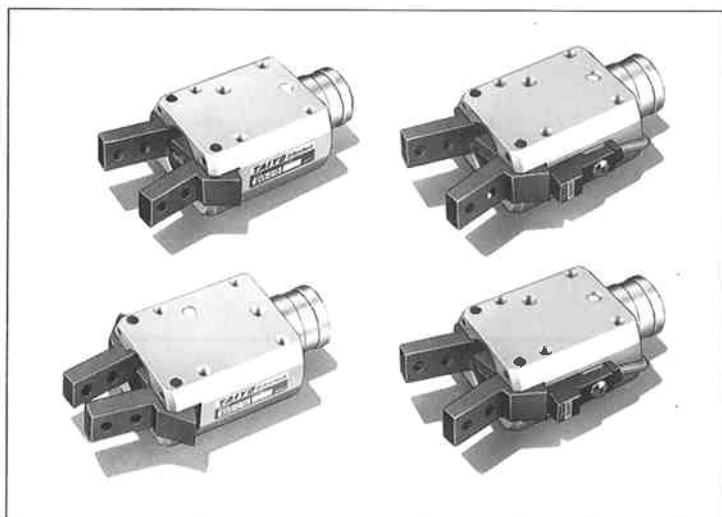


SV2 SILKY CHUCK (ANGULAR TYPE)



Angular Chuck of Small, Lightweight, Excellent Durability

- Two types of single acting type (Normal open, Normal close) and double acting type have been set in series according to the output and applications.
- Small, lightweight and cheap.
- The durability has been improved for slipping by adopting a thrust washer with abrasion-proof surface treated, low friction and low abrasion.
- For angular pin, the abrasion-proof has been improved with the adoption of hardened steel.
- For mounting body, there are 3 styles (lower shank, lower mounting screw and side mounting screw). Especially, the lower mounting screw is conformed to the rod end screw dia. (KK dimension) of Our Company's pneumatic cylinder (10S-1G, 10Z-1G, 10Z-2G, 10A-5G).
- Switch set is available with switch mounted only on Silky Chuck body. As switch is the fixed type, there is no need for detailed adjustment.
- High frequency oscillating switch (no contact type) of excellent oil-proof, vibration-proof, shock-proof has been adopted as switch. As compared with the magnetic proximity switch, the switch performance is little affected by the external magnetic field and temperature.

BODY SPECIFICATIONS

Type	Fundamental type • Switch set											
Structure	Double acting type				Single acting type (Normal open)				Single acting type (Normal close)			
Code	SV2-D02 (-S)	SV2-D06 (-S)	SV2-D12 (-S)	SV2-D20 (-S)	SV2-P02 (-S)	SV2-P06 (-S)	SV2-P12 (-S)	SV2-P20 (-S)	SV2-C02 (-S)	SV2-C06 (-S)	SV2-C12 (-S)	SV2-C20 (-S)
*Theoretical gripping capacity (kgf)	1.9	4.9	9.4	19.5	1.5	4.2	8.4	18.3	—	—	—	—
*Theoretical opening capacity (kgf)	2.5	6.5	12.6	23.3	—	—	—	—	2.0	5.7	11.6	22.0
Working fluid	Air											
Lubrication	Unnecessary (But possible)											
Port size	M5×0.8											
Operating pressure range	1~6kgf/cm ² (0.098~0.588MPa)				2~6kgf/cm ² (0.196~0.588MPa)							
Proof test pressure	9kgf/cm ² (0.883MPa)											
Max. operating frequency	40 C.P.M.											
Temperature range	-10~+60℃ (Do not use when frozen.)											
Tolerance for thread	ISO 4795/1 6g											
Lubricant	JIS K2213-2 (Additive turbine oil ISO VG 32) or equivalent											
Weight (gf)	70 (95)	130 (155)	230 (255)	380 (405)	70 (95)	130 (155)	230 (255)	380 (405)	70 (95)	130 (155)	230 (255)	380 (405)

Note : *Theoretical gripping, opening capacity is the value at the supply pressure of 5kgf/cm², overhang of 10mm.
 *Weight available for holding, conveyance with actual gripper is about 10% of the theoretical gripping, opening capacity.
 *Switch set is available with switch mounted only on the fundamental type.
 *Figures in parenthesis are the weight of switch set.

