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Antalya Organize Sanayi Bölgesi 3. kısım 37.cad. no:23

Döşemealtı /Antalya/ TÜRKİYE

AKİŞ INVERTER VALVE SYSTEMS

Specification File

AKİŞ-INV-1/2”

AKİŞ-INV-3/4”

AKİŞ-INV-1 ½”

DESCRIPTION: AKİŞ Inverter valve system is a lift control system where the motion control is directed by an inverter module installed in the control box. The system consists of an inverter module connected to the power unit. The power unit consists of a motor, pump, a control valve and some additional accessories.

VALVE SIZES: 1/2", 3/4", 1 ½"

APPLICATION AREAS: Home-lifts, passenger elevators, freight lifts, car lifts, handicapped lifts.

ADVANTAGES: AKİŞ Inverter valve systems have many advantages compared to the traditional control valve systems. First of all, the system is not affected by the heat. It is a sensor-less control technology. The speed of the lift does not change, even when the load or the temperature changes. Up and down direction is controlled by the inverter valve.

DATASHEET:

Inverter Valves	**AKİŞ-INV-1/2"**	**AKİŞ-INV-3/4"**	**AKİŞ-INV-1 ½"**
Flow Range (lt/min)	4 lt/min- 35 lt/min	35 lt/min- 125 lt/min	75 lt/min- 250 lt/min
Pressure Range (bar)	8 bar-100 bar	8 bar-100 bar	8 bar-100 bar
Speed Range (m/sec)	0,15 m/sec-0,40 m/sec	0,15 m/sec-0,63m/sec	0,15 m/sec-0,80 m/sec
Pressure Drop (bar)	35 lt/min-3 bar	125 lt/min-2,5 bar	250 lt/min-4 bar
Weight (kg)	2,9 kg	5,0 kg	13,750 kg
Oil Viscosity (cst)	40 C (25 cst-68 cst)	40 C (25 cst-68 cst)	40 C (25 cst-68 cst)
Max. Oil Temperature (C)	80 C	80 C	80 C
Coils	24 Volt DC	24 Volt DC	24 Volt DC-230 Volt AC
Insulation class	IP 68	IP 68	IP 68
A3 Valve	Optional	Optional	Optional
Slack Rope	Standard	Standard	Standard
Hand Pump	Optional	Optional	Optional
Ball Valve	Optional	Optional	Optional
EMG Down Valve	Standard	Standard	Standard

ADJUSTMENT PARAMETERS:

	Inverter SS2	**Inverter SE3**
UP-FS	Adjust from the tuning wheel	Adjust from the tuning wheel
UP-A	01.06	P.7
UP-D	01.07	P.8
UP-L	04.02	P.6
UP-STP	01.07	P.8
DW-A	01.22	P.44
DW-FS	Adjust from the wheel	Adjust from the wheel
DW-D	01.23	P.45
DW-L	04.01	P.5
DW-STP	01.23	P.45
BP	X	X
UL Terminal	Up Low speed	Up Low speed
UH Terminal	Up High speed	Up High speed
DH Terminal	Down High speed	Down High speed
DL Terminal	Down Low speed	Down Low speed

OPERATION PRINCIPLES AND MANUAL

Upward Travel

- Inverter valve has 2 solenoid valves on it. The first one is used for downward travel, the second is used for emergency downward travel. During upward travel, no valve is energized.
- The inverter drives the motor with the acceleration that ensures a comfortable movement.
- The car travels at maximum speed until approaching the target floor.
- As the floor is approached, the system transitions to low speed.
- At the floor level, inverter applies a DC brake which causes the motor to stop rapidly. The user should define and enter the frequency, voltage level, and the time. This shall provide the time for the check valve to close.

Downward Travel

- Downward travel has a special procedure other than upward travel. In the beginning, downward travel requires a small upward movement. The system applies a minimal movement in the upward direction.
- That upward movement is required because, the pressure between the pump and the check valve is less than the piston pressure.
- To prevent unintended descent, the car must first move upward at low speed for 0.5–2.0 seconds.
- Depending on the system hardware, this pre-movement can be controlled by pressure equalization, a fixed time interval, or positional feedback.
- After this step, the downward valve is energized, and the car descends with controlled acceleration at maximum travel speed.
- As the floor is approached, the system transitions to low speed.
- Once the floor is reached and the motor stops, inverter applies a DC braking action of 1–2 seconds.

