

# Butler Parachute Systems, Inc.

## Personnel Parachute Operating Limitations (General)

Basis for Limitation ->						(US/FAA)*	(BPS)**	(BPS)**	(US/FAA)*	(BPS)**	(BPS)**	(DOD)***	(BPS)**
BPS P/N	BPS Canopy Model	Nominal Diameter (ft)	Advertising Diameter ****	Approx Canopy Weight (lb)	Authorized Under FAA TSO C23 Revision	Maximum Permitted Gross Weight @ 150 KEAS	Maximum Recommended Gross Weight @ 150 KEAS	Maximum Recommended Gross Weight @ 165 KEAS	Maximum Permitted Gross Weight @ 170 KEAS	Maximum Recommended Gross Weight @ 170 KEAS	Maximum Recommended Gross Weight @ 190 KEAS	Maximum Recommended Gross Weight @ 225 KEAS	Maximum Demonstrated Structural Overload
2101-1	350 LoPo	21.11	23.0	6.0	C23d	220 lb.	175 lb.	175 lb.	n/r	n/r	n/r	n/a	264 lb. @ 180 KIAS
2101-2	450 LoPo	23.93	26.0	7.0	C23d	285 lb.	235 lb.	235 lb.	n/r	n/r	n/r	n/a	345 lb. @ 180 KIAS
2101-3	550 LoPo	26.46	29.0	8.0	C23d	350 lb.	300 lb.	300 lb.	n/r	n/r	n/r	n/a	420 lb. @ 180 KIAS
120	XTC-500	25.23	26.1	9.0	C23c, Cat.B	254 lb.	254 lb.	n/r	n/r	n/r	n/r	n/a	300 lb. @ 175 KIAS
3101	HX-300	19.56	20.3	5.8	C23d	250 lb.	175 lb.	175 lb.	250 lb.	n/r	n/r	n/a	300 lb. @ 180 KIAS
3102	HX-400	22.58	23.4	6.4	C23d	340 lb.	235 lb.	235 lb.	340 lb.	235 lb.	235 lb.	n/a	400 lb. @ 205 KIAS
3103	HX-500	25.23	26.1	7.9	C23d	440 lb.	310 lb.	310 lb.	416 lb.	310 lb.	310 lb.	n/a	500 lb. @ 205 KIAS
3106	HX-500/24	25.23	26.1	8.5	C23d	440 lb.	310 lb.	310 lb.	416 lb.	310 lb.	310 lb.	n/a	500 lb. @ 205 KIAS
3104	HX-600	27.64	28.6	9.1	C23d	550 lb.	382 lb.	382 lb.	500 lb.	382 lb.	382 lb.	n/a	600 lb. @ 205 KIAS
n/a	USAF 28'	28.00	28.0	12.5	C23b ***	275 lb.	275 lb.	275 lb.	275 lb.	275 lb.	275 lb.	275 lb.	unknown

**NOTES:** This information is as accurate as we can make it in a concise format and is only intended to provide a broad overview of the product line. If more detailed information is required, please contact Butler Parachute Systems for assistance.

\* US FAA regulations under TSO C23d allow the parachute to be certificated for any weight up to that which results in a rate-of-descent of 24 ft/sec at sea level. BPS uses this weight to set our requirements for structural overload testing (+20% speed & +20% weight). However, we recommend a lighter maximum gross weight (resulting in 20 ft/sec) in order to reduce the potential for landing injuries.

\*\* BPS recommended weight limits for all canopies (except 28' military) are based on 20 ft/sec. at sea level to reduce the potential for landing injuries. Outside of the US, the manufacturers recommendations become the governing factor. Based on the consistency of our testing results, we feel very comfortable with a demonstrated structural overload test speed at approximately 8% to 10% beyond the recommended maximum deployment speed.

\*\*\* The recommendation for 28' military canopy is based on structural limitations and 24 ft/sec. at sea level (with 4-line release device activated!). US Military parachutes are considered by the FAA to be equivalent to C23b, Standard Category.

\*\*\*\* "Advertising Diameter" is provided in order to allow comparison with most competitive products which use twice the measurement from the skirt to the apex as the 'diameter'; note that this is misleading and not used for engineering calculations. For example, under this method, a 15' long windsock could be called a 30' diameter parachute.