SECTION 19

Motor Information for Coagulant Unloading Pump

00GNB78AP101

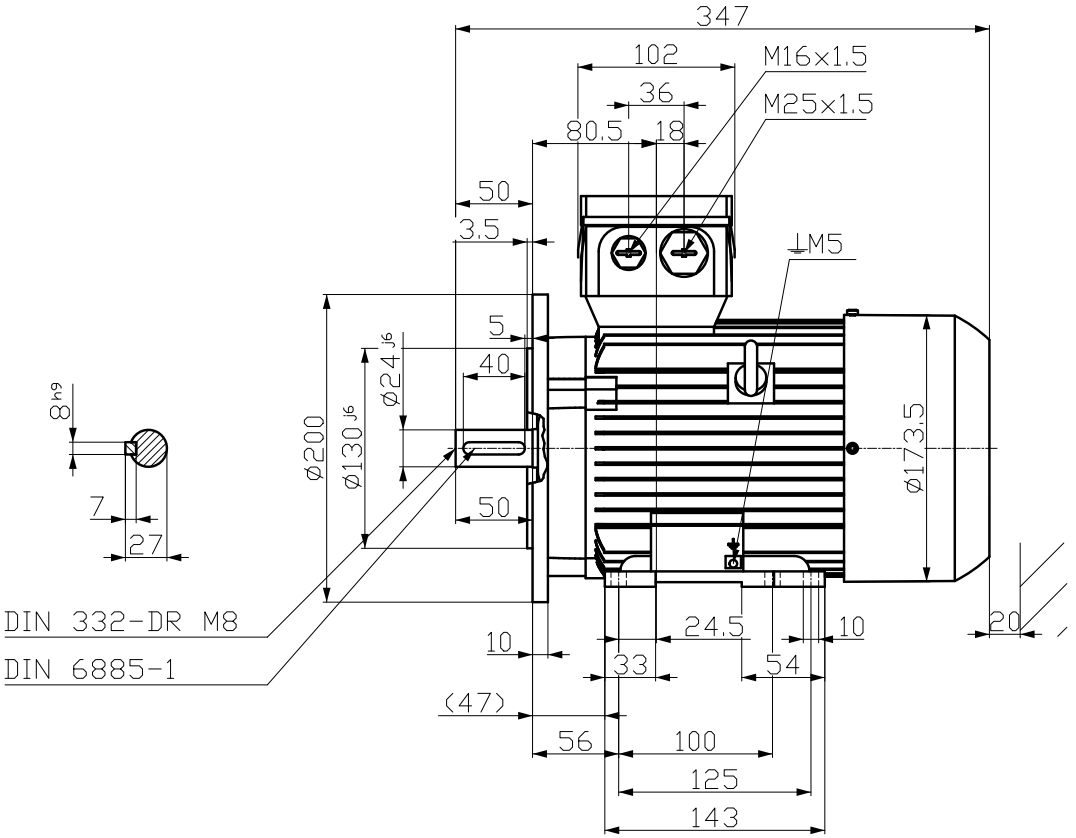
Motor Data sheets

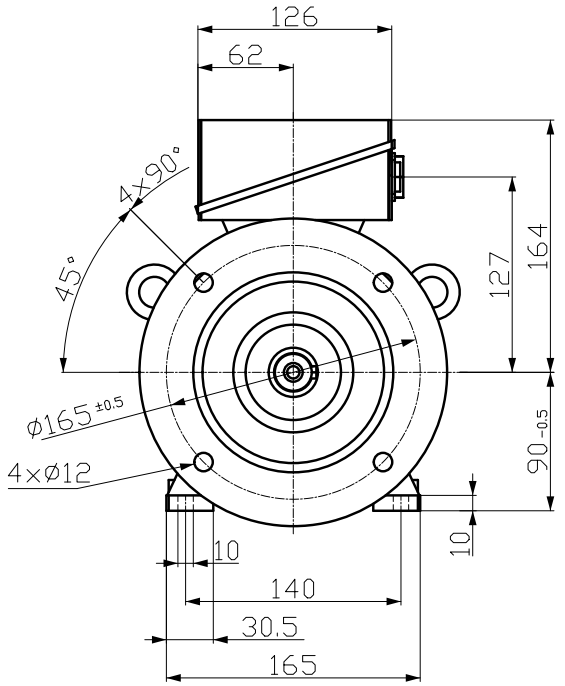
1. Name of motor	-	COAGULANT UNLOADING PUMP MOTOR
2. Manufacturer	-	SIEMENS
3. Country of origin	-	EUROPE
4. Type/machine code	-	SQUIRREL CAGE INDUCTION
5. Applied standard (characteristics)	-	IEC 60034-1
6. Ratings		
(1) Rated output	kW	2.2
(2) Service factor	-	1
(3) Number of pole	-	2
(4) Rated speed	min^{-1}	2910
(5) Rated voltage	V	380
(6) Number of phases	-	3
(7) Rated frequency	Hz	50
(8) Insulation class	-	F
(9) Temperature rise	-	B
(10) Rated duty	-	S1
7. Service Conditions		
(1) Starting method	-	DOL
(2) Direction of rotation (viewed from DE)	-	CW
(3) Reverse rotation (Yes / No)	-	NO
(4) Location (Indoor / Outdoor)	-	OUTDOOR
(5) Enclosure IP rating		
(a) Motor frame	-	IP55
(b) Terminal boxes	-	IP55
(6) Installation (Horizontal / Vertical)	-	HORIZONTAL
(7) Design ambient temperature	°C	-20 to 40
(8) Explosion proof (Required / Not required)	-	NOT REQUIRED
(9) Noise level (at full-load condition)	dB (A)	65
8. Characteristics		
(1) Current		
(a) Normal current	A	4.45
(b) No-load current	A	
(c) Starting current	A	<650% rated current

(2) Torque		
(a) Starting torque	%	260
(b) Maximum torque	%	400
(3) Slip at rated output		
(4) Efficiencies		
(a) At 100% load	%	85.9
(b) At 75% load	%	86.8
(c) At 50% load	%	86.1
(d) At 25% load	%	-
(5) Power factor		
(a) At rated load	%	88
(b) At starting load	%	
(6) GD2 coupled with driven equipment	kg-m^2	0.0031
(7) Starting time with driven equipment	s	< 5
(8) Consecutive number of starts		
