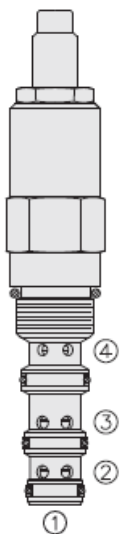## Overview

Description

The frr10-40 is a screw in, cartridge type, combination valve including a fixed orifice, pressure compensated, priority type flow regulator and a pressure relief valve.
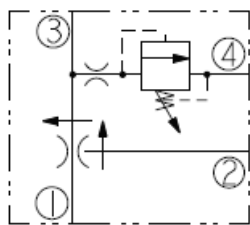
Operation

With inlet at port 1 and ports 4 and 2 connected to tank, the valve maintains a constant flow rate from port 3 regardless of pressure variations at port 3.

Features

○ Compact size.
○ Two valve functions in one, industry-common cavity.
○ Efficient - FR portion is vented.
○ Quiet, modulated response.
○ Hardened parts for long life.

Symbol

Ratings

Pressure Ratings

Pressure rating	207 bar (3000 psi)	
	276 bar (4000 psi)	**- Note:** Maximum system pressure

Flow Ratings

Priority flow rating	2.8 to 18.9 lpm (0.75 to 5.0 gpm)

Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	**- Note:** With buna N seals
	-26 to 204 °C (-15 to 400 °F)	**- Note:** With fluorocarbon seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

Operating Parameters
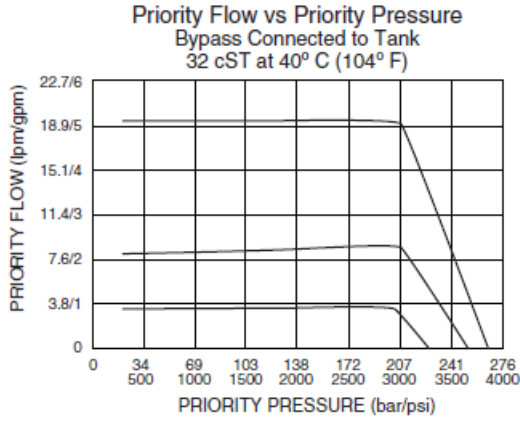
Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per iso4406

Properties

Unit weight	0.29 kg (0.63 lb)
Internal wetted surface area	266 cm² (41.2 in²)

Performance

Priority Flow vs Priority Pressure
Bypass Connected to Tank
32 cST at 40° C (104° F)

PRIORITY FLOW (lpm/gpm) vs PRIORITY PRESSURE (bar/psi)

Dimensions

INCH / MILLIMETRE

1.26 / 32.0
1.25 / 31.6
2.52 / 64.1

3.11 / 78.9

1.00 / 25.4 ACROSS FLATS
TORQUE: 25–27 ft-lbs (34–36 Nm)

0.74 / 18.8

7/8-14 UNF-2A THREAD

2.47 / 62.7

1.36 / 34.6
2.84 / 72.1
3.27 / 83.2

1.99 / 50.6

0.25 / 6.4
2.00 / 50.8
0.28 / 7.1
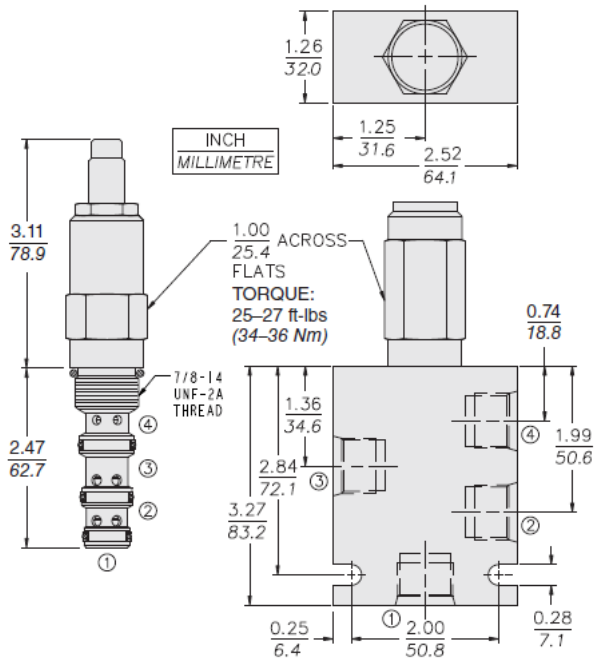
Installation Specifications

Cavity	VC10-4
Cartridge installation torque	34 to 37 N-m (25 to 27 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK10-4X-M **- Note:** X = seal option

Order Code

Adjustment Option
1/4 in. Hex Allen Head	A

See page 6.003.1 for adjustment option details.

Porting
Cartridge Only	0
SAE 6	6T
SAE 6	6TD
SAE 8	8T
1/4 in. BSP*	2B
3/8 in. BSP*	3B
1/4 in. BSP*	2BD

*BSP Body; U.K. Mfr. Only

Seals
Buna N (Std.)	N
Fluorocarbon	V

Pressure Setting Range
17.2 to 179.3 bar	
250 to 2600 ±300 psi	30

Priority Flow Setting
Range: 2.8 to 18.9 lpm
1.5 lpm (example)	M1.5

Range: 0.75 to 5.0 gpm
0.75 gpm (example)	0.75

†Adjustable valves will be preset to approx. 50% of spring max. potential.

Pressure Setting in bar†
(Blank) for Adjustable, or Specify, for example:
Range: 35 to 150 bar
35 bar	M35
150 bar	M150

Setting in psi†
(Blank) for Adjustable, or Specify, for example:
Range: 350 to 1500 psi
350 psi	3.5
1500 psi	15

Model Options

FRR10-40A-H-J-S-T

H Line Body

CODE	DESCRIPTION
0	No Body
6T	Aluminum SAE 6
8T	Aluminum SAE 8
6TD	Ductile Iron SAE 6

J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane

S Spring Setting

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

T Flow Setting

CODE	DESCRIPTION
XX	Flow Setting