



ELECTRIC / ELECTRONIC CAST IRON FLANGE CONTROL VALVES

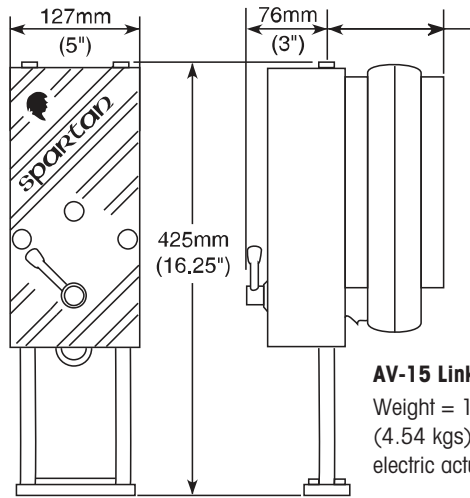
GENERAL INFORMATION

Actuators: Electric/electronic gear motor with manual override lever and bold valve position indicator.

Valve Bodies Globe Type:

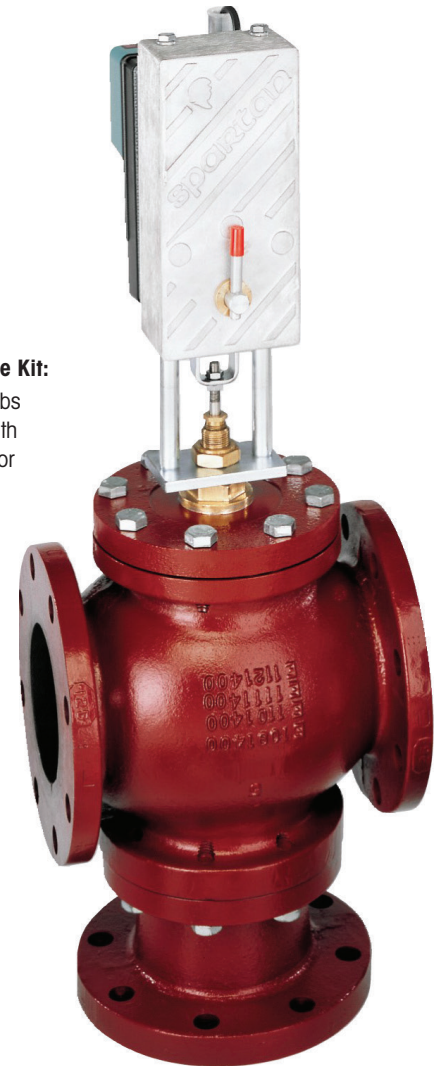
- 2-way single seat
- 2-way double seat pressure balanced
- 2-way single seat diaphragm pressure balanced
- 3-way mixing
- 3-way diverting

This product must not be used outside of the specified applications. Installation should only be carried out by a licensed and trained installer. All local regulations and codes must be followed, and complied with, during the installation of this product.



AV-15 Linkage Kit:
Weight = 10 lbs
(4.54 kgs) with electric actuator

Dimensions vary according to actuator selected - see individual actuator data sheets



ACTUATOR SPECIFICATIONS

- Fail open, fail closed, or fail last position
- 24VAC low power consumption (15 - 19VA) suitable for Class II wiring.
- Numerous input signals (see electric actuator specifications)

VALVE ACTUATORS

Part #	Torque in/lb - Nm	Input Signal	Resolution	Fail Pos'n.
ME5140	132 - 15	Floating	-	FLP
ME5340	132 - 15	0-10VDC	100:1	FLP
ME5140L	221 - 25	Floating	-	FLP
ME5340L	221 - 25	0-10VDC	100:1	FLP
ME5150	310 - 35	Floating	-	FLP
ME5350	310 - 35	0-10VDC	100:1	FLP
ME5350-ON	310 - 35	0/2-10VDC	100:1	FLP
ME5440	160 - 18	2 position	-	Spring return
ME5640	160 - 18	Floating	-	Spring return
ME5840	160 - 18	0-10VDC	100:1	Spring return
ME5840-ON	310 - 35	0/2-10VDC 4-20 mA	100:1	Capacitor Return

Note: All valve actuators are available in NEMA4/IP66 enclosures. Amend the last digit in the part number to 4 ie ME5844.

