

8. LMSSA2X precision cross tables

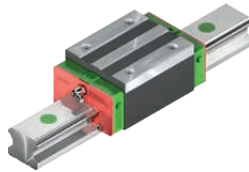
8.1 Properties of the LMSSA2X precision cross tables

HIWIN LMSSA2X precision cross tables are based on LMSSA precision axes and feature standardisation of available options including size, energy chain (cable routing) and encoder system. This reduction to the essentials means we can quickly create an offer and ensure short delivery times.



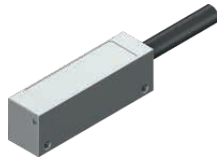
Linear guideway

A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on two parallel, high-precision profile rails. SynchMotion™ technology with ball chain also ensures good synchronisation and very smooth running in all sizes.



Distance measuring systems

The distance measuring system is integrated into the inside of the axis to save space and determines the repeatability. Different measuring systems are available depending on the requirements for measuring method, interface and resolution.



Linear motor

The integrated HIWIN linear motors of the LMSA series ensure dynamic and precise positioning. Motors with iron core are the first choice when high feed forces are required.



Energy chain

Generously dimensioned energy chains in both axial directions provide space for safely carrying the supply lines.



Precision axes and precision systems

LMSSA2X precision cross tables

8.2 Order code of LMSSA2X precision cross tables

	LM	SSA	2X	10S	100	13S	200	200	200	K	A	S	0	B	0
Linear motor axis															
Series															
Number of axes:															
2X: Two orthogonal axes															
Axis type of Y-axis:															
10S: LMSSA10 (with iron core)															
13S: LMSSA13 (with iron core)															
Nominal force of Y-axis [N]:															
100, 200															
Axis type of X-axis:															
13S: LMSSA13 (with iron core)															
20S: LMSSA20 (with iron core)															
Nominal force of X-axis [N]:															
200, 300															
Stroke length of Y-axis [mm]:															
200, 250, 300, 350, 400															
Stroke length of X-axis [mm]:															
200, 250, 300, 350, 400, 450, 500															
Type:															
0: Standard															
Max. voltage [VDC]:															
B: 600 (standard)															
Connection interface:															
0: Without energy chain															
1: With horizontal energy chain (standard)															
Cover:															
S: Standard cover															
Axis limit switch:															
A: NPN (NC contact)															
B: PNP (NC contact) (standard)															
Distance measuring system:															
A: Optical, analogue, 1 V _{SS} sin/cos															
K: Optical, digital TTL, resolution 0.1 µm															
E: Magnetic, digital TTL, resolution 1 µm															
D: Magnetic, analogue, 1 V _{SS} sin/cos															

