

BALL VALVE TYPE 21, 21α

- EQUIPPED WITH TOP FLANGE, ALLOWING FOR EASY CHANGE TO AUTOMATIC VALVE.
- COMES WITH BOTTOM STAND TO FACILITATE MOUNTING ON RACKS AND PANELS (See the Ensaf mounting procedure on page 69).
- DOUBLE O-RING ON THE STEM IMPROVES DURABILITY AND SEALING PROPERTY.

MANUAL



AUTOMATIC



BASIC SPECIFICATIONS

VALVE TYPE	BALL VALVE TYPE 21, 21α			
SIZE	15 mm—100 mm (1/2 inch—4 inch)			
BODY MATERIAL	U-PVC	C-PVC	PP	PVDF
SEAL MATERIAL / O-RING	EPDM	FKM	etc.	
CONNECTION / FLANGED	JIS5K, JIS10K, DIN PN10, ANSI CLASS150			
SOCKET	JIS, DIN, ANSI			
THREADED	Rc, Rp, NPT			
HIGH PURITY SERIES	LUBRICANT FREE			

	FLUID TEMPERATURE	MAXIMUM WORKING PRESSURE (NORMAL TEMPERATURE: MPa(kg/cm ²))	CONNECTION METHOD		
			FLANGED	SOCKET	THREADED
U-PVC	0°C ~ 50°C	1.0 {10.2}	○	○	○
C-PVC	0°C ~ 90°C	1.0 {10.2}	○	○	○
PP	-20°C ~ 80°C	1.0 {10.2}	○	○	○
PVDF	-20°C ~ 100°C	1.0 {10.2}	○	○	○

NOTE (1) The ball-type valves have dead spaces for structural reasons. Note that volatile liquids, such as hydrogen peroxide (H₂O₂) and sodium hypochlorite (NaClO), vaporize in those dead spaces, which may cause abnormal pressure increase in the valve. (When the internal pressure abnormally increases due to vaporization, the gas will be compressive fluid. If the valve breaks in this state, it will be very dangerous, causing explosion and scattering of fragments.) (2) The maximum working pressure is the value including the water hammer pressure. Be careful that the maximum working pressure is not exceeded during use.

* Concerning the allowable pressure for each temperature and material, see the technical documents at the end of this catalog.

Multi Functional Handle

Removing the handle and placing the raised lugs into the carrier allow for easy disassembly of the valve.

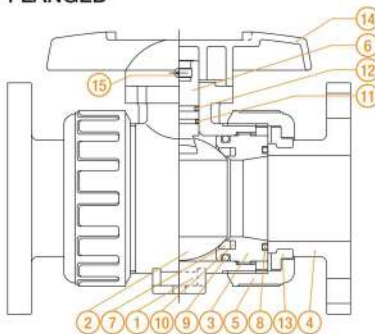
* The handle has other colors. (blue, white, yellow)(Option)



PARTS LIST

MANUAL

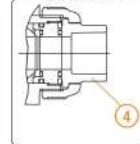
FLANGED



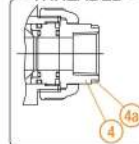
(DETAILS OF STEM)



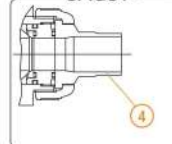
SOCKET



THREADED



SPIGOT



(DETAILS OF ENSAF
FITTING MOUNTING HOLE)

PART NO. / NAME	QTY	MATERIAL	PART NO. / NAME	QTY	MATERIAL	PART NO. / NAME	QTY	MATERIAL
1 BODY	1	U-PVC, C-PVC, PP, PVDF	6 STEM	1	U-PVC, C-PVC, PP, PVDF	12 O-RING (E)	1	EPDM, FKM, etc.
2 BALL	1	U-PVC, C-PVC, PP, PVDF	7 SEAT	2	PTFE	13 STOP RING	2	PVDF (Used for flanged type.)
3 UNION	1	U-PVC, C-PVC, PP, PVDF	8 O-RING (A)	2	EPDM, FKM, etc.	14 HANDLE	1	ABS
4 END CONNECTOR	2	U-PVC, C-PVC, PP, PVDF	9 O-RING (B)	1	EPDM, FKM, etc.	15 TAPPING SCREW (A)	1	SUS304
4a RING	2	SUS304 (Made of C-PVC. Used for threaded type of 15 to 25 mm.)	10 O-RING (C)	2	EPDM, FKM, etc.			
5 UNION NUT	2	U-PVC, C-PVC, PP, PVDF	11 O-RING (D)	1	EPDM, FKM, etc.			

COMPATIBLE ACTUATOR

AUTOMATIC

PNEUMATIC

TYPE TA

For detailed specifications, see P.124

ELECTRIC

TYPE T

For detailed specifications, see P.139

PNEUMATIC

TYPE AA

For detailed specifications, see P.123

TYPE CATEGORY

MANUAL

AUTOMATIC

The types are classified according to the size and material.

SIZE	BODY MATERIAL	U-PVC	C-PVC	PP	PVDF
15mm ~ 50mm	TYPE 21α				
65mm ~ 100mm	TYPE 21				TYPE 21

PRODUCT MODEL CODE LIST	ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE	HIGH PURITY SERIES
MANUAL	V	**	LV	*	*	*	*	***	1
	V MANUAL VALVE	21 TYPE 21 2A TYPE 21α	LV LEVER TYPE	U U-PVC C C-PVC P PP F PVDF	E EPDM V FKM	S SOCKET N THREADED P SPIGOT F FLANGED	J JIS D DIN A ANSI 1 JIS10K 5 5K	015 15mm 100 100mm	1 LUBRICANT FREE

PRODUCT MODEL CODE LIST	ACTUATION	TYPE	ACTUATOR TYPE	ACTION / POWER SOURCE	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE	SPACE HEATER	HIGH PURITY SERIES
AUTOMATIC	A	**	*	*	*	*	*	*	***	OC*	1
	A AUTO-MATIC VALVE	21 TYPE 21 2A TYPE 21α	PNEUMATIC K TYPE TA A TYPE AA ELECTRIC T TYPE T	PNEUMATIC F DOUBLE ACTING G AIR TO OPEN S AIR TO CLOSE ELECTRIC 1 Single-Phase 100V 2 Single-Phase 200V	U U-PVC C C-PVC P PP F PVDF	E EPDM V FKM	S SOCKET N THREADED P SPIGOT F FLANGED	J JIS D DIN A ANSI 1 JIS10K 5 JIS5K	015 15mm 100 100mm	OC OC * Indicate only for electric type only.	1 LUBRICANT FREE

NOTE (1) PP and PVDF socket types are weld type. Note, however, that JIS PP 32-mm socket type is not produced.
(2) PVDF socket type compatible with the JIS standard is not available.
(3) A handle set with a lock mechanism (for malfunction prevention) is available as an option.

Compatibility of face-to-face dimensions

Both valve face-to-face dimensions and body face-to-face dimensions are compatible between type 21α and conventional type 21. Also, a change to type 21α is available using the end connector and union nut for the existing piping (type 21).

Compatibility of parts

Some of the body component parts are not compatible between type 21α and type 21. Be careful when parts are changed on site. For details of parts compatibility, contact our sales office in your area.

Identification of product

[Difference between products] (See Fig. 1.) The body appearance of type 21α is different from that of type 21 to discriminate between them.

