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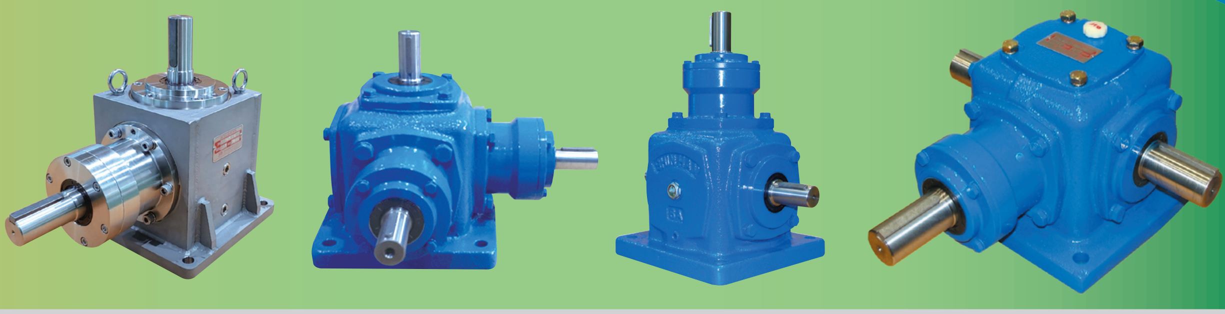
2023

SHINHANSM PRODUCT GUIDE BOOK

베벨기어박스 Bevel gear box
스 크 류 잭 Screw Jack
볼 스 크 류 잭 Ball Screw Jack



(주)신한에스엠
SHINHAN SM CO.,LTD

성실 · 정밀 · 신속

시간의 흐름과 유행의 변화 속에서도
정밀함, 정확성을 중시하는 한결같은 경영 마인드로
쓰임새 좋은 제품 생산과 가치 있는 유 · 무형의 기술서비스로
고객의 신뢰를 차곡차곡 쌓아가겠습니다.

HIGH-TECH & PRODUCTS

SCREW JACK 스크류잭(SMJ) SMJ

BALL SCREW JACK 볼스크류잭(SMJB) SMJB

BEVEL GEAR BOX 베벨기어박스(SMA) SMA

BELIEVE & HISTORY

(주)신한에스엠은 1993년 창업이래 지금까지 기어동력전달기기 개발과 제작분야에 매진하여 SCREW JACK, BEVEL GEAR BOX 등 기어응용 제품 전문업체로서 전통과 자부심을 키우고 있습니다.

(주)신한에스엠의 다양한 생산제품들은 각종 기계장치의 동력전달 및 승강기능에서 탁월한 효율성과 안정감을 드릴것을 약속드립니다.

(주)신한에스엠

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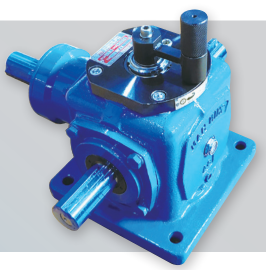
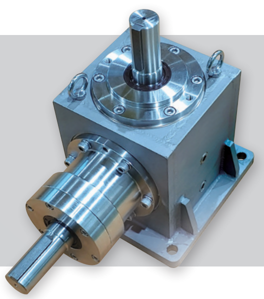
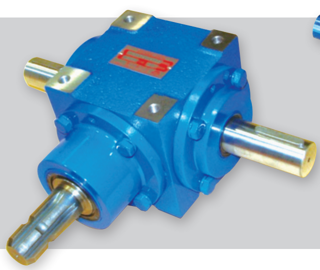
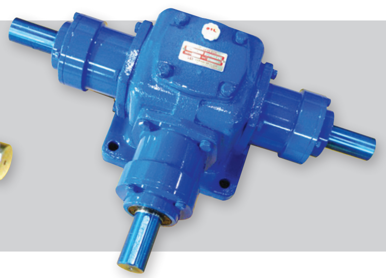
베벨기어박스
BEVEL GEAR BOX


정 · 역 조작형


STS 제작형


멀티부착형


3축 역회전형

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스 크 류 잭 SCREW JACK
볼스크류잭 BALL SCREW JACK

모터플랜지부착형　볼스크류승강형　볼너트승강형　자바라 · 플랜지부착

베벨기어박스 개요 High Quality BEVEL GEAR BOX

■ 베벨기어박스 개요

1. 당사의 HIGH-TECH 베벨기어박스는 단순 동력 전달과 동력배분 기능은 물론이며 1.5:1, 2:1, 3:1 등 소량의 감속 또는 증속 기능이 요구되는 다양한 기계장치에 용이하게 사용이 됩니다.
2. 베벨기어박스의 주요구성품인 CASE, GEAR, SHAFT, BEARING 등은 내구성을 고려한 최적의 소재와 부품을 사용하였습니다.
3. 베벨기어박스는 높은 효율과 저소음으로 POWERFUL한 회전력을 자랑하는 스파이럴베벨기어 동력전달기기입니다.

■ FEATURES OF THE BEVEL GEAR BOX

BASED ON THE HIGH QUALITY OF MATERIALS, THE REFORMED STANDARD, THE UNIFORM COMPONENTS AND THE HIGH PRECISION MACHINING, IT SECURES A RELIABILITY AND A DURATION

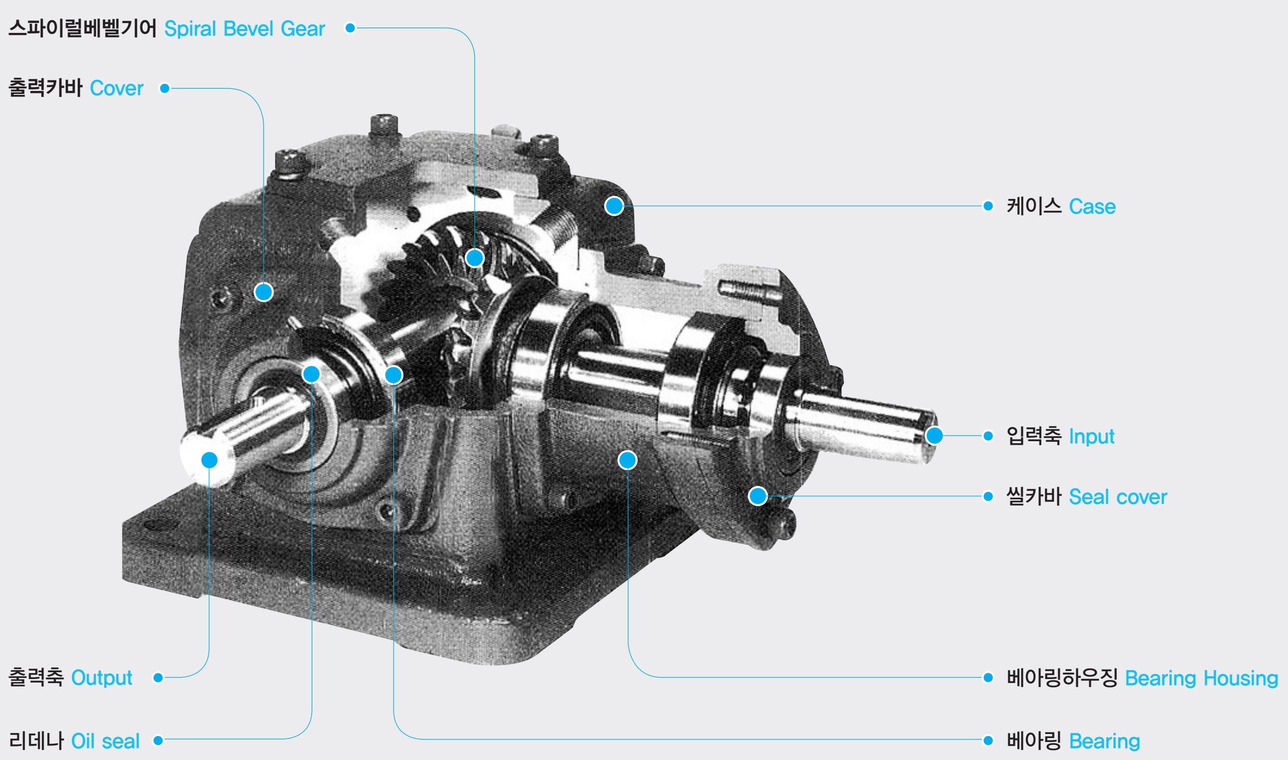
■ 사용사례

무대작동장치, 인쇄기계, 농업기계, 목공기계, 제지기계, 섬유기계, 각종 프레스, 진동성형기, 압연기계, 윤전기계, 철강 및 반도체 부품 생산장비, 태양광추적장치, 의료기계장비 등에 다양하게 적용됩니다.

■ APLLICATIONS

STAGE EQUIPMENT, PRINTING MACHINE, WOOD MACHINE, AGRICULTURAL MACHINE, PEPER MAKING MACHINE, TEXITILE MACHINE, PRINTING PRESS, BRICKYARD, STEEL & SOLAR, MEDICAL SEMICONDUCTER EQUIPMENT...

부품 명칭 및 구성 ORGANIZATION

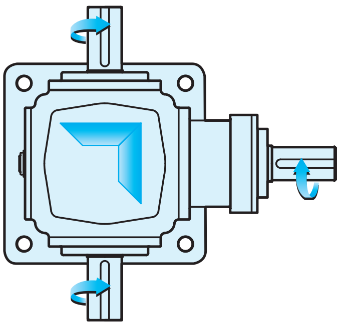


■ 사용규격선정 REQUIRED DATA FOR SELECTION

ITEM	PART.S	SPEC
1. POWER	kw 또는 kg.m_N.m	허용전달동력표 참조
2. RPM	INPUT RPM OUTPUT RPM	
3. RATIO	1.5:1, 2:1, 3:1 등	
4. ROTATE	TIME hours/date 연속/단속	
5. 부하의 형태 LOAD CLASSFICATION	균일하중, 적은 충격하중, 큰 충격하중 UNIFORM LOAD, MODERATE LOAD, HEAVY SHOCK LOAD	
6. SHAFT DIRECTION	정회전(I–LR) 또는 역회전(I–LR–O)	축배치 그림 참조(p8~9)
7. INSTALLTION	정방향 설치, 역방향 설치, 옆으로 설치 등	설치그림 참조(p26)

■ 규격표기방법

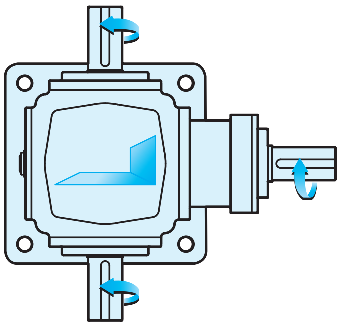
기본형



제품기호표기 SM 8A I–LR–O

- 신한에스엠
- 제품규격(크기)
- 회전비 1/1
- 축배치 및 회전방향

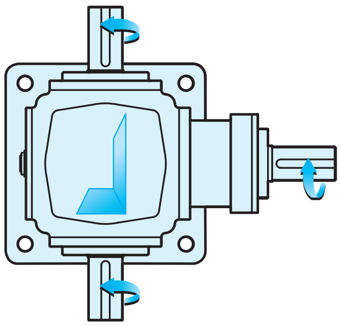
감속형



제품기호표기 SM 8A 20 I–LR

- 신한에스엠
- 제품규격(크기)
- 회전비 2/1 감속
- 축배치 및 회전방향

증속형



제품기호표기 SM 8A 20H I–LR

- 신한에스엠
- 제품규격(크기)
- 회전비 2/1 증속
- 축배치 및 회전방향

■ 교환조립이 가능한 표준 형식

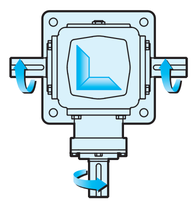
기본형		교환 조립가능형
I–LR	↔	I–LR–O
I–R	↔	I–L–O
I–L	↔	I–R–O
I–UD	↔	I–UD–O, D–LR, D–LR–O, U–LR, U–LR–O
I–U	↔	I–D–O, D–R, D–L–O, U–L, U–R–O
I–D	↔	I–U–O, D–L, D–R–O, U–R, U–L–O

기본형의 축배열 및 회전관계 SHAFT DIRECTION

- 축의 배열 및 회전 방향에 따라 아래와 같이 기본 24종류로 구분하며 기어비율 1:1 제품의 경우 화살표 표시 방향 및 그 반대 회전으로 사용하여도 가능하며 또한 동일한 동력 전달 효과를 얻을 수 있습니다.
- 제품 선정 및 주문 시에 기어 비율 1:1이 아닐 경우 사용하고자 하는 축의 배치 방향 즉, 입력 축 · 출력축의 위치를 표시, 고지하여 주어야 제작의 오류를 방지할 수 있습니다.

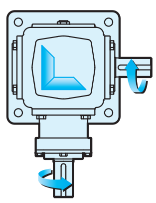
■ 수평형 HORIZONTAL TYPE

1



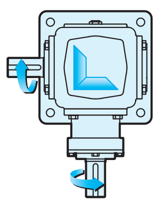
I–LR

2



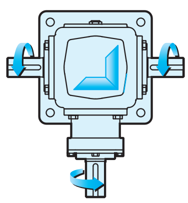
I–R

3



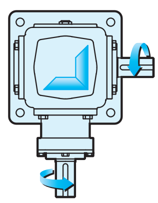
I–L

4



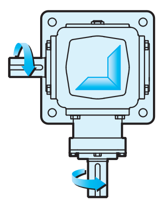
I–LR–O

5



I–R–O

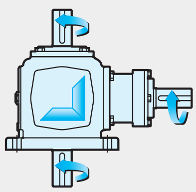
6



I–L–O

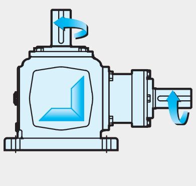
■ 수직형 VERTICAL TYPE

7



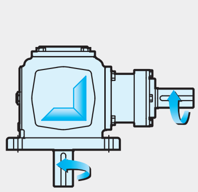
I–UD

8



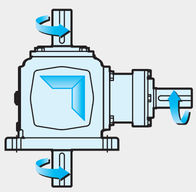
I–U

9



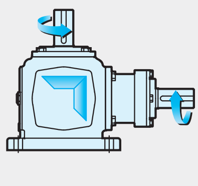
I–D

10



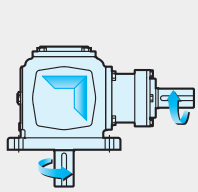
I–UD–O

11



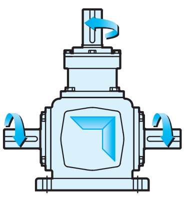
I–U–O

12



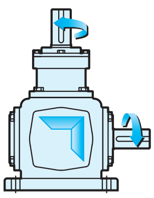
I–D–O

13



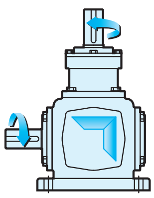
U–LR

14



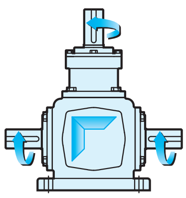
U–R

15



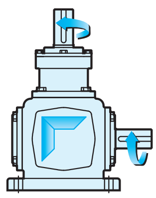
U–L

16



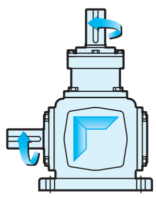
U–LR–O

17



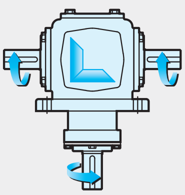
U–R–O

18



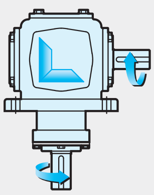
U–L–O

19



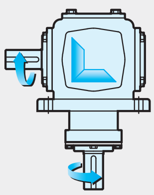
D–LR

20



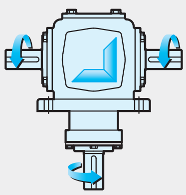
D–R

21



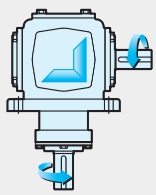
D–L

22



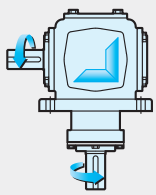
D–LR–O

23



D–R–O

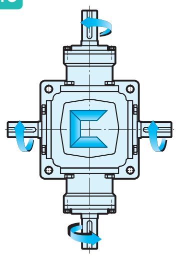
24



D–L–O

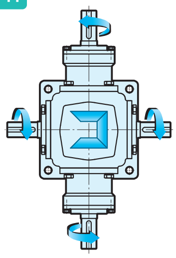
4축 역회전형 [Y형]

Y-10



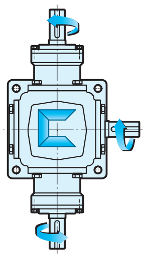
I–I–LR

Y-11



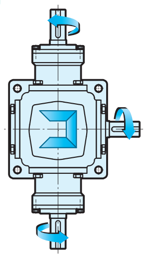
I–I–LR–O

Y-12



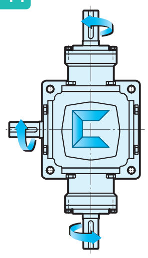
I–I–R

Y-13



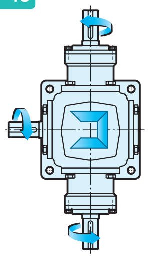
I–I–R–O

Y-14



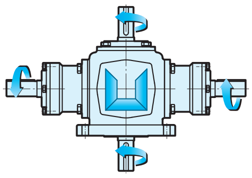
I–I–L

Y-15



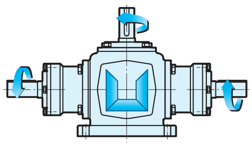
I–I–L–O

Y-20



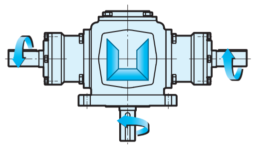
I–I–UD

Y-22



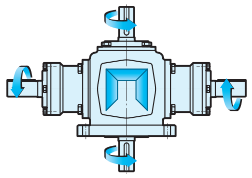
I–I–U

Y-24



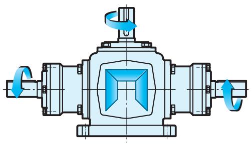
I–I–D

Y-21



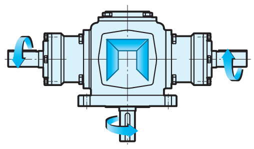
I–I–UD–O

Y-23



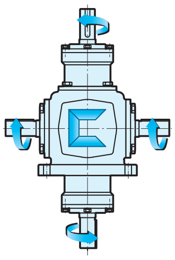
I–I–U–O

Y-25



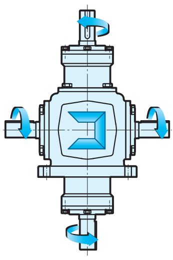
I–I–D–O

Y-30



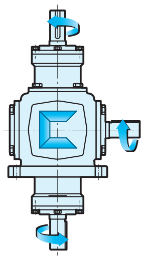
U–D–LR

Y-31



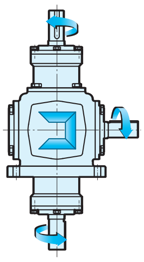
U–D–LR–O

Y-32



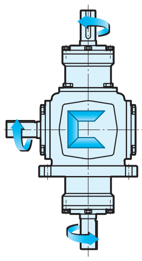
U–D–R

Y-33



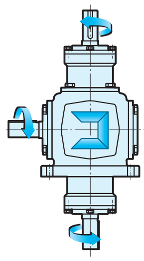
U–D–R–O

Y-34



U–D–L

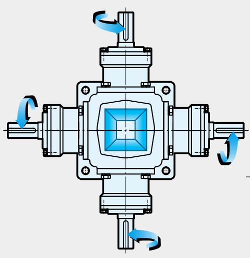
Y-35



U–D–L–O

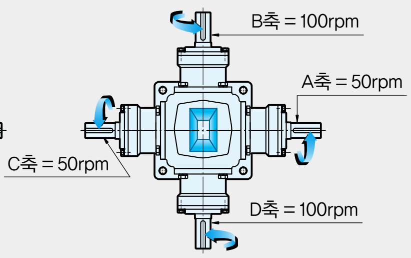
■ 감속비 적용사례

Y-410



속비 1:1 사용

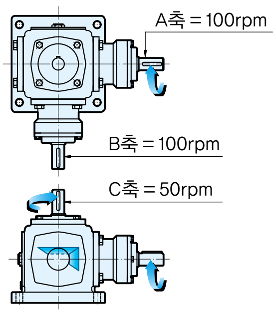
Y-420



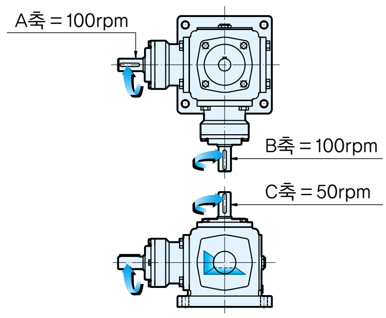
감속 · 증속 사용

■ PALLET LIFT TYPE

P–43



P–44



규격 및 생산자료 SUM UP PRODUCTION

■ 규격요약표 SUMMARY

베벨기어박스	SPECIFICATION		MATERIAL			OIL & WEIGHT	
규 격	축 경	키-이	베벨기어	케이스	샤프트	OIL(ℓ)	개략중량(kg)
SM 1A	15	5×5×25 2R	SCM 415	AC4C	S45C	GREASE	3.0
SM 2A	17	5×5×30 2R	SCM 415	FCD450	S45C	0.25	7.5
SM 4A	20	6×6×30 2R	SCM 415	FCD450	S45C	0.4	14
SM 6A	25	7×7×40 2R	SCM 415	FCD450	S45C	0.95	21
SM 7A	32	10×8×60 1R	SCM 415	FCD450	S45C	1.5	30
SM 8A	40	10×8×70 1R	SCM 415	FCD450	S45C	1.9	40
SM 10A	45	12×8×80 1R	SCM 415	FCD450	S45C	3.5	72
SM 12A	50	14×9×90 1R	SCM 415	FCD450	S45C	7	117
SM 16A	60	18×11×95 1R	SCM 415	FCD450	S45C	10	178
SM 20A	72	20×12×100 1R	SCM 415	FCD450	S45C	13	285
SM 25A	85	24×16×110 1R	SCM 415	FCD450	S45C	19	470

▶축경(Ø)의 공차는 KS B0412의 h7입니다
▶카탈로그상의 일부 치수는 제품 향상을 위해 변경될 수 있습니다.

■ 생산현황표 PRODUCTION INDEX

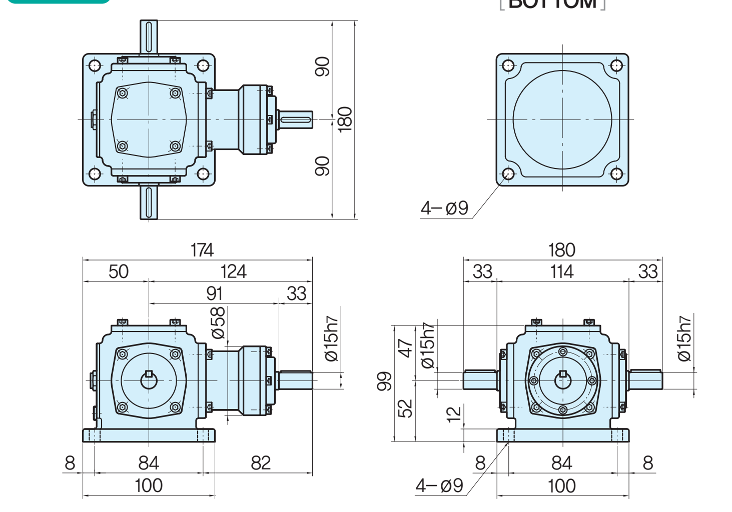
ITEM RATIO	1:1	1.5:1	2:1	3:1	기 타
SM 1A	●	○	●	○	
SM 2A	●	○	●	○	
SM 4A	●	○	●	●	
SM 6A	●	●	●	●	
SM 7A	●	●	●	●	
SM 8A	●	●	●	●	
SM 10A	●	●	●	●	
SM 12A	●	○	●	◎	
SM 16A	●	○	○	◎	
SM 20A	●	○	○	◎	
SM 25A	●	○	○	◎	

▶표준품(●) 항시 부품 재고 유지
▶준표준품(○) 항시 또는 일부 부품의 재고 유지
▶비규격품(◎) 일부 부품 재고 유지
▶표기 외 필요한 사양은 협의 제작 가능합니다.

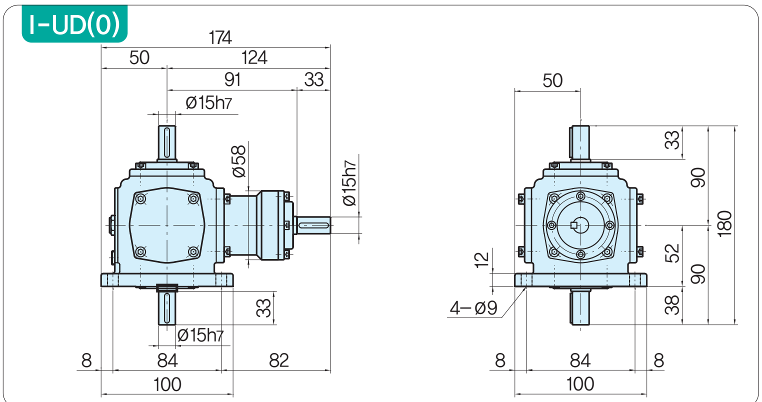
SM1A Standard Dimensions

■ 기본형 Fundamental form

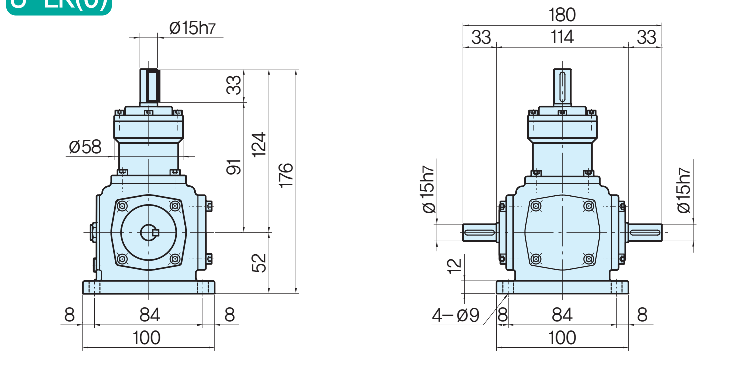
I-LR(0)



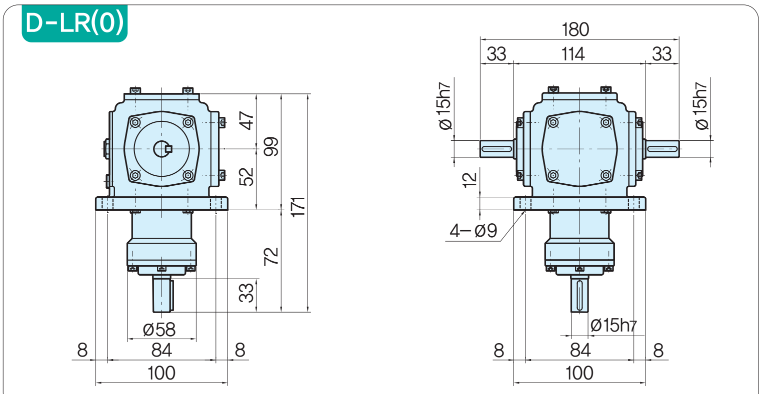
I-UD(0)



U-LR(0)

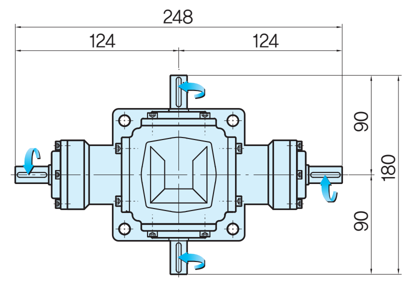


D-LR(0)

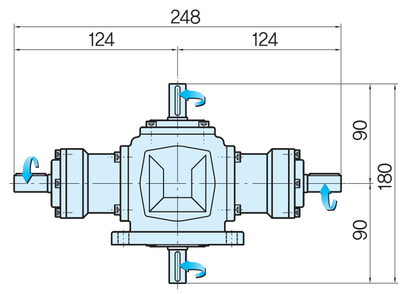


■ 역회전형(4축형) Opposite Directions

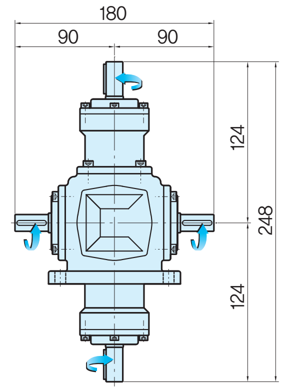
I-I-LR

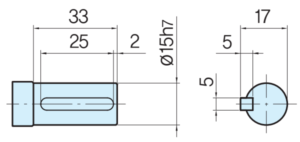


I-I-UD



U-D-LR

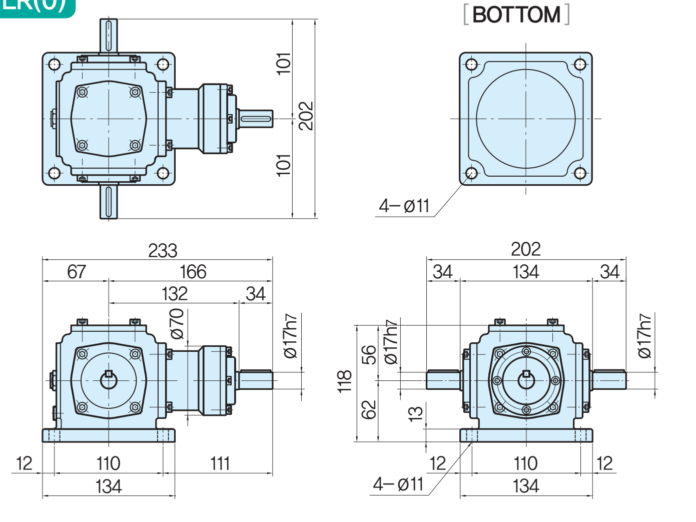




SM1A Shaft 상세도

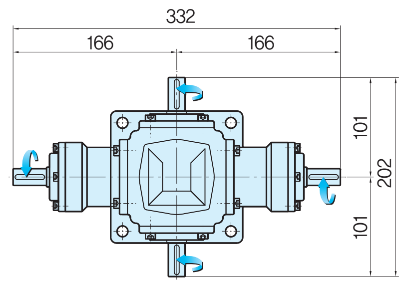
■ 기본형 Fundamental form

I-LR(0)



■ 역회전형(4축형) Opposite Directions

I-I-LR



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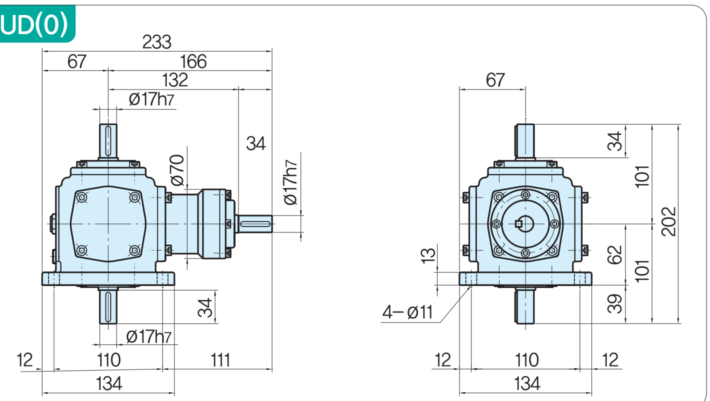

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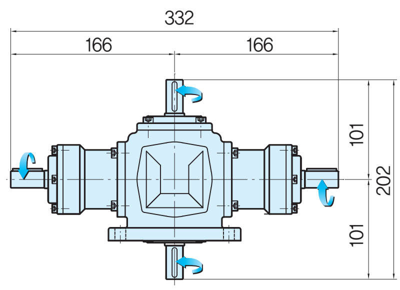

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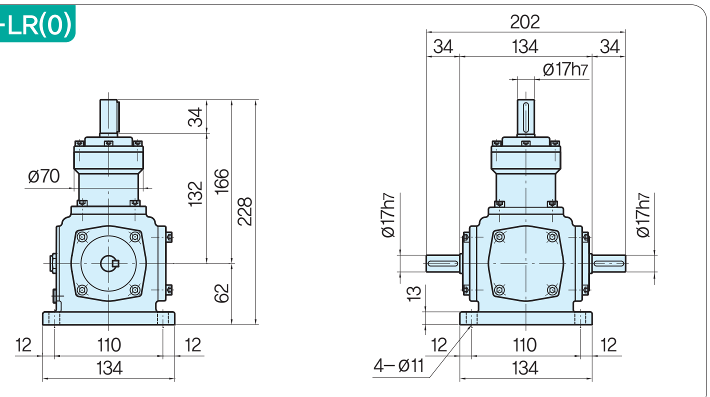

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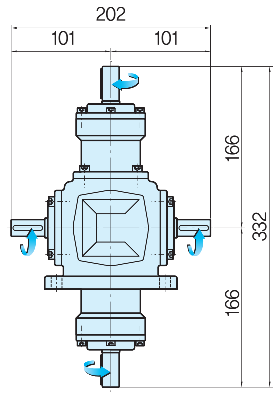
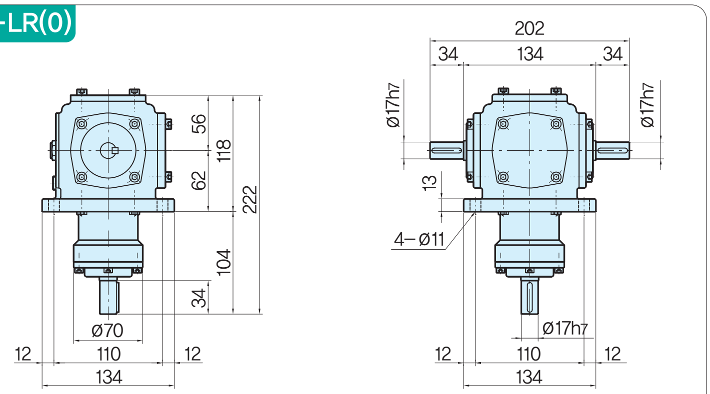
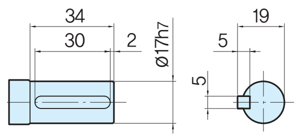


D-LR(0)

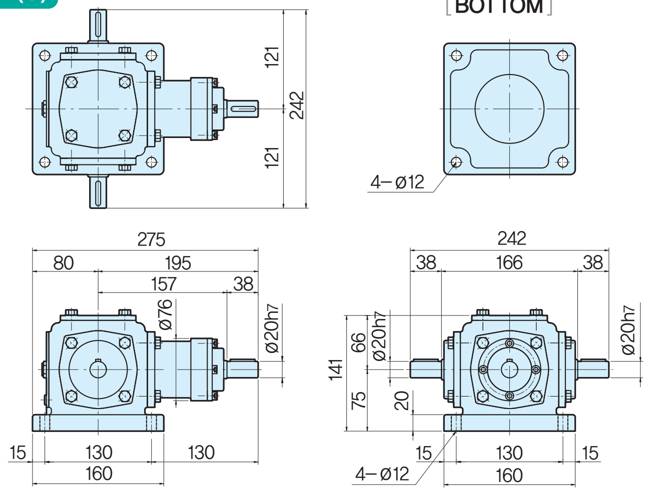




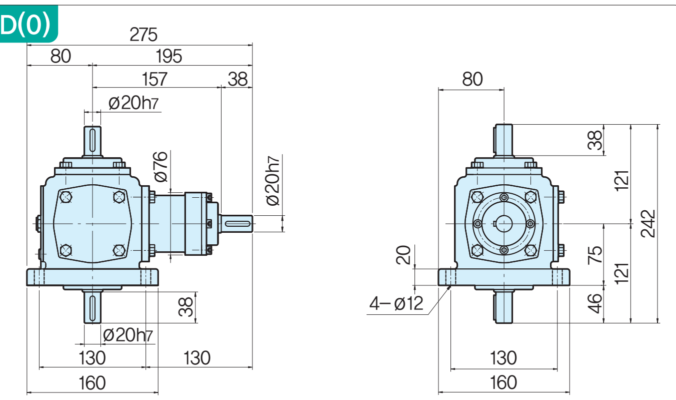
SM4A Shaft 상세도

■ 기본형 Fundamental form

I-LR(0)



I-UD(0)



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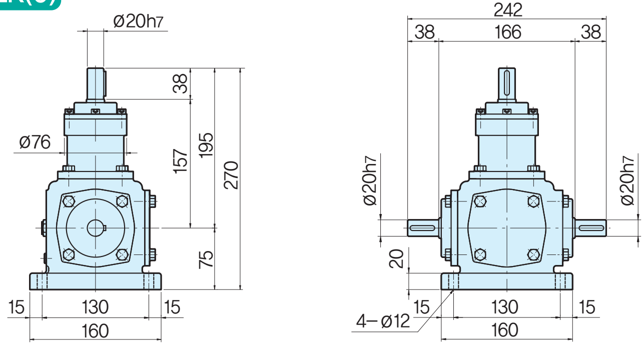
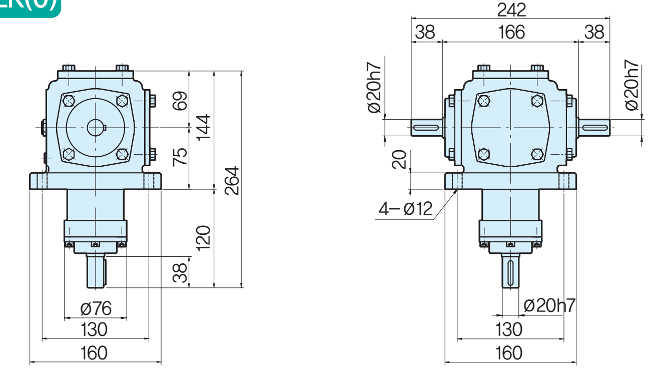
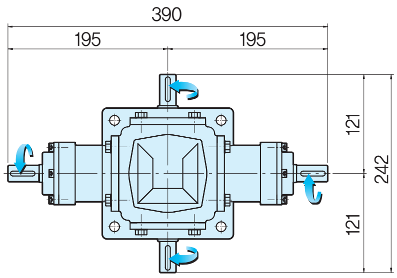


D-LR(0)

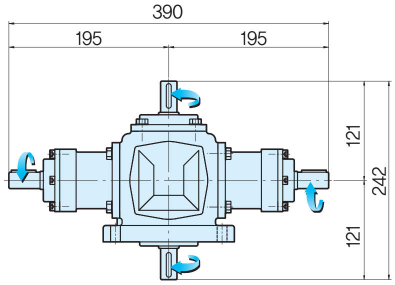


■ 역회전형(4축형) Opposite Directions

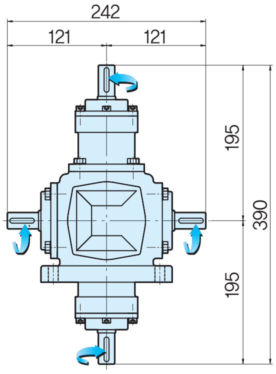
I-I-LR

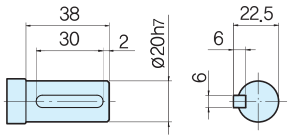


I-I-UD



U-D-LR



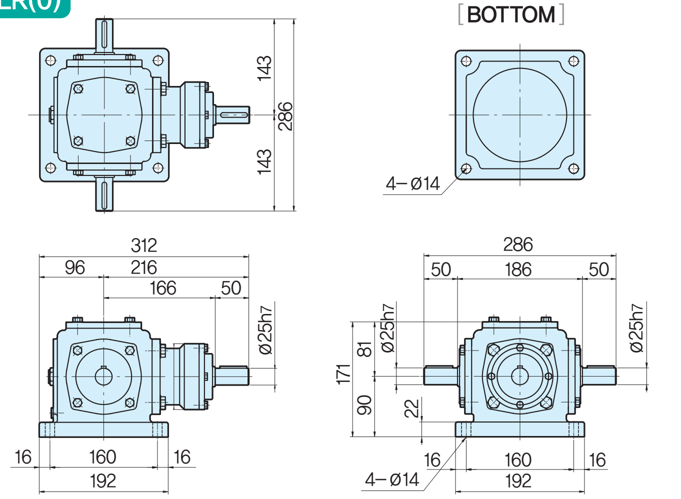


SM4A Shaft 상세도

SM6A Standard Dimensions

■ 기본형 Fundamental form

I-LR(0)



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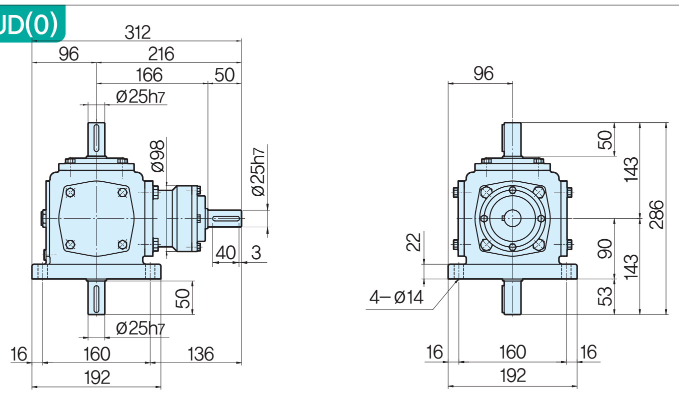