8.2.1 Technical data

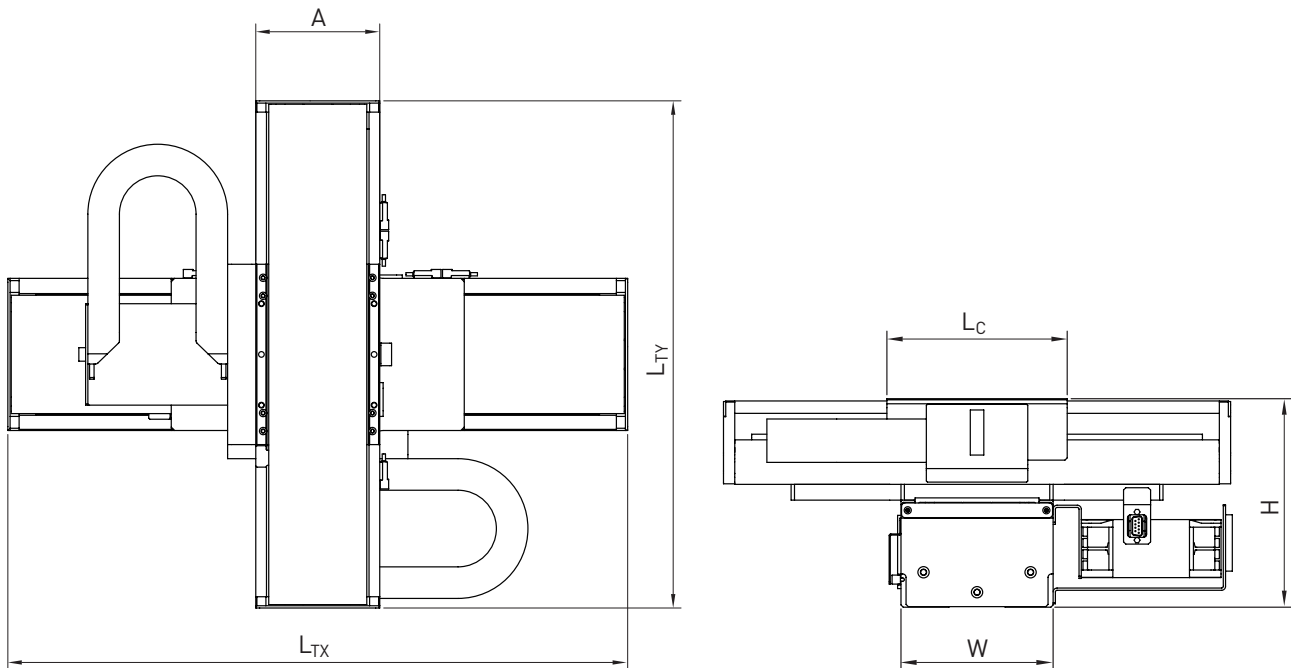


Table 8.1 Dimensions and specifications for LMSSA2X cross tables

	Symbol	Unit	10S100-13S200							13S200-20S300						
Stroke of Y-axis		mm	200	250	300	350	400	400	400	200	250	300	350	400	400	400
Stroke of X-axis		mm	200	250	300	350	400	450	500	200	250	300	350	400	450	500
Width of travel carriage	A	mm	110							135						
Length of travel carriage	L _C	mm	160							260						
Profile width of X-axis	W	mm	135							206						
Total height	H	mm	185							200						
Length of Y-axis	L _{TY}	mm	450	500	550	600	650	650	650	550	600	650	700	750	750	750
Length of X-axis	L _{TX}	mm	550	600	650	700	750	800	850	550	600	650	700	750	800	850
Continuous force of Y-axis	FC _Y	N	103							205						
Continuous force of X-axis	FC _X	N	205							362						
Peak force of Y-axis	FP _Y	N	289							579						
Peak force of X-axis	FP _X	N	579							1,023						
Max. speed ¹⁾	v _{max}	m/s	1.5													
Max. acceleration ¹⁾	a _{max}	m/s ²	20													
Max. load capacity		Kg	15							30						
Distance measuring system		—	A / K / E / D													
Repeatability		µm	±0.5 / ±1.0 / ±3.0 / ±3.0													
Absolute precision		µm	±1.0 / ±2.0 / ±6.0 / ±6.0													
Straightness		µm	±8 / 300 mm													
Flatness		µm	±8 / 300 mm													
Orthogonality		arc sec	10 (200 × 200 mm ²)													
Weight		kg	28.3	29.4	30.7	32.1	33.6	34.4	35	28.3	29.4	30.7	32.1	33.6	34.4	35
Energy chain of Y-axis		—	1400.025.075.0 (possible additional cables 2 × Ø 8mm)							1400.038.075.0 (possible additional cables 2 × Ø 8mm)						
Energy chain of X-axis		—	1400.038.075.0 (possible additional cables 2 × Ø 8mm)							1400.038.075.0 (possible additional cables 2 × Ø 8mm)						

¹⁾ Depends on stroke, load capacity, distance measuring system and other parameters

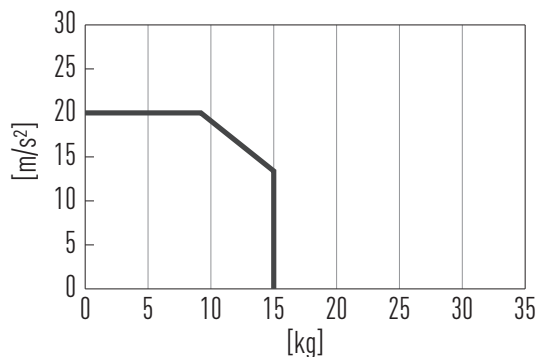
Precision axes and precision systems

LMSSA2X precision cross tables

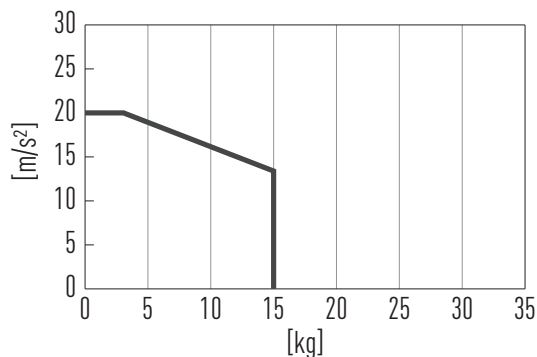
8.3 Dimensions and specifications for LMSSA2X cross tables

