Screw cylinder Code

■ Product code

NO.	Designation	Code	Discription
1	Size	SJM3, SJM4, SJM5	
2	Ratio	6:1 / 24:1	for SJM3
		7:1 / 28:1	for SJM4
		9:1 / 36:1	for SJM5
3	Type of spindle	T	Trapezoidal screw
		K	Ball screw
4	Spindle dimension		ex. 3205 = diameter 30mm, lead 5mm
5	Stroke		
6	Front Pivot	RB	Rod end Bearing
		FP	Front Pivot including RB
		FB	Front Base
		1	According to specification, description or drawing
7	Rear Pivot	RP	Rear Pivot
		0	None
8	Shaft end	A	Shaft end on side LEFT
		B	Shaft end on side RIGHT
		0	On both side LEFT, RIGHT
9	Hinge	nH	Hinge (n = 1 2 3 …)
		0	None
10	Special requirements	0	None
		1	According to specification, description or drawing

Order code example) 4 x SJM3- 24 – K2510 – 250 - 1 – 0 – 0 – 0 - 0

■ Technical table

SJM3

Rated power (kN)	25		21.5	33.4	29.7
Size of spindle	Tr 30x6		KGS 32x5	KGS 32x10	KGS 32x20
Gear Ratio	6:1	24:1	6:1		24:1
Efficiency (%)	29	23	55		43
Input Max torque (Nm)	18				
Bevel ratio	2:1 ~ 6:1				
Duty	< 10% / hr		< 30% / hour		
Grease	GS-Golden pearl 2		For ball screw		

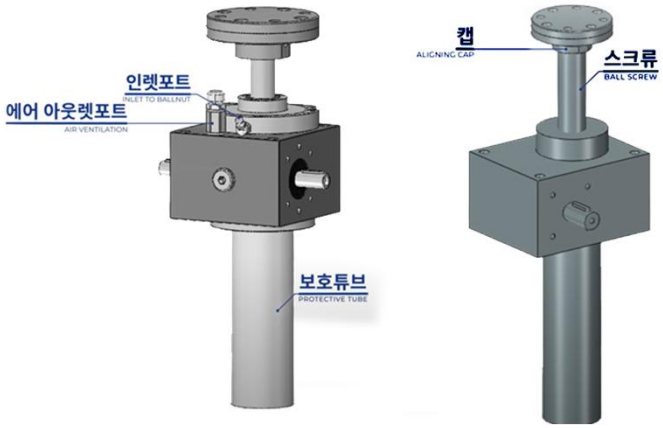
SJM4

Rated power (kN)	50		23.8	38	33.3
Size of spindle	Tr 40x7		KGS 40X5	KGS 40X10	KGS 40X20
Gear Ratio	7:1	28:1	7:1		28:1
Efficiency (%)	26	21	53		43
Input Max torque (Nm)	38				
Bevel ratio	2:1 ~ 6:1				
Duty	< 10% / hr		< 30% / hour		
Grease	GS-Golden pearl 2		For ball screw		

SJM5

Rated power (kN)	100		68.7	60
Size of spindle	Tr 55x9		KGS 50X10	KGS 50X20
Gear Ratio	9:1	36:1	9:1	36:1
Efficiency (%)	24	19	47	37
Input Max torque (Nm)	93			
Bevel ratio	2:1 ~ 6:1			
Duty	< 10% / hr		< 30% / hour	
Grease	GS-Golden pearl 2		For ball screw	

■ 편하중허용과 높이보정 볼스크류잭 SJT Series



■ Product code

NO.	Designation	Code	Discription
1	Product series	SJ	
2	Design	T	Traveling Screw
		R	Traveling Nut
3	Size	30	
		40	
		55	
4	Ratio	1:05	Fast
		1:10	Normal
		1:30	Slow
5	Type of spindle	T	Trapezoidal screw
		K	Ball screw
		KH	High load ball screw
6	Spindle dimension		ex. 3205 = diameter 30mm, lead 5mm
7	Stroke		Specification of the stroke length
8	Thread length		Thread length at full stroke
9	Grease Nipple	NP	Nut plug for grease inlet for ball screw
		0	None for Tr screw
10	Spindle cover	0	None
		BL	With bellows
		SC	Spiral cover
11	Spindle end	0	None
		BP	With Base Plate
		ABP	With Aligning Base Plate
12	Anti-unscrewing device	0	None
		AS	Stop collar
13	Shaft end	A	Shaft end on side LEFT
		B	Shaft end on side RIGHT
		0	On both side LEFT, RIGHT
14	Special requirments	0	None
		1	Screw end machining and other on request