Manual Downward Travel Valve

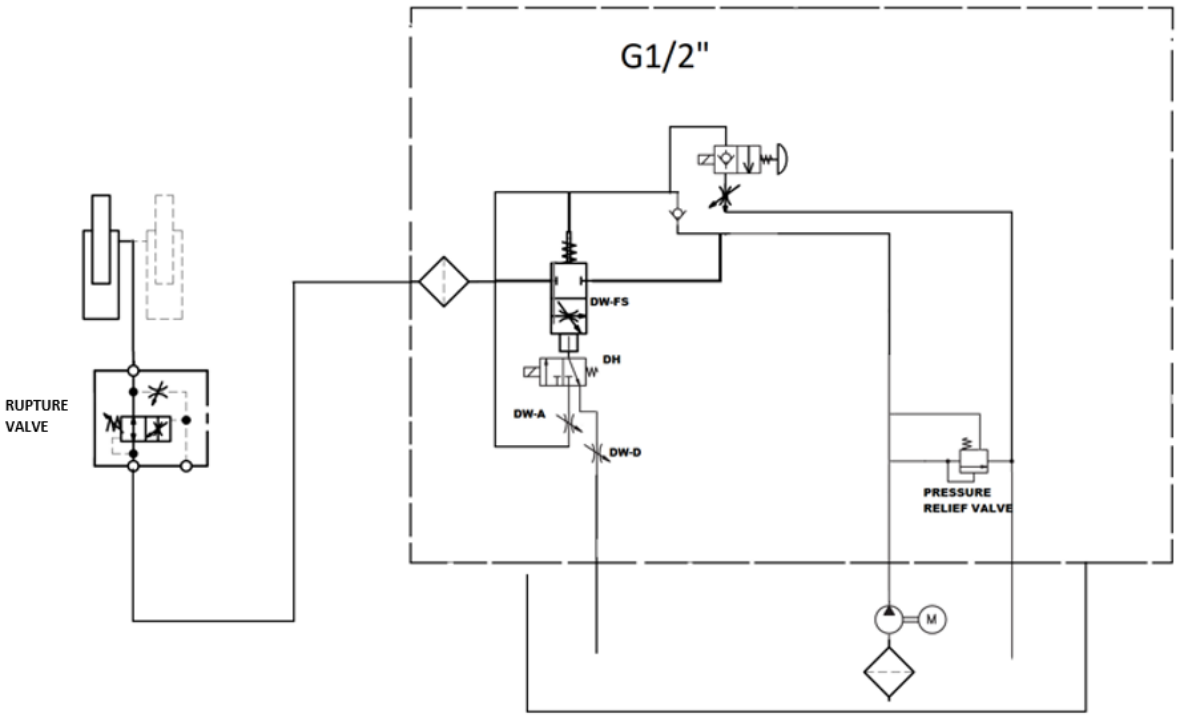
- The manual downward travel valve can be operated mechanically (by hand) or electrically.
- It is used for performing emergency downward travel procedures.

