



# ASPC Project



<b>END CUSTOMER</b>	: Arya Sasol Polymer Company
<b>CONTRACTOR</b>	: DYPNF Co., Ltd.
<b>VENDOR NAME</b>	: Airpack Netherlands BV
<b>EQUIPMENT DESCRIPTION</b>	: Screw Compressor & Roots Blower
<b>PURCHASE ORDER NUMBER</b>	: PO-PC2312-08




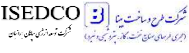
Customer Document : 3944-VD-0171-DYP-RE-400-DSH-0096  
Number

Airpack Document Number : 23383-10




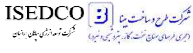
Document Title : Main Motor Data Sheets

Review Code and Status		Contractor Initials/Signature	Date signed
<input type="checkbox"/>	<b>Code 1</b> <b>REJECTED</b> - Vendor to revise and Resubmit. Work cannot proceed	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<b>Code 2</b> Comments As Noted - Work May proceed, subject to compliance with and incorporation of comments	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<b>Code 3</b> No Comments - Work may proceed.	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<b>Code 4</b> Information only - Review not required.	<input type="text"/>	<input type="text"/>




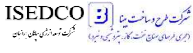
02	Issued for Approval	09-04-2026	SC	KP	JJ
01	Issued for Approval	26-03-2026	SC	KP	JJ
00	Issued for Approval	13-05-2025	SC	KP	JJ
Rev. No.	Description	Date	Prepared by	Checked by	Approved by

 SAZEH CONSULTANTS Engineering & Construction  SAZEH CONSULTANTS Engineering & Construction	<b>300 KT POLYETHYLENE PLANT          ARYA SASOL POLYMER COMPANY          (ASPC)</b>						OWNER :  شرکت پلیمو آریا ساسول ARYA SASOL POLYMER COMPANY	
	<b>Data Sheet for MV Motors</b>						MC : :  شرکت مهندسی ایزدکو ISED CO	
Owner Document Number :	Owner Project No.	Vendor DOC.	Discipline	Unit	Type	Seq. No.	Rev. :	Page
	3944	VD	RE	800	DSH	0119	02	3 of 3

Rev.	General Data		
00	Design Temp. Deg.C (Min / Max) : +5° C / 55° C	Vendor' s Name:	
00	Altitude:10m above sea level	Tag No. (s) : 44M-40001A/B -M1	
00	<ul style="list-style-type: none"> <li>- The plant structures, buildings and equipment foundations shall be designed to resist earthquake forces in accordance with ASCE 7-10/ ISDCPFS-Code 038 and for the defined seismic risk in Soil Report and Seismology Report.</li> <li>- "Iranian Code for Seismic Resistant Design of Buildings", Standard No. 2800.</li> </ul>	Quantity: 2	
00	Relative Humidity (Max / Design) : 100% / 80%	Climate: Dust, Sand, Sea Breeze	
00	Technical Data		
00	<b>1-General :</b>	<b>Required</b>	<b>Vendor Data</b>
00	1-1 Cable info. :	Later	
00	1-2 Explosion Proof / Industrial Type	As per LV Motor specification & Explosion Proof Materials	Explosion proof
00	1-3 Earthing Cable	As per earthing detail instalation	25-185 mm2
00	1-4 Location / Service	Process Area/ Pump/ Fan/ Mixer/ Comp. /...	Compressor
00	1-5 Power Cable Gland Size	Later	M63x1.5
00	<b>2-Electrical Characteristic:</b>	<b>Required</b>	<b>Vendor Data</b>
00	2-1 Motor Type	Induction (Squirrel cage)	Induction
00	2-2 Stator Winding	Delta	Delta
00	2-3 Rotor Bar Material	Copper	Copper
00	2-4 Service Factor	1.1	1.1
00	2-5 Duty Cycle	Duty type S1-Continious	S1
00	2-6 Insulation Class / Temp. Rise	F/B	F/B
00	2-7 Voltage, Variations (V)	400V/230V , ±5%, 3ph/1ph	6000v
00	2-8 Frequency, Variations (Hz)	50HZ±2%	50HZ±2%
00	2-9 Rated Current (A)	By vendor	50.8a
00	2-10 Number of Poles	By vendor	2
00	2-11 Power Rating (kW)	By vendor	450 kW
00	2-12 Power Factor (%)		
00	@2/4 Load	By vendor	0.83
00	@3/4 Load	By vendor	0.87
00	@4/4 Load	By vendor	0.88
00	2-13 Efficiency (%)		
00	@2/4 Load	By vendor	95.9
00	@3/4 Load	By vendor	96.6
00	@4/4 Load	By vendor	96.6
00	2-14 Speed (Synchronic & Full Load)	By vendor	3000 / 2986
00	2-15 Starting Method	DOL/VFD	DOL
00	2-16 Max Voltage Drop at Motor Terminals (%)	15	15
00	2-17 Full Load Torque (N.m)	By vendor	1255
00	2-18 Starting Torque (% FLT)	By vendor	150




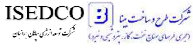
CONTRACTOR :  	<b>300 KT POLYETHYLENE PLANT          ARYA SASOL POLYMER COMPANY          (ASPC)</b>						OWNER : 	
	<b>Data Sheet for MV Motors</b>						MC : : 	
Owner Document Number :	Owner Project No.	Vendor DOC.	Discipline	Unit	Type	Seq. No.	Rev. :	Page
	3944	VD	RE	800	DSH	0119	02	4 of 3

00	2-19 Max. Torque (%FLT)	By vendor	260
00	2-20 GD2 (Kg. m2)		
00	Load	By vendor	10.2
00	2-21 No. of Starting per Hour :		
00	From Cold	3	3
00	From Hot	2	2
00	2-22 Time interval between two Consecutive starts		
00	From Cold (s)	By vendor	13
00	From Hot (s)	By vendor	7
00	<b>3-Protection and Measurement:</b>	<b>Required</b>	<b>Vendor Data</b>
00	3-1 Motor IP / Terminal Boxes IP	IP54 / IP55	IP55
00	3-2 Area Classification	Safe / Zone 1 / Zone 2	Zone 2
00	3-3 Explosion Protection	Exd / Exe/ Exde	Exde
00	3-4 Gas Group	IIB / IIC	IIB
00	3-5 Temperature Class	T3	T3
01	3-6 Certificates		INERIS 12ATEX0051X
00	3-7 PT100 / PTC	Not Required	3x PT100
00	3-8 Noise Level	Less than 85 dBA @ 1m	80 dBA
00	3-9 Space Heater	Not Required	included
00	<b>4. Mechanical Characteristic:</b>	<b>Required</b>	<b>Vendor Data</b>
00	4-1 Motor Mounting	By vendor	b3t
00	4-2 Enclosure Type	By vendor	Cast iron
00	4-3 Cooling Method	BY FAN (IC 411)	by fan
00	4-4 Fan material (Non Sparking)	Brass/bronze/aluminium	aluminium
00	4-5 Direction of Rotation From NDE	By vendor	right
00	4-6 Coupling Type	By vendor	direct
00	4-7 Bearing Type and Material (DE/NDE)	By vendor	6318-C3 / NU-218-C3
00	4-8 Lubricating		
00	Grease/Oil/ Other	Grease	Grease
00	Self/ Forced	Self- Lubricated	Self-lubricated
00	Grease Relief Port (For regreasable Bearings)	Required	Included
00	4-9 Power Terminal Box		
00	Type	By vendor	EX' e'
00	Location From NDE (LHS/RHS)	By vendor	top
00	Direction of Cable Enterance	Bottom	right
00	4-10 Terminal Box for RTD		




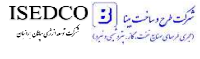
<b>CONTRACTOR :</b>  	<b>300 KT POLYETHYLENE PLANT          ARYA SASOL POLYMER COMPANY          (ASPC)</b>						<b>OWNER :</b> 	
	<b>Data Sheet for MV Motors</b>						<b>MC :</b> 	
<b>Owner Document Number :</b>	<b>Owner Project No.</b>	<b>Vendor DOC.</b>	<b>Discipline</b>	<b>Unit</b>	<b>Type</b>	<b>Seq. No.</b>	<b>Rev. :</b>	<b>Page</b>
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00	Location From NDE (LHS/RHS)	Not Required	top
00	Direction of Cable Enterance	Not Required	left
00	4-11 Terminal Box for Space Heater		
00	Location From NDE (LHS/RHS)	Not Required	top
00	4-12 outline Dimension (mm)	By vendor	1990x896x1342
00	4-13 Weight (kg)	By vendor	4100
00	4-14 Motor IM Code	By vendor	B3T
00	4-15 Frame Size	By vendor	400L/J
00	4-16 Painting	By vendor	RAL 5010
00	4-17 Stator Frame Mterial	Cast Iron	Cast Iron
00	<b>REMARKS:</b> NDE: NON DRIVE END,      OD: OUT DOOR,      TF: TOTALLY ENCLOSED FAN COOLED, V: VERTICAL MOUNTED,      B: BELT COUPLING,      CP: CORROSION PROTECTED, F: FLANGE MOUNTED,      H: HORIZONTAL MOUNTED,      FLT: FULL LOAD TORQUE		




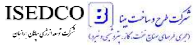


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	<b>Data Sheet for MV Motors</b>						MC : : 	
Owner Document Number :	Owner Project No.	Vendor DOC.	Discipline	Unit	Type	Seq. No.	Rev. :	Page
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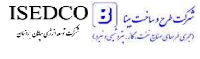
Rev.	General Data		
00	Design Temp. Deg.C (Min / Max) : +5° C / 55° C	Vendor' s Name:	
00	Altitude:10m above sea level	Tag No. (s) : 44M-80001A/B, 80005A/B/C	
00	<ul style="list-style-type: none"> <li>- The plant structures, buildings and equipment foundations shall be designed to resist earthquake forces in accordance with ASCE 7-10/ ISDCPFS-Code 038 and for the defined seismic risk in Soil Report and Seismology Report.</li> <li>- "Iranian Code for Seismic Resistant Design of Buildings", Standard No. 2800.</li> </ul>	Quantity: 5	
00	Relative Humidity (Max / Design) : 100% / 80%	Climate: Dust, Sand, Sea Breeze	
00	Technical Data		
00	<b>1-General :</b>	<b>Required</b>	<b>Vendor Data</b>
00	1-1 Cable info. :	Later	By DYPNF
00	1-2 Explosion Proof / Industrial Type	As per LV Motor specification & Explosion Proof Materials	Safe area
00	1-3 Location / Service	Process Area/ Pump/ Fan/ Mixer/ Comp. /...	Compressor
00	1-4 Power Cable Gland Size	Later	M63X1.5
00	<b>2-Electrical Characteristic:</b>	<b>Required</b>	<b>Vendor Data</b>
00	2-1 Motor Type	Induction (Squirrel cage)	Induction
00	2-2 Stator Winding	Delta	Delta
00	2-3 Rotor Bar Material	Copper	Copper
00	2-4 Service Factor	1.1	1.1
00	2-5 Duty Cycle	Duty type S1-Continious	S1
00	2-6 Insulation Class / Temp. Rise	F/B	F/B
00	2-7 Voltage, Variations (V)	400V/230V , ±5%, 3ph/1ph	6000v
00	2-8 Frequency, Variations (Hz)	50HZ±2%	50HZ±2%
00	2-9 Rated Current (A)	By vendor	28.7A
00	2-10 Number of Poles	By vendor	2
00	2-11 Power Rating (kW)	By vendor	250 kW
00	2-12 Power Factor (%)		
00	@2/4 Load	By vendor	0.83
00	@3/4 Load	By vendor	0.86
00	@4/4 Load	By vendor	0.88
00	2-13 Efficiency (%)		
00	@2/4 Load	By vendor	95
00	@3/4 Load	By vendor	95.1
00	@4/4 Load	By vendor	95.1
00	2-14 Speed (Synchronic & Full Load)	By vendor	3000 / 2978
00	2-15 Starting Method	DOL/VFD	DOL
00	2-16 Full Load Torque (N.m)	By vendor	802
00	2-17 Starting Torque (% FLT)	By vendor	90
00	2-18 Max. Torque (%FLT)	By vendor	110
00	2-19 GD2 (Kg.m2)		
00	Load	By vendor	2.8
00	2-20 No. of Starting per Hour:		

CONTRACTOR :  SAZEH CONSULTANTS Engineering & Construction  SAZEPAD TEHRAN	<b>300 KT POLYETHYLENE PLANT          ARYA SASOL POLYMER COMPANY          (ASPC)</b>						OWNER :  شرکت پلیمو آریا ساسول ARYA SASOL POLYMER COMPANY پلیمر آریا ساسول	
	<b>Data Sheet for MV Motors</b>						MC : :  شرکت مهندسی ایزدکو ISED CO	
Owner Document Number :	Owner Project No.	Vendor DOC.	Discipline	Unit	Type	Seq. No.	Rev. :	Page
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00	From Cold	3	3
00	From Hot	2	2
00	2-21 Permissible locked rotor time (s):		
00	@100% voltage	By vendor	31
00	<b>3-Protection and Measurement:</b>	<b>Required</b>	<b>Vendor Data</b>
00	3-1 Motor IP / Terminal Boxes IP	IP54 / IP55	IP55
00	3-2 Area Classification	Safe / Zone 1 / Zone 2	Safe
00	3-3 Explosion Protection	Exd / Exe/ Exde	-
00	3-4 Gas Group	IIB / IIC	-
00	3-5 Temperature Class	T3	-
00	3-6 PT100 / PTC	Not Required	PT100
00	3-7 Noise Level	Less than 85 dBA @ 1m	78
00	3-8 Space Heater	Not Required	included
00	<b>4. Mechanical Characteristic:</b>	<b>Required</b>	<b>Vendor Data</b>
00	4-1 Motor Mounting	By vendor	b35R
00	4-2 Cooling Method	BY FAN (IC 411)	BY FAN
00	4-3 Direction of Rotation From NDE	By vendor	right
00	4-4 Coupling Type	By vendor	direct
00	4-5 Bearing Type and Material (DE/NDE)	By vendor	6314-C4 / 6314-C4
00	4-6 Lubricating		
00	Grease/Oil/ Other	Grease	Grease
00	Self/ Forced	Self- Lubricated	Self-lubricated
00	Grease Relief Port (For regreasable Bearings)	Required	Included
00	4-7 Power Terminal Box		
00	Type	By vendor	Safe area
00	Location From NDE (LHS/RHS)	By vendor	left
00	Direction of Cable Entrance	Bottom	bottom
00	4-8 Terminal Box for RTD		

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	<b>Data Sheet for MV Motors</b>						<b>MC :</b> 	
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00	Location From NDE (LHS/RHS)	Not Required	right
00	Direction of Cable Enterance	Not Required	bottom
00	4-9 Terminal Box for Space Heater		
00	Location From NDE (LHS/RHS)	Not Required	top
00	Direction of Cable Enterance	Not Required	right
00	4-10 Base Plate	By vendor	
00	4-11 outline Dimension (mm)	By vendor	1835x728x1103
00	4-12 Weight (kg)	By vendor	2141
00	4-13 Motor IM Code	By vendor	b35r
00	4-14 Frame Size	By vendor	315G/F
00	4-15 Painting	By vendor	RAL 5010
00	4-16 Stator Frame Mterial	Cast Iron	Cast Iron
00	<b>REMARKS:</b> NDE: NON DRIVE END,      OD: OUT DOOR,      TF: TOTALLY ENCLOSED FAN COOLED, V: VERTICAL MOUNTED,      B: BELT COUPLING,      CP: CORROSION PROTECTED, F: FLANGE MOUNTED,      H: HORIZONTAL MOUNTED,      FLT: FULL LOAD TORQUE		

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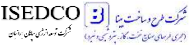
Rev.	General Data		
00	Design Temp. Deg. C (Min / Max) : +5° C / 55° C	Vendor' s Name:	
00	Altitude: 10m above sea level	Tag No. (s) : 44M-80002A/B	
00	<ul style="list-style-type: none"> <li>- The plant structures, buildings and equipment foundations shall be designed to resist earthquake forces in accordance with ASCE 7-10/ ISDCPFS-Code 038 and for the defined seismic risk in Soil Report and Seismology Report.</li> <li>- "Iranian Code for Seismic Resistant Design of Buildings", Standard No. 2800.</li> </ul>	Quantity: 2	
00	Relative Humidity (Max / Design) : 100% / 80%	Climate: Dust, Sand, Sea Breeze	
00	Technical Data		
00	<b>1-General :</b>	<b>Required</b>	<b>Vendor Data</b>
00	1-1 Cable info. :	Later	by DYPNF
00	1-2 Explosion Proof / Industrial Type	As per LV Motor specification & Explosion Proof Materials	Safe area
00	1-3 Location / Service	Process Area/ Pump/ Fan/ Mixer/ Comp. /...	Roots blower
00	1-4 Power Cable Gland Size	Later	M63X1.5
00	<b>2-Electrical Characteristic:</b>	<b>Required</b>	<b>Vendor Data</b>
00	2-1 Motor Type	Induction (Squirrel cage)	Induction
00	2-2 Stator Winding	Delta	Delta
00	2-3 Rotor Bar Material	Copper	Copper
00	2-4 Service Factor	1.1	1.1
00	2-5 Duty Cycle	Duty type S1-Continuous	S1
00	2-6 Insulation Class / Temp. Rise	F/B	F/B
00	2-7 Voltage, Variations (V)	400V/230V , ±5%, 3ph/1ph	6000v
00	2-8 Rated Current (A)	By vendor	31
00	2-9 Number of Poles	By vendor	4
00	2-10 Power Rating (kW)	By vendor	250 kW
00	2-11 Power Factor (%)		
00	@2/4 Load	By vendor	0.65
00	@3/4 Load	By vendor	0.76
00	@4/4 Load	By vendor	0.82
00	Locked Rotor Power Factor		
00	2-12 Efficiency (%)		
00	@2/4 Load	By vendor	94
00	@3/4 Load	By vendor	94.6
00	@4/4 Load	By vendor	94.6
00	2-13 Speed (Synchronous & Full Load)	By vendor	1486
00	2-14 Starting Method	DOL/VFD	DOL
00	2-15 Full Load Torque (N.m)	By vendor	1607
00	2-16 Starting Torque (% FLT)	By vendor	170
00	2-17 Max. Torque (%FLT)	By vendor	200
00	2-18 GD2 (Kg.m2)		
00	Load	By vendor	4.1
00	2-19 Permissible locked rotor time (s) :		

