Powering Business Worldwide

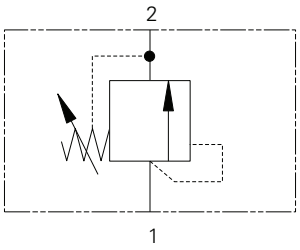
Pressure Control

Direct and pilot operated pressure control valves for applications up to 350 bar (5000 psi) and 300 L/min (80 USgpm)

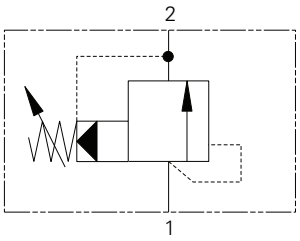
Pressure Controls

Valve locator

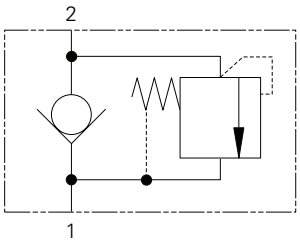
Functional Symbol



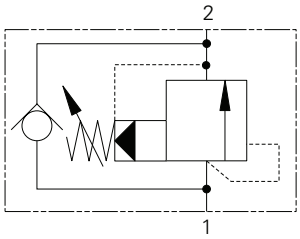
Model	Cavity	Flow Rating	Typical Pressure	Page
Relief valve, poppet		L/min (USgpm)	bar (psi)	
1DR2	A879	1.2 (0.3)	400 (5800)	E-100
1DR30	A879	30 (8)	400 (5800)	E-110
RV1-10	C-10-2	30 (8)	210 (3000)	E-120
RV1-12	C-12-2 (u)	114 (30)	350 (5000)	E-130



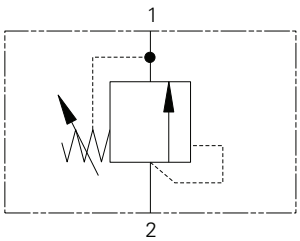
Model	Cavity	Flow Rating	Typical Pressure	Page
Relief valve, spool		L/min (USgpm)	bar (psi)	
RV5-10	C-10-2	114 (30)	350 (5000)	E-140
RV11-12	C-12-2 (u)	190 (50)	350 (5000)	E-150
1AR100	A881	150 (40)	400 (5800)	E-160
RV5-16	C-16-2	300 (80)	350 (5000)	E-170



Model	Cavity	Flow Rating	Typical Pressure	Page
Relief valve, poppet		L/min (USgpm)	bar (psi)	
RV4-10	C-10-2	1/45 (0.25/12)	350 (5000)	E-180



Model	Cavity	Flow Rating	Typical Pressure	Page
Relief valve, spool		L/min (USgpm)	bar (psi)	
RV2-10	C-10-2	12-114 (3-30)	350 (5000)	E-190
1ARC100	A881	150 (40)	400 (5800)	E-200



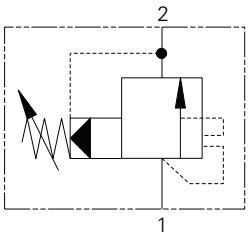
Model	Cavity	Flow Rating	Typical Pressure	Page
Relief valve, poppet		L/min (USgpm)	bar (psi)	
RV8-8	C-8-2	30 (8)	350 (5000)	E-208
RV3-10	C-10-2	76 (20)	250 (3600)	E-210
RV8-10	C-10-2	76 (20)	350 (5000)	E-220
RV3-12	C-12-2 (u)	132 (35)	350 (5000)	E-230
RV8-12	C-12-2 (u)	132 (35)	350 (5000)	E-240
RV3-16	C-16-2	300 (80)	350 (5000)	E-250
1LR300	A1126	380 (100)	350 (5000)	E-260

E

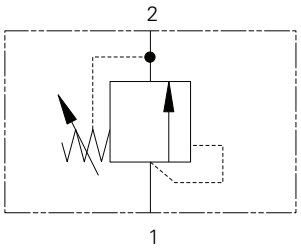
Pressure Controls

Valve locator

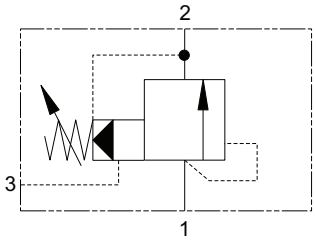
Functional Symbol



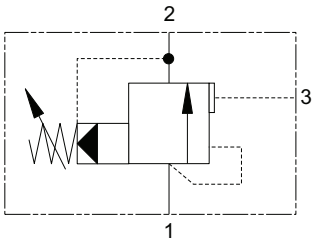
Model	Cavity	Flow Rating	Typical Pressure	Page
Relief valve, spool, unloading		L/min (USgpm)	bar (psi)	
1UAR100	A881	150 (40)	350 (5000)	E-270