(a) From cold condition per hour	-	3
(b) From hot condition per hour	-	2
(c) Minimum time between 2 starts (running state)	min	
(d) Minimum time between 2 starts (stop state)	min	
(9) Allowable locked-rotor time		
(a) At cold condition	s	
(b) At hot condition	s	
9. Constructions		
(1) Stator winding connection (Wye / Delta)	-	DELTA
(2) Type of bearing (DE / NDE)	-	6205 2Z C3 / 6204 2Z C3
(3) Lubricants		
(a) Recommended lubricant and brand name	-	ESSO UNIREX N3
(b) Pouring method	-	GREASE GUN
(c) Quantity of lubricant for initial filling	-	
(d) Recommended interval for recharging	-	8000 HOURS
(e) Recharging quantity	-	
(f) Location of pouring (indicated in the outline drawing)	-	
(4) Bearing cooling water requirement (if required)		NOT REQUIRED
(a) Quantity	m^3/h	-
(b) Inlet water temperature	°C	-
(c) Required cooling water pressure	kPa	-
(d) Type of cooling water	-	-

(5) Water to air heat exchanger (if applied)	m^3/h	NOT APPLIED
(a) Quantity of cooling water	°C	-
(b) Inlet water temperature	kPa	-
(c) Required cooling water pressure	-	-
(d) Type of cooling water	-	-
(6) Space heater (AC 220V 1 phase)	W	NOT APPLICABLE
(7) Weight	kg	32
10. Attached document numbers		
(1) Motor outline drawing	-	SEE PAGE 116
(2) Terminal box drawings		
(a) For main power	-	
(b) For instruments	-	
(c) For space heater	-	
(3) Current transformers (for MV motors only)		
(a) Characteristics curves	-	
(b) Outline drawing	-	
(4) Efficiency curves	-	
(5) Thermal capability curves		
(a) At cold condition	-	
(b) At hot condition	-	
(6) Starting and speed torque characteristics at 80%, 90% and 100% voltage	-	

