 Series - yes
Pyramidal Stem Packing	No	No	No	No	Yes	Yes
Body Materials	316SST, WCB, & others	Ductile Iron, 316SST	316SST, WCB, & others	Ductile Iron or 316SST	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	316SST
Available Seats	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	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	150/300# Wafer or Lug
Max Pressure (varies by size)	See spec. sheets	See spec. sheet	150 psi	225 psi	1000 psi	275 /720 psi
Options	Call factory	Call factory	Call factory	Gear Operator, Handle options	Gear Operator, Handle options	V-Port ball (30°, 60°, or 90°)
Fugitive Emissions					TA-Luft (NS22)	TA-Luft Certified

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Trunnion Mounted Ball Valves





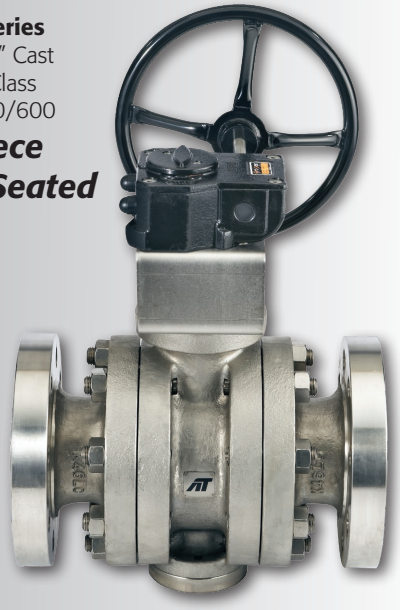
Series	TS SERIES	TM SERIES
General Description & Features	Trunnion Mounted Soft Seat Ball Valves TS3 - 3 pc forged	Trunnion Mounted Metal Seat Ball Valves TM3 - 3 pc cast
Automated Pneumatic	Call factory for Rack & Pinion or THD automation options	Call factory for Rack & Pinion or THD automation options
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

TS3 Series
2" to 48" Forged
ANSI Class 150/300/600
3-Piece FORGED SOFT Seated



CE 0035
SIL 3

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/L2 SERIES**	**TB 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	3-piece tank bottom 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"	2", 3", 4"
Port	SCH 10 Pipe Diameter	Full	Full & Regular	Full (C8) Regular (CR)	Full	Full
Direct Mount	Yes	No	No	Yes	No	No
Pyramidal Stem Packing	Yes	No	No	Yes	No	No
Body Materials	316SST	316SST	316SST	316SST	316SST & WCB	316SST
Trim Material	316SST	316SST	316SST	316SST	See spec. sheet	316SST
Available Seats	PTFE & RTFE	CTFE	PEEK	PCTFE	PTFE	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	Tank weld pad + NPT, Socket Weld, Butt Weld, or Flanged
Max Pressure (varies by size)	400/285 psi	2000 psi	6000 psi	1000 psi	See spec. sheet	1000 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	180º Pneumatic Actuators	Stainless Steel Pneumatic Actuators	Declutchable Gear Operators	Gear Operators
							
Series	**THD SERIES**	**SY SERIES**	**3R, 3K, 3C SERIES**	**180-AL SERIES**	**S2 SERIES**	**3RDGO and 3KDGO SERIES**	**Q 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	180º Rack & Pinion pneumatic actuators	Corrosion Resistant Stainless steel Rack & Pinion design	"Sandwich" mount, gear overrides	Manual gear operators for quarter-turn valves
Models	Full range of torques to 1,600,000 in-lbs	Five pressure group models 1,465-12,191 in-lbs, Twenty spring cartrige models 537-10,900 in-lbs	Eighteen 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)	For actuator models 3R40 to S09	Eight standard sizes, Larger sizes available to 410,000 in-lbs
Variations	Double Acting, Spring Return	Double Acting, Spring Return	ISO 5211 and Keystone® patterns stock, others on request	180º Dribble and batch control	Double Acting, Spring Return	ISO 5211 and Keystone® patterns stock, others on request	ISO 5211 mounting in inventory, others on request
Types	Pneumatic and hydraulic	Pneumatic	Sixteen sizes rack & pinion, two sizes scotch yoke	Pneumatic	Pneumatic	Declutchable	Quarter-turn
Materials	Ductile iron center body	Ductile iron center body	Hard anodized aluminum body	Hard anodized aluminum body	316SST	Ductile iron	Cast iron (others available)
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	Dual travel stops
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, PTFE, & Nickel	Dribble control, 3-position control	Dribble control, 3-position control, Various control accessories	Dump valves, NAMUR adaptor plates	Top-mounted limit switches, others

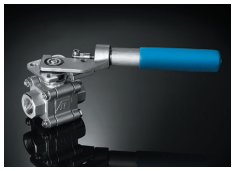
	Electric Actuators			Spring Return Electric Actuators	Failsafe Electric Actuators
					
