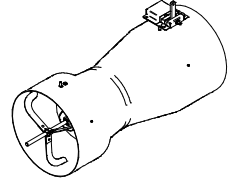
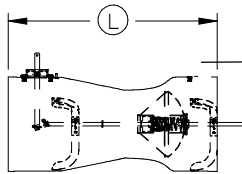


VV SPECIFICATIONS:			
STANDARD	ENVIRONMENTAL (OPERATING)		50°F to 122°F (10°C to 50°C), 5% to 95% R.H.(NON-CONDENSING)
	ENVIRONMENTAL (STORAGE)		-22°F to 122°F (-30°C to 50°C), 0% to 95% R.H.(NON-CONDENSING)
	VALVE BODY		14 Ga ALUMINUM
	CONE		16 Ga ALUMINUM
	SHAFT		TEFLON COATED 316 STAINLESS STEEL
	SHAFT SUPPORTS		316 STAINLESS STEEL
	SHAFT BEARINGS		WEAR-RESISTANT WITH TEFLON ADDITIVE
OPTIONS	LOW LEAKAGE SHUT-OFF (LLSO)	CONE GASKET	FKM
		SHAFT SEAL	FKM
	INSULATION (IN)	MATERIAL	3/4 IN. (19MM) FIBER-FREE POLYETHYLENE, R3
		ASTM E84 RATING	25/50

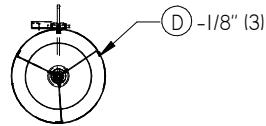


SINGLE VALVE			
UNIT SIZE	D	L	WEIGHT*
	in.(mm)	in.(mm)	lb.(kg)
108	8 (203)	23.50 (597)	19 (9)
110	10 (254)	21.75 (552)	20 (9)
112	12 (305)	27.00 (686)	22 (10)
114	14 (356)	30.00 (762)	24 (11)

*WEIGHTS ARE ± 3lbs (1kg) DEPENDING ON OPTIONS

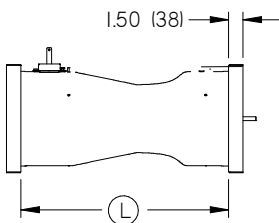


SINGLE VALVE

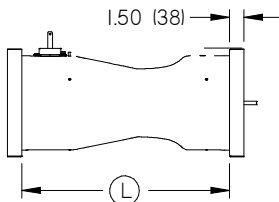
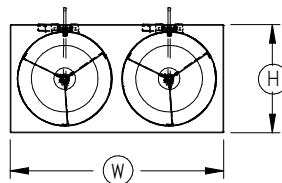


MULTIPLE VALVE				
UNIT SIZE	L	H	W	WEIGHT*
	in.(mm)	in.(mm)	in (mm)	lb (kg)
210	21.75 (552)	11.250 (286)	22.250 (565)	34 (15)
212	27.00 (686)	13.250 (337)	26.250 (667)	40 (18)
214	30.00 (762)	15.250 (387)	30.250 (768)	45 (20)
312	27.00 (686)	13.250 (337)	39.250 (997)	58 (26)
314	30.00 (762)	15.250 (387)	45.250 (1149)	65 (29)
412	27.00 (686)	13.250 (337)	52.500 (1334)	80(36)
414	30.00 (762)	15.250 (387)	60.500 (1537)	95 (43)

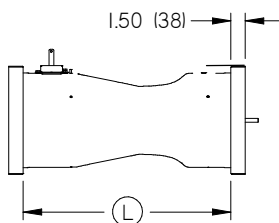
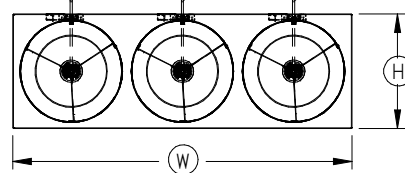
*WEIGHTS ARE ± 5lbs (2kg) DEPENDING ON OPTIONS



