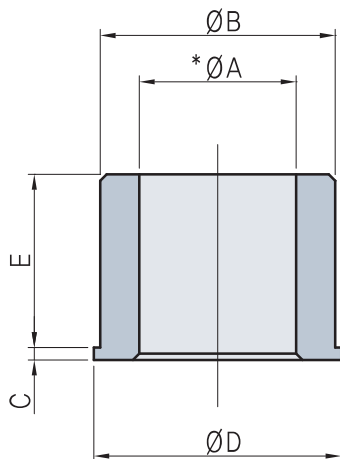


■ Adapter Bush (for Motor Shaft)



Dimension \ Model	42	60	90	115	142	180	220
* $\varnothing A$	5, 6, 6,35, 7	6,35, 8, 11, 12	8, 11, 12, 12,7, 14, 16	16, 19, 22, 24, 28	19, 22, 24, 28, 35	35, 42, 44, 45	35, 42, 45
$\varnothing B$	8	14	19	32	38	48	55
C	0,5	1	1	1	1	1	1
$\varnothing D$	9	15	20	33	39	49	56
E	8,5	14	14	19	19	21	27

$\varnothing A$: Optional dimension depending on type of motor shaft,
Shall verify prior to order placing.

Gearhead Selection

■ Check points for gearhead selection

Select Servo Motor

- ① Select motor manufacturer.
- ② Select the model.

Select Gearhead

- ① Select frame size.
- ② Select gear ratio.
- ③ Select backlash.

Check Specification of Servo Motor and Gearhead

- ① Check dimension
(CAD file can be downloaded from www.spg.co.kr)
- ② Check specification of gear ratio.
 - ▶ External load condition on the output shaft
(radial load(or O.H.L), thrust load)
 - ▶ Rated torque, stall torque
 - ▶ Rated rpm, max rpm
 - ▶ Inertia moment, Maximum load moment of output shaft
 - ▶ Weight
- ③ Check Specification of Servo Motor.
 - ▶ Rated output
 - ▶ Rated torque
 - ▶ Stall torque
 - ▶ Rated rpm
 - ▶ Max rpm
 - ▶ Rotor inertia...etc.

Other Check Points

- ① Check output torque on gearhead with the servo motor.
- ② Check if radial and/or thrust load of the assembling device is within the gearhead's tolerance range.
- ③ Check on backlash of the gearhead .
- ④ Check on operating condition (temperature, humidity, cleanness, etc.,)

※ A planetary gearhead is designed under an assumption that its working load is run on an ideal and constant load condition. Therefore, select an appropriate product in consideration of a load factor if a working load is in change.

Gearhead Selection

■ Selecting a gearhead <1-a> Simple selection by servo motor capacity and gear ratio (based on Rated input speed 3,000rpm motor)

Ratio Motor Capa.	3	5	10	20	30	40	50	81	100
50W									
100W	SPI□ / SPL□ 042								
200W									
400W	SPI□ / SPL□ 060								
750W									
1,000W									
1,500W	SPI□ / SPL□ 090								
2,000W									
3,000W									
4,000W	SPI□ / SPL□ 115								
5,000W									
6,000W									
7,000W	SPIH / SPLH 142								
8,000W									
11,000W									
12,000W	SPIH / SPLH 180								
15,000W									
22,000W	SPIH / SPLH 220								

■ Selecting a gearhead <1-b> Simple selection by servo motor capacity and gear ratio (based on Rated input speed 2,000rpm motor)

Ratio Motor Capa.	3	5	10	20	30	40	50	81	100
50W									
100W	SPI□ / SPL□ 042								
200W									
400W	SPI□ / SPL□ 060								
750W									
1,000W									
1,500W	SPI□ / SPL□ 090								
2,000W									
3,000W	SPI□ / SPL□ 115								
4,000W									
5,000W									
6,000W	SPIH / SPLH 142								
7,000W									
8,000W									
11,000W	SPIH / SPLH 180								
12,000W									
15,000W									
22,000W	SPIH / SPLH 220								

Note) 1. 「Selecting a gearhead <1-a> & <1-b>」 are the reference for simple selection of a gearhead. See 「Selecting a gearhead <2>」 for more accurate selection.

2. Select a gearhead within the range (rated torque X gear ratio X efficiency of servo motor <rated torque of gearhead)

3. Above selection tables refer till 1/50 gear ratio. If in need of the gear ratio above 1/50, contact us for further information and if possible, raise frame size of gearhead by upper one size.

