

# CTH Series

Standard / The gear and rack



## CONTENTS

- Maximum Unlimited
- Repeatability: ±0.04mm
- Easy maintenance
- Long stroke without reducing the speed

**High Rigidity Body**

High rigidity mainframe and cover : One piece extruded aluminum structure for optimal rigidity and weight ratio.

**SMALL**

**CTH14**

Width: 135mm  
Max.stroke: 3500mm...439  
Max.payload: 88kg

Long Stroke High Speed

**LARGE**

**CTH22**

Width: 220mm  
Max.stroke: 3500mm...447  
Max.payload: 150kg

Long Stroke High Speed

**MEDIUM**

**CTH17**

Width: 170mm  
Max.stroke: 3500mm...443  
Max.payload: 102kg

Long Stroke High Speed

Gear Rack Sliding Table Series

Environment	Driven Mode	Specification	Reducer Mechanism	Motor Output (w)	Width(mm)	Repeatability (mm)	Rack Spet		Maximum Payload(kg)		Maximum Speed* <sup>1</sup> (mm/s)	Stroke(mm) & Maximum Speed(mm/s)														Page
							Belt Width(mm)	Lead(mm)	Horizontal	Vertical		Speed														
												Stroke	100	300	500	700	900	1100	1300	1500	1700	1900	2100	2300	2500	
Standard Environment	Rack and pinion	CTH14	Yes	400W	135	±0.04	19	33.33(3:1)	30	8	1665	1665														439
								20.00(5:1)	40	10	1000	1000														
								14.28(7:1)	64	18	715	715														
								10.00(10:1)	88	22	500	500														
		CTH17		750W	170	±0.04	24	44.43(3:1)	31	9	2221	2221														443
								26.66(5:1)	63	18	1333	1333														
								19.04(7:1)	83	25	952	952														
								13.33(10:1)	102	33	666	666														
		CTH22		750W	220	±0.04	24	55.56(3:1)	43	12	2778	2778														447
								33.34(5:1)	105	20	1667	1667														
								23.81(7:1)	128	33	1190	1190														
								16.67(10:1)	150	45	833	833														

\*1 The highest speed is based on the maximum servo motor's rpm (3000).  
 \*2 The lead and maximum speed will vary depending on the deceleration ratio.

CTH14 1-axis

Gear Rack

CTH14 1-axis



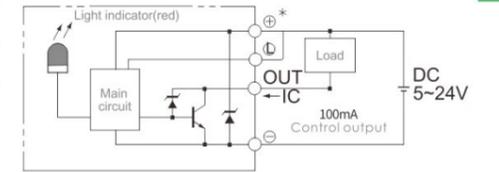
Maximum Stroke 3500mm    Maximum Speed 1665mm/s    Motor Output 400W    Rack M1.5    Linear Guide 15x12.5-2

The maximum speed depends on different gear ratio.

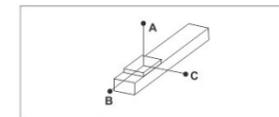
Specification

Spec	Repeatability (mm)	±0.04				
	Electrical Machinery Power (w)	400				
	Reduction ratio	3:1	5:1	7:1	10:1	
	Lead	33.32	19.99	14.28	10	
	Maximum Speed (mm/s)	1665	1000	715	500	
	Maximum Payload	Horizontal (kg)	30	40	64	88
		Vertical (kg)	8	10	18	22
	Rated Thrust (N)	218	347	520	694	
	Stroke Pitch (mm)	1000-3500mm/50mm Pitch				
	Motor rated speed (rpm)	3000				
Home Sensor	Outside	UX672-WR-C2 NPN				
	Built-In	/				

Sensor Layout

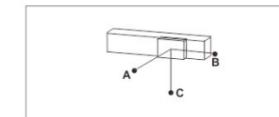


Allowable Moment



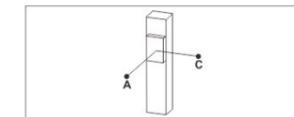
(Unit: mm)

Horizontal Installation	A	B	C
3:1	15kg	1033	405
	26kg	604	233
	30kg	495	188
5:1	10kg	2304	1028
	22kg	1443	451
	40kg	860	233
7:1	20kg	1668	729
	36kg	1510	346
	64kg	857	177
10:1	30kg	2727	430
	50kg	1577	242
	88kg	854	122



(Unit: mm)

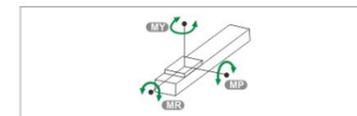
Wall Installation	A	B	C
3:1	15kg	405	1033
	30kg	188	495
	-	-	-
5:1	12kg	854	2552
	20kg	500	1588
	40kg	233	860
7:1	23kg	608	2460
	37kg	359	1516
	64kg	178	857
10:1	35kg	363	2368
	55kg	218	1445
	88kg	123	854



(Unit: mm)

Vertical Installation	A	C
3:1	5KG	1503
	8KG	944
	-	-
5:1	7KG	1700
	10KG	1188
	-	-
7:1	8KG	1605
	12KG	1130
	18KG	745
10:1	10KG	1500
	14KG	1072
	22KG	682

Static Loading Moment



(Unit: mm)

MY	551
MP	552
MR	485

※The torque value in the chart indicate the center of gravity.  
 ※Operation life is 10,000km when the product is using under the specified conditions.  
 ※Data information is not for ceiling-mount inverse use. Contact us for the details if you want to apply ceiling-mount inverse usage.

