

Model 6AXX Stiffness Matrix Document

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Model 6A27A 50N/1Nm

6,6 kN/mm	0,0	0,0	0,0	47 kN	0,0	$u_x$
0,0	6,7 kN/mm	0,0	-47 kN	0,0	0,0	$u_y$
0,0	0,0	55,9 kN/mm	0,0	0,0	0,0	$u_z$
0,0	-47 kN	0,0	2,8 kNm	0,0	0,0	$\phi_{i_x}$
47 kN	0,0	0,0	0,0	2,8 kNm	0,0	$\phi_{i_y}$
0,0	0,0	0,0	0,0	0,0	1,2 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A40A 200N/5Nm

5.8 kN/mm	0.0	0.0	0.0	116 kN	0.0	$u_x$
0.0	5.8 kN/mm	0.0	-116 kN	0.0	0.0	$u_y$
0.0	0.0	32.3 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-116 kN	0.0	9.3 kNm	0.0	0.0	$\phi_{i_x}$
116 kN	0.0	0.0	0.0	9.3 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	5.0 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A40B 500N/20Nm

15.9 kN/mm	0.0	0.0	0.0	319 kN	0.0	$u_x$
0.0	15.9 kN/mm	0.0	-319 kN	0.0	0.0	$u_y$
0.0	0.0	88.5 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-319 kN	0.0	25.5 kNm	0.0	0.0	$\phi_{i_x}$
319 kN	0.0	0.0	0.0	25.5 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	13.8 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A40C 50N/5Nm

2.9 kN/mm	0.0	0.0	0.0	58.4 kN	0.0	$u_x$
0.0	2.9 kN/mm	0.0	-58.4 kN	0.0	0.0	$u_y$
0.0	0.0	16.2 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-58.4 kN	0.0	4.7 kNm	0.0	0.0	$\phi_{i_x}$
58.4 kN	0.0	0.0	0.0	4.7 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	2.5 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A68A 1KN/20Nm

23.6 kN/mm	0.0	0.0	0.0	471.1 kN	0.0	$u_x$
0.0	23.6 kN/mm	0.0	-471.1 kN	0.0	0.0	$u_y$
0.0	0.0	120.6 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-471.1 kN	0.0	37.7 kNm	0.0	0.0	$\phi_{i_x}$
471.1 kN	0.0	0.0	0.0	37.7 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	22.1 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A68B 2KN/50Nm

47.0 kN/mm	0.0	0.0	0.0	939.0 kN	0.0	$u_x$
0.0	47.0 kN/mm	0.0	-939.0 kN	0.0	0.0	$u_y$
0.0	0.0	240.4 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-939.0 kN	0.0	75.1 kNm	0.0	0.0	$\phi_{i_x}$
939.0 kN	0.0	0.0	0.0	75.1 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	44.0 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A68C 5KN/50Nm

64.5 kN/mm	0.0	0.0	0.0	1290.8 kN	0.0	$u_x$
0.0	64.5 kN/mm	0.0	-1290.8 kN	0.0	0.0	$u_y$
0.0	0.0	330.4 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-1290.8 kN	0.0	103.3 kNm	0.0	0.0	$\phi_{i_x}$
1290.8 kN	0.0	0.0	0.0	103.3 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	60.5 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A68D 10KN/100Nm

128.6 kN/mm	0.0	0.0	0.0	2572.6 kN	0.0	$u_x$
0.0	128.6 kN/mm	0.0	-2572.6 kN	0.0	0.0	$u_y$
0.0	0.0	658.6 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-2572.6 kN	0.0	205.8 kNm	0.0	0.0	$\phi_{i_x}$
2572.6 kN	0.0	0.0	0.0	205.8 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	120.6 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A68E 10KN/500Nm

228.7 kN/mm	0.0	0.0	0.0	4573.5 kN	0.0	$u_x$
0.0	228.7 kN/mm	0.0	-4573.5 kN	0.0	0.0	$u_y$
0.0	0.0	1170.8 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-4573.5 kN	0.0	365.9 kNm	0.0	0.0	$\phi_{ix}$
4573.5 kN	0.0	0.0	0.0	365.9 kNm	0.0	$\phi_{iy}$
0.0	0.0	0.0	0.0	0.0	214.4 kNm	$\phi_{iz}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A80A 1KN/50Nm

25.2 kN/mm	0,0	0,0	0,0	629.3 kN	0,0	$u_x$
0,0	25.2 kN/mm	0,0	-629.3 kN	0,0	0,0	$u_y$
0,0	0,0	136.9 kN/mm	0,0	0,0	0,0	$u_z$
0,0	-629.3 kN	0,0	63.6 kNm	0,0	0,0	$\phi_{ix}$
629.3 kN	0,0	0,0	0,0	63.6 kNm	0,0	$\phi_{iy}$
0,0	0,0	0,0	0,0	0,0	35.2 kNm	$\phi_{iz}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A80B 2KN/100Nm

