

# A2A5 Surge Anticipating Control Valve

REF EFC-361 ISSUED 11 Jun 2026

## BUILT ON THE A900 MAIN VALVE BODY

All A900 configurations share the same hydraulically operated body. An existing body can be repiloted in the field for a different duty by swapping the pilot assembly, without body replacement.

## SPECIFICATIONS

Size	DN50–DN400
Pressure	PN16–PN25
End connection	flanged (EN 1092-2) / flanged (EN 1092-2)

## STANDARDS

Design	EN 1074-5
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## APPROVALS & CERTIFICATIONS

- WRAS
- ISO 9001

## APPLICATIONS

- Complex pressure zone boundaries
- Surge-sensitive networks
- Water distribution

## FEATURES

- The A2A5 is a surge anticipating control valve that opens to relieve overpressure before a surge wave reaches its full magnitude
- A pressure sensing pilot monitors the pipeline and begins opening the valve as soon as pressure rises above the set point, discharging to atmosphere or a recirculation line to absorb surge energy
- This anticipatory action is more effective than a simple relief valve, which only opens after the surge has already peaked

## PILOT ASSEMBLY & ACCESSORIES

### PILOT ASSEMBLY

**P20A Differential Pressure Pilot** Pressure sensing pilot — monitors line pressure and begins opening the valve as pressure rises above the set point, ahead of the surge peak



**COMPATIBLE ACCESSORIES**

**Needle Valve** Adjusts response speed and damps oscillation in the pilot circuit

**OTHER CONFIGURATIONS ON THIS BODY**

- A100 Modulating Float Control Valve
- A203 Pressure Reducing with Check Valve
- A400 Flow Control Valve
- A600 Solenoid Control Valve
- A900 Automatic Control Valve (Main Valve)
- A10B Bi-Level Float Control Valve
- A204 Pressure Reducing Valve with Flow Limiter
- A206 Pressure Reducing Solenoid Control Valve
- A506 Pressure Sustaining Valve with Solenoid Control
- A7MD Pump Control Valve – Passive Protection
- A900 Automatic Control Valve – Threaded
- A200 Pressure Reducing Valve
- A300 Slow Control Check Valve
- A500 Pressure Relief / Sustaining Valve
- A76D Pump Control Valve – Double Chamber
- A10A Altitude Control Valve
- A14A Altitude with Rate of Flow Control Valve
- A205 Pressure Sustaining and Reducing Valve
- A20B Pressure Reducing Valve – High Flow
- A6DV Dual Solenoid Control Valve
- A800 Pressure Differential Valve
- R900 Main Valve – Reduced Bore

**PRESSURE-TEMPERATURE RATING**

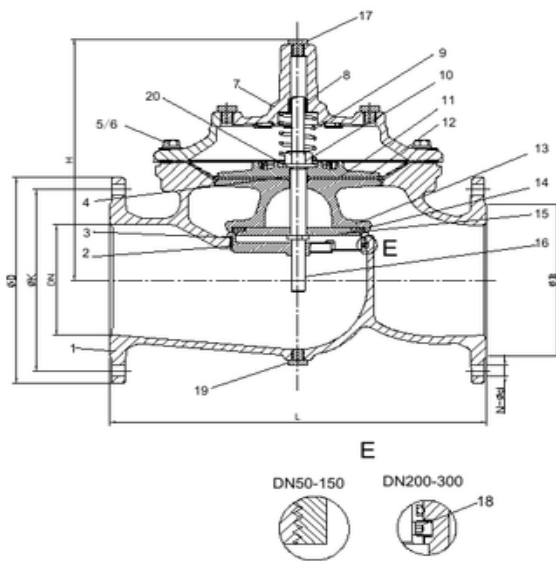
CLASS	TEMPERATURE	MAX PRESSURE
PN10	-10°C	10 bar
PN10	80°C	10 bar
PN16	-10°C	16 bar
PN16	80°C	16 bar
PN25	-10°C	25 bar
PN25	80°C	25 bar

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## A900-Main Valve DN50-DN350