Related materials

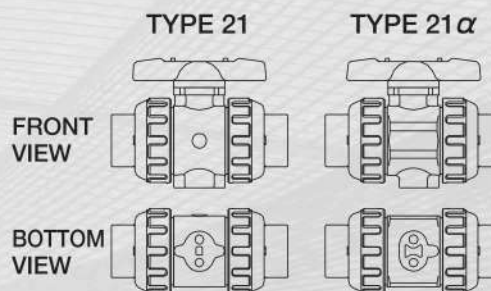
Due to the modification and release of type 21α, some parts of related materials, such as outline drawing, instruction manual, and set parts list, have been revised.

Please obtain the latest version at our sales office in your area.

Performance and options

There is no change in the performance (relationship between the working pressure and temperature, Cv value, chemical resistance, etc.) and options between type 21 and 21α.

Fig. 1: Difference between products



CONNECTION / FLANGED, SOCKET, THREADED—JIS, DIN, ANSI SPIGOT—DIN

[illegible]

(DETAILS OF ENSAT
FITTING MOUNTING HOLE)

mm	d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e
10	13	-	46	-	-	-	-	43.5	-	-	-	-	-	80	-	-	-	-	-
15	15	-	48	42	25	13.5	36	51.5	29	30	6	3	8	92	10.5	19	7.3	11	5.5
20	20	-	60	42	25	15	36	59.5	35	36.5	6	3	10	100	11	19	7.3	11	5.5
25	25	-	70	42	25	15	36	68	39	43.5	6	3	10	110	11	19	7.3	11	5.5
32	32	-	82	48	30	19	42	80.5	47	52.5	8	3	10	121	15	30	9	15	5.5
40	40	-	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5
50	51	-	126	57	35	23	50	102.5	66	72.5	10	3	12	159	18	30	9	15	6.5
65	65	58	133	81	55	30	70	126	72	85	13	3	16	200	24	48	9	6	9
80	78	68.5	152	81	55	30	70	140	85	94	13	3	19	240	24	55	11	7	9
100	100	90	210	116	70	40	102	178	110	126	16	3	23	300	34	65	11	8	10

mm	JIS																								
	FLANGED										SOCKET										THREADED				
	JIS5K				JIS10K				L		t	U-PVC, C-PVC			PP				d ₂	ℓ	U-PVC C-PVC	L			
	D	C	n	h	D	C	n	h	U-PVC C-PVC	PVDF		d ₁	ℓ	1/T	L	d ₁	d ₁ '	ℓ				L	PP	PVDF	
15	80	60	4	12	95	70	4	15	143	143	143	12	22.11	20	1/34	109	21.2	20.2	20	108	Rc1/2	15	102	100	100
20	85	65	4	12	100	75	4	15	172	172	172	14	26.13	24	1/34	128	26.2	25.2	23	126	Rc3/4	17	120	119	119
25	95	75	4	12	125	90	4	19	187	187	187	14	32.16	27	1/34	145	33.0	32.0	25	141	Rc1	20	131	130	130
32	115	90	4	15	135	100	4	19	190	190	190	16	38.19	30	1/34	162	-	-	-	-	Rc1 1/4	22	150	146	146
40	120	95	4	15	140	105	4	19	212	212	212	16	48.21	37	1/37	189	47.0	46.0	28	171	Rc1 1/2	25	163	160	160
50	130	105	4	15	155	120	4	19	234	234	234	16	60.25	42	1/37	220	59.0	58.0	28	192	Rc2	28	197	194	194
65	155	130	4	15	175	140	4	19	261	257	256	18	76.60	61	1/48	273	75.0	73.0	35	219	Rc2 1/2	32	215	213	213
80	180	145	8	19	185	150	8	19	306	305	302	18	89.60	64	1/49	316	88.0	86.0	35	257	Rc3	35	265	264	264
100	200	165	8	19	210	175	8	19	374	374	369	18	114.70	84	1/56	419	113.0	111.0	45	341	Rc4	45	362	362	362

mm	DIN																														
	FLANGED DIN PN10/PN16								SOCKET								THREADED				SPIGOT										
	D	C	n	h	L			t	U-PVC, C-PVC			PP, PVDF				d ₂	ℓ	L			U-PVC			PP, PVDF							
					U-PVC C-PVC	PP	PVDF		d ₁	ℓ	L	d ₁	d ₁ '	ℓ	PP			PVDF	d ₃	d ₃ '	ℓ	d ₃	ℓ	t	PP	PVDF	PP	PVDF			
10	90	60	4	14	120	119	119	12	16	14	99	15.5	15.4	13	96	96	Rp3/8	15	99	98	98	16	13	16	-	-	-	-	-	114	114
15	95	65	4	14	130	130	130	12	20	16	102	19.5	19.3	14.5	99	99	Rp1/2	15	102	100	100	20	15	18.5	20	18.5	25	1.9	124	124	
20	105	75	4	14	150	150	150	14	25	19	119	24.5	24.3	16	113	113	Rp3/4	17	120	119	119	25	20	24	25	22	2.7	149	144		
25	115	85	4	14	160	160	160	14	32	22	131	31.5	31.3	18	123	123	Rp1	20	131	130	130	32	25	24.5	32	22.5	3.0	2.4	154	154	
32	140	100	4	18	180	180	180	16	40	26	150	39.45	39.2	20.5	139	139	Rp1 1/4	22	150	146	146	40	31	28	40	26	3.7	2.4	174	174	
40	160	110	4	18	200	200	200	16	50	31	164	49.45	49.2	23.5	149	149	Rp1 1/2	25	163	160	160	50	40	34	50	32	4.6	3.0	194	194	
50	165	125	4	18	230	230	230	16	63	38	197	62.5	62.1	27.5	176	176	Rp2	28	197	194	194	63	51	38	63	36	5.8	3.0	224	224	
65	185	145	4	18	290	288	287	18	75	44	233	74.25	73.95	31	205	204	Rp2 1/2	32	215	213	212	75	65	44	75	38	6.9	3.6	245	244	
80	200	160	8	18	312	311	308	21	90	51	284	89.2	88.85	35.5	252	249	Rp3	35	265	264	261	90	80	51	90	38	8.2	4.3	296	293	
100	220	180	8	18	352	352	347	18	110	61	351	109.05	108.65	41.5	312	307	Rp4	45	340	340	335	110	93.6	46	110	44.5	10.0	5.3	355	355	

inch	mm	d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e
1/2	15	0.59	-	1.89	1.65	0.98	0.53	1.42	2.03	1.14	1.18	0.24	0.12	0.31	3.62	0.41	0.75	0.29	0.43	0.22
3/4	20	0.79	-	2.36	1.65	0.98	0.59	1.42	2.34	1.38	1.44	0.24	0.12	0.39	3.94	0.43	0.75	0.29	0.43	0.22
1	25	0.98	-	2.76	1.65	0.98	0.59	1.42	2.68	1.54	1.71	0.24	0.12	0.39	4.33	0.43	0.75	0.29	0.43	0.22
1 1/4	32	1.26	-	3.23	1.89	1.18	0.75	1.65	3.17	1.85	2.07	0.31	0.12	0.39	4.76	0.59	1.18	0.35	0.59	0.22
1 1/2	40	1.57	-	3.94	2.24	1.38	0.91	1.97	3.50	2.17	2.40	0.39	0.12	0.47	5.16	0.71	1.18	0.35	0.59	0.26
2	50	2.01	-	4.96	2.24	1.38	0.91	1.97	4.04	2.60	2.85	0.39	0.12	0.47	6.26	0.71	1.18	0.35	0.59	0.26
2 1/2	65	2.56	2.28	5.24	3.19	2.17	1.18	2.76	4.96	2.83	3.35	0.51	0.12	0.63	7.87	0.94	1.89	0.35	0.24	0.35
3	80	3.07	2.70	5.98	3.19	2.17	1.18	2.76	5.51	3.35	3.70	0.51	0.12	0.75	9.45	0.94	2.17	0.43	0.28	0.35
4	100	3.94	3.54	8.27	4.57	2.76	1.57	4.02	7.01	4.33	4.96	0.63	0.12	0.91	11.81	1.34	2.56	0.43	0.31	0.43