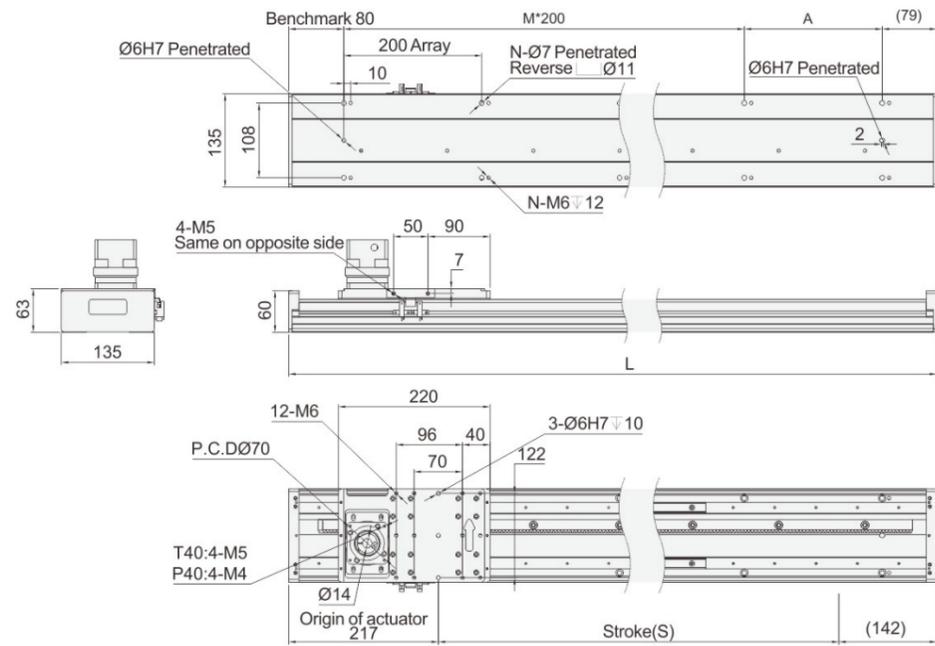
Ordering Method

CTH14 F - L - 100 - 1000 - T40 - JS5 - C4 - D123

Model 1.5 dies and 20 teeth	Lead 100	Stroke 1000-3500mm 50 mm Pitch	Special Order No.
Protection type F Bellows cover No Without protective cover	Platform orientation L Left platform and right gear R Right platform and left gear	Motor code T 40 P Panasonic servo T It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other 40 400W	Reduction Ratio S5 Reduction Ratio 5:1 ... .. It only indicates the reduction ratio required to meet the speed requirements; the reducer must be purchased separately.
		Original and limit switch Configuration of original and limit switch C4 External 3 NPN photoelectric switches C4P External 3 PNP photoelectric switches E5 Without switches, it is equipped with sensing plate and bracket E0 Without switches, sensing plate and bracket	

L Left platform and right gear

(Unit : mm)

