



Toase-eh Park Sanati Gohar Ofogh  
Petrochemical Co.  
**CONCEPTUAL, BASIC and DETAIL DESIGN  
ENGINEERING OF STYRENE PARK OFFSITE**



**dttdamafin**  
thermal technology

Document Title: Electrical Motor Data Sheet

Document No.: EI027-DMF-VD-EL-DSH-017-R1

Rev. R1

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# STYRENE PARK OFFSITE

**Document Title:  
Electrical Motor Data Sheet**

Rev.	Issued Date	DESCRIPTION	PREPARED	CHECKED	APPROVED
R1	11-08-2024	IFA	F.Aghaienezhad	J.Beigloo	A.Gholizadeh
R0	22-06-2024	IFA	F.Aghaienezhad	J.Beigloo	A.Gholizadeh



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**REVISION RECORD SHEET**

Page Page	Revisions							Page	Revisions						
	R0	R1	R2	R3	R4	R5	R6		R0	R1	R2	R3	R4	R5	R6
1	X	X						41							
2	X	X						42							
3	X	X						43							
4		X						44							
5		X						45							
6		X						46							
7		X						47							
8		X						48							
9		X						49							
10		X						50							
11		X						51							
12		X						52							
13		X						53							
14		X						54							
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40								80							



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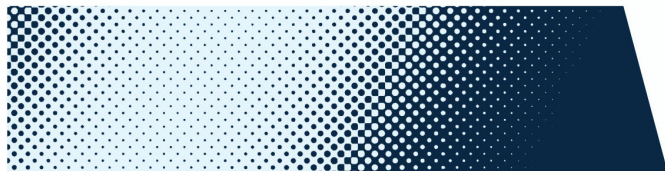
Document No.: EI027-DMF-VD-EL-DSH-017-R1

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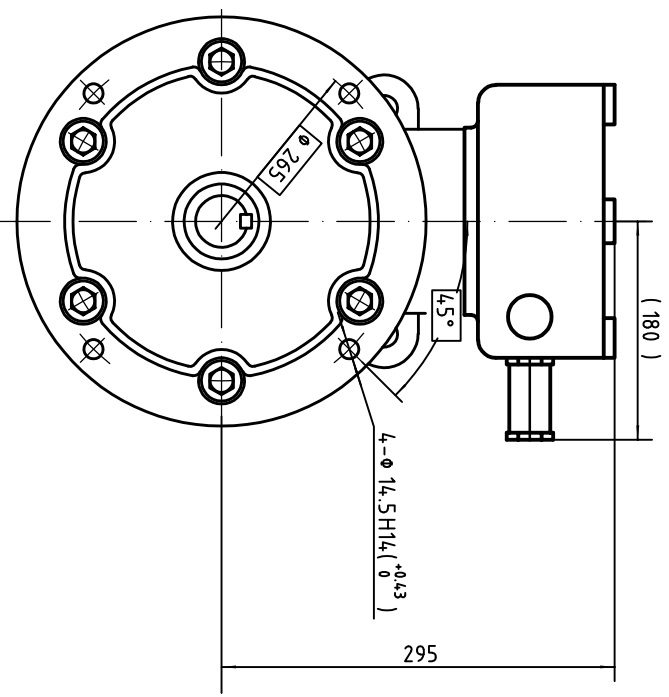
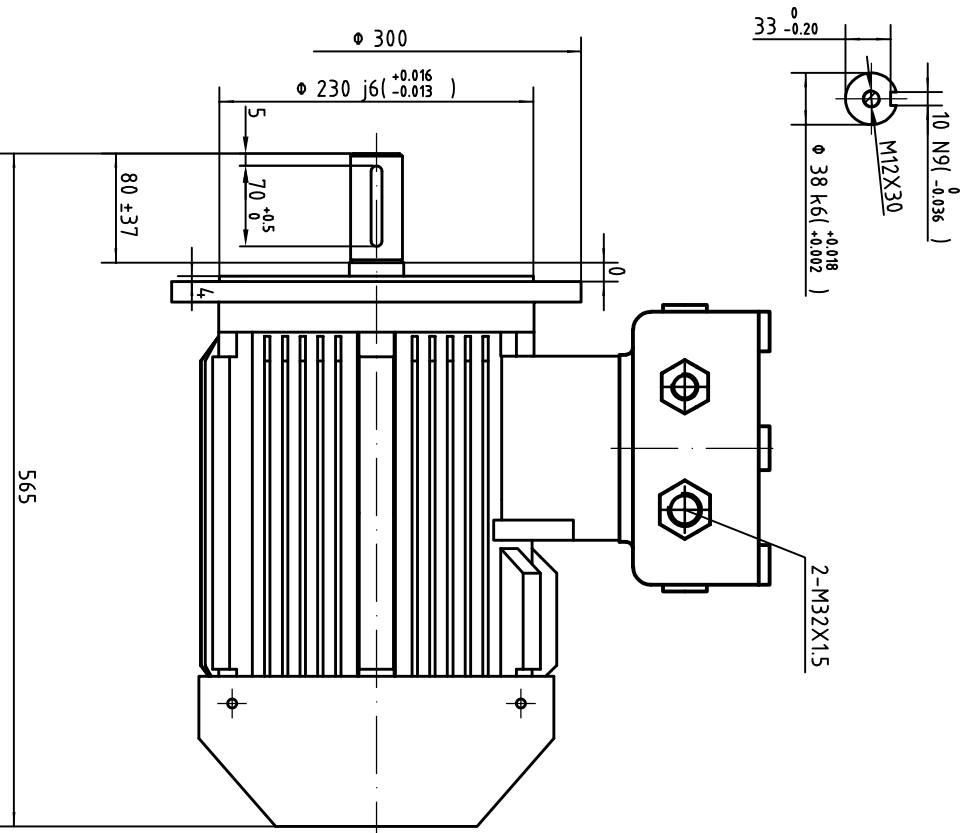
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**MOTOR BASIC DATA (1158)**