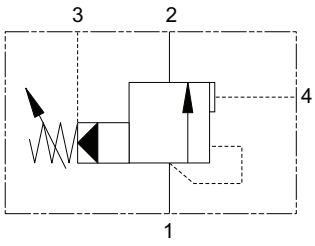
Model	Cavity	Flow Rating	Typical Pressure	Page
Relief valve, spool		L/min (USgpm)	bar (psi)	
1GR30	A881	30 (8)	160 (2300)	E-280
1GR60	CVA20-01-0	60 (16)	40 (600)	E-290
1GR100	A881	150 (40)	40 (600)	E-300



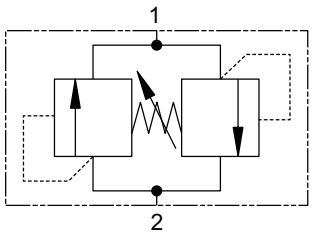
Model	Cavity	Flow Rating	Typical Pressure	Page
Relief ventable, spool		L/min (USgpm)	bar (psi)	
1VR100	A3146	100 (26)	350 (5000)	E-310
1VR200	A16102	200 (52)	350 (5000)	E-320



Model	Cavity	Flow Rating	Typical Pressure	Page
Unloading		L/min (USgpm)	bar (psi)	
1UL60	A3146	60 (16)	350 (5000)	E-330



Model	Cavity	Flow Rating	Typical Pressure	Page
Unloading		L/min (USgpm)	bar (psi)	
1PUL60	A12088	60 (16)	350 (5000)	E-340
1PUL200	A3145	200 (52)	350 (5000)	E-350



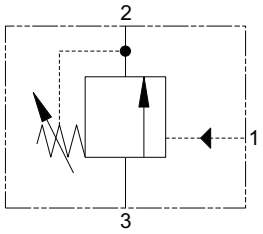
Model	Cavity	Flow Rating	Typical Pressure	Page
Relief dual		L/min (USgpm)	bar (psi)	
1CLLR50	C-10-2	50 (12)	250 (3625)	E-360
1CLLR100	A878	150 (40)	350 (5000)	E-370

E

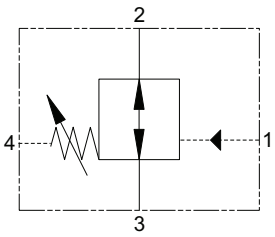
Pressure Controls

Valve locator

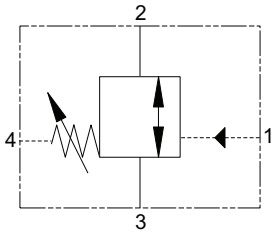
Functional Symbol



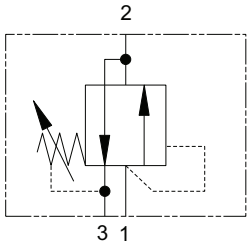
Model	Cavity	Flow Rating	Typical Pressure	Page
Pressure sequence valve, spool		L/min (USgpm)	bar (psi)	
PSV2-8	C-8-3	23 (6)	210 (3000)	E-380
PSV4-8	C-8-3	15 (4)	350 (5000)	E-390
PSV2-10	C-10-3	23 (6)	210 (3000)	E-420
PSV4-10	C-10-3	15 (4)	210 (3000)	E-430



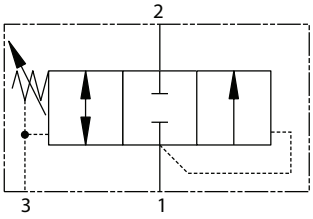
Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, NO, spool		L/min (USgpm)	bar (psi)	
PSV8-10	C-10-4	23 (6)	210 (3000)	E-400



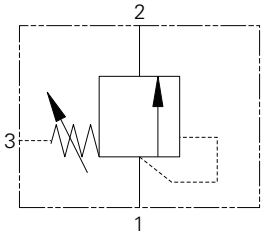
Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, NC, spool		L/min (USgpm)	bar (psi)	
PSV10-10	C-10-4	23 (6)	210 (3000)	E-410



Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, spool		L/min (USgpm)	bar (psi)	
PSV1-10	C-10-3	23 (6)	210 (3000)	E-440
PSV5-10	C-10-3	8 (2)	210 (3000)	E-450



Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, spool		L/min (USgpm)	bar (psi)	
PSV3-10	C-10-3	23 (6)	210 (3000)	E-460



Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, spool		L/min (USgpm)	bar (psi)	
PSV7-10	C-10-3	23 (6)	210 (3000)	E-470
1DS30	A880	30 (8)	140 (2000)	E-480
1DS60	CVA-22-06-0	60 (16)	40 (600)	E-490
1DS100	A880	150 (40)	40 (600)	E-500

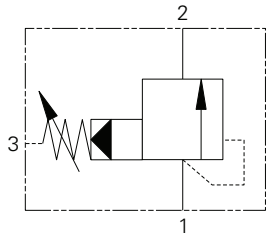
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

EATON Powering Business Worldwide
Integrated Hydraulics An Eaton Brand

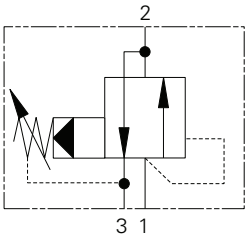
Pressure Controls

Valve locator

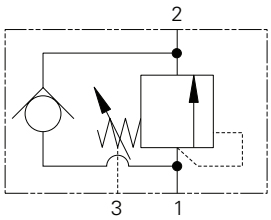
Functional Symbol



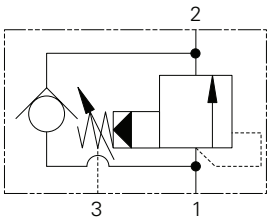
Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, spool		L/min (USgpm)	bar (psi)	
1PS60	CVA-22-06-0	60 (16)	350 (5000)	E-510
1PS100	A880	150 (40)	350 (5000)	E-520
1PS200	A16102	250 (60)	350 (5000)	E-540



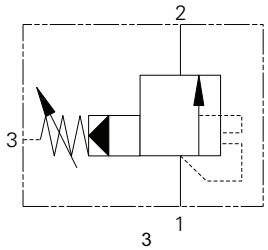
Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, spool		L/min (USgpm)	bar (psi)	
PSV1-16	C-16-3	95 (25)	350 (5000)	E-530



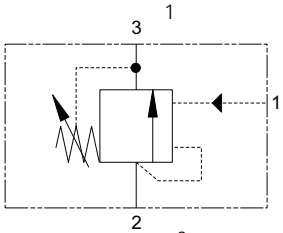
Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, spool		L/min (USgpm)	bar (psi)	
1PSC30	A6610	30 (8)	350 (5000)	E-550



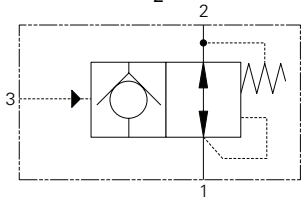
Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, spool		L/min (USgpm)	bar (psi)	
1PSC100	A880	150 (40)	350 (5000)	E-560



Model	Cavity	Flow Rating	Typical Pressure	Page
Series sequence valve, spool, unloading		L/min (USgpm)	bar (psi)	
1UPS100	A880	150 (40)	350 (5000)	E-570



Model	Cavity	Flow Rating	Typical Pressure	Page
Pilot operated, poppet, unloading		L/min (USgpm)	bar (psi)	
PUV3-10	C-10-3	4 (1)	210 (3000)	E-576

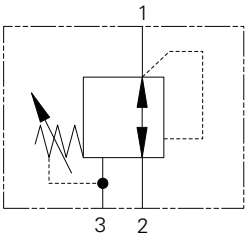


Model	Cavity	Flow Rating	Typical Pressure	Page
Accumulator discharge valve		L/min (USgpm)	bar (psi)	
ADV1-16	C-16-3S	30 (8)	210 (3000)	E-580

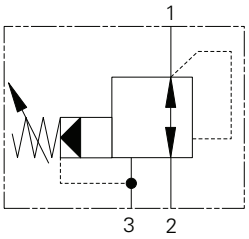
Pressure Controls

Valve locator

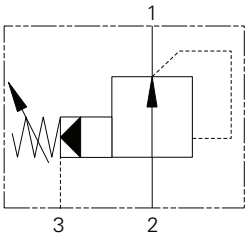
Functional Symbol



Model	Cavity	Flow Rating	Typical Pressure	Page
Pressure reducing valve, spool		L/min (USgpm)	bar (psi)	
PRV1-10	C-10-3	15 (4)	165 (2400)	E-590



