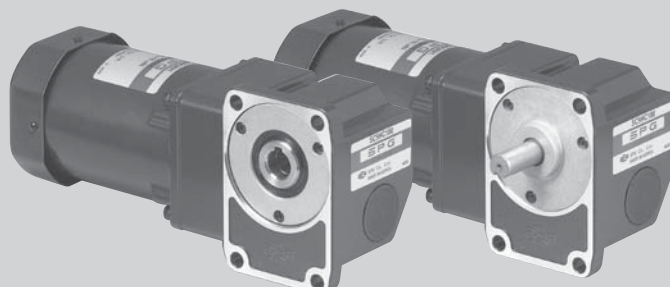


RIGHT ANGLE GEAR HEAD

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CODING SYSTEM

MOTOR

MAKER	SIZE	MOTOR TYPE	OUTPUT	SHAFT TYPE	VOLTAGE	GEAR TYPE	SPECIAL TYPE
S	9	I	40	G	B	H	E

S : SPG Co., Ltd.

SIZE

- 6 : □60(mm)
- 7 : □70(mm)
- 8 : □80(mm)
- 9 : □90(mm)

MOTOR TYPE

- I : Induction Motor
- R : Reversible Motor

OUTPUT

03 : 3W	90 : 90W
06 : 6W	120 : 120W
15 : 15W	150 : 150W
25 : 25W	180 : 180W
40 : 40W	200 : 200W
60 : 60W	

SHAFT TYPE

- G : Gear Type
- S : Straight Type
- D : D-Cut Type
- K : Key Type

VOLTAGE

A : 1∅AC 110V	60Hz	(4Pole)
B : 1∅AC 220V	60Hz	(4Pole)
C : 1∅AC 100V	50/60Hz	(4Pole)
D : 1∅AC 200V	50/60Hz	(4Pole)
E : 1∅AC 115V	60Hz	(4Pole)
X : 1∅AC 220~240V	50Hz	(4Pole)
U : 3∅AC 200V	50/60Hz	(4Pole)
T : 3∅AC 220V	50/60Hz	(4Pole)
S : 3∅AC 380~440V	50/60Hz	(4Pole)

GEAR TYPE

- H : Heavy Impact
- L : Light Impact

SPECIAL TYPE

- E : Electro-magnetic Brake Type
- T : Terminal Box Type(Terminal Block Type)
- T1 : Terminal Box Type(PCB Type Terminal Block) (25~90W)
- T2 : Conduit Box Type(25~90W)
- B : Semi-Brake Type
- S : Variable Speed Control(Pack Type)
 - S12 : T.G Voltage 12V Type
 - S24 : T.G Voltage 24V Type
- V : Variable Speed Control(Unit Type)
 - V12 : T.G Voltage 12V Type
- ES : Electro-Magnetic Brake Variable Speed Control(Pack Type)
 - ES12 : T.G Voltage 12V Type
 - ES24 : T.G Voltage 24V Type

※ NOTE 1) 'H' & 'L' type are applied to over 40W.
 • 'H' type is the standard for over 60W.
 • 'L' type is the standard for over 40W.

※ NOTE 2) Key Type are applied to over □80 15W

SPEED CONTROLLER (SR PACK TYPE)

CONTROLLER TYPE	VOLTAGE	OUTPUT
SR	B	01

SR SERIES

※ NOTE) The applicable motor is for T.G. 12V.

CONTROLLER TYPE

VOLTAGE

- A : 1∅ AC110V 60Hz (4Pole)
- B : 1∅ AC220V 60Hz (4Pole)
- C : 1∅ AC100V 50/60Hz (4Pole)
- D : 1∅ AC200V 50/60Hz (4Pole)
- E : 1∅ AC115V 60Hz (4Pole)
- X : 1∅ AC220~240V 50Hz (4Pole)

OUTPUT

- 01 : 6W
- 02 : 15W~90W

SPEED CONTROLLER (SS PACK TYPE)

CONTROLLER TYPE	VOLTAGE	OUTPUT	RUN / STOP TYPE
SS	B	01	SRSS

SS SERIES

※ NOTE) The applicable motor is for T.G. 24V.