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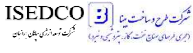
00	@100% voltage	By vendor	49
00	<b>3-Protection and Measurement:</b>	<b>Required</b>	<b>Vendor Data</b>
00	3-1 Motor IP / Terminal Boxes IP	IP54 / IP55	IP55
00	3-2 Area Classification	Safe / Zone 1 / Zone 2	Safe
00	3-3 Explosion Protection	Exd / Exe/ Exde	-
00	3-4 Gas Group	IIB / IIC	-
00	3-5 Temperature Class	T3	-
00	3-6 Certificate No.	By vendor	
00	3-7 PT100 / PTC	Not Required	PT100
00	3-8 Noise Level	Less than 85 dBA @ 1m	75
00	3-9 Space Heater	Not Required	included
00	<b>4. Mechanical Characteristic:</b>	<b>Required</b>	<b>Vendor Data</b>
00	4-1 Motor Mounting	By vendor	b3R
00	4-2 Cooling Method	BY FAN (IC 411)	BY FAN
00	4-3 Direction of Rotation From NDE	By vendor	right
00	4-4 Coupling Type	By vendor	direct
00	4-5 Bearing Type and Material (DE/NDE)	By vendor	NU-320-C3 / 6316-C3
00	4-6 Lubricating		
00	Grease/Oil/ Other	Grease	Grease
00	Self/ Forced	Self- Lubricated	Self-lubricated
00	Grease Relief Port (For regreasable Bearings)	Required	Included
00	4-7 Power Terminal Box		
00	Type	By vendor	Safe
00	Location From NDE (LHS/RHS)	By vendor	left
00	Direction of Cable Entrance	Bottom	bottom
00	4-8 Terminal Box for RTD		

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	<b>Data Sheet for MV Motors</b>						<b>MC :</b>  شرکت مهندسی و مشاوره آریا ساسول ISED CO	
<b>Owner Document Number :</b>	<b>Owner Project No.</b>	<b>Vendor DOC.</b>	<b>Discipline</b>	<b>Unit</b>	<b>Type</b>	<b>Seq. No.</b>	<b>Rev. :</b>	<b>Page</b>
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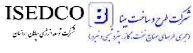
00	Location From NDE (LHS/RHS)	Not Required	right
00	Direction of Cable Enterance	Not Required	bottom
00	4-9 outline Dimension (mm)	By vendor	1885x728x1103
00	4-10 Weight (kg)	By vendor	2235
00	4-11 Motor IM Code	By vendor	b3r
00	4-12 Frame Size	By vendor	315G/F
00	4-13 Painting	By vendor	RAL 5010
00	4-14 Stator Frame Mterial	Cast Iron	Cast Iron
00	<b>REMARKS:</b> NDE: NON DRIVE END,      OD: OUT DOOR,      TF: TOTALLY ENCLOSED FAN COOLED, V: VERTICAL MOUNTED,      B: BELT COUPLING,      CP: CORROSION PROTECTED, F: FLANGE MOUNTED,      H: HORIZONTAL MOUNTED,      FLT: FULL LOAD TORQUE		

 SAZEH CONSULTANTS Engineering & Construction  SAZEPHO TEHRAN	<b>300 KT POLYETHYLENE PLANT          ARYA SASOL POLYMER COMPANY          (ASPC)</b>						OWNER :  شرکت پلیمو آریا ساسول ARYA SASOL POLYMER COMPANY	
	<b>Data Sheet for MV Motors</b>						MC : :  شرکت مهندسی ایزدکو ISED CO	
Owner Document Number :	Owner Project No.	Vendor DOC.	Discipline	Unit	Type	Seq. No.	Rev. :	Page
	3944	VD	RE	800	DSH	0119	02	3 of 3

Rev.	General Data		
00	Design Temp. Deg.C (Min / Max) : +5° C / 55° C	Vendor' s Name:	
00	Altitude:10m above sea level	Tag No. (s) : 44M-80004A/B	
00	<ul style="list-style-type: none"> <li>- The plant structures, buildings and equipment foundations shall be designed to resist earthquake forces in accordance with ASCE 7-10/ ISDCPFS-Code 038 and for the defined seismic risk in Soil Report and Seismology Report.</li> <li>- "Iranian Code for Seismic Resistant Design of Buildings", Standard No. 2800.</li> </ul>	Quantity: 2	
00	Relative Humidity (Max / Design) : 100% / 80%	Climate: Dust, Sand, Sea Breeze	
00	Technical Data		
00	<b>1-General :</b>	<b>Required</b>	<b>Vendor Data</b>
00	1-1 Cable info. :	Later	by DYPNF
00	1-2 Explosion Proof / Industrial Type	As per LV Motor specification & Explosion Proof Materials	Safe area
00	1-3 Location / Service	Process Area/ Pump/ Fan/ Mixer/ Comp. /...	Compressor
00	1-4 Power Cable Gland Size	Later	M63X1.5
00	<b>2-Electrical Characteristic:</b>	<b>Required</b>	<b>Vendor Data</b>
00	2-1 Motor Type	Induction (Squirrel cage)	Induction
00	2-2 Stator Winding	Delta	Delta
00	2-3 Rotor Bar Material	Copper	Copper
00	2-4 Service Factor	1.1	1.1
00	2-5 Duty Cycle	Duty type S1-Continious	S1
00	2-6 Insulation Class / Temp. Rise	F/B	F/B
00	2-7 Voltage, Variations (V)	400V/230V , ±5%, 3ph/1ph	6000v
00	2-8 Rated Current (A)	By vendor	66.2
00	2-9 Number of Poles	By vendor	2
00	2-10 Power Rating (kW)	By vendor	590 kW
00	2-11 Power Factor (%)		
00	@2/4 Load	By vendor	0.85
00	@3/4 Load	By vendor	0.87
00	@4/4 Load	By vendor	0.89
00	Locked Rotor Power Factor		
00	2-12 Efficiency (%)		
00	@2/4 Load	By vendor	95.6
00	@3/4 Load	By vendor	95.9
00	@4/4 Load	By vendor	96.3
00	2-13 Speed (Synchronic & Full Load)	By vendor	2981
00	2-14 Starting Method	DOL/VFD	DOL
00	2-15 Full Load Torque (N.m)	By vendor	1890
00	2-16 Starting Torque (% FLT)	By vendor	55
00	2-17 Max. Torque (%FLT)	By vendor	250
00	2-18 GD2 (Kg.m2)		
00	Load	By vendor	8.7
00	2-19 No. of Starting per Hour:		

CONTRACTOR :  	<b>300 KT POLYETHYLENE PLANT          ARYA SASOL POLYMER COMPANY          (ASPC)</b>						OWNER : 	
	<b>Data Sheet for MV Motors</b>						MC : : 	
Owner Document Number :	Owner Project No. 3944	Vendor DOC. VD	Discipline RE	Unit 800	Type DSH	Seq. No. 0119	Rev. : 02	Page 4 of 3

00	From Cold	3	3
00	From Hot	2	2
00	2-20 Permissible locked rotor time (s) :		
00	@100% voltage	By vendor	38
00	<b>3-Protection and Measurement:</b>	<b>Required</b>	<b>Vendor Data</b>
00	3-1 Motor IP / Terminal Boxes IP	IP54 / IP55	IP55
00	3-2 Area Classification	Safe / Zone 1 / Zone 2	Safe
00	3-3 Explosion Protection	Exd / Exe/ Exde	-
00	3-4 Gas Group	IIB / IIC	-
00	3-5 Temperature Class	T3	-
00	3-6 Certificate No.	By vendor	
00	3-7 PT100 / PTC	Not Required	PT100
00	3-8 Noise Level	Less than 85 dBA @ 1m	84
00	3-9 Space Heater	Not Required	included
00	<b>4. Mechanical Characteristic:</b>	<b>Required</b>	<b>Vendor Data</b>
00	4-1 Motor Mounting	By vendor	b3R
00	4-2 Cooling Method	BY FAN (IC 411)	BY FAN
00	4-3 Direction of Rotation From NDE	By vendor	left
00	4-4 Coupling Type	By vendor	direct
00	4-5 Bearing Type and Material (DE/NDE)	By vendor	6320-C3 / 6220-C3
00	4-6 Lubricating		
00	Grease/Oil/ Other	Grease	Grease
00	Self/ Forced	Self- Lubricated	Self-lubricated
00	Grease Relief Port (For regreasable Bearings)	Required	Included
00	4-7 Power Terminal Box		
00	Type	By vendor	Safe
00	Location From NDE (LHS/RHS)	By vendor	left
00	Direction of Cable Entrance	Bottom	bottom
00	4-8 Terminal Box for RTD		

<b>CONTRACTOR :</b>  	<b>300 KT POLYETHYLENE PLANT          ARYA SASOL POLYMER COMPANY          (ASPC)</b>						<b>OWNER :</b> 	
	<b>Data Sheet for MV Motors</b>						<b>MC :</b> 	
<b>Owner Document Number :</b>	<b>Owner Project No.</b>	<b>Vendor DOC.</b>	<b>Discipline</b>	<b>Unit</b>	<b>Type</b>	<b>Seq. No.</b>	<b>Rev. :</b>	<b>Page</b>
	3944	VD	RE	800	DSH	0119	02	5 of 3

00	Location From NDE (LHS/RHS)	Not Required	right
00	Direction of Cable Enterance	Not Required	bottom
00	4-9 outline Dimension (mm)	By vendor	2144x888x1273
00	4-10 Weight (kg)	By vendor	4002
00	4-11 Motor IM Code	By vendor	b3r
00	4-12 Frame Size	By vendor	400H/G
00	4-13 Painting	By vendor	RAL 5010
00	4-14 Stator Frame Mterial	Cast Iron	Cast Iron
00	<b>REMARKS:</b> NDE: NON DRIVE END,      OD: OUT DOOR,      TF: TOTALLY ENCLOSED FAN COOLED, V: VERTICAL MOUNTED,      B: BELT COUPLING,      CP: CORROSION PROTECTED, F: FLANGE MOUNTED,      H: HORIZONTAL MOUNTED,      FLT: FULL LOAD TORQUE		

44C-40001A/B – M1

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W22Xdb Flameproof - Voltage Class AT - 5.1kV to 6.6kV

Frame	: 400L/J	Locked rotor time	: 7 s (hot) 13 s (cold)
Output	: 450 kW	Temperature rise	: 80 K
Poles	: 2	Duty cycle	: S1
Frequency	: 50 Hz	Ambient temperature	: -20 °C to +40 °C
Rated voltage	: 6000 V	Altitude	: 1000 m.a.s.l
Rated current	: 50.8 A	Protection degree	: IP55
L. R. Amperes	: 330 A	Cooling method	: TEFC-XP
LRC	: 6.5	Mounting	: B3R(E)
No load current	: 10.0 A	Rotation <sup>1</sup>	: Clockwise
Rated speed	: 2986 rpm	Noise level <sup>2</sup>	: 80.0 dB(A)
Slip	: 0.47 %	Vibration class	: A
Rated torque	: 1439 Nm	Starting method	: Direct On Line
Locked rotor torque	: 150 %	Coupling	: Direct
Breakdown torque	: 260 %	Approx. weight <sup>3</sup>	: 4100 kg
Insulation class	: F	Painting plan	: 212P
Service factor	: 1.00	Color	: RAL 5010
Moment of inertia (J)	: 10.2 kgm <sup>2</sup>		

Output	50%	75%	100%	Load type	: Constant torque
Efficiency (%)	95.9	96.6	96.8	Load torque	: 1255 Nm
Power Factor	0.83	0.87	0.88	Load inertia (J=GD <sup>2</sup> /4)	: 10.2 kgm <sup>2</sup>

Bearing type	Drive end	Non drive end	Foundation loads	Max. traction	: 1727 N
	6318-C3	NU-218-C3			
Lubrication interval	4000 h	2000 h			
Lubricant amount	41 g	24 g			
Lubricant type	MOBIL POLYREX EM				

Notes  
See notes on page 2.

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W22Xdb Flameproof - Voltage Class AT - 5.1kV to 6.6kV

Thermal protection	ID	Application	Type	Quantity	Sensing Temperature
	1	Winding	PT100 - 3 wires	2 x Phase	-
	2	DE bearing	PT100 - 3 wires	1 x Bearing	-
	3	NDE bearing	PT100 - 3 wires	1 x Bearing	-

Space heater information  
Voltage: 200-240 V  
Output: \_\_\_\_\_

Notes  
Motor suitable for operation at 1000 m.a.s.l, 55°C of ambient temperature, load torque of 1256.06 Nm and service factor of 1.00.

Standards	Specification	: IEC 60034-1	Vibration	: IEC 60034-14
	Test	: IEC 60034-2	Tolerance	: IEC 60034-1
	Noise	: IEC 60034-9		

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by			1640163411	
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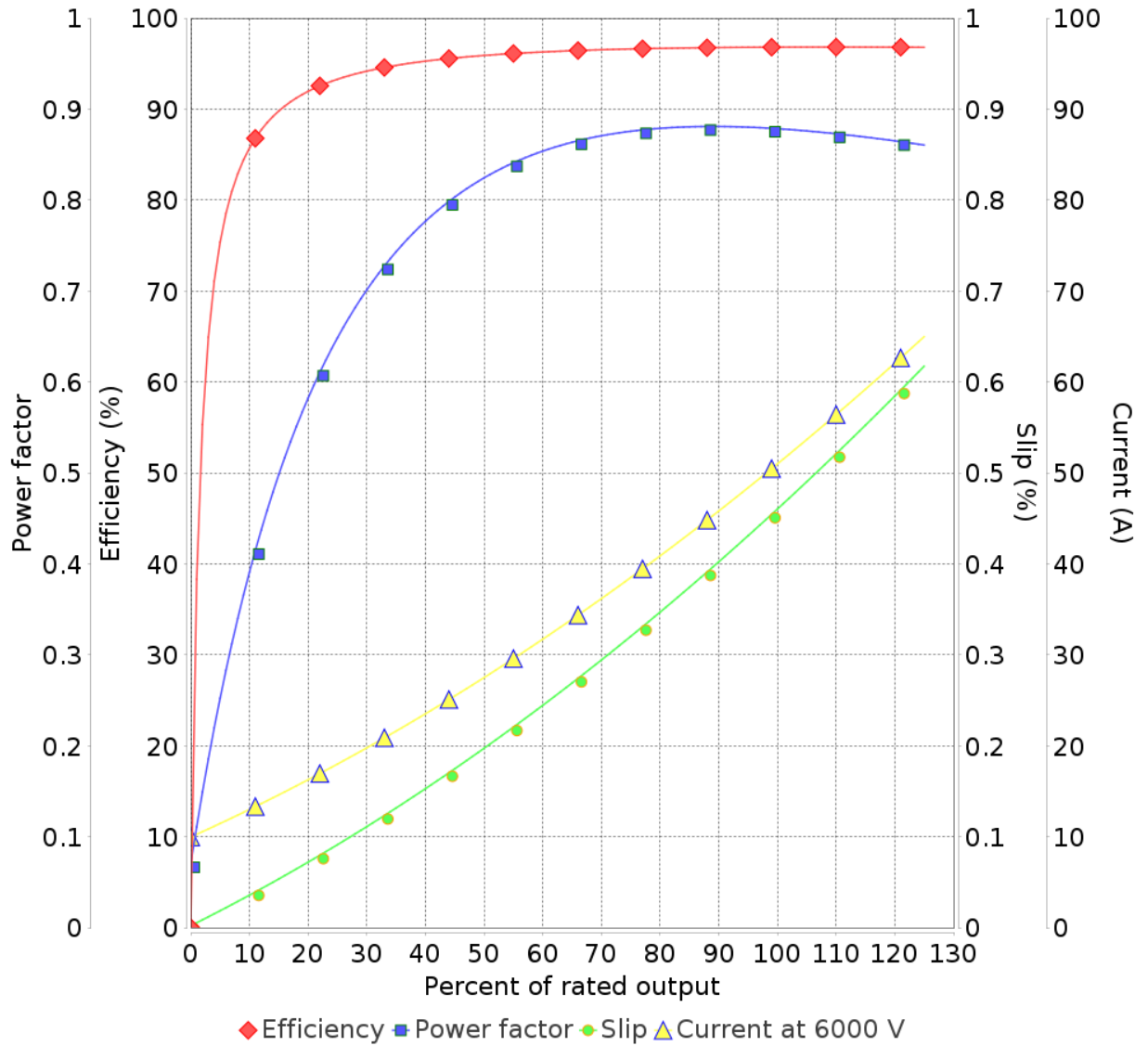
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W22Xdb Flameproof - Voltage Class AT - 5.1kV to 6.6kV



Performance : 450 kW 6000 V 50 Hz 2P 400L/J

Rated current	: 50.8 A	Moment of inertia (J)	: 10.2 kgm <sup>2</sup>
LRC	: 6.5	Duty cycle	: S1
Rated torque	: 1439 Nm	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2986 rpm		

