HYDROSTAB CONTROL VALVES

K1 40 Hydrostab Surge Anticipating Valve

Surge Anticipating valve K1 40

<u>Eliminates surge in pumping systems</u>:

❑ Booster & deep well, single & variable speed
❑ Eliminates surge in all distribution networks:

Applications in potable water systems, high-rise buildings or irrigation,

APPLICATIONS
The surge-anticipating valve is designed to protect pumping stations against surges caused by pump stops on power failure, as well as overpressures during normal running of the pumps.

DESCRIPTION
Valve is hydraulically operated, diaphragm operated and do not rely on any power supply installed in derivation of the discharge pipe and evacuates to atmosphere or pump inlet.

OPERATION
The pressure is measured via a sensing line.
When the pressure drop due to the sudden pump stop is measured, the Surge Anticipating Valve starts to open, in order to dissipate the returning high pressure wave and discharging the excessive pressure (surge). This anticipation process allows an immediate elimination of the returning surge.

INSTALLATION
The valve is installed in derivation (off-line)

BAYARD
BY TALIS

Surge Anticipating valve K1 40
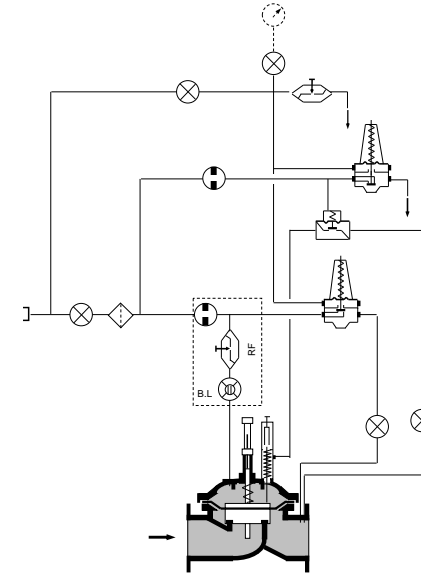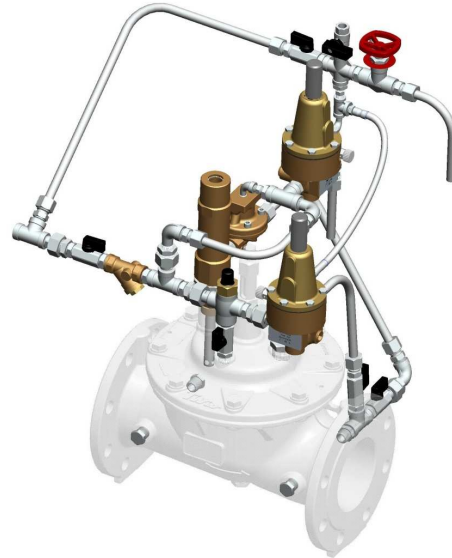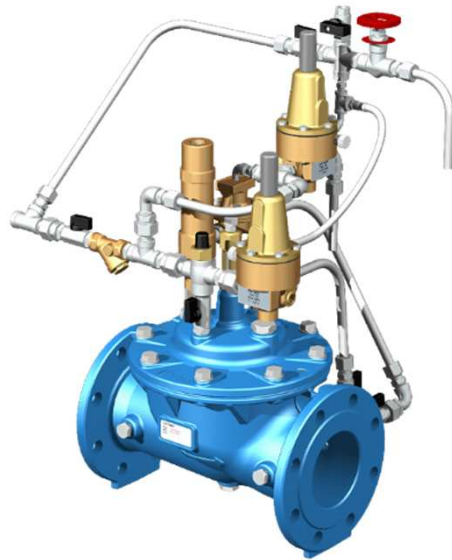
valve opens quickly on low pressure wave due to pump stop, and remains open until return of high pressure wave which is diverted to atmosphere.
Close slowly without causing secondary surges