CONTROLLER TYPE

- A : 1∅ AC110V 60Hz (4Pole)
- B : 1∅ AC220V 60Hz (4Pole)
- C : 1∅ AC100V 50/60Hz (4Pole)
- D : 1∅ AC200V 50/60Hz (4Pole)
- E : 1∅ AC115V 60Hz (4Pole)
- X : 1∅ AC220V~240V 50Hz (4Pole)

OUTPUT

- 01 : 6W(Standard Type)
- 02 : 15W~40W(Standard Type)
- 03 : 6W~90W(High Output Type)

RUN / STOP TYPE

SRSS : Slow Run Slow Stop

SPEED CONTROLLER (UNIT TYPE)

MAKER	CONTROLLER TYPE	OUTPUT	TYPE	VOLTAGE	T.G VOLTAGE
S	U	A	40	I B	V12

V12 : T.G Voltage 12V Type

A : 1Ø AC110V	60Hz	(4Pole)
B : 1Ø AC220V	60Hz	(4Pole)
C : 1Ø AC100V	50/60Hz	(4Pole)
D : 1Ø AC200V	50/60Hz	(4Pole)
E : 1Ø AC115V	60Hz	(4Pole)
X : 1Ø AC220~240V	50Hz	(4Pole)

I : Induction Motor
 ※ NOTE) Unit Type of Speed Controller does not have Reversible Motor.(715 Type : No marking)

06 : 6W	25 : 25W	90 : 90W
715 : 15W(□70)	40 : 40W	120 : 120W
15 : 15W(□80)	60 : 60W	180 : 180W

A : Analogue Type
 D : Digital Type

U : Unit Type

S : SPG Co.,Ltd.

BRAKE PACK (CONTACT TYPE)

BRAKE TYPE	VOLTAGE	MOTOR TYPE
SB	B	IR

IR : 1Ø Motor
 I : 3Ø Motor

A : 1Ø AC 110V	60Hz	(4Pole)
B : 1Ø AC 220V	60Hz	(4Pole)
C : 1Ø AC 100V	50/60Hz	(4Pole)
D : 1Ø AC 200V	50/60Hz	(4Pole)
X : 1Ø AC 220~240V	50Hz	(4Pole)
U : 3Ø AC 200V	50/60Hz	(4Pole)
T : 3Ø AC 220V	50/60Hz	(4Pole)
S : 3Ø AC 380~440V	50/60Hz	(4Pole)

SB SERIES

GEAR HEAD

MAKER	SIZE	SHAFT TYPE	OUTPUT	GEAR RATIO	BEARING TYPE	SHAFT IMPACT TYPE	SPECIAL TYPE
S	9	K	C	36	B	H	S

S : Flange Type

※ H : Heavy Impact
 L : Light Impact

B : Ball bearing + Metal bearing(6W~40W)
 All Ball bearing(60W MIN)
 B1: All Ball bearing(6W~40W)
 M : Metal bearing(6W~40W)

Reduction Ratio(36:1/36)

T : 3W	C : 60W~120W
A : 6W~25W	D : 60W~120W
B : 40W	H : 150W~200W

S : Straight Type
 D : D-Cut Type
 K : Key Type

6 : □60(mm)
7 : □70(mm)
8 : □80(mm)
9 : □90(mm)

※ NOTE) 'H' & 'L' type are applied to over 40W.
 • 'H' type is the standard for over 60W.
 • 'L' type is the standard for over 40W.

S : SPG Co.,Ltd.