Gearhead Selection

How to select a gearhead (2) For selection considering operation conditions

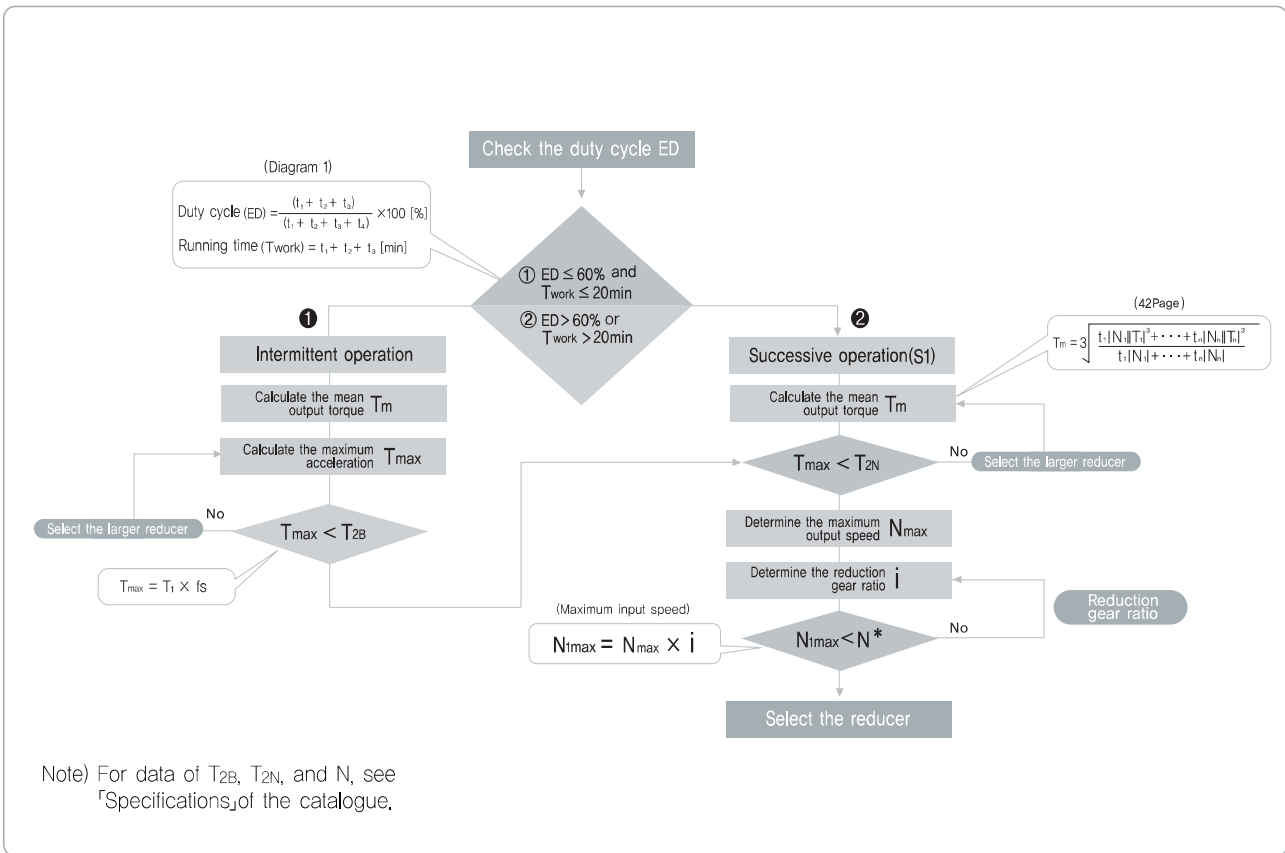
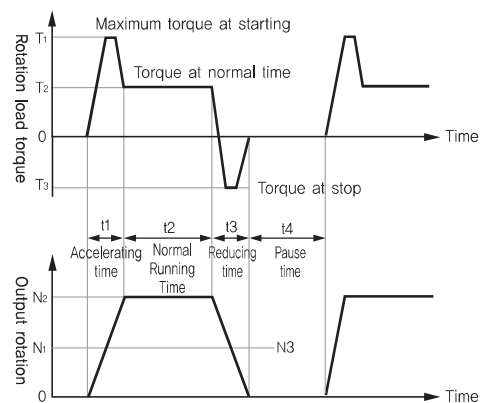


Table 1 f_s Table of factors

Number of Cycles/hr	f _s *
0~1,000	1
1,000~1,500	1.1
1,500~2,000	1.25
2,000~3,000	1.55
3,000~5,000	1.83