		ANSI																											
inch	mm	FLANGED										SOCKET										THREADED							
		ANSI CLASS 150					L			t	H ₁	U-PVC, C-PVC								PP, PVDF				d ₂	ℓ	L			
		D	C	n	h	U-PVC C-PVC	PP	PVDF	ASTM SCH40				ASTM SCH80				PP, PVDF		L										
									d ₁			d ₁ '	ℓ	L	d ₁	d ₁ '	ℓ	L	d ₁	ℓ	PP	PVDF	L			L			
1/2	15	3.50	2.38	4	0.62	5.63	5.63	5.63	0.47	3.70	-	-	-	-	0.848	0.836	0.875	4.45	0.83	0.870	4.45	4.45	1/2-14 NPT	0.59	4.02	4.02	4.02		
3/4	20	3.88	2.75	4	0.62	6.77	6.77	6.77	0.55	4.50	-	-	-	-	1.058	1.046	1.000	5.08	1.03	1.000	5.08	5.08	3/4-14 NPT	0.67	4.72	4.72	4.72		
1	25	4.25	3.12	4	0.62	7.36	7.36	7.36	0.55	5.24	-	-	-	-	1.325	1.310	1.125	5.75	1.30	1.130	5.75	5.75	1-11 1/2 NPT	0.79	5.16	5.16	5.16		
1 1/4	32	4.62	3.50	4	0.62	7.48	7.48	7.48	0.63	6.50	-	-	-	-	1.670	1.655	1.250	6.46	1.65	1.250	6.46	6.46	1 1/4-11 1/2 NPT	0.87	5.91	5.91	5.91		
1 1/2	40	5.00	3.88	4	0.62	8.35	8.35	8.35	0.63	6.50	-	-	-	-	1.912	1.894	1.375	7.24	1.89	1.370	7.24	7.24	1 1/2-11 1/2 NPT	0.98	6.42	6.42	6.42		
2	50	6.00	4.75	4	0.75	9.21	9.21	9.21	0.63	7.34	-	-	-	-	2.387	2.369	1.500	8.23	2.36	1.500	8.23	8.23	2-11 1/2 NPT	1.10	7.76	7.76	7.76		
2 1/2	65	7.00	5.50	4	0.75	10.20	10.12	10.08	0.71	10.06	-	-	-	-	2.889	2.868	1.750	9.45	2.88	1.752	9.37	9.33	2 1/2-8 NPT	1.26	8.46	8.39	8.35		
3	80	7.50	6.00	4	0.75	12.05	12.01	11.89	0.71	10.06	-	-	-	-	3.516	3.492	1.875	11.14	3.48	1.874	11.10	10.96	3-8 NPT	1.38	10.43	10.39	10.28		
4	100	9.00	7.50	8	0.75	14.72	14.21	14.53	0.71	12.01	4.518	4.491	2.000	1.386	-	-	-	-	4.48	2.252	14.37	14.13	4-8 NPT	1.77	14.25	14.25	14.00		

AUTOMATIC

PNEUMATIC

TYPE TA

DOUBLE ACTING

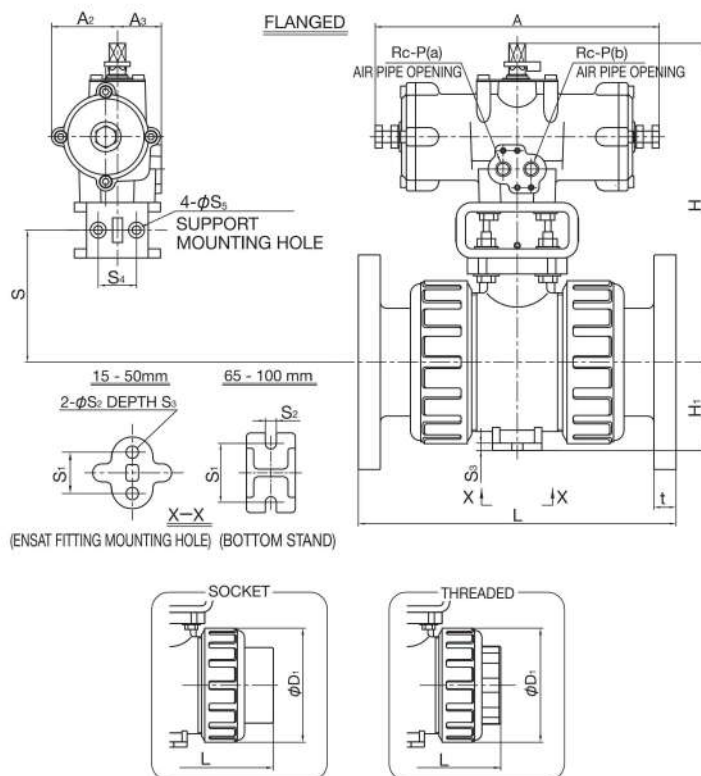
AIR TO OPEN

AIR TO CLOSE

BALL VALVE TYPE 21, 21 α

TYPE—A21K, A2AK

CONNECTION / FLANGED, SOCKET, THREADED—JIS, DIN, ANSI SPIGOT—DIN



ACTUATOR SELECTION CHART

SIZE	ACTUATOR TYPE
15mm (1/2inch)	TA2A-0402D
20mm (3/4inch)	
25mm (1inch)	
32mm (1 1/4inch)	
40mm (1 1/2inch)	TA2A-050D
50mm (2inch)	
65mm (2 1/2inch)	TA2A-063D
80mm (3inch)	
100mm (4inch)	TA2A-080D

For detailed specifications, see P.124

JIS, DIN (Unit: mm)

mm	D1	H	H1	A	A2	A3	S	S1	S2	S3	S4	S5	P
15	48	159.5	29	110	25	32	-	19	7.3	11	-	-	1/8
20	60	166	35	110	25	32	-	19	7.3	11	-	-	1/8
25	70	173	39	110	25	32	-	19	7.3	11	-	-	1/8
32	82	182	47	110	25	32	-	30	9	15	-	-	1/8
40	100	224	55	210	46	46	-	30	9	15	-	-	1/4
50	126	235.5	66	210	46	46	-	30	9	15	-	-	1/4
65	133	268	72	250	57	38	107.5	48	9	6	32	7	1/4
80	152	277	85	250	57	38	116.5	55	11	7	32	7	1/4
100	210	348	110	292	71	45	151.5	65	11	8	42	9	1/4

mm	JIS										DIN														
	FLANGED JIS5K, JIS10K					SOCKET			THREADED		FLANGED DIN PN10/PN16					SOCKET			THREADED			SPIGOT			
	L				t	L		L		L				L			L			L					
	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC		PP	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF	t	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF	U-PVC	PP	PVDF
15	143	143	143	12	109	108	102	100	100	130	130	130	12	109	99	99	102	100	100	124	124	124			
20	172	172	172	14	128	126	120	119	119	150	150	150	14	128	113	113	120	119	119	144	144	144			
25	187	187	187	14	145	141	131	130	130	160	160	160	14	145	123	123	131	130	130	154	154	154			
32	190	190	190	16	162	-	150	146	146	180	180	180	16	162	139	139	150	146	146	174	174	174			
40	212	212	212	16	189	171	163	160	160	200	200	200	16	189	149	149	163	160	160	194	194	194			
50	234	234	234	16	220	192	197	194	194	230	230	230	16	220	176	176	197	194	194	224	224	224			
65	261	257	256	18	273	219	215	213	212	290	288	287	18	273	205	204	215	213	212	285	245	244			
80	306	305	302	18	316	257	265	264	261	312	311	308	21	316	252	249	265	264	261	299	296	293			
100	374	374	369	18	419	341	362	362	357	352	352	347	18	419	312	307	340	340	335	358	355	350			

