

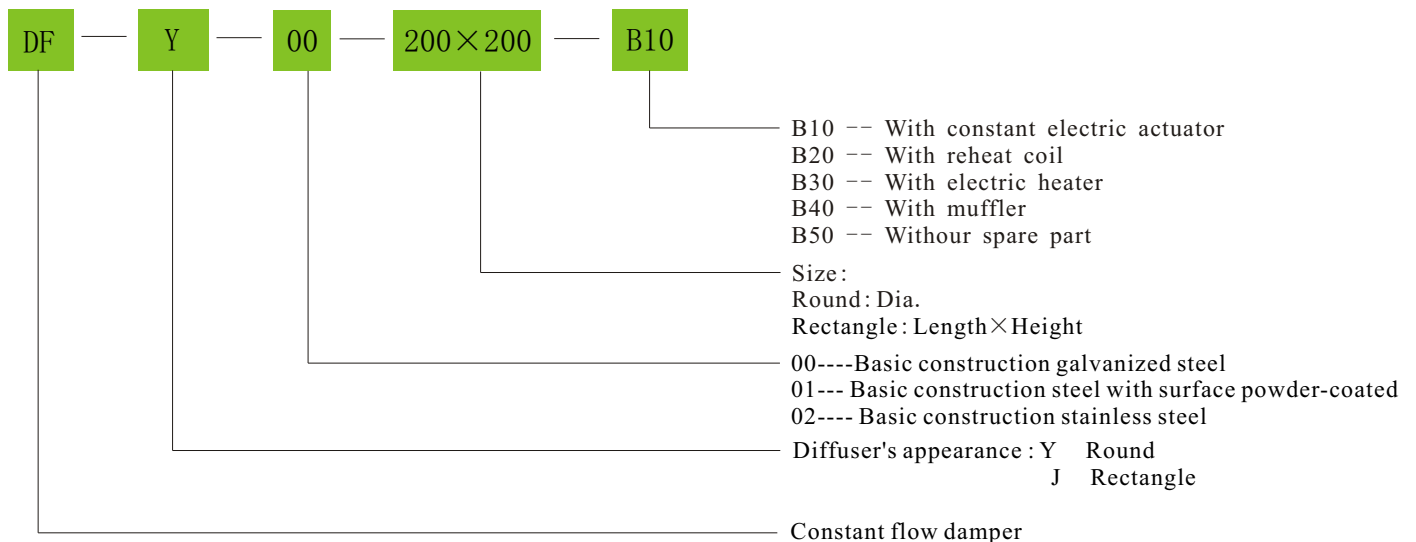
1, General Description

In air conditioning systems , which need flow volume of parts or all of the ducts for ventilation system are constant at working ,to guarantee the systems operate well . As that reason we developed DF series constant flow damper to control the flow volume which circulate in the duct precisely for projects.

The device can be widely used at hospital, lab, purify workshop and so on.



2, Symbol Explanation



Example: DF-J-400*300-B20 constant flow damper means Rectangle diffuser whose size is 400*300(W*H), Basic construction is galvanized steel with Reheat coil.of hot water.

3, Characteristic and Classify

(1)Foundation type DF constant flow damper are mechanical system powered controllers for constant volume systems which is used in air duct system need constant volume and also used as controllers to control the supply and return air constant for the systems. Operating temperature is 10 °C to 80 °C , differential pressure drop range from 50 Pa to 1000 Pa.. No need external power supply , air flow is no irrespective with system's change of stated the pressure and other characteristics. It can be used in supply air and extract air system.

(2)According various demands there are 3 kinds damper frame to choose which are galvanized steel , steel with surface powder-coated and stainless steel.