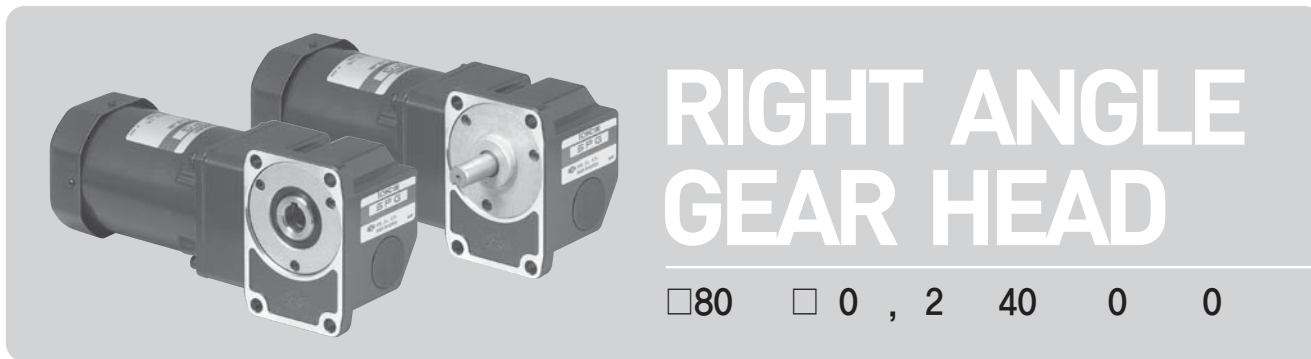
BRAKE PACK (NON CONTACT TYPE)

BRAKE TYPE	VOLTAGE	SPECIAL TYPE
SB	B	NCR

NCR : Non Contact Relay
 ENCR : Brake type Non Contact Relay

A : 1Ø AC 110V	60Hz	(4Pole)
B : 1Ø AC 220V	60Hz	(4Pole)
C : 1Ø AC 100V	50/60Hz	(4Pole)
D : 1Ø AC 200V	50/60Hz	(4Pole)
X : 1Ø AC 220V~240V	50Hz	(4Pole)

SB SERIES



Characteristics of RIGHT ANGLE GEAR HEAD

- Can be installed to a motor at a right angle using worm gears and special helical gears.
- Space saving of maximum 50% compared to existing square boxes.
- Can be assembled and applied with SPG standard motors.
- Ratio can be selected in between 1/3 and 1/180, and is shown in the cover of the gear head.

RIGHT ANGLE GEAR HEAD CODING SYSTEM

MAKER MODEL	SIZE	SHAFT TYPE	OUTPUT	GEAR RATIO		SPECIAL TYPE
SC	9	K	C	180	-	□ □ □
SC : SPG Crossi Gear Head	8 : □80mm □ 0mm	K : Key type H : Hollow shaft	A : 25W B : 40W C : 60W/0W	3~180 : Reduction Ratio		

SPECIFICATION OF RIGHT ANGLE GEAR HEAD

T P E	R A T I O	M A X I M U M P E R M I S S I B L E T O R Q U E		P E R M I S S I B L E O V E R H U N G L O A D				P E R M I S S I B L E T H R U S T L O A D	
		k g f	N m	D I S T A N C E F R O M F R O N T E D G E O F S H A F T 10m m		D I S T A N C E F R O M F R O N T E D G E O F S H A F T 20m m			
				k g f	N	k g f	N	k g f	N
SC8HA□	3~180	80	8	25	250	22	220	10	100
SC9HB□	3~180	100	10	35	350	31	310	20	200
SC9HC□	3~180	200	20	56	560	50	500	250	250
S C 8 A □	3~18	80	8	10	100	15	150	10	100
	25~180			20	200	30	300		
S C 9 B □	3~18	100	10	25	250	35	350	20	200
	25~180			30	300	45	450		
S C 9 C □	3~9	200	20	40	400	50	500	25	250
	12.5~25			45	450	60	600		
	30~180			50	500	70	700		

- ❖ is the distance from the flange mounting surface.
- ❖ The code in of gearhead model is gear ratio.
- ❖ Self Locking isn t working.

TRANSFER EFFICIENCY

Model	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	
SC KA □ SC HA □		50%							60%													
SC KB □ SC HB □		68%									60%											
SC KC □ SC HC □		68%											60%						50%			

❖ The efficiency referenced may vary when applied.

