

FlowCon E-JUST

Externally Adjustable Dynamic Balancing Valve
DN15-50 / 1/2"-2"



SPECIFICATIONS

Insert:

Static pressure:	2500 kPa / 360 psi
Media temperature:	-20°C to +120°C / -4°F to +248°F
Materials:	
- Insert:	20 mm / 3/4" insert: PSU 40 mm / 1 1/2" insert: PSU 50 mm / 2" insert: PPS
- Metal components (internal):	Stainless steel
- O-rings:	EPDM
- Diaphragm:	20 mm / 3/4" insert, Y-type: EPDM 20 mm / 3/4" insert, G-type: Hydrogenated acrylonitrile-butadiene-rubber 40 mm / 1 1/2" insert: Hydrogenated acrylonitrile-butadiene-rubber 50 mm / 2" insert: Hydrogenated acrylonitrile-butadiene-rubber
- Head nut:	Forged brass ASTM CuZn40Pb2
Flow rate range:	20 mm / 3/4" insert: 0.0278-0.352 l/sec / 0.440-5.57 GPM 40 mm / 1 1/2" insert: 0.149-1.62 l/sec / 2.36-25.7 GPM 50 mm / 2" insert: 0.883-4.48 l/sec / 14.0-70.9 GPM

Valve:

Material:	
- Housing:	
A DN15-20 / 1/2"-3/4":	Forged DZR brass ASTM CuZn36Pb2As
A DN25 / 1":	Forged brass ASTM CuZn40Pb2
AB DN15-25 / 1/2"-1":	Forged DZR brass ASTM CuZn36Pb2As
AB DN25-50 / 1"-2":	Forged brass ASTM CuZn40Pb2
AB DN40-50 / 1 1/2"-2":	Ductile iron QT450-10 GB1348 / EN-GJS-450-10
ABV DN15-40 / 1/2"-1 1/2":	Forged brass ASTM CuZn40Pb2
- Ball valve:	ABV: Chemically nickel-plated brass ASTM CuZn40Pb2
- End connection:	ABV: Brass alloy
End connections ¹ :	A/AB: Fixed female ISO or NPT ABV: Double union end connection ISO or NPT
Housing taps:	AB/ABV: 1/4" ISO

Note 1: NPT only available ex. US-factory.

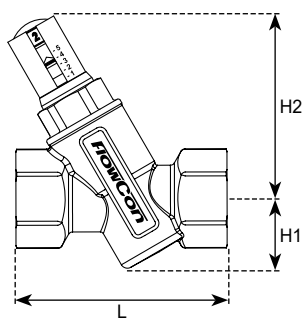
DIMENSIONS AND WEIGHT (NOMINAL)

Valve model	Valve size	Insert size	L	H1	H2	End connections C ²			Weight ³
						Female ISO (NPT)	Male ISO (NPT)	Sweat ISO	
A	15 (1/2)	20 (3/4)	80 (3.15)	31 (1.22)	80 (3.15)	-	-	-	0.48 (1.06)
	20 (3/4)								0.42 (0.93)
	25 (1)		91 (3.58)						0.57 (1.26)
AB	15 (1/2)	20 (3/4)	81 (3.19)	31 (1.22)	78 (3.07)	-	-	-	0.47 (1.04)
	20 (3/4)		85 (3.35)						0.48 (1.06)
	25 (1)		102 (4.02)						0.66 (1.46)
	25 (1)	40 (1 1/2)	128 (5.04)	47 (1.85)	99 (3.90)	-	-	-	1.80 (4.00)
	32 (1 1/4)								1.64 (3.61)
	40 (1 1/2)	50 (2)	169 (6.65)	55 (2.17)	117 (4.61)				3.85 ⁴ (8.49) ⁴
	50 (2)								3.45 ⁴ (7.61) ⁴
ABV	15 (1/2)	20 (3/4)	122 (4.80)	33 (1.30)	78 (3.07)	22 (0.87)	24 (0.95)	20	0.87 (1.92)
	20 (3/4)					22 (0.87)	25 (0.99)	20	
	25 (1)					-	39 (1.54)	22	
	25 (1)	40 (1 1/2)	162 (6.38)	42 (1.65)	99 (3.90)	35 (1.38)	40 (1.57)	34	2.08 (4.59)
	32 (1 1/4)					33 (1.30)	40 (1.57)	34	
	40 (1 1/2)					33 (1.30)	42 (1.65)	-	