AV-15 LINKAGE KITS

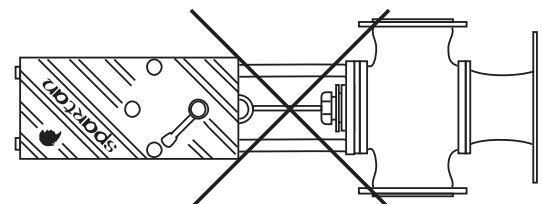
AV-15 Series - Robust, all-metal construction, up and down motion cam mechanism generating increased force and better controllability at the end of the travel.

Linkage kit available for different valve body manufacturers. Contact Spartan for further details.

Linkage Part No	Type	Travel mm	Travel Inches
AV15Q	Q	19	0.75
AV15L	L	21	0.83
AV15K	K	24	0.94
AV15T	T	27	1.06
AV15N	N	30	1.18
AV15M	M	34	1.34
AV15P	P	37	1.46
AV15O	O	40	1.57
AV15R	R	47	1.85
AV15S	S	52	2.0
AV15U	U	52	2.0

INSTALLATION INSTRUCTION

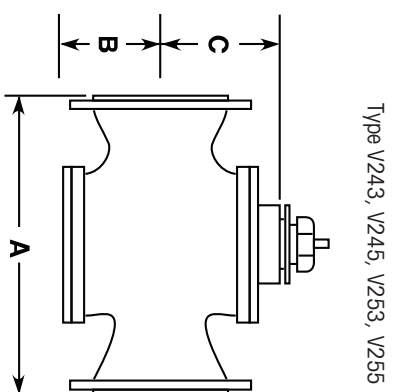
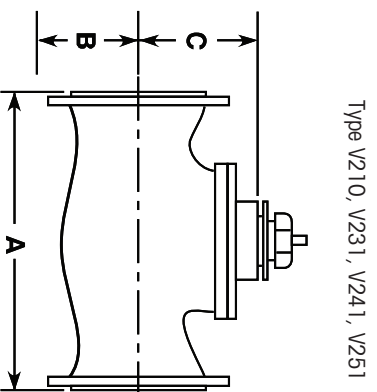
All 2 and 3-way valve bodies can not be installed with the linkage in the horizontal position. Life expectancy of packing and inner plunger will be reduced.





