TPM / TPCM

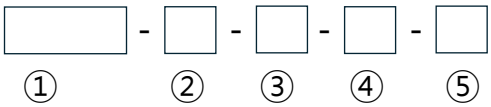
Guide Cylinder 가이드 실린더



특징(Features)

- 직경 ø12 ~ 63mm
- 스트로크 10 ~ 400mm
- 속도 30 ~ 500 mm/s
- 러버 쿠션(TPM), 에어 쿠션(TPCM)

주문코드



01	모델명
TPM	에어쿠션 없음
TPCM	에어쿠션 있음

02	실린더 직경 (mm)
12	12
16	16
20	20
25	25
32	32
40	40
50	50
63	63

03	스트로크 (mm)
10	10
20	20
.....	....
400	400

04	자석내장
S	자석 내장
무기호	없음

05	에어포트 나사산
무기호	G
T	PT
N	NPT

표준 스트로크

모델명	실린더 직경	스트로크 (mm)														
TPM	12/16	10	20	30	40	50	75	100	125	150	175	200	250			
	20/25		20	30	40	50	75	100	125	150	175	200	250	300	350	400
	32/40/50/63		25			50	75	100	125	150	175	200	250	300	350	400
TPCM	16		25			50	75	100	125	150	175	200	250			
	20/25/32/40/50/63		25			50	75	100	125	150	175	200	250	300	350	400

자주 사용하는 주문코드

모델명(러버쿠션)	모델명(러버쿠션)	모델명(에어쿠션)	모델명(에어쿠션)
TPM-12-20-S-T	TPM-32-25-S-T	-	TPCM-32-25-S-T
TPM-12-50-S-T	TPM-32-50-S-T	-	TPCM-32-50-S-T
TPM-12-100-S-T	TPM-32-100-S-T	-	TPCM-32-100-S-T
TPM-12-125-S-T	TPM-32-125-S-T	-	TPCM-32-125-S-T
TPM-12-150-S-T	TPM-32-150-S-T	-	TPCM-32-150-S-T
TPM-12-200-S-T	TPM-32-200-S-T	-	TPCM-32-200-S-T
TPM-12-250-S-T	TPM-32-250-S-T	-	TPCM-32-250-S-T
TPM-16-20-S-T	TPM-40-25-S-T	TPCM-16-25-S-T	TPCM-40-25-S-T
TPM-16-50-S-T	TPM-40-50-S-T	TPCM-16-50-S-T	TPCM-40-50-S-T
TPM-16-100-S-T	TPM-40-100-S-T	TPCM-16-100-S-T	TPCM-40-100-S-T
TPM-16-125-S-T	TPM-40-125-S-T	TPCM-16-125-S-T	TPCM-40-125-S-T
TPM-16-150-S-T	TPM-40-150-S-T	TPCM-16-150-S-T	TPCM-40-150-S-T
TPM-16-200-S-T	TPM-40-200-S-T	TPCM-16-200-S-T	TPCM-40-200-S-T
TPM-16-250-S-T	TPM-40-250-S-T	TPCM-16-250-S-T	TPCM-40-250-S-T
TPM-20-20-S-T	TPM-50-25-S-T	TPCM-20-25-S-T	TPCM-50-25-S-T
TPM-20-50-S-T	TPM-50-50-S-T	TPCM-20-50-S-T	TPCM-50-50-S-T
TPM-20-100-S-T	TPM-50-100-S-T	TPCM-20-100-S-T	TPCM-50-100-S-T
TPM-20-125-S-T	TPM-50-125-S-T	TPCM-20-125-S-T	TPCM-50-125-S-T
TPM-20-150-S-T	TPM-50-150-S-T	TPCM-20-150-S-T	TPCM-50-150-S-T
TPM-20-200-S-T	TPM-50-200-S-T	TPCM-20-200-S-T	TPCM-50-200-S-T
TPM-20-250-S-T	TPM-50-250-S-T	TPCM-20-250-S-T	TPCM-50-250-S-T
TPM-25-20-S-T	TPM-63-25-S-T	TPCM-25-25-S-T	TPCM-63-25-S-T
TPM-25-50-S-T	TPM-63-50-S-T	TPCM-25-50-S-T	TPCM-63-50-S-T
TPM-25-100-S-T	TPM-63-100-S-T	TPCM-25-100-S-T	TPCM-63-100-S-T
TPM-25-125-S-T	TPM-63-125-S-T	TPCM-25-125-S-T	TPCM-63-125-S-T
TPM-25-150-S-T	TPM-63-150-S-T	TPCM-25-150-S-T	TPCM-63-150-S-T
TPM-25-200-S-T	TPM-63-200-S-T	TPCM-25-200-S-T	TPCM-63-200-S-T
TPM-25-250-S-T	TPM-63-250-S-T	TPCM-25-250-S-T	TPCM-63-250-S-T

