



R206A

Description

R206A balancing valves maintain a constant flow rate of the fluid as the upstream/downstream pressure difference varies. The set flow rate is guaranteed inside the declared range of differential pressure, with a maximum mistake of $\pm 5\%$ on controlled flow rate values, or $\pm 2\%$ on the maximum flow. The balancing valves automatically balance the hydraulic circuit and ensure the design flow rate. They are composed of a brass body, with female-female connections and prearranged for the connection of sensor holder, to measure the differential pressure, and they have a cartridge that can be replaced if needed. It can be calibrated through a key that compensates the differential pressure by guaranteeing the flow rate constancy.

A double indicator, having 1 to 5 scale and decimal decision from 1 to 9, permits precise flow rate regulations (please refer to the "Flow rate diagrams" paragraph for the complete regulation tables for the different valve types).

Versions and product codes

Product codes	Connections	Working flow rate [m ³ /h]	Differential pressure working range Δp [kPa]
R206AY013	1/2" F	0,276 - 0,825	17 - 200
R206AY014	3/4" F	0,406 - 1,270	30 - 400
R206AY015	1" F	0,535 - 5,830	17 - 400
R206AY016	1 1/4" F	0,535 - 5,830	17 - 400
R206AY017	1 1/2" F	3,180 - 16,100	20 - 400
R206AY018	2" F	3,180 - 16,100	20 - 400
R206AY033	1/2" F	0,100 - 0,412	17 - 210
R206AY034	3/4" F	0,100 - 0,412	17 - 210

Accessories

• P206A: spare part cartridge for R206A valves



Cartridge codes	R206A which is installed	Cartridge colour (1)	Indicator colour (2)	Plug colour (3)	Legend
P206AY001	R206AY013	Red	White	Red	
P206AY002	R206AY014	Red	Grey	Red	
P206AY003	R206AY015 R206AY016	Black	White	Green	
P206AY004	R206AY017 R206AY018	White	Grey	Black	
P206AY005	R206AY033 R206AY034	Black	White	Black	

• P206Y001: probe holder (n.2) kit for the flow rate determination through measurement of the differential pressure, 1/4" M connections



• R225EY001: differential pressure manometer



Technical data

- Compatible fluids: water and glycol solutions (max. 50 % of glycol)
- Max. working temperature: 120 °C
- Max. working pressure: 25 bar
- Max. differential pressure: 4 bar (2 bar for R206AY013, R206AY033, R206AY034)

Materials

- Body: brass CW617N - UNI EN 12165
- Cartridge: POM (Polyoxymethulene) and PSU (Polysulfone)
- Spring: stainless steel
- Gaskets: EPDM

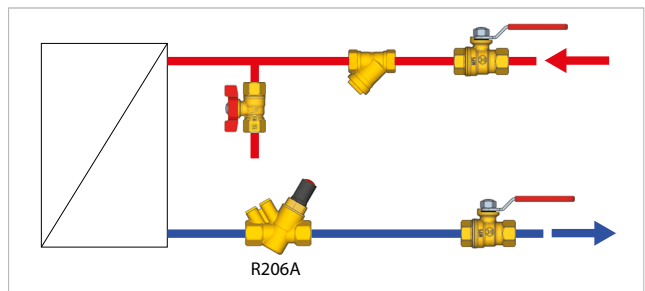
Installation

The R206A dynamic balancing valve should be installed on the return side of the system. It is recommended to install a filter prior the R206A valve to prevent damage or blockage due to debris. Further, it is recommended not to exceed maximum differential pressure control range of the cartridge.



Note.

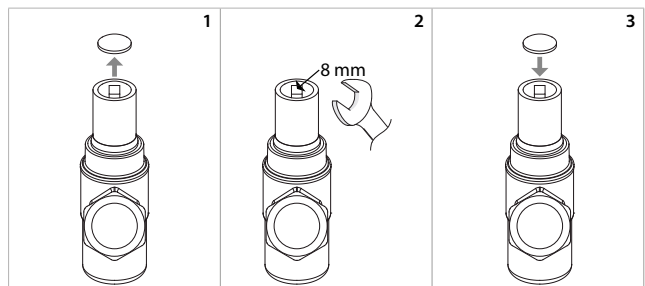
Failure to abide by all recommendations as per this installation and operation instruction will void warranty.



