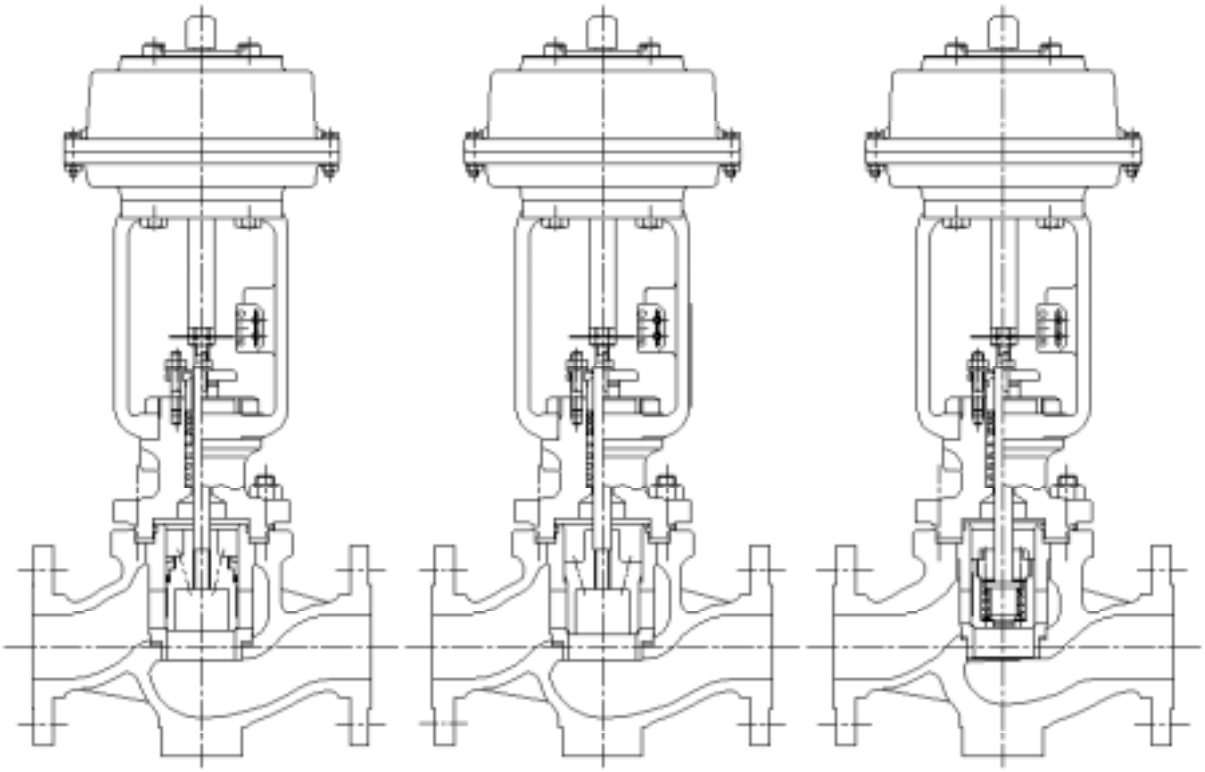
General Specifications	Pressure Blanced Type Cage Control Valve	T-8130

○T－8131　Pressure Balanced Type Single-seated Cage Control Valve
○T－8132　Pressure Balanced Type Double-seated Cage Control Valve
○T－8136　Pilot Balanced Type Cage Control Valve



