

Motorized Butterfly Valve

Actuated butterfly valves

PRODUCT DATA



FEATURES

- Wide size range (DN 50...DN600 for PN16 type, DN50...DN350 for PN25 type)
- For On-Off or Modulating Control
- Manual override non-clutch design. Manual operation can be operated without any lever, clutch or brake upon power voltage.
- Irreversible worm gear.
- Visual mechanical position indicator for accurate visual reference of valve position.
- Anti-condensation heater and 2 aux. limit switches on standard model
- Enclosure IP67

SPECIFICATIONS

Valve

Sizes	DN50...DN600 (Wafer Type)
Nominal pressure	PN16, PN25
Tightness	Bubble tight
Medium Temperature	-10°C ~ +90°C Maximum
Body Material	GG25 (for DN50...DN150) GGG40 (for DN200...DN600)
Stem Material	SS416
Disc Material	Epoxy coated ductile iron GGG40
Liner Material	EPDM
Medium Type	Chilled and Hot water
Pipe Connection	ISO7005-2

Actuator

Power Supply	220Vac, 50/60 Hz
Running time	See table (1)
Travel Angle	90° ± 5°
Input (Modulating)	4~20mA, 1~5V, or 0(2)~10V select by DIP-switch
Feedback (Modulating)	4~20mA or 0(2)~10V select by DIP-switch
Enclosure	IP67 Waterproof
Ambient Temperature	-5°C to +65°C
Indicator	Continuous Position Indicator
Manual Override	Non-clutch design
Worm Gear	Permanently lubricated and self locking
Space Heater	15W 220V Anti-condensation
Material	Aluminum Alloy
External Coating	Dry powder coating
Stall Protection	Built-in thermal protection Cut off at 125 ± 5°C Reset at 95 ± 5°C

GENERAL

The V4 Actuated Wafer Type Butterfly Valves are suitable for heating and cooling applications.

The V4 series is equipped with standard On-Off or modulating (4~20mA, 1~5V, or 0(2) ~10V select by DIP-switch) control quarter-turn electric actuator.

The V4 series can also provide feedback output signal: Dry contact for On-Off version; 0~5V, 0~10V, 4~20mA (selected by DIP- switch) for modulating version.

Table (1) Control Type and Valve Size Data

The below table is based on differential pressure of 10 bar.