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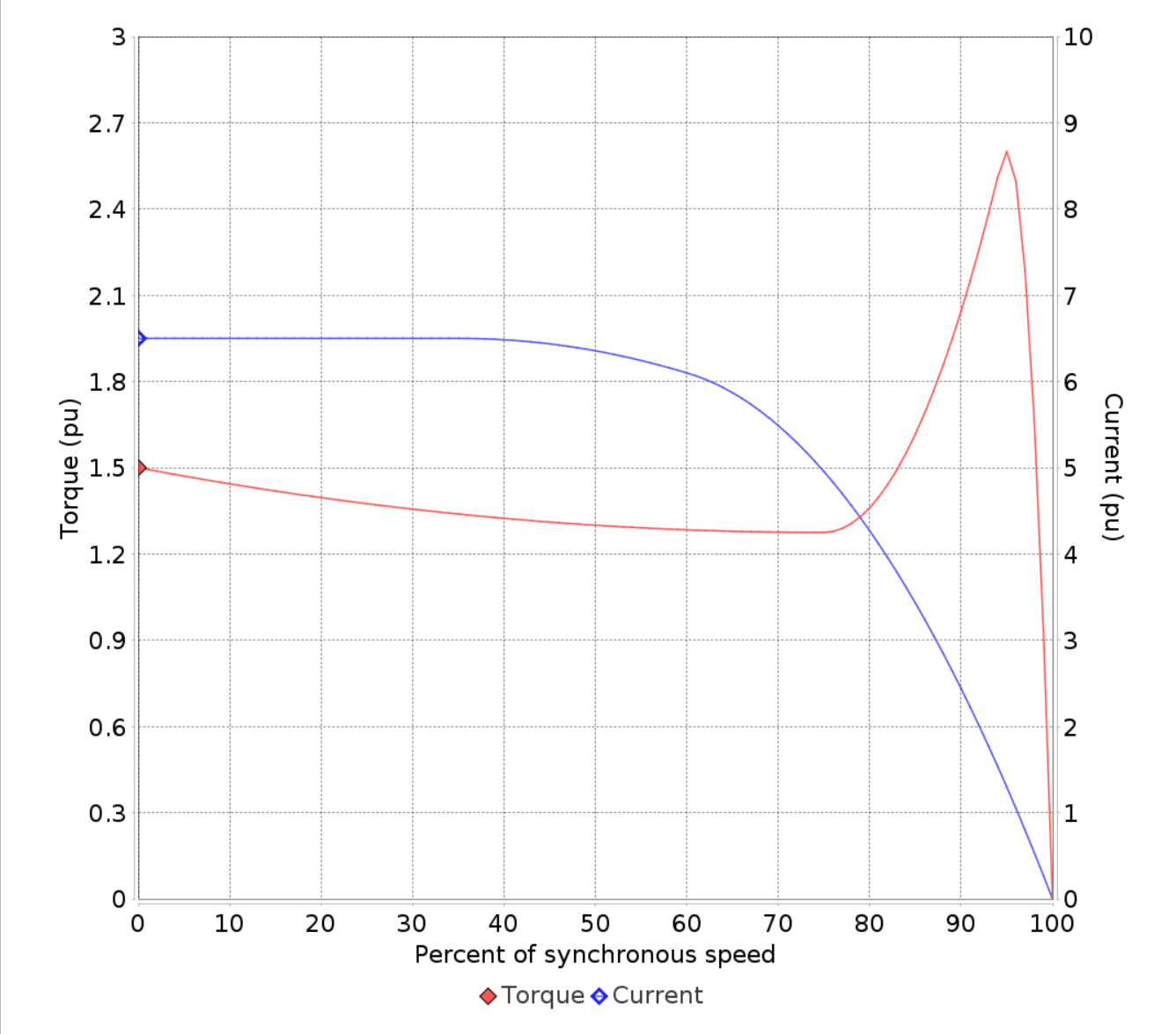
# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W22Xdb Flameproof - Voltage Class AT - 5.1kV to 6.6kV



Performance : 450 kW 6000 V 50 Hz 2P 400L/J

Rated current : 50.8 A	Moment of inertia (J) : 10.2 kgm <sup>2</sup>
LRC : 6.5	Duty cycle : S1
Rated torque : 1439 Nm	Insulation class : F
Locked rotor torque : 150 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 2986 rpm	

Locked rotor time 100% : 7 s (hot) 13 s (cold)	Run-up Time 100% : 8.6 s
Load inertia (J=GD <sup>2</sup> /4) : 10.2 kgm <sup>2</sup>	
Allowable run up time 100% : 5 s (hot) 10 s (cold)	

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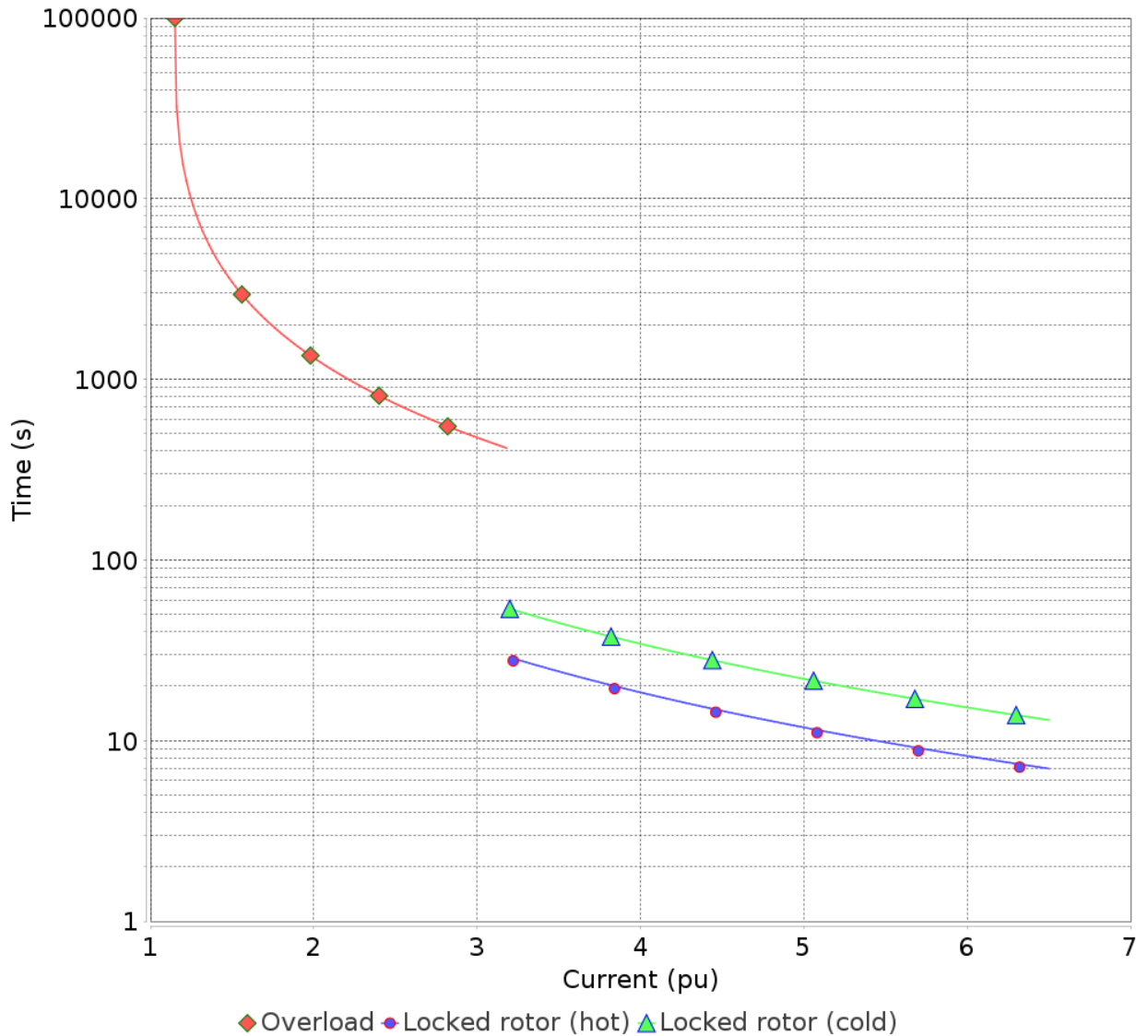
# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

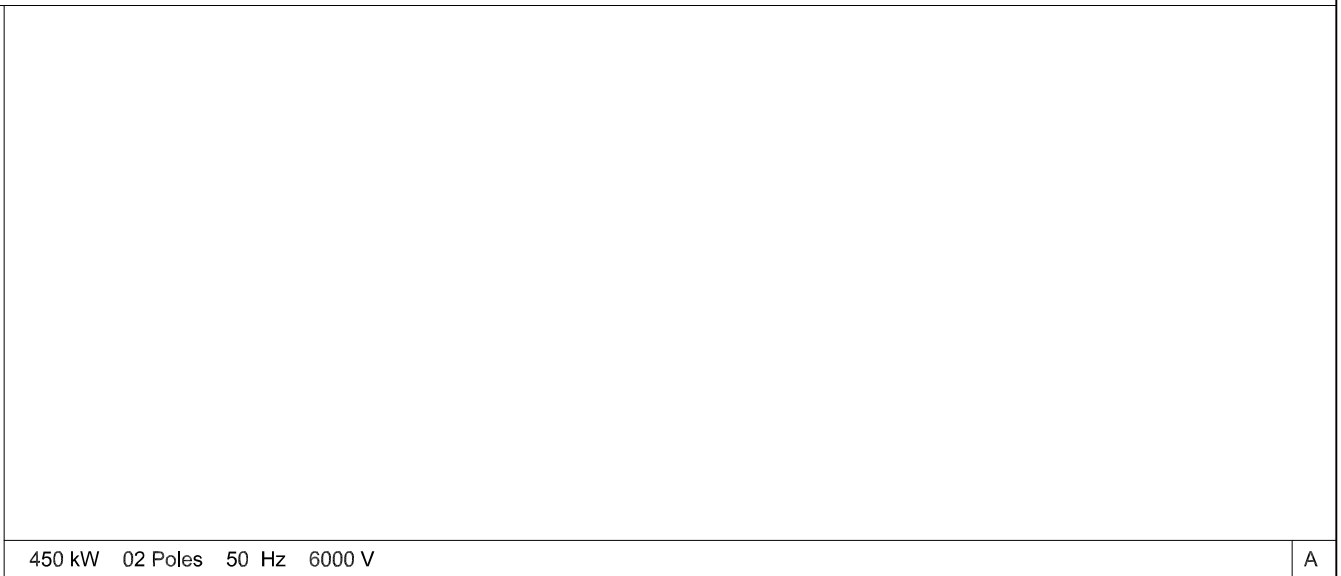
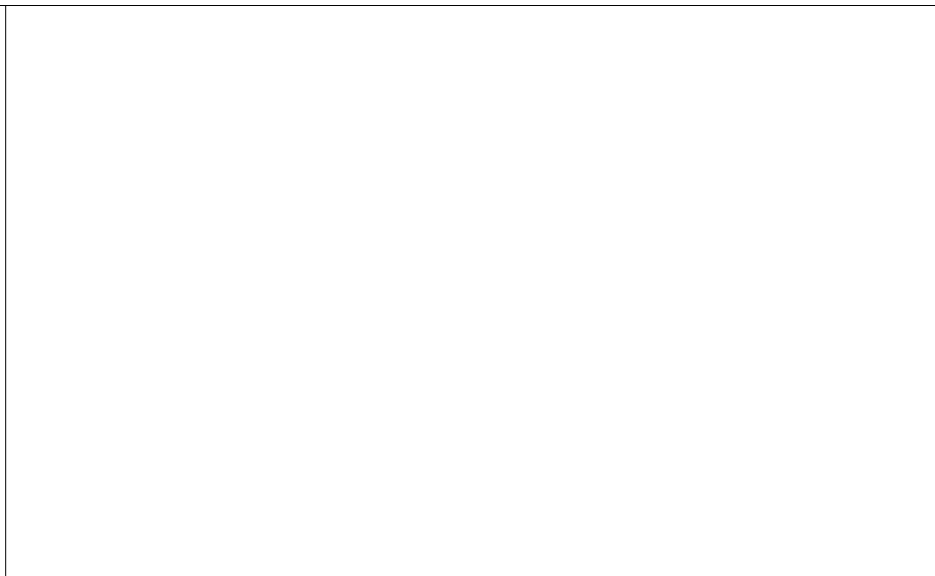
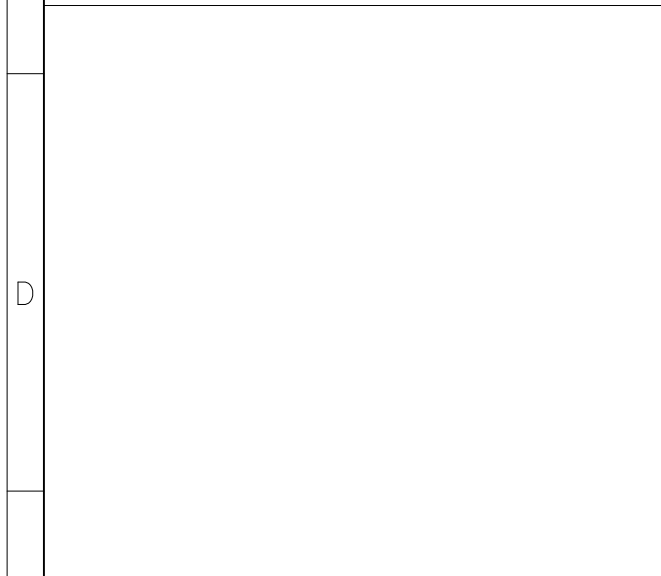
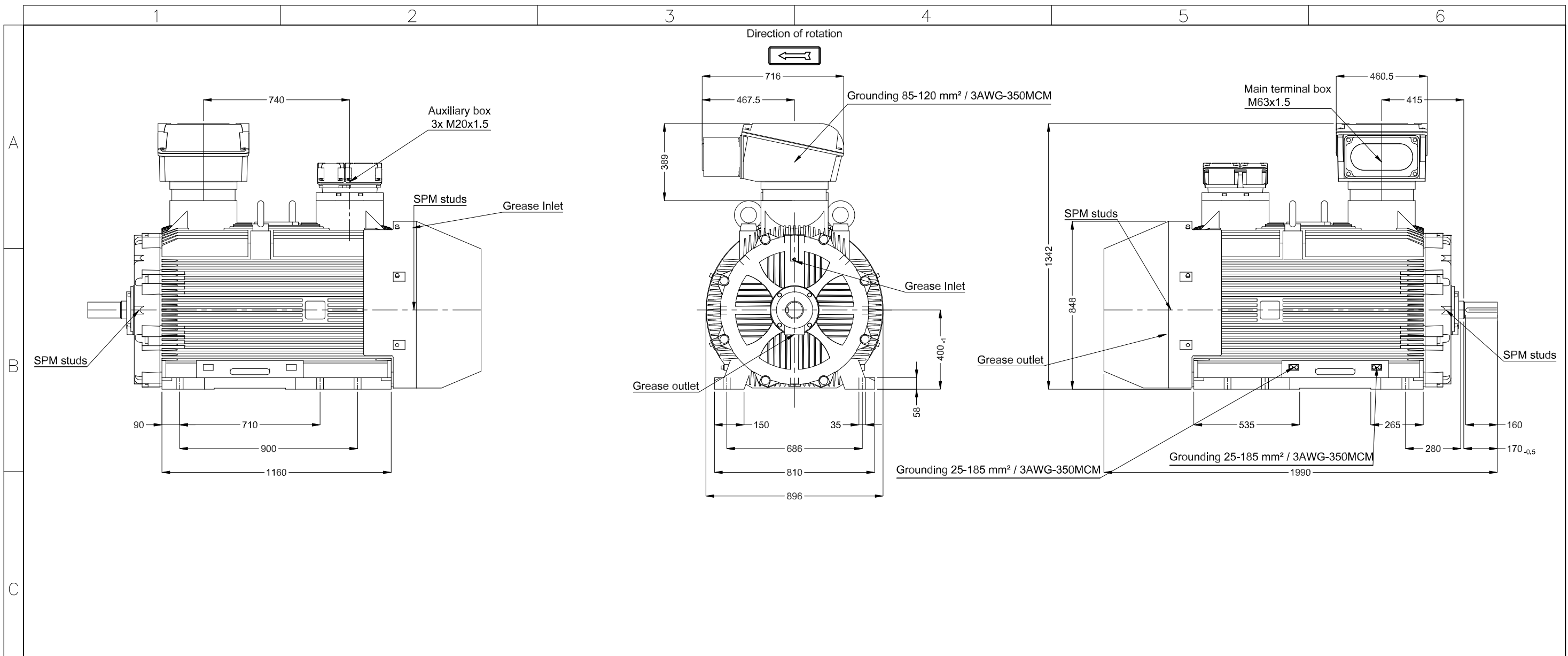
Product line : W22Xdb Flameproof - Voltage Class AT - 5.1kV to 6.6kV



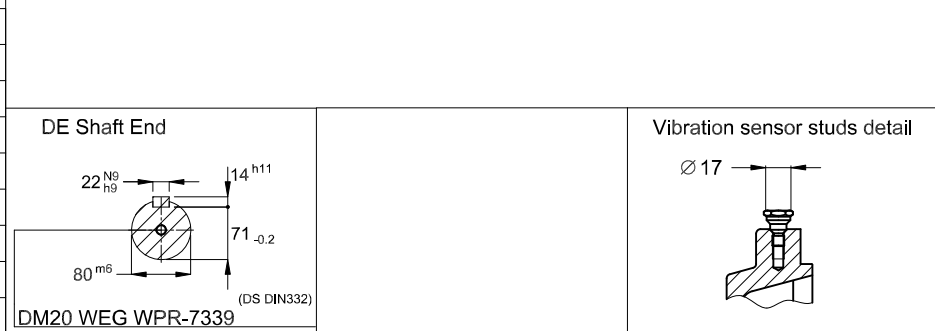
Performance : 450 kW 6000 V 50 Hz 2P 400L/J

Rated current	: 50.8 A	Moment of inertia (J)	: 10.2 kgm <sup>2</sup>
LRC	: 6.5	Duty cycle	: S1
Rated torque	: 1439 Nm	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2986 rpm		
Heating constant	: 63.7 min		
Cooling constant	: 191.1 min		

Rev.	Changes Summary	Rev.	Checked	Date
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Stainless Steel Grease fitting
Connection bolts - Ex db eb
Counterclockwise rotation
Stainless steel screws - AISI 316
Frame designed for dowel pins
SPM studs
Color RAL 5010
Painting plan 212P
Mounting B3T



450 kW 02 Poles 50 Hz 6000 V										A				
Scale 1 : 20														
ECM					LOC					PIRWBUSER	00			
EXECUTED					SUMMARY OF MODIFICATIONS					EXECUTED	CHECKED	RELEASED	DATE	VER
CHECKED					THREE PH. MOTOR W22Xdb					PREVIEW				
RELEASED					FRAME 400LJ IP55 TEFC					WDD 00				
REL. DATE					WEG HENGLO					SHEET 1 / 1				
					[Commercial WNL]					WEG				

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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV

Frame	: 315G/F	Locked rotor time	: 17 s (hot) 31 s (cold)
Output	: 250 kW	Temperature rise	: 80 K
Poles	: 2	Duty cycle	: S1
Frequency	: 50 Hz	Ambient temperature	: -20 °C to +40 °C
Rated voltage	: 6000 V	Altitude	: 1000 m.a.s.l
Rated current	: 28.7 A	Protection degree	: IP55
L. R. Amperes	: 195 A	Cooling method	: IC411 - TEFC
LRC	: 6.8	Mounting	: B35R(E)
No load current	: 6.16 A	Rotation <sup>1</sup>	: Clockwise
Rated speed	: 2978 rpm	Noise level <sup>2</sup>	: 78.0 dB(A)
Slip	: 0.73 %	Vibration class	: A
Rated torque	: 802 Nm	Starting method	: Direct On Line
Locked rotor torque	: 110 %	Coupling	: DIRECT
Pull up torque	: 90 %	Approx. weight <sup>3</sup>	: 2141 kg
Breakdown torque	: 230 %	Painting plan	: 212P
Insulation class	: F	Color	: RAL 5010
Service factor	: 1.00		
Moment of inertia (J)	: 2.80 kgm <sup>2</sup>		

Output	50%	75%	100%	Load type	: Constant torque
Efficiency (%)	95.0	95.1	95.1	Load torque	: 699 Nm
Power Factor	0.83	0.86	0.88	Load inertia (J=GD <sup>2</sup> /4)	: 2.80 kgm <sup>2</sup>

Bearing type Lubrication interval Lubricant amount Lubricant type	Drive end	Non drive end	Foundation loads Max. traction : Max. compression :
	6314-C4	6314-C4	
	4500 h	4500 h	
	27 g	27 g	
	MOBIL POLYREX EM		

Notes  
See notes on page 2.