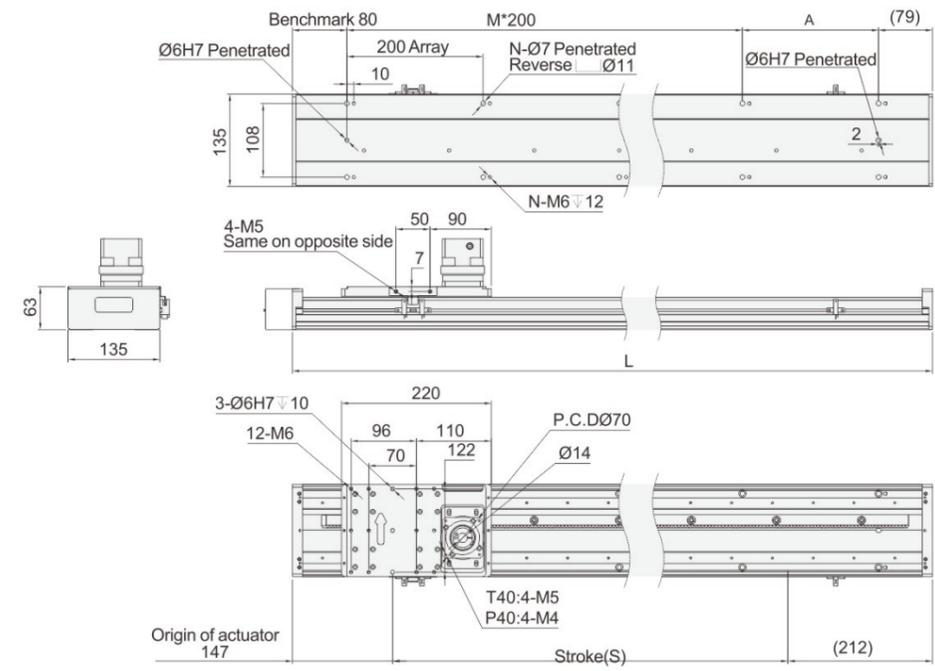


stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
L	1359	1409	1459	1509	1559	1609	1659	1709	1759	1809	1859	1909	1959	2009	2059	2109	2159	2209	2259	2309	2359	2409	2459	2509	2559	2609
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50
M	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12
N	14	16	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28
KG	14.7	15.2	15.6	16.1	16.5	17.0	17.4	17.9	18.3	18.8	19.2	19.7	20.1	20.6	21.0	21.5	21.9	22.4	22.8	23.3	23.7	24.2	24.6	25.1	25.5	26.0

stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
L	2659	2709	2759	2809	2859	2909	2959	3009	3059	3109	3159	3209	3259	3309	3359	3409	3459	3509	3559	3609	3659	3709	3759	3809	3859
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	12	12	12	13	13	13	13	14	14	14	14	15	15	15	15	16	16	16	16	17	17	17	17	18	18
N	28	28	28	30	30	30	30	32	32	32	32	34	34	34	34	36	36	36	36	38	38	38	38	40	40
KG	26.4	26.9	27.3	27.8	28.2	28.7	29.1	29.6	30.0	30.5	30.9	31.4	31.8	32.3	32.7	33.2	33.6	34.1	34.5	35.0	35.4	35.9	36.3	36.7	37.2

R Right platform and left gear

(Unit : mm)



stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
L	1359	1409	1459	1509	1559	1609	1659	1709	1759	1809	1859	1909	1959	2009	2059	2109	2159	2209	2259	2309	2359	2409	2459	2509	2559	2609
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50
M	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12
N	14	16	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28
KG	14.7	15.1	15.6	16	16.5	16.9	17.4	17.8	18.3	18.7	19.1	19.5	19.9	20.5	21	21.4	21.9	22.3	22.8	23.2	23.7	24.1	24.6	25	25.5	25.9

stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
L	2659	2709	2759	2809	2859	2909	2959	3009	3059	3109	3159	3209	3259	3309	3359	3409	3459	3509	3559	3609	3659	3709	3759	3809	3859
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	12	12	12	13	13	13	13	14	14	14	14	15	15	15	15	16	16	16	16	17	17	17	17	18	18
N	28	28	28	30	30	30	30	32	32	32	32	34	34	34	34	36	36	36	36	38	38	38	38	40	40
KG	26.4	26.9	27.3	27.8	28.2	28.7	29.1	29.6	30.0	30.5	30.9	31.4	31.8	32.3	32.7	33.2	33.6	34.1	34.5	35.0	35.4	35.9	36.3	36.7	37.2

CTH17 1-axis

Gear Rack

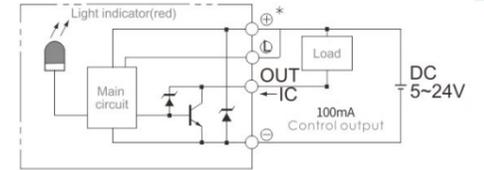
CTH17 1-axis



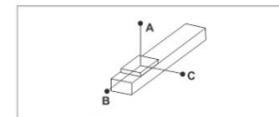
Maximum Stroke 3500mm    Maximum Speed 2443mm/s    Motor Output 750W    Rack M2    Linear Guide 20x12.5-2

The maximum speed depends on different gear ratio.

Specification		Sensor Layout			
Repeatability (mm)	±0.04				
Electrical Machinery Power (w)	750				
Reduction ratio	3:1	5:1	7:1	10:1	
Lead	44.43	26.66	19.04	13.33	
Maximum Speed (mm/s)	2221	1333	952	666	
Maximum Payload	Horizontal (kg)	31	63	83	102
	Vertical (kg)	9	18	25	33
Rated Thrust (N)	240	480	640	961	
Stroke Pitch (mm)	1000-3500mm/50mm Pitch				
Motor rated speed (rpm)	3000				
Home Sensor	Outside	UX672-WR-C2 NPN			
	Built-In	/			

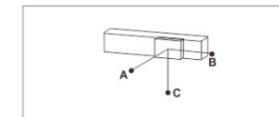


Allowable Moment



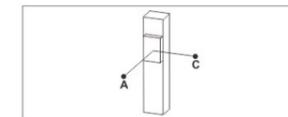
(Unit: mm)