SWITCH SPECIFICATIONS (WITH NO CONTACT)

Code	CS201 (With cord 1.5m)
Detection method	High frequency oscillating type
Power supply voltage	DC12~24±10% (Ripple P-P 10% and less)
Voltage • current	DC24V MAX. 100mA
Current consumption	DC24V MAX. 15mA
Voltage drop	DC24V MAX. 1V
Insulation resistance	DC500V Mega MIN. 50MΩ (Case~Cable)
Voltage-proof	AC1000V No trouble for 1 min. (Case~Cable)
Shock-proof	50G
Vibration-proof	Double vibration width 1.5mm 10~55Hz 2 hours
Temperature	-10~+60°C
Wiring method	0.12mm ² 3 cores Outer dia. φ 2.9 Cabytre cord
Protective structure	IP67 (Japan Electrical Manufacturers' Association grade) or equivalent
Indicating lamp	LED (Lights with switch ON)
Electric circuit	
Applied load	Miniature relay • Small relay • Sequencer

SWITCH SET

	Fig. 1	Fig. 2
Working diagrams		
Switch ON • OFF	ON	OFF
Remarks	Confirm that fingers are fully opened for preventing the damage of work by finger in motion to take work.	Confirm that fingers have actuated. But, B contact of relay is necessary as switch is the fixed type.

*Switch is detectable only when fingers are opened.
 *As to the B contact application method, refer to the connection method of handling instructions.

SILKY CHUCK (ANGULAR TYPE) SV2

CODE

For order, specify the following code.

Series **SV2-D** **06-S**

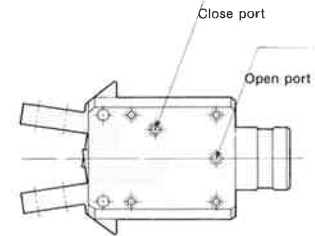
Switch symbol

Fill only for switch set

Theoretical gripping, opening capacity (Supply pressure 5kgf/cm ² Overhang 10mm)					
Structure	Code	Double acting type		Single acting type	
		Theoretical gripping capacity	Theoretical opening capacity	Normal open	Normal close
D Double acting type	02	1.9	2.5	1.5	2.0
P Single acting (Normal open)	06	4.9	6.5	4.2	5.7
C Single acting (Normal close)	12	9.4	12.6	8.4	11.6
	20	19.5	23.3	18.3	22.0

DELIVERY FORM

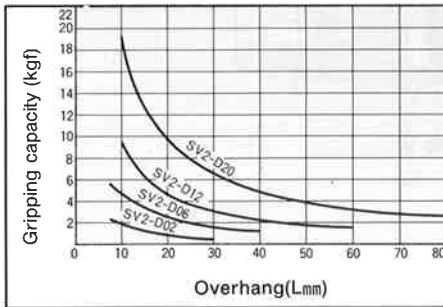
- For switch set, deliver with switch not mounted on body.
 - For single acting type, filter is mounted at one port.
- Normal open type...Filter at open port
Normal close type...Filter at close port



GRIPPER THEORETICAL GRIPPING, OPENING CAPACITY

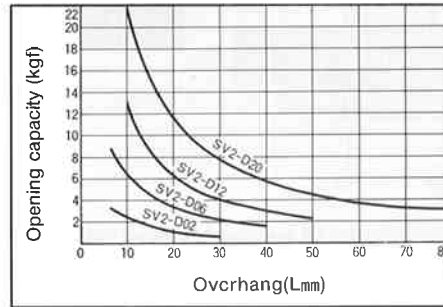
DOUBLE ACTING TYPE/SV2-D※(-S) (GRIPPER THEORETICAL GRIPPING CAPACITY)

Supply pressure : 5kgf/cm²



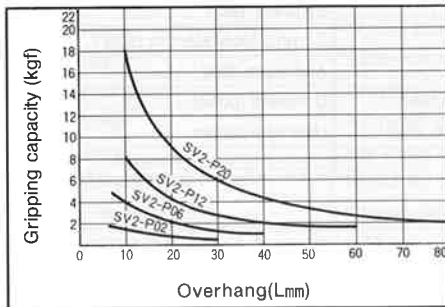
DOUBLE ACTING TYPE/SV2-D※(-S) (GRIPPER THEORETICAL OPENING CAPACITY)