Series	**WE/XE/SE SERIES**	**XC SERIES**	**KE SERIES**	**SRX SERIES**	**BFS SERIES**
General Description & Features	Weather-Proof, Explosion-Proof, or Submersible electric actuators	CSA Explosion-Proof electric actuators	Weather-Proof electric actuators	Explosion-Proof & Weather-Proof Spring Return electric actuators	Weather-Proof Battery backup electric actuators
Models/ Sizes	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, SRX-0300 to SRX-1800	Four sizes, BFS-690 to BFS-2640
Variations	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, 110VAC/1PH, 24VAC/VDC, 24VDC, 220VAC/1PH	On-Off & Modulating, 110VAC, 220VAC/1PH
Types	Type 4, 4X, 7, Explosion-proof ATEX, submersible, IP68 10M 72HR	c SP us 258948 CSA Type 4, 4X, 6 & 7, Explosion-proof	IP67 Weather-Proof	Explosion Proof, Class I, Division 1, Groups C & D, T4 Design, Type 4, 4X Weather-Proof	IP67 & Type 4,4X Weather-Proof
Materials	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	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	Electric Spring Return, Visual Dome Indicator	Fail-Safe Battery back-up, (2) Aux switches, Heater & stat, Visual Dome Indicator, Manual override
Options	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
							
Series	**APL SERIES**	**EX, EC, ES, EY & EW SERIES**	**TVCS, TVC5, TVC6 & others**	**PPR, EPR, SS2, SS3 & SS5**	**FM Assemblies**	**MVC SERIES**	
General Description & Features	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
Models	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" - 8"	MVCG1, MVCG2, MVCG3	Various, Call Factory
Variations	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
Types	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, 150# Lug, NPT, Socket Weld, & Butt Weld	Safe areas, Explosion Proof	Various, Call Factory
Materials	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 ¼" to 1½" available on direct mount valves.



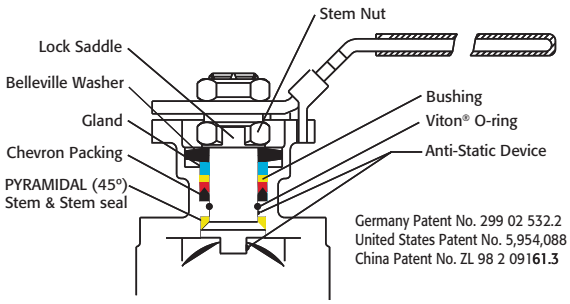
Side Vented Ball Option
Vents pressure to the upstream side. Equalizes pressure in the valve caused by thermal expansion of liquid. Maintains seat seal and prevents blowout of the seats. (Stem slot is vented as standard.)

"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

TA-Luft Certified for Low Emissions — TA-Luft 2002, Sec.5.3.6.2 — VDI 2440 Nov.2000, Sec.3.3.1.3



Germany Patent No. 299 02 532.2
United States Patent No. 5,954,088
China Patent No. ZL 98 2 09161.3

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*	750°F	Unidirectional or Bidirectional shut-off. *Other base material available.
TC/316SST	Tungsten Carbide Coated 316SST*	900°F	Unidirectional or Bidirectional shut-off. *Other base material available.
CrC/316SST	Chrome Carbide Coated 316SST*	1000°F	Unidirectional or Bidirectional shut-off. *Other base material available.

*See individual product specification brochures for additional seat options and applications.



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 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.

Electronic Documents

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

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

A-T Literature Policy:

Our printed literature and price books are available to you free of charge, but we do ask that you pay shipping costs. Please be sure to provide a collect shipping code with your request.

We do our printing in-house from our Cincinnati facilty, and aim to print-on-demand so that printed copies remain as up to date as possible. Please plan your requests to allow a few days time for processing prior to shipment.



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
F	Firesafe Tested *(see valve series for details & testing)*
NS	NSF 61 & 372 Certified Series

2	Valve Series
10	1pc. Regular Port 2000 psi
20	2pc. Full Port 1000 psi
21	2pc. Regular Port 2000 psi max
22	2pc. Direct Mount 1000 psi, Full Port
23	2pc. 3600 psi, Seal-Welded
24	2pc. 3000 psi
26	2pc. 6000 psi, 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 psi max, Full Port
77	3pc. 1000 psi max, Full Port, Sanitary
7S	Series 77, EC 1935/2004 Compliant
HP	3pc. Forged High Purity
H78	3pc. Cast High Purity, Encapsulated Bolts
83	3pc. 2000 psi max, Full Port
8R	3pc. 2000 psi max, Regular Port
88	3pc. Direct Mount 2000 psi max, Full Port
90	2pc. Flanged Full Port (Investment Cast)
91	Unibody Regular Port Flanged
9R	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
L2	PFA Locked Liner, 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
VS	Segment V-Port, Soft Seat
VM	Segment V-Port, Metal Graphite Packing
VV	Segment V-Port, Metal Viton® Packing
WB	Block and Bleed Isolation Valve, 2000 psi
W6	Block and Bleed Isolation Valve, 6000 psi

3	Body/Ball/Stem Material
Blank	*Valve Series Standard*
A	Alloy 20 Body, Ball, & Stem
C	Carbon Steel Body
L	Low Carbon 316L Stainless Steel
J	Low Carbon 304 Stainless Steel
H	Carbon Body /Hastelloy Ball & Stem
Q	Carbon Body/Monel Ball & Stem
R	316 SST Body/Monel Ball & Stem
T	Hastelloy C-276 Body, Ball & Stem
E	Electropolished Stainless Steel
Z	Epoxy Coated Carbon Steel
D	CD3MN Body/Duplex SST Ball & Stem
G	CE3MN Body/Super Duplex SST Ball & Stem
2	F316L (SF4) Electropolished Forged
3	CF3M (SF4) Electropolished Cast
4	F316H Forged Body
5	LCB Body
8	LCC Body
6	WC6 Body
9	WC9 Body
P	CF8 (304 SST) Body/304 SST Ball & Stem