Note) f_s (shock factor) : Shock factor

Diagram 1 Load Cycle's line graph



A list of applicable servo motors by gearhead specification

■ A list of applicable servo motors by specification

Servo Motor Brand Frame Size of Gearheads	Higens	LS Mecapion	Mitsubishi	Panasonic
SPI(H) 042 SPIFH 042 SPL(H) 042 SPLFH 042	FMA-CKZ5	APM-SAR3A	HC-KFS053(B)	MSMD5AZP1□
	FMA-CK01	APM-SAR5A	HC-KFS13(B)	MSMD5AZS1□
		APM-SA01A	HC-MFS053(B)	MSMD01□P1□
			HC-MFS13(B)	MSMD01□S1□
SPI(H) 060 SPIFH 060 SPL(H) 060 SPLFH 060	FMA-CK02	APM-SB01A	HC-KFS23(B)	MAMA022P1□, S1□
	FMA-CK04	APM-SB02A	HC-KFS43(B)	MAMA042P1□, S1□
	FMA-CN01	APM-SB04A	HC-KFS-46	MSMD02□P1□, S1□
	FMA-CN02		HC-KFS-410	MSMD04□P1□, S1□
	FMA-CN03, 04, 05		HC-MFS23(B)	MQMA01□P1□, S1□
SPI(H) 090 SPIFH 090 SPL(H) 090 SPLFH 090			HC-MFS43(B)	
	FMA-CN04A	APM-SC04A	HC-KFS73(B)	MAMA082P1□, S1□
	FMA-CN06	APM-SC06A	HC-MFS73(B)	MSMD08□P1□, S1□
	FMA-CN08	APM-SC08A	HC-UFS-23(B)	MQMA02□P1□, S1□
	FMA-CN10	APM-SC10A	HC-UFS-43(B)	MQMA04□P1□, S1□
SPI(H) 115 SPIFH 115 SPL(H) 115 SPLFH 115	FMA-KN03, 05, 06, 07	APM-SC03, 05, 06, 07D		
	FMA-CN09, 15, 22, 30	APM-SE09A, 15A	HC-LFS-52(B)	MSMA302P1□, S1□
	FMA-KN06A, 11, 16, 22	APM-SE22A, 30A	HC-LFS-102, 152(B)	MSMA402P1□, S1□
	FMA-TN05, 09, 13, 17	APM-SE06D, 11D	HC-SFS-81, 52(B)	MSMA502P1□, S1□
	FMA-LN03, 06, 09, 12	APM-SE16D, 22D	HC-SFS-102, 152(B)	MDMA102P1□, S1□
	FMA-KF08, 10, 15	APM-SE05G, 09G	HC-SFS-53, 103(B)	MDMA152P1□, S1□
	FMA-TF05, 09, 13	APM-SE13G, 17G	HC-SFS-153(B)	MDMA202P1□, S1□
	FMA-LF03, 06, 09	APM-SE03M, 06M	HC-SFS-524(B)	MDMA302P1□, S1□
		APM-SE09M, 12M	HC-SFS-1024(B)	MGMA092P1□, S1□
			HC-SFS-1524(B)	MFMA042P1□, S1□
SPIH 142 SPIFH 142 SPLH 142 SPLFH 142 (1 Stage)			HC-RFS-353(B)	MHMA052P1□, S1□
			HC-RFS-503(B)	MHMA102P1□, S1□
			HC-UFS-73(B)	MHMA152P1□, S1□
	FMA-CN30A, 50A	APM-SF30A, 50A	HC-LFS-202, 302(B)	MGMA202P1, S1□
	FMA-KN22A, 35	APM-SF22D, 35D	HC-SFS-121(B)	MGMA302P1, S1□
	FMA-TN20, 30	APM-SF20G, 30G	HC-SFS-201, 202(B)	MFMA152P1, S1□
	FMA-LN12A, 20, 30	APM-SF12M, 20M	HC-SFS-203(B)	MHMA202P1, S1□
SPIH 180 SPIFH 180 SPLH 180 SPLFH 180 (1단)	FMA-KF22, 35		HC-SFS-301, 352, 353(B)	MHMA402P1, S1□
	FMA-TF20, 30		HC-SFS-2024(B)	
	FMA-LF12, 20, 30		HC-SFS-3524(B)	
			HC-UFS-72, 152(B)	
SPIH 220 SPIFH 220 SPLH 220 SPLFH 220 (1단)				
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SPIH 220 SPIFH 220 SPLH 220 SPLFH 220 (1단)				
SPIH 220 SPIFH 2				