### Parts List

No.	Description	Material	Standard
1	Body	Ductlie Iron	GJS 500-7
2	Seat	Stainless Steel	AISI 304/316
3	O-ring	Rubber	NBR
4	O-ring	Rubber	NBR
5	Bolt	Stainless Steel	A2/A4
6	Washer	Stainless Steel	A2/A4
7	Bonnet	Ductlie Iron	GJS 500-7
8	Bush	Bronze	C61900
9	Spring	Stainless Steel	AISI 304/316
10	Caulking Nut	Stainless Steel	A4
11	Diaphragm	Nylon Reinforced Rubber	EPDM +Nylon Fabric
12	Fixing holder	Ductlie Iron	GJS 500-7
13	Disc Holder	Ductlie Iron	GJS 500-7
14	Seal	Rubber	EPDM
15	Seat Retainer	Stainless Steel	AISI 304/316
16	Stem	Stainless Steel	AISI 304/316
17	Plug	Stainless Steel	AISI 304/316
18	Screw	Stainless Steel	A2/A4
19	Plug	Stainless Steel	A2/A4
20	Washer	Stainless Steel	A2/A4

### Dimension:

DN	Model Code	L	ØD			ØK			H	N-Ød			ØB		
			PN10	PN16	PN25	PN10	PN16	PN25		PN10	PN16	PN25	PN10	PN16	PN25
50	A900-0050	230	165	165	165	125	125	125	177	4-Ø19	4-Ø19	4-Ø19	Ø99	Ø99	Ø99
65	A900-0065	290	185	185	185	145	145	145	202	4-Ø19	4-Ø19	8-Ø19	Ø118	Ø118	Ø118
80	A900-0080	310	200	200	200	160	160	160	219	8-Ø19	8-Ø19	8-Ø19	Ø132	Ø132	Ø132
100	A900-0100	350	220	220	235	180	180	190	243	8-Ø19	8-Ø19	8-Ø23	Ø156	Ø156	Ø156
*125	A900-0125	400	250	250	270	210	210	220	243	8-Ø19	8-Ø19	8-Ø28	Ø156	Ø156	Ø156
150	A900-0150	480	285	285	300	240	240	250	333	8-Ø23	8-Ø23	8-Ø28	Ø211	Ø211	Ø211
200	A900-0200	600	340	340	360	295	295	310	428	8-Ø23	12-Ø23	12-Ø28	Ø266	Ø266	Ø274
250	A900-0250	730	405	405	425	350	355	370	478	12-Ø23	12-Ø28	12-Ø31	Ø319	Ø319	Ø330
300	A900-0300	850	460	460	485	400	410	430	538	12-Ø23	12-Ø28	16-Ø31	Ø370	Ø370	Ø389
*350	A900-0350	980	520	520	555	460	470	490	550	16-Ø23	16-Ø28	16-Ø34	Ø429	Ø429	Ø448

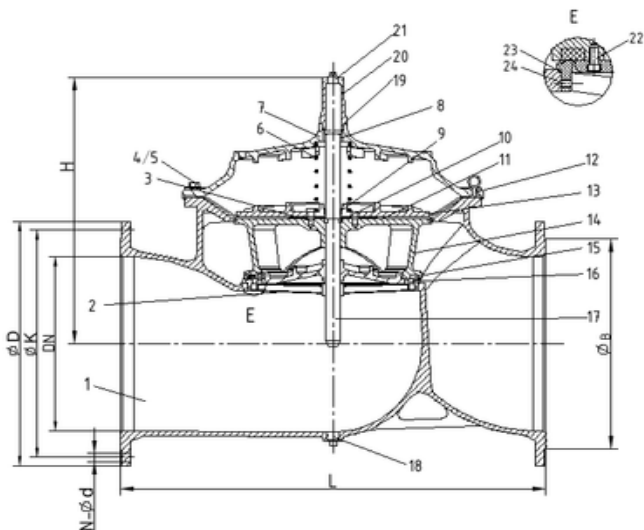
NOTE: 1. \*DN125/350 use same internal as DN100/300  
2. AISI 304 factory standard material. consult factory for AISI 316 material.

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# A2A5 Surge Anticipating Control Valve

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## A900-Main Valve DN400-DN800



### Parts List

No.	Description	Material	Standard
1	Body	Ductile Iron	GJS 500-7
2	Seat	Stainless Steel	AISI 304/316
3	Screw	Stainless Steel	A2/A4
4	Screw	Stainless Steel	A2/A4
5	Screw	Stainless Steel	A2/A4
6	Spring	Stainless Steel	AISI 304/316
7	Bonnet	Ductile Iron	GJS 500-7
8	Bush	Bronze	C61900
9	O-ring	Rubber	NBR
10	Fix Washer	Bronze	C61900
11	Diaphragm	Nylon Reinforced Rubber	EPDM +Nylon Fabric
12	Eye Bolts	Carbon Steel	1040
13	Fixing Holder	Ductile Iron	GJS 500-7
14	Disc Holder	Ductile Iron	GJS 500-7
15	Seal	Rubber	EPDM
16	Seal Retainer	Ductile Iron	GJS 500-7
17	Stem	Stainless Steel	AISI 304/316
18	Plug	Stainless Steel	AISI 304/316
19	O-ring	Rubber	NBR
20	Cap	Ductile Iron	GJS 500-7
21	Plug	Stainless Steel	AISI 304/316
22	Screw	Stainless Steel	A2/A4
23	O-ring	Rubber	NBR
24	Screw	Stainless Steel	A2/A4

