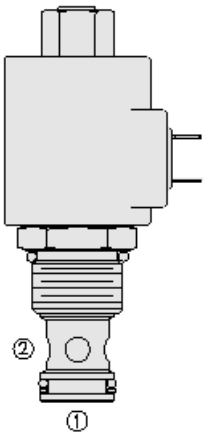




## Overview



### Description

A solenoid-operated, 2 way, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

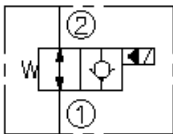
### Operation

When de-energized, the SV12-23X allows bidirectional flow. When energized, the valve poppet closes to block flow from port 2 to port 1. In this mode, the cartridge allows free reverse flow from port 1 to port 2 after overcoming the solenoid force (requires 50 to 150 psi [3,4 to 10,3 bar]).

### Features

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Cost-effective cavity.

### Symbol



## Ratings

### Pressure Ratings

|                 |                       |
|-----------------|-----------------------|
| Pressure rating | 240 bar (3500 psi)    |
| Proof pressure  | 344.7 bar (5000 psi)  |
| Burst pressure  | 779.1 bar (11300 psi) |

### Flow Ratings

|                          |                                      |                                          |
|--------------------------|--------------------------------------|------------------------------------------|
| Flow rating              | <b>- Note:</b> See performance chart |                                          |
| Maximum internal leakage | 7 drops/min                          | <b>- Note:</b> Max at 240 bar (3500 psi) |

### Temperature Ratings

|                             |                               |                                        |
|-----------------------------|-------------------------------|----------------------------------------|
| Operating fluid temperature | -40 to 100 °C (-40 to 212 °F) | <b>- Note:</b> With buna N seals       |
|                             | -26 to 204 °C (-15 to 400 °F) | <b>- Note:</b> With fluorocarbon seals |
|                             | -54 to 107 °C (-65 to 225 °F) | <b>- Note:</b> With polyurethane seals |
| Storage temperature         | -40 to 70 °C (-40 to 160 °F)  |                                        |
| Ambient temperature         | -40 to 70 °C (-40 to 160 °F)  |                                        |

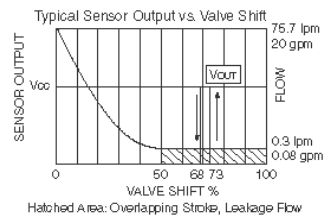
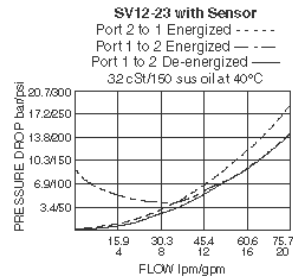
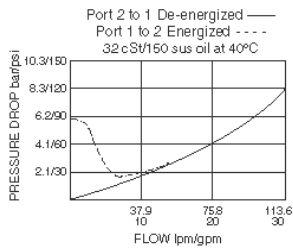
## Operating Parameters

|                                       |                                                                        |  |
|---------------------------------------|------------------------------------------------------------------------|--|
| Fluids                                | Mineral based or synthetic hydraulic fluid with lubricating properties |  |
| Fluid viscosity range                 | 7.4 to 420 cSt                                                         |  |
| Maximum operating contamination level | 20/18/14 per ISO 4406                                                  |  |

