





Technical Data	
Service	chilled or hot water, up to 60% glycol max
	(open loop/steam not allowed)
Flow Characteristic	equal percentage or linear
Size [mm]	0.75" [20]
End Fitting	NPT female ends
Body	forged brass, nickel plated
Sensor Housing	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Seat O-ring	EPDM
Characterized Disc	TEFZEL® or stainless steel
Body Pressure Rating [psi]	360
Media Temperature Range	14°F to 250°F [-10°C to 120°C]
(Water)	
Differential Pressure Range	5 to 50 psid, 1 to 50 psid (with flow
	reduction. See chart.), or 8 to 50 psid (with flow increase. See chart.)
Close-Off Pressure	200 psi
Inlet Length to Meet Specified	5X nominal pipe size (NPS)
Measurement Accuracy	
Ambient Humidity	<95% RH non-condensing
Flow Measurement Tolerance	±2%*
Flow Control Tolerance	±5%
Flow Measurement Repeatability	±0.5%
Sensor Technology	ultrasonic with glycol and temperature
	compensation
Rangeability	100:1
Power Supply for the Flow Sensor	sensor is powered by the actuator
Weight	4 lb [1.8 kg]
GPM	10.3
Leakage	0%

#### Application

Water-side control of heating and cooling systems for AHUs and water coils. Equal Percentage/ Linear: heating and cooling applications.

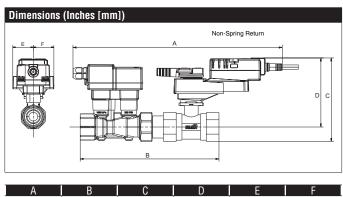
### Operation

The Electronic Pressure Independent Control Valve is a two-way valve that maintains constant flow regardless of pressure variations in the system.

#### **Product Features**

Provides constant flow regardless of pressure variations in the system. Maximizes chiller P, preventing energizing additional chillers due to low T. Simplified valve sizing and selection, no Cv calculations required.

Suitable Actuators				
	Non-Spring	Electronic Fail-Safe		
P2075S-103	LR	AKRX		



А	В	С	D	E	F
14.83"	8" [203]	5.57" [141]	4.92" [125]	1.55	" [39]
[377]					

\*All flow tolerances are at 68°F (20°C) & water.



[422]

Dimensions (Inches [mm])		
		Electronic Fail-Safe
	-	
loi		
		в
A	B	
16.63"	8" [203]	8.11" [195] 7.06" [179] 1.89" [48]
[422]		