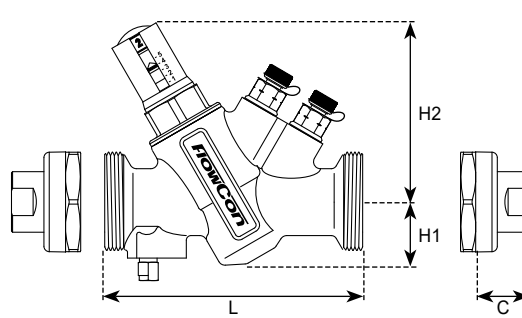
Note 2: Add end connection length to housing length

Note 3: Weight does not include end connections

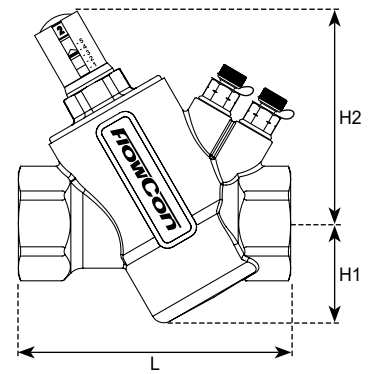
Note 4: Weight is valid for brass housing only.



FlowCon E-JUST.1.X.X in
FlowCon A valve
DN15/20/25 (1/2", 3/4", 1")



FlowCon E-JUST.1.X.X in
FlowCon ABV.1 valve
DN15/20/25 (1/2", 3/4", 1")



FlowCon E-JUST.2.Y.G in
FlowCon AB valve
DN25/32 (1", 1 1/4")

MODEL NUMBER SELECTION

Type of housing:

20 mm / 3/4" E-JUST

- A.15** = A, DN15 / 1/2"
- A.20** = A, DN20 / 3/4"
- A.25** = A, DN25 / 1"
- AB.15** = AB, DN15 / 1/2"
- AB.20** = AB, DN20 / 3/4"
- AB.25K** = AB, DN25 / 1"
- ABV.1** = ABV, DN15-25 / 1/2"-1"

40 mm / 1 1/2" E-JUST

- AB.25** = AB, DN25 / 1"
- AB.32** = AB, DN32 / 1 1/4"
- ABV.2** = ABV, DN25-40 / 1"-1 1/2"

50 mm / 2" E-JUST

- AB.40** = AB, DN40 / 1 1/2"
- AB.50** = AB, DN50 / 2"

P/t plug requirements:

- 0** = no (p/t) plugs
- B** = pressure/temperature plugs
- P** = taps plugged

Union end connections (inlet x outlet):

- 0.0** = no union ends

Model and size	Female threaded	Male threaded	Sweat
ABV.1 with E-JUST, 20 mm	E = 15 mm / 1/2" F = 20 mm / 3/4"	H = 15 mm / 1/2" I = 20 mm / 3/4" J = 25 mm / 1"	K = 15 mm L = 18 mm M = 22 mm
ABV.2 with E-JUST, 40 mm	G = 25 mm / 1" P = 32 mm / 1 1/4" Q = 40 mm / 1 1/2"	J = 25 mm / 1" S = 32 mm / 1 1/4" T = 40 mm / 1 1/2"	N = 28 mm W = 35 mm

Connection standard and material:

- I** = ISO (Standard)
- DI** = Ductile iron ISO (only AB40 and AB50)
- N** = NPT

Pressure range:

- 0** = no insert
- Y** = 17-200 kPaD, 2.5-29 psid (20 mm / 3/4" E-JUST red w. white pawl)
17-210 kPaD, 2.5-30 psid (20 mm / 3/4" E-JUST black or green w. white pawl)
17-400 kPaD, 2.5-58 psid (40 mm / 1 1/2" E-JUST)
- G** = 20-400 kPaD, 2.9-58 psid (50 mm / 2" E-JUST)
30-400 kPaD, 4.4-58 psid (20 mm / 3/4" E-JUST red w. grey pawl)
35-400 kPaD, 5.1-58 psid (20 mm / 3/4" E-JUST black or green w. grey pawl)

Color code:

- 0** = no insert
- B** = black
- G** = green
- R** = red

Setting:

- 0.0** = no insert
- E.4-2** = standard 4.2

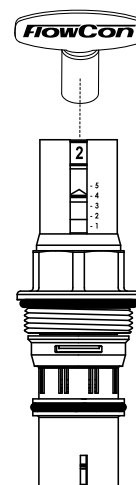
Example:

AB.15.B.0.0.I.Y.R.E.4-2 = DN15 (1/2") AB housing with p/t plugs and FlowCon red E-JUST, 17-200 kPaD (2.5-29 psid), setting 4.2.