Losses at normative operating points (speed;torque), in percentage of rated output power						
P1 (0,9;1,0)	P2 (0,5;1,0)	P3 (0,25;1,0)	P4 (0,9;0,5)	P5 (0,5;0,5)	P6 (0,5;0,25)	P7 (0,25;0,25)
5.2	4.2	3.7	2.9	1.9	1.4	0.8

This revision replaces and cancel the previous one, which must be eliminated.  
 (1) Looking the motor from the shaft end.  
 (2) Measured at 1m and with tolerance of +3dB(A).  
 (3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1640161401		
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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV

Thermal protection	ID	Application	Type	Quantity	Sensing Temperature
	1	Winding	PT100 - 3 wires	2 x Phase	-
	2	DE bearing	PT100 - 3 wires	1 x Bearing	-
	3	NDE bearing	PT100 - 3 wires	1 x Bearing	-

Space heater information  
Voltage: 110-127/200-240 V  
Output: 146-194/120-173 W

Notes  
Motor suitable for operation at 1000 m.a.s.l, 55°C of ambient temperature, load torque of 667.28 Nm and service factor of 1.00.

standards	Specification	: IEC 60034-1	Vibration	: IEC 60034-14
	Test	: IEC 60034-2	Tolerance	: IEC 60034-1
	Noise	: IEC 60034-9		

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by			1640161401	
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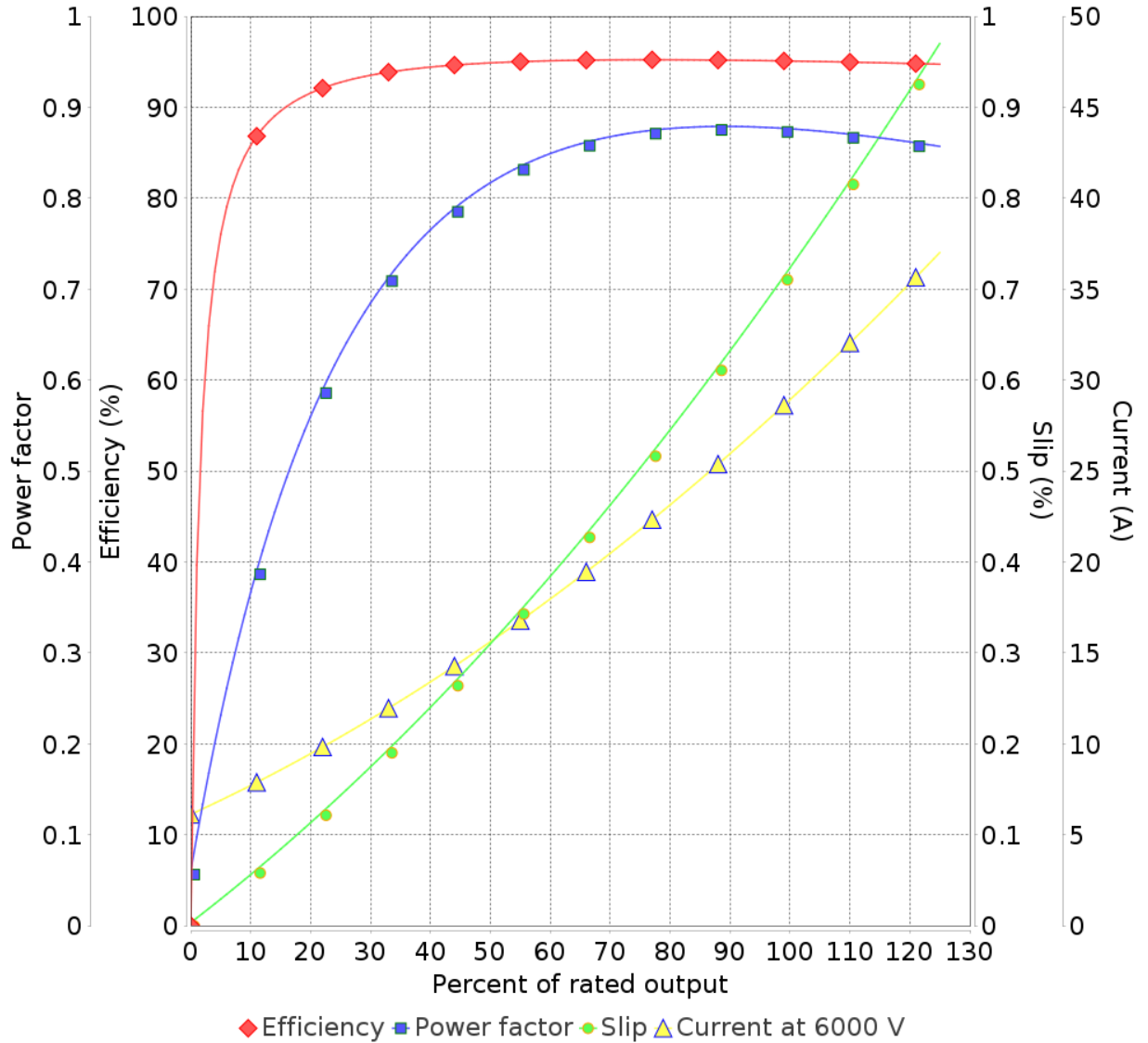
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



Performance : 250 kW 6000 V 50 Hz 2P 315G/F

Rated current	: 28.7 A	Moment of inertia (J)	: 2.80 kgm <sup>2</sup>
LRC	: 6.8	Duty cycle	: S1
Rated torque	: 802 Nm	Insulation class	: F
Locked rotor torque	: 110 %	Service factor	: 1.00
Breakdown torque	: 230 %	Temperature rise	: 80 K
Rated speed	: 2978 rpm		

Rev.	Changes Summary	Rev.	Checked	Date
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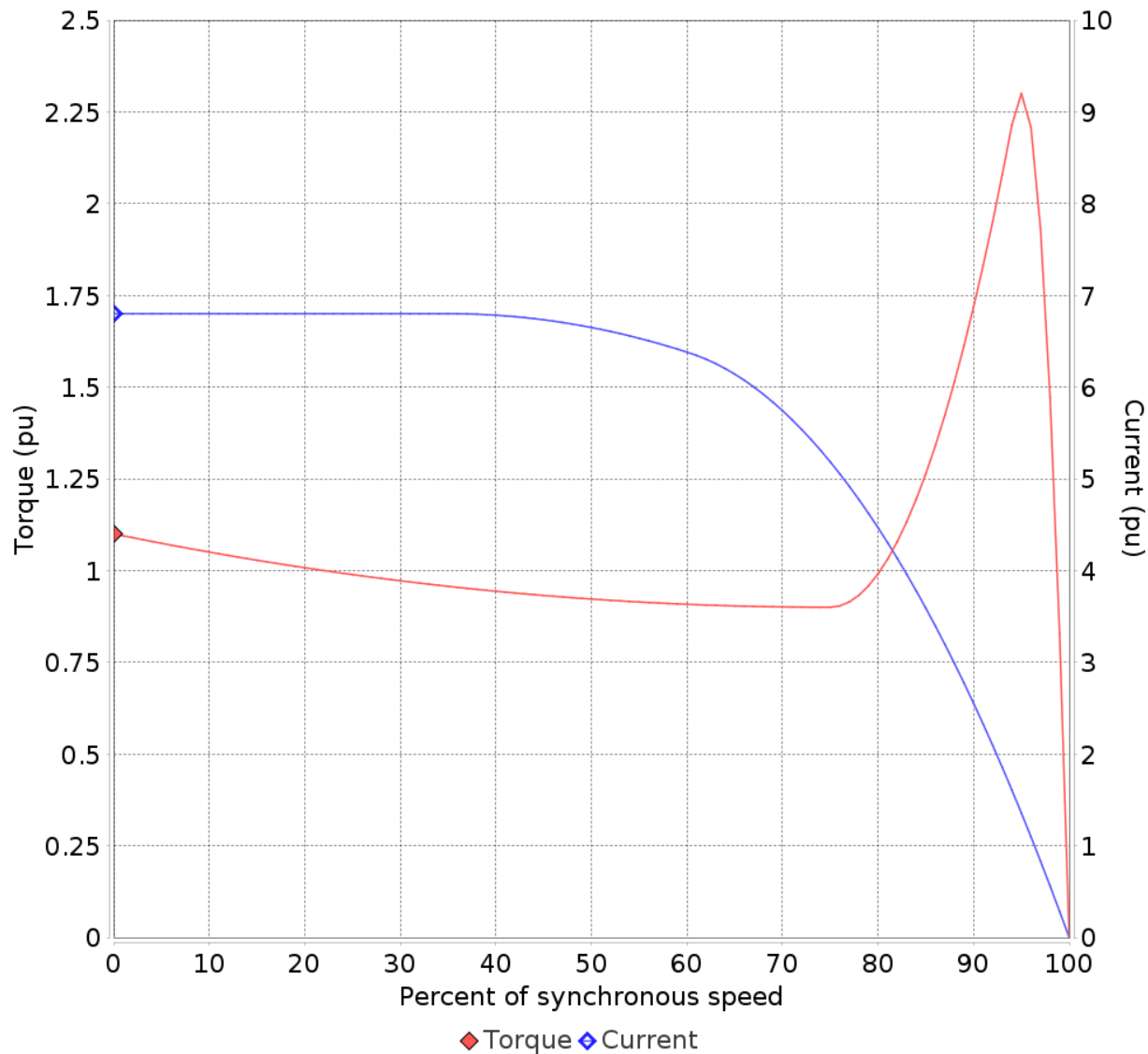
# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



Performance : 250 kW 6000 V 50 Hz 2P 315G/F

Rated current	: 28.7 A	Moment of inertia (J)	: 2.80 kgm <sup>2</sup>
LRC	: 6.8	Duty cycle	: S1
Rated torque	: 802 Nm	Insulation class	: F
Locked rotor torque	: 110 %	Service factor	: 1.00
Breakdown torque	: 230 %	Temperature rise	: 80 K
Rated speed	: 2978 rpm		

Locked rotor time 100%	: 17 s (hot) 31 s (cold)	Run-up Time 100%	: 29.8 s
Load inertia (J=GD <sup>2</sup> /4)	: 2.80 kgm <sup>2</sup>		
Allowable run up time 100%	: 13 s (hot) 24 s (cold)		

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Date		4 / 5	1	

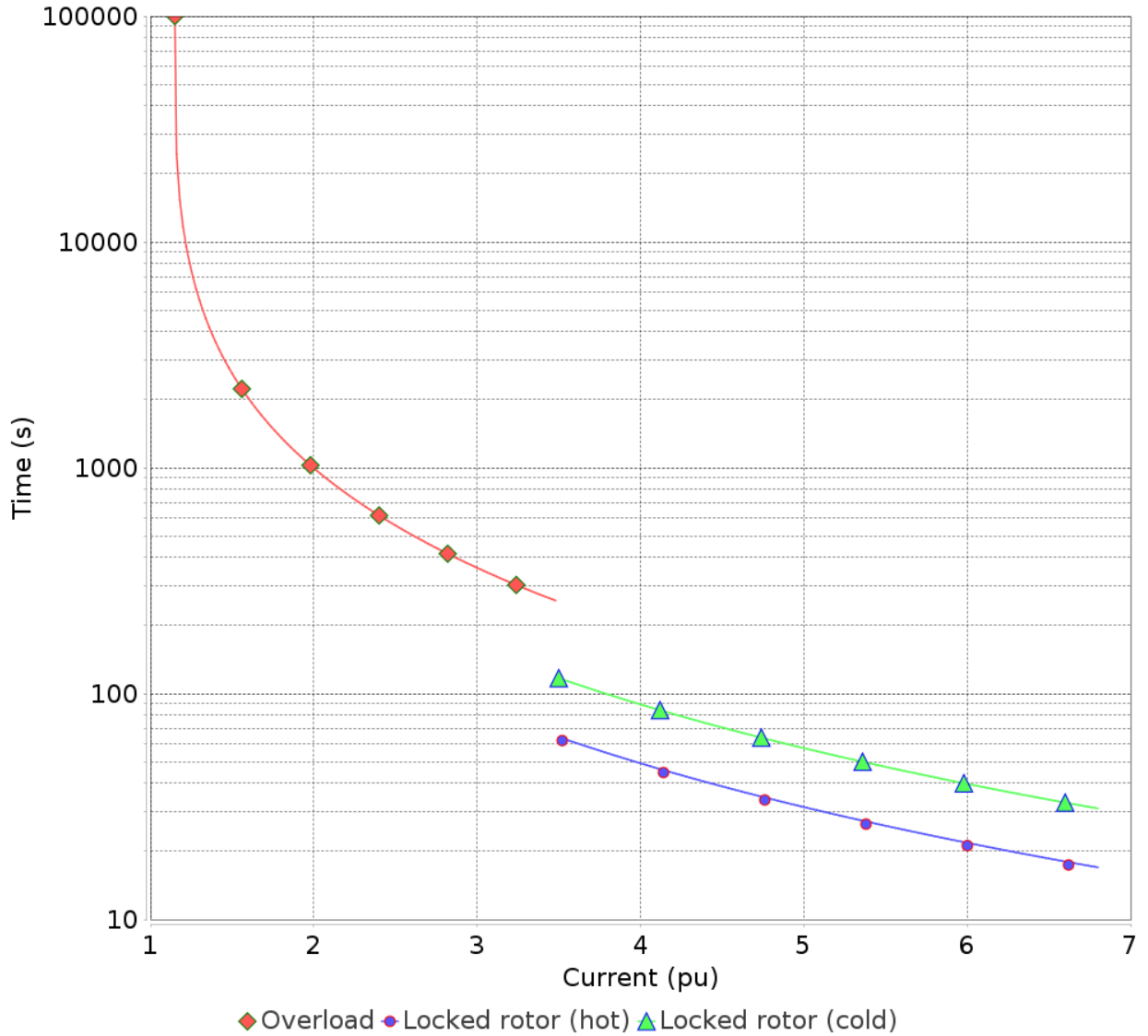
# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

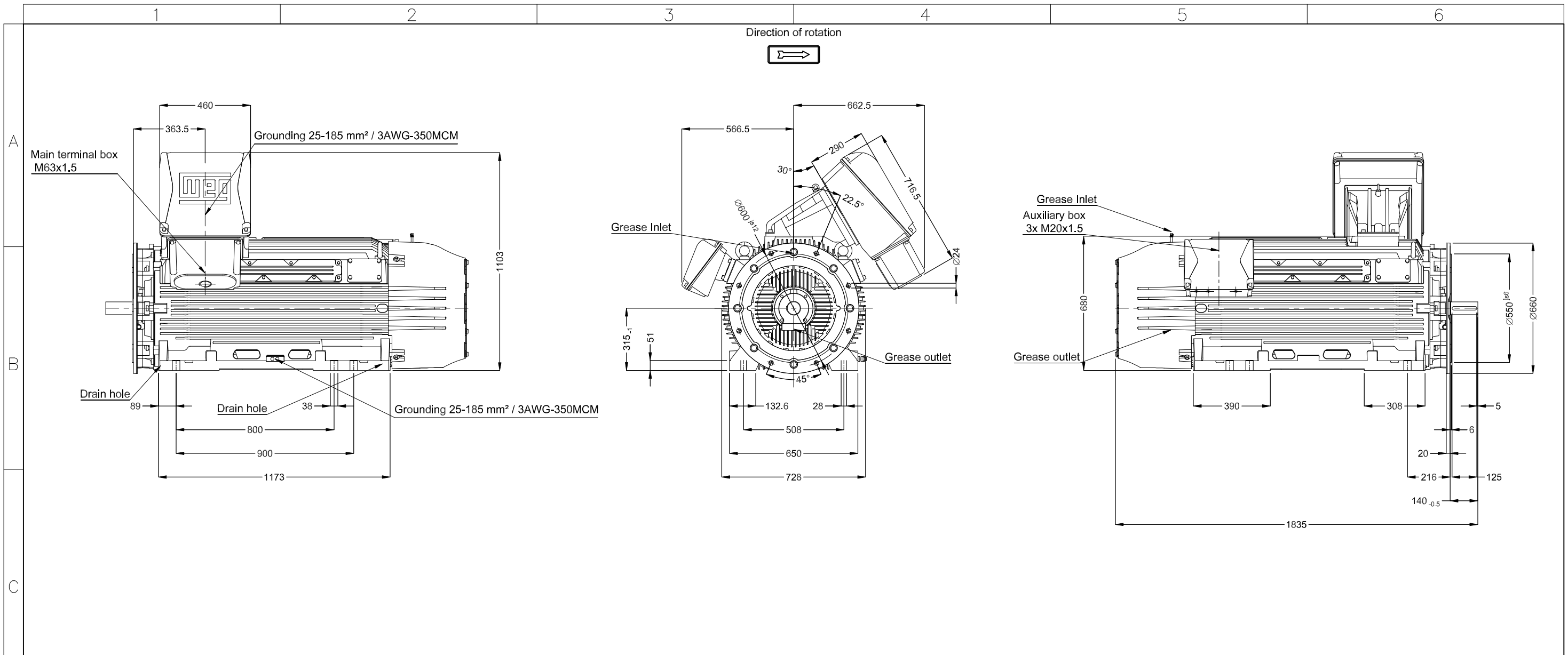
Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



