

SLIDE TABLE

The NB slide table is a precision table equipped with a slide way. Its high-precision and low-friction characteristics make it well suited for use in electronics automatic-assembly machines, optical measurement devices, etc.

STRUCTURE AND ADVANTAGES

The NB slide table consists of a slide way sandwiched between an accurately machined table and a bed. Stoppers are provided inside the table.

STUDROLLER system

The STUDROLLER system (slideway NV type) that prevents roller slippage is used for the linear motion part of NVT (S) type and NYT (S) type.

Upgraded Model

For the linear motion components of HVT (S) and HYT (S) types, we use a Slideway HV type which is a product with improved performance that has been redesigned from the conventional product (SV type).

High Accuracy

The mounting surfaces of the table and bed are precision finished to ensure high precision linear motion, resulting in a high performance slide way.

Low Friction

Its non-recirculating mechanism provides stable motion at from low to high speeds.

Figure A-18 Structure of NVT type

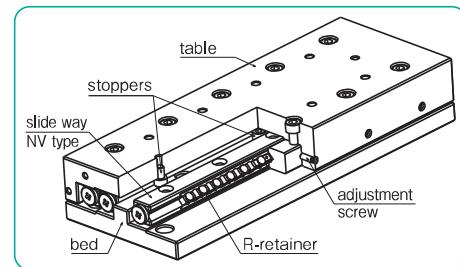


Figure A-19 Structure of NYT type

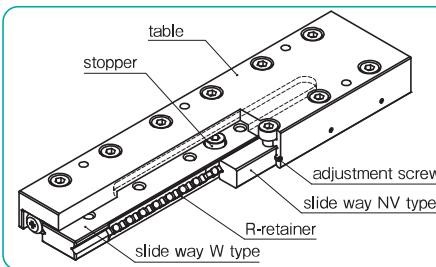


Figure A-20 Structure of HVT・SVT type

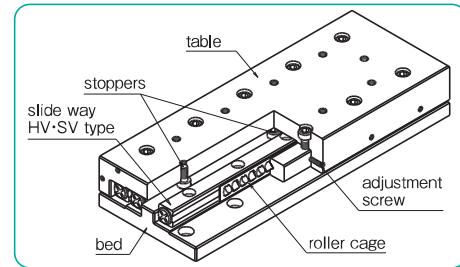
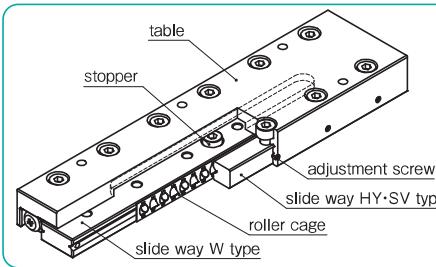


Figure A-21 Structure of HYT・SYT type



TYPES

NVT・NVTS type STUDROLLER System



P.A-38

NYT・NYTS type STUDROLLER System



P.A-42

HVT・HVTs type, SVT・SVTs type



P.A-46

HYT・HYTS type, SYT・SYTS type



P.A-50

The NVT type slide table incorporates the NV type slide way. The table and bed have been precision machined to provide a high degree of accuracy and the product can be used, without any need for troublesome accuracy or preload adjustments.

In the NVTS type, the anti-corrosion NVS type slide way is sandwiched between an accurately machined aluminum table and bed.

The NYT/NYTS type is a thin, compact slide table, utilizing the studroller system. Either tapped or counterbore mounting type (D type) is available.

The anti-corrosion type NYTS slide table is made of all stainless steel components except for R-retainer.

Between the precision-ground table and bed, the HVT type has a performance-enhanced HV type rail, and the SVT type has an SV type rail installed. The anti-corrosion type has an aluminum table and bed, the HVTS type has a anti-corrosion slideway HVS model with improved performance, and the SVTS type has a anti-corrosion slideway SVS model.

A thin and compact slide table that uses an integrated rail. Two types are available: tapped type and counterbore hole type (D type) which can be selected according to the usage.

The HYT type incorporates the HV type rail with improved performance, and the SYT type incorporates the SV type rail.

The anti-corrosion HYTS・SYTS type slide table is made of all stainless steel components.

SPECIFICATION

Refer to table A-8 for NB Slide Table material and operating temperature range.