Valve Size	Assembly OS# (On-Off)	Actuator OS#	Assembly OS# (Modulating)	Actuator OS#	Valve OS#	Max Torque (Nm)	Run Time at 60Hz (sec)	Kvs (m ³ /h)
DN50	V4ABFW16-050-012	OM-1	V4ABFW16-050-112	OM-P1	V4BFW16-050	35	12	109
DN65	V4ABFW16-065-012	OM-1	V4ABFW16-065-112	OM-P1	V4BFW16-065	35	12	177
DN80	V4ABFW16-080-012	OM-1	V4ABFW16-080-112	OM-P1	V4BFW16-080	35	12	243
DN100	V4ABFW16-100-012	OM-1	V4ABFW16-100-112	OM-P1	V4BFW16-100	35	12	483
DN125	V4ABFW16-125-012	OM-2	V4ABFW16-125-112	OM-P2	V4BFW16-125	90	15	822
DN150	V4ABFW16-150-012	OM-2	V4ABFW16-150-112	OM-P2	V4BFW16-150	90	15	1,270
DN200	V4ABFW16-200-012	OM-3	V4ABFW16-200-112	OM-P3	V4BFW16-200	150	22	2,550
DN250	V4ABFW16-250-012	OM-4	V4ABFW16-250-112	OM-P4	V4BFW16-250	400	16	4,342
DN300	V4ABFW16-300-012	OM-4	V4ABFW16-300-112	OM-P4	V4BFW16-300	400	16	6,708
DN350	V4ABFW16-350-012	OM-7	V4ABFW16-350-112	OM-P7	V4BFW16-350	1,000	46	9,793
DN400	V4ABFW16-400-012	OM-8	V4ABFW16-400-112	OM-P8	V4BFW16-400	1,500	46	13,467
DN450	V4ABFW16-450-012	OM-9	V4ABFW16-450-112	OM-P9	V4BFW16-450	2,000	58	17,836
DN500	V4ABFW16-500-012	OM-10	V4ABFW16-500-112	OM-P10	V4BFW16-500	2,500	58	22,933
DN600	V4ABFW16-600-012	OM-12	V4ABFW16-600-112	OM-P12	V4BFW16-600	3,500	58	35,431
DN50	V4ABFW25-050-012	OM-1	V4ABFW25-050-112	OM-P1	V4BFW25-050	35	12	109
DN65	V4ABFW25-065-012	OM-1	V4ABFW25-065-112	OM-P1	V4BFW25-065	35	12	177
DN80	V4ABFW25-080-012	OM-2	V4ABFW25-080-112	OM-P2	V4BFW25-080	90	15	243
DN100	V4ABFW25-100-012	OM-2	V4ABFW25-100-112	OM-P2	V4BFW25-100	90	15	483
DN125	V4ABFW25-125-012	OM-3	V4ABFW25-125-112	OM-P3	V4BFW25-125	150	22	822
DN150	V4ABFW25-150-012	OM-3	V4ABFW25-150-112	OM-P3	V4BFW25-150	150	22	1,270
DN200	V4ABFW25-200-012	OM-4	V4ABFW25-200-112	OM-P4	V4BFW25-200	400	16	2,550
DN250	V4ABFW25-250-012	OM-4	V4ABFW25-250-112	OM-P4	V4BFW25-250	400	16	4,342
DN300	V4ABFW25-300-012	OM-6	V4ABFW25-300-112	OM-P6	V4BFW25-300	650	28	6,708
DN350	V4ABFW25-350-012	OM-7	V4ABFW25-350-112	OM-P7	V4BFW25-350	1,000	46	9,793