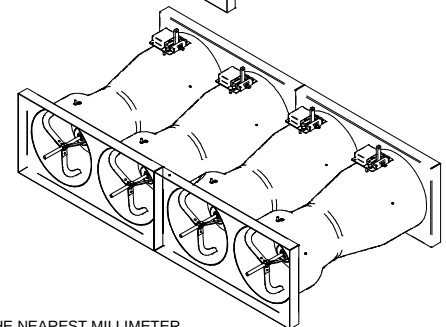
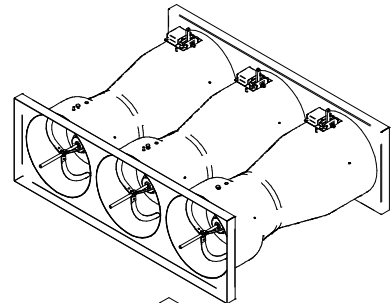
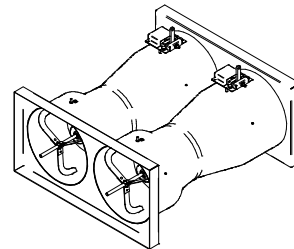
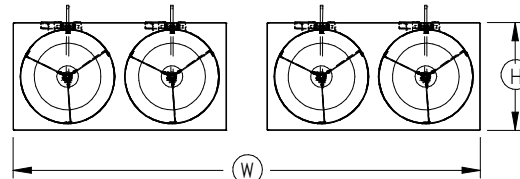
DUAL VALVE



TRIPLE VALVE



QUAD VALVE

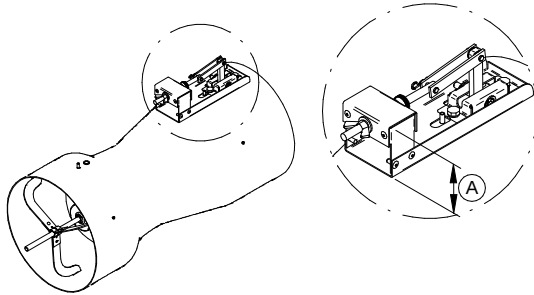


NOTE: SEE PROJECT SUBMITTAL SCHEDULE FOR SELECTED OPTIONS.

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CONTROL OPTIONS:

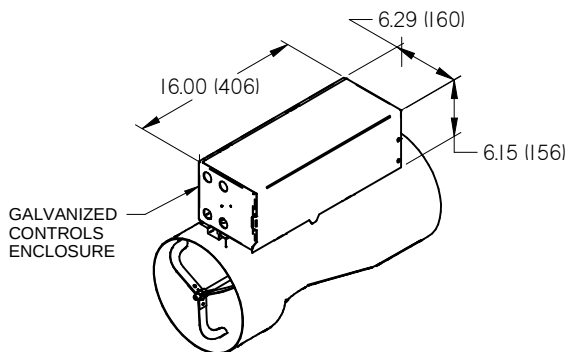
- ☐ CONSTANT VOLUME (CV), WITH NO ACCESSORIES - STANDARD VALVES ONLY



SINGLE VALVE

UNIT SIZE	A
108	in.(mm)
110, 210	2.375 (60)
112, 212, 312, 412	3.125 (79)
114, 214, 314, 414	3.125 (79)