INSTALLATION SITE		
QUANTITY		4
BRAND-MODEL		Will be specified
RATED POWER		7.5 kw
SUPPLY VOLTS		400±5%
FREQUENCY		50±2%
NUMBER OF POLE		4
WINDING CONNECTIONS/ROTATION		Delta
COUPLING TYPE		V-Belt(Belt & Pulley)
NOMIAL SPEED		1500 rpm
DUTY CATEGORY		S1
INVERTER DUTY		YES
ALTITUDE		20 m
AMBIENT TEMPRATURE MIN/MAX		5/48 C
RELATIVE HUMIDITY (RH)		65%
STARTING METHOD		2-DOL /2-VFD
CABLE GLAND SUPLIED		YES
DIRECTION OR ROTATION		Both
ISULATION CLASS/TEMP. RISE		F/B
COOLING		(IC 411)
AREA CLASSIFICATION		Exe IIB T3
WINDING TEMPERATURE . DETECTORS (PTC RELAY)		N.A
ANTI-CONDANATION HEATER (SPACE HEATER)		N.A
MOUNTING (TYPE OF INSTALATION)		IMV3
PROTECTION DEGREE FOR MOTOR/FOR TERMINAL BOX		IP55//IP55
ROTOR CAGE MATERIAL (AL)		CAST IRON
PAINT SYSTEM		STANDARD COLOR-RAL (5015)
CABLE TYPE AND SIZE (FEEDER CABLE BY CLIENT)	MAIN	PLEASE SPECIFY
	HEATER	N.A
	PTC	N.A
THERED (GLAND) ENTRY	MAIN	PLEASE SPECIFY
	HEATER	N.A
	PTC	N.A
EARTH TERMINALS		IN & EXT
MAX NOISE LEVEL (AT ONE METER)		< 85
LIFTING DEVICE		YES
DRAIN PLUGS		NO
NO OF PHASE		3
IE (EFFICIENCY CLASS)		IE=2 (MINIMUM)
PF (COS &)		0.84
TYPE TEST		NO
MOTOR SUITABLE FOR VCDS (Y/N)		NO
CURVE & OUTLINE & COMPLETE CATALOGUE (Y/N)		YES