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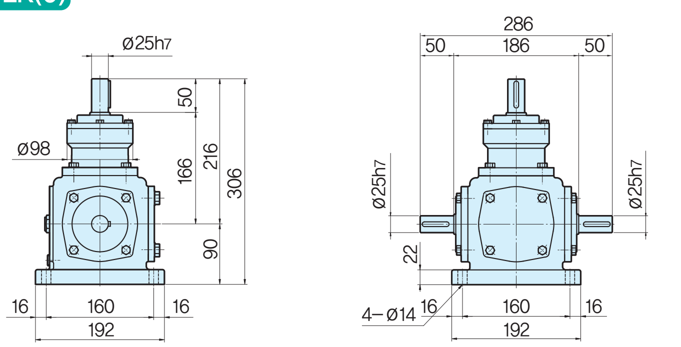
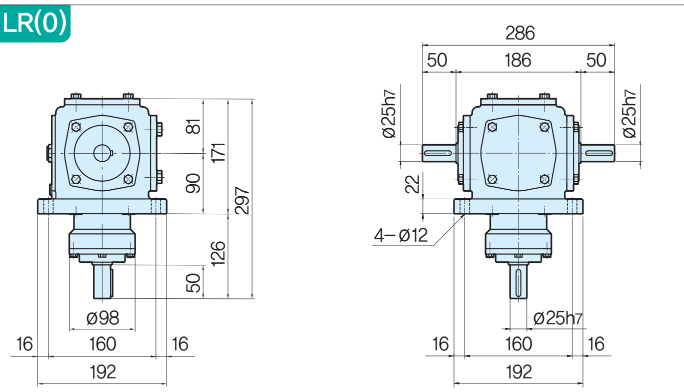
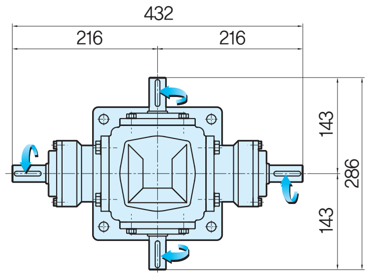


D-LR(0)



■ 역회전형(4축형) Opposite Directions

I-I-LR



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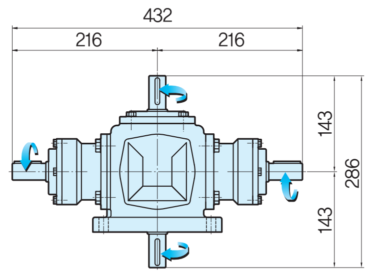
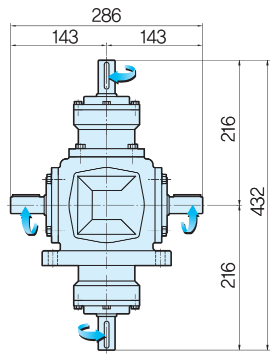
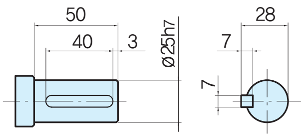


U-D-LR



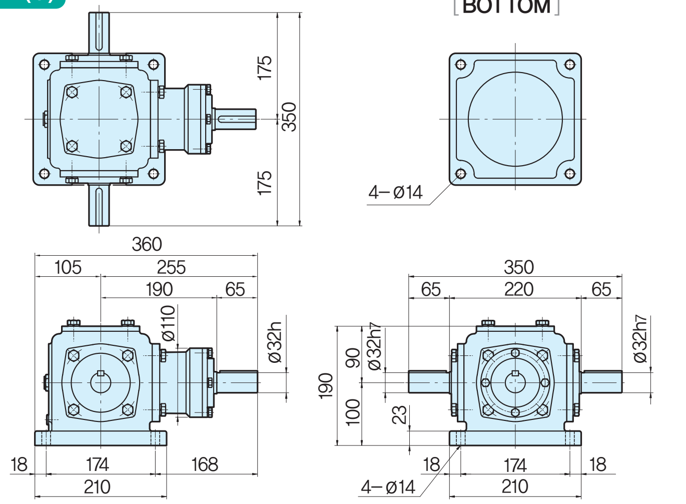


SM6A Shaft 상세도

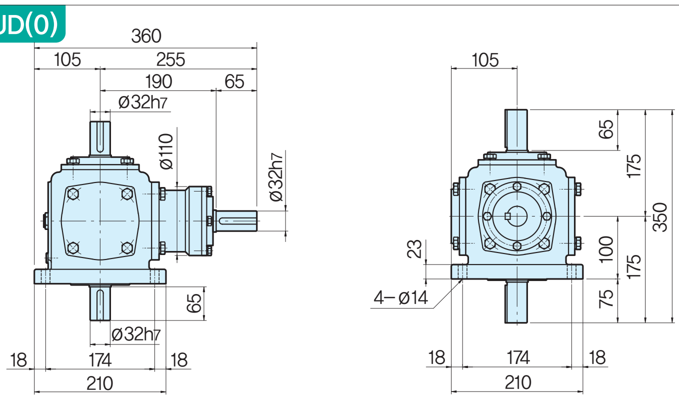
SM7A Standard Dimensions

■ 기본형 Fundamental form

I-LR(0)



I-UD(0)



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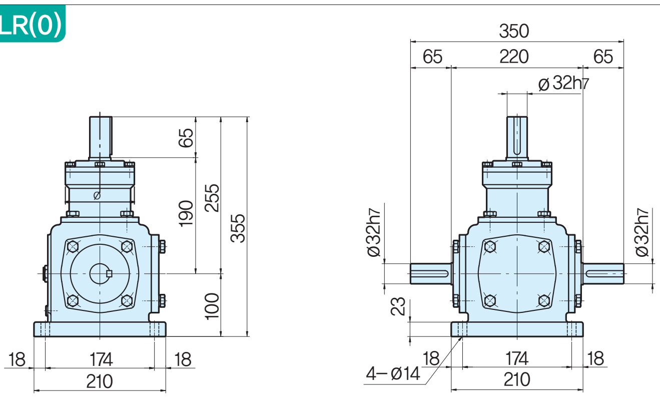
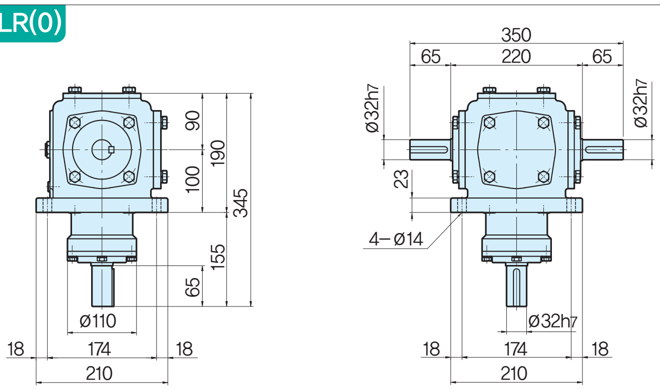
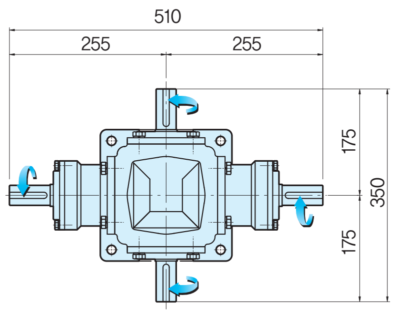


D-LR(0)

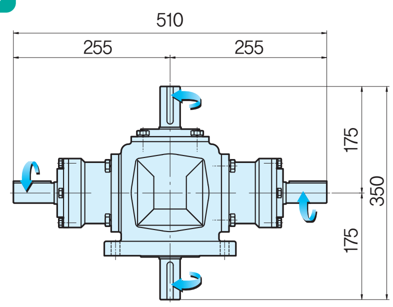


■ 역회전형(4축형) Opposite Directions

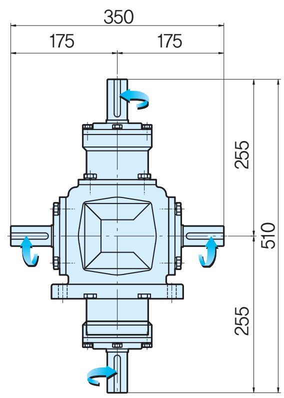
I-I-LR

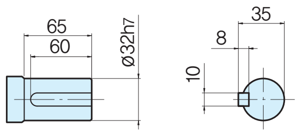


I-I-UD



U-D-LR

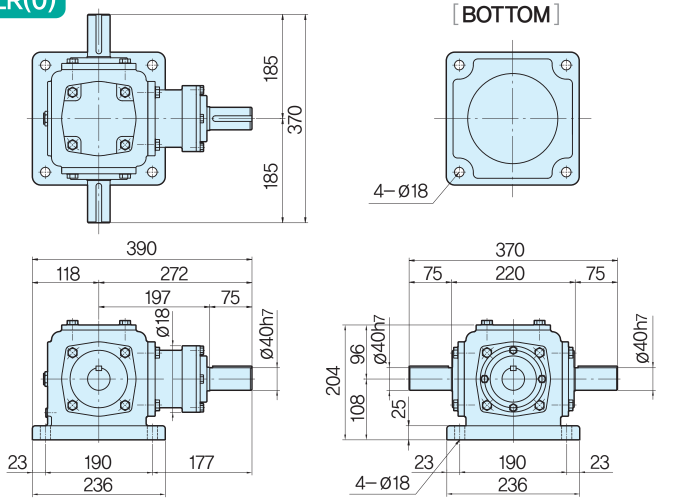




SM7A Shaft 상세도

■ 기본형 Fundamental form

I-LR(0)



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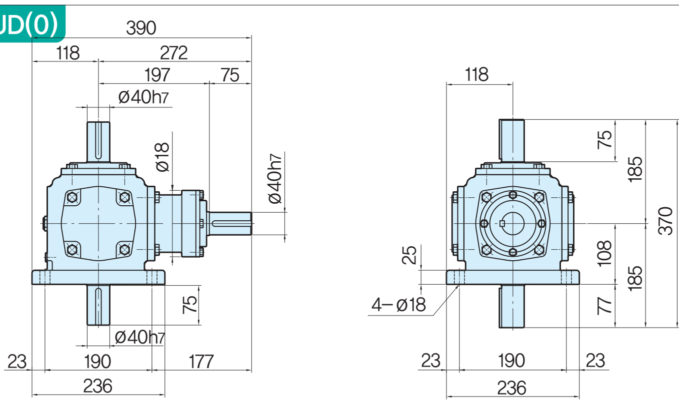

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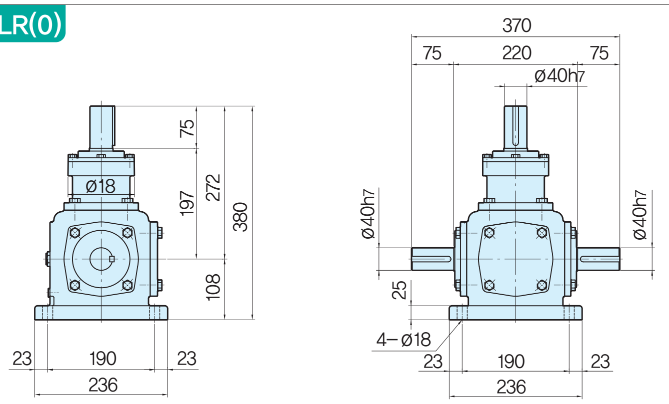

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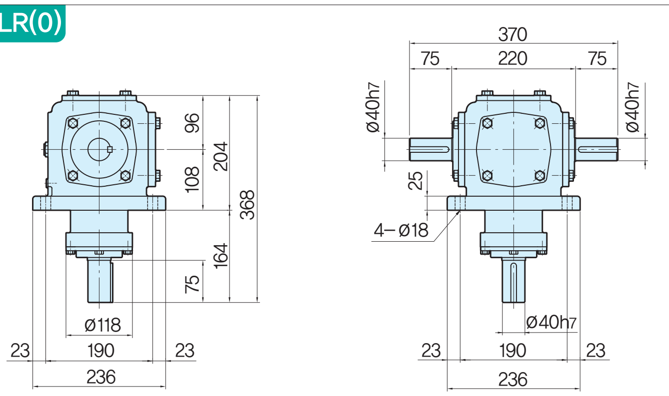
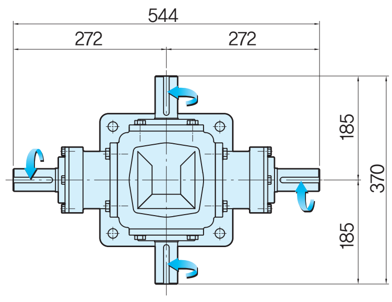
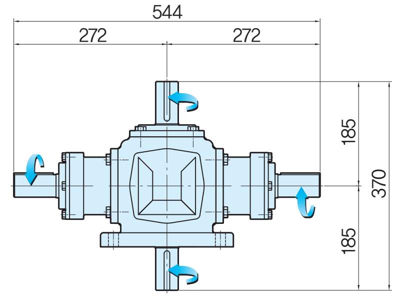


■ 역회전형(4축형) Opposite Directions

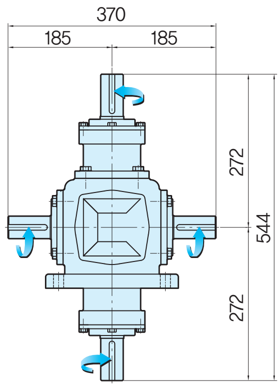
I-I-LR

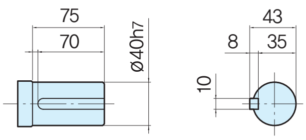


I-I-UD



U-D-LR

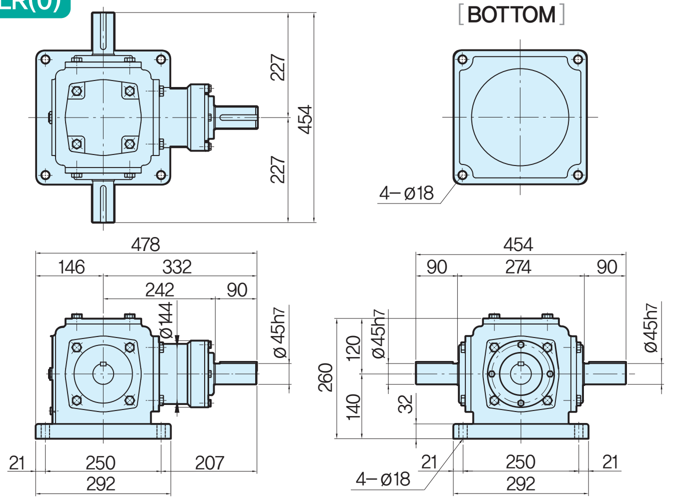




SM8A Shaft 상세도

■ 기본형 Fundamental form

I-LR(0)



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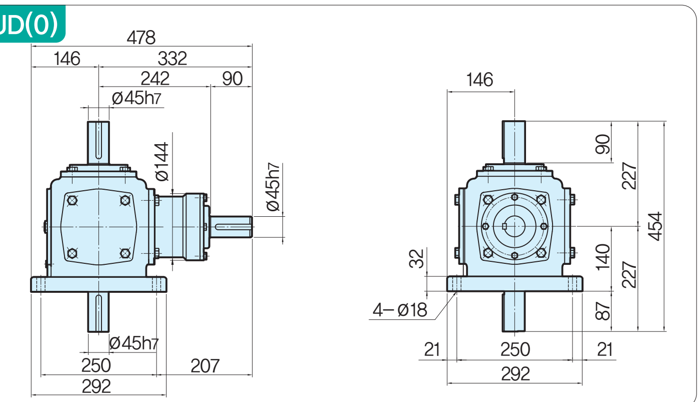

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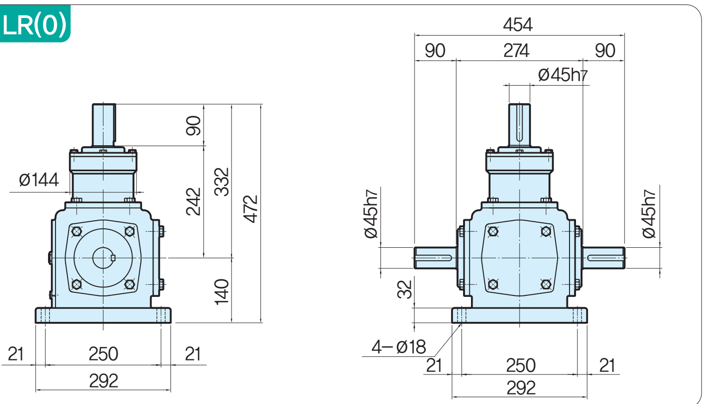
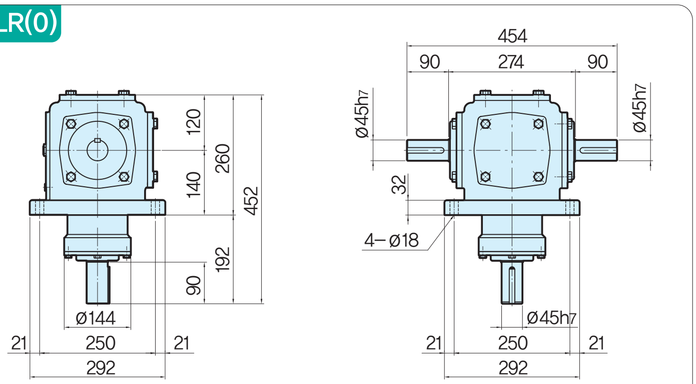
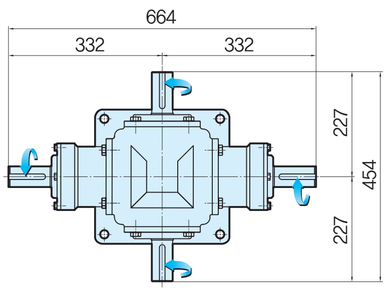


D-LR(0)

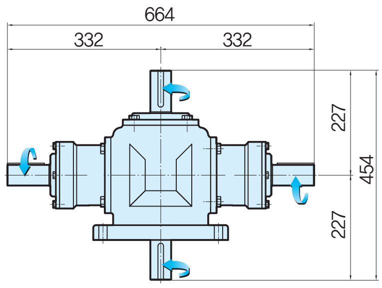


■ 역회전형(4축형) Opposite Directions

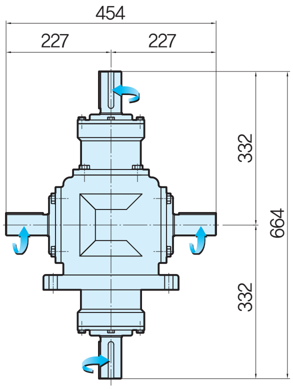
I-I-LR

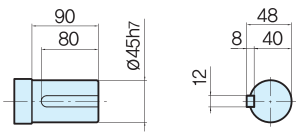


I-I-UD



U-D-LR





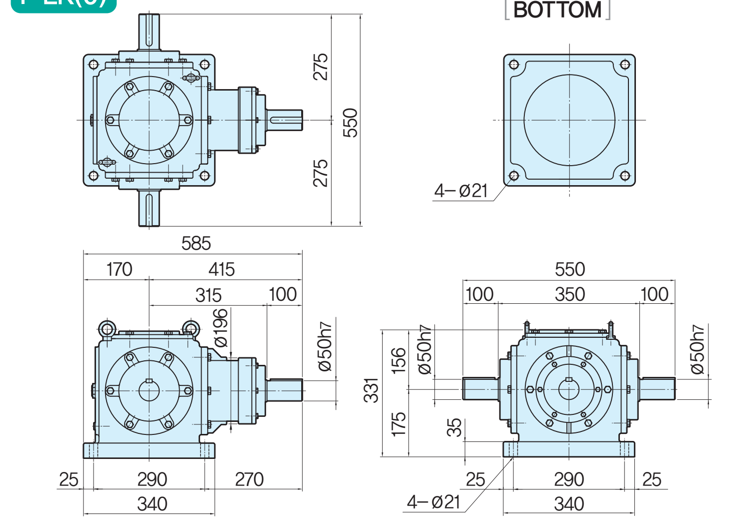
SM10A Shaft 상세도

Bevel Gear box
Screw Jack
Ball Screw Jack
기어기술자료

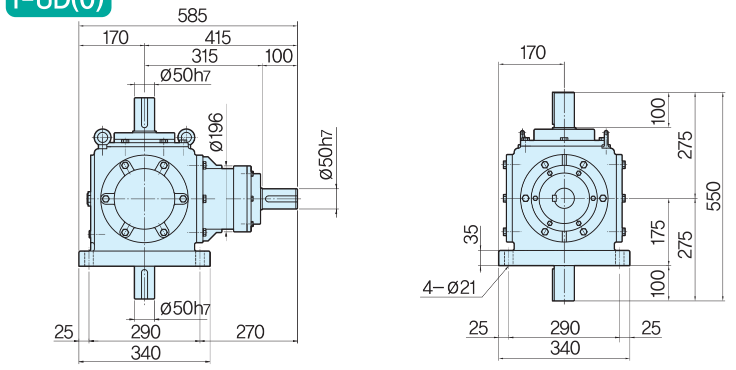
SM12A Standard Dimensions

■ 기본형 Fundamental form

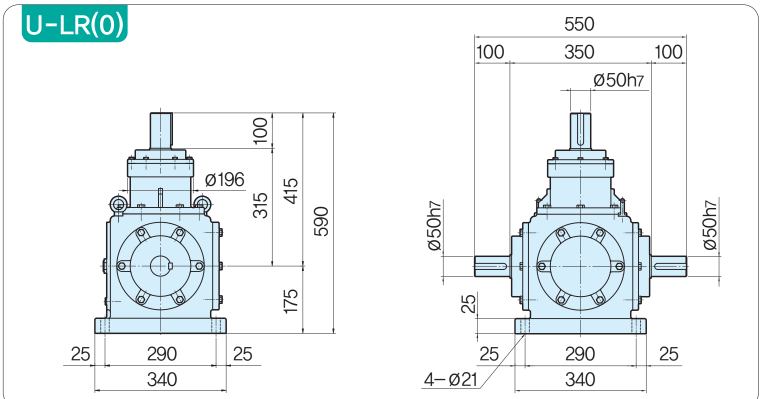
I-LR(0)



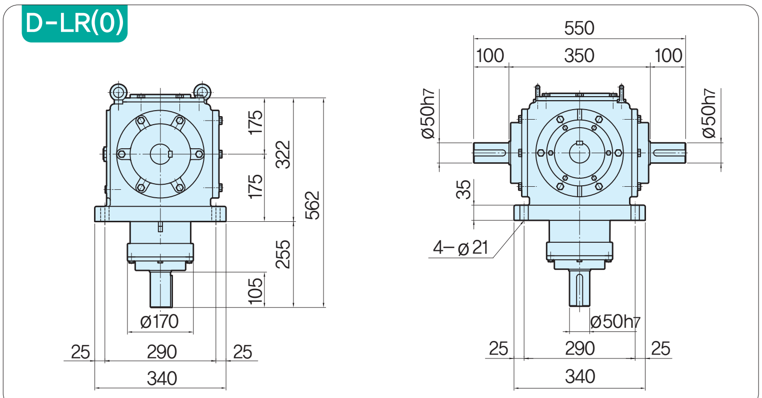
I-UD(0)



U-LR(0)

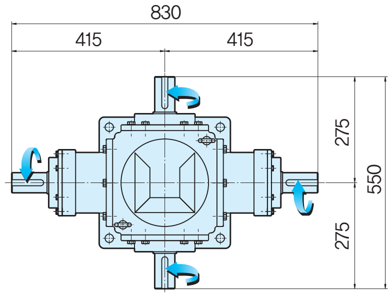


D-LR(0)

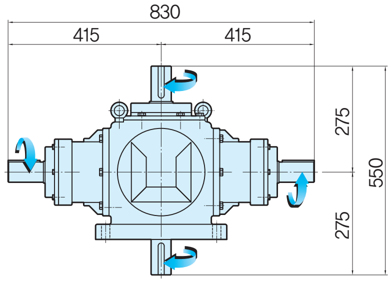


■ 역회전형(4축형) Opposite Directions

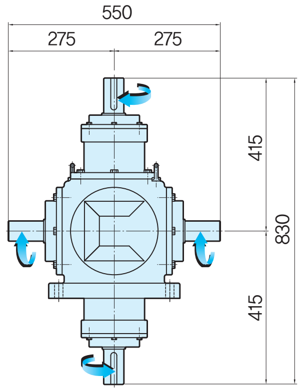
I-I-LR

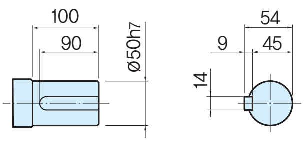


I-I-UD



U-D-LR



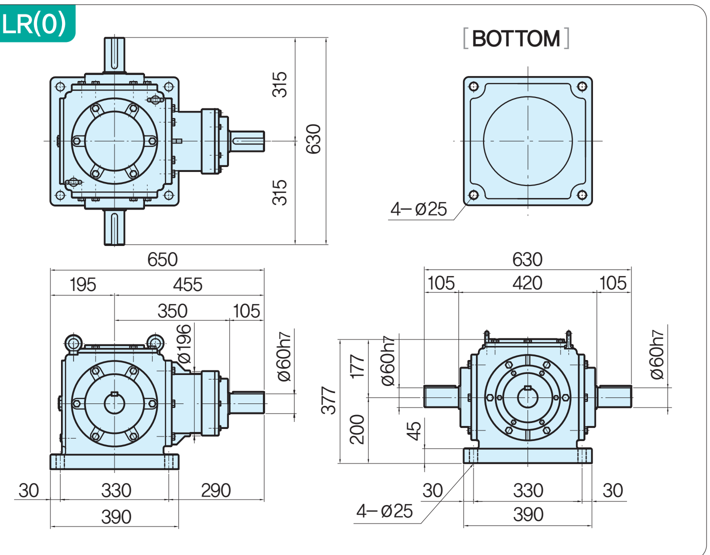


SM12A Shaft 상세도

SM16A Standard Dimensions

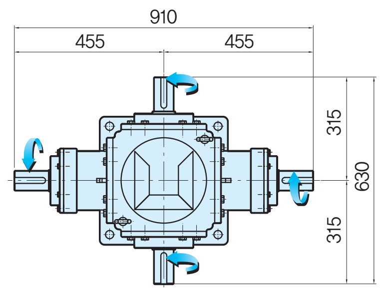
■ 기본형 Fundamental form

I-LR(0)



■ 역회전형(4축형) Opposite Directions

I-I-LR



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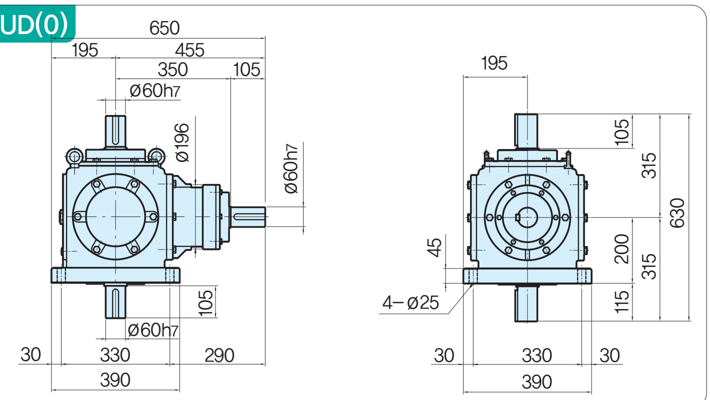

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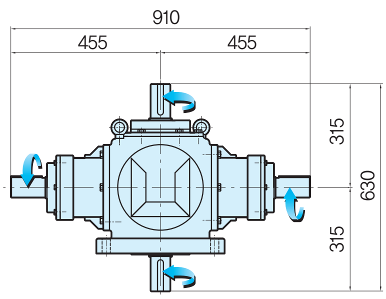

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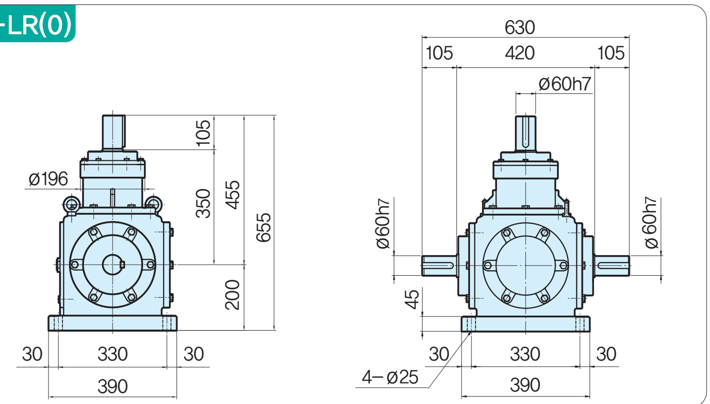
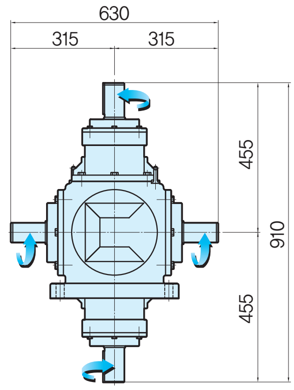
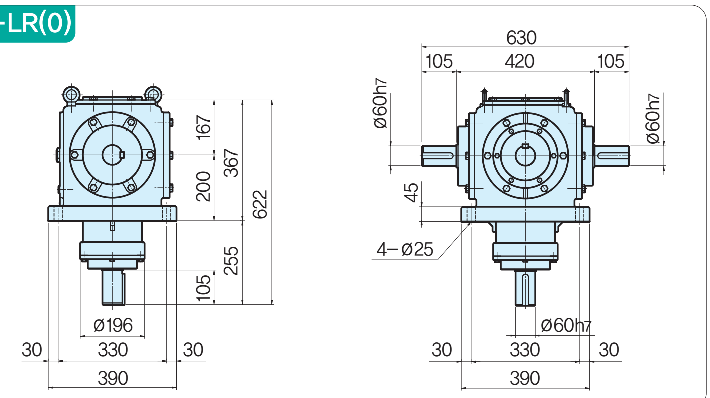
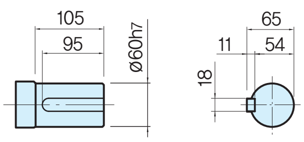


U-D-LR



D-LR(0)

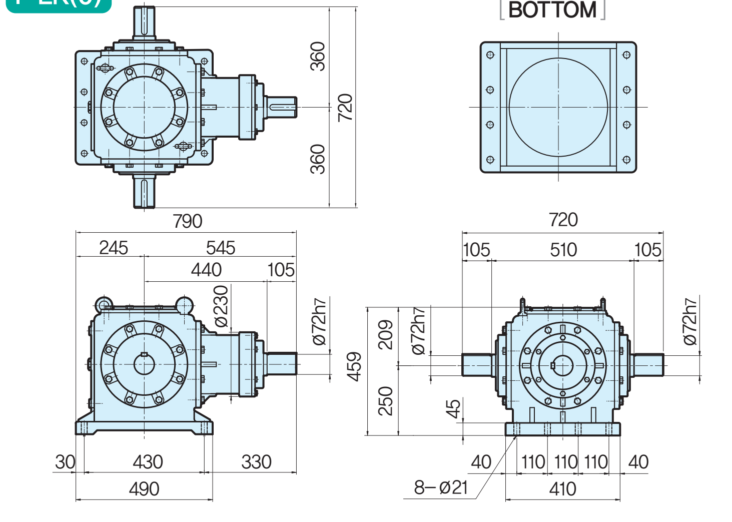




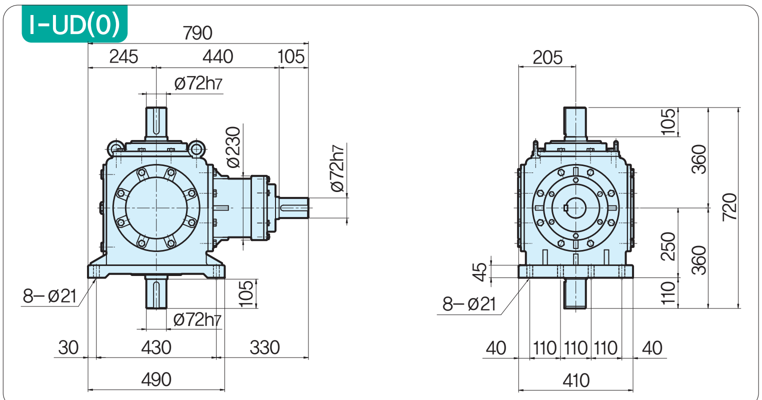
SM16A Shaft 상세도

■ 기본형 Fundamental form

I-LR(0)



I-UD(0)



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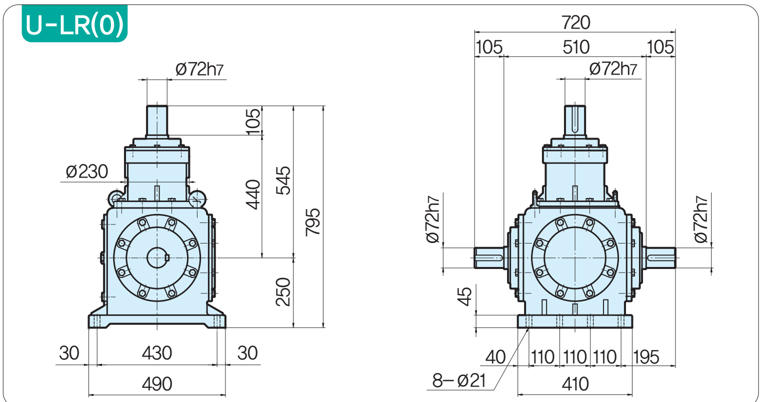

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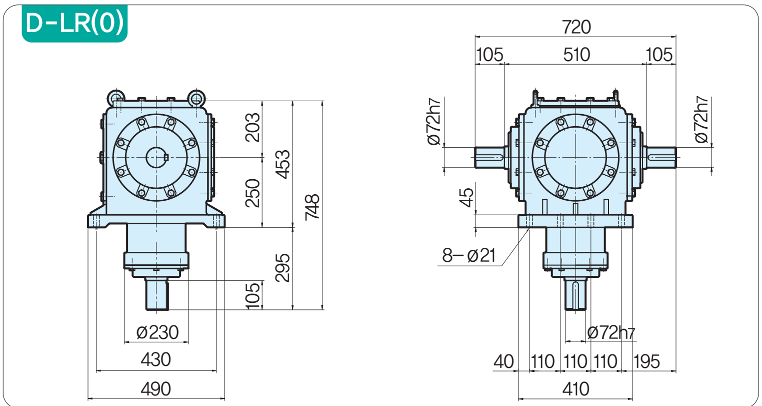
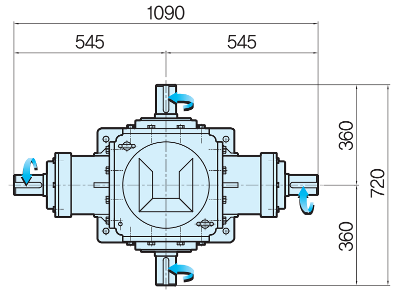
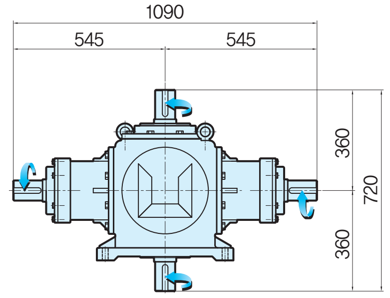


■ 역회전형(4축형) Opposite Directions

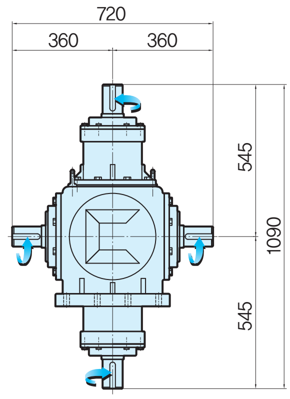
I-I-LR

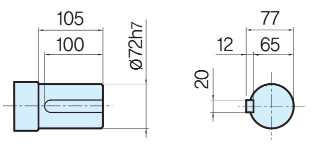


I-I-UD



U-D-LR

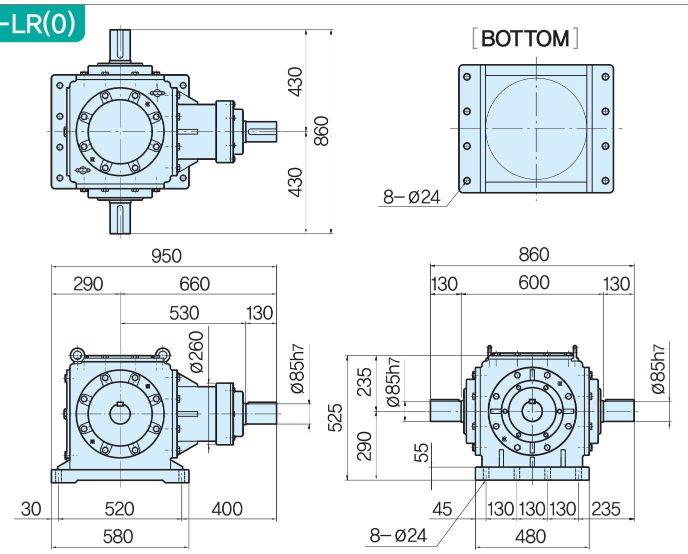




SM20A Shaft 상세도

■ 기본형 Fundamental form

I-LR(0)



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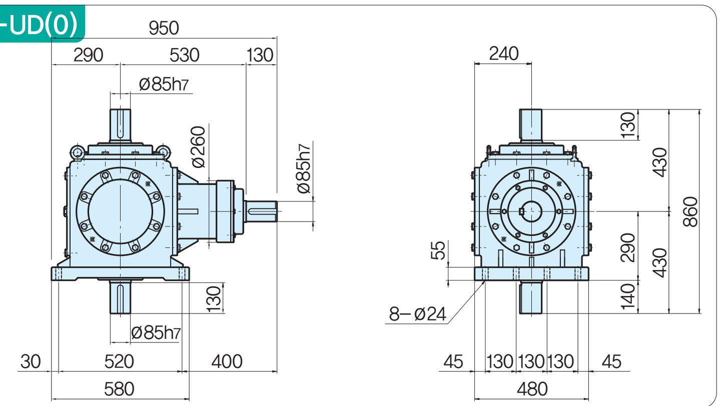

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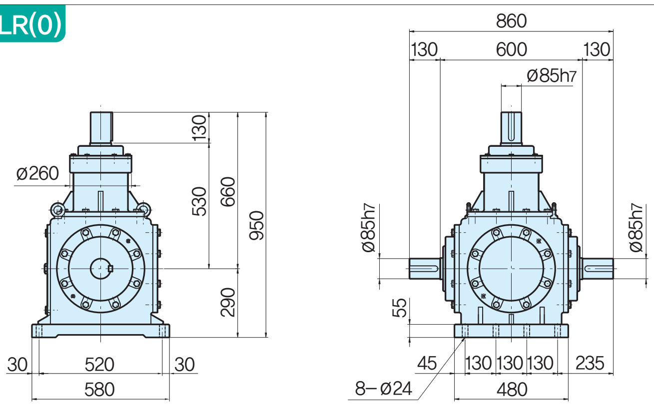
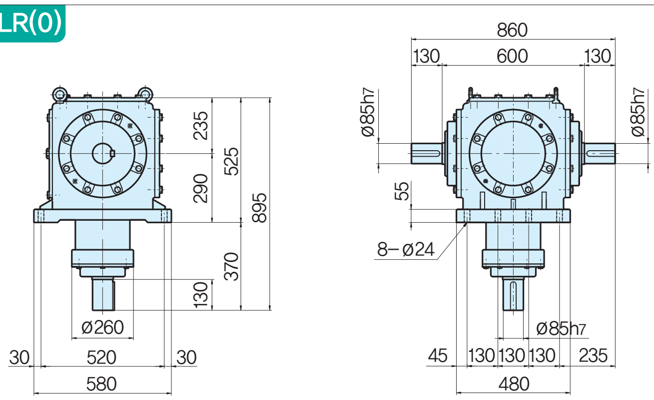
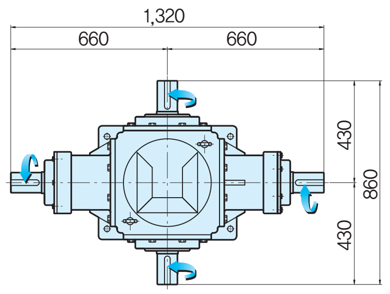


D-LR(0)

