HORIZON

CHARACTERISTICS AND PERFORMANCE

Valve Connection	Slip fit w/ band clamps, dual plates, or sheet metal screws
Mounting Orientation	Universal, any orientation or axis
Commissioned Accuracy	±5 % (Pressure independent)
Input Power	24 VAC ±5 %, 50/60 Hz 106 to 116: 30 VA, 212 to 216: 60 VA
Speed of Response	≤ 1 Second
Designed Max APD	0.25 inWC

ENVIRONMENTAL LIMITATIONS

Operating Temperature	-4 °F to 175 °F (-20 °C to 79 °C) 5 to 95 % RH non-condensing
Storage Temperature	-40 °F to 175 °F (-40 °C to 79 °C) 5 to 95 % RH non-condensing

VALVE CONSTRUCTION

			Construction			
			Non-Corrosive		Corrosive	
Size	**Type**	**Description**	**Valve Body**	**Damper & Shaft**	**Valve Body**	**Damper & Shaft**
106 - 112	Single Valve	Single Valve 6", 8", 10", 12"	E-Coated Galvanized Steel	Stainless Steel	Stainless Steel	Stainless Steel
114 - 116	Single Valve	Single Valve 14" & 16"	Aluminum	Stainless Steel	Stainless Steel	Stainless Steel
212 - 216	Dual valve	Dual Valve 2-12", 2-14", 2-16"	Aluminum	Stainless Steel	Stainless Steel	Stainless Steel

VALVE ACTUATION AND ACCESSORIES

			Fail Position		Optional Accessories	
Size	**Type**	**Description**	**Option 1**	**Option 2**	**Band Clamps**	**Insulation**
106 - 112	Single Valve	Single Valve 6", 8", 10", 12"	Fail In Place	Fail Safe	✔	✔
114 - 116	Single Valve	Single Valve 14" & 16"	Fail In Place	Fail Safe	✔	✔
212 - 216	Dual valve	Dual Valve 2-12", 2-14", 2-16"	Fail In Place	Fail Safe	×	✔

VALVE MODEL INFORMATION

Unit Size	K Factor	Flow Range (CFM)	Flow Range (LPS)
106	450	0-600	0-283
108	775	0-1050	0-495
110	1250	0-1700	0-802
112	2600	0-2600	0-1228
114	2275	0-3200	0-1510
116	2967	0-4200	0-1982
212	3377	0-4700	0-2218
214	4597	0-6400	0-3020
216	6000	0-8400	0-3964

NOMENCLATURE

HORIZON-____-____ ____ ____

Size
106 - 06″
108 - 08″
110 - 10″
112 - 12″
114 - 14″
116 - 16″
212 - Dual 12″
214 - Dual 14″
216 - Dual 16″

Environment
1-Non Corrosive
2-Corrosive

Actuation
1-Fail in Place
2-Fail Safe*

Options
0-None
1-Band clamps
2-Insulated w/band clamp
3-Insulated

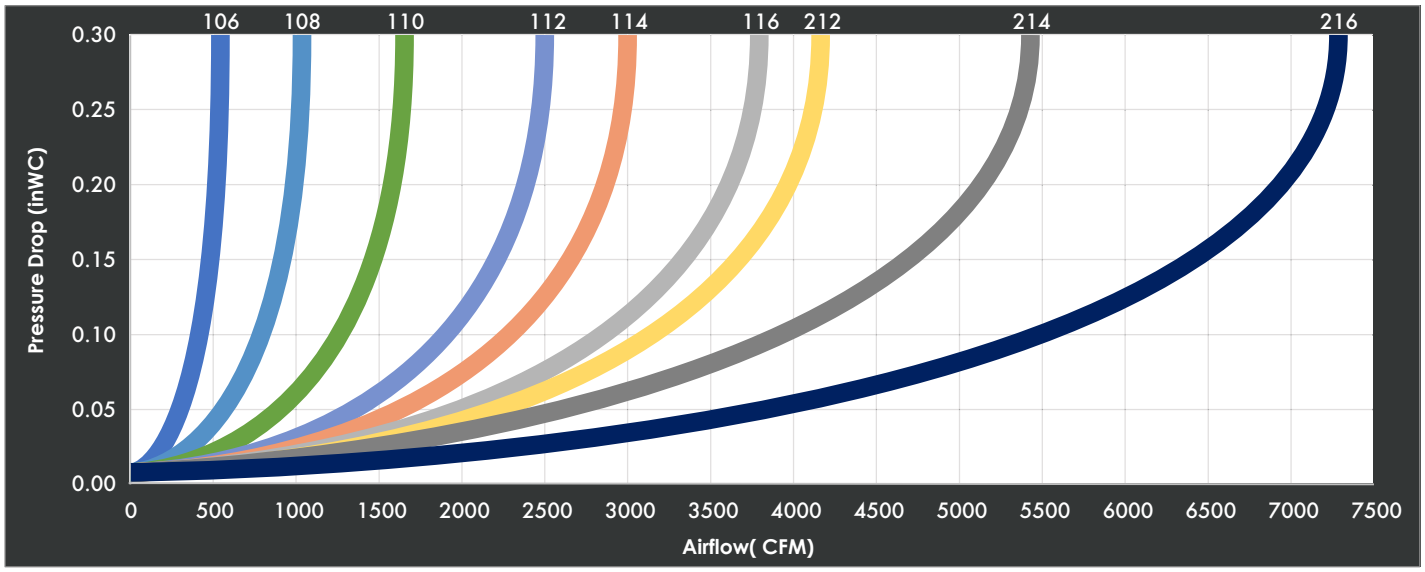
*Factory default is open, user changeable

