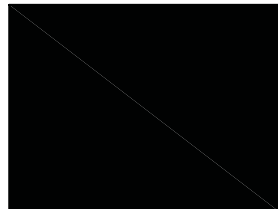


Arm Combinations - Gas Spring					Ceiling Forces @ Max Payload					
Model	Arm R1	Arm R2	Total Reach		Max Payload		Fmax		Mbmax	
33-1000S	0 mm	1000 mm	1000 mm	39 in	80 kg	176 lb	2404 N	540 lb	2257 N-m	1665 ft-lb
33-1600S	600 mm		1600 mm	63 in			2606 N	586 lb	3251 N-m	2399 ft-lb
33-1865S	865 mm		1865 mm	73 in			2642 N	594 lb	3705 N-m	2733 ft-lb
33-2130S	1130 mm		2130 mm	84 in			2677 N	602 lb	4169 N-m	3075 ft-lb
33-2300S	1300 mm		2300 mm	91 in			2699 N	607 lb	4471 N-m	3298 ft-lb
Arm Combinations - Motorized					Ceiling Forces @ Max Payload					
Model	Arm R1	Arm R2	Total Reach		Max Payload		Fmax		Mbmax	
33-1000M	0 mm	1000 mm	1000 mm	39 in	100 kg	220 lb	2604 N	585 lb	2012 N-m	1484 ft-lb
33-1600M	600 mm		1600 mm	63 in			2806 N	631 lb	3126 N-m	2306 ft-lb
33-1865M	865 mm		1865 mm	73 in			2842 N	639 lb	3633 N-m	2680 ft-lb
33-2130M	1130 mm		2130 mm	84 in			2877 N	647 lb	4150 N-m	3061 ft-lb
33-2300M	1300 mm		2300 mm	91 in			2899 N	652 lb	4486 N-m	3309 ft-lb

TRUMPF



Calculated Reaction Forces at Ceiling

Vertically Articulating Model Specifications

PRODUCTION DRAWINGS PRECEDE ABOVE INFORMATION!
SCALE: NTS SHEET 1 OF 1 DATE: 5-10-03