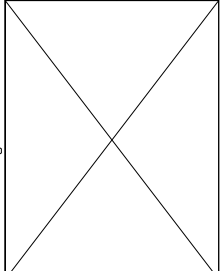


<b>Accreditation (National)</b>	IEC 60079									
<b>Hazardous Classification</b>	Ex db IIB T4									
<b>Series Model Type</b>	E3ABL									
<b>Frame Size</b>	132M									
<b>Rated Output Power</b>	7.5 kW									
<b>Rated Speed</b>	1465 r/min									
<b>Number of Poles</b>	4 Pole									
<b>Number of Phases</b>	3 Phase									
<b>Voltage</b>	400 V									
<b>Frequency</b>	50 Hz									
<b>Duty Cycle</b>	S1									
<b>Service Factor</b>	1.00									
<b>Operating Altitude</b>	1000 masl									
<b>Insulation Class</b>	F (155°C)									
<b>Temperature Rise</b>	80K (B class)									
<b>Ambient Temperature</b>	-15°C ~ 50°C									
<b>Method of Cooling</b>	IC411 (TEFC - Totally Enclosed Fan Cooled)									
<b>Degree of Protection (Ingress Level)</b>	IP55									
<b>Material of Construction</b>	Cast Iron									
<b>Connection</b>	Δ/Y									
<b>Full Load Current [ I<sub>N</sub> ]</b>	14.43									
<b>Locked Rotor Current [ I<sub>L</sub> / I<sub>N</sub> ]</b>	7.50									
<b>Full Load Torque [ T<sub>N</sub> ]</b>	48.89 Nm									
<b>Locked Rotor Torque [ T<sub>L</sub> / T<sub>N</sub> ]</b>	2.0									
<b>Breakdown Torque [ T<sub>B</sub> / T<sub>N</sub> ]</b>	2.3									
<b>Efficiency Class</b>	IE3									
<b>Load</b>										
<b>Efficiency</b>	<table border="1"><thead><tr><th>100% load</th><th>75% load</th><th>50% load</th></tr></thead><tbody><tr><td>90.4%</td><td>90.3%</td><td>89.7%</td></tr><tr><td>0.84</td><td>0.79</td><td>0.69</td></tr></tbody></table>	100% load	75% load	50% load	90.4%	90.3%	89.7%	0.84	0.79	0.69
100% load	75% load	50% load								
90.4%	90.3%	89.7%								
0.84	0.79	0.69								
<b>Power Factor (cos φ)</b>										
<b>Bearing Configuration (DE / NDE)</b>	Ball Bearing / Ball Bearing									
<b>Bearing Series Type</b>	<b>DE:</b> 6208-2Z/C3 <b>NDE:</b> 6208-2Z/C3									
<b>Bearing Lubrication Type</b>	Grease - ESSO UNIREX N2									
<b>Vibration</b>	1.6 mm/sec									
<b>Moment of inertia (kg.m<sup>2</sup>)</b>	0.0488									
<b>Direction of Rotation</b>	CW or CCW									
<b>Sound Pressure Level</b>	75 dB(A)									
<b>Final Colour</b>	RAL 5010									
<b>Paint Specification</b>	2 Pack Epoxy									
<b>Mounting Options</b>	B5 /V3									
<b>Terminal Box Position</b>	Top Terminal Box									



Note: Cable Gland not Included

DRAWING REVISION	REVISION BY	DATE
E00	APPROVED BY	DATE
E00 DESCRIPTION		



DRAWN BY	DATE	DESCRIPTION	MATERIAL	PROCESS/FINISH	SHEET
APPROVED BY <td>DATE <td>E3ABL 132M B5</td> <td></td> <td></td> <td></td> </td>	DATE <td>E3ABL 132M B5</td> <td></td> <td></td> <td></td>	E3ABL 132M B5			
REFERENCE <td></td> <td></td> <td></td> <td></td> <td></td>					
FIRST ANGLE PROJECTION	SIZE B	DRAWING NUMBER			

