Nidec

All for dreams

CAplus
Totally Enclosed Fan Cooled motor

INDUSTRIAL SOLUTIONS

DRIVE CENTRE
Industrial Automation Systems Integrators

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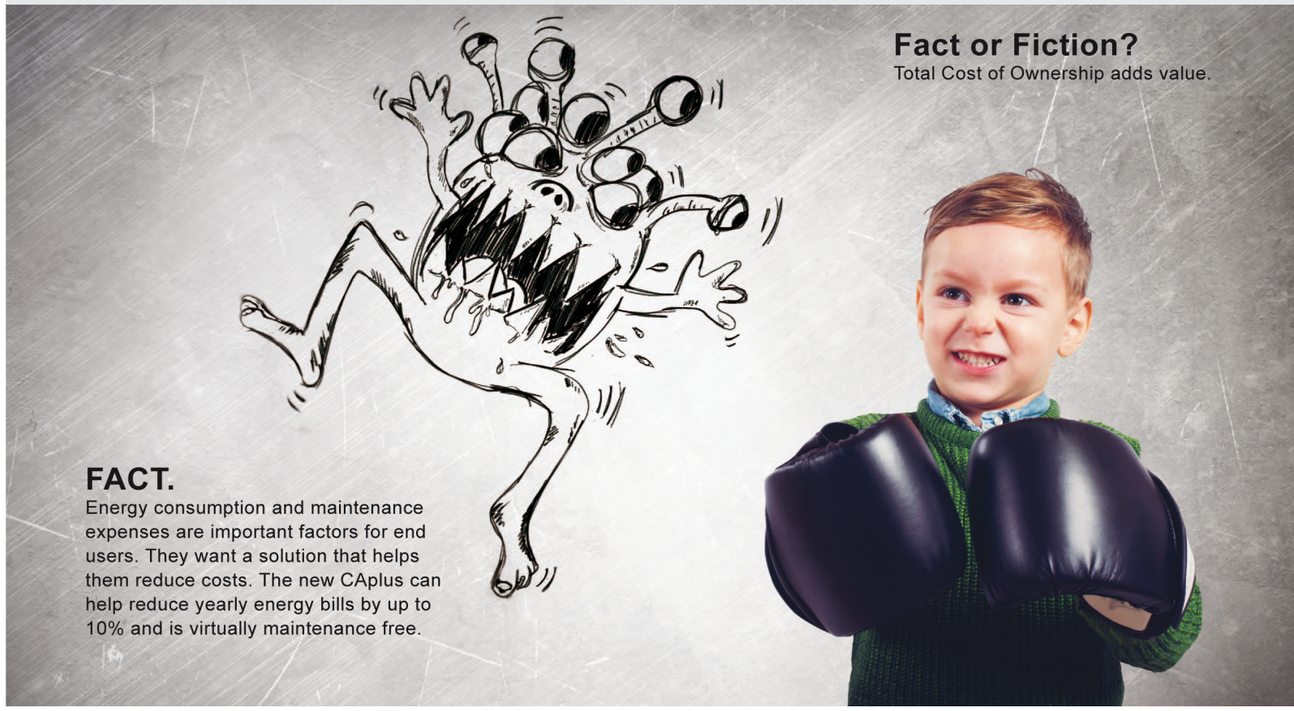
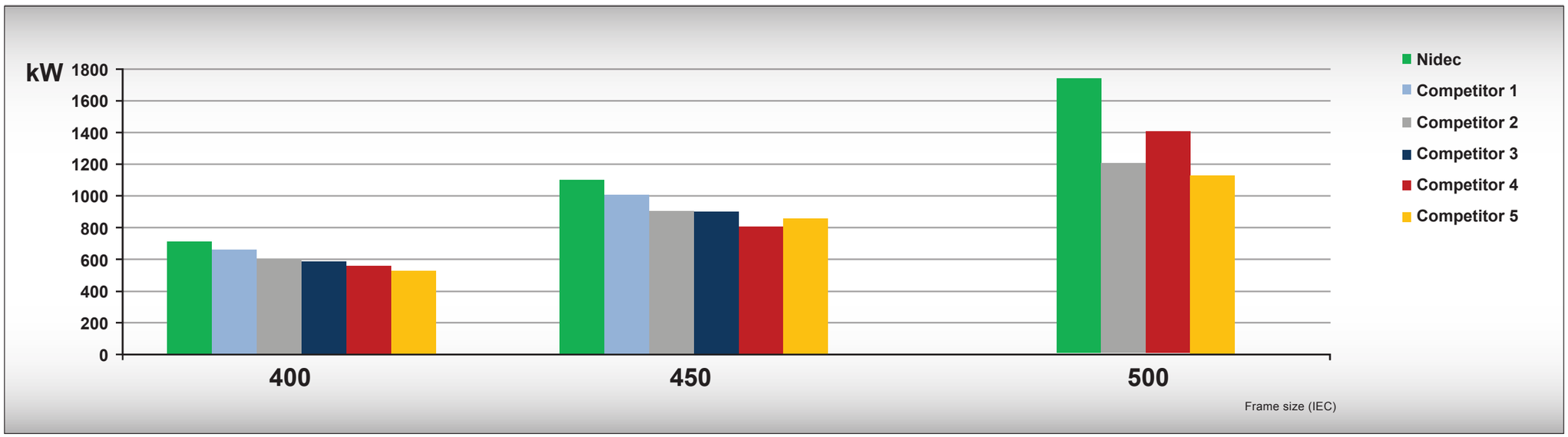


