SEW EURODRIVE

Addendum to the Operating Instructions

DRN.., DRU.., EDRN.. AC motors

Technical Information according to Regulation (EU) 2019/1781 and Statutory Instruments (S.I.) 2021 No. 745

Edition 07/2025

33089094/EN

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1 Introduction

1.1 Content of this document

This document contains the technical data of 2-, 4-, 6-, and 8-pole DRN.., DRU.., and EDRN.. motors according to the specifications of regulation (EU) 2019/1781 and Statutory Instruments (S.I.) 2021 No. 745.

1.2 DR.. series AC motors

The SEW-EURODRIVE DR.. AC motors are released for sale worldwide.

In addition to standard and energy-efficient motors, this series includes other versions:

- Asynchronous servomotors
- Torque motors
- Explosion-protected motors
- Synchronous motors
- Pole-changing motors

The motors are available for direct mounting to gear units or as stand-alone motors.

1.2.1 DR.. motor series energy efficiency classes

The DR.. series includes 2-, 4-, 6- and 8-pole energy-efficient motors, each in the following efficiency class (International Efficiency class):

- DR2S.. motors in energy efficiency class IE1
- DRN.. motors and EDRN.. motors in energy efficiency class IE3
- DRU.. motors in energy efficiency class IE4
- DR2C..A and DR2C..U motors in energy efficiency class IE5

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1.2.2 Motor types of the DR.. motor series

The DR.. motor series comprises the following motors:

DR2S.. motors

- Single-speed, 2-, 4-, 6-pole
- Pole-changing 4/2-, 8/4-, 8/2-, 12/2-pole

DRN.. motors

- Single-speed, 2-, 4-, 6-, 8-pole

EDRN.. motors

- Single-speed, 4-pole
- Explosion-protected asynchronous motors in accordance with the following certifications:
  - European Directive 2014/34/EU (ATEX): Categories 2 and 3
  - International IECEx agreement: EPL b and c
  - North American HazLoc-NA® classification: Class I and class II in division 2

DRU.. motors

- Single-speed, 4-pole

DR2C.. motors

- DR2C..A synchronous motors (IPM technology)
- DR2C..U synchronous motors (magnetic reluctance technology)

DR2M.. motors

- Torque motors, 8-pole

DR2L.. motors

- Asynchronous servomotors

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1.2.3 Global motors from SEW-EURODRIVE

A global motor has approvals and certifications for several markets and can be used almost anywhere due to its wide voltage range. For this reason, global motors from SEW-EURODRIVE are the ideal solution for supplying as many countries as possible with as little effort as possible.

The motor's part number in the system's parts list does not depend on the country of use which means that only one design is required for the application. When configuring the motor, make sure to observe the dependency of voltage and frequency for different speeds. The required approvals and certifications can be selected for the requested target countries. SEW-EURODRIVE is able to assemble global motors in many countries which ensures short delivery times.

Depending on the required operating voltages, the voltage range according to the table below can be covered with a motor:

		Voltage range at 50 Hz	Voltage range at 60 Hz
Design 1a	△	220 – 230 V	254 – 266 V
	⅄	380 – 400 V	440 – 460 V
Design 1a for motors ≤ 0.55 kW	△	220 – 240 V	254 – 277 V
	⅄	380 – 415 V	440 – 480 V
Design 1b	△	380 – 400 V	440 – 460 V
	⅄	660 – 690 V	–
Design 2 a	△	190 – 200 V	220 – 230 V
	⅄	330 – 346 V	380 – 400 V
Variant 2b	△	330 – 346 V	380 – 400 V
	⅄	575 – 600 V	660 – 690 V

Depending on the number of requested approvals and certificates, additional nameplates or small parts for attaching a label to the motor can be added due to the amount of required information.

The example shows global nameplates for a design that can be used in the following markets. Labels that are required additionally are not shown.

- Europe, Switzerland, Turkey
- Australia, New Zealand
- Brazil
- Canada
- Eurasian Economic Union
- South Africa
- South Korea
- Ukraine
- USA
- People's Republic of China

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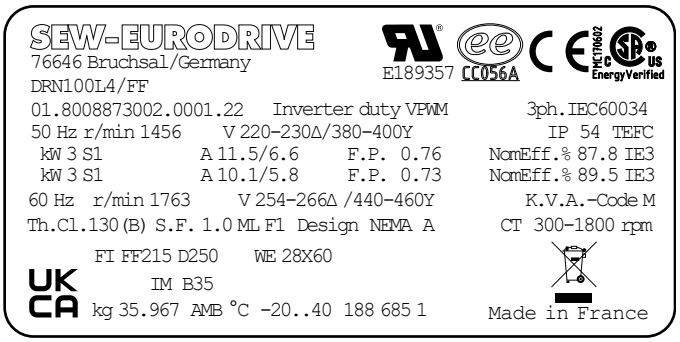
Global motor nameplates

The following figures show examples of the nameplates of a global motor:



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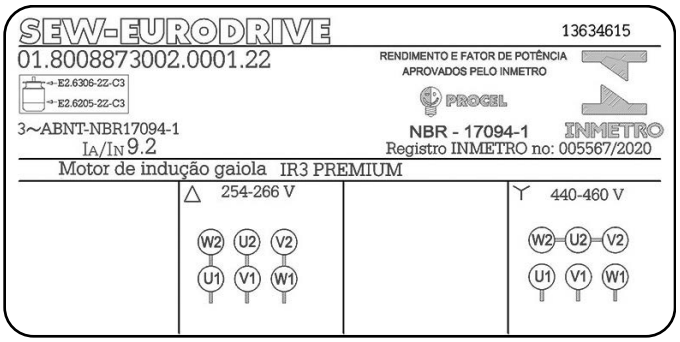

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The line voltages in Brazil and South Korea can be different for the same frequency of 60 Hz. In addition to a nominal voltage of 3 × 220 V and 3 × 380 V, there are also supply systems with a nominal voltage of 3 × 440 V.

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1.2.4 Type designation

The following table shows an example of a type designation:

DRN132M4/BE11/HR/FI/TF	
DRN	Motor series
132	Motor size
M	Motor length
4	Number of poles
BE11	Brake with size specification
HR	Manual brake release
FI	Motor design
TF	Thermal motor protection

Designation of the motors

Designation	
DRN..	Asynchronous motor, efficiency IE3
EDRN..	Asynchronous motor, explosion-protected, efficiency IE3
DRU..	Asynchronous motor, efficiency IE4
63 – 355	Nominal sizes: 63, 71, 80, 90, 100, 112, 132, 160, 180, 200, 225, 250, 280, 315, 355
K, S, MK, MS, M, ML, MC, ME, LS, LM, L, LC, H	Lengths
R, Q P, I B	Power designation (identification of motors with the same size but with different power)
2, 4, 6, 8	Number of poles

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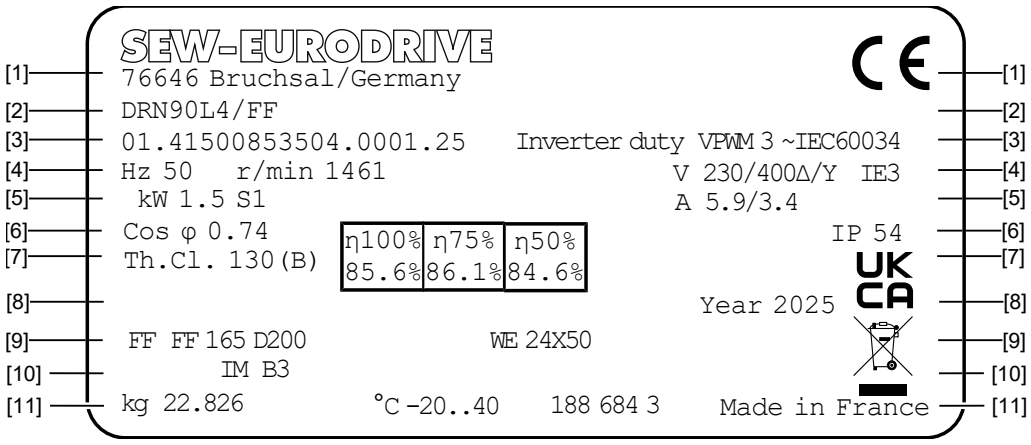
2 Information according to (EU) 2019/1781 and S.I. 2021 No. 745

2.1 IEC motor nameplate

The following figure shows an example of a nameplate:



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Line	Information
[1]	• Manufacturer, address • CE mark
[2]	• Type designation
[3]	• Serial number • Suitability for inverter operation • Number of phases and underlying rating and performance standards (IEC 60034-X and/or equivalent national standard)
[4]	• Rated frequency • Rated speed • Nominal voltage • IE class
[5]	• Rated power, operating mode • Rated current
[6]	• Power factor for AC motors • Degree of protection according to IEC 60034-5
[7]	• Thermal class • Rated efficiency for motors included in the scope of the IEC 60034-30-1 standard • UKCA mark
[8]	• Year of manufacture
[9]	• Foot or flange dimensions • Shaft end • WEEE marking
[10]	• Mounting position
[11]	• Mass • Ambient temperature • Part number nameplate • Country of manufacture

The address of SEW-EURODRIVE is printed on the nameplate. You can find the worldwide contact details and locations on the SEW-EURODRIVE website, see "Contacting SEW-EURODRIVE" (→ 🗎 47).

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2.2 Year of manufacture

The year of manufacture is part of the serial number [3] on the nameplate.

01.	74290390	09.	0001.	21
Sales Organization	Order number (8-digit)	Order item (2-digit)	Sequence number of the quantity (4-digit)	Final digits of the year of manufacture (2-digit)

In this case, the year of manufacture is 2021.

2.3 Operating conditions

The technical data printed on the nameplate and in the following tables are based on the following definitions:

- Installation altitude: max. 1000 m above sea level
- Ambient air temperature: -20°C to +40°C
- Maximum operating temperature: in accordance with thermal class 130 (B), exception DRN355M.4 (in accordance with thermal class 150 (F))
- Potentially explosive area: only EDRN.. series

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3 Technical motor data according to (EU) 2019/1781 and S.I. 2021 No. 745

3.1 Key to the motor data

The data is numbered consecutively from 1 to 13 in accordance with annex 1, paragraph 2 of regulation (EU) 2019/1781 and S.I. 2021 No. 745. The technical data of therefore numbered in the following tables.

No. 1 Efficiency levels at 100%, 75%, 50% nominal load, nominal voltage

No. 2 IE class

No. 3 Manufacturer name and address

No. 4 Unit number

No. 5 Number of poles

No. 6 Output power

No. 7 Input frequency

No. 8 Nominal voltage

No. 9 Nominal speed

No. 10 Phases

No. 11 Operating conditions:

- a) Height above sea level
- b) Minimum and maximum ambient temperature
- c) Temperate of cooling liquid at the inlet
- d) Maximum operating temperature
- e) Potentially explosive atmospheres

No. 12 Reason for exemption from the efficiency regulation, if applicable (see chapter "Excluded motors according to article 2 paragraph 2" (→ 🗎 46))

From July 1, 2022:

No. 13 Power losses must also be specified as a percentage (%) of the nominal output for the following operating points (rotational speed vs. torque):

(25;25) (25;100) (50;25) (50;50) (50;100) (90;50) (90;100), determined for an ambient reference temperature of 25 °C, rounded to the first decimal place;

If the motor is not suitable for operation at any of the above-mentioned operating points (rotational speed vs. torque), "n. a." or "not applicable" must be indicated for these points.

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3.2 Voltages

The specifications in the technical data of no. 1 and 9 are shown with a reference to this table in this chapter.

The following voltage designs are available.

Voltage	Frequency
230 V / 400 V	50 Hz
400 V / 690 V	50 Hz
220 V – 240 V / 380 V – 420 V	50 Hz
380 V – 420 V / 660 V – 720 V	50 Hz
230 V / 380 V	60 Hz
254 V / 440 V	60 Hz
266 V / 460 V	60 Hz
380 V / –	60 Hz
440 V / –	60 Hz
460 V / –	60 Hz
220 V – 240 V / 380 V – 420 V 254 V – 277 V / 440 V – 480 V	50 Hz 60 Hz
380 V – 420 V / 660 V – 720 V 440 V – 480 V / ---	50 Hz 60 Hz

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3.3 IE3 motors

3.3.1 2-pole motors in 50 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	1/min		
65.9	66.2	62.7	1)	IE3	2)	DRN 63MS 2	2	0.18	1)	1)	2725	3~	3)
69.7	70.9	69.2	1)	IE3	2)	DRN 63M 2	2	0.25	1)	1)	2755	3~	3)
69.7	69.2	66.1	1)	IE3	2)	DRN 71MS 2	2	0.25	1)	1)	2834	3~	3)
73.8	73.8	70.7	1)	IE3	2)	DRN 71MS 2	2	0.37	1)	1)	2810	3~	3)
77.8	78.0	75.7	1)	IE3	2)	DRN 71M 2	2	0.55	1)	1)	2825	3~	3)
81.4	82.0	80.2	1)	IE3	2)	DRN 80MS 2	2	0.75	1)	1)	2855	3~	3)
83.0	84.0	83.1	1)	IE3	2)	DRN 80M 2	2	1.1	1)	1)	2860	3~	3)
84.2	85.0	83.7	1)	IE3	2)	DRN 90S 2	2	1.5	1)	1)	2908	3~	3)
85.9	86.7	86.1	1)	IE3	2)	DRN 90L 2	2	2.2	1)	1)	2905	3~	3)
87.2	88.7	88.9	1)	IE3	2)	DRN 100LM 2	2	3	1)	1)	2894	3~	3)
88.1	88.7	88.1	1)	IE3	2)	DRN 112M 2	2	4	1)	1)	2948	3~	3)
89.2	90.2	90.3	1)	IE3	2)	DRN 132S 2	2	5.5	1)	1)	2935	3~	3)
90.1	90.8	90.6	1)	IE3	2)	DRN 132S 2	2	7.5	1)	1)	2936	3~	3)
91.2	91.4	90.6	1)	IE3	2)	DRN 160MS 2	2	11	1)	1)	2957	3~	3)
91.9	92.2	91.9	1)	IE3	2)	DRN 160ML 2	2	15	1)	1)	2958	3~	3)
92.4	92.9	92.8	1)	IE3	2)	DRN 160LM 2	2	18.5	1)	1)	2957	3~	3)
92.7	92.8	92.0	1)	IE3	2)	DRN 180M 2	2	22	1)	1)	2966	3~	3)
93.3	93.8	92.7	1)	IE3	2)	DRN 200LS 2	2	30	1)	1)	2971	3~	3)
93.7	93.9	93.5	1)	IE3	2)	DRN 200LH 2	2	37	1)	1)	2970	3~	3)
94.0	94.2	93.8	1)	IE3	2)	DRN 225M 2	2	45	1)	1)	2974	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63MS 2	0.18	15	44.1	16.9	22.9	46.6	28.6	53.6
DRN 63M 2	0.25	10.9	36.9	12.5	17.9	39.1	22.5	45
DRN 71MS 2	0.25	14.7	34.7	17.5	21.7	37.9	28	45
DRN 71MS 2	0.37	11.6	30.1	13.4	17.2	32.2	21.2	36.7
DRN 71M 2	0.55	8.5	23.4	10.1	13.2	25.3	16.9	29.5
DRN 80MS 2	0.75	6.3	20.2	7.4	10.2	21.5	12.8	24.8
DRN 80M 2	1.1	5.7	17.8	6.6	9.1	19	11.2	21.7
DRN 90S 2	1.5	5	15.9	5.8	8.1	16.9	10.1	19.5
DRN 90L 2	2.2	4.3	14	5	7	15	8.7	17.3
DRN 100LM 2	3	3.8	12.4	4.4	6.2	13.3	7.7	15.5
DRN 112M 2	4	3.2	9.8	3.8	5.2	10.9	6.9	14
DRN 132S 2	5.5	2.5	9.2	3	4.4	10.1	5.9	12.5
DRN 132S 2	7.5	2.8	9.6	3.2	4.6	10.3	5.7	12.3
DRN 160MS 2	11	2.5	7.2	3.2	4.2	8	5.8	10
DRN 160ML 2	15	2.7	8.4	3.4	4.6	9.3	6.2	11.2
DRN 160LM 2	18.5	3.2	10.3	3.9	5.4	11.2	7.1	13.5
DRN 180M 2	22	3.9	10.4	5.0	6.3	11.7	8.9	14.5
DRN 200LS 2	30	5.2	14.4	6.7	8.5	16.1	11.9	20.1
DRN 200LH 2	37	5.8	17.2	7.3	9.7	19.1	13.2	23.5
DRN 225M 2	45	6.4	18.5	7.8	10.5	20.5	14.3	25.4

