

BUTTERFLY VALVE

High performance type,
Rubber Lined type

MODEL: KCV-301H, KCV-302R Series



KOCOON

High performance Butterfly valve

Model: KCV-301H Series

General

The model **KCV-301H** Is our latest high performance butterfly valves which disc itself is concentric type but disc seating surface is machined as eccentric.

It has a special seating mechanism, accordingly for a variety of liquid and gas service. On the other hand, it has such features as compactness, light weight, easy maintenance and wide manufacturing range including large size. It is one of the most economical valves.

The model **KCV- 302R** have body and butterfly disc both lined with corrosion resistant rubber to be suitable corrosive medium in various applications such as chemical, pharmaceutical, food processing, oil refinery, marine, paper, FGD system in power, wastewater treatment and seawater desalination etc.



KCV-301H High performance type



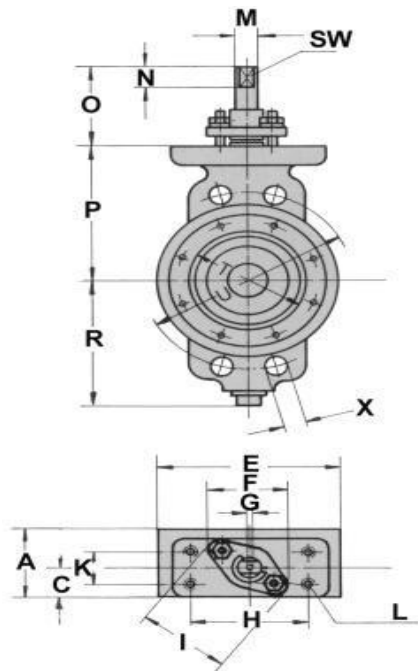
KCV-302R Rubber Lined type

Standard specifications

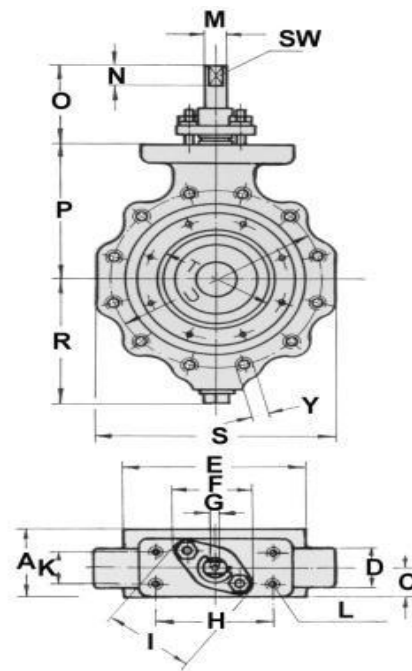
Valve Model		KCV-301H (High performance type)	
		KCV-302R (Rubber Lined type)	
Valve Type		Cylinder actuator operated High performance Butterfly valve	
BODY	Valve Size	3/4" ~ 48" (20mm ~ 1200mm)	
	Pressure Rating	ANSI 150#~300# / JIS 10K~20K, Others	
	End Connection	Flange End: RF, WF, Lug etc.	
	Body Material	A216-WCB, A351-CF8, CF8M, CF3M	
	Operating Temp.	Soft seat	-45°C~180°C (PTFE, RTFE), -196°C, > 250°C (PEEK)
		Metal seal	Max. 450 °C (SUS304, SUS316, SUS316)
	Guide	Top & Bottom guide	
	Gland Type	Bolted gland	
	Gland Packing	PTFE yarn, Graphite yarn Packing	
	Disc characteristics	Inherent, Modify EQ%, Quick Opening	
PERFORMANCE	Valve Action	Reverse action, Direct action	
	Rated Cv Value	See " Value flow coefficients & Technical data" page 8	
	Allowable seat leak ratio	Soft seat	ANSI Class VI
		Metal seal	ANSI Class IV
	Rangeability	20 : 1	
ACTUATOR	Allowable Pressure For actuator	See " Allowable Pressure" page9	
	Type	Spring return type / Double acting Cylinder type	
	Size	60°, 90°	
	Material	Diaphragm: EPDM, Piston-Ring: N.B.R or VITON	
	Supply air Pressure kPa (Bar)	0~400(0~4.0) , 0~500(0~5.0)	
	Ambient temp	-20 ~ +80 °C	
	Air connection	Rc 1/4" ~ Rc 1"	
	Painting color	Maker standard	
	Accessory	Air set, Solenoid valve, Speed controller, Lock-Up valve, Limit switch & Box, Booster Relay, Proximity switch, Silencer, Manual handle, etc.	

Structure

1. High performance type Butterfly valve

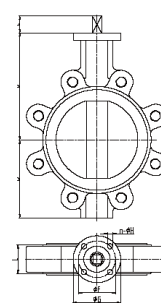
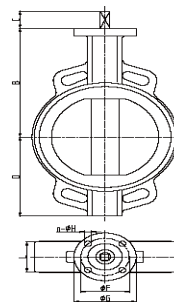
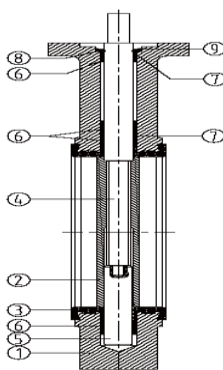


Connection type : Wafer



Connection type : Lug.

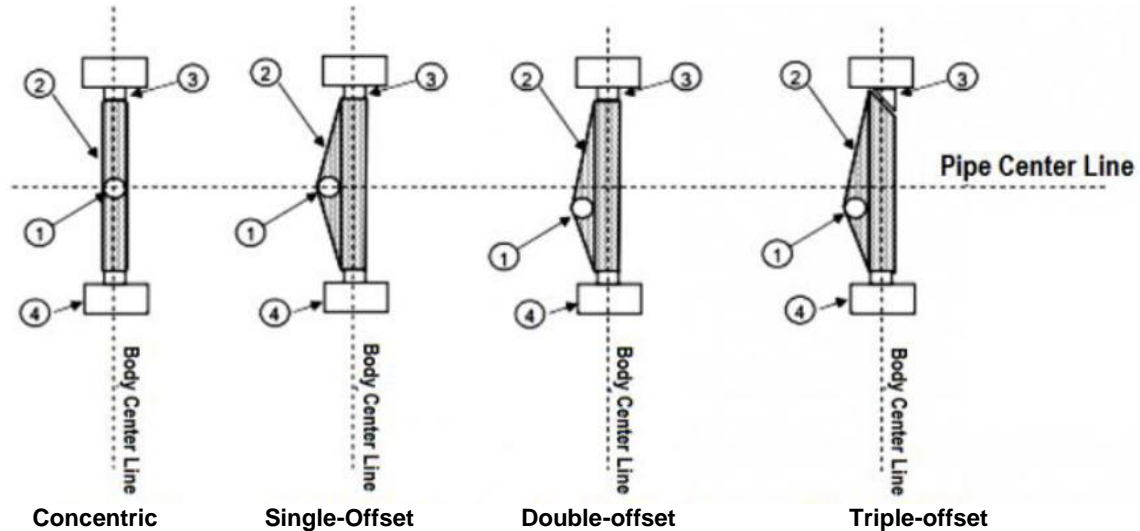
2. Rubber Lined type Butterfly valve



No	①	②	③	④	⑤	⑥	⑦	⑧	⑩
Main part name	Body	Disc	SEAT	Upper shaft	Lower shaft	Bushing	O-Ring	Split pin	Retainer ring

3. Butterfly DISC Structure

According to the position of this stem, a butterfly valve can be concentric or eccentric.



- Single-offset – The shaft is offset from its body center line
- Double-Offset – The shaft is offset from its body center line + Shaft offset from pipe center line
- Triple-Offset – The shaft is offset from its body center line + shaft offset from pipe center line + conical offset shape in its seal disc connection.

Item remark

1. Shaft
2. Disc
3. Seat
4. Body

3-1 Concentric butterfly valve

The concentric butterfly valve refers to the butterfly valve whose stem isn't only located in the center of the disc but also in the center of the pipeline. This kind of butterfly valve is common, simple, and of low cost. The concentric butterfly valve is also called zero offset butterfly valve.

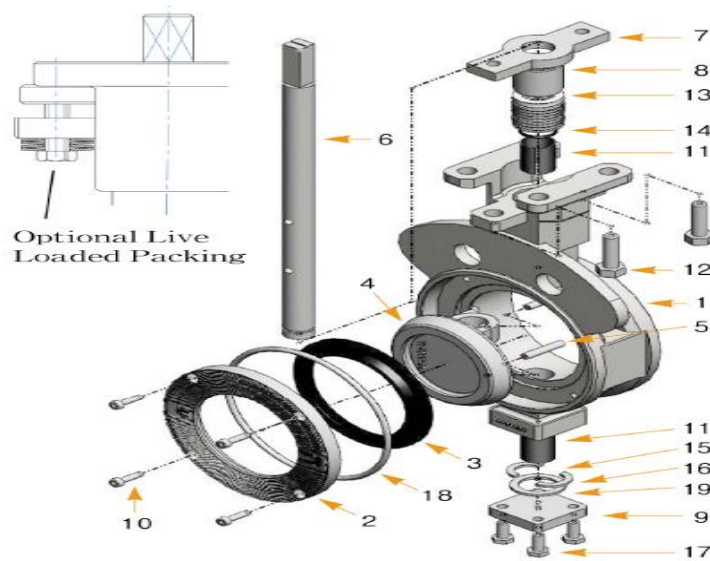
However, the concentric butterfly valve has its own disadvantages: during the opening and closing of the valve, the disc may always contact some part of the valve body and cause friction. To avoid such friction, an eccentric butterfly valve is a good option.