10.1 MOTOR OUTLINE DRAWING

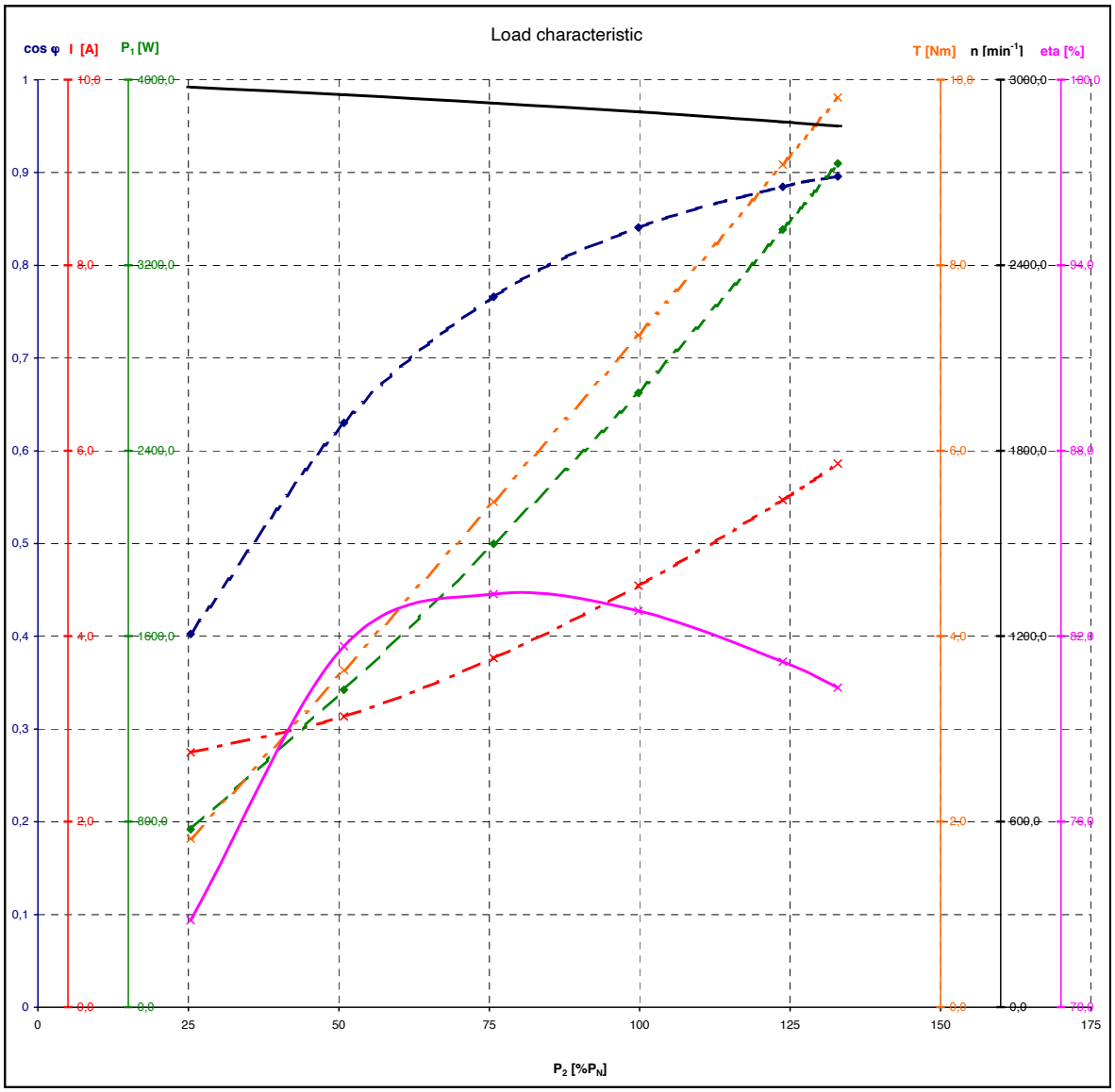




Tolerance	Surface	Material	Weight -	Scale mm
1LE1501-0EA49-0JA4-Z B02+B83+H04+H07+M1Y+Q02+S01	Author Creator DTK Approval Department Change Order	Dimensional drawing Maßzeichnung		
SIEMENS	Doc State 10/25/17 Revision Index RS	MLFB Item No Doc No	Doc Type / Paper Size A3 1st Language en 2nd Language de	
© Siemens AG 2016	Project No -	Ref No -	Sheet 1 of 1	

