

Datasheet

Externally operated valves, type AV210

NPT connection

Features



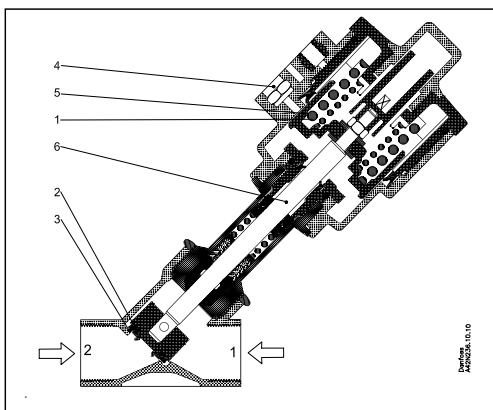
- For robust industrial applications.
- Bi-directional NC version - two flow directions.
- Bronze version for water, oil and compressed air.
- Stainless steel version for neutral, aggressive liquid and gaseous media.
- Control connection G 1/8" and NAMUR.
- Operating pressure up to 232 psi (16 bar), depending on valve type.
- The valves can be used for rough vacuum.
- Valves comply with P.E.D. 97/23/ EC group 1 & 2
- Options: See page 8

Technical data

Design	Piston-operated; angle-seated;	
Installation	Optional	
Pressure range	See ordering	
Tightness	Internally/ Externally: Better than 0.4 mbar l/sec (25 ccm air per min.)	
Ambient temperature	-22°F to +140°F (-30 to +60°C)	
Medium temperature	-22°F to +356°F (-30 to +180°C)	
Viscosity	Max. 600 cSt / 3000 SSU	
Control medium	Air	
Materials		
Valve body:	Bronze	RG 5
	Stainless steel	AISI 316
Intermediate piece:	Bronze body: Brass	W.no. 2.0402
	Stainless steel body: Stainless steel	AISI 316
Seat control and nut:	Stainless steel	AISI 316
Spindle:	Stainless steel	AISI 316
Spindle gasket:	PTFE	
Gasket:	Graphite	
Valve plate unit:	PTFE	
Control head:	PA66	

Function

1. Spring
2. Seat gasket
3. Valve seat
4. Control connection
5. Control piston
6. Spindle

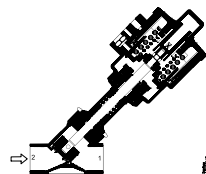


AV210 unpressurized closed version (NC) bi-directional.

The valve is kept closed by the spring (1), which presses the seat gasket (2) against the valve seat (3).

When the pressure is applied to the control connection (4), the control piston (5), the spindle (6) and thus the seat gasket (2) are raised, and the valve opens with or against the pressure of the medium.

Ordering



NC version

Mounting: closing *against* or closing *with* the flow direction

Closing *against* recommended to avoid water hammer

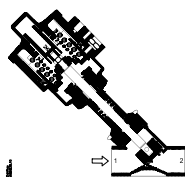
Connection NPT [in]	Orifice Size [in]	Flow value		Diameter control head		Pressure range ¹⁾		Control pressure				Bronze		
		C _v [USgal/min]	K _v [m ³ /h]	[in]	[mm]	[psi]	[bar]	[psi]		[bar]		Type designation		Code no.
								Min.	Max.	Min.	Max.	Main type	Specification	
1/2	1/2	6.7	5.7	2	50	0 to 232	0 to 16	58	145	4	10	AV210B15G	N12T NC000	042N4503
3/4	3/4	11.7	10	2	50	0 to 145	0 to 10	58	145	4	10	AV210B20G	N34T NC000	042N4504
1	1	23.4	20	2 1/2	63	0 to 160	0 to 11	58	145	4	10	AV210C25G	N1T NC000	042N4506
1 1/4	1 1/4	33.9	29	3 1/2	90	0 to 203	0 to 14	58	116	4	8	AV210D32G	N114T NC000	042N4508
1 1/2	1 1/2	53.8	46	3 1/2	90	0 to 160	0 to 11	58	116	4	8	AV210D40G	N112T NC000	042N4509
2	2	86.6	74	4 1/3	110	0 to 145	0 to 10	58	116	4	8	AV210E50G	N2T NC000	042N4511

¹⁾ Pressure range can be extended for use in rough vacuum, typically up to 99% vacuum (10mbar), depending on the application