3-2 Eccentric butterfly valve

More specifically, the eccentric butterfly valve could be single-offset, double offset, or triple offset.

The single-offset butterfly valve refers to the butterfly valve whose stem is still in the pipe's centerline but located behind the disc. This design might reduce the friction between the disc and the top or the bottom of the valve. But generally, it's similar to the concentric butterfly valve.

4. Exploded view dwg.



Standard parts list

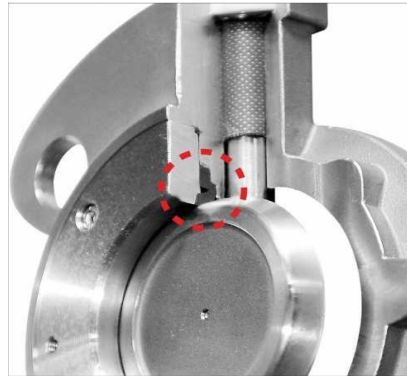
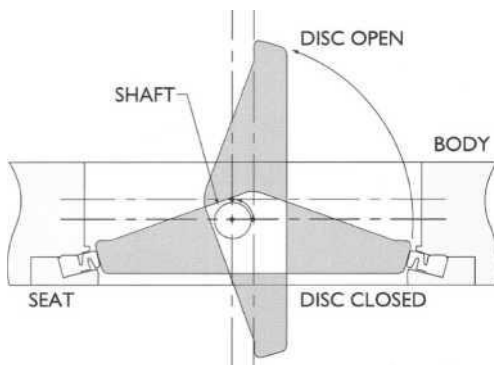
No	Parts	Q'ty	Material	
1	Valve body	1	Carbon steel	A216-WCB
			304SS	A351-CF8
			316SS	A351-CF8M
			Ductile Iron	A536
2	Seat Retainer	1	Carbon steel	ANSI 1045
			304SS	A240 Tp 304
			316SS	A351-CF8M
3	Seat		PTFE	
			RTFE	
			METAL	
4	Disc		304SS	A351-CF8
			316SS	A351-CF8M
5	Disc Pin		304SS	A276 Tp 304
			316SS	A276 Tp 316
6	Stem		304SS	A276 Tp 304
			316SS	A276 Tp 316
			17-4Ph	A564 Gr.630
7	Packing Gland		304SS	A240 Tp 304
8	Packing Follower		304SS	A240 Tp 304
9	Bottom Cover		Carbon steel	
			304SS	A351-CF8
			316SS	A351-CF8M
10	Retainer Bolt		304SS	A193 Gr. B8
			316SS	A193 Gr. B8M
11	Stem Bearing		Stainless steel & RTFE	
12	Gland Bolt		304SS	A193 Gr. B8
13	Packing		PTFE	
			GRAPHITE	
14	Packing Retainer		VITON	
15	Shaft Retainer		304SS	A276 Tp 304
			316SS	A276 Tp 316
16	Bottom Packing		PTFE	
17	Bottom Bolt		304SS	A193 Gr. B8
18	O-Ring		Nitrile	
19	Stem Ball		Stainless steel	

- Special material can be produced to meet customer's special requirements

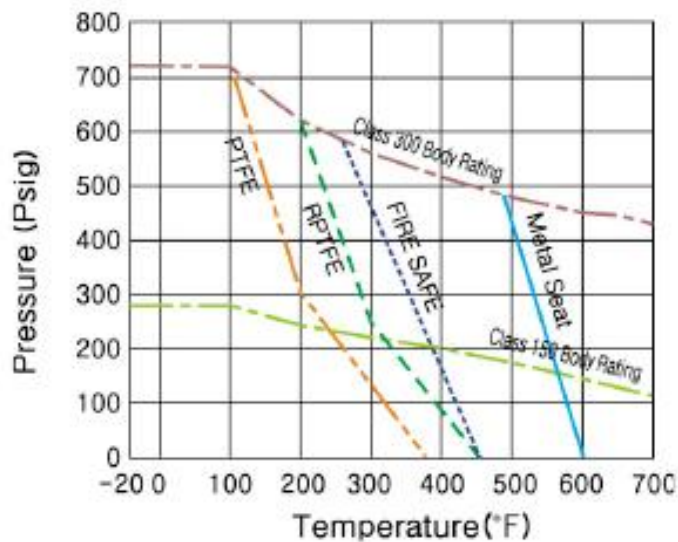
5. Seat specification

- **Eccentric Double offset design seating**

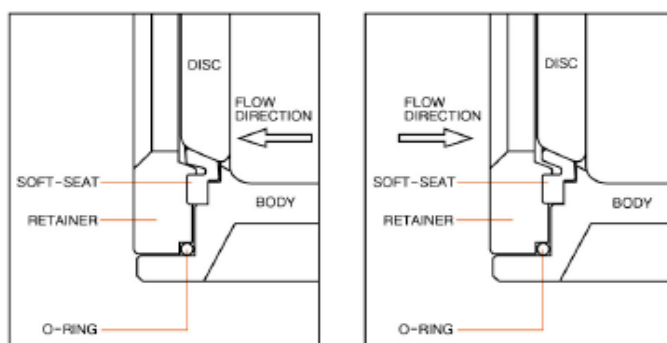
The double offset shaft/disc design ensures bidirectional sealing throughout the full pressure range of the valve. The cam-like action produced by the offset stem and disc, effectively lifts the disc off the seat during the initial opening of the valve, reducing seat wear and eliminating seat deformation at the top and bottom. When the disc is in the open position, there is no contact between the disc and seat. Operating torques are reduced and seat life is extended.



- **Temperature Rating**



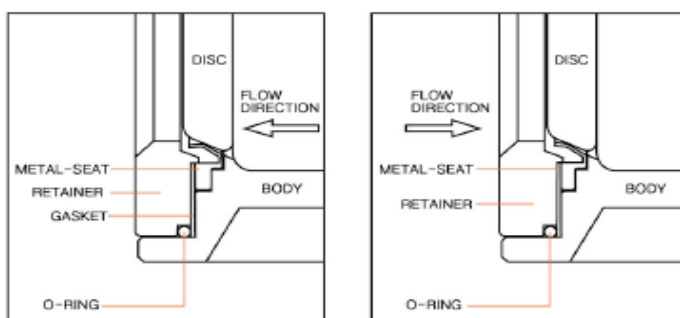
- **Soft seat High performance butterfly valve**



Seat Material Maximum Working Temperature

- PTFE-SEAT 140°C (284°F)
- TFM-SEAT 160°C (320°F)
- RTFE-SEAT 180°C (356°F)
- PEEK-SEAT 250°C (482°F)

- **Metal seat High performance butterfly valve**

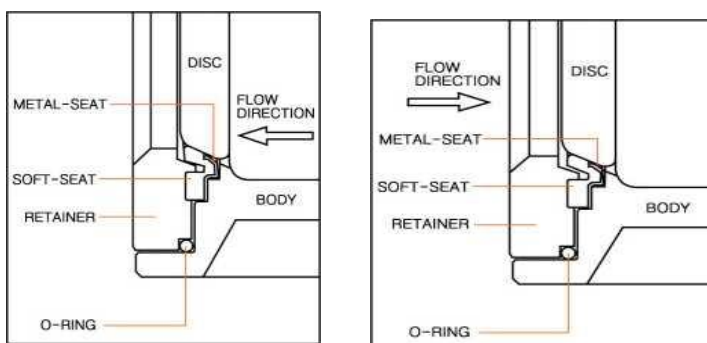


Seat Material Maximum Working Temperature

- METAL-SEAT max 600°C(1112°F)

(Class V of ANSI / FCI 70-2 Class V leakage rate)

- **fire safe seat High performance butterfly valve**



Seat Material Maximum Working Temperature

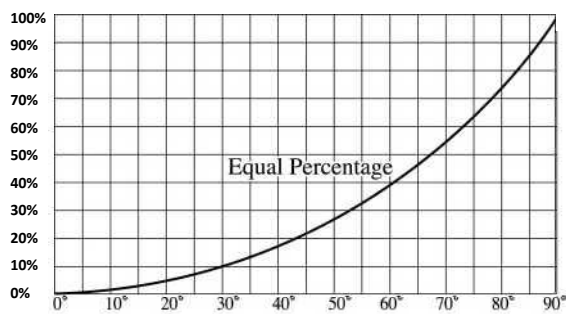
- SS316L*RTFE 230°C (446°F)

FIRE-SAFE to API 607 5th Edition (SEAT LEAKAGE- Leakage of soft seated version is ZERO)