2 WAY ELECTRIC / ELECTRONIC CAST IRON FLANGE CONTROL VALVES DIMENSIONS

Model #	Size	3"	4"	5"	6"	8"	10"	
V210, V251 2 Way Single Seat Valve Bodies ANSI 125# Flange	CV (KV's)	65 (54)	90 (75)	170 (142)	280 (233)	360 (300)	450 (375)	650 (542)
	A In. (MM)	9 (229)	10 (254)	13 (330)	15 (3/4 (400))	17 (3/4 (541))	16 (1/4 (413))	20 (510)
V215, V231 2 Way Single Seat Valve Bodies ANSI 250# Flange	B In. (MM)	4 (78 (124))	5 (1/2 (140))	6 (3/8 (137))	5 (3/4 (146))	6 (1/2 (165))	8 (1/8 (216))	9 (5/8 (244))
	C In. (MM)	5 (1/2 (140))	6 (1/8 (156))	7 (1/8 (101))	7 (1/8 (101))	8 (3/8 (213))	8 (7/8 (225))	10 (1/8 (257))
V241, V254 2 Way Double Seat Pressure Balanced Valve Bodies ANSI 125# Flange	Plug Travel In. (MM)	3/4" (19) - "0"	3/4" (19) - "0"	1 1/4" (32) - "M"	1 1/2" (38) - "0"	1 1/2" (38) - "0"	2" (51) - "S"	2 1/2" (64) - "U"
	Weight lb. (kg)	55 (25)	72 (33)	119 (52)	134 (59)	175 (76)	270 (118)	417 (182)
V242, V252 2 Way Double Seat Pressure Balanced Valve Bodies ANSI 250# Flange	CV (KV's)	65 (54)	90 (75)	170 (142)	280 (233)	360 (300)	450 (375)	650 (542)
	A In. (MM)	9 (229)	10 (254)	13 (330)	15 (3/4 (400))	17 (3/4 (541))	16 (1/4 (413))	20 (510)
V243, V253 2 Way Double Seat Pressure Balanced Valve Bodies ANSI 125# Flange	B In. (MM)	4 (78 (124))	5 (1/2 (140))	6 (3/8 (137))	5 (3/4 (146))	6 (1/2 (165))	8 (1/8 (216))	9 (5/8 (244))
	C In. (MM)	5 (1/2 (140))	6 (1/8 (156))	7 (1/8 (101))	7 (1/8 (101))	8 (3/8 (213))	8 (7/8 (225))	10 (1/8 (257))
V244, V254 2 Way Double Seat Pressure Balanced Valve Bodies ANSI 250# Flange	Plug Travel In. (MM)	3/4" (19) - "0"	3/4" (19) - "0"	1 1/4" (32) - "M"	1 1/2" (38) - "0"	1 1/2" (38) - "0"	2" (51) - "S"	2 1/2" (64) - "U"
	Weight lb. (kg)	64 (28)	77 (34)	131 (57)	166 (72)	233 (84)	360 (163)	510 (222)
V245, V255 2 Way Single Seat Cylinder Pressure Balanced Valve Bodies ANSI 250# Flange	CV (KV's)	70 (58)	100 (83)	200 (167)	280 (217)	350 (292)	680 (567)	960 (800)
	A In. (MM)	8 (3/8 (213))	9 (3/4 (248))	12 (305)	12 (7/8 (327))	14 (1/2 (368))	16 (1/4 (413))	21 (3/8 (243))
V243, V253 2 Way Double Seat Pressure Balanced Valve Bodies ANSI 125# Flange	B In. (MM)	4 (1/8 (105))	4 (3/8 (111))	5 (1/2 (137))	6 (3/4 (171))	7 (1/2 (191))	8 (3/4 (222))	9 (5/8 (244))
	C In. (MM)	4 (7/8 (124))	5 (1/8 (130))	6 (5/8 (168))	7 (5/8 (193))	8 (1/2 (216))	9 (5/8 (244))	10 (1/8 (257))
V244, V254 2 Way Double Seat Pressure Balanced Valve Bodies ANSI 250# Flange	Plug Travel In. (MM)	3/4" (19) - "0"	3/4" (19) - "0"	3/4" (19) - "0"	1 1/4" (32) - "M"	1 1/4" (32) - "M"	1 1/2" (38) - "0"	1 1/2" (38) - "0"
	Weight lb. (kg)	42 (19)	54 (24.5)	96 (43.5)	162 (73.5)	220 (96)	380 (172.4)	540 (245)
V245, V255 2 Way Single Seat Cylinder Pressure Balanced Valve Bodies ANSI 250# Flange	CV (KV's)	65 (54)	90 (75)	170 (142)	280 (233)	360 (300)	450 (375)	650 (542)
	A In. (MM)	9 (229)	10 (254)	13 (330)	15 (3/4 (400))	17 (3/4 (541))	16 (1/4 (413))	20 (510)
V243, V253 2 Way Double Seat Pressure Balanced Valve Bodies ANSI 125# Flange	B In. (MM)	4 (78 (124))	5 (1/2 (140))	6 (3/8 (137))	5 (3/4 (146))	6 (1/2 (165))	8 (1/8 (216))	9 (5/8 (244))
	C In. (MM)	5 (1/2 (140))	6 (1/8 (156))	7 (1/8 (101))	7 (1/8 (101))	8 (3/8 (213))	8 (7/8 (225))	10 (1/8 (257))
V244, V254 2 Way Double Seat Pressure Balanced Valve Bodies ANSI 250# Flange	Plug Travel In. (MM)	3/4" (19) - "0"	3/4" (19) - "0"	1 1/4" (32) - "M"	1 1/2" (38) - "0"	1 1/2" (38) - "0"	2" (51) - "S"	2 1/2" (64) - "U"
	Weight lb. (kg)	66 (29)	80 (36)	139 (63)	181 (82)	256 (116)		