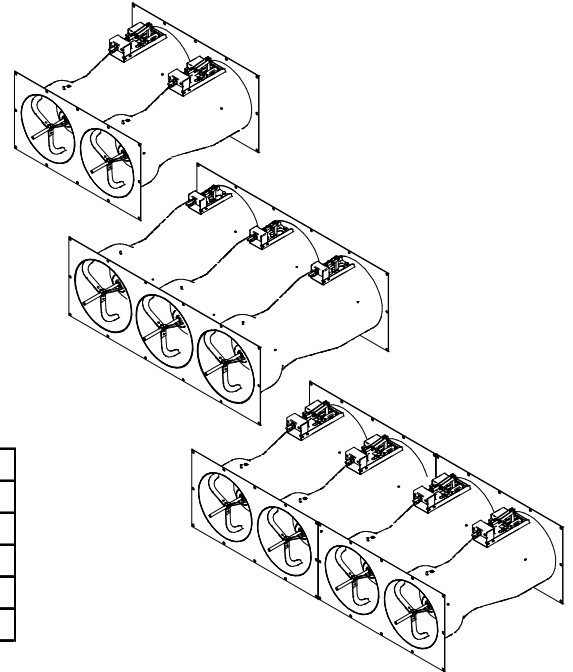
- ☐ CONSTANT VOLUME (CV) WITH VPS - STANDARD VALVES ONLY
☐ CONSTANT VOLUME (CV) WITH LMX - STANDARD VALVES ONLY
☐ VARIABLE VOLUME (VAV & VDC) WITH PACE-TRACK - STANDARD SPEED ACTUATOR ONLY
☐ VARIABLE VOLUME (VAV & VDC) WITH PACE
☐ VARIABLE VOLUME (VAV & VDC) WITH FVM - HIGH SPEED ACTUATOR ONLY
☐ VARIABLE VOLUME (VAV & VDC) WITH LMX
☐ VARIABLE VOLUME (VAV & 2P) WITH RELAY ONLY
☐ VARIABLE VOLUME (VAV & 2P) WITH LMX



SINGLE VALVE

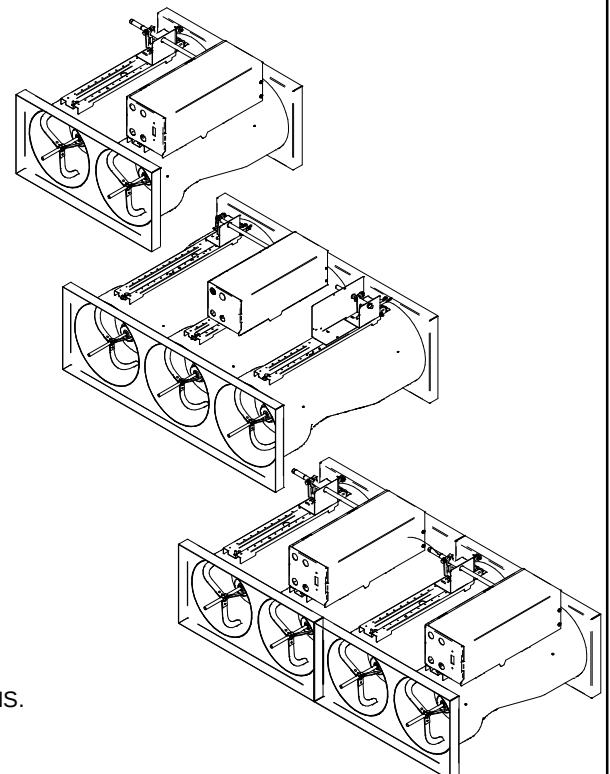
NOTE: PLEASE REFER TO VV MANUAL FOR INSTALLATION INSTRUCTIONS.
SEE PROJECT SUBMITTAL SCHEDULE FOR SELECTED OPTIONS.

MULTIBODY VALVES (FLANGE ENDS CONNECTION SHOWN)



*QUADS CONSIST OF COMBINING 2 DUALS

MULTIBODY VALVES (SLIP ENDS CONNECTION SHOWN)



*QUADS CONSIST OF COMBINING 2 DUALS

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BODY TYPE AND PRESSURE RANGE OPTIONS:

☐ STANDARD VENTURI VALVE (VV)

☐ MEDIUM PRESSURE (M) -
0.6 TO 3.0 in.w.c. (150-750 Pa),
MEASURED ACROSS VALVE

☐ LOW PRESSURE (L) -
0.3 TO 3.0 in.w.c. (75-750 Pa),
MEASURED ACROSS VALVE

SINGLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
108	35 (17)	700 (330)
110	50 (24)	1000 (472)
112	90 (42)	1500 (708)
114	200 (94)	2500 (1180)

MULTIPLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
210	100 (48)	2000 (944)
212	180 (84)	3000 (1416)
214	400 (188)	5000 (2360)
312	270 (126)	4500 (2124)
314	600 (282)	7500 (3540)
412	360 (168)	6000 (2832)
414	800 (376)	10000 (4720)

SINGLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
108	35 (17)	500 (236)
110	50 (24)	550 (260)
112	90 (42)	1200 (566)
114	200 (94)	1400 (660)

MULTIPLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
210	100 (48)	1100 (519)
212	180 (84)	2400 (1132)
214	400 (188)	2800 (1320)
312	270 (126)	3600 (1699)
314	600 (282)	4200 (1980)
412	360 (168)	4800 (2264)
414	800 (376)	5600 (2640)

☐ SHUTOFF VENTURI VALVE (SSO)

STANDARD LEAKAGE - METAL TO METAL SEAL
TO SHUT OFF AIRFLOW

☐ MEDIUM PRESSURE (M) -
0.6 TO 3.0 in.w.c. (150-750 Pa),
MEASURED ACROSS VALVE

☐ LOW PRESSURE (L) -
0.3 TO 3.0 in.w.c. (75-750 Pa),
MEASURED ACROSS VALVE

SINGLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
108	35 (17)	600 (283)
110	50 (24)	850 (401)
112	90 (42)	1300 (614)
114	200 (94)	1500 (708)

MULTIPLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
210	100 (48)	1700 (802)
212	180 (84)	2600 (1227)
214	400 (188)	3000 (1415)
312	270 (126)	3900 (1842)
314	600 (282)	4500 (2167)
412	360 (168)	5200 (2454)
414	800 (376)	6000 (2830)

SINGLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
108	35 (17)	400 (188)
110	50 (24)	550 (260)
112	90 (42)	900 (424)

MULTIPLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
210	100 (48)	1100 (519)
212	180 (84)	1800 (840)
312	270 (126)	2700 (1260)
412	360 (168)	3600 (1680)

*SIZE 114, 214, 314 & 414 LOW PRESSURE (L) VALVES ARE NOT AVAILABLE

☐ LOW LEAKAGE SHUTOFF VENTURI VALVE (LLSO)

LOW LEAKAGE - GASKET TO METAL SEAL
TO SHUT OFF AIRFLOW

☐ MEDIUM PRESSURE (M) -
0.6 TO 3.0 in.w.c. (150-750 Pa),
MEASURED ACROSS VALVE

SINGLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
108	35 (17)	600 (283)
110	50 (24)	850 (401)
112	90 (42)	1300 (614)

MULTIPLE VALVE		
UNIT SIZE	MIN. AIRFLOW CFM (L/s)	MAX AIRFLOW CFM (L/s)
212	180 (84)	2600 (1227)
312	270 (126)	3900 (1842)

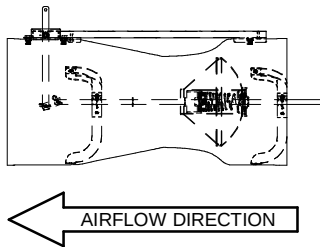
*SIZE 114, 210, 214, 312, 314 & 414 LOW LEAKAGE SHUT-OFF (LLSO) VALVES ARE NOT AVAILABLE
**LOW PRESSURE LOW LEAKAGE SHUT-OFF VALVES ARE NOT AVAILABLE

NOTE: PLEASE REFER TO VV MANUAL FOR INSTALLATION INSTRUCTIONS.
SEE PROJECT SUBMITTAL SCHEDULE FOR SELECTED OPTIONS.

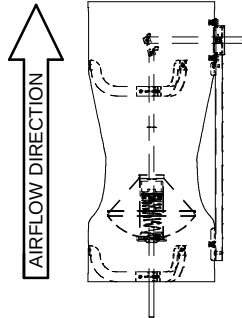
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AIRFLOW ORIENTATION OPTIONS