### Dimension:

Unit: mm

DN	Model Code	L	H	ØD			ØK			N-Ød			ØB		
				PN10	PN16	PN25	PN10	PN16	PN25	PN10	PN16	PN25	PN10	PN16	PN25
400	A900-0400	1100	710	580	580	620	515	525	550	16-Ø28	16-Ø31	16-Ø37	480	480	503
*450	A900-0450	1200	720	640	640	670	565	585	600	20-Ø28	20-Ø31	20-Ø37	530	548	548
500	A900-0500	1250	822	715	715	730	620	650	660	20-Ø28	20-Ø34	20-Ø37	582	609	609
600	A900-0600	1450	885	840	840	845	725	770	770	20-Ø31	20-Ø37	20-Ø40	682	720	720
*700	A900-0700	1650	910	910	910	960	840	840	875	24-Ø31	24-Ø37	24-Ø43	682	720	720
800	A900-0800	1850	1260	1025	1025	1085	950	950	990	24-Ø34	24-Ø40	24-Ø49	901	901	928

Note: 1. \*DN450/700 use same internal as DN400/600.

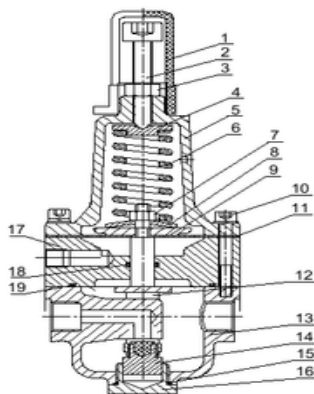
2. AISI 304 factory standard material. consult factory for AISI 316 material.

CONTROL VALVE

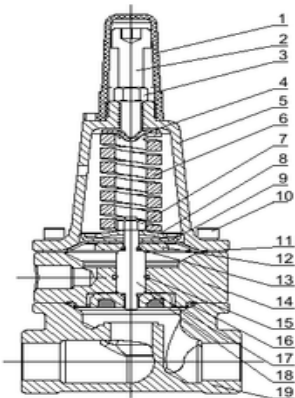
# A2A5 Surge Anticipating Control Valve

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## P20A Anticipation Pilot (Preaction)



## P500-Relief/Sustaining Pilot



### Part list & Material

No.	Description	Material	Standard
1	Cap	Plastic	ABS
2	Adjusting Screw	Stainless Steel	AISI 304
3	Jam Nut	Stainless Steel	A2
4	Spring table	Stainless Steel	AISI 304
5	Bonnet	Stainless Steel	AISI 304
6	Spring	Spring Steel	SiCrV
7	Nut	Stainless Steel	A2
8	Spring table	Spring Steel	Mn-steel+Ni Plated
9	Fixing Holder	Stainless Steel	AISI 304
10	Screw	Stainless Steel	A2
11	Diaphragm	Rubber	NBR+Nylon
12	Yoke	Stainless Steel	AISI 304
13	Body	Stainless Steel	AISI 304
14	Disc	Stainless Steel+Rubber	AISI 304+EPDM
15	O-Ring	Rubber	NBR
16	Plug	Stainless Steel	AISI 304
17	Internal Body	Stainless Steel	AISI 304
18	O-Ring	Rubber	NBR
19	O-Ring	Rubber	NBR

### Part list & Material

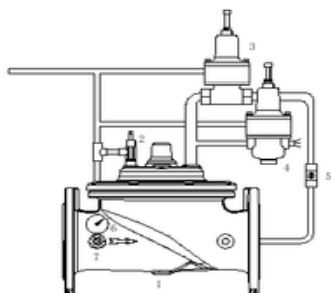
No.	Description	Material	Standard
1	Cap	Plastic	ABS
2	Adjusting Screw	Stainless Steel	AISI 304
3	Jam Nut	Stainless Steel	AISI 304
4	Spring table	Stainless Steel	AISI 304
5	Bonnet	Stainless Steel	AISI 304
6	Spring	Spring Steel	SiCrV
7	Nut	Stainless Steel	A2
8	Spring table	Spring Steel	Mn-steel+Ni Plated
9	Fixing Holder	Stainless Steel	AISI 304
10	Screw	Stainless Steel	A2
11	Diaphragm	Nylon Reinforced Rubber	EPDM+Nylon
12	Gasket	Stainless Steel	AISI 304
13	O-Ring	Rubber	NBR
14	Internal Body	Stainless Steel	AISI 304
15	O-Ring	Rubber	NBR
16	O-Ring	Rubber	NBR
17	Stem	Stainless Steel	AISI 304
18	Disc	Stainless Steel+Rubber	AISI 304+EPDM
19	Body	Stainless Steel	AISI 304

