

Low-voltage motors with
increased power density



Water-cooled motors

LOHER



Space-saving through water cooling

The new series of water-cooled motors with increased power rating allows even more compact and space-saving drive solutions.

The power ratings have been significantly increased but still keeping the same sizes.

The special advantages of water cooling include the low-noise design, no heat dissipation into the environment and the lower moment of inertia. This series is based on a sophisticated, variable modular system, which allows numerous special options to be implemented at a favorable cost but still keeping many standard components.

Some of the possible options:

- Optionally with explosion protection:
 - II 3 G Ex nA II
 - II 2 G Ex e II
 - II 2 G Ex de/d II Cand / or
 - Ex tD A21 IP65 T120°C
 - Ex tD A22 IP55 T120°C
- Increased degree of protection IP56 to IP66
- Winding and bearing temperature monitoring using PTC thermistors, PT100 resistance thermometers or KTY84-104 temperature sensors
- A separate auxiliary terminal box for monitoring devices
- Anti-condensation heating
- Non-reverse ratchet
- Incremental speed encoder for frequency converter operation
- VIK design

Water-cooled motors, ANWA series, power tables

	Rated power [kW]	Rated speed [rpm]	Rated current at 400 V [A]	Power factor cosφ	Efficiency acc. to EN60034-2 η [%]	Starting torque ²⁾ as a multiple of the rated torque Ma / Mn	Stall torque ²⁾ as a multiple of the rated torque Mk / Mn	Inrush current ²⁾ as a multiple of the rated current Ia / In	Cooling water flow rate approx. [l / min]
2-pole, 400 V, 50 Hz									
ANWA-160CA-02	22	2915	41	0.88	90.7	3.2	2.9	7.2	4
ANWA-160DA-02	30	2906	52	0.91	90.8	2.9	2.4	6.9	5
ANWA-180DA-02	37	2945	65	0.90	91.1	1.9	2.5	6.5	6
ANWA-180DG-02	45	2948	80	0.88	91.4	2.1	2.7	7.0	6
ANWA-200DG-02	55	2948	96	0.90	91.4	2.1	2.5	6.6	7
ANWA-200EF-02	75	2953	135	0.88	91.6	2.4	2.6	6.8	9
ANWA-200EF-02	90	2958	165	0.86	92.4	2.6	3.0	7.6	10
ANWA-225EF-02	90	2958	155	0.89	93.2	2.0	2.3	6.9	9
ANWA-225FF-02	120	2980	210	0.88	94.0	1.0	2.8	6.8	10
ANWA-250EA-02	120	2970	210	0.88	94.2	2.0	2.6	7.6	10
ANWA-250EF-02	132	2970	230	0.88	94.2	2.1	2.6	7.7	11
ANWA-250FF-02	185	2978	320	0.88	94.6	1.1	2.7	7.5	13
ANWA-250GF-02	220	2978	375	0.89	94.8	1.1	2.7	7.4	15
ANWA-280GA-02	250	2978	440	0.90	95.2	1.3	2.6	7.3	15
ANWA-280JA-02	280	2977	470	0.91	95.4	1.1	2.4	6.9	17
ANWA-280JA-02	315	2978	520	0.91	95.4	1.2	2.5	7.0	19
ANWA-280JA-02	355	2980	600	0.90	95.8	1.3	2.6	7.6	20
ANWA-315JE-02	400	2982	385 ¹⁾	0.90	96.2	1.6	2.5	6.5	20
ANWA-315JE-02	500	2982	480 ¹⁾	0.90	96.2	1.7	2.6	6.6	25
4-pole, 400 V, 50 Hz									
ANWA-160CF-04	22	1450	43	0.81	88.7	2.8	2.3	6.0	4
ANWA-160DF-04	30	1450	57	0.82	89.1	2.8	2.3	6.0	5
ANWA-180DC-04	37	1457	70	0.83	89.6	2.9	2.3	5.9	6
ANWA-180EA-04	45	1457	82	0.84	91.0	2.9	2.2	5.9	7
ANWA-200EA-04	55	1465	100	0.84	91.4	3.0	2.3	6.4	8
ANWA-200FA-04	75	1465	140	0.84	91.4	3.1	2.3	6.5	9
ANWA-200FA-04	90	1470	165	0.85	92.1	2.0	2.6	6.3	10
ANWA-225FA-04	90	1470	165	0.83	92.1	3.0	2.5	6.4	10
ANWA-225GF-04	120	1480	220	0.83	93.4	2.0	2.9	7.3	11
ANWA-250EA-04	120	1478	215	0.85	93.5	2.7	2.6	7.4	10
ANWA-250FA-04	132	1480	230	0.87	93.5	2.7	2.6	7.4	11
ANWA-250FF-04	185	1485	340	0.82	94.1	2.2	2.8	7.4	15
ANWA-250GF-04	220	1485	405	0.83	94.4	2.0	2.7	7.2	16
ANWA-280GF-04	250	1487	455	0.83	94.4	2.0	2.7	7.1	18
ANWA-280JG-04	280	1487	500	0.85	95	2.0	2.7	7.1	20
ANWA-280JG-04	315	1487	570	0.84	95	2.1	2.7	7.2	22
ANWA-280JG-04	355	1487	650	0.83	95	1.9	2.5	7.0	25
ANWA-315JE-04	400	1490	420 ¹⁾	0.83	95.2	1.5	2.5	7.3	25
ANWA-315PA-04	500	1490	530 ¹⁾	0.83	95.4	1.5	2.7	7.5	30