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3.3.2 2-pole motors in 60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	1/min		
66.0	65.1	60.9	1)	IE3	2)	DRN 63MS 2	2	0.18	1)	1)	3370	3	3)
70.0	69.8	67.0	1)	IE3	2)	DRN 63M 2	2	0.25	1)	1)	3395	3	3)
74.0	73.1	69.4	1)	IE3	2)	DRN 71MS 2	2	0.37	1)	1)	3440	3	3)
77.0	76.4	73.3	1)	IE3	2)	DRN 71M 2	2	0.55	1)	1)	3455	3	3)
82.5	84.8	79.7	1)	IE3	2)	DRN 80MS 2	2	0.75	1)	1)	3476	3	3)
84.0	84.1	82.3	1)	IE3	2)	DRN 80M 2	2	1.1	1)	1)	3485	3	3)
85.5	85.6	83.7	1)	IE3	2)	DRN 90S 2	2	1.5	1)	1)	3522	3	3)
86.5	86.4	84.7	1)	IE3	2)	DRN 90L 2	2	2.2	1)	1)	3525	3	3)
88.5	89.1	88.0	1)	IE3	2)	DRN 100LM 2	2	3	1)	1)	3517	3	3)
88.5	89.1	88.6	1)	IE3	2)	DRN 100L 2	2	3.7	1)	1)	3508	3	3)
88.5	88.6	87.4	1)	IE3	2)	DRN 112M 2	2	4	1)	1)	3552	3	3)
89.5	89.7	89.0	1)	IE3	2)	DRN 132S 2	2	5.5	1)	1)	3544	3	3)
90.2	90.4	89.6	1)	IE3	2)	DRN 132S 2	2	7.5	1)	1)	3545	3	3)
91.0	90.9	89.6	1)	IE3	2)	DRN 160MS 2	2	11	1)	1)	3563	3~	3)
91.0	90.9	90.0	1)	IE3	2)	DRN 160ML 2	2	15	1)	1)	3564	3~	3)
91.7	91.6	90.6	1)	IE3	2)	DRN 160LM 2	2	18.5	1)	1)	3564	3~	3)
91.7	91.3	90.0	1)	IE3	2)	DRN 180M 2	2	22	1)	1)	3571	3~	3)
92.4	91.9	90.1	1)	IE3	2)	DRN 200LS 2	2	30	1)	1)	3575	3~	3)
93.0	92.9	91.59	1)	IE3	2)	DRN 200LH 2	2	37	1)	1)	3675	3~	3)
93.6	93.1	91.5	1)	IE3	2)	DRN 225M 2	2	45	1)	1)	3576	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63MS 2	0.18	16.2	38.6	19.3	24.2	42.6	33.7	53.6
DRN 63M 2	0.25	12.1	32.6	14.6	19	35.8	26.7	45
DRN 71MS 2	0.37	12.4	27.3	14.9	18	30.1	23.9	36.7
DRN 71M 2	0.55	9.2	20.9	11.4	13.8	23.4	19.3	29.5
DRN 80MS 2	0.75	6.7	18	8.2	10.6	19.9	14.6	24.8
DRN 80M 2	1.1	6	16	7.3	9.4	17.6	12.7	21.7
DRN 90S 2	1.5	5.3	14	6.5	8.4	15.5	11.5	19.4
DRN 90L 2	2.2	4.4	12.4	5.4	7	13.7	9.5	17
DRN 100LM 2	3	4.3	11.1	5.3	6.7	12.3	9	15.3
DRN 100L 2	3.7	3.1	10.1	3.8	5.2	11.3	7.1	14.4
DRN 112M 2	4	3	8.4	3.8	5	9.9	7.4	14
DRN 132S 2	5.5	2.7	8.2	3.4	4.6	9.3	6.7	12.5
DRN 132S 2	7.5	2.5	7.9	3.1	4.2	8.8	5.8	11.4
DRN 160MS 2	11	2.4	6	3.2	4	7	5.9	9.2
DRN 160ML 2	15	2.6	6.9	3.5	4.3	7.9	6.3	10.2
DRN 160LM 2	18.5	3.5	8.7	4.6	5.7	10.1	8.4	13.2
DRN 180M 2	22	4	9	5.5	6.5	10.7	10	14.5
DRN 200LS 2	30	6.4	13.5	8.9	10.4	16.3	16.3	22.9
DRN 200LH 2	37	5.8	14.2	7.8	9.5	16.6	14.2	22
DRN 225M 2	45	8.6	17.6	12	13.9	21.4	21.6	30

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3.3.3 2-pole global motors in 50/60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	1/min		
65.9 66.0	66.2 65.1	62.7 60.9	1)	IE3	2)	DRN 63MS 2	2	0.18	1)	1)	2725 3370	3~	3)
69.7 70.0	70.9 69.8	69.2 67.0	1)	IE3	2)	DRN 63M 2	2	0.25	1)	1)	2755 3395	3~	3)
69.7 70.0	69.3 68.5	66.1 64.4	1)	IE3	2)	DRN 71MS 2	2	0.25	1)	1)	2834 3460	3~	3)
73.8 74.0	73.8 73.1	70.7 69.4	1)	IE3	2)	DRN 71MS 2	2	0.37	1)	1)	2810 3440	3~	3)
77.8 77.0	78.0 76.4	75.7 73.3	1)	IE3	2)	DRN 71M 2	2	0.55	1)	1)	2825 3455	3~	3)
81.4 82.5	82.0 84.8	80.2 79.7	1)	IE3	2)	DRN 80MS 2	2	0.75	1)	1)	2855 3476	3~	3)
83.0 84.0	84.1 84.1	83.1 82.3	1)	IE3	2)	DRN 80M 2	2	1.1	1)	1)	2860 3485	3~	3)
84.2 85.5	85.0 85.6	83.7 83.7	1)	IE3	2)	DRN 90S 2	2	1.5	1)	1)	2908 3522	3~	3)
85.9 86.5	86.7 86.4	86.1 84.7	1)	IE3	2)	DRN 90L 2	2	2.2	1)	1)	2905 3525	3~	3)
87.2 88.5	88.7 89.1	88.9 88.0	1)	IE3	2)	DRN 100LM 2	2	3	1)	1)	2894 3517	3~	3)
88.1 88.5	88.7 88.8	88.1 87.6	1)	IE3	2)	DRN 112M 2	2	4	1)	1)	2948 3552	3~	3)
89.2 89.5	90.2 89.7	90.3 89.0	1)	IE3	2)	DRN 132S 2	2	5.5	1)	1)	2935 3544	3~	3)
90.1 90.2	90.8 90.4	90.6 89.6	1)	IE3	2)	DRN 132S 2	2	7.5	1)	1)	2936 3545	3~	3)
91.2 91.0	91.4 90.9	90.6 89.6	1)	IE3	2)	DRN 160MS 2	2	11	1)	1)	2957 3563	3~	3)
91.9 91.0	92.2 90.9	91.9 90.0	1)	IE3	2)	DRN 160ML 2	2	15	1)	1)	2958 3564	3~	3)
92.4 91.7	92.9 91.6	92.8 90.6	1)	IE3	2)	DRN 160LM 2	2	18.5	1)	1)	2957 3564	3~	3)
92.7 91.7	92.8 91.3	92.0 90.0	1)	IE3	2)	DRN 180M 2	2	22	1)	1)	2966 3571	3~	3)
93.3 92.4	93.4 91.9	92.7 90.1	1)	IE3	2)	DRN 200LS 2	2	30	1)	1)	2971 3575	3~	3)
93.7 93.0	93.9 92.9	93.5 91.9	1)	IE3	2)	DRN 200LH 2	2	37	1)	1)	2970 3575	3~	3)
94.0 93.6	94.2 93.1	93.8 91.5	1)	IE3	2)	DRN 225M 2	2	45	1)	1)	2974 3576	3~	3)

1) See chapter 3.2

2) See chapter 2.1

3) See chapter 2.3

No. 13: Power losses in % for 50 Hz

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63MS 2	0.18	15	44.1	16.9	22.9	46.6	28.6	53.6
DRN 63M 2	0.25	10.9	37	12.5	17.9	39.3	22.4	45
DRN 71MS 2	0.25	14.7	34.7	17.5	21.7	37.9	28	45
DRN 71MS 2	0.37	11.6	30.1	13.3	17.2	32.2	21.1	36.7
DRN 71M 2	0.55	8.5	23.5	10.1	13.2	25.3	16.9	29.5
DRN 80MS 2	0.75	6.3	20.2	7.4	10.2	21.5	12.8	24.8
DRN 80M 2	1.1	5.7	17.8	6.6	9.1	19	11.2	21.7
DRN 90S 2	1.5	5	15.9	5.8	8.1	16.9	10.1	19.5
DRN 90L 2	2.2	4.3	14	5	7	15	8.7	17.3

Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
DRN 100LM 2	3	3.8	12.4	4.4	6.2	13.3	7.7	15.5
DRN 112M 2	4	3.2	9.8	3.8	5.2	10.9	6.9	14
DRN 132S 2	5.5	2.4	9.2	3	4.4	10.2	5.9	12.5
DRN 132S 2	7.5	2.8	9.6	3.2	4.6	10.3	5.7	12.3
DRN 160MS 2	11	2.5	7.2	3.2	4.2	8.0	5.8	10
DRN 160ML 2	15	2.7	8.4	3.4	4.6	9.3	6.2	11.2
DRN 160LM 2	18.5	3.2	10.3	3.9	5.4	11.2	7.1	13.5
DRN 180M 2	22	3.9	10.4	5	6.3	11.7	8.9	14.5
DRN 200LS 2	30	5.2	14.4	6.7	8.5	16.1	11.9	20.1
DRN 200LH 2	37	5.8	17.2	7.3	9.7	19.1	13.2	23.5
DRN 225M 2	45	6.4	18.5	8	10.5	20.5	14.3	25.4

No. 13: Power losses in % for 60 Hz

Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
DRN 63MS 2	0.18	8	37.1	10.9	17	41.2	26.1	53.6
DRN 63M 2	0.25	5.7	32.2	7.8	13.4	35.4	20.4	45
DRN 71MS 2	0.25	8.6	31.5	12	16.8	35.5	25	45
DRN 71MS 2	0.37	6.5	27.8	8.6	13	30.5	18.3	36.7
DRN 71M 2	0.55	4.6	21.3	6.5	9.9	23.7	14.8	29.5
DRN 80MS 2	0.75	3.2	18.1	4.5	7.6	19.9	11.4	24.8
DRN 80M 2	1.1	2.9	16.1	4	6.7	17.7	9.7	21.7
DRN 90S 2	1.5	2.3	14.1	3.3	5.7	15.6	8.6	19.4
DRN 90L 2	2.2	1.8	12.3	2.7	4.8	13.6	7.1	17
DRN 100LM 2	3	1.6	11	2.4	4.3	12.2	6.3	15.3
DRN 112M 2	4	0.9	7.9	1.6	3	9.4	5.4	14
DRN 132S 2	5.5	0.9	8	1.5	3	9.2	5	12.5
DRN 132S 2	7.5	0.8	7.8	1.3	2.7	8.8	4.2	11.5
DRN 160MS 2	11	2.4	6	3.3	4	7	5.9	9.2
DRN 160ML 2	15	2.6	6.9	3.4	4.3	7.9	6.3	10.2
DRN 160LM 2	18.5	3.4	8.7	4.5	5.6	10.1	8.3	13.2
DRN 180M 2	22	4	9	5.5	6.6	10.7	10	14.5
DRN 200LS 2	30	6.4	13.5	8.9	10.4	16.3	16.3	22.9
DRN 200LH 2	37	5.7	14.2	7.7	9.5	16.6	14.1	22
DRN 225M 2	45	8.3	17.6	11.8	13.7	21.4	21.5	30

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3.3.4 4-pole motors in 50 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	1/min		
64.8	63.9	58.2	1)	IE3	2)	DRN 63MS 4	4	0.12	1)	1)	1380	3~	3)
69.9	69.4	65.1	1)	IE3	2)	DRN 63M 4	4	0.18	1)	1)	1375	3~	3)
69.9	67.1	61.1	1)	IE3	2)	DRN 71MS 4	4	0.18	1)	1)	1440	3~	3)
73.5	73.5	70.1	1)	IE3	2)	DRN 71MS 4	4	0.25	1)	1)	1405	3~	3)
77.3	77.3	74.3	1)	IE3	2)	DRN 71M 4	4	0.37	1)	1)	1415	3~	3)
80.8	81.0	78.6	1)	IE3	2)	DRN 80MK 4	4	0.55	1)	1)	1435	3~	3)
82.9	82.9	80.7	1)	IE3	2)	DRN 80M 4	4	0.75	1)	1)	1440	3~	3)
84.5	85.0	83.5	1)	IE3	2)	DRN 90S 4	4	1.1	1)	1)	1455	3~	3)
85.6	86.1	84.6	1)	IE3	2)	DRN 90L 4	4	1.5	1)	1)	1461	3~	3)
86.9	87.5	86.4	1)	IE3	2)	DRN 100LS 4	4	2.2	1)	1)	1450	3~	3)
87.8	88.3	87.3	1)	IE3	2)	DRN 100L 4	4	3	1)	1)	1456	3~	3)
88.7	89.4	88.6	1)	IE3	2)	DRN 112M 4	4	4	1)	1)	1464	3~	3)
89.6	90.6	90.6	1)	IE3	2)	DRN 132S 4	4	5.5	1)	1)	1461	3~	3)
90.4	91.1	90.8	1)	IE3	2)	DRN 132M 4	4	7.5	1)	1)	1468	3~	3)
91.0	91.6	90.8	1)	IE3	2)	DRN 132L 4	4	9.2	1)	1)	1470	3~	3)
91.4	91.7	91.0	1)	IE3	2)	DRN 160M 4	4	11	1)	1)	1473	3~	3)
92.1	92.5	91.9	1)	IE3	2)	DRN 160L 4	4	15	1)	1)	1474	3~	3)
92.6	93.1	92.8	1)	IE3	2)	DRN 180M 4	4	18.5	1)	1)	1478	3~	3)
93.0	93.6	93.4	1)	IE3	2)	DRN 180L 4	4	22	1)	1)	1477	3~	3)
93.6	93.9	93.3	1)	IE3	2)	DRN 200L 4	4	30	1)	1)	1480	3~	3)
93.9	94.4	94.3	1)	IE3	2)	DRN 225S 4	4	37	1)	1)	1482	3~	3)
94.2	94.5	94.1	1)	IE3	2)	DRN 225M 4	4	45	1)	1)	1482	3~	3)
94.6	94.8	94.4	1)	IE3	2)	DRN 250M 4	4	55	1)	1)	1482	3~	3)
95.0	95.3	94.9	1)	IE3	2)	DRN 280S 4	4	75	1)	1)	1482	3~	3)
95.2	95.6	95.4	1)	IE3	2)	DRN 280M 4	4	90	1)	1)	1481	3~	3)
95.5	95.7	95.4	1)	IE3	2)	DRN 315S 4	4	110	1)	1)	1488	3~	3)
95.6	95.9	95.6	1)	IE3	2)	DRN 315M 4	4	132	1)	1)	1487	3~	3)
95.9	96.1	95.9	1)	IE3	2)	DRN 315L 4	4	160	1)	1)	1486	3~	3)
96.0	96.0	95.4	1)	IE3	2)	DRN 315H 4	4	200	1)	1)	1489	3~	3)
96.0	96.0	95.5	1)	IE3	2)	DRN 355MS 4	4	250	1)	1)	1492	3~	3)
96.0	96.1	95.6	1)	IE3	2)	DRN 355M 4	4	315	1)	1)	1492	3~	3)
96.0	96.0	95.6	1)	IE3	2)	DRN 355ML 4	4	355	1)	1)	1492	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63MS 4	0.12	25.2	50.7	26.5	31.8	52.3	35.2	56.2
DRN 63M 4	0.18	19.2	40.3	20.3	24.7	41.6	27.3	44.8
DRN 71MS 4	0.18	24	38	25.8	28.9	40.1	32.9	44.6
DRN 71MS 4	0.25	15.1	32.9	16.2	19.9	34.3	22.3	37.3
DRN 71M 4	0.37	12.2	26.9	13.1	16.2	28.1	18.3	30.7
DRN 80MK 4	0.55	8.9	22	9.6	12.3	23	14.1	25.1
DRN 80M 4	0.75	7.6	18.6	8.5	10.8	19.7	12.7	22
DRN 90S 4	1.1	6.6	16.2	7.5	9.4	17.2	11.4	19.6
DRN 90L 4	1.5	6.1	15.2	6.8	8.7	16	10.2	17.8
DRN 100LS 4	2.2	5	13.6	5.6	7.4	14.3	8.6	15.9
DRN 100L 4	3	4.5	12.2	5.1	6.7	12.9	7.9	14.5
DRN 112M 4	4	3.8	10.8	4.5	5.9	11.6	7.4	13.7