T-8131　T-8132　T-8136

Feature

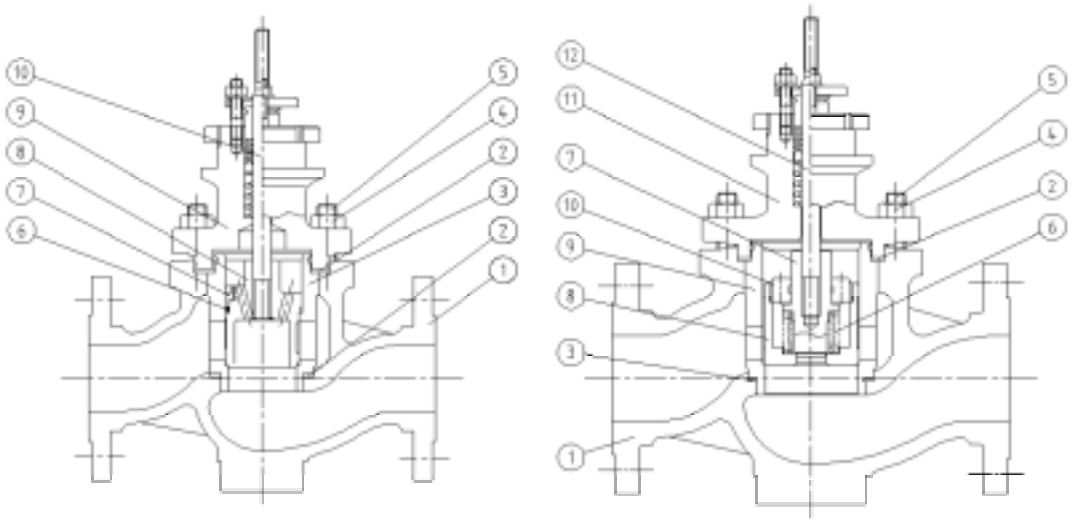
・T-8130 series is a small, efficient cage modulating valve. The main body is S type body that suppressed the pressure loss to the minimum.It is excellent in the high capacity and parts quake resistance. (Our Old Valves Comparison)
・There are three kinds of trim parts.
'T-8131 (Single-Seated)' uses the seal material.
'T-8132 (Double-Seated)' is metal touch(Mechanical seal).
'T-8136 (Pilot Balanced Type)' is for the very high pressure.
・The low noise structure and the cavitation-proof structure can be prepared.

■1、Standard Specification

Table・1 Standard Specification Table

Model Number	T-8131,T-8132,T-8136
Model Name	Pressure Blanced Type Cage Control Valve
Pressure Rating	JIS10K～63K,ANSI/ASME150～1500
Nominal Size	40A～300A
Rated Cv	12～1440
Body/Bonnet Materials	SCPH2,SCS13A,SCS14A
Valve Plug/Seat Ring Materials	SUS316
Flow Characteristics	Eq%(Rangeability50:1),Linear
Working Temperature	※Explain by '3・Trim Structure'
Allowable Seat Leakage Volume	ANSI CLASSIV(0.01% of Rated Cv)/ANSI CLASS II (0.5% of Rated Cv)
Gland Packings	V-PTFE , V-PTFE+FPM O"-ring , Graphite
Gasket	Spiral Gasket(Hoop material:SUS316/Filler material:PTFE , Graphite)

■2、Body Structure



T-8131　　T-8132　　T-8136

Fig.·1 Valve body structural chart

Table·1 Standard Part Materials

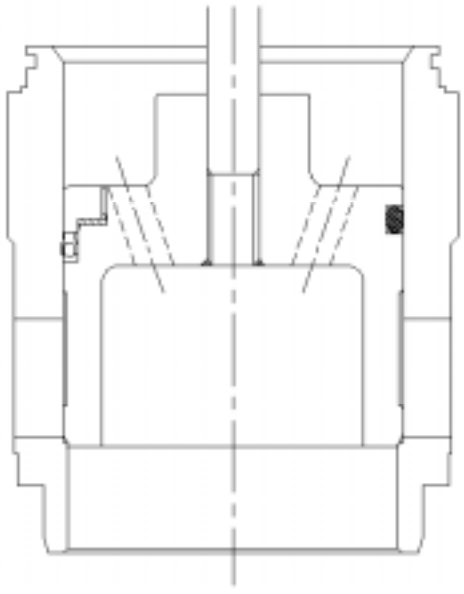
T-8131,8132

Parts Number	Parts Name	Standard Materials
1	Valve Body	FCD450,SCPH2,SCS13A,SCS14A
2	Gasket	Spiral Gasket(Hoop SUS316/Filler PTFE·Grahite)
3	Cage	SUS316
4	Hexagonal nut	S45C
5	Stud Bolt	SNB7
6	PTFE Seal	PTFE/SUS316(T-8131 only)
7	PTFE Seal Holder	SUS316
8	Valve Plug	SUS316
9	Valve Stem	SUS316
10	Bonnet	FCD450,SCPH2,SCS13A,SCS14A

