SIEMENS

Technical Instructions
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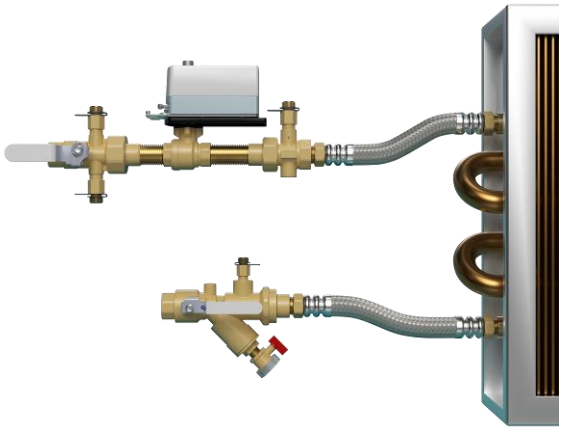
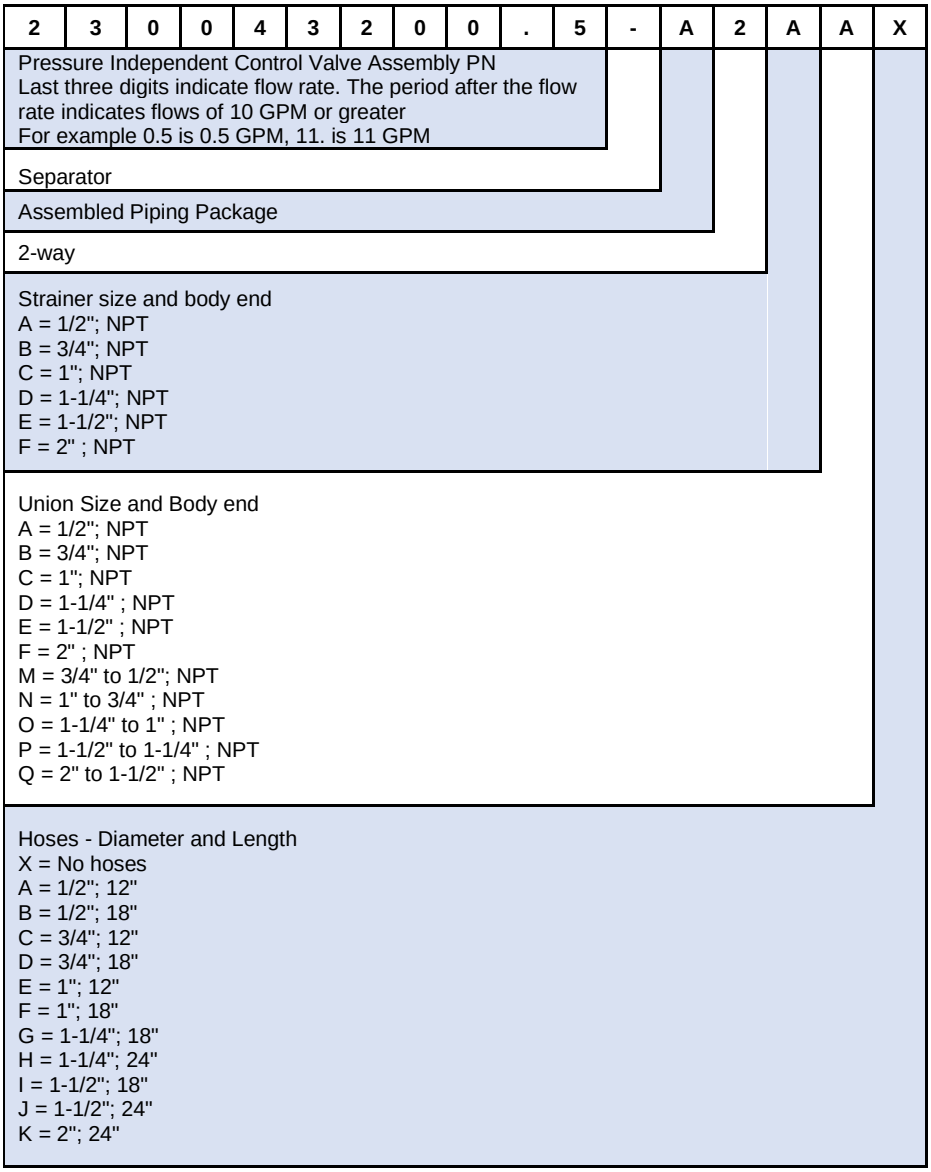
Pressure Independent Control Valves (PICV) Piping Packages



