

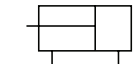
# KP35H series



### Features

- Tube material: Aluminum
- Magnet Standard built-in
- Working pressure: 3.5MPa

### Symbol



Double Acting /  
Single Rod

## How to Order

① KP35H - ② LB ③ 32 - S ④ 100 - ⑤ Y - ⑥ C73 - ⑦  

### ① Series

KP35H	Low-pressure Hydraulic Cylinder
KP35HL	Low-pressure Hydraulic Cylinder (With auto switch)

### ② Mounting style

B	Standard	FB	Head side flange
LB	Axial angle of foot	CA	Single Clevis
FA	Rod side flange		

### ③ Bore Size

20	25	32	40
∅20	∅25	∅32	∅40

### ④ Cylinder stroke

Bore size	Stroke
∅20	50, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800
∅25	
∅32	
∅40	

※ Refer to [1] -140PAGE for the rod end shape change made to order.

### ⑤ Rod end

Nil	Rod end nut(Standard):1 pcs
I	Single knuckle joint
Y	Double knuckle joint

### ⑥ Auto switch

C72	D-C72K	H7A1	D-H7A1K
C73	D-C73K	H7A2	D-H7A2K
C76	D-C76K	H7B	D-H7BK
C80	D-C80K		

- ※ Only for auto switch attached type.
- ※ For details, refer to [10] -10, 19 PAGE.

### ⑦ Number of auto switch

Nil	2 pcs
S	1 pcs
N	N pcs (N: 3, 4, 5...)

※ Only for auto switch type.

### Specifications

Bore size(mm)	Ø20	Ø25	Ø32	Ø40
Fluid	Petroleum-based fluid			
Max. proof pressure	50.9kgf/cm <sup>2</sup> (5.0MPa)			
Max. operating pressure	35.7kgf/cm <sup>2</sup> (3.5MPa)			
Min. operating pressure	3kgf/cm <sup>2</sup> (0.3MPa)			
Ambient & fluid temperature	-10~80°C (Without auto switch) -10~60°C (With Auto switch)			
Operating piston speed	8~300mm/sec			
Cushion	None			
Tolerance of thread	KS class 2			
Tolerance of stroke length	~250 <sup>ST</sup> : +1.0 <sub>0</sub>		251~800 <sup>ST</sup> : +1.4 <sub>0</sub>	
Mounting style	Standard, Axial angle of foot, Rod side flange, Head side flange, Single Clevis			

※ Rod end is used in the same way as ACS2 series (Ø40 is thread size M16x1.5)

### Mounting type and accessories

Mounting type	Standard	Axial angle of foot	Rod side flange	Head side flange	Single Clevis
Standard	Mounting screw	●(1 pcs)	●(2 pcs)	●(1 pcs)	●(1 pcs)
	Rod end nut	●	●	●	●
	Clevis pin	-	-	-	-
Option	Single knuckle joint	●	●	●	●
	Note1) Double knuckle joint	●	●	●	●

Note1) Double knuckle joints are shipped with pins and snap rings.

### Mounting part No.

Mounting type	Minimum Order Quantity	Bore size(mm)				Description (Minimum order quantity)
Axial angle of foot	1 set (2 pcs)	LB20	LB25	LB32	LB40	Foot 2 pcs, Mounting screw 1 pcs
Flange	1 pcs	FA/FB20	FA/FB25	FA/FB32	FA/FB40	Flange 1 pcs, Mounting screw 1 pcs
Single Clevis	1 pcs	CA20	CA25	CA32	CA40	Single Clevis 1 pcs

### Rod end part No.

Rod end	Ø20	Ø25	Ø32	Ø40
Single knuckle joint	I20	I25	I40	I2-40
Double knuckle joint	Y20	Y25	Y40	Y2-20

### Compatibility with hydraulic fluid

General mineral hydraulic oil	●
W / O hydraulic oil	●
O/W hydraulic oil	●
Water-glycol based hydraulic oil	x
Phosphoric ester-based hydraulic oil	x