4	End Connection
TH	NPT Ends
SW	Socket Weld Ends
BW	Butt Weld Ends
EW	4" Long, Sch. 80, Extended Butt Weld Ends
ES	Extended Socket Weld Ends (55, CF8M Only)
F1	150# Flanged Ends
F3	300# Flanged Ends
F6	600# Flanged Ends
FR	600# RTJ Flanged Ends
SA	Sanitary Clamp Ends
DA	Tube O.D. Ends
DS	Sanitary Clamp x Tube O.D. Ends
TE	NPT x 4" Long, Sch. 80, Extended Butt Weld Ends
TS	NPT x Socket Weld
TB	NPT x Butt Weld
MF	Male NPT x Female NPT
W1	150# Wafer
W3	300# Wafer
W6	600# Wafer
NE	No Ends (3pc. Valves)

5	Valve Size
0025	1/4"
0038	3/8"
0050	1/2"
0075	3/4"
0100	1"
0125	1-1/4"
0150	1-1/2"
0200	2"
0250	2-1/2"
0300	3"
0400	4"
0600	6"
0800	8"
1000	10"
1200	12"

6	Seat, Lining & Trim Materials
X	Reinforced TFE Seats (RTFE)
P	Virgin TFE Seats (PTFE)
U	UHMWPE Seats
D	Delrin® Seats
S	50/50 STFE Seats
C	25% CS Powder/ 75% TFE Seats (CTFE)
T	TFM™-1600 Seats
E	All TFM™-1600 Seats, Seals, & Packing
A	50% SS Powder/ 50% TFM™-1600 Seats (STFM)
F	PTFE Cavity Filler Seats
H	TFM Cavity Filler Seats and Seals
J	STFE Cavity Filler Seats
R	RTFE Cavity Filler Seats
K	PCTFE Seats (Cryogenic)
L	PFA Lined w/ PTFE Seats
M	MG1241 Seats
Z	PEEK Seats
G	STFE Seats w/ Non-Standard Graphite Packing & Gaskets
2	Tungsten Carbide Coated 316 SST Seats & Ball
3	HCr Coated Ball/Stellite® Inlay Seats
4	Chrome Carbide Coated 316 SST Seats & Ball
8	Chrome Carbide Inconel® 718 Seats & Ball

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Chemraz® is a registered trademark of Greene, Tweed & Co.
Delrin® is a registered trademark of DuPont Performance Polymers.

7	Special Designations
X	No Specials, Series Standard
G	Gear Operator
H	Gear Operator with Lockout Plate
L	Lockable Handle (HP Series, standard on others)
O	Oval Handle *(available on some)*
S	Spring Return Handle *(Direct Mount only)*
4	4" Lockable Stem Extension

8	Additional Specials
X	No Specials, Series Standard
O	Oxygen Cleaned
V	Vented Ball
E	Bonnet Extension Lockable Handle
F	Fugitive Emissions Bonnet
D	Degreased & Bagged
A	Vented Ball, Degreased & Bagged
B	Vented Ball, Oxygen Cleaned
C	Attenuator *(Segment V-Port only)*

Options:

9	Special Designation
Blank	*No Designation, Valve Series Standard*
X	Multiple Option Designation
1	15° V-Port (v-ball)
3	30° V-Port (v-ball)
6	60° V-Port (v-ball)
9	90° V-Port (v-ball)
A	17-4 PH® Stem
B	XM-19 (Nitronic 50) Stem
C	Duplex 2205 Stem
D	Inconel® 718 Stem
E	A286 Stem
H	Hard Coated (HMF) Ball
L	L-Port 3-Way arrangement
T	T-Port 3-Way arrangement

10	O-Ring
Blank	*Standard*
X	Multiple Option Designation
2	Markez Z1028
4	Kalrez 4079
5	Chemraz 505
6	Kalrez 6375
7	Perlast G75M
9	Chemraz 564
B	Low Temp Buna
E	EPDM
S	Silicone

11	Additional Specials
Blank	*Standard*
B	B7M Bolting
M	Marine Epoxy Coating
C	CSA 3.16 Certified (F90/F88/93 Series)
E	CE/PED Certified

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Inconel® is a registered trademark of Inco Alloys/Special Metals Corporation.

HOW TO ORDER MANUAL VALVES

standard:

1 2 3 - 4 - 5 - 6 7 8 - 9 - 10 11
F 88 C - TH - 0150 - X X X

or with options added:

1 2 3 - 4 - 5 - 6 7 8 - 9 - 10 11
F 88 C - TH - 0150 - S X X - X - 4 _

Automated Ball Valve Part Number Matrix

1	Prefix
F	Firesafe Tested *(see valve series for details & testing)*
NS	NSF 61 & 372 Certified Series

2	Valve Series
10	1pc. Regular Port 2000 psi
20	2pc. Full Port 1000 psi
21	2pc. Regular Port 2000 psi max
22	2pc. Direct Mount 1000 psi, Full Port
23	2pc. 3600 psi, Seal-Welded
24	2pc. 3000 psi
26	2pc. 6000 psi, 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 psi max, Full Port
77	3pc. 1000 psi max, Full Port, Sanitary
7S	Series 77, EC 1935/2004 Compliant
HP	3pc. Forged High Purity
H78	3pc. Cast High Purity, Encapsulated Bolts
83	3pc. 2000 psi max, Full Port
8R	3pc. 2000 psi max, Regular Port
88	3pc. Direct Mount 2000 psi max, Full Port
90	2pc. Flanged Full Port (Investment Cast)
91	Unibody Regular Port Flanged
9R	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
L2	PFA Locked Liner, 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
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 psi
W6	Block and Bleed Isolation Valve, 6000 psi