데이터 시트

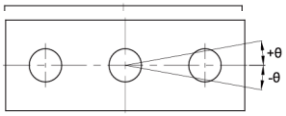
일반 기술 자료								
실린더 직경	12	16	20	25	32	40	50	63
공압 연결	M5	M5	1/8	1/8	1/8	1/8	1/4	1/4
작동 압력 (TPM)	0.05 ... 1.0 MPa							
작동 압력 (TPCM)	0.12 ... 1.0 MPa							
디자인	미끄럼 베어링 가이드 복동 실린더							
스트로크	10 ... 400 mm							
속도 범위	30 ... 500 mm/s							
쿠션	러버 쿠션 또는 에어 쿠션							
실린더 스트로크의 허용차	0...+1.5mm							

작동 및 환경 조건	
사용매체	압축공기
주위온도 및 사용유체온도	'-10 ~ +70°C

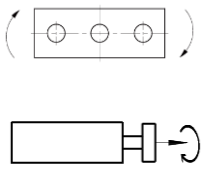
재질	
하우징	알루미늄 합금
피스톤 로드	스테인리스강 또는 탄소강 경질 크롬도금
가이드 로드	탄소강 경질 크롬도금
플레이트	탄소강 니켈도금
패킹	NBR

가이드 비틀림 백래시

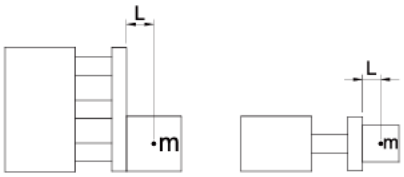
실린더 직경	12	16	20	25	32	40	50	63
평균 비틀림 백래시 θ	±0.04°	±0.04°	±0.03°	±0.03°	±0.02°	±0.02°	±0.02°	±0.02°



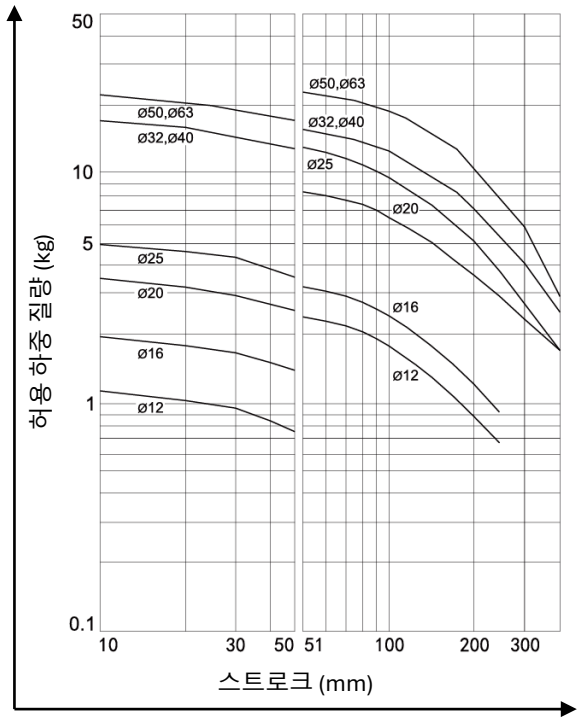
허용 토크 부하 M [Nm]