Description	Siemens Piping Packages are a streamlined solution that reduces several connections throughout the piping system resulting in less chance for error, ease of installation and simplified commissioning. These piping packages are shipped assembled from the factory and are available in sizes 1/2 to 2 inches. Piping package assemblies are shrink-wrapped and tagged for easy job distribution. Stainless Steel flex hoses are provided as additional accessories. Piping package assemblies with flex hoses will be zip tied together and delivered to the job site.
Features	• Pre-assembled at factory • Tagged for easy job distribution • Leak tested after assembly to ensure zero leakage • 20 mesh strainer to remove dirt and impurities • Air-vent to purge air in the coil • Manual isolation valve provides 200 psi close-off • Stainless steel flex hoses available in different lengths • Shrink wrapped to eliminate damage during transportation
Application	Piping packages make it easy to connect your HVAC system piping to typical terminal applications such as VAV units, fan coils, unit ventilators, air handling units and reheat coils
Product Numbers	See Table 1.

Table 1. Product Numbers

Use the product numbers in the table below to order the valve and the actuator assembled. The product number consists of the PICV assembly and flow rate followed by a hyphen. The five digits after the hyphen signify the size and end connections of the strainer, and union valve respectively. The last digit always signifies the diameter and length of the stainless-steel flex hose. For control valve sizing and selection and configuring the piping package assembly electronically, go to usa.siemens.com/hit



In the above example, the PICV assembly is **230-04320-0.5** with a factory pre-set flowrate of 0.5 GPM. The assembly consists of a 1/2” NPT Strainer, 1/2" NPT union valve, and no stainless-steel hoses.

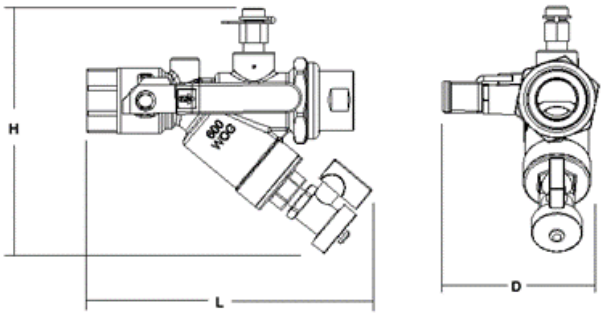
Specifications

Each piping package assembly consists of the following components along with the Siemens Pressure Independent Control Valve (ATC):

Y-Strainer

The Y-strainer is installed on the supply side, upstream of the coil.

Sizes:	1/2” to 2”
PSI/Temperature Rating:	
1/2" to 1-1/2":	600 WOG 400 PSI/250º F
2":	400 WOG 275 PSI/250º F
Body Material:	
1/2" to 1-1/2":	Forged Brass ASTM B283-06
2":	Cast brass
End Connections:	NPT
Ball Valve Seals:	Teflon
Union Seal:	EPDM O-Ring
Isolation Ball Valve:	Nickel-plated brass ball
Strainer:	20 mesh stainless steel
P/T Port:	1/4” Combination P/T test valve and manual air vent
Drain Valve:	Rated 275 Psi/250°F. Brass housing, nickel-plated ball. 3/4” NPSH hose connection
Dimensions:	Below



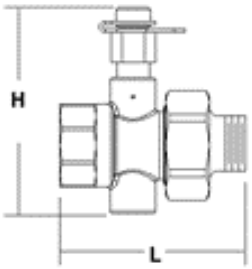
1/2- to 2-inch Strainer Dimensions in Inches(mm)

Size	L Length	D Depth	H Height
0.5 (15)	5 (127)	3 (76)	5 (127)
0.75 (20)	6 (152)	3 (76)	5 (127)
1 (25)	8 (203)	4 (102)	6 (152)
1.25 (32)	9 (229)	5 (127)	7 (178)
1.5 (40)	9 (229)	5 (127)	7 (178)
2 (50)	13 (330)	6 (152)	8 (203)

Union with Air Vent

The union with air vent is installed on the return side upstream of the Siemens PICV.