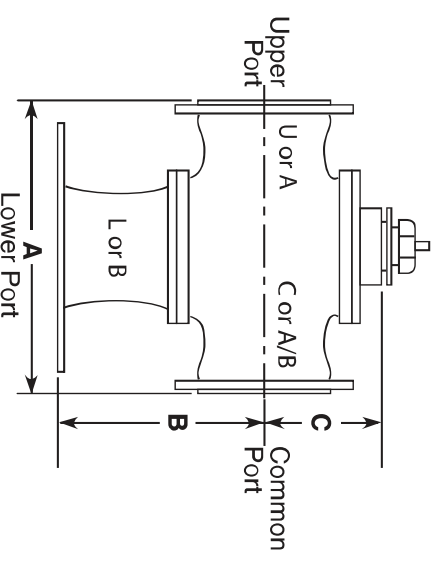




3 WAY ELECTRIC / ELECTRONIC CAST IRON FLANGE CONTROL VALVES DIMENSIONS

Model #	Size	3"	4"	5"	6"	8"	
V310, V351 3 Way MIXING Valve Bodies ANSI 125# Flange	CV (KV's) A In. (MM) B In. (MM) C In. (MM) Plug Travel In. (MM) Weight lb. (Kg)	69 (58) 9 (229) 7 1/8 (181) 5 1/2 (140) 3/4 (19) - "U" 64 (29)	86 (72) 10 (254) 8 (203) 6 1/8 (156) 3/4 (19) - "U" 83 (37)	156 (134) 13 (330) 9 7/8 (251) 7 1/8 (181) 1 3/8 (35) - "P" 139 (63)	270 (225) 15 3/4 (400) 9 1/4 (235) 6 (152) 1 3/8 (35) - "P" 157 (71)	347 (289) 17 3/4 (541) 9 7/8 (251) 6 3/4 (171) 1 3/8 (35) - "P" 202 (91)	590 (507) 21 3/8 (543) 14 1/2 (368) 8 5/8 (219) 2 1/2 (63) - "U" 398 (180)
V315, V361 3 Way MIXING Valve Bodies ANSI 250# Flange	CV (KV's) A In. (MM) B In. (MM) C In. (MM) Plug Travel In. (MM) Weight lb. (Kg)	69 (58) 9 5/8 (244) 7 3/8 (187) 5 1/2 (140) 3/4 (19) - "U" 73 (33)	86 (72) 10 3/4 (273) 8 3/8 (213) 6 1/8 (156) 3/4 (19) - "U" 94 (42)	156 (134) 13 5/8 (346) 10 1/4 (260) 7 1/8 (181) 1 3/8 (35) - "P" 157 (71)	270 (225) 16 5/8 (422) 10 3/8 (263) 6 (152) 1 3/8 (35) - "P" 211 (95)	347 (289) 18 5/8 (473) 11 (279) 6 3/4 (171) 1 3/8 (35) - "P" 283 (128)	590 (507) 21 3/8 (543) 14 1/2 (368) 8 5/8 (219) 2 1/2 (63) - "U" 398 (180)

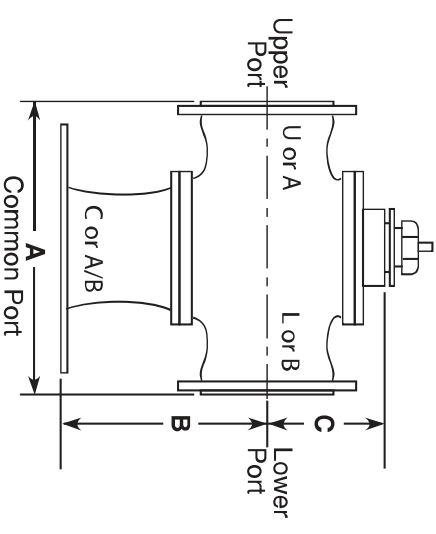
Type V310, V315, V351, V361



NOTE: The piping of the V310, V315, V351, V361 is only as mixing and common port is a side port and used only as outlet port!
In UP position the flow is from LOWER PORT to COMMON PORT, In DOWN position the flow is from UPPER PORT to COMMON PORT.

Model #	Size	2 1/2"	3"	4"	5"	6"	8"
V341, V356 3 Way Diverging Valve Bodies ANSI 125# Flange	CV (KV's) lower port CV (KV's) upper port A In. (MM) B In. (MM) C In. (MM) Plug Travel In. (MM) Weight lb. (Kg)	75 (63) 68 (57) 9 (229) 7 1/8 (181) 5 1/2 (140) 3/4 (19) - "U" 59 (28)	95 (79) 85 (71) 10 (254) 8 (203) 6 1/8 (155) 3/4 (19) - "U" 78 (35)	180 (150) 160 (133) 13 (330) 9 7/8 (251) 7 1/8 (181) 3/4 (19) - "U" 138 (62)	220 (183) 195 (163) 12 (305) 10 1/2 (267) 6 (152) 1 1/4 (32) - "W" 152 (69)	300 (250) 270 (225) 14 1/8 (359) 11 1/8 (283) 6 3/4 (171) 1 3/8 (35) - "P" 203 (92)	510 (425) 425 (354) 16 1/4 (413) 11 7/8 (300) 8 5/8 (219) 1 1/2 (38) - "O" 316 (143)
V345 3 Way Diverging Valve Bodies ANSI 250# Flange	CV (KV's) lower port CV (KV's) upper port A In. (MM) B In. (MM) C In. (MM) Plug Travel In. (MM) Weight lb. (Kg)	75 (63) 68 (57) 9 5/8 (243) 7 3/8 (187) 4 1/4 (105) 3/4 (19) - "U" 73 (33)	95 (79) 85 (71) 10 3/4 (262) 8 3/8 (212) 5 (127) 3/4 (19) - "U" 94 (42)	180 (150) 160 (133) 13 5/8 (344) 10 1/4 (257) 5 7/8 (146) 3/4 (19) - "U" 166 (75)	220 (183) 195 (163) 12 7/8 (324) 11 (279) 8 1/4 (206) 1 1/4 (32) - "W" 215 (97)	300 (250) 270 (225) 14 1/2 (358) 11 1/2 (282) 8 7/8 (223) 1 3/8 (35) - "P" 284 (128)	510 (425) 425 (354) 16 1/4 (413) 12 3/8 (314) 10 (254) 1 1/2 (38) - "O" 407 (184)