8.3.1 Characteristic curve for force depending on the speed and load capacity (intermediate circuit voltage 600VDC)

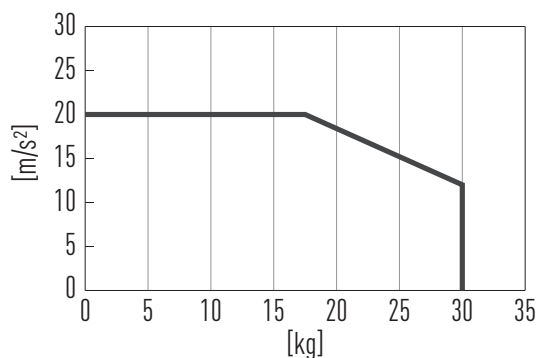
SSA-10S100



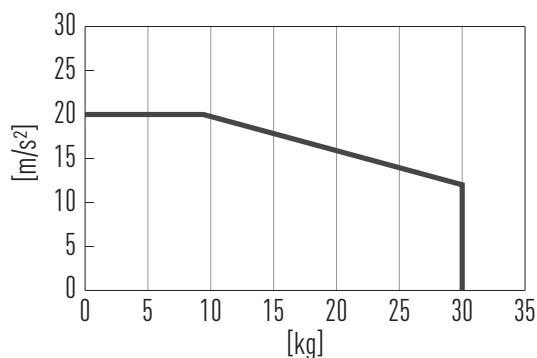
SSA-13S200



SSA-13S200



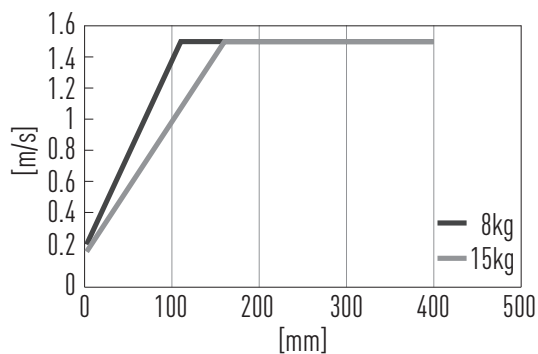
SSA-20S300



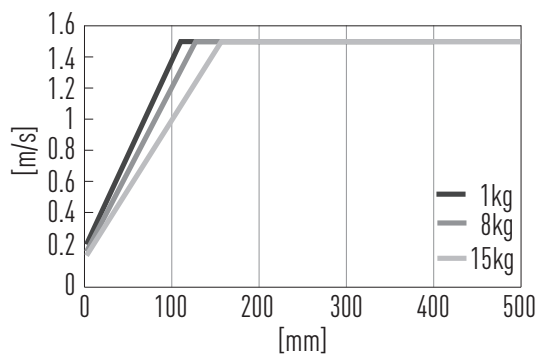
1) The characteristic curve already takes into consideration the service weight of the Y-axis