Value flow coefficients & Technical data

Valve Size	Angle of Opening	
	60 Deg.	90Deg.
2" (50A)	46	85
2.5" (65A)	76	140
3" (80A)	120	178
4" (100A)	258	374
5" (125A)	394	768
6" (150A)	605	1060
8" (200A)	1140	2120
10" (250A)	1700	3340
12" (300A)	2545	4850
14" (350A)	3167	6344
16" (400A)	4215	7980
18" (450A)	5105	10275
20" (500A)	6717	13050
22" (550A)	8067	15170
24" (600A)	10267	18896

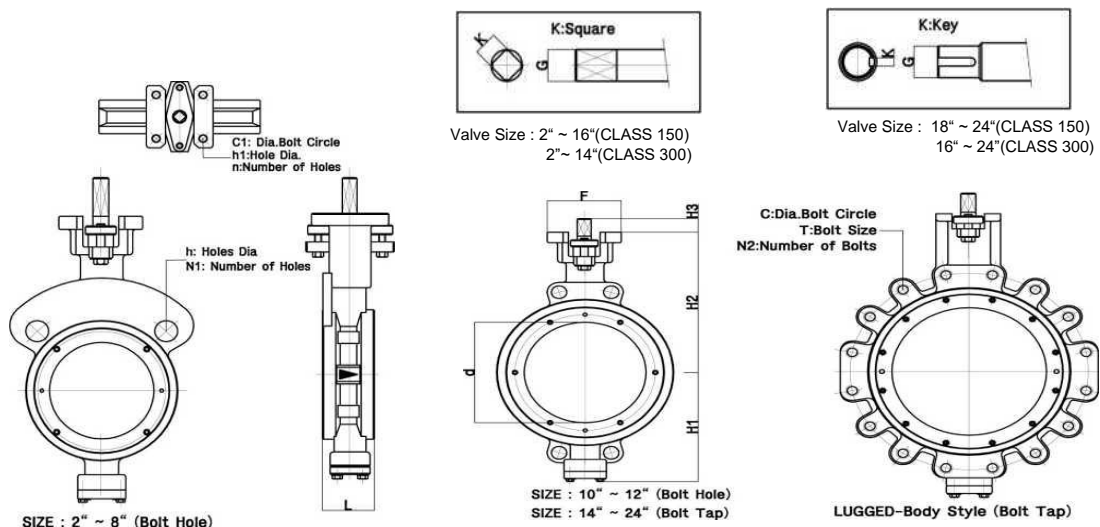
- Flow data rated Cv



The volume of water in United States gallons per minute that will pass through a given valve opening with a pressure drop of 1 pound per square inch, (water at temp=60 °F

Dimensional Data

Mounting Base – ISO 5211



* C/F Factory for larger size from
26" thru 120"

Note.

1. Face to Face Dimension : comply to API609 category B ISO5752 short
2. End connection flange dimension : comply to ANSI B16.5

ANSI 150# High performance Butterfly Valve (mm)

SIZE		d	L	H1		H2	H3	F	G	K	Flange Dimension					Mounting Base			
inch	mm			Wafer	Lug						C	h	T	N1	N2	C1	n	hi	ISO
2	50	49	43	83	83	123	35	70	13	11	120.7	19.1	5/8"-11unc	2	4	70	4	10	F07
2.5	65	62	47	94	95	144	35	70	13	11	139.7	19.1	5/8"-11unc	2	4	70	4	10	F07
3	80	73	48	102	105	154	35	70	16	11	152.4	19.1	5/8"-11unc	2	4	70	4	10	F07
4	100	95	54	117	121	174	35	70	16	11	190.5	19.1	5/8"-11unc	2	8	70	4	10	F07
5	125	122	57	135	140	193	35	70	19	14	215.9	22.2	3/4"-10unc	2	8	70	4	10	F07
6	150	141	57	155	161	213	35	70	22	17	241.3	22.2	3/4"-10unc	2	8	70	4	10	F07
8	200	194	64	197	182	250	50	115	28	22	298.5	22.2	3/4"-10unc	2	8	102	4	12	F10
10	250	238	72	228	228	275	50	115	35	22	362.0	25.4	7/8"-9unc	4	12	125	4	12	F12
12	300	278	81	260	260	306	50	130	35	27	431.8	25.4	7/8"-9unc	4	12	125	4	17	F12
14	350	318	92	290	290	330	50	130	38	27	476.3	1"-8unc		4	12	125	4	17	F12
16	400	360	102	330	330	390	55	165	45	36	539.8	1"-8unc		4	16	165	4	23	F16
18	450	433	114	360	360	425	80	165	50	16*10	577.9	1.1/8"-8unc		4	16	165	4	23	F16
20	500	470	127	390	390	450	80	165	55	16*10	635.0	1.1/8"-8unc		4	20	165	4	23	F16
22	550	520	154	425	425	495	80	250	60	18*11	692.2	1.1/4"-8unc		4	20	165	4	23	F16
24	600	580	154	440	440	510	110	250	65	20*12	749.3	1.1/4"-8unc		6	20	254	4	23	F25

ANSI 300# High performance Butterfly Valve (mm)

SIZE		d	L	H1		H2	H3	F	G	K	Flange Dimension					Mounting Base			
inch	mm			Wafer	Lug						C	h	T	N1	N2	C1	n	hi	ISO
2	50	49	43	83	83	123	35	70	13	11	127.0	19.1	5/8"-11unc	2	8	70	4	10	F07
2.5	65	62	47	94	95	144	35	70	13	11	149.4	22.2	3/4"-10unc	2	8	70	4	10	F07
3	80	73	48	102	105	154	35	70	16	11	168.1	22.2	3/4"-10unc	2	8	70	4	10	F07
4	100	95	54	117	121	174	35	70	16	11	200.2	22.2	3/4"-10unc	2	8	70	4	10	F07
5	125	122	57	135	140	193	35	70	19	14	235.0	22.2	3/4"-10unc	2	8	70	4	10	F07
6	150		59	155	161	213	35	70	22	17	269.7		22.2	3/4"-10unc	2	12	70	4	10
8	200	194	73	210	210	250	50	115	30	22	330.2	25.4	7/8"-9unc	2	12	102	4	12	F10
10	250	235	83	240	240	280	50	115	35	27	387.4	28.6	1"-8unc	4	16	125	4	12	F12
12	300	276	92	270	270	320	50	130	38	27	450.9	31.8	1.1/8"-8unc	4	16	125	4	17	F12
14	350	316	117	320	320	370	55	165	45	36	514.4	1.1/8"-8unc		4		20	125	4	17
16	400	358	133	360	360	420	80	165	50	16*10	571.5	1.1/4"-8unc		4	20	165	4	23	F16
18	450	430	149	400	400	460	80	165	65	20*12	628.7	1.1/4"-8unc		4	24	165	4	23	F16
20	500	468	159	450	450	500	80	165	65	20*12	685.8	1.1/4"-8unc		4	24	165	4	23	F16
24	600	578	181	520	520	570	110	250	80	22*14	812.8	1.1/2"-8unc		6	24	254	4	23	F25

Allowable pressure for Cylinder actuator

Double acting Pneumatic Cylinder Actuator (Model : KAR series)

● KCV-301H High performance type (JIS10K / ANSI150#)

- Air supply (4.0Bar / 5.0Bar)
- Seat Material: PTFE, RTFE
- Seat Leakage Class VI (Tight Shut Off)

Actuator		Air Sup ply [Bar]	Allowable pressure(inch) – [Max-Bar]													
HKC	A/T		1- 1/2B	2B	2- 1/2B	3B	4B	5B	6B	8B	10B	12B	14B	16B	18B	20B
HP63	AT101U	4.0	10	10	10											
		5.0	10	10	10											
HP75	AT201U	4.0				10										
		5.0				10	5									
HP88	AT251U	4.0					10									
		5.0						5								
HP100	AT301U	4.0						10	5							
		5.0						10	10							
HP115	AT351U	4.0							10							
		5.0								5						
HP125	AT401U	4.0								10						
		5.0								10	5					
HP145	AT451U	4.0									10					
		5.0									10	5				
HP160	AT501U	4.0										10				
		5.0										10	5			
HP180	AT551U	4.0											10			
		5.0											10	5		
HP200	AT601U	4.0												10		
		5.0												10	5	
HP210	AT651U	4.0													10	
		5.0													10	
HP212	AT701U	4.0														10
		5.0														10
	AT801U	4.0														
		5.0														
	AT1001U	4.0														
		5.0														

Spring return Pneumatic Cylinder Actuator (Model : KAR series)

● KCV-301H High performance (JIS10K / ANSI150#)

- Air supply / Spring Range (0~4.0Bar / 0~5.0Bar)
- Seat Material: PTFE, RTFE
- Seat Leakage Class VI (Tight Shut Off)