The new CAplus helps End Users reduce Operating Expenses (OPEX)

Higher power density and better efficiency make this new addition to our CA series, the perfect choice for your heavy duty industrial applications. Its innovative cooling system dissipates heat more effectively to achieve greater efficiency (more than 97% with a power factor of 0.89). This sturdy machine is at the top of the class in terms of performance. The CAplus is suitable for general purpose duty **(quadratic torque)**. The series is available in three standard configurations – **High Efficiency, API Compliant** (fully compliant with API 541 IVth Edition) and **Demand Performance** (compliant with challenging specs like Shell DEP).

Power rating
Up to 2200 kW
Voltage
Up to 6.6 kV
Frequency
50 Hz, 60 Hz
Number of Poles
2 to 4
Frame size
355 – 500 mm
Type of Cooling
IC411
Protection
IP55
Noise
Less than 85 dBA.

Tangible performance



The new CA+ offers an unparalleled power-to-mass ratio

Rugged, reliable and efficient like all of our motors, the new CAplus series also offers more flexibility in layout.

The new CAplus is ideal for quadratic torque applications like centrifugal pumps.

Rugged

The CAplus has a fabricated steel frame that was specifically designed to guarantee maximum heat dissipation and optimum performance in terms of vibration and mechanical strength.

The integrated feet were designed for high strength and stiffness.

The machine undergoes our standard aggressive environment painting cycle which was specifically studied for harsh environments and is able to resist even the most abrasive environments.

Reliable

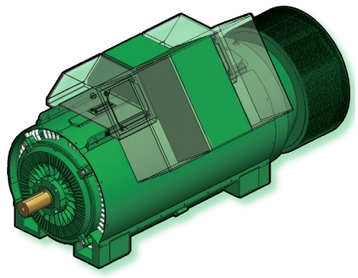
At the heart of the CAplus is our standard motor design. With over 150 years of experience and one of the highest track records on the market in terms of Mean Time Between Failures (MTBF), this product was built to last.

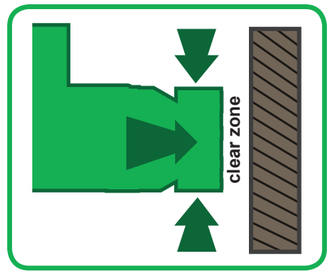
Efficient

The new CAplus was designed to deliver high performance in terms of power factor and efficiency, offering efficiencies of more than 97% putting the machine at the top of the class.

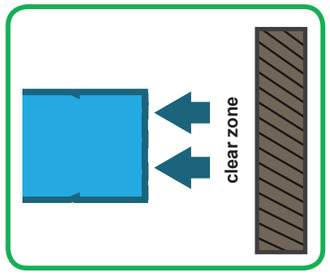
Flexible

The CAplus was designed to offer the maximum flexibility in skid and plant layout. The terminal box can be mounted in three different positions: front, middle and back on either side. Moreover, the cooling system uses lateral air intake which means there are no limits in positioning the motors in cramped spaces, even against a wall.