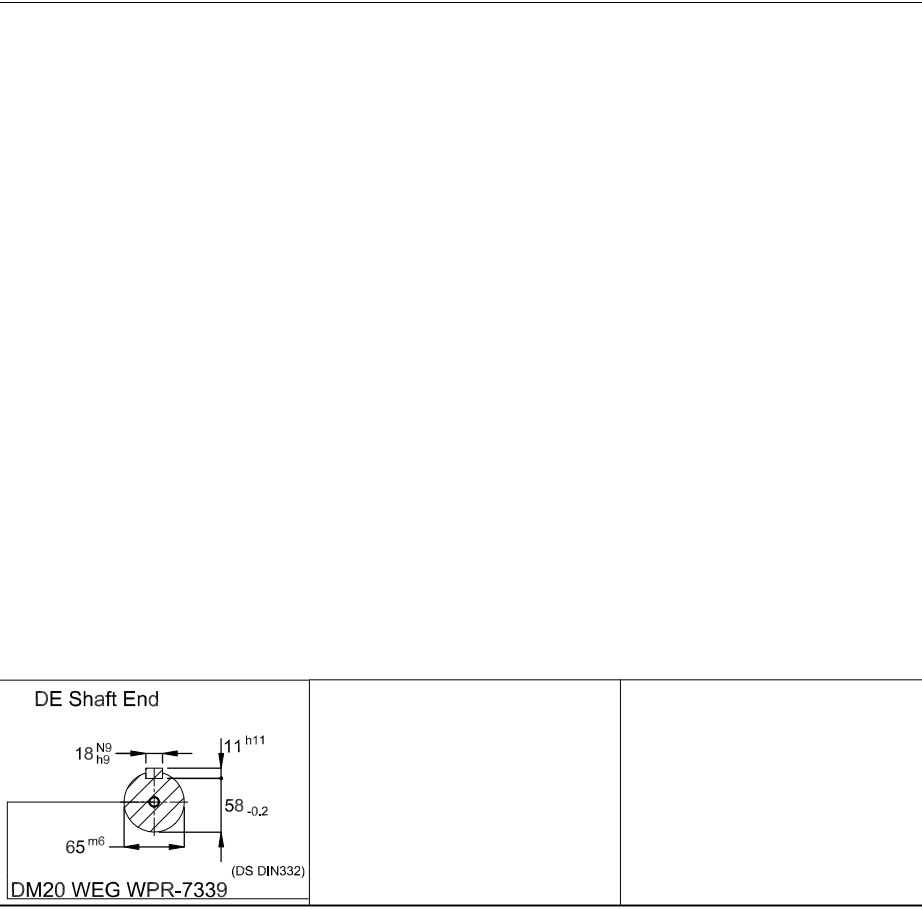
Performance : 250 kW 6000 V 50 Hz 2P 315G/F

Rated current	: 28.7 A	Moment of inertia (J)	: 2.80 kgm <sup>2</sup>
LRC	: 6.8	Duty cycle	: S1
Rated torque	: 802 Nm	Insulation class	: F
Locked rotor torque	: 110 %	Service factor	: 1.00
Breakdown torque	: 230 %	Temperature rise	: 80 K
Rated speed	: 2978 rpm		
Heating constant	: 48.3 min		
Cooling constant	: 144.9 min		

Rev.	Changes Summary	Rev.	Checked	Date
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Date		5 / 5	1	



Grease outlet according to IEEE841
Tropicalized internal painting
AISI 316 stainless steel extended grease fitting
Finish color Munsell 2.5 YR 6/14 inside of terminal box
Stainless steel screws - AISI 316
C4 DE bearing
C4 NDE bearing
NDE endshield with electrically insulated bearing hub (HGF)
Color RAL 5010
Painting plan 212P
Mounting B35R(E)



250 kW 02 Poles 50 Hz 6000 V		A	
<b>AERZEN NEDERLAND B.V.</b>			
		Scale	1 : 20
		PIRWUSER	01
ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED CHECKED RELEASED DATE VER
EXECUTED	PIRWUSER	THREE PH. MOTOR W51 HD	<b>PREVIEW</b>
CHECKED		FRAME 315G/F IP55 TEFC	
RELEASED			
REL. DATE	WEG HENGELO	[Commercial WNL]	WDD 01 SHEET 1 / 1

Dimensions in mm

A3

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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV

Frame	: 315G/F	Locked rotor time	: 27 s (hot) 49 s (cold)
Output	: 250 kW	Temperature rise	: 80 K
Poles	: 4	Duty cycle	: S1
Frequency	: 50 Hz	Ambient temperature	: -20 °C to +40 °C
Rated voltage	: 6000 V	Altitude	: 1000 m.a.s.l
Rated current	: 31.0 A	Protection degree	: IP55
L. R. Amperes	: 205 A	Cooling method	: IC411 - TEFC
LRC	: 6.6	Mounting	: B3R(E)
No load current	: 12.2 A	Rotation <sup>1</sup>	: Both
Rated speed	: 1486 rpm	Noise level <sup>2</sup>	: 75.0 dB(A)
Slip	: 0.93 %	Vibration class	: A
Rated torque	: 1607 Nm	Starting method	: Direct On Line
Locked rotor torque	: 200 %	Coupling	: DIRECT
Pull up torque	: 170 %	Approx. weight <sup>3</sup>	: 2235 kg
Breakdown torque	: 270 %	Painting plan	: 212P
Insulation class	: F	Color	: RAL 5010
Service factor	: 1.00		
Moment of inertia (J)	: 4.10 kgm <sup>2</sup>		

Output	50%	75%	100%	Load type	: Constant torque
Efficiency (%)	94.0	94.6	94.6	Load torque	: 1373 Nm
Power Factor	0.65	0.76	0.82	Load inertia (J=GD <sup>2</sup> /4)	: 4.10 kgm <sup>2</sup>

Bearing type	Drive end NU-320-C3	Non drive end 6316-C3	Foundation loads	
Lubrication interval	4500 h	4500 h	Max. traction	:
Lubricant amount	51 g	34 g	Max. compression	:
Lubricant type	MOBIL POLYREX EM			

Notes  
See notes on page 2.

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by			1635947293	
Checked by			Page	Rev.
Date			1 / 5	2

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV

Thermal protection	ID	Application	Type	Quantity	Sensing Temperature
	1	Winding	PT100 - 3 wires	2 x Phase	-
	2	DE bearing	PT100 - 3 wires	1 x Bearing	-
	3	NDE bearing	PT100 - 3 wires	1 x Bearing	-

Space heater information  
Voltage: 110-127/200-240 V  
Output: 146-194/120-173 W

Notes  
Motor suitable for operation at 1000 m.a.s.l, 55°C of ambient temperature, load torque of 1373.82 Nm and service factor of 1.00.

Standards	Specification	: IEC 60034-1	Vibration	: IEC 60034-14
	Test	: IEC 60034-2	Tolerance	: IEC 60034-1
	Noise	: IEC 60034-9		

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by			1635947293	
Checked by			Page	Rev.
Date			2 / 5	2

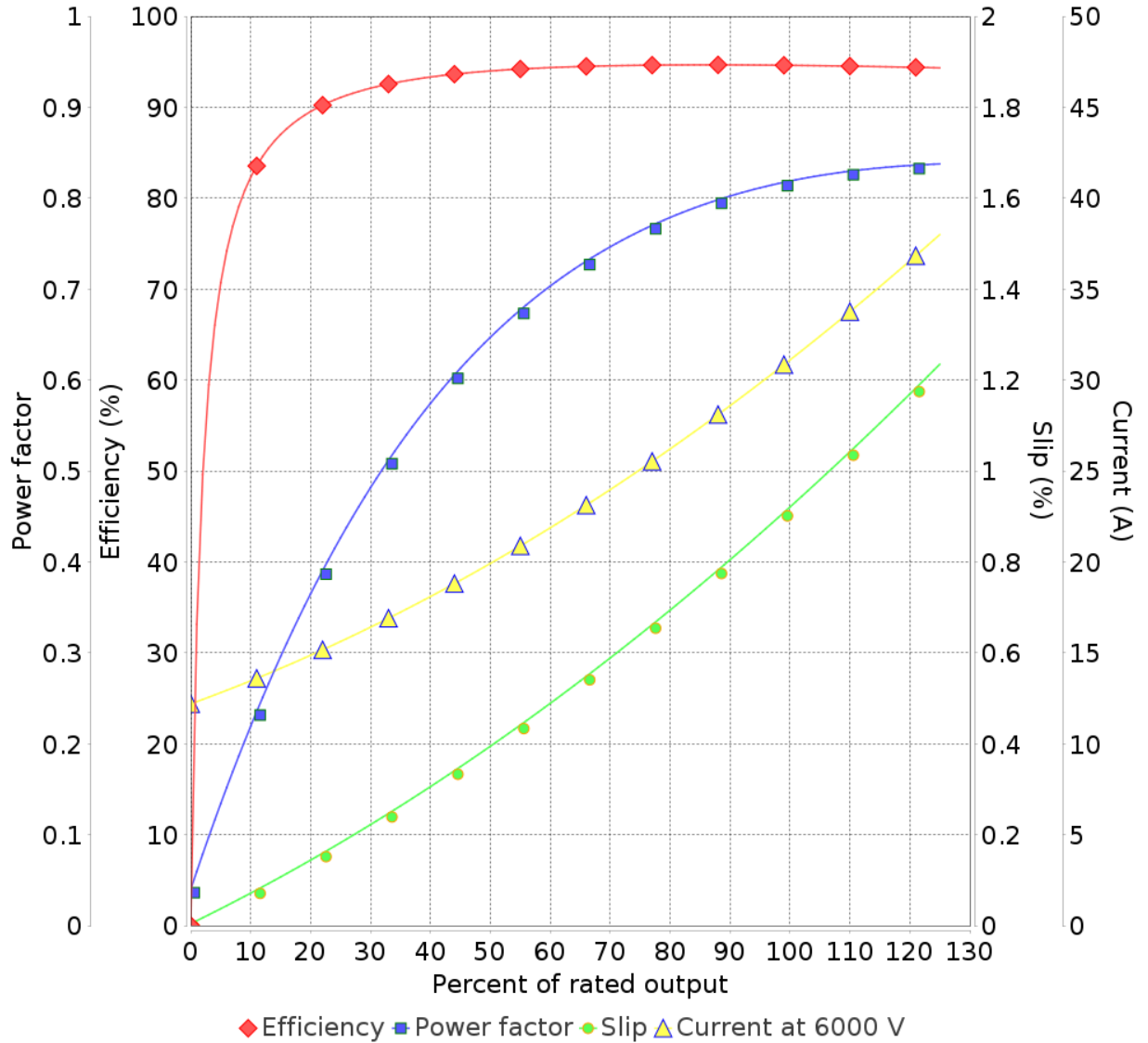
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



Performance : 250 kW 6000 V 50 Hz 4P 315G/F

Rated current	: 31.0 A	Moment of inertia (J)	: 4.10 kgm <sup>2</sup>
LRC	: 6.6	Duty cycle	: S1
Rated torque	: 1607 Nm	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1486 rpm		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1635947293		
Checked by		Page	Rev.	
Date		3 / 5	2	

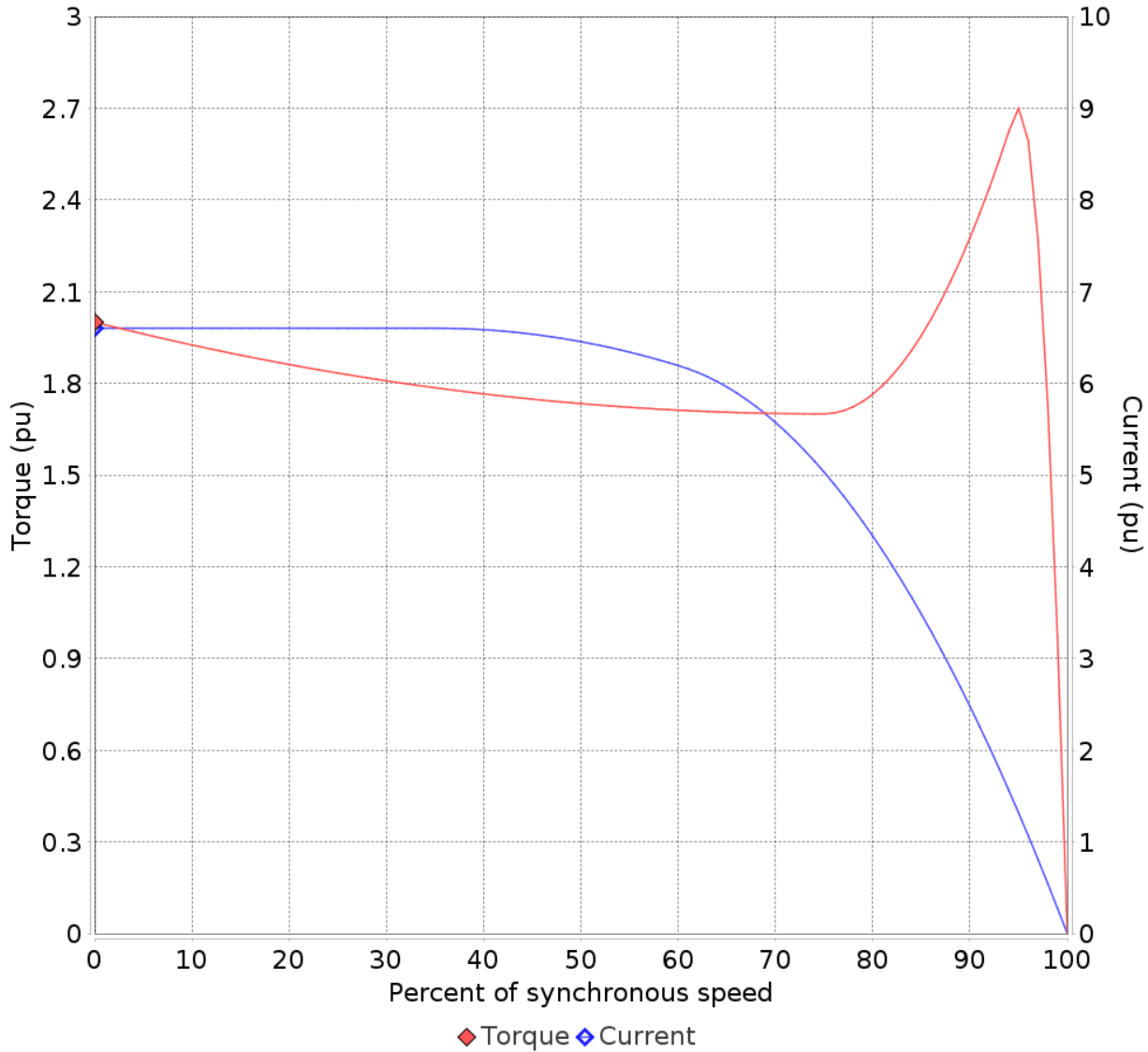
# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



Performance : 250 kW 6000 V 50 Hz 4P 315G/F

Rated current	: 31.0 A	Moment of inertia (J)	: 4.10 kgm <sup>2</sup>
LRC	: 6.6	Duty cycle	: S1
Rated torque	: 1607 Nm	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1486 rpm		
Locked rotor time 100%	: 27 s (hot) 49 s (cold)	Run-up Time 100%	: 0.8 s
Load inertia (J=GD <sup>2</sup> /4)	: 4.10 kgm <sup>2</sup>		
Allowable run up time 100%	: 21 s (hot) 39 s (cold)		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1635947293		
Checked by		Page	Rev.	
Date		4 / 5	2	

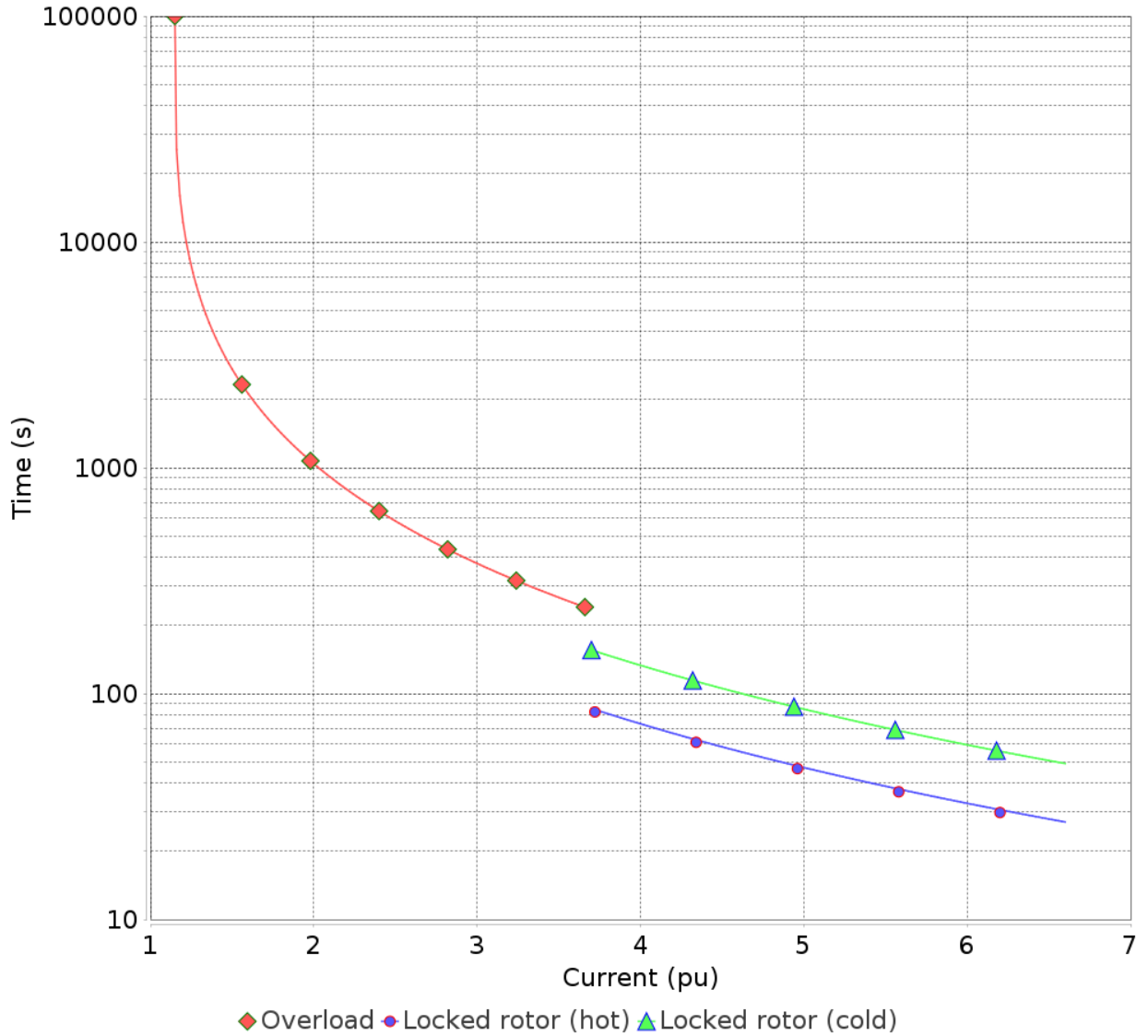
# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

