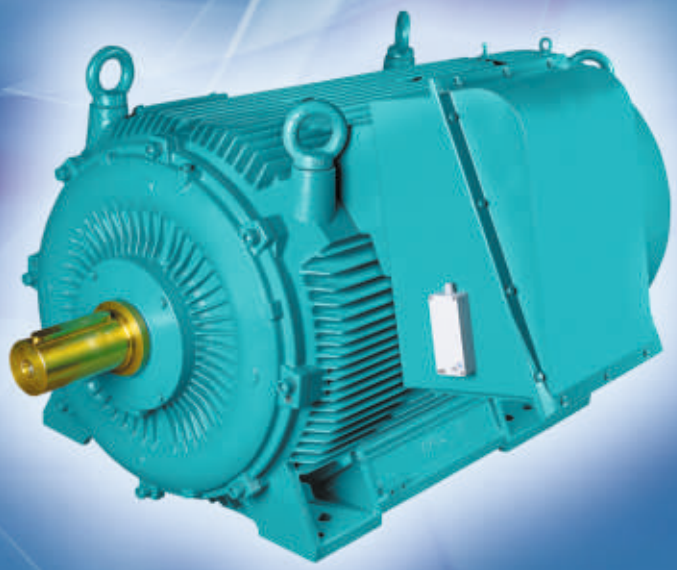
hindustan ELECTRIC MOTORS

Motoring the wheels of success

Power. Efficiency. Reliability.

With HEM Duplex Cooling Motors



Presenting the Next Generation of Motor Technology

Hindustan Motors Dual Circuit Cooling Arrangement sets a new standard in motor engineering, bridging the gap between high-tension (HT) and low-voltage (LV) applications.

With our 315, 355 and 400 Frame Motors, you get more than just a motor; you get a partner in performance. The 400LX frame will add ratings up to 710kW and provide voltage up to 690V in the LT range.

For decades, Hindustan Motors has been a trusted name in delivering innovative, reliable, and efficient motor solutions. The duplex cooling motors exemplify our dedication to quality, performance, and customer satisfaction with a double-bearing system, dual-coated winding wires and robust housing.

High Power, Higher Performance

Range:

Frames	315, 355 and 400
Power	160.0 to 710.0 kW
Poles	2, 4, 6 & 8
Mounting	B3. B35/V1 upon requests
Voltage	380 to 690V±10% or as required
Frequency	50Hz±5% or as required
Protection	IP55
Cooling method	IC 411, IC 416

Dual Circuit Cooling Arrangement:

The Dual Circuit Cooling Arrangement (DCCA) is an advanced cooling system engineered for high-efficiency LT Motors.
By incorporating two independent cooling systems, it ensures optimal thermal management, allowing for enhanced motor performance and longevity.

Primary Cooling Circuit:
Utilises stator body fin cooling.
An external fan mounted on the shaft blows air over the stator fins, dispersing heat through forced convection and radiation.

Secondary Internal Cooling Circuit:
Features a rotor with vent holes, an aluminium impeller, and four ventilating ducts inside the stator body.
Circulates internal air through these ducts, cooling it as it flows from the non-driving end (NDE) to the driving end (DE) and back.
This dual approach ensures effective heat dissipation from critical components, maintaining optimal operating temperatures and increasing the motor's efficiency and reliability.

Dual Circuit Cooling Advantages:

Lower Temperature Rise:
Ensures better thermal management, leading to improved motor efficiency.

Uniform Heat Distribution:
Reduces the temperature gradient between the Drive End (DE) and Non-Drive End (NDE), enhancing motor performance.

Extended Insulation Life:
Improved cooling lowers stress on insulation, increasing its durability and lifespan.

Enhanced Motor Reliability:
Better cooling minimises wear and tear, ensuring consistent performance over time.

Higher Power in Compact Design:
Reduced motor size without compromising on output, delivering higher efficiency within a smaller footprint.