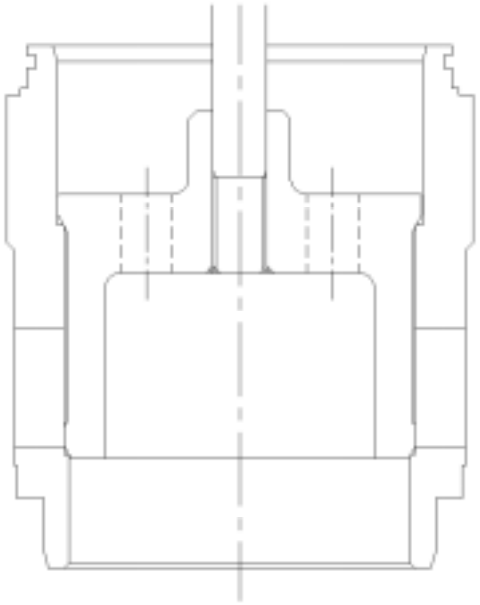
T-8136

Parts Number	Parts Name	Standard Materials
1	Valve Body	FCD450,SCPH2,SCS13A,SCS14A
2	Gasket	Spiral Gasket(Hoop SUS316/Filler PTFE·Grahite)
3	Gasket	Spiral Gasket(Hoop SUS316/Filler PTFE·Grahite)
4	Hexagonal nut	S45C
5	Stud Bolt	SNB7
6	Spring	SUS316
7	Pilot Valve	SUS316
8	Valve Plug	SUS316
9	Cage	SUS316
10	Pilot Cover	SUS316
11	Bonnet	FCD450,SCPH2,SCS13A,SCS14A
12	Valve Stem	SUS316

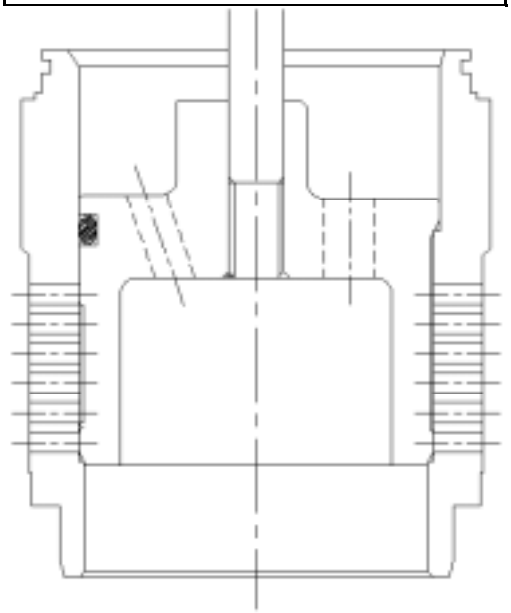
■3、Trim Structure



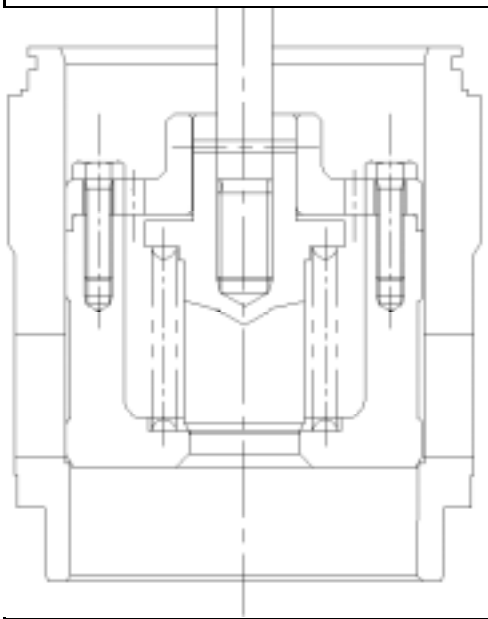
T-8131	
Pressure Balanced Type Single-Seated Cage	
PTFE-Seal Type	O"-ring-Seal Type
-268～260℃	-100～160℃
※It uses it within the range of the temperature limitation valuing the deadline pressure.	



T-8132
Pressure Balanced Type Double-Seated Cage
Metal Seal Type
-268～450℃
※The temperature and the deadline pressure are valued.