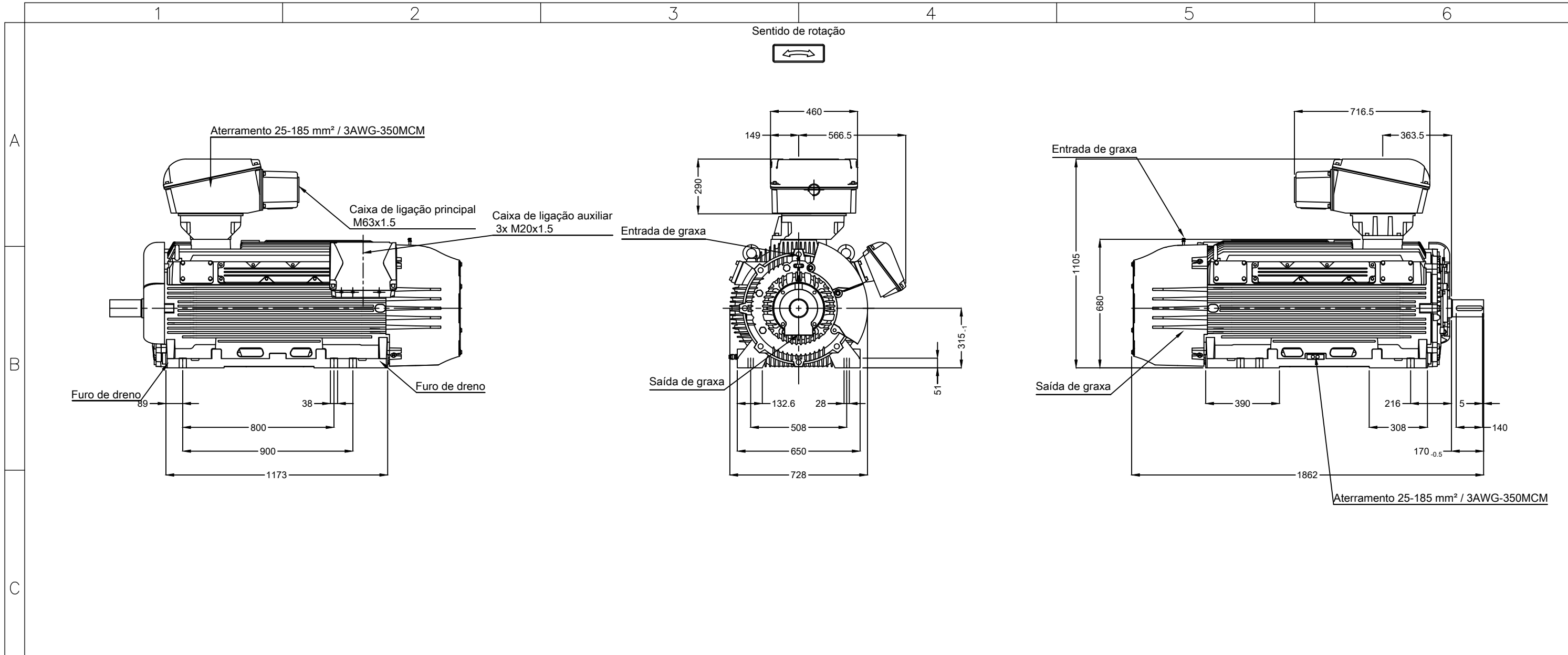
Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



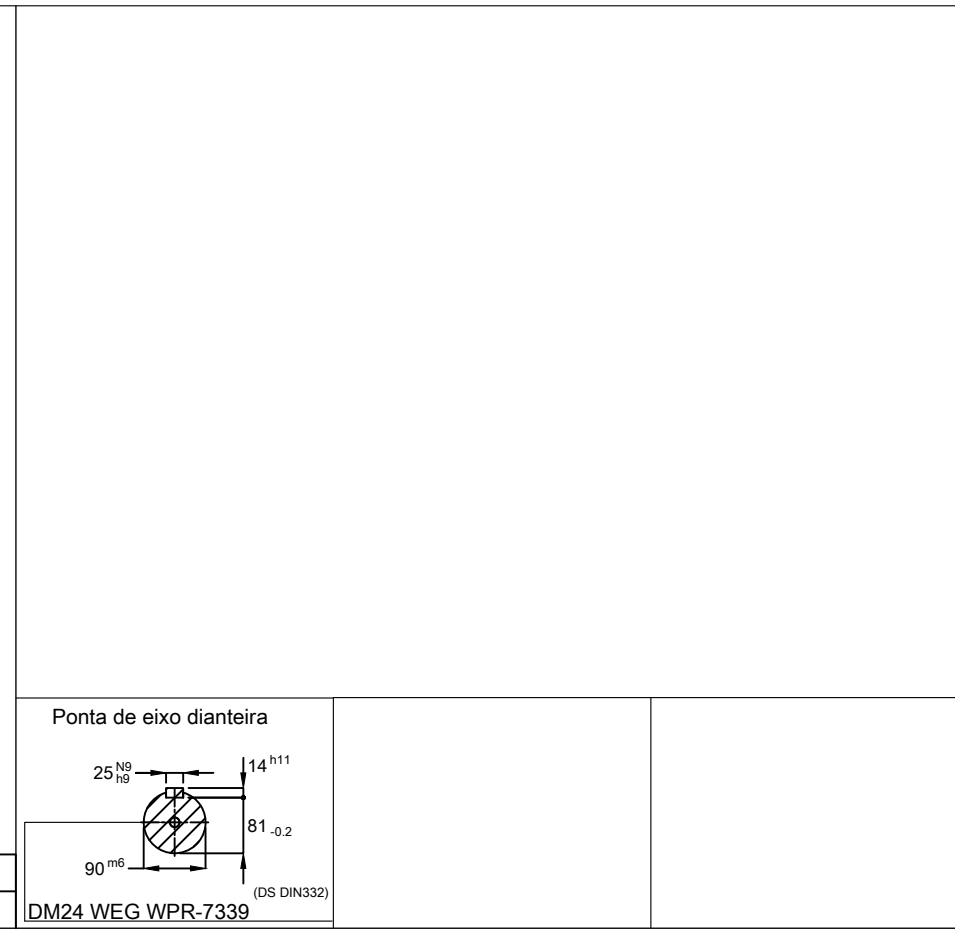
Performance : 250 kW 6000 V 50 Hz 4P 315G/F

Rated current	: 31.0 A	Moment of inertia (J)	: 4.10 kgm <sup>2</sup>
LRC	: 6.6	Duty cycle	: S1
Rated torque	: 1607 Nm	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1486 rpm		
Heating constant	: 50.5 min		
Cooling constant	: 151.5 min		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1635947293		
Checked by		Page	Rev.	
Date		5 / 5	2	



Saída de graxa conforme IEEE841 (HGF)  
 Forma construtiva B3T



250 kW 04 Polos 50 Hz 6000 V										A	
<b>AERZEN NEDERLAND B.V.</b>											
										Escala 1 : 21	
500002901020		CORRIGIDO POS. SUPORTE			RPAULI	RPAULI	CARLADS	23.04.2025	02		
500002899486		PCR 100000297674			DOGE	IGORMB	IGORMB	22.04.2025	01		
ECM	LOC	RESUMO MODIFICAÇÃO			EXECUTADO	VERIFICADO	LIBERADO	DATA	VER		
EXECUTOR	RPAULI	MOTOR TRIF. W51 HD CARÇAÇA 315G/F IP55 TEFC			10013221746						
VERIFICADOR	RPAULI				000	02					
LIBERADOR	CARLADS										
DATA LB.	11.04.2025	WMO	JARAGUA DO SUL	[Gestao Ordens Exportacao]	FOLHA	1 / 1					

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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV

Frame	: 400H/G	Locked rotor time	: 21 s (hot) 38 s (cold)
Output	: 590 kW	Temperature rise	: 80 K
Poles	: 2	Duty cycle	: S1
Frequency	: 50 Hz	Ambient temperature	: -20 °C to +40 °C
Rated voltage	: 6000 V	Altitude	: 1000 m.a.s.l
Rated current	: 66.2 A	Protection degree	: IP55
L. R. Amperes	: 411 A	Cooling method	: IC411 - TEFC
LRC	: 6.2	Mounting	: B3R(E)
No load current	: 12.0 A	Rotation <sup>1</sup>	: Clockwise
Rated speed	: 2981 rpm	Noise level <sup>2</sup>	: 84.0 dB(A)
Slip	: 0.63 %	Vibration class	: A
Rated torque	: 1890 Nm	Starting method	: Direct On Line
Locked rotor torque	: 70 %	Coupling	: DIRECT
Pull up torque	: 55 %	Approx. weight <sup>3</sup>	: 4002 kg
Breakdown torque	: 250 %	Painting plan	: 212P
Insulation class	: F	Color	: RAL 5010
Service factor	: 1.00		
Moment of inertia (J)	: 8.70 kgm <sup>2</sup>		

Output	50%	75%	100%	Load type	: Constant torque
Efficiency (%)	95.6	95.9	96.3	Load torque	: 1687 Nm
Power Factor	0.85	0.87	0.89	Load inertia (J=GD <sup>2</sup> /4)	: 8.70 kgm <sup>2</sup>

Bearing type	Drive end	Non drive end	Foundation loads	
Lubrication interval	6220-C3	6220-C3	Max. traction	:
Lubricant amount	3564 h	3564 h	Max. compression	:
Lubricant type	31 g	31 g		
	MOBIL POLYREX EM			

Notes  
See notes on page 2.

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by			1640158793	
Checked by			Page	Rev.
Date			1 / 5	1

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : .

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV

Thermal protection	ID	Application	Type	Quantity	Sensing Temperature
	1	Winding	PT100 - 3 wires	2 x Phase	-
	2	DE bearing	PT100 - 3 wires	1 x Bearing	-
	3	NDE bearing	PT100 - 3 wires	1 x Bearing	-

Space heater information  
Voltage: 110-127/200-240 V  
Output: 146-194/120-173 W

Notes  
Motor suitable for operation at 1000 m.a.s.l, 55°C of ambient temperature, load torque of 1687.84 Nm and service factor of 1.00.

Standards	Specification	: IEC 60034-1	Vibration	: IEC 60034-14
	Test	: IEC 60034-2	Tolerance	: IEC 60034-1
	Noise	: IEC 60034-9		

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by			1640158793	
Checked by			Page	Rev.
Date			2 / 5	1

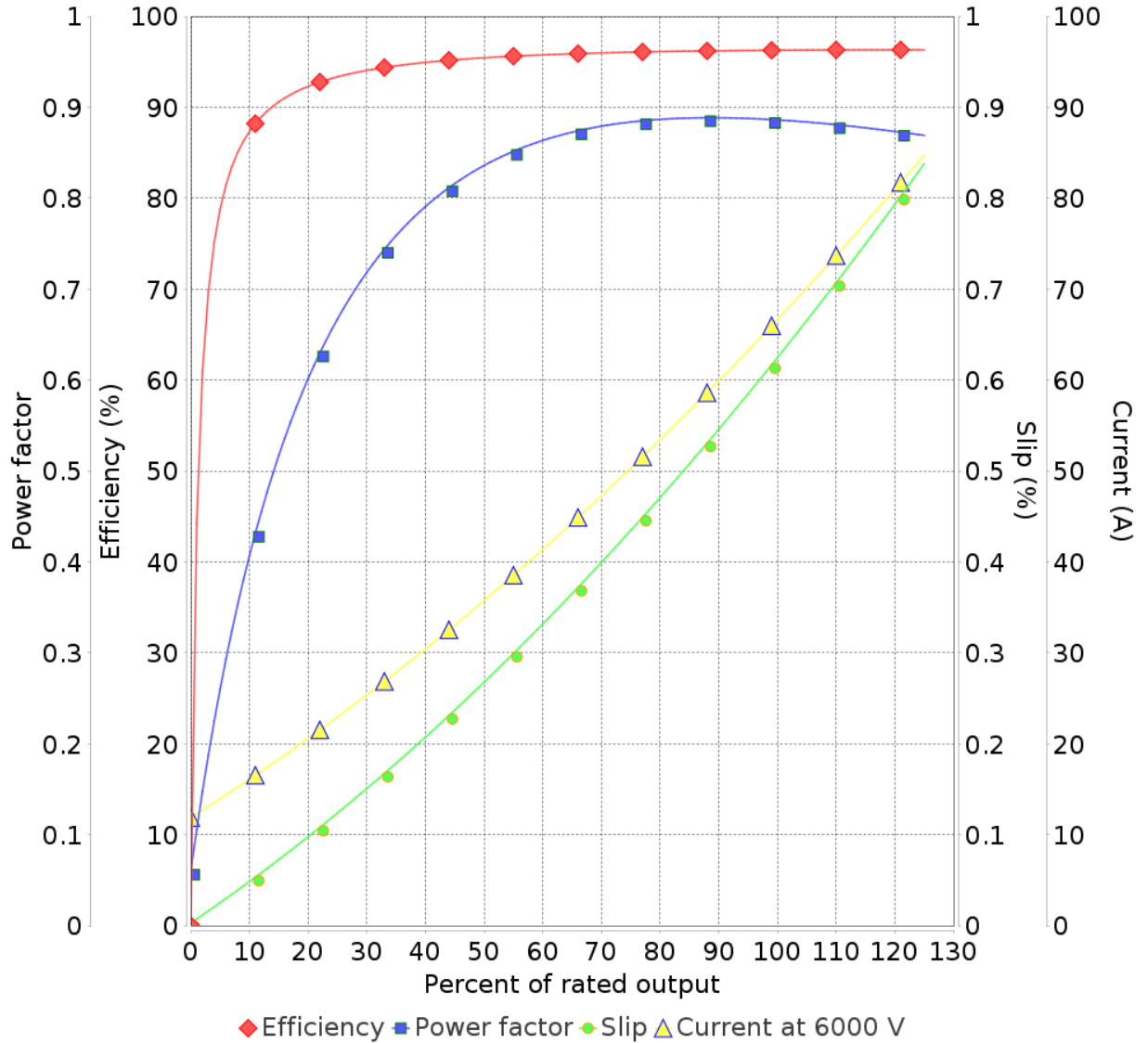
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



Performance : 590 kW 6000 V 50 Hz 2P 400H/G

Rated current	: 66.2 A	Moment of inertia (J)	: 8.70 kgm <sup>2</sup>
LRC	: 6.2	Duty cycle	: S1
Rated torque	: 1890 Nm	Insulation class	: F
Locked rotor torque	: 70 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 2981 rpm		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1640158793		
Checked by		Page	Rev.	
Date		3 / 5	1	

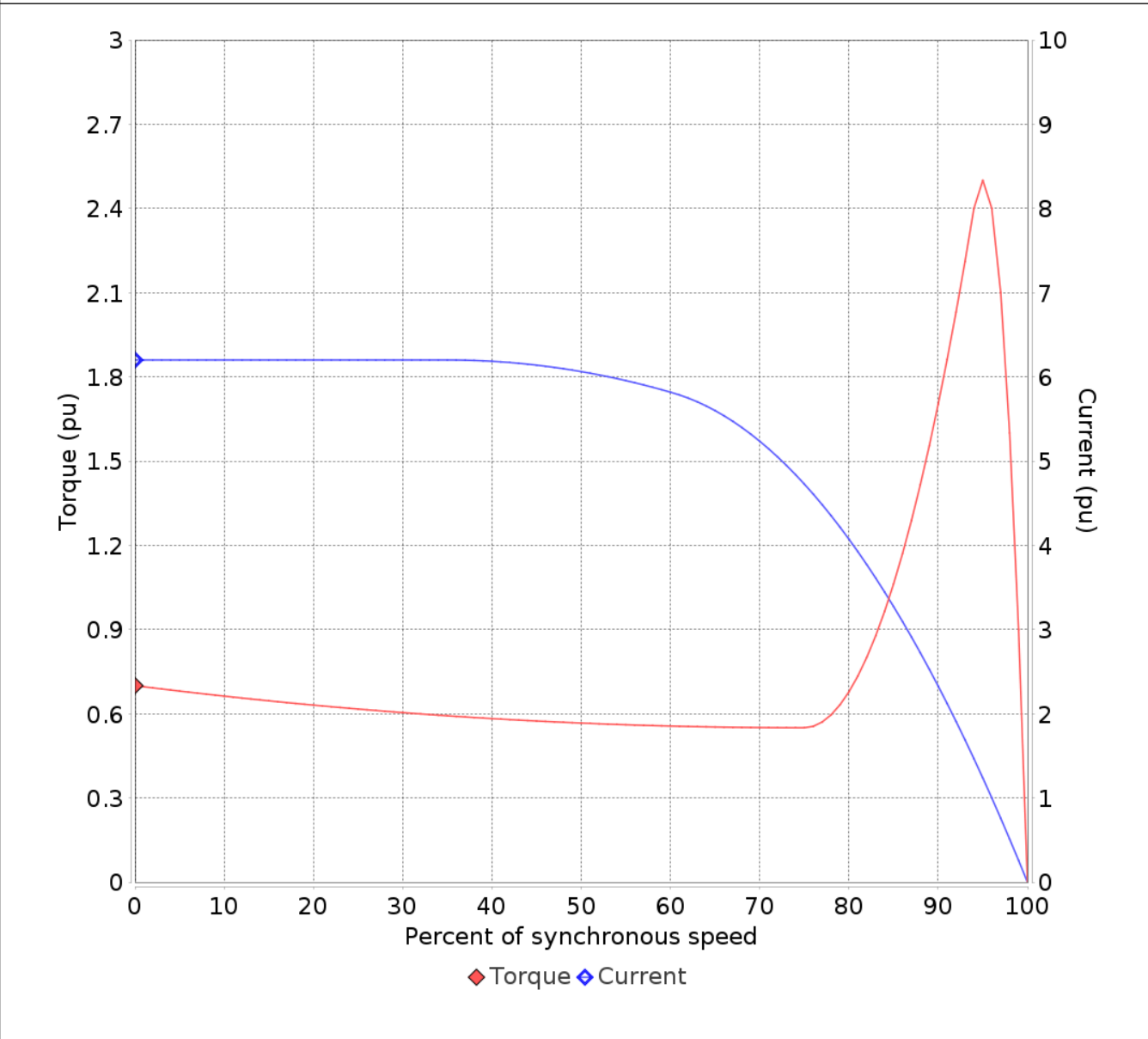
# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