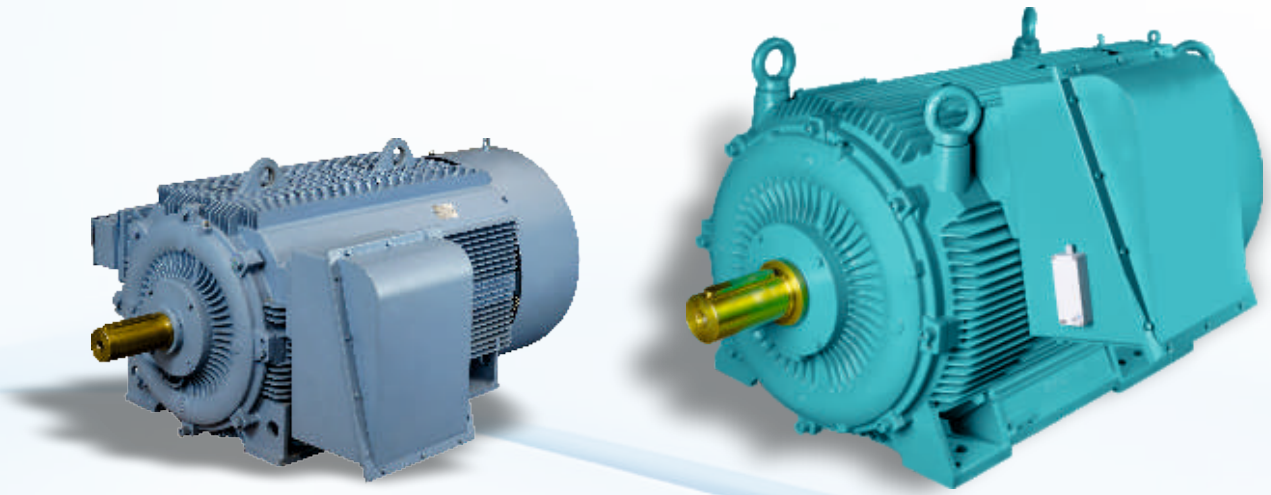
High Starting Torque:
Capable of delivering high starting torque, making them suitable for heavy-load applications.

Squirrel Cage Design:
Most common type, with a simple and rugged rotor design that reduces maintenance needs and enhances performance.

Compatibility with Different Starting Methods:
Can employ various starting techniques (VFD, direct-on-line, star-delta, soft starters) to accommodate different application needs.

Low Maintenance Requirements:
Fewer moving parts compared to other motor types, leading to less wear and tear and lower maintenance costs.

Engineered for Excellence, Built to Last
Versatile Performance Across Industries



The Hindustan Motors 315, 355 and 400 Frame Motors are engineered to cater to a wide range of industrial applications, ensuring maximum performance under demanding conditions.

These motors are ideal for:

Cement and Steel:
Can withstand tough conditions in production processes for heavy-duty applications including kilns, crushers, conveyors and cranes.

Power Generation:
Reliable motors for coal conveyors, wagon tipplers, boiler feed pumps, fans and auxiliary systems.

Sugar Industries:
Robust design for demanding applications like milling operation, fiberizers, blowers, boiler feed pumps and cane and rake carriers.