3	Body/Ball/Stem Material
Blank	Valve Series Standard
A	Alloy 20 Body, Ball, & Stem
C	Carbon Steel Body
L	Low Carbon 316L Stainless Steel
J	Low Carbon 304 Stainless Steel
H	Carbon Body /Hastelloy Ball & Stem
Q	Carbon Body/Monel Ball & Stem
R	316 SST Body/Monel Ball & Stem
T	Hastelloy C-276 Body, Ball, & Stem
E	Electropolished Stainless Steel
Z	Epoxy Coated Carbon Steel
D	CD3MN Body/Duplex SST Ball & Stem
G	CE3MN Body/Super Duplex SST Ball & Stem
2	F316L (SF4) Electropolished Forged
3	CF3M (SF4) Electropolished Cast
4	F316H Forged Body
5	LCB Body
8	LCC Body
6	WC6 Body
9	WC9 Body
P	CF8 (304 SST) Body/304 SST Ball & Stem

4	End Connection
T	NPT Ends
S	Socket Weld Ends
B	Butt Weld Ends
E	4" Long, Sch. 80, Extended Butt Weld Ends
W	Extended Socket Weld Ends (55, CF8M Only)
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
P	NPT x Butt Weld

5	Seat, Lining & Trim Materials
1	Valve Series Standard
X	Reinforced TFE Seats (RTFE)
P	Virgin TFE Seats (PTFE)
U	UHMWPE Seats
D	Delrin® Seats
S	50/50 STFE Seats
C	25% CS Powder/75% TFE Seats (CTFE)
T	TFM™-1600 Seats
E	All TFM™-1600 Seats, Seals, & Packing
A	50% SS Powder/50% TFM™-1600 Seats (STFM)
F	PTFE Cavity Filler Seats
H	TFM Cavity Filler Seats and Seals
J	STFE Cavity Filler Seats
R	RTFE Cavity Filler Seats
K	PCTFE Seats (Cryogenic)
L	PFA Lined w/ PTFE Seats
M	MG1241 Seats
Z	PEEK Seats
G	STFE Seats w/ Non-Standard Graphite Packing & Gaskets
2	Tungsten Carbide Coated 316SST Seats & Ball
3	HCr Coated Ball/Stellite® Inlay Seats
4	Chrome Carbide Coated 316 SST Seats & Ball
8	Chrome Carbide Coated Inconel® 718 Seats & Ball

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

7 (A)	Pneu Actuator - 3R, 3N, 3P Series		
3RC	3R10	3RM	3R850
3RD	3R20	3RN	3R1000
3RE	3R40	3RP	3R1200
3RF	3R80	3RR	3R1750
3RG	3R130	3RS	3R2400
3RH	3R200	3RT	3R2500
3RJ	3R300	3RU	3R2700
3RK	3R500	3RV	3R3300
3RL	3R700	3RW	3R3500

3R=Standard, 3N=Electroless Nickel Plating
3P=Teflon™ (PTFE) Coating

7 (A)	Pneumatic Actuator - S2 Series		
S2C	S2-052	S2G	S2-125
S2D	S2-063	S2H	S2-140
S2E	S2-083	S2J	S2-160
S2F	S2-105	S2K	S2-210

7 (B)	Pneumatic Action
D	Double Acting (DA)
S	Spring CW (5 springs)*
O	Spring CCW (5 springs)*
4	Spring CW (4 springs)**
F	Spring CCW (4 springs)**
6	Spring CW (6 springs)
H	Spring CCW (6 springs)

*2500 & 3500 80 psig spring
**2500 & 3500 60 psig spring

7	Actuator - Electric (On-Off)		
WEX1	WE-350	WEG1	WE-5200
WEA1	WE-500	WEH1	WE-6900
WEB1	WE-690	WEJ1	WE-10500
WEC1	WE-1350	WEK1	WE-17500
WED1	WE-1700	WEL1	WE-25900
WEE1	WE-2640	WEM1	WE-53000
WEF1	WE-4400	WEN1	WE-80000

7	Actuator - Electric (Modulating)					
WEA2	WEM-500	WEF2	WEM-4400	WEL2	WEM-25900
WEB2	WEM-690	WEG2	WEM-5200	WEM2	WEM-53000
WEC2	WEM-1350	WEH2	WEM-6900	WEN2	WEM-80000
WED2	WEM-1700	WEJ2	WEM-10500		
WEE2	WEM-2640	WEK2	WEM-17500		