Performance : 590 kW 6000 V 50 Hz 2P 400H/G

Rated current : 66.2 A	Moment of inertia (J) : 8.70 kgm <sup>2</sup>
LRC : 6.2	Duty cycle : S1
Rated torque : 1890 Nm	Insulation class : F
Locked rotor torque : 70 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 2981 rpm	

Locked rotor time 100% : 21 s (hot) 38 s (cold)	Run-up Time 100% : 1.9 s
Load inertia (J=GD <sup>2</sup> /4) : 8.70 kgm <sup>2</sup>	
Allowable run up time 100% : 16 s (hot) 30 s (cold)	

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1640158793		
Checked by		Page	Rev.	
Date		4 / 5	1	

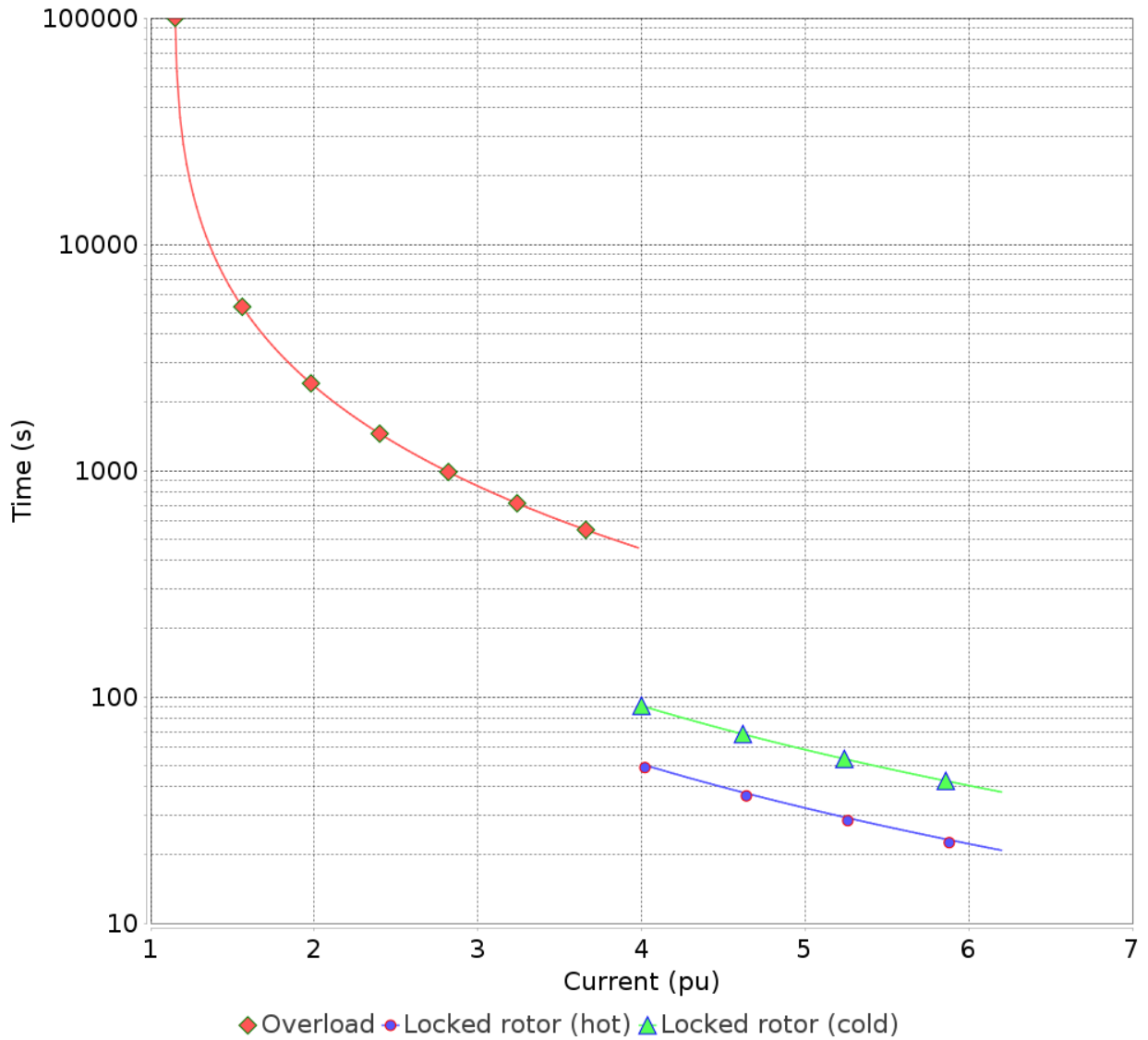
# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

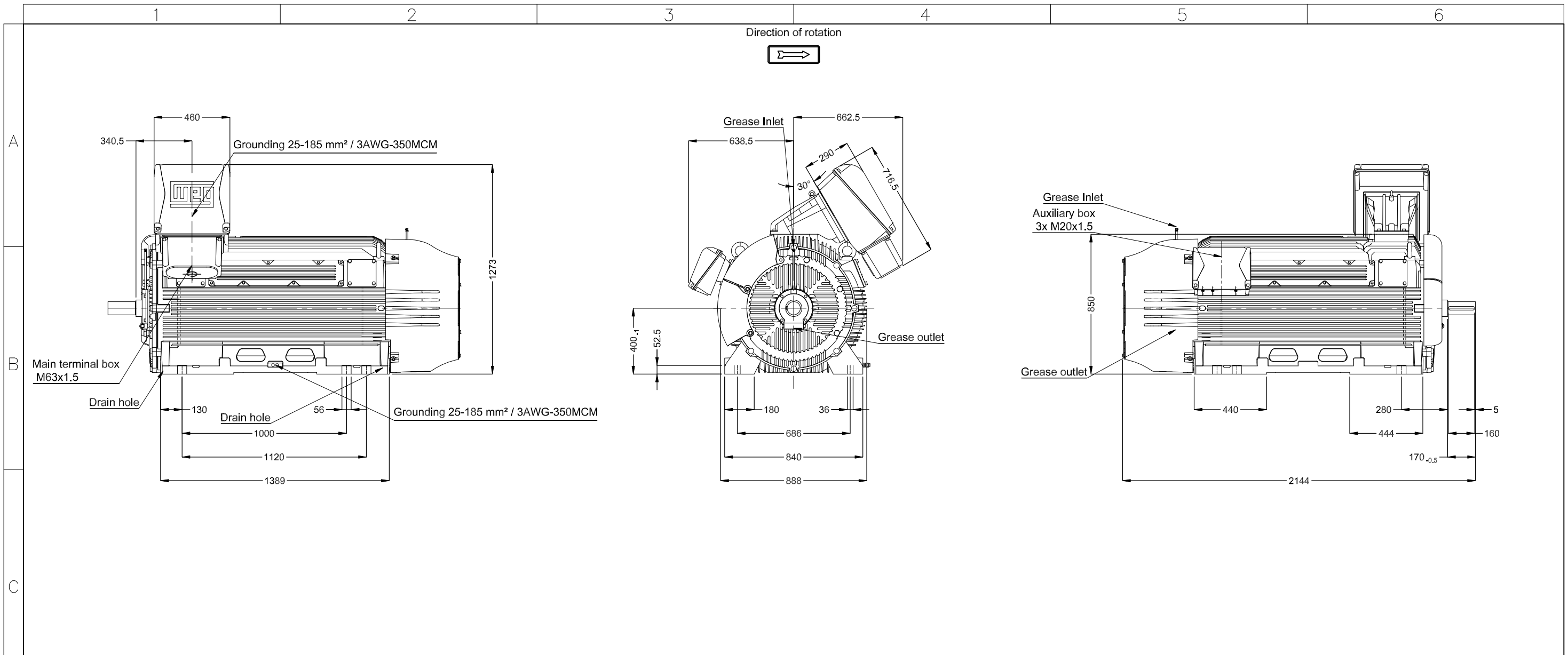
Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



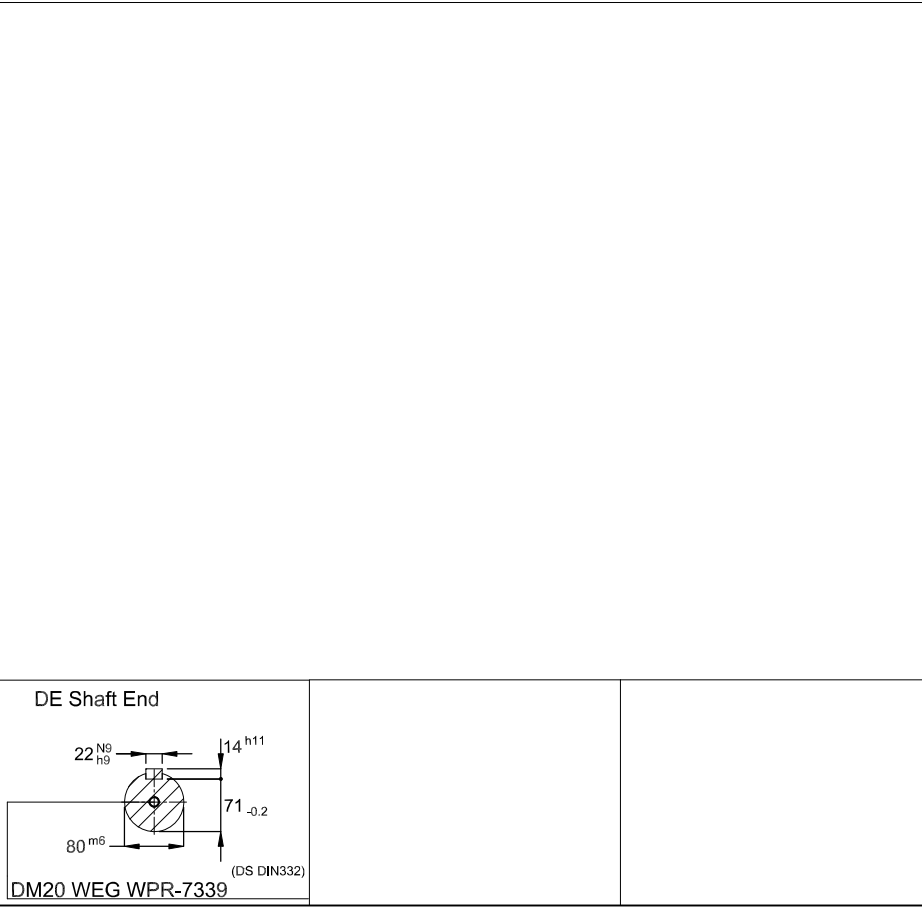
Performance : 590 kW 6000 V 50 Hz 2P 400H/G

Rated current	: 66.2 A	Moment of inertia (J)	: 8.70 kgm <sup>2</sup>
LRC	: 6.2	Duty cycle	: S1
Rated torque	: 1890 Nm	Insulation class	: F
Locked rotor torque	: 70 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 2981 rpm		
Heating constant	: 114.4 min		
Cooling constant	: 343.2 min		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1640158793		
Checked by		Page	Rev.	
Date		5 / 5	1	



Grease outlet according to IEEE841
Tropicalized internal painting
AISI 316 stainless steel extended grease fitting
Finish color Munsell 2.5 YR 6/14 inside of terminal box
Stainless steel screws - AISI 316
NDE endshield with electrically insulated bearing hub (HGF)
Color RAL 5010
Painting plan 212P
Mounting B3R(E)



590 kW 02 Poles 50 Hz 6000 V										A	
<b>AERZEN NEDERLAND B.V.</b>											
								Scale	1 : 24		
								PIRWUSER	01		
ECM	LOC	SUMMARY OF MODIFICATIONS					EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR W51 HD FRAME 400H/G IP55 TEFC					PREVIEW WDD   01				
CHECKED											
RELEASED											
REL. DATE	WEG	HENGLO	[Commercial WNL]	SHEET	1 / 1						

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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV

Frame	: 315G/F	Locked rotor time	: 17 s (hot) 31 s (cold)
Output	: 250 kW	Temperature rise	: 80 K
Poles	: 2	Duty cycle	: S1
Frequency	: 50 Hz	Ambient temperature	: -20 °C to +40 °C
Rated voltage	: 6000 V	Altitude	: 1000 m.a.s.l
Rated current	: 28.7 A	Protection degree	: IP55
L. R. Amperes	: 195 A	Cooling method	: IC411 - TEFC
LRC	: 6.8	Mounting	: B35R(E)
No load current	: 6.16 A	Rotation <sup>1</sup>	: Clockwise
Rated speed	: 2978 rpm	Noise level <sup>2</sup>	: 78.0 dB(A)
Slip	: 0.73 %	Vibration class	: A
Rated torque	: 802 Nm	Starting method	: Direct On Line
Locked rotor torque	: 110 %	Coupling	: DIRECT
Breakdown torque	: 230 %	Approx. weight <sup>3</sup>	: 2141 kg
Insulation class	: F	Painting plan	: 212P
Service factor	: 1.00	Color	: RAL 5010
Moment of inertia (J)	: 2.80 kgm <sup>2</sup>		

Output	50%	75%	100%	Load type	: Constant torque
Efficiency (%)	95.0	95.1	95.1	Load torque	: 689 Nm
Power Factor	0.83	0.86	0.88	Load inertia (J=GD <sup>2</sup> /4)	: 2.80 kgm <sup>2</sup>

Bearing type	Drive end	Non drive end	Foundation loads	
Lubrication interval	6314-C4	6314-C4	Max. traction	:
Lubricant amount	4500 h	4500 h	Max. compression	:
Lubricant type	27 g	27 g		
	MOBIL POLYREX EM			

Notes  
See notes on page 2.

Losses at normative operating points (speed;torque), in percentage of rated output power

P1 (0,9;1,0)	P2 (0,5;1,0)	P3 (0,25;1,0)	P4 (0,9;0,5)	P5 (0,5;0,5)	P6 (0,5;0,25)	P7 (0,25;0,25)
5.2	4.2	3.7	2.9	1.9	1.4	0.8

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by			1635946041	
Checked by			Page	Rev.
Date			1 / 5	3

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV

Thermal protection	ID	Application	Type	Quantity	Sensing Temperature
	1	Winding	PT100 - 3 wires	2 x Phase	-
	2	DE bearing	PT100 - 3 wires	1 x Bearing	-
	3	NDE bearing	PT100 - 3 wires	1 x Bearing	-

Space heater information  
Voltage: 110-127/200-240 V  
Output: 146-194/120-173 W

Notes  
Motor suitable for operation at 1000 m.a.s.l, 55°C of ambient temperature, load torque of 689.85 Nm and service factor of 1.00.