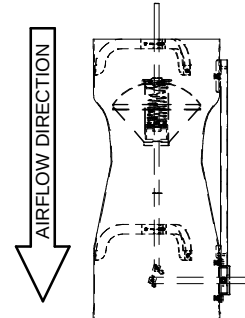
☐ HORIZONTAL (H) VALVE



☐ VERTICAL UP (VU) VALVE -
STANDARD VALVES ONLY



☐ VERTICAL DOWN (VD) VALVE -
STANDARD VALVES ONLY



ACTUATOR FAIL SAFE OPTIONS

- ☐ FAIL IN PLACE (FLP)
- ☐ FAIL OPEN POSITION (FOP)
- ☐ FAIL CLOSED POSITION (FCP)

ACTUATOR SPEED OPTIONS

- ☐ STANDARD SPEED (SSA)
- ☐ HIGH SPEED (HSA)

*HSA OPTION IS NOT AVAILABLE FOR SIZE 212, 312 LOW LEAKAGE SHUTOFF (LLSO)

INSULATION OPTION

- ☐ 3/4" EXTERNAL FOAM INSULATION (IN)

MATERIAL AND FINISH

- ☐ PHENOLIC COATING (P1) -
VALVE BODY & CONE
- ☐ PHENOLIC COATING (P2) - VALVE BODY & INTERNALS,
ALL HARDWARE TEFLON COATED
STANDARD VALVES ONLY
- ☐ KYNAR COATING PVDF (K), - VALVE BODY & INTERNALS,
ALL HARDWARE TEFLON COATED
STANDARD VALVES ONLY

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CONNECTION OPTIONS

- ☐ SLIP CONNECTION (SL) -
VALVE SLIPPED WITH 1" OVERLAP,
ALL SIZES

SLIP END SPECIFICATIONS, SINGLE VALVE

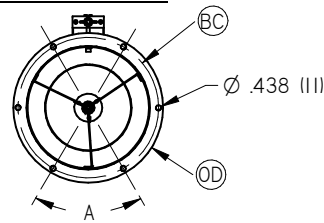
UNIT SIZE	DUCT
	in. (mm)
108	Ø 8" (203)
110	Ø 10" (254)
112	Ø 12" (305)
114	Ø 14" (356)

SLIP END SPECIFICATIONS, MULTIBODY VALVE

UNIT SIZE	DUCT
	in. (mm)
210	22"(559) x 11"(279)
212	26"(660) x 13"(330)
214	30"(762) x 15"(381)
312	39"(991) x 13"(330)
314	45"(1143) x 15"(381)
412	52"(1320) x 13"(330)
414	60"(1524) x 15"(381)

- ☐ FLANGED CONNECTION (FL),
ALL SIZES

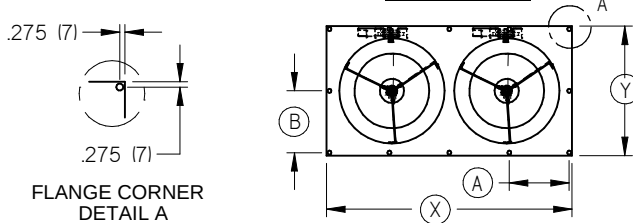
SINGLE VALVE



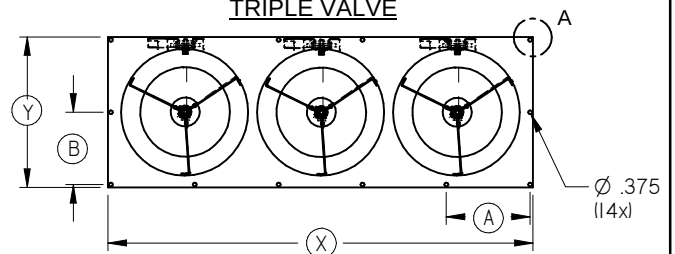
FLANGED END SPECIFICATIONS, SINGLE VALVE

UNIT SIZE	NUMBER OF BOLT HOLES	BC	OD	A
		in. (mm)	in. (mm)	Degrees
108	6	Ø 9.25" (235)	Ø 10" (254)	60
110	6	Ø 11.25" (286)	Ø 12" (305)	60
112	6	Ø 13.25" (337)	Ø 15" (381)	60
114	8	Ø 15.75" (400)	Ø 17" (432)	45