Horizontal Installation		A	B	C
3:1	10kg	991	837	587
	14kg	687	531	398
	31kg	294	244	188
5:1	25kg	1396	643	557
	38kg	892	411	356
	63kg	510	218	193
7:1	35kg	1666	547	538
	55kg	1030	331	328
	83kg	654	206	204
10:1	50kg	1789	443	456
	70kg	1238	290	302
	102kg	827	185	193



(Unit: mm)

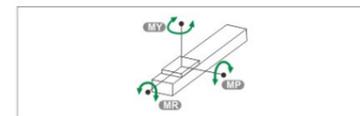
Wall Installation		A	B	C
3:1	8kg	777	1009	1281
	15kg	389	521	658
	33kg	188	237	294
5:1	21kg	681	790	1689
	36kg	374	430	949
	63kg	193	218	511
7:1	30kg	633	644	1961
	50kg	365	369	1143
	83kg	204	206	656
10:1	45kg	521	506	2027
	65kg	331	218	1349
	102kg	193	185	829



(Unit: mm)

Vertical Installation		A	C
3:1	5kg	1215	1215
	9kg	644	644
	-	-	-
5:1	8kg	1639	1639
	13kg	1083	1083
	18kg	868	868
7:1	10kg	1922	1922
	14kg	1377	1377
	25kg	769	769
10:1	13kg	1770	1770
	20kg	1174	1174
	33kg	688	688

Static Loading Moment



(Unit: mm)

MY	1032
MP	1034
MR	908

※The torque value in the chart indicate the center of gravity.  
 ※Operation life is 10,000km when the product is using under the specified conditions.  
 ※Data information is not for ceiling-mount inverse use. Contact us for the details if you want to apply ceiling-mount inverse usage.

Ordering Method

CTH17 F - L - 133.3 - 1000 - T75 - JS5 - C4 - D123

Model	Lead	Stroke	Motor code	Reduction Ratio	Original and limit switch
2 dies and 20 teeth	133.3	1000-3500mm 50 mm Pitch	T 75 75 750W	S5 Reduction Ratio 5:1	C4 External 3 NPN photoelectric switches C4P External 3 PNP photoelectric switches E5 Without switches, it is equipped with sensing plate and bracket E0 Without switches, sensing plate and bracket

Protection type	Platform orientation
F Bellows cover	L Left platform and right gear
No Without protective cover	R Right platform and left gear

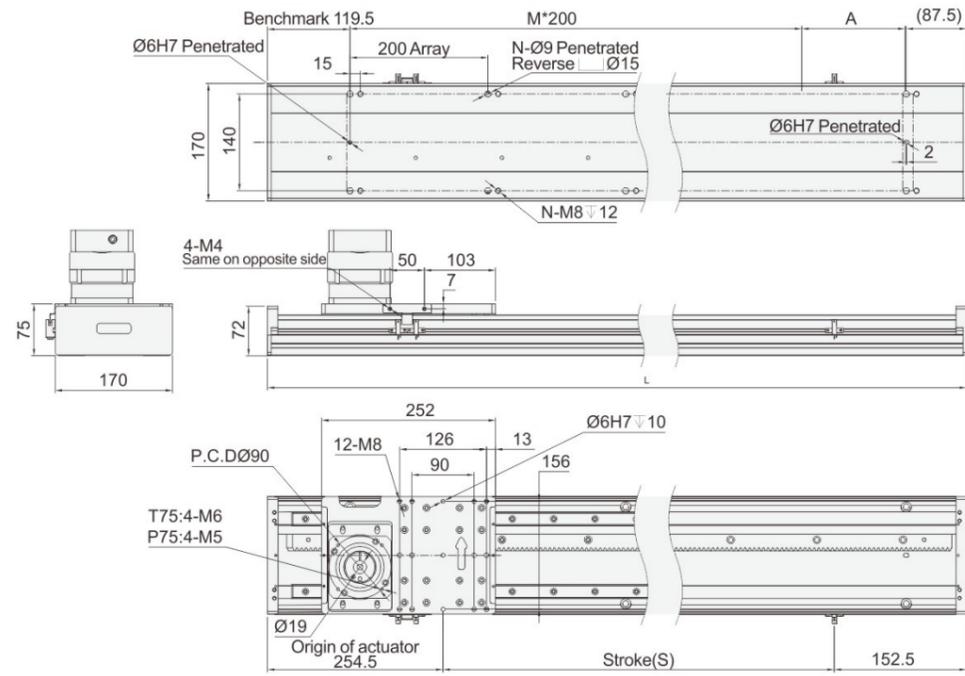
CTH17 1-axis

Gear Rack

CTH17 1-axis

L Left platform and right gear

(Unit : mm)