Table A-8 Material and Operating Temperature Range

type	slide way			table/bed	operating temperature range
	rail	R-retainer/roller cage	roller		
NVT	steel	resin	steel	steel	-20°C ~ 80°C
NVTS	stainless steel		stainless steel	aluminum	5°C ~ 35°C ^{*1}
NYT (-D)	steel		steel	steel	-20°C ~ 80°C
NYTS (-D)	stainless steel		stainless steel	stainless steel	-20°C ~ 80°C
HVT	steel	stainless steel	steel	steel	-20°C ~ 110°C
HVTS	stainless steel		stainless steel	aluminum	5°C ~ 35°C ^{*1}
HYT (-D)	steel		steel	steel	-20°C ~ 110°C
HYTS (-D)	stainless steel		stainless steel	stainless steel	-20°C ~ 140°C
SVT	steel	stainless steel	steel	steel	-20°C ~ 110°C
SVTS	stainless steel		stainless steel	aluminum	5°C ~ 35°C ^{*1}
SYT (-D)	steel		steel	steel	-20°C ~ 110°C
SYTS (-D)	stainless steel		stainless steel	stainless steel	-20°C ~ 140°C

^{*1} Please contact NB if the system is to be used out of this temperature range.

ACCURACY

The motion accuracy of a slide table is measured by placing indicators at the center of the top and side surface of the table, as illustrated in Figure A-22. It is expressed in terms of the indicator deviation when the table is moved the full stroke without any load. For accuracy, please see the dimension tables.

RATED LIFE

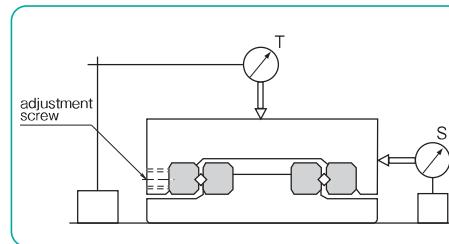
The life of an NB slide table is calculated using the following equations.

Rated Life

$$L = \left(\frac{f_T}{f_W} \cdot \frac{C}{P} \right)^{1/3} \cdot 50$$

L: rated life(km) f_T: temperature coefficient f_W: applied load coefficient C: basic dynamic load rating(N) P: applied load(N)
※Please refer to page Eng-6 for the coefficients.

Figure A-22 Accuracy Measurement Method



Life Time

$$L_h = \frac{L \cdot 10^6}{2 \cdot l_s \cdot n_1 \cdot 60}$$

L_h: life time (hr) l_s: stroke length (mm)
n₁: number of cycles per minute (cpm)

LOAD RATING

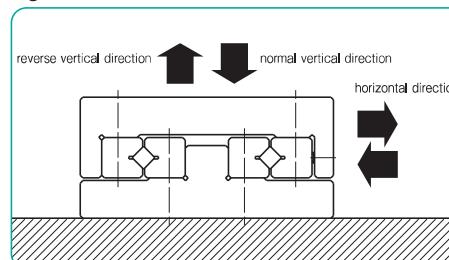
The load rating of the slide table NVT type and NYT type differs depending on the direction of the load.

Table A-9 Change of Load Rating Corresponding to Load Direction

basic dynamic load rating	normal vertical direction	1.0×C
	horizontal direction	0.85×C
	reverse vertical direction	0.74×C
basic static load rating	normal vertical direction	1.0×C ₀
	horizontal direction	0.84×C ₀
	reverse vertical direction	0.68×C ₀

※There may be a difference depending on the size.
Please contact NB for details.
Consideration has been given to holes for STUDROLLERS in the raceway surface in calculation of load ratings.

Figure A-23 Direction of Load



USE AND HANDLING PRECAUTIONS

Careful Handling

Dropping the slide table causes the rolling elements to make dents in the raceway surface. This will prevent smooth motion and will also affect accuracy. Be sure to handle the product with care.

Dust Prevention

Dust and foreign particles affect the accuracy and lifetime of a slide table. A slide table used in a harsh environment should be protected with a cover.

Lubrication

The slide table is prelubricated with lithium soap based grease No.00 prior to shipment for immediate use. Make sure to relubricate with a similar type of grease periodically depending on the operating conditions.