Supply pressure : 5kgf/cm²

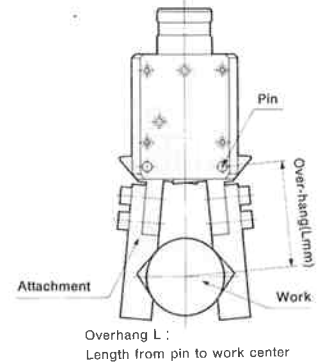
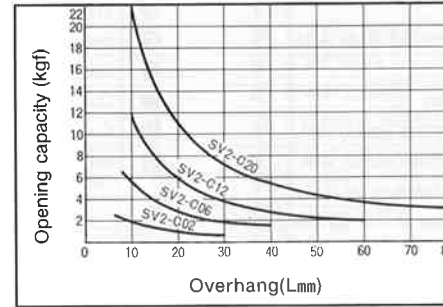


SINGLE ACTING TYPE/SV2-P※(-S) (GRIPPER THEORETICAL GRIPPING CAPACITY)

Supply pressure : 5kgf/cm²



SINGLE ACTING TYPE/SV2-C※(-S) (GRIPPER THEORETICAL OPENING CAPACITY)



PRECAUTIONS FOR SELECTION

- Weight available for holding, conveyance with actual chuck is about 10% of the theoretical gripping, opening capacity. Cautions shall be taken that the conveyance load becomes smaller according to the material and shape of work attachment.
- Cautions shall be taken that more surplus is needed when the large acceleration and shock are caused for work conveyance.

THEORETICAL GRIPPING CAPACITY

Unit : kgf

Code	Structure	11	2	3	4	5	6
SV2-D02 (-S)	Double acting type	0.4	0.8	1.1	1.5	1.9	2.3
SV2-P02 (-S)	Single acting (Normal open)	—	0.3	0.7	1.1	1.5	1.8
SV2-D06 (-S)	Double acting type	1.0	2.0	2.9	3.9	4.9	5.9
SV2-P06 (-S)	Single acting (Normal open)	—	1.2	2.2	3.2	4.2	5.1
SV2-D12 (-S)	Double acting type	1.9	3.8	5.7	7.5	9.4	11.3
SV2-P12 (-S)	Single acting (Normal open)	—	2.8	4.6	6.5	8.4	10.3
SV2-D20 (-S)	Double acting type	3.9	7.8	11.8	15.7	19.6	23.5
SV2-P20 (-S)	Single acting (Normal open)	—	6.5	10.5	14.4	18.3	22.2