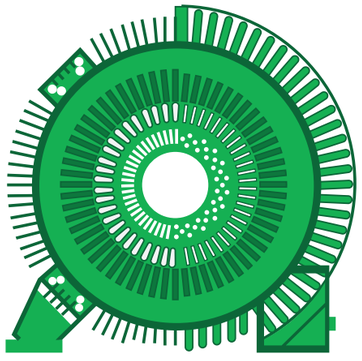
CAplus motor

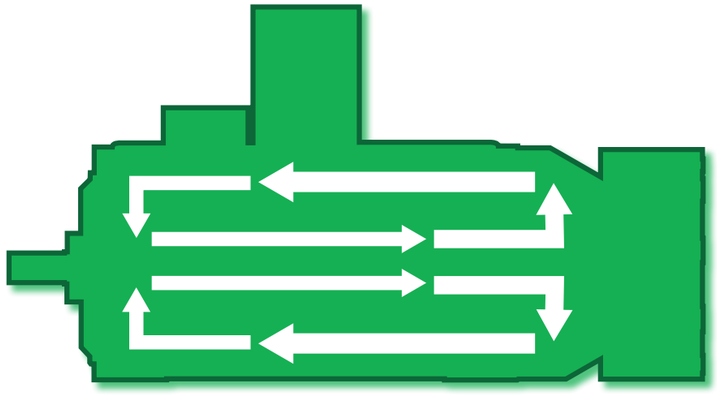


Competitor motor

The plus in TEFC performance

Our new CAplus series uses an innovative cooling mantel to achieve maximum performance. Consisting of a series of aluminum tubes covered by a robust steel plate instead of recirculating pockets we are able to obtain a wider and more homogeneous exchange surface that maximizes heat dissipation.
Air flow inside the machine has been optimized, helping to prolong machine life and safety. It also contributes to maximum power performance.
This enhanced cooling allows these TEFC machine to outperform the competition in terms of specific power.





Technical Data

N° OF POLES	kW max	r min	efficiency max	power factor max	Mass max
size			4/4	4/4	kg
2 POLE					
315	450	2977	96,2	0,90	2570
355	850	2980	97	0,91	4320
400	1250	2982	97,3	0,92	5740
450	1600	2985	96,9	0,91	7090
500	1860	2985	97,1	0,93	9260
4 POLE					
315	470	1480	96,1	0,84	2610
355	750	1483	96,8	0,88	3880
400	1120	1488	96,9	0,88	4900
450	1580	1489	97,0	0,89	6260
500	2600	1491	97,3	0,90	8760

Table applies to machines with the following characteristics:

Rated Voltage: 6,6 kV ± 5%
Frequency: 50 Hz ± 2%
Ambient Temperature: 40 °C
Altitude: </= 1000 m above sea level
Insulation/Temperature Class: F/B
Degree of protection: IP55
Mounting Arrangement: Horizontal IM1001
Rotor: Copper squirrel cage

Standards & Specifications

High Efficiency: EN/IEC
API Compliant: EN/IEC, API 541 IV edition
DemandPerformance: EN/IEC meets demanding customer requirements like SHELL DEP

Insulation system and stator winding

Like all of our machines, the CAplus uses our Micasystem® insulation.
Micasystem® offers class F protection. With over fifty years of demonstrated field experience, it is one of the most reliable solutions on the market for maximize uptime and availability. The reliability of our insulation system makes these machines particularly suitable for Variable Speed Drive applications. All stators are form wound.

Rotor cage

The CAplus is built using a fabricated copper cage which contributes to its reliability and performance in terms of efficiency. Flexible bar shape design allows us to right-size the machine for your needs. Aluminium is used on size 355 HE.

