creating healthy environments

theris

healthcare solutions

Theris® is Phoenix Controls' family of variable air volume (VAV) and constant volume (CV) airflow control systems designed for healthcare facilities. Using Theris, healthcare facility owners can reduce maintenance costs, reduce the spread of airborne pathogens and conserve more energy.

environments you can trust

Traccel

life science solutions

Traccel® is Phoenix Controls' family of airflow control systems designed to meet the needs of today's life science facilities. With Traccel, life science facility owners can easily accommodate changes in airflow demands, reduce future HVAC renovation costs, and, most importantly, maintain the environmental integrity of the research facility.

precision control for critical spaces

celeris

laboratory solutions

Celeris® is a platform of high-performance Variable Air Volume (VAV) airflow control valves for fume-hood intensive, high-level containment and pharmaceutical manufacturing facilities. Celeris protects researchers and safeguards the integrity of the research environment in critical control environments, while offering optimum energy efficiency.

Valve Ordering Guide

ensuring environmental integrity

For more than 20 years, the name Phoenix Controls has meant peace of mind for thousands of corporations and universities around the globe. Our customers know the quality and reliability of Phoenix Controls' venturi valve and control system are second to none. Yes, we know safety is the primary reason our customers choose us. But today, there are even more reasons to design our venturi valves into projects. Our innovative airflow control solutions provide new ways to save energy and reduce the costs of maintaining HVAC systems.

Phoenix Controls

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VALVE ORDERING GUIDE

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VALVE FAMILY

	Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV		
							√		CSV	= Constant volume Supply Valve
							√		CEV	= Constant volume Exhaust Valve
								√	CVV	= Constant volume, Cage Rack valve
						√			PSV	= Pneumatic Supply Valve *(no feedback)*
						√			PEV	= Pneumatic Exhaust Valve *(no feedback)*
					√				BSV	= Base upgradeable supply valve
					√				BEV	= Base upgradeable exhaust valve
				√					MAV	= Analog Supply Valve
				√					EXV	= Analog Exhaust Valve
			√						HSV	= Theris Supply Valve Healthcare
			√						HEV	= Theris Exhaust Valve Healthcare
		√							TSV	= Traccel Supply Valve Life Science
		√							TEV	= Traccel Exhaust Valve Life Science
	√								MAV	= Celeris Supply Valve
	√								EXV	= Celeris Exhaust Valve

* All Supply Valves *(see note 1)*

VALVE CONSTRUCTION

Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV		
√	√	√	√	√	√	√		A	= Body and cone - uncoated aluminum; Shaft - uncoated 316 stainless steel
√	√	√	√	√	√	√		B	= Body and cone with baked phenolic coating; PFA-coated 316 stainless steel shaft
√	√	√	√	√	√	√		C	= Body, cone and hardware with baked phenolic/epoxy phenolic coating; PFA-coated 316 stainless steel shaft
√	√	√	√	√	√	√		D	= Body, cone and hardware with PVDF coating; PFA-coated 316 stainless steel shaft *(see note 2)*
							√	R	= CVVR - "Rack" Valve: Body and cone - uncoated aluminum; Shaft - PFA coated 316 stainless steel

NUMBER OF VALVE BODIES

Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV		
√	√	√	8, 10, & 12*	Note 3	√	√	√	F	= Single valve with welded Circular Flanges
√	√	√	8, 10, & 12*	Note 3	√	√	√	1	= One valve body (single, no flange)
√	√	√	10 & 12*	Note 3	10 & 12*	10,12, &14*		2	= Two valve bodies (dual) *(see note 2)*
	* CV 12&14*	12* only	Note 3		12* only	10,12, &14*		3	= Three valve bodies (triple) *(see note 2)* *(Analog and Uncontrolled Valves only)*
	* CV 12&14*	12* only	Note 3		12* only	10,12, &14*		4	= Four valve bodies (quad) *(see note 2)* *(Analog and Uncontrolled Valves only)*

*Letters in this chart refer to "Traccel and Theris Product Models"