### Theoretical output

Unit: N

Bore size(mm)	Rod diameter(mm)	Operating direction	Water pressure area (mm <sup>2</sup> )	Working pressure MPa					
				1	1.5	2	2.5	3	3.5
20	10	OUT	314	314	471	628	785	942	1099
		IN	235	235	352	470	587	705	822
25	12	OUT	490	490	735	980	1225	1470	1715
		IN	377	377	565	754	942	1131	1319
32	16	OUT	804	804	1206	1608	2010	2412	2814
		IN	603	603	904	1206	1507	1809	2110
40	18	OUT	1256	1256	1884	2512	3140	3768	4396
		IN	1002	1002	1503	2004	2505	3006	3507

※ Theoretical output (N) = Working pressure (MPa) x Water pressure area (mm<sup>2</sup>)

### Weight

Unit: kgf

Bore size (mm)		Double Single			
		∅20	∅25	∅32	∅40
Standard weight	Standard	0.1454	0.238	0.5	0.82
	Foot	0.228	0.316	0.88	1.36
	Flange	0.198	0.290	0.69	1.03
	Single Clevis	0.134	0.208	0.64	0.77
Increased weight per 50 strokes		0.064	0.080	0.12	0.16
Option	Single knuckle joint	0.056	0.056	0.166	0.226
	Double knuckle joint (With pin)	0.074	0.072	0.220	0.296
	Rod nut	0.002	0.008	0.016	0.032