Actuator		Air Supply [Bar]	Allowable pressure(inch) – [Max-Bar]													
HKC	A/T		1-1/2B	2B	2-1/2B	3B	4B	5B	6B	8B	10B	12B	14B	16B	18B	20B
HP63	AT101U	4.0														
		5.0														
HP75	AT201U	4.0	10	10												
		5.0	10	10	5											
HP88	AT251U	4.0			10											
		5.0														
HP100	AT301U	4.0				10										
		5.0				10										
HP115	AT351U	4.0					10									
		5.0					10									
HP125	AT401U	4.0						10								
		5.0						10	5							
HP145	AT451U	4.0							10							
		5.0														
HP160	AT501U	4.0								10						
		5.0								10						
HP180	AT551U	4.0									10					
		5.0									10	5				
HP200	AT601U	4.0										10				
		5.0											5			
HP210	AT651U	4.0											10			
		5.0														
HP212	AT701U	4.0												10		
		5.0												10	5	
	AT751U	4.0													10	
		5.0														5
	AT801U	4.0														10
		5.0														
	AT1001U	4.0														
		5.0														

Double acting Pneumatic Cylinder Actuator (Model : KAR series)

● KCV-301H High performance (JIS20K / ANSI300#)

- Air supply (4.0Bar / 5.0Bar)
- Seat Material: PTFE, RTFE
- Seat Leakage Class VI (Tight Shut Off)

Actuator		Air Supply [Bar]	Allowable pressure(inch) – [Max-Bar]													
HKC	A/T		1-1/2B	2B	2-1/2B	3B	4B	5B	6B	8B	10B	12B	14B	16B	18B	20B
HP63	AT101U	4.0														
		5.0														
HP75	AT201U	4.0	15													
		5.0	20	15												
HP88	AT251U	4.0		20												
		5.0			15											
HP100	AT301U	4.0			20											
		5.0				15										
HP115	AT351U	4.0				20	15									
		5.0					20									
HP125	AT401U	4.0						15								
		5.0						20	15							
HP145	AT451U	4.0							20							
		5.0							20	15						
HP160	AT501U	4.0								20						
		5.0									15					
HP180	AT551U	4.0									20					
		5.0										15				
HP200	AT601U	4.0										20				
		5.0											15			
HP210	AT651U	4.0											20	15		
		5.0												20	15	
HP212	AT701U	4.0													20	
		5.0														15
	AT751U	4.0														20
		5.0														
		4.0														
		5.0														

Spring return Pneumatic Cylinder Actuator (Model : KAR series)

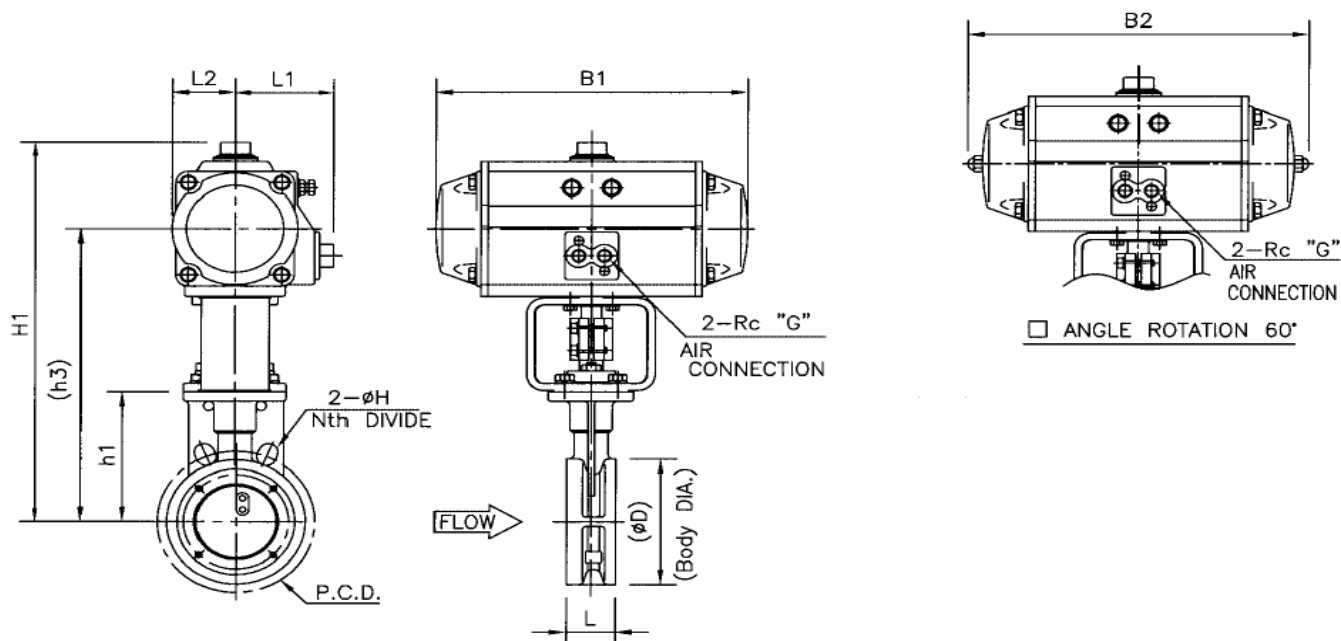
● KCV-301H High performance (JIS 20K / ANSI300#)

- Air supply / Spring Range (0~4.0Bar / 0~5.0Bar)
- Seat Material: PTFE, RTFE
- Seat Leakage Class VI (Tight Shut Off)

Actuator		Air Supply [Bar]	Allowable pressure(inch) – [Max-Bar]													
HKC	A/T		1-1/2B	2B	2-1/2B	3B	4B	5B	6B	8B	10B	12B	14B	16B	18B	20B
HP63	AT101U	4.0														
		5.0														
HP75	AT201U	4.0	20													
		5.0	20													
HP88	AT251U	4.0		20												
		5.0		20	15											
HP100	AT301U	4.0			20											
		5.0														
HP115	AT351U	4.0				20										
		5.0				20										
HP125	AT401U	4.0					20									
		5.0					20									
HP145	AT451U	4.0						20								
		5.0						20								
HP160	AT501U	4.0							20							
		5.0							20							
HP180	AT551U	4.0								20						
		5.0								20						
HP200	AT601U	4.0									20					
		5.0									20					
HP211	AT651U	4.0														
		5.0										15				
HP212	AT701U	4.0										20				
		5.0											15			
	AT751U	4.0											20			
		5.0												15		
	AT801U	4.0												20	20	
		5.0													20	
	AT1001U	4.0														20
		5.0														20

KCV-301H High performance Type (JIS10K / A.150#)

Double acting Cylinder Actuator



Dimension

Unit : mm

Valve Size	L □ JIS10k □ A.150#	h1	H2	D	h3 (Ex)	H1 (Ex)	Actuator						
							Cylinder size		B1	B2	L1	L2	G
							A/T	HP					
□ 3"(80A)	46	137	-	132	305	375	□ AT201U	□ HP75	215	240	70	43	1/4
□ 4"(100A)	52	160	-	156	328	390	□ AT201U	□ HP75	215	240	70	43	1/4
					335	410	□ AT251U	□ HP88	250	275	75	50	1/4
□ 5"(125A)	56	170	-	187	350	425	□ AT251U	□ HP88	250	275	75	50	1/4
					355	440	□ AT301U	□ HP100	270	305	85	56	1/4
□ 6"(150A)	56	185	-	217	370	455	□ AT301U	□ HP100	270	305	85	56	1/4
					380	480	□ AT351U	□ HP115	315	355	95	64	1/4
□ 8"(200A)	60	220	-	266	445	545	□ AT351U	□ HP115	315	355	95	64	1/4
					465	575	□ AT401U	□ HP125	345	385	100	70	1/4

Size	JIS 10K					ANSI 150#				
		P.C.D	N	H	E		P.C.D	N	H	E
3”(80A)	□	(150)	8	(19)	–	□	–	8	(22)	
4”(100A)	□	(175)	8	(19)	–	□	(190.5)	8	(22)	
5”(125A)	□	(210)	8	(23)	–	□	(215.9)	8	(22)	
6”(150A)	□	(240)	8	(23)	–	□	(241.3)	12	22	
8”(200A)	□	(290)	12	(23)	–	□	(298.4)	12	25	

Note :

DRAWING No.