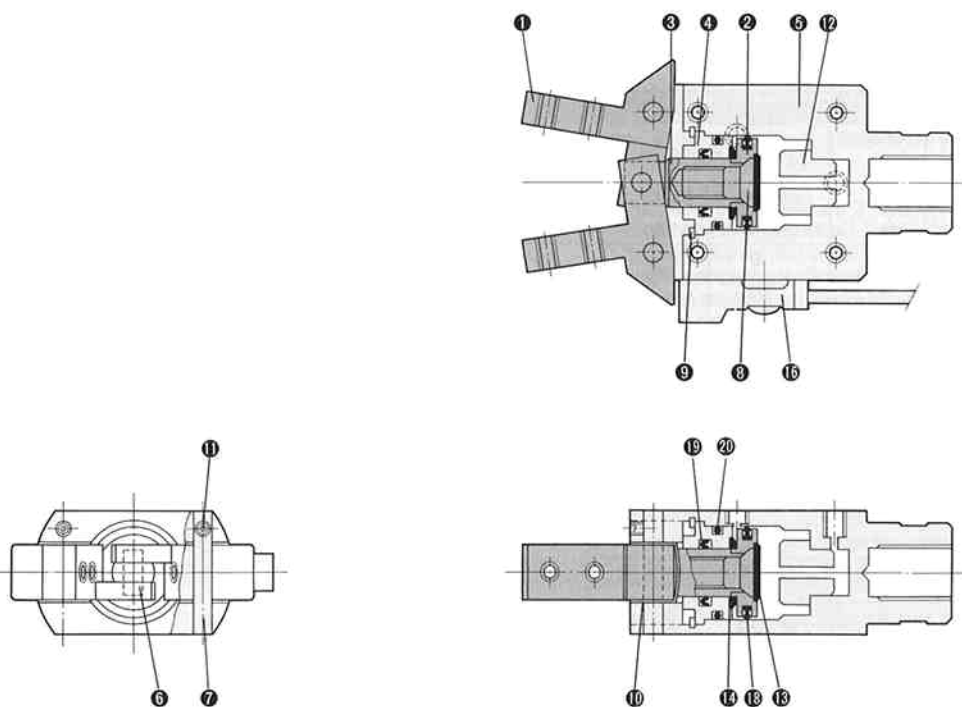
THEORETICAL OPENING CAPACITY

Unit : kgf

Code	Structure	1	2	3	4	5	6
SV2-D02 (-S)	Double acting type	0.5	1.0	1.5	2.0	2.5	3.1
SV2-C02 (-S)	Single acting (Normal close)	—	0.5	1.0	1.5	2.0	2.5
SV2-D06 (-S)	Double acting type	1.3	2.6	3.9	5.2	6.5	7.8
SV2-C06 (-S)	Single acting (Normal close)	—	1.8	3.1	4.4	5.7	7.0
SV2-D12 (-S)	Double acting type	2.5	5.0	7.5	10.1	12.6	15.1
SV2-C12 (-S)	Single acting (Normal close)	—	4.0	6.6	9.1	11.6	14.1
SV2-D20 (-S)	Double acting type	4.7	9.3	14.0	18.7	23.3	28.0
SV2-C20 (-S)	Single acting (Normal close)	—	9.1	12.7	17.4	22.0	26.7

SV2 SILKY CHUCK (ANGULAR TYPE)

SECTIONAL DRAWINGS/DOUBLE ACTING TYPE SV2-D×(-S)



The above are the sectional drawings of SV2-D12/D20(-S).
As to SV2-D02/D06(-S), a part of structure differs.

PARTS LIST

No.	Name	Material	Q'ty
①	Finger	Chrome Molybdenum steel	2
②	Piston	Copper alloy	1
③	Rod	Stainless steel(With hard chrome plated)	1
④	Rod gland	Copper alloy	1
⑤	Body	Aluminum alloy	1
⑥	Pin A	High-carbon chrome bearing steel	1
⑦	Pin B	High-carbon chrome bearing steel	2
⑧	Piston set screw	Chrome Molybdenum steel	1

No.	Name	Material	Q'ty
⑨	C type set ring	Carbon steel	1
⑩	Thrust washer	Synthetic resin	2
⑪	Set screw	Chrome Molybdenum steel	2
⑫	Spring guide	Aluminum alloy	1
⑬	Cushion pad (Cap side)	Urethane rubber	1
⑭	Cushion pad (Head side)	Urethane rubber	1
⑮	Switch ass'y		1

Note : For SV2-D02/D06(-S), there are no ⑧ piston set screw, ⑫ spring guide,
⑬ cushion pad(cap side), ⑭ cushion pad(head side).

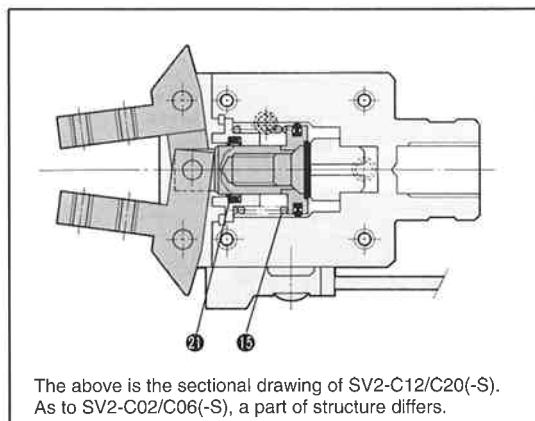
SEAL LIST

Name	⑮ Piston seal	⑰ Rod seal	⑱ O ring for rod gland
Material	Nitrile rubber	Nitrile rubber	Nitrile rubber
Q'ty	1	1	1
Code			
SV2-D02(-S)	PSD-12	DYR-6	S-10
SV2-D06(-S)	PSD-16	MYN-8	S-14
SV2-D12(-S)	ZT-20	DYR-10	S-18
SV2-D20(-S)	ZT-25	DYR-10	S-22