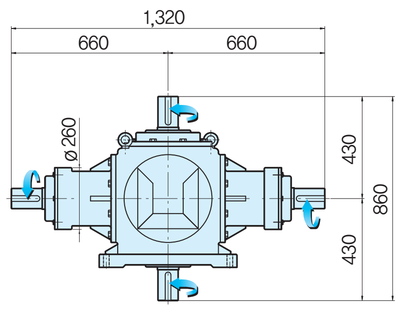


■ 역회전형(4축형) Opposite Directions

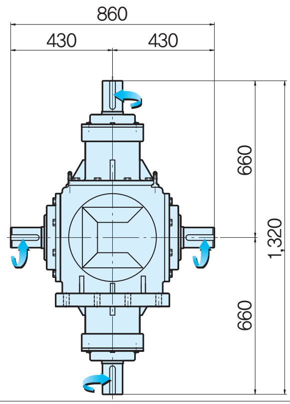
I-I-LR

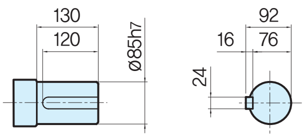


I-I-UD



U-D-LR





SM25A Shaft 상세도

Bevel Gear box
Screw Jack
Ball Screw Jack
기어기술자료

허용전달동력표

■ RATIO 1:1

형 번	입력축회전수	1750	1460	1150	870	580	400	300	200	150	100	50	10
SM1A	입력축 KW	2.14	1.80	1.44	1.10	0.748	0.523	0.396	0.266	0.201	0.136	0.068	0.014
	출력토르크(kgf.m)	1.17	1.18	1.109	1.23	1.23	1.25	1.26	1.27	1.28	1.30	1.30	1.33
	입력축 O.H.L(kgf)	22	27	33	41	56	65	71	80	100	100	100	100
	출력축 O.H.L(kgf)	20	22	24	26	32	36	40	45	58	60	60	60
SM2A	입력축 kw	3.59	3.02	2.42	1.85	1.26	0.88	0.67	0.45	0.35	0.26	0.13	0.026
	출력토르크(kgf.m)	2.00	2.01	2.05	2.07	2.12	2.14	2.18	2.19	2.27	2.53	2.53	2.53
SM4A	입력축 kw	5.61	4.98	4.19	3.46	2.45	1.72	1.30	0.880	0.665	0.448	0.227	0.046
	출력토르크(kgf.m)	3.06	3.25	3.25	3.48	4.03	4.10	4.13	4.20	4.23	4.28	4.33	4.39
	입력축 O.H.L(kgf)	80	85	90	98	110	140	155	195	195	195	195	195
	출력축 O.H.L(kgf)	92	97	105	115	135	175	200	200	200	200	200	200
SM6A	입력축 kw	15.4	13.5	11.5	9.46	7.11	5.19	3.94	2.67	2.02	1.36	0.693	0.142
	출력토르크(kgf.m)	8.40	8.82	9.54	10.4	11.7	12.4	12.5	12.7	12.8	13.0	13.2	13.5
	입력축 O.H.L(kgf)	185	195	210	225	255	325	350	350	350	350	350	350
	출력축 O.H.L(kgf)	235	250	265	295	325	360	360	360	360	360	360	360
SM7A	입력축 kw	24.6	22.2	18.3	15.2	11.4	8.36	6.36	4.30	3.26	2.20	1.12	0.229
	출력토르크(kgf.m)	13.4	14.5	15.2	16.7	18.8	19.9	20.2	20.5	20.7	21.0	21.4	21.8
	입력축 O.H.L(kgf)	220	250	280	305	345	410	450	520	520	520	520	520
	출력축 O.H.L(kgf)	290	320	330	345	390	500	565	640	640	640	640	640
SM8A	입력축 kw	47.1	39.9	32.0	24.7	16.9	12.2	9.52	6.35	4.92	3.49	1.84	0.386
	출력토르크(kgf.m)	25.7	26.1	26.5	27.1	27.8	29.1	30.3	30.3	31.3	33.3	35.2	36.8
	입력축 O.H.L(kgf)	315	330	355	385	435	495	535	805	860	860	860	860
	출력축 O.H.L(kgf)	330	345	370	405	455	610	710	900	900	900	900	900
SM10A	입력축 kw	67.3	58.9	50.1	41.0	30.5	21.5	16.4	11.1	8.46	5.72	2.91	0.599
	출력토르크(kgf.m)	36.7	38.5	41.6	45.0	50.2	51.3	52.2	53.0	53.8	54.6	55.5	57.2
	입력축 O.H.L(kgf)	405	425	455	495	560	640	685	875	1,020	1,020	1,020	1,020
	출력축 O.H.L(kgf)	435	460	495	540	600	720	815	980	1,080	1,200	1,200	1,200
SM12A	입력축 kw	91.9	80.9	68.7	56.5	42.9	33.2	26.7	18.2	13.8	9.35	4.77	0.983
	출력토르크(kgf.m)	50.1	52.9	57.0	62.0	70.6	79.2	84.9	86.8	87.8	89.2	91.0	93.8
	입력축 O.H.L(kgf)	495	520	560	600	685	790	840	945	1,060	1,160	1,210	1,210
	출력축 O.H.L(kgf)	545	570	620	670	745	830	925	1,050	1,160	1,285	1,480	1,480
SM16A	입력축 kw		164	139	114	86.1	66.4	54.2	36.9	27.7	18.5	9.24	1.90
	출력토르크(kgf.m)		104	112	121	137	153	167	171	171	171	171	175
	입력축 O.H.L(kgf)		1,085	1,160	1,270	1,430	1,600	1,750	2,000	2,150	2,300	2,300	2,300
	출력축 O.H.L(kgf)		1,120	1,200	1,300	1,480	1,650	1,800	2,030	2,215	2,300	2,300	2,300
SM20A	입력축 kw			212	175	131	101	81.6	62.4	51.0	34.4	17.2	3.50
	출력토르크(kgf.m)			170	186	209	233	252	288	315	318	318	324
	입력축 O.H.L(kgf)			1,570	1,700	1,920	2,150	2,390	2,650	2,890	2,900	2,900	2,900
	출력축 O.H.L(kgf)			1,600	1,750	1,980	2,220	2,460	2,730	2,980	3,360	3,400	3,400
SM25A	입력축 kw				291	219	167	140	103	89.6	60.0	30.2	6.30
	출력토르크(kgf.m)				309	349	386	432	476	552	555	559	583
	입력축 O.H.L(kgf)				2,530	2,860	3,200	3,500	3,940	4,000	4,000	4,000	4,000
	출력축 O.H.L(kgf)				2,600	2,950	3,300	3,600	4,060	4,400	5,000	5,000	5,000

■ RATIO 2:1

형 번	입력축회전수	1750	1460	1150	870	580	400	300	200	150	100	50	10
	입력축 kw	3.97	3.34	2.67	2.04	1.38	0.968	0.732	0.493	0.372	0.250	0.126	0.026
	입력토르크(kgf.m)	2.21	2.23	2.26	2.28	2.31	2.35	2.37	2.40	2.41	2.43	2.45	2.53
SM4A20	출력토르크(kgf.m)	4.33	4.37	4.43	4.47	4.53	4.60	4.64	4.70	4.72	4.76	4.80	4.95
	입력축 O.H.L(kgf)	110	110	110	110	110	110	110	110	110	110	110	110
	출력축 O.H.L(kgf)	200	200	200	200	200	200	200	200	200	200	200	200
	입력축 kw	9.50	8.01	6.40	4.91	3.34	2.34	1.77	2.19	0.607	0.607	0.307	0.062
	입력토르크(kgf.m)	5.28	5.34	5.42	5.49	5.61	5.70	5.74	5.79	5.85	5.91	5.98	6.04
SM6A20	출력토르크(kgf.m)	10.3	10.4	10.6	10.7	11.0	11.1	11.2	11.3	11.4	11.6	11.7	11.8
	입력축 O.H.L(kgf)	225	260	310	350	350	350	350	350	350	350	350	350
	출력축 O.H.L(kgf)	280	290	315	340	360	360	360	360	360	360	350	360
	입력축 kw	12.7	10.7	8.56	6.57	4.47	3.13	2.37	1.60	1.21	0.815	0.413	0.084
	입력토르크(kgf.m)	7.07	7.14	7.25	7.35	7.50	7.62	7.69	7.79	7.85	7.94	8.04	8.18
SM7A20	출력토르크(kgf.m)	13.8	14.0	14.2	14.4	14.7	14.9	15.1	15.2	15.4	15.5	15.7	16.0
	입력축 O.H.L(kgf)	310	350	415	485	520	520	520	520	520	520	520	520
	출력축 O.H.L(kgf)	510	550	610	620	630	640	640	640	640	340	640	640
	입력축 kw	16.9	14.1	11.3	8.70	5.92	4.15	3.15	2.13	1.61	1.08	0.55	0.112
	입력토르크(kgf.m)	9.42	9.42	9.57	9.74	9.94	10.1	10.2	10.3	10.4	10.5	10.7	10.9
SM8A20	출력토르크(kgf.m)	18.4	18.4	18.7	19.1	19.5	19.8	20.0	20.2	20.4	20.6	21.0	21.3
	입력축 O.H.L(kgf)	390	445	520	620	780	860	860	860	860	860	860	860
	출력축 O.H.L(kgf)	740	815	900	900	900	900	900	900	900	900	900	900
	입력축 kw	28.2	23.9	19.1	14.7	10.0	7.04	5.34	3.61	2.73	1.84	0.934	0.191
	입력토르크(kgf.m)	15.7	15.9	16.1	16.4	16.8	17.1	17.3	17.6	17.7	17.9	18.2	18.6
SM10A20	출력토르크(kgf.m)	30.8	31.1	31.5	32.1	32.9	33.5	33.9	34.5	34.7	35.1	35.6	36.4
	입력축 O.H.L(kgf)	455	530	630	760	975	1,020	1,020	1,020	1,020	1,020	1,020	1,020
	출력축 O.H.L(kgf)	840	940	1,070	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
	입력축 kw	48.3	40.3	31.8	24.0	16.3	11.5	8.72	5.90	4.47	3.01	1.53	0.313
	입력토르크(kgf.m)	26.9	26.9	26.9	26.9	27.3	28.0	28.3	28.7	29.0	29.3	29.8	30.5
SM12A20	출력토르크(kgf.m)	52.7	52.7	52.7	52.7	53.5	54.9	55.4	56.2	56.8	57.4	58.4	59.8
	입력축 O.H.L(kgf)	520	610	740	905	1,170	1,210	1,210	1,210	1,210	1,210	1,210	1,210
	출력축 O.H.L(kgf)	940	1,070	1,240	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480
	입력축 kw	87.7	74.3	59.6	46.0	31.5	22.2	16.8	11.4	8.65	5.84	2.97	0.608
	입력토르크(kgf.m)	48.8	49.5	50.4	51.5	52.9	54.0	54.5	55.5	56.1	56.9	57.8	59.2
SM16A20	출력토르크(kgf.m)	92.7	94.0	95.7	97.8	100	102	103	105	106	108	110	112
	입력축 O.H.L(kgf)	555	610	655	710	800	900	980	1,105	1,210	1,360	1,680	2,300
	출력축 O.H.L(kgf)	1,055	1,240	1,355	1,450	1,640	1,830	2,000	2,260	2,300	2,300	2,300	2,300
	입력축 kw		127	102	79.0	54.2	38.2	29.1	19.7	15.0	10.1	5.16	1.06
	입력토르크(kgf.m)		84.7	86.4	88.4	91.0	93.0	94.5	95.9	97.4	98.4	100	103
SM20A20	출력토르크(kgf.m)		161	164	168	173	176	179	182	185	187	190	196
	입력축 O.H.L(kgf)		785	895	970	1,100	1,225	1,340	1,510	1,650	1,860	2,290	2,900
	출력축 O.H.L(kgf)		1,490	1830	1,985	2,245	2,510	2,790	3,090	3,370	3,400	3,400	3,400
	입력축 kw			200	155	107	75.5	57.5	39.2	29.7	20.1	10.3	2.11
	입력토르크(kgf.m)			169	173	179	184	187	191	193	196	200	205
SM25A20	출력토르크(kgf.m)			321	329	340	349	355	363	266	372	380	390
	입력축 O.H.L(kgf)			1,325	1,385	1,600	1,790	1,955	2,210	2,410	2,720	3,345	4,000
	출력축 O.H.L(kgf)			2,515	3,000	3,390	3,790	4,130	4,670	5,000	5,000	5,000	5,000

허용전달동력표

■ RATIO 1.5:1

형 번	입력축회전수	1,750	1,460	1,150	870	580	400	300	200	150	100	50	10
SM6A15	입력축 KW	13.6	12.1	9.99	7.68	5.23	3.67	2.78	1.88	1.42	0.957	0.485	0.099
	입력토르크(kgf.m)	7.60	8.10	8.46	8.60	8.78	8.93	9.02	9.15	9.22	9.32	9.45	9.64
	출력토르크(kgf.m)	11.2	11.9	12.4	12.6	12.9	13.1	13.2	13.4	13.5	13.7	13.9	14.2
SM7A15	입력축 KW	17.4	15	12	9.3	6.32	4.41	3.35	2.28	1.82	1.16	0.66	0.12
	입력토르크(kgf.m)	9.66	10.06	10.20	10.40	10.61	10.74	10.88	11.08	11.22	11.29	11.56	11.70
	출력토르크(kgf.m)	14.20	14.80	15.00	15.30	15.60	15.80	16.00	16.30	16.50	16.60	17.00	17.20
SM8A15	입력축 KW	22.9	19.3	15.5	11.9	8.14	5.71	4.34	2.93	2.22	1.50	0.759	0.155
	입력토르크(kgf.m)	12.7	12.9	13.1	13.3	13.7	13.9	14.1	14.2	14.4	14.6	14.8	15.1
	출력토르크(kgf.m)	18.6	18.9	19.2	19.5	20.1	20.4	20.7	20.8	21.1	21.4	21.7	22.2
SM10A15	입력축 KW	46.0	39.0	31.2	24.1	16.4	11.6	8.79	5.95	4.51	3.04	1.55	0.316
	입력토르크(kgf.m)	25.6	26.0	26.4	27.0	27.5	28.2	28.5	29.0	29.3	29.6	30.2	30.8
	출력토르크(kgf.m)	37.6	38.2	38.8	39.7	40.4	41.4	41.9	42.6	43.0	43.5	44.4	45.2
SM12A15	입력축 KW	65.9	58.7	49.2	40.6	28.9	20.3	15.5	10.5	7.95	5.37	2.73	0.56
	입력토르크(kgf.m)	36.7	39.2	41.7	45.5	48.5	49.4	50.3	51.1	51.6	52.3	53.2	54.5
	출력토르크(kgf.m)	53.9	57.6	61.3	66.9	71.3	72.6	73.9	75.1	75.8	76.9	78.2	80.1

■ RATIO 2.5:1

형 번	입력축회전수	1,750	1,460	1,150	870	580	400	300	200	150	100	50	10
SM6A25	입력축 KW	7.13	6.01	4.79	3.68	2.49	1.74	1.32	0.899	0.671	0.451	0.228	0.046
	입력토르크(kgf.m)	3.97	4.01	4.05	4.12	4.18	4.23	4.28	4.33	4.35	4.39	4.44	4.48
	출력토르크(kgf.m)	9.72	9.82	9.92	10.1	10.2	10.3	10.5	10.6	10.6	10.7	10.8	11.0
SM7A25	입력축 KW	8.36	6.99	5.64	4.3	2.92	2.05	1.55	1.05	0.78	0.52	0.26	0.05
	입력토르크(kgf.m)	4.65	4.69	4.78	4.82	4.90	4.98	5.02	5.10	5.12	5.14	5.20	5.27
	출력토르크(kgf.m)	11.40	11.50	11.70	11.80	12.00	12.20	12.30	12.50	12.55	12.60	12.75	12.90
SM8A25	입력축 KW	13.5	11.5	9.14	7.02	4.77	3.34	2.53	1.71	1.29	0.867	0.439	0.089
	입력토르크(kgf.m)	7.51	7.67	7.74	7.86	8.01	8.13	8.21	8.33	8.37	8.44	8.55	8.66
	출력토르크(kgf.m)	18.4	18.8	18.9	19.2	19.6	19.9	20.1	20.4	20.5	20.7	20.9	21.2
SM10A25	입력축 KW	21.7	18.3	14.7	11.3	7.67	5.37	4.07	2.75	2.08	1.40	0.709	0.144
	입력토르크(kgf.m)	12.1	12.2	12.4	12.6	12.9	13.1	13.2	13.4	13.5	13.6	13.8	14.0
	출력토르크(kgf.m)	29.6	29.9	30.4	30.8	31.6	32.1	32.3	32.8	33.1	33.3	33.8	34.3
SM12A25	입력축 KW	37.4	31.3	25.3	19.5	13.3	9.33	7.08	4.78	3.62	2.44	1.24	0.252
	입력토르크(kgf.m)	20.8	21.1	21.4	21.8	22.3	22.7	23.0	23.3	23.5	23.7	24.1	24.5
	출력토르크(kgf.m)	51.0	51.7	52.4	53.4	54.6	55.6	56.3	57.1	57.6	58.0	59.0	60.0

■ RATIO 3:1

형 번	입력축회전수	1,750	1,460	1,150	870	580	400	300	200	150	100	50	10
SM6A30	입력축 KW	5.79	4.88	3.89	2.98	2.02	1.41	1.07	0.718	0.542	0.364	0.184	0.037
	입력토르크(kgf.m)	3.22	3.25	3.29	3.33	3.39	3.43	3.47	3.49	3.52	3.54	3.58	3.60
	출력토르크(kgf.m)	9.46	9.55	9.67	9.79	9.96	10.1	10.2	10.2	10.3	10.4	10.5	10.6
SM7A30	입력축 KW	6.48	5.42	4.34	3.34	2.25	1.58	1.18	0.8	0.62	0.41	0.2	0.04
	입력토르크(kgf.m)	3.63	3.66	3.70	3.77	3.80	3.87	3.87	3.94	3.97	4.01	4.08	4.11
	출력토르크(kgf.m)	10.60	10.70	10.80	11.00	11.10	11.30	11.30	11.50	11.60	11.70	11.90	12.00
SM8A30	입력축 KW	9.78	8.25	6.58	5.05	3.43	2.40	1.81	1.22	0.923	0.621	0.314	0.064
	입력토르크(kgf.m)	5.44	5.50	5.57	5.65	5.76	5.84	5.87	5.94	5.99	6.04	6.11	6.23
	출력토르크(kgf.m)	16.0	16.2	16.3	16.6	16.9	17.1	17.2	17.4	17.6	17.7	17.9	18.3
SM10A30	입력축 KW	16.8	14.1	11.3	8.68	5.90	4.13	3.12	2.11	1.59	1.07	0.95	0.110
	입력토르크(kgf.m)	9.35	9.40	9.57	9.72	9.91	10.0	10.1	10.2	10.3	10.4	10.5	10.7
	출력토르크(kgf.m)	27.5	17.6	28.1	28.5	29.1	29.4	29.7	30.0	30.3	30.6	30.8	31.4
SM12A30	입력축 KW	28.2	23.8	17.1	14.6	9.97	6.99	5.30	3.58	2.70	1.82	0.922	0.188
	입력토르크(kgf.m)	15.7	15.9	16.1	16.3	17.7	17.0	17.2	17.4	17.5	17.7	17.9	18.3
	출력토르크(kgf.m)	46.1	46.7	47.3	47.9	49.1	50.0	50.5	51.1	51.4	52.0	52.6	53.8

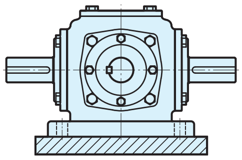
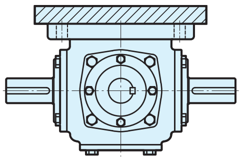
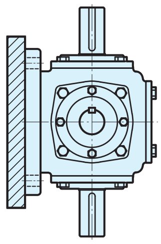
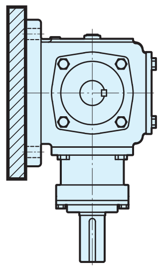
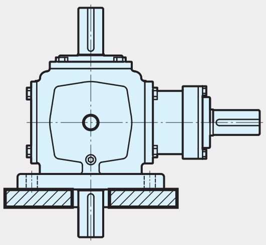
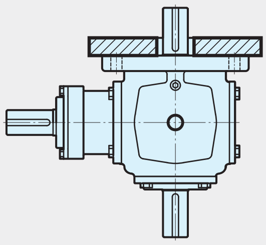
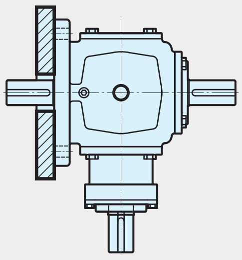
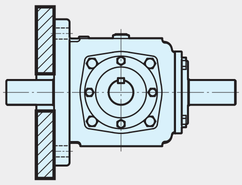
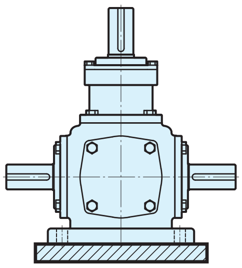
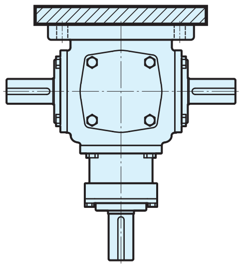
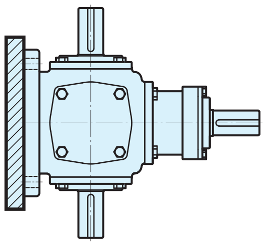
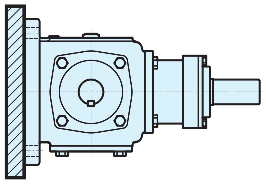
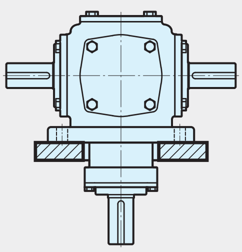
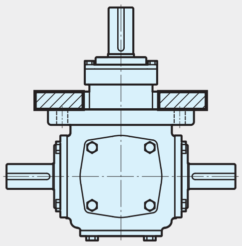
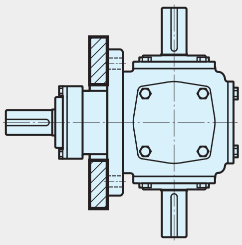
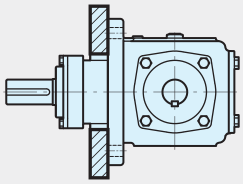
■ 설치 및 시운전

기어박스를 다른 동력전달기구와 연결 사용할 경우 양축의 중심선이 일치하도록 사용함으로써 축의 편하중으로 인한 내부 부품의 수명저하를 방지할 수 있습니다.

■ INSTALLTION

AFTER ENOUGH CONSIDERATION OF THE TRANSMISSION ELEMENTS AND METHODS GEAR BOX TO DRIVEN MACHINE, CONNECT THE FIRMLY ON EXACT POSITION THROUGH THE MEASUREMENTS FOR THE PURPOSE OF MAINTAINING ESSENTIAL FUNCTION

■ 여러가지 설치 방법 VARIOUS CONVENIENT MOUNTING

설치방법 / 적용규격	수평설치	천정설치	측면설치	
I-LR(0) I-R(0) I-L(0)				
I-UD(0) I-U(0) I-D(0)				
U-LR(0) U-R(0) U-L(0)				
D-LR(0) D-R(0) D-L(0)				

■ 오일교환 및 점검

GEAR BOX의 윤활은 OIL bath방식이며 처음 작동 후 2주일 또는 100~200시간 사용 후 새로 교환 해줌으로써 GEAR 및 BEARING의 성능과 수명 보전에 도움이 됩니다. 이후에는 사용조건에 따라 6~12개월 주기로 교환하며 1일 12시간 이상 작동시 3~6개월 주기로 교환합니다.

■ LUBRICATION AND MAINTENANCE

LUBRICATED BY OIL BATH DESIDES ATTATCHED ENABLES SOOTH OIL CIRCULATION LUBRICATION OIL MUST BE REPLACED AFTER FIRST 100~200HOURS RUNNING REGARDLESS OF OIL QUANTITY AND OIL PURTY, HEREAFTER REPLACE OIL EVERY 6~12 MONTHS ACCORDING TO RUNNING TIME OR OIL CONDITON

■ 공업용 기어오일 규격표 INDUSTRIAL GEAR OIL

종 류 TYPE			용 도 USAGE
공업용 기어오일 INDUSTRIAL GEAR OIL	제1종 CLASS ONE	ISO VG32 ISO VG46 ISO VG68 ISO VG100 ISO VG150 ISO VG220 ISO VG320 ISO VG460	일반기계의 고속경하중용 적합 GENERAL AND LIGHT LODED CLOSED GEAR SYSTEM
	제2종 CLASS TWO	ISO VG68 ISO VG100 ISO VG150 ISO VG220 ISO VG320 ISO VG460	일반기계, 압연기 등 저속중하중용 적합 GENERAL AND HEAVY LODED CLOSED GEAR SYSTEM

■ 각종 기어장치의 고장원인과 그 대책 TROUBLE – SHOOTING

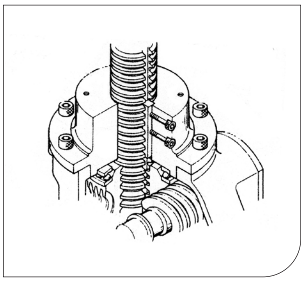
문제점 TROUBLE	원 인 CAUSE	대 책 MEASURED TO BE TAKEN
높은열이 발생하는 경우 OVERHEATING	과부하운전 또는 윤활유 적음 OVERLOAD & SMALL OIL	기아박스 용량 점검, 윤활유 보충 ACTUAL LOADING, OIL TO PROPER LEVEL
소음, 진동이 심할 경우 UNUSUAL VIBRATION AND BUZZES	기어 및 베아링 파손 DEFECTIVE GEAR, BEARING 고정볼트 풀림 LOOSED MOUNT & SCREWS	기어, 베아링 교환 REPLACED IT 볼트 조여 줌 TIGHTEN AND FAST BOLTS
오일누유 시 LEAKING OF OIL	오일씰 및 가스켓 손상 DEFECTIVE OILSEAL & GASKET	오일씰 및 가스켓 교환 REPLACED OIL SEAL & GASKET
입 · 출력축의 회전불량 INPUT/OUTPUT SHAFT DO NOT ROTATE	기어 및 베아링, 키이파손 DEFECTIVE GEAR, BEARING, KEY	원인 품목 교환 REPLACED IT

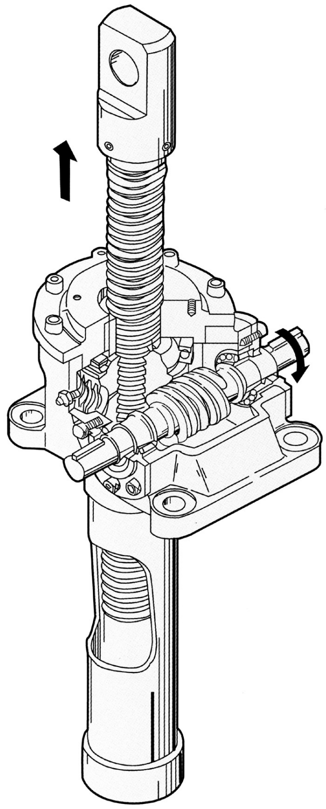
■ TM나사축 승강형

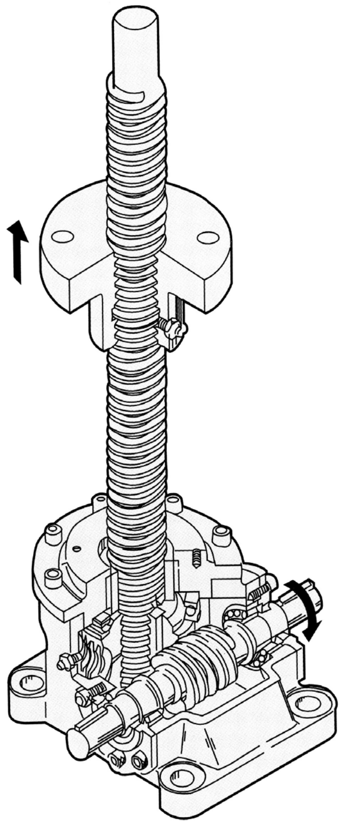
- SMJ표준형잭은 고효율, 고강도의 승강, 하강직선력 전달장치로서 위엄기어와 승강나사 축으로 구성되었습니다.
  It is composed of high precision worm gear and trapezoidal screw shaft.
  Technology only make to manufactired SMJ JACK.
- 위엄기어의 윤활은 구리스 방식이며 행정구간내에 편리한 위치에 역회전 제어장치가 가능합니다.(그림1)
  Wormgear part is greased, SELF-LOCKING is possible at point of storke.(Fig1)
- 주요구성 부품재질

PART'S	MATERIAL
케이스, 카바 CASE / COVER	FCD45
워엄휘일 WORM WHEEL	ALBC2
워엄나사 WORM	S45C
스크류축 TM SCREW	S45C
볼스크류축 BALL SCREW	S55C
볼스크류너트 BALL NUT	SCM415

Fig1. 역회전 방지장치 Self-Locking

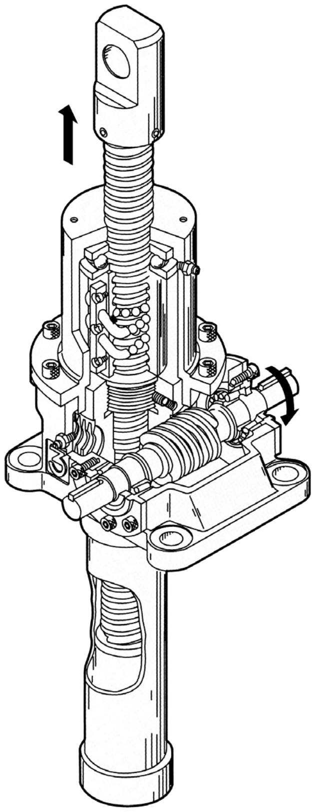






■ TM너트 승강형

- 나사축이 회전하면 너트가 직선운동하는 형태의 너트 승강형 잭입니다.
  The jack with traveling nut and turning screw shaft is called Traveling Nut type.
- 나사축의 승하강 공간을 필요로 하지 않으므로 행정(Stroke)을 끝까지 유효하게 사용 할 수 있고 특히 공간이 제한되어 있는 경우에 편리합니다.
  Since it is not necessary for the lifting room of screw shaft, one can effectively use the stroke to the end point and it is convenient for use in limited space.
- 긴 행정(Stroke)의 경우에도 안정된 승하강을 가능하게 하기 때문에 나사축 선단 지지가 쉽고 나사축 선단에 축수용의 원통형 마무리 부분으로 설계되어 있습니다. 나사축 선단지지에 통상 사용되는 래디얼 베어링 대신 트러스트 베어링을 채용하여 축단 형상을 일부 변형하는 것으로 긴 행정(Stroke) 의 경우에도 좌굴을 피할 수 있습니다.
  Since a steady movement is possible even for a longstorke, it is easy to support screw shaft. Shaft end is finished in round. Instead of using commonly using redial bearing, a trust bearing is adopted in screw shaft support. This design is a partially modified for reducing the side force even in a long stroke.



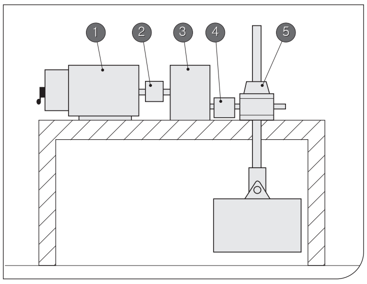
■ 볼(BALL) 스크류형

• SMJB표준 볼스크류잭은 저소음, 고속장치에 적합한 정밀볼나사축과 너트를 사용합니다.
It possible to manufactured high precision SMJ standard ball screw jack.

• 볼스크류잭은 효율이 높은 반면 자동조임(정지)장치가 작동하지 않으므로 브레이크부착 모터를 권장합니다.
Ball screw jacks have very high efficiency, but are not self-locking, so motors with brake or other braking device aer indispensable for them.

• 잭의 운동을 정확히 정지시키기 위해서는 브레이크가 필요합니다.
스크류잭은 자동조임장치가 작용하기 때문에 브레이크가 필요없는 경우가 있습니다만 고정밀의 정확한 칫수동작이나 정지시의 하중유지를 확실하게 하기 위해서는 브레이크를 설치 하십시오.
Brakes are necellary for accurately stopping the motion of jacks. Screw jacks do not require the use of brakes in some cases because they are selflocking.
However, brakes must be used for high-accuracy operation and for positive retention of loads at the time of stop.

Fig2. 브레이크장치 사례



❶ 브레이크가 부착된 모터 Moter with brake
❷ 모터측 커플링 Motor side coupling
❸ 중간 감속기 Intermediate Speed reducer
❹ 잭슨커플링 Jack Side Coupling
❺ 잭 Jack

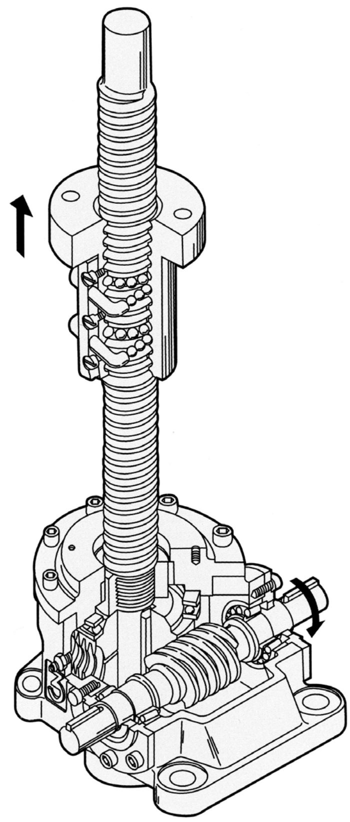
■ 볼(BALL)너트형

• 나사축이 회전하면 너트가 직선운동하는 형태의 너트 승강형 볼스크류잭입니다.
The jack with traveling nut and turning screw shaft is called Traveling Nut type.

• 나사축의 승하강 공간을 필요로 하지 않으므로 행정(Stroke)을 끝까지 유효하게 사용할 수 있고 특히 공간이 제한되어 있는 경우에 편리합니다.
Since it is not necessary for the lifting room of screw shaft, one can effectively use the stroke to the end point and it is convenient for use in limitde space.

• 긴 행정(Stroke)의 경우에도 안정된 승하강을 가능하게 하기 때문에 나사축 선단 지지가 쉽고 나사 선단에 축수용의 원통형 마무리 부분으로 설계되어 있습니다.
나사축 선단지지에 통상 사용되는 래디얼 베어링 대신 트러스트 베어링을 채용하여 축단 형상을 일부 변형하는 것으로 긴 행정(Stroke)의 경우에도 좌굴을 피할 수 있습니다.

■ 주의 : 볼스크류잭의 경우 재고상황에 따라 너트 등의 치수가 일부 변할 수 있으므로 반드시 당사와 협의 후 사양을 확정하시기 바랍니다.



제품기호표기 Product Code System

SMJ	B	56	H	U	B	400	F

스크류잭
Screw Jack

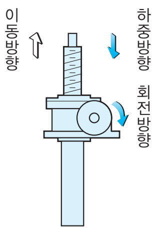
볼스크류잭
Ball Screw

규 격
Type

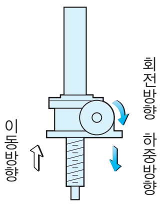
월감속비
Worm Ratio

규 격 TYPE	용 량 TONf	고 속 HIGH	저 속 LOW
SMJ32	1	5	24
SMJ44	2.5	6	24
SMJ50	3.5	6	12
SMJ56	5	6	24
SMJ66	10	8	24
SMJ66S	15	8	24
SMJ73	20	8	24
SMJ95	30	10	32
SMJ135	50	10	32
SMJ155	75	12	36
SMJ190	100	12	36

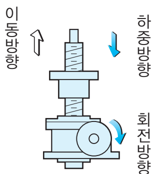
외 형
Profile

U


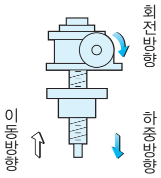
상방향형

D


하방향형

NU


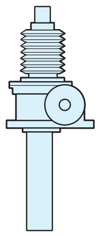
상방향형

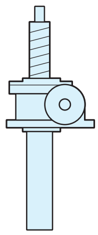
ND


하방향형

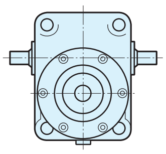
행정거리
Stroke

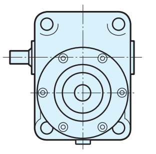
축보호커버
Bellows

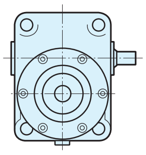
B

축보호카바 부착

N

축보호카바 없음

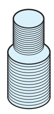
입력축방향
Input Shaft

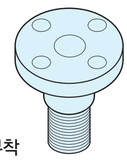
A


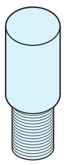
B


C


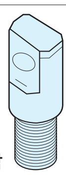
나사축과 너트형태
Screw and Nut

S

기본형

F

플랜지 너트 부착

P

플레인너트부착

K
회전방지키 부착
Prevent Key

C

크레비스 너트 부착

잭의 선택자료 How To Choose Screw Jack

■ 사용자 자료

- 기기장치에 필요한 잭 1대당 의 작동하중을 기입하십시오.

ⓐ 승강시 하중 : TONf

- 기기 장치에 필요한 승강속도를 기입하십시오.

ⓑ 승강속도 : mm/min

- 아래표의 ① 하중용량을 참조하여 필요하중 조건에 적합한 잭 형번을 임의로 선정하십시오.

잭형번 :

- 계 산 : 1

아래표의 ② 속도계수로부터 입력축 회전수를 계산하십시오.

$$\text{입력축 회전수} = \frac{\text{자 료 ⓑ}}{\text{자 료 ②}}$$

ⓒ 입력축 회전수 : RPM

- 계 산 : 2

아래표의 ③ 토르크계수, ④ 입력축 부하 토르크로 부터 소요입력축 토르크를 계산하십시오.

소요입력축 토르크 = 자료 ③ × 자료 ⓐ + 자료 ④

ⓓ 소요입력축 토르크 : kgf-m

- 계 산 : 3

이제까지의 계산 결과로 부터 소요동력을 계산하십시오.

$$\text{소요동력} = \frac{\text{자 료 ⓒ} \times \text{ⓓ}}{974}$$

ⓔ 소요동력 : kw

- 검 토 :

아래표의 ⑤ 최대동력을 참조하여 ⓔ 소요동력이 최대동력을 초과하지 않는지를 확인하십시오. 초과시에는 다음 형번의 형번을 임의로 선정하십시오. 다시 최대 동력이 초월할 시에는 잭 형번을 다음 형번의 것으로 하여 다시 계산하십시오.

■ User Date

- Enter the necessary operational load per jack:

(a) Lifting Load : ton

- Enter required lifting speed.

b) Lifting Speed : mm/min

- Enter an appropriate jack type from Table ① below forrequired load in (a).

Jack Type :

- Calculation 1 :

Computer Input Shaft RPM using(b) and speed coefficient from Table ②.

Input Shaft RPM = Data from(b) ÷ Data from Table ②

(c) Input Shaft RPM RPM

- Calculation 2 :

Using torque coefficient from Table 3 and Input Shaft Load Torque from Table ④, Compute input shaft torque

Input shaft torque = data from Table ③×data from(a)+data fromTable ④

(d) Necessary Input Shaft Torque kgf-m

- Calculation 3 :

Required power = (data from (c) × data from(d)) ÷ 974

(e) Required Power kw

- Note :

Make sure that computed required power (e) does not exceed the maximum power listed in Table 5. If it exceeds, choose next type and compute the required power (e) again. Repeat this procedure until computed required power meets the maximum power listed in Table ⑤.