8	Accessories/Options	*Model no.*
X	No Specials	
A	TYPE 4 Solenoid 120VAC	*TVCS-X411-4N-A120*
B	TYPE 7 Solenoid 120VAC	*TVC6-X411-7N-A120*
C	Intrinsically Safe Solenoid	*TVIS-X411-4N-D24*
D	TYPE 4 Solenoid 24VDC	*TVCS-X411-4N-D24*
F	TYPE 7 Solenoid 24VDC	*TVC6-X411-7N-D24*
Q	TYPE 4 SST Solenoid 120VAC	*TVSS-X411-4N-A120*
M	TYPE 7 SST Solenoid 120VAC	*TVSS-X411-7N-A120*
L	TYPE 4 SST Solenoid 24VDC	*TVSS-X411-4N-D24*
N	TYPE 7 SST Solenoid 24VDC	*TVSS-X411-7N-D24*
P	Pneumatic Positioner	*PPR-1200*
E	Electro-Pneumatic Positioner	*EPR-1000*
R	24VDC Electric Actuator	
S	220VAC Electric Actuator	
T	Other Voltage Electric Actuator	
W	12VDC Electric Actuator	
Y	24VAC Electric Actuator	

** No voltage specified on electric assemblies denotes 120VAC*

9	Accessories	*Model no.*
X	No Specials	
A	TYPE 4 Limit Switch	*APL-210N*
B	TYPE 7 Limit Switch	*APL-510N*
C	Intrinsically Safe Limit Switch	*APL-218N*
Q	TYPE 4 SST Limit Switch	*APL-910N*
M	TYPE 7 SST Limit Switch	*APL-510S*
H	NEMA 4 Std. Enc.	*APL-310N*
Z	180° Operation	
1	HS1 High Speed Electric	
2	HS2 High Speed Electric	

10	Special Designation
1	15° V-Port (v-ball)
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
Y	2-Position, 180° control for Wine Industry
P	3-Position, 180° control for Wine Industry
X	No Specials, Standard (HP/H78 Series)
S	Anti-Static Option (HP/H78 Series)
E	CE/PED Certified
F	Viton® Seal for Pneumatic Actuators (0°F to 300°F)

HOW TO ORDER AUTOMATED VALVES

1	2	3	-	4	5	-	6	/	7	-	8	9	-	10
↓	↓	↓		↓	↓		↓		↓		↓	↓		↓
F	88	C	-	T	X	-	025	/	3RDD	-	X	X	-	

Resilient Seated Butterfly Valve Part Number Matrix

A-T Controls ES Series Resilient Seated Butterfly Valves

1	Valve Series
ES	A-T Cartridge Seat Butterfly Valve

2	Body Material
Blank	A351 CF8M *(No Designation)*
P	A395 Ductile Iron *(Standard)*

3	End Connection
L1	125/150# Lug
W1	125/150# Wafer

Note: 28"-48" utilize a u-type body. See valve drawings & dimensions for more information.

4	Valve Size		
0150	1-1/2"	1600	16"
0200	2"	1800	18"
0250	2-1/2"	2000	20"
0300	3"	2400	24"
0400	4"	2800	28"
0500	5"	3000	30"
0600	6"	3200	32"
0800	8"	3600	36"
1000	10"	4000	40"
1200	12"	4800	48"
1400	14"		

5	Seat Material/Style
B	Buna-N
E	EPDM
V	FKM / Viton®
P	PTFE over EPDM *(up to 24" only)*
F	White Food Grade (FDA compliant) EPDM *(up to 12" only)*

6	Disc Material/Style
N	Nylon Coated Ductile Iron
S	A351 CF8M
B	Aluminum Bronze
D	Nickel Plated Ductile Iron
W	Polished A351 CF8M
U	Undercut Aluminum Bronze *(6"-24")*
Y	Undercut Polished A351 CF8M *(6"-24")*
Z	Undercut A351 CF8M *(6"-24")*

7	Stem Bushing
F	FRP *(Standard up to 14")*
B	Brass *(Standard 16" & Larger)*

8	Operator Designation
X	Bare Stem
S	Stainless Steel 10 Point Handle *(up to 12")*
L	Locking Handle -10 Position *(up to 12")*
I	Infinite Adjustment Handle *(up to 12")*
G	Gear Operator

9	Stem
F	431 SST *(standard)*
A	17-4 PH®

How To Order Manual Resilient Seated Butterfly Valves

1	2	-	3	-	4	-	5	6	7	-	8	9
↓	↓		↓		↓		↓	↓	↓		↓	↓
ES	P	-	L1	-	0400	-	E	S	F	-	X	F

AS Series Lined

Resilient Seated Butterfly Valves

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

2	Body Material
Blank	*(No Designation) = Stainless Steel (SST) Body*
C	Carbon Steel *(ASTM A216 Grade WCB)*

3	End Connection
L1	125/150# Lug
W1	125/150# Wafer

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

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
↓	↓		↓		↓		↓	↓	↓		↓	↓
ASC	-	L1	-	0600	-	P	F	R	-	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)*
P	A395 Ductile Iron *(Standard)*

3	End Connection
L1	125/150# Lug
W1	125/150# Wafer

4	Valve Size		
0200	2"	1000	10"
0250	2-1/2"	1200	12"
0300	3"	1400	14"
0400	4"	1600	16"
0500	5"	1800	18"
0600	6"	2000	20"
0800	8"	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
D	Nickel Plated Ductile Iron
W	Polished A351 CF8M
U	Undercut Aluminum Bronze *(6"-24")*
Y	Undercut Polished A351 CF8M *(6"-24")*
Z	Undercut A351 CF8M *(6"-24")*

7	Stem Bushing
R	PTFE/Brass

8	Operator Designation
X	Bare Stem
S	Stainless Steel 10 Point Handle *(up to 12")*
L	Locking Handle - 10 Position *(up to 12")*
I	Infinite Adjustment Handle *(up to 12")*
G	Gear Operator

9	Stem
A	17-4 PH® Stem

NOTE: In order for a complete valve to be NSF 61 & 372 rated, it must have a NSF 61 & 372 rated seat and a NSF 61 & 372 disc.