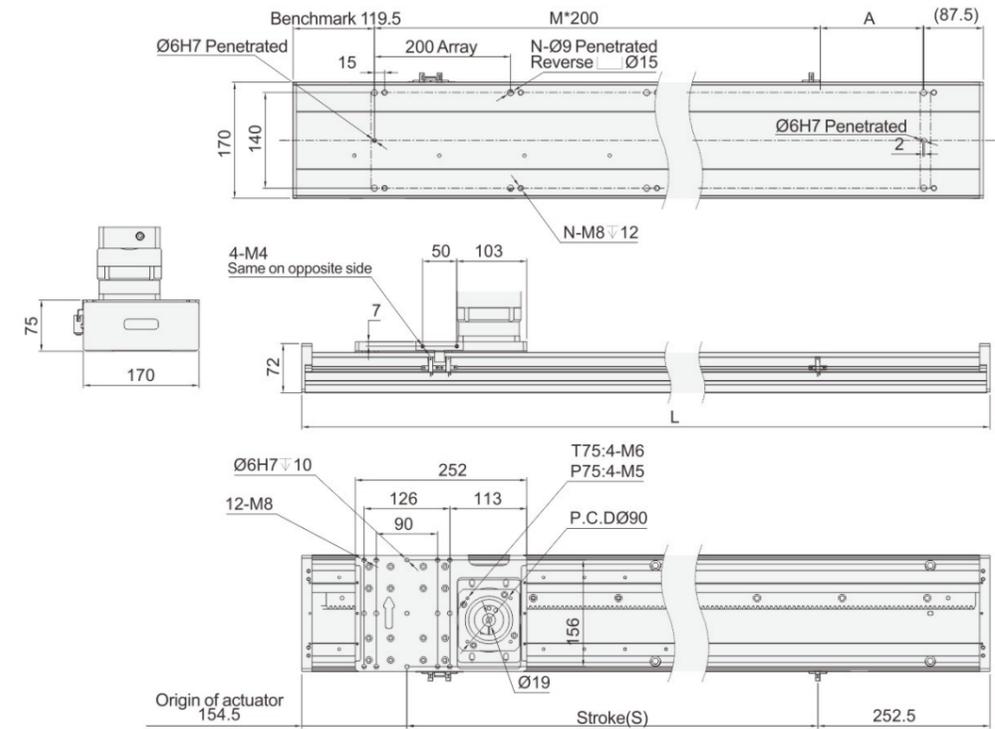


stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
L	1407	1457	1507	1557	1607	1657	1707	1757	1807	1857	1907	1957	2007	2057	2107	2157	2207	2257	2307	2357	2407	2457	2507	2557	2607	2657
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50
M	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12
N	14	16	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28
KG	31.0	31.9	32.7	33.6	34.4	35.3	36.1	37.0	37.8	38.7	39.5	40.4	41.2	42.1	42.9	43.8	44.6	45.5	46.3	47.2	48.0	48.9	49.7	50.6	51.4	52.3

stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
L	2707	2757	2807	2857	2907	2957	3007	3057	3107	3157	3207	3257	3307	3357	3407	3457	3507	3557	3607	3657	3707	3757	3807	3857	3907
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	12	12	12	13	13	13	13	14	14	14	14	15	15	15	15	16	16	16	16	17	17	17	17	18	18
N	28	28	28	30	30	30	30	32	32	32	32	34	34	34	34	36	36	36	36	38	38	38	38	40	40
KG	53.1	54.0	54.8	55.7	56.5	57.4	58.2	59.1	59.9	60.8	61.6	62.5	63.3	64.2	65.0	65.9	66.7	67.6	68.4	69.3	70.1	71.0	71.8	72.7	73.5

R Right platform and left gear

(Unit : mm)