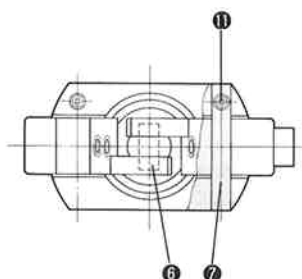
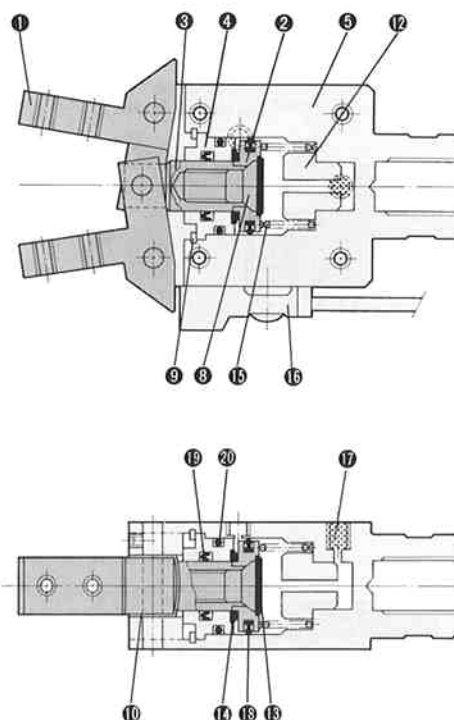
SILKY CHUCK (ANGULAR TYPE) SV2

SECTIONAL DRAWINGS/SINGLE ACTING TYPE(NORMAL OPEN•NORMAL CLOSE) SV2-P※(-S) SV2-C※(-S)

•NORMAL CLOSE TYPE
SV2-C※(-S)



•NORMAL OPEN TYPE
SV2-P※(-S)



PARTS LIST

No.	Name	Material	Q'ty
①	Finger	Chrome Molybdenum steel	2
②	Piston	Copper alloy	1
③	Rod	Stainless steel(With hard chrome plated)	1
④	Rod gland	Copper alloy	1
⑤	Body	Aluminum alloy	1
⑥	Pin A	High-carbon chrome bearing steel	1
⑦	Pin B	High-carbon chrome bearing steel	2
⑧	Piston set screw	Chrome Molybdenum steel	1

Note : For SV2-※02/06(-S), there are no ⑧piston set screw, ⑫spring guide, ⑬cushion pad(cap side), ⑭cushion pad(head side).

No.	Name	Material	Q'ty
⑨	C type set ring	Carbon steel	1
⑩	Thrust washer	Synthetic resin	2
⑪	Set screw	Chrome Molybdenum steel	2
⑫	Spring guide	Aluminum alloy	1
⑬	Cushion pad (Cap side)	Urethane rubber	1
⑭	Cushion pad (Head side)	Urethane rubber	1
⑮	Spring	Piano wire	1
⑯	Switch ass'y	—	1
⑰	Filter	Resin	1

SEAL LIST

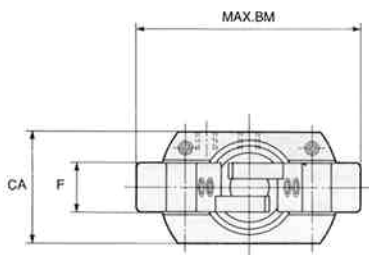
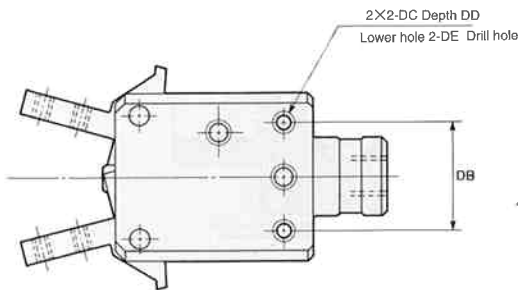
Name	⑮ Piston seal	⑯ Rod seal	⑰ O ring for rod gland	⑱ Dust wiper
Material	Nitrile rubber	Nitrile rubber	Nitrile rubber	Nitrile rubber
Code	Q'ty	Q'ty	Q'ty	Q'ty
SV2-P02(-S)	1	1	1	1
SV2-C02(-S)	PSD-12	DYR-6	S-10	—
SV2-P06(-S)	—	—	—	—
SV2-C06(-S)	PSD-16	MYN-8	S-14	—
SV2-P12(-S)	—	—	—	—
SV2-C12(-S)	ZT-20	DYR-10	S-18	—
SV2-P20(-S)	—	—	—	SER-10
SV2-C20(-S)	ZT-25	DYR-10	S-22	—
		—	—	SER-10

SV2 SILKY CHUCK (ANGULAR TYPE)