ANSI (Unit: inch)

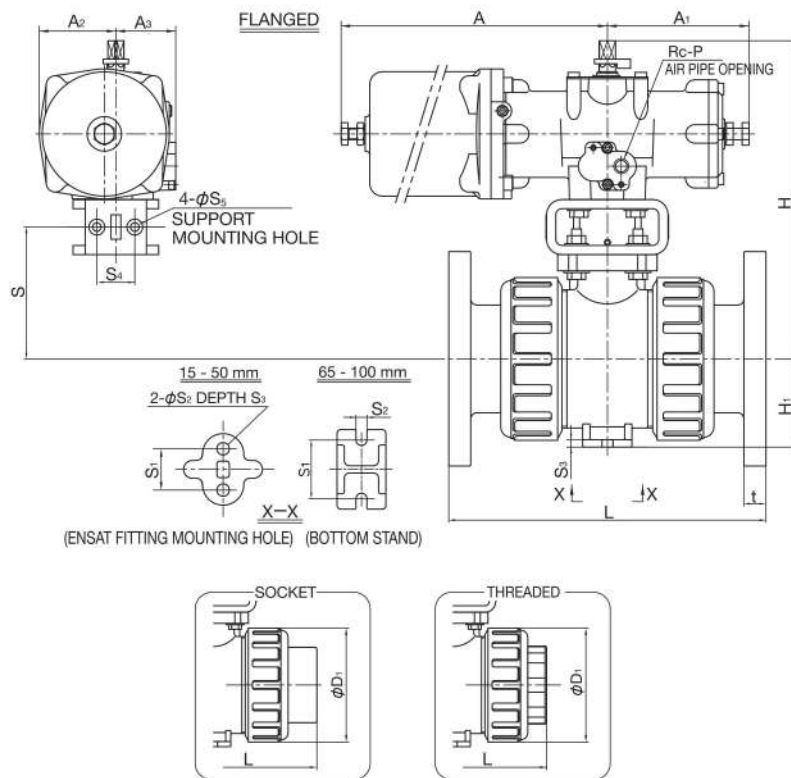
ANSI (Unit: inch)															ANSI											
inch	mm	D ₁	H	H ₁	A	A ₂	A ₃	S	S ₁	S ₂	S ₃	S ₄	S ₅	P	FLANGED ANSI CLASS150				SOCKET			THREADED				
															U-PVC C-PVC	PP	PVDF	t	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF		
1/2	15	1.89	6.28	1.14	4.33	0.98	1.26	-	0.75	0.29	0.43	-	-	1/8	5.63	5.63	5.63	0.47	4.45	4.45	4.45	4.02	4.02	4.02		
3/4	20	2.36	6.54	1.38	4.33	0.98	1.26	-	0.75	0.29	0.43	-	-	1/8	6.77	6.77	6.77	0.55	5.08	5.08	5.08	4.72	4.72	4.72		
1	25	2.76	6.81	1.54	4.33	0.98	1.26	-	0.75	0.29	0.43	-	-	1/8	7.36	7.36	7.36	0.55	5.75	5.75	5.75	5.16	5.16	5.16		
1 1/4	32	3.23	7.17	1.85	4.33	0.98	1.26	-	1.18	0.35	0.59	-	-	1/8	7.48	7.48	7.48	0.63	6.46	6.46	6.46	5.91	5.91	5.91		
1 1/2	40	3.94	8.82	2.17	8.27	1.81	1.81	-	1.18	0.35	0.59	-	-	1/4	8.35	8.35	8.35	0.63	7.24	7.24	7.24	6.42	6.42	6.42		
2	50	4.96	9.27	2.60	8.27	1.81	1.81	-	1.18	0.35	0.59	-	-	1/4	9.21	9.21	9.21	0.63	8.23	8.23	8.23	7.76	7.76	7.76		
2 1/2	65	5.24	10.55	2.83	9.84	2.24	1.50	4.23	1.89	0.35	0.24	1.26	0.28	1/4	10.20	10.12	10.08	0.71	9.45	9.37	9.33	8.46	8.39	8.35		
3	80	5.98	10.91	3.35	9.84	2.24	1.50	4.59	2.17	0.43	0.28	1.26	0.28	1/4	12.05	12.01	11.89	0.71	11.14	11.10	10.98	10.43	10.39	10.28		
4	100	8.27	13.70	4.33	11.50	2.83	1.77	5.96	2.56	0.43	0.31	1.65	0.35	1/4	14.72	14.72	14.53	0.71	13.86	14.37	14.13	14.25	14.25	14.06		



BALL VALVE TYPE 21, 21α

TYPE—A21K, A2AK

CONNECTION / FLANGED, SOCKET, THREADED—JIS, DIN, ANSI SPIGOT—DIN



ACTUATOR SELECTION CHART

SIZE	ACTUATOR TYPE
15mm (1/2inch)	TA2A-0402R
20mm (3/4inch)	
25mm (1inch)	
32mm (1 1/4inch)	TA2A-050R
40mm (1 1/2inch)	
50mm (2inch)	
65mm (2 1/2inch)	TA2A-063R
80mm (3inch)	
100mm (4inch)	TA2A-080R

For detailed specifications, see P.124

JIS, DIN (Unit: mm)

mm	D1	H	H1	A	A1	A2	A3	S	S1	S2	S3	S4	S5	P
15	48	159.5	29	194	55	46	46	-	19	7.3	11	-	-	1/4
20	60	166	35	194	55	46	46	-	19	7.3	11	-	-	1/4
25	70	173	39	194	55	46	46	-	19	7.3	11	-	-	1/4
32	82	182	47	194	55	46	46	-	30	9	15	-	-	1/4
40	100	224	55	240	105	53	50	-	30	9	15	-	-	1/4
50	126	235.5	66	240	105	53	50	-	30	9	15	-	-	1/4
65	133	268	72	288	125	67	52	107.5	48	9	6	32	7	1/4
80	152	277	85	288	125	67	52	116.5	55	11	7	32	7	1/4
100	210	348	110	341	146	82.5	59	151.5	65	11	8	42	9	1/4

mm	JIS									DIN												
	FLANGED JIS5K, JIS10K				SOCKET		THREADED			FLANGED DIN PN10/PN16				SOCKET			THREADED			SPIGOT		
	L			t	L		L			L			L			L			L			
	U-PVC C-PVC	PP	PVDF		U-PVC C-PVC	PP	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF	t	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF	U-PVC	PP	PVDF
10	-	-	-	-	-	-	-	-	-	120	119	119	12	99	96	96	99	98	98	114	114	114
15	143	143	143	12	109	108	102	100	100	130	130	130	12	102	99	99	102	100	100	124	124	124
20	172	172	172	14	128	126	120	119	119	150	150	150	14	119	113	113	120	119	119	144	144	144
25	187	187	187	14	145	141	131	130	130	160	160	160	14	131	123	123	131	130	130	154	154	154
32	190	190	190	16	162	-	150	146	146	180	180	180	16	150	139	139	150	146	146	174	174	174
40	212	212	212	16	189	171	163	160	160	200	200	200	16	164	149	149	163	160	160	194	194	194
50	234	234	234	16	220	192	197	194	194	230	230	230	16	197	176	176	197	194	194	224	224	224
65	261	257	256	18	273	219	215	213	212	290	288	287	18	233	205	204	215	213	212	285	245	244
80	306	305	302	18	316	257	265	264	261	312	311	308	21	284	252	249	265	264	261	299	296	293
100	374	374	369	18	419	341	362	362	357	352	352	347	18	351	312	307	340	340	335	358	355	350