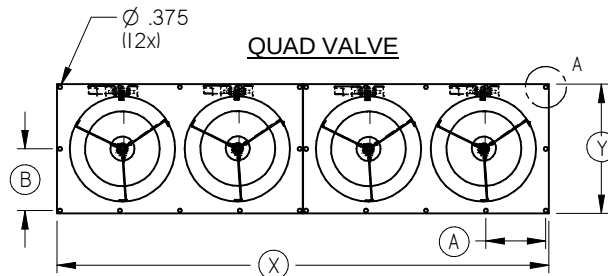
DUAL VALVE



TRIPLE VALVE



QUAD VALVE



FLANGED END SPECIFICATIONS, MULTIBODY VALVE

UNIT SIZE	X	Y	A	B
	in.(mm)	in.(mm)	in. (mm)	in. (mm)
210	23.250 (591)	12.250 (311)	5.675 (144)	5.850 (149)
212	27.250 (692)	14.250 (362)	6.675 (170)	6.850 (174)
214	31.250 (794)	16.250 (413)	7.675 (195)	7.850 (199)
312	40.250 (1022)	14.250 (362)	7.940 (202)	6.850 (174)
314	46.250 (1175)	16.250 (413)	7.617 (193)	7.850 (199)
412	54.500 (1384)	14.250 (362)	6.675 (170)	6.850 (174)
414	62.500 (1588)	16.250 (413)	7.675 (195)	7.850 (199)

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LEAKAGE PERFORMANCE: STANDARD SHUT-OFF (SSO)

CASING LEAKAGE:

CASING LEAKAGE REFERS TO THE AIR THAT ESCAPES THE VALVE BODY AT A SPECIFIED PRESSURE WITH THE OUTLET OF THE VALVE BLOCKED

CASING LEAKAGE	
UNIT SIZE	LEAKAGE @ 3.0 in.w.c. (747 Pa)
	CFM (L/S)
108	< 1.0 (0.47)
110	< 1.0 (0.47)
112	< 1.0 (0.47)
114	< 1.0 (0.47)

SHUT-OFF LEAKAGE:

SHUT-OFF LEAKAGE REFERS TO THE LEAKAGE PAST THE CONE WHEN THE VALVE IS IN SHUT-OFF POSITION.

SHUT-OFF LEAKAGE	
UNIT SIZE	LEAKAGE @ 3.0 in.w.c. (747 Pa)
	CFM (L/S)
108	< 0.5 (0.24)
110	< 4.0 (1.89)
112	< 1.8 (0.85)
114	< 1.5 (0.71)

LEAKAGE PERFORMANCE: LOW LEAKAGE SHUT-OFF (LLSO)

CASING LEAKAGE:

CASING LEAKAGE REFERS TO THE AIR THAT ESCAPES THE VALVE BODY AT A SPECIFIED PRESSURE WITH THE OUTLET OF THE VALVE BLOCKED

CASING LEAKAGE	
UNIT SIZE	LEAKAGE @ 10.0 in.w.c. (2491 Pa)
	CFM (L/S)
108	< 0.05 (0.024)
110	< 0.05 (0.024)
112	< 0.05 (0.024)

NOTE: LEAKAGE TESTED IN ACCORDANCE WITH ASME N510 PRESSURE DECAY METHOD

SHUT-OFF LEAKAGE:

SHUT-OFF LEAKAGE REFERS TO THE LEAKAGE PAST THE CONE WHEN THE VALVE IS IN SHUT-OFF POSITION.