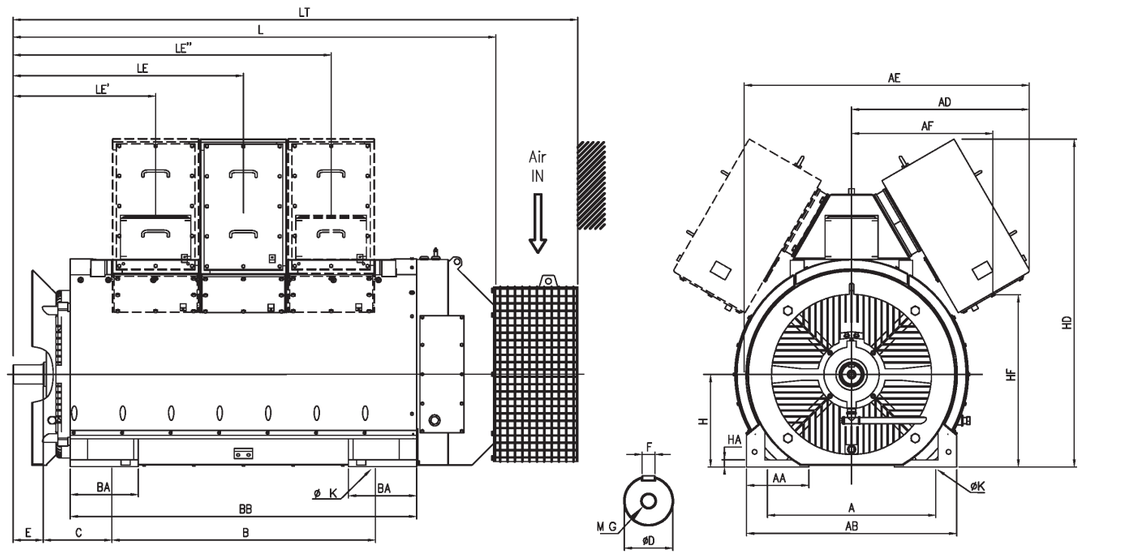
Bearing

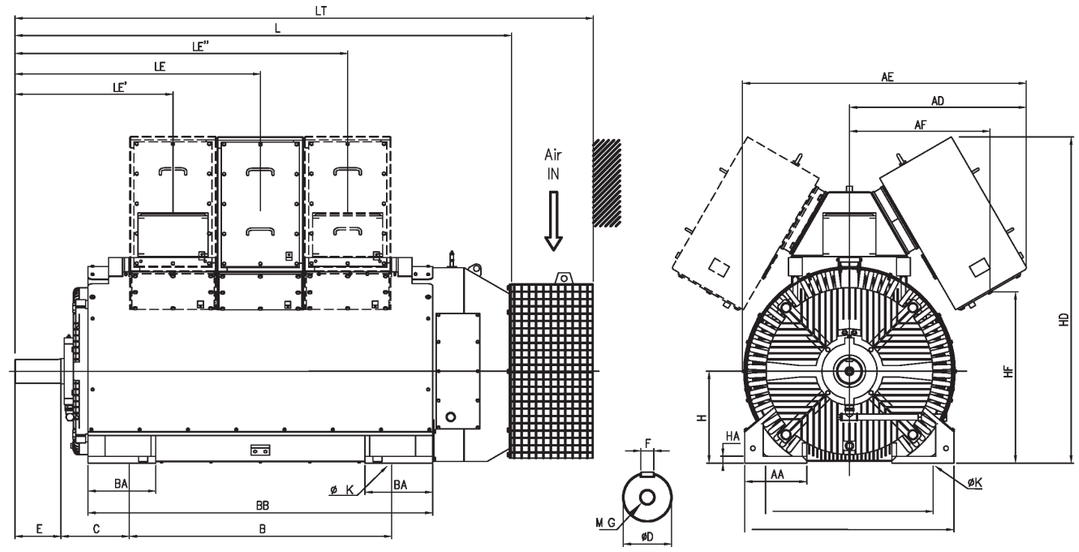
Nidec ASI uses the top brands in bearing to ensure performance. Below is a general description of the key features on the bearings we use.

Sleeve Bearings
Sleeve bearings are self-lubricated with natural cooling. Highly reliable, with proper care the life of these sleeve bearings is practically unlimited. Standard degree of protection is IP55.

Roller Bearings
Roller bearings are grease lubricated. Depending on the type of application,the basic rated life L 10 h (ISO 281) for standard motors is in the range of 40,000 to 80,000 hours. Standard degree of protection is IP55.