Sizes:	1/2” to 2”
PSI/Temperature Rating:	400 PSI/250°F
Body Material:	Forged Brass ASTM B283-06
End Connections:	NPT
Ball Valve Seals:	Teflon
Union Seal:	EPDM O-Ring
P/T port:	1/4” Combination P/T test valve and manual air vent
Dimensions	See below



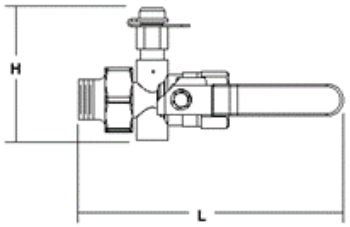
1/2- to 2-inch Union Dimensions in Inches(mm)

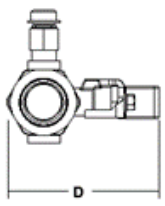
Size	L Length	D Depth	H Height
0.5 (15)	3 (76)	2 (51)	3 (76)
0.75 (20)	3 (76)	2 (51)	3 (76)
1 (25)	4 (102)	2 (51)	3 (76)
1.25 (32)	4 (102)	3 (76)	4 (102)
1.5 (40)	5 (127)	3 (76)	4 (102)
2 (50)	5 (127)	4 (102)	4 (102)

Isolation Valve

The isolation valve is installed on the return side downstream of the Siemens PICV.

Sizes:	1/2” to 2”
PSI/Temperature Rating:	600 WOG 400 PSI/250°F
Body Material:	Forged Brass ASTM B283-06
End Connections:	NPT
Ball Valve Seals:	Teflon
Union Seal:	EPDM O-Ring
P/T port:	1/4” Combination P/T test valve and manual air vent
Dimensions	See below





1/2- to 2-inch Isolation Valve Dimensions in Inches (mm)

Size	L Length	D Depth	H Height
0.5 (15)	4 (102)	3 (76)	3 (76)
0.75 (20)	5 (127)	3 (76)	3 (76)
1 (25)	8 (203)	4 (102)	3 (76)
1.25 (32)	9 (229)	5 (127)	4 (102)
1.5 (40)	10 (254)	6 (152)	4 (102)
2 (50)	11 (279)	6 (152)	5 (127)

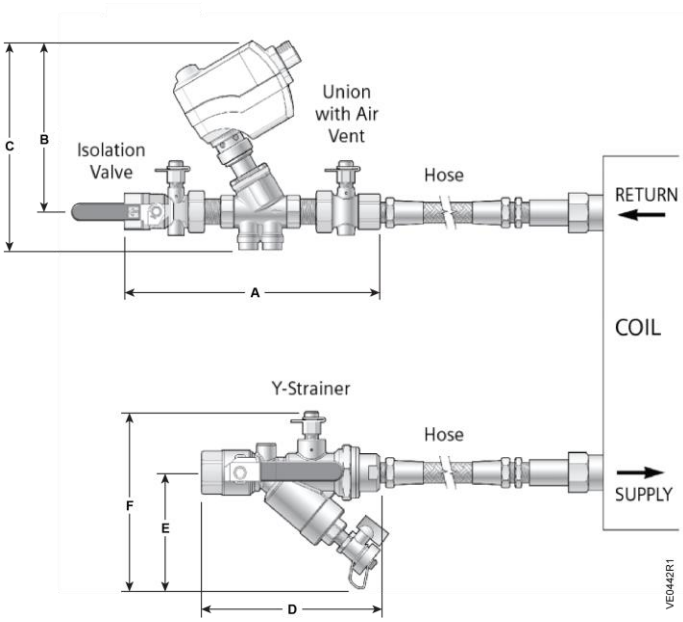
Specifications, continued

Flex Hoses

Stainless Steel flex hoses are braided with 304 stainless-steel. They are designed for most common operating conditions in HVAC applications. Different hose lengths are provided based on the application requirements.