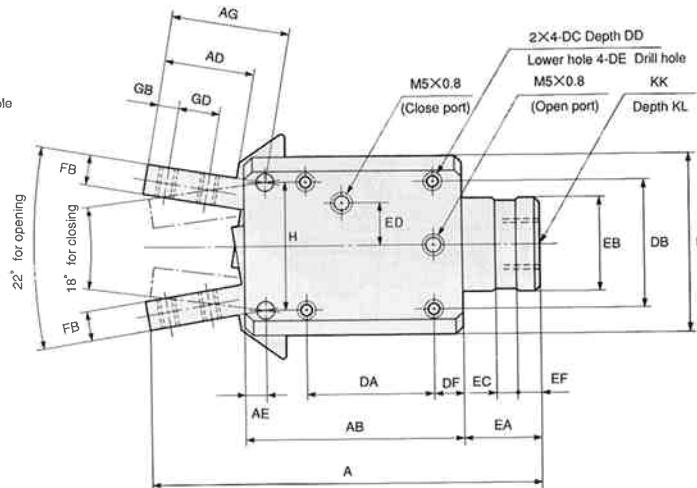
DIMENSIONAL DRAWINGS/DOUBLE ACTING TYPE

Unit : mm

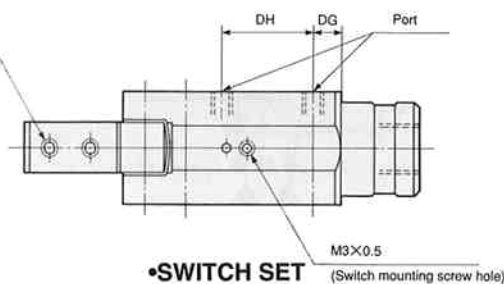
•FUNDAMENTAL TYPE SV2-D02/D06



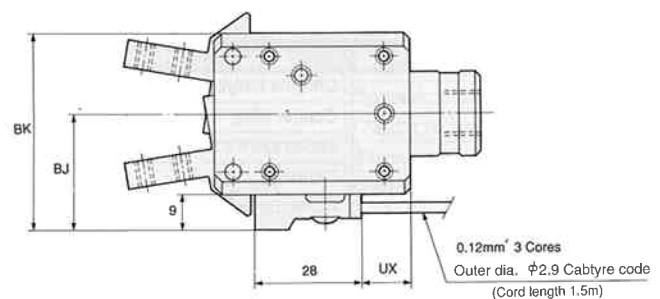
SV2-D12/D20



2X2-GC
(Attachment mounting screw hole)



•SWITCH SET SV2-D※(-S)



•Refer to fundamental type for other dimensions.

DIMENSIONAL TABLE

Code	Symbol	A	AB	AD	AE	AG	B	BJ	BK	BM	CA	DA	DB	DC	DD	DE	DF	DG
SV2-D02(-S)		64	37	13.5	4.5	19.5	28	23	37	40	17	—	18	M4×0.7	6	φ 3.3	6	6
SV2-D06(-S)		73	40	16	5	23	35	26.5	44	46	22	—	22	M4×0.7	6	φ 3.3	6	6
SV2-D12(-S)		93	52	20.5	5	28	42	30	51	54	26	30	30	M4×0.7	6	φ 3.3	7	7
SV2-D20(-S)		102	59	22.5	6	31	52	35	61	64	32	34	34	M5×0.8	8	φ 4.2	7	7

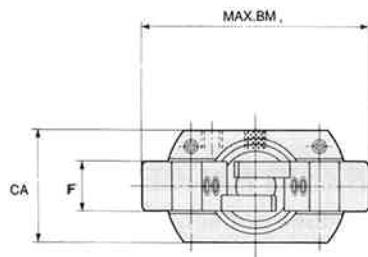
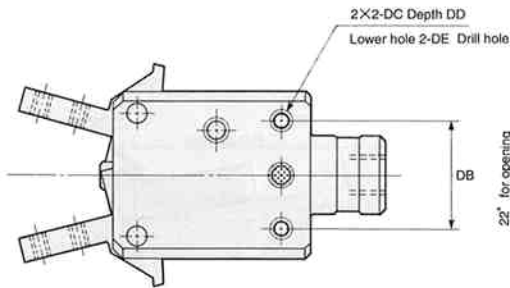
Code	Symbol	DH	EA	EB	EC	ED	EF	F	FB	GB	GC	GD	H	KK	KL	UX
SV2-D02(-S)		12	12	φ 14g7	4	8	4	7	5	4	M3×0.5	6	20	M8×1.25	10	0
SV2-D06(-S)		13	15	φ 16g7	5	9	5	10	6	4	M3×0.5	8	25	M8×1.25	10	1
SV2-D12(-S)		21	18	φ 22g7	6	10	5	12	7	5	M4×0.7	10	30	M12×1.25	15	13
SV2-D20(-S)		23	18	φ 26g7	6	11	5	14	8	5	M5×0.8	10	38	M12×1.25	16	18.5