Performance

HORIZON PERFORMANCE DATA

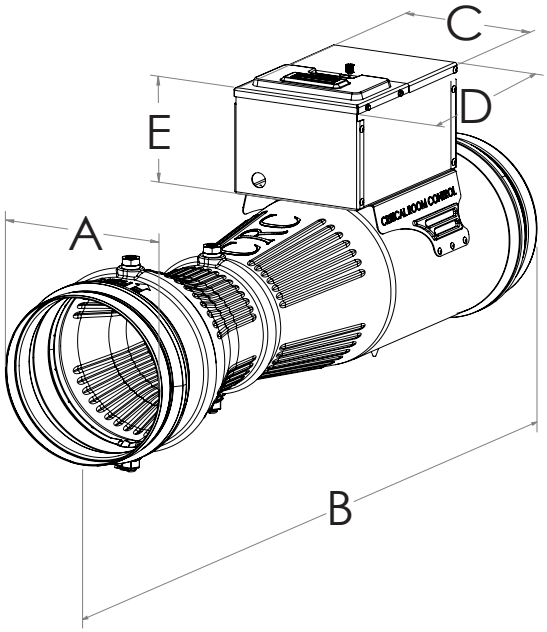
					Optimal Performance Design Range										
Valve Size	Eng. Units	±20%	≤15%	≤7%	≤5%	≤3%	≤2%	≤1%	≤1%	≤1%	≤1%	≤1%	≤1%	Max CFM	Valve Size
106	CFM	0-30	30	40	60	100	120	220	300	380	440	480	540	600	106
108	CFM	0-60	60	80	100	160	200	360	540	680	800	900	980	1050	108
110	CFM	0-80	80	140	170	300	400	640	900	1140	1320	1440	1600	1700	110
112	CFM	0-160	160	200	240	380	560	920	1420	1720	2000	2280	2500	2900	112
114	CFM	0-180	180	240	310	540	800	1200	1720	2100	2420	2700	2960	3100	114
116	CFM	0-210	210	315	420	700	1000	1580	2210	2730	3125	3520	3850	4200	114
212	CFM	0-230	230	350	460	660	1100	1760	2520	3040	3520	3800	4100	4600	212
214	CFM	0-360	360	480	600	1080	1600	2400	3240	4200	4840	5200	5400	6000	214
216	CFM	0-420	420	630	780	1400	2000	3160	4420	5460	6250	6800	7200	7800	216
ΔPS	inWC	≤0.005	≤0.005	≤0.005	≤0.005	0.01	0.02	0.05	0.10	0.15	0.20	0.25	0.30	inWC	ΔPS

HORIZON PERFORMANCE CHART



⚠ To achieve optimal energy-efficient performance, choose a valve size that maintains a maximum pressure drop of 0.25" at the design airflow rate.