Type V341, V345



NOTE: The piping of the V341, V345 and V356 is in diverging applications, the common port is always the bottom port and used only as an inlet port!
In UP position the flow is between the COMMON PORT and LOWER PORT, In DOWN position the flow is between COMMON PORT and UPPER PORT.



ELECTRIC / ELECTRONIC CAST IRON FLANGE CONTROL VALVES SPECIFICATIONS

Model #	Class	Body	Seat	Plug	Stem	Packing	Flow Characteristic	Range-ability	Seat Close -off	Max. Static Pressure at $\geq 150^{\circ}\text{F} / 65^{\circ}\text{C}$	Max. Static Pressure at $\geq 350^{\circ}\text{F} / 175^{\circ}\text{C}$	Trim Limits: Max. Flow Diff. Pressure.	Max. Fluid Temperature	Min. Fluid Temperature
2 Way Single Seat Valve Bodies														
V210	ANSI 125# PN10	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Equal %	50:1	Class III	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid or Steam 40 PSI / 2.72 Bar	350°F (175°C)	25°F (-5°C)
V215	ANSI 250# PN16	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Equal %	50:1	Class III	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid or Steam 40 PSI / 2.72 Bar	350°F (175°C)	25°F (-5°C)
V251	ANSI 125# PN10	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Equal %	50:1	Class III	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid or Steam 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)
V231	ANSI 250# PN16	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Equal %	50:1	Class III	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid or Steam 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)
2 Way Double Seat Balanced Valve Bodies														
V241	ANSI 125# PN10	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Equal %	50:1	Class II	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid or Steam 40 PSI / 2.72 Bar	350°F (175°C)	25°F (-5°C)
V242	ANSI 250# PN16	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Equal %	50:1	Class II	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid or Steam 40 PSI / 2.72 Bar	350°F (175°C)	25°F (-5°C)
V254	ANSI 125# PN10	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Equal %	50:1	Class II	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid or Steam 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)
V252	ANSI 250# PN16	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Equal %	50:1	Class II	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid or Steam 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)
2 Way Single Seat Cylinder Balanced Valve Bodies														
V243	ANSI 125# PN10	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Linear or Equal %	50:1	Class III	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid or Steam 40 PSI / 2.72 Bar	300°F (150°C)	25°F (-5°C)
V245	ANSI 250# PN16	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Linear or Equal %	50:1	Class III	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid or Steam 40 PSI / 2.72 Bar	300°F (150°C)	25°F (-5°C)
V253	ANSI 125# PN10	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Linear or Equal %	50:1	Class III	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid or Steam 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)
V255	ANSI 250# PN16	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Linear or Equal %	50:1	Class III	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid or Steam 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)
3-Way Diverting Cage Type Valve Bodies with Cage Type Plunger (Bottom Port Common)														
V241	ANSI 125# PN10	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Linear	-	Class II	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid 40 PSI / 2.72 Bar	350°F (175°C)	25°F (-5°C)
V245	ANSI 250# PN16	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Linear	-	Class II	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid 40 PSI / 2.72 Bar	350°F (175°C)	25°F (-5°C)
V256	ANSI 125# PN10	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Linear	-	Class II	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)
2 Way Double Seat Balanced Valve Bodies														
V310	ANSI 125# PN10	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Linear	-	Class III	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid 40 PSI / 2.72 Bar	350°F (175°C)	25°F (-5°C)
V315	ANSI 250# PN16	Cast Iron	Bronze	Bronze	316 Stainless Steel	EPDM Lip Packing	Linear	-	Class III	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid 40 PSI / 2.72 Bar	350°F (175°C)	25°F (-5°C)
V251	ANSI 125# PN10	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Linear	-	Class III	175 PSI / 12 Bar	125 PSI / 8.5 Bar	Liquid 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)
V261	ANSI 250# PN16	Cast Iron	300 Stainless Steel	300 Stainless Steel	316 Stainless Steel	Low-Friction TFE V Ring	Linear	-	Class III	400 PSI / 27 Bar	280 PSI / 19 Bar	Liquid 100 PSI / 14.7 Bar	400°F (200°C)	25°F (-5°C)

