

NRG Product information _ Technical Data Sheet

1. Description

The NRG is the first of a all new re-designed series of Paratec main canopies using state of the art 3D design and flight simulation tools. The canopy is conceived to meet the requirements of beginner/intermediate jumpers but also has the potential to be a sportive alternative in the hands of an advanced fun pilot.

Never before we were able to integrate such a wide performance envelope successfully into one single design.

This was possible using the most modern design and flight simulation software, with it's roots in the large aircraft industry. It generates all flight performance and design data from the inflated (flying) state of the canopy based on all imaginable wing load factors and in flight parameters, giving us realistic figures of our canopy design. This way, our engineers are able to determine and meet any parameters required for the selected user group(s). All panels are generated from this inflated state which again results in a realistic product, based on realistic parameters.

The NRG is of trapezoidal shape, meaning that only the wing tips are tapered, leaving the centre part of the canopy rectangular.

The canopy is made from all Zero P fabric, utilising our exclusive True Shape construction method. It comes with 770lbs Vectran lines and light weight stainless steel slider grommets as standard.

2. Flight Performance

2.1 Opening characteristics

Due to the moderate tapering of the leading edge, the openings are on heading, whereas off headings are always possible due to packing and or body position during the line stretch and inflation phase of the canopy.

Opening time is a comfortable 3-4 sec with a hardly noticable snatchforce at line stretch. At minmum wing loads one can notice closed end cells on and off which will inflate by themselves latest by the time the slider is collapsed.

2.2 Flight characteristics

The NRG has a noticable high air speed of 49ft/sec at nominal (ideal) wing load. This would put the canopy speedwise into the next higher category, but due to it's impressive slow flight ability with it's very hard to stall nature it will not overburden the unexperienced, yet in the hands of an expert this speed will generate nice long swoops and lots of flying fun in general. Turn characteristics are moderate sportive, with the canopy not overturning or having any tendencies to twist up. The pilot always stays in the centre of gravity.

From deep brakes to full flight, the NRG answers with a gentle nodding instead of a radical surge. This comes from a slighly negative pitchforce coefficient built into the airfoil. A very helpfull characteristic for people misjudging their flair altitude and „try again“.

The canopy's rate of decent ranges around 18ft/sec at full flight, giving it a nice noderate dive arc with easy recovery. It will help the low experienced gain knowledge during a canopy skill camp and will also satisfy the ambitious canopy pilot in terms of nice dives followed by long swoops on the weekend.

Front riser and toggle pressures are moderate, rear riser pressure is light just as it is demanded for a modern canopy these days.

It's flare is powerfull during the complete toggle range preparing for tip toe langings, even in 0 wind conditions.

2.3 Packing

We recommend the classic pro packing method, with the nose unrolled, slider centered and the canopy symetrically flaked. The slider features 2 lines to collapse it. Please make sure they are pulled back into their channels prior to packing to avoid problems

3. Technical Data and Performance Specifications Diagramme

Size identification	100	120	140	160	180	200
Flat surface area*	108	129	151	172	194	215
Projected surface area**	97	117	137	155	173	194
Flat span	17.35	18.99	20.53	21.94	23.26	24.54
Projected span	15.55	17.13	18.14	19.80	20.73	21.98
Average chord	6.20	6.79	7.35	7.84	8.33	8.76
Flat aspect ratio	1 : 2.8					
Projected surface area	1 : 2.5					
Minimum pack opening speed***	60					
Maximum pack opening speed***	150					
Absolute speed****	53.4	55.2	55.25	55.6	56.13	56.43
Horizontal speed****	48.32	49.54	50.88	51.6	52.36	52,82
Vertical speed****	22.74	21.56	21.42	20.67	20.11	19.68
Glide ratio	2.12	2.31	2.4	2.52	2.63	2.72
Exit weight Beginner***** (1.0)	/	/	141	161	190	201
Exit weight Intermediate (1.25)	/	143	168	192	216	240
Exit weight Advanced (1.5)	150	181	209	243	271	300
Exit weight Expert (1.8)	172	212	/	/	/	/
Pack volume*****	255	306	360	407	460	510

Legend - IMPORTANT- PLEASE READ CAREFULLY

* The flat surface area in sqft equals the area of the canopy layed out on the floor, deflated. It resembles the state for PIA measuring procedure such as surface area and pack volume.

** The projected surface area in sqft equals the inflated area of the canopy in flight. It is generally smaller than the flat surface area. All flight performance data refer to this area as it is the basis for all aerodynamic calculations during the design process. This is the furface area where realistic wing loads are calculated from

*** The pack opening speeds in Knots define the speed limitation of the parachute. It has nothing to do with the speed of the aircraft when exiting.

**** Flight performance data always refer to the projected surface area whereas absolut speed defines the speed of the parachute on it's glide path (airspeed) and the horizontal speed defines the speed over ground (groundspeed). Vertical speed refers to the rate of descent at full flight.
CAUTION!! : This data is based on sea level and standard atmosphere. This flight performance data can deviate at any time due to changes of parameters.

***** Exit weights in lbs are **maximum weights** and include the weight of the jumper plus any equipment he or she wears at pack opening and during canopy flight. The wing load factor defines the ratio between the projected surface area and the total weight of the suspended jumper. This factor is stated in above diagramme in coloured figures behind the relevant category.
 To receive a appr body weight, subtract 20 lbs from the max suspended weight on 100 to 140 sqft sizes and 30 lbs on the sizes 160 up.

***** Pack volume is given in cui (cubic inch) and only a guideline value. It can vary due to fabric dye lots, coating variations and environmental conditions. For a definite match with your selected container model / size we strongly recommend to consult your dealer or Paratec.