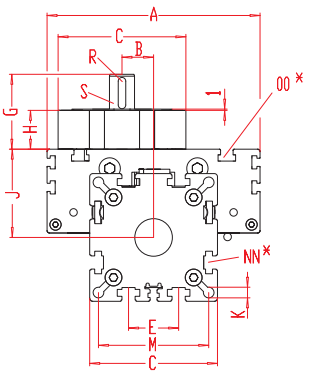
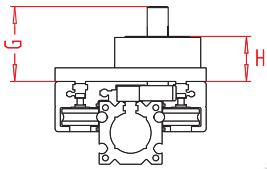
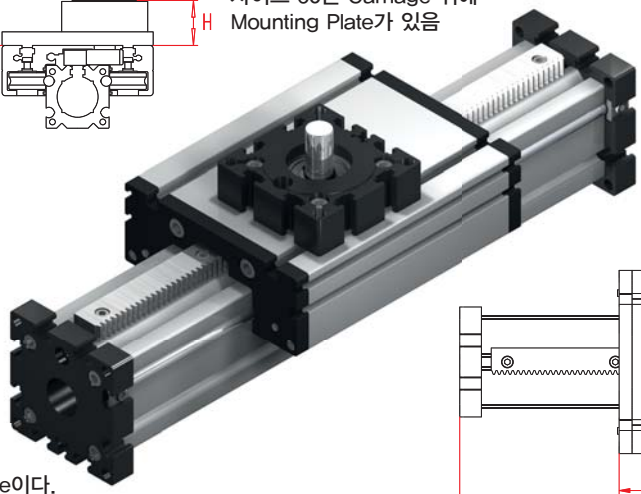
Positioning system ELZQ 60, 80, 80S

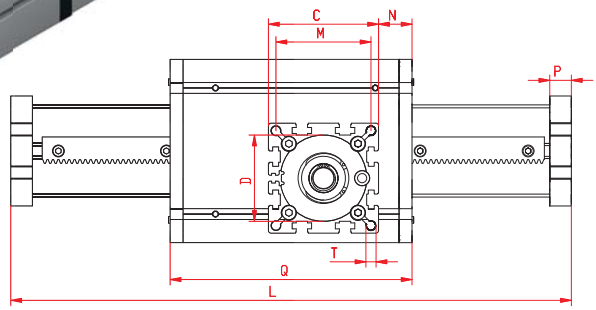
Dimensions (mm)





사이즈 60은 Carriage 위에
Mounting Plate가 있음





Carriage 길이를 증가시키면 같은 길이면
같은 길이만큼 Basic length가 늘어난다.
전체 unit의 길이는 Basic length + Stroke이다.

*슬라이드 너트에 대해서는 Chapter 2.2 페이지2

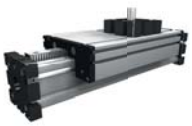
Size r	Basic length L	A	B	C	D Ø ±0,05	E	G	H	J	K	M	N	NN for	OO for	P	Q	T	Basic weight	Weight per 100 mm
ELZQ 60	230	144	25,5	82	62	30	71,5	42	49	8,5	69	19	M 8	M 8	16	194	M 10	5,0 kg	0,68 kg
ELZQ 80	260	170	25,5	102	80	40	60,5	31	70	8,5	88	25	M 10	M 10	20	214	M 10	11,0 kg	1,19 kg
ELZQ 80S	280	190	25,5	102	80	40	60,5	31	71	8,5	88	13	M 10	M 8	20	234	M 10	12,0 Kg	1,19 kg

0 **Choice of guide body profile (가이드 바디 프로파일 선정):**
(0) Standard (기본형)
(2) corrosion-protected guide rods and screws (부식 방지 처리된 가이드 로드와 스크류)
(4) expanded corrosion-protected version (추가적인 부식 방지 처리(적용 가능한 요소품에 한함))

0 **Choice of carriages (Carriage 선정):**

(0)

(1)

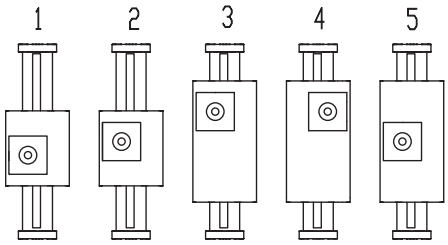


(2)

(3)

Size	Version 1		Version 2		Version 3	
	Q	L	Q	L	Q	L
60	338	374	210	246	354	390
80	384	430	230	276	400	446
80S	404	450	254	300	420	466

1 **Drive version (드라이브 버전):**



Size r	Shaft ø h6 x length	Key	Pinion	
			mm/rev.	Modul
60	20 x 29,5	6x6x25	100	1,6
80 (S)	20 x 29,5	6x6x25	100	1,6

0 **Rack and pinion accuracy (랙 & 피니언 정밀도):**

(0) h7 (standard) **(1)** h6 (hardened and ground, finely toothed)