TPM/TPCM	실린더 직경	스트로크 (mm)														
		10	20	30	40	50	75	100	125	150	175	200	250	300	350	400
	12	0.39	0.32	0.27	0.24	0.21	0.43	0.36	0.31	0.27	0.24	0.22	0.19	-	-	-
	16	0.69	0.58	0.49	0.43	0.38	0.69	0.58	0.50	0.44	0.40	0.36	0.30	-	-	-
	20	-	1.05	0.93	0.93	0.75	1.88	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
	25	-	1.76	1.55	1.55	1.25	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
	32	-	-	-	-	5.13	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
	40	-	-	-	-	5.66	6.27	5.48	4.87	4.38	3.98	3.65	3.13	2.74	2.43	2.19
	50	-	-	-	-	10.8	12.0	10.6	9.50	8.60	7.86	7.24	6.24	5.49	4.90	4.43
	63	-	-	-	-	12.1	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99

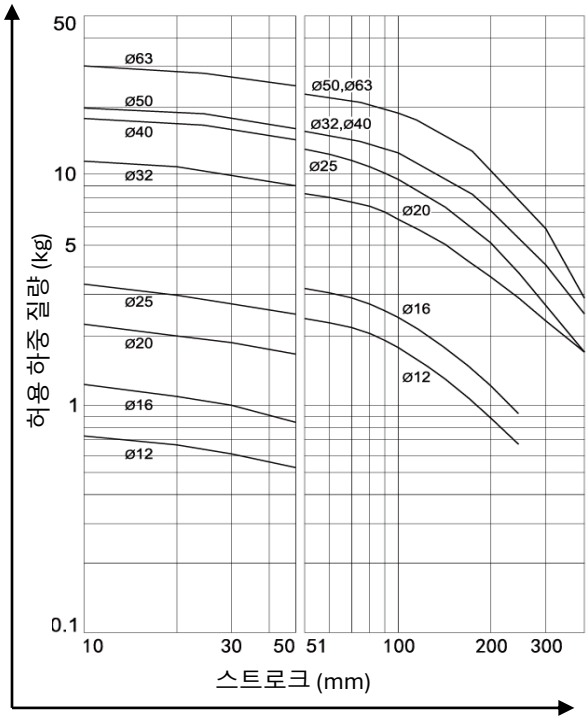
수평 설치 시 하용 하중



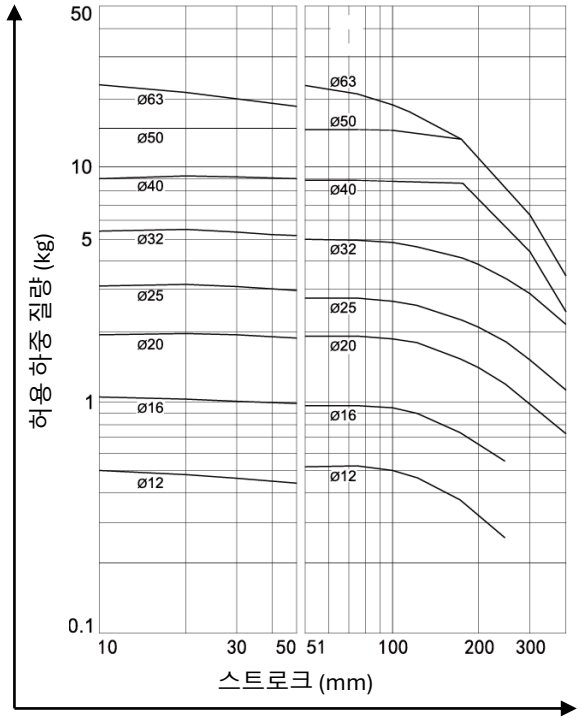
편심 거리 L =50mm, 속도 V=200mm/s



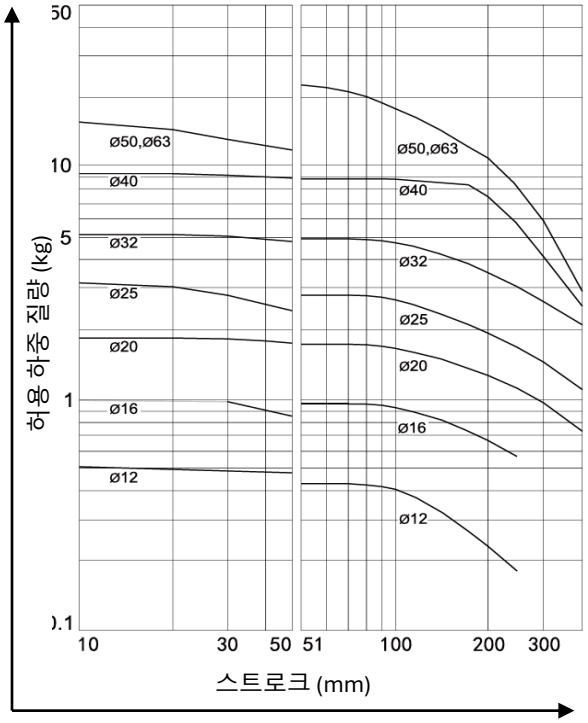
편심 거리 L =100mm, 속도 V=200mm/s



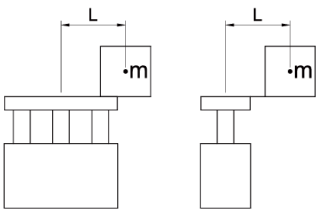
편심 거리 L =50mm, 속도 V=400mm/s



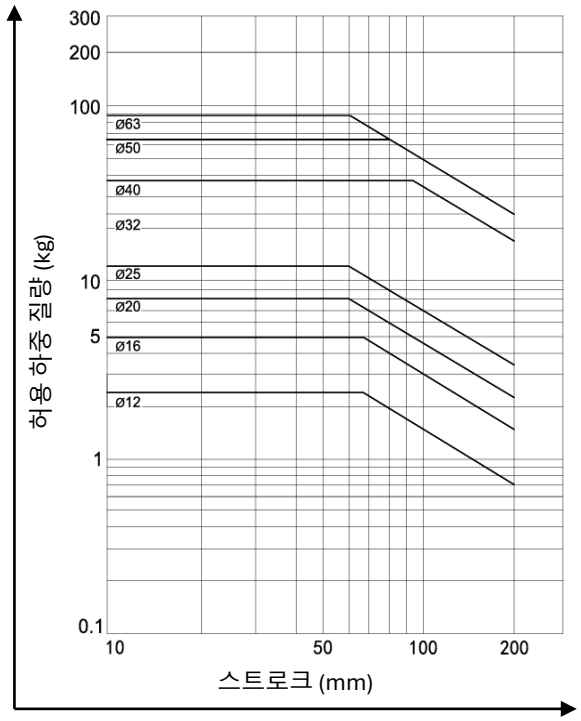
편심 거리 L =100mm, 속도 V=400mm/s



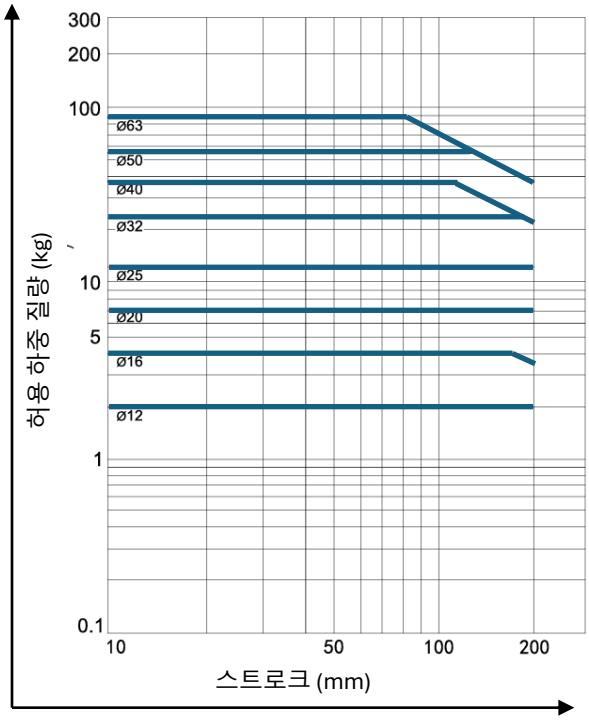
수직설치 시 하용 하중