Note: More OS# Please refer to Figure (1) or contact Honeywell.

Figure (1) Product Identification System

Ordering Data — the numbering system for Honeywell motorized butterfly valves:

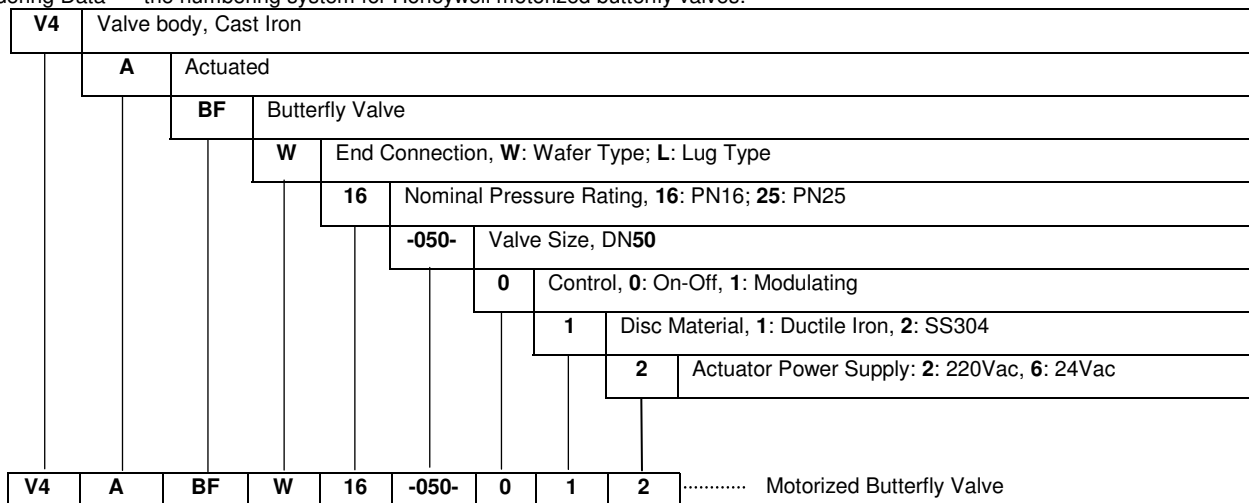


Table (2) Valve Dimensions (mm) and Weight

PN	Size		A	B	C	D	L	H	ØK	ØE	n-Ød	Ød0	G		ØD2	N-Ø2		Weight (Kg)	
	DN	Inch											Wafer	Lug		Wafer	Lug	Wafer	Lug
16	50	2"	130.5	67	43	52.7	15	11	65	50	4-7	14.3	118	159	125	4-Ø18	4-M16	2.5	3.8
	65	2.5"	140	71	46	64.3	15	11	65	50	4-7	14.3	137	184	145	4-Ø18	4-M16	3.2	4.2
	80	3"	150	83	46	78.6	15	11	65	50	4-7	14.3	143	197	160	8-Ø18	8-M16	3.6	4.7
	100	4"	183	95	52	104	15	11	65	50	4-7	15.8	156	222	180	8-Ø18	8-M16	4.9	9
	125	5"	178	110	56	123	29	14	90	70	4-10	18.9	190	254	210	8-Ø18	8-M16	7	10.9
	150	6"	191	124	56	155	29	14	90	70	4-10	18.9	212	292	240	8-Ø22	8-M20	7.8	14.2
	200	8"	239	163	60	202	29	17	90	70	4-10	22.1	268	349	295	12-Ø22	12-M20	13.2	18.2
	250	10"	285	227	68	250	39	22	125	102	4-12	28.5	325	413	355	12-Ø26	12-M24	19.2	26.8
	300	12"	315	252	78	301	39	22	125	102	4-12	31.6	403	483	410	12-Ø26	12-M24	32.5	40
	350	14"	368	267	78	333	45	22	175	140	4-18	31.6	436	527	470	16-Ø26	16-M24	41.3	56
	400	16"	400	309	102	356	45	27	175	140	4-18	33.2	488	584	525	16-Ø30	16-M27	61	96
	450	18"	422	328	114	440	45	27	210	165	4-22	38	539	635	585	20-Ø30	20-M27	79	122
	500	20"	450	361	127	491	45	36	210	165	4-22	41.2	591	705	650	20-Ø33	20-M30	128	202
	600	24"	562	459	154	592	45	36	210	165	4-22	50.7	816	832	770	20-Ø36	20-M33	188	270
25	50	2"	130.5	67	43	52.8	15	11	90	70	4-10	14.3	165	-	125	4-Ø18	4-M16	3.5	-
	65	2.5"	140	71	46	64.4	15	11	90	70	4-10	14.3	185	-	145	8-Ø18	8-M16	4.5	-
	80	3"	150	83	46	78.7	15	14	90	70	4-10	15.8	200	-	160	8-Ø18	8-M16	5.1	-
	100	4"	183	95	52	104.1	15	14	90	70	4-10	18.9	235	-	190	8-Ø23	8-M20	6.8	-
	125	5"	178	110	56	123.1	29	17	90	70	4-10	22.1	270	-	220	8-Ø27	8-M24	9.8	-
	150	6"	191	124	56	155.1	29	17	90	70	4-10	22.1	300	-	250	8-Ø27	8-M24	10.9	-
	200	8"	239	163	60	202.2	29	22	125	102	4-12	28.5	360	-	310	12-Ø27	12-M24	18.5	-
	250	10"	285	227	68	250.2	39	22	125	102	4-12	31.6	425	-	370	12-Ø30	12-M27	26.9	-
300	12"	315	252	78	301.2	39	27	150	125	4-14	33.2	485	-	430	16-Ø30	16-M27	45.5	-	