Dimensions
2- 4 Poles, Roller Bearings

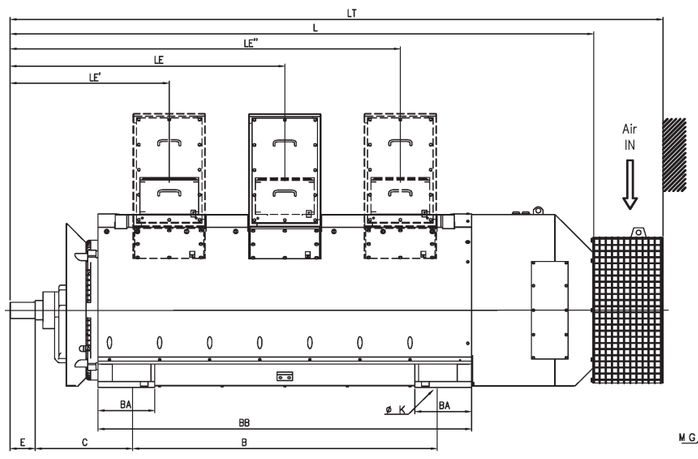


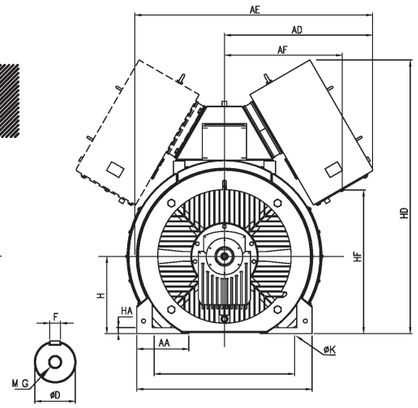


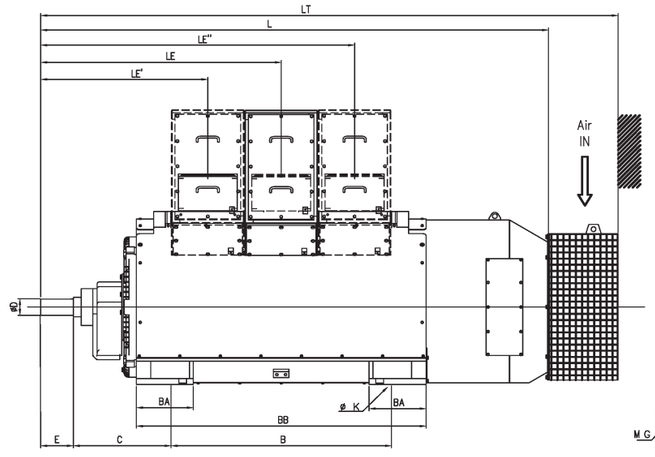
MOTOR TYPE CAT			A mm	AA mm	AB mm	AC mm	AD mm	AE mm	AF mm	H mm	HA mm	HD mm	HF mm	K mm
315	L	2	710	235	780	620	730	1160	570	315	25	1260	585	30
315	S	2	710	235	780	620	730	1160	570	315	25	1260	585	30
355	S	2	745	257	825	700	745	1210	585	355	30	1340	665	30
355	L	2	745	257	825	700	745	1210	585	355	30	1340	665	30
355	L	4	745	257	825	700	745	1160	585	355	30	1340	665	30
400	S	2	830	270	910	755	770	1275	610	400	30	1420	745	30
400	L	2	830	270	910	755	770	1275	610	400	30	1420	745	30
400	L	4	830	270	910	755	770	1225	610	400	30	1420	745	30
450	S	2	880	270	960	825	805	1355	645	450	30	1520	845	30
450	L	2	880	270	960	825	805	1355	645	450	30	1520	845	30
450	L	4	880	270	960	825	805	1315	645	450	30	1520	845	30
500	L	2	1000	300	1070	900	830	1430	665	500	45	1620	940	30
500	L	4	930	300	1070	900	830	1390	665	500	45	1620	940	30