Connection NPT [in]	Ori- fice Size [in]	Flow value		Diameter control head		Pressure range ¹⁾		Control pressure				Stainless Steel		
		C _v	K _v	[in]	[mm]	[psi]	[bar]	[psi]		[bar]		Type designation		Code no.
								Min.	Max.	Min.	Max.	Main type	Specification	
1/2	1/2	6.7	5.7	2	50	0 to 232	0 to 16	58	145	4	10	AV210B15SS	N12T NC000	042N4551
3/4	3/4	11.7	10	2	50	0 to 145	0 to 10	58	145	4	10	AV210B20SS	N34T NC000	042N4552
3/4	3/4	11.7	10	2 1/2	63	0 to 232	0 to 16	58	145	4	10	AV210C20SS	N34T NC000	042N4553
1	1	23.4	20	2 1/2	63	0 to 160	0 to 11	58	145	4	10	AV210C25SS	N1T NC000	042N4554
1 1/2	1 1/2	53.8	46	3 1/2	90	0 to 160	0 to 11	58	116	4	8	AV210D40SS	N112T NC000	042N4557
2	2	86.6	74	4 1/3	110	0 to 145	0 to 10	58	116	4	8	AV210E50SS	N2T NC000	042N4559

¹⁾ Pressure range can be extended for use in rough vacuum, typically up to 99% vacuum (10mbar), depending on the application

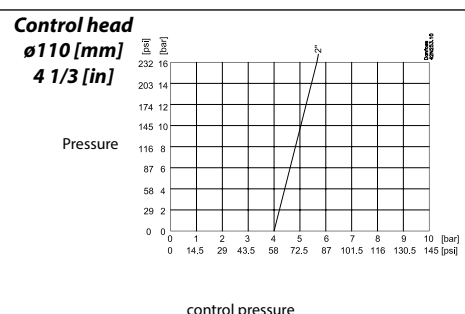
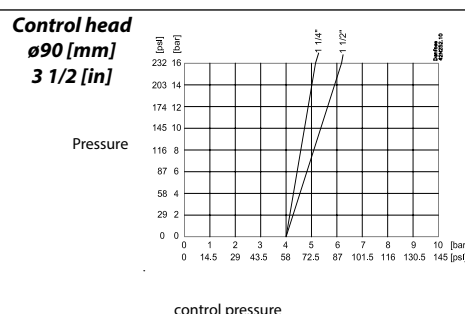
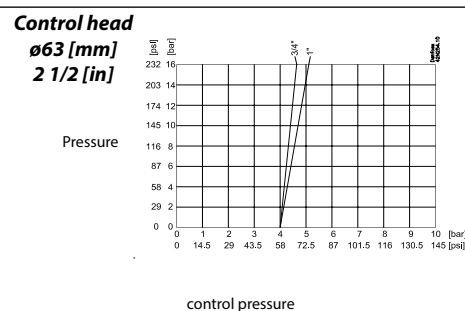
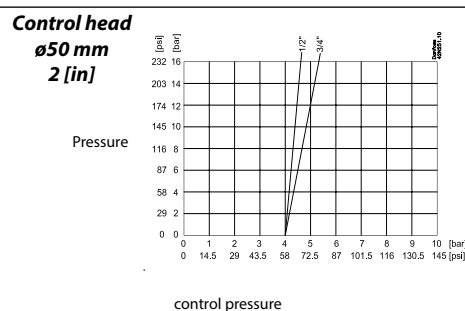
Diagrams NC



NC version

Mounting: closing *with* the flow direction

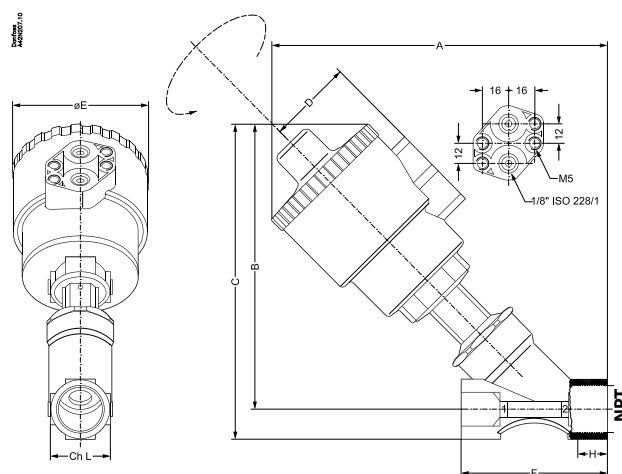
Recommended only for compressible media for extended pressure range