FLOW RATE SETTING - E-JUST INSERT - FOR VALVES DN15-25 SMALL (1/2"-1" SMALL)

FlowCon E-JUST										Setting
Insert size: 20 mm · 3/4" · Y-type · White pawl										
Nominal flow rate	17-210 kPaD · 2.5-30 psid						17-200 kPaD · 2.5-29 psid			
	E-JUST1.Y.B Black			E-JUST1.Y.G Green			E-JUST1.Y.R Red			
	l/sec	l/hr	GPM	l/sec	l/hr	GPM	l/sec	l/hr	GPM	
0.0278	100	0.440	0.0436	157	0.691	0.0767	276	1.22	1.0	
0.0299	108	0.475	0.0468	168	0.741	0.0813	293	1.29	1.1	
0.0321	116	0.509	0.0499	180	0.791	0.0860	310	1.36	1.2	
0.0343	123	0.543	0.0530	191	0.841	0.0907	326	1.44	1.3	
0.0364	131	0.578	0.0562	202	0.890	0.0953	343	1.51	1.4	
0.0386	139	0.612	0.0593	214	0.940	0.100	360	1.58	1.5	
0.0408	147	0.646	0.0624	225	0.990	0.105	377	1.66	1.6	
0.0429	155	0.681	0.0656	236	1.04	0.109	393	1.73	1.7	
0.0451	162	0.715	0.0687	247	1.09	0.114	410	1.80	1.8	
0.0473	170	0.749	0.0719	259	1.14	0.118	426	1.88	1.9	
0.0494	178	0.784	0.0750	270	1.19	0.123	443	1.95	2.0	
0.0516	186	0.818	0.0781	281	1.24	0.128	459	2.02	2.1	
0.0538	194	0.852	0.0813	293	1.29	0.132	475	2.09	2.2	
0.0559	201	0.887	0.0844	304	1.34	0.136	491	2.16	2.3	
0.0581	209	0.921	0.0876	315	1.39	0.141	507	2.23	2.4	
0.0603	217	0.955	0.0907	327	1.44	0.145	523	2.30	2.5	
0.0624	225	0.990	0.0938	338	1.49	0.150	539	2.37	2.6	
0.0646	233	1.02	0.0970	349	1.54	0.154	554	2.44	2.7	
0.0668	240	1.06	0.100	360	1.59	0.158	569	2.51	2.8	
0.0689	248	1.09	0.103	372	1.64	0.162	584	2.57	2.9	
0.0711	256	1.13	0.106	383	1.69	0.166	599	2.64	3.0	
0.0733	264	1.16	0.110	394	1.74	0.170	614	2.70	3.1	
0.0754	272	1.20	0.113	406	1.79	0.174	628	2.76	3.2	
0.0776	279	1.23	0.116	417	1.84	0.178	642	2.83	3.3	
0.0798	287	1.26	0.119	428	1.89	0.182	655	2.89	3.4	
0.0819	295	1.30	0.122	440	1.94	0.186	669	2.94	3.5	
0.0841	303	1.33	0.125	451	1.98	0.189	682	3.00	3.6	
0.0863	311	1.37	0.128	462	2.03	0.193	695	3.06	3.7	
0.0884	318	1.40	0.132	473	2.08	0.196	707	3.11	3.8	
0.0906	326	1.44	0.135	485	2.13	0.200	719	3.17	3.9	
0.0928	334	1.47	0.138	496	2.18	0.203	731	3.22	4.0	
0.0949	342	1.50	0.141	507	2.23	0.206	742	3.27	4.1	
0.0971	350	1.54	0.144	519	2.28	0.209	753	3.32	4.2	
0.0993	357	1.57	0.147	530	2.33	0.212	764	3.36	4.3	
0.101	365	1.61	0.150	541	2.38	0.215	774	3.41	4.4	
0.104	373	1.64	0.153	553	2.43	0.218	784	3.45	4.5	
0.106	381	1.68	0.157	564	2.48	0.220	793	3.49	4.6	
0.108	389	1.71	0.160	575	2.53	0.223	802	3.53	4.7	
0.110	396	1.75	0.163	586	2.58	0.225	810	3.57	4.8	
0.112	404	1.78	0.166	598	2.63	0.227	818	3.60	4.9	
0.114	412	1.81	0.169	609	2.68	0.229	825	3.60	5.0	

Accuracy: Greatest of either ±5% of controlled flow rate or ±2% of maximum flow rate.