PERMISSIBLE TOR U E

50Hz

GEAR RATIO		3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	
MODEL	rpm	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	
SC KA □ SC HA □ (2 W)	kg-cm	3.2	3.8	5.3	6.3	7.9	9.5	15.8	18.9	22.7	31.5	37.8	45.4	63	75.6	80	80	80	80	80	80	80
	N-m	0.32	0.38	0.53	0.63	0.79	0.95	1.58	1.89	2.27	3.15	3.78	4.58	6.30	7.56	8	8	8	8	8	8	8
SC KB □ SC HB □ (40W)	kg-cm	6.4	7.7	10.7	12.9	16.1	19.3	26.8	32.1	38.6	47.3	56.7	68	94.5	100	100	100	100	100	100	100	100
	N-m	0.64	0.77	1.07	1.29	1.61	1.93	2.68	3.21	3.86	4.73	5.67	6.8	9.45	10	10	10	10	10	10	10	10
SC KC □ SC HC □ (0 W)	kg-cm	9.4	11.3	15.6	18.8	23.5	28.2	39.1	46.9	56.3	78.2	82.8	99.4	138	165.6	200	200	200	200	200	200	200
	N-m	0.94	1.13	1.56	1.88	2.35	2.82	3.91	4.69	5.63	7.82	8.28	9.94	13.8	16.56	20	20	20	20	20	20	20
SC KC □ SC HC □ (0 W)	kg-cm	14.1	16.9	23.5	28.2	35.2	42.2	58.7	70.4	84.5	117.3	124.2	149	200	200	200	200	200	200	200	200	200
	N-m	1.41	1.69	2.35	2.82	3.52	4.22	5.87	7.04	8.45	11.73	12.42	14.9	20	20	20	20	20	20	20	20	20

60Hz

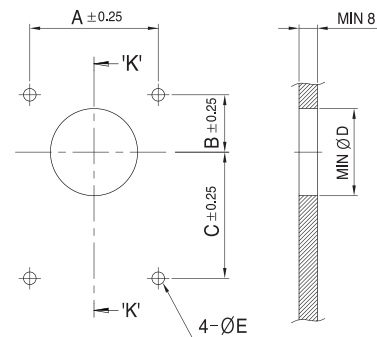
GEAR RATIO		3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
MODEL	rpm	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
SC KA □ SC HA □ (2 W)	kg-cm	25	3	4.1	5	6.2	7.4	12.4	14.9	17.8	24.8	29.7	35.6	49.5	59.4	74.3	80	80	80	80	80
	N-m	0.25	0.3	0.41	0.5	0.62	0.74	1.24	1.49	1.78	2.48	2.97	3.56	4.95	5.94	7.43	8	8	8	8	8
SC KB □ SC HB □ (40W)	kg-cm	5.1	6.1	8.5	10.2	12.8	15.3	21.3	25.5	30.6	37.5	45	54	75	90	100	100	100	100	100	100
	N-m	0.51	0.61	0.85	1.02	1.28	1.53	2.13	2.55	3.06	3.75	4.5	5.4	7.5	9	10	10	10	10	10	10
SC KC □ SC HC □ (0 W)	kg-cm	8	9.5	13.3	15.9	19.9	23.9	33.2	39.8	47.7	66.3	70.2	84.2	117	140.4	175.5	200	200	200	200	200
	N-m	0.8	0.95	1.33	1.59	1.99	2.39	3.32	3.98	4.77	6.63	7.02	8.42	11.7	14.04	17.5	20	20	20	20	20
SC KC □ SC HC □ (0 W)	kg-cm	11.4	13.7	19	22.8	28.6	34.3	47.6	57.1	68.5	95.2	100.8	121	168	200	200	200	200	200	200	200
	N-m	1.14	1.37	19	2.28	2.86	3.43	4.76	5.71	6.85	9.52	10.08	12.1	16.8	20	20	20	20	20	20	20

- ❖ Basically, all output shaft rotates in an opposite way to that of a motor.
- ❖ Rpm is based on synchronous speed (50Hz: 1500rpm, 60Hz: 1800rpm) divided by gear ratio.
- ❖ The actual rotation speed can be 2~20% less than displayed value depending on the load.