Close-Off: Leakage for valves with metal -to-metal seats:

Class III: 0.1% of max. flow for single seat and 3 way mixing valves.

Class II: 0.5% of max. flow for double seat and 3 way diverting valves.

As per ANSI/FCI 70-2-1976

Valve Body Flange Configuration: As defined by ANSI standard B16.1

300PSI Valve Bodies: Available on request

Trim Limits	Flow Differential Pressure
Bronze Trim	Maximum 40 psi (2.72 Bar)
Stainless Steel Trim	Maximum 100 psi (6.80 Bar)



ELECTRIC CLOSE-OFF PRESSURE TABLE PSI / (BAR)

Model #	Size	2 1/2"	3"	4"	5"	6"	8"	10"
FAIL SAFE ON POWER FAILURE								
Actuator & Linkage Group 160 Inch/Lbs, 18 Nm								
V210, V215, V251, V231 (Class II leakage)		55 (3.74)	35 (2.38)	10 (0.68)	5 (0.34)	-	-	-
V241, V242, V254, V252 (Class II leakage)		100 (6.80)	100 (6.80)	100 (6.80)	70 (4.76)	60 (4.08)	30 (2.04)	-
V243, V245, V253, V255 (Class III leakage)		100 (6.80)	100 (6.80)	100 (6.80)	70 (4.76)	60 (4.08)	30 (2.04)	-
V341, V345 (Class III leakage)		40 (2.72)	30 (2.04)	10 (0.68)	5 (0.34)	-	-	-
V310, V315, V351, V361 (Class III leakage)								
Actuator & Linkage Group 360 Inch/Lbs, 40 Nm								
Capacitor return ME5850-0N, FLP 5350-0N								
V210, V215, V251, V231 (Class III leakage)		100 (6.80)	80 (5.44)	30 (2.04)	10 (0.68)	-	-	-
V241, V242, V254, V252 (Class II leakage)		100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	80 (5.44)
V243, V245, V253, V255 (Class III leakage)		100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	80 (5.44)	-
V341, V345 (Class III leakage)		100 (6.80)	80 (5.44)	30 (2.04)	18 (1.22)	12 (0.82)	7 (0.47)	-
V310, V315, V351, V361 (Class III leakage)								
FAIL LAST POSITION ON POWER FAILURE								
Actuator & Linkage Group 221 Inch/Lbs, 25 Nm								
Non Spring return ME5140L, ME5340L								
V210, V215, V251, V231 (Class II leakage)		75 (5.10)	45 (3.06)	15 (1.02)	7 (0.47)	-	-	-
V241, V242, V254, V252 (Class II leakage)		100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	80 (5.44)	-	-
V243, V245, V253, V255 (Class III leakage)		100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	80 (5.44)	-	-
V341, V345 (Class III leakage)		55 (3.74)	35 (2.38)	15 (1.02)	7 (0.47)	-	-	-
V310, V315, V351, V361 (Class III leakage)								
Actuator & Linkage Group 310 Inch/Lbs, 35 Nm								
Non Spring return ME5150, ME5350								
V210, V215, V251, V231 (Class III leakage)		100 (6.80)	60 (4.08)	25 (1.70)	10 (0.68)	5 (0.34)	-	-
V241, V242, V254, V252 (Class II leakage)		100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	80 (5.44)	40 (2.72)
V243, V245, V253, V255 (Class III leakage)		100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	100 (6.80)	60 (4.08)	-
V341, V345 (Class III leakage)		70 (4.76)	50 (3.40)	20 (1.36)	10 (0.68)	8 (0.54)	-	-
V310, V315, V351, V361 (Class III leakage)								