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Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
DRN 132S 4	5.5	3.1	10	3.6	5.1	10.8	6.3	12.6
DRN 132M 4	7.5	2.7	8.8	3.1	4.4	9.5	5.5	11.2
DRN 132L 4	9.2	3.3	8.2	3.7	4.8	8.8	5.9	10.4
DRN 160M 4	11	2.6	7.4	3.1	4.1	8.1	5.3	9.7
DRN 160L 4	15	2.4	6.7	2.9	3.8	7.3	4.9	8.9
DRN 180M 4	18.5	1.9	6.2	2.3	3.2	6.8	4.2	8.3
DRN 180L 4	22	1.7	5.9	2.1	2.9	6.5	3.9	8
DRN 200L 4	30	1.5	5.9	1.8	2.7	6.4	3.6	7.7
DRN 225S 4	37	1.5	5	1.8	2.5	5.6	3.3	6.8
DRN 225M 4	45	1.6	4.7	1.9	2.5	5.2	3.3	6.4
DRN 250M 4	55	1.3	4.4	1.6	2.2	4.8	3	5.9
DRN 280S 4	75	1.6	4.1	1.9	2.4	4.5	3.2	5.6
DRN 280M 4	90	1.1	4.9	1.3	2.1	5.3	2.7	6.3
DRN 315S 4	110	1.1	3.8	1.4	2	4.2	2.9	5.4
DRN 315M 4	132	1.1	3.6	1.3	1.8	4	2.6	5.2
DRN 315L 4	160	1	3.6	1.3	1.8	3.9	2.5	4.9
DRN 315H 4	200	1.2	3.2	1.5	1.9	3.6	2.7	4.7
DRN 355MS 4	250	1.5	3.3	1.8	2.2	3.7	3	4.7
DRN 355M 4	315	1.5	3.3	1.8	2.2	3.7	3	4.7
DRN 355ML 4	355	1.5	3.2	1.8	2.2	3.7	3	4.7

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3.3.5 4-pole motors in 60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	1/min		
66.0	63.7	57.7	1)	IE3	2)	DRN 63MS 4	4	0.12	1)	1)	1700	3~	3)
70.0	68.4	63.5	1)	IE3	2)	DRN 63M 4	4	0.18	1)	1)	1695	3~	3)
74.0	73.1	69.2	1)	IE3	2)	DRN 71MS 4	4	0.25	1)	1)	1720	3~	3)
78.5	77.7	74.3	1)	IE3	2)	DRN 71M 4	4	0.37	1)	1)	1730	3~	3)
81.5	81.0	78.1	1)	IE3	2)	DRN 80MK 4	4	0.55	1)	1)	1745	3~	3)
85.5	84.8	82.0	1)	IE3	2)	DRN 80M 4	4	0.75	1)	1)	1751	3~	3)
86.5	86.0	83.5	1)	IE3	2)	DRN 90S 4	4	1.1	1)	1)	1762	3~	3)
86.5	86.1	83.8	1)	IE3	2)	DRN 90L 4	4	1.5	1)	1)	1767	3~	3)
89.5	89.5	88.1	1)	IE3	2)	DRN 100LM 4	4	2.2	1)	1)	1762	3~	3)
89.5	89.2	87.5	1)	IE3	2)	DRN 100L 4	4	2.2	1)	1)	1765	3~	3)
89.5	89.3	87.6	1)	IE3	2)	DRN 100L 4	4	3	1)	1)	1763	3~	3)
89.5	89.4	87.8	1)	IE3	2)	DRN 100L 4	4	3.7	1)	1)	1758	3~	3)
89.5	89.6	88.4	1)	IE3	2)	DRN 112M 4	4	4	1)	1)	1769	3~	3)
91.7	91.8	90.9	1)	IE3	2)	DRN 132S 4	4	5.5	1)	1)	1768	3~	3)
91.7	91.9	91.1	1)	IE3	2)	DRN 132M 4	4	7.5	1)	1)	1774	3~	3)
91.7	91.9	91.0	1)	IE3	2)	DRN 132L 4	4	9.2	1)	1)	1775	3~	3)
92.4	92.3	91.2	1)	IE3	2)	DRN 160M 4	4	11	1)	1)	1776	3~	3)
93.0	93.3	92.3	1)	IE3	2)	DRN 160L 4	4	15	1)	1)	1777	3~	3)
93.6	93.6	92.7	1)	IE3	2)	DRN 180M 4	4	18.5	1)	1)	1781	3~	3)
93.6	93.8	93.2	1)	IE3	2)	DRN 180L 4	4	22	1)	1)	1781	3~	3)
94.1	94.0	93.0	1)	IE3	2)	DRN 200L 4	4	30	1)	1)	1783	3~	3)
94.5	94.7	94.2	1)	IE3	2)	DRN 225S 4	4	37	1)	1)	1785	3~	3)
95.0	95.1	94.5	1)	IE3	2)	DRN 225M 4	4	45	1)	1)	1785	3~	3)
95.4	95.2	94.3	1)	IE3	2)	DRN 250ME 4	4	55	1)	1)	1785	3~	3)
95.4	95.3	94.6	1)	IE3	2)	DRN 280S 4	4	75	1)	1)	1785	3~	3)
95.4	95.4	94.8	1)	IE3	2)	DRN 280M 4	4	90	1)	1)	1784	3~	3)
95.8	95.7	95.0	1)	IE3	2)	DRN 315S 4	4	110	1)	1)	1790	3~	3)
96.2	96.0	95.4	1)	IE3	2)	DRN 315ME 4	4	132	1)	1)	1791	3~	3)
96.2	96.2	95.6	1)	IE3	2)	DRN 315L 4	4	160	1)	1)	1788	3~	3)
96.2	95.9	94.8	1)	IE3	2)	DRN 315H 4	4	185	1)	1)	1792	3~	3)
96.2	96.1	95.4	1)	IE3	2)	DRN 355MS 4	4	260	1)	1)	1793	3~	3)
96.2	96.0	95.2	1)	IE3	2)	DRN 355MR 4	4	300	1)	1)	1793	3~	3)
96.2	96.1	95.5	1)	IE3	2)	DRN 355M 4	4	335	1)	1)	1792	3~	3)
96.2	96.1	95.5	1)	IE3	2)	DRN 355ML 4	4	375	1)	1)	1793	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63MS 4	0.12	27.9	47.7	29.8	34.1	50.1	39.4	56.2
DRN 63M 4	0.18	21.3	37.8	22.9	26.4	39.7	30.7	44.6
DRN 71MS 4	0.25	16.5	31.1	18.1	21.1	33	24.8	37.3
DRN 71M 4	0.37	13	25.1	14.2	16.8	26.7	19.9	30.4
DRN 80MK 4	0.55	9.3	20.1	10.4	12.7	21.5	15.4	24.6
DRN 80M 4	0.75	8.2	17.5	9.4	11.4	18.9	14.1	22
DRN 90S 4	1.1	7	14.9	8.2	9.9	16.2	12.8	19.6
DRN 90L 4	1.5	6.4	14.3	7.4	9	15.4	11.1	17.8
DRN 100LM 4	2.2	4.9	12.7	5.7	7.4	13.7	9	15.9
DRN 100L 4	2.2	5.4	12	6.3	7.8	13.2	10	15.9

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Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
DRN 100L 4	3	4.7	11.3	5.5	6.9	12.3	8.7	14.5
DRN 100L 4	3.7	4.4	10.7	5.1	6.4	11.6	8	13.6
DRN 112M 4	4	3.8	9.5	4.6	5.8	10.6	7.8	13.3
DRN 132S 4	5.5	3.4	8.6	4.1	5.3	9.6	7	12
DRN 132M 4	7.5	3.2	7.8	3.9	4.8	8.7	6.5	11
DRN 132L 4	9.2	2.9	7.4	3.5	4.4	8.2	5.8	10.2
DRN 160M 4	11	2.8	6.7	3.5	4.4	7.6	6	9.7
DRN 160L 4	15	2.6	6.1	3.2	4	6.9	5.4	8.9
DRN 180M 4	18.5	2	5.6	2.5	3.3	6.3	4.7	8.3
DRN 180L 4	22	1.9	5.1	2.3	3	5.9	4.3	7.8
DRN 200L 4	30	1.6	4.7	2	2.7	5.4	3.9	7.1
DRN 225S 4	37	1.7	4.4	2.2	2.7	5	3.9	6.7
DRN 225M 4	45	1.6	4.2	2	2.5	4.8	3.5	6.4
DRN 250ME 4	55	1.5	3.8	1.9	2.4	4.4	3.6	5.9
DRN 280S 4	75	1.5	3.6	1.9	2.4	4.1	3.4	5.4
DRN 280M 4	90	1.2	3.6	1.5	2	4	2.9	5.2
DRN 315S 4	110	1.2	3.2	1.7	2.1	3.8	3.4	5.4
DRN 315ME 4	132	1.3	3	1.8	2.2	3.6	3.4	5.2
DRN 315L 4	160	1.1	3.1	1.5	1.9	3.6	2.9	4.9
DRN 315H 4	200	1.3	2.8	1.7	2	3.3	3.1	4.7
DRN 355MS 4	260	1.5	3.2	1.8	2.2	3.6	3.1	4.7
DRN 355MR 4	300	1.5	2.9	2	2.3	3.4	3.4	4.7
DRN 355M 4	335	1.5	3	1.9	2.2	3.5	3.2	4.7
DRN 355ML 4	375	1.5	3	1.9	2.2	3.5	3.2	4.7

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3.3.6 4-pole global motors in 50/60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
64.8 66.0	63.9 63.7	58.3 57.7	1)	IE3	2)	DRN 63MS 4	4	0.12	1)	1)	1380 1700	3~	3)
69.9 70.0	69.4 68.5	65.1 63.5	1)	IE3	2)	DRN 63M 4	4	0.18	1)	1)	1375 1695	3~	3)
69.9 70.0	67.1 67.4	61.1 61.6	1)	IE3	2)	DRN 71MS 4	4	0.18	1)	1)	1440 1750	3~	3)
73.5 74.0	73.5 73.1	70.1 69.2	1)	IE3	2)	DRN 71MS 4	4	0.25	1)	1)	1405 1720	3~	3)
77.3 78.5	77.3 77.7	74.3 74.3	1)	IE3	2)	DRN 71M 4	4	0.37	1)	1)	1415 1730	3~	3)
80.8 81.5	81.0 81.0	78.6 78.1	1)	IE3	2)	DRN 80MK 4	4	0.55	1)	1)	1435 1745	3~	3)
82.9 85.5	82.9 84.9	80.7 82.0	1)	IE3	2)	DRN 80M 4	4	0.75	1)	1)	1440 1751	3~	3)
84.5 86.5	85.0 85.8	83.5 83.5	1)	IE3	2)	DRN 90S 4	4	1.1	1)	1)	1455 1762	3~	3)
85.6 86.5	86.1 85.9	84.6 83.5	1)	IE3	2)	DRN 90L 4	4	1.5	1)	1)	1461 1767	3~	3)
86.7 89.5	87.3 89.5	86.4 88.1	1)	IE3	2)	DRN 100LM 4	4	2.2	1)	1)	1456 1762	3~	3)
86.9 89.5	87.2 89.2	86.2 87.5	1)	IE3	2)	DRN 100L 4	4	2.2	1)	1)	1459 1765	3~	3)
87.8 89.5	88.3 89.3	87.3 87.6	1)	IE3	2)	DRN 100L 4	4	3	1)	1)	1456 1763	3~	3)
88.7 89.5	89.4 89.6	88.6 88.5	1)	IE3	2)	DRN 112M 4	4	4	1)	1)	1464 1769	3~	3)
89.6 91.7	90.4 91.8	90.1 90.9	1)	IE3	2)	DRN 132S 4	4	5.5	1)	1)	1464 1768	3~	3)
90.4 91.7	91.1 91.9	90.8 91.1	1)	IE3	2)	DRN 132M 4	4	7.5	1)	1)	1468 1774	3~	3)
91.0 91.7	91.6 91.9	90.8 91.0	1)	IE3	2)	DRN 132L 4	4	9.2	1)	1)	1470 1775	3~	3)
91.4 92.4	91.7 92.3	91.1 91.2	1)	IE3	2)	DRN 160M 4	4	11	1)	1)	1473 1776	3~	3)
92.1 93.0	92.5 93.3	91.9 92.3	1)	IE3	2)	DRN 160L 4	4	15	1)	1)	1474 1777	3~	3)
92.6 93.6	93.1 93.6	92.8 92.7	1)	IE3	2)	DRN 180M 4	4	18.5	1)	1)	1478 1781	3~	3)
93.0 93.6	93.6 93.8	93.4 93.2	1)	IE3	2)	DRN 180L 4	4	22	1)	1)	1477 1781	3~	3)
93.6 94.1	93.9 94.0	93.3 93.0	1)	IE3	2)	DRN 200L 4	4	30	1)	1)	1480 1783	3~	3)
93.9 94.5	94.4 94.7	94.3 94.2	1)	IE3	2)	DRN 225S 4	4	37	1)	1)	1482 1785	3~	3)
94.2 95.0	94.5 95.1	94.1 94.5	1)	IE3	2)	DRN 225M 4	4	45	1)	1)	1482 1785	3~	3)
94.6 95.4	94.8 95.2	94.3 94.3	1)	IE3	2)	DRN 250ME 4	4	55	1)	1)	1483 1785	3~	3)
95.0 95.4	95.3 95.3	94.9 94.6	1)	IE3	2)	DRN 280S 4	4	75	1)	1)	1482 1785	3~	3)
95.2 95.4	95.6 95.4	95.4 94.8	1)	IE3	2)	DRN 280M 4	4	90	1)	1)	1481 1784	3~	3)
95.5 95.8	95.7 95.0	95.4 95.0	1)	IE3	2)	DRN 315S 4	4	110	1)	1)	1488 1790	3~	3)
95.6 96.2	95.7 95.4	95.3 95.4	1)	IE3	2)	DRN 315ME 4	4	132	1)	1)	1489 1791	3~	3)
95.9 96.2	96.1 95.7	95.9 95.7	1)	IE3	2)	DRN 315L 4	4	160	1)	1)	1486 1788	3~	3)

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
96.0 96.2	96.0 95.1	95.4 95.1	1)	IE3	2)	DRN 315H 4	4	200	1)	1)	1489 1791	3~	3)
96.0 96.2	96.0 95.4	95.5 95.4	1)	IE3	2)	DRN 355MS 4	4	250 260	1)	1)	1492 1793	3~	3)
96.0 96.2	96.1 95.5	95.6 95.5	1)	IE3	2)	DRN 355M 4	4	315 335	1)	1)	1492 1792	3~	3)
96.0 96.2	96.0 95.5	95.6 95.5	1)	IE3	2)	DRN 355ML 4	4	355 375	1)	1)	1492 1793	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in % for 50 Hz

