

A7MD Pump Control Valve – Passive Protection

REF **EFC-364** 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

- ISO 9001

COATINGS & LINING

- Rubber lined

APPLICATIONS

- Pump discharge surge protection
- Rising mains with delayed closing
- Booster pump stations

FEATURES

- The A7MD is a pump control valve with an integrated manual override facility and delayed closing function
- The manual override allows the valve to be held open or closed independently of pump operation for commissioning, testing and maintenance
- The delayed closing timer extends the valve closing time on pump trip, allowing the hydraulic transient to decay before the valve seats, minimising water hammer on long rising mains



PRESSURE-TEMPERATURE RATING

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

CONTROL VALVE

A7MD Pump Control Valve – Passive Protection

SECTION Technical drawing 1 of 6 REF EFC-364

A7MD - Mechanical Pump Control Valve

When pump starts, A7MD will open slowly by the pressure increased in the middle chamber which provide a less headloss.

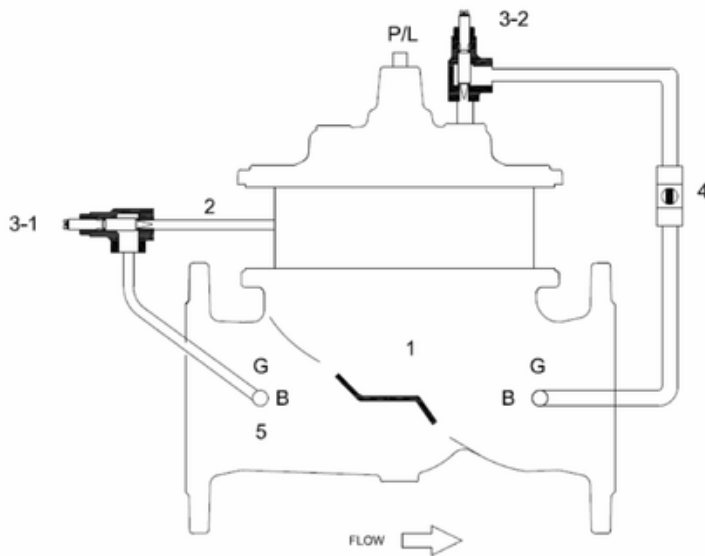
When the pump stops or out of electriciry, A7MD will act like a check valve to prevent water hammer.

Internal Check Options:

Option 1: Quick close 100%.

Option 2: It will block the 90% of the flow area quickly and closed slowly at the last 10% stroke.

* DN50-DN150 is for slow closign only.



OPTION & ACCESSORIES

- B Ball valve
- G Pressure gauge
- P Position indicator
- L Limit switch

NO.	Part Name	Material
1	Main Valve	GJS 500-7
2	Tube	SUS304
3	Needle Valve	SUS304
4	Ball Valve	SUS304
5	Strainer	SUS304

CONTROL VALVE

A7MD Pump Control Valve – Passive Protection

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A76D - electrical pump control valve

The A76D is included two pcs of 3 way latch solenoid valves. 4-1 is to control the mid-chamber and 4-2 is to control upper chamber. 7-1 and 7-2 are accelerators to increase the opening/closing speed and they are controlled by related latch solenoid valves.

How does the A76D work -

Pump start :

The 4-2 will actuate the 7-2 accelerator to let the upper chamber connect to valve outlet. The 4-1 will actuate the 7-1 accelerator to let inlet water fill into middle chamber to push up the diaphragm to the top position. The PLC can set a delay timer when to actuate the solenoid valve to avoid water hammer.

Pump Stop:

The 4-2 will actuate the 7-2 accelerator to let the upper chamber connect to valve inlet. The 4-1 will actuate the 7-1 accelerator to let middle chamber connect to atmosphere. The PLC should monitor the indicator. When valve is fully closed, then stop the pump to do active protection.