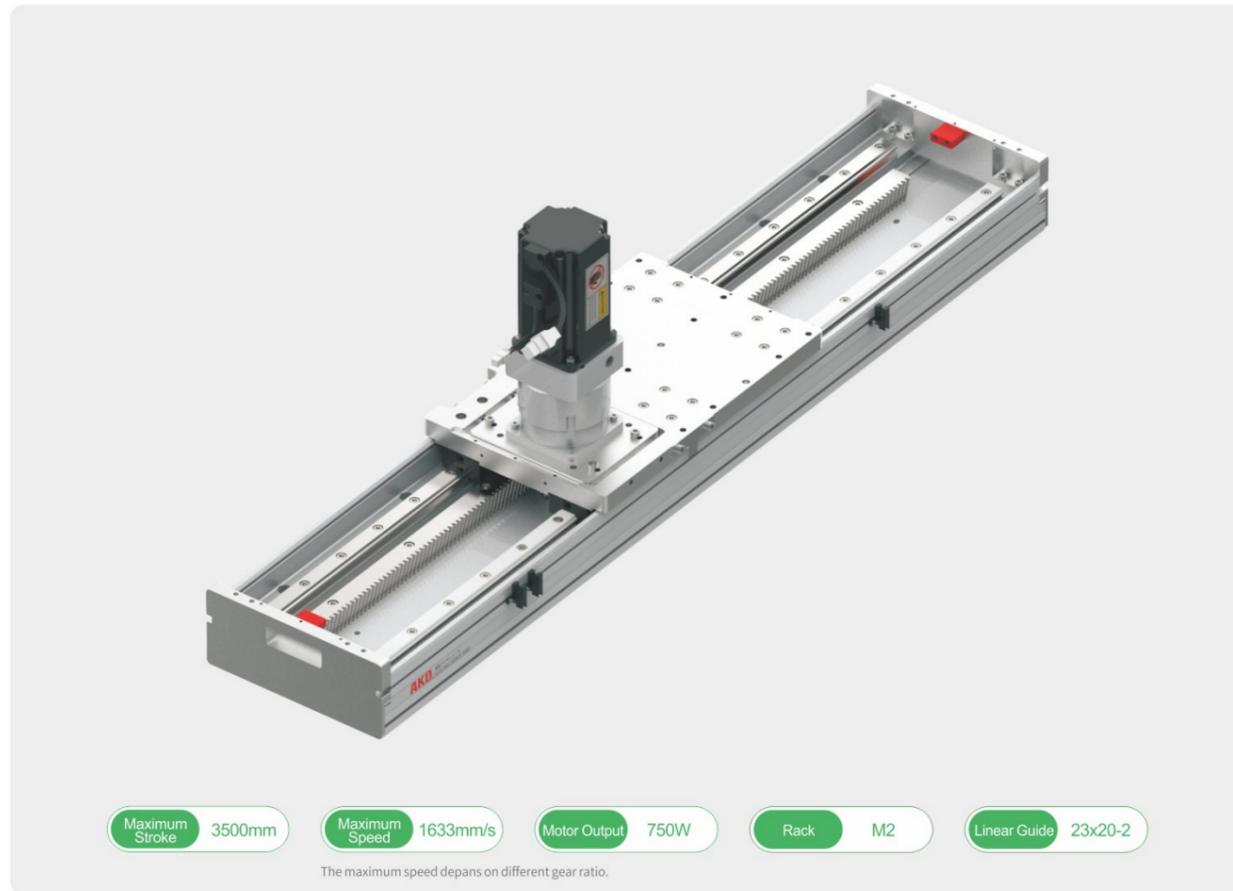
stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
L	1407	1457	1507	1557	1607	1657	1707	1757	1807	1857	1907	1957	2007	2057	2107	2157	2207	2257	2307	2357	2407	2457	2507	2557	2607	2657
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50
M	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12
N	14	16	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28
KG	31.0	31.9	32.7	33.6	34.4	35.3	36.1	37.0	37.8	38.7	39.5	40.4	41.2	42.1	42.9	43.8	44.6	45.5	46.3	47.2	48.0	48.9	49.7	50.6	51.4	52.3

stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
L	2707	2757	2807	2857	2907	2957	3007	3057	3107	3157	3207	3257	3307	3357	3407	3457	3507	3557	3607	3657	3707	3757	3807	3857	3907
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	12	12	12	13	13	13	13	14	14	14	14	14	15	15	15	15	16	16	16	16	17	17	17	17	18
N	28	28	28	30	30	30	30	32	32	32	32	34	34	34	34	36	36	36	36	38	38	38	38	40	40
KG	53.1	54.0	54.8	55.7	56.5	57.4	58.2	59.1	59.9	60.8	61.6	62.5	63.3	64.2	65.0	65.9	66.7	67.6	68.4	69.3	70.1	71.0	71.8	72.7	73.5

CTH22 1-axis

Gear Rack

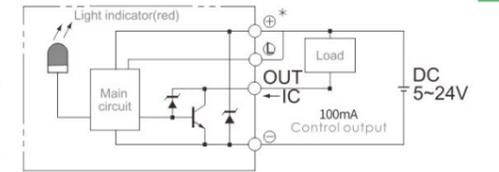
CTH22 1-axis



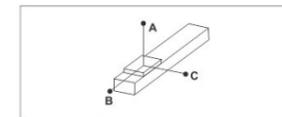
Specification

Spec	Repeatability (mm)	±0.04				
	Electrical Machinery Power (w)	750				
	Reduction ratio	3:1	5:1	7:1	10:1	
	Lead	55.56	33.34	23.81	16.67	
	Maximum Speed (mm/s)	2778	1667	1190	833	
	Maximum Payload	Horizontal (kg)	43	105	128	150
		Vertical (kg)	12	20	33	45
	Rated Thrust (N)	320	640	961	1281	
	Stroke Pitch (mm)	1000-3500mm/50mm Pitch				
	Motor rated speed (rpm)	3000				
Home Sensor	Outside	UX672-WR-C2 NPN				
	Built-In	/				

Sensor Layout

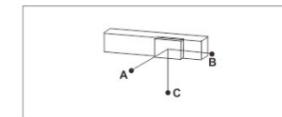


Allowable Moment



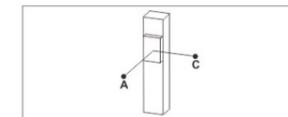
(Unit: mm)