### Calculation method

#### 1. Double Single

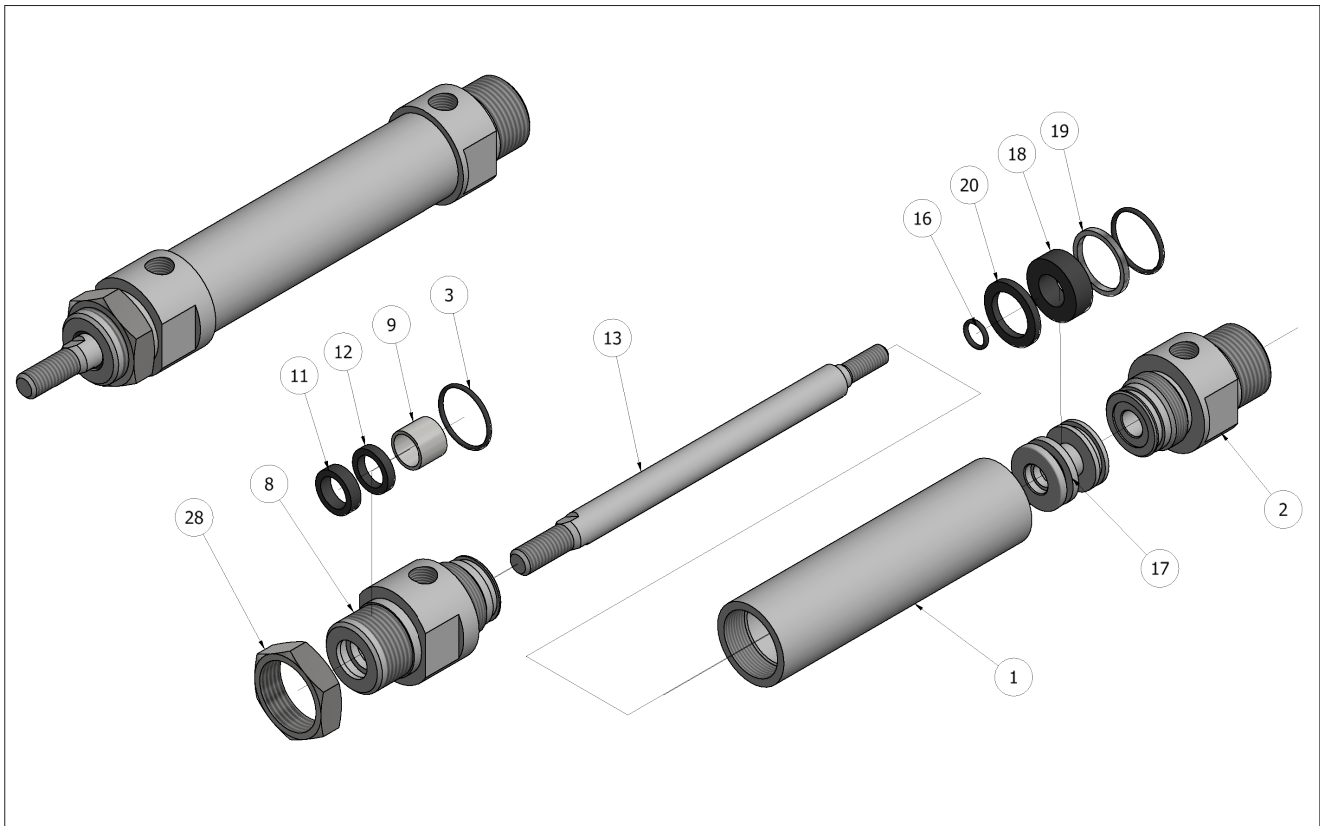
Example) KP35H LB32-S100

Standard weight: 0.88 (Foot type ∅32) / Increased weight: 0.12 / 50 /

Cylinder stroke: 100mm

$$0.88 + 0.12 / 50 \times 100 = 1.18 \text{ kg}$$

Structure



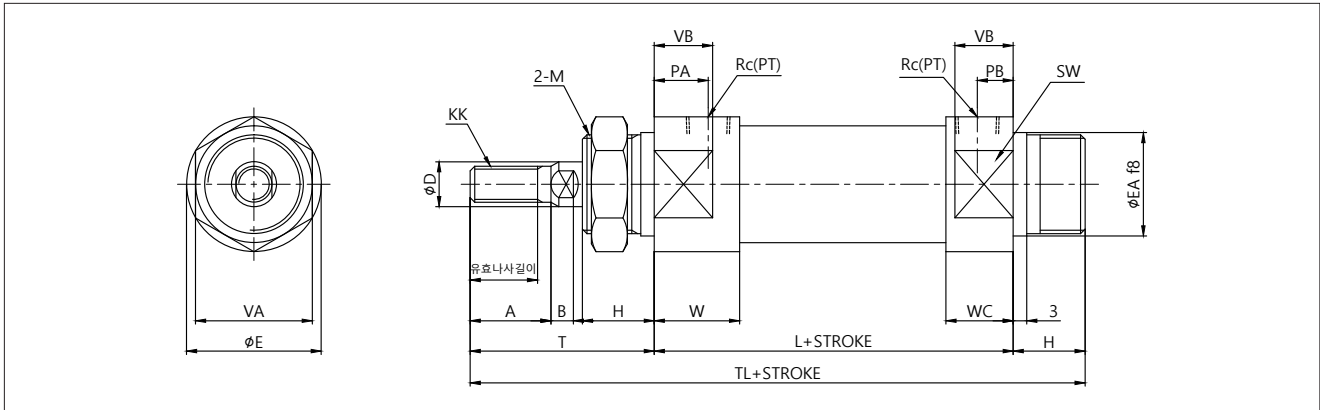
Part List

Part no.	Parts	Material	Quantity
1	TUBE	A6063	1
2	HEAD COVER	A2024	1
6	ROD	SM45C	1
8	ROD COVER	A2024	1
17	PISTON	A2024	1
18	MAGNET	NBR	1
28	COVER NUT	SS400	1

Packing List

Part no.	Parts	Material	Bore size			
			Ø20	Ø25	Ø32	Ø40
3	TUBE O-RING	NBR	1B-S18	1B-S22.4	1B-S29	1B-G35
9	DU BUSH	SPCC	DUB1010	DUB1210	DUB1610	DUB2010
11	DUST SEAL	NBR	SER-10A	SER-12	LBH-16	LBH-20
12	ROD PACKING	NBR	NMY-10A	NMY-12	USH-16	USH-20
16	ROD O-RING	NBR	1A-S7	1A-S7	1A-S9	1A-S14
19	WEARING	POLYKETON	20x17x2	25x22x2	32x29x3	40x37x3
20	PISTON PACKING	NBR	HSD-20	HSD-25	HSD-32	HSD-40