- **DN 65 to DN 400**
- **PN 10 to PN 25**

Simplified version for high rise building DN 65 to DN 200 available on request

NB:
The installation of a surge anticipating valve do not remplace the installation of a surge vessel for vacuum protection
BAYARD is not liable for water hammer calculation and sizing of the valves

Surge Anticipating valve K1 40

Examples of installation
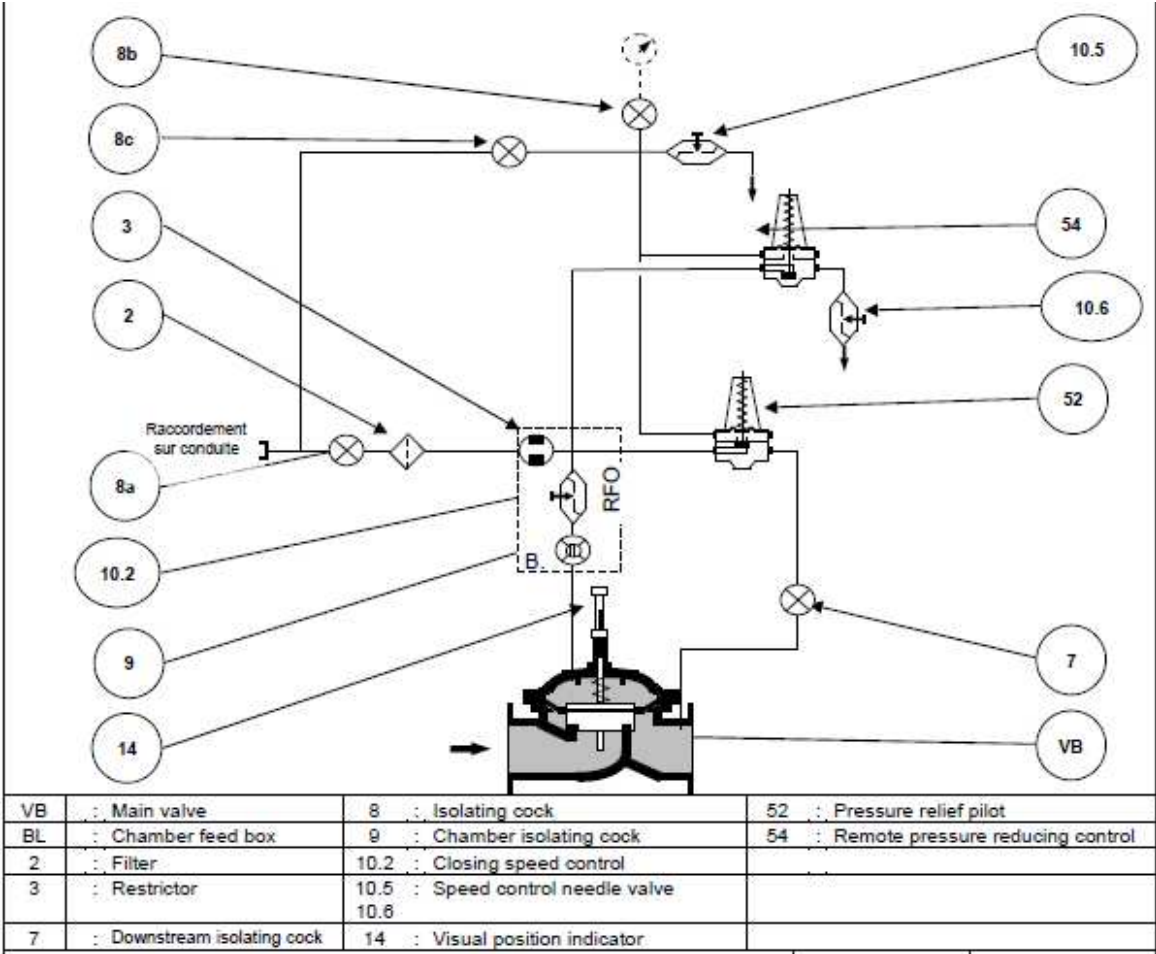

DN 400 installed in Oran (Algeria)

