

## Standards

All Hyosung motors are designed and built to comply with major international standards: IEC, NEMA and EN to name a few. For compliance with other standards or technical specifications, please contact us directly.

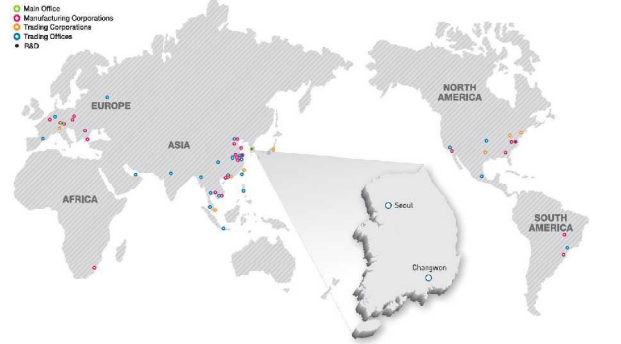


## Quality Management

Hyosung controls design, manufacturing and test functions under one roof in Changwon Plant, South Korea, which has been fully accredited by DNV of the Netherlands for ISO 9001, ISO 14001 and OHSAS 18001.

## Quality in Manufacturing

- Fully automated MV/HV winding taping process and winding spreading process for seamless insulation and sturdy structure
- Hyosung's own VPI system to ensure lasting insulation qualities
- Rigorous tests carried out in in-house testing facility with capacity to test up to 25MW, 13.8kV



# INTRODUCTION TO HYOSUNG ELECTRIC MOTORS

**HYOSUNG CORPORATION**  
Power & Industrial Systems Performance Group

[www.hyosungpni.com](http://www.hyosungpni.com)  
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Global Top Energy, Machinery & Plant Solution Provider

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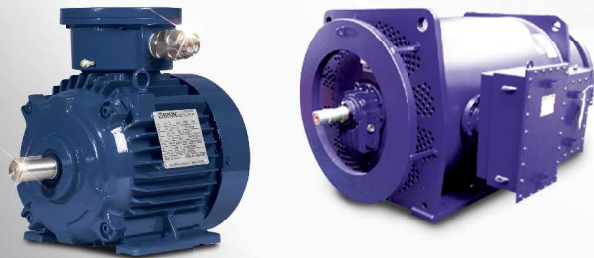
# Explosion Proof Motors

Hyosung explosion-proof motors are designed so that potential dangers of explosions can be minimized while ensuring maximum safety for the environment. Motors can be designed in accordance with various types of protection and standards.

## Certificates\_ IECEx, ATEX, UL, CSA, GOST and KGS

	Ex d/de	Ex nA
<b>Low Voltage Motors</b>	<ul style="list-style-type: none"> <li>• Frame Size: 80M - 315M</li> <li>• Voltage: Max. 690V</li> <li>• Frequency: 50/60Hz</li> <li>• Degree of Protection: IP55, 56</li> <li>• Temperature Class: -15</li> <li>• Gas Group: II&amp;III</li> </ul>	<ul style="list-style-type: none"> <li>• Frame Size: 80M - 315L</li> <li>• Voltage: Max. 690V</li> <li>• Frequency: 50/60Hz</li> <li>• Degree of Protection: IP55</li> <li>• Temperature Class: -13</li> </ul>
<b>Medium &amp; High Voltage Motors</b>	<ul style="list-style-type: none"> <li>• Frame Size: 315 - 630</li> <li>• Voltage: Max. 13,800V</li> <li>• Frequency: 50/60Hz</li> <li>• Degree of Protection: IP55</li> <li>• Temperature Class: -14</li> <li>• Gas Group: III</li> </ul>	<ul style="list-style-type: none"> <li>• Frame Size: 315 - 710</li> <li>• Voltage: Max. 13,800V</li> <li>• Frequency: 50/60Hz</li> <li>• Degree of Protection: IP55</li> <li>• Temperature Class: -14</li> </ul>

X 1/4 (General Types of Explosion Proof Motors) (Illustration is for study)



# Medium & High Voltage Motors

## Squirrel Cage Rotor (Voltage: Max. 13,800V, Frequency: 50/60Hz, Insulation Class: F, H)

TEFC (Totally Enclosed Fan Cooled)	TEAAC (Totally Enclosed Air to Air Cooled)	TEWAC (Totally Enclosed Water to Air Cooled)
Output Range: Max. 2,350kW Number of Poles: 2-12 Degree of Protection: IP55	Output Range: Max. 10,000kW Number of Poles: 2-36 Degree of Protection: IP55	Output Range: Max. 2,350kW Number of Poles: 2-36 Degree of Protection: IP55
ODP (Open Drip-Proof)	WP I (Weather Protected Type I)	WP II (Weather Protected Type II)
Output Range: Max. 2,350kW Number of Poles: 2-36 Degree of Protection: IP22	Output Range: Max. 2,350kW Number of Poles: 2-36 Degree of Protection: IP23	Output Range: Max. 2,350kW Number of Poles: 2-36 Degree of Protection: IP24

## Wound Rotor (Slip ring)

TEFC (Totally Enclosed Fan Cooled)	TEAAC (Totally Enclosed Air to Air Cooled)	TEWAC (Totally Enclosed Water to Air Cooled)
Output Range: Max. 2,350kW Number of Poles: 2-12 Degree of Protection: IP55	Output Range: Max. 10,000kW Number of Poles: 2-36 Degree of Protection: IP55	Output Range: Max. 2,350kW Number of Poles: 2-36 Degree of Protection: IP55

# Low Voltage Motors

TEFC (Cast Iron Frame Motor)	TEFC (Aluminum Frame Motor)	Drip-Proof Motor
Output Range: Max. 375kW Voltage: Max. 690V Frequency: 50/60Hz Number of Poles: 2-8 Insulation Class: F, H	Output Range: Max. 720kW Voltage: Max. 690V Frequency: 50/60Hz Number of Poles: 2-8 Degree of Protection: IP54, 55, 56 Insulation Class: F, H	Output Range: Max. 220kW Voltage: Max. 690V Frequency: 50/60Hz Number of Poles: 2-8 Degree of Protection: IP22, 23 Insulation Class: F, H
High Efficiency Motor (IE2 efficiency level)	Inverter Duty Motor	PM Motor
Output Range: Max. 375kW Voltage: Max. 690V Frequency: 50/60Hz Number of Poles: 2-6 Insulation Class: F, H	Output Range: Max. 375kW Voltage: Max. 440V Frequency: 50/60Hz Number of Poles: 4-6 Degree of Protection: IP54, 55, 56 Insulation Class: F, H	Output Range: Max. 18.5kW Voltage: Max. 400V Frequency: 300Hz Number of Poles: 2-4 Insulation Class: F, H
TEFC Wound Rotor Motor	DC Motor	Cooling Tower Motor
Output Range: Max. 28.3kW Voltage: Max. 600V Frequency: 50/60Hz Number of Poles: 6-10 Degree of Protection: IP54, 55, 56 Insulation Class: F, H	Output Range: Max. 1.25kW Voltage: 220-810V Frequency: 50/60Hz Insulation Class: F	Output Range: Max. 220kW Voltage: Max. 690V Frequency: 50/60Hz Number of Poles: 2-9 Degree of Protection: IP54, 55, 56 Insulation Class: F, H