Size and lengths available:	
1/2” to 1” diameter:	12” and 18” length
1-1/4” to 1-1/2” diameter:	18” and 24” length
2” diameter:	24” length
Operating Temperature Range:	-40ºF to 260ºF
PSI/Temperature Rating at 77 ºF:	1/2": 500 PSI, 3/4": 450 PSI, 1": 400 PSI, 1-1/4" to 2": 300 PSI
Burst Pressure:	1/2": 1740 PSI, 3/4": 1600 PSI 1": 1400 PSI,1-1/4"to 2": 900 PSI
Hose Material:	EPDM polymer vulcanized by peroxide, wrapped with 304 stainless steel braid. EPDM polymer is fire retardant and meets requirements of UL-94 V0 testing.
Ferrule (Crimp) Material:	Double crimped stainless steel
End Connections:	Brass
Bend Radius:	1/2": 2", 3/4": 4", 1": 5", 1-1/4": 6.5", 1-1/2": 9", 2": 12"
Swivel Nut Connection:	1/2" - 1": Cone Seat Gasketless Dry Seal 1-1/4" - 2": Flat Seat with EPDM Gasket Dry Seal

Dimensions



1/2- to 1-1/4-Inch Normally Open PICV - Dimensions in Inches (mm)								
Valve Size	Connection Line Size	Actuator	Return			Supply		
			A *	B	C	D *	E	F
0.50 (15)	0.50 (15)	SSD…U	11 (280)	6 (152)	8 (203)	5 (127)	3 (76)	5 (127)
	0.75 (20)		12 (305)			7 (178)		
0.75 (20)	0.75 (20)							
	1.00 (25)		16 (406)			8 (203)	4 (102)	6 (152)
1.00 (25)	1.00 (25)		17 (432)	7 (178)	9 (229)			
	1.25 (32)		18 (457)			10 (254)	3 (76)	
1.25 (32)	1.25 (32)							
	1.50 (40)		19 (483)					
0.50 (15)	0.50 (15)	SSD….5U	11 (280)	6 (152)	9 (229)	5 (127)	3 (76)	5 (127)
	0.75 (20)		12 (305)			7 (178)		
0.75 (20)	0.75 (20)		12 (305)	7 (178)				
	1.00 (25)		16 (406)			8 (203)	4 (102)	6 (152)
1.00 (25)	1.00 (25)		17 (432)		10 (254)			
	1.25 (32)		18 (457)			10 (254)	3 (76)	
1.25 (32)	1.25 (32)		18 (457)					
	1.50 (40)		19 (483)					

* If hoses are used, add the length of the hose to the total length.

Dimensions, continued

1/2- to 1-1/4-Inch Normally Closed PICV - Dimensions in Inches (mm)								
Valve Size	Connection Line Size	Actuator	Return			Supply		
			A *	B	C	D *	E	F
0.50 (15)	0.50 (15)	SSD…U	12 (305)	6 (152)	9 (229)	5 (127)	3 (76)	5 (127)
	0.75 (20)					7 (178)		
0.75 (20)	0.75 (20)							
	1.00 (25)		16 (406)			8 (203)	4 (102)	6 (152)
1.00 (25)	1.00 (25)							
	1.25 (32)		18 (457)			10 (254)	3 (76)	
1.25 (32)	1.25 (32)		19 (483)	7 (178)				
	1.50 (40)		20 (508)					
0.50 (15)	0.50 (15)	SSD….5U	12 (305)	7 (178)	9 (229)	5 (127)	3 (76)	5 (127)
	0.75 (20)		12 (305)			7 (178)		
0.75 (20)	0.75 (20)		12 (305)					
	1.00 (25)		16. (406)			8 (203)	4 (102)	6 (152)
1.00 (25)	1.00 (25)		16 (406)					
	1.25 (32)		18 (457)			10 (254)	3 (76)	
1.25 (32)	1.25 (32)		19 (483)		10 (254)			
	1.50 (40)		20 (508)					

1-1/2 and 2-Inch PICV - Dimensions in Inches (mm)								
Valve Size	Connection Line Size	Actuator	Return			Supply		
			A *	B	C	D *	E	F
1.50 (40)	1.50 (40)	SAY	21 (533)	15 (381)	18 (457)	10 (254)	3 (76)	6 (152)
1.50 (40)	2.00 (50)		22 (559)			13 (330)	4 (102)	
2.00 (50)	2.00 (50)							
1.50 (40)	1.50 (40)	R&P	21 (533)	15 (381)	18 (457)	10 (254)	3 (76)	6 (152)
1.50 (40)	2.00 (50)		22 (559)			13 (330)	4 (102)	
2.00 (50)	2.00 (50)							

* If hoses are used, add the length of the hose to the total length.

Disposal

The actuators are considered electrical and electronic equipment for disposal in terms of the applicable European Directive and may not be disposed of as domestic garbage.

- Dispose of the actuators through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

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