DN 400 installed in Nghe An (Vietnam)

BAYARD
BY TALIS

Surge Anticipating valve K1 40

High Rise Building version:

VB	: Main valve	8	: Isolating cock	52	: Pressure relief pilot
BL	: Chamber feed box	9	: Chamber isolating cock	54	: Remote pressure reducing control
2	: Filter	10.2	: Closing speed control		
3	: Restrictor	10.5 10.6	: Speed control needle valve		
7	: Downstream isolating cock	14	: Visual position indicator		

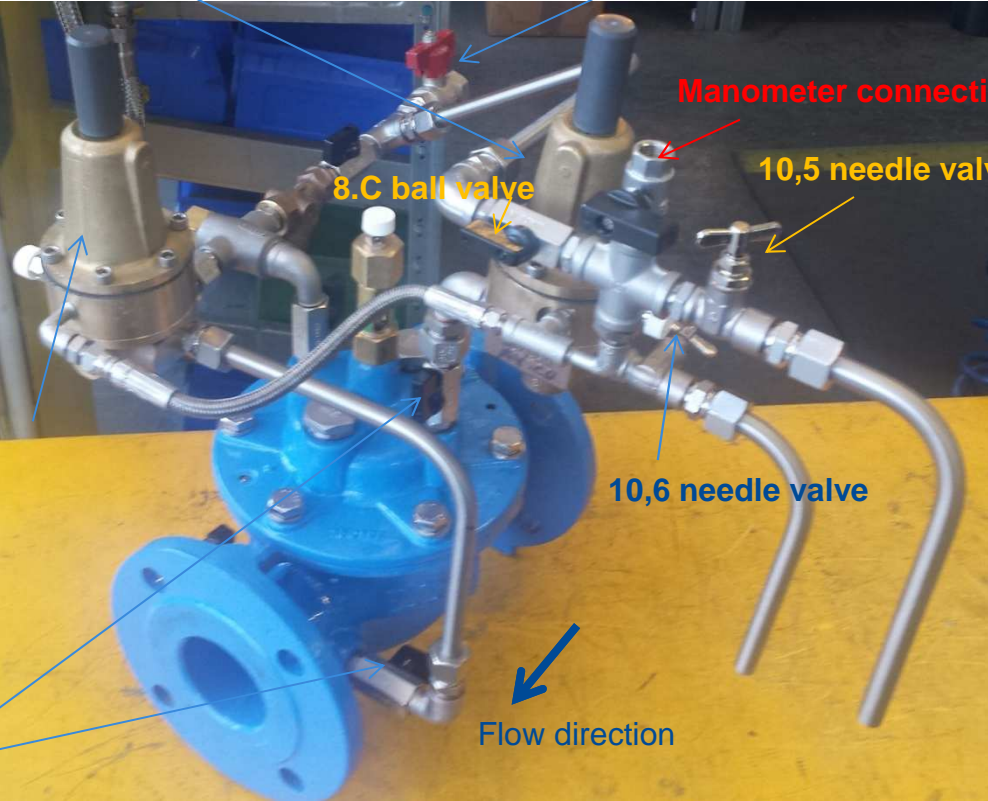# Surge Anticipating valve K1 40

54 anticipator
initial setting 3 bar

Pressure sensing connection (approx 1,5/2m before the valve)

Manometer connection

8.C ball valve

10,5 needle valve

52 pressure relief
Setting approx 1,5 bar higher than max pump pressure

10,6 needle valve

Flow direction

Downstream and chamber isolating ball valves

BAYARD
BY TALIS

Surge Anticipating valve K1 40

High Rise Building version:

,

The function is to protect against water hammer in case of sudden pump stop (power failure)
It is advised to make a power failure before setting th evalve in order to read max and min pressure on the manometer, Then another simulation after setting

Installation: the valve is installed on derivation; a sensing pressure line must be connected to the pilot circuit