Rockwell	Sanyo	Yaskawa	Fuji
CSMT-A3□□,A5□□,01□□	Q1AA04003D,005D	SGMAH-A3, A5, 01A	GYS500DCI-S8B (B)
SMZ-A3□□,A5□□,01□□	Q1AA04010D	SGMAH-A3, A5, 01B	GYS101DCI-SB (B)
RSMZ-A3□□,A5□□,01□□	Q1EA04003D,005D	SGMAS-A5, 01, C2A	
RSMZ-A8□□	Q1EA04010D	SGMAV-01A, C2A	
	R2AA04003F,05F	SGMJV-A5, 01A	
	R2AA04010F	SJME-01A	
CSMT-02□□,04□□	Q1AA06020D	SGMAH-02A, 02B, 03D, 04A	GYS101DCI-SA (B)
CSMR-01□□	Q2AA06040D	SGMAS-02, 04, 06A	GYS201DCI-SA (B)
CSMZ-02□□,04□□	Q1EA06020D	SGMAV-02, 04, 06A	GYS401DCI-SA (B)
CSMQ-01□□	R2AA06010F	SGMJV-02, 04A	
RSMZ-02□□,04□□	R2AA06020F	SGMPH-01A, 01B	
RSMZ-06□□,08□□,10□□	R2AA06040F	SGMPS-01A	
RSMQ-01□□		SJME-02, 04A	
CSMT-06□□,08□□	Q1AA07075D	SGMAH-07D, 08A	GYC201DCI-SA (B)
CSMR-02□□,04□□	Q2AA07020D	SGMAV-08, 12A	GYC401DCI-SA (B)
CSMZ-07□□	Q2AA07030D	SGMAV-08, 10A	GYS751DCI-SA (B)
CSMQ-02, 04□□	Q2AA07040D	SGMGV-03A, 03D, 05A, 05D	
RSMQ-02, 04□□	Q2AA07050D	SGMJV-08A	
	Q2EA07020D	SGMPS-02, 04A	
	R2AA08020F,40F,75F	SGMSH-10, 15, 20A(D)	
CSMD-07,10,15,20,25,30□□	Q1AA13300D	SGMGH-03, 05, 06, 09, 13A(D)	GYC102DCI-SA (B)
CSMS-30,35,40,45,50□□	Q1AA13400D	SGMGV-09, 13, 20A(D)	GYC152DCI-SA (B)
CSMH-05,10,15□□	Q1AA13500D	SGMPH-08, 15A(D)	GYC202DCI-SA (B)
CSMF-04□□	Q2AA13050H	SGMPS-08, 15A	GYA501BCI-SA (B)
CSMK-03,06,09□□	Q2AA13100H	SGMSH-30, 40, 50A(D)	GYA152BCI-SA (B)
RSMD-08,10,15,20,25,30□□	Q2AA13150H	SGMSS-30, 40, 50, 70A	GYA252BCI-SA (B)
RSMH-05,10,15□□	Q2AA13200H	SGMSV-30, 40, 50A(D)	GYS302DCI-SA (B)
RSMS-30,35,40,45,50□□	Q2CA13200H		GYS402DCI-SA (B)
RSMF-04□□			GYS502DCI-SA (B)
RSMK-03,06,09□□			
RSML-03,06,09□□			
CSMH-20, 30, 40□□	Q2AA18200H	SGMGH-12, 20, 30A(D)	
CSMF-08, 15□□	Q2CA18350H	SGMGV-30A, D	
CSMK-12, 20, 30□□	Q2AA18350H		
RSMD-35, 40□□			
RSMH-20, 30, 40□□			
RSMF-08, 15□□			
RSMK-12, 20, 30□□			
RSML-12, 30□□			
CSMD-45, 50□□	Q1AA18450M	SGMGH-40, 44, 55, 75A	
CSMH-50□□	Q1AA18350H	SGMGH-44, 55, 75D	
CSMK-45, 60□□	Q2AA18450H	SGMGV-44, 55, 75A	
RSMD-45, 50□□	Q2AA18550R	SGMGV-44D	
RSMH-50□□	Q2AA18550H		
RSMK-45, 60□□	Q2AA18450L		
RSML-45, 60□□	Q2CA18450H		
CSMF-25,35,45□□	Q2AA22250H,Q22AA22350H	SGMDH-22, 32, 40A	
RSMF-25,35,45□□	Q2AA22450R	SGMDH-1AA, 1AD, 1EA, 1ED	
	Q2AA22550B	SGMGV-1AA, 1EA	
	Q2AA22700S		
	Q2AA2211KV,Q2AA2215KV		
	Q2CA22550H, Q2CA22700H		