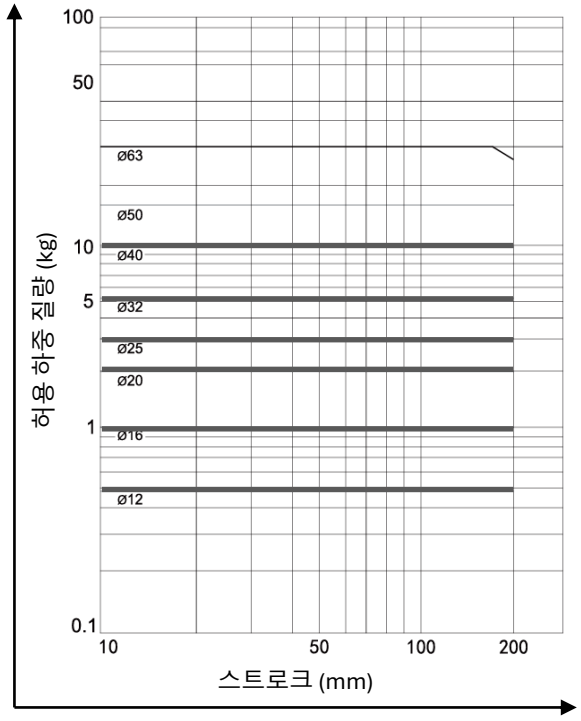
편심 거리 L =50mm, 속도 V=200mm/s



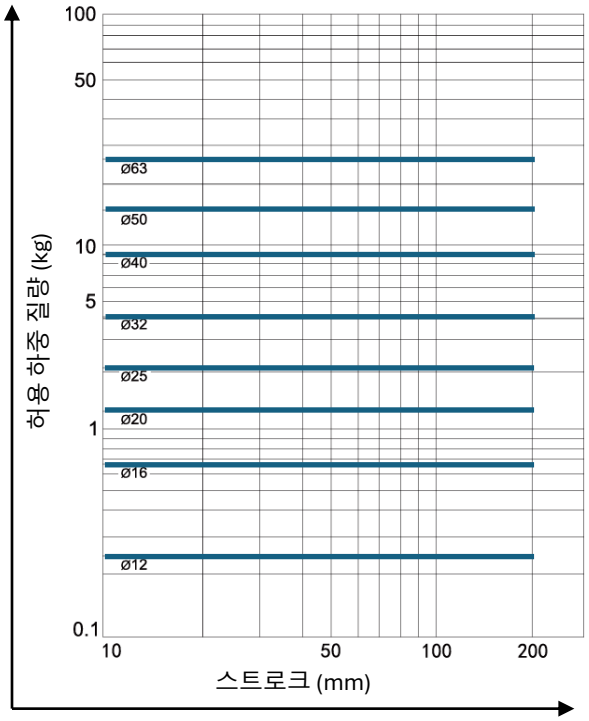
편심 거리 L =100mm, 속도 V=200mm/s



편심 거리 L =50mm, 속도 V=400mm/s

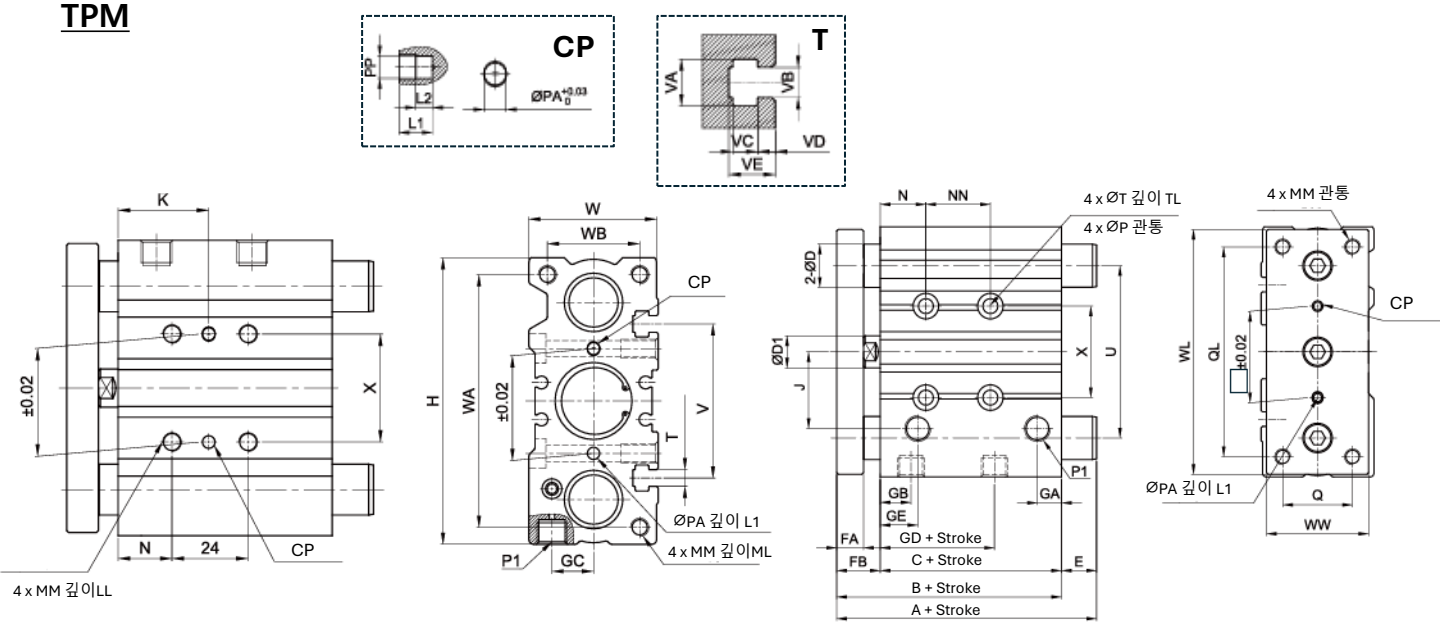


편심 거리 L =100mm, 속도 V=400mm/s



도면

TPM



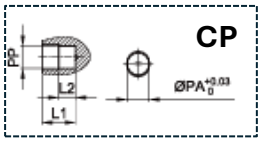
Bore	A				E				NN					K				
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	≤30	31~100	101~200	201~300	>300	≤30	31~100	101~200	201~300	>300
12	42	55	85	85	0	13	43	43	20	40	110	200	-	15	25	60	105	-
16	46	65	95	95	0	19	49	49	24	44	110	200	-	17	27	60	105	-
20	53	80	104	122	0	27	51	69	24	44	120	200	300	29	39	77	117	167
25	53.5	82	94.5	122	0	28.5	51	68.5	24	44	120	200	300	29	39	77	117	167
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	≤40	41~100	101~200	201~300	>300	≤40	41~100	101~200	201~300	>300
32	78	102	118	140	5.5	42.5	58.5	80.5	24	48	124	200	300	33	45	83	121	171
40	78	102	118	140	0	36	52	74	24	48	124	200	300	34	46	84	122	172
50	89	118	134	161	4	46	62	89	24	48	124	200	300	36	48	86	124	174
63	89	118	134	161	0	41	57	84	28	52	128	200	300	38	50	88	124	174