**Dimensions-Standard (B)**



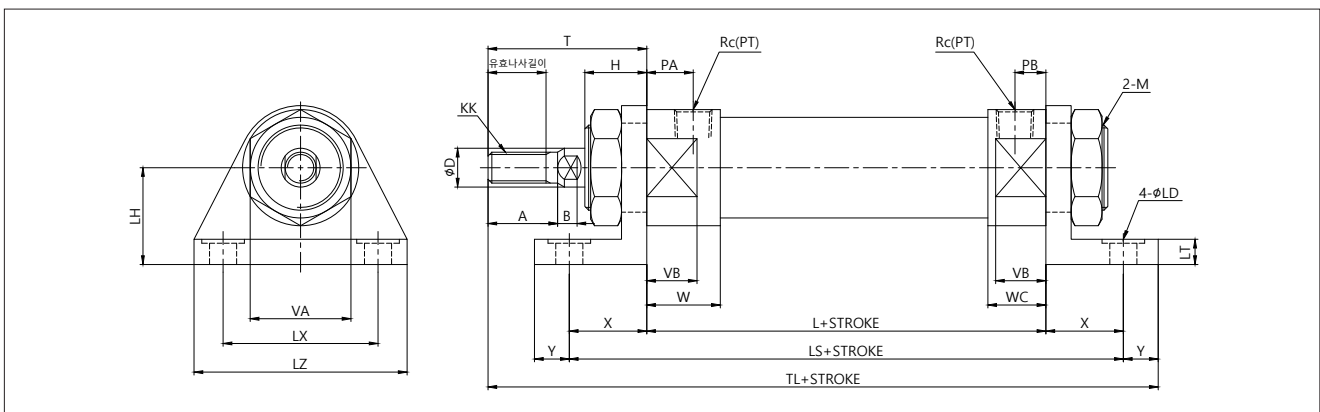
Unit:mm

Bore size	Effective screw length	A	B	ØD	ØE	ØEA	H	KK	L	M	PA	PB	Rc(PT)
Ø20	15	18	5	10	30	23	16	M8xP1.25	81	M22xP1.5	12	8	1/8
Ø25	20	22	5.5	12	32	25	16	M10xP1.25	81	M24xP1.5	12	8	1/8
Ø32	21	24	7.5	16	40	31	19	M14xP1.5	87	M30xP1.5	12	8	1/8
Ø40	21	24	7.5	20	48	34	21	M16xP1.5	108	M33xP2.0	14	11	1/4

Unit:mm

Bore size	T	TL	VA	VB	W	WC	SW
Ø20	41	138	26	13	19	15	26
Ø25	46	143	32	13	19	15	28
Ø32	53	159	38	13	19	15	36
Ø40	54	183	41	19	24	21	44

**Dimensions-Foot (LB)**



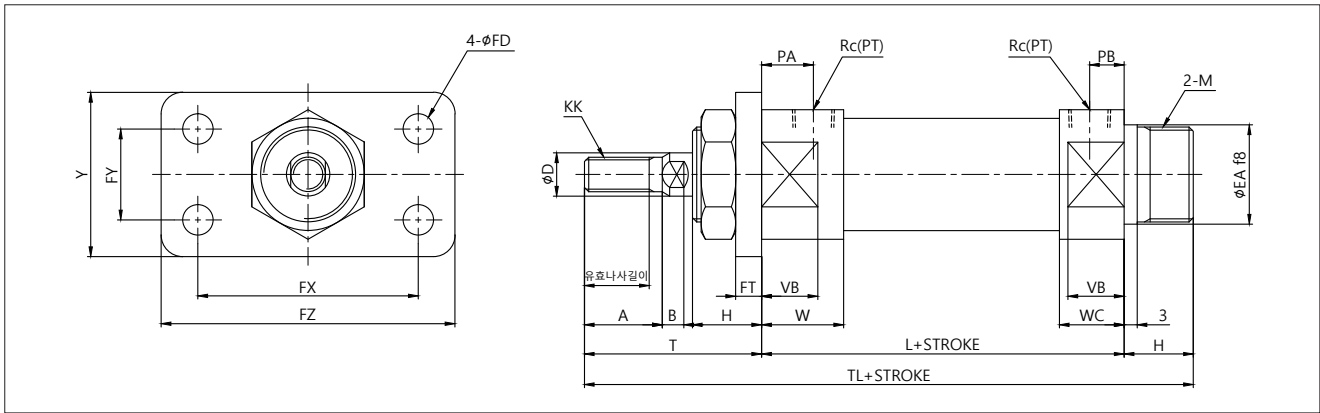
Unit:mm

Bore size	Effective screw length	A	B	ØD	H	KK	L	ØLD	LH	LS	LT	LX
Ø20	15	18	5	10	16	M8xP1.25	81	7	25	121	6.5	40
Ø25	20	22	5.5	12	16	M10xP1.25	81	7	28	121	6.5	40
Ø32	21	24	7.5	16	19	M14xP1.5	87	7	30	133	7	45
Ø40	21	24	7.5	20	21	M16xP1.5	108	9	35	158	7	55