Dimensions of the earhead of the shaft

TYPE	MODEL	A	B	C	D	E
Hollow shaft	SC8HA □	56	25	55	∅16	∅5.5
	SC HB □	58	33	5	∅16	∅6.5
	SC HC □	60	33	6	∅18	∅8.5
Solid shaft	SC8KA □	56	25	55	∅35	∅5.5
	SC KB □	58	33	5	∅35	∅6.5
	SC KC □	60	33	6	∅35	∅8.5

❖ The code in of gearhead model is gear ratio.



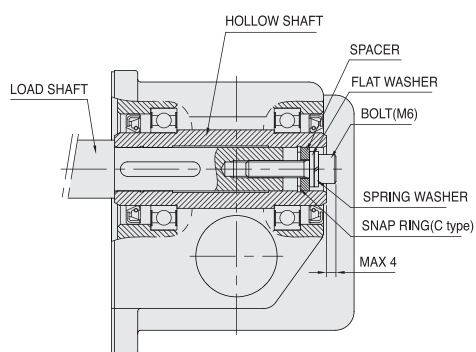
SECTION K K

Moti oad shaft to hoo shaft riht ae earhead

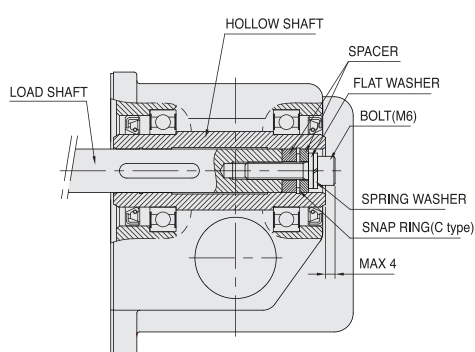
Eae of oti the oad) For steed oad shaft, insert the oad shaft a the a ito the hoo shaft. For straiht oad shaft, insert the oad shaft a the a to the sa ri. If the oad shaft is ot o eoh, se sacer to eiiate a sace etee the oad shaft ad the sa ri. Refer to the eo tae for the diesioa reatioshi etee the oad shaft ad the hoo shaft. Note that if the etrsio of the ot is ore tha 4, the safet coer accessor) caot e istaed.

MODEL	ler diaeter ad toerace of hoo shaft	Shaft diaeter ad toerace recoded of oad shaft
SC8HA□	$\varnothing 15H8 \begin{smallmatrix} 0 \\ 0 \end{smallmatrix}^{0,02}$	$\varnothing 15h \begin{smallmatrix} 0 \\ -0,018 \end{smallmatrix}$
SC HB□	$\varnothing 15H8 \begin{smallmatrix} 0 \\ 0 \end{smallmatrix}^{0,02}$	$\varnothing 15h \begin{smallmatrix} 0 \\ -0,018 \end{smallmatrix}$
SC HC□	$\varnothing 1 H8 \begin{smallmatrix} 0 \\ 0 \end{smallmatrix}^{0,02}$	$\varnothing 1 h \begin{smallmatrix} 0 \\ -0,018 \end{smallmatrix}$

❖ The code in □ of gearhead model is gear ratio.



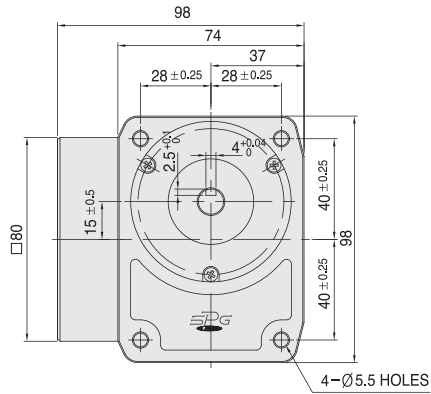
(Stepped load shaft)



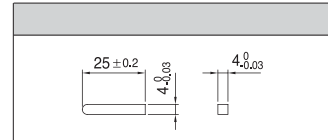
(Straight load shaft)

