

# True Union Solenoid Valves - NPD Design

1/4" to 1" - PVC, Corzan<sup>®</sup> CPVC



## No Pressure Differential Design

For maximum application flexibility these heavy duty solenoid valves have been designed so that no pressure differential is needed for them to operate reliably. Their unique design eliminates problems such as sticking and “chattering”, due to system pressure differentials, that can effect ordinary solenoid valves. And their performance is not effected by downstream restrictions caused by nozzles, flow meters or other equipment, a real benefit in these types of applications. The valves will operate with up to 40 psi of back-pressure and up to 120 psi of inlet pressure. There are no minimum pressure requirements.

## Corrosion Resistant

Hayward Plastic Solenoid Valves are designed for process systems requiring an instant on/off, corrosion-resistant or non-contaminating actuated valve.

## Normally Closed Operation

When electric power is applied to the solenoid, the electromagnetic coil is energized, opening the valve. When the coil is de-energized, the valve closes.

## Innovative Coil Design

Unique in design, the valve coil rectifies AC current to DC current – resulting in lower coil operating temperatures than other plastic solenoid valves. This permits the coil to be rated for 100% continuous duty applications. Thus the valve can be left in the open position indefinitely or it can be cycled continuously with no coil damage.

## Unique Seal Cartridge

Hayward Solenoid Valves feature an easy to replace seal cartridge. No fumbling with small parts and o-rings to replace worn seals. Just install the one-piece cartridge; it contains the plunger assembly and all the seals – and the valve is ready to be put back into service.

## Corrosion Resistant Coil

The powerful coil assembly and electronics are completely encapsulated in a molded polyester housing, resistant to the harsh corrosive environments to which solenoid valves are often exposed.

ELECTRIC ACTUATION & OPTIONS

## Features

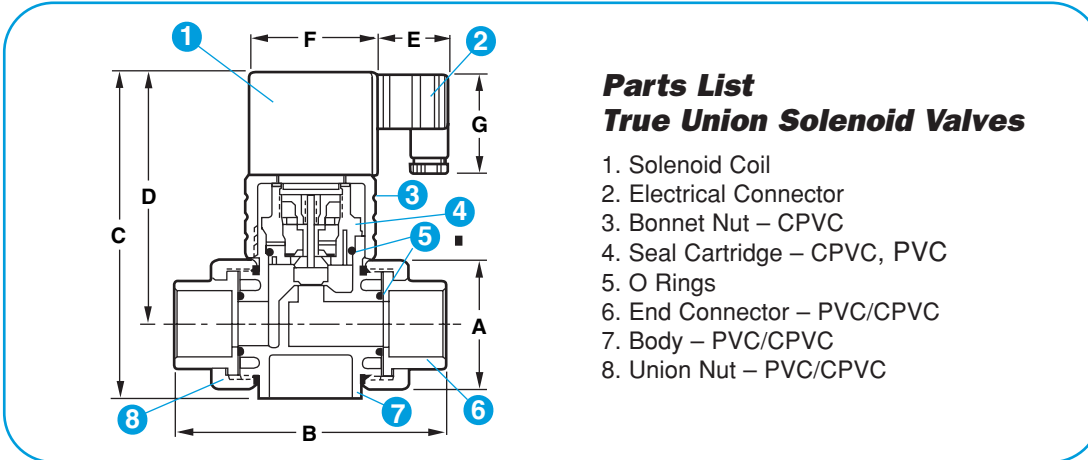
- Continuous 100% Duty
- Multi-Position Electric Connections
- Polyester Coil
- 110 VAC Standard
- Corrosion Resistant
- Built-In 1/2" Conduit or S-J Type Cord Electric Connections
- FPM or EPDM Seals

## Options

- Voltages: 12 VAC/VDC, 24 VAC/VDC, 220 VAC

Corzan<sup>®</sup> is a trademark of Noveon, Inc.

# Technical Information



## Parts List True Union Solenoid Valves

1. Solenoid Coil
2. Electrical Connector
3. Bonnet Nut – CPVC
4. Seal Cartridge – CPVC, PVC
5. O Rings
6. End Connector – PVC/CPVC
7. Body – PVC/CPVC
8. Union Nut – PVC/CPVC

## Dimensions - Inches / Millimeters

Size	A	B	C	D	E	F	G	Weight (lb / kg)
1/4	2.25 / 57	5.30 / 135	6.30 / 160	4.60 / 117	1.60 / 41	2.60 / 66	2.00 / 51	2.79 / 1.3
1/2 / 20*	2.25 / 57	5.30 / 135	6.30 / 160	4.60 / 117	1.60 / 41	2.60 / 66	2.00 / 51	2.81 / 1.3
3/4 / 25*	2.63 / 67	5.50 / 140	6.60 / 168	5.10 / 130	1.60 / 41	2.60 / 66	2.00 / 51	3.01 / 1.4
1 / 32*	2.63 / 67	5.50 / 140	6.60 / 168	5.10 / 130	1.60 / 41	2.60 / 66	2.00 / 51	3.03 / 1.4

\* Metric End Connections Available in: BSP – Straight Thread, BSP TR – Tapered Thread and Metric Socket

## Operating Parameters

For optimum valve performance, inlet pressure must not exceed 120 psi. Flow rate should not exceed 5 feet per second.

### Cv Factors

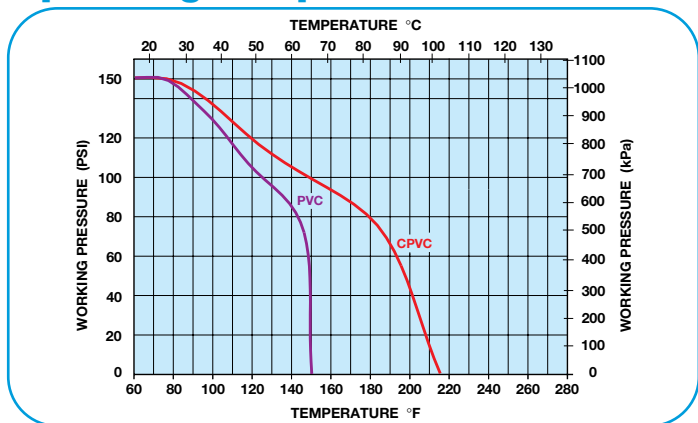
Size	Factor	Size	Factor
1/4"	1.3	3/4"	3.2
1/2"	2.3	1"	3.8

### Pressure Loss Calculation Formula

$$\Delta P = \left[ \frac{Q}{Cv} \right]^2$$

$\Delta P$  = Pressure Drop  
 $Q$  = Flow in GPM  
 $Cv$  = Flow Coefficient

## Operating Temperatures/Pressures



## Selection Chart

Size	Material	End Conn.	Liner & Seals	Pressure Rating	Coil Rating
1/4", 1/2" 3/4", 1"	PVC*, CPVC	Socket, Threaded, or Flanged	FPM, EPDM	150 PSI @ 70F Non-Shock 120 PSI Max Inlet Pressure	1.6 Amp @120 VAC

\*1/4" not available in PVC

**HAYWARD**



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