HOW TO ORDER MANUAL NS SERIES BUTTERFLY VALVES

1	2	-	3	-	4	-	5	6	7	-	8	9
↓	↓		↓		↓		↓	↓	↓		↓	↓
NSP	-	L1	-	0400	-	N	B	R	-	X	A	

How To Order Automated Resilient Seated Butterfly Valves

1	2	-	3	-	4	-	5	6	7	-	8	9	/	actuator size	-	options
↓	↓		↓		↓		↓	↓	↓		↓	↓		↓		↓
ES	P	-	W1	-	0400	-	B	N	F	-	X	F	/	3RJS	-	XX

(see Actuator Size Legend)

High Performance Butterfly Valve Part Number Matrix

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

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

2	Body Material		
Blank	*(No Designation)* = CF8M (316 SST)		
C	Carbon Steel	J	CF3 (304L SST)
A	Alloy 20	5	LCB
M	Monel	N	Inconel® 625
D	CD3MN Duplex SST	B	Aluminum-Bronze
T	Hastelloy C-276	*	Other

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

5	Seat Material		
P	PTFE*	6	316L SST *(Standard on PM & P1M)*
G	G2TFE *(Standard on P1S)*	7	Inconel® 625 *(Standard on PH & P1H)*
S	50/50 STFE*	F	RTFE/316L SST (Standard on *PF*) G2TFE/316L SST (Standard on *P1F*)
T	TFM™-1600*	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	CF8M (316 SST) *(Standard on CS and SST body PS & P1S)*
X	Same as Body Material
7	CF8M (316 SST)/Stellite® *(Standard on PH & P1H)*
6	CF8M (316 SST)/HCr *(Standard on PM, P1M, PF & P1F)*

7	Stem Bearing
R	PTFE Composite *(Standard on P1S)*
C	Carbon Graphite *(Standard P1M/P1H)* 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)*
N	17-4 PH® Stem (NACE MR0175/MR0103 Compliant)
B	XM-19
C	Duplex 2205
T	Hastelloy C-276
*	Other

10	Packing (Live Loaded)
G	Graphite *(Standard on P1F, P1M, & P1H)*
P	PTFE V-Ring *(Standard for P1S)*
V	PTFE Inverted V-Ring
D	PTFE Double V-Ring

11	Additional Options
Blank	(No designation) = Valves Series Standard
X	Multiple Option Designation
N	NACE MR0175/MR0103 Compliant *(No weld repair)*
C	CSA 3.16-15 Certified *(with CSA Marking)*
S	Stainless Steel Mounting and Components (Bracket, Packing Gland Flange, Bracket Pins, & Belleville Washers)

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	-	11
↓	↓		↓		↓		↓	↓	↓		↓	↓	↓		↓
P1SC	-	W1	-	0300	-	GS	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	-	GS	R	-	X	A	P	/	3RHS			-	XX

(see Actuator Size Legend & Automated Accessories)

How to Order
Triac Pneumatic Actuators



3R Rack & Pinion Model Number Matrix

3 Triac Rack & Pinion Actuator with dual travel stops

- **R** Direct mount to ISO-5211/DIN 3337
- **C** Direct mount to Centerline BFV
- **K** Direct mount to Keystone/ABZ/Ultraflow BFV
- **D** Direct mount to Demco BFV

NOTE: When ordering a 3C actuator, please specify the valve size per the 3C model numbers on page 17. of 3R catalog

0000 Actuator Size (10, 20, 40, 80, 130, 200, 300, 500, 700, 850, 1000, 1200, 1750, 2400, 2700, 3300)

- **DA** Double acting configuration
- **DR** 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)
- **L** Low temperature Silicone seals (-45°F to 175°F)

Viton® is a trademark of E.I. DuPont de Nemours.

- *Blank* *Standard**
- **0** Springs (1, 2, 3, 4, 6)

**DA/DR & Standard (5 springs)*

- *Blank*
- **E** Extra long travel stops (Not available in 3R10)
- **1** 1/4" NPT Port Modification (3R40 and larger)
- **2** 3/8" NPT Port Modification (3R500 and larger)
- **3** 1/2" NPT Port Modification (3R500 and larger)
- **4** 3/4" NPT Port Modification (3R1000 and larger)
- **5** 1" NPT Port Modification (3R2400 and larger)
- **N** Electroless Nickel Plating
- **P** PTFE Coating
- **Y** Epoxy Coating
- **S** Addition to one spring on one side

Example: **3R80SR4-E** (TRIAC Model 80 Rack & Pinion Actuator with Travel Stop in both directions, Spring Return Fail Clockwise with 4 Springs, and Extra Long Travel Stops)

TRIAC® WE / XE Series Part Number Reference

1. Model	
WE	Weather Proof, CSA TYPE 4, 4X, IP67
XE	Explosion Proof Design, ATEX & IECEx Ex d IIB T4 Gb, IP67
SE	Submersible unit (IP68, 10 meters for 72 Hours)