Inverter Control

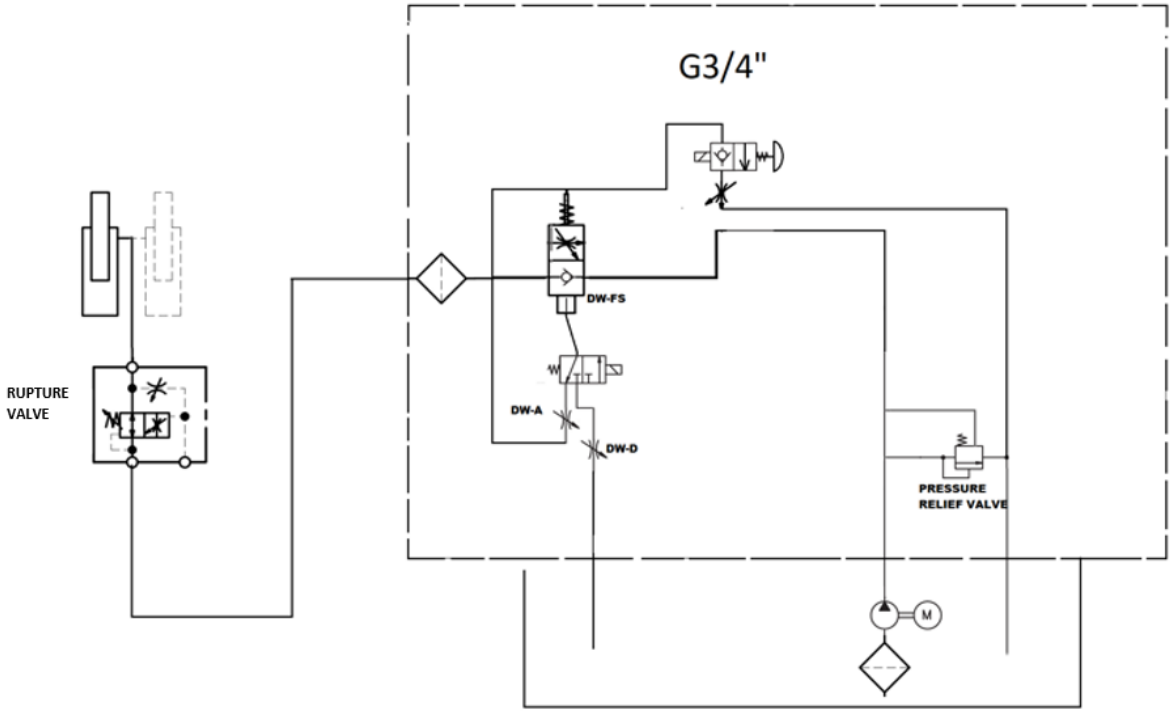
- Flux control or sensor-less control must be used.

HYDRAULIC SCHEMES:

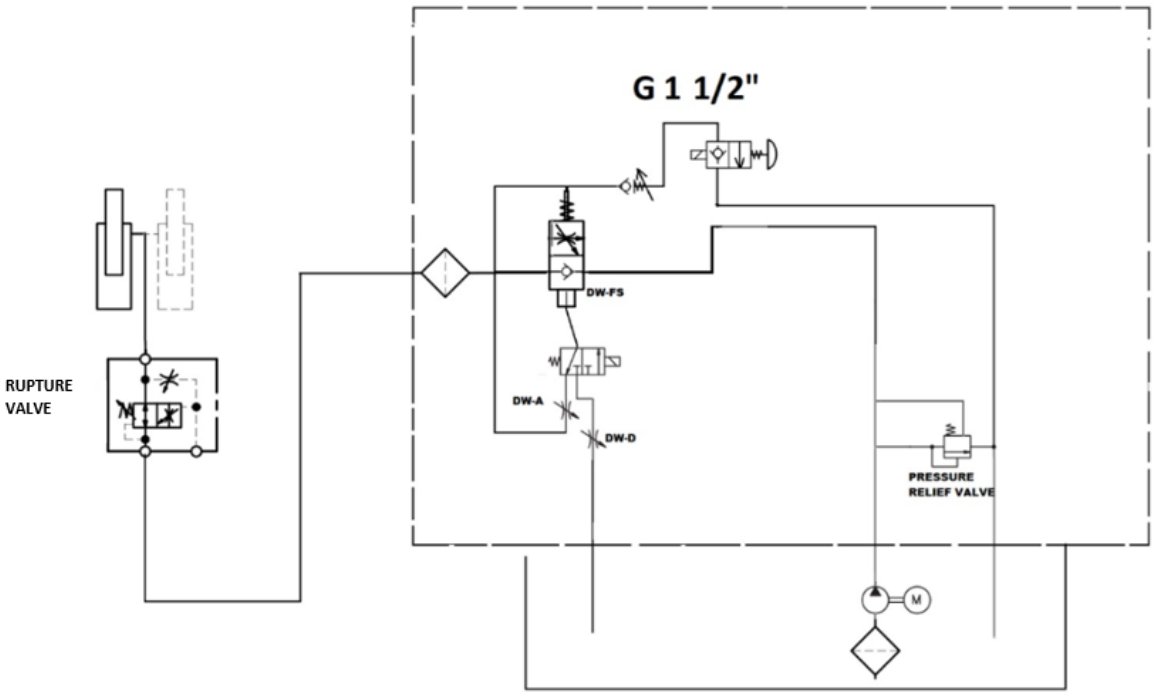
AKİŞ-INV-1/2”