■ 제조업체 자료 Manufacturer's Date

형 번 Type	① 하중용량 Load Capacity	② C속도계수 C Speed Coefficient		③ a토르크계수 a Torpue Coefficient		④ d입력축 무부하 토르크 d Input Shaft No Load Torque	⑤ 최대동력 Max Power
	TONf	H	L	H	L	kgf-m	kw
SMJ32	1	0.8	0.17	0.6	0.21	0.03	0.5
SMJ44	2.5	0.83	0.21	0.64	0.27	0.1	1.0
SMJ56	5	1.33	0.33	1	0.45	0.2	2.0
SMJ66	10	1.25	0.42	1	0.46	0.3	2.8
SMJ66S	15	1.25	0.42	1.07	0.5	0.4	3.1
SMJ73	20	1.5	0.5	1.22	0.55	0.5	5
SMJ95	30	1.5	0.5	1.22	0.62	1	8.4
SMJ135	50	1.5	0.5	1.6	0.84	2	13.4
SMJB32	1	1	0.21	0.27	0.09	0.03	0.75
SMJB44	2.5	1.33	0.33	0.35	0.12	0.1	1.3
SMJB56	5	1.67	0.42	0.44	0.20	0.2	2.5
SMJB66	10	1.5	0.50	0.42	0.19	0.3	3.7
SMJB73	20	2	0.67	0.55	0.25	0.5	6
SMJB95	30	1.87	0.63	0.51	0.26	1	9.5

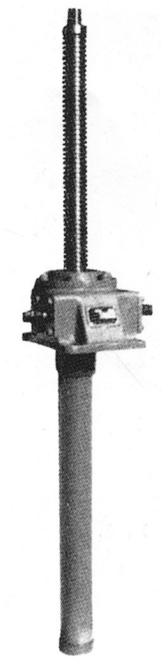
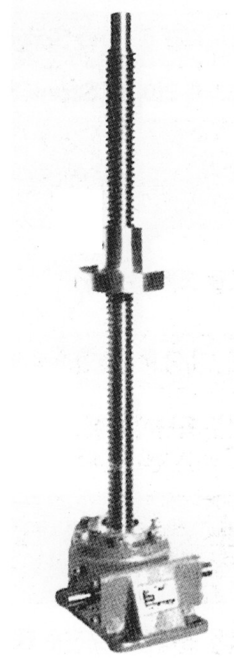
스크류잭 표준규격표

기호참조 : H = HIGH SPEED L = LOW SPEED

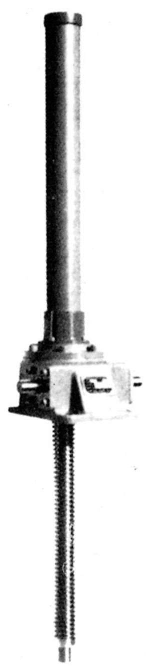
형 번 TYPE			SMJ32	SMJ44	SMJ50	SMJ56	SMJ66	SMJ66S
기본용량 Basic Capacity		TONf	1	2.5	3.5	5	10	15
		KN	9.8	24.5	34.3	49	98	147
스크류외경 Outer Screw Diameter		mm	20	25	32	40	50	55
스크류리이드 Screw Lead		mm	4	5	6	8	10	10
워엄감속비 Worm Ratio		H	5	6	6	6	8	8
		L	24	24	12	24	24	24
행정거리(입력축1회전시) Screw Movement	mm	H	0.8	0.83	1	1.33	1.25	1.25
		L	0.17	0.21	0.50	0.33	0.42	0.42
개략효율 Overall Efficiency	%	H	25	25	25	25	25	20
		L	15	15	15	15	15	14
권장허용동력(최대) MAX.Allowable power	KW	H	0.49	1.0	1.5	2.0	2.8	3.1
		L	0.36	0.46	0.55	0.63	1.4	2.2
권장입력회전속도(최대) MAX. Allowable Input RPM	rev/min	H	750	600	500	400	300	300
		L	1125	900	750	600	400	400
기본용량에 대한 소요입력 토오크 Required Input Torque	Kg.m	H	0.64	1.6	3.2	5.0	9.2	15.2
		L	0.3	0.75	1.6	2.0	4.6	7.4
입력축 허용 토오크	Kg.m		2	5	10	15.7	29.8	29.8
기준중량 Weight	Stroke100mm일때	Kgf	3.6	9	12	16	30	35
그리이스 주입량		kgf	0.1	0.4	0.5	0.6	1.0	1.5
스크류가공형태 Lifting Screw Form			기계절삭 Cutting					
적정사용온도 Operation Temperature Range			–15℃～40℃					

SMJ73	SMJ95	SMJ135	SMJ155	SMJ190
20	30	50	75	100
196	294	490	735	980
63	85	118	132	150
12	16	16	16	20
8	10	10	12	12
24	32	32	36	36
1.5	1.6	1.6	1.33	1.67
0.50	0.50	0.50	0.44	0.56
20	20	15	15	15
14	12	12	10	10
5.0	8.4	13.4	14.4	21.4
3.2	4.6	5.7	7.2	9.4
200	200	150	100	100
300	300	220	150	150
24.3	40.8	87.3	140.7	208
12.6	24.9	46.2	77.6	130
29.8	75	140	180	250
48	80	190	290	500
2.0	3.0	4.0	6.0	8.0
기계절삭 Cutting				
−15℃~40℃				

■ 상방향형 Upright Type

축승강형 Traveling Shaft Type	너트승강형 Traveling Nut Type
	

■ 하방향형 Inverted Type

축승강형 Traveling Shaft Type	너트승강형 Traveling Nut Type
	

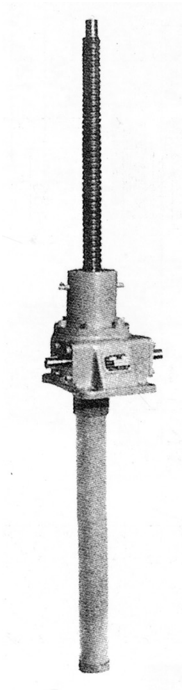
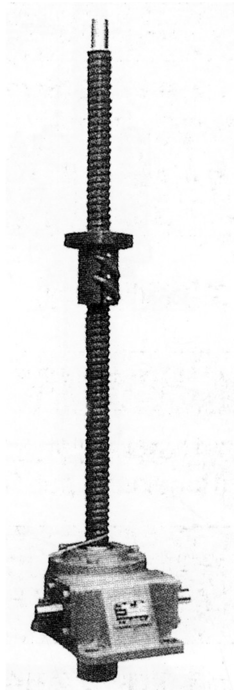
볼스크류잭 표준규격표

기호참조 : H = HIGH SPEED　L = LOW SPEED

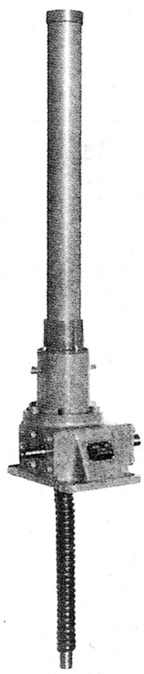
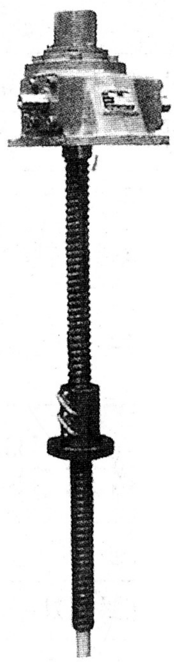
형 번 TYPE			SMJ B32	SMJ B44	SMJ B50	SMJ B56
기본용량 Basic Capacity		TON	1	2.5	3.5	5
		KN	9.8	24.5	34.3	122.5
스크류외경 Outer Screw Diameter		mm	20	25	32	40
스크류리이드 Screw Lead		mm	5	10	10	10
워엄감속비 Worm Ratio		H	5	6	6	6
		L	24	24	12	24
행정거리(입력축1회전시) Screw Movement	mm	H	1	1.67	1.67	1.67
		L	0.21	0.42	0.83	0.42
개략효율 Overall Efficiency	%	H	60	60	60	60
		L	36	36	36	36
권장허용동력(최대) MAX. Allowable power	KW	H	0.5	1.3	1.8	2.2
		L	0.3	0.6	0.9	1.1
권장입력회전속도(최대) MAX. Allowable Input RPM	rev/min	H	1200	900	660	660
		L	1800	1400	1000	1000
기본용량에 대한 소요입력 토오크 Required Input Torque	Kg.m	H	0.27	0.88	1.9	2.2
		L	0.1	0.37	0.9	1.0
입력축 허용 토오크	Kg.m		2	5	10	15.7
기준중량 Weight	Stroke100mm일때	Kgf	5	11	15	21
그리이스 주입량		kgf	0.1	0.4	0.5	0.6
스크류가공형태 Lifting Screw Form			정밀전조 Rolled			
적정사용온도 Operation Temperature Range			−15℃~40℃			

SMJ B66	SMJ B73	SMJ B95
10	20	30
98	196	294
50	63	85
10	20	20
8	8	10
24	24	32
1.25	2.5	2
0.42	0.83	0.63
58	58	58
42	42	42
3.6	5.4	8.9
1.8	2.8	4.1
600	400	330
900	600	500
4.2	11	15
1.9	5.0	8.0
29.8	29.8	75
40	70	120
1.0	2.0	3.0
정밀전조 Rolled		
−15℃~40℃		

■ 상방향형 Upright Type

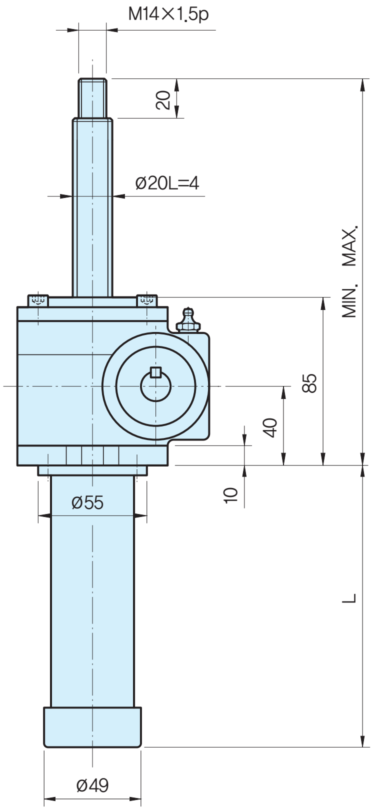
축승강형 Traveling Shaft Type	너트승강형 Traveling Nut Type
	

■ 하방향형 Inverted Type

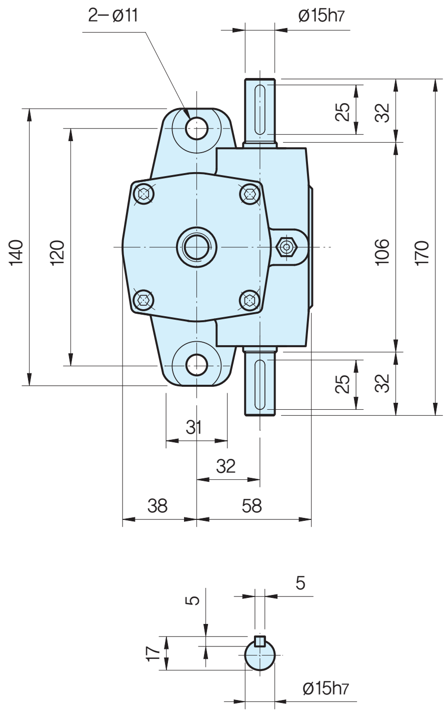
축승강형 Traveling Shaft Type	너트승강형 Traveling Nut Type
	

SMJ32 축승강형

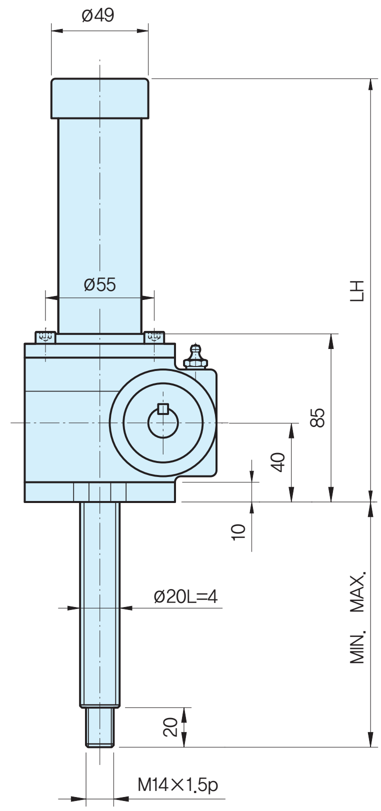
■ 상방향형(U)



■ 평면도

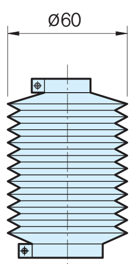


■ 하방향형(D)

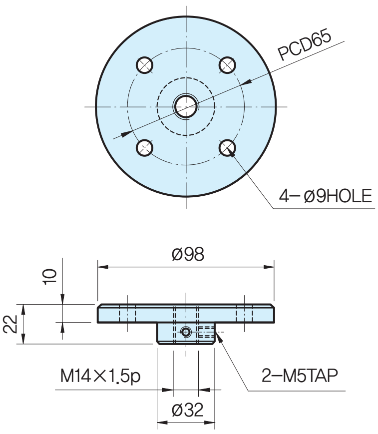


■ 스크류축 체결부품 Output Options

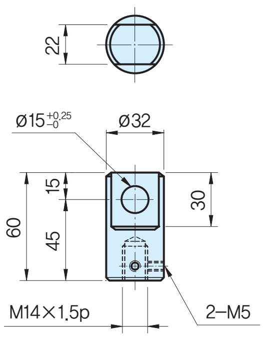
BELLOWS(B)



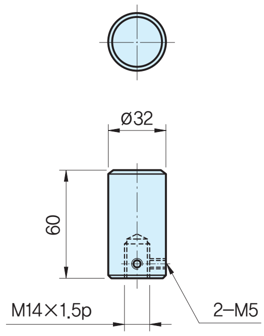
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ32

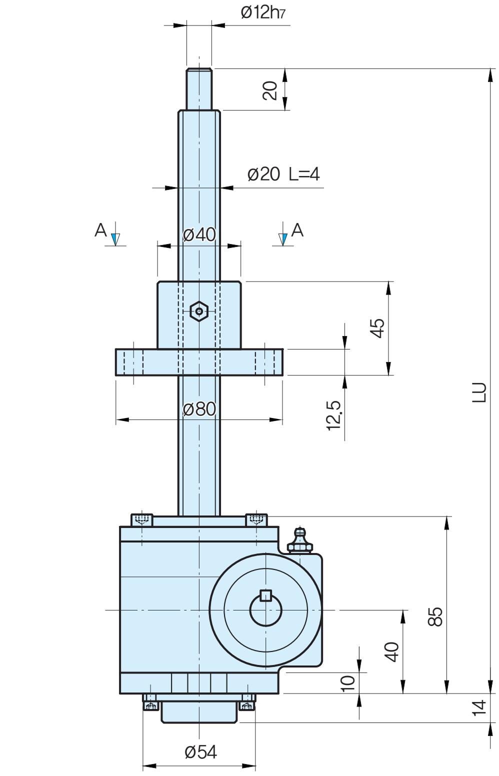
• 개략중량 3.6kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	L
100	120	220	170	270	150
200	120	320	180	380	250
300	120	420	190	490	350
400	120	520	200	600	450
500	120	620	210	710	550
1000	120	1120	310	1310	1050

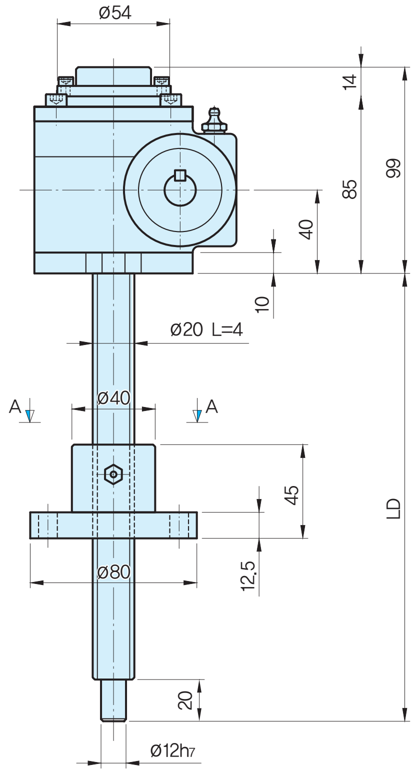
하방향형 D					
행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	LH
100	35	135	85	185	230
200	35	235	95	295	330
300	35	335	105	405	430
400	35	435	115	515	530
500	35	535	125	625	630
1000	35	1035	235	1235	1130

SMJ32N 너트승강형

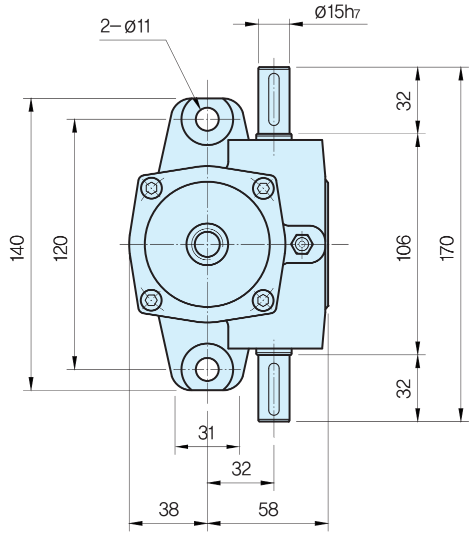
■ 상방향형(NU)

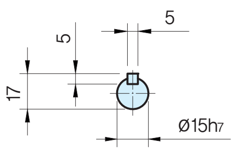


■ 하방향형(ND)

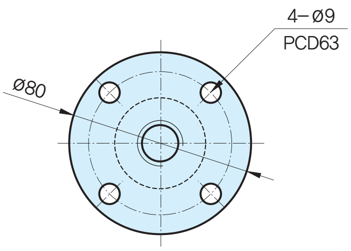


■ 평면도





VIEW A-A

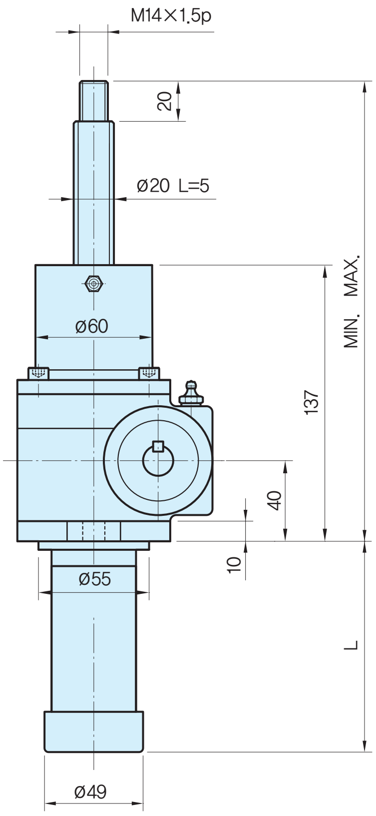


■ 행정기준표 SMJ32N

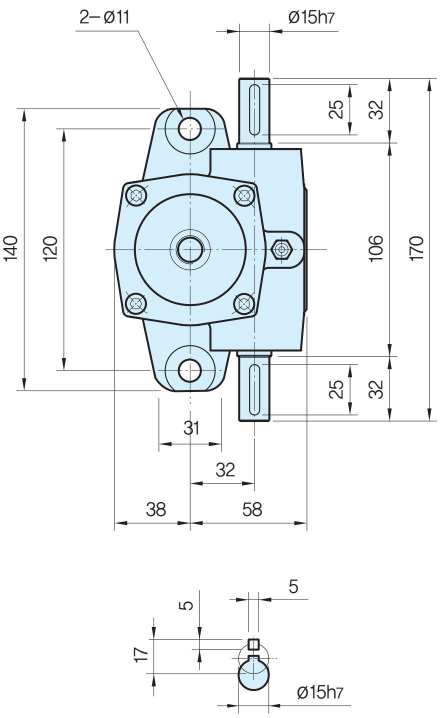
행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	285	200
200	385	300
300	485	400
400	585	500
500	685	600
1000	1185	1100

SMJ B32 축승강형

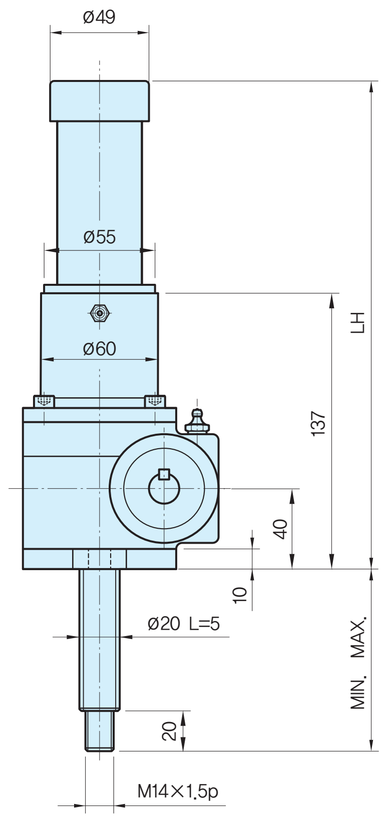
■ 상방향형(U)



■ 평면도

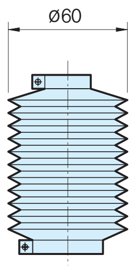


■ 하방향형(D)

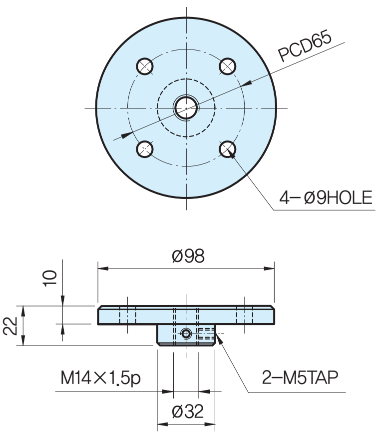


■ 스크류축 체결부품 Output Options

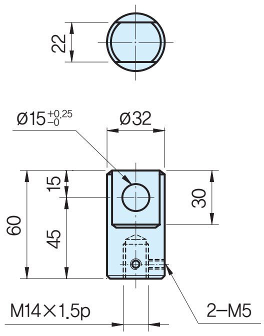
BELLOWS(B)



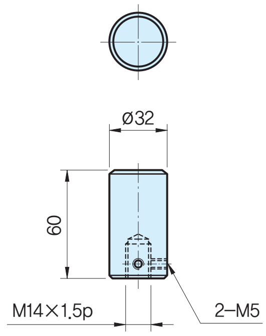
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



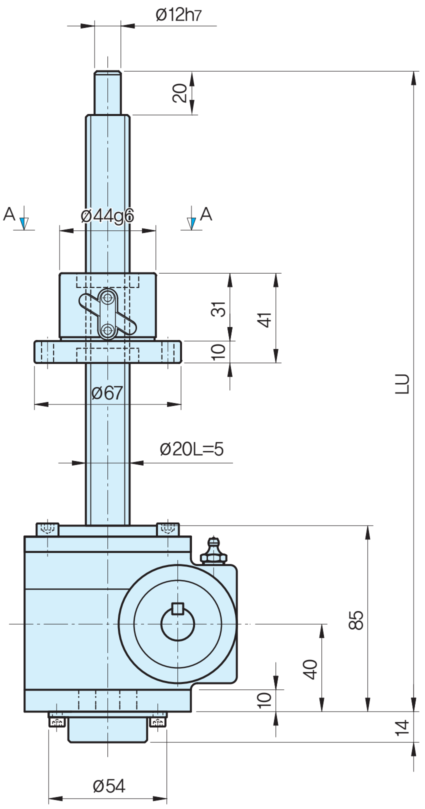
■ 행정기준표 SMJ B32

• 개략중량 5kg/100st

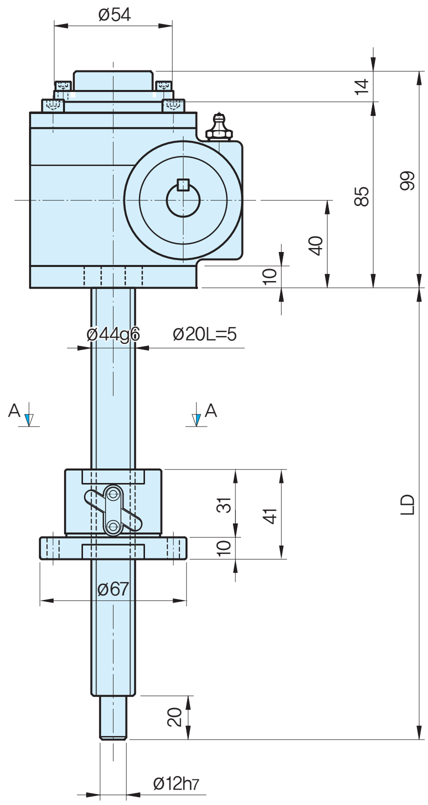
상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	175	275	225	325	150
200	175	375	235	435	250
300	175	475	245	545	350
400	175	575	255	655	450
500	175	675	265	765	550
1000	175	1175	365	1365	1050

하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	35	135	85	185	280
200	35	235	95	295	380
300	35	335	105	405	480
400	35	435	115	515	580
500	35	535	125	625	680
1000	35	1035	235	1235	1180

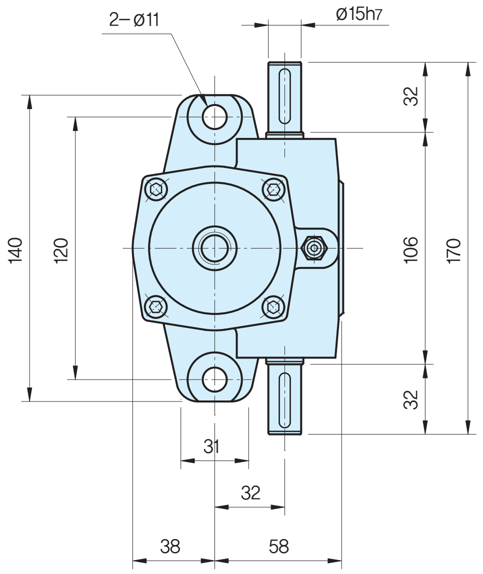
■ 상방향형(NU)

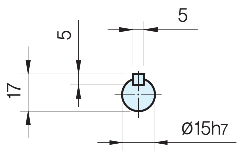


■ 하방향형(ND)

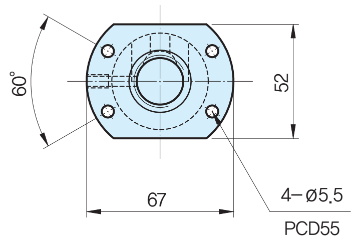


■ 평면도





VIEW A-A



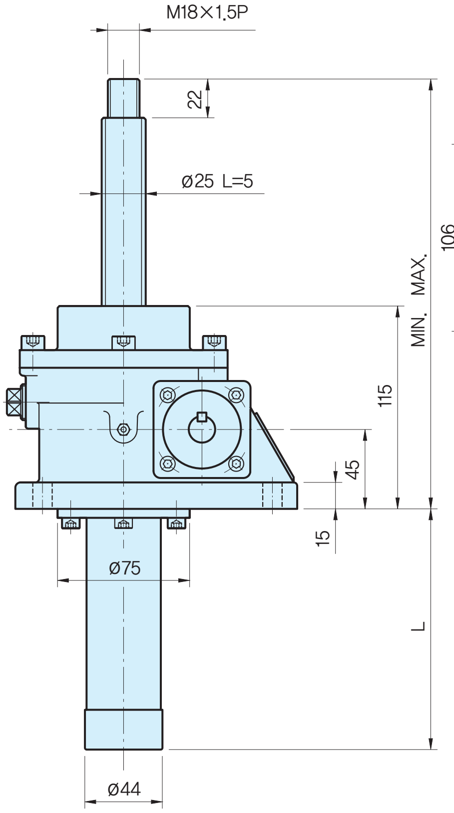
■ 행정기준표 SMJ B32N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	285	200
200	385	300
300	485	400
400	585	500
500	685	600
1000	1185	1100

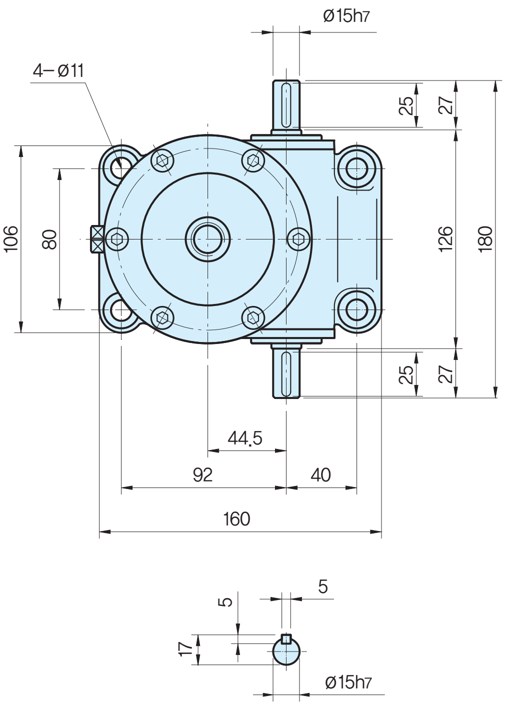
• 참고 : BALL NUT의 치수는 변경될 수 있음.

SMJ44 축승강형

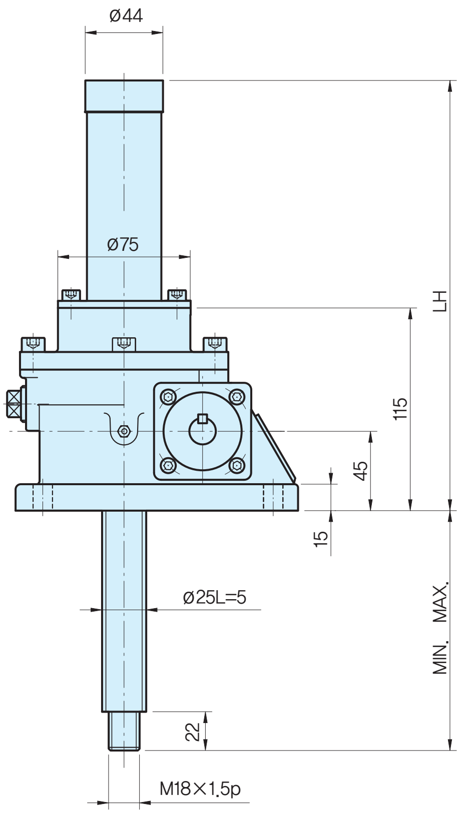
■ 상방향형(U)



■ 평면도

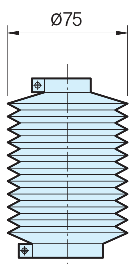


■ 하방향형(D)

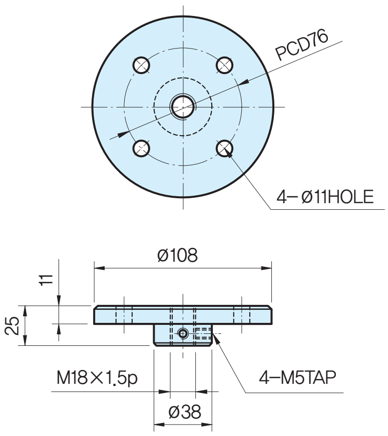


■ 스크류축 체결부품 Output Options

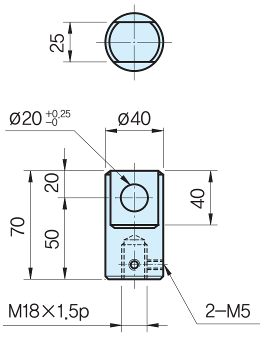
BELLOWS(B)



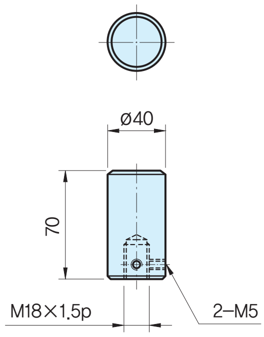
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



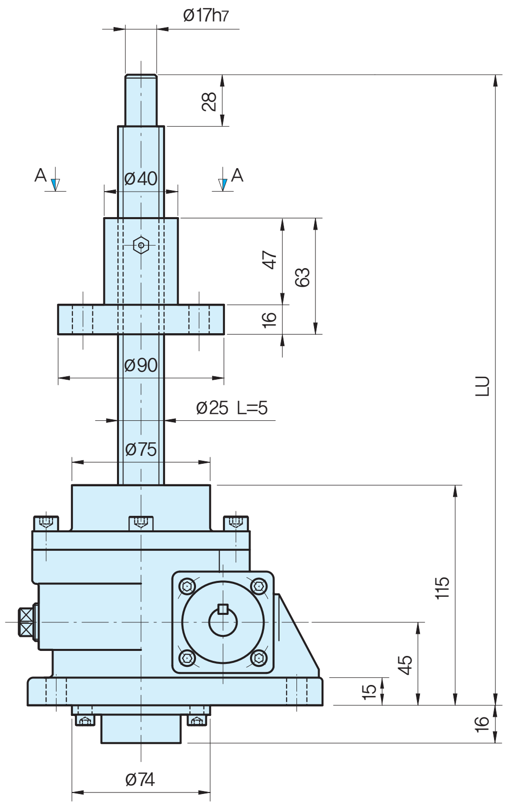
■ 행정기준표 SMJ44

• 개략중량 9kg/100st

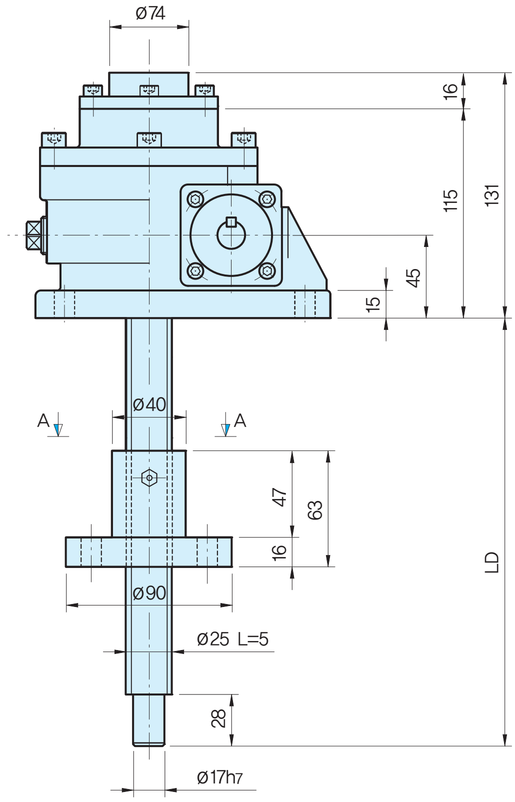
상방향형 U						하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L	행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX			MIN	MAX	MIN	MAX	
100	155	255	205	305	150	**100**	40	140	90	190	270
200	155	355	215	415	250	**200**	40	240	100	300	370
300	155	455	225	525	350	**300**	40	340	110	410	470
400	155	555	235	635	450	**400**	40	440	120	520	570
500	155	655	245	745	550	**500**	40	540	130	630	670
1000	155	1155	345	1245	1050	**1000**	40	1040	230	1230	1170

SMJ44N 너트승강형

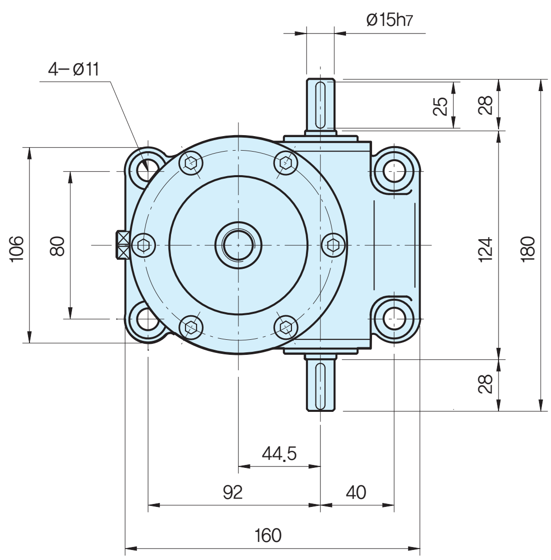
■ 상방향형(NU)

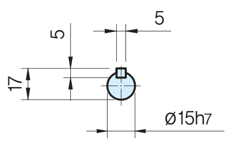


■ 하방향형(ND)

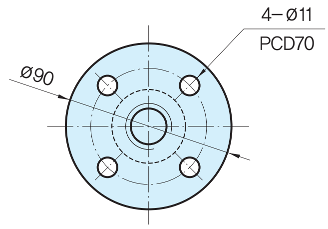


■ 평면도





VIEW A−A

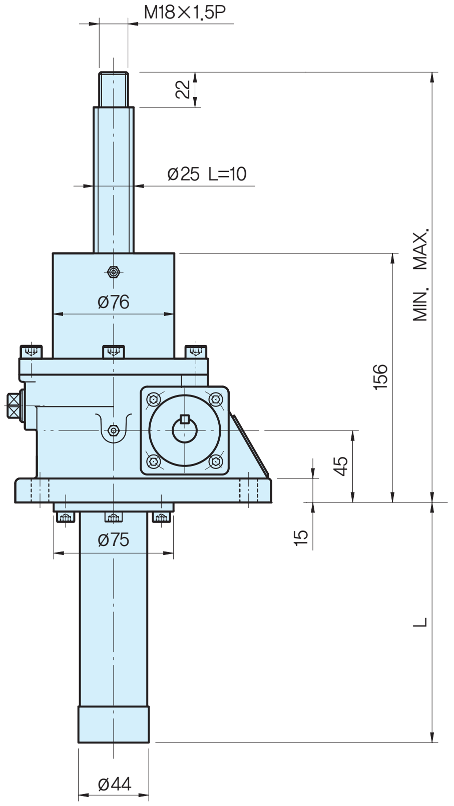


■ 행정기준표 SMJ44N

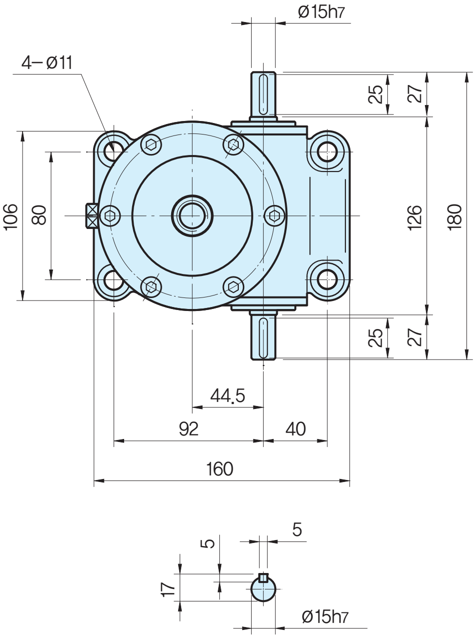
행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	350	235
200	450	335
300	550	435
400	650	535
500	750	635
1000	1250	1135

SMJ B44 축승강형

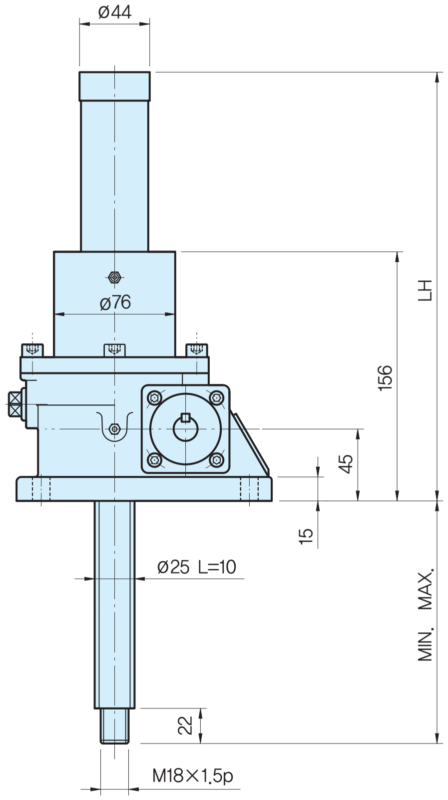
■ 상방향형(U)



■ 평면도

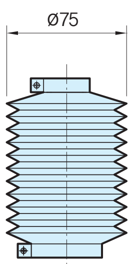


■ 하방향형(D)

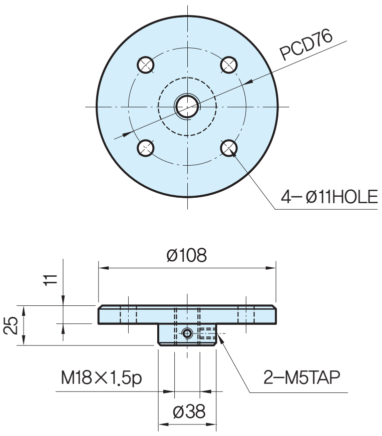


■ 스크류축 체결부품 Output Options

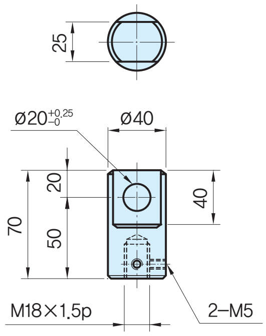
BELLOWS(B)



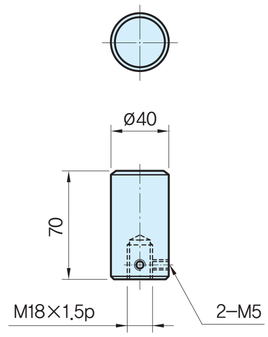
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ B44

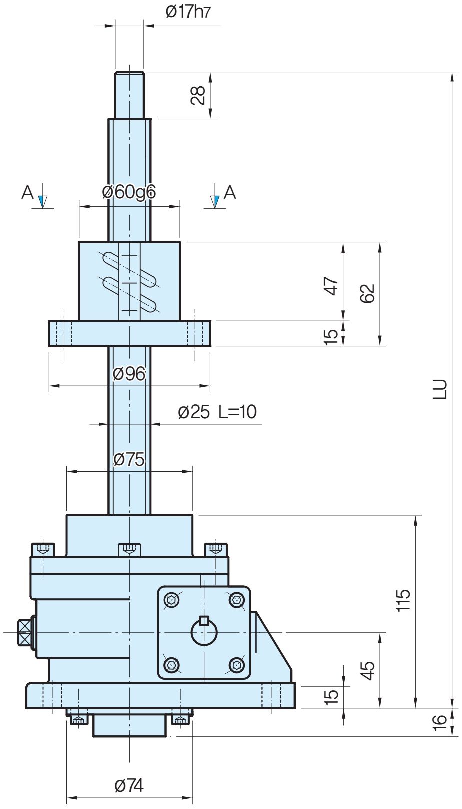
• 개략중량 11kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	L
100	200	300	250	350	150
200	200	400	260	460	250
300	200	500	270	570	350
400	200	600	280	680	450
500	200	700	290	790	550
1000	200	1200	390	1290	1050

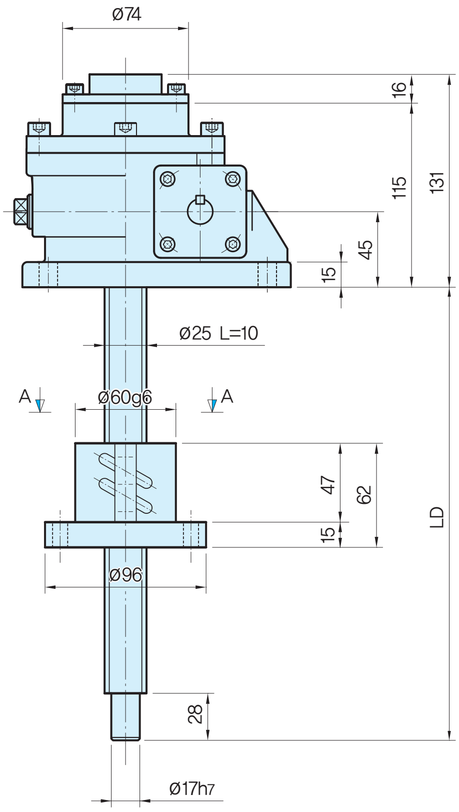
하방향형 D					
행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	LH
100	40	140	90	190	305
200	40	240	100	300	405
300	40	340	110	410	505
400	40	440	120	520	605
500	40	540	130	630	705
1000	40	1040	230	1230	1205

SMJ B44N 너트승강형

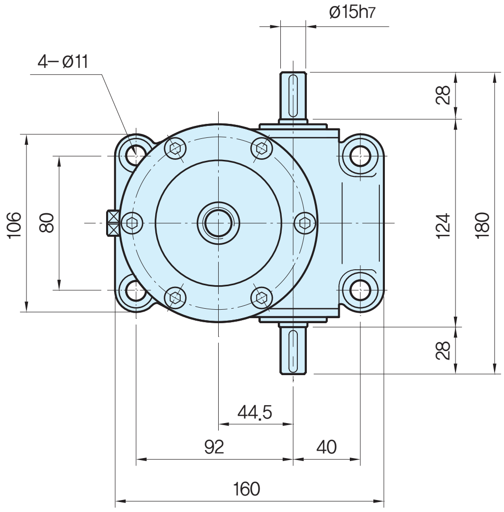
■ 상방향형(NU)

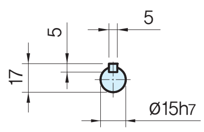


■ 하방향형(ND)

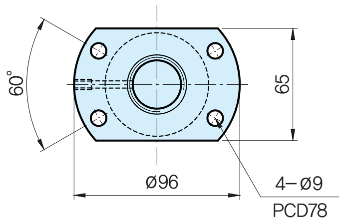


■ 평면도





VIEW A-A



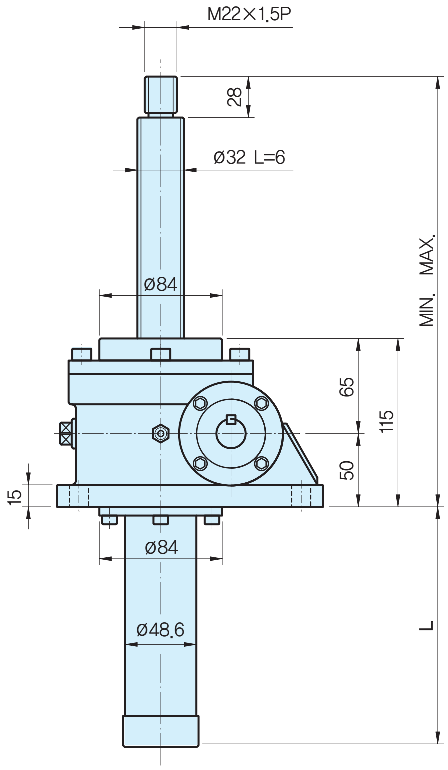
■ 행정기준표 SMJ B44N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	350	235
200	450	335
300	550	435
400	650	535
500	750	635
1000	1250	1135

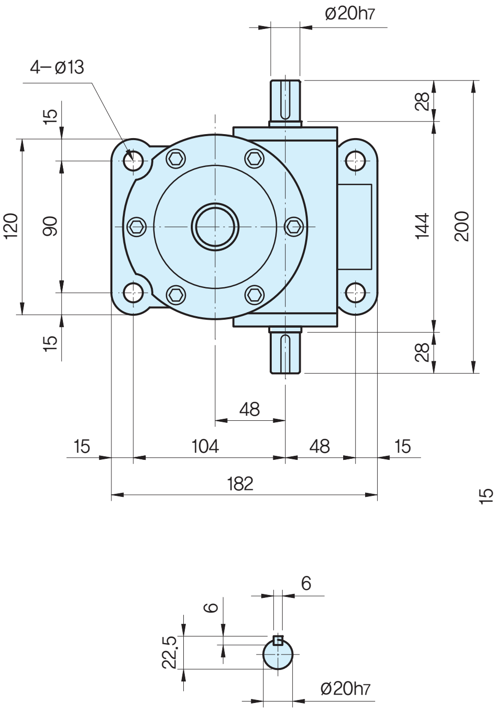
• 참고 : BALL NUT의 치수는 변경될 수 있음.