2. Main Control			
Blank	2-Position Control (Open / Close)		
M	Standard Modulating Control Card with transmitter		500-10500
D	Modulating Card (TDC-100 or TDC-400)	See *7 Misc. Options 1* for transmitter	500-10500
E	Ethernet/IP	(go to 3)	500-25900
P	Profibus DP	(go to 3)	500-25900
R	Modbus RTU Single Channel	(go to 3)	500-25900
T	Modbus/TCP	(go to 3)	500-25900
U	Modbus RTU Dual Channel Isolated	(go to 3)	500-25900
L	Boiler Feed (4-20mA)	*TSM extension recommended*	500-25900
S	Boiler Feed (0-135Ω)	*TSM extension recommended*	500-25900
Y	Fireye Burner Control	*(Proprietary)*	500-25900

3. Main Control Type (with Communication Option)	
Blank	No Communication Control Type
A	Communication Control, Proportional Control/Feedback
B	Communication Control, (2) Position Control (Open/Close)

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



5. Motor		Applicable Models
X	110VAC/1PH(1) *Place holder only - omit when at end of part number*	
A	24VDC/VAC - On/Off (1) *(includes motor reversing control card)*	500 - 2640
C	24VDC *(DC motor only unless with 2 - Main Control option)*	500 - 2640
N	12VDC/VAC - On/Off *(includes motor reversing control card)*	690
B	12VDC *(DC motor only unless with 2 - Main Control option)*	690
D	24VAC/1PH	500 - 2640
E	220VAC/1PH (1)	1350 - 80000
F	220VAC/3PH	1350 - 80000
G	380VAC/3PH	1350 - 80000
H	480VAC/3PH	1350 - 80000
K	440VAC/3PH	1350 - 80000

6. Secondary Control Options		Applicable Models
X	No options *Place holder only - omit when at end of part number*	
B	Semi-integral Control Unit (1PH/3PH)	WE/XE 690 - 25900
C	Intelligent Digital Control Unit (3PH)	WE/XE 690 - 80000
D	Local / Remote Control Switches	WE 500 - 25900
E	RCT Electronic Speed Control Module(2) *(both directions standard)*	*(24VAC, 110VAC, 220VAC only)* 500 - 25900
F	AMI AC Motor Interface & Speed Control	*(24VAC, 110VAC, 220VAC only)* 500 - 25900
G	AST Sequence Timer	500 - 25900
HS1	High Speed 1	*See High Speed Options*
HS2	High Speed 2	*See High Speed Options*
R	2-Wire Control (1) (2)	110VAC control voltage
S	2-Wire Control (1) (2)	24VAC control voltage
T	2-Wire Control (1) (2)	24VDC control voltage

7. Miscellaneous Options 1		Applicable Models
Blank	No designation, Actuator Series Standard	
X	Multiple Option Designation	
T	0-10VDC or 4-20mA Transmitter *(specify)* (On/Off or modulating control "D")	
G	General I/O Module (with TMC4 only, CF for options)	
N	1000 Ohm Potentiometer (1)	
O	5000 Ohm Potentiometer (1)	
P	10K Ohm Potentiometer (1)	
Y	180° Operation	500 - 10500
Z	270° Operation	690 - 10500
3	180° Operation, 3-Position Control	500 - 10500
4	270° Operation, 4-Position Control (2)	690 - 10500
8	180° Operation, 3-Position Control Board for WE-500 Wine Application	
9	90° Operation, 3-Position Control (2)	500 - 25900
L	-40°F Low Temp Kit	500 - 25900
I	Visual LED Indicator (Open/Close/Power)	690 - 10500
S	(4) Auxillary limit switches (6 total)	690 - 25900

(1) XE-500 applicable options
(2) Use *10-Miscellaneous Options 2* to specify direction
** Floor Drive Mounting Configuration - See Floor Drive Catalog

8. Conduit Thread Options	
Blank	No Designation, Actuator Series Standard
X	Multiple Option Designation
M	M20
A	M25

9. Drive Bushing	
Blank	No Designation, Actuator Series Standard
X	Multiple Option Designation
D	Nonstandard DD Drive Bushing
K	Nonstandard Key Drive Bushing
N_ _	Nonstandard Star Drive Bushing, Followed by Drive Size in mm (ex. N14)
6	316 Stainless Steel Standard Drive Size

10. Miscellaneous Options 2		Applicable Models
Blank	No Designation, Actuator Series Standard	
X	Multiple Option Designation	
2	F12 Mounting	6900 -10500
4	F14 Mounting	17500 - 25900
C	Corrosion Resistant NANO Polymer Coating	
L	CCW Operation	500 - 25900
R	CW Operation	500 - 25900
S	125 g Shock Configuration	690 - 10500
P	Non Standard Coating Color	

HOW TO ORDER ELECTRIC ACTUATORS

1	2	3	-	4	5	6	7	-	8	-	9	-	10
↓	↓	↓		↓	↓	↓	↓		↓		↓		↓
WE	M		-	2640	X	X	X	-	X	-	X	-	C

Example

WEM-2640_ _ _-_-_-_
(Weather Proof Housing, Modulating Control, model size 2640, 110VAC / 1PH)

TRIAC® XC Series CSA Approved Explosion Proof Actuators

1 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

3 Actuator Size	Output Torque 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	-	-

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

2 Control	
Blank	(2) Position Control (Open / Close)
D	Modulating Controller* (Sizes 01350 - 01700), *XCD available with motor option C or E only