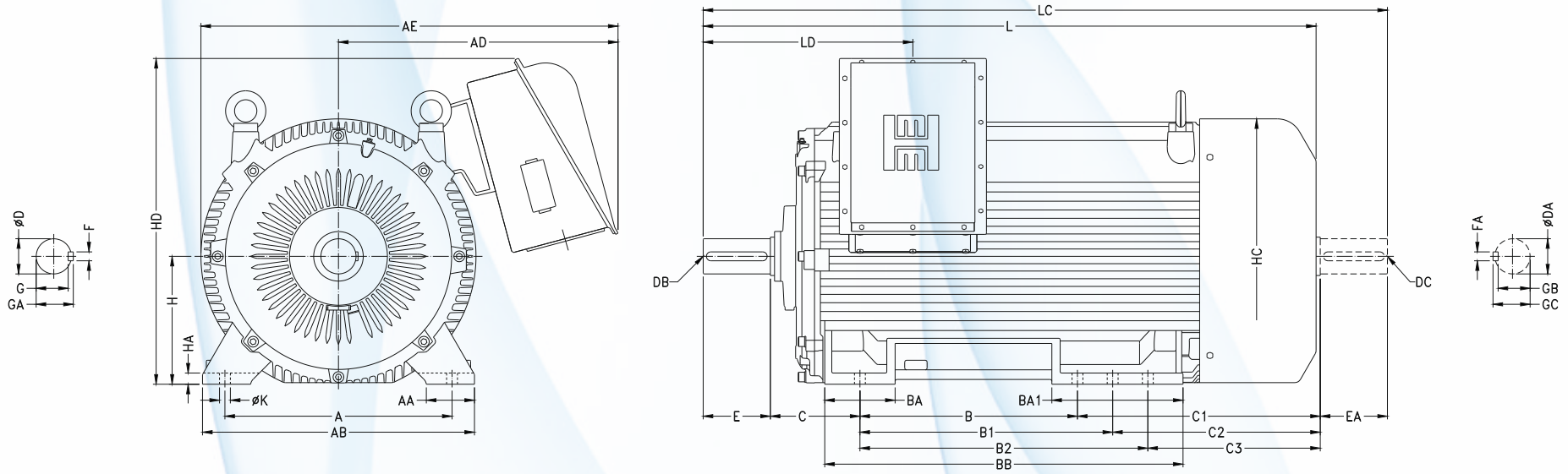
Paper and Pulp:
Critical operations like pulper and winder machines.

Wastewater Treatment:
Reliable motors for pumping and blowers.

Discover how the Hindustan Motors 315, 355 and 400 Frame Motors can power your operations to the next level.

Contact us today to learn more!

Mechanical Dimensions - Duplex Cooling Motor



Frame	Poles	General						Foot mounted motors (B3)																	DE Shaft						NDE Shaft					
		L	LC	LD	AC	AD	AE	A	B	B1	B2	C	H	ØK	AA	AB	BB	BA	BA1	HA	HC	HD	C1	C2	C3	D	E	F	GA	G	DB	DA	EA	FA	GB	GC	DC
315S/M/L	2	1540	1700	470	680	715	1190	560	560	630	710	216	315	28	140	680	860	200	300	25	696	760	644	574	494	70	140	20	74.5	62.5	M20	65	140	18	69	58	
315SX/MX/LX	4..8	1570	1760	500																						90	170	25	95	81	M24	80	170	22	85	71	
355S/M/L	2	1685	1845	480	750	750	1260	610	630	710	800	254	355	35	160	750	1010	210	350	25	760	830	681	601	511	75	140	20	79.5	67.5	M20	65	140	18	69	58	M20
355SX/MX/LX	4..8	1755	1945	550																						100	210	28	106	90	M24	85	170	22	90	76	
400S/M/L	2	1880	2040	616	860	876	1306	710	710	800	900	280	400	35	170	850	1120	310	370	40	860	1019	740	650	550	80	170	22	85	71	M20	70	140	20	74.5	62.5	
400SX/MX/LX	4..8	1920	2150	656																						110	210	28	116	100	M24	90	170	25	95	81	M24

Note: Suffix "X" denotes motors other than 2 pole motors.

Electrical performance for IE3 Duplex cooling type, 3 phase squirrel cage induction motors suitable for 415V±10%, 50Hz±5%, ambient temp. 40°C, Class 'H' insulation with class 'F' temp rise, IP55 protection, totally enclosed fan cooled (TEFC) construction, continuous (S1) duty.