KCV-301H-J1-W-N-01

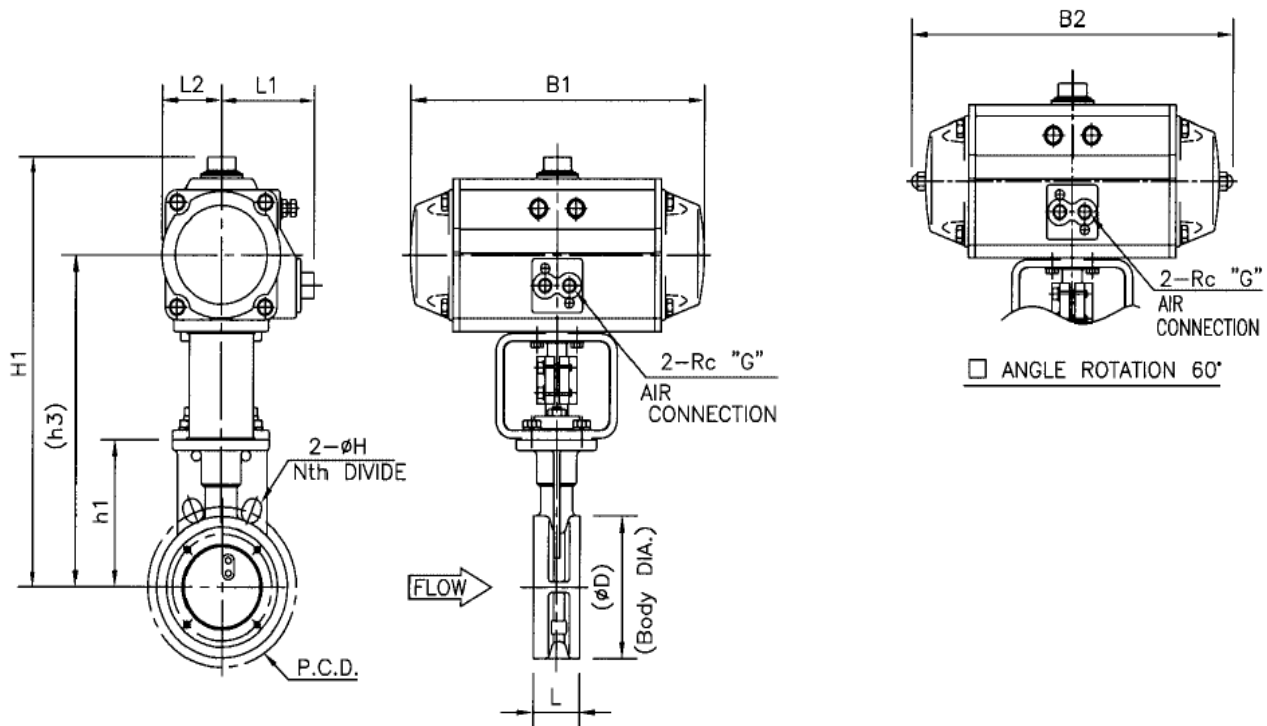
REV.

A

KOCON

KCV-301H High performance Type (JIS20K / A.300#)

Double acting Cylinder Actuator



Dimension

Unit : mm

Valve Size	L □ JIS20k □ A.300#	h1	H2	D	h3 (Ex)	H1 (Ex)	Actuator						
							Cylinder size		B1	B2	L1	L2	G
							A/T	HP					
□ 3"(80A)	64	162	-	135	350	430	□ AT301U	□ HP100	270	305	85	56	1/4
□ 4"(100A)	64	172	-	160	360	440	□ AT301U	□ HP100	270	305	85	56	1/4
					365	470	□ AT351U	□ HP115	315	355	95	64	1/4
□ 5"(125A)	70	205	-	195	450	560	□ AT401U	□ HP125	345	385	100	70	1/4
□ 6"(150A)	76	230	-	230	475	585	□ AT401U	□ HP125	345	385	100	70	1/4
					515	630	□ AT451U	□ HP145	410	455	110	80	1/4
□ 8"(200A)	89	275	-	275	565	685	□ AT451U	□ HP145	410	455	110	80	1/4
					575	705	□ AT501U	□ HP160	440	485	120	88	1/4

Size	JIS 20K					ANSI 300#				
		P.C.D	N	H	E		P.C.D	N	H	E
3"(80A)	□	(160)	8	(23)	-	□	(168.1)	8	(22)	
4"(100A)	□	(185)	8	(23)	-	□	(200.2)	8	(22)	
5"(125A)	□	(225)	8	(25)	-	□	(235.0)	8	(22)	
6"(150A)	□	(260)	12	M22	23	□	269.7	12	22	
8"(200A)	□	305)	12	M22	28	□	330.2	12	25	

Note :

DRAWING No.

KCV-301H-J2-W-N-01

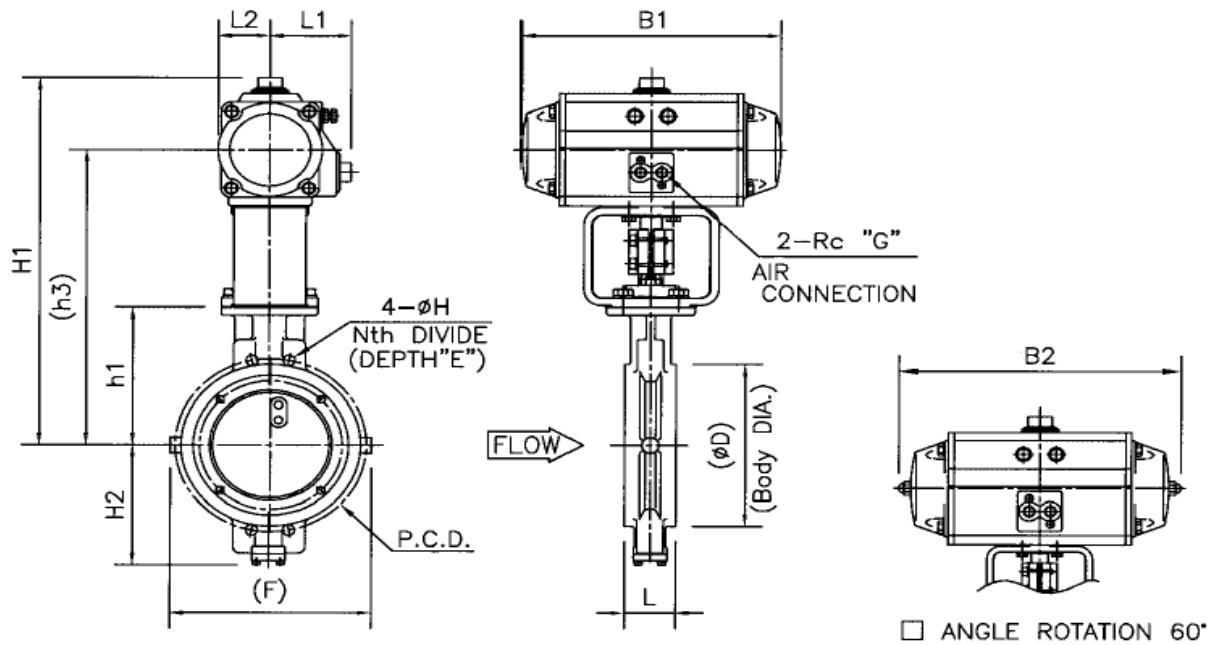
REV.

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KOCON

KCV-301H High performance Type (JIS10K / A.150#)

Double acting Cylinder Actuator



Dimension

Unit : mm

Valve Size	L □ JIS10k □ A.150#	h1	H2	D	h3 (Ex)	H1 (Ex)	Actuator						
							Cylinder size		B1	B2	L1	L2	G
							A/T	HP					
□ 10" (250A)	68	280	235	330	-	-	□ AT401U	□ HP125	345	385	100	70	1/4
					565	680	□ AT451U	□ HP145	410	455	110	80	1/4
□ 12" (300A)	78	320	280	372	-	-	□ AT451U	□ HP145	410	455	110	80	1/4
					620	750	□ AT501U	□ HP160	440	485	120	88	1/4
□ 14" (350A)	78	365	365	416	665	795	□ AT501U	□ HP160	440	485	120	88	1/4
					690	850	□ AT551U	□ HP180	490	540	125	99	1/4
□ 16" (400A)	102	395	395	480	-	-	□ AT551U	□ HP180	490	540	125	99	1/4
					770	970	□ AT601U	□ HP200	545	600	130	110	1/4
□ 18" (450A)	114	425	425	528	-	-	□ AT601U	□ HP200	545	600	130	110	1/4
					815	1030	□ AT651U	□ HP210	625	685	150	131	3/8
□ 20" (500A)	127	460	460	580	850	1065	□ AT701U	□ HP212	730	805	185	165	1/2

Size	JIS 10K						ANSI 150#					
		P.C.D	N	H	E	F		P.C.D	N	H	E	F
10"(250A)	□	355	12	25	-	-	□	362.0	12	25	-	-
12"(300A)	□	400	16	25	-	-	□	431.8	12	25	-	-
14"(350A)	□	445	16	M22	-	500	□	476.2	12	29	-	500
16"(400A)	□	510	16	27	-	540	□	539.8	16	29	-	540
18"(450A)	□	565	20	M24	30	610	□	577.8	16	30	-	610
20"(500A)	□	620	20	M24	30	650	□	636.0	20	1-1/8-BUN	30	650

Note :

DRAWING No.