SMJ50 축승강형

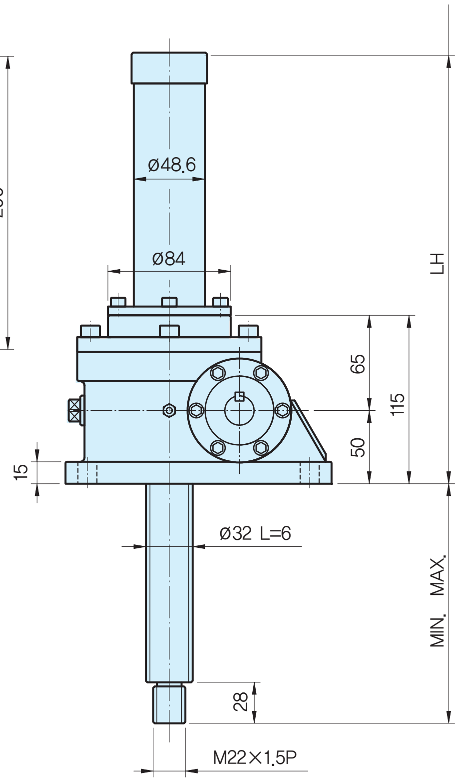
■ 상방향형 (U)



■ 평면도

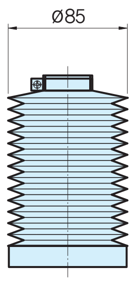


■ 하방향형 (D)

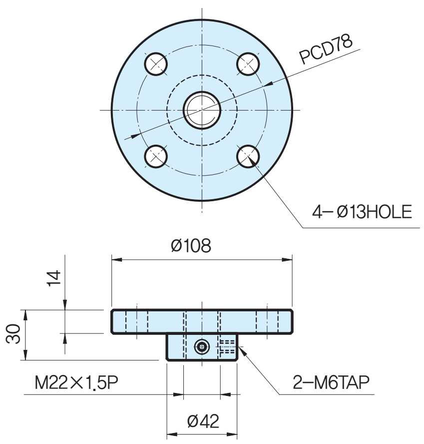


■ 스크류축 체결부품 Output Options

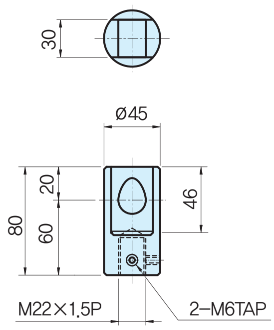
BELLOWS(B)



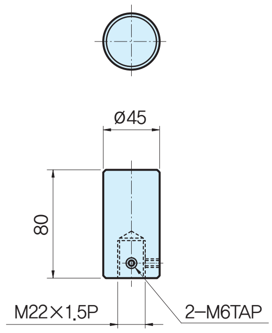
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



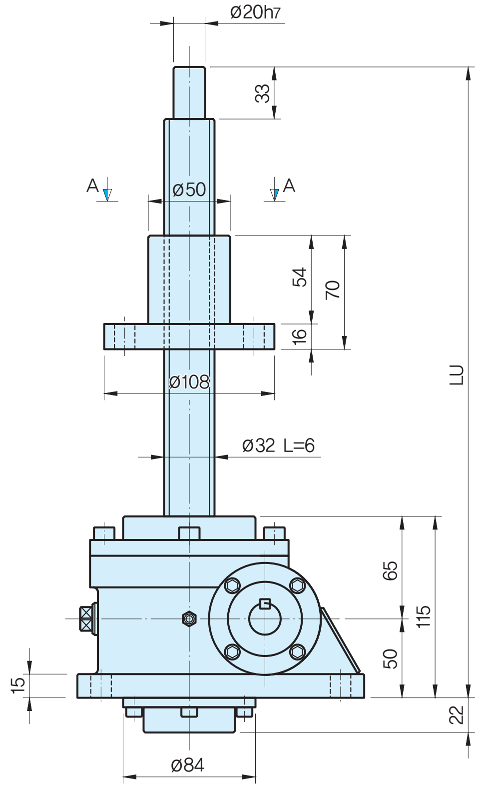
■ 행정기준표 SMJ50

• 개략중량 12kg/100st

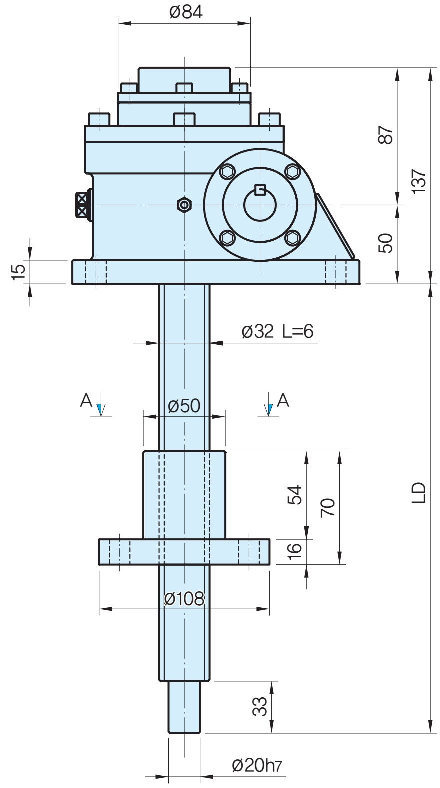
상방향형 U						하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L	행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX			MIN	MAX	MIN	MAX	
100	165	265	215	315	150	100	45	145	95	195	270
200	165	365	225	425	250	200	45	245	105	305	370
300	165	465	235	535	350	300	45	345	115	415	470
400	165	565	245	645	450	400	45	445	125	525	570
500	165	665	255	755	550	500	45	545	135	635	670
1000	165	1165	355	1355	1050	1000	45	1045	235	1235	1170

SMJ50N 너트승강형

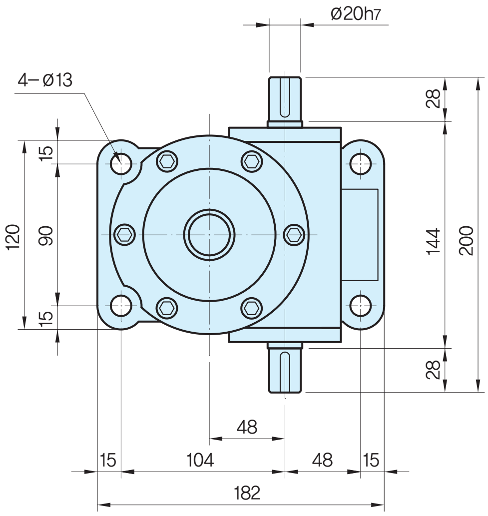
■ 상방향형(NU)

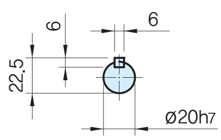


■ 하방향형(ND)

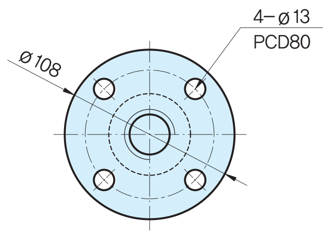


■ 평면도





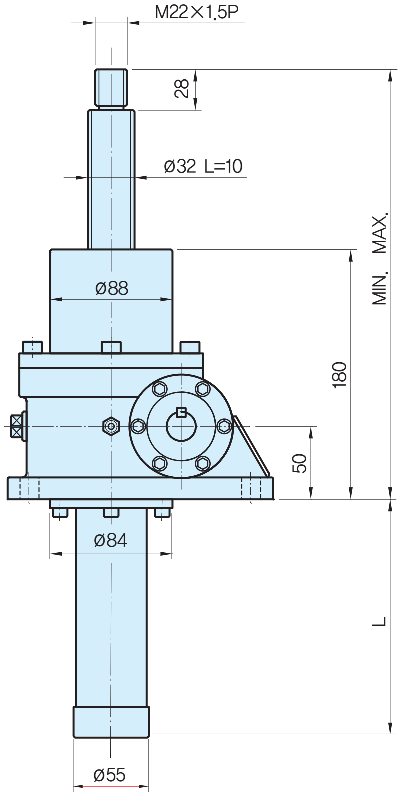
VIEW A-A



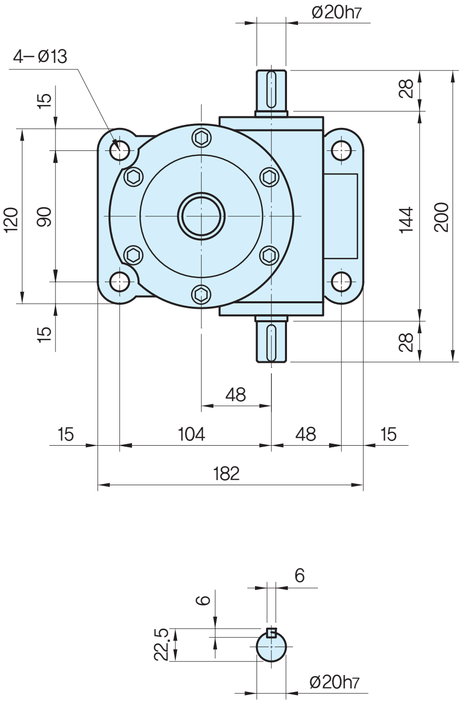
■ 행정기준표 SMJ50N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	365	250
200	465	350
300	565	450
400	665	550
500	765	650
1000	1265	1150

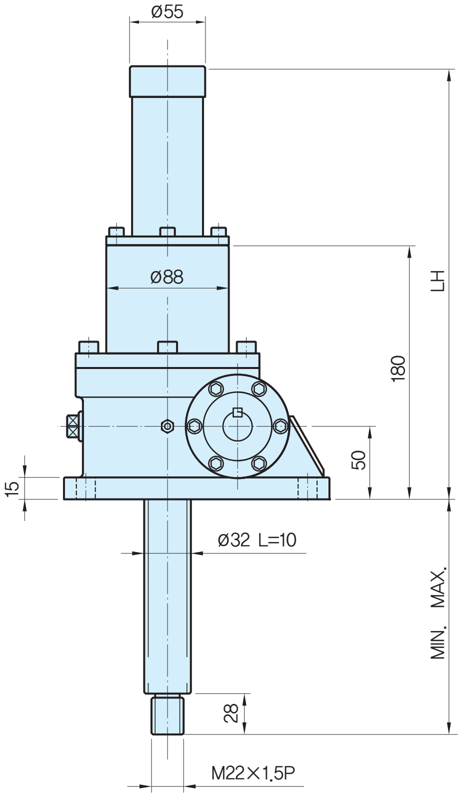
■ 상방향형(U)



■ 평면도

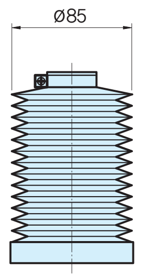


■ 하방향형(D)

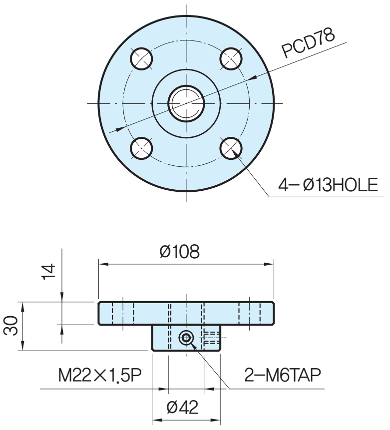


■ 스크류축 체결부품 Output Options

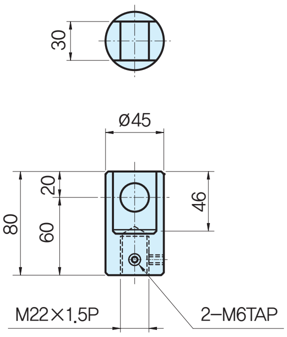
BELLOWS(B)



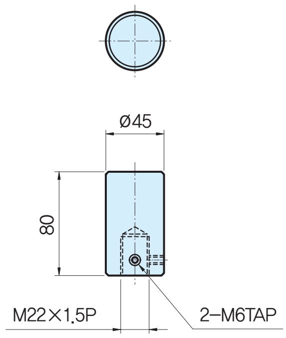
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



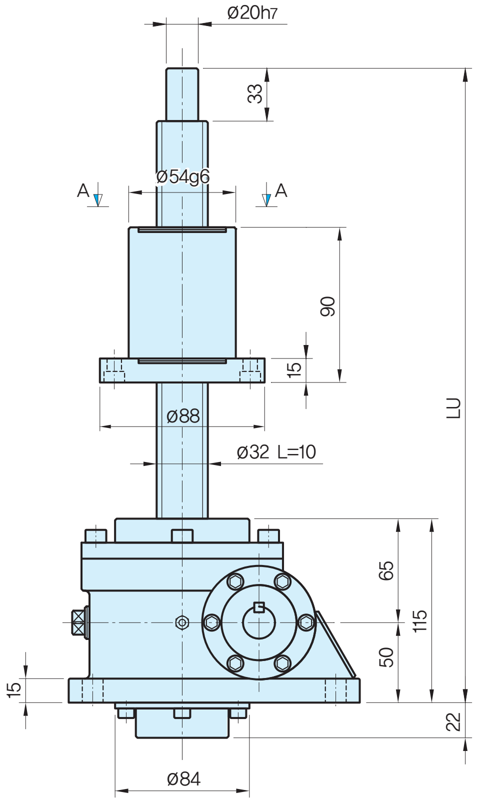
■ 행정기준표 SMJ B50

• 개략중량 15kg/100st

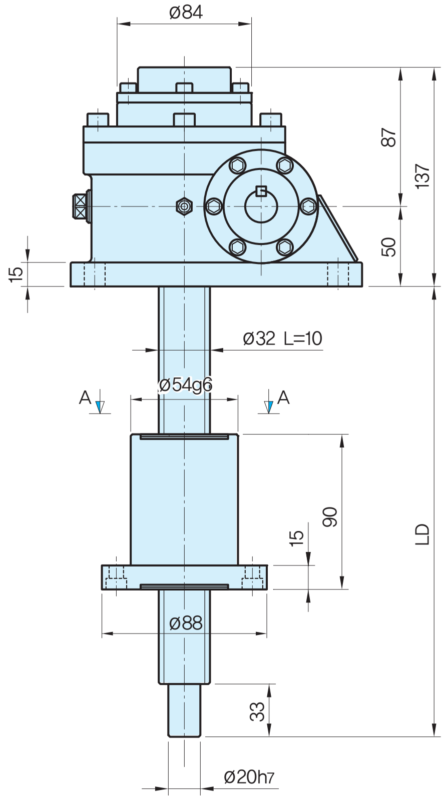
상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	230	330	280	380	150
200	230	430	290	490	250
300	230	530	300	600	350
400	230	630	310	710	450
500	230	730	320	820	550
1000	230	1230	420	1420	1050

하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	45	145	95	195	330
200	45	245	105	305	430
300	45	345	115	415	530
400	45	445	125	525	630
500	45	545	135	635	730
1000	45	1045	235	1235	1230

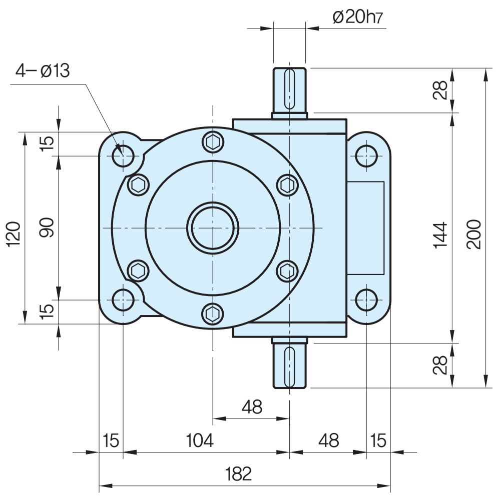
■ 상방향형(NU)

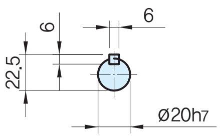


■ 하방향형(ND)

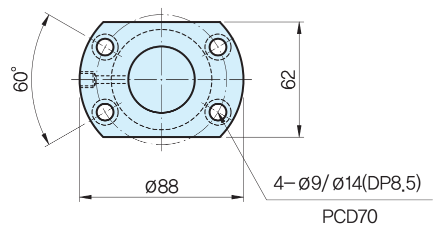


■ 평면도





VIEW A−A



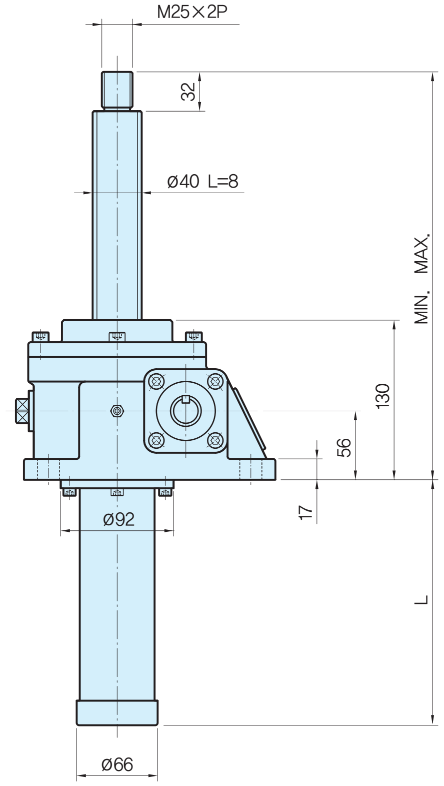
■ 행정기준표 SMJ B50N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	380	265
200	480	365
300	580	465
400	680	565
500	780	665
1000	1280	1165

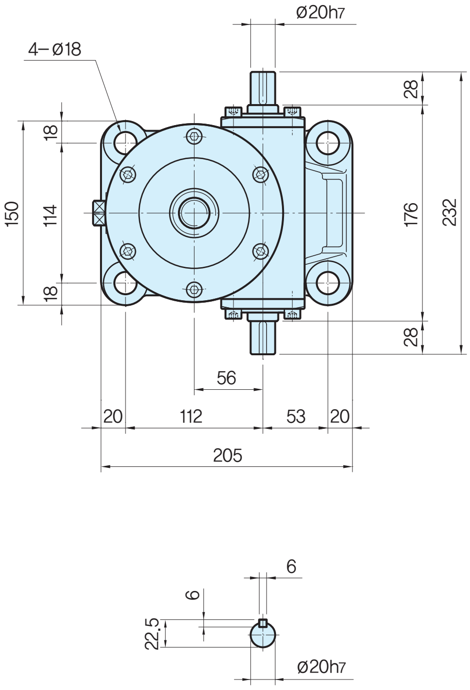
• 참고 : BALL NUT의 치수는 변경될 수 있음.

SMJ56 축승강형

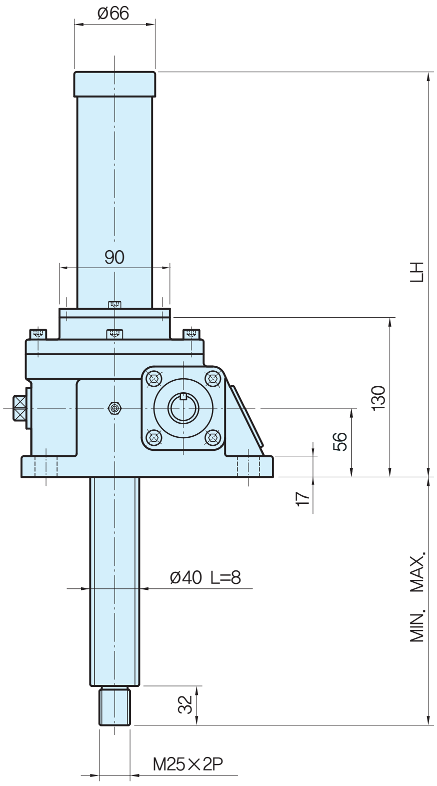
■ 상방향형(U)



■ 평면도

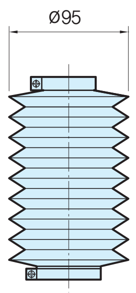


■ 하방향형(D)

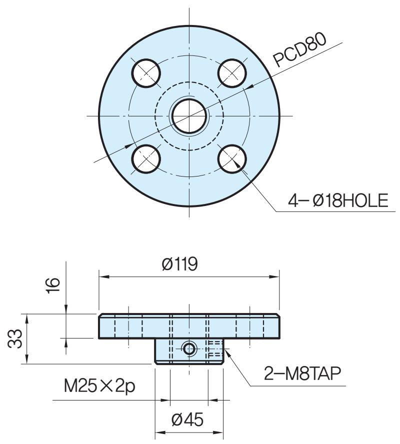


■ 스크류축 체결부품 Output Options

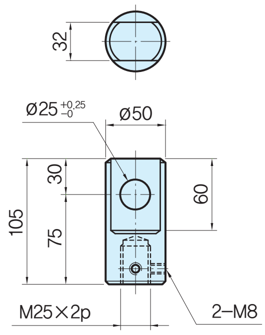
BELLOWS(B)



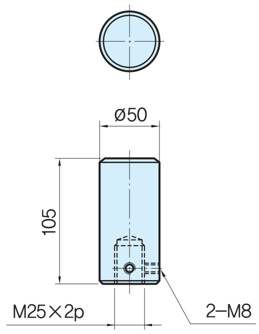
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ56

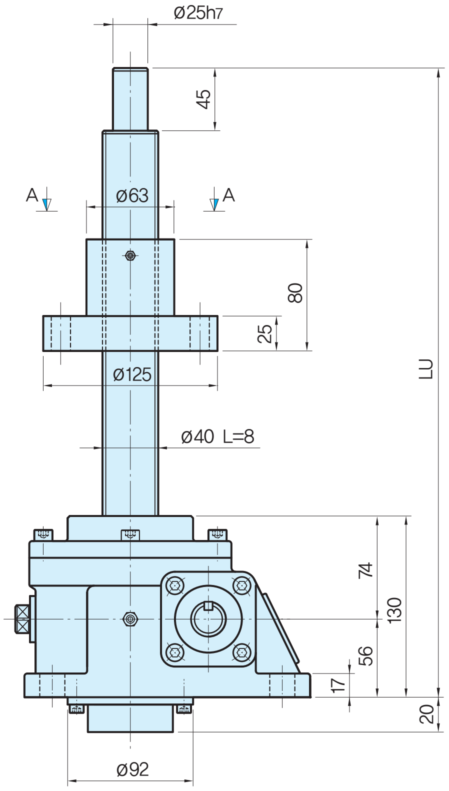
• 개략중량 16kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	180	280	230	330	160
200	180	380	240	440	260
300	180	480	250	550	360
400	180	580	260	660	460
500	180	680	270	770	560
1000	180	1180	270	1270	1060

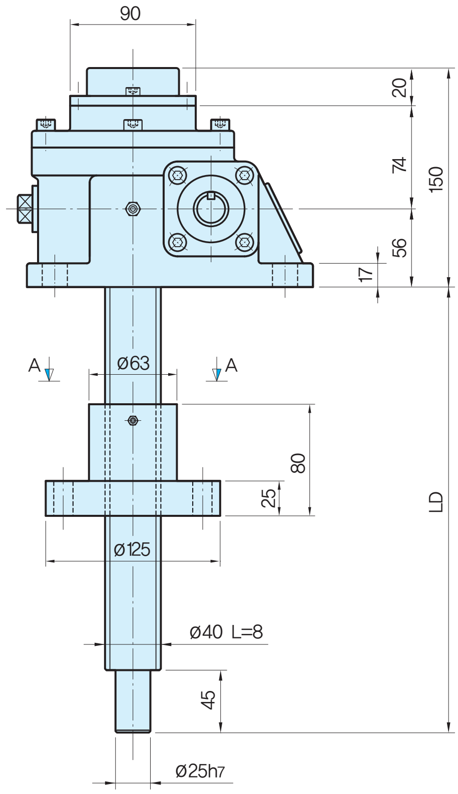
하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	50	150	100	200	290
200	50	250	110	210	390
300	50	350	120	220	490
400	50	450	130	230	590
500	50	550	140	240	690
1000	50	1050	240	1240	1180

SMJ56N 너트승강형

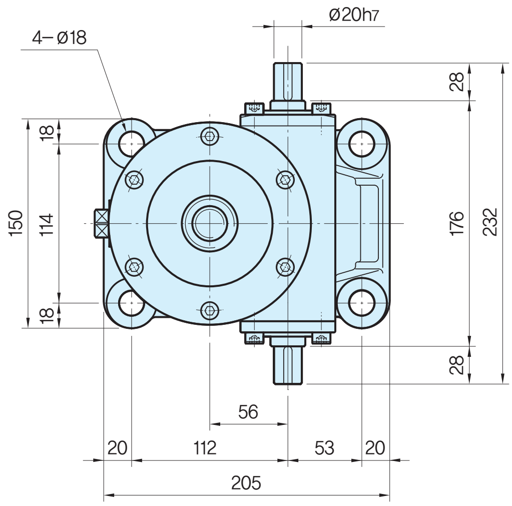
■ 상방향형 (NU)

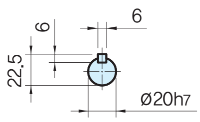


■ 하방향형 (ND)

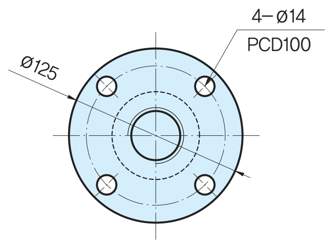


■ 평면도





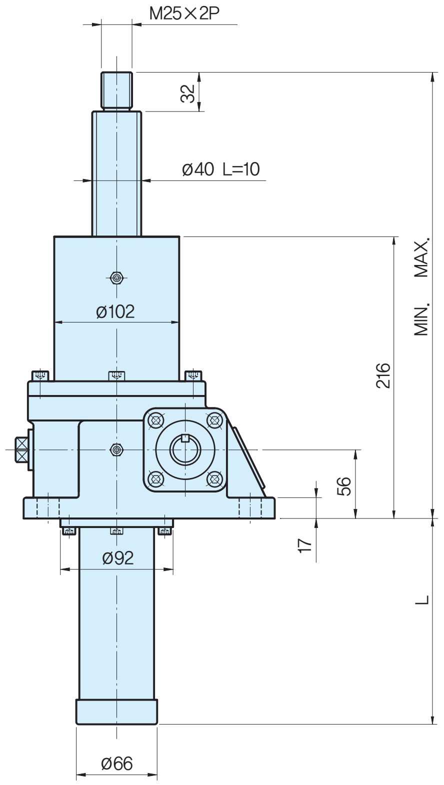
VIEW A−A



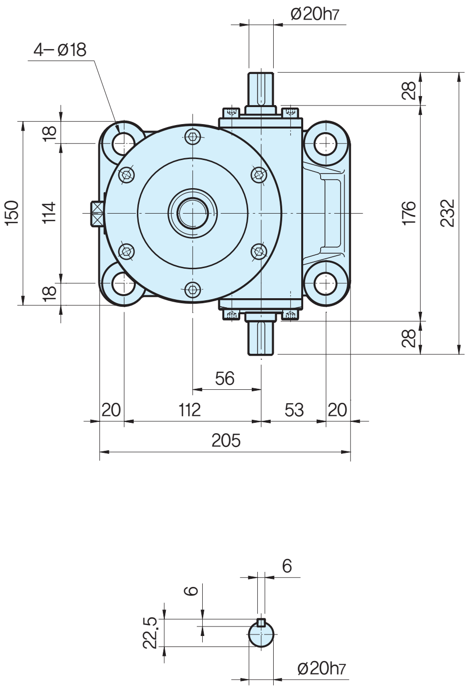
■ 행정기준표 SMJ56N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	400	270
200	500	370
300	600	470
400	700	570
500	800	670
1000	1300	1170

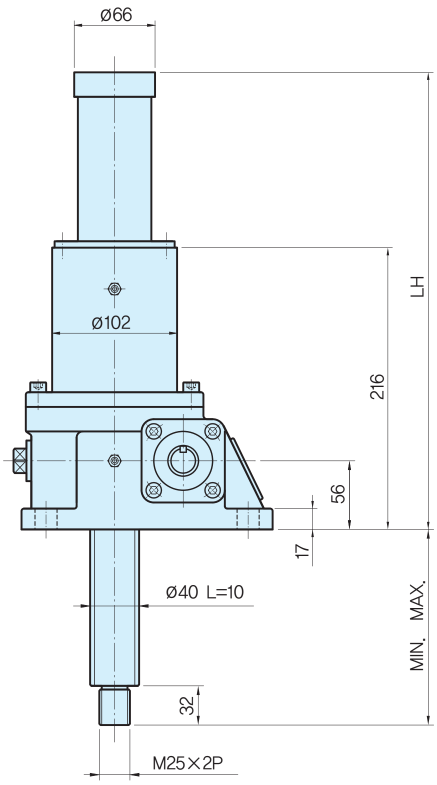
■ 상방향형(U)



■ 평면도

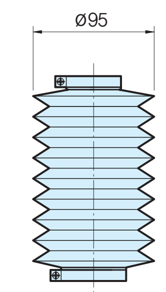


■ 하방향형(D)

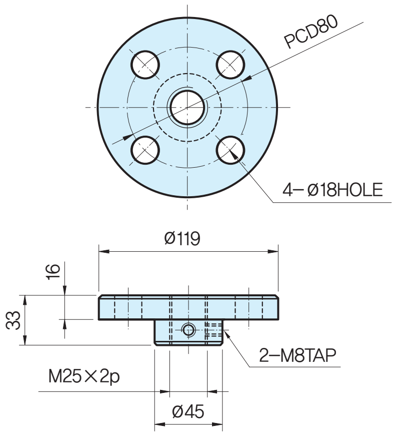


■ 스크류축 체결부품 Output Options

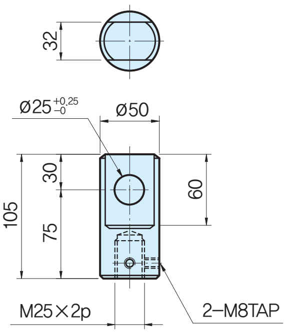
BELLOWS(B)



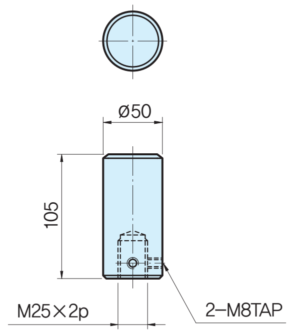
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ B56

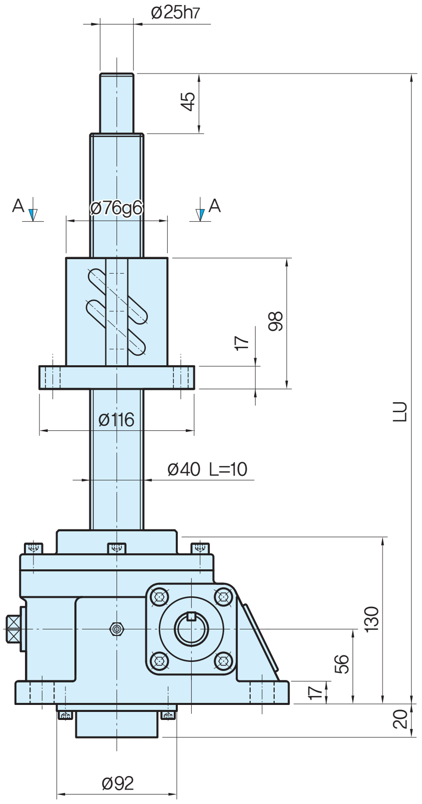
• 개략중량 21kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	270	370	320	420	160
200	270	470	330	530	260
300	270	570	340	640	360
400	270	670	350	750	460
500	270	770	360	860	560
1000	270	1270	460	1460	1060

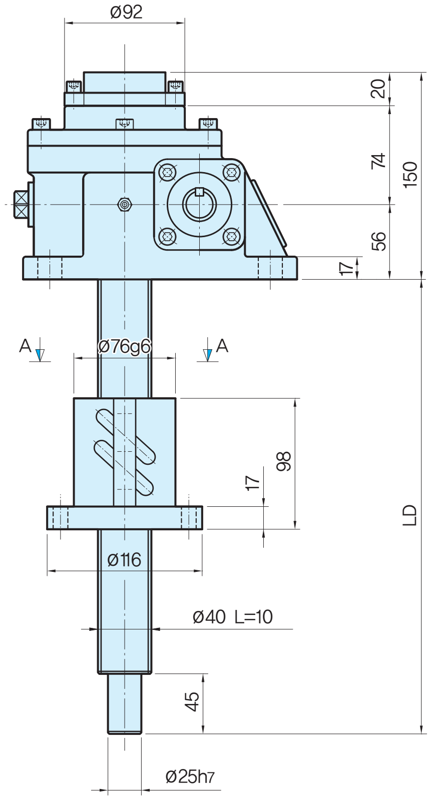
하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	50	150	100	200	380
200	50	250	110	210	480
300	50	350	120	220	580
400	50	450	130	230	680
500	50	550	140	240	780
1000	50	1050	240	1240	1280

SMJ B56N 너트승강형

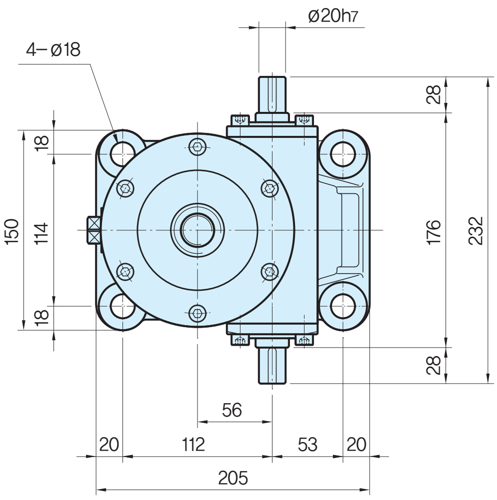
■ 상방향형 (NU)

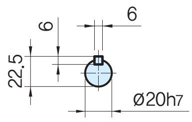


■ 하방향형 (ND)

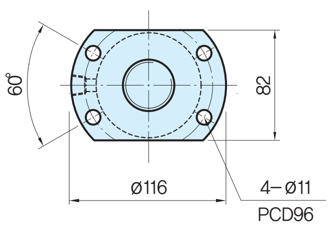


■ 평면도





VIEW A−A



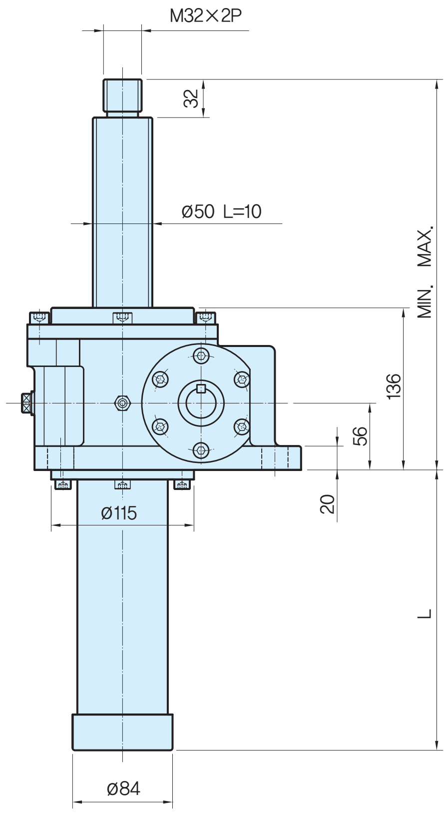
■ 행정기준표 SMJ B56N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	420	290
200	520	390
300	620	490
400	720	590
500	820	690
1000	1320	1190

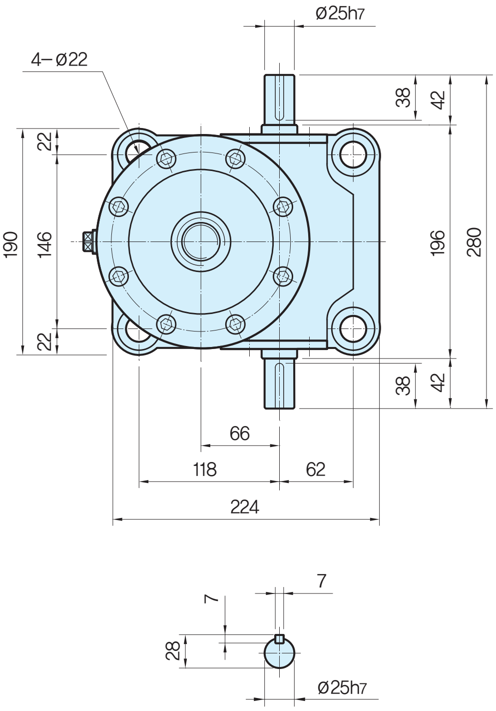
• 참고 : BALL NUT의 치수는 변경될 수 있음.