1500 Basic length + stroke = total length

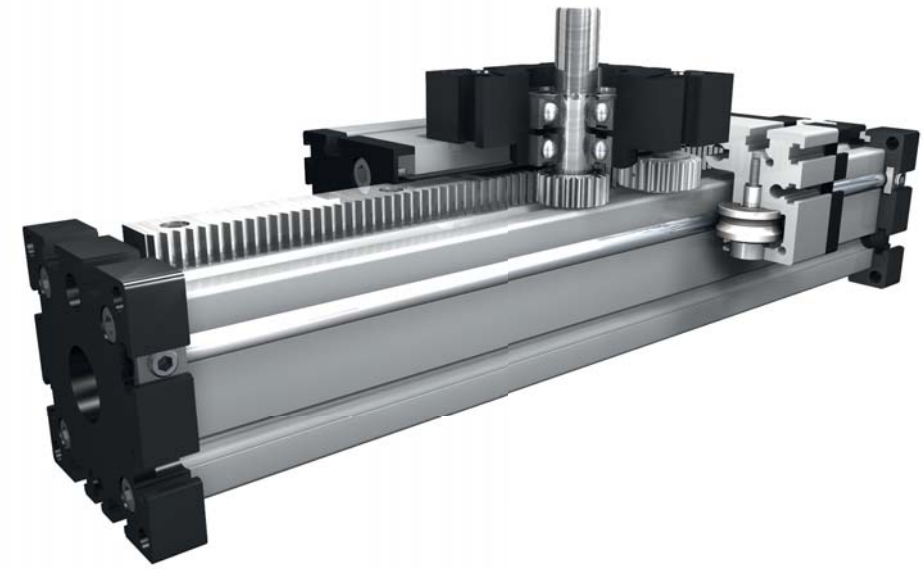
ELZQ	60	0	0	0	1	0	2	0	01500
	Pos. 1	2	3	4	5	6	7		

조합 키트와 연결 부품은 Chapter 2.2 를 참조하시오.

Sample ordering code (주문 예):
ELZQ 60 with standard body profle , standard carriage, position of drive 1, rack and pinion accuracy class h7, 1270 mm stroke

Positioning system ELZQ 60, 80, 80S

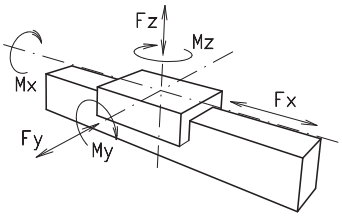
Rack and pinion drive



기능 (Function) :
이 Unit은 랙 & 피니언에 의해 구동 되어지며, Carriage는 예압 조정 가능한 편심 롤러에 의해 두개의 열처리된 연삭 봉을 따라 이동한다.
피니언은 유지보수가 필요 없는 고강성 베어링을 함께 사용하며 기어는 톱니바퀴 모양의 벨트기어(양모 재질의 기어)에 의해 윤활된다.
랙 & 피니언 시스템은 주로 높은 동작 서보 구동과 리프팅 장치에 적합하다.

사용 가능 길이 : 고객 요청에 따름. Joint 없이 사용시 최대 길이 6,000mm
Carriage 마운팅 : T-slot에 의해
Unit 마운팅 : 베어링 블록, 마운팅 세트 안의 T-slot 또는 탭 홀에 의해
랙 형태 : C153 ; h6 = 열처리 & 연삭, h7 = 일반 치차. 반복오차 ± 0,1 mm

Forces and torques



Size	ELZQ 60 h6		ELZQ 60 h7		ELZQ 80 h6		ELZQ 80 h7		ELZQ 80S h6		ELZQ 80S h7	
Forces/Torques	static	dynamic	static	dynamic	static	dynamic	static	dynamic	static	dynamic	static	dynamic
F_x (N)	1800	1400	940	780	1800	1400	940	780	1800	1400	940	780
F_y (N)	3000	2000	3000	2000	3000	2000	3000	2000	4600	3600	4600	3600
F_z (N)	1700	1100	1700	1100	1700	1100	1700	1100	3000	1800	3000	1800
M_x (Nm)	67	43	67	43	90	55	90	55	170	140	170	140
M_y (Nm)	90	70	90	70	110	80	110	80	270	230	270	230
M_z (Nm)	120	100	120	100	150	120	150	120	300	220	300	220

All forces and torques related to the following:
existing values / table values

$$\frac{Fy}{Fy_{dyn}} + \frac{Fz}{Fz_{dyn}} + \frac{Mx}{Mx_{dyn}} + \frac{My}{My_{dyn}} + \frac{Mz}{Mz_{dyn}} \leq 1$$

Speed						
(m/s) max	4	4	4	4	4	4
Geometrical moments of inertia of aluminium profile						
I_x mm⁴	$6{,}79 \times 10^5$	$6{,}79 \times 10^5$	$18{,}99 \times 10^5$	$18{,}99 \times 10^5$	$18{,}99 \times 10^5$	$18{,}99 \times 10^5$
I_y mm⁴	$6{,}97 \times 10^5$	$6{,}97 \times 10^5$	$18{,}97 \times 10^5$	$18{,}97 \times 10^5$	$18{,}97 \times 10^5$	$18{,}97 \times 10^5$
E-Modulus N/mm²	70000	70000	70000	70000	70000	70000

롤러의 수명계산은 홈페이지를 참조하시오.

Driving torque :

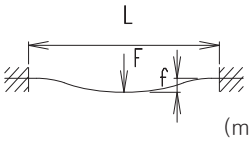
$$M_a = \frac{F * P * S_i * w}{2000 * \pi} + M_{leer}$$

$$P_a = \frac{M_a * n}{9550}$$

F	= force (작용하중)	(N)
P	= pulley action perimeter (PCD)	(mm)
S_i	= safety factor 1,2...2 (안전계수)	
M_{leer}	= no-load torque(무부하시 필요 토크)	(Nm)
n	= rpm pulley (회전수)	(min^{-1})
M_a	= driving torque(구동토크)	(Nm)
μ	= screw efficiency (스크류의 효율)	
P	= motor power (모터동력)	(KW)

Deflection

$$f = \frac{F * L^3}{E * I * 192}$$



f=deflection (처짐량)	(mm)
F=load (하중)	(N)
L=free length (지지거리)	(mm)
E=elastic modulus 70000 (탄성계수)	(N/mm²)
I= second moment of area (2차 단면계수)	(mm⁴)