Dimensions and weight

Bronze valve body

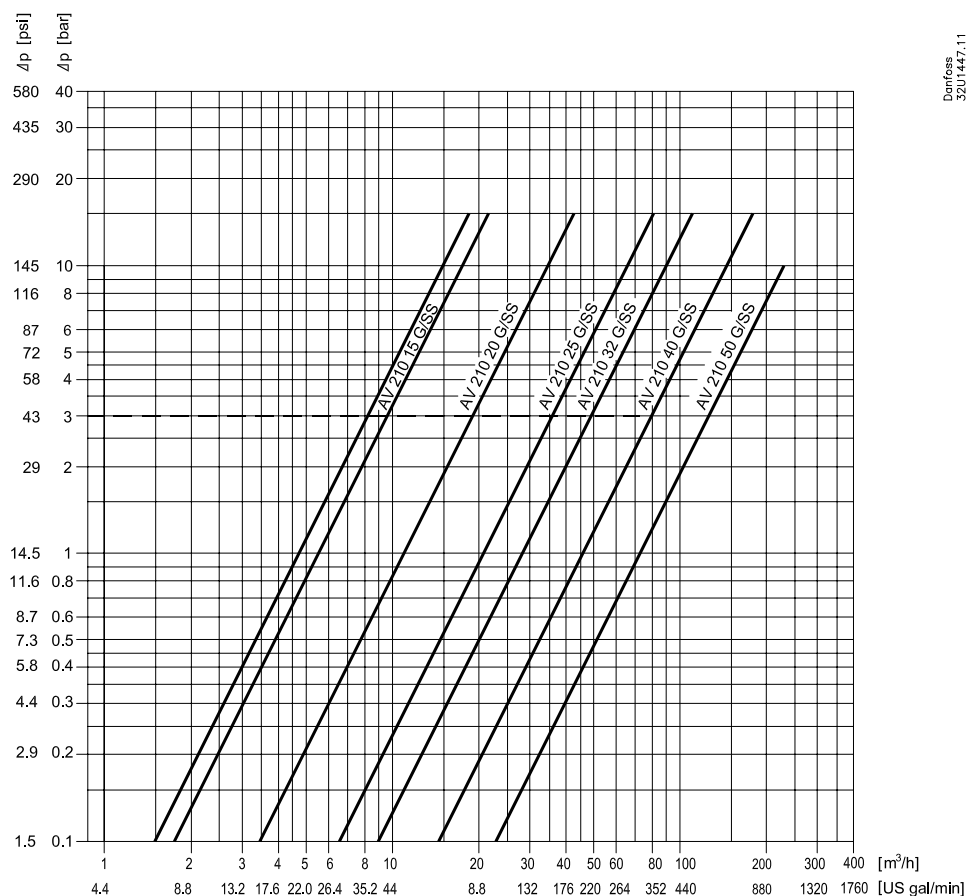
Conne- ction NPT [inch]	Orifice Size [inch]	Diameter control head		A		B		C		D		øE		F		H		ch.L		weight [lbs]
		[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	
1/2	1/2	2	50	6.4	163	5.5	140	6.0	153	1.7	44	2.8	70	2.6	65	0.5	13	1.1	27	2.2
3/4	3/4	2	50	6.8	173	5.8	147	6.4	163	1.7	44	2.8	70	3.0	75	0.6	14.3	1.1	27.5	2.6
1	1	2 1/2	63	8.1	206	6.9	176	7.7	196	2.0	50.5	3.3	84.4	3.5	90	0.7	17.5	1.6	41	3.5
1 1/4	1 1/4	3 1/2	90	10.0	255	8.7	220	9.6	245	2.6	66.2	4.6	116.4	4.3	110	0.7	19	2.0	50	6.6
1 1/2	1 1/4	3 1/2	90	10.6	270	9.3	235	10.4	264	2.6	66.2	4.6	116.4	4.7	120	0.7	18	2.3	58	7.5
2	2	4 1/3	110	12.4	316	10.9	276	12.2	311	3.0	77.4	5.5	140.6	5.9	150	0.8	20	2.8	70	11.7