Setting the Anticipator function
- Close downstream isolating ball valve and then chamber ball valve
- Check pressure on manometer
- Fully close needle valve 10.5
- Preset pilot 54 acc.to chart page 3 spring 1-20bar 3/8'' at approx 3 bar (WXA05012)
- Close valve 8.c Slightly open 10.5 needle valve to decrease pressure (check on manometer) and pilot 54 will open at the set value (fine tune if necessary)
- Close 10.5 needle valve and re open 8.c ball valve Check that needle valve 10.6 is open (this is only to adjust the speed of opening).
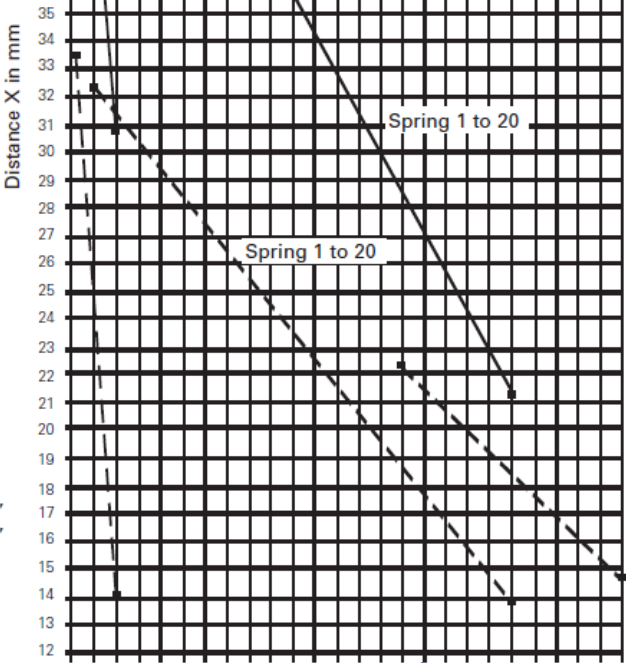
Setting Relief Function
- Preset pilot 52 acc.to chart page 3 spring 1-20bar 3/8'' at 1,5 bar higher than max pump pressure (WXA05013)
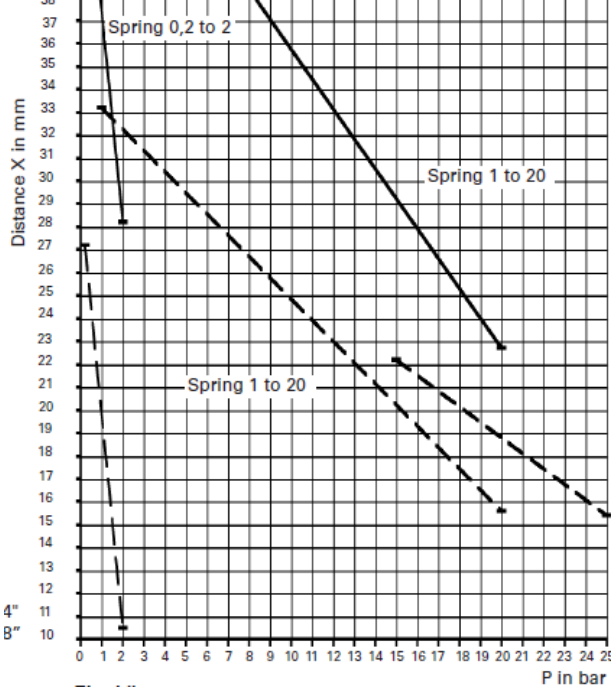
BAYARD
BY TALIS

Surge Anticipating valve K1 40

High Rise Building version:

pilot 54 chart page 3 spring 1-20bar 3/8"
(WXA05012)

pilot 52 acc.to chart page 3 spring 1-20bar 3/8"
(WXA05013)

Lock nut

——— Downstream pilot 3/4"
- - - - Downstream pilot 3/8"

BAYARD
BY TALIS