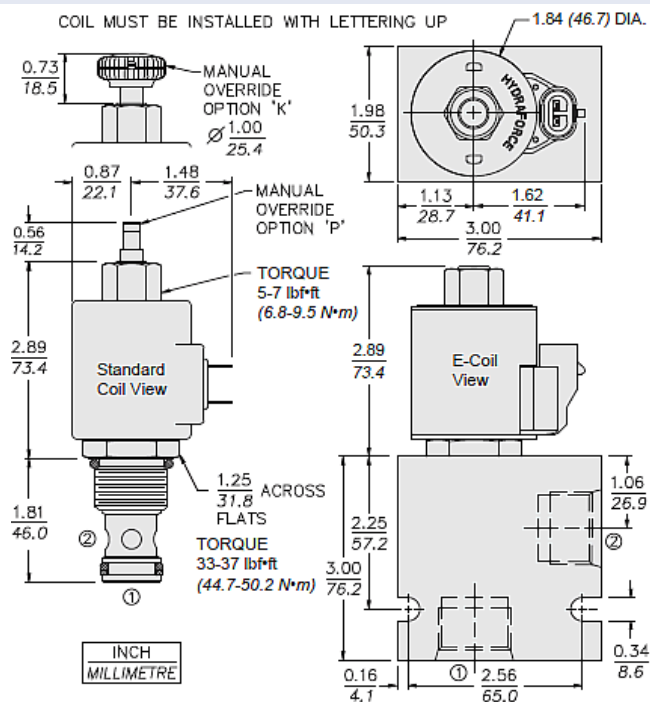
## Properties

|                              |                                             |                           |
|------------------------------|---------------------------------------------|---------------------------|
| Unit weight                  | 0.25 kg (0.55 lb)                           | <b>- Note:</b> Std. valve |
| Internal wetted surface area | 188 cm <sup>2</sup> (29.1 in <sup>2</sup> ) |                           |

## Performance



## Dimensions



## Installation Specifications

|                               |                                   |
|-------------------------------|-----------------------------------|
| Cavity                        | VC12-2                            |
| Cartridge installation torque | 44.8 to 50.2 N-m (33 to 37 ft-lb) |
| Maximum allowable torque      | 102 N-m (75 ft-lb)                |
| Coil nut torque               | 6.8 to 9.5 N-m (5 to 7 ft-lb)     |
| Orientation restriction       | None                              |



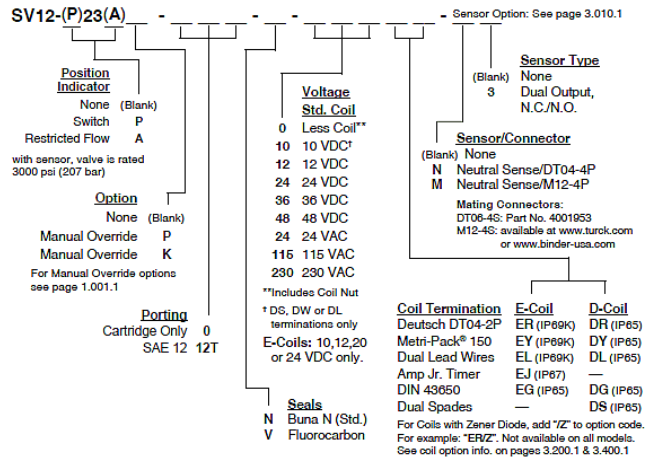
## Accessories

Seal kit

SK12-2X-T

- **Note:** (x = n, v, P seal option), SK12-2U-O (u seal option)

## Order Code



## Model Options

## SV12-A23AE-H-J-L-M

## A Position Sensor Option

| CODE | DESCRIPTION                                    |
|------|------------------------------------------------|
| 23   | Standard                                       |
| P23A | Position Indicator Switch with Restricted Flow |

## E Manual Override

| CODE  | DESCRIPTION                     |
|-------|---------------------------------|
| BLANK | NONE                            |
| K     | Momentary Push Override, Knob   |
| P     | Momentary Push Override, Button |

## H Line Body

| CODE | DESCRIPTION              |
|------|--------------------------|
| 0    | No Body                  |
| 10T  | Aluminum SAE 10          |
| 12T  | Aluminum SAE 12          |
| 16T  | Aluminum SAE 16          |
| 12TD | Ductile Iron SAE 12      |
| 16TD | Ductile Iron SAE 16      |
| 8B   | Aluminum BSPP 1" (8)     |
| 8BD  | Ductile Iron BSPP 1" (8) |

## J Seal

| CODE | DESCRIPTION   |
|------|---------------|
| N    | Buna-N        |
| V    | Fluorocarbon  |
| P    | Polyurethane  |
| U    | PPDI Urethane |