SJT40-1:10-KH40X20-140-290-NP-BL-ABP-AS-0-1

■ Preselection table

SJT 20

Rated power (kN)	10			10.5		11.6
Size of spindle	Tr 20x4			KGS 20x05		KGS 20x20
Gear Ratio	1 : 5	1 : 10.5	1 : 30	1:5	1:10.5	1:30
Efficiency (%)	0.32	0.29	0.21	0.6	0.51	0.36
Max driving torque in input shaft (Nm)	7.1					
Grease	NEFF GREASE 2, NEFF FOOD GREASE 2			NEFF Grease 2/3, Agip GR SLL 00, AFF		
Relubrication cycle	Dozens times			Min. 3months		
Relubrication position	Tr screw			Nipple to inlet to Ball nut		

SJT 30

Rated power (kN)	25			33.4		29.7
Size of spindle	Tr 30x6			KGS 32x10		KGS 32x20
Gear Ratio	1:5	1:10	1:30	1:5	1:10	1:30
Efficiency (%)	0.32	0.27	0.19	0.6	0.51	0.36
Max driving torque in input shaft (Nm)	18					
Grease	NEFF GREASE 2, NEFF FOOD GREASE 2			NEFF Grease 2/3, Agip GR SLL 00, AFF		
Relubrication cycle	Dozens times			Min. 3months		
Relubrication position	Tr screw			Nipple to inlet to Ball nut		

SJT 40

Rated power (kN)	50			38		33.3
Size of spindle	Tr 40x7			KGS 40x10		KGS 40x20
Gear Ratio	1:5	1:10	1:30	1:5	1:10	1:30
Efficiency (%)	0.29	0.26	0.19	0.6	0.51	0.36
Max driving torque in input shaft (Nm)	38					
Grease	NEFF GREASE 2, NEFF FOOD GREASE 2			NEFF Grease 2/3, Agip GR SLL 00, AFF		
Relubrication cycle	Dozens times			Min. 3months		
Relubrication position	Tr screw			Nipple to inlet to Ball nut		

SJT 55

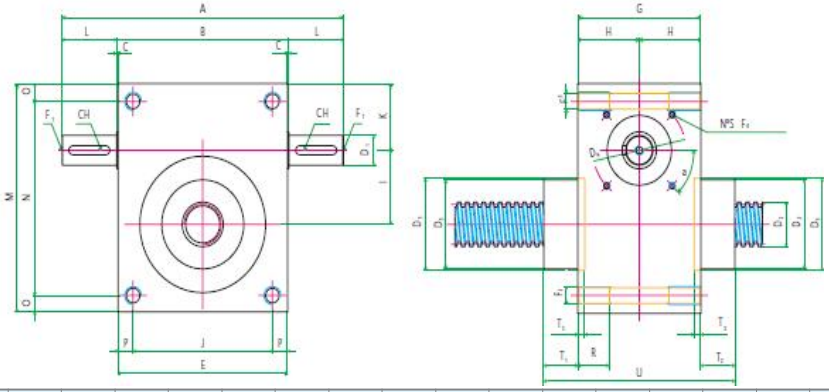
Rated power (kN)	100			68.7		76
Size of spindle	Tr 55x9			KGS 50x10		KGS 50x20
Gear Ratio	1:5	1:10	1:30	1:05	1:10	1:30
Efficiency (%)	0.26	0.22	0.18	0.6	0.51	0.36
Max driving torque in input shaft (Nm)	93					
Grease	NEFF GREASE 2, NEFF FOOD GREASE 2			NEFF Grease 2/3, Agip GR SLL 00, AFF		
Relubrication cycle	Dozens times			Min. 3months		
Relubrication position	Tr screw			Nipple to inlet to Ball nut		