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# A2A5 Surge Anticipating Control Valve

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## A2A5 Surge Anticipation Valve



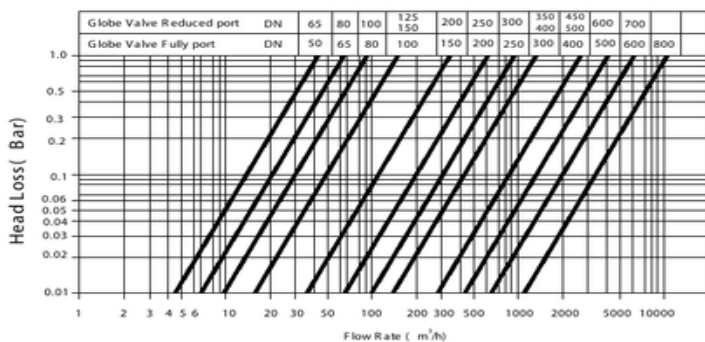
1. Main Valve
2. Needle Valve
3. P500
4. P20A
5. Ball Valve
6. Inlet Pressure Gauge (Optional)
7. Strainer



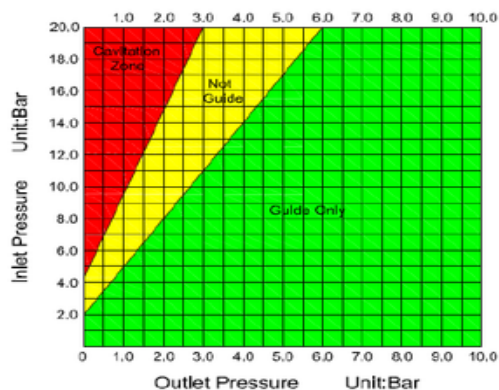
**Function:**

1. P20A is used for sensing to open at low pressure before surge, for quick relief high pressure wave.
2. The pre-open function eliminates the surge during pump abrupt stoppage.
3. The valve releases excessive system pressure.

### Head Loss Curve



### Cavitation



### Ordering Code

**Model:**  
A2A5: Surge Anticipating Valve

**A2A5-0200-16-YYY**

**YYY: Special Code**  
Please Consult Factory

**Pressure Rating:**  
10: PN10  
16: PN16  
25: PN25  
A1: ANSI 125 F/F  
A5: ANSI 150 R/F

**Size:**  
0080: 80 mm  
0200: 200 mm

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# A2A5 Surge Anticipating Control Valve

SECTION Dimensions per size REF EFC-361

SIZE	L	H	OD_PN10	OD_PN16	OD_PN25	OK_PN10	OK_PN16	OK_PN25	OB_PN10	OB_PN16	OB_PN25
DN50	230	177	165	165	165	125	125	125	99	99	99
DN65	290	202	185	185	185	145	145	145	118	118	118
DN80	310	219	200	200	200	160	160	160	132	132	132
DN100	350	243	220	220	235	180	180	190	156	156	156
DN125	400	243	250	250	270	210	210	220	156	156	156
DN150	480	333	285	285	300	240	240	250	211	211	211
DN200	600	428	340	340	360	295	295	310	266	266	274
DN250	730	478	405	405	425	350	355	370	319	319	330
DN300	850	538	460	460	485	400	410	430	370	370	389
DN350	980	550	520	520	555	460	470	490	429	429	448
DN400	1100	710	580	580	620	515	525	550	480	480	503
DN450	1200	720	640	640	670	565	585	600	530	548	548
DN500	1250	822	715	715	730	620	650	660	582	609	609
DN600	1450	885	840	840	845	725	770	770	682	720	720
DN700	1650	910	910	910	960	840	840	875	682	720	720
DN800	1850	1260	1025	1025	1085	950	950	990	901	901	928

All dimensions in millimetres unless stated otherwise. Values are nominal; tolerances confirmed at quote.