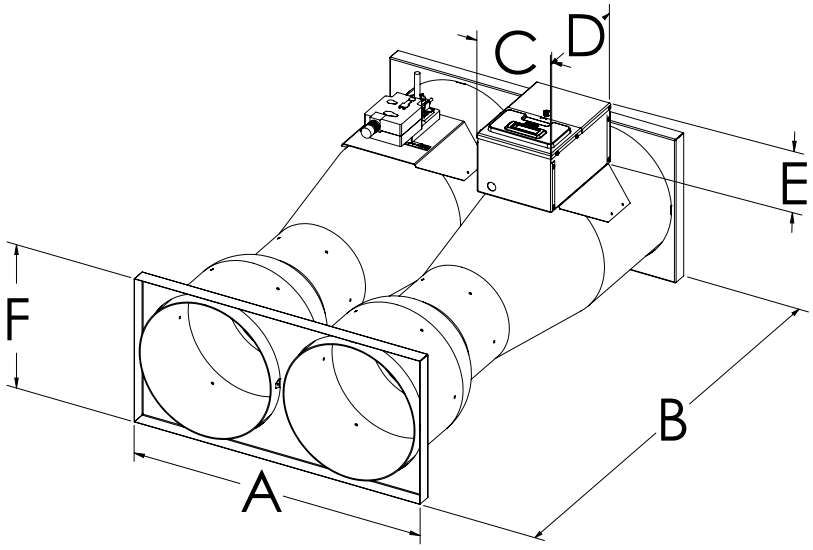
Dimensional Data



SINGLE CLV

Valve Size	A	B	C	D	E
	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]
106	5.9 [149]	28.5 [724]*	7.9 [201]	10.8 [275]	5.4 [138]
108	7.9 [200]	34.8 [884]*	7.9 [201]	10.8 [275]	5.4 [138]
110	9.9 [251]	39.3 [998]*	7.9 [201]	10.8 [275]	5.4 [138]
112	11.9 [302]	40.5 [1029]*	7.9 [201]	10.8 [275]	5.4 [138]
114	13.9 [352]	48.0 [1220]	7.9 [201]	10.8 [275]	5.4 [138]
116	15.9 [381]	48.0 [1220]	7.9 [201]	10.8 [275]	5.4 [138]

* Measurement is taken from gasket to gasket to account for the slip-fit connection.



DUAL CLV

Valve Size	A	B	C	D	E	F
	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]	in [mm]
212	26.0 [660]	48.0 [1220]	7.9 [201]	10.8 [275]	5.4 [138]	13.0 [165]
214	30.0 [762]	48.0 [1220]	7.9 [201]	10.8 [275]	5.4 [138]	15.0 [165]
216	34.0 [864]	48.0 [1220]	7.9 [201]	10.8 [275]	5.4 [138]	17.0 [165]

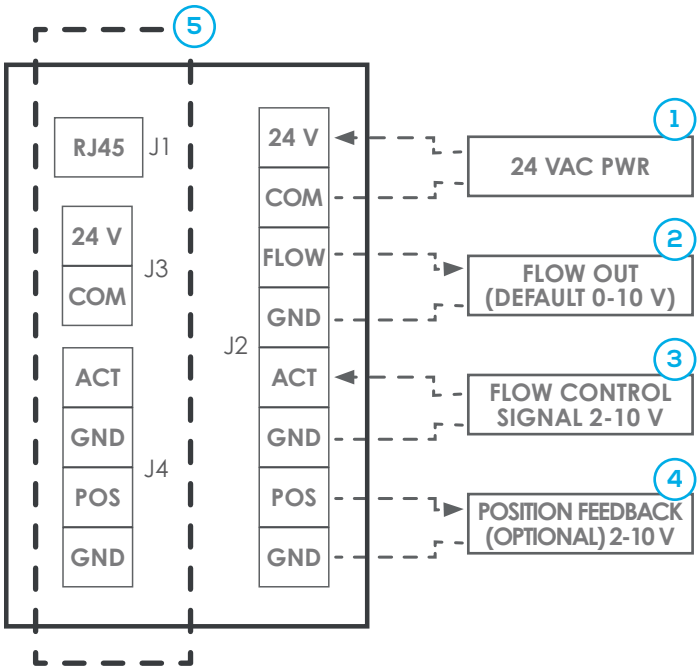
Wiring

WIRING INSTRUCTIONS

1. **Input Power:** 24 VAC ±5% 50/60 Hz,
   106 to 116: 30 VA | 212 to 216: 60 VA (Class II power source)
2. **Flow Out:** Linear analog output (default 0-10VDC) representing the Horizon's current airflow.
   (Optional ranges include 2-10 V, 0-5 V, or 1-5 V)
3. **Flow Control:** Airflow control signal (2-10 VDC) from 3rd party device to modulate Horizon airflow.
4. **Position:** Provides feedback on the Horizon's current control damper open position via an analog output signal.