57.2 kN/mm	0,0	0,0	0,0	1432 kN	0,0	$u_x$
0,0	57.2 kN/mm	0,0	-1432 kN	0,0	0,0	$u_y$
0,0	0,0	247.7 kN/mm	0,0	0,0	0,0	$u_z$
0,0	-1432 kN	0,0	120.5 kNm	0,0	0,0	$\phi_{ix}$
1432 kN	0,0	0,0	0,0	120.5 kNm	0,0	$\phi_{iy}$
0,0	0,0	0,0	0,0	0,0	78.3 kNm	$\phi_{iz}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A80C 5KN/250Nm

164.7 kN/mm	0,0	0,0	0,0	4117 kN	0,0	$u_x$
0,0	164.7 kN/mm	0,0	-4117 kN	0,0	0,0	$u_y$
0,0	0,0	712.6 kN/mm	0,0	0,0	0,0	$u_z$
0,0	-4117 kN	0,0	346.7 kNm	0,0	0,0	$\phi_{i_x}$
4117 kN	0,0	0,0	0,0	346.7 kNm	0,0	$\phi_{i_y}$
0,0	0,0	0,0	0,0	0,0	225.3 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A110A 4KN/250Nm

96.1 kN/mm	0.0	0.0	0.0	2884 kN	0.0	$u_x$
0.0	96.1 kN/mm	0.0	-2884 kN	0.0	0.0	$u_y$
0.0	0.0	394.3 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-2884 kN	0.0	349.6 kNm	0.0	0.0	$\phi_{i_x}$
2884 kN	0.0	0.0	0.0	349.6 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	256.5 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A110B 10KN/750Nm

255.0 kN/mm	0.0	0.0	0.0	4117 kN	0.0	$u_x$
0.0	255.0 kN/mm	0.0	-4117 kN	0.0	0.0	$u_y$
0.0	0.0	1112.9 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-4117 kN	0.0	975.7 kNm	0.0	0.0	$\phi_{i_x}$
4117 kN	0.0	0.0	0.0	975.7 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	684.0 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A110C 1KN/100Nm (MP11 Connector on Load Cell Body)

34.3 kN/mm	0.0	0.0	0.0	1030 kN	0.0	u <sub>x</sub>
0.0	34.3 kN/mm	0.0	-1030 kN	0.0	0.0	u <sub>y</sub>
0.0	0.0	140.8 kN/mm	0.0	0.0	0.0	u <sub>z</sub>
0.0	-1030 kN	0.0	124.8 kNm	0.0	0.0	phi <sub>x</sub>
1030 kN	0.0	0.0	0.0	124.8 kNm	0.0	phi <sub>y</sub>
0.0	0.0	0.0	0.0	0.0	91.6 kNm	phi <sub>z</sub>

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A130A 5KN/500Nm

93.8 kN/mm	0.0	0.0	0.0	3750 kN	0.0	u <sub>x</sub>
0.0	93.8 kN/mm	0.0	-3750 kN	0.0	0.0	u <sub>y</sub>
0.0	0.0	387.9 kN/mm	0.0	0.0	0.0	u <sub>z</sub>
0.0	-3750 kN	0.0	505.2 kNm	0.0	0.0	phi <sub>x</sub>
3750 kN	0.0	0.0	0.0	505.2 kNm	0.0	phi <sub>y</sub>
0.0	0.0	0.0	0.0	0.0	343.4 kNm	phi <sub>z</sub>

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A130B 15KN/1.2KNm

256.9 kN/mm	0.0	0.0	0.0	10275 kN	0.0	u <sub>x</sub>
0.0	256.9 kN/mm	0.0	-10275 kN	0.0	0.0	u <sub>y</sub>
0.0	0.0	1062.7 kN/mm	0.0	0.0	0.0	u <sub>z</sub>
0.0	-10275 kN	0.0	1384.2 kNm	0.0	0.0	phi <sub>x</sub>
10275 kN	0.0	0.0	0.0	1384.2 kNm	0.0	phi <sub>y</sub>
0.0	0.0	0.0	0.0	0.0	941.0 kNm	phi <sub>z</sub>

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A130C 1KN/200Nm (MP11 Connector on Load Cell Body)

35.2 kN/mm	0.0	0.0	0.0	1406 kN	0.0	$u_x$
0.0	35.2 kN/mm	0.0	-1406 kN	0.0	0.0	$u_y$
0.0	0.0	145.5 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-1406 kN	0.0	189.5 kNm	0.0	0.0	$\phi_{ix}$
1406 kN	0.0	0.0	0.0	189.5 kNm	0.0	$\phi_{iy}$
0.0	0.0	0.0	0.0	0.0	128.8 kNm	$\phi_{iz}$

Element	Description
[kN/mm]	force-displacement
[kNm]	torque-twist
[kN]	force-twist and torque-displacement