SHUT-OFF LEAKAGE	
UNIT SIZE	LEAKAGE @ 10.0 in.w.c. (2491 Pa)
	CFM (L/S)
108	< 0.0025 (0.0012)
110	< 0.0070 (0.0033)
112	< 0.0140 (0.0066)

NOTE: LEAKAGE TESTED IN ACCORDANCE WITH ASME N510 PRESSURE DECAY METHOD

SHUT-OFF VENTURI VALVE VOLUME: SSO & LLSO

VOLUME REFERS TO THE INTERNAL VOLUME OF THE VENTURI VALVE

UNIT SIZE	INTERNAL VOLUME
	CU. FT (L)
108	0.50 (14.2)
110	0.72 (20.4)
112	1.33 (37.8)
114	2.08 (58.9)

ACTUATOR REFERENCE CHART

UNIT SIZE	ACTUATOR CONTROL	ACTUATOR RESPONSE	ACTUATOR FAIL POSITION	PART #	QTY	UNIT SIZE	ACTUATOR CONTROL	ACTUATOR RESPONSE	ACTUATOR FAIL POSITION	PART #	QTY
108	VDC	SSA	FLP	019127-002	1	210	VDC	SSA	FLP	019127-005	1
			FOP/FCP	019128-005	1				FOP/FCP	019128-005	1
		HSA	FLP	019127-001	1			HSA	FLP	019127-004	1
			FOP/FCP	019127-003	1				FOP/FCP	019127-003	1
	2P	SSA	FLP	019128-001	1		2P	SSA	FLP	019128-002	1
			FOP/FCP	019128-004	1				FOP/FCP	019128-004	1
110	VDC	SSA	FLP	019127-002	1	212	VDC	SSA	FLP	019127-005	1
			FOP/FCP	019128-005	1				FOP/FCP	019128-005	1
		HSA	FLP	019127-001	1			HSA	FLP	019127-004	1
			FOP/FCP	019127-003	1				FOP/FCP	019127-003	1
	2P	SSA	FLP	019128-001	1		2P	SSA	FLP	019128-002	1
			FOP/FCP	019128-004	1				FOP/FCP	019128-004	1
112	VDC	SSA	FLP	019127-002	1	214	VDC	SSA	FLP	019127-005	1
			FOP/FCP	019128-005	1				FOP/FCP	019128-005	1
		HSA	FLP	019127-004	1			HSA	FLP	019127-006	1
			FOP/FCP	019127-003	1				FOP/FCP	019127-007	1
	2P	SSA	FLP	019128-002	1		2P	SSA	FLP	019128-002	1
			FOP/FCP	019128-004	1				FOP/FCP	019128-004	1
114	VDC	SSA	FLP	019127-005	1	216	VDC	SSA	FLP	019127-005	1
			FOP/FCP	019128-005	1				FOP/FCP	019128-005	1
		HSA	FLP	019127-004	1			HSA	FLP	019127-006	1
			FOP/FCP	019127-003	1				FOP/FCP	019127-007	1
	2P	SSA	FLP	019128-002	1		2P	SSA	FLP	019128-002	1
			FOP/FCP	019128-004	1				FOP/FCP	019128-004	1

UNIT SIZE	ACTUATOR CONTROL	ACTUATOR RESPONSE	ACTUATOR FAIL POSITION	PART #	QTY	UNIT SIZE	ACTUATOR CONTROL	ACTUATOR RESPONSE	ACTUATOR FAIL POSITION	PART #	QTY
312	VDC	SSA	FLP	019127-005	2	412	VDC	SSA	FLP	019127-005	2
			FOP/FCP	019128-005	2				FOP/FCP	019128-005	2
		HSA	FLP	019127-004	2			HSA	FLP	019127-004	2
			FOP/FCP	019127-003	2				FOP/FCP	019127-003	2
	2P	SSA	FLP	019128-002	2		2P	SSA	FLP	019128-002	2
			FOP/FCP	019128-004	2				FOP/FCP	019128-004	2
314	VDC	SSA	FLP	019127-005	2	414	VDC	SSA	FLP	019127-005	2
			FOP/FCP	019128-005	2				FOP/FCP	019128-005	2
		HSA	FLP	019127-006	2			HSA	FLP	019127-006	2
			FOP/FCP	019127-007	2				FOP/FCP	019127-007	2
	2P	SSA	FLP	019128-002	2		2P	SSA	FLP	019128-002	2
			FOP/FCP	019128-004	2				FOP/FCP	019128-004	2

NOTE: SEE VALVE ACTUATOR PRODUCT SUBMITTAL FOR ACTUATOR SPECIFICATIONS.

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