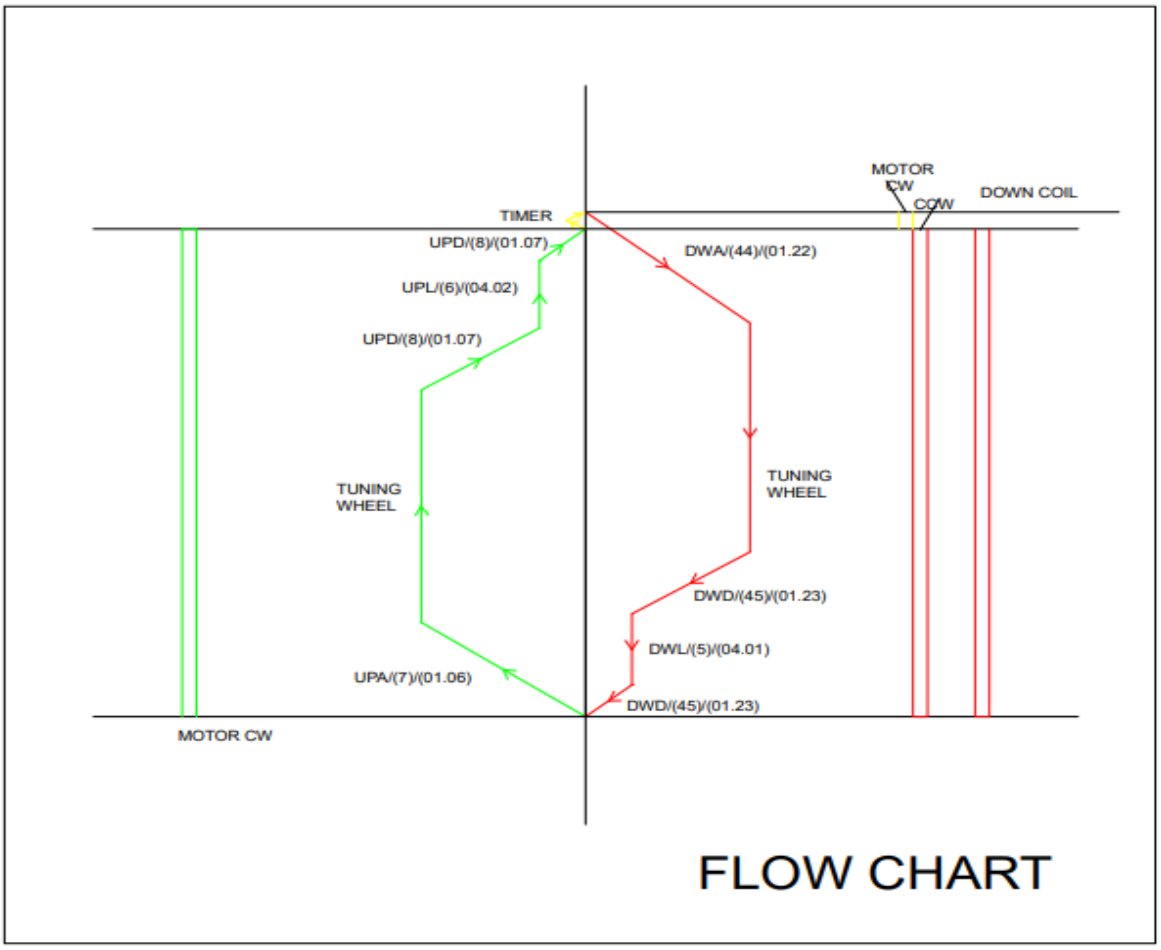
AKİŞ-INV-3/4”



AKİŞ-INV-1 ½”



FLOW CHART:



ABOUT US:

AKİŞ HİDROLİK is one of the oldest companies in the region, with roots dating back to 1949. It has nearly 80 years of experience in manufacturing. The 5.000 sqm factory is located in the Antalya Organized Industrial Zone. As being one of the leading hydraulic systems manufacturers in Türkiye and surrounding region, AKİŞ HİDROLİK designs and manufactures elevator control valves, hydraulic cylinders and power units, for home lifts, passenger elevators, freight lifts and car lifts.