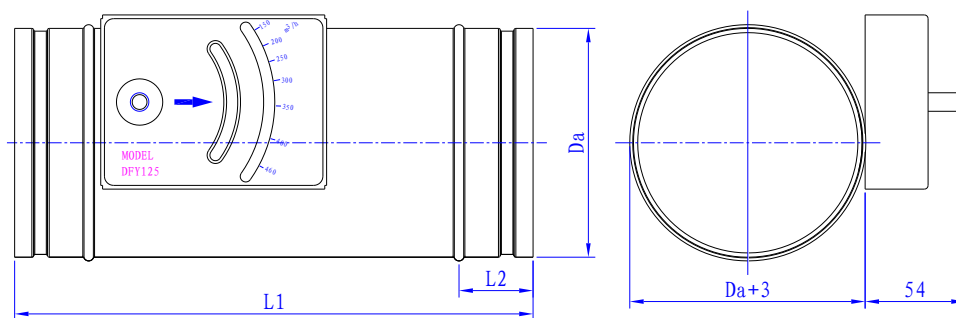
(3)There are round and rectangle types according appearance .

4, Operate principle

This device is consist of damper casing ,control blade ,spring set, damper device,videotex air flow scale and so on . Control blade is underproped by blade axis , which is divided into up and down parts and also have a fold angle . When the air pass the damper casing , it bring different velocity of flow and distributing of pressure . As that different pressure will bring a strength to avoid the blade closing . then make the blade at a balanceable position. When the pressure differential Δp changes ,the angle of the control blade is adjust to provide a constant flow within a close tolerance, as that a pre-set volume flow is maintained constant over the entire differential pressure area. The damper device can reduce the surge.. Finally ,according testing data, draw the scale according the air flows corresponding adjustable axis at different positions, such that it is convenient adjust the air flow after a simple enactment.

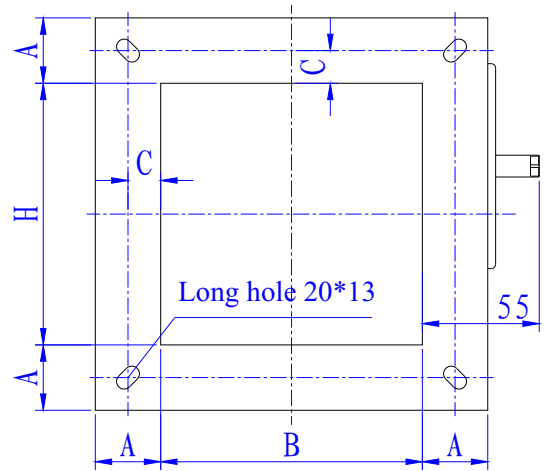
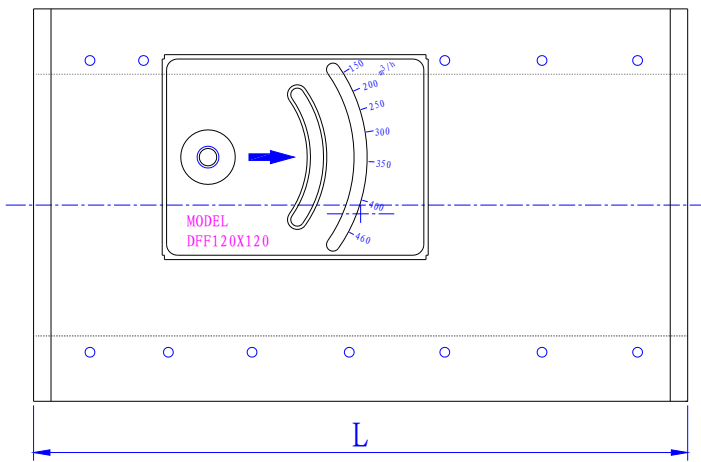
5, Appearance size and Main technical parameter

(1) Round type



Diameter (mm)	Air volume(M ³ /h) & Tolerance(%)								Size(mm)		
	Air volume	Tolerance	Air volume	Tolerance	Air volume	Tolerance	Air volume	Tolerance	Da	L1	L2
80	45	13	80	9	110	7	140	6	78	230	40
100	70	13	120	9	170	7	220	6	98	250	40
125	110	13	190	9	270	7	350	6	123	265	40
140	140	13	240	9	340	7	440	6	137	280	40
160	180	13	310	9	450	7	580	6	157	350	40
200	280	13	490	9	690	7	900	6	197	350	40
250	440	13	760	9	1080	7	1400	6	246	460	40
315	700	13	1220	9	1730	7	2250	6	311	500	40
400	1150	13	1970	9	2780	7	3600	6	396	550	40