Cage Slippage

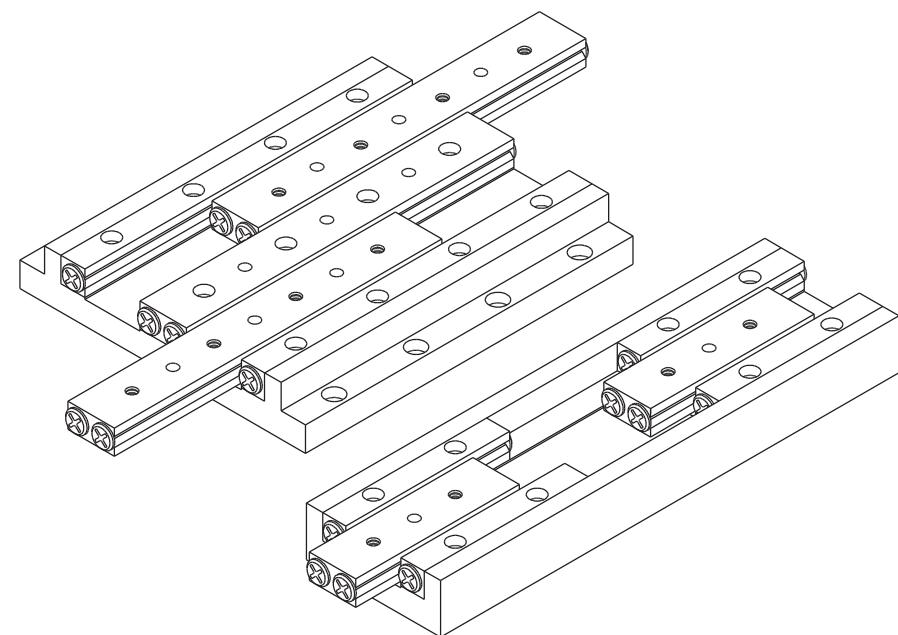
For the HVT·SVT type, HYT·SYT type, the cage can slip under high-speed motion, vertical application, unbalanced-loading, and vibrating conditions. It is advised that the motion speed be kept under 0.5m/s under general operating conditions. It is also recommended that the rails be cycled to perform the maximum stroke several times, so that the cage returns to its central position.

Adjustment/Installation Screw

The NB slide table is adjusted to achieve optimum accuracy and preload. The adjustment screw and rail installation screws should be kept untouched.

SPECIAL REQUIREMENTS

NB can machine tables to meet special requirements, including tables with a micrometer head and tables for projectors. Please contact NB for details.



NYT TYPE

STUDROLLER System



part number structure

example **NYT** | **2** | **065** | -LB | -KGLAspecification
NYT: standard
NYTS: anti-corrosion

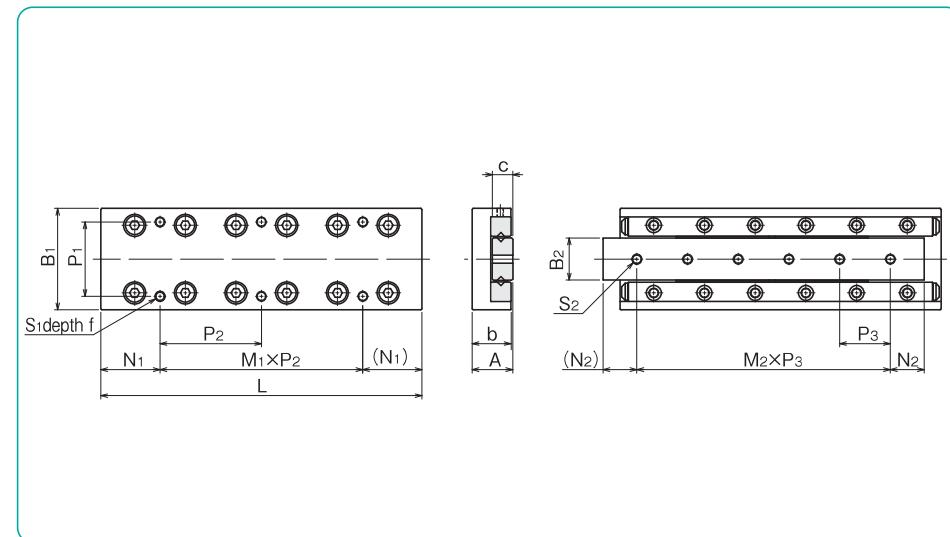
size

table length

grease symbol (refer to page Eng-51)
blank: standard grease
-KGLA: lithium-based low dust generation grease
-KGU: urea-based low dust generation grease
-KGF: anti-fretting grease