KCV-301H-J1-W-N-03

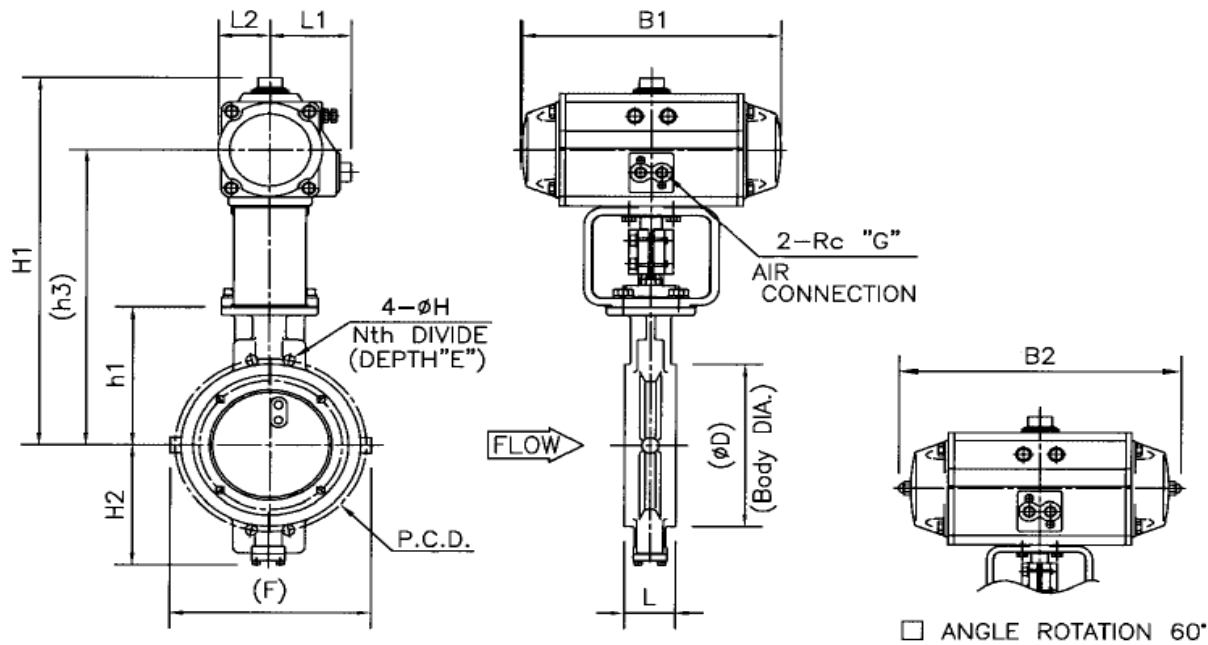
REV.

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KOCON

KCV-301H High performance Type (JIS20K / A.300#)

Double acting Cylinder Actuator



Dimension

Unit : mm

Valve Size	L □ JIS20k □ A.300#	h1	H2	D	h3 (Ex)	H1 (Ex)	Actuator						
							Cylinder size		B1	B2	L1	L2	G
							A/T	HP					
□ 10" (250A)	114	306	275	350	605	735	□ AT501U	□ HP160	440	485	120	88	1/4
					630	790	□ AT551U	□ HP180	490	540	125	99	1/4
□ 12" (300A)	114	380	375	400	720	880	□ AT551U	□ HP180	490	540	125	99	1/4
					730	900	□ AT601U	□ HP200	545	600	130	110	1/4
□ 14" (350A)	127	40	405	445	815	990	□ AT601U	□ HP200	545	600	130	110	1/4
					845	1045	□ AT651U	□ HP210	625	685	150	131	3/8
□ 16" (400A)	140	455	425	505	880	1080	□ AT651U	□ HP210	625	685	150	131	3/8
□ 18" (450A)	152	480	450	560	905	1105	□ AT651U	□ HP210	625	685	150	131	3/8
					920	1135	□ AT701U	□ HP212	730	805	185	165	1/2
□ 20" (500A)	152	500	470	615	940	1155	□ AT701U	□ HP212	730	805	185	165	1/2

Size	JIS 20K						ANSI 300#					
		P.C.D	N	H	E	F		P.C.D	N	H	E	F
10"(250A)	□	380	12	27	-	-	□	387.4	16	UNC 1	24	-
12"(300A)	□	430	16	M24	30	-	□	450.8	16	1-1/8-BUN	28	-
14"(350A)	□	480	16	M30x3	26	560	□	514.4	20	1-1/8-BUN	23	560
16"(400A)	□	540	16	M30x3	35	600	□	571.5	20	1-1/4-BUN	30	600
18"(450A)	□	605	20	M30x3	32	660	□	628.6	24	1-1/4-BUN	28	660
20"(500A)	□	660	20	M30x3	36	720	□	685.8	24	1-1/4-BUN	32	720

Note :

DRAWING No.

KCV-301H-J1-W-N-04

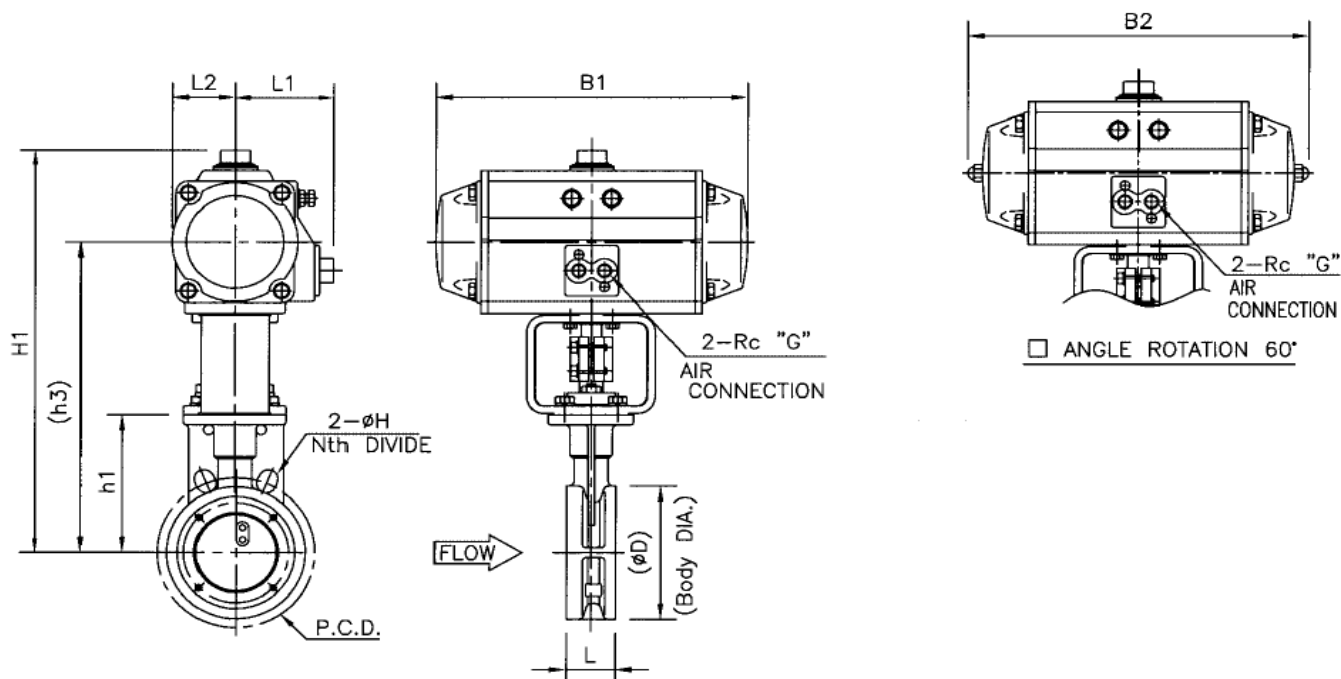
REV.

A

KOCON

KCV-301H High performance Type (JIS10K / A.150#)

Spring return Cylinder Actuator



Dimension

Unit : mm

Valve Size	L □ JIS10k □ A.150#	h1	H2	D	h3 (Ex)	H1 (Ex)	Actuator						
							Cylinder size		B1	B2	L1	L2	G
							A/T	HP					
□ 3"(80A)	46	137	-	132	320	400	□ AT301U	□ HP100	270	305	85	56	1/4
□ 4"(100A)	52	160	-	156	350	450	□ AT351U	□ HP115	315	355	95	64	1/4
□ 5"(125A)	56	170	-	187	390	500	□ AT401U	□ HP125	345	385	100	70	1/4
□ 6"(150A)	56	185	-	217	>390	>500	□ AT401U	□ HP125	345	385	100	70	1/4
					445	565	□ AT451U	□ HP145	410	455	110	80	1/4
□ 8"(200A)	60	220	-	266	510	640	□ AT501U	□ HP160	440	485	120	88	1/4

Size	JIS 10K					ANSI 150#				
	□	P.C.D	N	H	E	□	P.C.D	N	H	E
3"(80A)	□	(150)	8	(19)	-	□	-	8	(22)	
4"(100A)	□	(175)	8	(19)	-	□	(190.5)	8	(22)	
5"(125A)	□	(210)	8	(23)	-	□	(215.9)	8	(22)	
6"(150A)	□	(240)	8	(23)	-	□	(241.3)	12	22	
8"(200A)	□	(290)	12	(23)	-	□	(298.4)	12	25	

Note :

DRAWING No.

