

Illustrative render generated from published specifications

21 x 70 mm
57.8 g

Dyson INR-20700A



Live page & updates

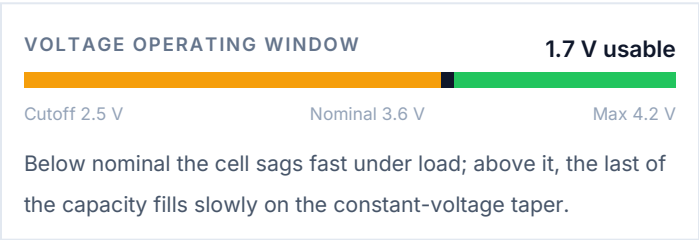
Dyson

20700 NMC

3,000 mAh CAPACITY	35 A RATED CONTINUOUS	3.6 V NOMINAL · 2.5 – 4.2 V	10.8 Wh ENERGY · 186.85 WH/KG
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REFERENCE ONLY — NOT AN OFFICIAL DOCUMENT

This information is gathered from multiple sources, including manufacturer datasheets, independent third-party testing, and community contributions. Cell specifications vary between production batches and change over time, and no figure here is guaranteed to be correct or current. **Always consult the manufacturer's spec sheet directly.** Use this sheet for reference only — never as the sole basis for a safety-critical decision about charging, discharging, or assembling cells. The cell image is an illustrative render generated from published specifications, not a photograph.



APPLICATION SUITABILITY

Rule-of-thumb ratings from this cell's capacity and continuous discharge. Check your own load before committing.

● Powerwalls	High capacity means more stored energy per cell. Fewer cells needed for a given kWh target.
● Ebike packs	Good balance of capacity for range and discharge for hills. Works well in most ebike packs.
● Car audio	Enough discharge to handle amplifier bursts without voltage sag.
● High-drain vaping	Below the 25A Mooch CDR threshold that high-drain vaping needs. Use a higher-drain cell.
● Flashlights	High capacity means long runtime. Great for everyday carry and extended use.
● Power tools	Sufficient discharge and capacity for most power tool packs.

IDENTITY

Manufacturer	Dyson
Model	INR-20700A
Format	20700
Chemistry	NMC
Wrap colour	Grey
Insulator	Black
Terminal	Flat top
Protection	Unprotected

OPERATING TEMPERATURE

Charging	0°C to 45°C
Discharging	-20°C to 60°C

ENERGY & POWER DENSITY

Energy	10.8 Wh
Specific energy	186.85 Wh/kg
Volumetric density	445.45 Wh/L
Power density (mass)	2,180 W/kg
Power density (volume)	5,197 W/L
Capacity ranking	#1 of 1 20700s

C-RATE CONVERSION · 3,000 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.6 A	5h 00m
0.5C	1.5 A	2h 00m
1C	3 A	1h 00m
2C	6 A	30m
3C	9 A	20m
5C	15 A	12m

PHYSICAL

Diameter	21 mm
Length	70 mm
Weight	57.8 g

ELECTRICAL

Rated capacity	3,000 mAh
Nominal voltage	3.6 V
Max charge voltage	4.2 V
Discharge cutoff	2.5 V
Energy	10.8 Wh
Internal resistance	18.6 mΩ
Max continuous discharge	35 A (datasheet)
Discharge C-rate	11.7C
Standard charge current	3,000 mA
Typical charge time	1 h
Standard discharge	560mA
Cycle life	500 cycles

8C	24 A	7m 30s
10C	30 A	6m

Highlighted row is closest to the rated 35 A continuous discharge.

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
0.5C	1,500 mA	~2h 00m
1C	3,000 mA	~1h 00m

Constant-current phase only. Real charge time runs longer because of the constant-voltage taper at the end.

SERIES PACK CONFIGURATIONS

Voltages calculated from this cell's own nominal and maximum charge voltage. The 3P columns show one common parallel count as a worked example — scale the parallel group to the capacity you need.

SERIES	NOMINAL	FULLY CHARGED	CELLS AT 3P	CAPACITY	ENERGY
3S	10.8 V	12.6 V	9	9 Ah	97 Wh
7S	25.2 V	29.4 V	21	9 Ah	227 Wh
10S	36 V	42 V	30	9 Ah	324 Wh
13S	46.8 V	54.6 V	39	9 Ah	421 Wh
14S	50.4 V	58.8 V	42	9 Ah	454 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.2 V 6,000 mAh · 151 Wh 70 A max · ≈0.81 kg cells	13S4P 48V ebike standard 52 cells · 46.8 V 12,000 mAh · 562 Wh 140 A max · ≈3.01 kg cells	16S4P DIY powerwall 64 cells · 57.6 V 12,000 mAh · 691 Wh 140 A max · ≈3.7 kg cells	4S6P Power tool replacement 24 cells · 14.4 V 18,000 mAh · 259 Wh 210 A max · ≈1.39 kg cells
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HANDLING & SAFETY

- Never charge above 4.2V or discharge below 2.5V.
- Store cells at around 3.6-3.8V (roughly 40-60% charge) for long-term storage.
- Don't mix cells with different capacities, chemistries, or states of charge in a pack.
- Inspect wraps before use. A torn wrap can cause a short circuit.
- Always use a BMS or balance charger appropriate for your pack configuration.

- Keep cells away from metal objects, keys, and coins. A short across the terminals can cause fire.

SOURCES & FURTHER READING

Cell Saviors page	cellsaviors.com/cell-database/dyson-inr-20700a
Manufacturer datasheet	https://www.megacellmonitor.com/pdf/vendor_specs/SPEC_DYSON_IN...
Full cell database	cellsaviors.com/cell-database