with low temperature black chrome treatment

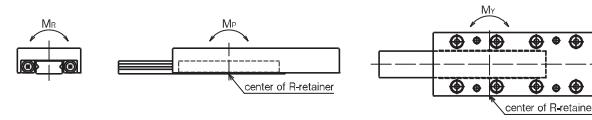
part number		stroke	major dimensions					table-top mounting hole dimensions						
standard	anti-corrosion	ST mm	A mm	B ₁ mm	L mm	b mm	B ₂ mm	c mm	P ₁ mm	S ₁ mm	f mm	N ₁ mm	M ₁ ×P ₂ mm	
NYT 1025	NYTS 1025	12	8 ^{±0.1}	20 ^{±0.1}	25							3.5	1×18	
1035	1035	18			35							3.5	1×28	
1045	1045	25			45							12.5	1×20	
1055	1055	32			55	7.5	7.06	4	14	M2.6		3	12.5	1×30
1065	1065	40			65								12.5	2×20
1075	1075	45			75								22.5	1×30
1085	1085	50			85								12.5	2×30
NYT 2035	NYTS 2035	18			35							3.5	1×28	
2050	2050	30			50							3.5	1×43	
2065	2065	40			65							17.5	1×30	
2080	2080	50	12 ^{±0.1}	30 ^{±0.1}	80	11.5	12.4	6	22	M3		5	17.5	1×45
2095	2095	60			95							17.5	2×30	
2110	2110	70			110							32.5	1×45	
2125	2125	80			125							17.5	2×45	
NYT 3055	NYTS 3055	30	16 ^{±0.1}	40 ^{±0.1}	55							7.5	1×40	
3080	3080	45			80							7.5	1×65	
3105	3105	60			105							27.5	1×50	
3130	3130	75			130	15.5	16.7	8	30	M4		7	27.5	1×75
3155	3155	90			155								27.5	2×50
3180	3180	105			180								52.5	1×75
3205	3205	130			205								27.5	2×75



	bed-surface mounting hole dimensions			accuracy \pm (deviation)		basic load rating		allowable static moment			mass g	size
	S ₂	N ₂ mm	M ₂ ×P ₃ mm	T μ m	S μ m	dynamic C N	static Co N	M _P N·m	M _Y N·m	M _R N·m		
M2.6	5	2×7.5		2	4	734	849	3.73	3.18	3.18	25	1025
	7.5	2×10		2	4	1,250	1,690	1.73	4.22	1.04	35	1035
	7.5	3×10		2	5	1,720	2,540	9.05	10.3	4.23	45	1045
	7.5	4×10		2	5	2,160	3,390	14.0	16.7	5.28	55	1055
	7.5	5×10		2	5	2,560	4,240	24.8	26.7	8.46	65	1065
	7.5	6×10		2	5	2,960	5,090	33.0	36.7	9.51	76	1075
	7.5	7×10		2	5	3,330	5,940	47.7	50.6	12.7	86	1085
M3	7.5	1×20		2	4	1,360	1,520	10.1	8.80	9.93	84	2035
	10	2×15		2	4	2,330	3,050	18.9	18.7	13.4	120	2050
	10	3×15		2	5	3,190	4,580	36.9	35.7	23.4	157	2065
	10	4×15		2	5	3,990	6,110	53.2	53.8	26.9	190	2080
	10	5×15		2	5	4,740	7,630	80.3	79.9	36.9	225	2095
	10	6×15		2	5	5,460	9,160	104	106	40.4	265	2110
	10	7×15		2	5	6,160	10,600	130	135	44.0	305	2125
M4	10	1×35		2	5	6,150	8,060	20.8	37.2	17.0	228	3055
	15	2×25		2	5	8,440	12,100	125	119	87.2	345	3080
	15	3×25		3	5	10,500	16,100	188	186	104	450	3105
	15	4×25		3	5	14,400	24,200	300	319	121	570	3130
	15	5×25		3	5	16,300	28,200	508	505	191	665	3155
	15	6×25		3	5	18,100	32,200	630	635	208	780	3180
	15	7×25		3	5	19,800	36,300	763	779	225	890	3205

※For accuracy (T, S), refer to Figure A-22 (page A-36).