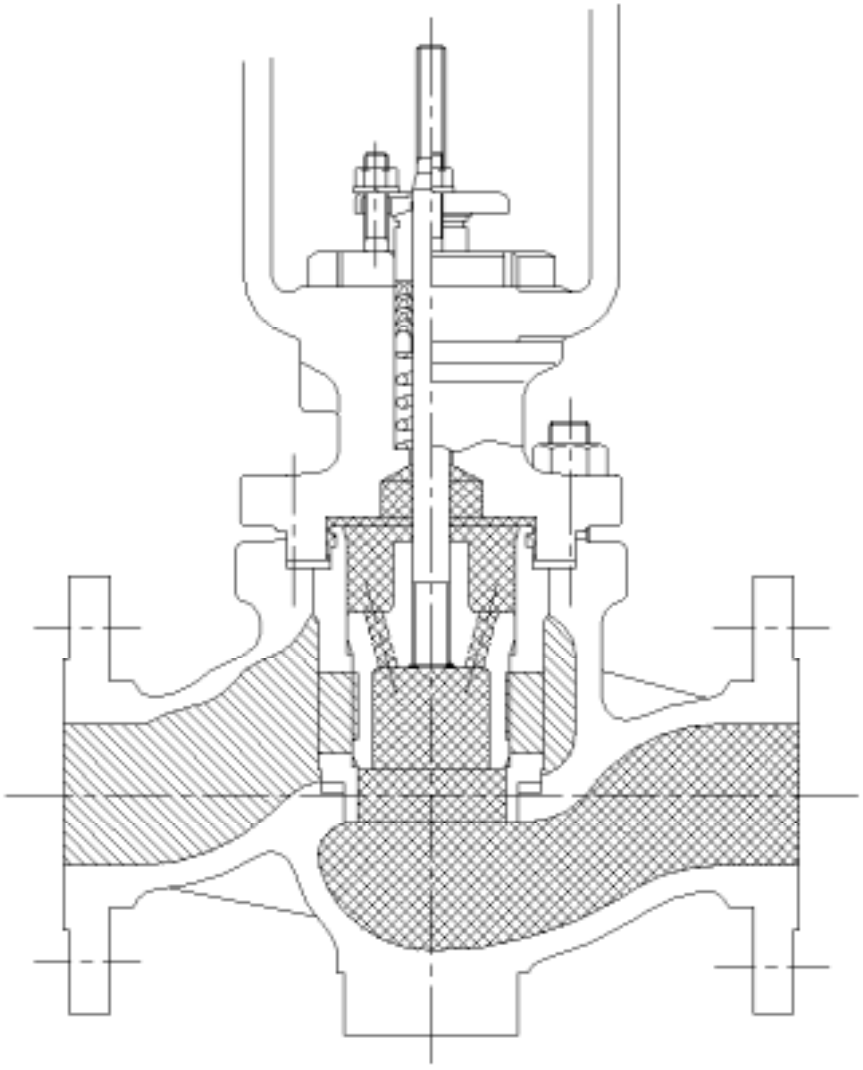
T-8131	T-8132
Pressure Balanced Type Single-Seated Cage	Pressure Balanced Type Double-Seated Cage
O"-ring Seal Type	Metal Seal Type
-268～260℃	-100～160℃
※It uses it when the noise and the cavitation are anxious.	



T-8136
Pilot Balanced Type Cage
Metal Seal Type
-268～450℃
※The deadline uses it for a very difficult fluid by the high pressure.

Fig.･2 Trim Structure Fig.