Electricity stopped

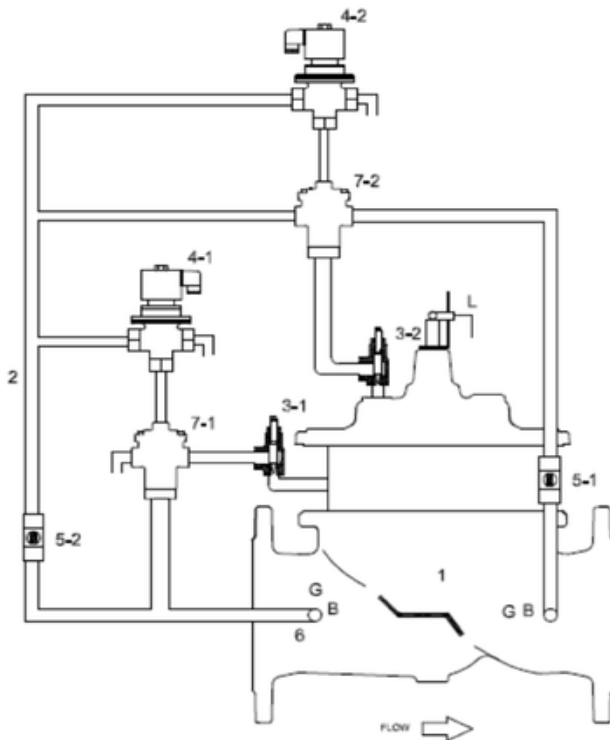
The valve will perform as a check valve to prevent water back flow.

Internal Check Options:

Option 1: Quick close 100%.

Option 2: It will block the 90% of the flow area quickly and closed slowly at the last 10% stroke.

* DN50-DN150 is for slow closign only.



NO.	Part Name	Material
1	Main Valve	GJS 500-7
2	Tube	SUS304
3	Needle Valve	SUS304
4	Solenoid Valve	Commercial
5	Ball Valve	SUS304
6	Strainer	SUS304
7	Three-way accelerator	SUS304
L	Limit switch	Commercial

OPTION & ACCESSORIES

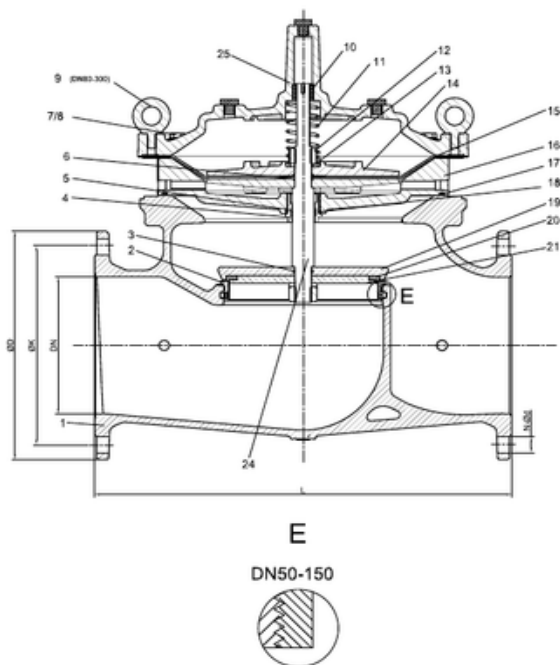
- G Pressure gauge
- B Ball valve

CONTROL VALVE

A7MD Pump Control Valve – Passive Protection

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A90D-Main Valve DN50-DN150



Parts List

No.	Description	Material	Standard
1	Body	Ductile Iron	GJS 500-7
2	Seat	Stainless Steel	AISI 304
3	O-ring	Rubber	NBR
4	Bush	Bronze	C61900
5	O-ring	Rubber	NBR
6	O-Ring	Rubber	NBR
7	Bolt	Stainless Steel	AISI 304
8	Washer	Stainless Steel	AISI 304
9	Eye Bolt	Carbon Steel	Commercial
10	Bush	Bronze	C61900
11	Spring	Stainless Steel	AISI 304
12	Chaulking Nut	Stainless Steel	AISI 316
13	Spring Washer	Stainless Steel	AISI 304
14	Fixing Holder	Ductile Iron	GJS500-7
15	Diaphragm	Rubber	EPDM+Nylon
16	Middle Body	Ductile Iron	GJS500-7
17	O-ring	Rubber	NBR
18	O-ring	Rubber	NBR
19	Disc Holder	Ductile Iron	GJS500-7
20	Seal	Rubber	EPDM
21	Seat Retainer	Stainless Steel	AISI 304
22	O-Ring	Rubber	NBR
23	Screw	Stainless Steel	AISI 304
24	Stem	Stainless Steel	AISI 304
25	Bonnet	Ductile Iron	GJS500-7

Dimension:

