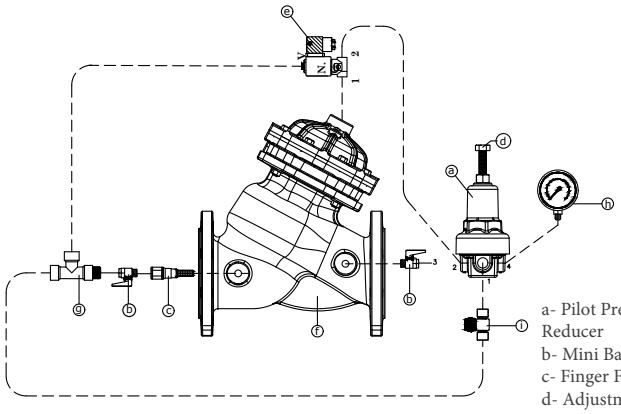
Solenoid-controlled pressure reducing control valve



Technical Drawing



a- Pilot Pressure Reducer
b- Mini Ball Valve
c- Finger Filter
d- Adjustment Screw
e- Solenoid
f- Main Body
g- Tee (Female - Male)
h- Pressure Gauge
i- Needle Valve

Product Description

BKV116 Series solenoid-controlled pressure reducing valves are hydraulic control valves that reduce a high inlet pressure to a desired lower pressure value.

Control of the main valve is achieved via a 3/2-way solenoid valve mounted on it. The electrical signal to the solenoid valve is provided by control equipment such as a control device, time relay, switch, PLC control unit, etc.

The valve is a pressure-operated diaphragm-actuated flap-closure hydraulic control valve. Its double-chamber diaphragm actuator provides fast and shock-free opening/closing.

Production Standards

DN40 ⟹ DN500	
Pressure Range	1 bar ⟹ 16 bar
Conections	Flanged EN1092-2
Colour	Electrostatic Powder Coating
Temperature	-10 °C +80 °C

Features

- The valve diameter can be the same as the main line or one diameter smaller. For continuous flows,
- Maximum water velocity of 5 m/s should be accepted.
- During product ordering, information regarding maximum flow rate, operating pressure, line diameter, connection type, max. inlet pressure and desired outlet pressure value should be provided.
- Horizontal and vertical mounting is possible.
- The outlet pressure is kept constant at the desired value without being affected by inlet pressure fluctuations.
- Provides low pressure loss and regular flow.
- Easy and precise adjustment to the desired pressure.
- Pressure reduction without being affected by pressure and flow rate changes in the system.
- Manual opening and closing.
- Easy maintenance. Low energy consumption.
- Low cavitation risk.

Application Areas

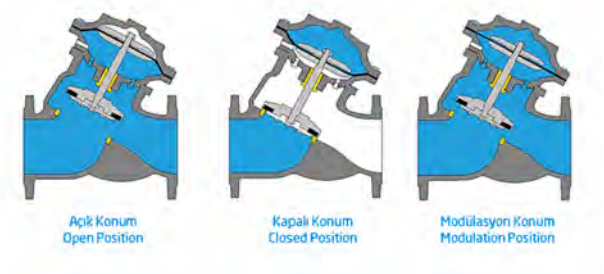
- Agricultural irrigation
- Fire extinguishing
- Industrial applications
- Irrigation and drinking water systems

Working Principle

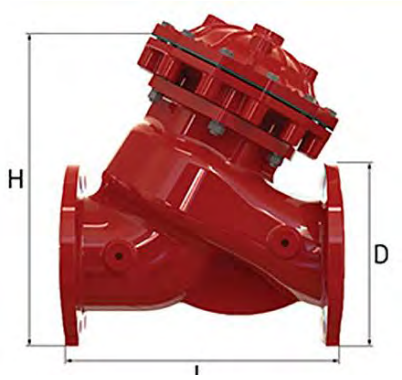
- Closed position: The valve is closed by applying pressure to the diaphragm with fluid pressure.
- Open position: Internal line pressure moves the diaphragm upwards, allowing flow.
- Modulation position: The diaphragm remains in a fixed position by balancing the internal and external line pressures.

Adjustment

- Power is supplied to the solenoid coil on the main valve via the control panel.
- The mini ball valve at the outlet of the two mini ball valves on the main valve is closed. Turning the pilot valve adjustment screw clockwise increases the pressure. Turning it counterclockwise decreases the pressure.
- When the desired pressure value is reached, the mini ball valve at the outlet is opened by tightening the lock nut under the adjustment screw.