■4、Pressure Region



Inlet Pressure (Shaded Portion) **Outlet Pressure (Double Shaded Portion)**

Fig·3 Distinction chart of Inlet and Outlet pressure

■5、Flow Characteristic

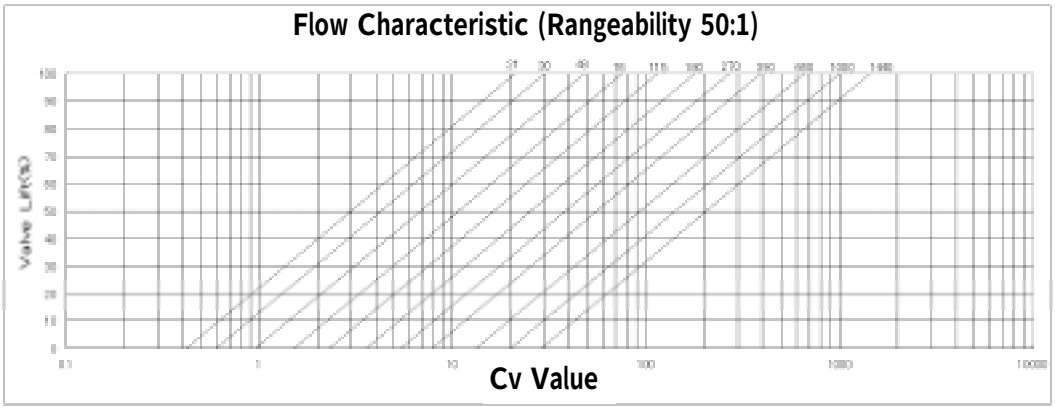


Fig.4 Equal Percentage Flow Characteristic

※When selecting from the above table the desired size valve based on calculated Cv value,check that the valve will attain the maximum calculated Cv value at 80% of the rated valve opening.

Check as well that the Cv value at the minimum flow rate will be attained when the valve opening is at least 10% of the rated value.

Use two valves in combination to cover split ranges if a single valve cannot cover the desired maximum and minimum flow rate range.

■6、Rated Cv Value

Table･2 Rated Cv Value

Nominal Size	Stroke	Cv Value
40A	25	30
50A		48
65A		76
80A	40	115
100A		180
125A	60	270
150A		390
200A	75	660
250A	100	1000
300A	120	1440

･The stroke of T-813□ type cage valve is a stroke of Nominal size.
･The stroke doesn't change in the narrowed port either.

■7、Actuator Standard Specification

【T－5000Series Multi-spring Diaphragm Actuator】

Model Name	：Multi-spring Diaphragm Actuator
Model Number	：T-57□□、T-58□□、T-59□□、T-50□□
Action	：Air to CLOSE(Direct Action),Air to OPEN(Reverse Action)
Diaphragm Case Material	：Aluminum Casting (alumite treatment)
Diaphragm Material	：CR rubber with foundation cloth
York Material	：FC200
Operation and supply air pressure	：Fig.･ 9,10
Dead Line Pressure	：Fig.･ 9,10
Ambient temperature	：-30～60°C
Painting Color	：Yellow (Munsell 2.5Y 8/13)
Air Piping Connection	：Rc1/4

■8、Option

【Valve Body】

Body (Bonnet) Material	：HastelloyR,SCS19A,TB340,
Valve Plug Addition Specification	：Fig.･5,Table･3
Gland Structure	：Fig.･6,Table･4
End Connection	：FF,SW,BW

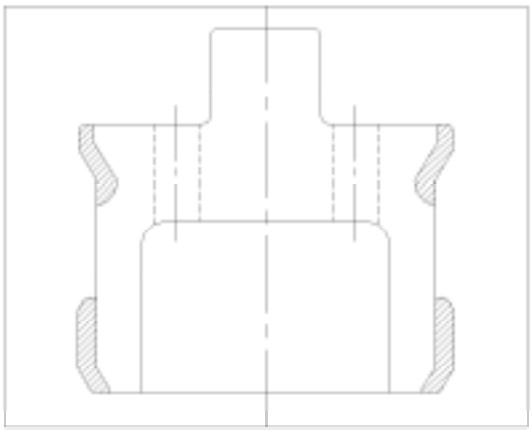
【York】

York Mateials	：SCPH2,SCS13A

【Actuator】

Manual Hand-Wheel	：TOP Hand Wheel
Painting Color	：It is possible to specify it. ※
Mechanical Stopper	：Maximum/Minimum Stopper
Urgent Exhaust	：It is possible to specify it. ※

※It might be impossible.Please consult the salesman.



Basically, it becomes a stellite face. When pressure is very small, the stellite becomes none.