(2) Rectangle diffuser



Width×Height (mm)		Air volume (M ³ /h) & Tolerance (%)								Size (mm)		
B×H		Air volume	Tolerance	Air volume	Tolerance	Air volume	Tolerance	Air volume	Tolerance	L	A	C
200	100	180	13	310	9	450	7	580	6	300	38	17
300	100	280	13	480	9	680	7	880	6	300	38	17
120	120	130	13	230	9	320	7	420	6	300	38	17
160	120	170	13	300	9	430	7	560	6	300	38	17
150	150	200	13	350	9	500	7	650	6	300	38	17
300	150	400	13	700	9	1000	7	1300	6	300	38	17
300	200	550	13	950	9	1350	7	1750	6	400	38	17
400	200	740	13	1290	9	1850	7	2400	6	400	38	17
500	200	880	13	1590	9	2290	7	3000	6	400	38	17
600	200	1100	13	1930	9	2770	7	3600	6	400	38	17
400	250	880	13	1590	9	2290	7	3000	6	450	38	17
500	250	1080	13	1970	9	2860	7	3750	6	450	38	17
600	250	1300	13	2370	9	3430	7	4500	6	450	38	17
400	300	1050	13	1900	9	2750	7	3600	6	450	38	17
500	300	1300	13	2370	9	3430	7	4500	6	450	38	17
600	300	1600	13	2870	9	4130	7	5400	6	450	38	17
400	400	1400	13	2530	9	3670	7	4800	6	400	38	17
500	400	1760	13	3170	9	4590	7	6000	6	400	38	17
600	400	2200	13	3870	9	5530	7	7200	6	400	38	17
500	500	2160	13	3940	9	5720	7	7500	6	450	38	17
600	500	2600	13	4730	9	6870	7	9000	6	450	38	17
600	600	3200	13	5730	9	8270	7	10800	6	450	38	17

6, Optional spare parts

(1) Actuator

According customers' requirement to choose electric proportion actuator for changing the set value and carry out controlling air flow for far distance .

(2) Heat coil

Can collocate unattached air reheat coil by hot water with galvanization sheet steel frame. It has flanges on both sides and seal for airtight connection. Heat coil use the heat equipment which is consist by copper and aluminum fin. The working temperature can achieve to 80°C, 2 rows.

Technical parameter details as following:

Heat coil's main technical parameter

Width×Height		Air volume	Inlet water temperature: 60/50°C				Outlet water temperature: 80/60°C				Wind resistance
			Inlet air temperature: 15°C		Outlet air temperature: 15°C						
mm	mm	m3/h	KW	°C	m3/h	Kpa	KW	°C	m3/h	Kpa	Pa
200	100	180	1.1	32	0.09	0.2	1.3	37	0.06	0.8	30
		310	1.4	28	0.12	3.4	1.7	31	0.07	1.4	89
		450	1.6	25	0.14	4.4	2	28	0.08	1.8	188
		580	1.7	23	0.15	4.8	2.1	25	0.1	1.9	311
300	100	280	1.7	33	0.15	4.9	2.2	39	0.1	2.2	30
		480	2.3	29	0.2	8.5	3	33	0.12	3.7	88.2
		680	2.6	26	0.22	11	3.4	29	0.14	4.8	177
		880	2.7	24	0.24	12	3.6	26	0.15	5	296
120	120	130	0.6	29	0.05	0.7	0.7	31	0.03	0.3	30
		230	0.8	25	0.06	1.2	0.9	27	0.04	0.4	93.9
		320	0.8	23	0.07	1.4	1	24	0.04	0.4	182
		420	0.8	20	0.07	1.4	0.9	21	0.04	0.4	313
160	120	170	0.8	30	0.07	1.4	1.1	34	0.05	0.6	30
		300	1.1	26	0.1	2.3	1.2	28	0.06	0.9	93.4
		430	1.2	23	0.1	2.8	1.3	25	0.06	1	192
		560	1.2	21	0.1	2.8	1.4	22	0.06	1	326
150	150	200	1.2	32	0.1	3.1	1.5	38	0.07	1.4	30
		350	1.6	28	0.14	5.7	2	32	0.09	2.4	91.9
		500	1.9	26	0.16	7.5	2.3	29	0.1	3.1	188
		650	1.9	23	0.17	8.1	2.5	26	0.1	3.3	317
300	150	400	2.6	34	0.23	14	3.5	42	0.15	6	30
		700	3.6	30	0.31	25	4.7	35	0.2	12	91.9
		1000	4.2	27	0.36	33	5.5	31	0.23	15	188
		1300	4.4	24	0.37	37	5.7	28	0.24	17	317
300	200	550	3.4	33	0.29	4.9	4.4	39	0.2	2.1	30
		950	4.6	29	0.4	8.5	5.9	33	0.26	3.7	89.5
		1350	5.3	26	0.5	11	6.8	30	0.29	4.8	181
		1750	5.5	24	0.5	12	7.1	27	0.3	5.2	304
400	200	740	4.7	34	0.41	9	6.2	40	0.27	4.1	30
		1290	6.4	29	0.55	16	8.4	34	0.36	7.2	91.2
		1850	7.4	26	0.64	21	9.7	30	0.42	9.4	188
		2400	7.7	24	0.66	22	10	27	0.43	10	316
500	200	880	5.9	35	0.51	13	7.8	42	0.34	6	30
		1590	8.2	30	0.71	25	10	35	0.46	11	97.9
		2290	9.5	27	0.82	33	12	31	0.54	15	203
		3000	9.8	24	0.85	35	13	27	0.56	16	349
600	200	1100	7.4	35	0.63	21	9.8	42	0.42	9.6	30
		1930	10	30	0.87	37	13	35	0.57	17	92.4
		2770	11	27	1	49	15	31	0.66	22	190
		3600	12	24	1	52	16	28	0.68	24	321
400	250	880	5.6	34	0.49	5.2	7.4	40	0.32	2.3	30
		1590	7.8	29	0.67	9.7	10.2	34	0.44	4.3	97.9
		2290	9.1	26	0.78	13	11.7	30	0.51	5.6	203
		3000	9.4	24	0.81	14	12.1	26	0.52	6	349

Width×Height		Air volume	Inlet water temperature: 60/50℃				Outlet water temperature: 80/60℃				Wind resistance
			Inlet air temperature: 15℃		Outlet air temperature: 15℃						
mm	mm	m3/h	KW	℃	m3/h	Kpa	KW	℃	m3/h	Kpa	Pa
500	250	1080	7.2	34	0.62	8	9.5	41	0.41	3.7	30
		1970	9.5	30	0.82	14	13.1	34	0.57	6.9	99.8
		2860	11.6	27	1.01	21	15.3	30	0.66	9.2	210
		3750	12	24	1.04	22	15.8	27	0.68	9.8	362
600	250	1300	8.8	35	0.76	12	11.6	42	0.5	5.5	30
		2370	12.3	30	1.06	23	16.2	35	0.7	10	99.7
		3430	14.3	27	1.23	30	18.8	31	0.81	14	209
		4500	14.8	24	1.27	32	19.5	27	0.84	15	359
400	300	1050	6.9	34	0.6	8.5	9.1	41	0.39	3.8	30
		1900	9.6	30	0.83	16	12.6	34	0.54	7.1	98.2
		2750	11.1	27	0.96	21	14.6	30	0.63	9.4	206
		3600	11.5	24	1	22	15.1	27	0.65	10	353
500	300	1300	8.8	35	0.76	13	11.6	42	0.5	6.1	30
		2370	12.3	30	1.06	25	16.2	35	0.7	11	99.7
		3430	14.3	27	1.23	34	18.8	31	0.81	15	209
		4500	14.8	24	1.27	36	19.5	27	0.84	16	359
600	300	1600	10.8	35	0.94	20	14.5	42	0.62	9.3	30
		2870	15	30	1.3	37	20	35	0.86	17	96.5
		4130	17.4	27	1.5	49	23.1	31	1	23	200
		5400	18	24	1.55	52	24	28	1.03	24	342
400	400	1400	9.2	34	0.8	8.5	12.1	41	0.52	3.9	30
		2530	12.8	30	1.1	16	16.7	34	0.72	7.1	98
		3670	14.9	27	1.28	21	19.4	30	0.84	9.4	206
		4800	15.4	24	1.33	22	20.1	27	0.87	10	353
500	400	1760	11.8	35	1.02	14	15.7	42	0.68	6.3	30
		3170	16.4	30	1.41	25	21.6	35	0.93	12	97.3
		4590	19	27	1.64	34	25.1	31	1.08	15	204
		6000	19.7	24	1.7	36	26	27	1.12	16	349
600	400	2200	14.8	35	1.27	21	19.7	42	0.85	9.6	30
		3870	20.1	30	1.74	37	26.8	35	1.15	17	92.8
		5530	23.3	27	2.01	49	30.9	31	1.33	23	190
		7200	24	24	2.07	52	32	28	1.37	24	321
500	500	2160	14.8	34	1.2	12	19.6	41	0.81	5.7	30
		3940	20.6	29	1.7	23	27.1	34	1.11	11	99.8
		5720	23.9	26	2	31	31.4	30	1.29	14	210
		7500	24.6	24	2.02	33	32.5	27	1.33	15	362
600	500	2600	18	34	1.48	18	24.1	41	0.99	8.4	30
		4730	25.1	30	2.06	34	33.3	35	1.37	16	99.3
		6870	29.2	27	2.4	45	38.6	30	1.59	21	209
		9000	30.1	24	2.47	48	40	27	1.64	22	359
600	600	3200	22	34	1.8	19	29.3	41	1.2	8.6	30
		5730	30.2	30	2.49	34	40.1	35	1.65	16	96.2
		8270	35	27	2.88	45	46.4	30	1.9	21	200
		10800	36.1	24	2.97	48	48	27	1.97	22	342