VALVE SIZE

Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV		
√	√	√	√	√	√	√	√	08	= 8" valve (7.88" actual diameter) *(see note 4)*
√	√	√	√	√	√	√	√	10	= 10" valve (9.88" actual diameter)
√	√	√	√	√	√	√	√	12	= 12" valve (11.88" actual diameter)
*L&M				Note 3	Single Only			14	= 14" valve (13.88" actual diameter) *(see notes 2 & 5)*

*Letters in this chart refer to "Control Type"

FLOW/PRESSURE OPERATING RANGE

Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV		
√	√	√	√	√	√	√	√	M	= Medium pressure (0.6" to 3.0") *(see note 5)*
√	√	√	√	√	√	√	√	L	= Low Pressure (0.3" to 3.0") *(see notes 6 & 7)*

FAIL SAFE POSITION

All Valves

C	=	Normally closed valve
O	=	Normally open valve
Z	=	Not applicable

Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV
√			*A & E	B only	√		
√			*A & E	B only	√		
√	√		*E only	F, I & Z	√	√	

* Letters in this chart refer to "Control Type"

VALVE ORIENTATION

H	=	Horizontal
U	=	Vertical upflow
D	=	Vertical downflow

Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV
√	√	√	√	√	√	√	√
Note 6	Note 6	Note 6	√	√	√	√	√
√	√	√	√	√	√	√	√

CONTROL TYPE - *(Platform and Actuator)*

C	=	Constant Volume (field adjustable with 7/16" hex head nut driver)
P	=	Pneumatic
B	=	Base upgradeable - Pneumatic
F	=	Fixed, field adjustable with knob and increase/decrease flow label
I	=	All: IP54 electric actuator with fail-to-last position; BxV: Floating point
Z	=	Proportional electric actuator with fail-to-last position
A	=	Analog - Pneumatic
E	=	Analog - High-speed electric
L	=	Digital - Low-speed electric
M	=	Digital - High-speed electric
N	=	Digital - Pneumatic *(see note 8)*

Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV
		*CV				√	
					√		
				√			
				√		√	
Note 9	Note 9	Note 9		Note 10			
				√			
			√				
			√				
√	√	√					
√							

*Letters in this chart refer to "Traccel and Theris Product Models"

VALVE DESIGN

A	=	Conical -Shape diffuser (Accel II) *(see note 2)*
C	=	Compact Valve Body
S	=	Standard - Shut-Off Valve *(see notes 2,4,6 & 8)*
L	=	Low Pressure - Shut-Off Valve *(see notes 2,4,5,7 & 8)*

Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV
√	√	√	√	√	√	√	√
							√
*I, L &M		√					
*I, L &M		√					

VALVE OPTIONS - (As required; list alphabetically separated by dashes, when multiples are ordered)

			Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV
EVI	=	Exhaust Valve with insulation and blocks	√	√	√	√	√	√	√	√
IBO	=	Insulation blocks only, no insulation	√	√	√	√	√	√	√	√
PSL	=	Pressure switch, low limit *(see notes 12, 13 & 22)*	√	√	√	√	√	√	√	√
REI	=	Remote electronics, indoor *(see note 14)*	√	√	√	√	√		Note 15	
REO	=	Remote electronics, outdoor; for pneumatic actuation only *(see note 16)*	*N only				*A only		Note 17	
WRE	=	Weather resistant electronics, outdoor; for electric actuation only *(see note 18)*	I & M	Note 19	Note 19	*E only				
SFB	=	Square flange on both ends of single body valve *(see note 2)*	√	√	√	√	√	√		
SFX	=	Square flange on one end of single body valve: inlet on exhaust; discharge on supply *(see note 2)*	√	√	√	√	√	√		
SFM	=	Scaling function module *(see note 20)*								√
SHA	=	Solenoid-valve, high wattage, 24 Vac; controlled by non-Phoenix device							*B only	
SHD	=	Solenoid-valve, high wattage, 24 Vdc; controlled by FHM530 monitor							*B only	
VPO	=	Valve-mounted power supply, 120 Vac to ±15 Vdc *(see note 21)*							*A only	*B & F
VPT	=	Valve-mounted power supply, 230 Vac to ±15 Vdc *(see note 21)*							*A only	*B & F
RDB	=	Reducer on both ends of cage rack valve *(see note 22)*								√
RDD	=	Reducer on discharge side of cage rack valve (one 6"-to-4" reducer)								√
RDI	=	Reducer on inlet of cage rack valve (one 8"-to-4" reducer)								√
WPC	=	White powder coating on valve and reducers, if present, of cage rack valve								√