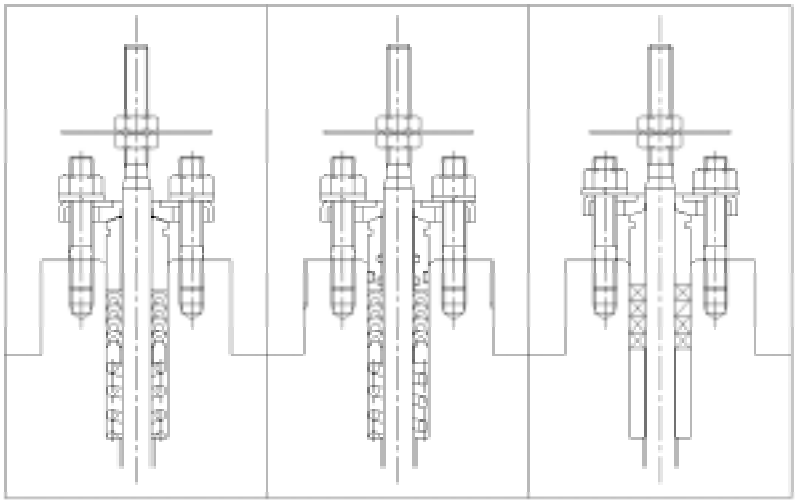
Stellite Face

Fig.·5 Valve Plug Addition Specification

■9、Accessories

Positioner	:IP(TP351),PP(TP601)
Air-Set(filter-tipped decompression valve)	:XR104,XR108,AW3000
Solenoid-controlled valve	:AG33,MOOU,M15G
Limit S.W.	:1LS,1LX,ZE-**
Adjacent S.W.	:E2F

■10、Gland Structure



V-PTFE　　V-PTFE + O"-ring　　Graphite

Fig.·6 Gland Structure

Table·4 Gland materials , temperature and pressure that can be used

	V-PTFE	V-PTFE + O"-ring	Graphite
Materials	PTFE	PTFE + CR,FPM,NBR	Graphite
Temperature	-15～180°C	CR : -40～110°C	-200～400°C
		FPM : -15～230°C	
		NBR : -50～120°C	
Pressure	JIS10,20K	JIS30,40K	JIS63K
	ANSI150,300#	ANSI 600,900,1500#	ANSI1500#

■11、Various sizes

Table･5 A size(Face to Face)

JIS10K,20K、ANSI 150,200

A-Size	B-Size	10K,CLASS150	20K,CLASS300	30,40K,CLASS600	CLASS900	CLASS1500
40	1-1/2	222	235	251	305	305
50	2	254	267	286	337	337
65	2-1/2	276	292	311	420	420
80	3	298	317	337	460	460
100	4	352	368	394	530	530
125	5	403	425	457	-	-
150	6	451	473	508	704	704
200	8	543	568	610	835	835
250	10	673	708	752	-	-
300	12	737	775	819	-	-

Table･6 H、K size

JIS10K,20K、ANSI 150,200

A-Size	B-Size	STD	Cooling-FIN	Extension	Long-Extension	K
40	1-1/2	462	522	648	700	80
50	2	475	535	671	716	85
65	2-1/2	491	571	683	738	95
80	3	625	705	847	880	115
100	4	630	730	865	900	128
125	5	895	1135	1133	1203	165
150	6	950	1259	1229	1300	22
200	8	969	1318	1290	1379	260
250	10	1049	1600	1400	1500	300
300	12	1042	1792	1492	1602	350

Table･7 H、K size

JIS30K,40K、ANSI 600

A-Size	B-Size	STD	Cooling-FIN	Extension	Long-Extension
40	1-1/2	468	528	674	738
50	2	486	581	684	748
65	2-1/2	497	609	714	758
80	3	626	828	878	928
100	4	638	893	995	1043

Table･8 H、K size

JIS63K、ANSI 1500

A-Size	B-Size	STD	Cooling-FIN	Extension	Long-Extension
40	1-1/2	529	626	785	955
50	2	587	680	848	955
65	2-1/2	616	699	849	950
80	3	757	922	1013	1080
100	4	720	968	1093	1264