KCV-301H-J1-SR-N-01

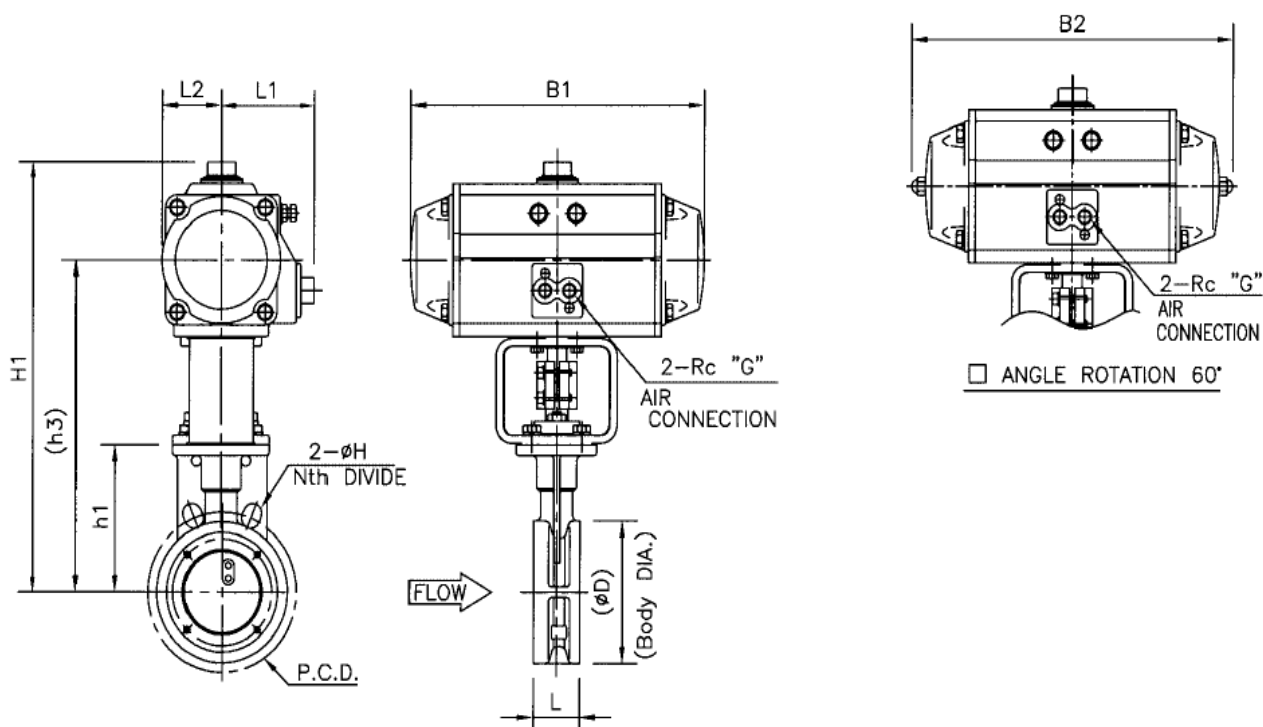
REV.

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KOCON

KCV-301H High performance Type (JIS20K / A.300#)

Spring return Cylinder Actuator



Dimension

Unit : mm

Valve Size	L □ JIS20k □ A.300#	h1	H2	D	h3 (Ex)	H1 (Ex)	Actuator						
							Cylinder size		B1	B2	L1	L2	G
							A/T	HP					
□ 3"(80A)	64	162	-	135	355	460	□ AT351U	□ HP115	315	355	95	64	1/4
□ 4"(100A)	64	172	-	160	395	500	□ AT401U	□ HP125	345	385	100	70	1/4
□ 5"(125A)	70	205	-	195	490	605	□ AT451U	□ HP145	410	455	110	80	1/4
□ 6"(150A)	76	230	-	230	520	650	□ AT501U	□ HP160	440	485	120	88	1/4
□ 8"(200A)	89	275	-	275	600	760	□ AT551U	□ HP180	490	540	125	99	1/4

Size	JIS 20K					ANSI 300#				
		P.C.D	N	H	E		P.C.D	N	H	E
3"(80A)	□	(160)	8	(23)	-	□	(168.1)	8	(22)	
4"(100A)	□	(185)	8	(23)	-	□	(200.2)	8	(22)	
5"(125A)	□	(225)	8	(25)	-	□	(235.0)	8	(22)	
6"(150A)	□	(260)	12	M22	23	□	269.7	12	22	
8"(200A)	□	(305)	12	M22	28	□	330.2	12	25	

Note :

DRAWING No.

KCV-301H-J2-SR-N-01

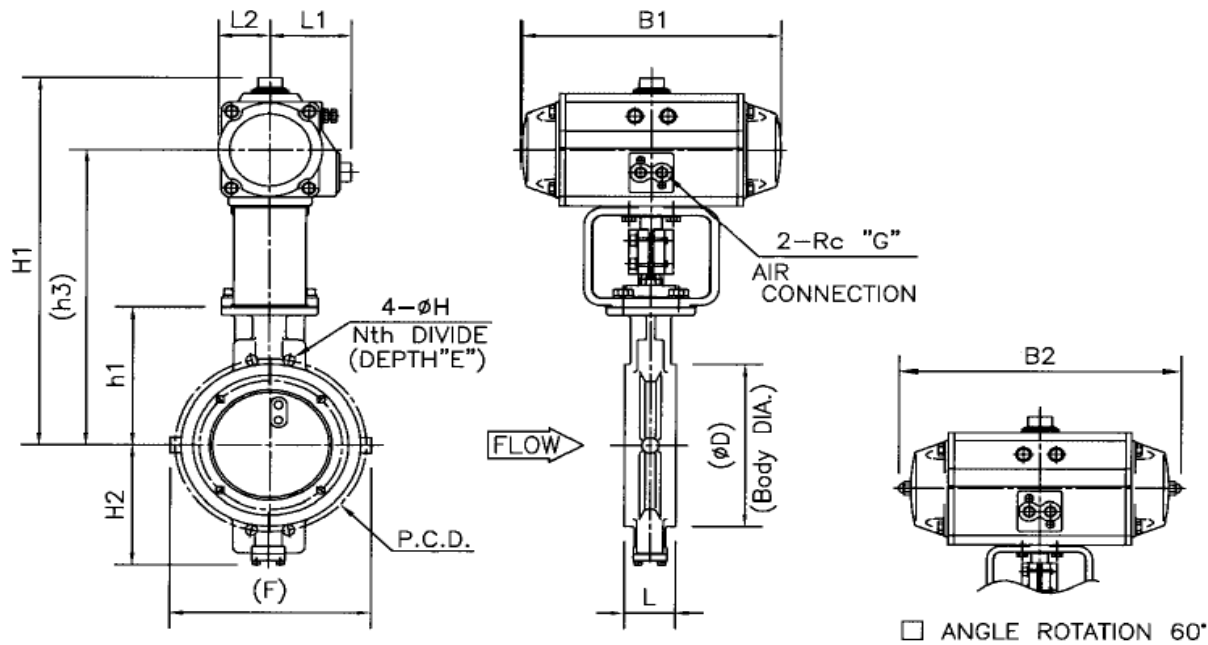
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KOCON

KCV-301H High performance Type (JIS10K / A.150#)

Spring return Cylinder Actuator



Dimension

Unit : mm

Valve Size	L □ JIS10k □ A.150#	h1	H2	D	h3 (Ex)	H1 (Ex)	Actuator						
							Cylinder size		B1	B2	L1	L2	G
							A/T	HP					
□ 10" (250A)	68	280	235	330	600	760	□ AT551U	□ HP180	490	540	125	99	1/4
□ 12" (300A)	78	320	280	372	645	805	□ AT551U	□ HP180	490	540	125	99	1/4
					655	825	□ AT601U	□ HP200	545	600	130	110	1/4
□ 14" (350A)	78	365	365	416	700	870	□ AT601U	□ HP200	545	600	130	110	1/4
					725	925	□ AT651U	□ HP210	625	685	150	131	3/8
□ 16" (400A)	102	395	395	480	785	1000	□ AT701U	□ HP212	730	805	185	165	1/2
□ 18" (450A)	114	425	425	528	815	1030	□ AT701U	□ HP212	730	805	185	165	1/2
					later	later	□ AT751U	later	later	later	later	later	later
□ 20" (500A)	127	460	460	580	later	later		later	later	later	later	later	later

Size	JIS 10K						ANSI 150#					
		P.C.D	N	H	E	F		P.C.D	N	H	E	F
10"(250A)	□	355	12	25	-	-	□	362.0	12	25	-	-
12"(300A)	□	400	16	25	-	-	□	431.8	12	25	-	-
14"(350A)	□	445	16	M22	-	500	□	476.2	12	29	-	500
16"(400A)	□	510	16	27	-	540	□	539.8	16	29	-	540
18"(450A)	□	565	20	M24	30	610	□	577.8	16	30	-	610
20"(500A)	□	620	20	M24	30	650	□	636.0	20	1-1/8-BUN	30	650

Note :

DRAWING No.