*Letters in this chart refer to "Control Type"

VALVE CONTROLLER DESIGNATION

			Celeris	Traccel	Theris	Analog	BxV	PxV	CxV	CVV
N	=	No electronics (Traccel/Theris Tracking Valve or CV)		EXH	EXH CV	√	√	√	√	√
E	=	Celeris/Analog Electronic Controller (Analog without boosters only)	√			√				
E	=	LonMark Electronic valve - Controlling Valve of Tracking Pair		*TP	*TP					
X	=	LonMark Electronic valve - Controlling Valve of Tracking Pair with Expanded Features *(see note 23)*		*TX	*TX					
O	=	LonMark Supply only Valve - No Tracking Pair Ability		*SO	*SO					
A	=	BACnet Electronic Valve - Controlling Valve of Tracking Pair		*TP	*TP					
B	=	BACnet Electronic Valve - Controlling Valve of Tracking Pair with Expanded Features *(see note 23)*		*TX	*TX					
Y	=	BACnet TX-RTN (3 Supply controlling primary exhaust and Return Valve) *(see note 23)*		*TX-RTN	*TX-RTN					
Z	=	BACnet TX-EXH (Supply controlling primary and locally controlled exhaust) *(see note 23)*		*TX-EXH	*TX-EXH					
C	=	BACnet Supply Only Valve - No Tracking Pair Ability		*SO	*SO					
D	=	BACnet Exhaust Only Valve - No Tracking Pair Ability *(see note 23)*		*EO	*EO					
H	=	Hood exhaust valve with pressure switch	Note 11			Notes 12 & 13				
T	=	Two-state controller and high wattage 24 Vdc solenoid valve - No Feedback							√	√
F	=	Flow Feedback in Small Black box							√	
G	=	Two-state controller, flow feedback and high wattage 24 Vdc solenoid valve							√	
P	=	Analog - Associated or standalone valve without pneumatic solenoids; All: for flow feedback function only						Note 12		
S	=	Associated or standalone analog valve without pneumatic solenoids; BxV flow feedback in standard metal enclosure						Note 13	√	
Q	=	Hood exhaust valve with booster valves; includes H/I card with alarm relay output and pressure switch				√				
R	=	Hood exhaust valve with no booster valves; includes H/I card with alarm relay output and pressure switch				√				
I	=	Hood exhaust valve with booster valves; includes H/I card and pressure switch				√				
M	=	Main electronic valve with booster valves				√				

*Letters in this chart refer to "Traccel and Theris Product Models"