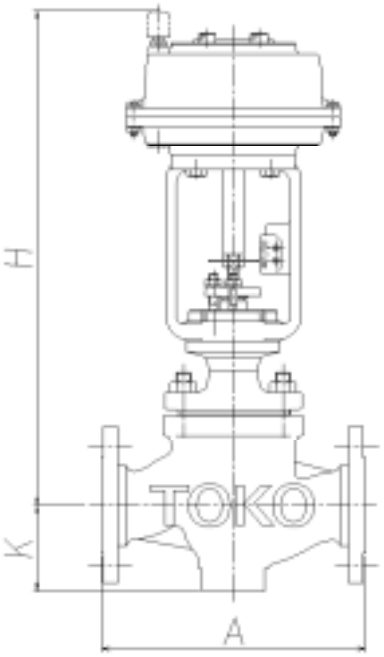
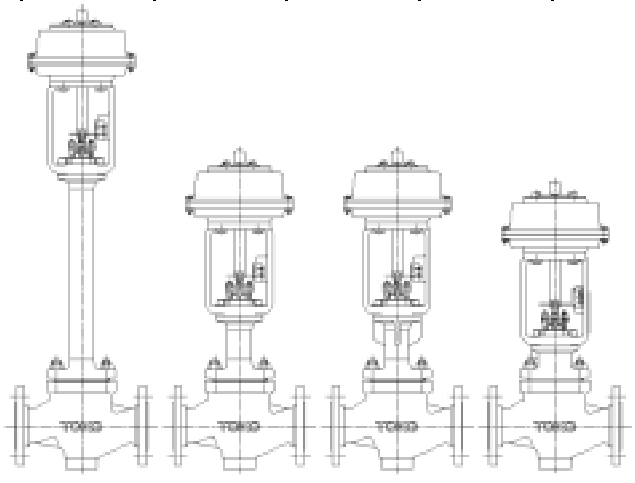


Fig.･7 Body Size Fig.



※It becomes a standard, a cooling fin, an extension, and a long extension from the right.

■12、Deadline(T-8131)

Table·9 DeadLine Pressure

Air to OPEN (RA) T-

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	Nominalsize 40A	50A	65A
5882	50 - 110	140	25	1000	3.22	2.61	2.07
5883	90 - 190	250		1800	5.79	4.69	3.72
5886	140 - 300	350		2800	9.01	7.29	5.78
5887	180 - 380	420		3600	11.58	9.38	7.48
5982	50 - 110	140		2500	8.04	6.51	5.16
5983	100 - 190	250		5000	16.09	13.03	10.33
5986	150 - 300	350		7500	24.13	19.54	15.49
5987	200 - 380	420		10000	32.18	26.05	20.65

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	80A	100A	(MPa)
5942	50 - 100	140	40	2500	4.24	3.42	
5943	90 - 170	250		4500	7.26	6.15	
5946	140 - 270	350		7000	11.86	9.57	
5947	180 - 340	420		9000	15.25	12.3	
5042	50 - 100	140		4500	7.26	6.15	
5043	100 - 190	250		9000	15.25	12.3	
5046	150 - 290	350		13500	22.87	18.45	
5047	200 - 380	420		18000	30.5	24.6	

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	125A	150A	200A
5062	50 - 100	140	60	4500	4.95	4.15	-
5063	100 - 190	250		9000	9.91	8.29	-
5066	150 - 290	350		13500	14.86	12.44	-
5067	200 - 380	420		18000	19.82	16.59	-
5092	50 - 100	140	75	4500	-	-	3.13
5093	90 - 170	250		8100	-	-	5.63
5096	140 - 270	350		12600	-	-	8.76
5097	180 - 340	420		16200	-	-	11.26

Air to CLOSE (DA) T-

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	40A	50A	65A
5882	50 - 110	160	25	1000	3.22	2.61	2.07
5882	50 - 110	250		2800	9.01	7.29	5.78
5883	90 - 190	350		3200	103	8.34	6.61
5883	90 - 190	420		4600	14.8	11.98	9.5
5982	50 - 110	160		2500	8.04	6.51	5.16
5982	50 - 110	250		7000	22.52	18.24	14.46
5983	100 - 190	350		8000	25.74	20.84	16.52
5983	100 - 190	420		11500	37	29.96	23.75