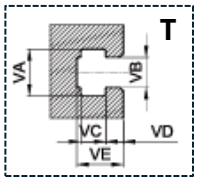
Bore	B	C	FA	FB	P1	GA	GB	GC	GD	X	U	N	P	PA	PP	T	TL	M	LL
12	42	29	8	13	M5X0	7.5	11	8	13	23	41	5	4.2	3	3.5	8	4.5	M5X0.8	10
16	46	33	8	13	M5X0	8	11	10	15	24	46	5	4.2	3	3.5	8	4.5	M5X0.8	10
20	53	37	10	16	1/8"	9	10.5	10.5	12.5	28	54	17	5.2	3	3.5	9.5	5.5	M6X1.0	12
25	53.5	37.5	10	16	1/8"	9	11.5	13.5	12.5	34	64	17	5.2	4	4.5	9.5	5.5	M6X1.0	12
32	59.5	37.5	12	22	1/8"	9	12.5	15	7	42	78	21	6.9	4	4.5	11	7.5	M8X1.25	16
40	66	44	12	22	1/8"	10	14	18	13	50	86	21	6.9	4	4.5	11	7.5	M8X1.25	16
50	72	44	16	28	1/4"	11	12	21.5	9	66	110	24	8.7	5	6	14	9	M10X1.5	20
63	77	49	16	28	1/4"	13.5	16.5	28	14	80	124	24	8.7	5	6	14	9	M10X1.5	20

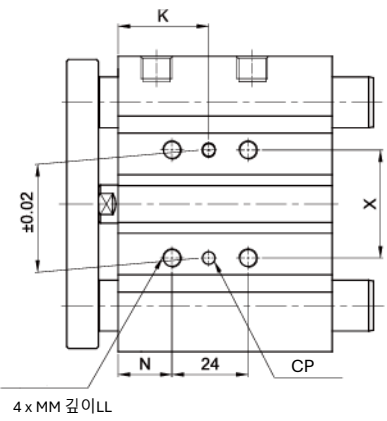
Bore	D1	D	J	W	WA	WB	WL	WW	H	Q	QL	MM	ML	L1	L2	V	VA	VB	VC	VD	VE
12	6	8	19	26	50	18	56	22	58	14	48	M4X0.7	12	6	3	37	7.4	4.4	3.7	2.5	6.7
16	8	10	18	30	56	22	62	25	64	16	54	M5X0.8	12	6	3	38	7.4	4.4	3.7	2.5	6.7
20	10	12	25	36	72	24	81	30	83	18	70	M5X0.8	13	6	3	44	8.4	5.4	4.5	2.8	7.8
25	12	16	28.5	42	82	30	91	38	93	26	78	M6X1.0	15	6	3	50	8.4	5.4	4.5	3	8.2
32	16	20	34	48	88	34	110	44	112	30	96	M8X1.25	20	6	3	63	10.5	6.5	4.5	3.5	9.5
40	16	20	38	54	106	40	118	44	120	30	104	M8X1.25	20	6	3	72	10.5	6.5	5.5	4	11
50	20	25	47	64	130	46	146	60	148	40	130	M10X1.5	22	8	4	92	13.5	8.5	7.5	4.5	13.5
63	20	25	55	78	142	58	158	70	162	50	130	M10X1.5	22	8	4	110	17.8	11	10	7	18.5