ANSI (Unit: inch)

JIS (Unit: mm)																ANSI									
inch	mm	D ₁	H	H ₁	A	A ₁	A ₂	A ₃	S	S ₁	S ₂	S ₃	S ₄	S ₅	P	FLANGED ANSI CLASS150				SOCKET			THREADED		
																L			t	L			L		
																U-PVC C-PVC	PP	PVDF		U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF
1/2	15	1.89	6.28	1.14	7.64	2.17	1.81	1.81	-	0.75	0.29	0.43	-	-	1/4	5.63	5.63	5.63	0.47	4.45	4.45	4.45	4.02	4.02	4.02
3/4	20	2.36	6.54	1.38	7.64	2.17	1.81	1.81	-	0.75	0.29	0.43	-	-	1/4	6.77	6.77	6.77	0.55	5.08	5.08	5.08	4.72	4.72	4.72
1	25	2.76	6.81	1.54	7.64	2.17	1.81	1.81	-	0.75	0.29	0.43	-	-	1/4	7.36	7.36	7.36	0.55	5.75	5.75	5.75	5.16	5.16	5.16
1 1/4	32	3.23	7.17	1.85	7.64	2.17	1.81	1.81	-	1.18	0.35	0.59	-	-	1/4	7.48	7.48	7.48	0.63	6.46	6.46	6.46	5.91	5.91	5.91
1 1/2	40	3.94	8.82	2.17	9.45	4.13	2.09	1.97	-	1.18	0.35	0.59	-	-	1/4	8.35	8.35	8.35	0.63	7.24	7.24	7.24	6.42	6.42	6.42
2	50	4.96	9.27	2.60	9.45	4.13	2.09	1.97	-	1.18	0.35	0.59	-	-	1/4	9.21	9.21	9.21	0.63	8.23	8.23	8.23	7.76	7.76	7.76
2 1/2	65	5.24	10.55	2.83	11.34	4.92	2.64	2.05	4.23	1.89	0.35	0.24	1.26	0.28	1/4	10.20	10.12	10.08	0.71	9.45	9.37	9.33	8.46	8.39	8.35
3	80	5.98	10.91	3.35	11.34	4.92	2.64	2.05	4.59	2.17	0.43	0.28	1.26	0.28	1/4	12.05	12.01	11.89	0.71	11.14	11.10	10.98	10.43	10.39	10.28
4	100	8.27	13.70	4.33	13.43	5.75	3.25	2.32	5.96	2.56	0.43	0.31	1.65	0.35	1/4	14.72	14.72	14.53	0.71	13.86	14.37	14.13	14.25	14.25	14.06

AUTOMATIC

PNEUMATIC

TYPE AA

DOUBLE ACTING

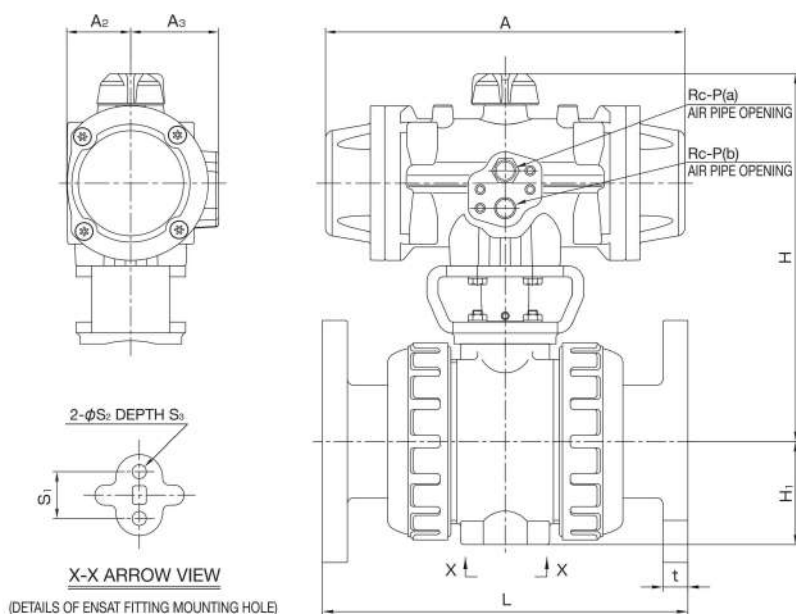
AIR TO OPEN

AIR TO CLOSE

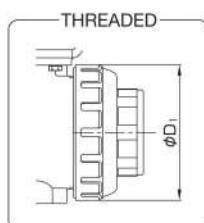
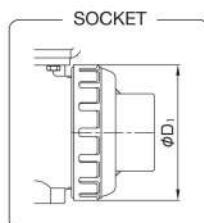
BALL VALVE TYPE 21, 21α

TYPE—A21A, A2AA

CONNECTION / FLANGED, SOCKET, THREADED—JIS, DIN, ANSI SPIGOT—DIN

FLANGED**ACTUATOR SELECTION CHART**

SIZE	ACTUATOR TYPE
15mm (1/2inch)	PPW
20mm (3/4inch)	
25mm (1inch)	
32mm (1 1/4inch)	
40mm (1 1/2inch)	PP00
50mm (2inch)	

For detailed specifications, see **P.123**

■ JIS, DIN (Unit: mm)

JIS, DIN (Unit: mm)											JIS						DIN						
mm	D ₁	H	A	A ₂	A ₃	H ₁	S ₁	S ₂	S ₃	P	FLANGED JIS5K, JIS10K		SOCKET		THREADED		FLANGED DIN PN10/PN16		SOCKET		THREADED		SPIGOT
											L	t	U-PVC C-PVC PP PVDF	PP	U-PVC C-PVC PP PVDF	PP PVDF	L	t	U-PVC C-PVC PP PVDF	PP PVDF	U-PVC C-PVC PP PVDF	PP PVDF	U-PVC C-PVC PP PVDF
15	48	159	144	28	42	29	19	7.3	11	1/4	143	12	109	108	102	100	130	12	102	99	102	100	124
20	60	165.5	144	28	42	35	19	7.3	11	1/4	172	14	128	126	120	119	150	14	119	113	120	119	144
25	70	172.5	144	28	42	39	19	7.3	11	1/4	187	14	145	141	131	130	160	14	131	123	131	130	154
32	82	181.5	144	28	42	47	30	9	15	1/4	190	16	162	-	150	146	180	16	150	139	150	146	174
40	100	203	157	31	48	55	30	9	15	1/4	212	16	189	171	163	160	200	16	164	149	163	160	194
50	126	214.5	157	31	48	66	30	9	15	1/4	234	16	220	192	197	194	230	16	197	176	197	194	224