NOTES

1. All Supply valves are provided standard with insulation except CVVR Cage Rack Valves.
2. Construction "D" is *ONLY* available in:
   - Single-body valves (Bodies = F or 1). *WITHOUT* square flanges (Options "SFB" or "SFX"). Rectangular plates can be purchased as special products to field assemble two, three or four single-body round-flanged valves into multi-body configurations.
   - Sizes "8", "10", "12" & "14".
   - Design "A" *(NOT* available with Standard (S) or Low Leakage (L) Shutoff)
3. "BXV" 14-inch Pneumatically actuated and Fixed, Field-Adjustable valves are *ONLY* available in single-body units without flow feedback (BxVx114x-ABNxx or BxVx114x-AFNxx)
4. 8-inch Shut-Off Valves (Design = S & L) are available *ONLY* in Construction "A" (uncoated)
5. 14-inch Valves are currently NOT available as Low Leakage Shut-off (Design = L) with Medium Pressure (Range = M).
6. Low Pressure (Range = L), Standard Shut-off (Design = S) valves are *NOT* available in Orientation "U" (vertical upflow)
7. Low Pressure (Range = L), Low Leakage (Design = L) valves are currently *NOT* available in any size.
8. Shut-off and Low Leakage (Design = S & L) valves are *NOT* available with Pneumatic actuation (Control Type = N)
9. Control Type "I" actuators for "Celeris"/"Traccel"/"Theris": are
   - *ONLY* available on Single Body valves (as dual "L" actuators are already IP54)
   - *ONLY* available in Sizes "8", "10" and "12" (as actuators for single "14"-inch are already IP54)
10. Control Type "I" actuators for "BXV": available on Single, Dual, Triple and Quad Body Bodies of all Sizes
11. "Celeris" Hood valves cannot have Low Speed actuators (Control Type = L or I)
12. "Analog" Hood Booster valves with Pneumatic actuators (Control Type = A) must have Controller Designation "P" and a Pressure Switch (Option PSL)
13. "Analog" Hood Booster valves with Electric actuators (Control Type = E) must have Controller Designation "S" and a Pressure Switch (Option PSL)
14. Option "REI": Remote Electronics, Indoor installations *ONLY*. The distance to the valve controller is limited to:
    - 75 feet (22.8 meters) of pneumatic tubing for pneumatic actuators (Control Type = A, B or N)
    - 40 inches (1 meter) of 18 gauge cable for high-speed electric actuators (Control Type = E or M)
    - 150 feet (45.7 meters) of 12 gauge cable for low-speed electric actuators (Control Type = L or I)
15. Option "REI" with "BXV" valves: *MUST* have flow feedback (Controller Designation = F, G or S)
16. Option REO: Remote Electronics, Outdoor installations *ONLY*.
    - Limited to PNEUMATICALLY actuated valves *ONLY* (Control Type = A, B or N).
    - HORIZONTAL orientation *ONLY*
    - Includes: sealed Vpot, small weather-resistant IP34 box mounted on base channel for "others" to connect Vpot cables, and a valve controller in an enclosure that has been disconnected from the base channel and shipped in the same box as the valve.
    - Maximum distance between remote mounted enclosure and valve is 75 feet (22.8 meters) (maximum allowable length of pneumatic tubing).
    - REQUIRES use of a "dog house" enclosure, *provided by others*, to protect valve from the elements and maintain temperature and humidity conditions within Phoenix's specifications.
17. Option "REO" with "BXV" valves: *ONLY* available with Pneumatic actuation (Control Type = B) and *MUST* have flow feedback (Controller Designation = F or S)
18. Option "WRE": Weather Resistant Electronics, outdoor installations.
    - Applies to ELECTRICALLY actuated valves with sufficient IP ratings only (Control = E, I or M *only* for 8, 10, & 12 inch single-body valves; Control = "E", "L" or "M" *only* for multi-body valves and single 14inch).
    - HORIZONTAL orientation *ONLY*
    - Includes: sealed Vpot and large weather-resistant IP66 box mounted on base channel that houses the controller and all electric connections to/from it.
    - When used in Low-Speed Electric applications for "8", "10", & "12" inch Single-body valves, WRE *must ALSO* be ordered with Control Type "I" (IP54 actuator) in place of the standard Control Type "L".
    - When used in High-Speed Electric applications, standard actuators are sufficient (Control Type = E or M) since they are IP56 actuators
    - REQUIRES use of a "dog house" enclosure, *provided by others*, to protect valve from the elements and maintain temperature and humidity conditions within Phoenix's specifications.
19. Option "WRE" with "Traccel" and "Theris" valves: limited to LonMark product (Valve Controller Designation = E, O or X) *ONLY*; currently *NOT* available for **tracking valves** or BACnet product (Valve Controller Designation = A, B, C, D or N).
20. Option "SFM": *ONLY* available with Controller Designations "E" & "M" (fully electronic controllers with no other top cards)
21. Options "VPO" and "VPT": are
    - Limited to Control Types "A", "B" and "F" *ONLY*
    - *NOT* available in conjunction with Options: "REI", "REO", & "WRE".
22. Option "RDB": is required when a pressure switch (Option PSL) is ordered on a Cage Rack Valve.
23. Shut of valve design (S&L) is *ONLY* available on Controller Designations X, B, D, Y, Z, and Celeris E & H.