Output		Frame Size	Type Designation	Speed (rpm)	Current (A)	Torque	Efficiency %			Power Factor			I_{ST}/I_N	T_{ST}/T_N	T_{PO}/T_N	GD^2 (kgm^2)	Wt. (kg)
KW	HP						FL	3/4L	1/2L	FL	3/4L	1/2L					
2 POLE																	
250	335	315M	2HD3 313-02	2980	402	81.7	95.8	95.8	94.5	0.90	0.88	0.85	7.5	1.9	2.5	8.97	2100
315	425	315L	2HD3 316-02	2980	506	103.0	95.8	95.8	94.5	0.90	0.88	0.85	7.5	2.0	2.5	10.03	2200
355	475	355S	2HD3 350-02	2982	576	116.0	95.8	95.8	94.5	0.90	0.88	0.85	7.7	2.0	2.5	13.27	2270
400	536	355M	2HD3 353-02	2982	649	130.7	95.8	95.8	94.5	0.90	0.88	0.85	7.7	2.0	2.5	15.26	2350
450	603	355M	2HD3 354-02	2982	725	147.0	95.8	95.8	94.5	0.90	0.88	0.85	7.7	2.0	2.5	17.25	2420
500	670	355L	2HD3 356-02	2982	803	163.3	95.8	95.8	94.5	0.90	0.88	0.85	7.7	2.0	2.5	19.24	2500
560	750	400S	2HD3 400-02	2985	907	182.7	95.8	95.8	94.7	0.90	0.88	0.85	7.7	1.8	2.2	29.32	3020
630	845	400M	2HD3 403-02	2987	1025	205.4	95.8	95.8	94.7	0.89	0.87	0.85	7.7	1.8	2.2	32.86	3240
4 POLE																	
250	335	315MX	2HD3 313-04	1485	412	164.0	96.0	96.0	95.0	0.88	0.85	0.79	7.7	2.0	2.5	15.92	2100
315	425	315LX	2HD3 316-04	1487	519	206.3	96.0	96.0	95.0	0.88	0.85	0.79	7.7	2.0	2.5	19.99	2250
355	475	355SX	2HD3 350-04	1487	610	232.5	96.0	96.0	95.0	0.84	0.80	0.74	7.7	2.1	2.5	23.08	2310
400	536	355MX	2HD3 353-04	1487	692	262.0	96.0	96.0	95.0	0.84	0.80	0.74	7.7	2.1	2.5	25.96	2390
450	603	355MX	2HD3 354-04	1487	766	294.8	96.0	96.0	95.0	0.85	0.80	0.74	7.7	2.1	2.5	28.85	2470
500	670	355LX	2HD3 356-04	1487	877	327.5	96.0	96.0	95.0	0.83	0.80	0.74	7.7	2.1	2.5	31.73	2550
560	750	400SX	2HD3 400-04	1490	926	366.1	96.0	96.0	95.0	0.88	0.84	0.77	7.7	2.1	2.5	52.64	3100
630	845	400MX	2HD3 403-04	1490	1035	411.8	96.0	96.0	95.0	0.88	0.84	0.77	7.7	2.1	2.5	58.31	3300
710	950	400LX	2HD3 406-04	1490	1170	464.1	96.0	96.0	95.0	0.88	0.84	0.77	7.7	2.0	2.3	63.17	3450
6 POLE																	
160	215	315SX	2HD3 310-06	990	276	157.4	95.6	95.6	95.0	0.84	0.81	0.72	7.5	2.0	2.4	23.76	2100
200	270	315MX	2HD3 313-06	990	347	196.8	95.8	95.8	95.0	0.84	0.80	0.71	7.5	2.2	2.4	23.76	2150
250	335	315LX	2HD3 316-06	990	430	246.0	95.8	95.8	95.0	0.84	0.81	0.73	7.5	2.0	2.4	26.50	2300
315	425	355MX	2HD3 353-06	992	547	309.3	95.8	95.8	95.0	0.84	0.81	0.73	7.7	2.0	2.4	32.57	2430
355	475	355LX	2HD3 356-06	992	616	348.6	95.8	95.8	95.0	0.84	0.81	0.73	7.7	2.0	2.4	36.26	2520
400	536	355LX	2HD3 357-06	992	695	392.7	95.8	95.8	95.0	0.84	0.81	0.73	7.7	2.0	2.4	40.56	2600
450	603	400SX	2HD3 400-06	993	765	441.4	95.8	95.8	95.0	0.85	0.82	0.74	7.7	1.9	2.3	62.62	3150
500	670	400MX	2HD3 403-06	993	850	490.4	95.8	95.8	95.0	0.85	0.82	0.74	7.7	1.9	2.3	69.45	3240
560	750	400LX	2HD3 406-06	993	955	549.3	95.8	95.8	95.0	0.85	0.82	0.74	7.7	1.9	2.3	77.42	3400
8 POLE																	
160	215	315MX	2HD3 313-08	739	315	210.9	94.3	94.3	92.0	0.75	0.68	0.56	7.0	2.1	2.4	23.76	2150
200	270	315LX	2HD3 316-08	739	389	263.6	94.6	94.6	93.0	0.76	0.70	0.60	7.0	2.1	2.4	28.33	2240
250	335	355MX	2HD3 353-08	741	458	328.6	94.6	94.6	93.0	0.80	0.75	0.67	7.0	2.1	2.4	32.57	2520
315	425	355LX	2HD3 356-08	741	576	414.0	94.6	94.6	93.0	0.80	0.75	0.67	7.0	2.1	2.4	40.56	2600
355	475	400SX	2HD3 400-08	742	649	466.0	94.6	94.6	93.0	0.80	0.75	0.67	7.0	1.8	2.2	64.90	3200
400	536	400MX	2HD3 403-08	742	732	525.1	94.6	94.6	93.0	0.80	0.75	0.67	7.0	1.8	2.2	72.87	3280
450	603	400LX	2HD3 406-08	742	825	590.7	94.6	94.6	93.0	0.80	0.75	0.67	7.0	1.8	2.2	81.98	3350