DIMENSIONS : SOLID SHAFT

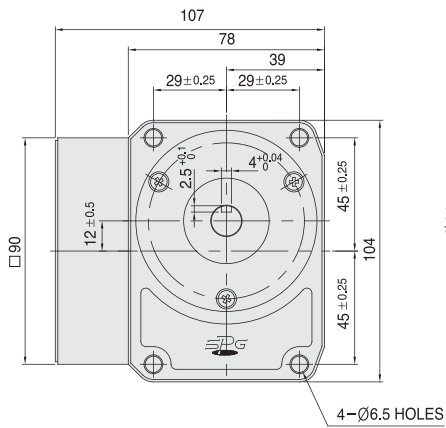
SC8KA □ eih : 1.)



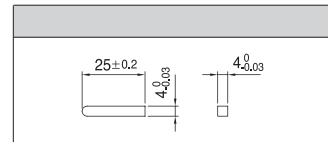
+ KEY SPEC



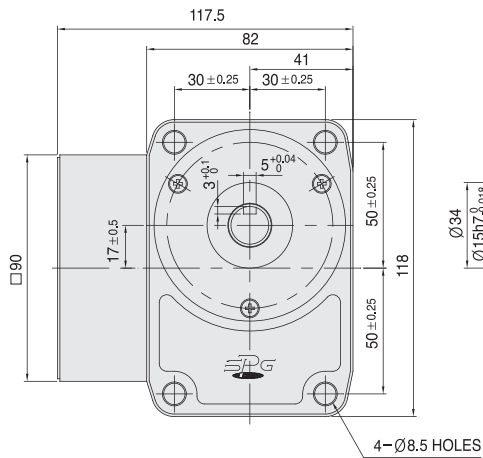
SCKB □ eih : 2.0)



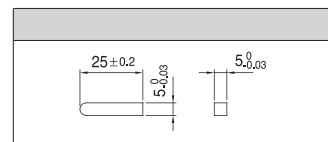
+ KEY SPEC



SCKC □ eih : 2.)

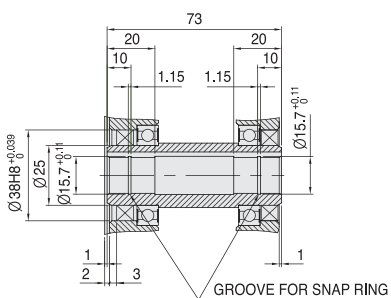
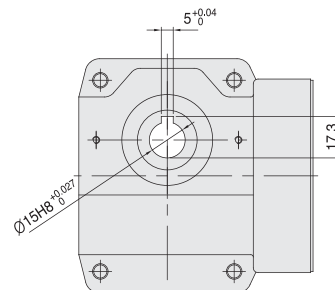
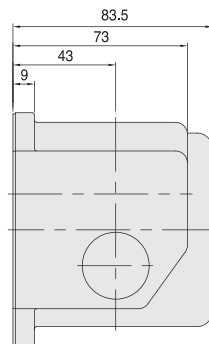
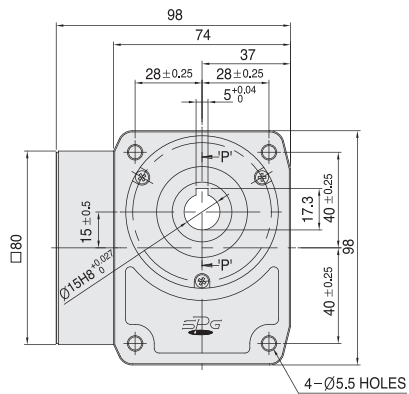


+ KEY SPEC



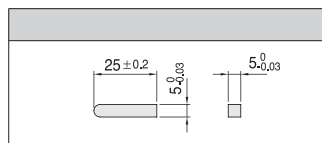
DIMENSIONS : HOLLOW SHAFT

SC8HA □ eih : 1.)