Use the FlowCon adjustment key (part number ACC0001) for adjusting the flow rate.

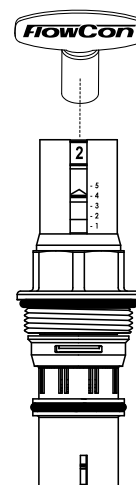
A setting of 4.2 corresponds to a flow rate of:
0.144 l/sec (2.28 GPM)
for the 20 mm (3/4") green insert, range 17-210 kPaD (2.5-30 psid).



FLOW RATE SETTING - E-JUST INSERT - FOR VALVES DN15-25 SMALL (1/2"-1" SMALL)

FlowCon E-JUST										Setting	
Insert size: 20 mm · 3/4" · G-type · Grey pawl											
Nominal flow rate	35-400 kPaD · 5.1-58 psid						30-400 kPaD · 4.4-58 psid				
	E-JUST1.G.B Black			E-JUST1.G.G Green			E-JUST1.G.R Red				
	l/sec	l/hr	GPM	l/sec	l/hr	GPM	l/sec	l/hr	GPM		
	0.0383	138	0.607	0.0660	238	1.05	0.113	406	1.79		1.0
	0.0416	150	0.660	0.0706	254	1.12	0.119	427	1.88		1.1
	0.0449	162	0.712	0.0751	271	1.19	0.125	449	1.98		1.2
	0.0483	174	0.765	0.0797	287	1.26	0.131	470	2.07		1.3
	0.0516	186	0.817	0.0843	304	1.34	0.137	492	2.17		1.4
	0.0549	198	0.870	0.0889	320	1.41	0.143	513	2.26		1.5
	0.0582	210	0.922	0.0934	336	1.48	0.149	535	2.36		1.6
	0.0615	221	0.975	0.0980	353	1.55	0.155	556	2.45		1.7
	0.0648	233	1.03	0.103	369	1.63	0.161	578	2.54		1.8
	0.0681	245	1.08	0.107	386	1.70	0.167	599	2.64		1.9
	0.0714	257	1.13	0.112	402	1.77	0.172	621	2.73		2.0
	0.0748	269	1.18	0.116	419	1.84	0.178	642	2.83		2.1
	0.0781	281	1.24	0.121	435	1.92	0.184	664	2.92		2.2
	0.0814	293	1.29	0.125	452	1.99	0.190	685	3.02		2.3
	0.0847	305	1.34	0.130	468	2.06	0.196	707	3.11		2.4
	0.0880	317	1.40	0.135	485	2.13	0.202	728	3.21		2.5
	0.0913	329	1.45	0.139	501	2.21	0.208	750	3.30		2.6
	0.0946	341	1.50	0.144	517	2.28	0.214	771	3.40		2.7
	0.0979	353	1.55	0.148	534	2.35	0.220	793	3.49		2.8
	0.101	365	1.61	0.153	550	2.42	0.226	814	3.59		2.9
	0.105	377	1.66	0.157	567	2.50	0.232	836	3.68		3.0
	0.108	388	1.71	0.162	583	2.57	0.238	857	3.78		3.1
	0.111	400	1.76	0.167	600	2.64	0.244	879	3.87		3.2
	0.115	412	1.82	0.171	616	2.71	0.250	900	3.96		3.3
	0.118	424	1.87	0.176	633	2.79	0.256	922	4.06		3.4
	0.121	436	1.92	0.180	649	2.86	0.262	943	4.15		3.5
	0.124	448	1.97	0.185	666	2.93	0.268	965	4.25		3.6
	0.128	460	2.03	0.189	682	3.00	0.274	987	4.34		3.7
	0.131	472	2.08	0.194	699	3.08	0.280	1010	4.44		3.8
	0.134	484	2.13	0.199	715	3.15	0.286	1030	4.53		3.9
	0.138	496	2.18	0.203	731	3.22	0.292	1050	4.63		4.0
	0.141	508	2.24	0.208	748	3.29	0.298	1070	4.72		4.1
	0.144	520	2.29	0.212	764	3.37	0.304	1090	4.82		4.2
	0.148	532	2.34	0.217	781	3.44	0.310	1120	4.91		4.3
	0.151	544	2.39	0.221	797	3.51	0.316	1140	5.01		4.4
	0.154	556	2.45	0.226	814	3.58	0.322	1160	5.10		4.5
	0.158	567	2.50	0.231	830	3.66	0.328	1180	5.20		4.6
	0.161	579	2.55	0.235	847	3.73	0.334	1200	5.29		4.7
	0.164	591	2.60	0.240	863	3.80	0.340	1220	5.38		4.8
	0.168	603	2.66	0.244	880	3.87	0.346	1240	5.48		4.9
	0.171	615	2.71	0.249	896	3.95	0.352	1270	5.57		5.0

