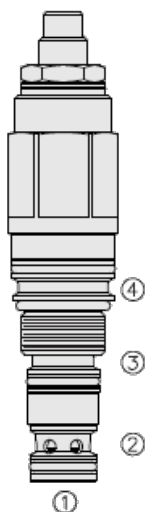




## Overview



### Description

The UPCV10-F41 is a screw in, cartridge style, internally piloted, pilot unloading valve with an internal check valve with fixed reload pressure ratio of 80% for use in accumulator type hydraulic systems.

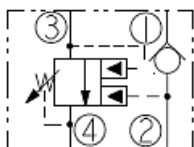
### Operation

In its steady state, the UPCV10-F41 blocks flow from port 3 to port 4 and allows flow from port 1 to port 2. On attainment of a predetermined pressure at port 2 and 3, the spool shifts to allow free flow from port 3 to port 4, unloading the port 3 pilot. If pressure at port 2 drops to a level below the ratio established reload value, the valve will close, blocking flow from port 3 to port 4. The spring chamber is vented to port 4.

### Features

- Internal check valve
- Optional fixed reload pressure ratios.
- Hardened precision spool and cage for long life.
- Choice of seal options.

### Symbol



## Ratings

### Pressure Ratings

|                                      |                                     |                       |
|--------------------------------------|-------------------------------------|-----------------------|
| Pressure rating                      | 206.8 bar (3000 psi)                | - <b>Note:</b> Port 1 |
|                                      | 206.8 bar (3000 psi)                | - <b>Note:</b> Port 2 |
|                                      | 206.8 bar (3000 psi)                | - <b>Note:</b> Port 3 |
|                                      | 103.4 bar (1500 psi)                | - <b>Note:</b> Port 4 |
| Proof pressure                       | 482.6 bar (7000 psi)                |                       |
| Burst pressure                       | 965.3 bar (14000 psi)               |                       |
| Pressure setting                     | 41.4 to 206.8 bar (600 to 3000 psi) |                       |
| Loading and unloading pressure ratio | Specified ratio $\pm 5\%$           |                       |

### Flow Ratings

|             |                               |                                       |
|-------------|-------------------------------|---------------------------------------|
| Flow rating | 0.8 to 7.6 lpm (0.2 to 2 gpm) | - <b>Note:</b> Port 3 to 4            |
|             | 1.9 lpm (0.5 gpm)             | - <b>Note:</b> Factory recommendation |
|             | 45.4 lpm (12 gpm)             | - <b>Note:</b> Port 1 to 2            |

### 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 |
|                             | -54 to 107 °C (-65 to 225 °F) | - <b>Note:</b> With urethane seals     |
| Storage temperature         | -40 to 70 °C (-40 to 160 °F)  |  |
| Ambient temperature         | -40 to 70 °C (-40 to 160 °F)  |  |

### Other Ratings

|                      |                                |
|----------------------|--------------------------------|
| Corrosion protection | 960 hr salt spray per astmb117 |
|----------------------|--------------------------------|



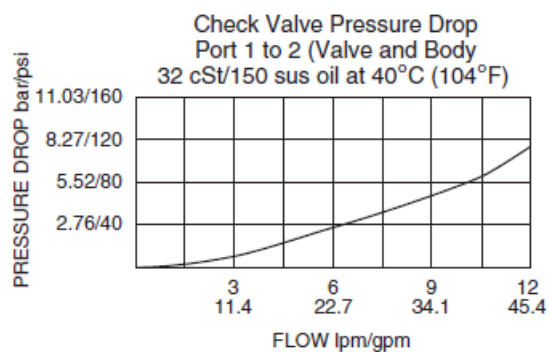
## Operating Parameters

|                                       |  |
|---------------------------------------|--|
| Fluids                                | Mineral based or synthetic with lubricating properties |
| Fluid viscosity range                 | 7.4 to 420 cSt   |
| Maximum operating contamination level | 18/16/13 per ISO 4406                                  |

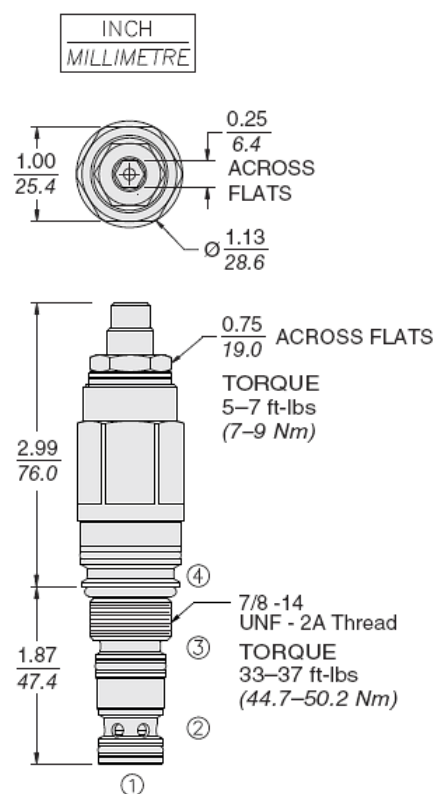
## Properties

|                              |   |
|------------------------------|---|
| Unit weight                  | 0.28 kg (0.61 lb)                           |
| Internal wetted surface area | 251 cm <sup>2</sup> (38.9 in <sup>2</sup> ) |

## Performance



## Dimensions



## Installation Specifications

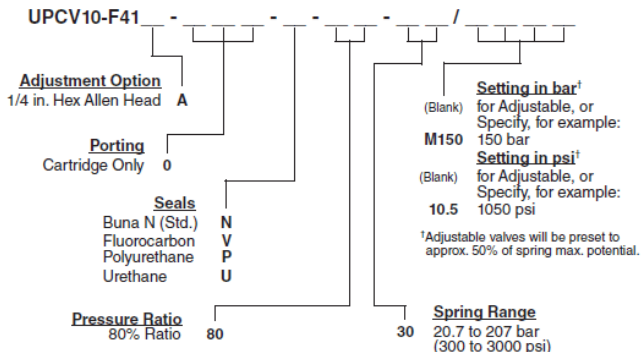
|                               |                                   |
|-------------------------------|-----------------------------------|
| Cavity                        | HVC10-f4                          |
| Cartridge installation torque | 44.7 to 50.2 N-m (33 to 37 ft-lb) |
| Orientation restriction       | None                              |



Accessories

|          |              |                             |
|----------|--------------|-----------------------------|
| Seal kit | SK10-F4N-BMM | - <b>Note:</b> Buna N       |
|          | SK10-F4V-BMM | - <b>Note:</b> Fluorocarbon |
|          | SK10-F4P-BMM | - <b>Note:</b> Polyurethane |
|          | SK10-F4U-BOO | - <b>Note:</b> Urethane     |

Order Code



Model Options

UPCV10-F41F-H-J-NR/S

F Adjustment Option

| CODE | DESCRIPTION         |
|------|---------------------|
| A    | 1/4" Hex Allen Head |

H Line Body

| CODE | DESCRIPTION        |
|------|--------------------|
| 8HT  | Ductile Iron SAE 8 |

J Seal

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

N Ratio

| CODE | DESCRIPTION |
|------|-------------|
| 80   | 80% Ratio   |

R Spring

| CODE | DESCRIPTION                                      |
|------|--|
| 30   | 41.1 to 206.8 bar (600 to 3000 psi) Spring Range |

S Pressure Setting

| CODE | DESCRIPTION                      |
|------|----------------------------------|
| MXXX | Spring Setting in XXX bar        |
| XX   | Spring Setting in XX psi (x 100) |