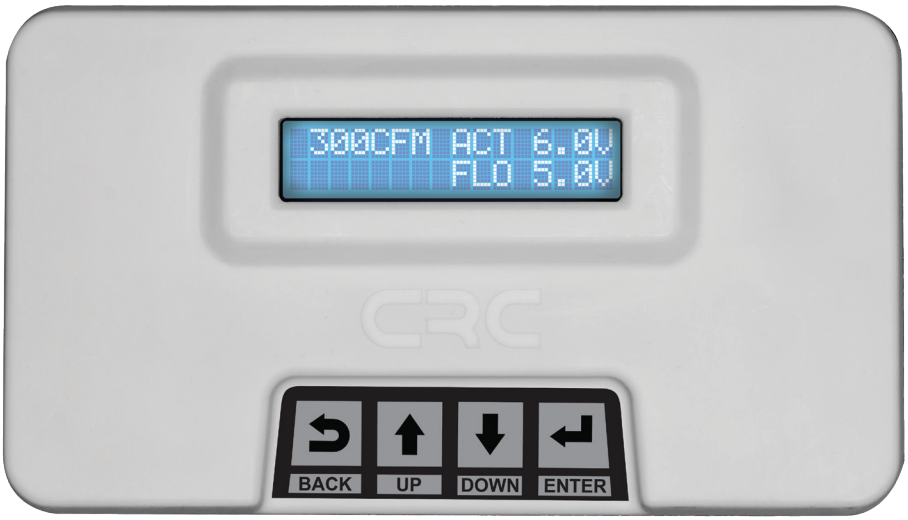
   2 V = closed
   10 V = open
5. Factory Wiring: Factory wiring

⚠ All Horizon electrical terminal connectors are compatible with 14–24 AWG wire sizes.



HORIZON DEFAULT VALUES

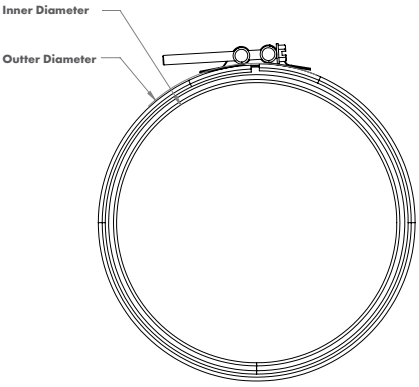
Menu	Setting	Default Value	Optional Values
Balance	K Factor	See Appendix B	N/A
Adjust Feedback	Units	CFM	LPS
Adjust Feedback	Flow Outputs	0-10 V	2-10 V, 0-5 V, 1-5 V
About	Sleep Time	Always On	1 min or 5 min



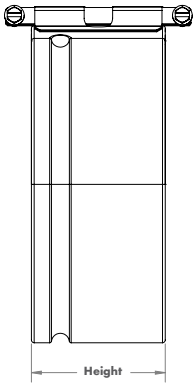
Optional Accessories

BAND CLAMPS

Top View



Side View



CHARACTERISTICS

Material of Construction	Galvanized Steel
Gasket	UL94 Neoprene
Design	Dual-Bolt
Torque	Not to exceed 40 in-lbs
Band Clamps provided in sets of (2)	

SIZE CHART

Part #	Inner Diameter	Outer Diameter	Height
BC-106	[136.65] 5.38	[159.93] 6.3	[89.33] 3.52
BC-108	[187.45] 7.38	[211.93] 8.34	[89.5] 3.52
BC-110	[238.25] 9.38	[262.73] 10.34	[89.5] 3.52
BC-112	[289.05] 11.38	[313.53] 12.34	[89.5] 3.52
BC-114	[339.85] 13.38	[364.33] 14.34	[89.5] 3.52
BC-116	[390.65] 15.38	[415.13] 16.34	[89.5] 3.52

INSULATION

CHARACTERISTICS

Material of Construction	Closed-cell elastomeric thermal insulation
Gasket	0.25″ (6.4 mm)
Design	R-1.0

ENVIRONMENTAL LIMITATIONS

Upper Temperature Limit	220 °F (104 °C)
Lower Temperature Limit	-297 °F (-183 °C)
Flame Spread and Smoke Developed Index	25/50 rated

⚠ Valve insulation is factory installed