Cartridge setting adjustment

To adjust the setting of the cartridge according to the desired flow rate, proceed as follows:

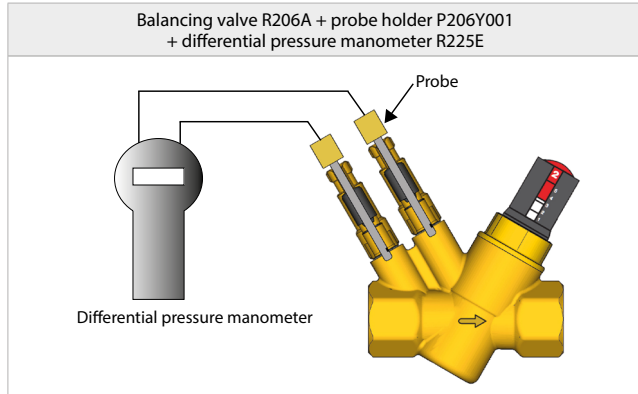
- 1) Remove the cartridge plug;
- 2) Using a 8 mm wrench, rotate the stem of the cartridge clockwise to decrease the setting; counterclockwise to increase the setting;
- 3) Replace the cartridge plug.



Flow rate check

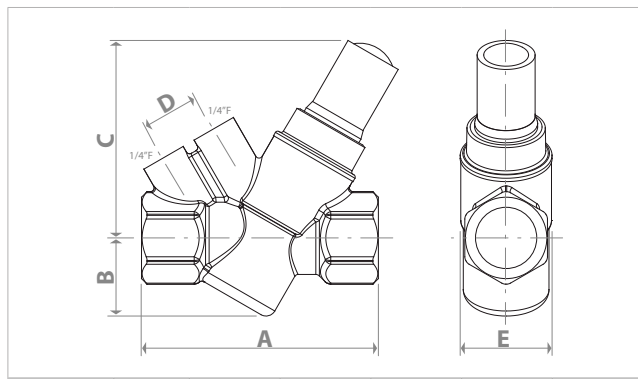
To calculate the flow rate of the R206A, you just have to measure the differential pressure, by installing in the housings of the valve the probe holder P206Y001 and by using a differential pressure manometer.

If the measured differential pressure value falls within the nominal operating range, then the flow rate through the valve corresponds to the setting set on the cartridge (see "Flow rate diagrams").



Warning.
Leakage of hot water can occur through the pressure outlets during the sensor introduction of the sensors. Wear protective clothes and glasses in order to prevent personal physical damages during the pressure measure.
Do not use lubricants on the sensors to ease the outlet insertion. If needed simply wet the sensors with clean water.
Do not leave the measure needle too much time in the pressure outlet, as it could cause leakages.

Dimensions



Product codes	Connec-tion	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
R206AY013	1/2"F	82	31	78	22	36
R206AY014	3/4"F	94	31	78	22	36
R206AY015	1"F	128	47	99	22	65
R206AY016	1 1/4"F	128	47	99	22	65
R206AY017	1 1/2"F	169	54,5	117	22	100
R206AY018	2"F	169	54,5	117	22	100
R206AY033	1/2"F	82	31	78	22	36
R206AY034	3/4"F	94	31	78	22	36

Flow rate diagrams

Accuracy: ± 5 % on controlled flow rate.

R206AY013 - Δp: 17-200 kPa		
Setting	l / sec	l / h
1.0	0,0767	276
1.1	0.0813	293
1.2	0.0860	310
1.3	0.0907	326
1.4	0.0953	343
1.5	0.100	360
1.6	0.105	377
1.7	0.109	393
1.8	0.114	410
1.9	0.118	426
2.0	0.123	443
2.1	0.128	459
2.2	0.132	475
2.3	0.136	491
2.4	0.141	507
2.5	0.145	523
2.6	0.150	539
2.7	0.154	554
2.8	0.158	569
2.9	0.162	584
3.0	0.166	599
3.1	0.170	614
3.2	0.174	628
3.3	0.178	642
3.4	0.182	655
3.5	0.186	669
3.6	0.189	682
3.7	0.193	695
3.8	0.196	707
3.9	0.200	719
4.0	0.203	731
4.1	0.206	742
4.2	0.209	753
4.3	0.212	764
4.4	0.215	774
4.5	0.218	784
4.6	0.220	793
4.7	0.223	802
4.8	0.225	810
4.9	0.227	818
5.0	0.229	825