## L Coil



| CODE     | DESCRIPTION                                                     |
|----------|-----------------------------------------------------------------|
| 0        | No Coil                                                         |
| 10DG     | 10 VDC, D-Coil, DIN 43650                                       |
| 10DL     | 10 VDC, D-Coil, Dual Lead Wires                                 |
| 10DR/D   | 10 VDC, D-Coil, Deutsch with Diode                              |
| 10DS     | 10 VDC, D-Coil, Dual Spade                                      |
| 10EL     | 10 VDC, E-Coil, Dual Lead Wires                                 |
| 10ER     | 10 VDC, E-Coil, Deutsch                                         |
| 10ER/Z   | 10 VDC, E-Coil, Deutsch with Zener Diode                        |
| 12DG     | 12 VDC, D-Coil, DIN 43650                                       |
| 12DL     | 12 VDC, D-Coil, Dual Lead Wires, 18 inches long                 |
| 12DL/36  | 12 VDC, D-Coil, Dual Lead Wires, 36 inches long                 |
| 12DL/W   | 12 VDC, D-Coil, Dual Lead Wires with Weatherpak                 |
| 12DL/W/D | 12 VDC, D-Coil, Dual Lead Wires with Weatherpak with Diode      |
| 12DR     | 12 VDC, D-Coil, Deutsch                                         |
| 12DR/D   | 12 VDC, D-Coil, Deutsch with Diode                              |
| 12DR/Z   | 12 VDC, D-Coil, Deutsch with Zener Diode                        |
| 12DS     | 12 VDC, D-Coil, Dual Spade                                      |
| 12EG     | 12 VDC, E-Coil, DIN 43650                                       |
| 12EJ     | 12 VDC, E-Coil, AMP Jr.                                         |
| 12EL     | 12 VDC, E-Coil, Dual Lead Wires, 18 inches long                 |
| 12EL/36  | 12 VDC, E-Coil, Dual Lead Wires, 36 inches long                 |
| 12EL/W/Z | 12 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode |
| 12EL/Z   | 12 VDC, E-Coil, Dual Lead Wires with Zener Diode                |
| 12ER     | 12 VDC, E-Coil, Deutsch                                         |
| 12ER/Z   | 12 VDC, E-Coil, Deutsch with Zener Diode                        |
| 12EY     | 12 VDC, E-Coil, Metri-Pack 150                                  |
| 12EY/Z   | 12 VDC, E-Coil, Metri-Pack 150 with Zener Diode                 |
| 20DR/D   | 20 VDC, D-Coil, Deutsch with Diode                              |
| 20DS     | 20 VDC, D-Coil, Dual Spade                                      |
| 20ER     | 20 VDC, E-Coil, Deutsch                                         |
| 24AG     | 24 VDC, D-Coil, DIN 43650                                       |
| 24AP     | 24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires                |
| 24DG     | 24 VDC, D-Coil, DIN 43650                                       |
| 24DL     | 24 VDC, D-Coil, Dual Lead Wires                                 |
| 24DL/W   | 24 VDC, D-Coil, Dual Lead Wires with Weatherpak                 |
| 24DL/W/D | 24 VDC, D-Coil, Dual Lead Wires with Weatherpak with Diode      |
| 24DP     | 24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires                |
| 24DR     | 24 VDC, D-Coil, Deutsch                                         |
| 24DR/D   | 24 VDC, D-Coil, Deutsch with Diode                              |
| 24DS     | 24 VDC, D-Coil, Dual Spade                                      |
| 24EG     | 24 VDC, E-Coil, DIN 43650                                       |
| 24EJ     | 24 VDC, E-Coil, AMP Jr.                                         |
| 24EL     | 24 VDC, E-Coil, Dual Lead Wires, 18 inches long                 |



| CODE     | DESCRIPTION                                                     |
|----------|-----------------------------------------------------------------|
| 24EL/36  | 24 VDC, E-Coil, Dual Lead Wires, 36 inches long                 |
| 24EL/W/Z | 24 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode |
| 24ER     | 24 VDC, E-Coil, Deutsch                                         |
| 24ER/Z   | 24 VDC, E-Coil, Deutsch with Zener Diode                        |
| 24EY     | 24 VDC, E-Coil, Metri-Pack 150                                  |
| 24EY/Z   | 24 VDC, E-Coil, Metri-Pack 150 with Zener Diode                 |
| 36DS     | 36 VDC, D-Coil, Dual Spade                                      |
| 115AG    | 115 VAC, D-Coil, DIN 43650                                      |
| 115AP    | 115 VAC, D-Coil, 1/2" Conduit and Dual Lead Wires               |
| 230AG    | 230 VAC, D-Coil, DIN 43650                                      |
| 230AP    | 230 VAC, D-Coil, 1/2" Conduit and Dual Lead Wires               |

### M Position Sensor Termination

| CODE  | DESCRIPTION                               |
|-------|-------------------------------------------|
| BLANK | No Position Sensor                        |
| M3    | Neutral Sense, M12-4P, Dual Output NC/NO  |
| N3    | Neutral Sense, DT04-4P, Dual Output NC/NO |