■ ANSI (Unit: inch)

ANSI (Unit: inch)												ANSI			
inch	mm	D ₁	H	A	A ₂	A ₃	S	S ₁	S ₂	S ₃	P	FLANGED ANSI CLASS150		SOCKET	THREADED
												L		L	L
												U-PVC, C-PVC PP, PVDF	t		
1/2	15	1.89	6.26	5.67	1.10	1.65	1.14	0.75	0.29	0.43	1/4	5.63	0.47	4.45	4.02
3/4	20	2.36	6.52	5.67	1.10	1.65	1.38	0.75	0.29	0.43	1/4	6.77	0.55	5.08	4.72
1	25	2.76	6.79	5.67	1.10	1.65	1.54	0.75	0.29	0.43	1/4	7.36	0.55	5.75	5.16
1 1/4	32	3.23	7.15	5.67	1.10	1.65	1.85	1.18	0.35	0.59	1/4	7.48	0.63	6.46	5.91
1 1/2	40	3.94	7.99	6.18	1.22	1.89	2.17	1.18	0.35	0.59	1/4	8.35	0.63	7.24	6.42
2	50	4.96	8.44	6.18	1.22	1.89	2.60	1.18	0.35	0.59	1/4	9.21	0.63	8.23	7.76

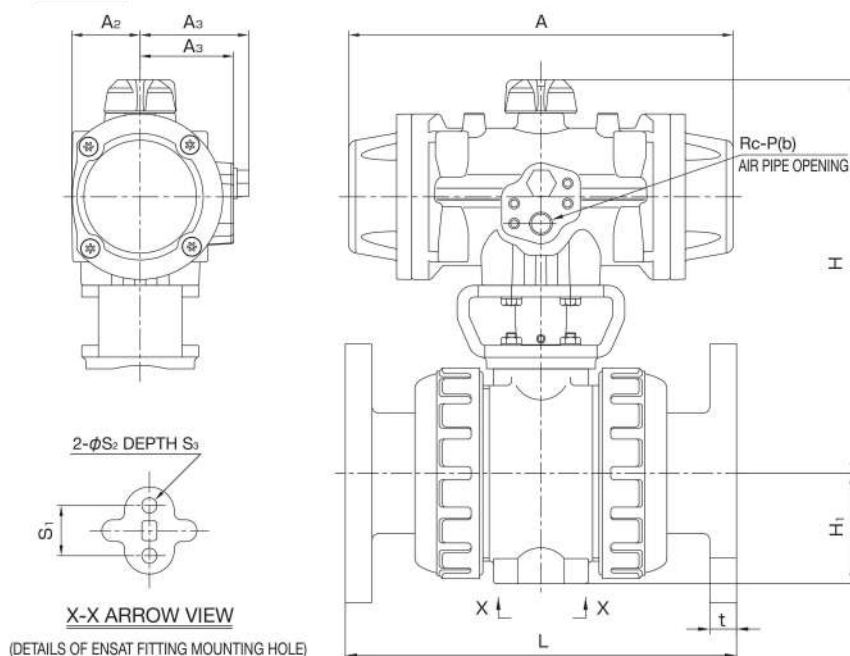


BALL VALVE TYPE 21, 21α

TYPE—A21A, A2AA

CONNECTION / FLANGED, SOCKET, THREADED—JIS, DIN, ANSI SPIGOT—DIN

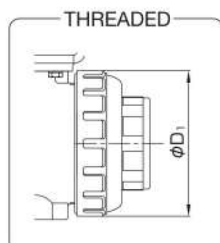
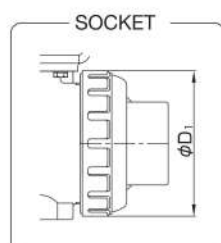
FLANGED



ACTUATOR SELECTION CHART

SIZE	ACTUATOR TYPE
15mm (1/2inch)	PP00S
20mm (3/4inch)	
25mm (1inch)	
32mm (1 1/4inch)	
40mm (1 1/2inch)	PP10S
50mm (2inch)	

For detailed specifications, see P.123



JIS, DIN (Unit: mm)

JIS, DIN (Unit: mm)												JIS						DIN							
mm	D1	H	A	A2	A3	A3'	H1	S1	S2	S3	P	FLANGED JIS5K, JIS10K		SOCKET		THREADED		FLANGED DIN PN10/PN16		SOCKET		THREADED		SPIGOT	
												L	t	U-PVC C-PVC PP, PVDF	PP	U-PVC C-PVC	PP PVDF	L	t	U-PVC C-PVC PP, PVDF	U-PVC	PP PVDF	U-PVC C-PVC		PP PVDF
15	48	172	157	31	48	57	29	19	7.3	11	1/4	143	12	109	108	102	100	130	12	102	99	102	100	124	
20	60	178.5	157	31	48	57	35	19	7.3	11	1/4	172	14	128	126	120	119	150	14	119	113	120	119	144	
25	70	185.5	157	31	48	57	39	19	7.3	11	1/4	187	14	145	141	131	130	160	14	131	123	131	130	154	
32	82	194.5	157	31	48	57	47	30	9	15	1/4	190	16	162	-	150	146	180	16	150	139	150	146	174	
40	100	224	230	41	56	65	55	30	9	15	1/4	212	16	189	171	163	160	200	16	164	149	163	160	194	
50	126	235.5	230	41	56	65	66	30	9	15	1/4	234	16	220	192	197	194	230	16	197	176	197	194	224	

ANSI (Unit: inch)

ANSI (Unit: inch)													ANSI			
inch	mm	D ₁	H	A	A ₂	A ₃	A ₃ '	H ₁	S ₁	S ₂	S ₃	P	FLANGED ANSI CLASS150		SOCKET	THREADED
													L	t	L	L
													U-PVC, C-PVC PP, PVDF		U-PVC, C-PVC PP, PVDF	U-PVC, C-PVC PP, PVDF
1/2	15	1.89	6.77	6.18	1.22	1.89	2.24	1.14	0.75	0.29	0.43	1/4	5.63	0.47	4.45	4.02
3/4	20	2.36	7.03	6.18	1.22	1.89	2.24	1.38	0.75	0.29	0.43	1/4	6.77	0.55	5.08	4.72
1	25	2.76	7.30	6.18	1.22	1.89	2.24	1.54	0.75	0.29	0.43	1/4	7.36	0.55	5.75	5.16
1 1/4	32	3.23	7.66	6.18	1.22	1.89	2.24	1.85	1.18	0.35	0.59	1/4	7.48	0.63	6.46	5.91
1 1/2	40	3.94	8.82	9.06	1.61	2.20	2.56	2.17	1.18	0.35	0.59	1/4	8.35	0.63	7.24	6.42
2	50	4.96	9.27	9.06	1.61	2.20	2.56	2.60	1.18	0.35	0.59	1/4	9.21	0.63	8.23	7.76