**marathon™**  
Motors

E3ABL 132M B5

4

3

2

1

A

B

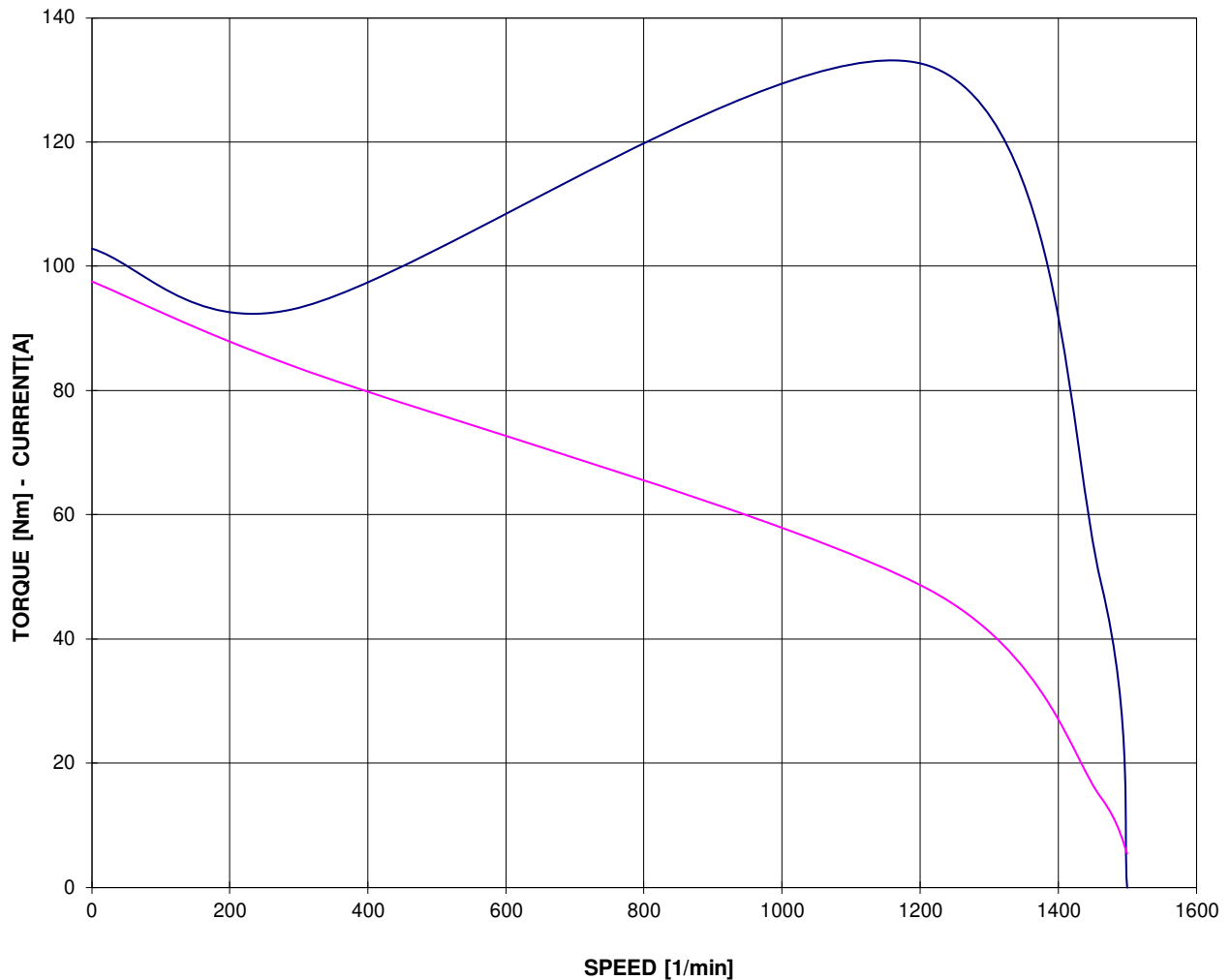
A

B

**TORQUE/CURRENT-SPEED DIAGRAM**

<b>Motore / Motor</b>	<b>E3ABL 132M 4</b>	
Potenza nominale / Rated power	7.50	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	14.43	A
Velocità / Speed	1462	rpm
Coppia / Torque	48.99	Nm