4 Motor		
X	110VAC/1PH	
A	24V AC/DC On/off	(Sizes 00690 - 02640)
B	12VDC	(Sizes 00690 & 00860)
C	24VDC	XCD MODELS ONLY (Sizes 01350 - 01700)
E	220VAC/1PH	
N	12V AC/DC On/off	(Sizes 00690 - 00860)

5 Options	Note: Add all miscellaneous options to end of part number
Blank	No options
XT	0-10VDC/4-20mA Transmitter (XCD models only)

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

1	THD Series
S	Pneumatic Symmetrical Scotch Yoke
C	Pneumatic Canted Scotch Yoke (N/A in S09 model)

2	Model (Center Body)
	09
	11
	13
	16
	20
	27

3	Actuator Action
DA	Double Acting
SC	Spring Return Fail Clockwise
SO	Spring Return Fail Counter-Clockwise

4	Pneumatic Pressure Group
	200
	280
	335
	385
	435
	485
	535
	585
	685
	735
	785
	835
	935
	985
	1020



5	Spring Cartridge
Blank	Double Acting
Select spring code from spring return torque charts for specific actuator	

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

7	Seals & Grease
Blank	Standard 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)

8	Options
Blank	No Specials
M	Marine Epoxy Coating

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

S13SC435CBH-L: Triac S13 435 Pressure Group Heavy Duty Spring Return, Spring Cartridge SCS13CB, Spring Clockwise, Symmetrical Scotch Yoke Actuator with Travel Stop Adjustment in Both Directons, 11.73" Bolt Circle ISO 5211 Valve Mounting, 1/2" NPT Air Supply Connection Complete with Hydraulic Override and Low Temperature Seals

A-T Controls, Inc.

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)
- Y F53 Forged Super Duplex *(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.)*

Configurable End Connection
- SB Schedule B Flanges
- *XX Standard Bevel or not applicable *See chart below for various options*

Valve Size

0200	2″	1600	16″
0300	3″	1800	18″
0400	4″	2000	20″
0600	6″	2400	24″
0800	8″	3000	30″
1000	10″	3600	36″
1200	12″	4200	42″
1400	14″	4800	48″

Ball
- S 316 SS
- 9 LF2 / ENP
- 7 A105N / ENP
- 2 Tungsten Carbide Coated 316SST
- 3 316SST / HCr
- 4 Chrome Carbide Coated 316SST
- C A182 F51 Duplex SST
- H 4140/ENP
- Y F53 Forged Super Duplex

Stem
- H 4140 / ENP
- A 17-4 PH®
- B XM-19
- S 316SST
- D Inconel® 718
- C A182 F51 Duplex SST
- 9 A350 LF2 / ENP
- 7 A105N / ENP
- E A286
- Y F53 Forged Super Duplex

Seat
- R1 RTFE (Single Piston)
- R2 RTFE (Double Piston)
- R3 RTFE (SPE & DPE)
- V1 Devlon® (Single Piston)
- V2 Devlon® (Double Piston)
- V3 Devlon® (SPE & DPE)
- Z1 PEEK (Single Piston)
- Z2 PEEK (Double Piston)
- Z3 PEEK (SPE & DPE)
- 3 316/Stellite®
- 2 Tungsten Carbide Coated 316SS
- 4 Chrome Carbide Coated 316SS

Packing
- G Graphite packing *(standard)*
- P TFE packing

Seals
- E EPDM
- B HNBR
- N HNBR AED
- W FKM
- V FKM AED
- L Low Temp FKM (-40°F to 400°F)
- F Low Temp FKM AED (-40°F to 400°F)
- A Aflas
- 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
- A API 641 Certified (Fugitive Emissions)
- P Purge Ports per Drawing
- D Fluoropolymer Coated Bolting
- W Welded Body Cover (TSW only) *(other options: consult factory)*



* 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

HOW TO ORDER
A-T Trunnion Mounted Ball Valves:

FFTS37-F1XX-0600-7HR1GWX-GBF

Firesafe
Port
Series
Body Material
End Connection
Configurable End Connection
Size
Seat
Packing
Stem
Ball
Seals
Paint
Options

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

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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

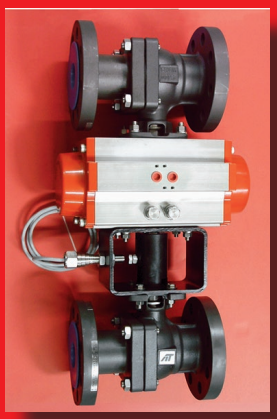
Limit Switches
Mounted on Manual Valves



180° Actuators



Dual Valve Assemblies



Fusible Link Assemblies



Stem Extensions



Lockout Mounting Kits



Special Seats
Balls & Seal Designs / Various handle & operator options

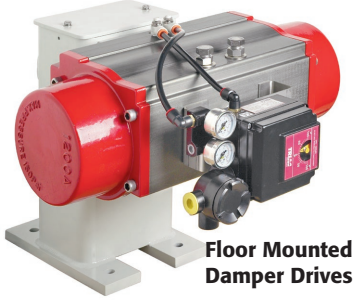


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Steam Jackets





Floor Mounted Damper Drives

PO-3R-20261105

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