SILKY CHUCK (ANGULAR TYPE) SV2

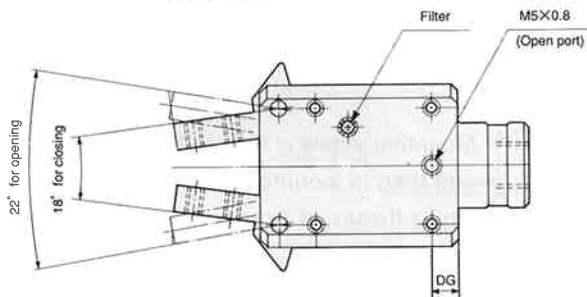
DIMENSIONAL DRAWINGS/SINGLE ACTING TYPE/(NORMAL OPEN•NORMAL CLOSE)

Unit : mm

•FUNDAMENTAL TYPE NORMAL OPEN TYPE SV2-P02/P06

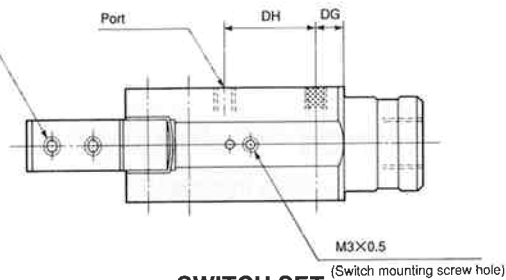
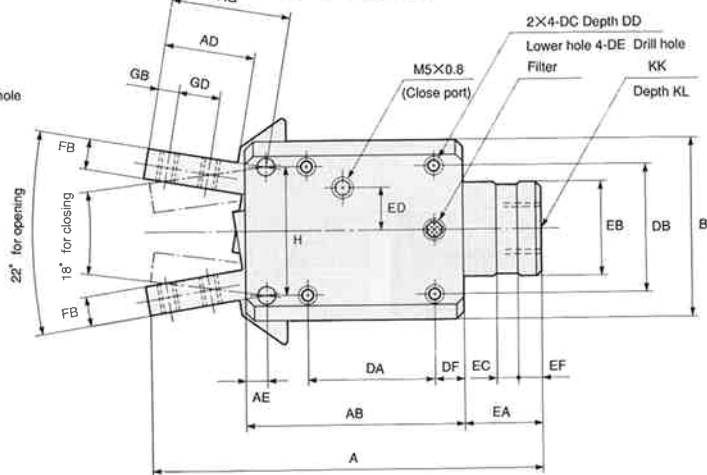


NORMAL CLOSE TYPE SV2-C※

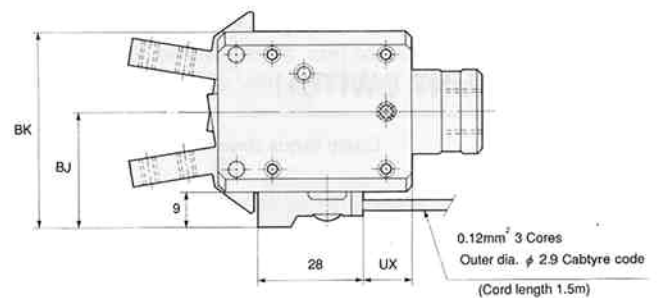


•Refer to Normal open type for other dimensions.

SV2-P12/P20



•SWITCH SET SV2- $\frac{P}{C}$ ※(-S)



•Refer to fundamental type for other dimensions.