Power Supply24 VAC ± 20%, 50/60 Hz, 24 VDC ± 10%Power Consumption Running3.5 WTransformer Sizing6 VA (class 2 power source)Electrical Connection3ft [1m], 18 GA plenum cable with 1/2" conduit connectorOverload Protectionelectronic thoughout 0° to 90° rotationOperating Range Y2 to 10 VDC (default) VDC variableInput Impedance100 kΩ (0.1 mA), 500 ΩFeedback Output U2 to 10 VDC (default) VDC variableAngle of Rotation90°Torque45 in-Ibs [5 Nm] minimumDirection of Rotation (Motor)reversible with pc toolPosition Indicationintegrated into handleManual Overrideexternal push buttonRunning Time (Motor)90 secAmbient Humidity5 to 95% RH non condensing (EN 60730-1)Ambient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]HousingNEMA 2, IP54Housing MaterialUL94-5VAAgency Listings†CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001Weizet4 for Zep1	Technical Data	
Transformer Sizing6 VA (class 2 power source)Electrical Connection3ft [1m], 18 GA plenum cable with 1/2" conduit connectorOverload Protectionelectronic thoughout 0° to 90° rotationOperating Range Y2 to 10 VDC (default) VDC variableInput Impedance100 kΩ (0.1 mA), 500 ΩFeedback Output U2 to 10 VDC (default) VDC variableAngle of Rotation90°Torque45 in-lbs [5 Nm] minimumDirection of Rotation (Motor)reversible with pc toolPosition Indicationintegrated into handleManual Overrideexternal push buttonRunning Time (Motor)90 secAmbient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]Housing MaterialUL94-5VAAgency Listings†CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001	Power Supply	24 VAC ± 20%, 50/60 Hz, 24 VDC ± 10%
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connectorOverload Protectionelectronic thoughout 0° to 90° rotationOperating Range Y2 to 10 VDC (default) VDC variableInput Impedance100 kΩ (0.1 mA), 500 ΩFeedback Output U2 to 10 VDC (default) VDC variableAngle of Rotation90°Torque45 in-lbs [5 Nm] minimumDirection of Rotation (Motor)reversible with pc toolPosition Indicationintegrated into handleManual Overrideexternal push buttonRunning Time (Motor)90 secAmbient Humidity5 to 95% RH non condensing (EN 60730-1)Ambient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]HousingNEMA 2, IP54Housing MaterialUL94-5VAAgency Listings†cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001	Transformer Sizing	6 VA (class 2 power source)
$\begin{array}{ c c c c c } \hline Operating Range Y & 2 to 10 VDC (default) VDC variable \\ \hline Input Impedance & 100 k\Omega (0.1 mA), 500 \Omega \\ \hline Feedback Output U & 2 to 10 VDC (default) VDC variable \\ \hline Angle of Rotation & 90° \\ \hline Torque & 45 in-lbs [5 Nm] minimum \\ \hline Direction of Rotation (Motor) & reversible with pc tool \\ \hline Position Indication & integrated into handle \\ \hline Manual Override & external push button \\ \hline Running Time (Motor) & 90 sec \\ \hline Ambient Humidity & 5 to 95% RH non condensing (EN 60730-1) \\ \hline Ambient Temperature Range & -22°F to 122°F [-30°C to 50°C] \\ \hline Storage Temperature Range & -40°F to 176°F [-40°C to 80°C] \\ \hline Housing & NEMA 2, IP54 \\ \hline Housing Material & UL94-5VA \\ \hline Agency Listings† & CULus acc. to UL60730-1A/-2-14, CAN/CSA \\ E 60730-1:02, CE acc. to 2004/108/EC and \\ 2006/95/EC \\ \hline Noise Level (Motor) & max. 35 dB (A) \\ \hline Servicing & maintenance free \\ \hline Quality Standard & ISO 9001 \\ \hline \end{array}$	Electrical Connection	connector
Input Impedance100 kΩ (0.1 mA), 500 ΩFeedback Output U2 to 10 VDC (default) VDC variableAngle of Rotation90°Torque45 in-Ibs [5 Nm] minimumDirection of Rotation (Motor)reversible with pc toolPosition Indicationintegrated into handleManual Overrideexternal push buttonRunning Time (Motor)90 secAmbient Humidity5 to 95% RH non condensing (EN 60730-1)Ambient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]HousingNEMA 2, IP54Housing MaterialUL94-5VAAgency Listings†cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001	Overload Protection	electronic thoughout 0° to 90° rotation
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Torque45 in-Ibs [5 Nm] minimumDirection of Rotation (Motor)reversible with pc toolPosition Indicationintegrated into handleManual Overrideexternal push buttonRunning Time (Motor)90 secAmbient Humidity5 to 95% RH non condensing (EN 60730-1)Ambient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]HousingNEMA 2, IP54Housing MaterialUL94-5VAAgency Listings†cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001	Feedback Output U	2 to 10 VDC (default) VDC variable
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Position Indicationintegrated into handleManual Overrideexternal push buttonRunning Time (Motor)90 secAmbient Humidity5 to 95% RH non condensing (EN 60730-1)Ambient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]HousingNEMA 2, IP54Housing MaterialUL94-5VAAgency Listings†cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001	Torque	45 in-lbs [5 Nm] minimum
Manual Overrideexternal push buttonRunning Time (Motor)90 secAmbient Humidity5 to 95% RH non condensing (EN 60730-1)Ambient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]HousingNEMA 2, IP54Housing MaterialUL94-5VAAgency Listings†cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001	Direction of Rotation (Motor)	reversible with pc tool
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Ambient Humidity5 to 95% RH non condensing (EN 60730-1)Ambient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]HousingNEMA 2, IP54Housing MaterialUL94-5VAAgency Listings†cULus acc. to UL60730-1A/-2-14, CAN/CSAE60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001	Manual Override	external push button
Ambient Temperature Range-22°F to 122°F [-30°C to 50°C]Storage Temperature Range-40°F to 176°F [-40°C to 80°C]HousingNEMA 2, IP54Housing MaterialUL94-5VAAgency Listings†cULus acc. to UL60730-1A/-2-14, CAN/CSAE60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC2006/95/ECNoise Level (Motor)max. 35 dB (A)Servicingmaintenance freeQuality StandardISO 9001		
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E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC   Noise Level (Motor) max. 35 dB (A)   Servicing maintenance free   Quality Standard ISO 9001	Housing Material	
Servicing     maintenance free       Quality Standard     ISO 9001	Agency Listings†	E60730-1:02, CE acc. to 2004/108/EC and
Quality Standard ISO 9001	Noise Level (Motor)	max. 35 dB (A)
	-	maintenance free
	Quality Standard	ISO 9001
weight 1.5 ID [U.7 Kg]	Weight	1.5 lb [0.7 kg]

 $\ensuremath{\mathsf{TRated}}$  Impulse Voltage 800V, Type action 1.B , Control Pollution Degree 3.



#### Wiring Diagrams

/2

 $\sqrt{3}$ 

4

/16

21

# 🔀 INSTALLATION NOTES

Provide overload protection and disconnect as required.

Actuators may be connected in parallel. Power consumption and input impedance must be observed.

Actuators may also be powered by 24 VDC.

Actuators are provided with color coded wires. Wire numbers are provided for reference.

Actuators are provided with a numbered screw terminal strip instead of a cable.

IN4004 or IN4007 diode required

Meets cULus requirements without the need of an electrical ground connection.

## WARNING! LIVE ELECTRICAL COMPONENTS!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