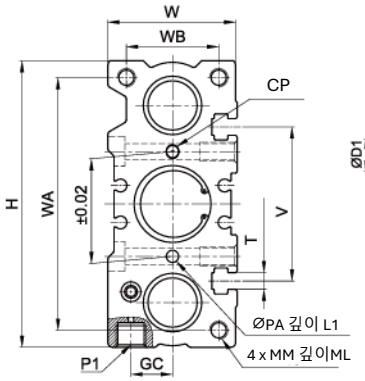
도면

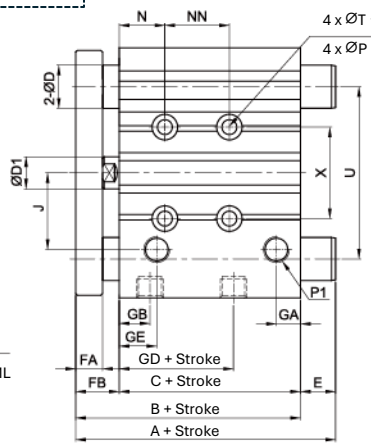
TPCM

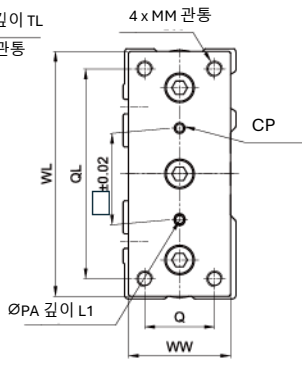












Bore	A				E				NN				K			
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	<100	100~175	200~250	>250	<100	100~175	200~250	>250
16	71	71	95	95	0	0	24	24	44	110	200	-	27	60	105	-
20	78	80	104	122	0	2	26	44	44	120	200	300	39	77	117	167
25	78.5	82	94.5	122	0	3.5	26	43.5	44	120	200	300	39	77	117	167
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	<100	100~175	200~250	>250	<100	100~175	200~250	>250
32	84.5	102	118	140	5.5	17.5	33.5	55.5	48	124	200	300	45	83	121	171
40	91	102	118	140	0	21	27	49	48	124	200	300	46	84	122	172
50	97	118	134	161	4	21	37	64	48	124	200	300	48	86	124	174
63	102	118	134	161	0	16	32	59	52	128	200	300	50	88	124	174

Bore	B	C	FA	FB	P1	GA	GB	GC	GD	DE	X	U	N	P	PA	PP	T	TL	M	LL
16	71	58	8	13	M5X0.8	8	11	10	15	11	24	46	5	4.2	3	3.5	8	4.5	M5X0.8	10
20	78	62	10	16	1/8"	9	10.5	10.5	12.5	10.5	28	54	17	5.2	3	3.5	9.5	5.5	M6X1.0	12
25	78.5	62.5	10	16	1/8"	9	11.5	13.5	12.5	11.5	34	64	17	5.2	4	4.5	9.5	5.5	M6X1.0	12
32	84.5	62.5	12	22	1/8"	9	12.5	15	7	12.5	42	78	21	6.9	4	4.5	11	7.5	M8X1.25	16
40	91	69	12	22	1/8"	10	14	18	13	14	50	86	22	6.9	4	4.5	11	7.5	M8X1.25	16
50	97	69	16	28	1/4"	11	12	21.5	9	14	66	110	24	8.7	5	6	14	9	M10X1.5	20
63	102	74	16	28	1/4"	13.5	16.5	28	1024	16.5	80	124	24	8.7	5	6	14	9	M10X1.5	20

Bore	D1	D	J	W	WA	WB	WL	WW	H	Q	QL	MM	ML	L1	L2	V	VA	VB	VC	VD	VE
16	8	10	19	30	56	22	62	25	64	16	54	M5X0.8	12	6	3	38	7.4	4.4	3.7	2.5	6.7
20	10	12	25	36	72	24	81	30	83	18	70	M5X0.8	13	6	3	44	8.4	5.4	4.5	2.8	7.8
25	12	16	28.5	42	82	30	91	38	93	26	78	M6X1.0	12	6	3	50	8.4	5.4	4.5	3	8.2
32	16	20	34	48	98	34	110	44	112	30	96	M8X1.25	20	6	3	63	10.5	6.5	5.5	3.5	9.5
40	16	20	38	54	106	40	118	44	120	30	104	M8X1.25	20	6.	3	72	10.5	6.5	5.5	4	11
50	20	25	47	64	130	46	146	60	148	40	130	M10X1.5	22	8	4	92	13.5	8.5	7.5	4.5	13.5
63	20	25	55	78	142	58	158	70	162	50	130	M10X1.5	22	8	4	110	17.8	11	10	7	18.5