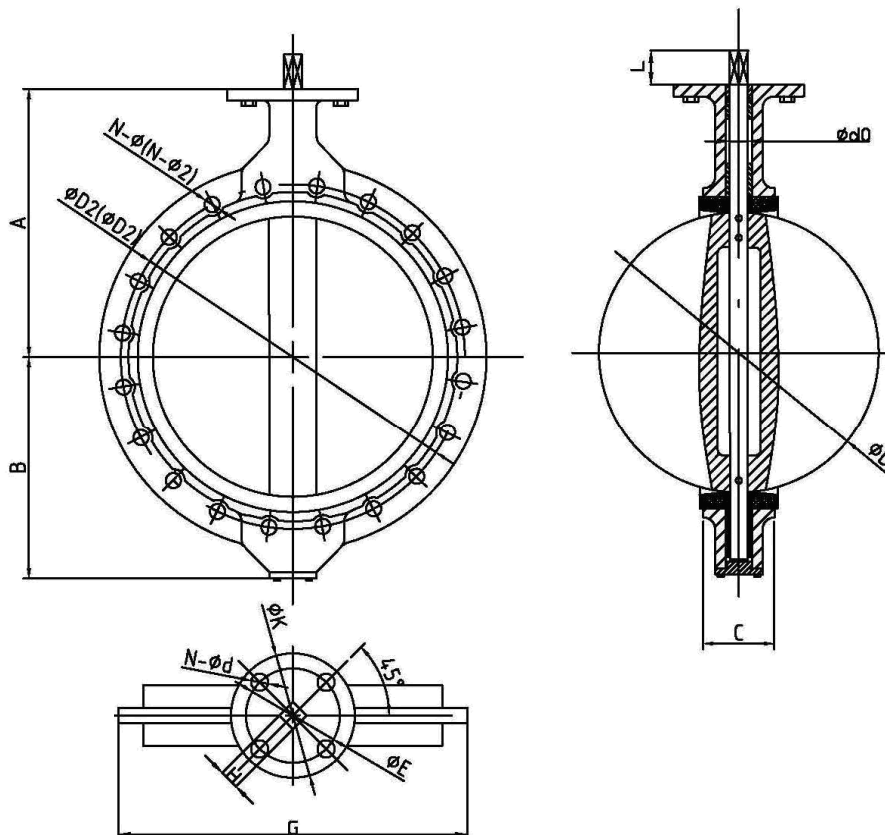


Table (3) Hydraulic Characteristics

The below table shows the Kvs at different opening angles:

Size	Kvs at Disk Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	0.08	4.0	10	19	36	51	72	101	109
65	0.16	6.4	16	30	52	79	116	164	177
80	0.24	9.7	18	31	56	93	147	221	243
100	0.40	14	29	63	112	185	293	439	483
125	0.64	23	49	107	191	315	499	748	822
150	1.6	36	76	165	294	487	771	1,156	1,270
200	2.4	72	153	332	591	977	1,547	2,321	2,550
250	3.3	123	260	564	1,006	1,664	2,634	3,951	4,342
300	4.1	190	402	872	1,554	2,571	4,070	6,104	6,708
350	4.7	278	588	1,273	2,269	3,754	5,941	8,911	9,793
400	6.2	381	808	1,750	3,120	5,162	8,170	12,255	13,467
450	8.6	505	1,070	2,319	4,132	6,837	10,821	16,231	17,836
500	11	650	1,376	2,981	5,313	8,791	13,913	20,869	22,933
600	17	1,004	2,126	4,606	8,209	13,582	21,495	32,242	35,431

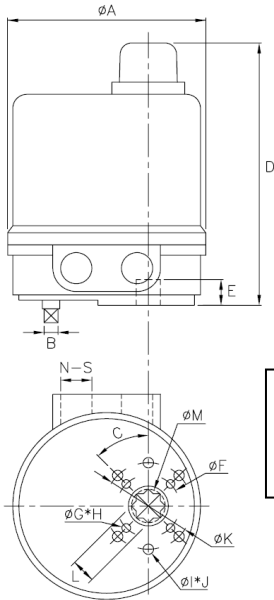
Table (4) Actuator Data

OS# On-Off	OS# Modulating	Max Torque (Nm)	Run Time at 60Hz (sec)	Power Consumption (Watts)	Manual Override	Weight (Kg)
OM-1	OM-P1	35	12	10		2
OM-2	OM-P2	90	15	40	Hand-wheel	11
OM-3	OM-P3	150	22	40	Hand-wheel	11
OM-4	OM-P4	400	16	120	Hand-wheel	22
OM-5	OM-P5	500	22	120	Hand-wheel	22
OM-6	OM-P6	650	28	120	Hand-wheel	22
OM-7	OM-P7	1000	46	180	Hand-wheel	36
OM-8	OM-P8	1500	46	220	Hand-wheel	36
OM-9	OM-P9	2000	58	180	Hand-wheel	56
OM-10	OM-P10	2500	58	220	Hand-wheel	56
OM-11	OM-P11	3000	58	250	Hand-wheel	56
OM-12	OM-P12	3500	58	300	Hand-wheel	56

Table (5a) Actuator Dimensions (mm)

OM-1

OS#	A	B	C	D	E	F	G	H	I	J	K	L _{max}	M	N	S	Flange Type
OM-1	114	8	45°	155	15	36	m5	4	m6	6	50	14	19	2	1/2 PS	F03/ F05