Unit:mm

Bore size	LZ	M	PA	PB	Rc(PT)	T	TL	VA	VB	W	WC	X	Y
Ø20	55	M22xP1.5	12	8	1/8	41	151	26	13	19	15	20	9
Ø25	55	M24xP1.5	12	8	1/8	46	156	32	13	19	15	20	9
Ø32	60	M30xP1.5	12	8	1/8	53	172	38	13	19	15	23	9
Ø40	75	M33xP2.0	14	11	1/4	54	198	41	19	24	21	25	11

**Dimensions-Rod side flange (FA)**



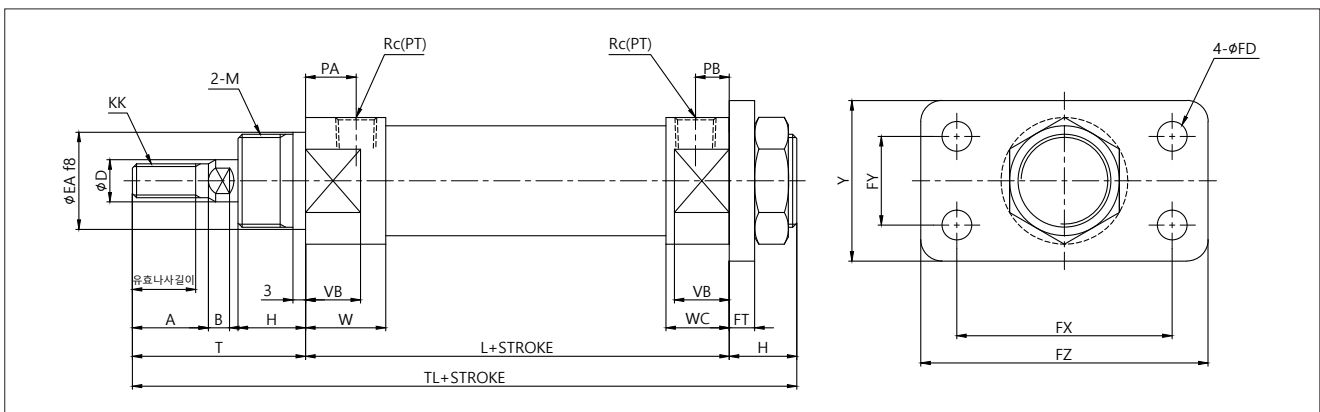
Unit:mm

Bore size	Effective screw length	A	B	ØD	ØEA	W	WC	H	KK	L	M	PA
Ø20	15	18	5	10	23	19	15	16	M8xP1.25	81	M22xP1.5	12
Ø25	20	22	5.5	12	25	19	15	16	M10xP1.25	81	M24xP1.5	12
Ø32	21	24	7.5	16	31	19	15	19	M14xP1.5	87	M30xP1.5	12
Ø40	21	24	7.5	20	34	24	21	21	M16xP1.5	108	M33xP2.0	14

Unit:mm

Bore size	PB	Rc(PT)	T	TL	VB	ØFD	Y	FY	FT	FX	FZ
Ø20	8	1/8	41	138	13	7	38	21	6	51	68
Ø25	8	1/8	46	143	13	7	44	27	9	53	70
Ø32	8	1/8	53	159	13	7	50	33	9	55	72
Ø40	11	1/4	54	183	19	9	60	36	9	66	84