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63MS 4	0.12	25.1	50.7	26.4	31.7	52.3	35	56.2
DRN 63M 4	0.18	19.5	40.9	20.6	25	42.3	27.7	45.6
DRN 71MS 4	0.18	24	37.9	25.8	28.8	39.9	32.8	44.6
DRN 71MS 4	0.25	15.1	33	16.2	19.9	34.3	22.3	37.3
DRN 71M 4	0.37	12.4	27.4	13.3	16.4	28.5	18.5	31.2
DRN 80MK 4	0.55	9	22.4	9.7	12.5	23.3	14.3	25.5
DRN 80M 4	0.75	7.6	18.6	8.5	10.8	19.7	12.7	22
DRN 90S 4	1.1	6.6	16.2	7.5	9.4	17.2	11.5	19.6
DRN 90L 4	1.5	6.1	15.2	6.8	8.7	16	10.2	17.8
DRN 100LM 4	2.2	4.6	13.6	5.2	7	14.3	8.2	15.9
DRN 100L 4	2.2	4.9	13	5.6	7.3	13.9	8.9	15.9
DRN 100L 4	3	4.5	12.2	5.1	6.7	12.9	7.9	14.5
DRN 112M 4	4	3.8	10.8	4.5	5.9	11.6	7.4	13.7
DRN 132S 4	5.5	3.1	9.5	3.7	5	10.3	6.2	12.1
DRN 132M 4	7.5	2.7	8.9	3.2	4.4	9.6	5.5	11.3
DRN 132L 4	9.2	3.3	8.3	3.8	4.8	9	5.9	10.5
DRN 160M 4	11	2.5	7.4	3.1	4.1	8.1	5.3	9.7
DRN 160L 4	15	2.4	6.7	2.9	3.8	7.4	4.9	8.9
DRN 180M 4	18.5	1.9	6.2	2.3	3.1	6.8	4.2	8.3
DRN 180L 4	22	1.7	6	2.1	3	6.6	3.9	8.1
DRN 200L 4	30	1.5	5.9	1.8	2.7	6.4	3.6	7.7
DRN 225S 4	37	1.5	5.1	1.8	2.5	5.6	3.3	6.9
DRN 225M 4	45	1.6	4.7	1.9	2.5	5.2	3.3	6.4
DRN 250ME 4	55	1.3	4.3	1.6	2.2	4.8	3	5.9
DRN 280S 4	75	1.6	4.1	1.9	2.4	4.5	3.2	5.6
DRN 280M 4	90	1.1	5	1.3	2.1	5.4	2.7	6.3
DRN 315S 4	110	1.1	3.8	1.4	2	4.2	2.9	5.4
DRN 315ME 4	132	1.2	3.5	1.6	2	4	3	5.2
DRN 315L 4	160	1	3.6	1.3	1.8	3.9	2.5	4.9
DRN 315H 4	200	1.2	3.2	1.5	1.9	3.6	2.7	4.7
DRN 355MS 4	250	1.5	3.3	1.8	2.2	3.7	3	4.7
DRN 355M 4	315	1.5	3.3	1.8	2.2	3.7	3	4.7
DRN 355ML 4	355	1.5	3.2	1.8	2.2	3.7	3	4.7

No. 13: Power losses in % for 60 Hz

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63MS 4	0.12	20.1	47.2	21.9	27.5	49.5	32.6	56.2

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Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63M 4	0.18	15	37.4	16.4	21.1	39.3	25	44.6
DRN 71MS 4	0.18	17.3	35	19.6	23.4	37.8	29.2	44.6
DRN 71MS 4	0.25	10.7	31.2	12	16.3	33	19.5	37.3
DRN 71M 4	0.37	8.1	25.3	9.2	12.8	26.8	15.4	30.4
DRN 80MK 4	0.55	5.9	20.5	6.8	9.8	21.7	12.1	24.6
DRN 80M 4	0.75	5.1	17.7	6.1	8.7	19	11.1	22
DRN 90S 4	1.1	4.2	15	5.2	7.4	16.3	10.1	19.6
DRN 90L 4	1.5	3.9	14.4	4.7	6.9	15.5	8.8	17.8
DRN 100LM 4	2.2	2.8	12.9	3.4	5.5	13.8	6.9	15.9
DRN 100L 4	2.2	3	12.2	3.8	5.8	13.3	7.8	15.9
DRN 100L 4	3	2.8	11.5	3.4	5.2	12.4	6.8	14.5
DRN 112M 4	4	1.8	9.4	2.5	4.1	10.5	5.9	13.3
DRN 132S 4	5.5	1.6	8.6	2.2	3.6	9.6	5.2	12
DRN 132M 4	7.5	1.2	7.8	1.6	3	8.7	4.3	11
DRN 132L 4	9.2	1.4	7.2	1.9	3.1	8.1	4.4	10.2
DRN 160M 4	11	1.2	6.8	1.8	2.9	7.6	4.4	9.7
DRN 160L 4	15	1.1	6	1.7	2.7	6.9	4.1	8.9
DRN 180M 4	18.5	0.8	5.5	1.2	2.2	6.3	3.5	8.3
DRN 180L 4	22	0.7	5.1	1	2	5.8	3.1	7.8
DRN 200L 4	30	0.6	5.3	1	1.9	5.9	3.1	7.7
DRN 225S 4	37	0.6	4.4	0.9	1.6	5	2.6	6.7
DRN 225M 4	45	0.6	4.1	0.9	1.6	4.7	2.6	6.4
DRN 250ME 4	55	0.6	3.8	0.9	1.5	4.4	2.6	5.9
DRN 280S 4	75	0.6	3.5	1	1.6	4.1	2.6	5.4
DRN 280M 4	90	0.5	4.6	0.7	1.5	5.1	2.3	6.5
DRN 315S 4	110	0.4	3.2	0.8	1.3	3.8	2.5	5.4
DRN 315ME 4	132	0.5	2.9	0.9	1.4	3.5	2.6	5.2
DRN 315L 4	160	0.4	3.1	0.7	1.2	3.6	2.1	4.9
DRN 315H 4	200	0.5	2.7	0.8	1.3	3.2	2.3	4.7
DRN 355MS 4	260	1.5	3.2	1.8	2.2	3.6	3.1	4.7
DRN 355M 4	335	1.5	3	1.9	2.2	3.5	3.2	4.7
DRN 355ML 4	375	1.5	3	1.9	2.2	3.5	3.2	4.7

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3.3.7 6-pole motors in 50 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
55.0	51.7	44.3	1)	-	2)	DRN 63MR 6	6	0.09	1)	1)	920	3~	3)
57.7	57.5	51.9	1)	IE3	2)	DRN 63M 6	6	0.12	1)	1)	870	3~	3)
63.9	63.7	59.4	1)	IE3	2)	DRN 71MS 6	6	0.18	1)	1)	915	3~	3)
68.6	68.2	63.5	1)	IE3	2)	DRN 71M 6	6	0.25	1)	1)	915	3~	3)
73.5	73.8	70.8	1)	IE3	2)	DRN 80MK 6	6	0.37	1)	1)	935	3~	3)
77.2	76.7	73.5	1)	IE3	2)	DRN 90SR 6	6	0.55	1)	1)	966	3~	3)
78.9	79.8	77.4	1)	IE3	2)	DRN 90S 6	6	0.75	1)	1)	957	3~	3)
81.0	81.3	78.8	1)	IE3	2)	DRN 90L 6	6	1.1	1)	1)	957	3~	3)
82.5	82.8	80.7	1)	IE3	2)	DRN 100L 6	6	1.5	1)	1)	961	3~	3)
84.3	85.0	83.6	1)	IE3	2)	DRN 112M 6	6	2.2	1)	1)	973	3~	3)
85.6	86.0	84.8	1)	IE3	2)	DRN 132S 6	6	3	1)	1)	974	3~	3)
86.8	87.5	86.4	1)	IE3	2)	DRN 132S 6	6	4	1)	1)	968	3~	3)
88.0	88.3	86.9	1)	IE3	2)	DRN 132L 6	6	5.5	1)	1)	975	3~	3)
89.1	89.4	88.4	1)	IE3	2)	DRN 160M 6	6	7.5	1)	1)	979	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63M 6	0.12	30.6	65.4	31.7	38.8	66.5	41.1	75.9
DRN 71MS 6	0.18	24.7	53.5	25.8	32	55	34.8	58.5
DRN 71M 6	0.25	20.2	43.5	21.2	26.2	44.7	28.5	47.4
DRN 80MK 6	0.37	14.6	34.1	15.4	19.4	35.1	21.2	37.3
DRN 90SR 6	0.55	13.7	27.3	14.5	17.4	28.3	19.3	30.6
DRN 90S 6	0.75	11	25.2	11.6	14.6	26	15.9	27.7
DRN 90L 6	1.1	10.2	23	10.9	13.5	23.8	14.8	25.4
DRN 100L 6	1.5	8.2	19.5	8.9	11.1	20.3	12.5	22
DRN 112M 6	2.2	7.2	16.5	7.9	9.8	17.4	11.2	19.3
DRN 132S 6	3	6.1	14.7	6.8	8.5	15.6	10	17.4
DRN 132S 6	4	5.1	14	5.7	7.4	14.7	8.5	16.2
DRN 132L 6	5.5	4.9	12.2	5.4	6.9	12.8	7.9	14.1
DRN 160M 6	7.5	3.9	9.4	4.7	5.8	10.5	7.4	12.7

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3.3.8 6-pole motors in 60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
61.5	57.3	49.2	1)	-	2)	DRN 63MR 6	6	0.09	1)	1)	1135	3~	3)
64.0	61.6	54.9	1)	IE3	2)	DRN 63M 6	6	0.12	1)	1)	1105	3~	3)
68.0	66.6	61.7	1)	IE3	2)	DRN 71MS 6	6	0.18	1)	1)	1130	3~	3)
72.0	70.3	64.8	1)	IE3	2)	DRN 71M 6	6	0.25	1)	1)	1135	3~	3)
75.5	74.8	71.2	1)	IE3	2)	DRN 80MK 6	6	0.37	1)	1)	1150	3~	3)
81.7	80.5	76.6	1)	IE3	2)	DRN 90SR 6	6	0.55	1)	1)	1172	3~	3)
82.5	82.6	79.1	1)	IE3	2)	DRN 90S 6	6	0.75	1)	1)	1165	3~	3)
87.5	86.9	84.6	1)	IE3	2)	DRN 112M 6	6	1.1	1)	1)	1183	3~	3)
88.5	88.2	86.1	1)	IE3	2)	DRN 112M 6	6	1.5	1)	1)	1181	3~	3)
89.5	89.2	87.2	1)	IE3	2)	DRN 132S 6	6	2.2	1)	1)	1179	3~	3)
89.5	89.4	87.6	1)	IE3	2)	DRN 132S 6	6	3	1)	1)	1178	3~	3)
89.5	89.0	86.8	1)	IE3	2)	DRN 132M 6	6	3.7	1)	1)	1182	3~	3)
89.5	89.2	87.4	1)	IE3	2)	DRN 132M 6	6	4	1)	1)	1181	3~	3)
91.0	90.4	88.4	1)	IE3	2)	DRN 160M 6	6	5.5	1)	1)	1185	3~	3)
91.0	90.8	89.2	1)	IE3	2)	DRN 160M 6	6	7.5	1)	1)	1182	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63M 6	0.12	40.4	68.9	42.3	48.3	71.1	52.8	75.9
DRN 71MS 6	0.18	27.6	51.4	29.5	34.7	53.6	39	58.5
DRN 71M 6	0.25	23	41.2	24.7	28.7	43.1	32.4	47.4
DRN 80MK 6	0.37	16.7	32.6	17.9	21.2	34	24.1	37.3
DRN 90SR 6	0.55	14.5	26	15.6	18	27.3	20.9	30.6
DRN 90S 6	0.75	12.1	24.1	13	15.5	25.2	17.6	27.7
DRN 112M 6	1.1	10.9	18.6	12.4	14.1	20.4	17.4	24.3
DRN 112M 6	1.5	9.2	17.2	10.4	12.1	18.7	14.7	22
DRN 132S 6	2.2	7.4	15	8.5	10.1	16.4	12.5	19.3
DRN 132S 6	3	6.8	13.8	7.8	9.2	15	11.2	17.4
DRN 132M 6	3.7	6.4	12.9	7.3	8.6	13.9	10.4	16.2
DRN 132M 6	4	5.9	12.7	6.6	8	13.7	9.7	15.7
DRN 160M 6	5.5	5.2	9.3	6.4	7.3	10.8	9.9	14.1
DRN 160M 6	7.5	4.1	8.7	5	6	9.9	7.9	12.7

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3.3.9 6-pole global motors in 50/60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
55.0 61.5	51.7 57.3	44.3 49.2	1)	-	2)	DRN 63MR 6	6	0.09	1)	1)	920 1135	3~	3)
57.7 64.0	57.5 61.6	51.9 54.9	1)	IE3	2)	DRN 63M 6	6	0.12	1)	1)	870 1105	3~	3)
63.9 68.0	63.7 66.6	59.4 61.7	1)	IE3	2)	DRN 71MS 6	6	0.18	1)	1)	915 1130	3~	3)
68.6 72.0	68.2 70.3	63.5 64.8	1)	IE3	2)	DRN 71M 6	6	0.25	1)	1)	915 1135	3~	3)
73.5 75.5	73.8 74.8	70.8 71.2	1)	IE3	2)	DRN 80MK 6	6	0.37	1)	1)	935 1150	3~	3)
77.2 81.7	76.7 80.5	73.5 76.6	1)	IE3	2)	DRN 90SR 6	6	0.55	1)	1)	966 1172	3~	3)
78.9 82.5	79.8 82.6	77.4 79.1	1)	IE3	2)	DRN 90S 6	6	0.75	1)	1)	957 1165	3~	3)
86.0 87.5	85.9 86.9	83.9 84.6	1)	IE3	2)	DRN 112M 6	6	1.1	1)	1)	981 1183	3~	3)
85.5 88.5	85.6 88.2	83.9 86.1	1)	IE3	2)	DRN 112M 6	6	1.5	1)	1)	977 1181	3~	3)
84.3 89.5	84.6 89.2	83.3 87.2	1)	IE3	2)	DRN 132S 6	6	2.2	1)	1)	976 1179	3~	3)
85.6 89.5	86.0 89.4	84.8 87.6	1)	IE3	2)	DRN 132S 6	6	3	1)	1)	974 1178	3~	3)
86.8 89.5	86.9 89.2	85.4 87.4	1)	IE3	2)	DRN 132M 6	6	4	1)	1)	977 1181	3~	3)
88.0 91.0	88.0 90.4	86.7 88.4	1)	IE3	2)	DRN 160M 6	6	5.5	1)	1)	982 1185	3~	3)
89.1 91.0	89.4 90.8	88.4 89.2	1)	IE3	2)	DRN 160M 6	6	7.5	1)	1)	979 1182	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in % for 50 Hz

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63M 6	0.12	30.4	65.3	31.3	38.5	66.5	40.8	77.7
DRN 71MS 6	0.18	24.5	53.4	25.7	31.9	54.9	34.6	58.5
DRN 71M 6	0.25	20.2	43.5	21.1	26.1	44.6	28.3	47.4
DRN 80MK 6	0.37	14.6	34.1	15.4	19.3	35.1	21.2	37.3
DRN 90SR 6	0.55	13.7	27.3	14.5	17.4	28.3	19.3	30.6
DRN 90S 6	0.75	11	25.2	11.6	14.6	26	15.9	27.7
DRN 112M 6	1.1	10.1	19.8	11.3	13.4	21.3	15.8	24.3
DRN 112M 6	1.5	8.5	18.3	9.5	11.5	19.5	13.4	22
DRN 132S 6	2.2	6.9	16	7.7	9.6	17.1	11.4	19.3
DRN 132S 6	3	6.1	14.7	6.8	8.6	15.6	10	17.4
DRN 132M 6	4	5.5	13.4	6.1	7.7	14.2	8.9	15.7
DRN 160M 6	5.5	4.7	10.2	5.7	6.8	11.4	8.9	14.1
DRN 160M 6	7.5	3.9	9.4	4.7	5.8	10.5	7.4	12.7

No. 13: Power losses in % for 60 Hz

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 63M 6	0.12	31.3	66.1	32.8	40	67.9	43.9	75.9
DRN 71MS 6	0.18	20.3	51	21.8	28.4	53	32.2	58.5
DRN 71M 6	0.25	16.3	41.2	17.6	23	42.9	26	47.4

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Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 80MK 6	0.37	11.1	32.9	12.1	16.6	34.2	19	37.3
DRN 90SR 6	0.55	10.4	26.1	11.4	14.7	27.4	17.3	30.6
DRN 90S 6	0.75	8.4	24.4	9.1	12.4	25.4	14.2	27.7
DRN 112M 6	1.1	6.8	18.5	8.2	10.7	20.3	13.7	24.3
DRN 112M 6	1.5	5.7	17.3	6.7	9.1	18.7	11.4	22
DRN 132S 6	2.2	4.4	15.2	5.4	7.5	16.4	9.6	19.3
DRN 132S 6	3	3.9	14	4.6	6.7	15	8.4	17.4
DRN 132M 6	4	3.6	12.9	4.2	6	13.7	7.4	15.7
DRN 160M 6	5.5	2.4	8.9	3.5	4.9	10.5	7.4	14.1
DRN 160M 6	7.5	2	8.4	2.8	4.1	9.7	6	12.7