— COPPIA - TORQUE    — CORRENTE - CURRENT

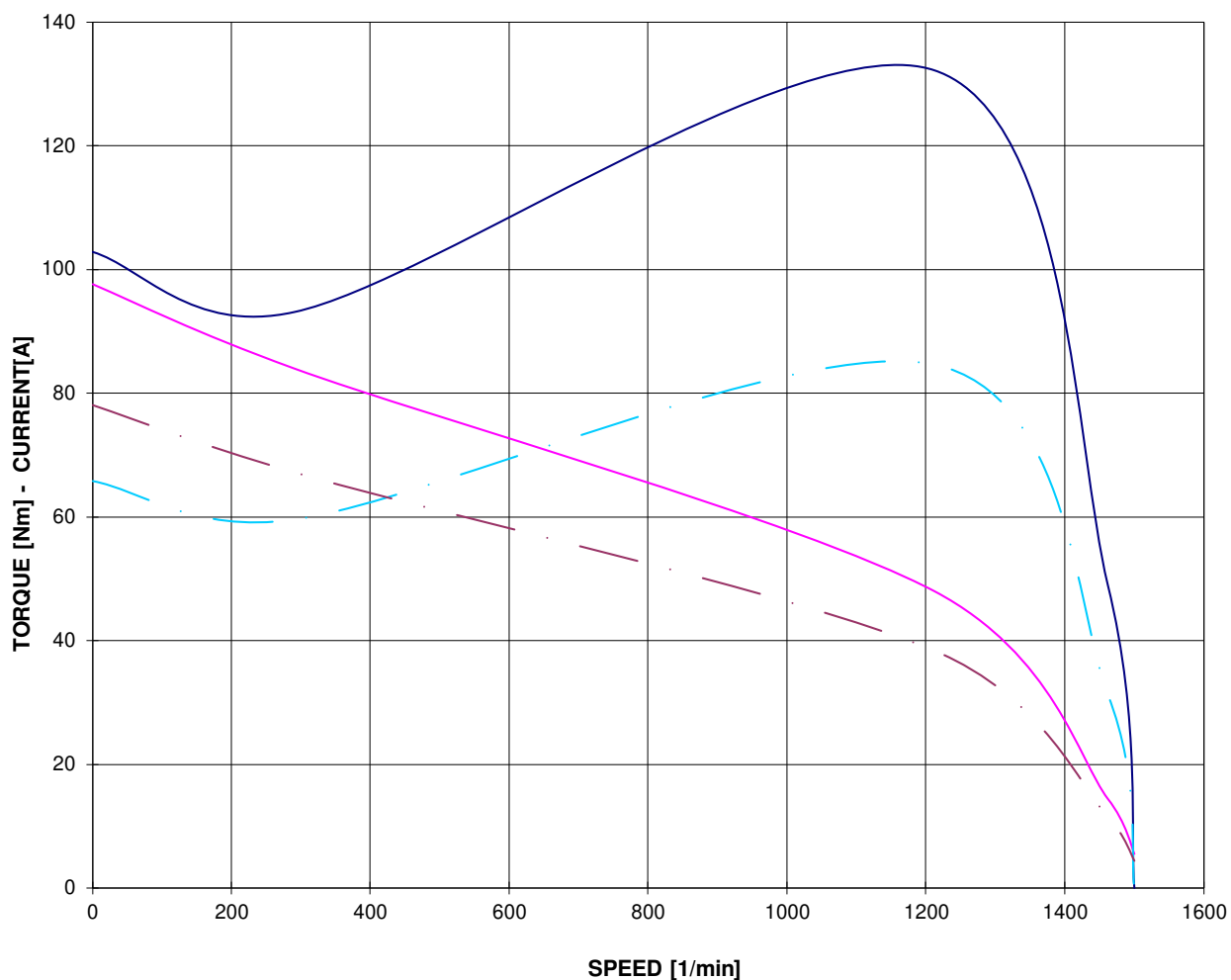


Data obtained by calculation method

**TORQUE/CURRENT-SPEED DIAGRAM (Reduced voltage)**

<b>Motore / Motor</b>	<b>E3ABL 132M 4</b>	
Potenza nominale / Rated power	7.50	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	14.43	A
Velocità / Speed	1462	rpm
Coppia / Torque	48.99	Nm

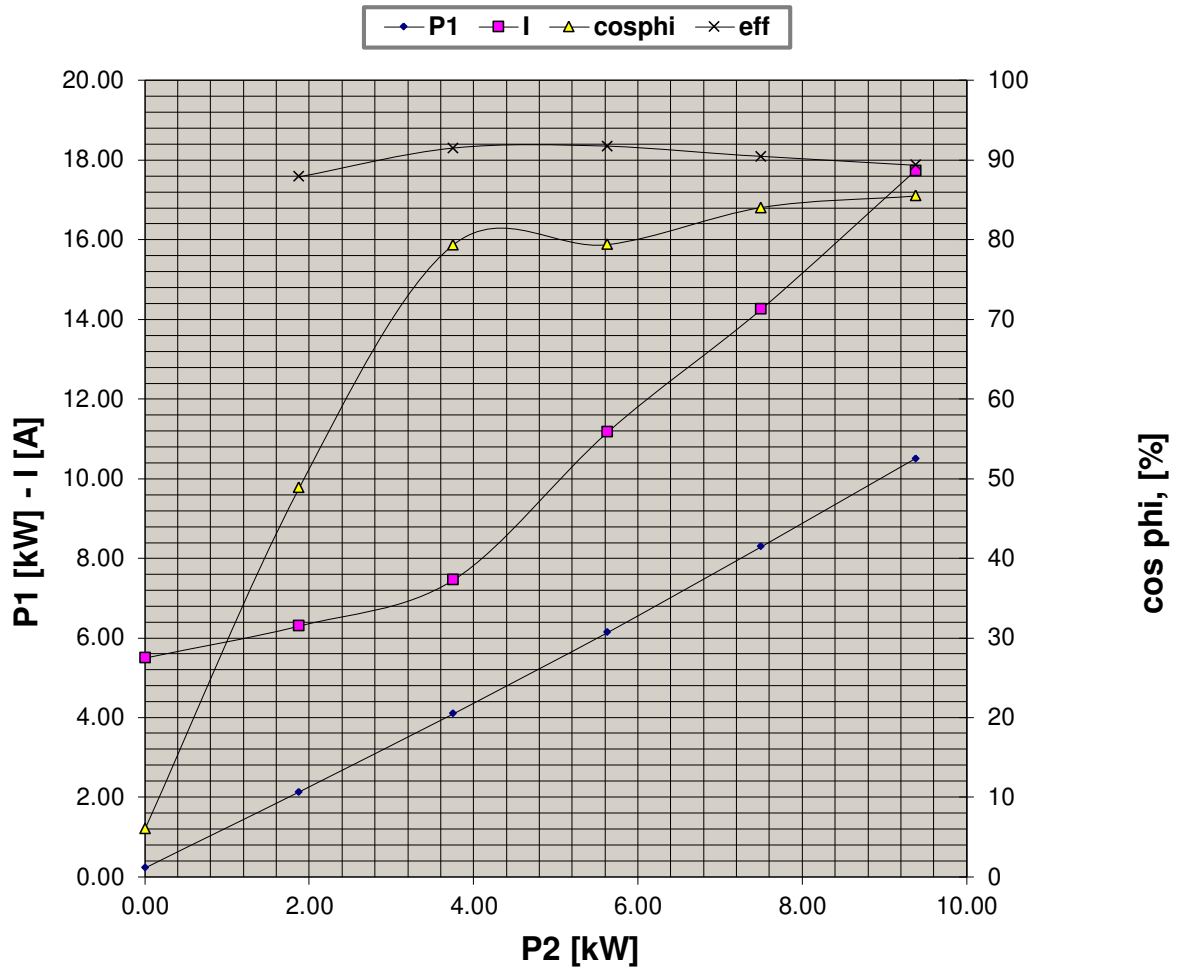
— COPPIA - TORQUE                      — CORRENTE - CURRENT  
— COPPIA - TORQUE 80% Un            — CORRENTE - CURRENT 80% Un