1N = 0.102kgf 1N · m = 0.102kgf · m



NYT-D TYPE

STUDROLLER System



part number structure

example **NYT | 3 | 125 -D -LB -KGLA**specification
NYT: standard
NYTS: anti-corrosion

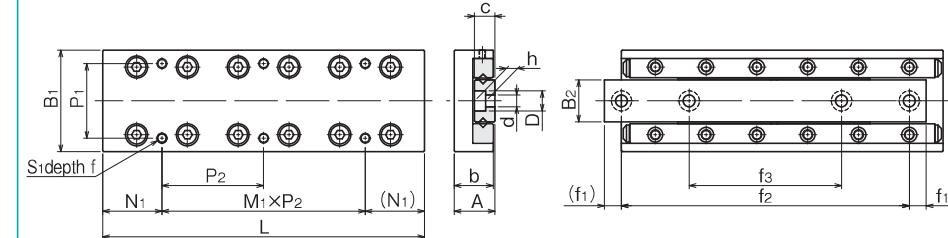
size

table length

grease symbol (refer to page Eng-51)
blank: standard grease
-KGLA: lithium-based low dust generation grease
-KGU: urea-based low dust generation grease
-KGF: anti-fretting grease

with low temperature black chrome treatment

with counterbore

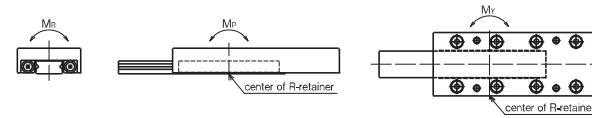


part number		stroke	major dimensions					table-top mounting hole dimensions					
standard	anti-corrosion	ST mm	A mm	B1 mm	L mm	b mm	B2 mm	c mm	P1 mm	S1 mm	f mm	N1 mm	M1xP2 mm
NYT 1025-D	NYTS 1025-D	12	8 ^{±0.1}	20 ^{±0.1}	25							3.5	1×18
1035-D	1035-D	18			35							3.5	1×28
1045-D	1045-D	25			45							12.5	1×20
1055-D	1055-D	32			55	7.5	7.06	4	14	M2.6		3	12.5 1×30
1065-D	1065-D	40			65								12.5 2×20
1075-D	1075-D	45			75								22.5 1×30
1085-D	1085-D	50			85								12.5 2×30
NYT 2035-D	NYTS 2035-D	18			35							3.5	1×28
2050-D	2050-D	30			50							3.5	1×43
2065-D	2065-D	40			65							17.5	1×30
2080-D	2080-D	50	12 ^{±0.1}	30 ^{±0.1}	80	11.5	12.4	6	22	M3		5	17.5 1×45
2095-D	2095-D	60			95								17.5 2×30
2110-D	2110-D	70			110								32.5 1×45
2125-D	2125-D	80			125								17.5 2×45
NYT 3055-D	NYTS 3055-D	30	16 ^{±0.1}	40 ^{±0.1}	55							7.5	1×40
3080-D	3080-D	45			80							7.5	1×65
3105-D	3105-D	60			105							27.5	1×50
3130-D	3130-D	75			130	15.5	16.7	8	30	M4		7	27.5 1×75
3155-D	3155-D	90			155								27.5 2×50
3180-D	3180-D	105			180								52.5 1×75
3205-D	3205-D	130			205								27.5 2×75

d × D × h mm	bed-surface mounting hole dimensions			accuracy $\ddot{\sigma}$ (deviation)		basic load rating dynamic C N	basic load rating static Co N	allowable static moment			mass g	size
	f ₁ mm	f ₂ mm	f ₃ mm	T μ m	S μ m			M _P N·m	M _Y N·m	M _R N·m		
2.5 × 4.1 × 2.2	3.5	18	—	2	4	734	849	3.73	3.18	3.18	25	1025
	5	25	—	2	4	1,250	1,690	1.73	4.22	1.04	35	1035
	3.5	38	25	2	5	1,720	2,540	9.05	10.3	4.23	45	1045
	3.5	48	29	2	5	2,160	3,390	14.0	16.7	5.28	55	1055
	5	55	31	2	5	2,560	4,240	24.8	26.7	8.46	65	1065
	5	65	35	2	5	2,960	5,090	33.0	36.7	9.51	76	1075
3.5 × 6 × 3.3	5	75	40	2	5	3,330	5,940	47.7	50.6	12.7	86	1085
	5	25	—	2	4	1,360	1,520	10.1	8.80	9.93	84	2035
	7.5	35	—	2	4	2,330	3,050	18.9	18.7	13.4	120	2050
	5	55	33	2	5	3,190	4,580	36.9	35.7	23.4	157	2065
	5	70	40	2	5	3,990	6,110	53.2	53.8	26.9	190	2080
	5	85	45	2	5	4,740	7,630	80.3	79.9	36.9	225	2095
	7.5	95	50	2	5	5,460	9,160	104	106	40.4	265	2110
4.5 × 7.5 × 4.3	7.5	110	55	2	5	6,160	10,600	130	135	44.0	305	2125
	7.5	40	—	2	5	6,150	8,060	20.8	37.2	17.0	228	3055
	6	68	43	2	5	8,440	12,100	125	119	87.2	345	3080
	7.5	90	55	3	5	10,500	16,100	188	186	104	450	3105
	7.5	115	65	3	5	14,400	24,200	300	319	121	570	3130
	7.5	140	95	3	5	16,300	28,200	508	505	191	665	3155
	7.5	165	85	3	5	18,100	32,200	630	635	208	780	3180
	7.5	190	90	3	5	19,800	36,300	763	779	225	890	3205