**Dimensions-Head side flange (FB)**



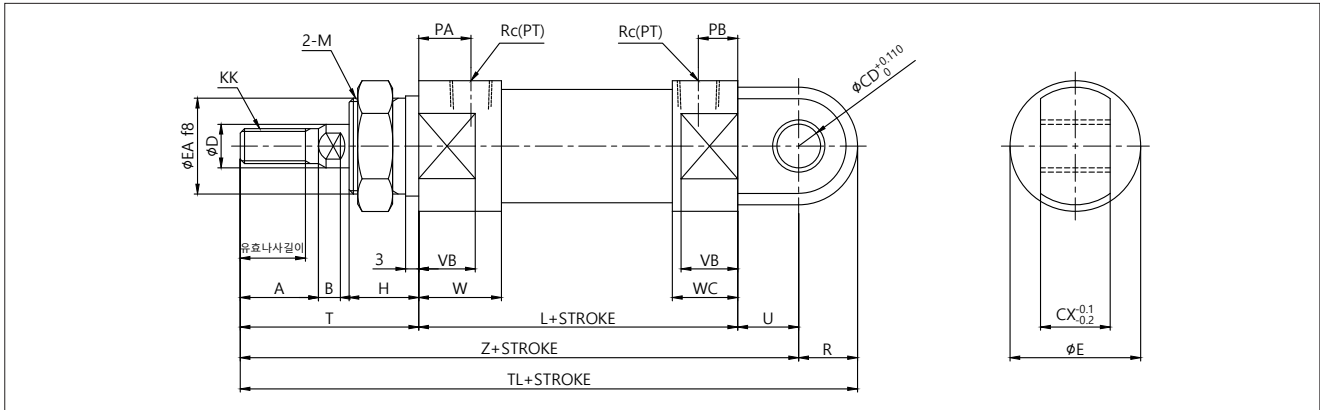
Unit:mm

Bore size	Effective screw length	A	B	ØD	ØEA	W	WC	H	KK	L	M	PA
Ø20	15	18	5	10	23	19	15	16	M8xP1.25	81	M22xP1.5	12
Ø25	20	22	5.5	12	25	19	15	16	M10xP1.25	81	M24xP1.5	12
Ø32	21	24	7.5	16	31	19	15	19	M14xP1.5	87	M30xP1.5	12
Ø40	21	24	7.5	20	34	24	21	21	M16xP1.5	108	M33xP2.0	14

Unit:mm

Bore size	PB	Rc(PT)	T	TL	VB	ØFD	Y	FY	FT	FX	FZ
Ø20	8	1/8	41	138	13	7	38	21	6	51	68
Ø25	8	1/8	46	143	13	7	44	27	9	53	70
Ø32	8	1/8	53	159	13	7	50	33	9	55	72
Ø40	11	1/4	54	183	19	9	60	36	9	66	84

**Dimensions-Single Clevis (CA)**



Unit:mm

Bore size	Effective screw length	A	B	ØD	ØEA	W	WC	H	KK	L	M	PA
Ø20	15	18	5	10	23	19	15	16	M8xP1.25	81	M22xP1.5	12
Ø25	20	22	5.5	12	25	19	15	16	M10xP1.25	81	M24xP1.5	12
Ø32	21	24	7.5	16	31	19	15	19	M14xP1.5	87	M30xP1.5	12
Ø40	21	24	7.5	20	34	24	21	21	M16xP1.5	108	M33xP20.	14

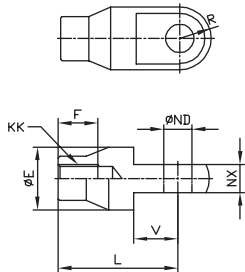
Unit:mm

Bore size	PB	Rc(PT)	T	U	R	Z	TL	VB	CD	CX	ØE
Ø20	8	1/8	41	14	13.5	136	149.5	13	10	16	30
Ø25	8	1/8	46	15	14.5	142	156.5	13	10	16	32
Ø32	8	1/8	53	20	18.5	160	178.5	13	12	16	40
Ø40	11	1/4	54	20	22.5	182	204.5	19	12	24	48

