



BLAIN PRODUCTS AVAILABLE FROM HYDRATEC

EV100 ELEVATOR CONTROL VALVES

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AND TO ORDER**



Available from **Hydratec**
(0)1252 871664

BLAIN EV100 Elevator Control Valves

The BLAIN EV 100 program includes the widest range of options offered to the elevator industry for high performance passenger service. Easy to install, EV 100's are smooth, reliable and precise in operation throughout extreme load and temperature variations.



Description

Available port sizes are 3/4", 1 1/2", 2" and 2 1/2" pipe threads, depending on flow. EV 100's start on less than minimum load and can be used for across the line or wye-delta starting. According to customers' information, valves are factory adjusted ready for operation and very simple to readjust if so desired. The patented up levelling system combined with compensated pilot control ensure stability of elevator operation and accuracy of stopping independent of wide temperature variations.

EV 100 valves include the following features essential to efficient installation and trouble free service:

Simple Responsive Adjustment
Temperature and Pressure Compensation
Solenoid with Connecting Cables
Pressure Gauge and Shut Off Cock
Self Closing Manual Lowering

Self Cleaning Pilot Line Filters
Self Cleaning Main Line Filter (Z-T)
Built-in Turbulence Suppressors
70 HRc Rockwell Hardened Bore Surfaces
100% Continuous Duty Solenoids

Technical Data:

		3/4" EV	1 1/2" & 2" EV	2 1/2" EV
Flow Range:	l/min	10-125 (2-33 USgpm)	30-800 (8-208 USgpm)	500-1530 (130-400 USgpm)
Pressure Range:	bar	5-100 (74-1500 psi)	3-100 (44-1500 psi)	3-68 (44-1000 psi)
Press. Range CSA:	bar	5-100 (74-1500 psi)	3-70 (44-1030 psi)	3-47 (44-690 psi)
Burst Pressure Z:	bar	575 (8450 psi)	505 (7420 psi)	340 (5000 psi)
Pressure Drop P-Z:	bar	6 (88 psi) at 125 lpm	4 (58 psi) at 800 lpm	4 (58 psi) at 1530 lpm
Weight:	kg	5 (11 lbs)	10 (22 lbs)	14 (31 lbs)
Oil Viscosity:	25-60 cSt. at 40°C (104°F).			Max. Oil Temperature: 70°C (158°F)
Solenoids AC:	24 V/1.8 A, 42 V/1.0 A, 110 V/0.43 A, 230 V/0.18 A, 50/60 Hz.			Insulation Class, AC and DC: IP 68
Solenoids DC:	12 V/2.0 A, 24 V/1.1 A, 42 V/0.5 A, 48 V/0.6 A, 80 V/0.3 A, 110 V/0.25 A, 196 V/0.14 A.			

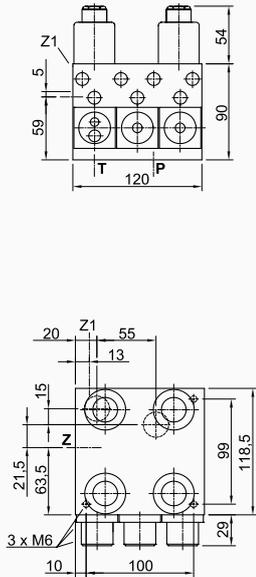


Unbiased Unbranded **Reliable**

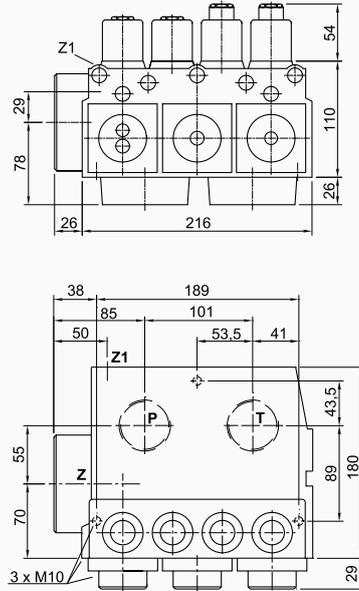


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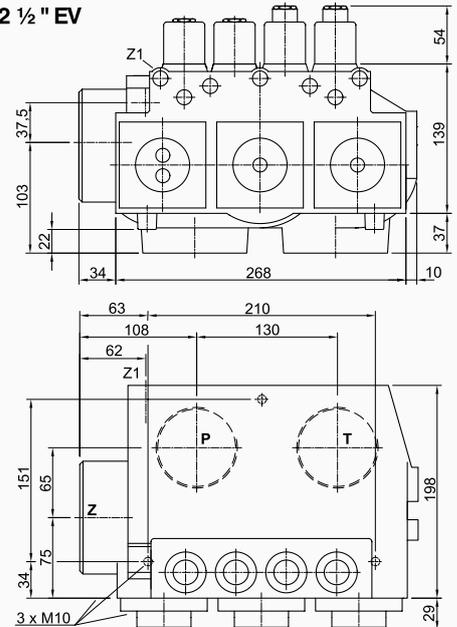
3/4" EV