Data obtained by calculation method

**PERFORMANCE CURVES**

<b>Motore / Motor</b>	<b>E3ABL 132M 4</b>	
Potenza nominale / Rated power	7.50	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	14.43	A
Velocità / Speed	1462	rpm
Coppia / Torque	48.99	Nm



Data obtained by calculation method

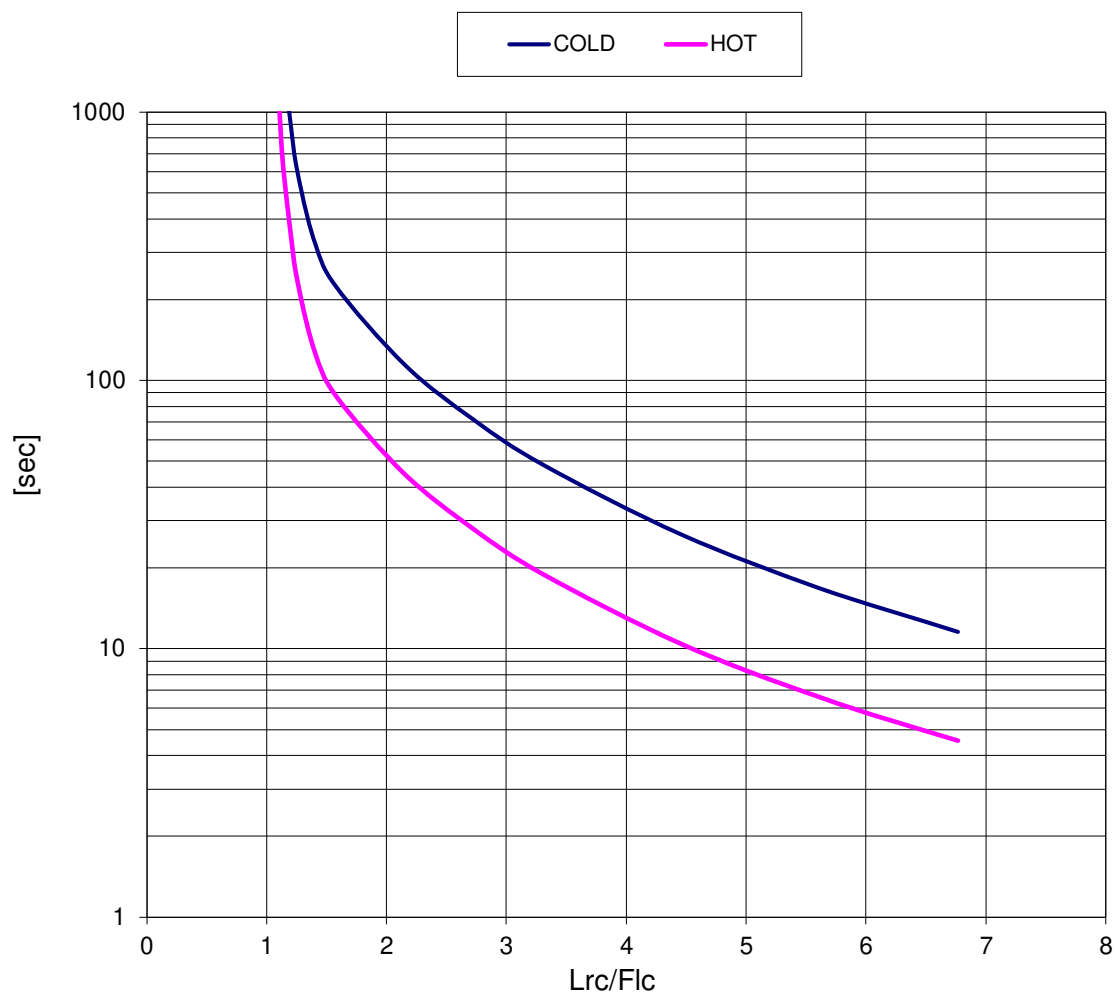
**THERMAL WITHSTAND CURVE**

Cliente / Customer 0

Impianto / Plant -  
ITEM -

Numero d'offerta / Offer Number 2024  
-

**Motore / Motor E3ABL 132M 4**  
 Potenza nominale / Rated power 7.50 kW  
 Poli / Pole 4  
 Tensione - Frequenza / Voltage - Frequency 400 - 50 V - Hz  
 Corrente / Rated current 14.43 A  
 Velocità / Speed 1462 rpm  
 Coppia / Torque 48.99 Nm