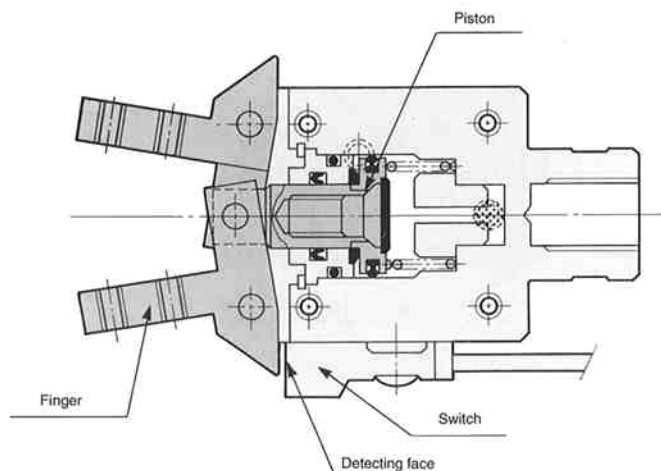
DIMENSIONAL TABLE

Code	Symbol	A	AB	AD	AE	AG	B	BJ	BK	BM	CA	DA	DB	DC	DD	DE	DF	DG
SV2- $\frac{P}{C}$ 02(-S)		64	37	13.5	4.5	19.5	28	23	37	40	17	—	18	M4X0.7	6	ϕ 3.3	6	6
SV2- $\frac{P}{C}$ 06(-S)		73	40	16	5	23	35	26.5	44	46	22	—	22	M4X0.7	6	ϕ 3.3	6	6
SV2- $\frac{P}{C}$ 12(-S)		93	52	20.5	5	28	42	30	51	54	26	30	30	M4X0.7	6	ϕ 3.3	7	7
SV2- $\frac{P}{C}$ 20(-S)		102	59	22.5	6	31	52	35	61	64	32	34	34	M5X0.8	8	ϕ 4.2	7	7

Code	Symbol	DH	EA	EB	EC	ED	EF	F	FB	GB	GC	GD	H	KK	KL	UX
SV2- $\frac{P}{C}$ 02(-S)		12	12	ϕ 14g7	4	8	4	7	5	4	M3X0.5	6	20	M8X1.25	10	0
SV2- $\frac{P}{C}$ 06(-S)		13	15	ϕ 16g7	5	9	5	10	6	4	M3X0.5	8	25	M8X1.25	10	1
SV2- $\frac{P}{C}$ 12(-S)		21	18	ϕ 22g7	6	10	5	12	7	5	M4X0.7	10	30	M12X1.25	15	13
SV2- $\frac{P}{C}$ 20(-S)		23	18	ϕ 26g7	6	11	5	14	8	5	M5X0.8	10	38	M12X1.25	16	18.5

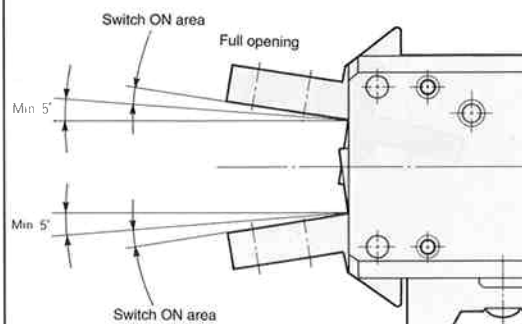
SV2 SILKY CHUCK (ANGULAR TYPE)

WORKING DESCRIPTION OF SWITCH SET



WORKING DESCRIPTION

High frequency oscillating type switch is mounted on the Silky Chuck body. As the detecting face of finger comes close to the detecting face of switch, switch is actuated, and the opening of Silky Chuck finger is detected without contact from outside.

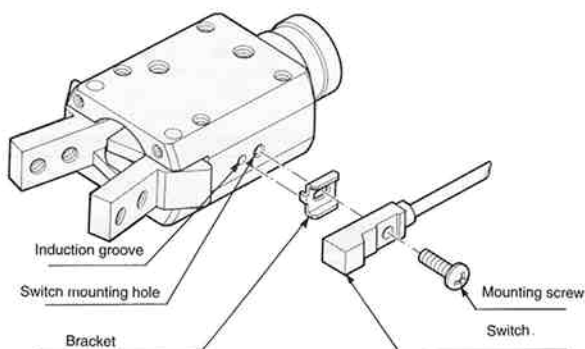


WORKING RANGE

Switch does not actuate unless the Silky Chuck finger in parallel condition is opened by over 5°.

HOW TO MOUNT SWITCH

Clamp torque of mounting screw shall be set at 4 ~ 6kgf · cm.



Mounting screw is inserted in switch, bracket, and then is mounted at switch mounting hole while finger of bracket is set to enter the induction groove.