Nominal flow rate



Use the FlowCon adjustment key (part number ACC0001) for adjusting the flow rate.

A setting of 4.2 corresponds to a flow rate of:
0.212 l/sec (3.37 GPM)
for the 20 mm (3/4") green
insert, range 35-400 kPaD
(5.1-58 psid).

Accuracy: Greatest of either ±5% of controlled flow rate or ±2% of maximum flow rate.



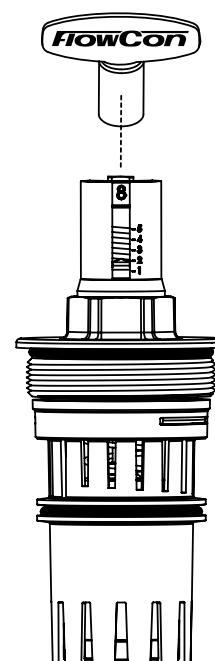
FLOW RATE SETTING - E-JUST INSERT - FOR VALVES DN25 (LARGE)-DN50 (1" LARGE-2")

FlowCon E-JUST				
Insert size: 40 mm · 1 1/2" · Y-type · White pawl				
17-400 kPaD · 2.5-58 psid				
E-JUST2.Y.G Green				
Nominal flow rate	l/sec	l/hr	GPM	Setting
	0.149	535	2.36	1.0
	0.220	793	3.49	1.1
	0.289	1040	4.58	1.2
	0.355	1280	5.63	1.3
	0.418	1510	6.63	1.4
	0.479	1730	7.60	1.5
	0.538	1940	8.52	1.6
	0.594	2140	9.41	1.7
	0.647	2330	10.3	1.8
	0.699	2520	11.1	1.9
	0.748	2690	11.9	2.0
	0.795	2860	12.6	2.1
	0.841	3030	13.3	2.2
	0.884	3180	14.0	2.3
	0.925	3330	14.7	2.4
	0.965	3470	15.3	2.5
	1.00	3610	15.9	2.6
	1.04	3740	16.5	2.7
	1.07	3870	17.0	2.8
	1.11	3990	17.6	2.9
	1.14	4100	18.1	3.0
	1.17	4220	18.6	3.1
	1.20	4320	19.0	3.2
	1.23	4420	19.5	3.3
	1.26	4520	19.9	3.4
	1.28	4620	20.3	3.5
	1.31	4710	20.7	3.6
	1.33	4800	21.1	3.7
	1.36	4890	21.5	3.8
	1.38	4970	21.9	3.9
	1.40	5050	22.3	4.0
	1.43	5130	22.6	4.1
	1.45	5210	23.0	4.2
	1.47	5290	23.3	4.3
	1.49	5370	23.6	4.4
	1.51	5440	24.0	4.5
	1.53	5520	24.3	4.6
	1.55	5600	24.6	4.7
	1.58	5670	25.0	4.8
	1.60	5750	25.3	4.9
	1.62	5830	25.7	5.0

Accuracy: Greatest of
either ±5% of controlled flow rate
or ±2% of maximum flow rate