Standards	Specification	: IEC 60034-1	Vibration	: IEC 60034-14
	Test	: IEC 60034-2	Tolerance	: IEC 60034-1
	Noise	: IEC 60034-9		

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.  
(2) Measured at 1m and with tolerance of +3dB(A).  
(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

Rev.	Changes Summary	Rev.	Checked	Date
Performed by			1635946041	
Checked by			Page	Rev.
Date			2 / 5	3

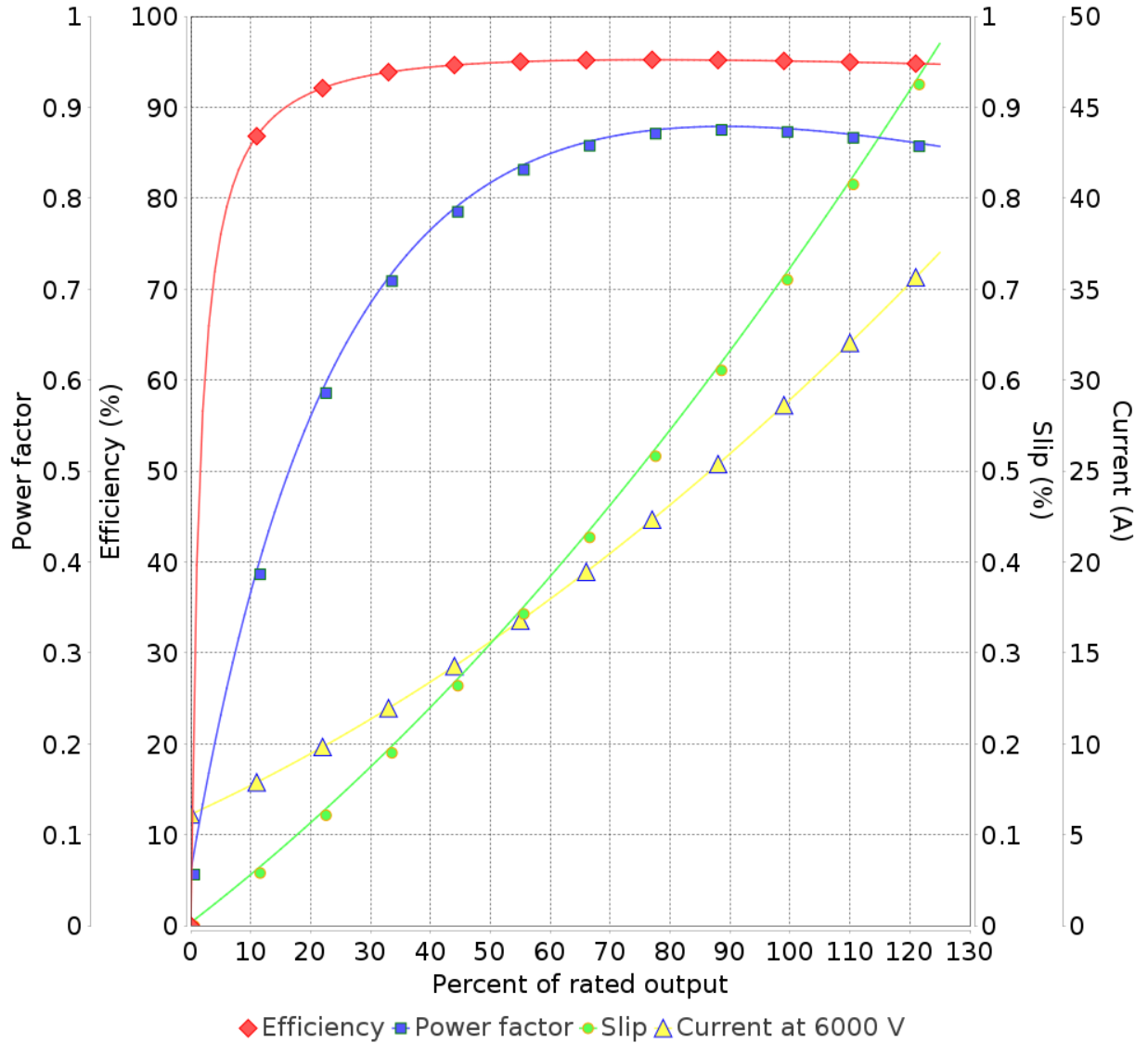
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



Performance : 250 kW 6000 V 50 Hz 2P 315G/F

Rated current	: 28.7 A	Moment of inertia (J)	: 2.80 kgm <sup>2</sup>
LRC	: 6.8	Duty cycle	: S1
Rated torque	: 802 Nm	Insulation class	: F
Locked rotor torque	: 110 %	Service factor	: 1.00
Breakdown torque	: 230 %	Temperature rise	: 80 K
Rated speed	: 2978 rpm		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1635946041		
Checked by		Page	Rev.	
Date		3 / 5	3	

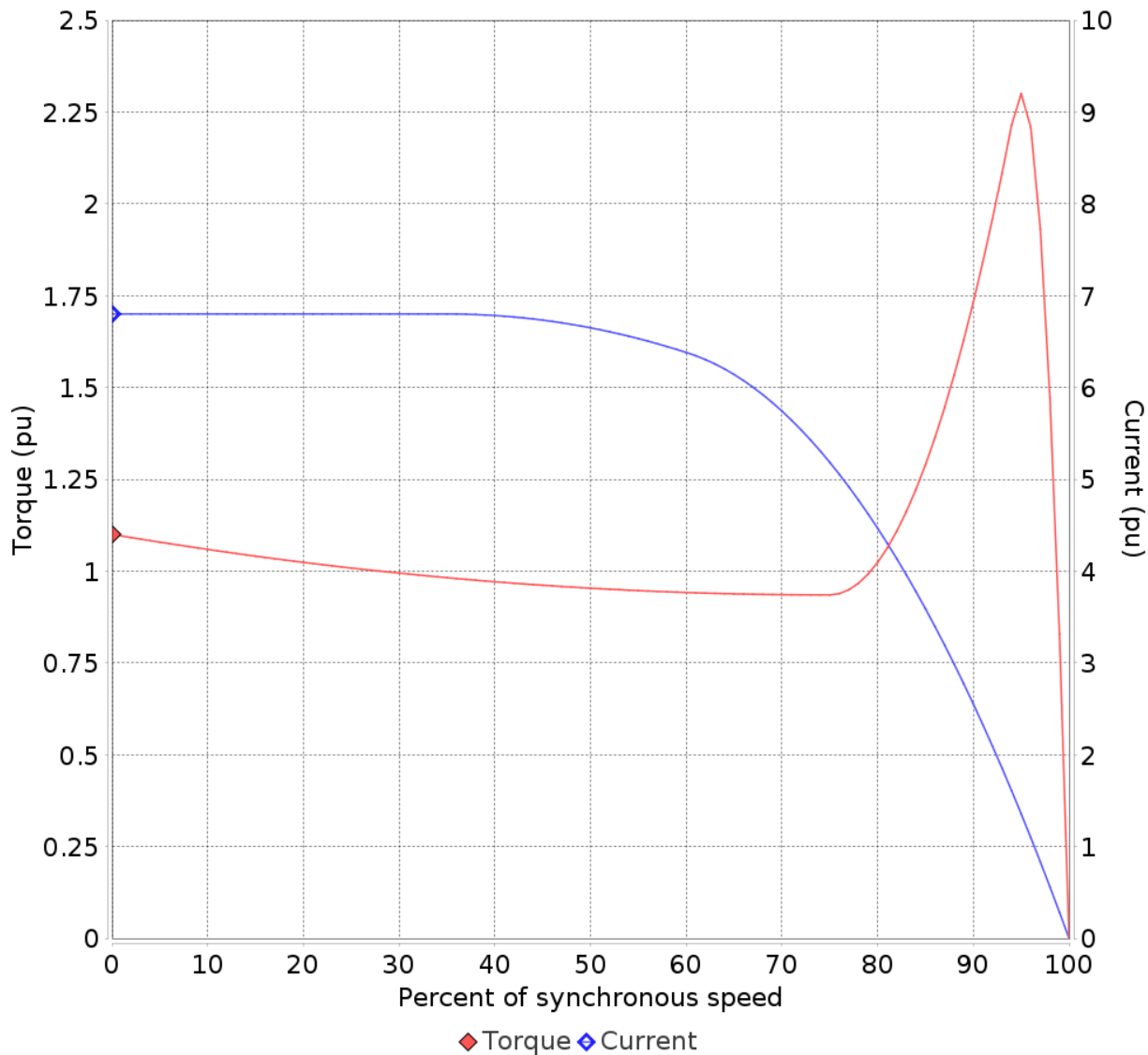
# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



Performance : 250 kW 6000 V 50 Hz 2P 315G/F

Rated current	: 28.7 A	Moment of inertia (J)	: 2.80 kgm <sup>2</sup>
LRC	: 6.8	Duty cycle	: S1
Rated torque	: 802 Nm	Insulation class	: F
Locked rotor torque	: 110 %	Service factor	: 1.00
Breakdown torque	: 230 %	Temperature rise	: 80 K
Rated speed	: 2978 rpm		

Locked rotor time 100%	: 17 s (hot) 31 s (cold)	Run-up Time 100%	: 16.3 s
Load inertia (J=GD <sup>2</sup> /4)	: 2.80 kgm <sup>2</sup>		
Allowable run up time 100%	: 13 s (hot) 24 s (cold)		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1635946041		
Checked by		Page	Rev.	
Date		4 / 5	3	

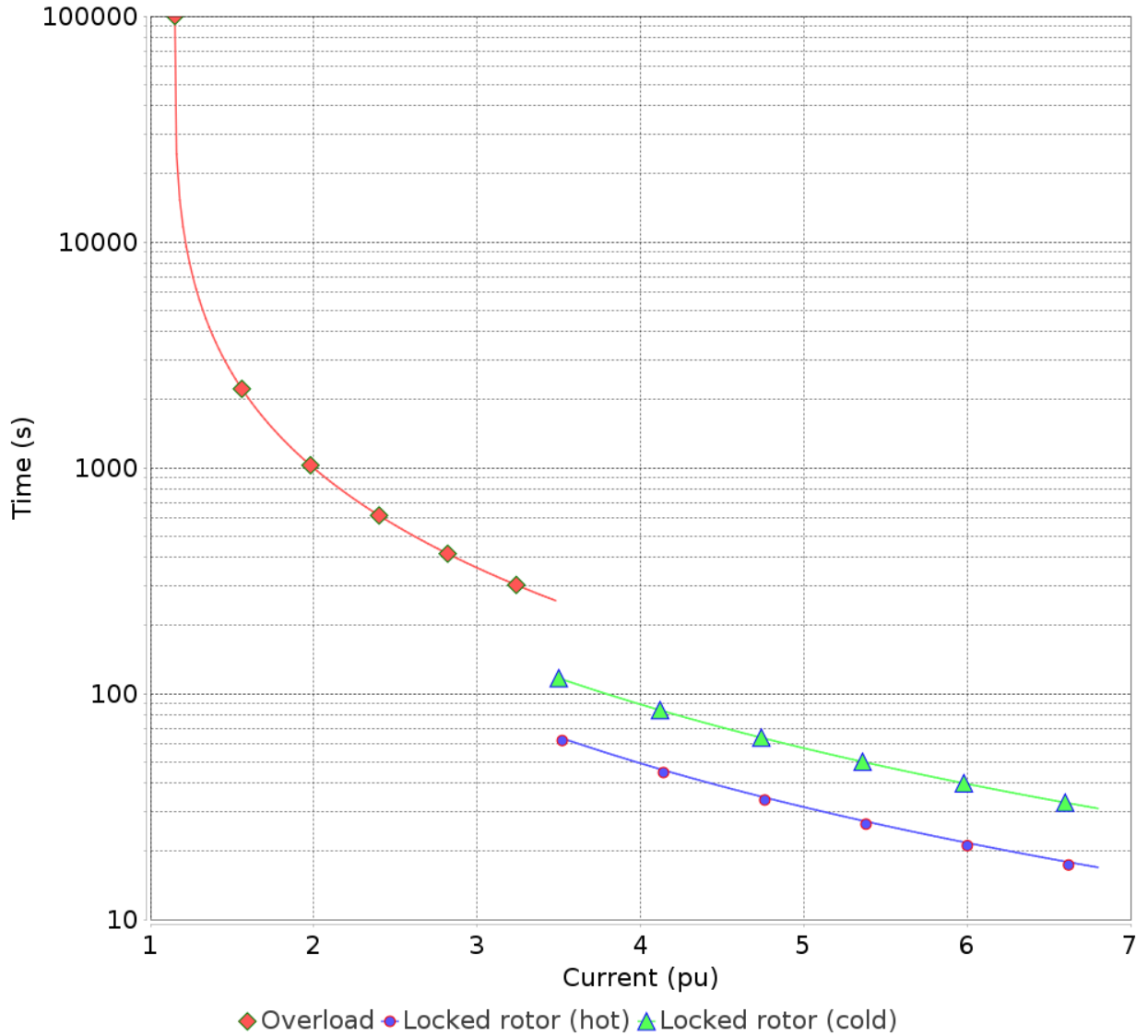
# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

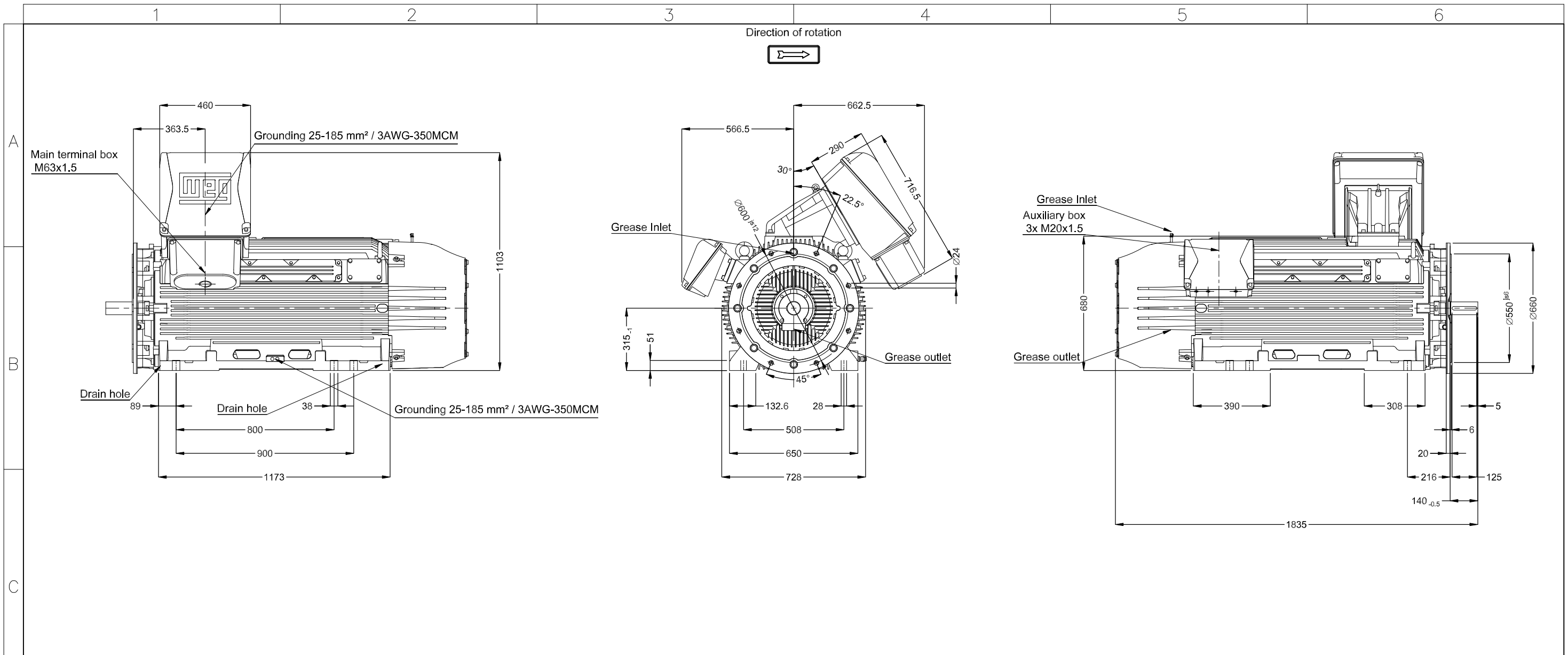
Product line : W51 HD - Voltage Class AT 5.1kV up to 6.6kV



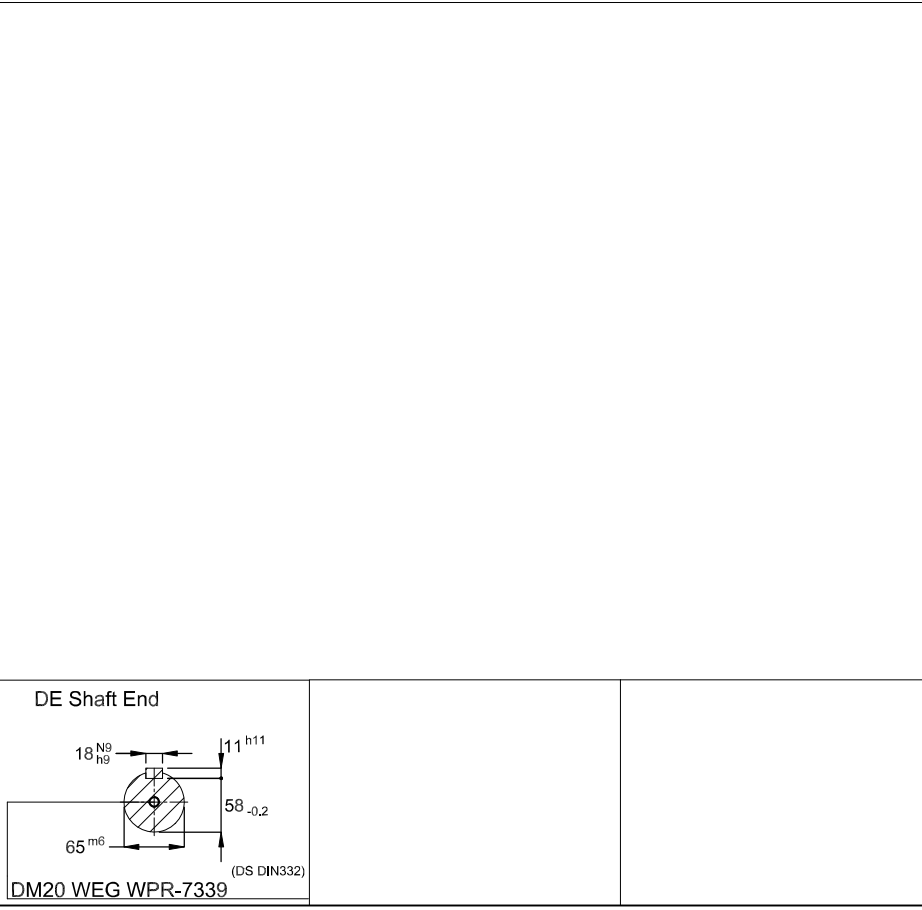
Performance : 250 kW 6000 V 50 Hz 2P 315G/F

Rated current	: 28.7 A	Moment of inertia (J)	: 2.80 kgm <sup>2</sup>
LRC	: 6.8	Duty cycle	: S1
Rated torque	: 802 Nm	Insulation class	: F
Locked rotor torque	: 110 %	Service factor	: 1.00
Breakdown torque	: 230 %	Temperature rise	: 80 K
Rated speed	: 2978 rpm		
Heating constant	: 48.3 min		
Cooling constant	: 144.9 min		

Rev.	Changes Summary	Rev.	Checked	Date
Performed by		1635946041		
Checked by		Page	Rev.	
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Grease outlet according to IEEE841
Tropicalized internal painting
AISI 316 stainless steel extended grease fitting
Finish color Munsell 2.5 YR 6/14 inside of terminal box
Stainless steel screws - AISI 316
C4 DE bearing
C4 NDE bearing
NDE endshield with electrically insulated bearing hub (HGF)
Color RAL 5010
Painting plan 212P
Mounting B35R(E)



250 kW 02 Poles 50 Hz 6000 V										A
<b>AERZEN NEDERLAND B.V.</b>										
								Scale	1 : 20	
								PIRWUSER	03	
ECM	LOC	SUMMARY OF MODIFICATIONS				EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR W51 HD FRAME 315G/F IP55 TEFC				PREVIEW WDD   03				
CHECKED										
RELEASED										
REL. DATE	WEG	HENGELO	[Commercial WNL]	SHEET	1 / 1					