Nominal Diameter	1 1/2" DN40	2" DN50	2 1/2" DN65	3" DN80	4" DN100	5" DN125	6" DN150	8" DN200	10" DN250	12" DN300	14" DN350	16" DN400	18" DN450	20" DN500
Product Code	YF16BDEK 40	YF16BDEK 50	YF16BDEK 65	YF16BDEK 80	YF16BDEK 100	YF16BDEK 125	YF16BDEK 150	YF16BDEK 200	YF16BDEK 250	YF16BDEK 300	YF16BDEK 350	YF16BDEK 400	YF16BDEK 450	YF16BDEK 500



Recommended Work Values

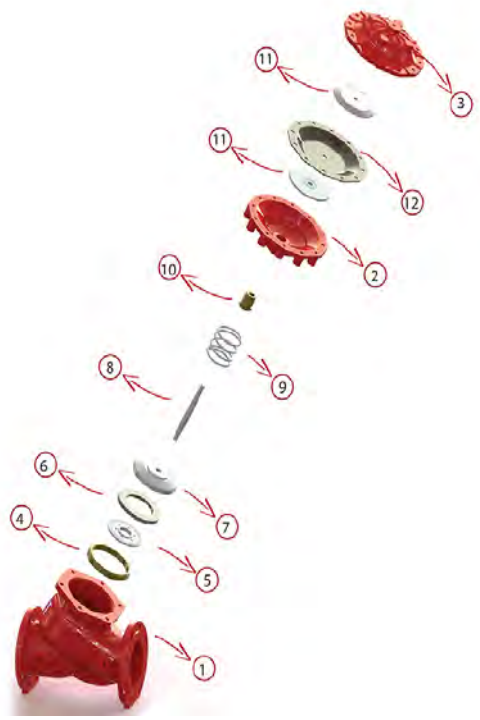
Working Pressure	Standard	1-16 bar (10-240 psi)
Temperature	Min.Operating Temperature	-10°C
	Max.Operating Temperature	+80°C
Connections	Flanged	EN 1092-2 ISO 7005-2
	Threaded	ISO (BSP) – ANSI (NPT)
Paint coating	Standard	Poliester
	Optional	Epoxy

Y-Type Control Valve Size and Weight Chart

DN		L		D		H		WEIGHT	
inch	mm	inch	mm	inch	mm	inch	mm	lbs	kg
1 ½"	40	8,5	215	5,9	150	10,6	270	33	15
2"	50	8,7	220	6,5	165	10,6	270	35	16
2 ½"	65	8,7	220	7,3	185	11,2	285	39	18
3"	80	10,60	270	7,9	200	13,4	340	59	27
4"	100	12,80	325	8,7	220	15,4	390	85	39
5"	125	13,20	335	9,8	250	16,5	420	97	44
6"	150	16,93	430	11,2	285	20,5	520	200	91
8"	200	21,26	540	13,4	340	26,0	660	399	181
10"	250	24,60	625	15,9	405	30,5	775	590	268
12"	300	26,97	685	18,3	465	31,9	810	661	300
14"	350	34,3	870	20,5	520	41,9	1065	1569	712
16"	400	34,3	870	23,0	585	43,1	1095	1598	725
18"	450	43,9	1115	56,3	1430	53,7	1365	3042	1380
20"	500	43,9	1115	56,3	1430	53,7	1365	3086	1400

NOTE: Weight and valve height (h) do not include accessories.