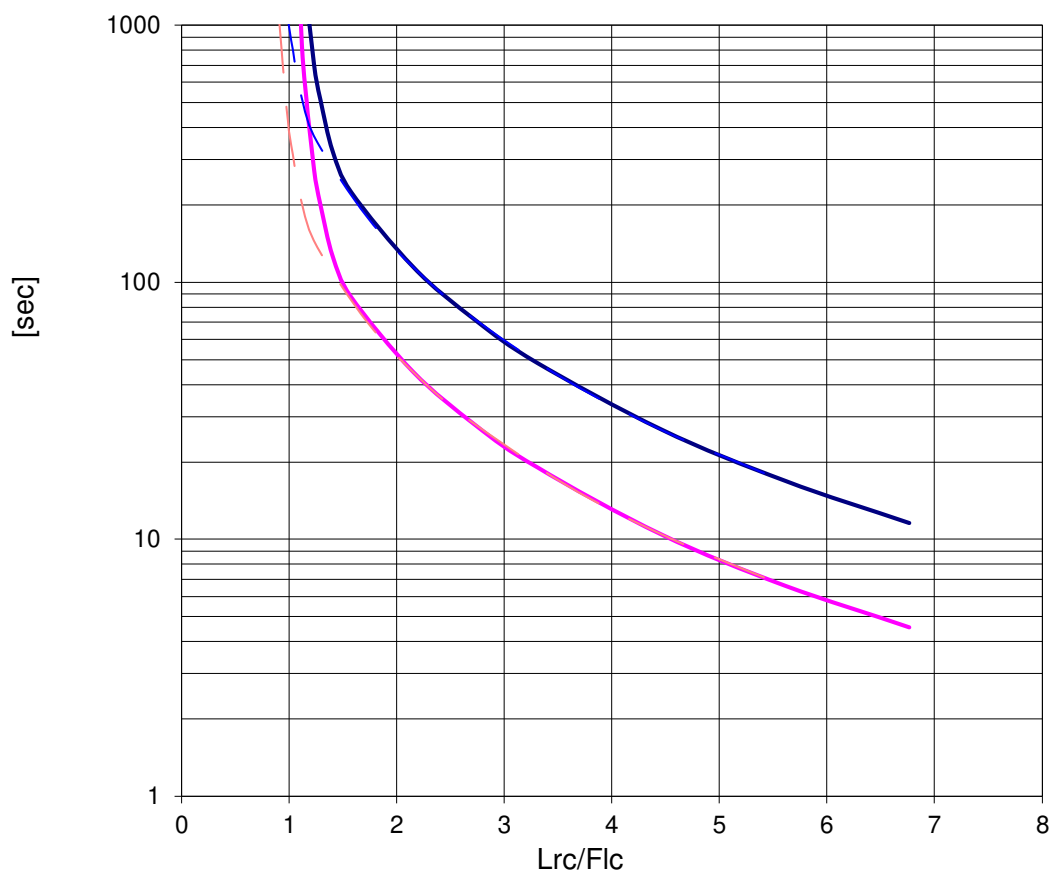


Data obtained by calculation method

**THERMAL WITHSTAND CURVE (Reduced voltage)**

<b>Motore / Motor</b>	<b>E3ABL 132M 4</b>	
Potenza nominale / Rated power	7.50	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	14.43	A
Velocità / Speed	1462	rpm
Coppia / Torque	48.99	Nm

— COLD (100% Un)   
 — HOT (100% Un)   
 — COLD (80% Un)   
 — HOT (80% Un)



Data obtained by calculation method



PRODUCT-DETAILS

# ACS880-01-025A-3

## LV AC industrial wall-mounted single drive, IEC: Pn 11 kW, 25 A, 400 V (ACS880-01-025A-3)



General Information	
Global Commercial Alias	ACS880-01-025A-3
Product ID	3AUA0000107992
ABB Type Designation	ACS880-01-025A-3
EAN	6438177557197
Catalog Description	LV AC industrial wall-mounted single drive, IEC: Pn 11 kW, 25 A, 400 V (ACS880-01-025A-3)
Long Description	<p>The ACS880-01 drives are customized to meet the particular needs of specific industries, such as oil and gas, mining, metals, chemicals, cement, power plants, material handling, pulp and paper, sawmills, marine, water and wastewater, food and beverage, and automotive. They can control a wide range of applications, including cranes, extruders, winches, winders, conveyors, mixers, compressors, centrifuges, test benches, elevators, extruders, pumps and fans.</p> <p>The ACS880-01 comes in one compact package for easy installation and commissioning. The drive can be installed on the wall as standard and in a cabinet as an option. The drive offering includes enclosure classes up to IP55, making it suitable for most environments and installations. ACS880-01 drives have all the essential features built-in. These features include as standard a choke for harmonic filtering as well as options like a brake chopper, EMC filter and communication protocol adapter, functional safety, external output filters and I/O extension modules.</p>