Model	Cavity	Flow Rating	Typical Pressure	Page
Pressure reducing valve, spool		L/min (USgpm)	bar (psi)	
PRV2-10	C-10-3	38 (10)	240 (3500)	E-600
PRV12-10	C-10-3	45 (12)	350 (5000)	E-610
PRV12-12	C-12-3	114 (30)	350 (5000)	E-620
PRV2-16	C-16-3	151 (40)	350 (5000)	E-640



Model	Cavity	Flow Rating	Typical Pressure	Page
Pressure reducing valve, spool		L/min (USgpm)	bar (psi)	
1PA100	A880	100 (26)	10-350 (150-5000)	E-630
1PA200	A16102	200 (52)	350 (5000)	E-650

E

Pressure Controls

Introduction

This section gives basic specifications for Eaton pressure control threaded cartridge valves. Its purpose is to provide a quick, convenient reference tool when choosing Eaton cartridge valves or designing a system using these components.

Eaton offers a full range of Eaton direct and pilot operated relief, reducing, sequence and unloading valves. In general, he direct operated products are faster in response while pilot operated types have a flatter pressure/flow characteristic.

Relief Valves

When selecting a relief valve for a specific application, consideration should be given to the following

- **Direct operated poppet types – RV1 and RV10**
  Suitable for continuous duty with reliable fast response, the RV10 being a low pressure, low cost option. These valves are also suitable for piloting the DPS2 logic elements.
- **Pilot operated poppet type with reverse free-flow check – RV2**
  Use as a service line relief where anticavitation make-up is required. It may also be applied as an internally piloted counterbalance valve in a service line.
- **Direct operated poppet type, differential area models – RV3 and RV8**
  Sometimes termed a "differential area relief valve". A fast acting valve, highly tolerant of contaminant and providing an alternative flow path, frequently beneficial in manifold layout. Utilized in CRV3 cross-line relief packages.
- **Pilot operated spool type – RV5 and RV11**
  Well suited for repetitive, continuous duty with a low pressure-override characteristic.
- **Direct operated ball type – RV6**
  A fast-acting valve for intermittent duty. This low flow, low cost valve may be used as a pilot section for a larger main-stage valve, or piloting logic elements.

Reducing Valves

Two types are available:

- Direct operated with relieving feature – PRV1
- Pilot operated with relieving feature – PRV2 and PRV12
- Pilot operated without relieving feature

Sequence Valves

A complete range of sequence functions is available, including:

- Normally-closed and normally-open models
- Internal and external pilot options
- Internal and external drain options
- Two and three position models

Externally drained models may be used as relief valves in circuits with alternating pressure and tank line functions.

Accumulator Unloading Valves

Valves that allow accumulators to be charged to a pre-selected maximum pressure at which the pump is unloaded. The pump does not cut-in until the accumulator pressure has decayed to a pre-selected percentage of maximum pressure. The low-flow PUV3 model can be used as a stand alone model for low flow applications, or as a pilot stage in two-stage arrangements for higher flows.

Accumulator Discharge Valve

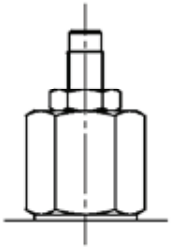
This valve is designed to ensure that an accumulator will discharge when pilot pressure is lost, e.g. on pump shutdown.

Fluid Cleanliness

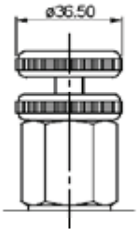
Proper fluid condition is essential for long and satisfactory life of hydraulic components and systems. Hydraulic fluid must have the correct balance of cleanliness, materials, and additives for protection against wear of components, elevated viscosity, and inclusion of air.

E

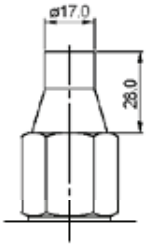
Adjustments



'P' - Leakproof Screw

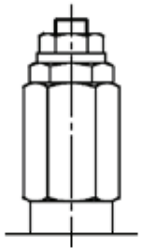


'R' - Handknob



'G' - Tamperproof Cap

Tightening torque of "F" adjuster locknut - 20 to 25 Nm



'F' - Screw