1 1/2" & 2" EV



2 1/2" EV



EV Control Valve Types

Optional Equipment

EN	Emergency Power Solenoid	DH	High Pressure Switch
CSA	CSA Solenoids	DL	Low Pressure Switch
KS	Slack Rope Valve	CX	Pressure Compensated Down
BV	Main Shut-Off Valve	MX	Auxiliary Down
HP	Hand Pump		



EV 0

3/4"



1 1/2" & 2" EV



2 1/2"



Up Up to 0.16 m/s (32 fpm). 1 Up Speed.
Up Start is smooth and adjustable.
Up Stop by de-energising the pump-motor.

Down Up to 1.0 m/s (200 fpm). 1 Full Speed and 1 Levelling Speed.
All down functions are smooth and adjustable.

USA Patent No. 4,601,366
Pats & Pats Pend: France, Germany,
Italy, Japan, Switzerland & U.K.



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BLAIN EV100 Elevator Control Valves

EV 1



- Up** Up to 0.16 m/s (32 fpm). 1 Up Speed.
Up to 0.4 m/s (80 fpm) by overtravelling and levelling back down.
Up Start is smooth and adjustable.
Up Stop is smooth and exact through valve operation whereby the pump must run approx. ½ sec. longer through a time relay.
- Down** Up to 1.0 m/s (200 fpm). 1 Full Speed and 1 Levelling Speed.
All down functions are smooth and adjustable.

USA Patent No. 4,601,366
Pats & Pats Pend: France, Germany, Italy, Japan, Switzerland & U.K.

EV 10



- Up** Up to 1.0 m/s (200 fpm). 1 Full Speed and 1 Levelling Speed.
Up Start and Slow Down are smooth and adjustable.
Up Levelling speed is adjustable.
Up Stop is by de-energising the pump-motor.
- Down** Up to 1.0 m/s (200 fpm). 1 Full Speed and 1 Levelling Speed.
All down functions are smooth and adjustable.

USA Patent No. 4,637,495
Pats & Pats Pend: France, Germany, Italy, Japan, Switzerland & U.K.

EV 100



- Up** Up to 1.0 m/s (200 fpm). 1 Full Speed and 1 Levelling Speed.
All 'up' functions are smooth and adjustable.
Up Levelling speed is adjustable.
Up Stop is smooth and exact through valve operation whereby the pump must run approx. ½ sec. longer through a time relay.
- Down** Up to 1.0 m/s (200 fpm). 1 Full Speed and 1 Levelling Speed.
All down functions are smooth and adjustable.

USA Patent No. 4,637,495
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Warning: Only qualified personell should adjust or service valves. Unauthorised manipulation may result in injury, loss of life or damage to equipment. Prior to servicing internal parts, ensure that the electrical power is switched off, cylinder line is closed and residual pressure in the valve is reduced to zero.

Adjustments UP

Valves are already adjusted and tested. Check electrical operation before changing valve settings. Test that the correct solenoid is energised, by removing nut and raising solenoid slightly to feel pull.

Nominal Settings: Adjustments 1 & 4 approx. level with flange faces. Up to two turns in either direction may then be necessary. Adjustments 2, 3 & 5 all the way 'in' (clockwise) then two turns 'out' (c-clockwise). A small final adjustment may be necessary.

EV 0

- By Pass:** When the pump is started, the unloaded car should remain stationary at the floor for a period of 1 to 2 seconds before starting upwards. The length of this delay is determined by the setting of adjustment 1. 'In' (clockwise) shortens the delay, 'out' (c-clockwise) lengthens the delay.
 - Up Acceleration:** With the pump running, the car will accelerate according to the setting of adjustment 2. 'In' (clockwise) provides a softer acceleration, 'out' (c-clockwise) a quicker acceleration.
Up Stop: The pump-motor is de-energised. There is no adjustment.
Alternative Up Stop with Over-travel: The motor is de-energised at floor level. Through the flywheelaction of the pump-motor drive the car will travel to just above floor level. In overtravelling the floor, down levelling solenoid D is energised, lowering the car smoothly back down to floor level where D is de-energised.
- S Relief Valve:** 'In' (clockwise) produces a higher, 'out' (c-clockwise) a lower maximum pressure setting. After turning 'out', open manual lowering H for an instant.
Important: When testing relief valve, do not close ball valve sharply.