Bevel Gear box
Screw Jack
Ball Screw Jack
기어기술자료

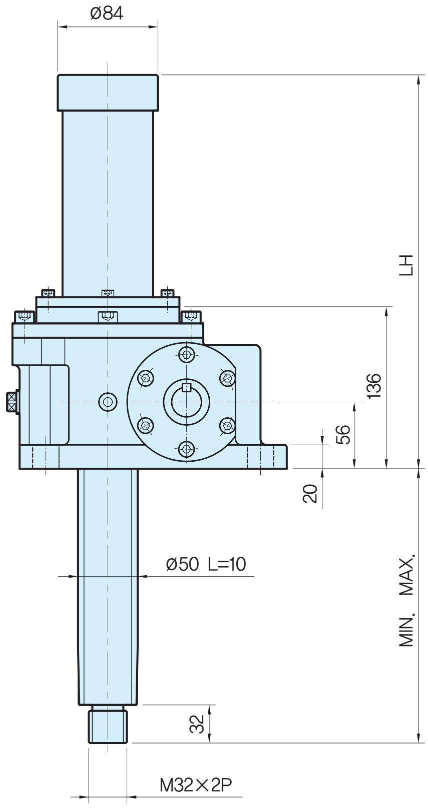
■ 상방향형 (U)



■ 평면도

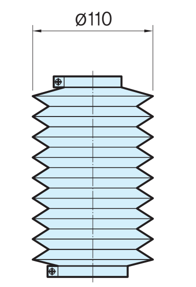


■ 하방향형 (D)

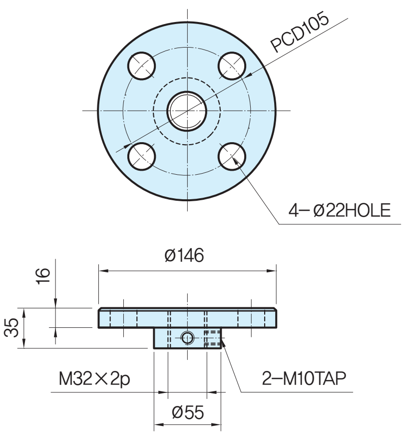


■ 스크류축 체결부품 Output Options

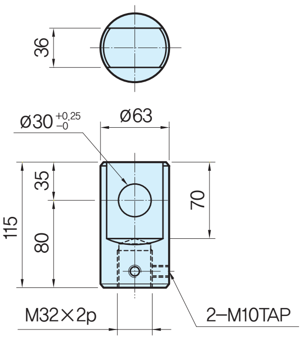
BELLOWS(B)



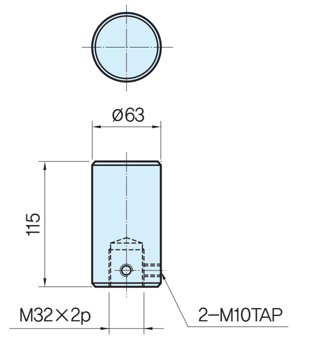
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ66

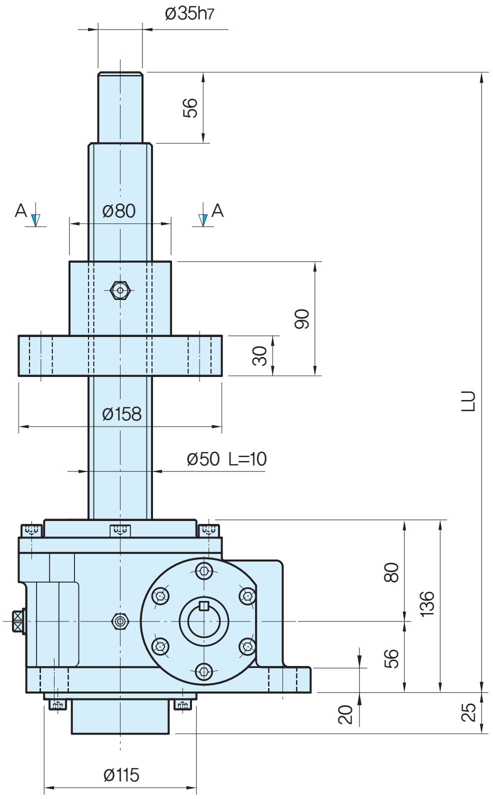
• 개략중량 30kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	185	285	235	335	160
200	185	385	245	445	260
300	185	485	255	555	360
400	185	585	265	665	460
500	185	685	275	775	560
1000	185	1185	375	1375	1060

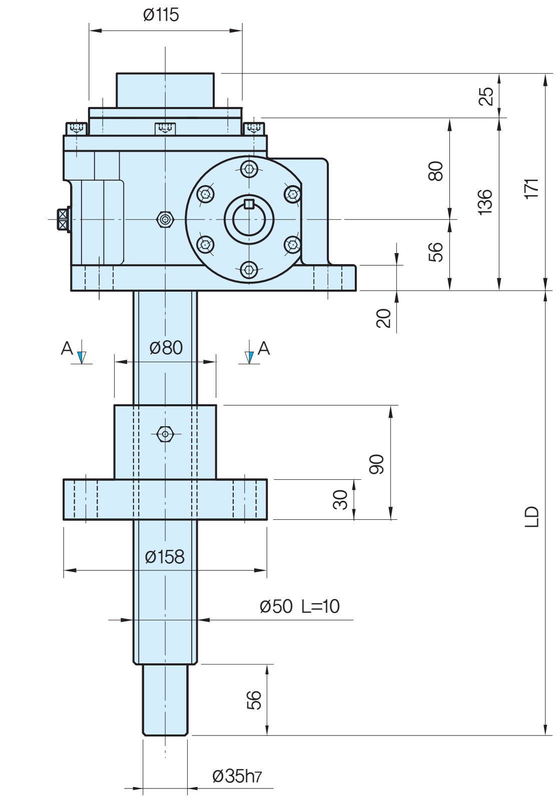
하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	50	150	100	200	295
200	50	250	110	210	395
300	50	350	120	220	495
400	50	450	130	230	595
500	50	550	140	240	695
1000	50	1050	240	1240	1195

SMJ66N 너트승강형

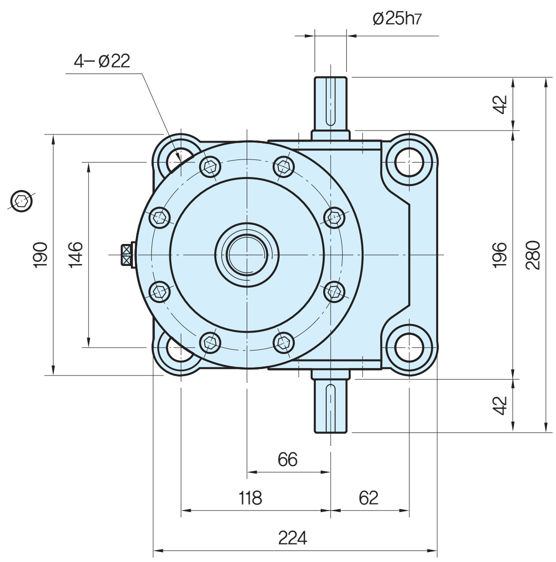
■ 상방향형 (NU)

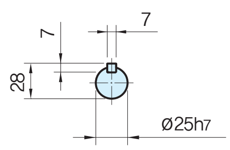


■ 하방향형 (ND)

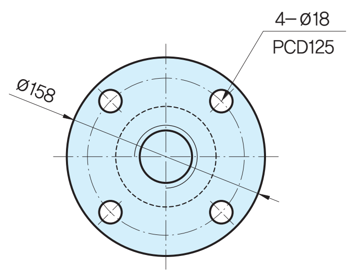


■ 평면도





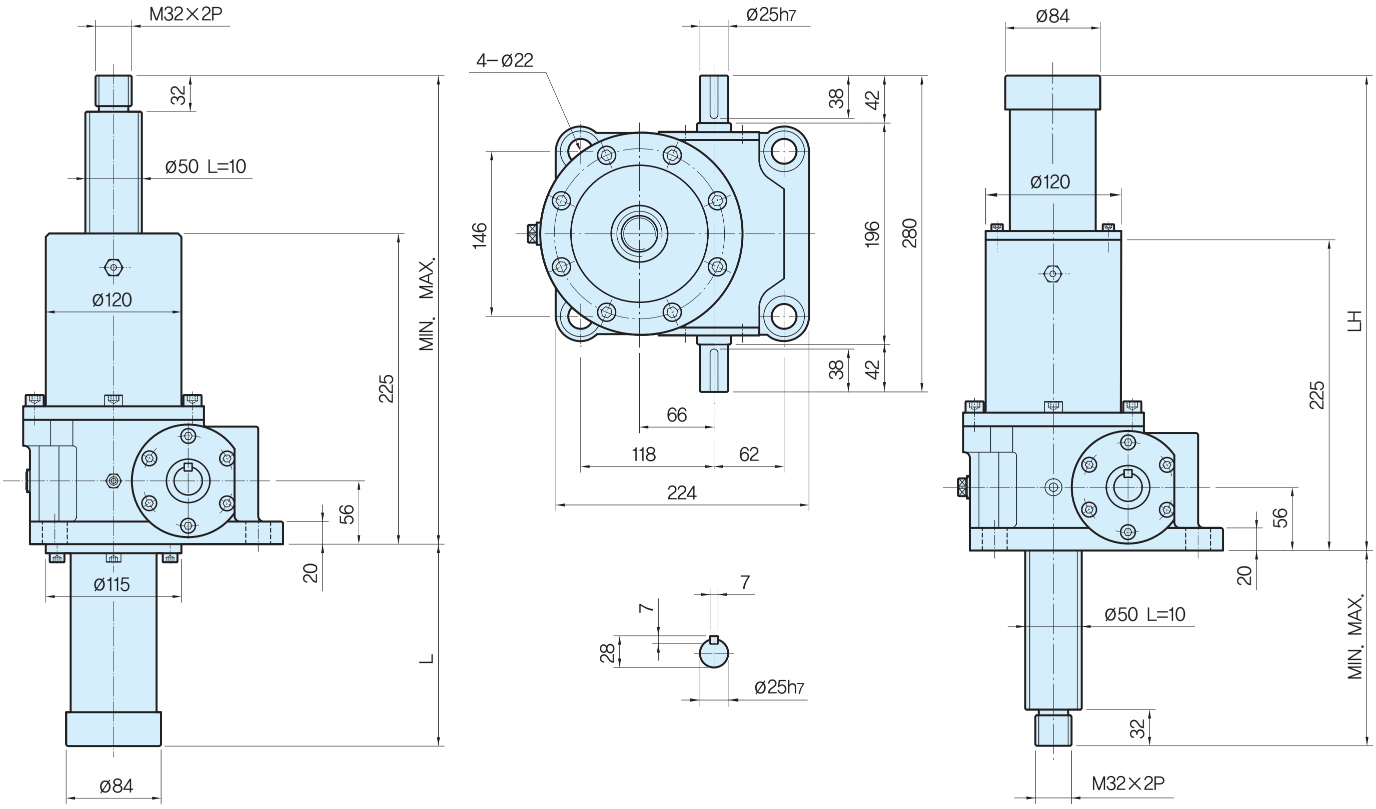
VIEW A−A



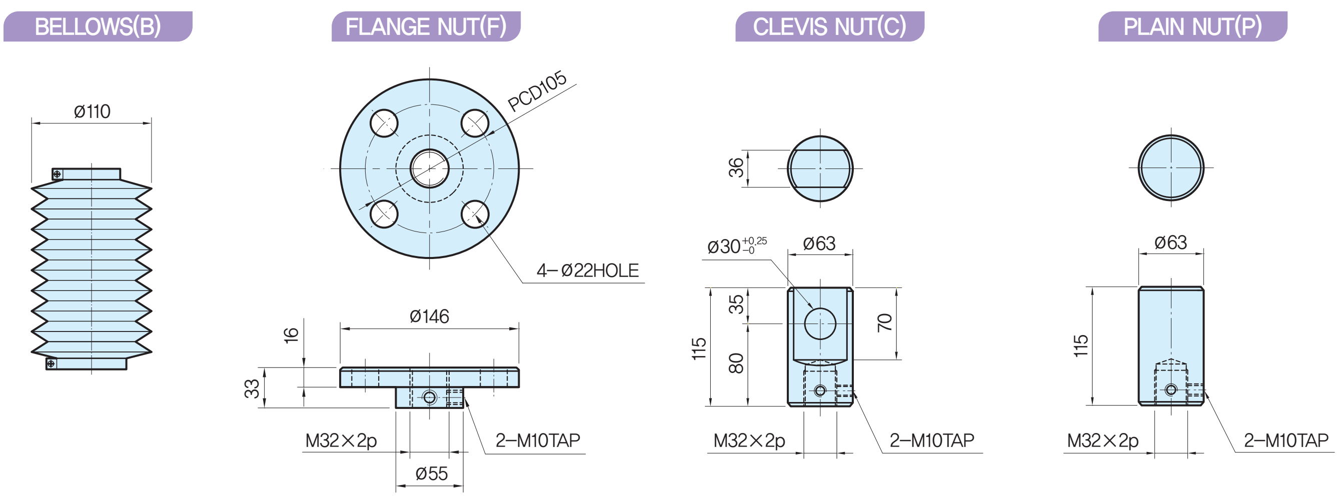
■ 행정기준표 SMJ66N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	430	300
200	530	400
300	630	500
400	730	600
500	830	700
1000	1330	1200

■ 상방향형(U) ■ 평면도 ■ 하방향형(D)



■ 스크류축 체결부품 Output Options



■ 행정기준표 SMJ B66

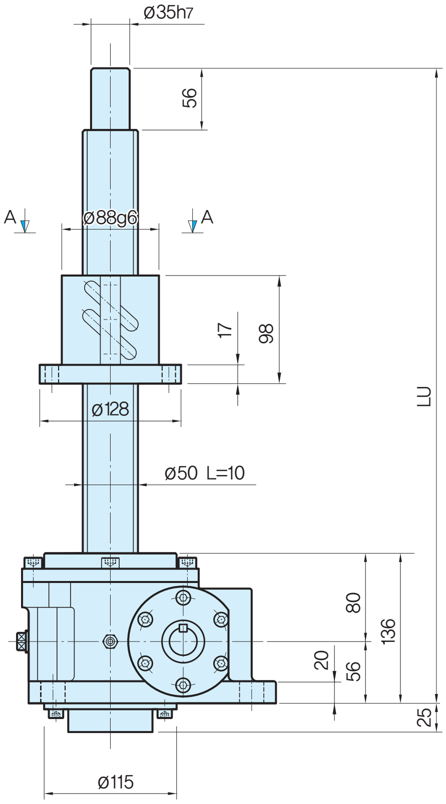
• 개략중량 40kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	L
100	300	400	350	450	160
200	300	500	360	560	260
300	300	600	370	670	360
400	300	700	380	780	460
500	300	800	390	890	560
1000	300	1300	490	1490	1060

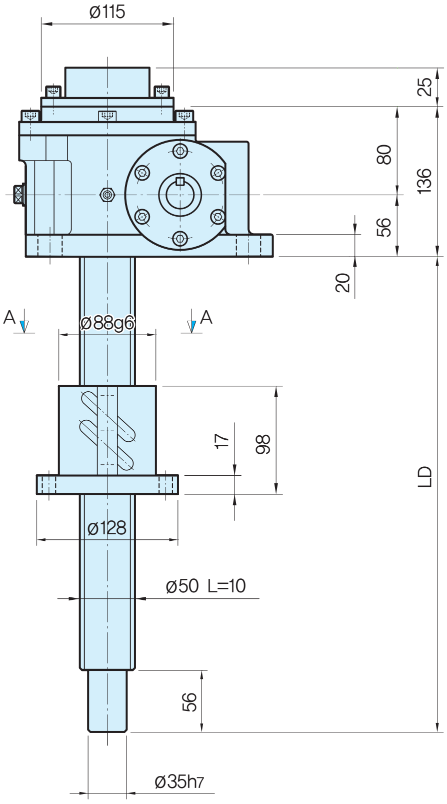
하방향형 D					
행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	LH
100	50	150	100	200	385
200	50	250	110	210	485
300	50	350	120	220	585
400	50	450	130	230	685
500	50	550	140	240	785
1000	50	1050	240	1240	1285

SMJ B66N 너트승강형

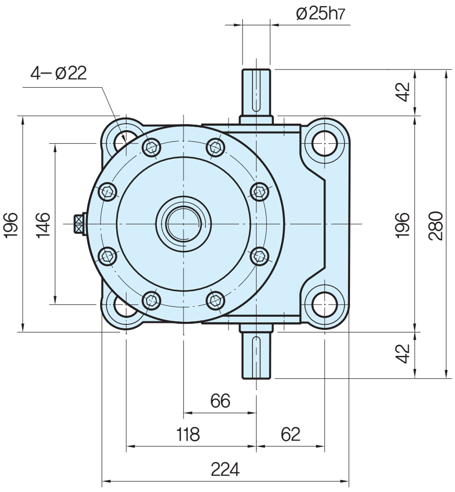
■ 상방향형 (NU)

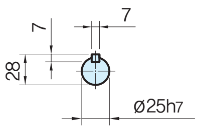


■ 하방향형 (ND)

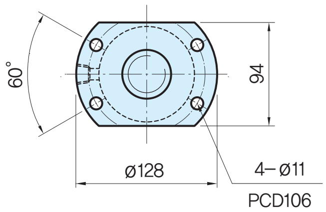


■ 평면도





VIEW A-A

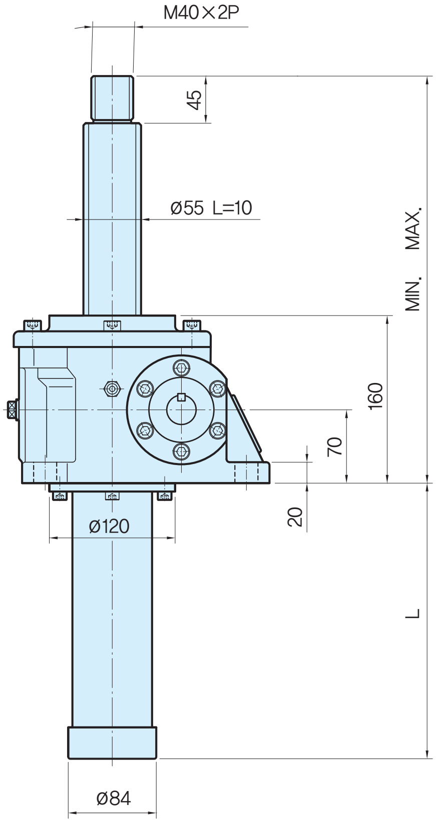


■ 행정기준표 SMJ B66N

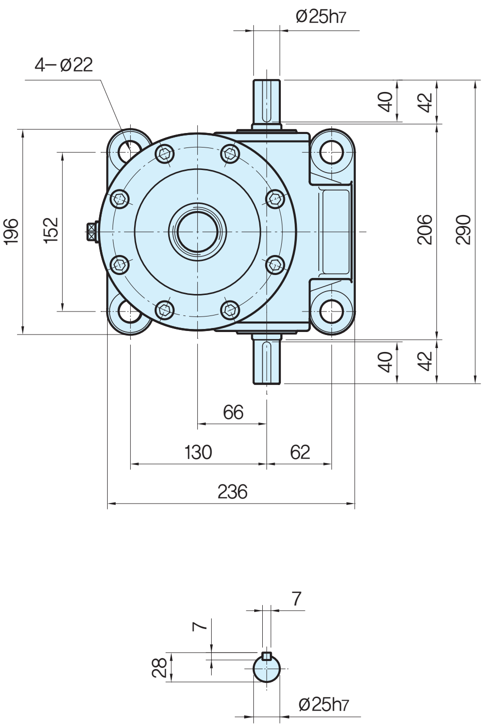
행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	450	315
200	550	415
300	650	515
400	750	615
500	850	715
1000	1350	1215

• 참고 : BALL NUT의 치수는 변경될 수 있음.

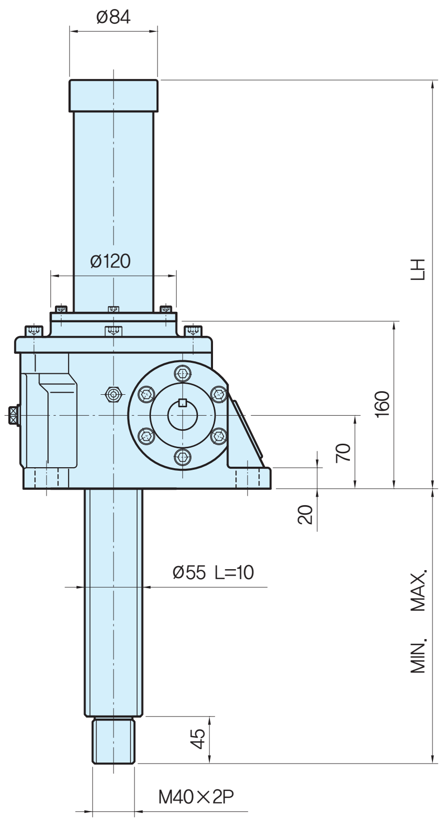
■ 상방향형(U)



■ 평면도

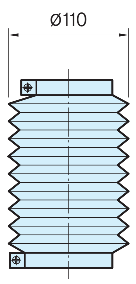


■ 하방향형(D)

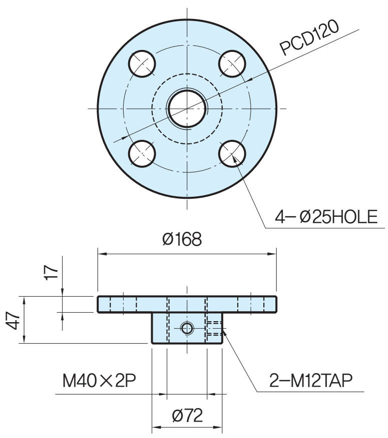


■ 스크류축 체결부품 Output Options

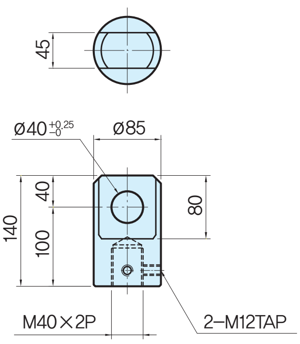
BELLOWS(B)



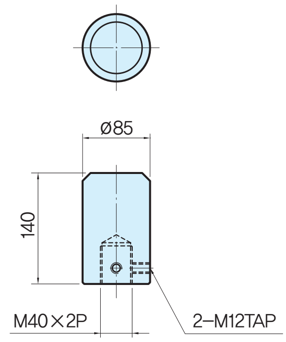
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



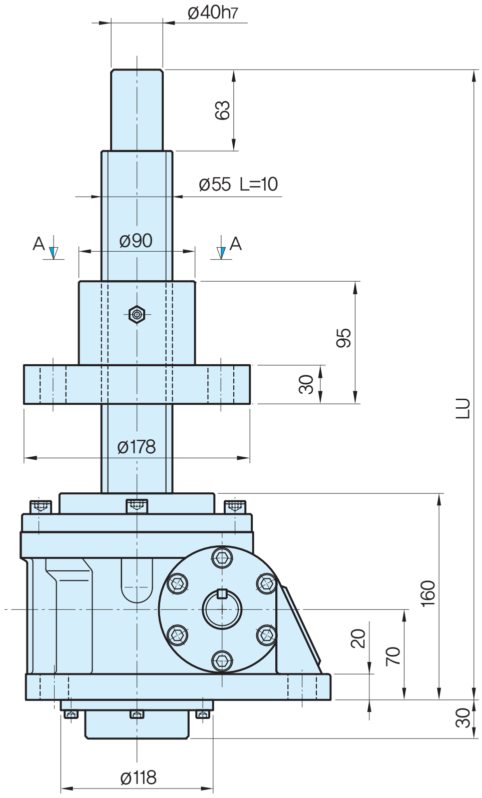
■ 행정기준표 SMJ66S

• 개략중량 35kg/100st

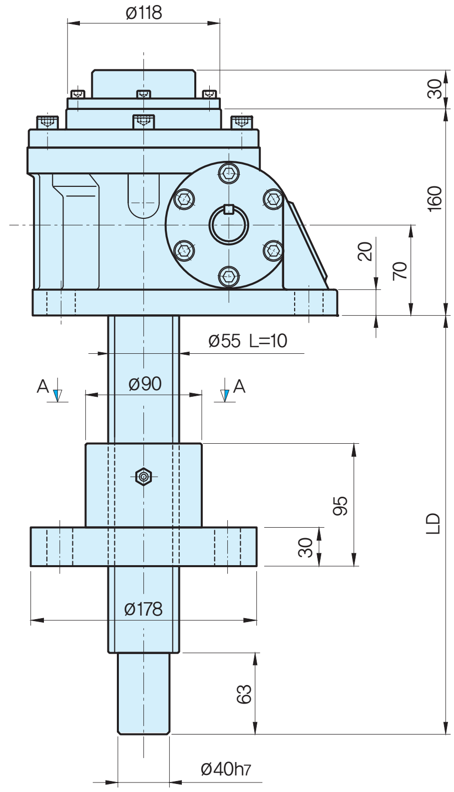
상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	220	320	270	370	160
200	220	420	280	480	260
300	220	520	290	590	360
400	220	620	300	700	460
500	220	720	310	810	560
1000	220	1220	410	1410	1060

하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	60	160	110	210	320
200	60	260	120	320	420
300	60	360	130	430	520
400	60	460	140	540	620
500	60	560	150	650	720
1000	60	1060	250	1250	1220

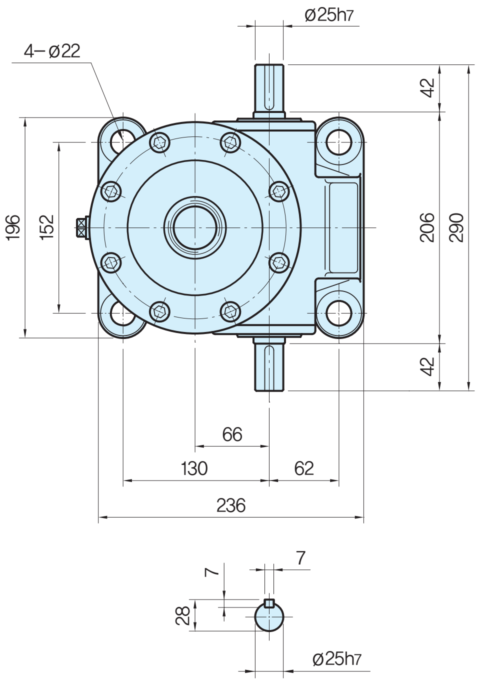
■ 상방향형(NU)



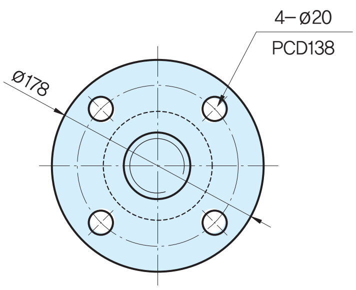
■ 하방향형(ND)



■ 평면도



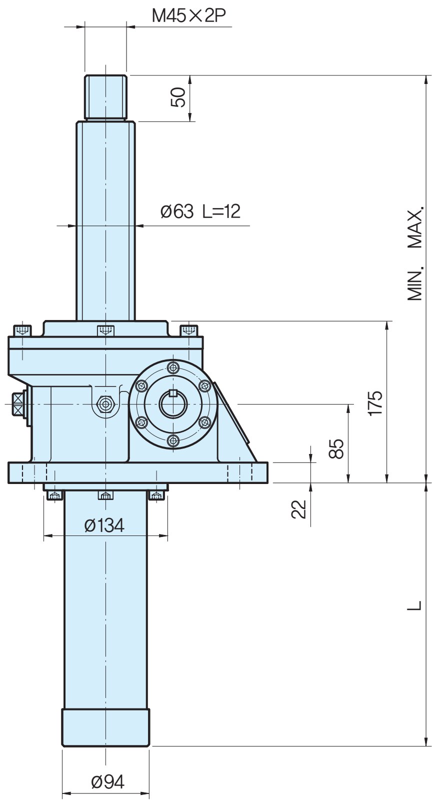
VIEW A–A



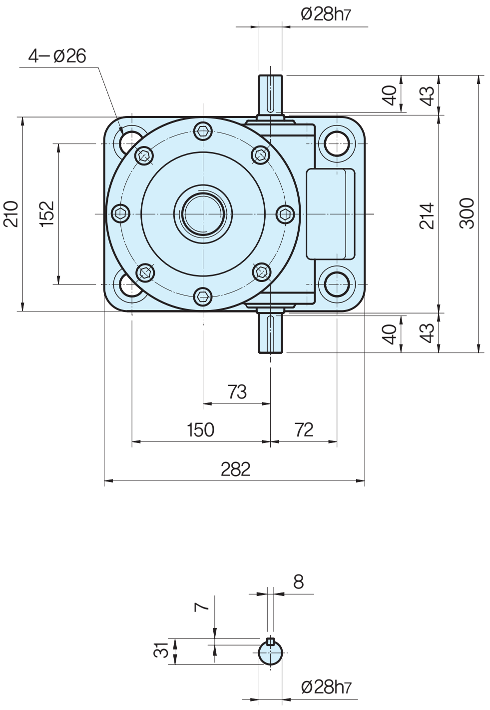
■ 행정기준표 SMJ66SN

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	470	310
200	570	410
300	670	510
400	770	610
500	870	710
1000	1370	1210

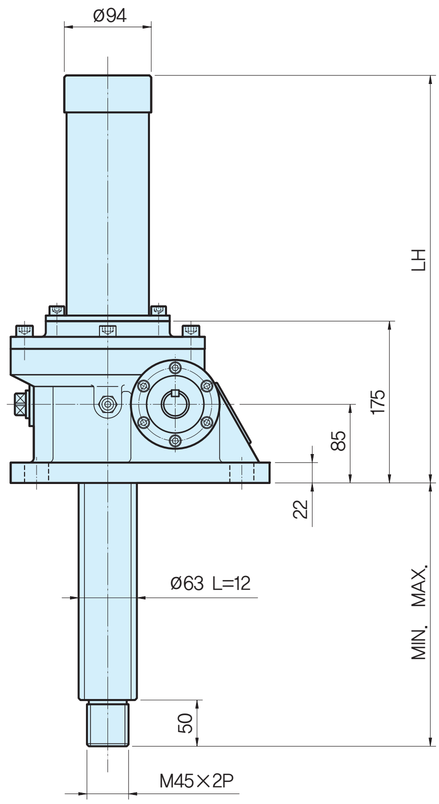
■ 상방향형(U)



■ 평면도

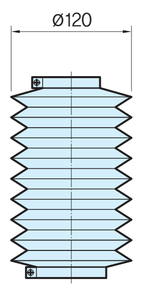


■ 하방향형(D)

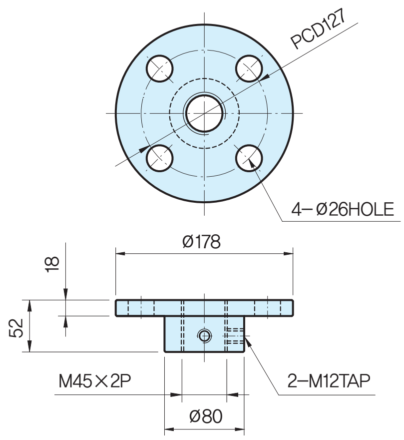


■ 스크류축 체결부품 Output Options

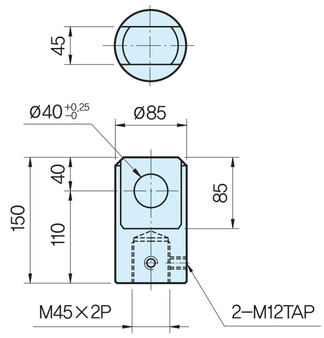
BELLOWS(B)



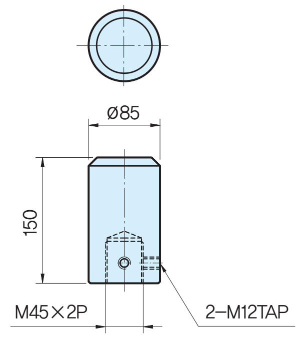
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ73

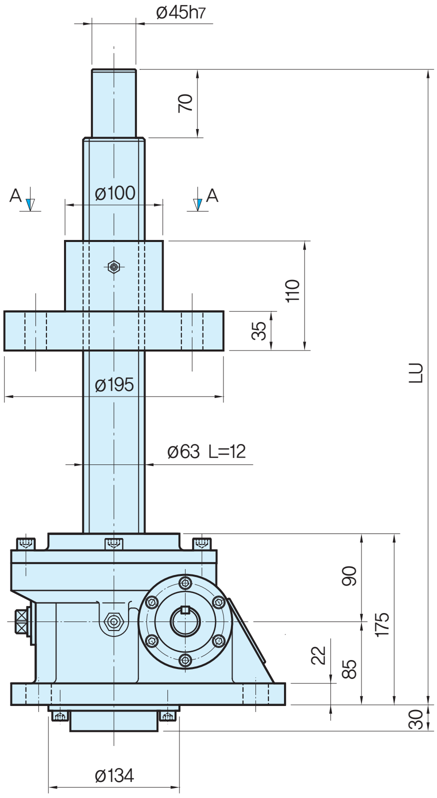
• 개략중량 48kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	235	335	295	395	170
200	235	435	305	505	270
300	235	535	315	615	370
400	235	635	325	725	470
500	235	735	335	835	570
1000	235	1235	435	1435	1070

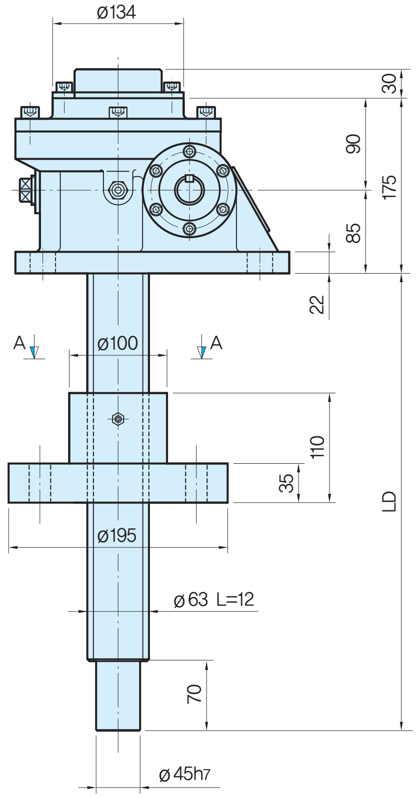
하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	60	160	120	220	340
200	60	260	130	330	440
300	60	360	140	440	540
400	60	460	150	550	640
500	60	560	160	660	740
1000	60	1060	260	1260	1240

SMJ73N 너트승강형

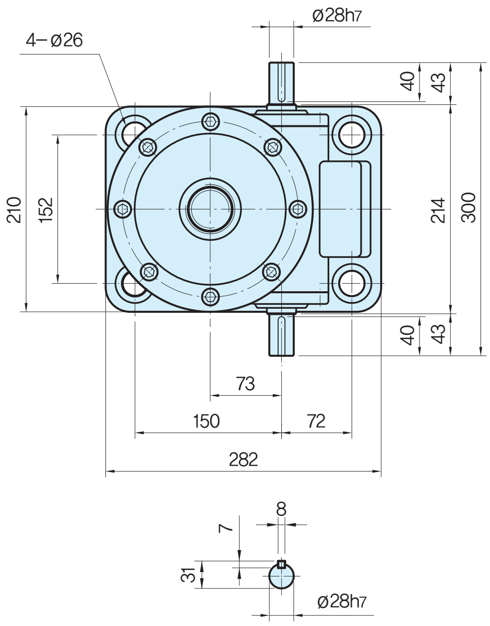
■ 상방향형(NU)



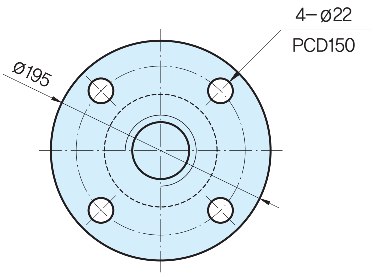
■ 하방향형(ND)



■ 평면도



VIEW A-A

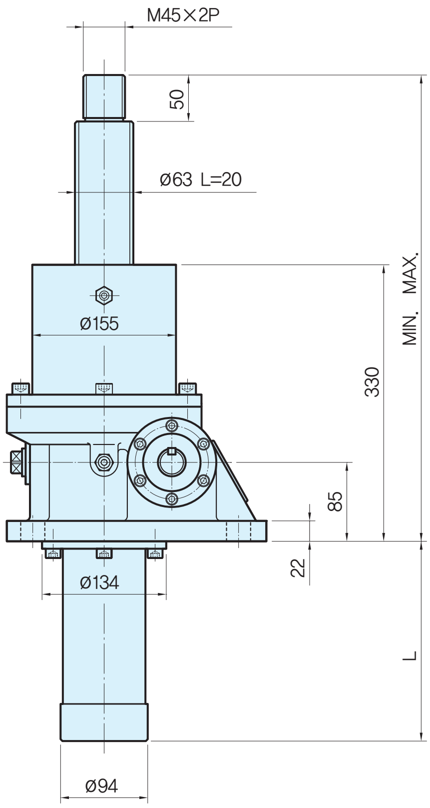


■ 행정기준표 SMJ73N

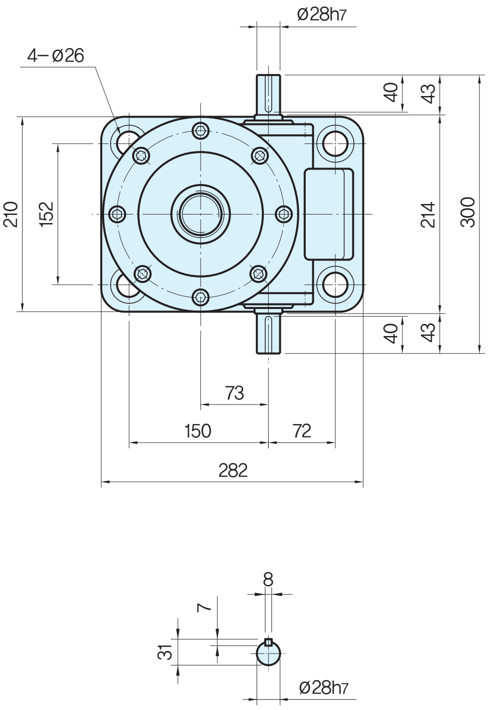
행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	520	345
200	620	445
300	720	545
400	820	645
500	920	745
1000	1420	1245

SMJ B73 축승강형

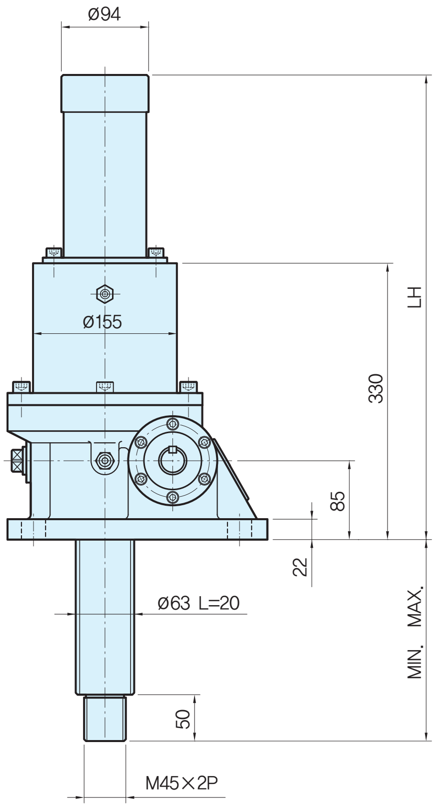
■ 상방향형(U)



■ 평면도

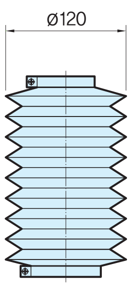


■ 하방향형(D)

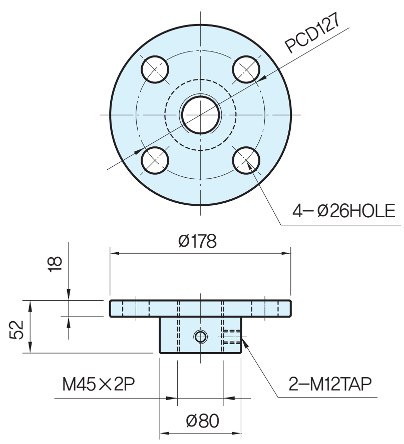


■ 스크류축 체결부품 Output Options

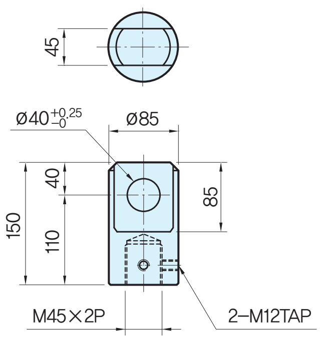
BELLOWS(B)