DN	Model Code	L	ØD			ØK			H	N-Ød			Unit: mm ØB		
			PN10	PN16	PN25	PN10	PN16	PN25		PN10	PN16	PN25	PN10	PN16	PN25
50	A900-0050	230	165	165	165	125	125	125	169	4-Ø19	4-Ø19	4-Ø19	Ø99	Ø99	Ø99
65	A900-0065	290	185	185	185	145	145	145	189	4-Ø19	4-Ø19	8-Ø19	Ø118	Ø118	Ø118
80	A900-0080	310	200	200	200	160	160	160	209	8-Ø19	8-Ø19	8-Ø19	Ø132	Ø132	Ø132
100	A900-0100	350	220	220	235	180	180	190	244	8-Ø19	8-Ø19	8-Ø23	Ø156	Ø156	Ø156
*125	A900-0125	400	250	250	270	210	210	220	309	8-Ø19	8-Ø19	8-Ø28	Ø156	Ø156	Ø156
150	A900-0150	480	285	285	300	240	240	250	368	8-Ø23	8-Ø23	8-Ø28	Ø211	Ø211	Ø211

CONTROL VALVE

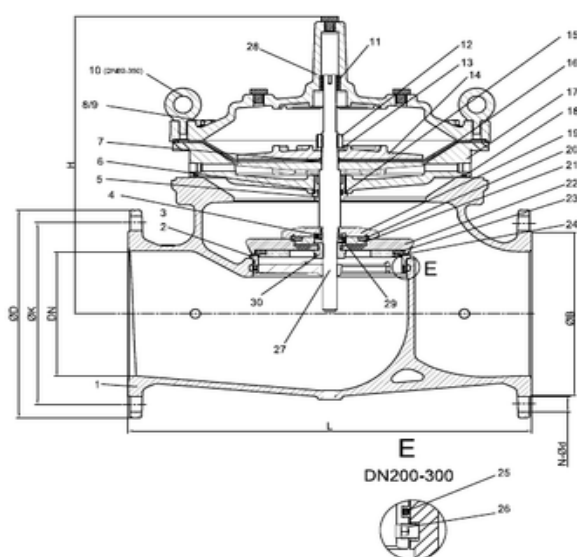
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Main Valve DN200-DN350

A70D (100% fast close)

A70D-S (90% fast close and 10% slow close)



A70D-S



A70D



Parts List

No.	Description	Material	Standard
1	Body	Ductile Iron	GJS 500-7
2	Seat	Stainless Steel	AISI 304
3	O-Ring	Rubber	NBR
4	Spring	Stainless Steel	AISI 304
5	Bush	Bronze	C61900
6	O-Ring	Rubber	NBR
7	O-Ring	Rubber	NBR
8	Bolt	Stainless Steel	AISI 304
9	Washer	Stainless Steel	AISI 304
10	Eye Bolt	Carbon Steel	CS/1040
11	Bush	Bronze	C61900
12	Chaulking Nut	Stainless Steel	AISI 316
13	Spring Washer	Stainless Steel	AISI304
14	Fixing Holder	Ductile Iron	GJS500-7
15	O-ring	Rubber	NBR
16	Diaphragm	Rubber	EPDM + Nylon
17	Middle Body	Ductile Iron	GJS 500-7
18	O-Ring	Rubber	NBR
19	Upper disc holder	Carbon Steel	Commercial
20	Seal	Rubber	EPDM
21	Upper Seat Retainer	Stainless Steel	AISI 304
22	Bottom Disc Holder	Carbon Steel	Commercial
23	Seal	Rubber	NBR
24	Bottom Seat Retainer	Stainless Steel	AISI 304
25	O-Ring	Rubber	AISI 304
26	Screw	Stainless Steel	AISI 304
27	Stem	Stainless Steel	AISI 304
28	Bonnet	Ductile Iron	GJS500-7
29	Chaulking Nut	Stainless Steel	AISI 316
30	Bush	Bronze	C61900

Dimension:

DN	Model Code	L	ØD			ØK			H	N-Ød			Unit: mm ØB		
			PN10	PN16	PN25	PN10	PN16	PN25		PN10	PN16	PN25	PN10	PN16	PN25
200	A900-0200	600	340	340	360	295	295	310	442	8-Ø23	12-Ø23	12-Ø28	Ø266	Ø266	Ø274
250	A900-0250	730	405	405	425	350	355	370	526	12-Ø23	12-Ø28	12-Ø31	Ø319	Ø319	Ø330
300	A900-0300	850	460	460	485	400	410	430	586	12-Ø23	12-Ø28	16-Ø31	Ø370	Ø370	Ø389
*350	A900-0350	980	520	520	555	460	470	490	656	16-Ø23	16-Ø28	16-Ø34	Ø429	Ø429	Ø448