EV 1

- By Pass:** When the pump is started and solenoid A energised, the unloaded car should remain stationary at the floor for a period of 1 to 2 seconds before starting upwards. The length of this delay is determined by the setting of adjustment 1. 'In' (clockwise) shortens the delay, 'out' (c-clockwise) lengthens the delay.
 - Up Acceleration:** With the pump running and solenoid A energised as in 1, the car will accelerate according to the setting of adjustment 2. 'In' (clockwise) provides a softer acceleration, 'out' (c-clockwise) a quicker acceleration.
 - Up Stop:** At floor level, solenoid A is de-energised. Through a time relay the pump should run approx. ½ second longer to allow the car to stop smoothly by valve operation according to the setting of adjustment 5. 'In' (clockwise) provides a softer stop, 'out' (c-clockwise) a quicker stop.
Alternative Up Stop: At relatively higher speeds, the car will travel to just above floor level. In overtravelling the floor, down levelling solenoid D is energised, lowering the car smoothly back down to floor level where D is de-energised.
- S Relief Valve:** 'In' (clockwise) produces a higher, 'out' (c-clockwise) a lower maximum pressure setting. After turning 'out', open manual lowering H for an instant.
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EV 10

- 1. By Pass:** When the pump is started and solenoid B energised, the unloaded car should remain stationary at the floor for a period of 1 to 2 seconds before starting upwards. The length of this delay is determined by the setting of adjustment 1. 'In' (clockwise) shortens the delay, 'out' (c-clockwise) lengthens the delay.
 - 2. Up Acceleration:** With the pump running and solenoid B energised as in 1, the car will accelerate according to the setting of adjustment 2. 'In' (clockwise) provides a softer acceleration, 'out' (c-clockwise) a quicker acceleration.
 - 3. Up Deceleration:** When solenoid B is de-energised, the car will decelerate according to the setting of adjustment 3. 'In' (clockwise) provides a softer deceleration, 'out' (c-clockwise) a quicker deceleration.
 - 4. Up Levelling:** With solenoid B de-energised as in 3, the car will proceed at its levelling speed according to the setting of adjustment 4. 'In' (clockwise) provides a slower, 'out' (c-clockwise) a faster up levelling.
Up stop: The pump-motor is de-energised. There is no adjustment.
- S Relief Valve:** 'In' (clockwise) produces a higher, 'out' (c-clockwise) a lower maximum pressure setting. After turning 'out', open manual lowering H for an instant.
- Important: When testing relief valve, do not close ball valve sharply.**

EV 100

- 1. By Pass:** When the pump is started, and solenoids A and B energised, the unloaded car should remain stationary at the floor for a period of 1 to 2 seconds before starting upwards. The length of this delay is determined by the setting of adjustment 1. 'In' (clockwise) shortens the delay, 'out' (c-clockwise) lengthens the delay.
 - 2. Up Acceleration:** With the pump running and solenoids A and B energised as in 1, the car will accelerate according to the setting of adjustment 2. 'In' (clockwise) provides a softer acceleration, 'out' (c-clockwise) a quicker acceleration.
 - 3. Up Deceleration:** When solenoid B is de-energised, whilst solenoid A remains energised, the car will decelerate according to the setting of adjustment 3. 'In' (clockwise) provides a softer deceleration, 'out' (c-clockwise) a quicker deceleration.
 - 4. Up Levelling:** With solenoid A energised and solenoid B de-energised as in 3., the car will proceed at its levelling speed according to the setting of adjustment 4. 'In' (clockwise) provides a slower, 'out' (c-clockwise) a faster up levelling.
 - 5. Up Stop:** At floor level, solenoid A is de-energised with solenoid B remaining de-energised. Through a time relay the pump should run approx. ½ second longer to allow the car to stop smoothly by valve operation according to the setting of adjustment 5. 'In' (clockwise) provides a softer stop, 'out' (c-clockwise) a quicker stop.
- S Relief Valve:** 'In' (clockwise) produces a higher, 'out' (c-clockwise) a lower maximum pressure setting. After turning 'out', open manual lowering H for an instant.
- Important: When testing relief valve, do not close ball valve sharply.**