Warning: Only qualified personnel 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 coil is energized, by removing nut and raising the coil slightly to feel pull.

Standard settings: adj. **1** level with flange face, adjust bypass pressure (see document quick adjustments); adj. **4** level with flange face, then turn out adj. **4** for ½ a turn; turn in pressure relief valve **S** completely, then turn out **S** for 1½ turns; turn in adj. **2**,**3** & **5** completely, turn out adj. **3** & **5** for 2½ turns and turn out adj. **2** for EV ¾": 1½ turns and for EV 1½" - 2½": 2½ turns.

EV 0

1. **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.
2. **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-energized. There is no adjustment.

   Alternative Up Stop with Over-travel: The pump-motor is de-energized 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 coil **D** is energized, lowering the car smoothly back down to floor level where **D** is de-energized.

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, close ball valve gradually.

EV 1

1. **By Pass:** When the pump is started and coil **A** energized, 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 coil **A** energized 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.
5. **Up Stop:** At floor level, coil **A** is de-energized. Through a time relay the pump should run approx. 1 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 coil D is energized, lowering the car smoothly back down to floor level where **D** is de-energized.

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, close ball valve gradually.

EV 10

1. **By Pass:** When the pump is started and coil **B** energized, 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 coil **B** energized 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 coil **B** is de-energized, 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 coil **B** de-energized 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 speed.

   Up stop: The pump-motor is de-energized. 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, close ball valve gradually.

EV 100

1. **By Pass:** When the pump is started and coils **A** and **B** energized, 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 coils **A** and **B** energized 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 coil **B** is de-energized, whilst coil **A** remains energized, 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 coil **A** energized and coil **B** de-energized 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 speed.
5. **Up Stop:** At floor level, coil **A** is de-energized with coil **B** remaining de-energized. Through a time relay the pump should run approx. 1 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, close ball valve gradually.

Warning: Only qualified personnel 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 DOWN

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

Standard settings: adj. **7** & **9** level with flange faces, then turn out adj. **9** for ½ a turn; turn in adj. **6** & **8** completely, then for EV¾": turn out adj. **6** for 2½ turns and turn out adj. **8** for **1** turn; for EV1½" - 2½": turn adj. **6** for 2 to 2½ turns out and adj. **8** for 1½ turns out.

6. Down Acceleration: When coils **C** and **D** are energized, the car will accelerate downwards according to the setting of adjustment **6**. 'In' (clockwise) provides a softer down acceleration, 'out' (c-clockwise) a quicker acceleration.

7. Down Speed: With coils **C** and **D** energized as in 6 above, the full down speed of the car is according to the setting of adjustment **7**. 'In' (clockwise) provides a slower down speed, 'out' (c-clockwise) a faster down speed.

8. Down Deceleration: When coil **C** is de-energized whilst coil **D** remains energized, the car will decelerate according to the setting of adjustment **8**. 'In' (clockwise) provides a softer deceleration, 'out' (c-clockwise) a quicker deceleration. **Attention: Do not close all the way in! Closing adjustment 8 completely (clockwise) may cause the car to fall on the buffers.**

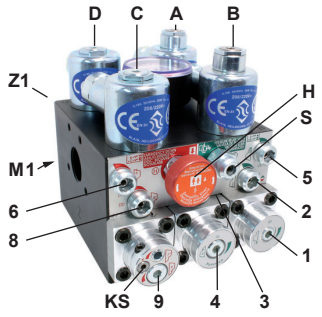
9. Down Levelling: With coil **C** de-energized and coil **D** energized as in 8 above, the car will proceed at its down levelling speed according to the setting of adjustment **9**. 'In' (clockwise) provides a slower, 'out' (c-clockwise) a faster down levelling speed.

Down Stop: When coil **D** is de-energized with coil **C** remaining de-energized, the car will stop according to the setting of adjustment **8** and no further adjustment is required.

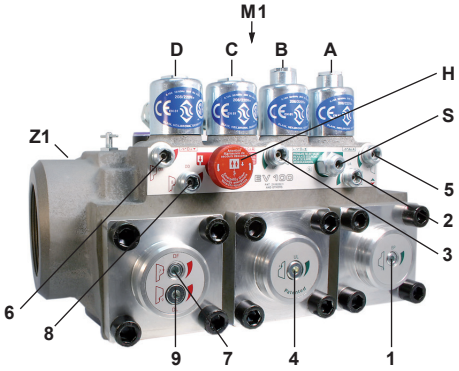
KS Slack Rope Valve: Both coils **C** and **D** must be de-energized beforehand! Loosen the small grub screw on the top of the **K** on the left hand side. The **KS** is adjusted with a 3 mm Allen key by turning the screw **K** 'in' for higher pressure and 'out' for lower pressure. With **K** turned all the way 'in', then half a turn back out, the unloaded car should descend when Manual Lowering **H** is opened. Should the car not descend, **K** must be turned out until the car just begins to descend, then turned out a further half turn to ensure that with cold oil, the car can be lowered as required.