8.3.2 Characteristic curve for acceleration depending on load capacity (intermediate circuit voltage 600VDC)

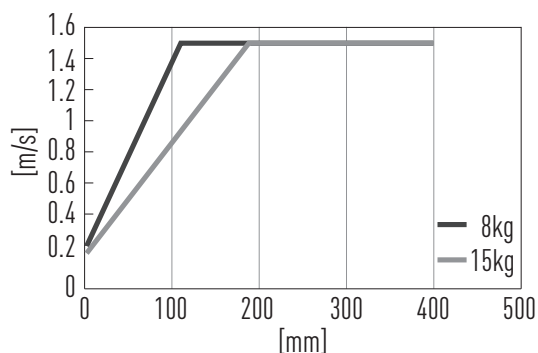
SSA-10S100



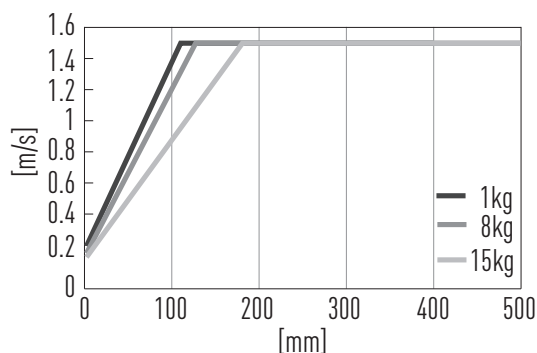
SSA-13S200



SSA-13S200



SSA-20S300



8.3.3 Dimensions of LMSSA2X-10S100-13S200

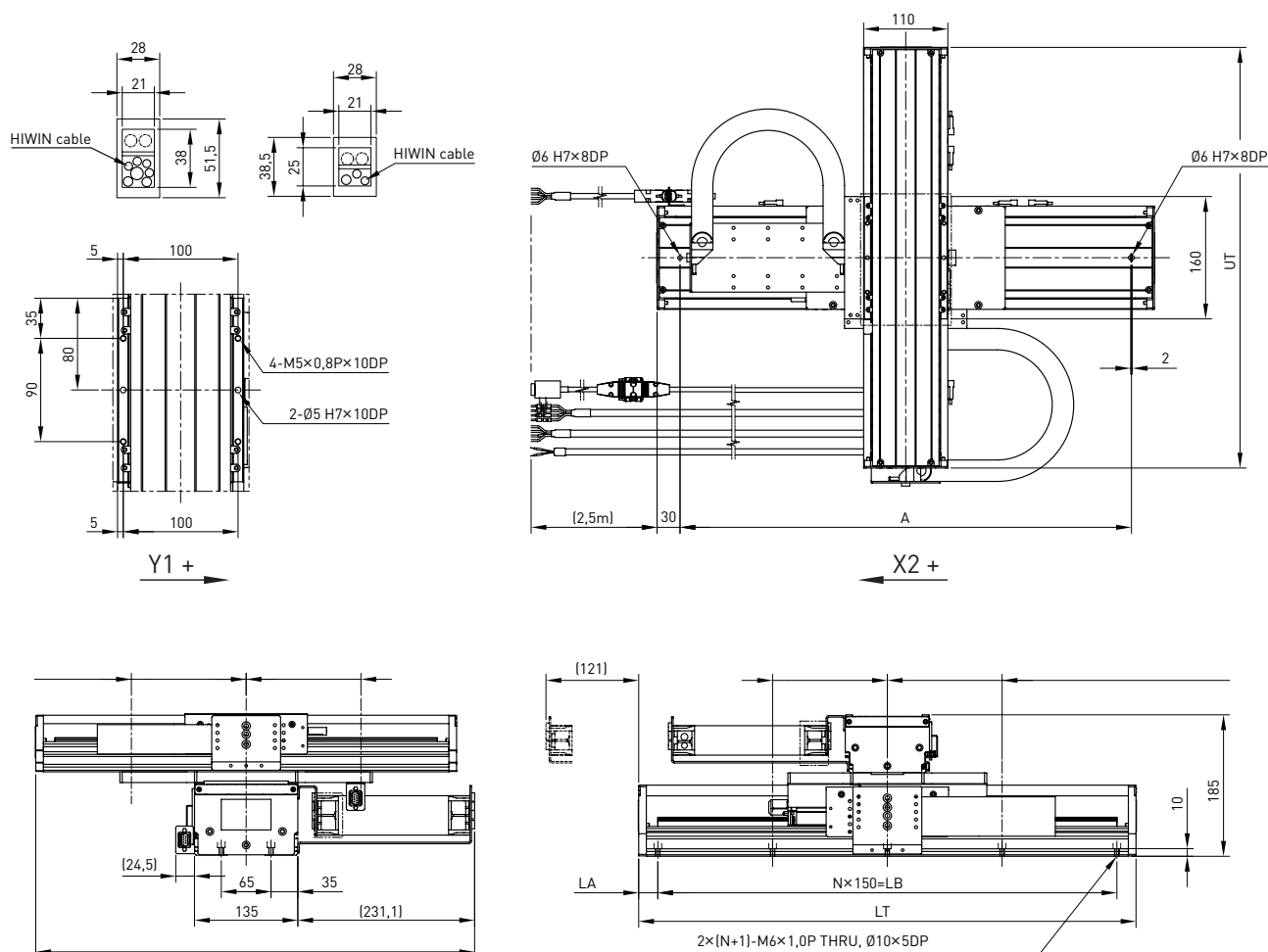


Table 8.2 Dimensions and specifications for LMSSA2X cross tables

	Unit	10S100-13S200						
Stroke of Y-axis	mm	200	250	300	350	400	400	400
Stroke of X-axis	mm	200	250	300	350	400	450	500
UT	mm	450	500	550	600	650	650	650
LT	mm	550	600	650	700	750	800	850
N	mm	3	3	4	4	4	5	5
LA	mm	50	75	25	50	75	25	50
LB	mm	450	450	600	600	600	750	750