AUTOMATIC

PNEUMATIC

TYPE AA

DOUBLE ACTING

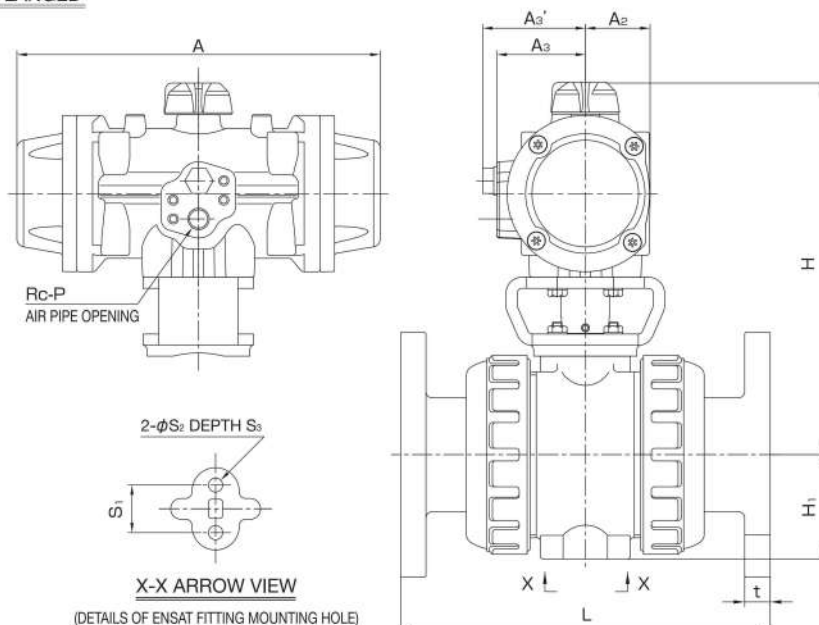
AIR TO OPEN

AIR TO CLOSE

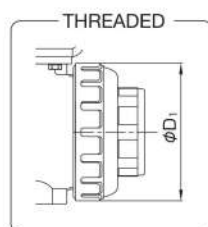
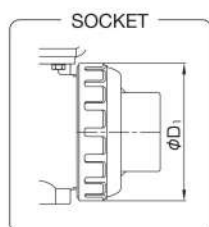
BALL VALVE TYPE 21, 21α

TYPE—A21A, A2AA

CONNECTION / FLANGED, SOCKET, THREADED—JIS, DIN, ANSI SPIGOT—DIN

FLANGED**ACTUATOR SELECTION CHART**

SIZE	ACTUATOR TYPE
15mm (1/2inch)	PP00S
20mm (3/4inch)	
25mm (1inch)	
32mm (1 1/4inch)	
40mm (1 1/2inch)	PP10S
50mm (2inch)	

For detailed specifications, see **P.123**

■ JIS, DIN (Unit: mm)

JIS, DIN (Unit: mm)												JIS						DIN						
												FLANGED JIS5K, JIS10K		SOCKET		THREADED		FLANGED DIN PN10/PN16		SOCKET		THREADED		SPIGOT
												L	t	L		L		L	t	L		L		
mm	D ₁	H	A	A ₂	A ₃	A ₃ '	H ₁	S ₁	S ₂	S ₃	P	U-PVC, C-PVC PP, PVDF		U-PVC C-PVC	PP	U-PVC C-PVC	PP PVDF	U-PVC, C-PVC PP, PVDF		U-PVC C-PVC	PP PVDF	U-PVC C-PVC	PP PVDF	U-PVC PP, PVDF
15	48	172	157	31	48	57	29	19	7.3	11	1/4	143	12	109	108	102	100	130	12	102	99	102	100	124
20	60	178.5	157	31	48	57	35	19	7.3	11	1/4	172	14	128	126	120	119	150	14	119	113	120	119	144
25	70	185.5	157	31	48	57	39	19	7.3	11	1/4	187	14	145	141	131	130	160	14	131	123	131	130	154
32	82	194.5	157	31	48	57	47	30	9	15	1/4	190	16	162	-	150	146	180	16	150	139	150	146	174
40	100	224	230	41	56	65	55	30	9	15	1/4	212	16	189	171	163	160	200	16	164	149	163	160	194
50	126	235.5	230	41	56	65	66	30	9	15	1/4	234	16	220	192	197	194	230	16	197	176	197	194	224

■ ANSI (Unit: inch)

inch	mm	D ₁	H	A	A ₂	A ₃	A ₃ '	H ₁	S ₁	S ₂	S ₃	P	ANSI			
													FLANGED ANSI CLASS150		SOCKET	
													L	t	L	L
													U-PVC, C-PVC PP, PVDF	U-PVC, C-PVC PP, PVDF	U-PVC, C-PVC PP, PVDF	U-PVC, C-PVC PP, PVDF
1/2	15	1.89	6.77	6.18	1.22	1.89	2.24	1.14	0.75	0.29	0.43	1/4	5.63	0.47	4.45	4.02
3/4	20	2.36	7.03	6.18	1.22	1.89	2.24	1.38	0.75	0.29	0.43	1/4	6.77	0.55	5.08	4.72
1	25	2.76	7.30	6.18	1.22	1.89	2.24	1.54	0.75	0.29	0.43	1/4	7.36	0.55	5.75	5.16
1 1/4	32	3.23	7.66	6.18	1.22	1.89	2.24	1.85	1.18	0.35	0.59	1/4	7.48	0.63	6.46	5.91
1 1/2	40	3.94	8.82	9.06	1.61	2.20	2.56	2.17	1.18	0.35	0.59	1/4	8.35	0.63	7.24	6.42
2	50	4.96	9.27	9.06	1.61	2.20	2.56	2.60	1.18	0.35	0.59	1/4	9.21	0.63	8.23	7.76

AUTOMATIC

ELECTRIC

TYPE T

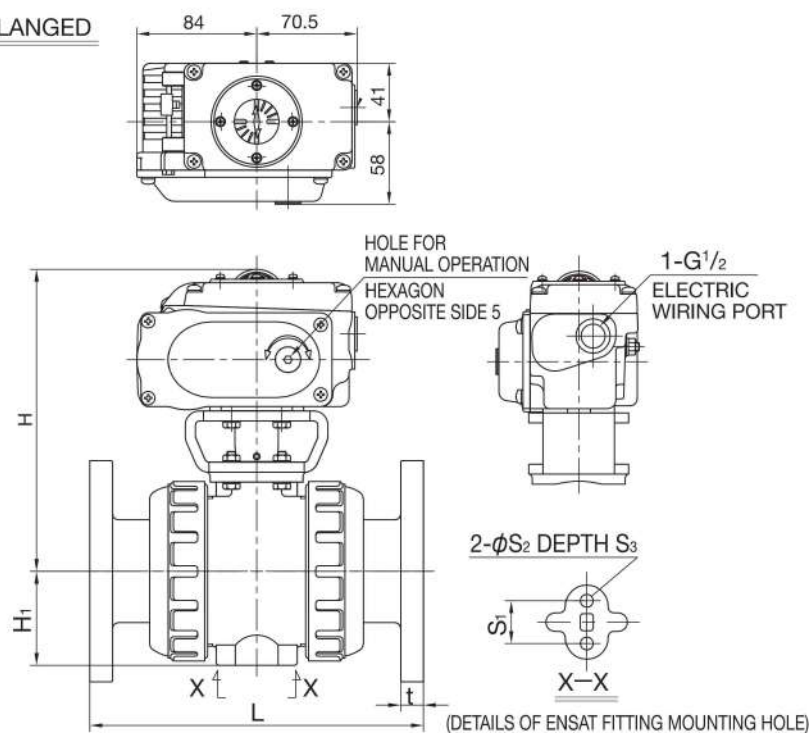
Single-Phase 100V
Single-Phase 200V

BALL VALVE TYPE 21, 21α

TYPE—A21T, A2AT

CONNECTION / FLANGED, SOCKET, THREADED—JIS, DIN, ANSI SPIGOT—DIN

FLANGED

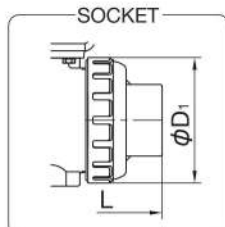


ACTUATOR SELECTION CHART

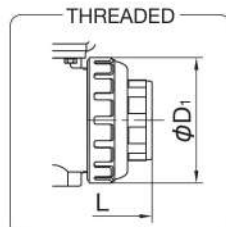
SIZE	ACTUATOR TYPE
15mm (1/2inch)	T-00
20mm (3/4inch)	
25mm (1inch)	
32mm (1 1/4inch)	
40mm (1 1/2inch)	
50mm (2inch)	