SJT 70

Rated power (kN)	200			76		130 *
Size of spindle	Tr 70x10			KGS 63x10		KGS 63x20
Gear Ratio	1:5.2	1:10	1:30	1:5.2	1:10	1:30
Efficiency (%)	0.23	0.21	0.14	0.6	0.51	0.36
Max driving torque in input shaft (Nm)	148					
Grease	NEFF GREASE 2, NEFF FOOD GREASE 2			NEFF Grease 2/3, Agip GR SLL 00, AFF		
Relubrication cycle	Dozens times			Min. 3months		
Relubrication position	Tr screw			Nipple to inlet to Ball nut		

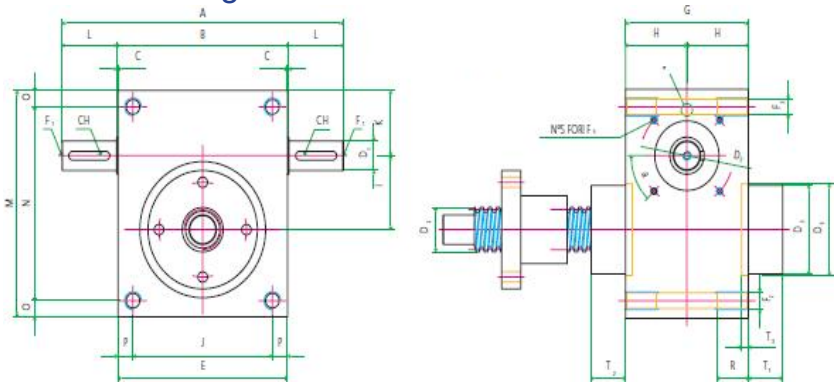
Dimension

■ Worm housing for SJT



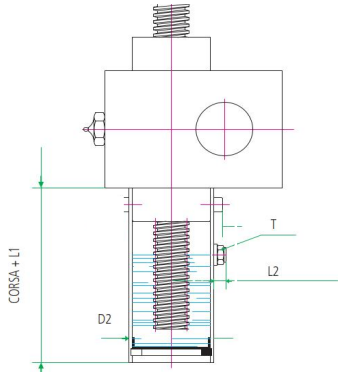
Size	A	B	C	D	D	D2	D3	D4	E	F1	F2	F3	F4	G	H	U
18	118	70	-	9	18x3	30	-	-	M4x8	M10	8.5	-	50	50	25	75
20	150	100	-	12	20x4	44	52	-	M4x8	M10	8.5	M5x10	70	70	35	110
30	206	126	-	20	30x6	60	68	-	M6x12	M12	10.5	M6x12	90	90	45	140
40	270	160	-	25	40x7	69	70	70	M8x16	M14	12.5	M8x16	120	120	60	190
55	270	170	-	25	55x9	90	70	90	M8x16	M20	17.5	M8x16	150	150	75	230
70	350	230	-	30	70x10	120	74	120	M10x18	M30	26.5	M8x15	176	176	88	256
80	350	230	-	30	80x10	120	74	120	M10x18	M30	26.5	M8x15	176	176	88	256

■ Worm housing for SJR



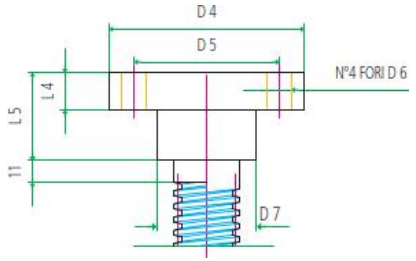
Size	K	I	J	L	M	N	O	P	R	S	T1	T2	T3	a	CH
18	29	30	56	24	94	80	7	7	15	-	10	15	-	-	3x3x15
20	32.5	30	80	25	100	85	7.5	10	15	4	20	20	-	45°	4x4x20
30	45	50	102	40	155	131	12	12	20	4	25	25	-	45°	6x6x30
40	50	70	130	55	195	165	15	15	25	5*	35	35	7	30°	8x7x40
55	63	70	134	50	211	175	18	18	30	6	40	40	10	60°	8x7x40
70	75	90	180	60	280	230	25	25	45	6	40	40	10	60°	8x7x50
80	75	90	180	60	280	230	25	25	45	6	40	40	10	60°	8x7x50

■ Al cover



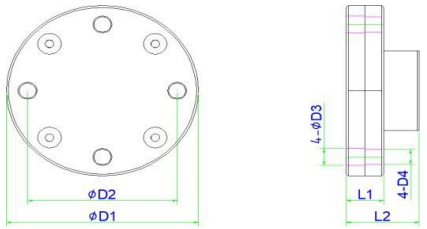
	SJT30	SJT40	SJT55
D2	65	69	95
L1	45	45	55