Model 6A150A 2KN/200Nm (MP11 Connector on Load Cell Body)

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Model 6A150B 4KN/500Nm (MP11 Connector on Load Cell Body)

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Model 6A150C 10KN/1KNm (MP11 Connector on Load Cell Body)

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Model 6A150D 30KN/3KNm (MP11 Connector on Load Cell Body)

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Model 6A154A 50N/5Nm (M16 Connector on Load Cell Body)

1.3 kN/mm	0.0	0.0	0.0	62 kN	0.0	$u_x$
0.0	1.3 kN/mm	0.0	-62 kN	0.0	0.0	$u_y$
0.0	0.0	5.7 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-62 kN	0.0	12.5 kNm	0.0	0.0	$\phi_{i_x}$
62 kN	0.0	0.0	0.0	12.5 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	8.7 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A154B 100N/10Nm (M16 Connector on Load Cell Body)

2.6 kN/mm	0.0	0.0	0.0	125 kN	0.0	$u_x$
0.0	2.6 kN/mm	0.0	-125 kN	0.0	0.0	$u_y$
0.0	0.0	11.4 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-125 kN	0.0	25.1 kNm	0.0	0.0	$\phi_{i_x}$
125 kN	0.0	0.0	0.0	25.1 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	17.4 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A154C 200N/20Nm (M16 Connector on Load Cell Body)

5.4 kN/mm	0.0	0.0	0.0	262 kN	0.0	$u_x$
0.0	5.4 kN/mm	0.0	-262 kN	0.0	0.0	$u_y$
0.0	0.0	23.9 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-262 kN	0.0	52.7 kNm	0.0	0.0	$\phi_{i_x}$
262 kN	0.0	0.0	0.0	52.7 kNm	0.0	$\phi_{i_y}$
0.0	0.0	0.0	0.0	0.0	36.6 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement



Model 6A154D 500N/50Nm (M16 Connector on Load Cell Body)

11.1 kN/mm	0.0	0.0	0.0	534 kN	0.0	$u_x$
0.0	11.1 kN/mm	0.0	-534 kN	0.0	0.0	$u_y$
0.0	0.0	48.8 kN/mm	0.0	0.0	0.0	$u_z$
0.0	-534 kN	0.0	107.5 kNm	0.0	0.0	$\phi_{ix}$
534 kN	0.0	0.0	0.0	107.5 kNm	0.0	$\phi_{iy}$
0.0	0.0	0.0	0.0	0.0	74.7 kNm	$\phi_{iz}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A175A 10KN/1KNm

178.1 kN/mm	0,0	0,0	0,0	10331 kN	0,0	$u_x$
0,0	178.1 kN/mm	0,0	-103314 kN	0,0	0,0	$u_y$
0,0	0,0	786.7 kN/mm	0,0	0,0	0,0	$u_z$
0,0	-10331 kN	0,0	2149.7 kNm	0,0	0,0	$\phi_{ix}$
10331 kN	0,0	0,0	0,0	2149.7 kNm	0,0	$\phi_{iy}$
0,0	0,0	0,0	0,0	0,0	1404.3 kNm	$\phi_{iz}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A175B 20KN/2KNm

375.5 kN/mm	0,0	0,0	0,0	21800 kN	0,0	$u_x$
0,0	375.5 kN/mm	0,0	-21800 kN	0,0	0,0	$u_y$
0,0	0,0	1658.3 kN/mm	0,0	0,0	0,0	$u_z$
0,0	-21800 kN	0,0	4531.7 kNm	0,0	0,0	$\phi_{ix}$
21800 kN	0,0	0,0	0,0	4531.7 kNm	0,0	$\phi_{iy}$
0,0	0,0	0,0	0,0	0,0	4844.0 kNm	$\phi_{iz}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A175C 50KN/5KNm

614.4 kN/mm	0,0	0,0	0,0	35600 kN	0,0	$u_x$
0,0	614.4 kN/mm	0,0	-35600 kN	0,0	0,0	$u_y$
0,0	0,0	2713.6 kN/mm	0,0	0,0	0,0	$u_z$
0,0	-35600 kN	0,0	7415.4 kNm	0,0	0,0	$\phi_{i_x}$
35600 kN	0,0	0,0	0,0	7415.4 kNm	0,0	$\phi_{i_y}$
0,0	0,0	0,0	0,0	0,0	4844.0 kNm	$\phi_{i_z}$

Element	Description
[kN/mm]	force- displacement
[kNm]	torque- twist
[kN]	force- twist and torque- displacement

Model 6A225A 50KN/10KNm (M16 Connector on Load Cell Body)

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Model 6A225B 100KN/15KNm (M16 Connector on Load Cell Body)

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Model 6A225C 200KN/20KNm (M16 Connector on Load Cell Body)

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Model 6A300A 400KN/40KNm (M16 Connector on Load Cell Body)

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