3.3.10 8-pole motors in 50 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
50.7	46.7	39.0	1)	-	2)	DRN 71MSR 8	8	0.09	1)	1)	695	3~	3)
53.5	52.4	46.2	1)	IE3	2)	DRN 71MS 8	8	0.12	1)	1)	665	3~	3)
58.7	56.1	49.4	1)	IE3	2)	DRN 80MK 8	8	0.18	1)	1)	705	3~	3)
64.1	62.0	55.8	1)	IE3	2)	DRN 80M 8	8	0.25	1)	1)	702	3~	3)
69.3	67.5	61.9	1)	IE3	2)	DRN 90S 8	8	0.37	1)	1)	716	3~	3)
73.0	72.7	69.0	1)	IE3	2)	DRN 90L 8	8	0.55	1)	1)	710	3~	3)
75.0	75.2	72.2	1)	IE3	2)	DRN 100LS 8	8	0.75	1)	1)	708	3~	3)
77.7	77.2	73.5	1)	IE3	2)	DRN 100L 8	8	1.1	1)	1)	710	3~	3)
79.7	80.4	78.7	1)	IE3	2)	DRN 112M 8	8	1.5	1)	1)	715	3~	3)
81.9	82.9	81.6	1)	IE3	2)	DRN 132S 8	8	2.2	1)	1)	715	3~	3)
83.5	83.3	80.9	1)	IE3	2)	DRN 132M 8	8	3	1)	1)	726	3~	3)
84.8	85.1	83.6	1)	IE3	2)	DRN 132L 8	8	4	1)	1)	722	3~	3)
86.2	86.5	85.1	1)	IE3	2)	DRN 160M 8	8	5.5	1)	1)	729	3~	3)
87.3	87.7	86.8	1)	IE3	2)	DRN 160L 8	8	7.5	1)	1)	729	3~	3)
88.6	89.0	88.2	1)	IE3	2)	DRN 180L 8	8	11	1)	1)	733	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 71MS 8	0.12	49.3	92.2	50.9	60.2	94.2	63.7	100.6
DRN 80MK 8	0.18	41.9	66	43.6	48.7	68.1	52.7	72.8
DRN 80M 8	0.25	32.8	52.9	34.1	38.4	54.5	41.3	58
DRN 90S 8	0.37	24.4	41.3	25.6	29.2	42.7	31.8	45.9
DRN 90L 8	0.55	17.1	34.6	18	21.6	35.7	23.6	38.3
DRN 100LS 8	0.75	14.3	30.7	15.2	18.5	31.9	20.4	34.5
DRN 100L 8	1.1	13.4	26.6	14.2	16.9	27.6	18.6	29.7
DRN 112M 8	1.5	9.5	22.8	10.3	12.9	23.9	14.6	26.4
DRN 132S 8	2.2	7.6	19.7	8.3	10.6	20.7	12.1	22.9
DRN 132M 8	3	8	16.9	8.9	10.7	18.1	12.6	20.5
DRN 132L 8	4	6.3	15.6	7.1	8.8	16.5	10.3	18.6
DRN 160M 8	5.5	5.6	13.4	6.3	7.8	14.4	9.4	16.6
DRN 160L 8	7.5	5.2	12.1	5.9	7.3	13	8.8	15.1
DRN 180L 8	11	4.2	11.4	4.6	6	12	6.9	13.3

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3.3.11 8-pole motors in 60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
57.5	52.6	43.9	1)	-	2)	DRN 71MSR 8	8	0.09	1)	1)	856	3~	3)
59.5	56.5	49.3	1)	IE3	2)	DRN 71MS 8	8	0.12	1)	1)	835	3~	3)
64.0	60.5	53.3	1)	IE3	2)	DRN 80MK 8	8	0.18	1)	1)	863	3~	3)
68.0	65.0	58.2	1)	IE3	2)	DRN 80M 8	8	0.25	1)	1)	861	3~	3)
72.0	69.6	63.7	1)	IE3	2)	DRN 90S 8	8	0.37	1)	1)	870	3~	3)
74.0	72.8	68.5	1)	IE3	2)	DRN 90L 8	8	0.55	1)	1)	868	3~	3)
75.5	74.7	71.2	1)	IE3	2)	DRN 100LS 8	8	0.75	1)	1)	866	3~	3)
78.5	77.3	73.3	1)	IE3	2)	DRN 100L 8	8	1.1	1)	1)	868	3~	3)
84.0	83.8	81.4	1)	IE3	2)	DRN 112M 8	8	1.5	1)	1)	872	3~	3)
85.5	85.6	83.7	1)	IE3	2)	DRN 132S 8	8	2.2	1)	1)	871	3~	3)
86.5	85.8	83.0	1)	IE3	2)	DRN 132M 8	8	3	1)	1)	880	3~	3)
86.5	86.3	84.3	1)	IE3	2)	DRN 132L 8	8	4	1)	1)	877	3~	3)
86.5	86.3	84.4	1)	IE3	2)	DRN 160M 8	8	5.5	1)	1)	883	3~	3)
89.5	89.4	87.9	1)	IE3	2)	DRN 160L 8	8	7.5	1)	1)	882	3~	3)
89.5	89.5	88.3	1)	IE3	2)	DRN 180L 8	8	11	1)	1)	885	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 71MS 8	0.12	57.9	90.9	60.5	67.9	94	73.7	100.6
DRN 80MK 8	0.18	44.7	63.3	47.1	51.1	66.1	57	72.8
DRN 80M 8	0.25	35.3	51.1	37.2	40.6	53.2	44.8	58
DRN 90S 8	0.37	25.9	39.4	27.5	30.4	41.3	34.3	45.9
DRN 90L 8	0.55	19	33	20.3	23.3	34.6	26.3	38.3
DRN 100LS 8	0.75	15.4	29.2	16.6	19.5	30.8	22.4	34.5
DRN 100L 8	1.1	14.5	25.4	15.6	17.8	26.7	20.3	29.7
DRN 112M 8	1.5	10.5	21.5	11.6	13.8	23	16.3	26.4
DRN 132S 8	2.2	8.4	18.5	9.4	11.4	19.9	13.5	22.9
DRN 132M 8	3	8.7	15.8	9.9	11.4	17.3	13.9	20.5
DRN 132L 8	4	6.9	14.6	7.9	9.4	15.9	11.4	18.6
DRN 160M 8	5.5	6.6	12.3	7.6	8.8	13.6	11	16.6
DRN 160L 8	7.5	5.5	11.3	6.4	7.6	12.5	9.5	15.1
DRN 180L 8	11	4.4	10.7	4.9	6.2	11.5	7.5	13.3

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3.3.12 8-pole global motors in 50/60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
50.7 57.5	46.7 52.6	39.0 43.9	1)	-	2)	DRN 71MSR 8	8	0.09	1)	1)	695 856	3~	3)
53.5 59.5	52.4 56.5	46.2 49.3	1)	IE3	2)	DRN 71MS 8	8	0.12	1)	1)	665 835	3~	3)
58.7 64.0	56.1 60.5	49.4 53.3	1)	IE3	2)	DRN 80MK 8	8	0.18	1)	1)	705 863	3~	3)
64.1 68.0	62.0 65.0	55.8 58.2	1)	IE3	2)	DRN 80M 8	8	0.25	1)	1)	702 861	3~	3)
69.3 72.0	67.5 69.6	61.9 63.7	1)	IE3	2)	DRN 90S 8	8	0.37	1)	1)	716 870	3~	3)
73.0 74.0	72.7 72.8	69.0 68.5	1)	IE3	2)	DRN 90L 8	8	0.55	1)	1)	710 868	3~	3)
75.0 75.5	75.2 74.7	72.2 71.2	1)	IE3	2)	DRN 100LS 8	8	0.75	1)	1)	708 866	3~	3)
77.7 78.5	77.2 77.3	73.5 73.3	1)	IE3	2)	DRN 100L 8	8	1.1	1)	1)	710 868	3~	3)
79.7 84.0	80.4 83.8	78.7 81.4	1)	IE3	2)	DRN 112M 8	8	1.5	1)	1)	715 872	3~	3)
81.9 85.5	82.9 85.6	81.6 83.7	1)	IE3	2)	DRN 132S 8	8	2.2	1)	1)	715 871	3~	3~
83.5 86.5	83.3 85.8	80.9 83.0	1)	IE3	2)	DRN 132M 8	8	3	1)	1)	726 880	3~	3~
84.8 86.5	85.1 86.3	83.6 84.3	1)	IE3	2)	DRN 132L 8	8	4	1)	1)	722 877	3~	3~
86.2 86.5	86.5 86.3	85.1 84.4	1)	IE3	2)	DRN 160M 8	8	5.5	1)	1)	729 883	3~	3~
87.3 89.5	87.7 89.4	86.8 87.9	1)	IE3	2)	DRN 160L 8	8	7.5	1)	1)	729 882	3~	3~
88.6 89.5	89.0 89.5	88.2 88.3	1)	IE3	2)	DRN 180L 8	8	11	1)	1)	733 885	3~	3~

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in % for 50 Hz

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRN 71MS 8	0.12	49.3	92.2	50.9	60.2	94.2	63.7	100.6
DRN 80MK 8	0.18	41.9	66.1	43.6	48.7	68.1	52.6	72.8
DRN 80M 8	0.25	32.8	53	34.1	38.4	54.6	41.3	58
DRN 90S 8	0.37	24.4	41.4	25.6	29.1	42.7	31.7	45.9
DRN 90L 8	0.55	17.1	34.8	18	21.7	35.9	23.7	38.5
DRN 100LS 8	0.75	14.3	30.7	15.2	18.5	31.9	20.4	34.5
DRN 100L 8	1.1	13.6	27	14.4	17.1	28	18.8	30.1
DRN 112M 8	1.5	9.5	22.9	10.3	12.9	24	14.6	26.4
DRN 132S 8	2.2	7.6	19.7	8.3	10.6	20.7	12.1	22.9
DRN 132M 8	3	8	17	8.9	10.7	18.1	12.5	20.5
DRN 132L 8	4	6.3	15.6	7.1	8.8	16.6	10.3	18.6
DRN 160M 8	5.5	5.6	13.4	6.3	7.8	14.4	9.4	16.6
DRN 160L 8	7.5	5.2	12.1	5.9	7.3	13	8.8	15.1
DRN 180L 8	11	4.2	11.4	4.6	6	12	6.9	13.3

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No. 13: Power losses in % for 60 Hz

Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
DRN 71MS 8	0.12	45.8	89.4	48	57.7	92.3	62.9	100.6
DRN 80MK 8	0.18	35.4	63	37.6	43.5	65.9	49.2	72.8
DRN 80M 8	0.25	27.3	51	28.9	34	53.2	37.9	58
DRN 90S 8	0.37	19.6	39.5	21	25.2	41.3	28.8	45.9
DRN 90L 8	0.55	13.1	33.3	14.1	18.2	34.7	20.8	38.3
DRN 100LS 8	0.75	10.5	29.3	11.5	15.2	30.8	17.8	34.5
DRN 100L 8	1.1	10.2	25.6	11.1	14.2	26.9	16.3	29.7
DRN 112M 8	1.5	6.4	21.7	7.2	10.2	23.1	12.2	26.4
DRN 132S 8	2.2	4.9	18.7	5.5	8.2	19.9	9.9	22.9
DRN 132M 8	3	5.2	16	6.2	8.3	17.4	10.5	20.5
DRN 132L 8	4	4	14.8	4.7	6.7	16	8.4	18.6
DRN 160M 8	5.5	3.3	12.3	4.1	5.8	13.6	7.6	16.6
DRN 160L 8	7.5	3.1	11.3	3.9	5.5	12.4	7.2	15.1
DRN 180L 8	11	2.5	10.9	2.9	4.4	11.6	5.5	13.3

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3.3.13 Explosion-protected motors

2G, 2GD in 50 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
64.8	63.9	58.3	1)	IE3	2)	EDRN 63MS 4	4	0.12	1)	1)	1360	3~	3)
69.9	69.4	65.1	1)	IE3	2)	EDRN 63M 4	4	0.18	1)	1)	1375	3~	3)
73.5	73.5	70.1	1)	IE3	2)	EDRN 71MS 4	4	0.25	1)	1)	1400	3~	3)
77.3	77.3	74.3	1)	IE3	2)	EDRN 71M 4	4	0.37	1)	1)	1405	3~	3)
80.8	81.0	78.6	1)	IE3	2)	EDRN 80MK 4	4	0.55	1)	1)	1430	3~	3)
82.9	82.9	80.7	1)	IE3	2)	EDRN 80M 4	4	0.75	1)	1)	1440	3~	3)
84.5	85.0	83.5	1)	IE3	2)	EDRN 90S 4	4	1.1	1)	1)	1455	3~	3)
85.6	86.1	84.6	1)	IE3	2)	EDRN 90L 4	4	1.5	1)	1)	1461	3~	3)
86.9	87.5	86.4	1)	IE3	2)	EDRN 100LS 4	4	2.2	1)	1)	1450	3~	3)
87.8	88.3	87.3	1)	IE3	2)	EDRN 100L 4	4	3	1)	1)	1456	3~	3)
88.7	89.4	88.6	1)	IE3	2)	EDRN 112M 4	4	4	1)	1)	1464	3~	3)
89.6	90.6	90.6	1)	IE3	2)	EDRN 132S 4	4	5.5	1)	1)	1461	3~	3)
90.4	91.1	90.8	1)	IE3	2)	EDRN 132M 4	4	7.5	1)	1)	1468	3~	3)
91.0	91.6	90.8	1)	IE3	2)	EDRN 132L 4	4	9.2	1)	1)	1470	3~	3)
91.4	91.7	91.1	1)	IE3	2)	EDRN 160M 4	4	11	1)	1)	1473	3~	3)
92.1	92.5	91.9	1)	IE3	2)	EDRN 160L 4	4	15	1)	1)	1474	3~	3)
92.6	93.3	93.2	1)	IE3	2)	EDRN 180L 4	4	17.5	1)	1)	1474	3~	3)
93.2	93.6	93.1	1)	IE3	2)	EDRN 200L 4	4	24	1)	1)	1478	3~	3)
93.6	93.8	93.4	1)	IE3	2)	EDRN 250M 4	4	30	1)	1)	1482	3~	3)
93.9	94.2	93.9	1)	IE3	2)	EDRN 280S 4	4	36	1)	1)	1479	3~	3)
94.2	94.7	94.7	1)	IE3	2)	EDRN 280M 4	4	44	1)	1)	1476	3~	3)
94.8	94.5	93.8	1)	IE3	2)	EDRN 315S 4	4	58	1)	1)	1490	3~	3)
95.0	95.2	94.9	1)	IE3	2)	EDRN 315S 4	4	70	1)	1)	1487	3~	3)
95.2	95.7	95.5	1)	IE3	2)	EDRN 315M 4	4	84	1)	1)	1484	3~	3)
95.5	95.5	95.1	1)	IE3	2)	EDRN 315H 4	4	110	1)	1)	1486	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 63MS 4	0.12	24.6	50.9	25.7	31.2	52.4	34.2	56.2
EDRN 63M 4	0.18	19.7	41.6	20.8	25.3	43	28	46.3
EDRN 71MS 4	0.25	15.6	34.6	16.6	20.5	35.9	22.8	38.9
EDRN 71M 4	0.37	12.8	28.9	13.7	17.1	30.1	19.1	32.7
EDRN 80MK 4	0.55	9.1	22.8	9.8	12.7	23.8	14.5	26
EDRN 80M 4	0.75	7.6	18.6	8.5	10.8	19.7	12.7	22
EDRN 90S 4	1.1	6.6	16.2	7.5	9.4	17.2	11.4	19.6
EDRN 90L 4	1.5	6.1	15.2	6.8	8.7	16	10.2	17.8
EDRN 100LS 4	2.2	5	13.6	5.6	7.4	14.3	8.6	15.9
EDRN 100L 4	3	4.5	12.2	5.1	6.7	12.9	7.9	14.5
EDRN 112M 4	4	3.8	10.8	4.5	5.9	11.6	7.4	13.7
EDRN 132S 4	5.5	3.1	9.5	3.7	5	10.3	6.2	12.1
EDRN 132M 4	7.5	2.9	8.6	3.3	4.5	9.3	5.6	11
EDRN 132L 4	9.2	2.9	8.3	3.3	4.4	8.9	5.5	10.5
EDRN 160M 4	11	2.6	7.4	3.1	4.1	8.1	5.3	9.7
EDRN 160L 4	15	2.4	6.7	2.9	3.8	7.3	4.9	8.9
EDRN 180L 4	17.5	1.8	6.1	2.2	3.1	6.7	4.1	8.4
EDRN 200L 4	24	1.6	5.6	2	2.8	6.2	3.9	7.7

Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
EDRN 250M 4	30	1.5	4.9	1.9	2.6	5.5	3.8	7.1
EDRN 280S 4	36	1.3	4.8	1.6	2.3	5.3	3.3	6.7
EDRN 280M 4	44	1.2	4.7	1.5	2.2	5.1	3	6.4
EDRN 315S 4	58	1.2	3.6	1.7	2.2	4.2	3.6	5.9
EDRN 315S 4	70	1	3.7	1.4	1.9	4.2	3	5.6
EDRN 315M 4	84	1	3.8	1.3	1.8	4.3	2.7	5.6
EDRN 315H 4	110	1	3.6	1.3	1.8	4.1	2.7	5.4

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2G, 2GD in 60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
66.0	63.7	57.7	1)	IE3	2)	EDRN 63MS 4	4	0.12	1)	1)	1660	3~	3)
70.0	68.5	63.5	1)	IE3	2)	EDRN 63M 4	4	0.18	1)	1)	1675	3~	3)
74.0	73.1	69.2	1)	IE3	2)	EDRN 71MS 4	4	0.25	1)	1)	1700	3~	3)
78.5	77.7	74.3	1)	IE3	2)	EDRN 71M 4	4	0.37	1)	1)	1705	3~	3)
81.5	81.0	78.1	1)	IE3	2)	EDRN 80MK 4	4	0.55	1)	1)	1730	3~	3)
85.5	84.9	82.0	1)	IE3	2)	EDRN 80M 4	4	0.75	1)	1)	1740	3~	3)
86.5	86.0	83.5	1)	IE3	2)	EDRN 90S 4	4	1.1	1)	1)	1755	3~	3)
86.5	86.1	83.8	1)	IE3	2)	EDRN 90L 4	4	1.5	1)	1)	1761	3~	3)
89.5	89.5	88.1	1)	IE3	2)	EDRN 100LM 4	4	2.2	1)	1)	1757	3~	3)
89.5	89.3	87.6	1)	IE3	2)	EDRN 100L 4	4	3	1)	1)	1756	3~	3)
89.5	89.6	88.4	1)	IE3	2)	EDRN 112M 4	4	4	1)	1)	1764	3~	3)
91.7	91.8	90.9	1)	IE3	2)	EDRN 132S 4	4	5.5	1)	1)	1761	3~	3)
91.7	91.9	91.1	1)	IE3	2)	EDRN 132M 4	4	7.5	1)	1)	1768	3~	3)
91.7	91.9	91.0	1)	IE3	2)	EDRN 132L 4	4	9.2	1)	1)	1770	3~	3)
92.4	92.3	91.2	1)	IE3	2)	EDRN 160M 4	4	11	1)	1)	1773	3~	3)
93.0	93.3	92.3	1)	IE3	2)	EDRN 160L 4	4	15	1)	1)	1774	3~	3)
93.6	93.9	93.5	1)	IE3	2)	EDRN 180L 4	4	17.5	1)	1)	1774	3~	3)
93.8	93.8	92.8	1)	IE3	2)	EDRN 200L 4	4	24	1)	1)	1778	3~	3)
94.1	93.8	92.7	1)	IE3	2)	EDRN 250ME 4	4	30	1)	1)	1785	3~	3)
94.5	94.5	93.6	1)	IE3	2)	EDRN 280S 4	4	36	1)	1)	1779	3~	3)
95.0	95.1	94.6	1)	IE3	2)	EDRN 280M 4	4	44	1)	1)	1776	3~	3)
95.4	94.5	93.3	1)	IE3	2)	EDRN 315S 4	4	58	1)	1)	1790	3~	3)
95.4	95.1	94.2	1)	IE3	2)	EDRN 315S 4	4	70	1)	1)	1787	3~	3)
95.4	95.3	94.6	1)	IE3	2)	EDRN 315ME 4	4	84	1)	1)	1786	3~	3)
95.8	95.4	94.6	1)	IE3	2)	EDRN 315H 4	4	110	1)	1)	1786	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 63MS 4	0.12	25.3	48.3	27	31.9	50.5	36.7	56.2
EDRN 63M 4	0.18	19.5	38	21	24.9	39.8	28.9	44.6
EDRN 71MS 4	0.25	15.2	31.5	16.5	20	33.2	23.2	37.3
EDRN 71M 4	0.37	11.8	25.5	12.9	15.8	27	18.6	30.4
EDRN 80MK 4	0.55	8.7	20.4	9.7	12.1	21.6	14.6	24.6
EDRN 80M 4	0.75	7.6	17.6	8.8	10.9	19	13.4	22
EDRN 90S 4	1.1	6.4	15	7.6	9.4	16.3	12.2	19.6
EDRN 90L 4	1.5	6	14.3	6.9	8.7	15.4	10.7	17.8
EDRN 100LM 4	2.2	4.7	12.8	5.4	7.1	13.8	8.7	15.9
EDRN 100L 4	3	4.5	11.4	5.3	6.7	12.4	8.4	14.5
EDRN 112M 4	4	3.6	9.5	4.4	5.6	10.6	7.6	13.3
EDRN 132S 4	5.5	3.2	8.7	3.9	5	9.7	6.7	12
EDRN 132M 4	7.5	2.9	7.9	3.4	4.5	8.8	5.9	11
EDRN 132L 4	9.2	2.8	7.4	3.4	4.3	8.2	5.7	10.2
EDRN 160M 4	11	2.7	6.9	3.3	4.2	7.7	5.7	9.7
EDRN 160L 4	15	2.5	6.2	3.1	3.9	7	5.3	8.9
EDRN 180L 4	17.5	1.9	5.5	2.4	3.2	6.3	4.6	8.4
EDRN 200L 4	24	1.7	5	2.2	2.9	5.7	4.4	7.7
EDRN 250ME 4	30	1.6	4.1	2.2	2.7	4.9	4.5	7.1

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Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
EDRN 280S 4	36	1.4	4.3	1.8	2.4	4.9	3.7	6.7
EDRN 280M 4	44	1.4	4	1.8	2.4	4.7	3.7	6.4
EDRN 315S 4	58	1.2	3	1.8	2.2	3.7	4	5.9
EDRN 315S 4	70	1.1	3.2	1.5	1.9	3.8	3.3	5.6
EDRN 315ME 4	84	1.1	3.1	1.5	1.9	3.7	3.2	5.3
EDRN 315H 4	110	1.1	3.2	1.4	1.9	3.7	3	5.4

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2D in 50 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
64.8	63.9	58.3	1)	IE3	2)	EDRN 63MS 4	4	0.12	1)	1)	1360	3~	3)
69.9	69.4	65.1	1)	IE3	2)	EDRN 63M 4	4	0.18	1)	1)	1375	3~	3)
73.5	73.5	70.1	1)	IE3	2)	EDRN 71MS 4	4	0.25	1)	1)	1400	3~	3)
77.3	77.3	74.3	1)	IE3	2)	EDRN 71M 4	4	0.37	1)	1)	1405	3~	3)
80.8	81.0	78.6	1)	IE3	2)	EDRN 80MK 4	4	0.55	1)	1)	1430	3~	3)
82.9	82.9	80.7	1)	IE3	2)	EDRN 80M 4	4	0.75	1)	1)	1440	3~	3)
84.5	85.0	83.5	1)	IE3	2)	EDRN 90S 4	4	1.1	1)	1)	1455	3~	3)
85.6	86.1	84.6	1)	IE3	2)	EDRN 90L 4	4	1.5	1)	1)	1461	3~	3)
86.9	87.5	86.4	1)	IE3	2)	EDRN 100LS 4	4	2.2	1)	1)	1450	3~	3)
87.8	88.3	87.3	1)	IE3	2)	EDRN 100L 4	4	3	1)	1)	1456	3~	3)
88.7	89.4	88.6	1)	IE3	2)	EDRN 112M 4	4	4	1)	1)	1464	3~	3)
89.6	90.6	90.6	1)	IE3	2)	EDRN 132S 4	4	5.5	1)	1)	1461	3~	3)
90.4	91.1	90.8	1)	IE3	2)	EDRN 132M 4	4	7.5	1)	1)	1468	3~	3)
91.0	91.6	90.8	1)	IE3	2)	EDRN 132L 4	4	9.2	1)	1)	1470	3~	3)
91.4	91.7	91.1	1)	IE3	2)	EDRN 160M 4	4	11	1)	1)	1473	3~	3)
92.1	92.5	91.9	1)	IE3	2)	EDRN 160L 4	4	15	1)	1)	1474	3~	3)
92.6	93.1	92.8	1)	IE3	2)	EDRN 180M 4	4	18.5	1)	1)	1478	3~	3)
93.0	93.6	93.4	1)	IE3	2)	EDRN 180L 4	4	22	1)	1)	1477	3~	3)
93.6	93.9	93.3	1)	IE3	2)	EDRN 200L 4	4	30	1)	1)	1480	3~	3)
93.9	94.4	94.3	1)	IE3	2)	EDRN 225S 4	4	37	1)	1)	1482	3~	3)
94.2	94.5	94.1	1)	IE3	2)	EDRN 225M 4	4	45	1)	1)	1483	3~	3)
94.6	94.8	94.4	1)	IE3	2)	EDRN 250M 4	4	55	1)	1)	1482	3~	3)
95.0	95.3	94.9	1)	IE3	2)	EDRN 280S 4	4	75	1)	1)	1482	3~	3)
95.2	95.6	95.4	1)	IE3	2)	EDRN 280M 4	4	90	1)	1)	1481	3~	3)
95.5	95.7	95.4	1)	IE3	2)	EDRN 315S 4	4	110	1)	1)	1488	3~	3)
95.6	95.9	95.6	1)	IE3	2)	EDRN 315M 4	4	132	1)	1)	1487	3~	3)
95.9	96.1	95.9	1)	IE3	2)	EDRN 315L 4	4	160	1)	1)	1486	3~	3)
96.0	96.0	95.4	1)	IE3	2)	EDRN 315H 4	4	200	1)	1)	1489	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 63MS 4	0.12	24.6	50.9	25.7	31.2	52.4	34.2	56.2
EDRN 63M 4	0.18	19.7	41.6	20.8	25.3	43	28	46.3
EDRN 71MS 4	0.25	15.6	34.6	16.6	20.5	35.9	22.8	38.9
EDRN 71M 4	0.37	12.8	28.9	13.7	17.1	30.1	19.1	32.7
EDRN 80MK 4	0.55	9.1	22.8	9.8	12.7	23.8	14.5	26
EDRN 80M 4	0.75	7.6	18.6	8.5	10.8	19.7	12.7	22
EDRN 90S 4	1.1	6.6	16.2	7.5	9.4	17.2	11.4	19.6
EDRN 90L 4	1.5	6.1	15.2	6.8	8.7	16	10.2	17.8
EDRN 100LS 4	2.2	5	13.6	5.6	7.4	14.3	8.6	15.9
EDRN 100L 4	3	4.5	12.2	5.1	6.7	12.9	7.9	14.5
EDRN 112M 4	4	3.8	10.8	4.5	5.9	11.6	7.4	13.7
EDRN 132S 4	5.5	3.1	9.5	3.7	5	10.3	6.2	12.1
EDRN 132M 4	7.5	2.9	8.6	3.3	4.5	9.3	5.6	11
EDRN 132L 4	9.2	2.9	8.3	3.3	4.4	8.9	5.5	10.5
EDRN 160M 4	11	2.6	7.4	3.1	4.1	8.1	5.3	9.7
EDRN 160L 4	15	2.4	6.7	2.9	3.8	7.3	4.9	8.9

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Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 180M 4	18.5	1.9	6.2	2.3	3.2	6.8	4.2	8.3
EDRN 180L 4	22	1.7	5.9	2.1	2.9	6.5	3.9	8
EDRN 200L 4	30	1.6	5.3	1.9	2.7	5.8	3.7	7.1
EDRN 225S 4	37	1.5	5	1.8	2.5	5.5	3.3	6.8
EDRN 225M 4	45	1.6	4.7	1.9	2.5	5.2	3.3	6.4
EDRN 250M 4	55	1.5	4.3	1.9	2.4	4.8	3.3	5.9
EDRN 280S 4	75	1.6	4.1	1.9	2.4	4.6	3.2	5.6
EDRN 280M 4	90	1.1	4.1	1.4	2	4.5	2.6	5.4
EDRN 315S 4	110	1.1	3.8	1.4	2	4.2	2.8	5.4
EDRN 315M 4	132	1.1	3.6	1.3	1.8	4	2.6	5.2
EDRN 315L 4	160	1	3.6	1.3	1.8	3.9	2.5	4.9
EDRN 315H 4	200	1.2	3.2	1.5	1.9	3.6	2.7	4.7

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2D in 60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
66.0	63.7	57.7	1)	IE3	2)	EDRN 63MS 4	4	0.12	1)	1)	1660	3~	3)
70.0	68.5	63.5	1)	IE3	2)	EDRN 63M 4	4	0.18	1)	1)	1675	3~	3)
74.0	73.1	69.2	1)	IE3	2)	EDRN 71MS 4	4	0.25	1)	1)	1700	3~	3)
78.5	77.7	74.3	1)	IE3	2)	EDRN 71M 4	4	0.37	1)	1)	1705	3~	3)
81.5	81.0	78.1	1)	IE3	2)	EDRN 80MK 4	4	0.55	1)	1)	1730	3~	3)
85.5	84.9	82.0	1)	IE3	2)	EDRN 80M 4	4	0.75	1)	1)	1740	3~	3)
86.5	86.0	83.5	1)	IE3	2)	EDRN 90S 4	4	1.1	1)	1)	1755	3~	3)
86.5	86.1	83.8	1)	IE3	2)	EDRN 90L 4	4	1.5	1)	1)	1761	3~	3)
89.5	89.5	88.1	1)	IE3	2)	EDRN 100LM 4	4	2.2	1)	1)	1757	3~	3)
89.5	89.3	87.6	1)	IE3	2)	EDRN 100L 4	4	3	1)	1)	1756	3~	3)
89.5	89.6	88.4	1)	IE3	2)	EDRN 112M 4	4	4	1)	1)	1764	3~	3)
91.7	91.8	90.9	1)	IE3	2)	EDRN 132S 4	4	5.5	1)	1)	1761	3~	3)
91.7	91.9	91.1	1)	IE3	2)	EDRN 132M 4	4	7.5	1)	1)	1768	3~	3)
91.7	91.9	91.0	1)	IE3	2)	EDRN 132L 4	4	9.2	1)	1)	1770	3~	3)
92.4	92.3	91.2	1)	IE3	2)	EDRN 160M 4	4	11	1)	1)	1773	3~	3)
93.0	93.3	92.3	1)	IE3	2)	EDRN 160L 4	4	15	1)	1)	1774	3~	3)
93.6	93.8	93.3	1)	IE3	2)	EDRN 180M 4	4	18.5	1)	1)	1779	3~	3)
93.6	93.9	93.6	1)	IE3	2)	EDRN 180L 4	4	22	1)	1)	1779	3~	3)
94.1	94.1	93.4	1)	IE3	2)	EDRN 200L 4	4	30	1)	1)	1781	3~	3)
94.5	94.8	94.5	1)	IE3	2)	EDRN 225S 4	4	37	1)	1)	1782	3~	3)
95.0	95.2	94.8	1)	IE3	2)	EDRN 225M 4	4	45	1)	1)	1783	3~	3)
95.4	95.3	94.6	1)	IE3	2)	EDRN 250ME 4	4	55	1)	1)	1783	3~	3)
95.4	95.4	94.9	1)	IE3	2)	EDRN 280S 4	4	75	1)	1)	1782	3~	3)
95.4	95.5	95.0	1)	IE3	2)	EDRN 280M 4	4	90	1)	1)	1783	3~	3)
95.8	95.8	95.2	1)	IE3	2)	EDRN 315S 4	4	110	1)	1)	1788	3~	3)
96.2	96.1	95.5	1)	IE3	2)	EDRN 315ME 4	4	132	1)	1)	1789	3~	3)
96.2	96.3	95.9	1)	IE3	2)	EDRN 315L 4	4	160	1)	1)	1786	3~	3)
96.2	96.0	95.2	1)	IE3	2)	EDRN 315H 4	4	200	1)	1)	1789	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 63MS 4	0.12	25.3	48.3	27	31.9	50.5	36.7	56.2
EDRN 63M 4	0.18	19.5	38	21	24.9	39.8	28.9	44.6
EDRN 71MS 4	0.25	15.2	31.5	16.5	20	33.2	23.2	37.3
EDRN 71M 4	0.37	11.8	25.5	12.9	15.8	27	18.6	30.4
EDRN 80MK 4	0.55	8.7	20.4	9.7	12.1	21.6	14.6	24.6
EDRN 80M 4	0.75	7.6	17.6	8.8	10.9	19	13.4	22
EDRN 90S 4	1.1	6.4	15	7.6	9.4	16.3	12.2	19.6
EDRN 90L 4	1.5	6	14.3	6.9	8.7	15.4	10.7	17.8
EDRN 100LM 4	2.2	4.7	12.8	5.4	7.1	13.8	8.7	15.9
EDRN 100L 4	3	4.5	11.4	5.3	6.7	12.4	8.4	14.5
EDRN 112M 4	4	3.6	9.5	4.4	5.6	10.6	7.6	13.3
EDRN 132S 4	5.5	3.2	8.7	3.9	5	9.7	6.7	12
EDRN 132M 4	7.5	2.9	7.9	3.4	4.5	8.8	5.9	11
EDRN 132L 4	9.2	2.8	7.4	3.4	4.3	8.2	5.7	10.2
EDRN 160M 4	11	2.7	6.9	3.3	4.2	7.7	5.7	9.7
EDRN 160L 4	15	2.5	6.2	3.1	3.9	7	5.3	8.9