Horizontal Installation		A	B	C
3:1	18kg	2445	1616	1052
	30kg	1436	938	613
	43kg	978	630	412
5:1	65kg	1522	614	458
	85kg	1136	451	336
	105kg	893	350	262
7:1	83kg	2071	589	466
	105kg	1845	443	352
	128kg	1503	350	279
10:1	100kg	3220	563	474
	125kg	2554	434	367
	150kg	2113	349	295



(Unit: mm)

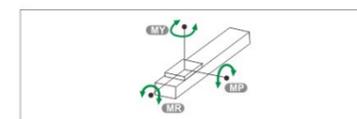
Wall Installation		A	B	C
3:1	15kg	1272	1955	2948
	24kg	778	1190	1813
	43kg	412	630	978
5:1	70kg	420	564	1404
	90kg	315	420	1066
	105kg	262	350	893
7:1	90kg	424	534	2152
	110kg	333	417	1755
	128kg	279	350	1503
10:1	110kg	427	503	2900
	130kg	351	414	2444
	150kg	295	349	2113



(Unit: mm)

Vertical Installation		A	C
3:1	7kg	3511	3511
	12kg	2055	2055
	-	-	-
5:1	15kg	2711	2711
	20kg	2033	2033
	-	-	-
7:1	20kg	2608	2608
	28kg	1914	1914
	33kg	1511	1511
10:1	25kg	2505	2505
	35kg	1795	1795
	45kg	1396	1396

Static Loading Moment



(Unit: mm)

MY	2052
MP	2052
MR	1810

※The torque value in the chart indicate the center of gravity.  
 ※Operation life is 10,000km when the product is using under the specified conditions.  
 ※Data information is not for ceiling-mount inverse use. Contact us for the details if you want to apply ceiling-mount inverse usage.

Ordering Method

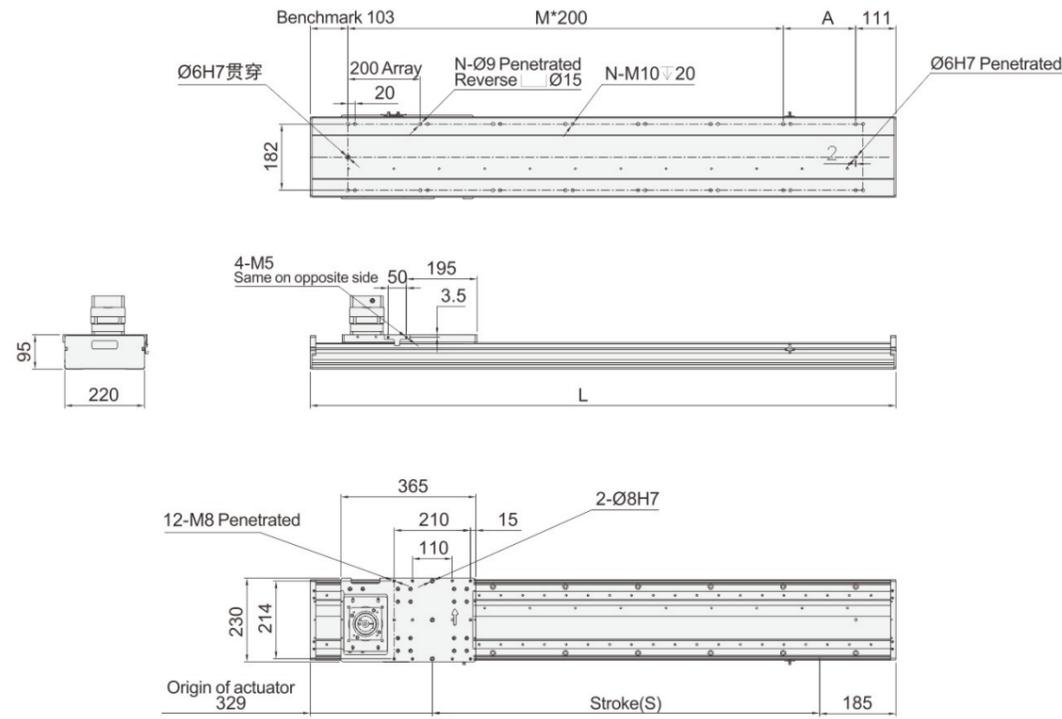
CTH22 F - L - 166.7 - 1000 - T75 - JS5 - C4 - D123

Model 2 dies and 25 teeth	Lead 166.7	Stroke 1000-3500mm 50 mm Pitch	Special Order No.
Protection type F Bellows cover No Without protective cover	Platform orientation L Left platform and right gear R Right platform and left gear	Motor code T 75 75 750W	Reduction Ratio S5 Reduction Ratio 5:1 ... ..
		Original and limit switch C4 External 3 NPN photoelectric switches C4P External 3 PNP photoelectric switches E5 Without switches, it is equipped with sensing plate and bracket E0 Without switches, sensing plate and bracket	

It only indicates the reduction ratio required to meet the speed requirements; the reducer must be purchased separately.