Precision axes and precision systems

LMSSA2X precision cross tables

8.3.4 Dimensions of LMSSA2X-13S200-20S300

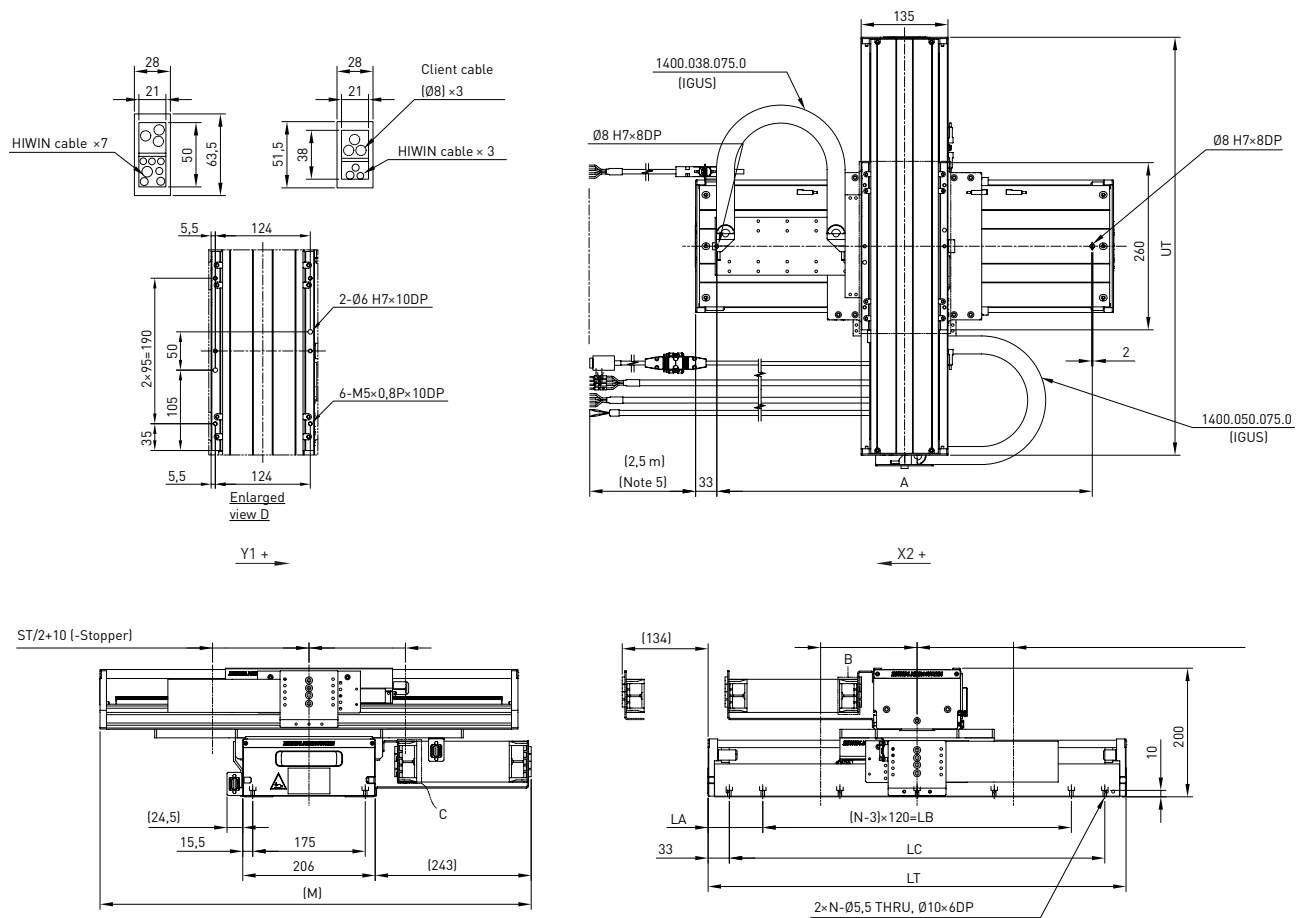


Table 8.3 Dimensions and specifications for LMSSA2X cross tables

	Unit	10S100-13S200						
Stroke of Y-axis	mm	200	250	300	350	400	400	400
Stroke of X-axis	mm	200	250	300	350	400	450	500
UT	mm	550	600	650	700	750	750	750
LT	mm	550	600	650	700	750	800	850
N	mm	5	7	7	7	7	7	9
LA	mm	155	60	85	110	135	160	65
LB	mm	240	480	480	480	480	480	720
LC	mm	484	534	584	634	684	734	784