**Dimensions-Option**

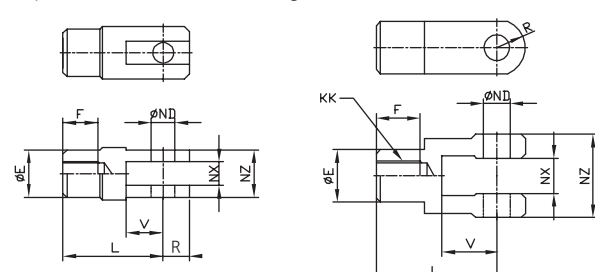
**Single knuckle joint**

Material: Free cutting steel



**Double knuckle joint**

Y20, Y25/32 Material: Free cutting steel    Y40 Material: Cast iron



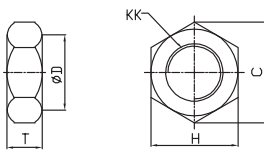
Unit:mm

Part No.	Bore size	φE	F	L	KK	φND <sup>H10</sup>	NX	R	V
I20	Ø20	20	16	36	M8X1.25	9 <sup>+0.06</sup> <sub>0</sub>	9 <sup>-0.1</sup> <sub>-0.2</sub>	10	14
I25/32	Ø25, 32	20	18	38	M10X1.25	9 <sup>+0.06</sup> <sub>0</sub>	9 <sup>-0.1</sup> <sub>-0.2</sub>	10	14
I40	Ø40	24	22	55	M14X1.50	12 <sup>+0.07</sup> <sub>0</sub>	16 <sup>-0.1</sup> <sub>-0.3</sub>	15.5	20

Part No.	Bore size	φE	F	L	KK	φND <sup>H10</sup>	NX	NZ	R	V
Y20	Ø20	18	16	36	M8X1.25	9 <sup>+0.06</sup> <sub>0</sub>	9 <sup>+0.2</sup> <sub>+0.1</sub>	18	12	14
Y25/32	Ø25, 32	18	18	38	M10X1.25	9 <sup>+0.06</sup> <sub>0</sub>	9 <sup>+0.2</sup> <sub>+0.1</sub>	18	10	14
Y40	Ø40	24	30	55	M14X1.50	12 <sup>+0.07</sup> <sub>0</sub>	16 <sup>+0.3</sup> <sub>+0.1</sub>	38	13	25

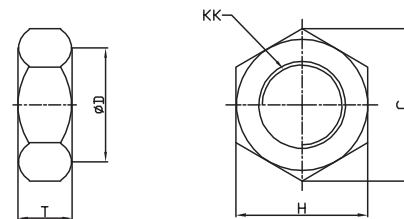
**Rod end nut**

Material: Carbon steel



**Mounting nut**

Material: Carbon steel



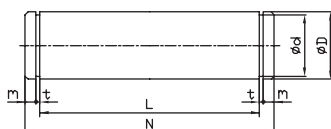
Unit:mm

Part No.	Bore size	C	φD	H	KK	T
RN-02	Ø20	15.0	12.5	13	M8X1.25	5
RN-03	Ø25, 32	19.6	16.5	17	M10X1.25	6
RN-04	Ø40	25.4	21.0	22	M14X1.50	8

Part No.	Bore size	C	φD	H	KK	T
SN-02	Ø20	30	25.5	26	M20X1.5	8
SN-03	Ø25, 32	37	31.5	32	M26X1.5	8
SN-04	Ø40	47.3	40.5	41	M32X2.0	10

**Clevis pin**

Material: Carbon steel



Unit:mm

Part No.	Bore size	φD <sup>H9</sup>	φd	L	N	m	t	Remark
CPS-02	Ø20	9 <sup>-0.040</sup> <sub>-0.076</sub>	8.6 <sup>0</sup> <sub>-0.06</sub>	19.2	25	1.75	1.15 <sup>+0.14</sup> <sub>0</sub>	For Y+CB
CPS-03	Ø25, 32	9 <sup>-0.040</sup> <sub>-0.076</sub>	8.6 <sup>0</sup> <sub>-0.06</sub>	19.2	25	1.75	1.15 <sup>+0.14</sup> <sub>0</sub>	For Y+CB
CPS-04	Ø40	10 <sup>-0.040</sup> <sub>-0.076</sub>	9.6 <sup>0</sup> <sub>-0.09</sub>	30.2	36.2	1.85	1.15 <sup>+0.14</sup> <sub>0</sub>	For CB
CPM-04	Ø40	12 <sup>-0.050</sup> <sub>-0.093</sub>	11.5 <sup>0</sup> <sub>-0.11</sub>	38.2	44.2	1.85	1.15 <sup>+0.14</sup> <sub>0</sub>	Y (ACM400 common)