Stainless steel valve body

Conne- ction NPT [inch]	Orifice Size [inch]	Diameter control head		A		B		C		D		øE		F		H		ch.L		weight [lbs]
		[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	
1/2	1/2	2	50	7.5	190	6.1	156	6.7	169	1.7	44	2.8	70	3.3	85	0.6	15	1.0	25	2.2
3/4	3/4	2	50	7.7	195	6.3	160	6.9	176	1.7	44	2.8	70	3.7	95	0.6	16.3	1.2	31	2.6
3/4	3/4	2 1/2	63	8.4	213	7.0	178	7.7	194.4	2.0	50.5	3.3	84.4	3.7	95	0.6	16.3	1.2	31	2.6
1	1	2 1/2	63	8.6	219	7.2	182	8.0	202	2.0	50.5	3.3	84.4	4.1	105	0.8	19.5	1.5	38	3.5
1 1/4	1 1/4	3 1/2	90	10.5	266	8.9	226	9.8	249	2.6	66.2	4.6	116.4	4.7	120	0.7	19	1.9	47	6.6
1 1/2	1 1/2	3 1/2	90	10.7	271	9.1	230	10.2	258	2.6	66.2	4.6	116.4	5.1	130	0.7	18	2.1	54	7.5
2	2	4 1/3	110	12.6	321	10.9	276	12.2	310	3.0	77.4	5.5	140.6	5.9	150	0.8	20	2.6	66	11.7

Capacity diagram, Water



Danfoss
32U1447.11

Control valves, types
EV310A and EV310B

Control valves, type EV310A

Control valves, type EV310B

See separate data sheets and regarding code numbers, technical data and coil options for Danfoss EV310A and EV310B valves.



- Valves for industrial applications.
- Available in de-energized closed and de-energized open versions
- Available with or without manual operation

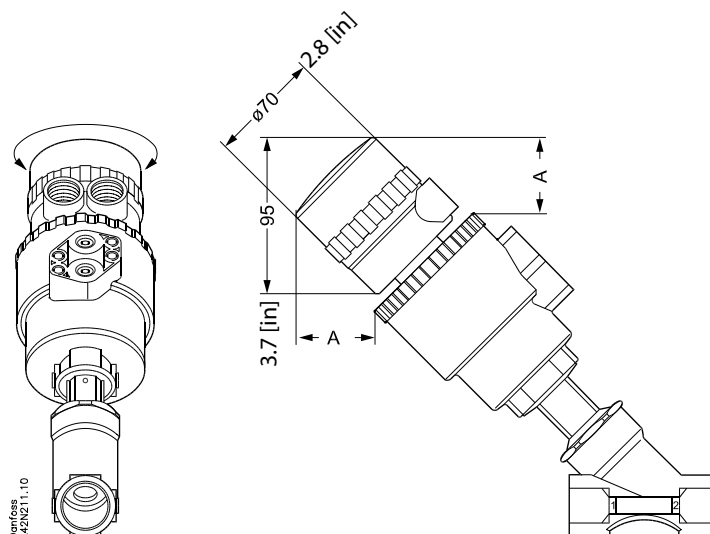
- Valves for industrial application.
- Available in de-energized closed and de-energized open versions
- Available with or without manual operation

Accessories

Position indicator

FEATURES

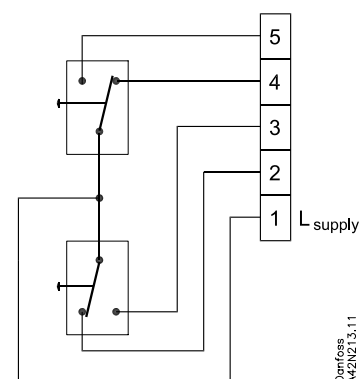
The control box to check the open/closed positions with two mechanical limit switches is suitable for assembling on the whole range of valves.
 Level of protection : IP 65.
 Ambient temperature: from -4°F to +158°F.
 (-20°C to +70°C.)
 Access lead nr.2 PG11.
 Body material: polyamide
 (cap in Lexan/polycarbonate)



Wiring diagram

Limit Switch at the top : open valve

Limit Switch at the bottom : closed valve



Max. capacity 5A 250Vac
 1A 250Vdc

Ordering

Actuator size		A		code no.*
[in]	Ø[mm]	[in]	[mm]	
2	50	2.1	52.1	042N4820
2 1/2	63	1.9	47.5	042N4821
3 1/2	90	1.5	37.7	042N4822
4 1/3	110	1.2	29.5	042N4823