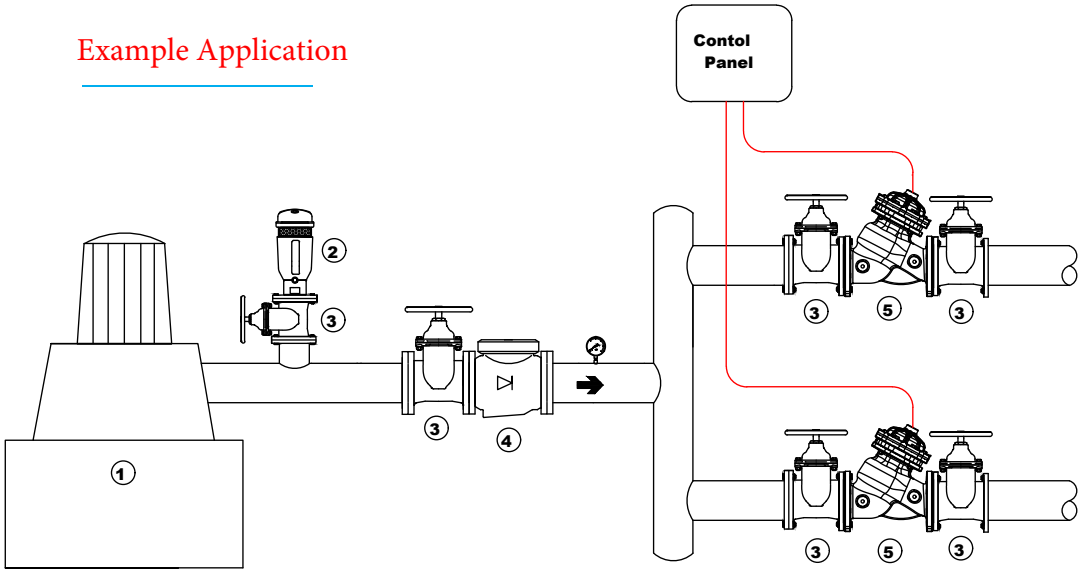
Main Parts



1	Body	GGG40 (EN-GJS 400-15) Cast iron
2	Intermediate Body	GGG40 (EN-GJS 400-15) Cast iron
3	Lid	GGG40 (EN-GJS 400-15) Cast iron
4	Leakproof	Brass/Bronze
5	Pressing flap	Stainless
6	Flap gasket	Buna-N
7	Flap	Stainless
8	Shaft	Stainless
9	Spring	Stainless
10	Intermediate Body Shaft	Brass/Bronze
11	Diaphragm Pressing Disc	Stainless
12	Diaphragm	Nopren (Nylon based)

Maximum Working Pressure		Leakage Test Pressure		Body Test Pressure	
BAR	PSI	BAR	PSI	BAR	PSI
10	145	11	160	15	217
16	232	17,6	255	24	348
25	363	27,5	399	37,5	544

Example Application

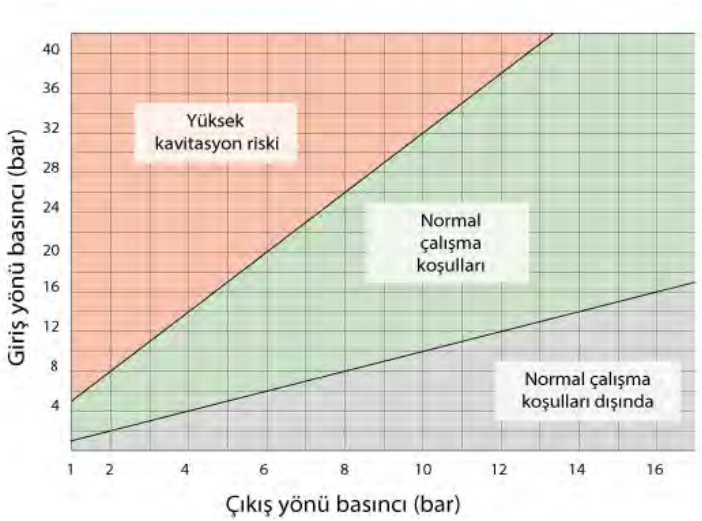


1- Pump
2- Air Vent
3- Isolation Valve
4- Check Valve
5- Solenoid Controlled Pressure Reducing Valve

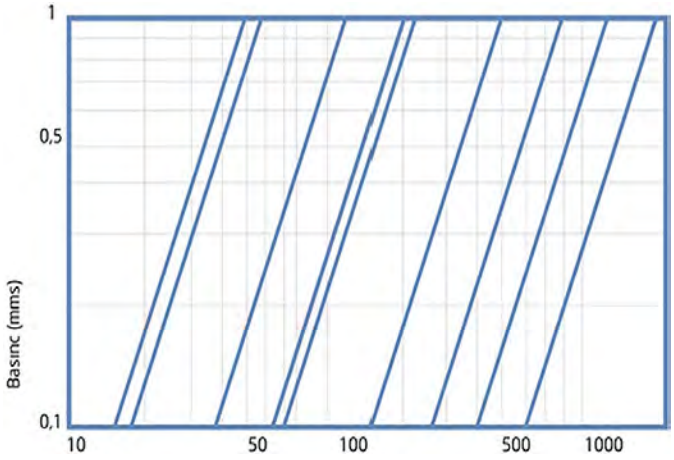
Flow Analysis Table

Nominal Diameter	mm	50	65	80	100	125	150	200	250	300	350	400	450	500
	İnch	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"
kv	m³/h- 1 ar	70	73	167	215	224	503	830	1300	1800				
		44	46	96	168	171	388	685	1054	1565				

Cavitation Graph



Pressure Loss Graph



Flow (m3/h)