- ◆ Option: (1) L=11, M=15
- (2) L=9, M=12
- ◆ With Modulating Card D=185
- ◆ No mechanical stops

Table (5b) Actuator Dimensions (mm)

OM-2 to OM-6

OS#	A	B	C	D	E	F	G _{Max}	H	I	M	N	S	Flange Type
OM-2&3	203	326	180	255	30	123	22	70	m8	4	2	1/2 PS	F07
OM-4,5,6	290	394	217	317	40	194	35	102	m10	4	2	1/2 PS	F10

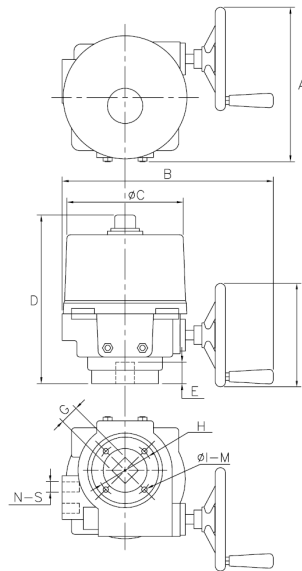


Table (5c) Actuator Dimensions (mm)

OM-7 to OM-8

OS#	A	B	C	D	E	F	G	H	I	J	K	L*2	M _{max}	N	S	Flange Type
OM-7 OM-8	385	340	217	420	60	295	140	45°	m16	4	180	10	35	2	1/2 PS	F14

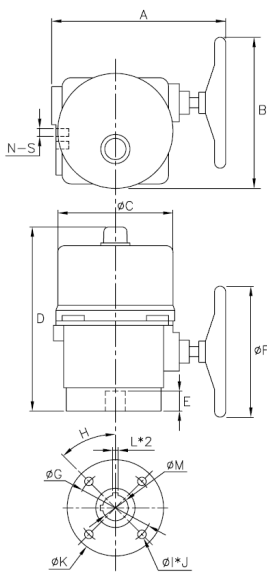
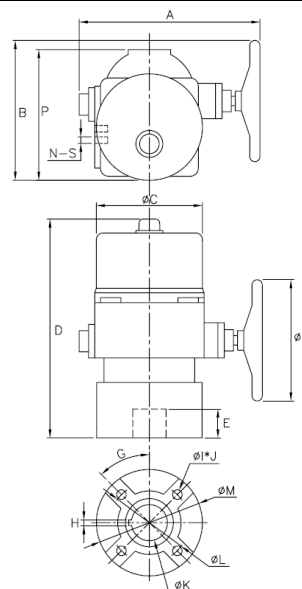


Table (5d) Actuator Dimensions (mm)

OM-9 to OM-12

OS#	A	B	C	D	E	F	G	H	I	J	K	L	M	P	N	S	Flange Type
OM-9 to OM-12	470	350	260	590	100	395	45°	12	m20	4	75	165	221	360	2	1/2 PS	F16



INSTALLATION

WARNING!

Remove power before the cover is dismantled!
The actuator must be handled with the utmost care when the cover is removed and the power connected!

MOUNTING ON VALVE

Operate the valve manually to fully open or fully closed position before the actuator is mounted.

Operate the actuator and valve stem to fully opened or fully closed position.

Check that the actuator and valve stem are in correct position. Please note, valve and actuator must be in the same mode (fully opened/fully closed) prior to the assembly.

Mount the actuator on the valve and check that the actuator and valve stem are centered and aligned.

Operate the valve manually with the aid of the actuator hand-wheel and check that the valve moves with normal resistance.

Check that all screws are correctly tightened.

ELECTRIC WIRING

Note:
Electric wiring must be carried out by qualified personnel only!
Wiring diagram is also shown on the label of top cover.

Loosen the screws on the cover and lift it off.

Check the voltage marked on the actuator label.

Connect according to the enclosed wiring diagram. The wiring diagram is drawn in unaffected position (inside of the actuator cover in the intermediate position).

Test run the actuator from intermediate position checking that the actuator turns in the correct direction.