Other frequencies / other power ratings / other pole numbers on request

Calculated values, IEC tolerance, temperature class F, KL 155

Cooling water: In ≤ 30°C, Out ≤ 40°C, pressure ≤ 6 bar

¹⁾ Rated current at 690 V

²⁾ When connected direct on-line

Water-cooled motors, DNWW series (flameproof enclosure Ex de II C), power tables

	Rated power [kW]	Rated speed [rpm]	Rated current at 400 V [A]	Power factor cosφ	Efficiency acc. to EN60034-2 η [%]	Starting torque ²⁾ as a multiple of the rated torque Ma / Mn	Stall torque ²⁾ as a multiple of the rated torque Mk / Mn	Inrush current ²⁾ as a multiple of the rated current Ia / In	Cooling water flow rate approx. [l / min]
2-pole, 400 V, 50 Hz									
DNWW-160CA-02	22	2915	39	0.89	90.7	2.7	2.9	6.1	4
DNWW-160DA-02	30	2920	52	0.92	90.8	2.9	2.5	6.7	5
DNWW-180DA-02	37	2940	64	0.92	91.1	1.8	2.6	6.5	6
DNWW-180DG-02	45	2945	78	0.91	91.4	2.2	2.9	7.1	6
DNWW-200DG-02	55	2950	94	0.92	91.4	2.2	2.6	6.4	7
DNWW-200EF-02	75	2955	130	0.91	91.6	2.5	2.8	6.9	9
DNWW-200EF-02	90	2960	160	0.88	92.4	2.8	2.9	7.6	10
DNWW-225EF-02	90	2960	152	0.92	93.2	2.2	2.4	7.1	9
DNWW-225FF-02	120	2980	202	0.91	94.0	1.1	2.8	6.7	10
DNWW-250EA-02	120	2970	211	0.87	94.2	2.4	2.9	7.4	10
DNWW-250EF-02	132	2970	225	0.90	94.2	2.1	2.7	7.7	11
DNWW-250FF-02	185	2980	317	0.89	94.6	1.1	2.8	7.3	13
DNWW-250GF-02	220	2980	370	0.90	94.8	1.1	2.8	7.5	15
DNWW-280GA-02	250	2980	420	0.91	95.2	1.2	2.7	7.3	15
DNWW-280JA-02	280	2980	460	0.92	95.4	1.1	2.5	6.8	17
DNWW-280JA-02	315	2980	520	0.92	95.4	1.2	2.6	7.0	19
DNWW-280JA-02	355	2980	580	0.92	95.8	1.6	2.8	7.7	20
DNWW-315JE-02	400	2980	380 ¹⁾	0.91	96.2	1.6	2.4	6.5	20
DNWW-315JE-02	500	2980	480 ¹⁾	0.91	96.2	1.8	2.7	7.2	25
4-pole, 400 V, 50 Hz									
DNWW-160CF-04	22	1450	43	0.83	88.7	2.7	2.4	5.9	4
DNWW-160DF-04	30	1450	58	0.84	89.1	2.8	2.4	5.8	5
DNWW-180DC-04	37	1460	69	0.86	89.6	2.9	2.3	5.9	6
DNWW-180EA-04	45	1460	82	0.87	91.0	2.7	2.6	5.9	7
DNWW-200EA-04	55	1465	100	0.87	91.4	2.6	2.4	6.1	8
DNWW-200FA-04	75	1465	139	0.85	91.4	2.9	2.3	6.3	9
DNWW-200FA-04	90	1465	162	0.87	92.1	2.2	2.8	6.6	10
DNWW-225FA-04	90	1470	168	0.84	92.1	2.9	2.5	6.1	10
DNWW-225GF-04	120	1480	221	0.84	93.4	2.0	2.9	7.0	11
DNWW-250EA-04	120	1480	215	0.86	93.5	2.7	2.9	7.4	10
DNWW-250FA-04	132	1480	232	0.88	93.5	2.8	2.7	7.5	11
DNWW-250FF-04	185	1480	330	0.86	94.1	2.1	2.3	7.0	15
DNWW-250GF-04	220	1485	400	0.84	94.4	2.0	2.7	7.0	16
DNWW-280GF-04	250	1485	440	0.87	94.4	1.9	2.6	7.1	18
DNWW-280JG-04	280	1485	500	0.85	95	2.0	2.7	7.5	20
DNWW-280JG-04	315	1485	570	0.84	95	2.1	2.8	7.7	22
DNWW-280JG-04	355	1485	640	0.84	95	1.9	2.6	7.0	25
DNWW-315JE-04	400	1490	425 ¹⁾	0.83	95.2	1.5	2.6	7.4	25
DNWW-315PA-04	500	1490	530 ¹⁾	0.83	95.4	1.7	2.8	7.5	30

Temperature class F

Cooling water: In ≤ 30°C/86°F, Out ≤ 40°C/104°F, pressure ≤ 6 bar

¹⁾ Rated current at 690 V

²⁾ When connected direct on-line



Additional information and contact partners

Loher Industrial Motors
info.industriemotoren@loher.com

Loher GmbH –
A Siemens company
Hans-Loher-Strasse 32
94099 RUHSTORF
GERMANY

www.loher.com

Subject to change without prior notice
Order No.: E20001-A60-P580-V1-7600
Dispo 21503
SCHÖß33178 GD.LD.XX.LOHE.52.1.05 WS 03112.
Printed in Germany
© Siemens AG 2011

The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.