### Ordering

Country of Origin	Finland (FI)
Customs Tariff Number	85044085
HS Code	850440-- Electrical transformers, static converters (for example, rectifiers) and inductors.- Static converters
Invoice Description	ACS880-01-025A-3 PN: 11.0 kW, IN: 25 A
Made To Order	Yes
Minimum Order Quantity	1 piece
Order Multiple	1 piece
Quote Only	No
Selling Unit of Measure	piece

## Dimensions

Product Net Weight	8.4 kg 18.519 lb
Product Net Depth / Length	249 mm 9.803 in
Product Net Height	409 mm
Product Net Width	155 mm 6.102 in
Package Level 1 Depth / Length	574 mm
Package Level 1 Height	304 mm
Package Level 1 Width	256 mm
Package Level 1 Units	1 carton

## Technical

Number of Phases	3
Degree of Protection	IP21
Enclosure Type NEMA	Type1
Altitude	4000 m 5 ... 95
Sound dB (A)	59 dB(A)
Multiple Battery Information	Lithium Coin, CR2032, 220 mAh, 3 V, 2 pcs, 6 g
Frequency (f)	47.5 ... 63 Hz
Frame Size	R2
Input Voltage (U <sub>in</sub> )	380 ... 415 V
Mounting Type	Wall-mounted
Communication Protocol	CAN DeviceNet EtherNet/IP MODBUS Other Bus Systems PROFIsafe PROFIBUS PROFINET IO
Number of Hardware Interfaces	Industrial Ethernet 0 Other 4 Parallel 0 PROFINET 0 RS-232 0 RS-422 0 RS-485 1 Serial TTY 0 USB 1
Includes	Control unit PC connection
Analog Inputs	2
Analog Outputs	2
Number of Digital In/Outputs	6 / 2

Output Current, Heavy-Duty Use ( $I_{HD}$ )	17 A
Output Current, Light-Overload Use ( $I_{LD}$ )	24 A
Output Current, Normal Use ( $I_n$ )	25 A
Output Power, Heavy-Duty Use ( $P_{HD}$ )	7.5 kW
Output Power, Light-Overload Use ( $P_{LD}$ )	11 kW
Output Power, Normal Use ( $P_n$ )	11 kW
Apparent Power Output	17 kV·A
Efficiency Level	IE2
Standby Loss	23 W
Complete Drive Module Efficiency (61800-9-2)	

Operating Point Frequency / Current	Absolute Loss	Relative Loss	Efficiency
0 / 25 %	126 W	0.7 %	87.9 %
0 / 50 %	168 W	1.0 %	91.3 %
0 / 100 %	301 W	1.7 %	92.2 %
50 / 25 %	135 W	0.8 %	93.4 %
50 / 50 %	185 W	1.1 %	95.2 %
50 / 100 %	342 W	2.0 %	95.6 %
90 / 50 %	203 W	1.2 %	97.0 %
90 / 100 %	412 W	2.4 %	97.0 %

Temperature Rating Maximum 40 °C

### Classifications

ETIM 8	EC001857 - Frequency converter =< 1 kV
ETIM 9	EC001857 - Frequency converter =< 1 kV
UNSPSC	39122001

### Environmental

SCIP	090be974-b30f-4eaa-b924-275d6a7f6686 Finland (FI)
Simplified SCIP	05ba9c4c-0f14-4b63-8f0d-9dfe97cea5ce Belgium (BE)
	fe7f4acc-a128-4e0d-bb0e-9401a4fbb99c Netherlands (NL)
	c8260a35-2ae0-4c51-8f1f-f45f223f38d1 Denmark (DK)
	2ba4b589-d362-4a71-960c-db11fa23c371 Spain (ES)
	16d426ed-87d2-41b8-a6a6-becce45ad9b6 Portugal (PT)
	83eb23c1-e520-4509-b458-e0f3f5d3e025 Estonia (EE)

WEEE Category 5. Small Equipment (No External Dimension More Than 50 cm)

### Additional Information

Product Name	Frequency converter
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## Categories

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Drives → Low Voltage AC Drives → Industrial Drives → ACS880 single drives → ACS880-01 - Wall-mounted single drive