FlowCon E-JUST				
Insert size: 50 mm · 2" · G-type · Grey pawl				
20-400 kPaD · 2.9-58 psid				
E-JUST3.G.B Black				
Nominal flow rate	l/sec	l/hr	GPM	Setting
	0.883	3180	14.0	1.0
	1.14	4100	18.0	1.1
	1.37	4940	21.7	1.2
	1.59	5710	25.1	1.3
	1.78	6420	28.3	1.4
	1.96	7070	31.1	1.5
	2.13	7660	33.7	1.6
	2.28	8200	36.1	1.7
	2.42	8700	38.3	1.8
	2.54	9150	40.3	1.9
	2.66	9570	42.1	2.0
	2.77	9960	43.8	2.1
	2.86	10300	45.4	2.2
	2.95	10600	46.8	2.3
	3.04	10900	48.2	2.4
	3.12	11200	49.4	2.5
	3.19	11500	50.6	2.6
	3.26	11700	51.7	2.7
	3.32	12000	52.7	2.8
	3.39	12200	53.7	2.9
	3.45	12400	54.6	3.0
	3.51	12600	55.6	3.1
	3.56	12800	56.5	3.2
	3.62	13000	57.3	3.3
	3.67	13200	58.2	3.4
	3.73	13400	59.1	3.5
	3.78	13600	59.9	3.6
	3.83	13800	60.8	3.7
	3.89	14000	61.6	3.8
	3.94	14200	62.4	3.9
	3.99	14400	63.3	4.0
	4.05	14600	64.1	4.1
	4.10	14800	65.0	4.2
	4.15	14900	65.8	4.3
	4.20	15100	66.6	4.4
	4.25	15300	67.4	4.5
	4.30	15500	68.2	4.6
	4.35	15700	68.9	4.7
	4.39	15800	69.6	4.8
	4.44	16000	70.3	4.9
	4.48	16100	70.9	5.0

Accuracy: Greatest of
either ±5% of controlled flow rate
or ±2% of maximum flow rate



Use the FlowCon adjustment key (part number ACC0001) for adjusting the flow rate.

A setting of 4.2 corresponds to a flow rate of:
1.45 l/sec (23.0 GPM)
for the 40 mm (1 1/2") green insert, range 17-400 kPaD (2.5-58 psid).



DESCRIPTION

The FlowCon E-JUST series is a range of dynamic balancing inserts. Each insert has a stepless adjustable flow setting enabling maximum flow limitation and balancing to each unit the valve is controlling. The setting is operated by means of a special FlowCon key and made tamper-proof as it is sealed with a colored top cap. The color of the cap and top O-ring indicate the color of the insert, i.e. the flow range. The color of the pawl on the 'handle' shows the differential pressure range.

FlowCon E-JUST can be used either in heating and cooling applications and is available with three different valve housings, i.e. FlowCon A, AB or ABV.

ACCESSORIES

- ACC0001: Adjustment key
- ACC0080: Flushing cap small (replaces 20 mm / 3/4" insert during flushing)
- ACC0081: Flushing cap medium (replaces 40 mm / 1 1/2" insert during flushing)
- ACC0084: Flushing cap large (replaces 50 mm / 2" insert during flushing)

GENERAL SPECIFICATIONS

1. AUTOMATIC BALANCING VALVES WITH EXTERNAL ADJUSTABLE SETTING - FLOWCON E-JUST

- 1.1 Contractor shall install the automatic balancing valves where indicated in drawings.
- 1.2 Valve shall consist of a dynamic, accessible, adjustable flow regulation unit.
- 1.3 Maximum flow setting shall be adjustable to 41 different settings within the range of the flow regulation unit.
- 1.4 Housing shall be permanently marked to show direction of flow.

2. VALVE HOUSING

2.a FlowCon A

- 2.a.1 Valve housing shall consist of forged brass ASTM CuZn40Pb2 or DZR brass ASTM CuZn36Pb2As, rated at no less than 2500 kPa (360 psi) static pressure at +120°C (+248°F).

OR...

2.b FlowCon AB

- 2.b.1 Valve housing shall consist of forged brass ASTM CuZn40Pb2 or DZR brass ASTM CuZn36Pb2As or ductile iron QT450-10 GB1348 / EN-GJS-450-10, rated at no less than 2500 kPa (360 psi) static pressure at +120°C (+248°F).
- 2.b.2 Pressure/temperature test plugs for verifying accuracy of flow performance shall be available for all valve sizes.

OR...