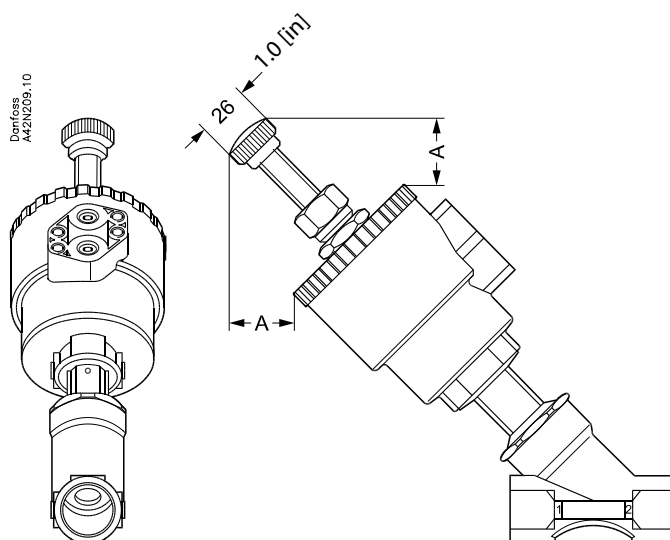
* Limit Switch Box incl. 2

Accessories

Manual override

FEATURES

It permits opening the valve in emergency cases (lack of pilot fluid, machinery damaged, lack of piloting signal). It is available on all NC versions.



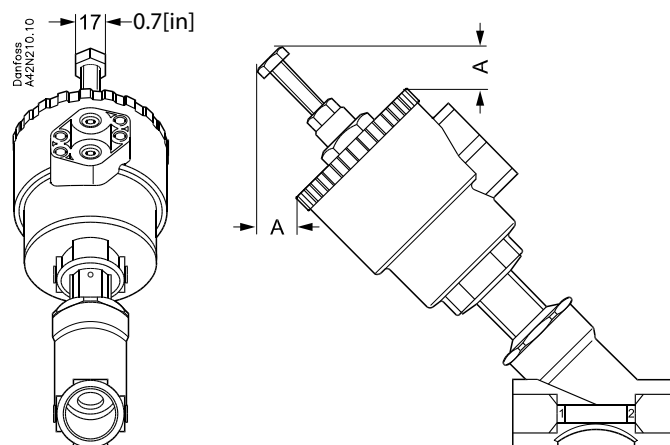
Ordering

Actuator size		A		code no.
[in]	Ø[mm]	[in]	[mm]	
2	50	1.4	35.8	042N4840
2 1/2	63	1.4	35.8	042N4841
3 1/2	90	1.2	29.5	042N4842
4 1/3	110	1.2	29.5	042N4843

Manual capacity control

FEATURES

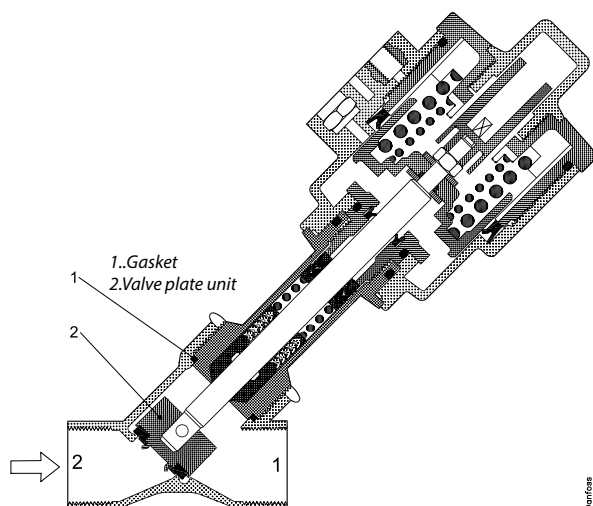
It limits the movement of the spindle, thereby controlling the capacity of the valve. Available on all the versions..



Ordering

Actuator size		A		code no.
[in]	Ø[mm]	[in]	[mm]	
2	50	1.0	25.5	042N4860
2 1/2	63	0.8	21.5	042N4861
3 1/2	90	0.2	5.2	042N4862
4 1/3	110	0.2	5.9	042N4863

Repair sets



Ordering both Bronze and Stainless steel

Conne- ction NPT [in]	Diameter Control head		Material		Code no.
	[in]	[mm]	Valve plate unit	Gasket	
1/2	2	50	PTFE	Graphite	042N4803
3/4	2 - 2 1/2	50 - 63	PTFE	Graphite	042N4804
1	2 1/2	63	PTFE	Graphite	042N4805
1 1/4	3 1/2	90	PTFE	Graphite	042N4807
1 1/2	3 1/2 - 4 1/3	90 - 110	PTFE	Graphite	042N4808
2	4 1/3	110	PTFE	Graphite	042N4809

The repair set includes 1 valve plate unit including mounting pin and 2 gaskets.

Please note only one gasket shall be used one is for Bronze another is for Stainless Steel

Options

- NO versions.
- Tri-clamp, welding or flange connection.
- Double-acting and "closing with" version.
- Stainless steel, compact OEM version.
- High ambient temperature version up to 266°F (130°C).
- EEx approved position indicator.
- Other combinations of control head and valve.

Note

Please contact Danfoss concerning media resistance

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