■ BP - Base Plate



	SJT30	SJT40	SJT55
D4	89	109	149
D5	67	85	117
D6	11	13	17
D7	46	60	85
L4	10	15	20
L5	23	30	50

■ ABP - Aligning Base Plate



※공통 사항 : 요청 또는 필요에 따른 칫수 변경 가능

	SJT30	SJT40	SJT55
D1	90	110	130
D2	70	85	100
D3	9	12	14
D4	M8	M10	M12
L1	17.7	22	30
L2	34.4	43	55

Calculations

Formular

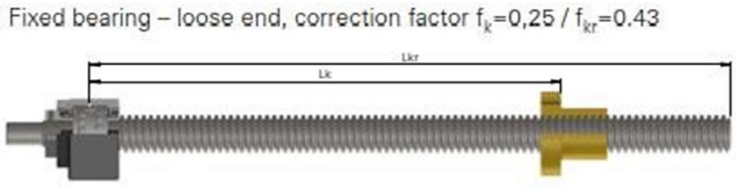
$$F_k = \frac{{d_2}^4}{{L_k}^2} * 10^5 / 1000$$

$$F_{zul} = F_k \cdot f_k \cdot \frac{1}{S_f}$$

Symbols

Fk :	Theoretically critical buckling force in [kN]
$Fzul$:	Maximum permissible axial force in [kN]
f_k :	Correction factor that takes into account the type of spindle bearing
d_2 :	Core diameter of the spindle [mm]
L_k :	Unsupported length on which the force acts on the spindle [mm]
S_f :	Safety factor (specified by the user)

SJT - Types of bearing Bearing case I



Example 1) SJT40-1:10-T40X07-640-750-NP-BL-ABP-AS-0-1

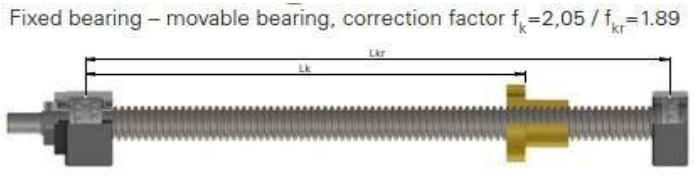
Screw : Le Tr 40x07
ngth : 900 mm

d2 : 30.5
Lk : 900
S_f : 2

$$F_k = \frac{{d_2}^4}{{L_k}^2} * 10^5 / 1000 = \frac{30.5^4}{900^2} * 10^5 / 1000 = 106.84 \text{ [kN]}$$

$$F_{zul} = F_k * f_k * \frac{1}{S_f} = 106.84 * 0.25 * \frac{1}{2} = 13.36 \text{ [kN]}$$

SJR - Types of bearing Bearing case III



Example 2) SJR55-1:30-T55x09-1100-1716-0-0-0-0-0-FK30

Screw : Le Tr55x09
ngth : 1800

d2 : 43.6
Lk : 1800
S : 2

$$F_k = \frac{{d_2}^4}{{L_k}^2} * 10^5 / 1000 = \frac{43.6^4}{1800^2} * 10^5 / 1000 = 111.53 \text{ [kN]}$$

$$F_{zul} = F_k * f_k * \frac{1}{S} = 111.53 * 2.05 * \frac{1}{2} = 114.31 \text{ [kN]}$$

Example 3)

SJR40-1:30-T40X07-1032-1701-0-0-0-0-0-FK25

Specification of equipment :

Weight : 6,000 kg St
roke : 1,032 mm Sp
eed : 7 mm/s

F_{ax} = Weight * 9.8 m/s^2 = 6,000 kg * 9.8 = 58,800 N
P = 7 mm
η = 0.19

Required drive torque [Nm]

$$M_d = \frac{F_{ax} * P}{2000 * \pi * \eta_A * i} = \frac{58{,}800 * 7}{2000 * 3.14 * 0.19 * 30} = 11.49 \text{ Nm}$$

Required drive power [KW]

$$P_a = \frac{M_d * n}{9550} = \frac{11.49 * 2000}{9550} = 2.4 \text{ kW}$$