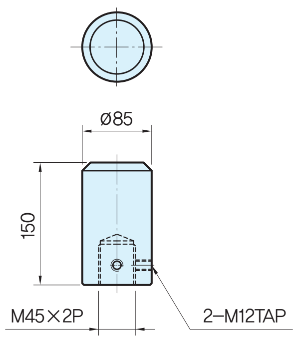
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ B73

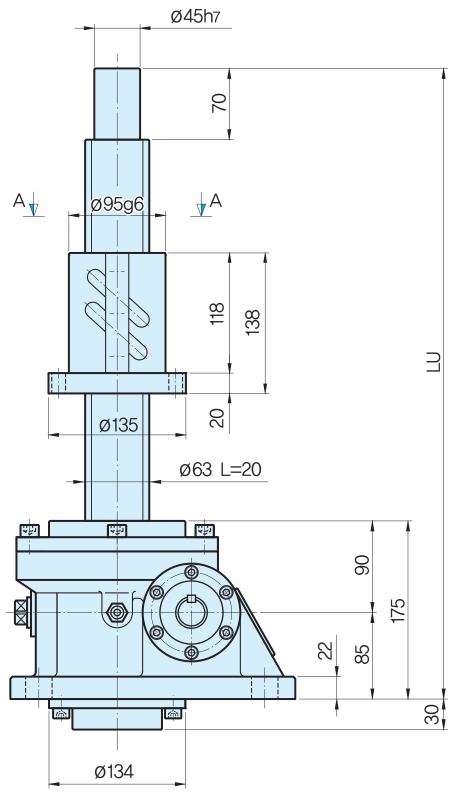
• 개략중량 70kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	430	530	490	590	170
200	430	630	500	700	270
300	430	730	510	810	370
400	430	830	520	920	470
500	430	930	530	1030	570
1000	430	1430	630	1630	1070

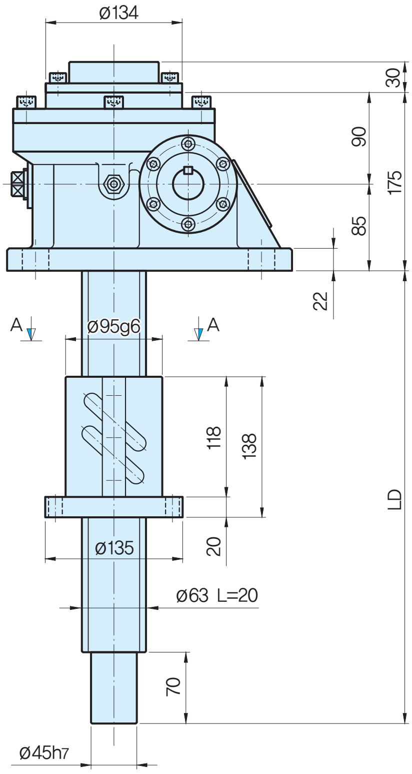
하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	60	160	120	220	490
200	60	260	130	330	590
300	60	360	140	440	690
400	60	460	150	550	790
500	60	560	160	660	890
1000	60	1060	260	1260	1390

SMJ B73N 너트승강형

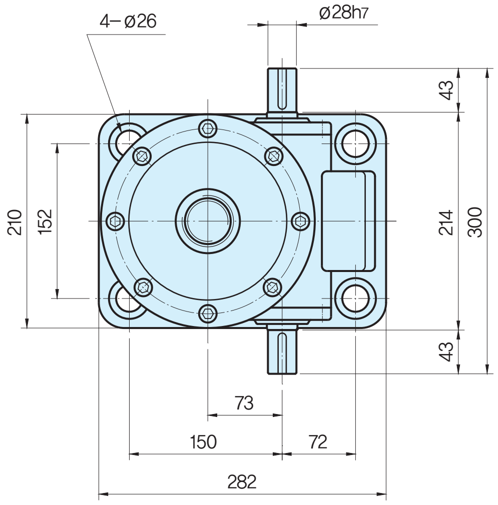
■ 상방향형 (NU)

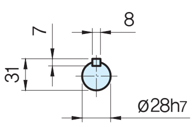


■ 하방향형 (ND)

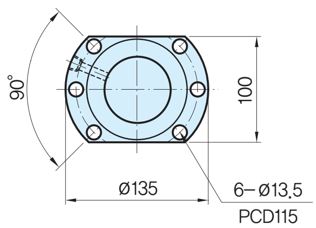


■ 평면도





VIEW A−A



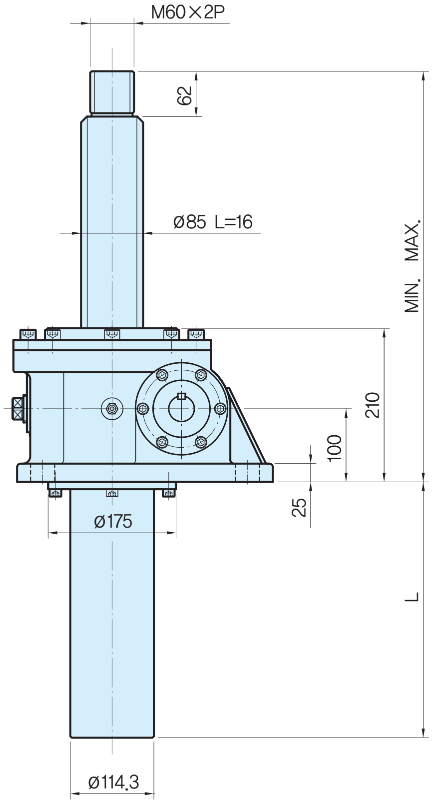
■ 행정기준표 SMJ B73N

행　정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	550	375
200	650	475
300	750	575
400	850	675
500	950	775
1000	1450	1275

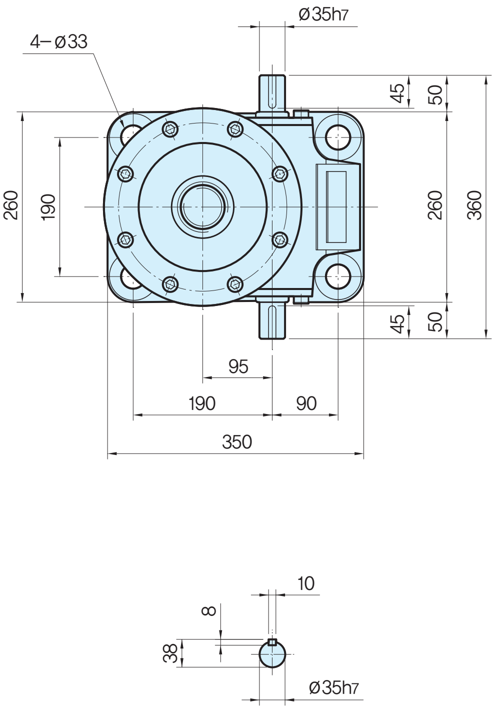
• 참고 : BALL NUT의 치수는 변경될 수 있음.

SMJ95N 축승강형

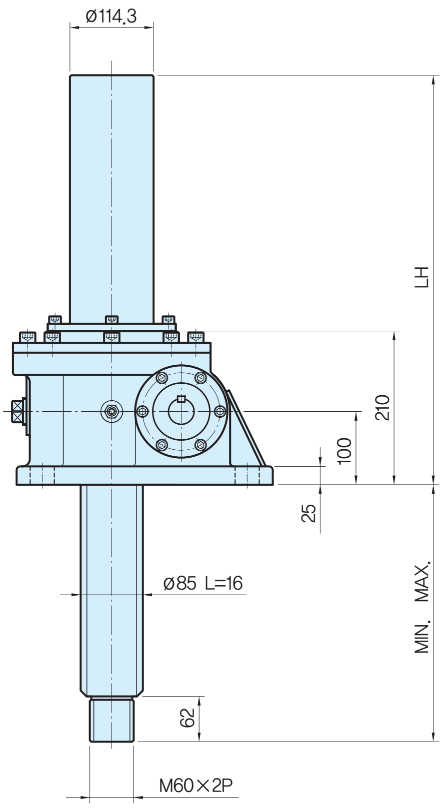
■ 상방향형(U)



■ 평면도

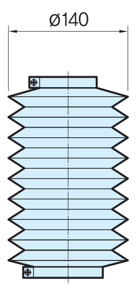


■ 하방향형(D)

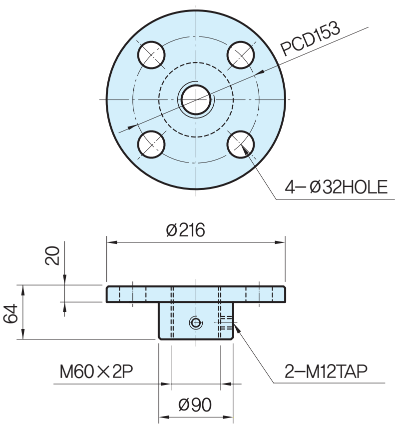


■ 스크류축 체결부품 Output Options

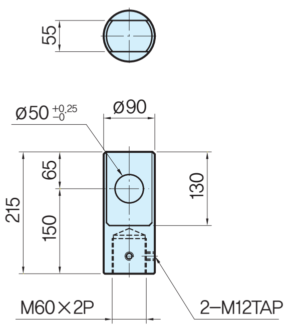
BELLOWS(B)



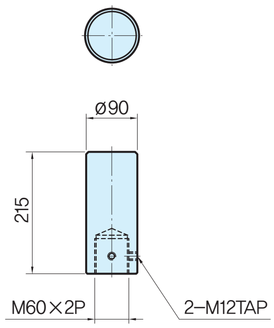
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ95

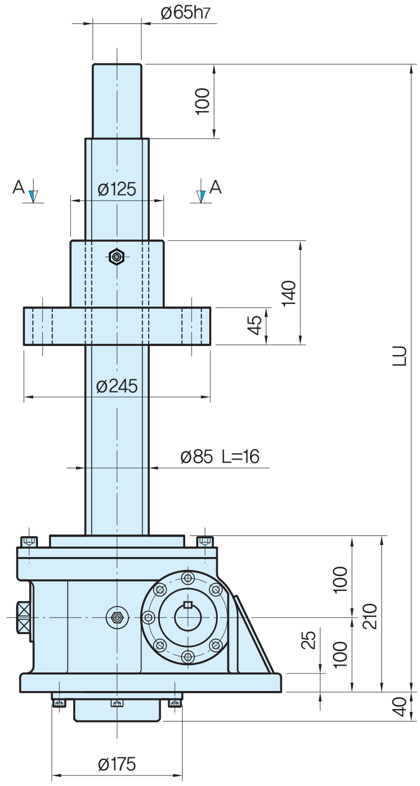
• 개략중량 80kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	290	390	350	450	170
200	290	490	360	560	270
300	290	590	370	670	370
400	290	690	380	780	470
500	290	790	390	890	570
1000	290	1290	490	1490	1070

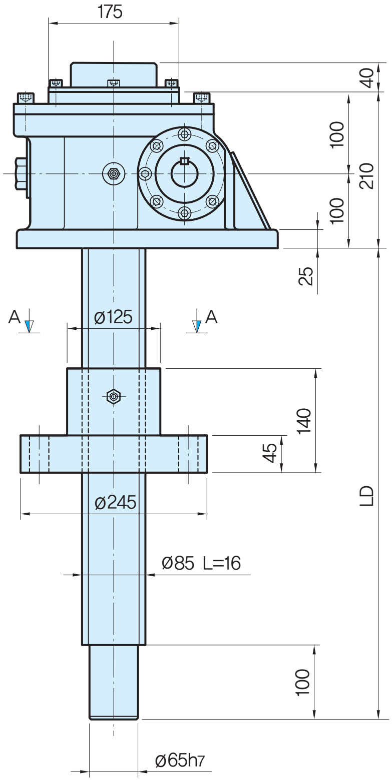
하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	80	180	140	240	380
200	80	280	150	350	480
300	80	380	160	460	580
400	80	480	170	570	680
500	80	580	180	680	780
1000	80	1080	280	1280	1280

SMJ95N 너트승강형

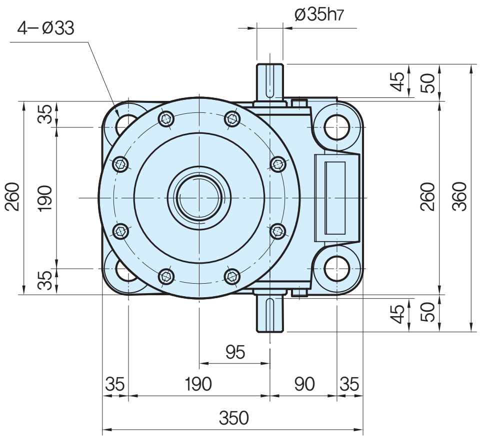
■ 상방향형(NU)

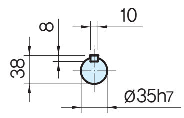


■ 하방향형(ND)

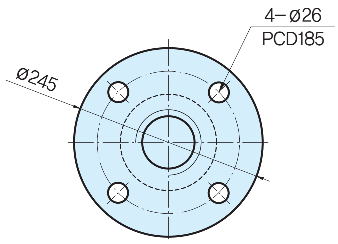


■ 평면도





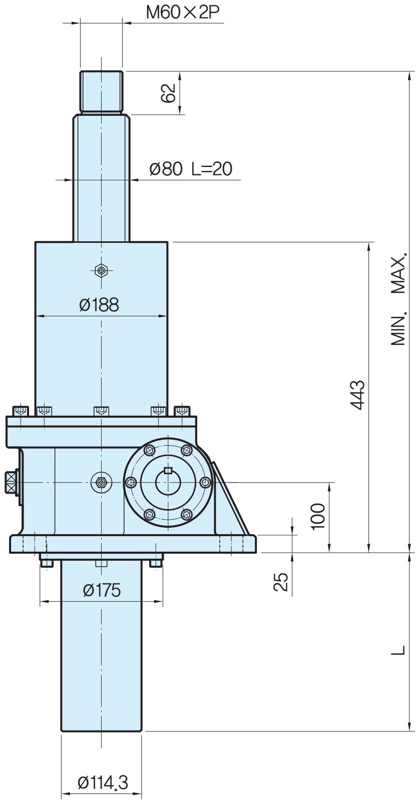
VIEW A−A



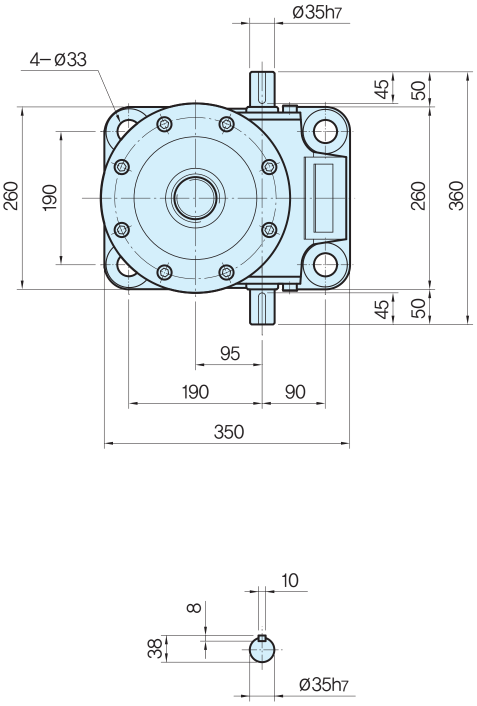
■ 행정기준표 SMJ95N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	620	410
200	720	510
300	820	610
400	920	710
500	1020	810
1000	1520	1310

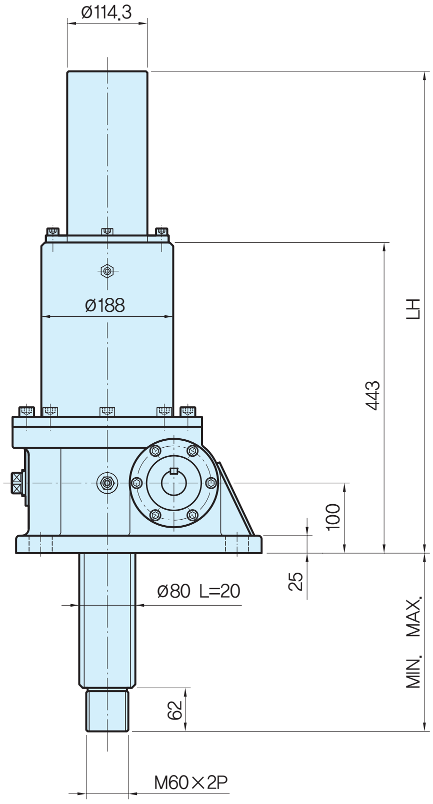
■ 상방향형(U)



■ 평면도

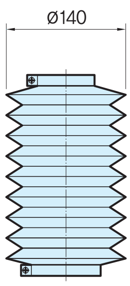


■ 하방향형(D)

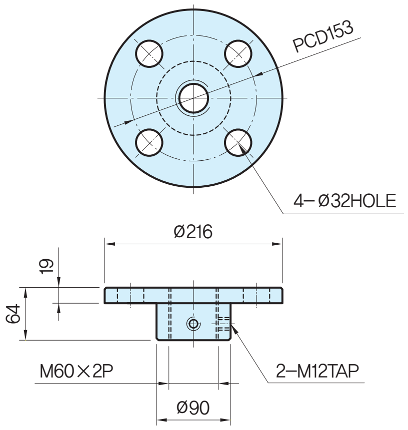


■ 스크류축 체결부품 Output Options

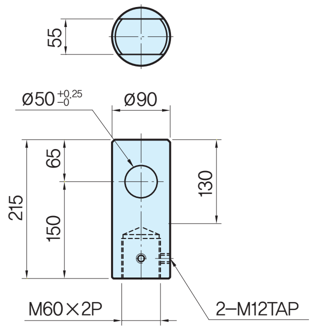
BELLOWS(B)



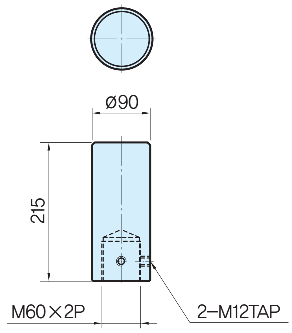
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ B95

• 개략중량 120kg/100st

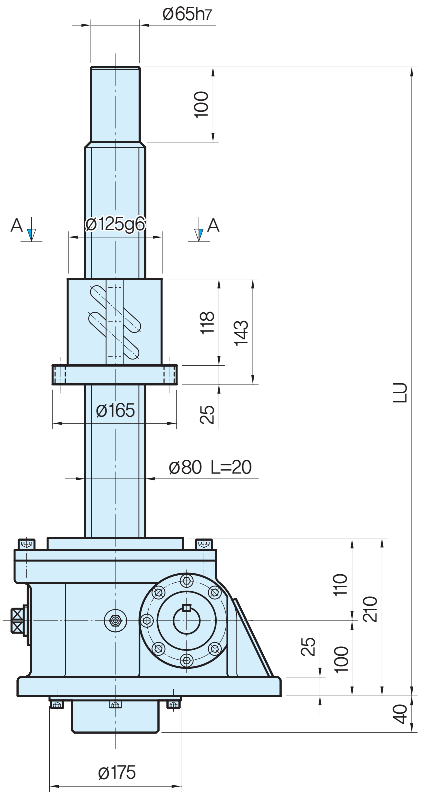
상방향형 U

행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	L
100	525	625	585	685	170
200	525	725	595	795	270
300	525	825	605	905	370
400	525	925	615	1015	470
500	525	1025	625	1125	570
1000	525	1525	725	1725	1070

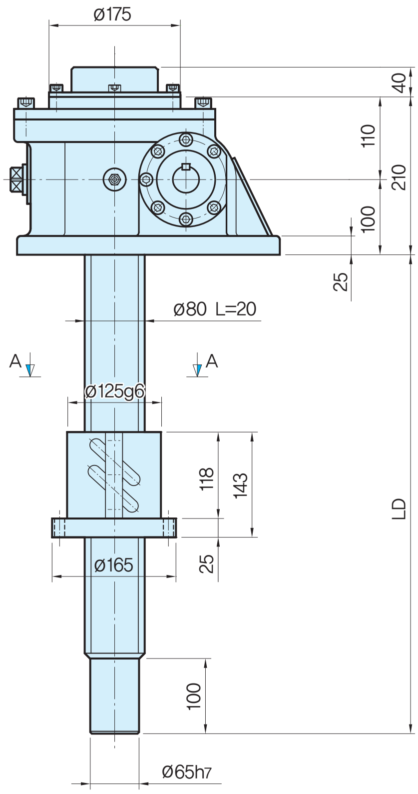
하방향형 D

행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	LH
100	80	180	140	240	620
200	80	280	150	350	720
300	80	380	160	460	820
400	80	480	170	570	920
500	80	580	180	680	1020
1000	80	1080	280	1280	1520

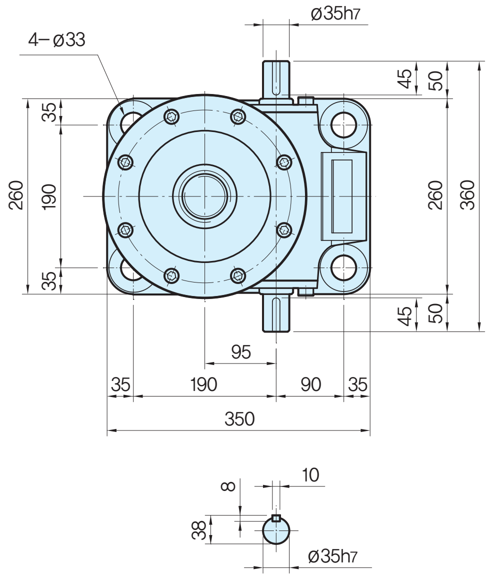
■ 상방향형(NU)



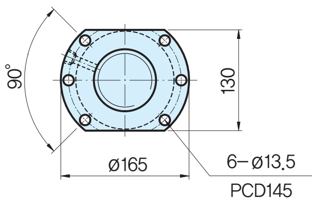
■ 하방향형(ND)



■ 평면도



VIEW A−A



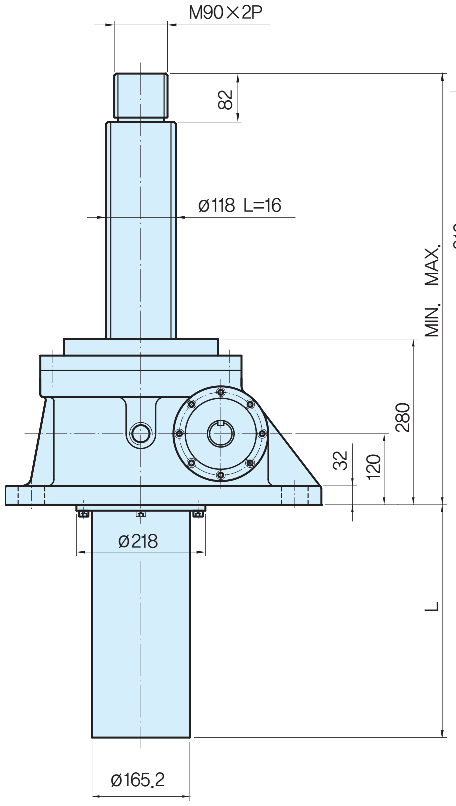
■ 행정기준표 SMJ B95N

행 정 STROKE	너트 NUT 승강형	
	상방향형 NU	하방향형 ND
	LU	LD
100	620	410
200	720	510
300	820	610
400	920	710
500	1020	810
1000	1520	1310

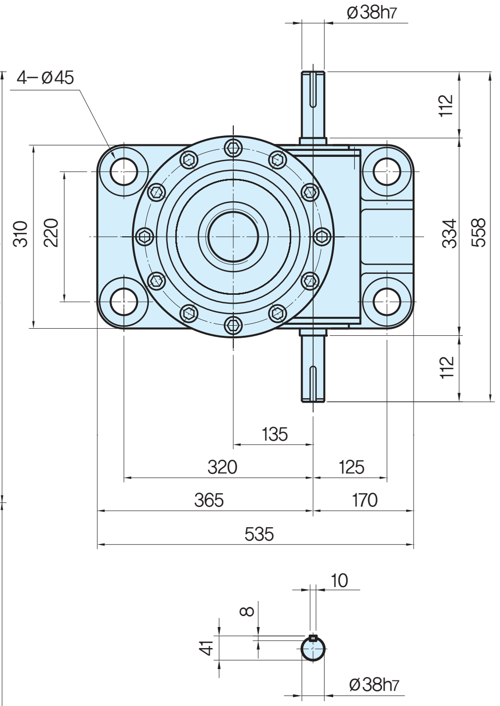
• 참고 : BALL NUT의 치수는 변경될 수 있음.

SMJ135 축승강형

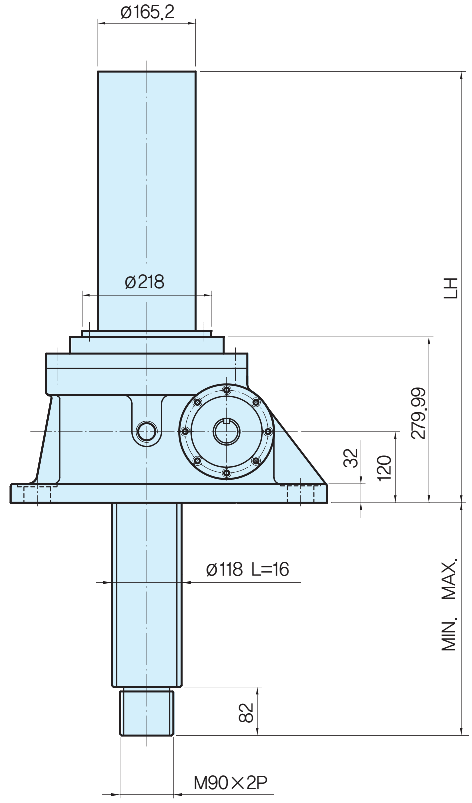
■ 상방향형 (U)



■ 평면도

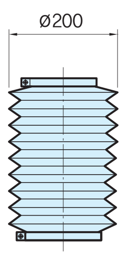


■ 하방향형 (D)

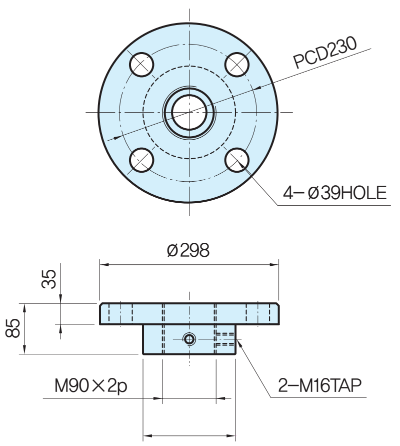


■ 스크류축 체결부품 Output Options

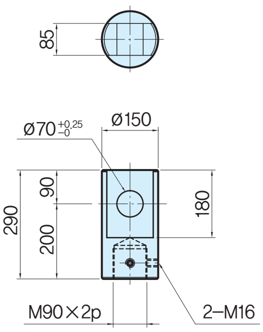
BELLOWS(B)



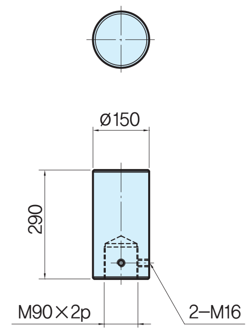
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ135

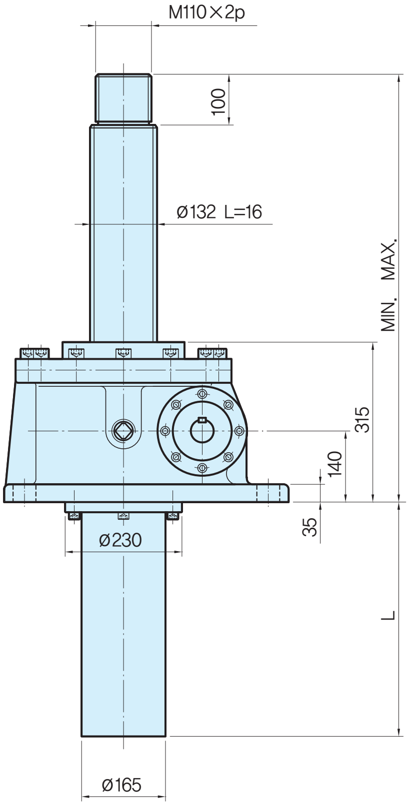
• 개략중량 190kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	L
100	380	480	460	560	180
200	380	580	470	670	280
300	380	680	480	780	380
400	380	780	490	890	480
500	380	880	500	1000	580
1000	380	1380	600	1600	1080

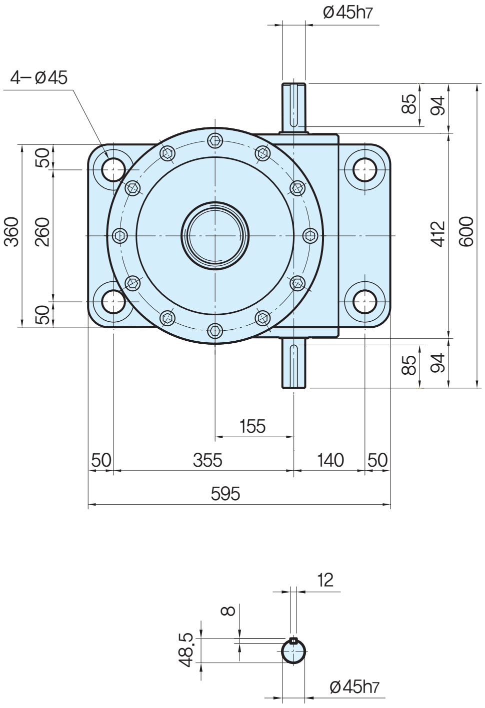
하방향형 D					
행정(mm) STROKE	축보호카바없음 N MIN	축보호카바없음 N MAX	축보호카바부착 B MIN	축보호카바부착 B MAX	LH
100	100	200	180	280	460
200	100	310	190	390	560
300	100	420	200	500	660
400	100	530	210	610	760
500	100	640	220	720	860
1000	100	1140	320	1320	1360

SMJ155 축승강형

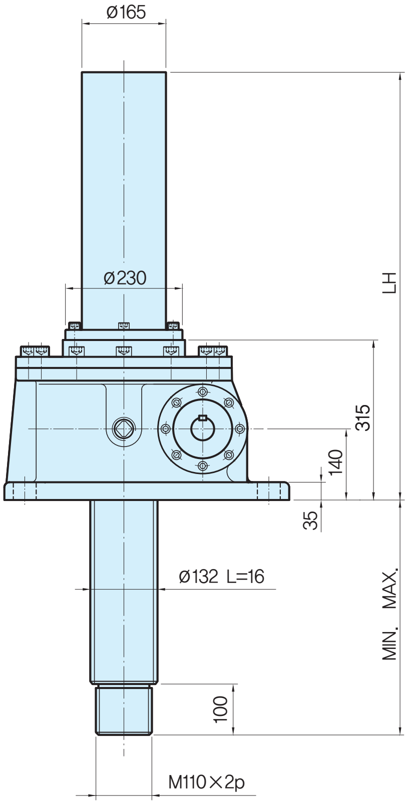
■ 상방향형 (NU)



■평면도

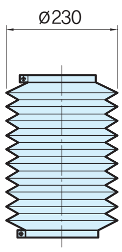


■ 하방향형 (ND)

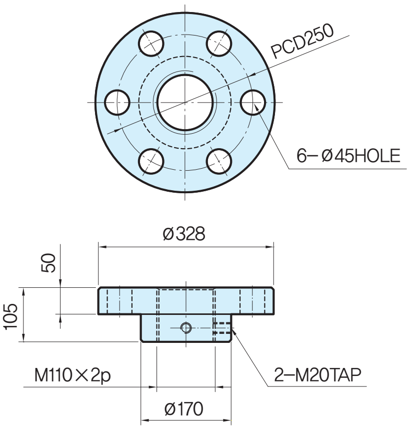


■ 평면도

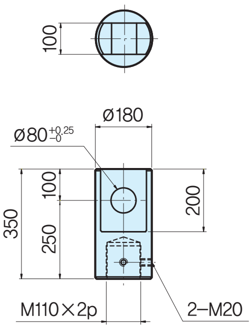
BELLOWS(B)



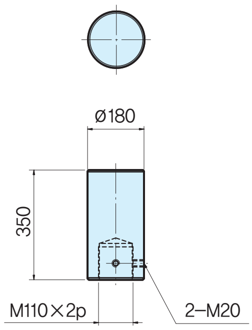
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ155

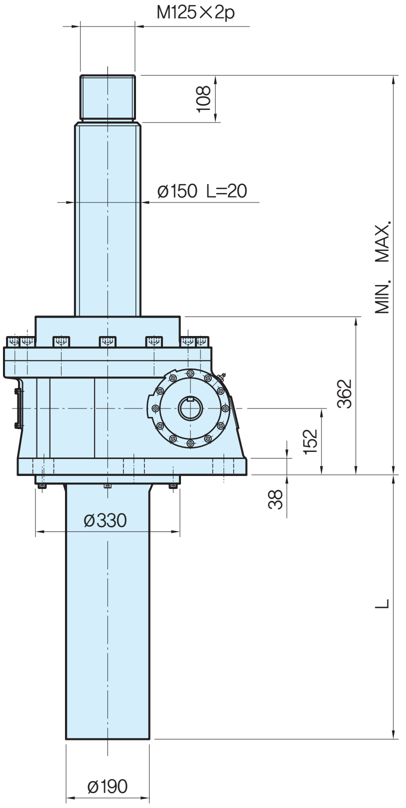
• 개략중량 290kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	430	530	510	610	200
200	430	630	520	720	300
300	430	730	530	830	400
400	430	830	540	940	500
500	430	930	550	1050	600
1000	430	1430	650	1650	1100

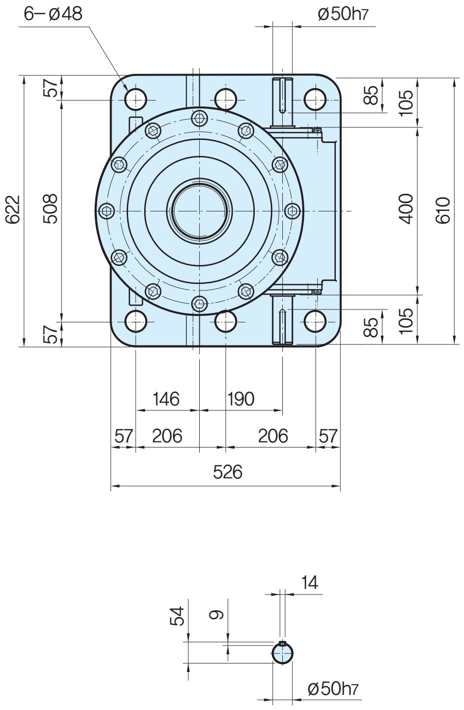
하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	120	220	200	300	515
200	120	320	210	310	625
300	120	420	220	320	735
400	120	520	230	330	845
500	120	620	240	340	955
1000	120	1120	340	1340	1465

Bevel Gear box
Screw Jack
Ball Screw Jack
기어기술자료

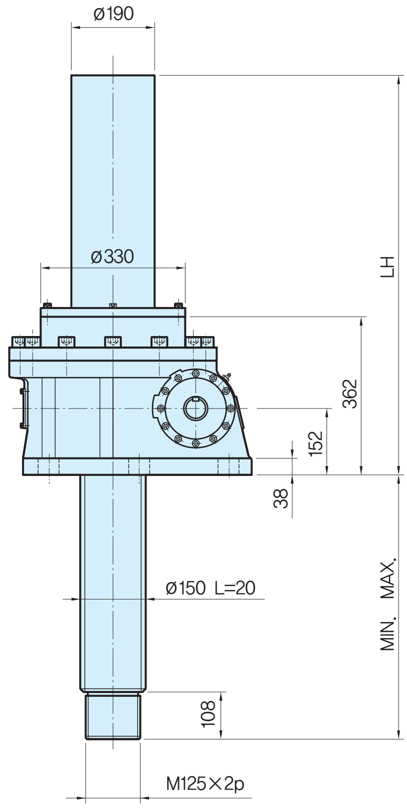
■ 상방향형 (U)



■ 평면도

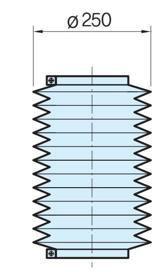


■ 하방향형 (D)

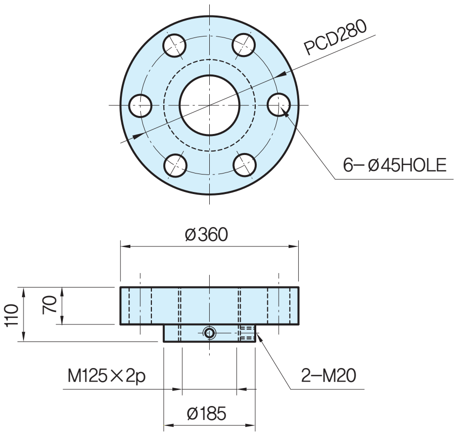


■ 스크류축 체결부품 Output Options

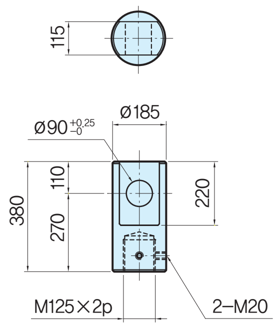
BELLOWS(B)



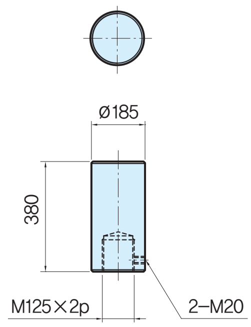
FLANGE NUT(F)



CLEVIS NUT(C)



PLAIN NUT(P)



■ 행정기준표 SMJ190

• 개략중량 500kg/100st

상방향형 U					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		L
	MIN	MAX	MIN	MAX	
100	500	600	600	700	200
200	500	700	610	810	300
300	500	800	620	920	400
400	500	900	630	1030	500
500	500	1000	650	1150	600
1000	500	1500	750	1650	1100

하방향형 D					
행정(mm) STROKE	축보호카바없음 N		축보호카바부착 B		LH
	MIN	MAX	MIN	MAX	
100	120	220	220	320	560
200	120	320	230	430	660
300	120	420	240	540	760
400	120	520	250	650	860
500	120	620	260	760	960
1000	120	1120	360	1360	1460

잭과 베벨기어박스 조합사례

■ 연동운전시의 소요동력 Cautions

• 복수의 JACK을 연동시켜 사용할 경우는, 아래의 전달효율을 참고하여 소요동력을 결정하여 주십시요.

When multiple jacks are used, Compute necessary power using under part of transfer efficiency.

$$\text{소요동력 Required Power} = \frac{\text{JACK 1대당 소요동력 Required Power per jack} \times \text{사용대수 Number of Jacks}}{\text{전달효율 Transfer Efficiency}}$$

• 기준 : SMJ56

JACK 연동수 No. of Jacks	2대 2 Units	3대 3 Units	4대 4 Units	n대 n Units
전달효율 Transfer Efficiency	0.94	0.91	0.88	(0.97)n

■ 허용입력축 토르크 Cautions

• kg · m

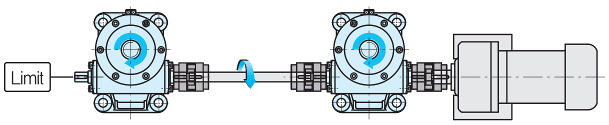
형 번 Type Number	44	56	66	73	95	135
허용입력축 토르크 Input Torque	4.3	7.4	13	30	60	85

※주 : Jack 연동운동시 입력축 TORQUE가 허용 수치를 넘지 않는 범위내에서 사용하십시요.