Note: From No.4 to No.7 list (No.8 to No.11 list) are : heating capacity for air passing the heat equipment , air outlet temperature, hot water's constant flow and water pressure drop.

(3)Electric heat unit

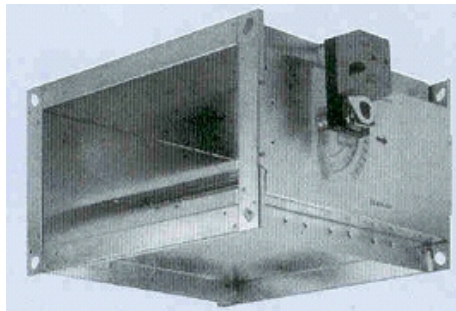
Can collocate unattached electric heat unit with galvanization sheet steel frame. It has flanges on both sides and seal for airtight connection. The value for Heating capacity of electric heat within the range according hot water heating capacity ,otherwise we can collocate and design according customers' requirements.

(4) Silencer Muffler

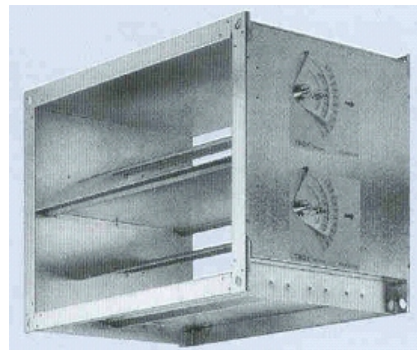
If it has a special control requirement for noise, then can choose silencer unit.

Silencer is consist of frame, silencing glass fibre and micro-hole plate. It has flanges on both sides and seal. It has two kind lengths which are 1000mm and 1500mm. In general, it can reduce 5-8db(A).