KCV-301H-J1-SR-N-03

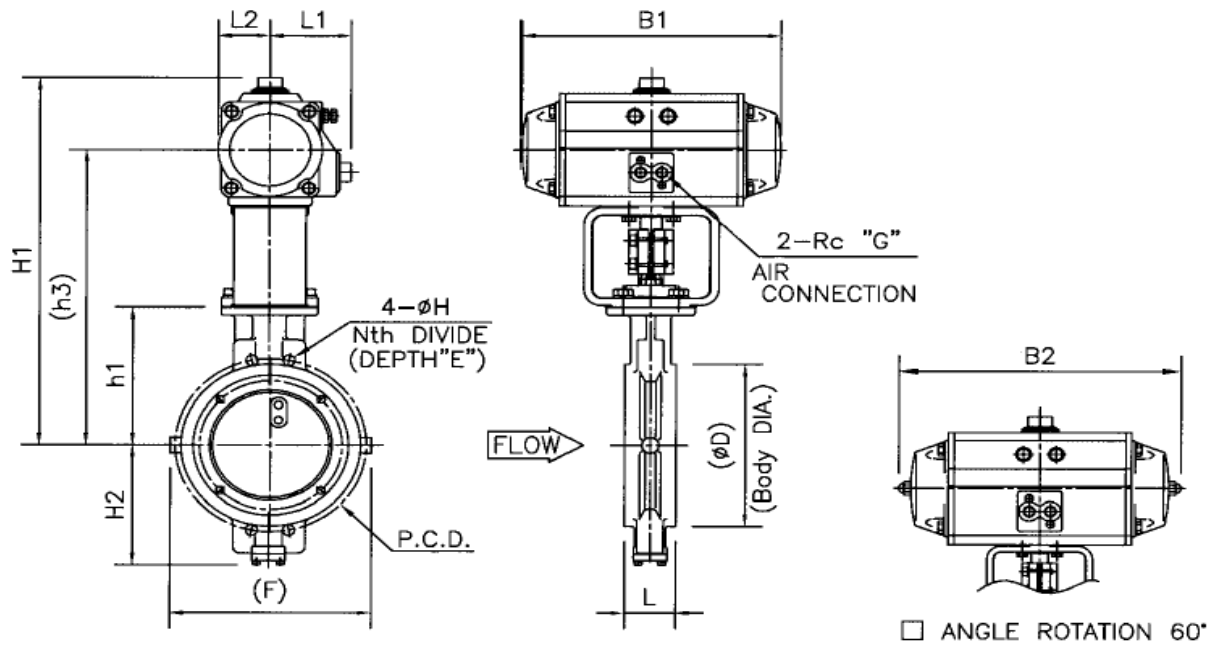
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KOCON

KCV-301H High performance Type (JIS20K / A.300#)

Spring return Cylinder Actuator



Dimension

Unit : mm

Valve Size	L □ JIS20k □ A.300#	h1	H2	D	h3 (Ex)	H1 (Ex)	Actuator						
							Cylinder size		B1	B2	L1	L2	G
							A/T	HP					
□ 10" (250A)	114	306	275	350	640	815	□ AT601U	□ HP200	545	600	130	110	1/4
□ 12" (300A)	114	380	375	400	755	955	□ AT651U	□ HP210	625	685	150	131	3/8
□ 14" (350A)	127	40	405	445	860	1075	□ AT701U	□ HP212	730	805	185	165	1/2
					later	later	□ AT751U	later	later	later	later	later	later
□ 16" (400A)	140	455	425	505	later	later	□ AT751U	later	later	later	later	later	later
					later	later	□ AT801U	later	later	later	later	later	later
□ 18" (450A)	152	480	450	560	later	later	□ AT801U	later	later	later	later	later	later
□ 20" (500A)	152	500	470	615	later	later	□ AT1001	later	later	later	later	later	later

Size	20K						ANSI 300#					
		P.C.D	N	H	E	F		P.C.D	N	H	E	F
10"(250A)	□	380	12	27	-	-	□	387.4	16	UNC 1	24	-
12"(300A)	□	430	16	M24	30	-	□	450.8	16	1-1/8-BUN	28	-
14"(350A)	□	480	16	M30x3	26	560	□	514.4	20	1-1/8-BUN	23	560
16"(400A)	□	540	16	M30x3	35	600	□	571.5	20	1-1/4-BUN	30	600
18"(450A)	□	605	20	M30x3	32	660	□	628.6	24	1-1/4-BUN	28	660
20"(500A)	□	660	20	M30x3	36	720	□	685.8	24	1-1/4-BUN	32	720

Note :

DRAWING No.

KCV-301H-J2-SR-N-04

REV.

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KOCON

Butterfly Valve Code Number

Butterfly Valve Basic Model

KCV-301H	High performance type
KCV-302R	Rubber lined type

Basic Model	-	(1)	(2)	(3)	-	(4)	(5)	(6)	(7)	(8)	-	(9)	(10)	(11)
KCV301H	-	06	J1	W	-	CS	S6	S6	T	T	-	S	R	N

Ex) KCV301H - 011RC2SP - 0SS4P0 - SBR0

(1) Body Size	
02	2" (50A)
92	2-1/2" (32A)
03	3" (80A)
04	4" (100A)
05	5" (125A)
06	6" (150A)
08	8" (200A)
10	10" (250A)
12	12" (300A)
14	14" (350A)
16	16" (400A)
18	18" (450A)
20	20" (500A)
22	22" (550A)
24	24" (600A)
Z	Other
(2) Rating	
J1	JIS 10K
J6	JIS 16K
J2	JIS20K
J3	JIS30K
A1	ANSI 150#
A3	ANSI300#
P1	PN10
P6	PN16
P2	PN25
P4	PN40
(3) End Connection	
W	Wafer
L	Lug
R	RF

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● APPENDIX

Pressure temperature Rating Table

Temp (°C)	ANSI 150#			ANSI 300#			ANSI 600#		
	A216-WCB	A351-CF8	A351-CF8M	A216-WCB	A351-CF8	A351-CF8M	A216-WCB	A351-CF8	A351-CF8M
-5~38	20	19	19	52	51	51	104	101	101
93	18	16	17	48	42	44	96	84	87
149	16	14	15	46	38	39	92	76	79
204	14	13	14	45	35	36	89	70	72
260	12	12	12	43	33	34	85	65	67
316	10	10	10	40	31	32	80	62	63
343	9	9	9	39	30	31	77	61	62
371	8	8	8	37	30	31	75	59	61
399	7	7	7	36	29	30	71	58	60
427	6	6	6	29	28	30	58	57	59
454	5	5	5	22	28	30	45	56	59
482	4	4	4	16	27	29	32	55	58
510	2	2	2	9	27	27	19	54	54
538	1	1	1	6	25	26	12	50	51
566		1	1		23	26	17	46	51
593		1	1		18	21		36	43
621		1	1		14	17		29	33
649		1	1		12	13		23	26
677		1	1		9	10		19	21
704		1	1		8	8		16	17
732		1	1		7	7		13	13
760		1	1		5	5		11	11
788		1	1		4	4		8	8
816		1	1		3	3		6	6

Allowable temperature range of Body material

Body material Trim Material	JIS	SCPL1	SCPH2	SCS13A	SCS14A	SCS16A
	ASTM	A352-LCB	A216-WCB	A351-CF8	A351-CF8M	A351-CF3M
SUS316		-45~300°C	-5~300°C	-196~300°C	-196~300°C	-
SUS316L		-45~300°C	-5~300°C	-196~300°C	-196~300°C	-196~300°C
410SS		-	-5~425°C	-	-	-
SUS316 stellite		-45~350°C	-5~425°C	-196~550°C	-196~550°C	-
SUS316L stellite		-45~350°C	-5~425°C	-196~550°C	-196~450°C	-196~450°C
SUS316+Soft seat		-45~230°C	-5~230°C	-80~230°C	-80~230°C	-
SUS316+Soft seat		-45~230°C	-	-80~230°C	-80~230°C	-80~230°C

Allowable Seat Leakage Class

Applicable Code: ANSI B 104-1976 / ANSI/FCI 70-2-2006

Leakage Class Designation	Allowable max. Leakage	Test fluid	Test pressure
Class I	-	-	Not Specified
Class II	0.5% of rated capacity	Air or water	45-60 Psig or max. operating differential whichever is lower
Class III	0.1% of rated capacity	Air or water	45-60 Psig or max. operating differential whichever is lower
Class IV	0.01% of rated capacity	Air or water	45-60 Psig or max. operating differential whichever is lower
Class V	0.0005 ml per minute of water per inch of port diameter per psi differential	Water	Max service pressure drop across valve plug, not to exceed ANSI body rating.
	4.7 standard ml per minute of air per inch of orifice diameter	Air or N2	3.5BarG (50psi)
Class VI	Not to exceed amounts shown in following table based on port diameter.	Air or nitrogen	50 Psig or max rated differential pressure across valve plug whichever is lower.

Allowable Seat Leakage (Class VI)

Port Size (mm)	cc / min	Bubbles pre minute
1	0.15	1
1-1/2	0.30	2
2	0.45	3
1-1/2	0.60	4
3	0.90	6
4	1.70	11
6	4.00	27
8	6.75	45

Allowable Seat Leakage (Class IV)

Port Size(mm)	liter / min)	Port Size(mm)	liter / min)
1/2	0.61	2-1/2	9.22
3/4	1.10	3	12.90
1	1.84	4	22.13
1-1/4	2.70	5	34.42
1-1/2	3.44	6	50.40
2	5.53	8	79.91

- Test fluid: Air (Pressure 4kgf/cm2G)

MEMO :

Specifications are subject to change without notice.

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