R206AY014 - Δp: 30-400 kPa		
Setting	l / sec	l / h
1.0	0.113	406
1.1	0.119	427
1.2	0.125	449
1.3	0.131	470
1.4	0.137	492
1.5	0.143	513
1.6	0.149	535
1.7	0.155	556
1.8	0.161	578
1.9	0.167	599
2.0	0.172	621
2.1	0.178	642
2.2	0.184	664
2.3	0.190	685
2.4	0.196	707
2.5	0.202	728
2.6	0.208	750
2.7	0.214	771
2.8	0.220	793
2.9	0.226	814
3.0	0.232	836
3.1	0.238	857
3.2	0.244	879
3.3	0.250	900
3.4	0.256	922
3.5	0.262	943
3.6	0.268	965
3.7	0.274	987
3.8	0.280	1010
3.9	0.286	1030
4.0	0.292	1050
4.1	0.298	1070
4.2	0.304	1090
4.3	0.310	1120
4.4	0.316	1140
4.5	0.322	1160
4.6	0.328	1180
4.7	0.334	1200
4.8	0.340	1220
4.9	0.346	1240
5.0	0.352	1270

R206AY015-16 - Δp: 17-400 kPa		
Setting	l / sec	l / h
1.0	0.149	535
1.1	0.220	793
1.2	0.289	1040
1.3	0.355	1280
1.4	0.418	1510
1.5	0.479	1730
1.6	0.538	1940
1.7	0.594	2140
1.8	0.647	2330
1.9	0.699	2520
2.0	0.748	2690
2.1	0.795	2860
2.2	0.841	3030
2.3	0.884	3180
2.4	0.925	3330
2.5	0.965	3470
2.6	1.00	3610
2.7	1.04	3740
2.8	1.07	3870
2.9	1.11	3990
3.0	1.14	4100
3.1	1.17	4220
3.2	1.20	4320
3.3	1.23	4420
3.4	1.26	4520
3.5	1.28	4620
3.6	1.31	4710
3.7	1.33	4800
3.8	1.36	4890
3.9	1.38	4970
4.0	1.40	5050
4.1	1.43	5130
4.2	1.45	5210
4.3	1.47	5290
4.4	1.49	5370
4.5	1.51	5440
4.6	1.53	5520
4.7	1.55	5600
4.8	1.58	5670
4.9	1.60	5750
5.0	1.62	5830

R206AY017-18 - Δp: 20-400 kPa		
Setting	l / sec	l / h
1.0	0.883	3180
1.1	1.14	4100
1.2	1.37	4940
1.3	1.59	5710
1.4	1.78	6420
1.5	1.96	7070
1.6	2.13	7660
1.7	2.28	8200
1.8	2.42	8700
1.9	2.54	9150
2.0	2.66	9570
2.1	2.77	9960
2.2	2.86	10300
2.3	2.95	10600
2.4	3.04	10900
2.5	3.12	11200
2.6	3.19	11500
2.7	3.26	11700
2.8	3.32	12000
2.9	3.39	12200
3.0	3.45	12400
3.1	3.51	12600
3.2	3.56	12800
3.3	3.62	13000
3.4	3.67	13200
3.5	3.73	13400
3.6	3.78	13600
3.7	3.83	13800
3.8	3.89	14000
3.9	3.94	14200
4.0	3.99	14400
4.1	4.05	14600
4.2	4.10	14800
4.3	4.15	14900
4.4	4.20	15100
4.5	4.25	15300
4.6	4.30	15500
4.7	4.35	15700
4.8	4.39	15800
4.9	4.44	16000
5.0	4.48	16100

R206AY033-34 - Δp: 17-210 kPa		
Setting	l / sec	l / h
1.0	0.028	100
1.1	0.030	108
1.2	0.032	116
1.3	0.034	123
1.4	0.036	131
1.5	0.039	139
1.6	0.041	147
1.7	0.043	155
1.8	0.045	162
1.9	0.047	170
2.0	0.049	178
2.1	0.052	186
2.2	0.054	194
2.3	0.056	201
2.4	0.058	209
2.5	0.060	217
2.6	0.062	225
2.7	0.064	233
2.8	0.067	240
2.9	0.069	248
3.0	0.071	256
3.1	0.073	264
3.2	0.075	272
3.3	0.077	279
3.4	0.080	287
3.5	0.082	295
3.6	0.084	303
3.7	0.086	311
3.8	0.088	318
3.9	0.091	326
4.0	0.093	334
4.1	0.095	342
4.2	0.097	350
4.3	0.099	357
4.4	0.101	365
4.5	0.104	373
4.6	0.106	381
4.7	0.108	389
4.8	0.110	396
4.9	0.112	404
5.0	0.114	412

Additional information

For more information, go to www.giacomini.com or contact our technical assistance service: ☎ +39 0322 923372 📠 +39 0322 923255 ✉ consulenza.prodotti@giacomini.com
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