CONTROL VALVE

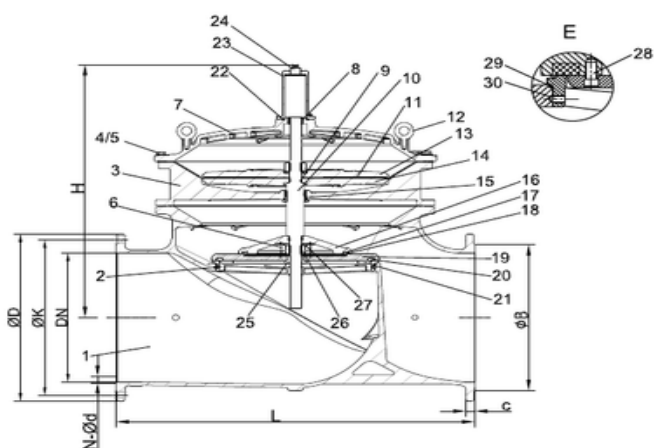
A7MD Pump Control Valve – Passive Protection

SECTION Technical drawing 5 of 6 REF EFC-364

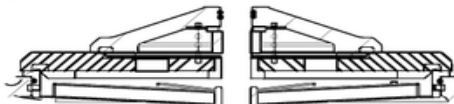
Main Valve DN400-DN800

A70D (100% fast close)

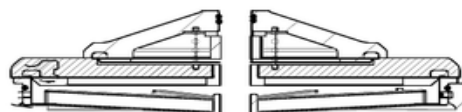
A70D-S (90% fast close and 10% slow close)



A70D-S



A70D



Parts List

No.	Description	Material	Standard
1	Body	Ductile Iron	GJS 500-7
2	Seat	Stainless Steel	AISI 304
3	Middle Body	Ductile Iron	GJS 500-7
4	Screw	Stainless Steel	AISI 304
5	Screw	Stainless Steel	AISI 304
6	Spring	Stainless Steel	AISI 304
7	Bonnet	Ductile Iron	GJS 500-7
8	Bush	Bronze	C61900
9	O-Ring	Rubber	NBR
10	Stem	Stainless Steel	AISI 304
11	Diaphragm	Rubber	EPDM + Nylon
12	Eye Bolt	Carbon Steel	Commercial
13	Fixing Holder	Ductile Iron	GJS500-7
14	Fixing Holder	Ductile Iron	GJS500-7
15	Bush	Bronze	C61900
16	Upper Disc Holder	Ductile Iron	GJS500-7
17	Seal	Rubber	EPDM
18	Upper Seat Retainer	Carbon Steel	Commercial
19	Bottom Disc Holder	Ductile Iron	GJS500-7
20	Seal	Rubber	EPDM
21	Bottom Seat Retainer	Carbon Steel	Commercial
22	O-Ring	Rubber	NBR
23	Cap	Ductile Iron	GJS500-7
24	Plug	Stainless Steel	AISI 304
25	Bush	Bronze	C61900
26	Chaulking Nut	Stainless Steel	AISI 316
27	Washer	Stainless Steel	AISI 304
28	Screw	Stainless Steel	AISI 304
29	O-Ring	Rubber	NBR
30	Screw	Stainless Steel	AISI 304

Dimension:

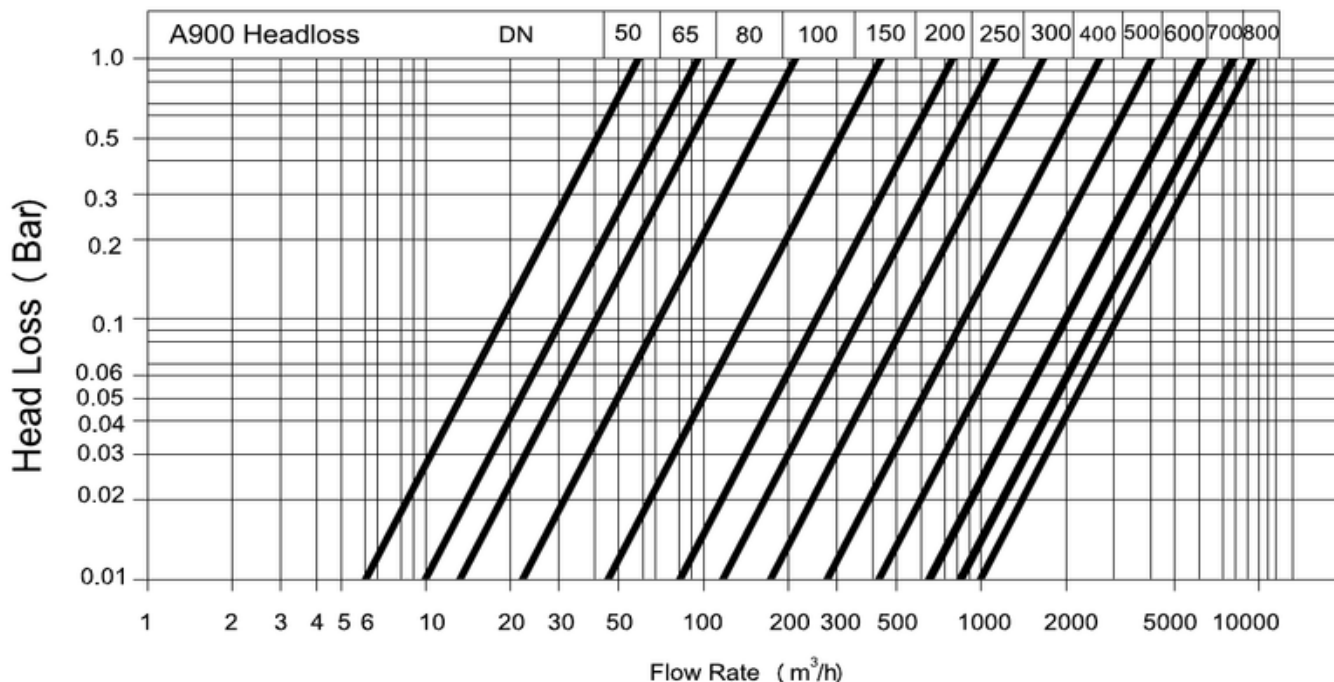
DN	Model Code	L	H	ØD			ØK			N-Ød			Unit: mm ØB		
				PN10	PN16	PN25	PN10	PN16	PN25	PN10	PN16	PN25	PN10	PN16	PN25
400	A900-0400	1100	770	580	580	620	515	525	550	16-Ø28	16-Ø31	16-Ø37	480	480	503
*450	A900-0450	1200	780	640	640	670	565	585	600	20-Ø28	20-Ø31	20-Ø37	530	548	548
500	A900-0500	1250	890	715	715	730	620	650	660	20-Ø28	20-Ø34	20-Ø37	582	609	609
600	A900-0600	1450	1050	840	840	845	725	770	770	20-Ø31	20-Ø37	20-Ø40	682	720	720
700	A900-0700	1650	1185	910	910	960	840	840	875	24-Ø31	24-Ø37	24-Ø43	682	720	720
800	A900-0800	1850	1310	1025	1025	1085	950	950	990	24-Ø34	24-Ø40	24-Ø49	901	901	928

CONTROL VALVE

A7MD Pump Control Valve – Passive Protection

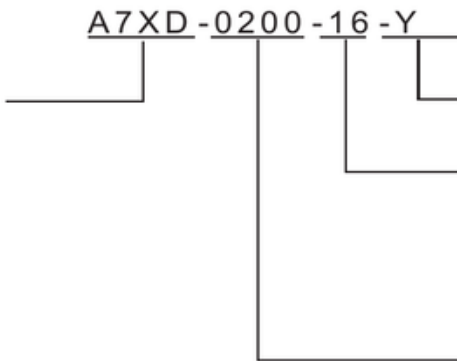
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Head Loss Curve



Ordering Code

Model:
A76D:
Electrical pump control valve
A7MD:
Mechanical pump control valve



Y: Special Code
S: 90% fast closing and 10% slow closing

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

CONTROL VALVE

A7MD Pump Control Valve – Passive Protection

SECTION Dimensions per size REF EFC-364

SIZE	L	H	OD_PN10	OD_PN16	OD_PN25	OK_PN10	OK_PN16	OK_PN25	OB_PN10	OB_PN16	OB_PN25
DN50	230	169	165	165	165	125	125	125	99	99	99
DN65	290	189	185	185	185	145	145	145	118	118	118
DN80	310	209	200	200	200	160	160	160	132	132	132
DN100	350	244	220	220	235	180	180	190	156	156	156
DN125	400	309	250	250	270	210	210	220	156	156	156
DN150	480	368	285	285	300	240	240	250	211	211	211
DN200	600	442	340	340	360	295	295	310	266	266	274
DN250	730	526	405	405	425	350	355	370	319	319	330
DN300	850	586	460	460	485	400	410	430	370	370	389
DN350	980	656	520	520	555	460	470	490	429	429	448
DN400	1100	770	580	580	620	515	525	550	480	480	503
DN450	1200	780	640	640	670	565	585	600	530	548	548
DN500	1250	890	715	715	730	620	650	660	582	609	609
DN600	1450	1050	840	840	845	725	770	770	682	720	720
DN700	1650	1185	910	910	960	840	840	875	682	720	720
DN800	1850	1310	1025	1025	1085	950	950	990	901	901	928

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