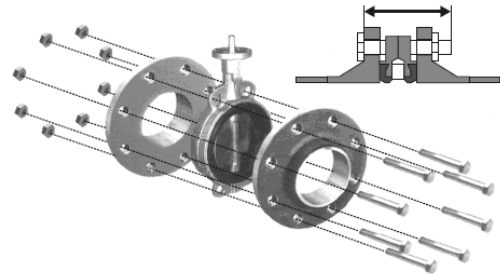
Test run the actuator and check that the limit switches work correctly.

Check that the cable entries and possible blind plug are sealed.

Mount the cover.

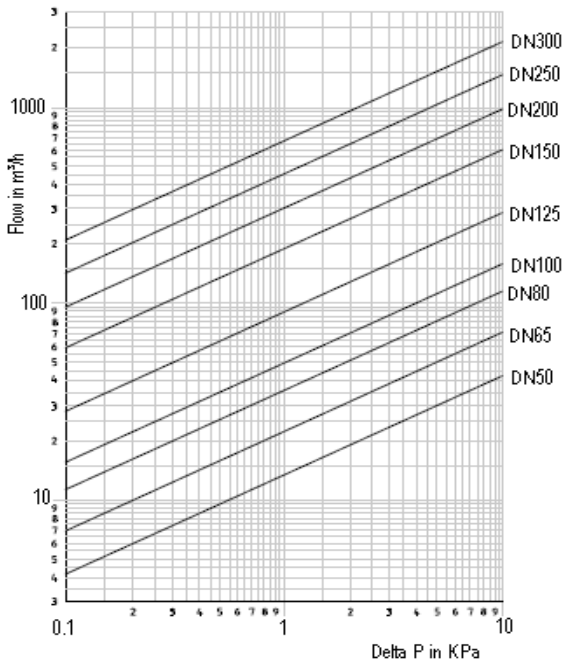
BOLTING

Number of bolts and nuts depends on nominal pressure PN. Please refer to Table (2) for more details.

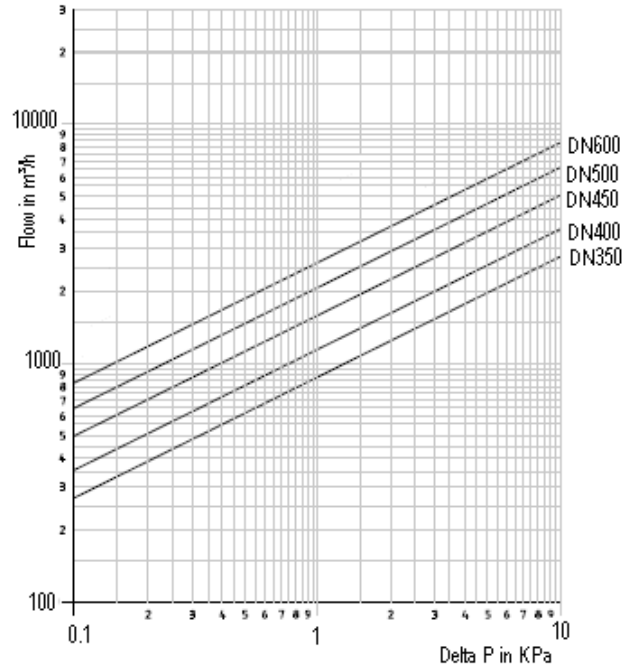


Flow rate and Pressure drop

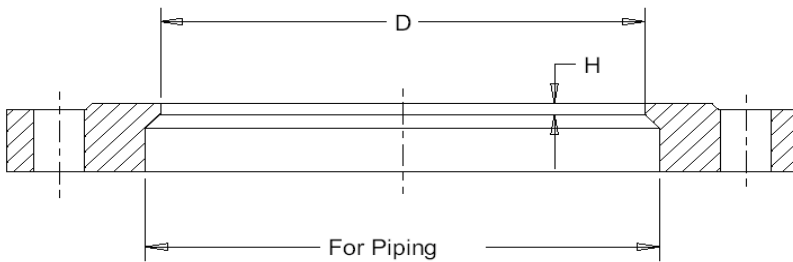
DN50~DN300



DN350~DN600



Flange Dimension Recommended for V4 Butterfly Valve



DN (mm)	D (mm)	H (mm)
50	50	4
65	65	4
80	80	4
100	100	4
125	125	4
150	150	4
200	208	5
250	255	6
300	308	6
350	340	7
400	405	7
450	455	8
500	505	8
600	605	8

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