※For accuracy (T, S), refer to Figure A-22 (page A-36).

1N = 0.102kgf 1N · m = 0.102kgf · m



HVT TYPE

—HVT4—

Upgraded model

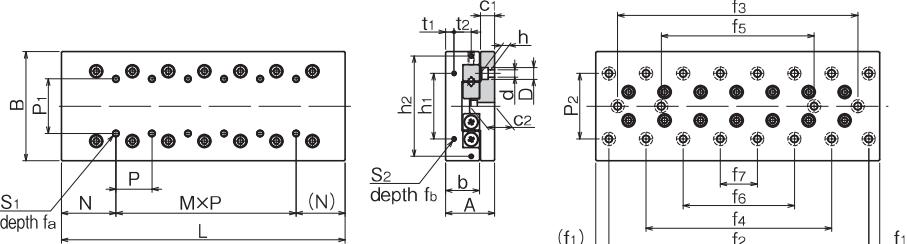
**part number structure**example **HVT 4 285 -LB -KGLA**specification
HVT: standard
HVTs: anti-corrosion

size

table length

grease symbol (refer to page Eng-51)
blank: standard grease
-KGLA: lithium-based low dust generation grease
-KGU: urea-based low dust generation grease
-KGF: anti-fretting grease

with low temperature black chrome treatment

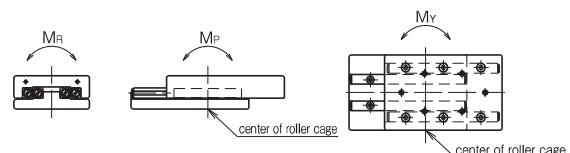


part number	stroke	major dimensions				table-top mounting hole dimensions				table-end mounting hole dimensions				$d \times D \times h$ mm				
		A mm	B mm	L mm	b mm	P1 mm	S1 mm	fa mm	N mm	M × P mm	h1 mm	h2 mm	t1 mm	t2 mm	S2 mm	P2 mm		
HVT 4085	HVTs 4085	50	35 ^{±0.1}	80 ^{±0.1}	85	24	40	M5	10	42.5	55	—	6.5	—	M3	6	55	5.5×10×5.4
4125	4125	75			125													
4165	4165	105			165													
4205	4205	130			205													
4245	4245	155			245													
4285	4285	185			285													
4325	4325	210			325													
4365	4365	235			365													
4405	4405	265			405													

C1 mm	C2 mm	bed-surface mounting hole dimensions							accuracy ※(deviation) T μm	basic load rating dynamic C N	basic load rating static S Co N	allowable static moment Mp N·m			mass		size	
		f1 mm	f2 mm	f3 mm	f4 mm	f5 mm	f6 mm	f7 mm				Mp N·m	My N·m	MR N·m	HVT g	HVTS g		
10.5	18	10	65	—	—	—	—	—	2	5	14,400	19,600	167	183	393	1,700	791	4085
			105	—	—	—	—	—	3	6	18,700	27,500	425	397	551	2,510	1,170	4125
			145	—	—	—	—	—	3	7	24,800	39,300	664	695	787	3,330	1,550	4165
			185	105	—	—	—	—	3	7	28,600	47,200	1,120	1,070	945	4,130	1,930	4205
			225	145	—	—	—	—	3	7	34,000	59,000	1,690	1,630	1,180	4,940	2,310	4245
			265	185	—	—	—	—	3	7	37,500	66,900	2,140	2,080	1,330	5,750	2,690	4285
			305	225	145	—	—	—	4	8	42,600	78,700	2,910	2,840	1,570	6,550	3,060	4325
			345	265	185	—	—	—	4	8	47,500	90,600	3,490	3,560	1,810	7,360	3,440	4365
			385	305	225	—	—	—	4	8	50,600	98,400	4,460	4,370	1,960	8,170	3,820	4405

※For accuracy (T, S), refer to Figure A-22 (page A-36).