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Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 180M 4	18.5	1.9	5.6	2.4	3.2	6.3	4.6	8.3
EDRN 180L 4	22	1.8	5.2	2.2	2.9	5.9	4.2	7.8
EDRN 200L 4	30	1.6	4.7	2.1	2.7	5.4	4	7.1
EDRN 225S 4	37	1.6	4.4	2	2.6	5.1	3.6	6.7
EDRN 225M 4	45	1.6	4.2	2	2.6	4.8	3.6	6.4
EDRN 250ME 4	55	1.3	3.9	1.7	2.2	4.4	3.3	5.9
EDRN 280S 4	75	1.3	3.7	1.6	2.1	4.2	3	5.4
EDRN 280M 4	90	1.2	3.6	1.5	2	4	2.8	5.2
EDRN 315S 4	110	1.2	3.3	1.6	2	3.8	3.2	5.4
EDRN 315ME 4	132	1.3	3.1	1.7	2.1	3.7	3.3	5.2
EDRN 315L 4	160	1.1	3.2	1.4	1.8	3.6	2.8	4.9
EDRN 315H 4	200	1.2	2.8	1.6	1.9	3.3	3	4.7

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3G, 3GD, 3D in 50 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
64.8	63.9	58.3	1)	IE3	2)	EDRN 63MS 4	4	0.12	1)	1)	1360	3~	3)
69.9	69.4	65.1	1)	IE3	2)	EDRN 63M 4	4	0.18	1)	1)	1375	3~	3)
73.5	73.5	70.1	1)	IE3	2)	EDRN 71MS 4	4	0.25	1)	1)	1400	3~	3)
77.3	77.3	74.3	1)	IE3	2)	EDRN 71M 4	4	0.37	1)	1)	1405	3~	3)
80.8	81.0	78.6	1)	IE3	2)	EDRN 80MK 4	4	0.55	1)	1)	1430	3~	3)
82.9	82.9	80.7	1)	IE3	2)	EDRN 80M 4	4	0.75	1)	1)	1440	3~	3)
84.5	85.0	83.5	1)	IE3	2)	EDRN 90S 4	4	1.1	1)	1)	1455	3~	3)
85.6	86.1	84.6	1)	IE3	2)	EDRN 90L 4	4	1.5	1)	1)	1461	3~	3)
86.9	87.5	86.4	1)	IE3	2)	EDRN 100LS 4	4	2.2	1)	1)	1450	3~	3)
87.8	88.3	87.3	1)	IE3	2)	EDRN 100L 4	4	3	1)	1)	1456	3~	3)
88.7	89.4	88.6	1)	IE3	2)	EDRN 112M 4	4	4	1)	1)	1464	3~	3)
89.6	90.6	90.6	1)	IE3	2)	EDRN 132S 4	4	5.5	1)	1)	1461	3~	3)
90.4	91.1	90.8	1)	IE3	2)	EDRN 132M 4	4	7.5	1)	1)	1468	3~	3)
91.0	91.6	90.8	1)	IE3	2)	EDRN 132L 4	4	9.2	1)	1)	1470	3~	3)
91.4	91.7	91.1	1)	IE3	2)	EDRN 160M 4	4	11	1)	1)	1473	3~	3)
92.1	92.5	91.9	1)	IE3	2)	EDRN 160L 4	4	15	1)	1)	1474	3~	3)
92.6	93.1	92.8	1)	IE3	2)	EDRN 180M 4	4	18.5	1)	1)	1478	3~	3)
93.0	93.6	93.4	1)	IE3	2)	EDRN 180L 4	4	22	1)	1)	1477	3~	3)
93.6	93.9	93.3	1)	IE3	2)	EDRN 200L 4	4	30	1)	1)	1480	3~	3)
93.9	94.4	94.3	1)	IE3	2)	EDRN 225S 4	4	37	1)	1)	1482	3~	3)
94.2	94.5	94.1	1)	IE3	2)	EDRN 225M 4	4	45	1)	1)	1482	3~	3)
94.6	94.8	94.4	1)	IE3	2)	EDRN 250M 4	4	55	1)	1)	1482	3~	3)
95.0	95.3	94.9	1)	IE3	2)	EDRN 280S 4	4	75	1)	1)	1482	3~	3)
95.2	95.6	95.4	1)	IE3	2)	EDRN 280M 4	4	90	1)	1)	1481	3~	3)
95.5	95.7	95.4	1)	IE3	2)	EDRN 315S 4	4	110	1)	1)	1488	3~	3)
95.6	95.9	95.6	1)	IE3	2)	EDRN 315M 4	4	132	1)	1)	1487	3~	3)
95.9	96.1	95.9	1)	IE3	2)	EDRN 315L 4	4	160	1)	1)	1486	3~	3)
96.0	96.0	95.4	1)	IE3	2)	EDRN 315H 4	4	200	1)	1)	1489	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 63MS 4	0.12	24.6	50.9	25.7	31.2	52.4	34.2	56.2
EDRN 63M 4	0.18	19.7	41.6	20.8	25.3	43	28	46.3
EDRN 71MS 4	0.25	15.6	34.6	16.6	20.5	35.9	22.8	38.9
EDRN 71M 4	0.37	12.8	28.9	13.7	17.1	30.1	19.1	32.7
EDRN 80MK 4	0.55	9.1	22.8	9.8	12.7	23.8	14.5	26
EDRN 80M 4	0.75	7.6	18.6	8.5	10.8	19.7	12.7	22
EDRN 90S 4	1.1	6.6	16.2	7.5	9.4	17.2	11.4	19.6
EDRN 90L 4	1.5	6.1	15.2	6.8	8.7	16	10.2	17.8
EDRN 100LS 4	2.2	5	13.6	5.6	7.4	14.3	8.6	15.9
EDRN 100L 4	3	4.5	12.2	5.1	6.7	12.9	7.9	14.5
EDRN 112M 4	4	3.8	10.8	4.5	5.9	11.6	7.4	13.7
EDRN 132S 4	5.5	3.1	9.5	3.7	5	10.3	6.2	12.1
EDRN 132M 4	7.5	2.9	8.6	3.3	4.5	9.3	5.6	11
EDRN 132L 4	9.2	2.9	8.3	3.3	4.4	8.9	5.5	10.5
EDRN 160M 4	11	2.6	7.4	3.1	4.1	8.1	5.3	9.7
EDRN 160L 4	15	2.4	6.7	2.9	3.8	7.3	4.9	8.9

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Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 180M 4	18.5	1.9	6.2	2.3	3.2	6.8	4.2	8.3
EDRN 180L 4	22	1.7	5.9	2.1	2.9	6.5	3.9	8
EDRN 200L 4	30	1.6	5.3	1.9	2.7	5.8	3.7	7.1
EDRN 225S 4	37	1.5	5	1.8	2.5	5.5	3.3	6.8
EDRN 225M 4	45	1.6	4.7	1.9	2.5	5.2	3.3	6.4
EDRN 250M 4	55	1.5	4.3	1.9	2.4	4.8	3.3	5.9
EDRN 280S 4	75	1.6	4.1	1.9	2.4	4.6	3.2	5.6
EDRN 280M 4	90	1.1	4.1	1.4	2	4.5	2.6	5.4
EDRN 315S 4	110	1.1	3.8	1.4	2	4.2	2.8	5.4
EDRN 315M 4	132	1.1	3.6	1.3	1.8	4	2.6	5.2
EDRN 315L 4	160	1	3.6	1.3	1.8	3.9	2.5	4.9
EDRN 315H 4	200	1.2	3.2	1.5	1.9	3.6	2.7	4.7

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3G, 3GD, 3D in 60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
66.0	63.7	57.7	1)	IE3	2)	EDRN 63MS 4	4	0.12	1)	1)	1660	3~	3)
70.0	68.5	63.5	1)	IE3	2)	EDRN 63M 4	4	0.18	1)	1)	1675	3~	3)
74.0	73.1	69.2	1)	IE3	2)	EDRN 71MS 4	4	0.25	1)	1)	1700	3~	3)
78.5	77.7	74.3	1)	IE3	2)	EDRN 71M 4	4	0.37	1)	1)	1705	3~	3)
81.5	81.0	78.1	1)	IE3	2)	EDRN 80MK 4	4	0.55	1)	1)	1730	3~	3)
85.5	85.2	82.8	1)	IE3	2)	EDRN 80M 4	4	0.75	1)	1)	1746	3~	3)
86.5	86.5	84.4	1)	IE3	2)	EDRN 90S 4	4	1.1	1)	1)	1757	3~	3)
86.5	86.5	84.6	1)	IE3	2)	EDRN 90L 4	4	1.5	1)	1)	1763	3~	3)
89.5	89.8	88.6	1)	IE3	2)	EDRN 100LM 4	4	2.2	1)	1)	1757	3~	3)
89.5	89.6	88.4	1)	IE3	2)	EDRN 100L 4	4	3	1)	1)	1759	3~	3)
89.5	89.1	89.1	1)	IE3	2)	EDRN 112M 4	4	4	1)	1)	1766	3~	3)
91.7	92.3	91.4	1)	IE3	2)	EDRN 132S 4	4	5.5	1)	1)	1765	3~	3)
91.7	92.1	91.6	1)	IE3	2)	EDRN 132M 4	4	7.5	1)	1)	1770	3~	3)
91.7	92.1	91.4	1)	IE3	2)	EDRN 132L 4	4	9.2	1)	1)	1772	3~	3)
92.4	92.5	91.5	1)	IE3	2)	EDRN 160M 4	4	11	1)	1)	1774	3~	3)
93.0	93.3	92.5	1)	IE3	2)	EDRN 160L 4	4	15	1)	1)	1774	3~	3)
93.6	93.8	93.3	1)	IE3	2)	EDRN 180M 4	4	18.5	1)	1)	1779	3~	3)
93.6	93.9	93.6	1)	IE3	2)	EDRN 180L 4	4	22	1)	1)	1779	3~	3)
94.1	94.1	93.4	1)	IE3	2)	EDRN 200L 4	4	30	1)	1)	1781	3~	3)
94.5	94.8	94.5	1)	IE3	2)	EDRN 225S 4	4	37	1)	1)	1784	3~	3)
95.0	95.2	94.8	1)	IE3	2)	EDRN 225M 4	4	45	1)	1)	1784	3~	3)
95.4	95.3	94.6	1)	IE3	2)	EDRN 250ME 4	4	55	1)	1)	1786	3~	3)
95.4	95.4	94.9	1)	IE3	2)	EDRN 280S 4	4	75	1)	1)	1784	3~	3)
95.4	95.5	95.0	1)	IE3	2)	EDRN 280M 4	4	90	1)	1)	1783	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
EDRN 63MS 4	0.12	25.3	48.3	27	31.9	50.5	36.7	56.2
EDRN 63M 4	0.18	19.5	38	21	24.9	39.8	28.9	44.6
EDRN 71MS 4	0.25	15.2	31.5	16.5	20	33.2	23.2	37.3
EDRN 71M 4	0.37	11.8	25.5	12.9	15.8	27	18.6	30.4
EDRN 80MK 4	0.55	8.7	20.4	9.7	12.1	21.6	14.6	24.6
EDRN 80M 4	0.75	7.7	17.6	8.8	10.9	19	13.5	22
EDRN 90S 4	1.1	6.4	15	7.6	9.4	16.3	12.2	19.6
EDRN 90L 4	1.5	6	14.3	6.9	8.7	15.4	10.7	17.8
EDRN 100LM 4	2.2	4.7	12.8	5.4	7.1	13.8	8.7	15.9
EDRN 100L 4	3	4.5	11.4	5.3	6.7	12.4	8.4	14.5
EDRN 112M 4	4	3.6	9.5	4.4	5.6	10.6	7.6	13.3
EDRN 132S 4	5.5	3.2	8.7	3.9	5.1	9.7	6.7	12
EDRN 132M 4	7.5	2.9	7.9	3.4	4.5	8.7	6	11
EDRN 132L 4	9.2	2.9	7.4	3.4	4.3	8.2	5.7	10.2
EDRN 160M 4	11	2.7	6.8	3.3	4.2	7.7	5.7	9.7
EDRN 160L 4	15	2.5	6.1	3.1	3.9	7	5.3	8.9
EDRN 180M 4	18.5	1.9	5.6	2.4	3.2	6.3	4.6	8.3
EDRN 180L 4	22	1.8	5.2	2.2	2.9	5.9	4.2	7.8
EDRN 200L 4	30	1.6	4.7	2.1	2.7	5.4	4	7.1
EDRN 225S 4	37	1.6	4.4	2	2.6	5.1	3.7	6.7

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Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
EDRN 225M 4	45	1.6	4.2	2	2.6	4.8	3.6	6.4
EDRN 250ME 4	55	1.3	3.9	1.7	2.3	4.4	3.4	5.9
EDRN 280S 4	75	1.3	3.7	1.6	2.1	4.2	3	5.4
EDRN 280M 4	90	1.2	3.6	1.5	2	4	2.8	5.2