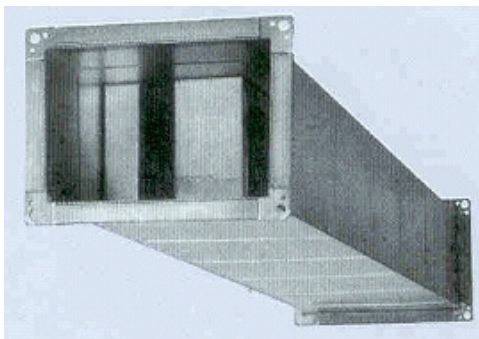
With actuator



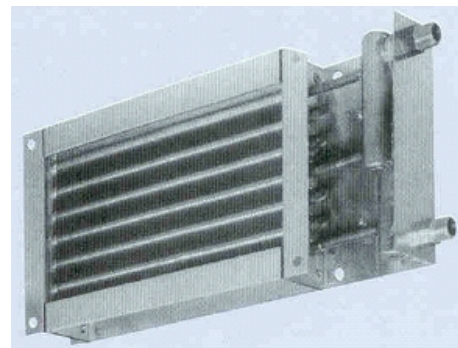
Constant flow damper with double controller



Muffler



Reheat coil



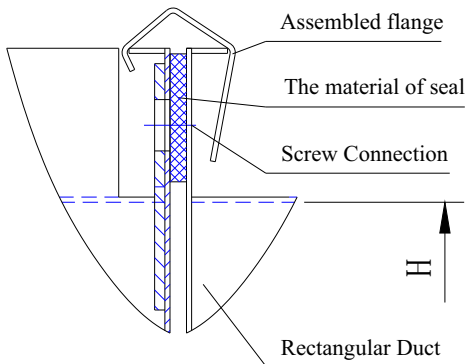
7, Installation Guiding

(1) Installation position: horizontal or vertical installation, recommending horizontal installation type precedence. However any installation type, should make the axis of blade to keep horizontal..

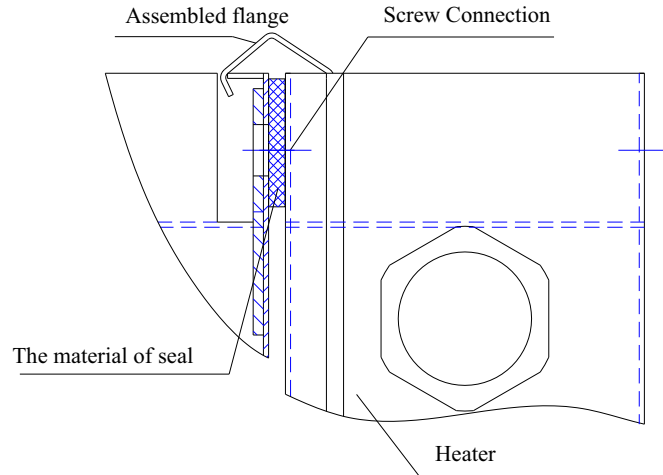
(2) The required volume flow can be set using the external videotex air scale on the constant flow damper by means of the settings on the arm without site flow measurement. The advantage over conventional dampers is that repeated measurements and adjustments by a qualified commissioning engineer are no longer required. If the system pressure changes, e.g., due to the opening or closing of duct sections, the volume flows in the entire system distribute change, then constant flow damper respond immediately and adjust the blade's position automatic, so that the set volume flow is held constant over the entire differential pressure drop range. The constant flow damper with an electric actuator for changing the set value.

(3) Constant flow damper has flanges on both sides and seal for airtight connection of the air duct.

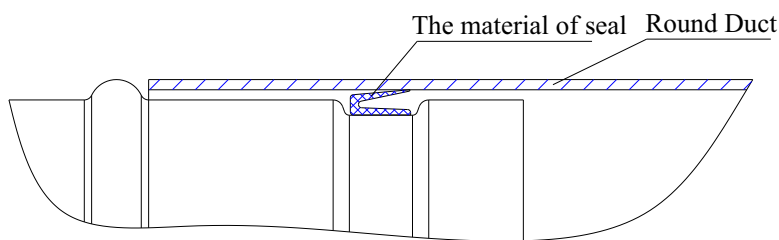
Rectangular Duct Connection



Heater Connection



Installation drawing for Round Constant Flow damper connect with round duct



8, Order details

- (1) The technical parameters listed in such as noise and heating capacity are reckoned in special working conditions. when use condition is different from the testing condition, the technical parameters in the samples may have a little windage.
- (2) When making orders, you should give the exclusive decision confirmation according to the samples' examples of method.
- (3) Our company retains the rights of interpretation and revision of this sample.