1N = 0.102kgf 1N · m = 0.102kgf · m



HYT TYPE

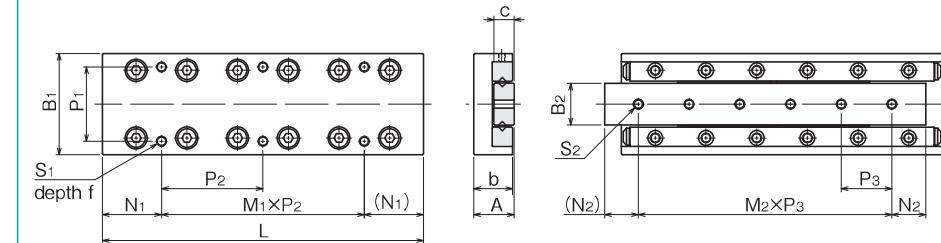
Upgraded model

**part number structure**

example	HYT	2	110	-LB	-KGLA
specification	HYT: standard				
	HYTS: anti-corrosion				
size					

with low temperature black chrome treatment

grease symbol (refer to page Eng-51)
blank: standard grease
-KGLA: lithium-based low dust generation grease
-KGU: urea-based low dust generation grease
-KGF: anti-fretting grease

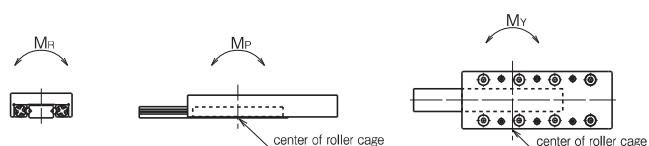


part number		stroke	major dimensions						table-top mounting hole dimensions					
standard	anti-corrosion	ST mm	A mm	B ₁ mm	L mm	b mm	B ₂ mm	c mm	P ₁ mm	S ₁ mm	f mm	N ₁ mm	M ₁ ×P ₂ mm	
HYT 2035	HYTS 2035	18	12 ^{±0.1}	30 ^{±0.1}	35						3.5	1×28		
	2050	30			50						3.5	1×43		
	2065	40			65						17.5	1×30		
	2080	50			80	11.5	12.4	6	22	M3	5	17.5	1×45	
	2095	60			95						17.5	2×30		
	2110	70			110						32.5	1×45		
	2125	80			125						17.5	2×45		
HYT 3055	HYTS 3055	30	16 ^{±0.1}	40 ^{±0.1}	55						7.5	1×40		
	3080	45			80						7.5	1×65		
	3105	60			105	15.5	16.7	8	30	M4	7	27.5	1×50	
	3130	75			130						27.5	1×75		
	3155	90			155						27.5	2×50		
	3180	105			180						52.5	1×75		
	3205	130			205						27.5	2×75		

bed-surface mounting hole dimensions				accuracy ※(deviation)		basic load rating		allowable static moment			mass	size
S ₂	N ₂ mm	M ₂ ×P ₃ mm	T μm	S μm	C N	dynamic	static Co N	M _P N·m	M _y N·m	M _R N·m	g	
M3	7.5	1×20	2	4	1,850	2,290	6.87	7.86	14.8	82	2035	
	10	2×15	2	4	2,320	3,050	18.7	16.7	19.8	119	2050	
	10	3×15	2	5	3,190	4,580	26.7	28.9	29.7	155	2065	
	10	4×15	2	5	4,000	6,110	47.5	50.4	39.7	191	2080	
	10	5×15	2	5	4,380	6,870	74.2	70.3	44.6	227	2095	
	10	6×15	2	5	5,130	8,400	89.8	93.6	54.6	264	2110	
	10	7×15	2	5	5,840	9,930	125	129	64.5	300	2125	
M4	10	1×35	2	5	6,150	8,060	43.7	49.6	70.1	240	3055	
	15	2×25	2	5	8,460	12,100	99.0	107	105	351	3080	
	15	3×25	3	5	10,600	16,100	175	186	140	463	3105	
	15	4×25	3	5	12,600	20,100	274	287	175	574	3130	
	15	5×25	3	5	14,500	24,200	395	410	210	685	3155	
	15	6×25	3	5	16,400	28,200	537	554	245	797	3180	
	15	7×25	3	5	17,300	30,200	701	677	263	906	3205	

※For accuracy (T, S), refer to Figure A-22 (page A-36).