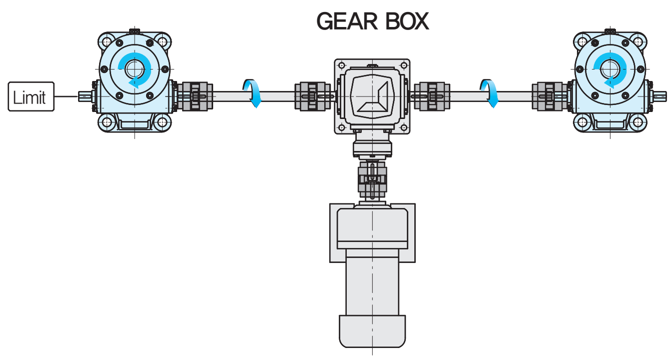
Note : When multiple jacks are daisy chained, input tprque should not exceed the date above table

■ JACK과 GEAR BOX의 여러가지 배열그림

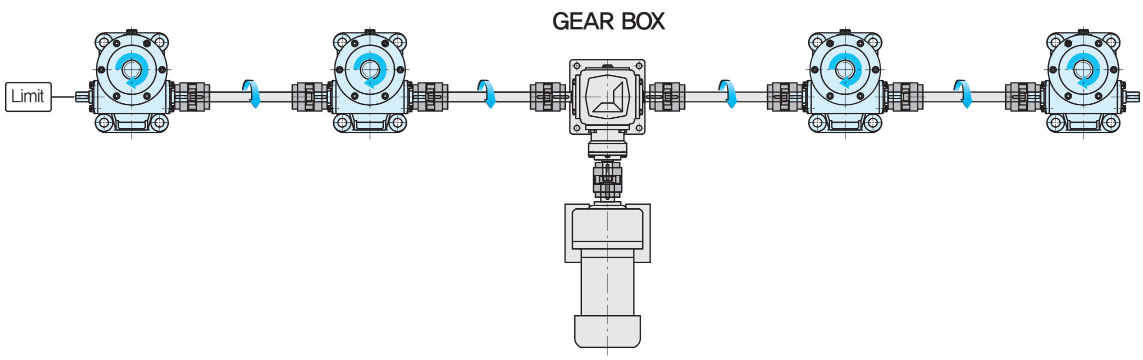
I형 조합



T형 2대 조합



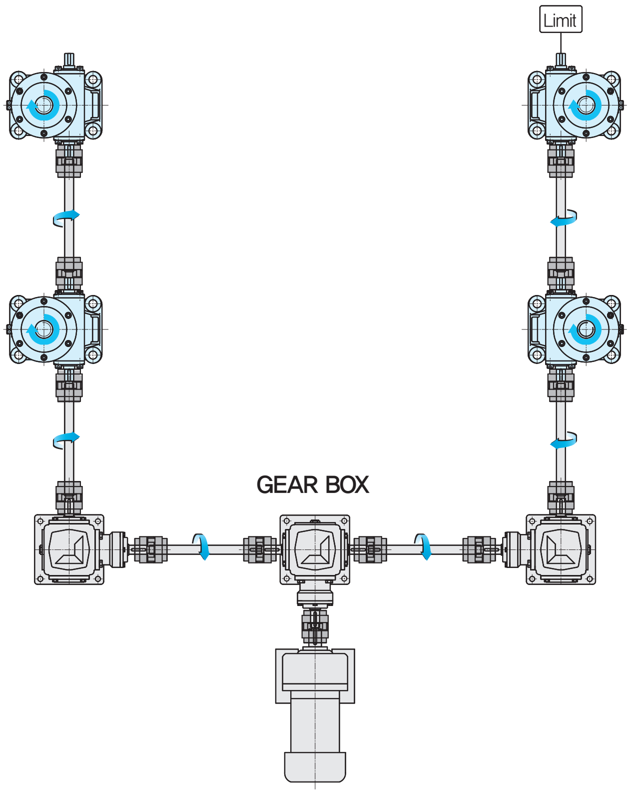
T형 4대 조합

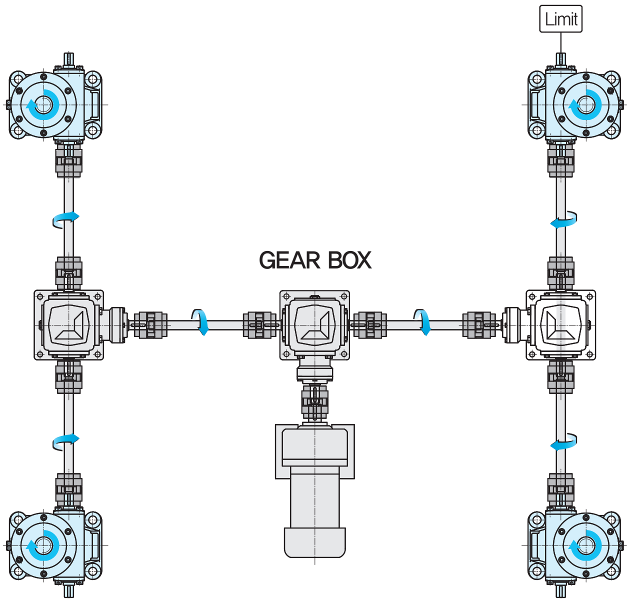


참고_ 화살표 방향대로 조합시 스크류축이 상향이송됩니다.

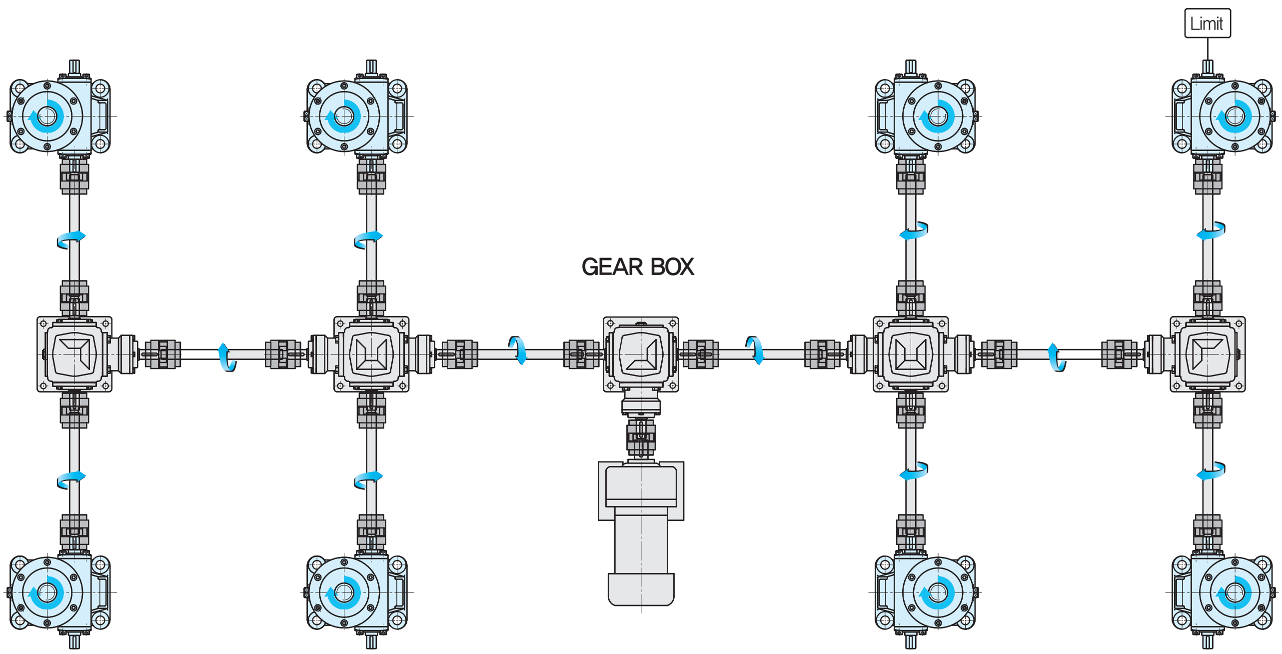
U형 조합

H형 조합



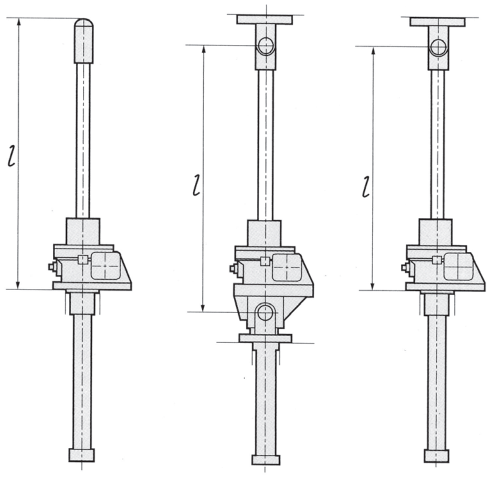


장방형 조합



참고_ 화살표 방향대로 조합시 스크류축이 상향이송됩니다.

■ 좌굴하중의 계산식 Formula for Buckling Load



- 좌굴하중의 계산식
  계수 a = 1.00 b = 0.3 c = 1.25
  n = 650 ÷ 1.25 = 520RPM
  T = 1.00 × 3 + 0.3 = 3.3kgf-m
  p = (520 × 3.3) ÷ 974 = 1.75kw

- 재검토 : SMJ66의 최대동력은 1.8kw이므로 채용할 수 있습니다.
  SMJ66 Type :
  a = 1.0, b = 0.3, c = 1.25
  n = 650 ÷ 1.25 = 520RPM
  T = (1.0 × 3) + 0.3 = 3.3kgf-m
  p = (520 × 3.3) ÷ 974 = 1.75kw
  When multiple jacks are used, Compute necessary power using unde part of transfer efficiency

- 잭의 나사축에 미치는 좌중하굴은 나사축경과 행정(Stroke)에 따라 허용 칫수가 결정됩니다. 또 잭 및 나사축단의 취부 상태에 따라서도 허용 칫수가 변합니다.
  Buckling load of screw jack is determined by bothshaft length and stroke. Also, end fitting of shaft affects the buckling load capacity.
  $Pcr = n\pi^2 E(K\ell)^2 \cdot A \cdot \alpha kgf$
  n : 축단지지 계수 Shaft end support
  잭고정 – 축단자유 Jack fixed & Shaft End Free : n = 1/4
  잭지지 – 축단지지 Jack supports & Shaft End supports : n = 1
  잭고정 – 축단지지 Jack fixed & Shaft End supports : n = 2
  E : 종탄성 계수 $2.1 \times 10^4 kgf/mm^2$

d1 : 나사곡경표 Screw curvature

▪ TM Screw	
SMJ32	16
SMJ44	20
SMJ56	32
SMJ66	39.5
SMJ66S	45.5
SMJ73	50.5
SMJ95	68
SMJ135	101
SMJ155	115
SMJ190	129

▪ BALL Screw	
SMJ B32	16
SMJ B44	20
SMJ B56	32
SMJ B66	39.5
SMJ B73	50.5
SMJ B95	68

■ Overhang 하중의 계산식 Formula for Overhang Load

잭의 입력축과 동력원과의 연결에 풀리(Pulley)나 스프라켓(Sprocket), 기어 등을 사용하면 입력축에 Overhang 하중이 걸립니다.
When one uses Pulley, Sprocket or gear between inputshaft and power source, overhang load occurs..
사양표를 참조하여 허용치 이내에 되도록 사용하십시요.
Plase make sure that the overhang load will be within specification.

$$Lr = \frac{T}{R} = f$$

- Where
  Lr : Overhang 하중 (kgf) Lr : Overhang Load (kgf)
  T : 입력축 Torque (kgf-m) Input Shaft Torque (kgf-m)
  R : Pulley, Sprocket 등의 반경 Dimeter of Pulley, Sprocket
  f : Overhang Coefficient Overhang Coefficient
  Pulley : 1Gear : 1.25

■ 소요동력 계산식 Calculation Formula

잭의 형번은 장치, 기기가 필요로 하는 승강시의 하중과 승강속도 등 소요동력을 계산할 때에 각 형번의 사양을 검토하십시오.

When one computes lifting load, lifting speed, required power and so forth, please note of type specifications.

● 계산식 보기 Calculation Example

▶공식 1 Formula 1

임의로 SJ56형번과 감속비를 H로 선택을 하고 n의 값을 구한다.

We, for instance, use SMJ56 screw jack type and H reduction ratio.

$$n = V \div C$$

• Where

n : 입력축 회전수 n : Input Shaft (RPM)

V : 승강속도 Lifting Speed (mm/min)

C : 속도계수 (사양표 참조) Speed Coefficient (Refer specifications)

– SMJ56형번에서 허용할 수 있는 INPUT RPM은 915RPM이다. 따라서 n은 받아들일 수 있다.
  Since SMJ56 type allows maximum 195 input RPM, n(=488.7) is acceptable.

Therefor : $n = \dfrac{650}{1.33} = 488.7$ RPM

▶공식 Formula 2

소요입력 토르크 계산식 Required Input Torque

$$T = a \times w + b$$

• Where

T : 소요입력축 트로크 Required Input Shaft Torque (kgf–m)

a : 토르크 계수 (사양표 참조) Torque Coefficient (Refer specifications)

b : 입력축 무부하 토르크 Input Shaft No Load Torque (kgf–m)

W : 승강하중 ton (사양표 참조) Lifting Load (Ton, Refer specifications)

Therefor : $T = 1.0 \times 3 + 0.2 = 3.2$ kgf–m

▶공식 Formula 3

소요동력 kw 계산식 Required Power (kw)

$$P = \frac{(n \times T)}{974}$$

• Where

P : 소요동력 Required Power (kw)

n : 입력축 회전수 Input Shaft RPM

T : 소요입력축 트로크 Required Input Shaft Torque (kgf–m)

Therefor $P = \dfrac{(488.7 \times 3.2)}{974} = 1.61$kw

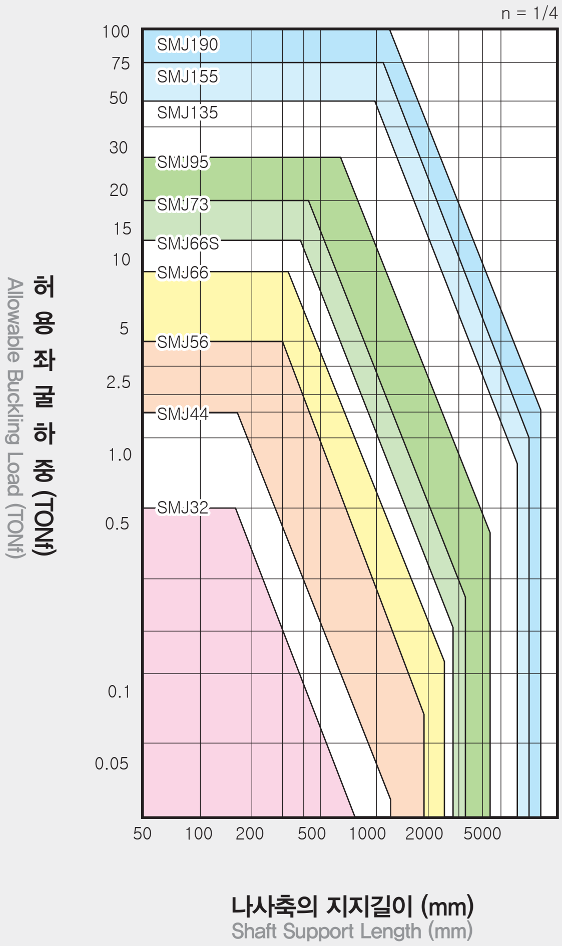
SMJ56형번의 잭당 최대동력은 1.1kw이므로 SMJ56형번 감속비 H는 부적합합니다. 따라서 잭 형번을 SMJ66, 감속비는 H로하여 재검토 하십시오.

Since the required power of SMJ56 is 1.1kw, the reduction ratio H is not appropriate in this case. Therefore, one needs to compute required power using H of SMJ66.

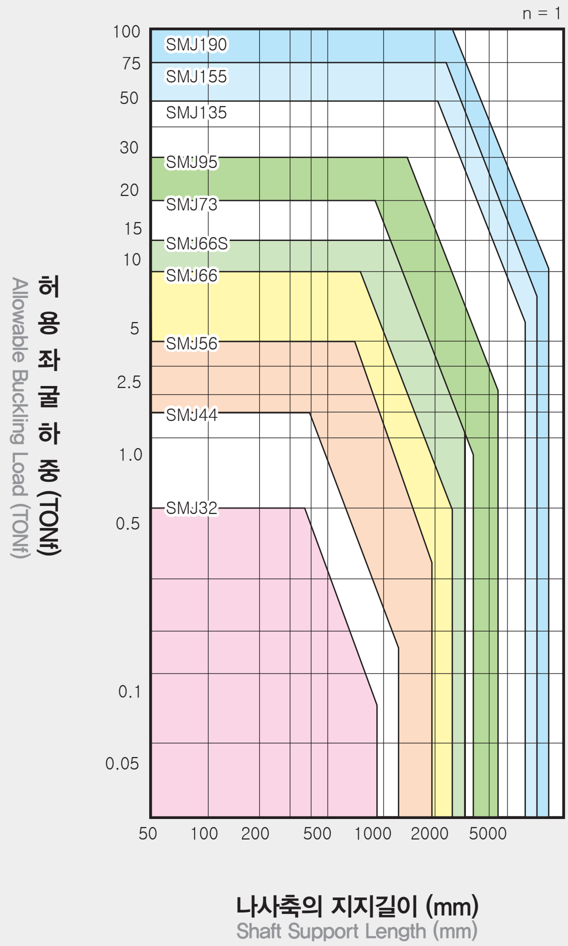
허용좌굴하중

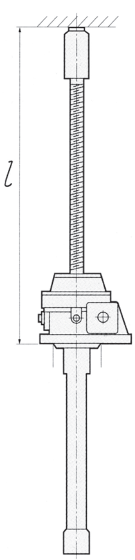
■ Allowable Buckling Load

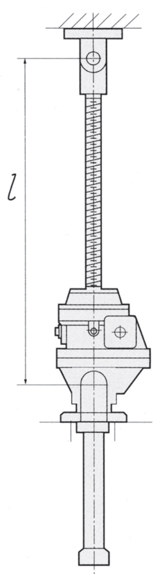
축단자유 (플레인 너트)
Shaft End Free (Plain End)



축단지지 (크레비스)
Shaft End Support (Clevis)

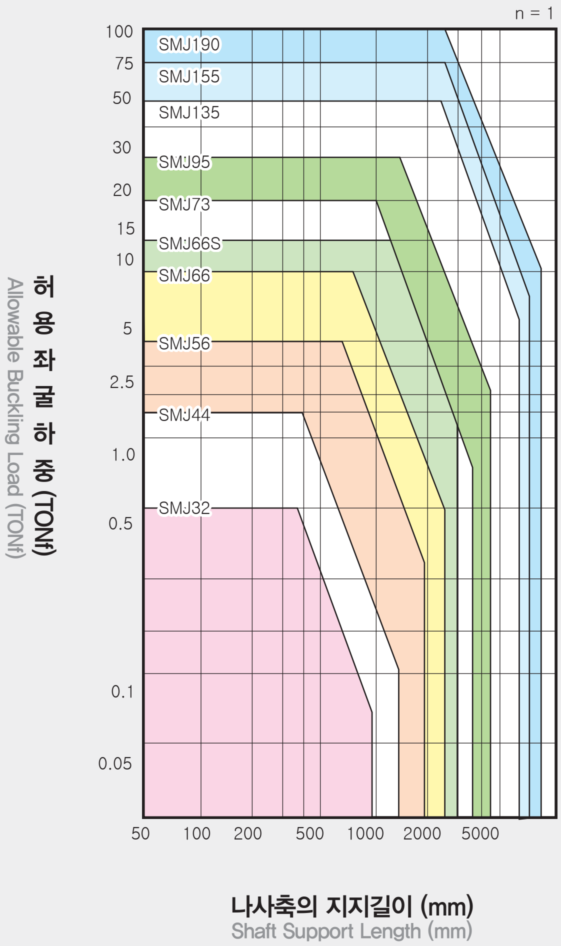


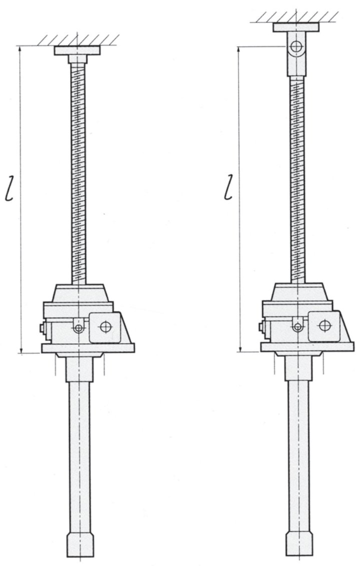




축단지지 (플렌지, 크레비스)

Shaft End Support (Flange, Clevis)





■ 그래프를 사용한 간편한 모델 선정방법

Type Selection Using Graphs

[1] 좌굴하중 Buckling Load

잭을 압축하중으로 하는 경우, 행정(STROKE)이 긴 경우에도 좌굴 현상이 일어납니다. 좌굴하중은 축단의 지지방법에 따라 다르므로 각각의 그래프를 참조하여 하중(종축)과 축 길이(횡축)의 교점으로부터 그 이상의 형식번호를 선택하여 주십시오.

▶잭을 인장하중으로 사용하는 경우에는 좌굴의 염려가 없습니다.

Jack is used for lifting load. Buckling load occurs in case of long stroke.

The buckling load differs depending on shaft end support.

Refer lift side graphs and one should pick a higher numbered type from the crosspoint of load (vertical coordinate)and Shaft length (horizontal coordinate)

[2] 승강하중/승강속도관계 그래프

Lifting Load/Lifting Speed

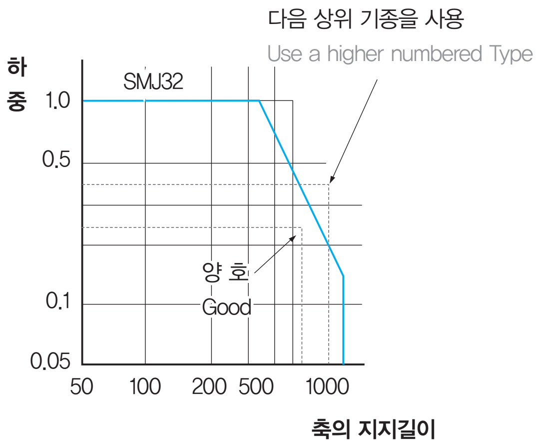
기본 사양이 있는대로 잭 한대당의 최대 허용 동력이 결정됩니다. 최대 동력으로 움직이는 하중이 크면 속도가 제한받고 속도를 높이면 하중이 제한받습니다. 다음 페이지의 그래프의 하중 조건과 필요 속도를 만족시키는 형식 번호를 선택하십시오.

When lifting load get heavier, their lifting speed gets slower, vice verse. Graphs in following page describes the relationship of lifting power and speed for quick type selection.

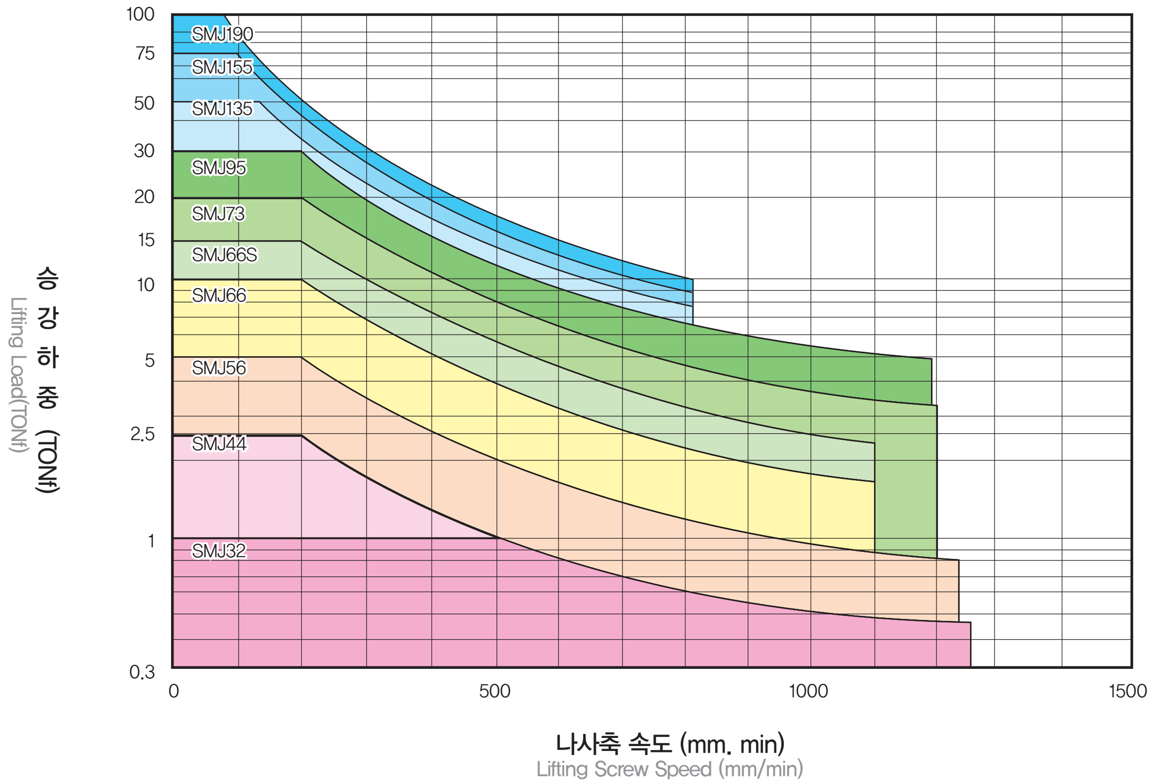
[3] 허용횡하중 Allowable Side Force

잭은 압축하중, 인장 하중 및 축수직 방향의 하중으로써 설계되면 좋습니다. 어쩔 수 없이 횡으로 하중이 걸리는 경우에는 형식번호를 크게 할 필요가 있는 경우도 있습니다. 허용 횡 하중의 표로써 확인을 하여 주십시오.

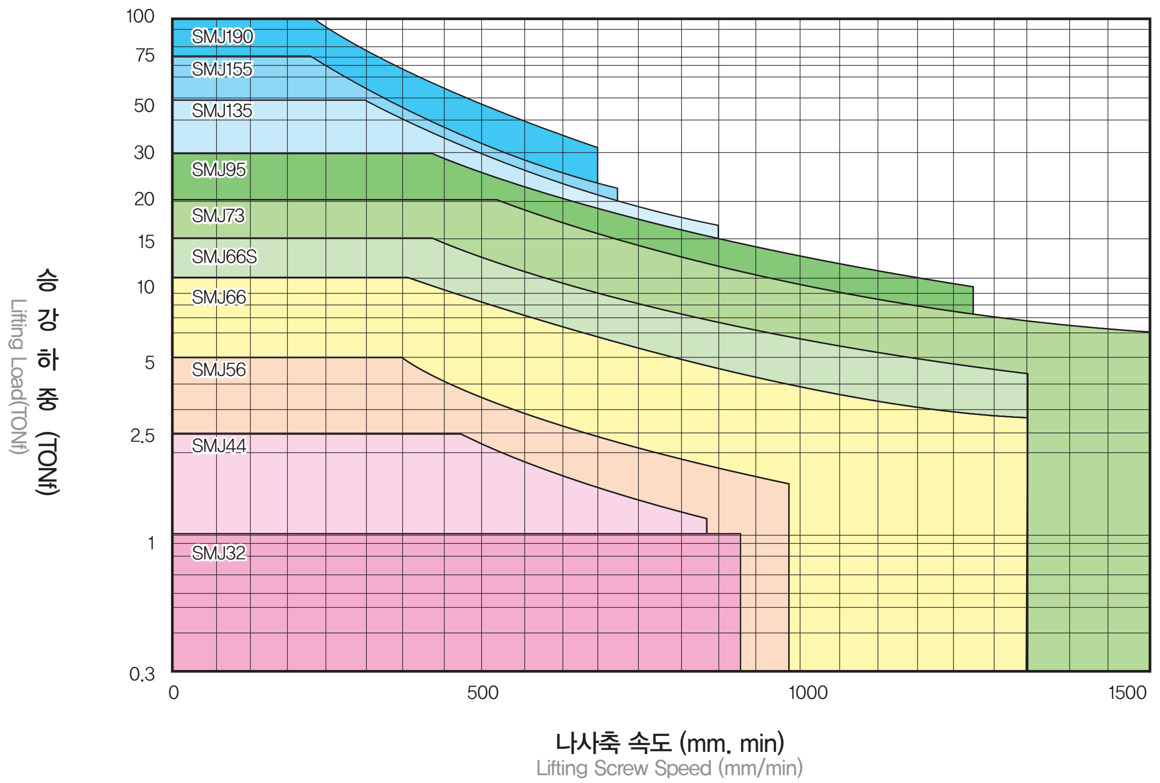
If you have to inavoidably use a jack fro side force, you may need to increase type number higher. Please make sure of right type number using Side Force graph.



■ 감속비 Reduction Ratio–H



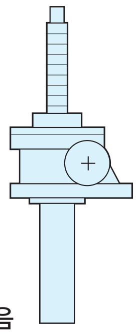
■ 감속비 Reduction Ratio–L



허용 횡 하중 Allowable Side Force

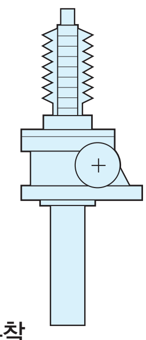
■ 상방향형 Upright Lifting Type

(kgf)



축 보호 카바 없음
W/o Dustproof Bellow

형번 Type No. \ 행정(mm)	100	200	300	400	500	600	800	1000
SMJ32	20	15	12	10	8	–	–	–
SMJ44	70	40	30	21	17	14	11	–
SMJ56	145	90	60	50	40	35	25	21
SMJ66	130	80	60	45	35	30	24	20
SMJ66S	170	110	80	65	50	45	35	30
SMJ73	305	230	190	155	135	120	95	75
SMJ95	475	390	320	270	225	190	150	120
SMJ135	1265	915	675	565	470	405	320	260
SMJ155	1590	1200	930	760	640	555	440	360
SMJ190	1870	1375	1090	900	765	570	530	440

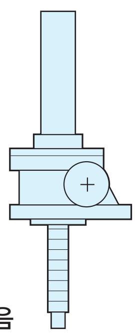


축 보호 카바 부착
With Dustproof Bellow

형번 Type No. \ 행정(mm)	100	200	300	400	500	600	800	1000
SMJ32	20	15	12	10	8	–	–	–
SMJ44	40	30	21	17	14	11	–	–
SMJ56	90	60	50	40	35	25	21	–
SMJ66	80	60	45	35	30	24	20	–
SMJ66S	110	80	65	50	45	35	30	–
SMJ73	230	190	155	135	120	95	75	–
SMJ95	390	320	270	225	190	150	120	–
SMJ135	915	675	565	470	405	320	260	–
SMJ155	1200	930	760	640	555	440	360	–
SMJ190	1375	1090	900	765	570	530	440	–

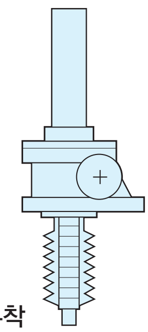
■ 하방향형 Inverted Lifting Type

(kgf)



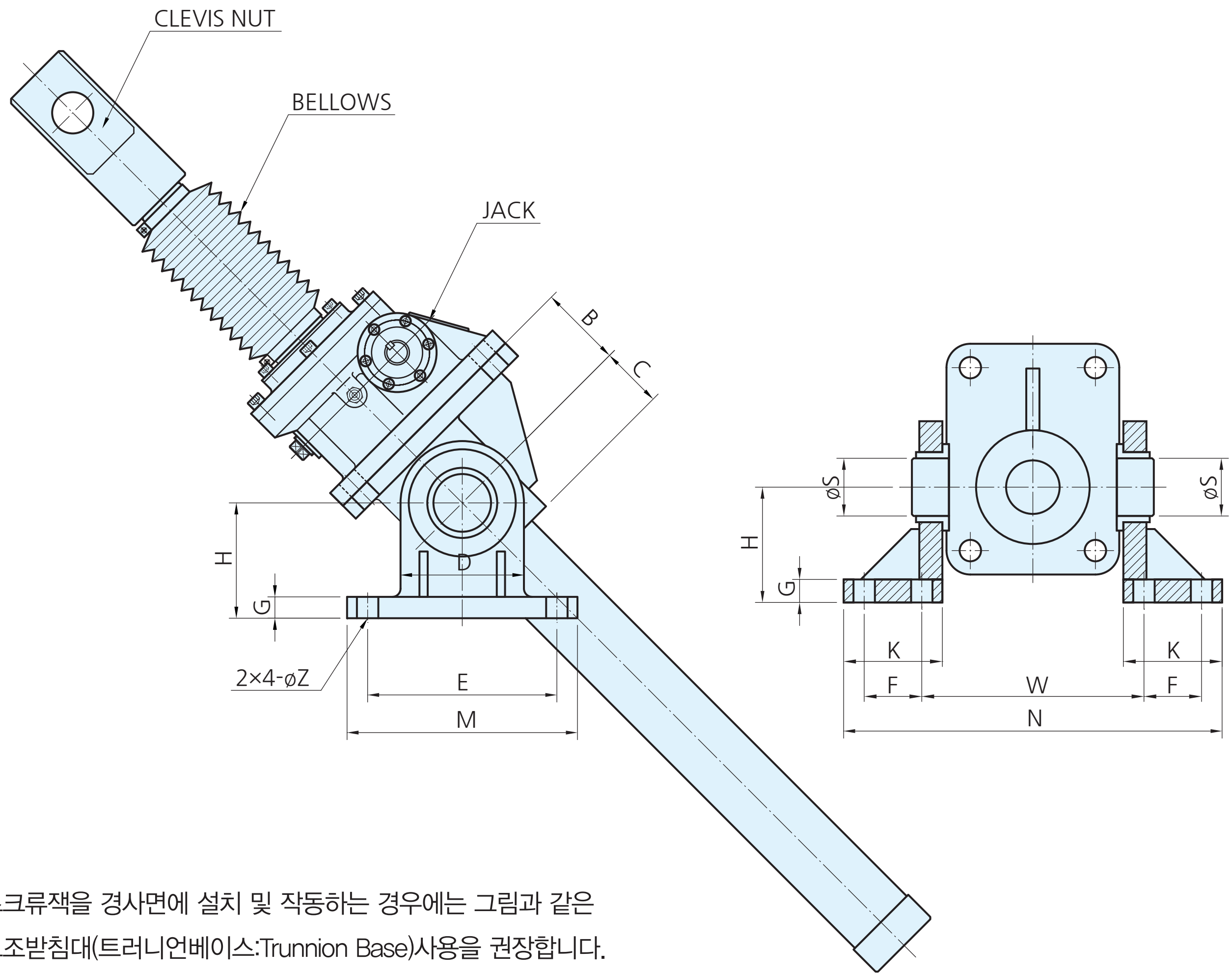
축 보호 카바 없음
W/o Dustproof Bellow

형번 Type No. \ 행정(mm)	100	200	300	400	500	600	800	1000
SMJ32	18	14	11	9	8	–	–	–
SMJ44	45	40	25	20	17	14	11	–
SMJ56	90	65	50	40	35	30	24	20
SMJ66	80	60	45	35	30	25	22	18
SMJ66S	100	75	60	50	45	40	30	25
SMJ73	250	195	155	130	115	100	80	60
SMJ95	365	285	235	200	175	155	125	105
SMJ135	670	545	460	375	350	310	255	220
SMJ155	845	700	600	525	465	420	350	300
SMJ190	895	760	665	595	530	480	405	350



축 보호 카바 부착
With Dustproof Bellow

형번 Type No. \ 행정(mm)	100	200	300	400	500	600	800	1000
SMJ32	14	11	9	8	–	–	–	–
SMJ44	40	25	20	17	14	11	–	–
SMJ56	65	50	40	35	30	24	20	–
SMJ66	60	45	35	30	25	22	18	–
SMJ66S	75	60	50	45	40	30	25	–
SMJ73	195	155	130	115	100	80	60	–
SMJ95	285	235	200	175	155	125	105	–
SMJ135	545	460	375	350	310	255	220	–
SMJ155	700	600	525	465	420	350	300	–
SMJ190	760	665	595	530	480	405	350	–



스크류잭을 경사면에 설치 및 작동하는 경우에는 그림과 같은
보조받침대(트러니언베이스:Trunnion Base)사용을 권장합니다.

■ TRUNNION BASE DEMENSIONS

규 격 / 기 호	SMJ32	SMJ44	SMJ56	SMJ66	SMJ66S	SMJ73	SMJ95	SMJ135	SMJ155	SMJ190
B	50	60	70	80	90	100	120	140	140	160
C	22	20	40	55	65	75	90	120	120	140
D	55	70	90	120	140	140	180	220	220	260
E	80	110	150	170	190	230	270	320	400	400
F	30	40	50	60	65	70	90	120	120	140
G	12	12	18	24	26	26	36	50	50	55
H	60	80	85	120	130	140	170	200	310	270
K	54	70	90	100	110	120	150	220	220	250
W	170	140	200	240	250	270	360	620	520	780
M	104	134	186	210	240	280	330	400	500	500
N	254	250	340	400	426	460	600	960	860	1170
øS	15	25	35	50	60	70	80	110	110	130
4-øZ	11	11	18	22	22	26	33	45	45	55
고정볼트	M10	M10	M16	M20	M20	M24	M30	M42	M42	M52

스크류잭 취급 및 보전

■ 사용상의 주의 Cautions

1 분류번호 선정 시에는 모타 용량, 승강 하중, 나사 축 속도, 허용 좌굴 하중, 허용 횡하중 등에 유의하십시오. 카탈로그 범위 외에서 선정하면 잭뿐만 아니라 장치에도 손상을 줍니다.

When one selects type, motor capacity, factors like lifting load, shaft speed, buckling load and allowable side force are considered. Outer range selection may cause damage to screw jack.

2 설치시는 강성이 높은 평판대에 고정하십시오. 또 모타, 감속기 등의 취부에는 적절하게 센터링 (Centering : 중심 내기)하여 주십시오.

Jacks should be installed on durable board. Also, installation of motors and reducers requires a proper centering.

3 잭에 가해지는 하중은 나사 축 중심과 동일한 방향으로 배려하고 편심하중이 잭에 가해지면 과대한 굽힘 힘이 발생하여 잭을 손상시킵니다.

Load should be aligned with the direction of shaft. If not, excessive side force may cause damage to jack.

4 입력 회전 수가 1,000RPM 이상으로 사용되는 경우는 오일 윤활식이 적용됩니다.

If rotation more than 1,000 RPM is necessary, oil greasing type is recommended.

5 스크류 잭(Screw Jack) 사용 시에 충격이나 진동이 있는 경우에는 브레이크 사용을 검토하십시오.

When using screw jack, brake model is recommended for vibrating environment.

6 Jack은 정해진 행정(Stroke) 범위 밖에서는 사용되지 않도록 하고, 또 사용되는 행정(Stroke)에 대하여 여유가 있도록 선정하십시오.

Jack should be used within specified stroke, Also, some margin of stroke is necessary.

7 스크류 잭(Screw Jack)의 표준 사양에는 나사축단의 풀림 방지가 되어 있지 않습니다. 볼스크류잭과 같이 역전방지(Self-Locking) 기능이 없는 잭에서는 풀림 방지가 되어 있지 않으므로 나사 축이 자중에 의해 빠져 떨어지는 것도 있으므로 주의하십시오.

Standard screw jack specification does not include self-locking feature.Jacks without self-locking feature may drop the shaft by its own weight. Please be careful.

8 잭을 항상 정상으로 사용하기 위하여 1개월에 한 번 점검하십시오. 또 1~2년마다 윤활유를 교환하고 더구나 윤활 유량이 부족하거나, 윤활유가 노화되어 있는 경우에는 교환 시기가 되지 않았어도 보급 또는 교환하십시오.

Monthly inspection is necessary for proper use of jack. Grease should be charged for every one or two years. If grease is low or old, immediate recharge is recommended even before the period.

9 잭 사용 중에 스크류 잭의 나사 부분 백래쉬(Back Lash)가 나사 피치의 1/3을 초월할 때가 신품과 교환하는 기준이 됩니다. 또 기어부에 관하여는 스크류 잭, 볼스크류 잭이든 백래쉬(Back Lash)가 입력 축 회전각 환산으로 H Type은 20˚, L Type은 60˚를 초과한 때가 교환의 기준이 됩니다.

It is time to replace with new one when backlach of screw pitch becomes one third of its original. It is also time to replace of gear part when backlash of screw jack or ball screw jack exceeds 20 degree for H type or 60 degree for L type.

10 스크류 너트가 부착된 잭의 경우 정기적으로 느슨해짐의 유무를 점검하여 주십시오.

Jack with screw nut is recommended to regularly check its tightness.

11 과부하 용량은 동작하중시에는 10%, 정지 하중 시에는 30%입니다.

Overhang load is 10 per cent during operation and 30 per cent for idle.

12 1일당의 총 운전시간은 3시간 이내, 또 케이스 표면 온도가 「주변 온도 +50℃ 이내, 동시에 최고 온도는 130℃」 비슷한 곳에 사용하십시오.

Daily operation should be less than three hours, and the unit should be kept within 50℃ of surface temperature or 150℃ for cold time.

2023

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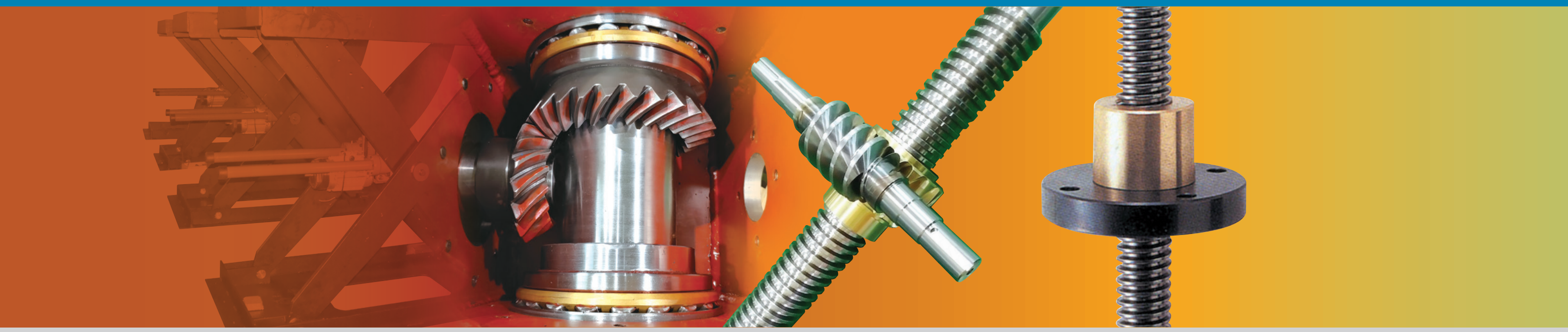

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