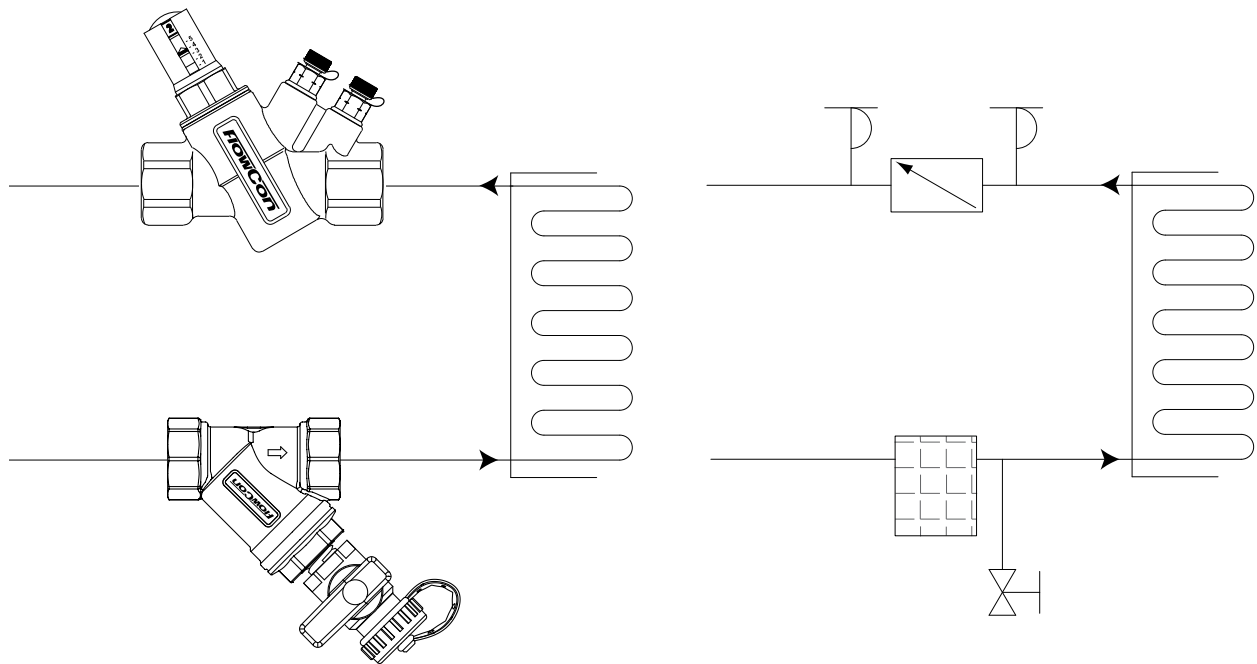
2.c FlowCon ABV

- 2.c.1 Valve housing shall consist of forged brass ASTM CuZn40Pb2, rated at no less than 2500 kPa (360 psi) static pressure at +120°C (+248°F).
- 2.c.2 Valve ball shall consist of chemically nickel-plated brass ASTM CuZn40Pb2.
- 2.c.3 Pressure/temperature test plugs for verifying accuracy of flow performance shall be available for all valve sizes.

3. FLOW REGULATION UNIT

- 3.1 Flow regulation unit shall consist of PSU (20 mm / 3/4" and 40 mm / 1 1/2" inserts) or PPU (50 mm / 2" insert).
- 3.2 Flow regulation unit shall consist of an EPDM diaphragm (20 mm / 3/4" Y-type insert) or hydrogenated acrylonitrile-butadiene rubber diaphragm (20 mm / 3/4" G-type insert, 40 mm / 1 1/2" insert and 50 mm / 2" insert).
- 3.3 Flow regulation unit shall be readily accessible for change-out or maintenance. Flow regulation unit shall be adjustable with the valve in-line and the system in operation.
- 3.4 Flow regulation unit shall be externally adjustable to 1 of 41 different flow rates; shall be available in 4 different operational pressure ranges for DN15/20/25 (1/2", 3/4", 1") and 1 operation pressure range for DN25/32/40 (1", 1 1/4", 1 1/2") and 1 for DN40/50 (1 1/2", 2"); minimum range shall be capable of being activated by 17 kPaD (2.5 psid). Further, the flow regulation unit shall be capable of controlling the flow within ±5% of controlled flow or ±2% of maximum flow.

APPLICATION AND SCHEMATIC EXAMPLE



UPDATES

For latest updates please see www.flowcon.com

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