SIEMENS	MEASURING AND CALCULATION OF EFFICIENCY IN ACCORDING WITH IEC 60034-2-1:2007 FOR MOTORS >1 kW	

eta [%]
cos φ
I [A]
P_1 [W]
T [Nm]
n [min^{-1}]



Report No.	R&D42-1820i000001001_TYP_	Comment		Motortype	1LE10050EA422AB4
Name of tester	Dietmar Weyer	Typprüfung 1LE1 FS80+90 2pol.; Erwärmung 50Hz; P50		Framesize	90
Reviewed by	Nils Müller			TR-No.	5 881 31285 20 022-
Department	I DT LD P R&D 42			Simomess / Interface	V1.2.8
Date of test	01.02.2012			Protasyn	V2.20 (16.05.2011)
Serial No.	TYP090-FP101A-00			Excel Makro	V1.18 (18.11.10)

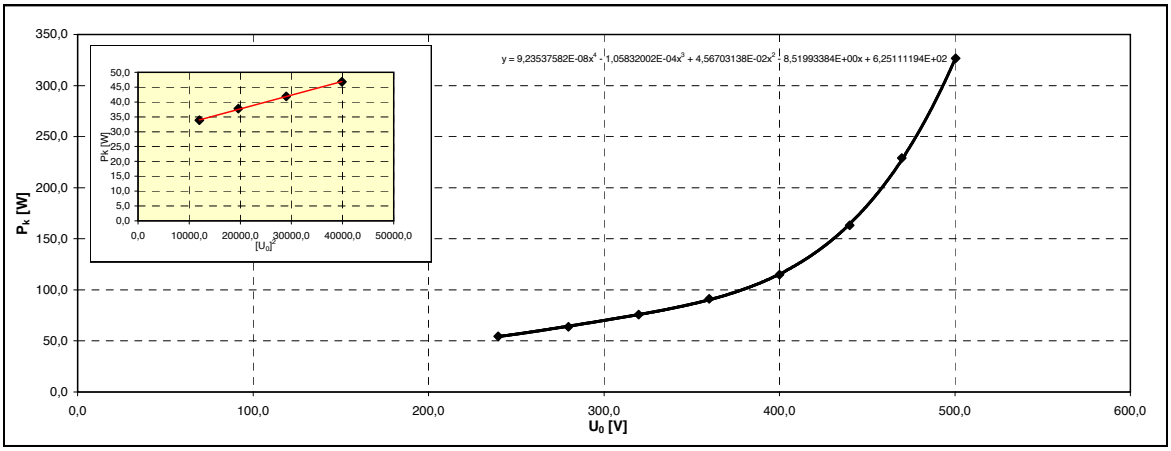
SIEMENS	MEASURING AND CALCULATION OF EFFICIENCY IN ACCORDING WITH IEC 60034-2-1:2007 FOR MOTORS >1 kW	

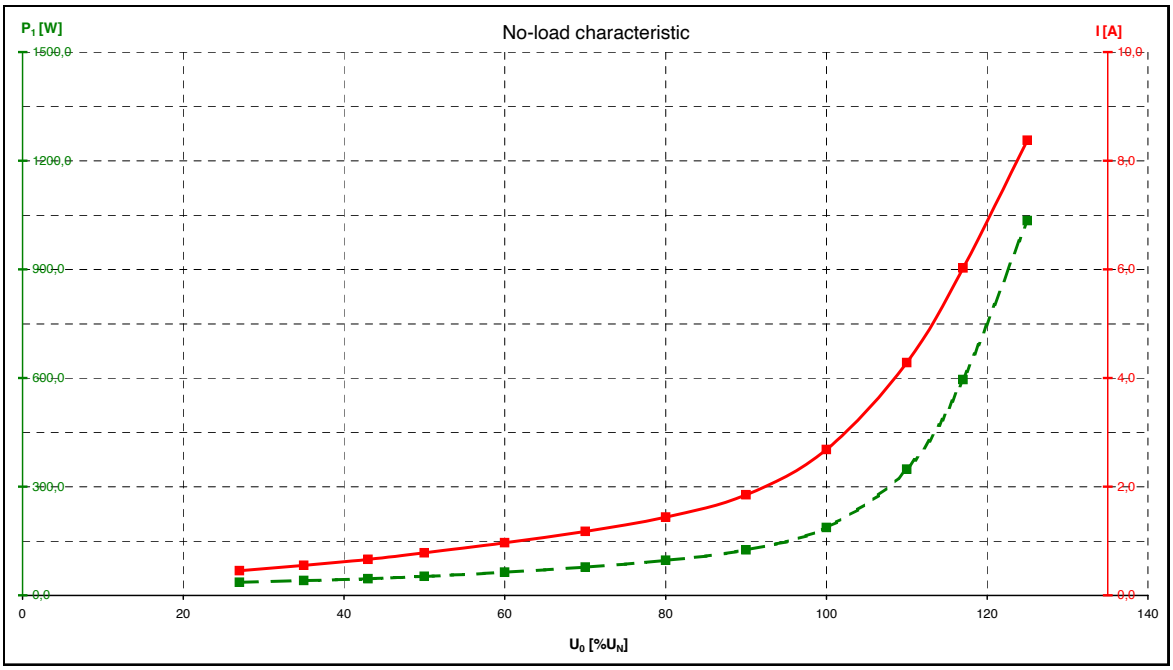
Core loss and windage-friction measurements at no-load