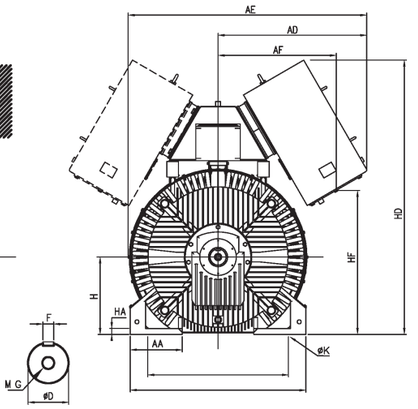
MOTOR TYPE CAT			B mm	BA mm	BB mm	C mm	E mm	D mm	F mm	G mm	L mm	LT mm	LE mm	LE' mm	LE" mm
315	L	2	1090	295	1340	237	115	70	22	M24	1860	2230	NA	650	1150
315	S	2	960	295	1210	237	115	70	22	M24	1740	2100	NA	585	1085
355	S	2	950	295	1240	264	115	75	25	M24	1780	2135	NA	605	1105
355	L	2	1110	295	1400	265	115	75	25	M24	1980	2300	935	555	1310
355	L	4	1110	295	1400	265	190	100	28	M24	2010	2370	1005	625	1385
400	S	2	1040	295	1330	262	140	85	25	M24	1925	2285	NA	675	1175
400	L	2	1210	295	1500	265	140	85	25	M24	2140	2455	1010	630	1390
400	L	4	1210	295	1500	265	210	105	28	M24	2165	2525	1075	695	1455
450	S	2	1190	315	1480	262	140	95	28	M24	2085	2445	1000	600	1400
450	L	2	1390	315	1680	265	140	95	28	M24	2285	2645	1070	670	1470
450	L	4	1390	315	1680	265	210	115	32	M24	2385	2745	1170	770	1570
500	L	2	1470	345	1760	290	160	105	28	M24	2560	2870	1185	735	1635
500	L	4	1470	345	1760	290	230	120	32	M24	2580	2940	1255	805	1705

Dimensions
2- 4 Poles, Sleeve Bearings









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315	L	4	710	235	780	620	730	1110	570	315	25	1260	585	30
355	Y	2	745	257	825	700	745	1210	585	355	30	1340	665	30
355	Z	2	745	257	825	700	745	1210	585	355	30	1340	665	30
355	L	4	745	257	825	700	745	1160	585	355	30	1340	665	30
400	Y	2	830	270	910	755	770	1276	610	400	30	1420	745	30
400	Z	2	830	270	910	755	770	1276	610	400	30	1420	745	30
400	L	4	830	270	910	755	770	1225	610	400	30	1420	745	30
450	Y	2	880	270	960	825	805	1355	645	450	30	1520	845	30
450	Z	2	880	270	960	825	805	1355	645	450	30	1520	845	30
450	L	4	880	270	960	825	805	1315	645	450	30	1520	845	30
500	Y	2	1000	300	1070	900	825	1430	667	500	45	1620	940	30
500	Z	2	1000	300	1070	900	825	1430	667	500	45	1620	940	30
500	L	4	1000	300	1070	900	825	1390	667	500	45	1620	940	30

MOTOR TYPE CAT			B mm	BA mm	BB mm	C mm	E mm	D mm	F mm	G mm	L mm	LT mm	LE mm	LE' mm	LE'' mm
315	L	4	1090	295	1340	237	190	95	25	M24	1945	2305	NA	725	1225
355	Y	2	1330	295	1620	460	115	75	25	M24	2680	3040	1270	890	1650
355	Z	2	1430	295	1720	460	115	75	25	M24	2780	3140	1320	940	1700
355	L	4	1110	295	1400	490	190	100	28	M24	2535	2895	1235	855	1615
400	Y	2	1510	295	1800	470	140	85	25	M24	2910	3280	1385	855	1915
400	Z	2	1650	295	1940	470	140	85	25	M24	3060	3420	1455	855	2055
400	L	4	1210	295	1500	470	210	105	28	M24	2690	3050	1305	925	1685
450	Y	2	1570	315	1860	490	140	85	25	M24	2980	3340	1415	1015	1815
450	Z	2	1660	315	1950	490	140	95	28	M24	3070	3435	1460	1060	1860
450	L	4	1390	315	1680	520	210	115	32	M24	2950	3310	1425	1025	1825
500	Y	2	1570	345	1860	490	160	105	28	M24	2970	3330	1435	935	1935
500	Z	2	1720	345	2010	490	160	105	28	M24	3120	3480	1510	935	2085
500	L	4	1470	345	1760	440	230	120	32	M24	3090	3450	1485	1035	1935

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