1N = 0.102kgf 1N·m = 0.102kgf·m



HYT-D TYPE

Upgraded model



part number structure

example HYT **2** 110 -D -LB -KGLAspecification
HYT: standard
HYTS: anti-corrosion

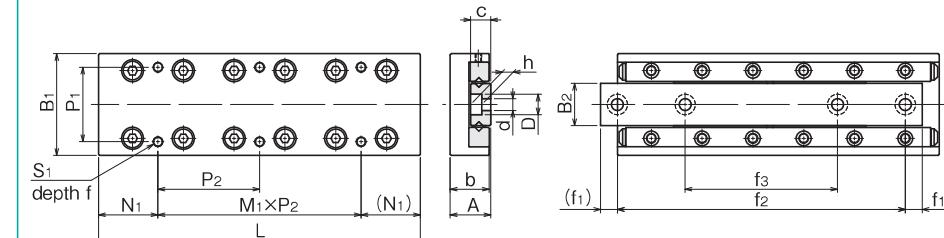
size

table length

grease symbol (refer to page Eng-51)
blank: standard grease
-KGLA: lithium-based low dust generation grease
-KGU: urea-based low dust generation grease
-KGF: anti-fretting grease

with low temperature black chrome treatment

with counterbore



part number		stroke	major dimensions						table-top mounting hole dimensions					
standard	anti-corrosion	ST mm	A mm	B ₁ mm	L mm	b mm	B ₂ mm	c mm	P ₁ mm	S ₁	f mm	N ₁ mm	M ₁ × P ₂ mm	
HYT 2035-D	HYTS 2035-D	18	12 ^{±0.1}	30 ^{±0.1}	35	11.5	12.4	6	M3	5	3.5	1×28		
2050-D	2050-D	30			50									
2065-D	2065-D	40			65									
2080-D	2080-D	50			80									
2095-D	2095-D	60			95									
2110-D	2110-D	70			110									
2125-D	2125-D	80			125									
HYT 3055-D	HYTS 3055-D	30	16 ^{±0.1}	40 ^{±0.1}	55	15.5	16.7	8	M4	7	7.5	1×40		
3080-D	3080-D	45			80									
3105-D	3105-D	60			105									
3130-D	3130-D	75			130									
3155-D	3155-D	90			155									
3180-D	3180-D	105			180									
3205-D	3205-D	130			205									

bed-surface mounting hole dimensions d × D × h mm	accuracy ※(deviation)			basic load rating dynamic C N	static Co N	allowable static moment M _P N·m			mass g	size
	f ₁ mm	f ₂ mm	f ₃ mm			T S μm μm	M _R N·m	M _P N·m		
3.5×6×3.3	5	25	—	2	4	1,850	2,290	6.87	7.86	14.8
	7.5	35	—	2	4	2,320	3,050	18.7	16.7	19.8
	5	55	33	2	5	3,190	4,580	26.7	28.9	29.7
	5	70	40	2	5	4,000	6,110	47.5	50.4	39.7
	5	85	45	2	5	4,380	6,870	74.2	70.3	44.6
	7.5	95	50	2	5	5,130	8,400	89.8	93.6	54.6
	7.5	110	55	2	5	5,840	9,930	125	129	64.5
4.5×7.5×4.3	7.5	40	—	2	5	6,150	8,060	43.7	49.6	70.1
	6	68	43	2	5	8,460	12,100	99.0	107	105
	7.5	90	55	3	5	10,600	16,100	175	186	140
	7.5	115	65	3	5	12,600	20,100	274	287	175
	7.5	140	95	3	5	14,500	24,200	395	410	210
	7.5	165	85	3	5	16,400	28,200	537	554	245
	7.5	190	90	3	5	17,300	30,200	701	677	263

※For accuracy (T, S), refer to Figure A-22 (page A-36).

1N = 0.102kgf 1N · m = 0.102kgf · m