f [Hz]	U_0 [%]	U_0 [V]	I_{10} [A]	I_{20} [A]	I_{30} [A]	I_0 [A]	ϑ_a [°C]	ϑ_w [°C]	R [Ω]	P_1 [W]	cos φ_0 [ ]	P_S [W]	P_k [W]	P_{fe} * [W]
No-load test between 20% and 50% of rated voltage														
50,0	27,0	109,6	0,45	0,47	0,44	0,45	21,4	55,6	6,72200	35,9	0,416	2,1	33,8	5,4
50,0	35,0	140,1	0,54	0,57	0,55	0,55	21,4	57,8	6,72200	40,8	0,305	3,1	37,7	9,3
50,0	43,0	170,2	0,64	0,68	0,67	0,66	21,4	60,0	6,72200	46,3	0,237	4,4	41,9	13,4
50,0	50,0	199,6	0,76	0,81	0,79	0,78	21,3	62,4	6,72200	53,0	0,196	6,2	46,8	18,4
No-load test between 60% and 125% of rated voltage														
50,0	60,0	239,8	0,94	0,99	0,98	0,97	21,3	66,0	6,72200	63,9	0,159	9,5	54,4	26,0
50,0	70,0	279,7	1,14	1,20	1,20	1,18	21,3	69,4	6,72200	78,0	0,136	14,0	64,0	35,5
50,0	80,0	319,8	1,42	1,45	1,45	1,44	21,3	72,3	6,72200	96,8	0,121	21,0	75,8	47,4
50,0	90,0	359,9	1,83	1,87	1,86	1,85	21,4	73,7	6,72200	125,8	0,109	34,6	91,2	62,8
50,0	100,0	400,0	2,68	2,68	2,71	2,69	21,3	72,6	6,72200	187,7	0,101	72,8	114,9	86,5
50,0	110,0	440,0	4,25	4,28	4,32	4,28	21,3	67,5	6,72200	348,2	0,107	184,9	163,3	134,8
50,0	117,0	469,7	6,03	6,03	6,04	6,03	21,3	62,0	6,72200	595,5	0,121	366,5	229,0	200,6
50,0	125,0	500,4	8,35	8,37	8,42	8,38	21,3	53,5	6,72200	1034,8	0,142	708,0	326,8	298,4

* Only use for internal calculation, can be different to interpolation of P_{fe}

P_{fw} = 28,4 W γ = **0,9995** (Correlation factor) No load point for regression deleted = **0**





Report No.	R&D42-1820i000001001_TYP_	Comment		Motortype	1LE10050EA422AB4
Name of tester	Dietmar Weyer	Typprüfung 1LE1 FS80+90 2pol.; Erwärmung 50Hz; P50		Framesize	90
Reviewed by	Nils Müller			TR-No.	5 881 31285 20 022-
Department	I DT LD P R&D 42			Simomess / Interface	V1.2.8
Date of test	01.02.2012			Protasyn	V2.20 (16.05.2011)
Serial No.	TYP090-FP101A-00			Excel Makro	V1.18 (18.11.10)