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3.4 IE4 motors

3.4.1 4-pole motors in 50 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
85.7	85.1	82.3	1)	IE4	2)	DRU.. 90S 4	4	0.75	1)	1)	1470	3~	3)
87.2	86.7	84.6	1)	IE4	2)	DRU.. 100LSR 4	4	1.1	1)	1)	1470	3~	3)
88.2	88.2	86.6	1)	IE4	2)	DRU.. 100LS 4	4	1.5	1)	1)	1463	3~	3)
89.5	89.7	88.4	1)	IE4	2)	DRU.. 100L 4	4	2.2	1)	1)	1464	3~	3)
90.4	90.8	90.2	1)	IE4	2)	DRU.. 112M 4	4	3	1)	1)	1470	3~	3)
91.1	91.6	91.0	1)	IE4	2)	DRU.. 132S 4	4	4	1)	1)	1472	3~	3)
91.9	92.0	91.1	1)	IE4	2)	DRU.. 132M 4	4	5.5	1)	1)	1477	3~	3)
92.6	92.6	91.4	1)	IE4	2)	DRU.. 160M 4	4	7.5	1)	1)	1480	3~	3)
93.0	93.0	92.1	1)	IE4	2)	DRU.. 160LR 4	4	9.2	1)	1)	1481	3~	3)
93.3	93.5	92.6	1)	IE4	2)	DRU.. 160L 4	4	11	1)	1)	1479	3~	3)
93.9	94.1	93.6	1)	IE4	2)	DRU.. 180L 4	4	15	1)	1)	1483	3~	3)
94.2	94.3	93.7	1)	IE4	2)	DRU.. 200LR 4	4	18.5	1)	1)	1485	3~	3)
94.5	94.5	93.9	1)	IE4	2)	DRU.. 200L 4	4	22	1)	1)	1484	3~	3)
94.9	95.1	94.6	1)	IE4	2)	DRU.. 225S 4	4	30	1)	1)	1487	3~	3)
95.2	95.4	95.0	1)	IE4	2)	DRU.. 225ME 4	4	37	1)	1)	1486	3~	3)
95.4	95.5	94.9	1)	IE4	2)	DRU.. 250M 4	4	45	1)	1)	1485	3~	3)
95.7	95.7	95.0	1)	IE4	2)	DRU.. 250ME 4	4	55	1)	1)	1487	3~	3)
96.0	96.1	95.6	1)	IE4	2)	DRU.. 280MR 4	4	75	1)	1)	1486	3~	3)
96.1	96.3	96.1	1)	IE4	2)	DRU.. 315SR 4	4	90	1)	1)	1488	3~	3)
96.3	96.5	96.3	1)	IE4	2)	DRU.. 315S 4	4	110	1)	1)	1488	3~	3)
96.4	96.6	96.4	1)	IE4	2)	DRU.. 315M 4	4	132	1)	1)	1488	3~	3)
96.6	96.8	96.7	1)	IE4	2)	DRU.. 315HR 4	4	160	1)	1)	1488	3~	3)
96.7	96.7	96.3	1)	IE4	2)	DRU.. 315H 4	4	200	1)	1)	1490	3~	3)
96.7	96.7	96.3	1)	IE4	2)	DRU.. 355MR 4	4	250	1)	1)	1490	3~	3)
96.7	96.7	96.3	1)	IE4	2)	DRU.. 355M 4	4	315	1)	1)	1492	3~	3)
96.7	96.7	96.3	1)	IE4	2)	DRU.. 355ML 4	4	355	1)	1)	1492	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRU.. 90S 4	0.75	6.8	14.3	7.9	9.5	15.5	12.1	18.4
DRU.. 100LSR 4	1.1	6.1	12	7	8.3	13	10.2	15.2
DRU.. 100LS 4	1.5	5.3	12	6	7.4	12.9	8.9	14.6
DRU.. 100L 4	2.2	4.3	10.7	5	6.4	11.6	7.8	13.4
DRU.. 112M 4	3	3.6	9.7	4.3	5.5	10.6	7.2	12.9
DRU.. 132S 4	4	3.2	8.4	3.8	4.9	9.3	6.3	11.2
DRU.. 132M 4	5.5	2.9	7.3	3.5	4.4	8	5.7	9.8
DRU.. 160M 4	7.5	2.5	6	3.1	3.8	6.7	5.1	8.4
DRU.. 160LR 4	9.2	2.4	5.4	3	3.6	6.1	5	7.8
DRU.. 160L 4	11	2.3	5.6	2.8	3.5	6.3	4.7	7.8
DRU.. 180L 4	15	1.8	4.8	2.3	2.9	5.4	4.1	7.1
DRU.. 200LR 4	18.5	1.6	4.8	2	2.7	5.4	3.9	6.9
DRU.. 200L 4	22	1.8	4.3	2.3	2.8	4.9	4.1	6.4
DRU.. 225S 4	30	1.5	4	1.9	2.4	4.6	3.4	5.9
DRU.. 225ME 4	37	1.2	3.8	1.6	2.1	4.2	2.9	5.2
DRU.. 250M 4	45	1.4	3.8	1.7	2.2	4.2	3.1	5.4

Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
DRU.. 250ME 4	55	1.5	3.5	1.9	2.3	4	3.2	5.2
DRU.. 280MR 4	75	1.1	4	1.4	2	4.4	2.7	5.4
DRU.. 315SR 4	90	0.9	3	1.2	1.6	3.4	2.4	4.5
DRU.. 315S 4	110	0.9	3	1.1	1.6	3.4	2.3	4.4
DRU.. 315M 4	132	1	3.3	1.2	1.7	3.6	2.4	4.7
DRU.. 315HR 4	160	1	3.1	1.3	1.7	3.5	2.5	4.6
DRU.. 315H 4	200	1.1	2.9	1.4	1.7	3.3	2.5	4.3
DRU.. 355MR 4	250	1.2	2.8	1.4	1.8	3.1	2.4	3.8
DRU.. 355M 4	315	1.2	2.7	1.5	1.8	3.1	2.5	3.9
DRU.. 355ML 4	355	1.2	2.7	1.5	1.8	3	2.5	3.8

3.4.2 4-pole motors in 60 Hz

No. 1				No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11
$\eta_{100\%}$	$\eta_{75\%}$	$\eta_{50\%}$											
%	%	%	V					kW	Hz	V	min^{-1}		
85.5	84.5	81.5	1)	IE4	2)	DRU.. 90S 4	4	0.75	1)	1)	1773	3~	3)
87.5	87.0	84.8	1)	IE4	2)	DRU.. 90L 4	4	1.1	1)	1)	1768	3~	3)
88.5	88.3	86.6	1)	IE4	2)	DRU.. 100LS 4	4	1.5	1)	1)	1764	3~	3)
91.0	90.9	89.7	1)	IE4	2)	DRU.. 112MR 4	4	2.2	1)	1)	1773	3~	3)
91.0	91.3	90.5	1)	IE4	2)	DRU.. 112M 4	4	3	1)	1)	1770	3~	3)
91.0	91.3	90.6	1)	IE4	2)	DRU.. 132S 4	4	4	1)	1)	1771	3~	3)
92.4	92.4	91.3	1)	IE4	2)	DRU.. 132M 4	4	5.5	1)	1)	1775	3~	3)
92.4	92.0	90.5	1)	IE4	2)	DRU.. 160M 4	4	7.5	1)	1)	1782	3~	3)
93.0	92.8	91.5	1)	IE4	2)	DRU.. 160MP 4	4	9.2	1)	1)	1779	3~	3)
93.6	93.3	91.9	1)	IE4	2)	DRU.. 160L 4	4	11	1)	1)	1780	3~	3)
94.1	94.3	93.8	1)	IE4	2)	DRU.. 180M 4	4	15	1)	1)	1781	3~	3)
94.5	94.3	93.3	1)	IE4	2)	DRU.. 200LR 4	4	18.5	1)	1)	1787	3~	3)
94.5	94.3	93.2	1)	IE4	2)	DRU.. 200L 4	4	22	1)	1)	1786	3~	3)
95.0	95.1	94.5	1)	IE4	2)	DRU.. 225S 4	4	30	1)	1)	1786	3~	3)
95.4	95.5	95.2	1)	IE4	2)	DRU.. 225ME 4	4	37	1)	1)	1785	3~	3)
95.4	95.3	94.5	1)	IE4	2)	DRU.. 250M 4	4	45	1)	1)	1786	3~	3)
95.8	95.7	95.0	1)	IE4	2)	DRU.. 250ME 4	4	55	1)	1)	1786	3~	3)
96.2	96.1	95.5	1)	IE4	2)	DRU.. 280MR 4	4	75	1)	1)	1786	3~	3)
96.2	96.2	95.6	1)	IE4	2)	DRU.. 315SR 4	4	90	1)	1)	1790	3~	3)
96.2	96.2	95.6	1)	IE4	2)	DRU.. 315S 4	4	110	1)	1)	1789	3~	3)
96.5	96.5	96.0	1)	IE4	2)	DRU.. 315M 4	4	132	1)	1)	1789	3~	3)
96.5	96.5	96.1	1)	IE4	2)	DRU.. 315L 4	4	160	1)	1)	1787	3~	3)
96.5	96.7	96.5	1)	IE4	2)	DRU.. 315H 4	4	200	1)	1)	1786	3~	3)
96.8	96.7	95.9	1)	IE4	2)	DRU.. 355MS 4	4	260	1)	1)	1792	3~	3)
96.8	96.8	96.1	1)	IE4	2)	DRU.. 355M 4	4	335	1)	1)	1791	3~	3)
96.8	96.7	96.1	1)	IE4	2)	DRU.. 355ML 4	4	375	1)	1)	1792	3~	3)

1) See chapter 3.2
2) See chapter 2.1
3) See chapter 2.3

No. 13: Power losses in %

Motor	Nominal power kW	25;25	25;100	50;25	50;50	50;100	90;50	90;100
DRU.. 90S 4	0.75	6.3	12.2	7.6	8.8	13.6	12.1	17.3
DRU.. 90L 4	1.1	5.5	11.7	6.4	7.7	12.7	9.9	15.2
DRU.. 100LS 4	1.5	5	10.7	5.9	7	11.6	8.9	13.8
DRU.. 112MR 4	2.2	3.5	8	4.4	5.4	9.2	7.8	12.3
DRU.. 112M 4	3	3.3	8.4	4.1	5.2	9.5	7.2	12.2

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Motor	Nominal power	25;25	25;100	50;25	50;50	50;100	90;50	90;100
	kW							
DRU.. 132S 4	4	3.1	7.3	3.7	4.7	8.2	6.4	10.5
DRU.. 132M 4	5.5	2.8	6.3	3.5	4.2	7.2	5.9	9.3
DRU.. 160M 4	7.5	2.5	5.4	3.3	3.9	6.3	5.5	8.3
DRU.. 160MP 4	9.2	2.4	5.3	3.1	3.7	6.1	5.2	8
DRU.. 160L 4	11	2.3	4.9	2.9	3.5	5.7	4.9	7.5
DRU.. 180M 4	15	1.8	4.4	2.2	2.8	5.1	4.2	6.9
DRU.. 200LR 4	18.5	1.7	4.1	2.3	2.8	4.8	4.5	6.8
DRU.. 200L 4	22	1.7	3.8	2.3	2.7	4.5	4.3	6.4
DRU.. 225S 4	30	1.6	3.7	2	2.5	4.3	3.6	5.9
DRU.. 225ME 4	37	1.2	3.6	1.6	2.1	4.1	3	5.2
DRU.. 250M 4	45	1.3	3.3	1.7	2.2	3.9	3.4	5.4
DRU.. 250ME 4	55	1.4	3.1	1.9	2.3	3.7	3.4	5.1
DRU.. 280MR 4	75	1.2	3	1.6	2	3.5	2.9	4.7
DRU.. 315SR 4	90	1	2.5	1.3	1.7	3	2.8	4.4
DRU.. 315S 4	110	1	2.6	1.3	1.6	3	2.7	4.3
DRU.. 315M 4	132	1	2.7	1.4	1.7	3.2	2.7	4.5
DRU.. 315L 4	160	1	2.7	1.3	1.6	3.1	2.5	4.2
DRU.. 315H 4	200	1	3.1	1.3	1.7	3.6	2.6	4.9
DRU.. 355MS 4	260	1.2	2.6	1.5	1.8	3	2.5	3.8
DRU.. 355M 4	335	1.2	2.5	1.5	1.8	2.9	2.6	3.8
DRU.. 355ML 4	375	1.2	2.5	1.5	1.8	2.9	2.6	3.8

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4 Excluded motors according to article 2 paragraph 2

The following table lists the specific reasons why certain motors are excluded from the efficiency requirement according to article 2 paragraph 2 of regulation (EU) 2019/1781.

(EU) 2019/1781 and S.I. 2021 No. 745	SEW motors	Reason
d) Specially dimensioned motors that are exclusively specified for the following operating conditions	Example: Ambient temperature -40 – -31 °C	SEW motors with certain operating conditions such as extreme temperatures. The specifically designed ambient temperature is listed on the nameplate (see table row 10 in chapter "IEC motor nameplate" (→ 🗎 9)).
l) Totally Enclosed Non-Ventilated (TENV) motors	DAS	Non-ventilated motor (TENV type of cooling)
	/U	Without fan (TENV type of cooling)
	/OL	Closed B-side (TENV type of cooling)
M) Motors placed on the market before July 1, 2029, which are replacements and are specifically marketed as such for identical motors integrated into products placed on the market before July 1, 2021 for motors related to Annex I.1 (a), and before July 1, 2023 for motors related to Annex I.1 (b)	All motors from SEW-EURODRIVE that were placed on the market before July 1, 2021. Examples: DT../DV..; DRS..	Motors are marked as replacement motors. Figure similar: Spare part exclusively for: 01.8123667801.0001.22 [EU 2019/1781] [S.I. 2021 No.745] 21021708
n) Motors with multiple speeds, i.e. motors with multiple windings or with switchable windings that have a different number of poles and different speeds	Example: DR2S80M4/2	SEW motors with two nominal speeds. Numbers of poles are listed in chapter "Designation of the motors" (→ 🗎 8).

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5 Contacting SEW-EURODRIVE

You can find the worldwide contact data and locations on the **SEW-EURODRIVE website** via the following link or the QR code shown below.

https://www.sew-eurodrive.de/contacts-worldwide

SEW EURODRIVE

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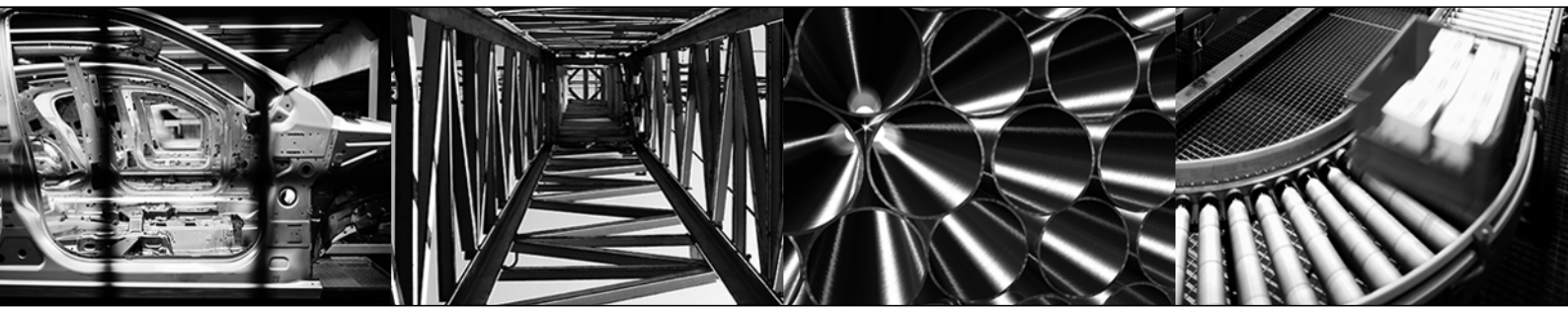

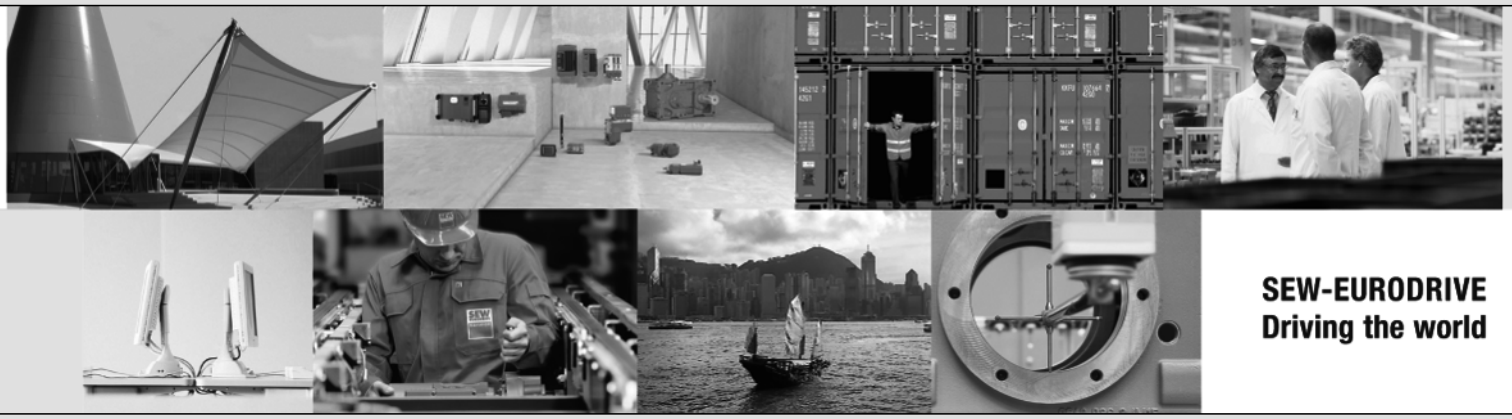

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