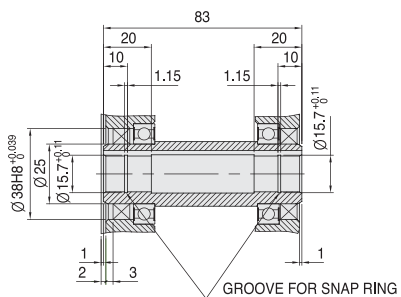
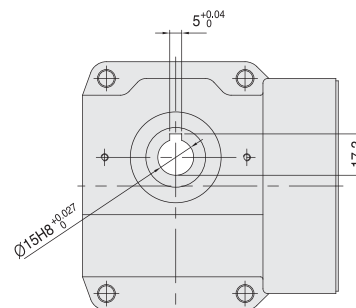
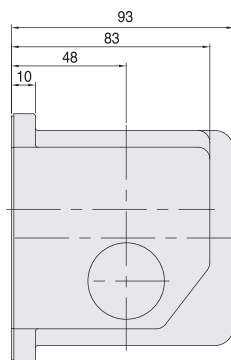
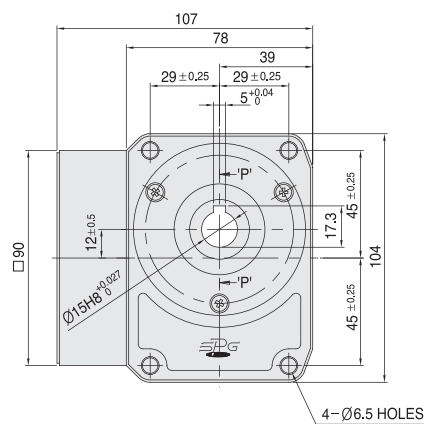


SECTION P P DETAIL OF OUTPUT SHAFT)

+ KEY SPEC

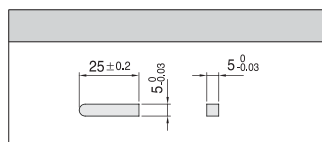


SCHB □ eih : 2.0)



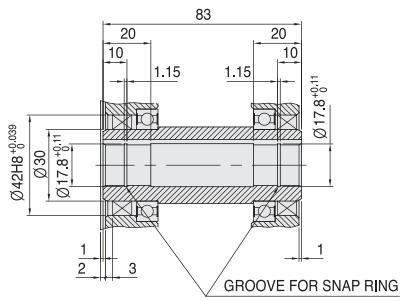
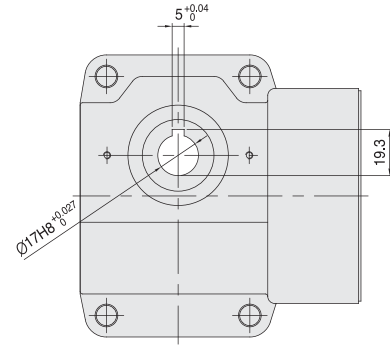
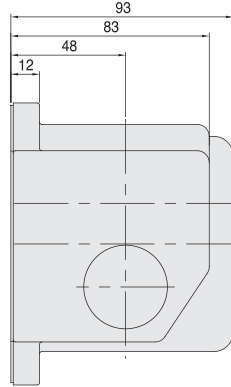
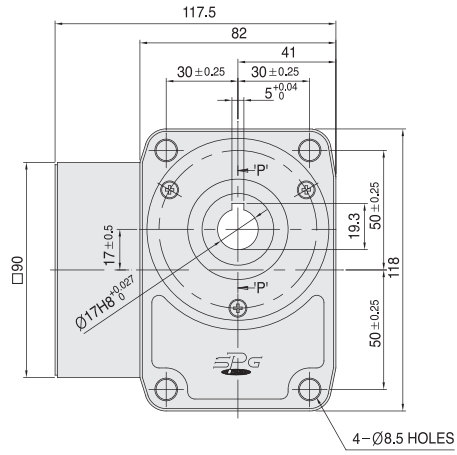
SECTION P P DETAIL OF OUTPUT SHAFT)

+ KEY SPEC



DIMENSIONS : HOLLOW SHAFT

SCHC □ e i h t : 2.)



SECTION P P DETAIL OF OUTPUT SHAFT)

+ KEY SPEC