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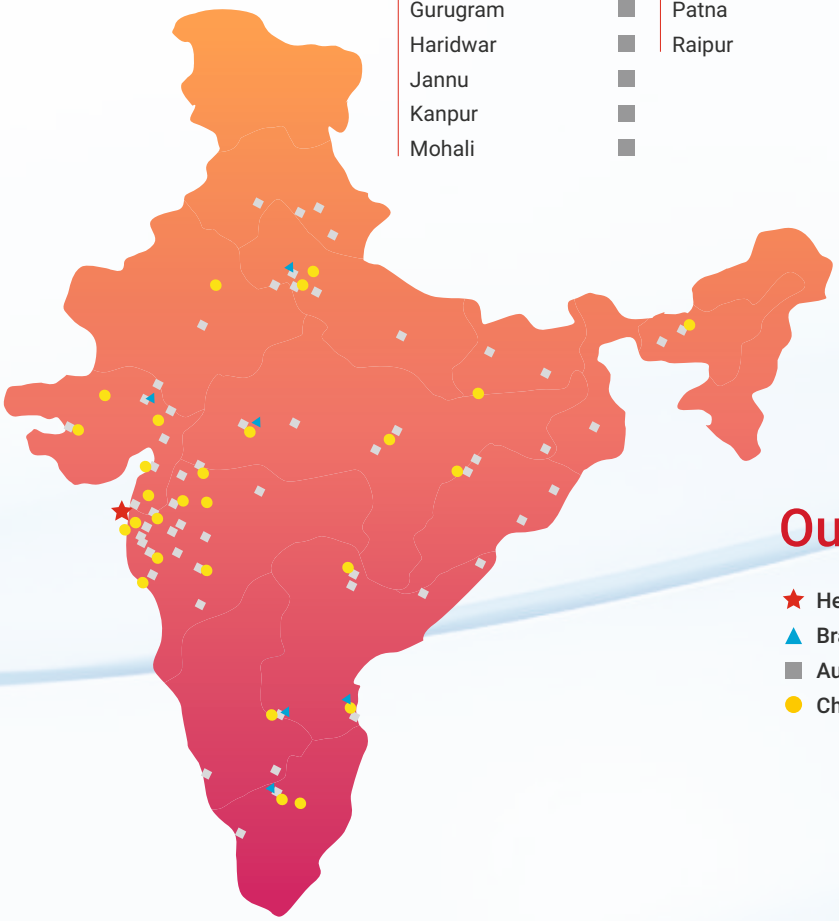

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Manufacturing Facility, Vapi, Daman

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