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	80A	100A	(MPa)
5941	30 - 90	140	40	2500	4.24	3.42	
5942	50 - 100	250		7500	12.71	10.25	
5943	90 - 170	350		9000	15.25	12.3	
5943	90 - 170	420		12500	21.18	17.09	
5042	50 - 100	140		3600	6.1	4.92	
5042	50 - 100	250		13500	22.87	18.45	
5043	100 - 190	350		14400	24.4	19.68	
5043	100 - 190	420		20700	35.07	28.29	

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	125A	150A	200A
5062	50 - 100	140	60	3600	3.96	3.32	-
5062	50 - 100	250		13500	14.86	12.44	-
5063	100 - 190	350		14400	15.85	13.27	-
5063	100 - 190	420		20700	22.79	19.08	-
5092	50 - 100	140	75	3600	-	-	2.5
5092	50 - 100	250		13500	-	-	9.39
5093	170 - 350	350		16200	-	-	11.26
5093	170 - 420	420		22500	-	-	15.64

■13、Deadline(T-8132)

Table･10 DeadLine Pressure

Air to OPEN (RA) T-

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	バルブサイズ 40A	50A	65A
5882	50 - 110	140	25	1000	2.01	1.39	1.08
5883	90 - 190	250		1800	3.62	2.5	1.94
5886	140 - 300	350		2800	5.63	3.89	3.01
5887	180 - 380	420		3600	7.23	5.01	3.87
5982	50 - 110	140		2500	5.02	3.48	2.69
5983	100 - 190	250		5000	10.05	6.95	5.38
5986	150 - 300	350		7500	15.07	10.43	8.06
5987	200 - 380	420		10000	20.1	13.91	10.75

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	80A	100A	(MPa)
5942	50 - 100	140	40	2500	2.6	1.81	
5943	90 - 170	250		4500	4.68	3.26	
5946	140 - 270	350		7000	7.28	5.08	
5947	180 - 340	420		9000	9.36	6.53	
5042	50 - 100	140		4500	4.68	3.26	
5043	100 - 190	250		9000	9.36	6.53	
5046	150 - 290	350		13500	14.04	9.79	
5047	200 - 380	420		18000	18.72	13.05	

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	125A	150A	200A
5062	50 - 100	140	60	4500	3.06	2.57	-
5063	100 - 190	250		9000	6.12	5.13	-
5066	150 - 290	350		13500	9.18	7.7	-
5067	200 - 380	420		18000	12.24	10.27	-
5092	50 - 100	140	75	4500	-	-	1.94
5093	90 - 170	250		8100	-	-	3.49
5096	140 - 270	350		12600	-	-	5.43
5097	180 - 340	420		16200	-	-	6.99

Air to CLOSE (DA) T-

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	40A	50A	65A
5882	50 - 110	160	25	1000	2.01	1.39	1.08
5882	50 - 110	250		2800	5.63	3.89	3.01
5883	90 - 190	350		3200	6.43	4.45	3.44
5883	90 - 190	420		4600	9.24	6.4	4.95
5982	50 - 110	160		2500	5.02	3.48	2.69
5982	50 - 110	250		7000	14.07	9.73	7.53
5983	100 - 190	350		8000	16.08	11.12	8.6
5983	100 - 190	420		11500	23.11	15.99	12.36

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	80A	100A	(MPa)
5941	30 - 90	140	40	2500	2.6	1.81	
5942	50 - 100	250		7500	7.8	5.44	
5943	90 - 170	350		9000	9.36	6.53	
5943	90 - 170	420		12500	13	9.07	
5042	50 - 100	140		3600	3.74	2.61	
5042	50 - 100	250		13500	14.04	9.79	
5043	100 - 190	350		14400	14.98	10.44	
5043	100 - 190	420		20700	21.53	15.01	

Model No.	Operation pressure(kPa)	SUP.(kPa)	Stroke(mm)	Output (N)	125A	150A	200A
5062	50 - 100	140	60	3600	2.45	2.05	-
5062	50 - 100	250		13500	9.18	7.7	-
5063	100 - 190	350		14400	9.79	8.21	-
5063	100 - 190	420		20700	14.08	11.81	-
5092	50 - 100	140	75	3600	-	-	1.55
5092	50 - 100	250		13500	-	-	5.82
5093	170 - 350	350		16200	-	-	6.99
5093	170 - 420	420		22500	-	-	9.7