For detailed specifications, see P.139

SOCKET



THREADED



JIS, DIN (Unit: mm)

mm	D ₁	H	H ₁	S ₁	S ₂	S ₃	JIS						DIN							
							FLANGED JISSK, JIS10K		SOCKET		THREADED		FLANGED DIN PN10/PN16		SOCKET		THREADED		SPIGOT	
							L	t	L	L	L	L	L	t	L	L	L	L	L	L
15	48	169.5	29	19	7.3	11	143	12	109	108	102	100	130	12	102	99	102	100	124	
20	60	176	35	19	7.3	11	172	14	128	126	120	119	150	14	119	113	120	119	144	
25	70	183	39	19	7.3	11	187	14	145	141	131	130	160	14	131	123	131	130	154	
32	82	192	47	30	9	15	190	16	162	-	150	146	180	16	150	139	150	146	174	
40	100	200.5	55	30	9	15	212	16	189	171	163	160	200	16	164	149	163	160	194	
50	126	212	66	30	9	15	234	16	220	192	197	194	230	16	197	176	197	194	224	

ANSI (Unit: inch)

ANSI (Unit: inch)								ANSI			
inch	mm	D ₁	H	H ₁	S ₁	S ₂	S ₃	FLANGED ANSI CLASS150		SOCKET	THREADED
								L	t	L	L
								U-PVC, C-PVC PP, PVDF		U-PVC, C-PVC PP, PVDF	U-PVC, C-PVC PP, PVDF
1/2	15	1.96	6.67	1.14	0.75	0.29	0.43	5.63	0.47	4.45	4.02
3/4	20	2.45	6.93	1.38	0.75	0.29	0.43	6.77	0.55	5.08	4.72
1	25	2.86	7.20	1.54	0.75	0.29	0.43	7.36	0.55	5.75	5.16
1 1/4	32	4.08	7.56	1.85	1.18	0.35	0.59	7.48	0.63	6.46	5.91
1 1/2	40	4.08	7.89	2.17	1.18	0.35	0.59	8.35	0.63	7.24	6.42
2	50	5.14	8.35	2.60	1.18	0.35	0.59	9.21	0.63	8.23	7.76

AUTOMATIC

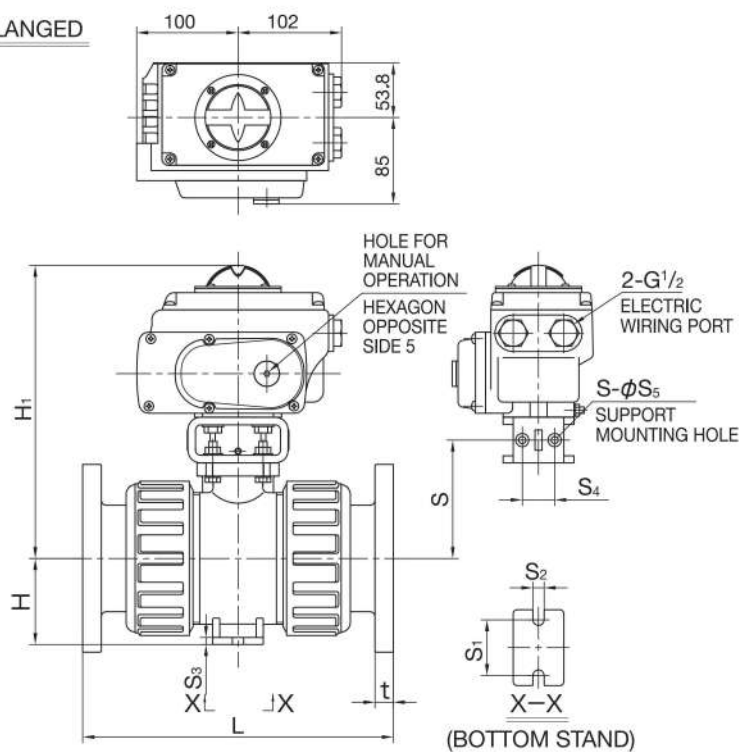
ELECTRIC

TYPE T

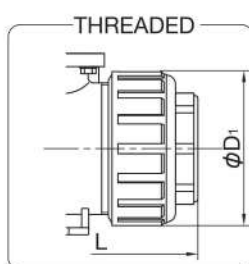
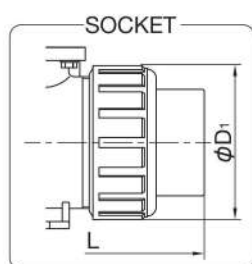
Single-Phase 100V
Single-Phase 200V**BALL VALVE TYPE 21, 21 α**

TYPE—A21T

CONNECTION / FLANGED, SOCKET, THREADED—JIS, DIN, ANSI SPIGOT—DIN

FLANGED**ACTUATOR SELECTION CHART**

SIZE	ACTUATOR TYPE
65mm (2 1/2inch)	T-0
80mm (3inch)	
100mm (4inch)	

For detailed specifications, see **P.139**

■ JIS, DIN (Unit: mm)

JIS, DIN (Unit: mm)								JIS												DIN														
								FLANGED JIS5K, JIS10K				SOCKET			THREADED					FLANGED DIN PN10/PN16				SOCKET			THREADED			SPIGOT				
mm	D ₁	H	H ₁	S	S ₁	S ₂	S ₃	L				L			L					L				L			L			L				
								U-PVC C-PVC	PP	PVDF	t	U-PVC C-PVC	PP	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF	t	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF	U-PVC	PP	PVDF		
65	133	280	72	107.5	48	9	6	261	257	256	18	273	219	215	213	212	290	288	287	18	233	205	204	215	213	212	285	245	244					
80	152	289	85	116.5	55	11	7	306	305	302	18	316	257	265	264	261	312	311	308	21	284	252	249	265	264	261	299	296	293					
100	210	327	110	151.5	65	11	8	374	374	369	18	419	341	362	362	357	352	352	347	18	351	312	307	340	340	335	358	355	350					

■ ANSI (Unit: inch)

ANSI (Unit: inch)									ANSI														
inch	mm	D ₁	H	H ₁	S	S ₁	S ₂	S ₃	FLANGED ANSI CLASS150									SOCKET			THREADED		
									L			t	L			L							
									U-PVC C-PVC	PP	PVDF		U-PVC C-PVC	PP	PVDF	U-PVC C-PVC	PP	PVDF					
2 1/2	65	5.43	11.02	2.83	4.23	1.89	0.35	0.24	10.20	10.12	10.08	0.71	9.45	9.37	9.33	8.46	8.39	8.35					
3	80	6.20	11.38	3.35	4.59	2.17	0.43	0.28	12.05	12.01	11.89	0.71	11.14	11.10	10.98	10.43	10.39	10.28					
4	100	8.57	12.87	4.33	5.96	2.56	0.43	0.31	14.72	14.72	14.53	0.71	13.86	14.37	14.13	14.25	14.25	14.06					