L Left platform and right gear

(Unit : mm)

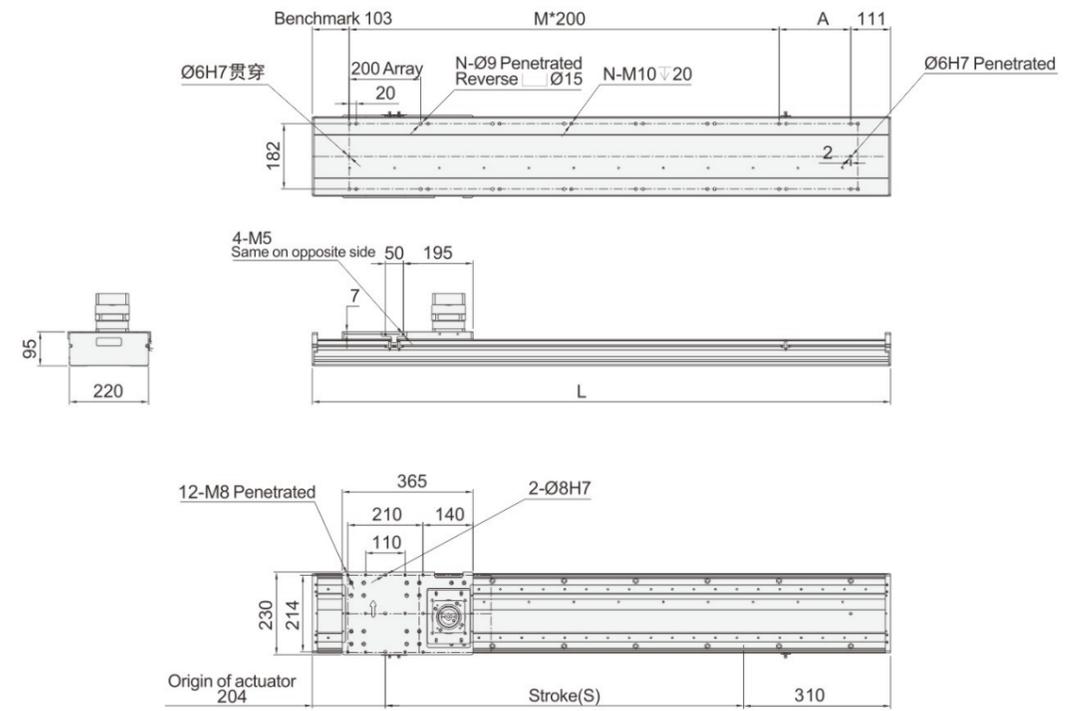


stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
L	1514	1564	1614	1664	1714	1764	1814	1864	1914	1964	2014	2064	2114	2164	2214	2264	2314	2364	2414	2464	2514	2564	2614	2664	2714	2764
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
M	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12	12	12
N	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28	28	28
KG	51.6	52.7	53.8	54.9	56	57.1	58.2	59.3	60.4	61.5	62.6	63.7	64.8	65.9	67	68.1	69.2	70.3	71.4	72.5	73.6	74.7	75.8	76.9	78	79.1

stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
L	2814	2864	2914	2964	3014	3064	3114	3164	3214	3264	3314	3364	3414	3464	3514	3564	3614	3664	3714	3764	3814	3864	3914	3964	4014
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	12	13	13	13	13	14	14	14	14	15	15	15	15	16	16	16	16	17	17	17	17	18	18	18	18
N	28	30	30	30	30	32	32	32	32	34	34	34	34	36	36	36	36	38	38	38	38	40	40	40	40
KG	80.2	81.3	82.4	83.5	84.6	85.7	86.8	87.9	89	90.1	91.2	92.3	93.4	94.5	95.6	96.7	97.8	98.9	100	101.1	102.2	103.3	104.4	105.5	106.6

R Right platform and left gear

(Unit : mm)



stroke	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250
L	1514	1564	1614	1664	1714	1764	1814	1864	1914	1964	2014	2064	2114	2164	2214	2264	2314	2364	2414	2464	2514	2564	2614	2664	2714	2764
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
M	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12	12	12
N	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28	28	28
KG	51.6	52.7	53.8	54.9	56	57.1	58.2	59.3	60.4	61.5	62.6	63.7	64.8	65.9	67	68.1	69.2	70.3	71.4	72.5	73.6	74.7	75.8	76.9	78	79.1

stroke	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
L	2814	2864	2914	2964	3014	3064	3114	3164	3214	3264	3314	3364	3414	3464	3514	3564	3614	3664	3714	3764	3814	3864	3914	3964	4014
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	12	13	13	13	13	14	14	14	14	15	15	15	15	16	16	16	16	17	17	17	17	18	18	18	18
N	28	30	30	30	30	32	32	32	32	34	34	34	34	36	36	36	36	38	38	38	38	40	40	40	40
KG	80.2	81.3	82.4	83.5	84.6	85.7	86.8	87.9	89	90.1	91.2	92.3	93.4	94.5	95.6	96.7	97.8	98.9	100	101.1	102.2	103.3	104.4	105.5	106.6