Positions of Adjustments

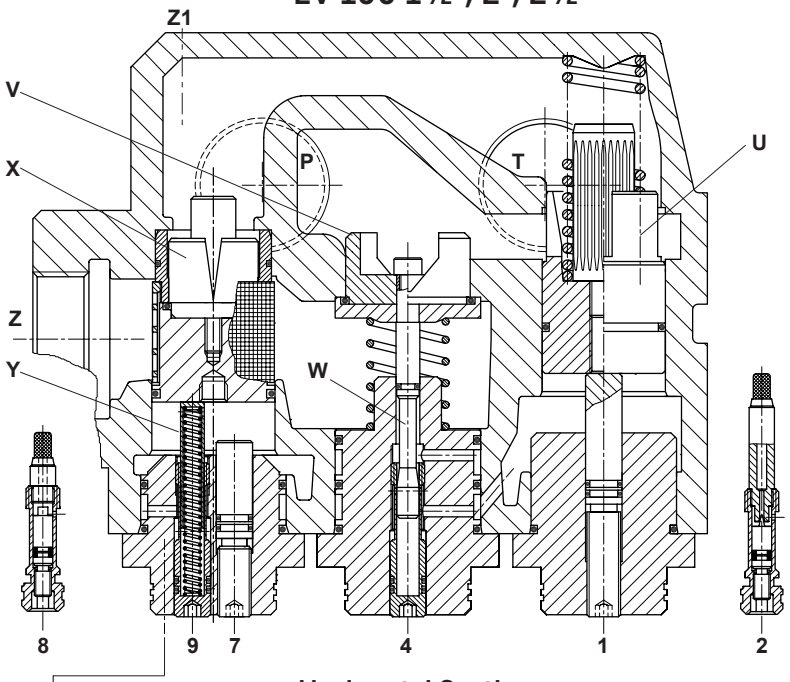
Important: Length of ¾" thread on pump connections should not be longer than 14 mm!

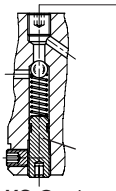


M1 Test pressure gauge connection, ½"
Z1 Pressure switch connection, ¼"



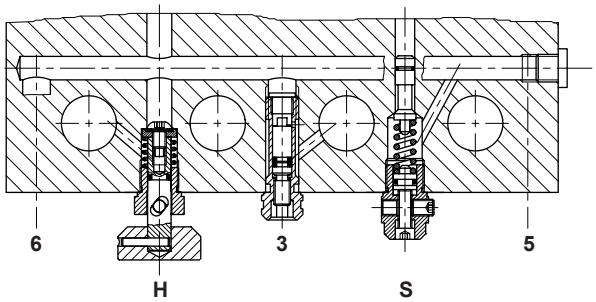
EV 100 1½", 2", 2½"

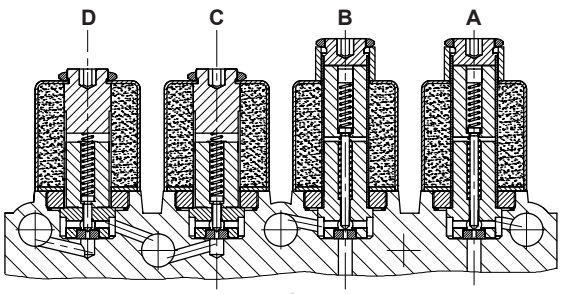




KS Option

Horizontal Sections





Vertical Section

Adjustments UP
1 By Pass
2 Up Acceleration
3 Up Deceleration
4 Up Levelling Speed
5 Up Stop

Adjustments DOWN
6 Down Acceleration
7 Down Full Speed
8 Down Deceleration
9 Down Levelling Speed

Control Elements
A Solenoid (Up Stop)
B Solenoid (Up Deceleration)
C Solenoid (Down Deceleration)
D Solenoid (Down Stop)
H Manual Lowering
S Relief Valve
U By Pass Valve
V Check Valve
W Levelling Valve (Up)
X Full Speed Valve (Down)
Y Levelling Valve (Down)

Valve Types	Elements Omitted
EV 0	**A**, **B**, **W**, **3**, **4** & **5**
EV 1	**B**, **W**, **3** & **4**
EV 10	**A** & **5**
EV 100	as shown